1 简介

这是一本什么书 本工具书为 OEIS (http://oeis.org) 的一部分离线镜像，包含了许多常见的整数数列。

本书包含的数列 本工具书筛选了 OEIS 上符合以下特征的数列：

- 2017 年 12 月 5 日及之前更新的
- 编号范围为 A000001 - A296122 的
- 有公式的
- 单调不下降的
- 非负的

数列的排序方式 本书数列的排序方式是：设原数列为 a 。将 a 前导 0 的项以及前导 1 的项删去后得到数列 b 。本书将新构造的数列 b 按字典序排序。数列 b 将会在原数列中用下划线标注。

2 正文

[A136640] • 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1, ⋆ A limited integer Devil's staircase from a winding number function. • a(n)=Floor[1 + 200 * Winding _ Number(Omega)]: 0<=omega<=1;in steps of 1 / 200 •

[A103376] • 1,1,1,1,1,1,1,1,1,2,2,2,2,2,2,2,2,3,4,4,4,4,4,4,4,4 ⋆ a(1) = a(2) = a(3) = a(4) = a(5) = a(6) = a(7) = a(8) = a(9) = 1 and for n>9: a(n) = a(n-8) + a(n-9). • a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=1, a(8)=1, a(9)=1, a(n)=a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , May 07 2015 •

[A174631] • 0,1,1,1,1,1,1,1,1,1,1,1,2,2,2,2,2,2,3,3,3,4,4,4,4 ⋆ a(n) = Floor[(alpha^n - beta^n)(alpha-beta)], with alpha = (1 + Sqrt(a0))/2; beta = (1 - Sqrt(a0))/2; a0 = real minimal Pisot root of x^3-x-1=0(1.324717957244746) • a(n)=Floor[(alpha ^ n - beta ^ n) / (alpha - beta)] •

[A025781] • 1,1,1,1,1,2,2,2,2,2,3,3,4,4,4,5,5,6,6,6,7,7,8,8,9 ⋆ Expansion of 1/((1-x)(1-x^5)(1-x^12)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=2, a(6)=2, a(7)=2, a(8)=2, a(9)=2, a(10)=3, a(11)=3, a(12)=4, a(13)=4, a(14)=4, a(15)=5, a(16)=5, a(17)=6, a(n)=a(n - 1) + a(n - 5) - a(n - 6) + a(n - 12) - a(n - 13) - a(n - 17) + a(n - 18). - _ Harvey P. Dale _ , May 11 2014 •

[A079954] • 0,1,2,2,2,2,2,3,4,5,6,7,8,9,10,10,10,10,10,10,10,10,10,10,10 ⋆ Partial sums of A030301. • a(n) = (n - 1 - (2 / 3) * (4 ^ e _ 4 - 1) - (- 1) ^ e _ 2 * (n - 1 - 2 * (4 ^ e _ 4 - 1))) / 2 where e _ 4=floor(log[4](n)) and e _ 2=floor(log[2](n))=floor(log[4](n ^ 2)) - Antonio G. Astudillo (afg _ astudillo(AT)hotmail.com), Feb 22 2003 •

[A025775] • 1,1,1,1,2,2,2,2,3,3,3,4,5,5,5,6,7,7,7,8,9,9,10,11,12 ⋆ Expansion of 1/((1-x)(1-x^4)(1-x^11)). • a(n) = floor((n ^ 2 + 16 * n + 90 + 22 * cos(n * Pi / 2)) / 88). - _ Tani Akinari _ , May 03 2014 • a(n) = + a(n - 1) + a(n - 4) - a(n - 5) + a(n - 11) - a(n - 12) - a(n - 15) + a(n - 16). - _ R. J. Mathar _ , Aug 21 2014 •

[A229977] • 1,1,1,1,2,2,2,2,3,3,4,4,5,5,6,7,7,8,10,11,12,14,16,18,20 ⋆ Gosper island perimeter (rounded to the nearest integer) after n iterations, let starting perimeter = 1. • a(n) = round((3 / sqrt(7)) ^ n). •

[A255405] • 1,1,1,1,1,2,2,2,2,3,3,4,4,5,6,6,7,8,9,11,12,14,16,18,20 ⋆ a(n) = floor((2/sqrt(Pi)) ^ n). • a(n) = floor((2 / sqrt(Pi)) ^ n). •

[A029083] • 1,1,1,1,2,2,2,2,3,3,4,5,6,6,7,8,9,9,10,11,13,14,16,17,19 ⋆ Expansion of 1/((1-x)(1-x^4)(1-x^10)(1-x^11)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=2, a(5)=2, a(6)=2, a(7)=2, a(8)=3, a(9)=3, a(10)=4, a(11)=5, a(12)=6, a(13)=6, a(14)=7, a(15)=8, a(16)=9, a(17)=9, a(18)=10, a(19)=11, a(20)=13, a(21)=14, a(22)=16, a(23)=17, a(24)=19, a(25)=20, a(n)=a(n - 1) + a(n - 4) - a(n - 5) + a(n - 10) - a(n - 12) - a(n - 14) + a(n - 16) - a(n - 21) + a(n - 22) + a(n - 25) - a (n - 26). - _ Harvey P. Dale _ , Dec 22 2013 •

[A025774] • 1,1,1,1,2,2,2,2,3,4,4,4,5,6,6,6,7,8,9,9,10,11,12,12,13 ⋆ Expansion of 1/((1-x)(1-x^4)(1-x^9)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=2, a(5)=2, a(6)=2, a(7)=2, a(8)=3, a(9)=4, a(10)=4, a(11)=4, a(12)=5, a(13)=6, a(n)=a(n - 1) + a(n - 4) - a(n - 5) + a(n - 9) - a(n - 10) - a(n - 13) + a (n - 14). - _ Harvey P. Dale _ , Nov 11 2013 • a(n) = floor(((n ^ 2 + 14 * n + 76) + 18 * cos((n - 1) * Pi / 2)) / 72). - _ Tani Akinari _ , May 02 2014 •

[A001156] • 1,1,1,1,2,2,2,2,3,4,4,4,5,6,6,6,8,9,10,10,12,13,14,14,16 ⋆ Number of partitions of n into squares. • a(n) = f(n,1,3) with f(x,y,z) = if x<y then 0 ^ x else f(x - y,y,z) + f(x,y + z,z + 2). - _ Reinhard Zumkeller _ , Nov 08 2009 •

[A029126] • 1,1,1,1,1,1,1,2,2,2,2,3,4,4,5,5,5,5,6,7,7,8,9,10,11 ⋆ Expansion of 1/((1-x)(1-x^7)(1-x^11)(1-x^12)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=2, a(8)=2, a(9)=2, a(10)=2, a(11)=3, a(12)=4, a(13)=4, a(14)=5, a(15)=5, a(16)=5, a(17)=5, a(18)=6, a(19)=7, a(20)=7, a(21)=8, a(22)=9, a(23)=10, a(24)=11, a(25)=12, a(26)=13, a(27)=13, a(28)=14, a(29)=15, a(30)=16, a(n)=a(n - 1) + a(n - 7) - a(n - 8) + a(n - 11) - a(n - 13) - a(n - 18) + a(n - 20) - a(n - 23) + a(n - 24) + a(n - 30) - a(n - 31). - _ Harvey P. Dale _ , Mar 10 2015 •

[A241086] • 0,1,1,1,1,2,2,2,2,3,4,4,5,5,6,7,8,9,11,12,14,15,17,19,21 ⋆ Number of partitions p of n into distinct parts such that max(p) <= 2*(number of parts of p). • a(15) counts these 7 partitions: 8421, 7521, 7431, 654, 6531, 6432, 54321. •

[A098527] • 1,1,1,2,2,2,2,3,4,5,7,9,11,13,16,20,25,32,41,52,65,81,101,126,158 ⋆ Expansion (1+x^3)/(1-x-x^7). • a(n)=a(n - 1) + a(n - 7); a(n)=sum { k=0..floor(n / 3), binomial(n - 3k, floor(k / 2)) } . •

[A216393] • 0,0,1,1,2,2,2,2,4,5,6,8,13,17,32,47,63,98,189,279,437,782,1368,2062,3611 ⋆ Number of values of k for which sigma(k)-k is a permutation of decimal digits of k, for k < 2^n. • a(n) = # { k in A085844 | k < 2 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A060824] • 2,2,2,2,4,6,8,14,18,20,38,52,60,112,150,170,320,432,492,924,1244,1414,2658,3582,4074 ⋆ 4-wave sequence beginning with 2s. • a(n)=2 * a(n - 3) + 3 * a(n - 6) - a(n - 9) - a(n - 12) - Antonio G. Astudillo (afg _ astudillo(AT)hotmail.com), Jan 12 2003 •

[A171869] • 1,2,2,2,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152 ⋆ a(n) is the period of A175555(n) in the sequence {A175555}. • a(n) = 2 ^ (n - 4) if n > = 5. •

[A025771] • 1,1,1,2,2,2,3,3,3,4,4,5,6,6,7,8,8,9,10,10,11,12,13,14,15 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^11)). • a(n)= + a(n - 1) + a(n - 3) - a(n - 4) + a(n - 11) - a(n - 12) - a(n - 14) + a(n - 15). - _ R. J. Mathar _ , Aug 21 2014 •

[A025770] • 1,1,1,2,2,2,3,3,3,4,5,5,6,7,7,8,9,9,10,11,12,13,14,15,16 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^10)). • a(n) = floor((3 * n ^ 2 + 42 * n + 196 - 40 * cos(2 * (n + 1) * Pi / 3)) / 180). - _ Tani Akinari _ , May 03 2014 • a(n)= + a(n - 1) + a(n - 3) - a(n - 4) + a(n - 10) - a(n - 11) - a(n - 13) + a(n - 14). - _ R. J. Mathar _ , Aug 21 2014 •

[A140471] • 1,1,1,1,1,1,2,2,2,3,3,3,4,5,5,6,7,8,9,10,11,13,15,17,19 ⋆ Floored n-th power of Viswanath's constant. • a(n) = floor(v ^ n), where v = 1.1319882487943 as given by A078416. •

[A029060] • 1,1,1,2,2,2,3,3,3,4,5,6,7,8,9,10,11,12,13,14,16,18,20,22,24 ⋆ Expansion of 1/((1-x)*(1-x^3)*(1-x^10)*(1-x^11)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=2, a(6)=3, a(7)=3, a(8)=3, a(9)=4, a(10)=5, a(11)=6, a(12)=7, a(13)=8, a(14)=9, a(15)=10, a(16)=11, a(17)=12, a(18)=13, a(19)=14, a(20)=16, a(21)=18, a(22)=20, a(23)=22, a(24)=24, a(n)=a(n - 1) + a(n - 3) - a(n - 4) + a(n - 10) - a(n - 12) - a(n - 13) + a(n - 15) - a(n - 21) + a(n - 22) + a(n - 24) - a(n - 25). - _ Harvey P. Dale _ , Jan 11 2014 •

[A025778] • 1,1,1,1,1,2,2,2,3,3,4,4,4,5,5,6,7,7,8,8,9,10,10,11,12 ⋆ Expansion of 1/((1-x)(1-x^5)(1-x^8)). • a(n)= + a(n - 1) + a(n - 5) - a(n - 6) + a(n - 8) - a(n - 9) - a(n - 13) + a(n - 14). - _ R. J. Mathar _ , Aug 21 2014 • a(n) = floor(n * (n + 14) / 80 + 1). - _ Tani Akinari _ , Oct 12 2014 •

[A029099] • 1,1,1,1,1,2,2,2,3,3,4,4,5,6,6,7,8,9,10,10,12,13,14,15,17 ⋆ Expansion of 1/((1-x)(1-x^5)(1-x^8)(1-x^12)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=2, a(6)=2, a(7)=2, a(8)=3, a(9)=3, a(10)=4, a(11)=4, a(12)=5, a(13)=6, a(14)=6, a(15)=7, a(16)=8, a(17)=9, a(18)=10, a(19)=10, a(20)=12, a(21)=13, a(22)=14, a(23)=15, a(24)=17, a(25)=19, a(n)=a(n - 1) + a(n - 5) - a(n - 6) + a(n - 8) - a(n - 9) + a(n - 12) - 2 * a(n - 13) + a(n - 14) - a(n - 17) + a(n - 18) - a(n - 20) + a(n - 21) + a(n - 25) - a(n - 26). - _ Harvey P. Dale _ , Oct 18 2012 •

[A086936] • 1,2,2,2,3,3,4,4,5,6,7,7,8,8,9,10,11,11,12,12,13,14,15,15,16 ⋆ Number of primes between n and p(n) inclusive. • a(n)=sum { k=0..n, (1 + mu(if (prime(k), k, 1))) / 2 } [offset 0] - _ Paul Barry _ , May 10 2005 •

[A224710] • 0,0,0,0,0,0,1,1,1,2,2,2,3,3,4,5,5,5,6,7,7,8,8,8,9 ⋆ The number of unordered partitions {a,b} of 2n-1 such that a and b are composite. • a(n) = n - 2 - primepi(2n - 4) for n>1. - _ Anthony Browne _ , May 03 2016 •

[A210469] • 0,0,0,0,1,1,1,2,2,2,3,3,4,5,5,5,6,7,7,8,8,8,9,9,10 ⋆ a(n) = n - primepi(2n). • a(n) = n - primepi(2n). •

[A025769] • 1,1,1,2,2,2,3,3,4,5,5,6,7,7,8,9,10,11,12,13,14,15,16,17,19 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^8)). • a(n) = floor((x ^ 2 + 12x + c) / 48) with 5 1 <= c <= 58. - _ M. F. Hasler _ , Sep 16 2012 • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=2, a(6)=3, a(7)=3, a(8)=4, a(9)=5, a(10)=5, a(11)=6, a(n)=a(n - 1) + a(n - 3) - a(n - 4) + a(n - 8) - a(n - 9) - a(n - 11) + a(n - 12). - _ Harvey P. Dale _ , Nov 29 2012 •

[A090184] • 0,1,1,1,2,2,2,3,3,4,5,5,6,7,9,10,11,13,14,17,19,22,25,28,33 ⋆ Number of partitions of the n-th 3-smooth number into sums of 2s and 3s. • a(2 ^ i * 3 ^ j) = floor(2 ^ (i - 1) * 3 ^ (j - 1) + 1), i * j>0. •

[A226503] • 1,1,1,1,1,2,2,2,3,3,4,5,5,7,8,9,12,13,16,20,22,28,33,38,48 ⋆ A single pair of rabbits (male and female) is born at the beginning of a year. Assume the following conditions: 1. Rabbits are able to mate at the age of two months. 2. Rabbit pairs are not fertile during their first 5 months of life, but thereafter give birth to 1 new male/female pairs at the end of every 3 month. 3. No rabbits die. • a(n) = a(n - 3) + a(n - 5), a(1) = a(2) = a(3) = a(4) = a(5) = 1. •

[A029054] • 1,1,1,2,2,2,3,3,4,6,6,7,9,9,10,12,13,15,18,19,21,24,25,27,31 ⋆ Expansion of 1/((1-x)*(1-x^3)*(1-x^8)*(1-x^9)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=2, a(6)=3, a(7)=3, a(8)=4, a(9)=6, a(10)=6, a(11)=7, a(12)=9, a(13)=9, a(14)=10, a(15)=12, a(16)=13, a(17)=15, a(18)=18, a(19)=19, a(20)=21, a(n)=a(n - 1) + a(n - 3) - a(n - 4) + a(n - 8) - a(n - 10) - a(n - 11) + a(n - 13) - a(n - 17) + a(n - 18) + a(n - 20) - a(n - 21). - _ Harvey P. Dale _ , May 09 2013 •

[A025773] • 1,1,1,1,2,2,2,3,4,4,4,5,6,6,7,8,9,9,10,11,12,13,14,15,16 ⋆ Expansion of 1/((1-x)(1-x^4)(1-x^7)). • a(n) = floor((n ^ 2 + 12 * n + 50 + 14 * cos(n * Pi / 2)) / 56). - _ Tani Akinari _ , May 01 2014 • a(n)= + a(n - 1) + a(n - 4) - a(n - 5) + a(n - 7) - a(n - 8) - a(n - 11) + a(n - 12). - _ R. J. Mathar _ , Aug 21 2014 •

[A289139] • 0,0,1,2,2,2,3,4,4,5,6,6,6,7,8,8,9,10,10,10,11,12,12,13,14 ⋆ a(n) is the number of odd integers divisible by 7 in]4*(n-1)^2, 4*n^2[. • a(n + 7 * k) = a(n) + 4 * k. • a(n) = 1 / 147 * Sum _{ k=0..n - 1 }{ 25 * (k mod 7) + 4 * [(k + 1) mod 7] - 17 * [(k + 2) mod 7] + 4 * [(k + 3) mod 7] + 25 * [(k + 4) mod 7] + 4 * [(k + 5) mod 7] - 17 * [(k + 6) mod 7] } . - _ Paolo P. Lava _ , Jun 26 2017 •

[A025768] • 1,1,1,2,2,2,3,4,4,5,6,6,7,8,9,10,11,12,13,14,15,17,18,19,21 ⋆ Expansion of 1/((1-x)*(1-x^3)*(1-x^7)). • a(n) = round((n + 3) * (n + 8) / 42). • a(n)= + a(n - 1) + a(n - 3) - a(n - 4) + a(n - 7) - a(n - 8) - a(n - 10) + a(n - 11). - _ R. J. Mathar _ , Aug 21 2014 •

[A000929] • 1,1,1,2,2,2,3,4,4,5,6,6,7,8,9,11,12,13,15,16,17,20,22,23,26 ⋆ Dimension of n-th degree part of Steenrod algebra. • a(n) = p(n,1) with p(n,k) = if k<=n then p(n - k,k) + p(n,2 * k + 1) else 0 ^ n. - _ Reinhard Zumkeller _ , Mar 18 2009 •

[A029051] • 1,1,1,2,2,2,3,4,4,5,7,7,8,10,11,12,14,16,17,19,22,24,26,29,32 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^7)(1-x^10)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2 , a(4)=2, a(5)=2, a(6)=3, a(7)=4, a(8)=4, a(9)=5, a(10)=7, a(11)=7, a(12)= 8, a(13)=10, a(14)=11, a(15)=12, a(16)=14, a(17)=16, a(18)=17, a(19)=19, a (20)=22, a(n)=a(n - 1) + a(n - 3) - a(n - 4) + a(n - 7) - a(n - 8) - a(n - 13) + a(n - 14) - a(n - 17) + a(n - 18) + a(n - 20) - a (n - 21). - _ Harvey P. Dale _ , May 06 2013 •

[A079398] • 0,1,1,1,1,2,2,2,3,4,4,5,7,8,9,12,15,17,21,27,32,38,48,59,70 ⋆ a(0)=0, a(1)=1, a(2)=1, a(3)=1, a(n) = a(n-3) + a(n-4) for n > 3. • a(0)=0, a(1)=1, a(2)=1, a(3)=1, a(n) = a(n - 3) + a(n - 4) for n > 3. - _ Colin Barker _ , Se p 18 2013 • a(n) = Sum _{ k=0..floor((n - 1) / 2) } binomial(floor((n - k - 1) / 3), k) } (offset 0). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(floor((n - k - 1) / 3), k) }- 0 ^ n (offset 0). (End) •

[A130084] • 1,2,2,2,3,4,4,6,7,8,10,13,16,20,26,32,40,51,64,80,100,126,159,200,2 52 ⋆ Smallest number whose tenth power has at least n digits. • a(n) = ceilin g(10 ^ ((n - 1) / 10)) •

[A274759] • 0,1,1,1,1,2,2,2,3,4,4,6,7,8,12,14,15,23,27,29,44,52,56,85,100 ⋆ Modified quadranacci series. • a(3n) = a(3n - 3) + a(3n - 6) + a(3n - 9) + a(3n - 12). • a(3n + 2) = a(3n + 1) + a(3n - 2). • a(3n + 3) = a(3n + 1) + a(3n - 1). • a(3n + 4) = a(3n + 1) + a(3n). •

[A029074] • 1,1,1,1,2,2,2,3,4,5,5,6,7,8,9,10,12,13,15,16,18,20,22,24,26 ⋆ Expansion of 1/((1-x)(1-x^4)(1-x^7)(1-x^9)). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) + a(n - 7) - a(n - 8) + a(n - 9) - a(n - 10) - a(n - 11) + a(n - 12) - a(n - 13) + a(n - 14) - a(n - 16) + a(n - 17) + a(n - 20) - a(n - 21), n > 20. •

[A029049] • 1,1,1,2,2,2,3,4,5,6,7,8,9,10,12,14,16,18,20,22,24,27,30,33,37 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^7)(1-x^8)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=2, a(6)=3, a(7)=4, a(8)=5, a(9)=6, a(10)=7, a(11)=8, a(12)=9, a(13)=10, a(14)=12, a(15)=14, a(16)=16, a(17)=18, a(18)=20, a(n)=a(n - 1) + a(n - 3) - a(n - 4) + a(n - 7) - a(n - 9) - a(n - 10) + a(n - 12) - a(n - 15) + a (n - 16) + a(n - 18) - a(n - 19) [_ Harvey P. Dale _ , Mar 10 2012] • a(n) = floor((504 * ((floor((n + 2) / 2) - 2 * floor((n + 2) / 4)) * (- 1) ^ floor(n / 4)) + 2 * n ^ 3 + 57 * n ^ 2 + 480 * n + 2088) / 2016). - _ Tani Akinari _ , Jun 28 2013 •

[A096748] • 1,2,2,2,3,4,5,6,8,10,13,16,21,26,34,42,55,68,89,110,144,178,233,28 8,377 ⋆ Expansion of (1+x)^2/(1-x^2-x^4). • a(n)=a(n - 2) + a(n - 4); a(n)= 2F((n + 1) / 2)(1 - (- 1) ^ n) / 2 + F((n + 4) / 2)(1 + (- 1) ^ n) / 2; • a(n) =sum { k=0..n, binomial(floor((n - k) / 2), floor(k / 2)) } - _ Paul Barry _ , Jul 24 2004 •

[A098523] • 1,1,2,2,2,3,4,6,8,10,13,17,23,31,41,54,71,94,125,166,220,291,385,5 10,676 ⋆ Expansion of (1+x^2)/(1-x-x^5) = (1+x^2)/((1-x+x^2)*(1-x^2-x^3)). • a(n)=a(n - 1) + a(n - 5); a(n)=sum { k=0..floor(n / 2), binomial(n - 2k, flo or(k / 2)) } . •

[A029046] • 1,1,1,2,2,2,4,4,5,7,7,8,11,11,13,16,17,19,23,24,27,31,33,36,42 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^6)(1-x^8)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=2, a(6)=4, a(7)=4, a(8)=5, a(9)=7, a(10)=7, a(11)=8, a(12)=1 1, a(13)=11, a(14)=13, a(15)=16, a(16)=17, a(17)=19, a(n)=a(n - 1) + a(n - 3) - a(n - 4) + a(n - 6) - a(n - 7) + a(n - 8) - 2 * a(n - 9) + a(n - 10) - a(n - 1 1) + a(n - 12) - a(n - 14) + a(n - 15) + a(n - 17) - a(n - 18). - _ Harvey P. D ale _ , Apr 05 2014 •

[A089819] • 2,2,2,4,4,8,8,16,32,64,64,128,128,256,512,1024,1024,2048,2048,40 96,8192,16384,16384,32768,65536 ⋆ Number of subsets of {1,2,...,n} containing no primes. • a(n) = 2 ^ (n - PrimePi(n)), with PrimePi = A000720. •

[A182539] • 0,1,1,2,2,2,4,6,6,6,8,10,18,26,28,38,54,54,72,90,90,106,124,126,150 ⋆ a(n) = a(n-1) + (a(n-2) AND n). • a(0)=0, a(1)=1, a(n) = a(n - 1) + (a(n - 2) AND n), where AND is the bitwise AND operator. •

[A064355] • 2,2,2,4,6,10,18,32,56,102,186,340,630,1170,2182,4096,7710,1456 0,27594,52428,99858,190650,364722,699040,1342176 ⋆ Number of subsets of {1,2,..n} that sum to 1 mod n. • a(n) = 1 / n * sum _{ d divides n and d is o dd } 2 ^ (n / d) * mu(d); (mu(d) is the Moebius function, sequence A008683). •

[A077943] • 1,2,2,2,4,8,12,16,24,40,64,96,144,224,352,544,832,1280,1984,307 2,4736,7296,11264,17408,26880 ⋆ Expansion of 1/(1-2*x+2*x^2-2*x^3). • a(0) =1, a(1)=2, a(2)=2, a(n)=2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) [From Har vey P. Dale, Nov 30 2011] •

[A295680] • 0,0,0,2,2,2,4,8,12,18,30,50,80,128,208,338,546,882,1428,2312,374 0,6050,9790,15842,25632 ⋆ a(n) = a(n-1) + a(n-3) + a(n-4), where a(0) = 0, a(1) = 0, a(2) = 0, a(3) = 2. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 0, a(1) = 0, a(2) = 0, a(3) = 2. •

[A130707] • 1,2,2,2,4,10,22,44,86,170,340,682,1366,2732,5462,10922,21844,436 90,87382,174764,349526,699050,1398100,2796202,5592406 ⋆ a(n+3)=3*[a(n+2)- a(n+1)]+2*a(n). • a(n)=2 ^ n / 3 + 4(- 1) ^ n * (1 / 3) * cos((2n + 1)Pi / 3). - _ Emeric Deutsch _ , Jul 27 2007 • a(n)=(1 / 3) * [(1 / 2) - (1 / 2) * I * sqrt(3)] ^ n + (1 / 3) * [(1 / 2) + (1 / 2) * I * sqrt(3)] ^ n + (1 / 3) * 2 ^ n + (1 / 3) * I * [(1 / 2) - (1 / 2) * I * sqrt(3)] ^ n * sqrt(3) - (1 / 3) * I * [(1 / 2) + (1 / 2) * I * sqrt(3)] ^ n * sqrt(3), with n>=0 [From _ Paolo P. Lava _ , May 10 2010] •

[A260786] • 2,2,2,4,10,32,122,544,2770,15872,101042,707584,5405530,447365 12,398721962,3807514624,38783024290,419730685952,4809759350882,5817777 0225664,740742376475050,9902996106248192,138697748786275802,203084777 3013704704,31029068327114173810 ⋆ Twice the Euler or up/down numbers A000111. • a(0)=a(1)=2; thereafter a(n) = (1 / 4) * Sum { k=1..n } binomia l(n - 1, k - 1) * a(k - 1) * a(n - k). •

[A142974] • 1,2,2,2,4,12,34,86,200,440,934,1938,3964,8036,16202,32558,6529 6,130800,261838,523946,1048196,2096732,4193842,8388102,16776664 ⋆ A007318 * [1, 1, -1, 1, 1, 1,...]. • a(n) = 2 ^ n - n(n - 1) (if offset is 0). - _ Emeric Deut sch _ , Aug 09 2008 •

[A087421] • 2,2,2,7,29,127,727,5051,40343,362897,3628811,39916801,479001 629,6227020867,87178291219,1307674368043,20922789888023,3556874280960 31,64023737057280 37,121645100408832089,2432902008176640029 ⋆ Smallest prime >= n!. • a(n) = min { p[i] | p[i]>=n! } , where p[i] is the set of prime numbers. •

[A122946] • 0,0,2,2,2,10,18,26,66,138,242,506,1058,2026,4050,8282,16386,3258 6,65714,131258,261602,524458,1049490,2095898,4193730 ⋆ a(0)=a(1)=0, a(2)=a(3)=2, for n>=3 a(n)=a(n-1)+4*a(n-3). • a(n)=(1 / 7) * 2 ^ (- 2 + n / 2) * (7 * 2 ^ (n / 2) - 7 * Cos[n * (Pi - ArcTan[Sqrt[7]])] + 5 * Sqrt[7] * Sin[n * (- Pi + ArcTan[Sqrt[7]])]) - _ Zak Seidov _ , Oct 26 2006 •

[A025777] • 1,1,1,1,1,2,2,3,3,3,4,4,5,5,6,7,7,8,8,9,10,11,12,12,13 ⋆ Expansion of 1/((1-x)(1-x^5)(1-x^7)). • a(n)= + a(n - 1) + a(n - 5) - a(n - 6) + a(n - 7) - a(n - 8) - a(n - 12) + a(n - 13). - _ R. J. Mathar _ , Aug 21 2014 •

[A115384] • 0,1,2,2,3,3,3,4,5,5,5,6,6,7,8,8,9,9,9,10,10,11,12,12,12 ⋆ Partial sums of Thue-Morse numbers A010060. • a(n) / n - > 1 / 2; a(n) = number of odio us numbers <= n, see A000069. - _ Reinhard Zumkeller _ , Aug 26 2007, cor rected by _ M. F. Hasler _ , May 22 2017. • a(n) = Sum _{ i=1..n } (S2(n) mod 2), where S2 = binary weight; lim a(n) / n = 1 / 2. More generally, cons ider a(n) = Sum _{ i=1..n } (F(Sk(n)) mod m), where Sk(n) is sum of digits of n, n in base k; F(t) is an arithmetic function; m integer. How does lim a(n) / n depend on F(t)? - _ Ctibor O. Zizka _ , Feb 25 2008 •

[A029122] • 1,1,1,1,1,1,1,2,2,3,3,4,4,4,5,5,6,6,8,8,9,10,11,12,12 ⋆ Expansion of 1/((1-x)(1-x^7)(1-x^9)(1-x^11)). • a(n) = floor((n ^ 3 + 42 * n ^ 2 + 525 * n + 3744) / 4158 + 1 / 6 * (1 + (- 1) ^ (n + 9 * floor(n / 9))) * (1 - floor((- 9 * floor(n / 9) + n) / 3))). - _ Tani Akinari _ , Jul 07 2013 • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=2, a(8)=2, a(9)=3, a(10)=3, a (11)=4, a(12)=4, a(13)=4, a(14)=5, a(15)=5, a(16)=6, a(17)=6, a(18)=8, a(1 9)=8, a(20)=9, a(21)=10, a(22)=11, a(23)=12, a(24)=12, a(25)=14, a(26)=14 , a(27)=16, a(n)=a(n - 1) + a(n - 7) - a(n - 8) + a(n - 9) - a(n - 10) + a(n - 1 1) - a(n - 12) - a(n - 16) + a(n - 17) - a(n - 18) + a(n - 19) - a(n - 20) + a(n - 21) + a(n - 27) - a(n - 28). - _ Harvey P. Dale _ , Feb 27 2015 •

[A110654] • 0,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12 ⋆ a(n) = ceil ing(n/2), or: a(2*k) = k, a(2*k+1) = k+1. • a(n) = floor(n / 2) + n mod 2. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 2, a(2) = a(1) = 1, a(0) = 0. - _ Reinhard Zumkeller _ , May 22 2006 • a(- 1 - n) = - a(n). (End) • a(n) = floor((n + 1) / 2) = |Sum _{ m=1..n } Sum _{ k=1..m } (- 1) ^ k|, where |x | is the absolute value of x. - _ William A. Tedeschi _ , Mar 21 2008 • a(n) = 1 / 4 - (- 1) ^ n / 4 + n / 2. - _ Paolo P. Lava _ , Oct 03 2008 • a(n) = c eiling(n / 2) = smallest integer >= n / 2. - _ M. F. Hasler _ , Nov 17 2008 •

[A025766] • 1,1,2,2,3,3,4,4,5,5,6,7,8,9,10,11,12,13,14,15,16,17,19,20,22 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^11)). • a(n) = + a(n - 1) + a(n - 2) - a(n - 3) + a(n - 11) - a(n - 12) - a(n - 13) + a(n - 14). - _ R. J. Mathar _ , Jun 04 20 13 •

[A029030] • 1,1,2,2,3,3,4,4,5,5,7,8,10,11,13,14,16,17,19,20,23,25,29,31,35 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^10)(1-x^11)). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 10) - 2 * a(n - 12) + a(n - 14) - a(n - 21) + a(n - 22) + a(n - 23) - a(n - 24). - _ Matthew House _ , May 07 2017 •

[A225875] • 1,2,2,3,3,4,4,5,6,6,7,7,8,8,9,10,10,11,11,12,12,13,14,14,15 ⋆ We write the 1 + 4*k numbers once and twice the others. • a(n + 1) = 1 + 4 * floor(n / 7) + [0,1,1,2,2,3,3]. • a(n) = n - floor(3 * n / 7). - _ Wesley Ivan Hurt _ , Sep 29 2017 •

[A025765] • 1,1,2,2,3,3,4,4,5,6,7,8,9,10,11,12,13,14,16,17,19,20,22,23,25 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^9)). • a(n)= + a(n - 1) + a(n - 2) - a(n - 3) + a(n - 9) - a(n - 10) - a(n - 11) + a(n - 12). - _ R. J. Mathar _ , Mar 22 2011 •

[A029026] • 1,1,2,2,3,3,4,4,6,6,8,9,11,12,14,15,18,19,22,24,27,29,33,35,40 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^8)(1-x^11)). • a(0)=1, a(1)=1, a(2)=2, a(3)=2 , a(4)=3, a(5)=3, a(6)=4, a(7)=4, a(8)=6, a(9)=6, a(10)=8, a(11)=9, a(12)= 11, a(13)=12, a(14)=14, a(15)=15, a(16)=18, a(17)=19, a(18)=22, a(19)=24, a(20)=27, a(21)=29, a(n)= a(n - 1) + a(n - 2) - a(n - 3) + a(n - 8) - a(n - 9) - a(n - 10) + 2 * a(n - 11) - a(n - 12) - a(n - 13) + a(n - 14) - a(n - 19) + a(n - 20) + a(n - 21) - a(n - 22). - _ Harvey P. Dale _ , Nov 02 2015 •

[A214656] • 0,0,1,1,2,2,3,3,4,5,5,6,6,7,7,8,8,9,10,10,11,11,12,12,13 ⋆ Floor of the imaginary part of the zeros of the complex Fibonacci function on the left half plane. • a(n) = floor(a * n), n>=0, with a = - y _ 0(1) given in the com ment section. •

[A098294] • 0,1,2,2,3,3,4,5,5,6,6,7,8,8,9,9,10,10,11,12,12,13,13,14,15 ⋆ a(n) = ceil(n*log_2(3/2)). • a(n) = ceiling(tau * n) with tau := log(3) / log(2) - 1 = 0.584962501..., n>=0. • a(n) = floor(1 + n * log(3) / log(2)) - n, n >= 1. - _ Mike Winkler _ , Dec 31 2010 •

[A253671] • 1,1,2,2,3,3,4,5,5,6,7,7,8,8,9,10,10,11,12,12,13,14,14,15,15 ⋆ a(n) = floor(A000111(n+1)/A000111(n)). • a(n + 2) = a(n + 1) + (0, 1, 0, followed by a sequence of period 11: repeat 1, 0, 1, 1, 0, 1, 1, 0, 1, 0, 1). • a(n + 12) = a(n + 1) + (6, 7, 6, followed by 7's = A010727). • a(n) = a(n - 1) + a(n - 11) - a(n - 12) for n>15. - _ Colin Barker _ , Jan 22 2015 •

[A209081] • 1,1,2,2,3,3,4,5,5,6,7,7,8,9,9,10,10,11,12,12,13,14,14,15,15 ⋆ Floor(A152270(n)/n); the Floor of the expected value of the cardinality of the image of a function from [n] to [n]. • a(n) = floor(n - (n - 1) ^ n / n ^ (n - 1)). •

[A083479] • 0,1,1,1,2,2,3,3,4,5,5,6,7,7,8,9,10,10,11,12,13,13,14,15,16 ⋆ The natural numbers with all terms of A033638 inserted. • a(n) = ((n + 2) - ceiling(s qrt(4 * n))). - _ Gregory R. Bryant _ , Apr 01 2013 •

[A084630] • 1,1,1,2,2,3,3,4,5,5,6,7,8,9,10,11,12,13,14,15,16,18,19,20,22 ⋆ Floor(C(n+7)/C(n+5)) • a(n)=floor(n ^ 2 / 42 + 13n / 42) + 1 •

[A283371] • 0,1,1,2,2,3,3,4,5,6,6,7,7,8,9,10,11,11,12,12,13,14,14,15,15 ⋆ Maximum number of pairs of primes (p, q) such that p < q = < prime (n) and q - p = constant. • a(n) >> n / log n. In particular, lim inf a(n) * (log n) / n > = 1 / 2. - _ Charles R Greathouse IV _ , Mar 06 2017 •

[A156253] • 1,2,2,3,3,4,5,6,6,7,8,8,9,9,10,11,11,12,12,13,14,15,15,16,17 ⋆ Least k such that A054353(k)>=n • a(n) should be asymptotic to 2n / 3. •

[A060151] • 1,2,2,3,3,4,5,6,6,7,8,9,9,10,11,12,12,13,14,15,15,16,17,18,19 ⋆ Number of base n digits required to write n!. • a(n) = n - n / log n + O(1). - _ C harles R Greathouse IV _ , Oct 29 2016 •

[A097330] • 1,1,1,2,2,3,3,4,5,6,6,7,8,9,9,10,11,12,14,15,15,16,18,19,20 ⋆ In the sequence of prime numbers replace each term p with floor(p/2) and ceiling(p/2). • a(n)=if n<3 then 1, otherwise (prime((n + n mod 2) / 2) + 1) / 2 - n mod 2. •

[A062049] • 2,2,3,3,4,5,6,7,8,9,10,11,13,14,15,16,17,19,20,21,23,24,25,27,28 ⋆ Integer part of geometric mean of first n primes. • a(n) < (1 / 2) * prime(n) f or n>3. •

[A025764] • 1,1,2,2,3,3,4,5,6,7,8,9,10,11,13,14,16,17,19,20,22,24,26,28,30 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^7)). • a(n) = + a(n - 1) + a(n - 2) - a(n - 3) + a(n - 7) - a(n - 8) - a(n - 9) + a(n - 10). - _ R. J. Mathar _ , Jun 04 2013 •

[A076678] • 1,1,2,2,3,3,4,5,6,7,8,9,11,12,14,15,17,19,21,23,25,28,30,33,35 ⋆ a(0)=a(1)=1; a(n)=floor(sqrt(a(n-1)))+a(n-2). • a(n) is asymptotic to n ^ 2 / 16 •

[A210024] • 1,1,1,1,1,2,2,3,3,4,5,6,7,9,11,13,16,19,23,27,33,39,47,57,68 ⋆ Floor of the expected value of number of trials until all cells are occupied in a random distribution of 2n balls in n cells. • a(n) = floor(n ^ (2n) / Sum _{ v=0..n - 1 } ((- 1) ^ v * binomial(n,v) * (n - v) ^ (2n))) •

[A005686] • 0,1,1,1,1,1,2,2,3,3,4,5,6,8,9,12,14,18,22,27,34,41,52,63,79 ⋆ Number of Twopins positions. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(floor ((n + 3k - 3) / 5), k). - _ Paul Barry _ , Jul 10 2004 • a(n) = a(n - 2) + a(n - 5). - _ Michael Somos _ , Jul 15 2004 •

[A174619] • 1,1,1,2,2,3,3,4,5,6,8,10,13,17,21,28,34,45,55,72,89,116,144,188,233 ⋆ a(n) = A174618(n)+A174618(n+1). • a(n)= 2 * a(n - 2) - a(n - 4) + a(n - 8). G.f. - x * (1 + x) * (x ^ 3 - x ^ 2 + 1) / ((x ^ 4 - x ^ 2 + 1) * (x ^ 4 + x ^ 2 - 1)). - _ R. J. Mathar _ , Jan 27 2011 •

[A130083] • 1,2,2,3,3,4,5,6,8,10,13,17,22,28,36,47,60,78,100,130,167,216,279,3 60,465 ⋆ Smallest number whose ninth power has at least n digits. • a(n) = c eiling(10 ^ ((n - 1) / 9)) •

[A080087] • 0,0,1,1,2,2,3,3,4,6,7,8,9,9,10,12,13,14,15,16,16,18,19,20,22 ⋆ Number of factors of 5 in the factorial of the n-th prime, counted with multiplicity. • a(n) = sum _{ k=1..L } floor(prime(n) / 5 ^ k), where L = log(p _ n) / log (5). •

[A129526] • 2,2,3,3,5,5,8,9,14,16,26,31,49,64,99,133,209,291,455,657,1022,151 0,2359,3545,5536 ⋆ Number of n-bead two-color bracelets with 00 prohibited. • a(n) = [Fib(floor(n / 2) + 2) + (1 / n) * sum _{ d divides n } phi(n / d) * (Fib(d - 1) + Fib(d + 1))] / 2. - _ Petros Hadjicostas _ , Jan 04 2017 (with help from Lingyun Zhang). •

[A000358] • 1,2,2,3,3,5,5,8,10,15,19,31,41,64,94,143,211,329,493,766,1170,181 1,2787,4341,6713 ⋆ Number of binary necklaces of length n with no subsequence 00. • a(n) = (1 / n) * sum _{ d divides n } totient(n / d) [Fib(d - 1) + Fib(d + 1)].

[A130841] • 1,1,1,2,2,3,3,5,6,8,8,12,12,15,17,23,23,31,31,41,44,52,52,69,73 ⋆ Number of ways to write n as a sum of oterms, where an oterm is an ordered product of (1+oterm), sorted by size and an empty product has value 1. • a(n) = sum over sequences (n _ 1,n _ 2,...,n _ k) such that 2 <= n _ 1 <= n _ 2 <= ... <= n _ k and n1 * n2 * ... * nk=n of the product of j from 1 to k of a(n _ j - 1). The program, in J, implements this formula. (It works by factorizing n an d then grouping the factors in all distinct ways. This J code handles the a(1) case without requiring any exception case.) •

[A052473] • 2,2,3,3,5,12,37,128,464,1718,6437,24312,92380,352718,1352080,5 200302,20058302,77558762,300540197,1166803112,4537567652,17672631902,68 923264412,269128937222,1052049481862 ⋆ a(n) = binomial(2*n-5,n-2) + 2. • a(n) = 2 + (2 ^ (- 5 + 2 * n) gamma(- (3 / 2) + n)) / (sqrt(pi) gamma(- 1 + n)). •

[A094117] • 0,1,1,2,2,3,3,10,16,23,29,36,42,49,49,50,50,51,51,52,52,59,65,72,78 ⋆ Partial sums of A093349. • a(7 ^ k)=(49 ^ k - 1) / 16 •

[A029111] • 1,1,1,1,1,1,2,2,3,4,4,4,5,5,6,7,8,9,11,11,12,13,14,15,18 ⋆ Expansion of 1/((1-x)(1-x^6)(1-x^8)(1-x^9)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=2, a(7)=2, a(8)=3, a(9)=4, a(10)=4, a(11)=4, a(12)=5, a(13)= 5, a(14)=6, a(15)=7, a(16)=8, a(17)=9, a(18)=11, a(19)=11, a(20)=12, a(21) =13, a(22)=14, a(23)=15, a(n)=a(n - 1) + a(n - 6) - a(n - 7) + a(n - 8) - a(n - 10) - a(n - 14) + a(n - 16) - a(n - 17) + a(n - 18) + a(n - 23) - a (n - 24). - _ Harvey P. Dale _ , Jan 02 2016 •

[A076502] • 1,1,2,2,3,4,4,4,5,6,7,7,8,8,8,9,9,10,11,12,12,13,14,14,15 ⋆ a(1)=1, a(n)=n-a(n-a(n-a(n-1))). • a(n) is asymptotic to c * n with c=0.5698..is the p ositive root of x ^ 3 - x ^ 2 + 2 * x - 1 •

[A006165] • 1,1,2,2,3,4,4,4,5,6,7,8,8,8,8,8,9,10,11,12,13,14,15,16,16 ⋆ a(1) = 2, a(2) = 1; thereafter a(2n+1) = a(n+1) + a(n), a(2n) = 2a(n). • a(1)=1, a(n) =n - a(n - a(a(n - 1))). - _ Benoit Cloitre _ , Nov 08 2002 •

[A066997] • 2,2,3,4,4,4,5,6,7,8,8,8,8,8,9,10,11,12,13,14,15,16,16,16,16 ⋆ Survivor number for 2nd-order Josephus problem. • a(n) = 1 + k + 2 ^ (m - 1) f or k < 2 ^ (m - 1) and 2 ^ m otherwise, where m = floor(log2(n)) and k = n - 2 ^ m. Also: write n in binary; drop first bit; "OR" new first bit with each re maining bit; append 1 as new first bit; convert to integer; add 1. •

[A038128] • 0,0,1,1,2,2,3,4,4,5,5,6,6,7,8,8,9,9,10,10,11,12,12,13,13 ⋆ Beatty sequence for Euler's constant (A001620). • a(n) = floor(n * 0.5772156649...). - Typo fixed by _ Karl V. Keller, Jr. _ , Jul 27 2015 •

[A074840] • 0,1,1,2,2,3,4,4,5,5,6,7,7,8,8,9,9,10,11,11,12,12,13,14,14 ⋆ Numerators a(n) of fractions slowly converging to sqrt(2): let a(1) = 0, b(n) = n - a(n); if (a(n) + 1) / b(n) < sqrt(2), then a(n+1) = a(n) + 1, else a(n+1)= a(n). • a(1) = 0. b(n) = n - a(n). If (a(n) + 1) / b(n) < sqrt(2), then a(n + 1) = a(n) + 1, else a(n + 1) = a(n). • a(n) = floor(n * (2 - sqrt(2))). - _ Vladeta Jov ovic _ , Oct 04 2003 • a(n) = 2 * n - ceiling(n * sqrt(2)). - _ Clark Kimberli ng _ , Sep 09 2011 •

[A256502] • 1,1,2,2,3,4,4,5,5,6,7,7,8,8,9,10,10,11,11,12,13,13,14,14,15 ⋆ Largest integer not exceeding the harmonic mean of the first n squares. • a(n) = floor (n /{ sum { 1 / k ^ 2, k = 1..n }). •

[A019446] • 1,2,2,3,4,4,5,5,6,7,7,8,9,9,10,10,11,12,12,13,13,14,15,15,16 ⋆ a(n) = ceiling(n/tau), where tau=(1+sqrt(5))/2. • a(1)=1; a(n) = n + 1 - a(a(n - 1)). - _ Benoit Cloitre _ , Nov 06 2002 •

[A101803] • 0,1,1,2,2,3,4,4,5,6,6,7,7,8,9,9,10,11,11,12,12,13,14,14,15 ⋆ Nearest integer to n*(phi-1), where phi is golden ratio 1.618033988749895... (A001622). • a(n) = round(n * phi) where phi is the smaller golden ratio value, .61803398 8749895.... •

[A004523] • 0,0,1,2,2,3,4,4,5,6,6,7,8,8,9,10,10,11,12,12,13,14,14,15,16 ⋆ Two even followed by one odd; or floor(2n/3). • a(n) = floor(2 * n / 3). • a(0) = a (1) = 0; for n>1, a(n) = n - 1 - floor(a(n - 1) / 2). - _ Benoit Cloitre _ , Nov 26 2002 • a(n) = a(n - 1) + (1 / 2)((- 1) ^ floor((2 * n + 2) / 3) + 1), with a (0)=0. - Mario Catalani (mario.catalani(AT)unito.it), Oct 20 2003 • a(n) = S um _{ k=0..n - 1 } (Fibonacci(k) mod 2). - _ Paul Barry _ , May 31 2005 • a(n) = 2 * (- 1 + Sum _{ k=0..n } (1 / 9 * (- 2 * (k mod 3) + ((k + 1) mod 3) + 4 * ((k + 2) mod 3))) + (((n + 2) mod 3) mod 2). - _ Paolo P. Lava _ , Oct 02 2008 • a(n) = ceiling(2 * (n - 1) / 3) = n - 1 - floor((n - 1) / 3). - _ B runo Berselli _ , Jan 18 2017 •

[A038372] • 1,2,2,3,4,4,5,6,6,7,8,8,9,10,10,11,12,12,13,14,14,15,16,16,17 ⋆ Largest subset of integers [1...n] such that no member divides two others. • a(n) >= ceiling(2n / 3). For large n, 0.6725n <= a(n) <= 0.6736n (see Guy). •

[A265133] • 0,1,2,2,3,4,4,5,6,6,7,8,9,9,10,11,11,12,13,13,14,15,15,16,17 ⋆ Beatty sequence for log(2). • a(n) = floor(n * log(2)). •

[A064506] • 0,1,2,2,3,4,4,5,6,6,7,8,9,9,10,11,11,12,13,14,14,15,16,16,17 ⋆ a(n) = Max { k | k*(k+1)/2 <= n*(n+1)/2 - k*(k+1)/2 }. • a(n) = floor((sqrt(2 * n * (n + 1) + 1) - 1) / 2) •

[A272206] • 1,2,2,3,4,4,5,6,7,7,8,9,10,10,11,12,12,13,14,14,15,16,16,17,18 ⋆ Rounded barycenter of first n primes defined as a(n) = round(sum_{i=1..n}(i*prime(i)) / sum_{i=1..n}prime(i)) • a(n) = round(sum _{ i=1..n } (i * prime(i)) / su m _{ i=1..n } prime(i)). •

[A103354] • 1,1,2,2,3,4,4,5,6,7,8,8,9,10,11,12,13,14,15,16,16,17,18,19,20 ⋆ a(n) = floor(x), where x is the solution to x = 2^(n-x). • a(n) is approximately n / (1 + log _ 2(n) / n). • a(n) = floor(LambertW(log(2) * 2 ^ n) / log(2)) = flo or(n - log _ 2(n) + log _ 2(n) / (n log(2)) + O((log(n) / n) ^ 2)) = floor(n - l og _ 2(n) + 1.5 * log _ 2(n) / n) at least for all n < 10 ^ 7. - _ M. F. Hasler _ , Dec 14 2007 •

[A097950] • 1,1,1,2,2,3,4,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21 ⋆ G.f.: (1+x^5+x^10)/((1-x)*(1-x^3)). • a(n) = n - 3 for n > 7. [_ Charles R Great house IV _ , Oct 27 2011] •

[A211524] • 0,0,0,0,0,0,0,0,1,1,1,2,2,3,4,4,5,6,7,8,9,10,11,13,14 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w=3x+5y. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 6) - a(n - 8) + a(n - 9). •

[A008672] • 1,1,1,2,2,3,4,4,5,6,7,8,9,10,11,13,14,15,17,18,20,22,23,25,27 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^5)). • a(n) = round((n + 3) * (n + 6) / 30). • a(n) = floor(n ^ 2 / 30 + 3 * n / 10 + 1). - _ Michael Somos _ , Nov 25 200 2 • a(n) = a(- 9 - n). - _ Michael Somos _ , Nov 16 2005 • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=3, a(6)=4, a(7)=4, a(8)=5, a(n) = a(n - 1) + a (n - 3) - a(n - 4) + a(n - 5) - a(n - 6) - a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Feb 07 2012 •

[A029043] • 1,1,1,2,2,3,4,4,5,6,7,9,10,11,13,15,17,19,21,23,26,29,32,35,38 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^5)(1-x^11)). • a(n) = floor((n ^ 3 + 30 * n ^ 2

+ 371 * n + 1188 - 330 * floor((n + 2) / 3)) / 990). - _ Tani Akinari _ , Jun 28 2013 •

[A029041] • 1,1,1,2,2,3,4,4,5,7,8,9,11,12,14,17,18,20,24,26,29,33,35,39,44 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^5)(1-x^9)). • a(n) = floor((n ^ 3 + 27 * n ^ 2 + 204 * n + 700 + 10 * [3 * n + 29,4,0][(n mod 3) + 1]) / 810). - _ Tani Akinari _ , Oct 01 2014 •

[A173633] • 1,1,1,2,2,3,4,4,6,6,7,8,8,10,10,11,12,12,14,14,15,16,16,18,18 ⋆ a(n) = a(n-2) + a(n-3) - [a(n-3)/4] - [a(n-4)/2] - [a(n-5)/4]. • a(n)=a(n - 2) + a(n - 3) - Floor[a(n - 3) / 4] - Floor[a(n - 4) / 2] - Floor[a(n - 5) / 4] •

[A029040] • 1,1,1,2,2,3,4,4,6,7,8,10,11,13,15,17,20,22,25,28,31,35,38,42,47 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^5)(1-x^8)). • a(n) = floor((2 * n ^ 3 + 51 * n ^ 2 + 384 * n + 1368 + 180 * (1 + (- 1) ^ floor((n + 1) / 2)) * (- 1) ^ floor(n / 4)) / 1440). - _ Tani Akinari _ , Jun 28 2013 •

[A262699] • 1,2,2,3,4,4,8,8,16,16,32,32,64,64,128,128,256,256,512,512,1024,1024,2048,2048,4096 ⋆ List of currency denominations such that any value x > 0 is represented in exactly x ways as a sum of distinct denominations, where a repeated value represents a bill and a coin which count as distinct denominations. • a(n) = 2 ^ ceiling(n / 2 - 1) for n>4. •

[A069928] • 1,1,2,2,3,4,5,5,5,5,6,6,7,8,9,9,10,10,11,12,13,14,15,15,15 ⋆ Number of k, 1<=k<=n, such that tau(k) divides sigma(k) where tau(x) is the number of divisors of x and sigma(x) the sum of divisors of x. • a(n)=Card(k: 1<=k <=n : sigma(k) == 0 (mod tau(k)) : lim n - > infinity a(n) / n=C=0, 8... •

[A274616] • 0,1,1,2,2,3,4,5,5,6,7,7,8,9,9,10,11,11,12,13,13,14,15,15,16 ⋆ Maximal number of non-attacking queens on a right triangular board with n cells on each side. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>5. • a(n) = 2 * (3 * n + sqrt(3) * sin((2 * Pi * n) / 3)) / 9. - _ Colin Barker _ , Mar 08 2017 •

[A257175] • 0,1,2,2,3,4,5,5,6,7,7,8,9,10,10,11,12,12,13,14,14,15,16,17,17 ⋆ The smallest m such that the m-th triangular number is greater than or equal to half the n-th triangular number. • a(n) = ceil((sqrt(2n ^ 2 + 2n + 1) - 1) / 2) . - _ Charles R Greathouse IV _ , Apr 17 2015 •

[A076538] • 0,1,2,2,3,4,5,5,6,7,8,8,9,10,10,11,12,13,13,14,15,16,16,17,18 ⋆ Numerators a(n) of fractions slowly converging to e: let a(1) = 0, b(n) = n - a(n); if (a(n) + 1) / b(n) < e then a(n+1) = a(n) + 1, else a(n+1)= a(n). • a(1) = 0. b(n) = n - a(n). If (a(n) + 1) / b(n) < e, then a(n + 1) = a(n) + 1, else a(n + 1) = a(n). • a(n) = floor(n * exp(1) / (exp(1) + 1)). - _ Vladeta Jovovic _ , Oct 04 2003 •

[A039960] • 1,1,1,1,2,2,3,4,5,5,6,7,8,8,9,10,11,11,12,13,14,14,15,16,17 ⋆ For n >= 2, a(n) = largest value of k such that n^k is <= n! (a(0) = a(1) = 1 by convention). • a(n) = floor(log _ n(n!)) for n>1. •

[A066530] • 1,2,2,3,4,5,5,6,7,8,8,9,10,11,11,12,13,14,14,15,16,17,17,18,19 ⋆ Expansion of (1+x+x^3)/((1-x)*(1-x^4)). • a(n) = floor((3 * n + 5) / 4). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>4, with a(0)=1, a(1)=2, a(2)=2, a(3)=3, a(4)=4. - _ Harvey P. Dale _ , Apr 01 2013 • a(n) = (6 * n + 7 + 2 * cos(n * Pi / 2) + cos((n + 1) * Pi) + 2 * sin(n * Pi / 2)) / 8. - _ Wesley Ivan Hurt _ , Oct 01 2017 •

[A105235] • 1,2,2,3,4,5,5,6,7,8,8,9,10,11,11,12,13,14,15,16,17,18,18,19,20 ⋆ Partial sums of the central column of a Moebius-binomial triangle. • a(n)=sum { k=0..n, binomial(abs(mu(2k)), abs(mu(k))) •

[A011884] • 0,0,0,0,0,0,0,1,1,2,2,3,4,5,5,6,7,8,9,11,12,13,14,16,17 ⋆ Floor(n(n - 1)/31). • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=0, a(5)=0, a(6)=0, a(7)=1, a(8)=1, a(9)=2, a(10)=2, a(11)=3, a(12)=4, a(13)=5, a(14)=5, a(15)=6, a(16)=7, a(17)=8, a(18)=9, a(19)=11, a(20)=12, a(21)=13, a(22)=14, a(23)=16, a(24)=17, a(25)=19, a(26)=20, a(27)=22, a(28)=24, a(29)=26, a(30)=28, a(31)=30, a(32)=32, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 31) - 2 * a(n - 32) + a(n - 33). - _ Harvey P. Dale _ , Jan 23 2016 •

[A241730] • 0,0,0,0,1,2,2,3,4,5,5,6,7,8,9,11,12,13,14,16,17,18,20,21,22 ⋆ Number of digits in the decimal expansion of n! minus the number of digits in the decimal expansion of n. • a(n) = floor(log(n!) / log(10)) - floor(log(n) / log(10)) for n > 0. •

[A165684] • 0,0,0,0,1,1,1,2,2,3,4,5,5,7,8,9,11,13,13,17,18,20,23,26,27 ⋆ Dimension of the space of Siegel cusp forms of genus 2 and dimension 2n (associated with full modular group Gamma_2). • a(n) = 1 / 1080 * n ^ 3 + 1 / 45 * n ^ 2 + O(n). (from g.f.) - _ Ralf Stephan _ , Jun 20 2014 •

[A028391] • 0,0,1,2,2,3,4,5,6,6,7,8,9,10,11,12,12,13,14,15,16,17,18,19,20 ⋆ a(n) = n - floor(sqrt(n)). • a(n) = ceiling(n - sqrt(n)), as follows from ceiling(- x) = - floor(x). [Corrected by _ M. F. Hasler _ , Feb 21 2010] •

[A289188] • 2,2,3,4,5,6,7,8,8,9,10,11,12,13,14,14,15,16,17,18,18,19,20,21,22 ⋆ Eternal domination number for P_3 X P_n grid graph. • a(n) = a(n - 5) + 4 for n > 26. •

[A011878] • 0,0,0,0,0,0,1,1,2,2,3,4,5,6,7,8,9,10,12,13,15,16,18,20,22 ⋆ a(n) = floor(n(n-1)/25). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 25) - 2 * a(n - 26) + a(n - 27). •

[A000115] • 1,1,2,2,3,4,5,6,7,8,10,11,13,14,16,18,20,22,24,26,29,31,34,36,39 ⋆ Denumerants: Expansion of 1/((1-x)*(1-x^2)*(1-x^5)). • a(n) = round((n + 4) ^ 2 / 20). • a(n) = a(- 8 - n) for all n in Z. - _ Michael Somos _ , May 28 2014 •

[A033552] • 1,1,2,2,3,4,5,6,7,8,10,11,13,14,17,19,22,24,27,30,34,37,41,44,49 ⋆ Number of partitions into Catalan numbers. • a(n) = f(n,1,1) with f(m,k,c) = if c>m then 0 ^ m else f(m - c,k,c) + f(m,k + 1,2 * c * (2 * k + 1) / (k + 2)). [From _ Reinhard Zumkeller _ , Apr 09 2010] •

[A029015] • 1,1,2,2,3,4,5,6,7,8,10,12,14,16,18,21,24,27,30,33,37,41,46,50,55 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^5)(1-x^11)). • a(0)=1, a(1)=1, a(2)=2, a(3)=2, a(4)=3, a(5)=4, a(6)=5, a(7)=6, a(8)=7, a(9)=8, a(10)=10, a(11)=12, a(12)=14, a(13)=16, a(14)=18, a(15)=21, a(16)=24, a(17)=27, a(18)=30, a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 5) - a(n - 6) - a(n - 7) + a(n - 8) + a(n - 11) - a(n - 12) - a(n - 13) + a(n - 14) - a(n - 16) + a(n - 17) + a(n - 18) - a(n - 19). - _ Harvey P. Dale _ , Dec 24 2011 • a(n) = floor((2 * n ^ 3 + 57 * n ^ 2 + 466 * n + 1622) / 1320 + (- 1) ^ n / 16). - _ Tani Akinari _ , May 19 2014 •

[A000008] • 1,1,2,2,3,4,5,6,7,8,11,12,15,16,19,22,25,28,31,34,40,43,49,52,58 ⋆ Number of ways of making change for n cents using coins of 1, 2, 5, 10 cents. • a(n) = a(n - 2) + a(n - 5) - a(n - 7) + a(n - 10) - a(n - 12) - a(n - 15) + a(n - 17) + 1. - _ Michael Somos _ , Apr 01 2003 • a(- 18 - n) = - a(n). - _ Michael Somos _ , Apr 01 2003 •

[A011873] • 0,0,0,0,0,1,1,2,2,3,4,5,6,7,9,10,12,13,15,17,19,21,23,25,27 ⋆ a(n) = floor(n(n-1)/20). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) - a(n - 10) + 2 * a(n - 11) - a(n - 12) + a(n - 15) - 2 * a(n - 16) + a(n - 17). •

[A173151] • 1,1,2,2,3,4,5,6,7,9,10,12,13,16,17,20,21,25,26,30,31,36,37,42,43 ⋆ a(n) = a(n-1) - [a(n-1)/2] + a(n-2) - [a(n-5)/2]. • a(n) = a(n - 1) - floor[a(n - 1) / 2] + a(n - 2) - floor[a(n - 5) / 2]. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n > 6. • a(n) = ((- 1) ^ n * (11 - 2 * n) + 2 * n * (n + 5) + 4 * sin(Pi * n / 2) - 4 * cos(Pi * n / 2) + 25) / 32. - _ Ilya Gutkovskiy _ , Jun 03 2016 •

[A008673] • 1,1,1,2,2,3,4,5,6,7,9,10,12,14,16,19,21,24,27,30,34,38,42,46,51 ⋆ Expansion of 1/((1-x)*(1-x^3)*(1-x^5)*(1-x^7)). • a(n) = floor((n ^ 3 + 24 * n ^ 2 + 171 * n + 630) / 630). - _ Tani Akinari _ , Jul 08 2013 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 6) + a(n - 7) - 2 * a(n - 8) + a(n - 9) - a(n - 10) + a(n - 11) - a(n - 12) + a(n - 13) + a(n - 15) - a(n - 16). - _ David Neil McGrath _ , Feb 14 2015 •

[A088567] • 1,1,1,2,2,3,4,5,6,7,9,10,13,14,18,19,24,25,31,32,40,41,50,51,63 ⋆ Number of "non-squashing" partitions of n into distinct parts. • a(0)=1, a(1)=1; and for m >= 1, a(2m) = a(2m - 1) + a(m) - 1, a(2m + 1) = a(2m) + 1. •

[A242634] • 0,1,1,2,2,3,4,5,6,7,9,10,13,14,18,19,24,25,31,32,40,41,50,51,63 ⋆ G.f. A(x) satisfies A(x) = A(x^2) / (1 - x) + x / (1 - x^2). • a(n) = a(n - 2) + a(floor(n / 2)) unless n=1. •

[A029014] • 1,1,2,2,3,4,5,6,7,9,11,13,15,17,20,23,26,29,33,37,42,46,51,56,62 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^5)(1-x^9)). • a(0)=1, a(1)=1, a(2)=2, a(3)=2, a(4)=3, a(5)=4, a(6)=5, a(7)=6, a(8)=7, a(9)=9, a(10)=11, a(11)=13, a(12)=15, a(13)=17, a(14)=20, a(15)=23, a(16)=26, a(n)=a(n - 1) + a(n - 2) - a(n - 3) + a(n - 5) - a(n - 6) - a(n - 7) + a(n - 8) + a(n - 9) - a(n - 10) - a(n - 11) + a(n - 12) - a(n - 14) + a(n - 15) + a(n - 16) - a(n - 17) [From Harvey P. Dale, Mar 03 2012] •

[A011872] • 0,0,0,0,0,1,1,2,2,3,4,5,6,8,9,11,12,14,16,18,20,22,24,26,29 ⋆ [n(n-1)/19]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 19) - 2 * a(n - 20) + a(n - 21). [From _ R. J. Mathar _ , Apr 15 2010] •

[A029013] • 1,1,2,2,3,4,5,6,8,9,12,13,16,18,21,24,28,31,36,39,45,49,55,60,67 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^5)(1-x^8)). • a(0)=1, a(1)=1, a(2)=2, a(3)=2, a(4)=3, a(5)=4, a(6)=5, a(7)=6, a(8)=8, a(9)=9, a(10)=12, a(11)=13, a(12)=16, a(13)=18, a(14)=21, a(15)=24, a(n)=a(n - 1) + a(n - 2) - a(n - 3) + a(n - 5) - a(n - 6) - a(n - 7) + 2 * a(n - 8) - a(n - 9) - a(n - 10) + a(n - 11) - a(n - 13) + a(n - 14) + a(n - 15) - a(n - 16). - _ Harvey P. Dale _ , Aug 26 2012 •

[A000009] • 1,1,1,2,2,3,4,5,6,8,10,12,15,18,22,27,32,38,46,54,64,76,89,104,122 ⋆ Expansion of Product_{m >= 1} (1 + x^m); number of partitions of n into distinct parts; number of partitions of n into odd parts (if n > 0). • a(n) = t(n, 0), t as defined in A079211. • a(0)=1. a(n)= 2 * (Sum _{ k=1 } (- 1) ^ (k + 1) a(n - k ^ 2)) + sigma(n) where • a(n) = P(n) - P(n - 2) - P(n - 4) + P(n - 10) + P(n - 14) + ... + (- 1) ^ m P(n - 2p _ m) + ..., where P(n) is the partition function (A000041) and p _ m =m(3m - 1) / 2 is the m - th generalized pentagonal number (A001318). - _ Jerome Malenfant _ , Feb 16 2011 •

[A179241] • 1,1,1,2,2,3,4,5,6,8,10,12,15,19,24,29,36,45,56,69,85,105,130,161,200 ⋆ Powers of sqrt(5) - 1 rounded down. • a(n) = floor((sqrt(5) - 1) ^ n). •

[A130082] • 1,2,2,3,4,5,6,8,10,14,18,24,32,43,57,75,100,134,178,238,317,422,563,750,1000 ⋆ Smallest number whose eighth power has at least n digits. • a(n) = ceiling(10 ^ ((n - 1) / 8)) •

[A192660] • 1,1,1,2,2,3,4,5,6,8,11,14,17,22,29,36,46,59,76,96,122,156,199,253,321 ⋆ Floor-Sqrt transform of Lucas numbers (A000032). • a(n) = floor(sqrt(Lucas(n))). •

[A173692] • 0,1,1,1,1,1,2,2,3,4,5,6,8,11,14,19,25,33,43,57,76,100,133,176,233 ⋆ Ceiling(A000931(n)/2). • a(n) = a(n - 2) + a(n - 3) + a(n - 7) - a(n - 9) - a(n - 10). - R. J. Mathar, Mar 11 2012 •

[A029012] • 1,1,2,2,3,4,5,7,8,10,12,14,17,19,23,26,30,34,38,43,48,54,60,66,73 ⋆ Expansion of 1/((1-x)*(1-x^2)*(1-x^5)*(1-x^7)). • a(n) = floor((2 * n ^ 3 + 45 * n ^ 2 + 298 * n + 956) / 840 + (- 1) ^ n / 16). - _ Tani Akinari _ , Oct 15 2014 •

[A112192] • 1,1,2,2,3,4,5,7,8,10,13,16,20,24,30,36,43,52,61,73,86,102,120,140,165 ⋆ Coefficients of replicable function number "48h". • a(n) = number of partitions of n into parts == +- 1, +- 2, +- 5 (mod 12). - _ Michael Somos _ , Sep 30 2015 •

[A255575] • 1,1,1,2,2,3,4,5,7,9,12,15,20,26,33,43,56,72,92,119,153,197,253,325,419 ⋆ a(n) = floor(((sqrt(sqrt(3))^3)/sqrt(Pi))^n). • a(n) = floor(((sqrt(sqrt(3)) ^ 3) / sqrt(Pi)) ^ n). •

[A134816] • 1,1,1,2,2,3,4,5,7,9,12,16,21,28,37,49,65,86,114,151,200,265,351,465,616 ⋆ Padovan's spiral numbers. • a(0)=a(1)=a(2)=1, a(n)=a(n - 2) + a(n - 3) for n>=3. - _ Robert FERREOL _ , Oct 16 2017 •

[A228361] • 0,0,1,2,2,3,4,5,7,9,12,16,21,28,37,49,65,86,114,151,200,265,351,465,616 ⋆ The number of all possible covers of L-length line segment by 2-length

line segments with allowed gaps < 2. • a(n) = a(n - 2) + a(n - 3) for n>2. •

[A072493] • 1,1,1,1,2,2,3,4,5,7,9,12,16,22,29,39,52,69,92,123,164,218,291,388,517 ★ a(1)=1, a(n)=ceiling((sum_{k=1..n-1} a(k))/3). • a(n) = ceiling(c * (4 / 3) ^ n - 1 / 2) where c=0.389324199524937508840138455... •

[A173674] • 0,1,1,1,1,1,2,2,3,4,5,7,10,13,18,25,35,48,66,91,125,173,238,329,454 ★ ceil[A003269(n)/2]. • a(n)= + a(n - 1) + a(n - 4) + a(n - 15) - a(n - 16) - a(n - 19). - _ R. J. Mathar _ , Sep 10 2016 •

[A228693] • 1,1,2,2,3,4,5,8,9,16,17,32,33,64,65,128,129,256,257,512,513,1024,1025,2048,2049 ★ Largest number of maximal independent sets of nodes in any tree on n nodes. • a(n) = 3 * a(n - 2) - 2 * a(n - 4) for n>4. G.f.: - (x ^ 4 + x ^ 3 + x ^ 2 - x - 1) / ((x - 1) * (x + 1) * (2 * x ^ 2 - 1)). - _ Colin Barker _ , Sep 08 2013 •

[A014535] • 0,1,1,1,1,2,2,3,4,5,8,14,23,32,43,63,97,149,224,332,489,727,1116,1776,2897 ★ B-trees of order 3 with n leaves. • a(0) = 0, a(1) = 1, a(n) = sum _{ k=ceiling(n / 3)..floor(n / 2) } binomial(k, 3 * k - n) * a(k) - _ Jean - François Alcover _ , Jul 29 2014, after Steven Finch. •

[A011868] • 0,0,0,0,0,1,2,2,3,4,6,7,8,10,12,14,16,18,20,22,25,28,30,33,36 ★ [n(n-1)/15]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 15) - 2 * a(n - 16) + a(n - 17). [From _ R. J. Mathar _ , Apr 15 2010] •

[A029011] • 1,1,2,2,3,4,6,7,9,10,13,15,19,21,25,28,33,37,43,47,54,59,67,73,82 ★ Expansion of 1/((1-x)(1-x^2)(1-x^5)(1-x^6)). • a(n) = - a(- 14 - n). • a(n) = a(n - 2) + a(n - 5) + a(n - 6) - a(n - 7) - a(n - 8) - a(n - 11) + a(n - 13) + 1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 5) - 2 * a(n - 7) + a(n - 9) - a(n - 11) + a(n - 12) + a(n - 13) - a(n - 14). - _ David Neil McGrath _ , Dec 06 2014 •

[A274149] • 1,1,1,1,1,2,2,3,4,6,7,9,12,17,22,29,38,51,68,90,119,158,209,277,368 ★ Number of integers in n-th generation of tree T(-1/4) defined in Comments. • a(n - 1) = length of row n of the array in A274185. •

[A213816] • 1,1,1,2,2,3,4,6,7,11,13,20,24,37,44,68,81,125,149,230,274,423,504,778,927 ★ Tribonacci sequences A000073 and A001590 interleaved. • a(1) = a(2) = a(3) = 1; for n>1: • a(2n) = a(2n - 1) + a(2n - 3), • a(2n + 1) = a(2n - 1) + a(2n - 2). •

[A130081] • 1,2,2,3,4,6,8,10,14,20,27,38,52,72,100,139,194,269,373,518,720,1000,1390,1931,2683 ★ Smallest number whose seventh power has at least n digits. • a(n) = ceiling(10 ^ ((n - 1) / 7)) •

[A001611] • 1,2,2,3,4,6,9,14,22,35,56,90,145,234,378,611,988,1598,2585,4182,6766,10947,17712,28658,46369 ★ a(n) = Fibonacci(n) + 1. • a(n) = 2 * a(n - 1) - a(n - 3). - _ Tanya Khovanova _ , Jul 13 2007 • a(0) = 1, a(1) = 2, a(n) = a(n - 2) + a(n - 1) - 1. • a(1) = 2; a(n + 1)=floor(a(n) * (sqrt(5) + 1) / 2). - Roland Schroeder (florola(AT)gmx.de), Aug 05 2010 •

[A214448] • 1,2,2,3,4,6,9,15,25,44,80,148,281,544,1070,2139,4343,8946,18676,39495,84545,183102,400981,887517,1984548 ★ Least m>0 such that m^4 >= n!. • a(n) = ceiling(n! ^ (1 / 4)). •

[A065482] • 2,2,3,4,6,11,18,32,57,102,186,341,630,1170,2185,4096,7710,14564,27594,52429,99864,190650,364722,699051,1342177 ★ a(n) = round(2^n/n). • a(n) = A082894[n] / n. • a(n) = floor((2 ^ n + floor(n / 2)) / n). •

[A023105] • 1,2,2,3,4,7,12,23,44,87,172,343,684,1367,2732,5463,10924,21847,43692,87383,174764,349527,699052,1398103,2796204 ★ Number of distinct quadratic residues mod 2^n. • a(n) = floor((2 ^ n + 10) / 6). • a(n) = (2 ^ n + 9 - (- 1) ^ n) / 6 for n > 0. [_ David S. Dodson _ , Jan 06 2013] • a(0)=1, a(1)=2. a(n) = 2 * a(n - 1) - 2 if n is even, a(n) = 2 * a(n - 1) - 1 if n is odd. - _ Vincenzo Librandi _ , Apr 21 2012 • a(n) = + 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). [_ Joerg Arndt _ , Apr 21 2012] •

[A289199] • 0,0,2,2,3,5,5,6,7,7,9,10,10,12,12,14,14,15,17,17,18,19,19,21,22 ★ a(n) is the number of odd integers divisible by 13 in the open interval (12*(n-1)^2, 12*n^2). • a(n + 13 * k) = a(n) + 12 * k. • a(n) = 12n / 13 + O(1). - _ Charles R Greathouse IV _ , Jun 29 2017 • a(n) = a(n - 1) + a(n - 13) - a(n - 14) for n>13. •

[A011971] • 1,1,2,2,3,5,5,7,10,15,15,20,27,37,52,52,67,87,114,151,203,203,255,322,409 ★ Aitken's array: triangle of numbers {a(n,k), n >= 0, 0<=k<=n} read by rows, defined by a(0,0)=1, a(n,0)=a(n-1,n-1), a(n,k)=a(n,k-1)+a(n-1,k-1). • a(n,k) = Sum _{ i=0..k } binomial(k,i) * Bell(n - k + i). - _ Vladeta Jovovic _ , Oct 15 2006 •

[A098180] • 1,2,2,3,5,6,6,7,9,10,10,11,13,14,14,15,17,18,18,19,21,22,22,23,25 ★ Odd numbers with twice the odd numbers repeated in order between them. • a(n) = sqrt(2) * sin(Pi * n / 2 + Pi / 4) / 2 + n + 1 / 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4), n>3. • a(n) = (2n + 1 - (- 1) ^ ((n + 1) * (n + 2) / 2)) / 2. •

[A290273] • 2,2,3,5,7,8,13,18,25,34,49,69,95,134,188,264,368,517,725,1015,1422,1993,2794,3913,5484 ★ Number of minimal dominating sets in the n-pan graph. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) - a(n - 6). •

[A097333] • 1,2,2,3,5,7,10,15,22,32,47,69,101,148,217,318,466,683,1001,1467,2150,3151,4618,6768,9919 ★ Sum k=0..n, C(n-k, floor(k/2)). • a(n) = a(n - 1) + a(n - 3); • a(n) = a(n - 1) + a(n - 2) - a(n - 5). •

[A147997] • 1,1,1,2,2,3,5,7,11,18,28,45,73,117,189,306,494,799,1293,2091,3383,5474,8856,14329,23185 ★ Number of nonnegative even integers <= Fibonacci(n). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) for n > 4. •

[A060699] • 2,2,3,5,7,11,19,37,83,223,739,3181,18911,166679,2376391,60953117,3202432763,403823050201 ★ a(n) = floor(A^(C^n)), where A = 2.084551112207285561... C = 1.221. • a(n) = floor [A ^ (C ^ n)] ; A = 2.084551112... ; C = 1.221 [From Luis Rodriguez - Torres (ludovicusmagister(AT)yahoo.com), Feb 10 2009] •

[A062724] • 2,2,3,5,7,12,18,30,47,77,123,200,322,522,843,1365,2207,3572,5778,9350,15127,24477,39603,64080,103682 ★ [tau^n] + 1, where tau = (1+sqrt(5))/2. • a(n)=3 * Fibonacci(n - 1) + Fibonacci(n - 2) + (n mod 2), n>0 [From _ Gary Detlefs _ , Dec 29 2010] •

[A157176] • 1,2,2,3,5,8,8,16,16,24,40,64,64,128,128,192,320,512,512,1024,1024,1536,2560,4096,4096 ★ a(n+1) = a(n - n mod 2) + a(n - n mod 3), a(0) = 1. • a(n + 6) = 8 * a(n). •

[A152948] • 2,2,3,5,8,12,17,23,30,38,47,57,68,80,93,107,122,138,155,173,192,212,233,255,278 ★ a(n) = (n^2 - 3*n + 6)/2. • a(n) = a(n - 1) + n - 2 (with a(1)=2). - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A293419] • 0,2,2,3,5,8,12,19,30,49,78,126,204,330,534,863,1396,2259,3655,5913,9568,15480,25048,40528,65575 ★ a(n) is the least integer k such that k/Fibonacci(n) > sqrt(2). • a(n) = ceiling(Fibonacci(n) * sqrt(2)). •

[A293643] • 0,1,1,2,2,3,5,8,13,21,33,54,87,140,227,366,593,959,1551,2509,4059,6568,10627,17195,27821 ★ a(n) is the least integer k such that k/Fibonacci(n) > 3/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = ceiling(3 * Fibonacci(n) / 5). •

[A226956] • 1,1,2,2,3,5,9,15,24,38,61,99,161,261,422,682,1103,1785,2889,4675,7564,12238,19801,32039,51841 ★ a(0)=a(1)=1, a(n+2) = a(n+1) + a(n) - A128834(n). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4). • a(n) = 3 * a(n - 3) + 5 * a(n - 6) + a(n - 9) (plus many similar by telescoping the fundamental recurrence). •

[A049873] • 2,2,3,5,10,19,36,67,125,233,435,812,1516,2830,5283,9862,18410,34367,64155,119762,223567,417346,779085,1454365,2714951 ★ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A078445] • 2,2,3,5,11,23,29,31,53,67,79,89,97,107,149,163,223,229,241,271,277,283,307,313,347 ★ Primes in A060620, i.e., primes which are integer parts of averages of initial primes. • a(n) = floor((Sum _{ x=1..k } prime(x)) / k) where k = 1, 2, ... prime(k) <= n. •

[A159915] • 0,0,0,1,2,2,3,6,8,8,10,15,18,18,21,28,32,32,36,45,50,50,55,66,72 ★ a(n)=floor((n+1)/4)*floor(n/2) • a(n)=3a(n - 1) - 5a(n - 2) + 7a(n - 3) - 7a(n - 4) + 5a(n - 5) - 3a(n - 6) + a(n - 7) for n>7 •

[A215450] • 0,1,2,2,3,6,8,9,16,18,23,23,26,33,35,45,55,71,87,94,111,128,132,140,152 ★ a(0)=0, a(1)=1, a(n) = a(n-1) + (Sum_{i=0...n-1)a(i)) mod n. • a(0)=0, a(1)=1, a(n) = a(n - 1) + (a(0) + ... + a(n - 1)) mod n. •

[A019465] • 2,2,3,6,8,24,27,108,112,560,565,3390,3396,23772,23779,190232,190240,1712160,1712169,17121690,17121700,188338700,188338711,2260064532,2260064544 ★ Multiply by 1, add 1, multiply by 2, add 2, etc., start with 2. • a(2 * k) = 2 * k! + Sum _{ j=0..k - 1 } k! / j! = 2 * k! + k * e * Gamma(k,1). • a(2 * k + 1) = 2 * (k + 1)! + Sum _{ j=0..k - 1 } (k + 1)! / j! = 2 * (k + 1)! + k * (k + 1) * e * Gamma(k,1). •

[A163493] • 1,2,2,3,6,9,15,30,54,97,189,360,675,1304,2522,4835,9358,18193,35269,68568,133737,260802,509132,995801,1948931 ★ Number of binary strings of length n which have the same number of 00 and 01 substrings. • a(n) = sum(binomial(2 * k - 1, k) * binomial(n - 2 * k,k) + binomial(2 * k, k) * binomial(n - 2 * k - 1, k), k=0..floor(n / 3)). - _ Joel B. Lewis _ , May 21 2011 •

[A070550] • 1,2,2,3,6,10,15,24,40,65,104,168,273,442,714,1155,1870,3026,4895,7920,12816,20737,33552,54288,87841 ★ a(n) = a(n-1) + a(n-3) + a(n-4), starting with a(0..3) = 1, 2, 2, 3. • a(n) = (1 + 3 * i) / 10 * (- i) ^ n + (1 - 3 * i) / 10 * (i) ^ n + (2 + sqrt(5)) / 5 * ((1 + sqrt(5)) / 2) ^ n + (2 - sqrt(5)) / 5 * ((1 - sqrt(5)) / 2) ^ n, where i = sqrt(- 1). - _ Sergei N. Gladkovskii _ , Jul 16 2013 • a(n + 1) * a(n + 3) = a(n) * a(n + 2) + a(n + 1) * a(n + 2) for all n in Z. - _ Michael Somos _ , Jan 19 2014 •

[A102762] • 1,2,2,3,6,11,18,27,38,51,66,83,102,123,146,171,198,227,258,291,326,363,402,443,486 ★ Curvatures of (largest) kissing circles along the circumference, starting with curvature = -1 and 2. • a(n) = a(1) + a(2) + a(n - 1) + 2 * sqrt(a(1) * a(2) + a(1) * a(n - 1) + a(2) * a(n - 1)) = 1 + a(n - 1) + 2 * (sqrt(- 2 + a(n - 1))). (Descartes' curvature - theorem) • a(n) = n ^ 2 - 4 * n + 6 for n > 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 4. •

[A049853] • 1,2,2,3,6,11,19,33,58,102,179,314,551,967,1697,2978,5226,9171,16094,28243,49563,86977,152634,267854,470051 ★ a(n)=Sum{a(k): k=0,1,2,...,n-3,n-1}; a(n-2) is not a summand; 2 initial terms required. • a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3); 3 initial terms required. • a(n)=a(n - 1) + a(n - 2) + a(n - 4) for n>3. [_ Reinhard Zumkeller _ , Aug 06 2011] •

[A103687] • 1,1,2,2,3,6,12,36,156,520,1920,5760,12600,39900,210140,844984,2871876,8784783,29392449,123405524,726794464,3669378736,20998365592,139906305272,770298602024 ★ Number of permutations p of (1,2,...,n) such that 1+k+p(k) is prime for all k=1,2,...,n. • a(n) = permanent(m), where the n X n matrix m is defined by m(i,j) = 1 or 0, depending on whether i + j + 1 is prime or composite respectively. - _ T. D. Noe _ , Oct 16 2007 •

[A032908] • 2,2,3,6,14,35,90,234,611,1598,4182,10947,28658,75026,196419,514230,1346270,3524579,9227466,24157818,63245987,165580142,433494438,1134903171,2971215074 ★ One of 4 3rd-order recurring sequences for which the first derived sequence and the Galois transformed sequence coincide. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = 3 * a(n - 1) - a(n - 2) - 1. - _ N. Sato _ , Jan 21 2010 • a(n + 1) = (3 * a(n) + sqrt(5 * a(n) ^ 2 - 10 * a(n) + 1) - 1) / 2 for n >= 1. (End) • a(n) = 1 + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (1 - sqrt(5)) + (- 1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5). - _ Colin Barker _ , Nov 02 2016 •

[A291102] • 2,2,3,7,9,13,19,24,39,63,87,124,183,272,405,593,867,1261,1869,2760,4046,5936,8712,12817,18861 ★ Number of maximal irredundant sets in the n-pan graph. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5) - a(n - 7) - 2 * a(n - 8) - a(n - 9) + 2 * a(n - 10) + a(n - 11) - a(n - 14) for n > 14. •

[**A227300**] • 1,2,2,3,7,11,16,28,48,77,126,211,349,573,947,1568,2588,4271,7058,11661,19256,31804,52538,86779,143329 ⋆ Rising diagonal sums of triangle of Fibonacci polynomials (rows displayed as centered text). • a(n) = sum(k=0..floor((n - 1) / 3), binomial(2 * n - 2 - 5 * k,k) + binomial(2 * n - 3 - 5 * k,k)) for n>=2; a(1)=1. - _ John Molokach _ , Jul 11 2013 • a(n) = a(n - 1) + 2 * a(n - 3) - a(n - 6), starting with { 1, 2, 2, 3, 7, 11 } . - _ T. D. Noe _ , Jul 11 2013 • a(n) = sum(k=0..floor((2n - 1) / 3) binomial(2n - k - 2 - 3 * floor(k / 2),floor(k / 2))). - _ John Molokach _ , Jul 29 2013 •

[**A185387**] • 1,2,2,3,7,25,121,721,5041,40321,362881,3628801,39916801,479001601,6227020801,87178291201,1307674368001,20922789888001,355687428096001,6402373705728001 ⋆ E.g.f. exp(x)+log(1/(1-x)). • a(n) = (n - 1)! + 1, n>0, a(0)=1. •

[**A038507**] • 2,2,3,7,25,121,721,5041,40321,362881,3628801,39916801,479001601,6227020801,87178291201,1307674368001,20922789888001,355687428096001,6402373705728001,121645100408832001 ⋆ a(n) = n! + 1. • a(n) = n * (a(n - 1) - 1) + 1. - _ Reinhard Zumkeller _ , Mar 20 2013 •

[**A087522**] • 2,2,3,7,31,31,127,127,1279,3583,5119,6143,8191,8191,81919,131071,131071,131071,524287,524287,14680063,14680063,109051903,109051903,654311423 ⋆ a(0) = 2; for n>=1, a(n) = smallest prime p such that p+1 is divisible by an n-th power > 1. • a(n) << 37 ^ n by Xylouris' improvement to Linnik's theorem. - _ Charles R Greathouse IV _ , Dec 10 2013 •

[**A001131**] • 0,1,2,2,3,8,14,20,35,64,122,260,586,1296,2708,5400,10468,19888,37580,71960,140612,279264,560544,1133760,2310316 ⋆ Number of red-black rooted trees with n-1 internal nodes. • a(1) = 1, a(2) = 2 and for n>2: a(n) = Sum _ [n / 4 <= m <= n / 2] binomial(2m,n - 2m) * a(m), John Moon, as quoted in Ruskey. - _ Jonathan Vos Post _ , Jun 17 2005. •

[**A060790**] • 1,2,2,3,15,38,110,323,927,2682,7754,22403,64751,187134,540822,1563011,4517183,13054898,37729362,109039875,315131087,910745750,2632104062,7606921923,21984412383 ⋆ Inscribe two circles of curvature 2 inside a circle of curvature -1. Sequence gives curvatures of the smallest circles that can be sequentially inscribed in such a diagram. • a(n) = 2a(n - 1) + 2a(n - 2) + 2a(n - 3) - a(n - 4). •

[**A090168**] • 0,1,2,2,4,4,5,6,7,7,9,9,10,11,12,12,14,14,15,16,17,17,19,19,20 ⋆ Floor(3n/2) - floor(2n/3). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). •

[**A131055**] • 1,2,2,4,4,6,6,8,8,10,10,12,12,14,14,16,16,18,18,20,20,22,22,24,24 ⋆ 1 followed by repeats of 2*k. • a(n) = 1 + sum { i=0..n }{ 1 - (- 1) ^ i - [i! ^ 2 mod (i + 1)] * [(i + 1)! ^ 2 mod (i + 2)] } , with n>=0. - _ Paolo P. Lava _ , Jul 24 2007 • a(n) = ((- 1) ^ n + 2 * n - 1) / 2 for n>1. a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>1. G.f.: x * (x ^ 3 - x ^ 2 + x + 1) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Oct 28 2012 •

[**A029010**] • 1,1,2,2,4,4,6,6,9,9,12,13,17,18,22,24,29,31,36,39,45,48,55,59,67 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^4)(1-x^11)). • a(n) = floor((420 + (n + 9) * (2 * n ^ 2 + 36 * n + 91 + 33 * (- 1) ^ n)) / 1056). - _ Tani Akinari _ , Jul 04 2013 •

[**A029009**] • 1,1,2,2,4,4,6,6,9,10,13,14,18,20,24,26,31,34,40,43,50,54,62,66,75 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^4)(1-x^9)). • a(0)=1, a(1)=1, a(2)=2, a(3)=2, a(4)=4, a(5)=4, a(6)=6, a(7)=6, a(8)=9, a(9)=10, a(10)=13, a(11)=14, a(12)=18, a(13)=20, a(14)=24, a(15)=26, a(n)=a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) + a(n - 9) - a(n - 10) - a(n - 11) + a(n - 12) - a(n - 13) + a(n - 14) + a(n - 15) - a (n - 16). [_ Harvey P. Dale _ , May 05 2012] •

[**A183002**] • 0,0,0,2,2,4,4,6,8,10,10,14,14,16,18,22,22,26,26,30,32,34,34,40,42 ⋆ Partial sums of A161840. • a(n) = Sum _{ k=1..n } (tau(k) - 2 + (tau(k) mod 2)), tau = A000005. •

[**A045674**] • 1,1,2,2,4,4,6,8,12,16,20,32,38,64,72,128,140,256,272,512,532,1024,1056,2048,2086 ⋆ Number of 2n-bead balanced binary necklaces which are equivalent to their reverse, complement and reversed complement. • a(2n) = a(n) + 2 ^ (n - 1), a(2n + 1) = 2 ^ n. - _ Ralf Stephan _ , Nov 01 2003 •

[**A264788**] • 2,2,4,4,6,10,10,12,16,16,18,22,22,24,28,28,30,34,34,36,40,40,42,46,46 ⋆ a(n) is the number of circles added at n-th iteration of the pattern starting with 2 circles. (See comment.) • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>5. •

[**A253412**] • 1,2,2,4,4,7,9,13,18,25,36,49,70,97,137,191,268,376,526,738,1033,1449,2029,2844,3985 ⋆ Number of n-bit legal binary words with maximal set of 1s. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) - a(n - 6), for n >= 6, with a(1) = 1, a(2) = a(3) = 2, a(4) = a(5) = 4, a(6) = 7. - _ Andrew Woods _ , Jan 02 2015 •

[**A131572**] • 0,1,2,2,4,4,8,8,16,16,32,32,64,64,128,128,256,256,512,512,1024,1024,2048,2048,4096 ⋆ a(0)=0 and a(1)=1, continued such that absolute values of 2nd differences equal the original sequence. • a(n) = 2 * a(n - 2), n>2. •

[**A000013**] • 1,1,2,2,4,4,8,10,20,30,56,94,180,316,596,1096,2068,3856,7316,13798,26272,49940,95420,182362,349716 ⋆ Definition (1): Number of n-bead binary necklaces with beads of 2 colors where the colors may be swapped but turning over is not allowed. • a(n) = Sum _{ d divides n } (phi(2d) * 2 ^ (n / d)) / (2n) for n>0. - _ Michael Somos _ , Oct 20 1999 •

[**A063776**] • 2,2,4,4,8,12,20,32,60,104,188,344,632,1172,2192,4096,7712,14572,27596,52432,99880,190652,364724,699072,1342184 ⋆ Number of subsets of {1,2,...,n} which sum to 0 modulo n. • a(n) = 1 / n * Sum _{ d divides n and d is odd } 2 ^ (n / d) * phi(d). •

[**A059015**] • 1,1,2,2,4,5,6,6,9,11,13,14,16,17,18,18,22,25,28,30,33,35,37,38,41 ⋆ Total number of 0's in binary expansions of 0, ..., n. • a(n) = b(n) + 1, with b(2n) = b(n) + b(n - 1) + n, b(2n + 1) = 2b(n) + n. - _ Ralf Stephan _ , Sep 13 2003 • a(n) = 2 + (m + 1) * (n + 1) - 2 ^ (m + 1) + (1 / 2) * sum _{ j=1..m + 1 } (floor(n / 2 ^ j) * (2n + 2 - (1 + floor(n / 2 ^ j)) * 2 ^ j) - floor(n / 2 ^ j + 1 / 2) * (2n + 2 - floor(n / 2 ^ j + 1 / 2) * 2 ^ j. • a(2 ^ m - 1) = 2 + (m - 2) * 2 ^ (m - 1) • a(n) = 1 + (m + 1) * (n + 1) - (p ^ (m + 1) - 1) / (p - 1) + (1 / 2) * sum _{ j=1..m + 1 } (floor(n / p ^ j) * (2n + 2 - (1 + floor(n / p ^ j)) * p ^ j) - floor(n / p ^ j + (p - d - 1) / p) * (2n + 2 + ((p - 2 * d - 2) / p - floor(n / p ^ j + (p - d - 1) / p)) * p ^ j)). • a(n) = H(n,p) - (n + 1) * F(n,p,d + 1) + (1 / 2) * sum _{ j=1..m + 1 } ((floor(n / p ^ j + (p - d - 1) / p) ^ 2 - floor(n / p ^ j) ^ 2) * p ^ j - (((p - 2 * d - 2) / p) * floor(n / p ^ j + (p - d - 1) / p) + floor(n / p ^ j)) * p ^ j), where H(n,p) = sum of number of digits in the base p representations of 0 to n and F(n,p,d) = number of digits >=d in the base p representation of n. • a(p ^ m - 1) = 1 + (d + 1) * m * p ^ (m - 1) - (p ^ m - 1) / (p - 1). •

[**A089676**] • 1,2,2,4,5,6,8,9,10,16,17 ⋆ a(n) is the maximal size of a set S of points in {0,1}^n in real n-dimensional Euclidean space such that every angle determined by three points in S is acute. • a(n) >= 2 * floor((sqrt(6) / 9)(2 / sqrt(3)) ^ n), which is approximately 0.544 * 1.155 ^ n. •

[**A120326**] • 2,2,4,5,7,8,10,11,13,15,16,17,19,20,22,24,26,27,28,30,31,32,34,36,37 ⋆ Cumulative sum of the remainders when dividing primes by 3. • a(n) = sum _{ k=1..n } (prime(k) mod 3). •

[**A036406**] • 0,1,1,2,2,4,5,7,8,11,13,16,18,22,25,29,32,37,41,46,50,56,61,67,72 ⋆ Ceiling(n^2/8). • a(n) = (1 / 16) * (2n ^ 2 + 9 - 5(- 1) ^ n - 2(- 1) ^ floor(n / 2) + 2(- 1) ^ floor((n - 1) / 2)). - _ Ralf Stephan _ , Jun 10 2005 • a(0)=0, a(1)=1, a(2)=1, a(3)=2, a(4)=2, a(5)=4, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a (n - 6). - _ Harvey P. Dale _ , Jun 21 2011 •

[**A029007**] • 1,1,2,2,4,5,7,8,11,13,17,19,24,27,33,37,44,49,57,63,73,80,91,99,112 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^4)(1-x^5)). • a(0)=1, a(1)=1, a(2)=2, a(3)=2, a(4)=4, a(5)=5, a(6)=7, a(7)=8, a(8)=11, a(9)=13, a(10)=17, a(11)=19, a(n)=a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - 2 * a(n - 6) + a(n - 8) - a(n - 9) + a(n - 10) + a(n - 11) - a(n - 12). - _ Harvey P. Dale _ , Dec 06 2013 • a(n) = floor((2 * n ^ 3 + 36 * n ^ 2 + 193 * n + 525) / 480 + (n + 1) * (- 1) ^ n / 32). - _ Tani Akinari _ , Sep 30 2014 • a(n) = - a(- 12 - n) for all n in Z. - _ Michael Somos _ , Sep 30 2014 •

[**A137200**] • 1,1,2,2,4,5,7,9,13,18,25,34,47,65,90,124,171,236,326,450,621,857,1183,1633,2254 ⋆ Number of ways to tile an n X 1 strip with 1 X 1 squares and 2 X 1 dominoes with the restriction that no three consecutive tiles are of the same type. • a(n) = a(n - 1) + a(n - 4) for n>4; g.f.: (1 + x ^ 2 + x ^ 4) / (1 - x - x ^ 4). Also a(n) = a(n - 2) + a(n - 4) + a(n - 5). •

[**A166515**] • 0,1,2,2,4,5,8,8,12,13,18,18,24,25,32,32,40,41,50,50,60,61,72,72,84 ⋆ Partial sum of A166514. • a(n) = (2n ^ 2 + 6n + 5) / 16 + (2n - 1) * (- 1) ^ n / 16 - sqrt(2) * cos(Pi * n / 2 + Pi / 4) / 4. •

[**A193146**] • 1,1,2,2,4,5,8,10,15,20,29,39,55,75,105,144,200,275,381,525,726,1001,1383,1908,2635 ⋆ G.f.: 1/(1-x-x^2+x^3-x^4+x^6) • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 6) with a(n) = 0 for n = - 5, - 4, - 3, - 2, - 1 and a(0) = 1. •

[**A157162**] • 1,1,1,1,2,2,4,5,8,10,18,24,40,52,88,125,210,286,492,702,1144,1638,2786,3986,6704 ⋆ 1/product(1 - a(n)*x^n, n=1..infinity) = 1+ sum(F(k+1)*x^k, k=1..infinity) = 1/(1-x-x^2), where F(n) = A000045(n) (Fibonacci numbers). • a(n) = (- sum(d * a(d) ^ (n / d), d|n with 1<=d<n) + L(n)) / n, n>=2, a(1)=1. • a(n) = - sum((d / n) * (a(d)) ^ (n / d),d|n with 1<=d<n) + sum(((- 1) ^ (m - 1)) * (1 / m) * sum(M0(p) * F(2) ^ e(1) * ... * F(n + 1) ^ e(n),p=(1 ^ e(1),...,n ^ e(n)) from P(n,m)), m=1..n) for n>=2; a(1)=F(2)=1. See recurrence 1 for the set P(n,m). The M0 numbers are m! / product(e(j)!,j=1..n). •

[**A006206**] • 1,1,1,1,2,2,4,5,8,11,18,25,40,58,90,135,210,316,492,750,1164,1791,2786,4305,6710 ⋆ Number of aperiodic binary necklaces of length n with no subsequence 00, excluding the necklace "0". • a(n) = (1 / n) * sum _{ d|n } mu(n / d) * (Fib(d - 1) + Fib(d + 1)) = (1 / n) * sum _{ d|n } mu(n / d) * Lucas(d). Hence Lucas(n) = sum _{ d|n } d * a(d). • a(n) = round((1 / n) * sum _{ d|n } mu(n) * phi ^ (n / d))). - _ David Broadhurst _ . •

[**A095719**] • 1,1,2,2,4,5,8,11,18,25,40,59,90,137,210,319,492,754,1164,1798,2786,4317,6710,10438,16266 ⋆ Sum(floor(C(n-k,k)/(k+1)),k=0..n/2). • a(n) = sum(floor(C(n - k, k) / (k + 1)), k=0..n / 2); •

[**A172128**] • 1,1,1,1,2,2,4,5,8,12,18,26,40,60,90,137,210,320,492,756,1165,1800,2786,4320,6710 ⋆ Floor((r^n)/n), where r = golden ratio = (1+sqrt(5))/2. • a(n)=floor((1 / n) * (F(n) * r + F(n - 1)), where F=A000045 (the Fibonacci numbers). •

[**A093333**] • 0,1,1,2,2,4,5,8,12,19,30,47,75,118,188,297,472,748,1188,1885,2992,4749,7538,11966,18994 ⋆ a(0) = 0, a(1) = 1 and for n >= 0, a(n+2) = floor(2 * sqrt(a(n) * a(n+1))). • a(n) = c * 2 ^ (2n / 3) + O(1) where c = 0.460059421168603639247011945010383052611033510222466141611719800044251170577443497647017497388556 0.... - _ Benoit Cloitre _ , Dec 17 2006 •

[**A099574**] • 1,1,2,2,4,5,9,11,18,23,37,48,74,97,147,195,290,387,568,763,1108,1495,2152,2915,4167 ⋆ Diagonal sums of triangle A099574. • a(n)=sum { k=0..floor(n / 2), sum { j=0..floor(k / 2), binomial(n - k - j, j) }} . •

[**A124280**] • 1,1,2,2,4,5,9,12,20,28,45,65,102,150,232,345,529,792,1208,1816,2761,4161,6314,9530,14444 ⋆ Expansion of 1/(1-x-x^2+x^3-x^4). • a(n) = sum { k=0..floor(n / 2), sum { j=0..n - 2k, C(j,n - 2k - j)C(k,n - 2k - j) }} . • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4), a(0)=1, a(1)=1, a(2)=2, a(3)=2. - _ Carl Najafi _ , May 06 2014 •

[**A088518**] • 1,1,1,2,2,4,5,9,12,21,29,50,71,121,175,296,434,730,1082,1812,2709,4521,6807,11328,17157 ⋆ Symmetric secondary structures of RNA molecules with n nucleotides. • a(n) is asymptotic to c * phi ^ n / sqrt(n) where phi=(1 + sqrt(5)) / 2 and c=0.86.... - _ Benoit Cloitre _ , Nov 19 2003 •

[**A127968**] • 1,2,2,4,5,9,13,22,34,56,89,145,233,378,610,988,1597,2585,4181,6766,10946,17712,28657,46369,75025 ⋆ a(n) = F(n+1) + (1-(-1)^n)/2, where F() = Fibonacci numbers A000045. • a(n) = (5 - 5 * (- 1) ^ n + 2 ^ (- n) * sqrt(

5) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n))) / 10. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>3. •

[A147678] • 1,2,2,4,5,10,12,24,27,54,58,116,121,242,248,496,503,1006,1014,2028,2037,4074,4084,8168,8179 ★ Double, add 0, double, add 1, double, add 2, double, add 3, etc. • a(n) = 4 * a(n - 2) - 5 * a(n - 4) + 2 * a(n - 6). • a(n) = 2 * a(n - 1) - (n mod 2) * (a(n - 1) - (n - 3) / 2). - _ Reinhard Zumkeller _ , Apr 22 2009 •

[A178113] • 1,2,2,4,5,10,13,26,35,70,96,192,267,534,750,1500,2123,4246,6046,12092,17303,34606,49721,99442,143365 ★ Transform of C(n+1,floor((n+1)/2)) by A178112. • a(n)=sum { k=0..n, C(floor(n / 2),floor(k / 2)) * ((1 + (- 1) ^ (n - k)) / 2) * C(k + 1,floor((k + 1) / 2). •

[A114851] • 0,0,1,1,2,2,4,5,10,14,27,41,78,126,237,399,745,1292,2404,4259,7915,14242,26477,48197,89721 ★ Number of lambda calculus terms of size n, where size(lambda x.M) = 2 + size(M), size(M N) = 2 + size(M) + size(N), and size(V) = 1 + i for a variable V bound by the i-th enclosing lambda (corresponding to a binary encoding). • a(n + 2) = 1 + a(n) + Sum _{ i=0..n } a(i) * a(n - i), with a(0) = a(1) = 0. •

[A291055] • 1,2,2,4,6,8,13,17,27,40,57,86,122,184,269,395,582,849,1255,1843,2708,3982,5841,8597,12631 ★ Number of maximal irredundant sets in the n-path graph. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5) - a(n - 7) - 2 * a(n - 8) - a(n - 9) + 2 * a(n - 10) + a(n - 11) - a(n - 14) for n > 14. •

[A293640] • 0,1,1,1,2,2,4,6,9,14,22,36,58,94,151,244,395,639,1034,1673,2706,4379,7085,11463,18548 ★ a(n) is the least integer k such that k/Fibonacci(n) > 2/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = ceiling(2 * Fibonacci(n) / 5). •

[A293552] • 0,1,1,1,1,2,2,4,6,9,14,23,36,59,95,153,247,400,646,1046,1692,2737,4428,7165,11592 ★ a(n) is the least integer k such that k/Fibonacci(n) > 1/4. • a(n) = a(n - 1) + a(n - 2) + a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. • a(n) = ceiling(Fibonacci(n) / 4). •

[A293546] • 0,1,1,2,2,4,6,9,14,23,37,60,96,156,252,407,658,1065,1723,2788,4510,7298,11808,19105,30912 ★ a(n) is the least integer k such that k/Fibonacci(n) > 2/3. • a(n) = a(n - 1) + a(n - 2) + a(n - 8) - a(n - 9) - a(n - 10) for n >= 11. • a(n) = ceiling(2 * Fibonacci(n) / 3). •

[A173495] • 1,1,2,2,4,6,9,15,24,38,62,100,161,261,422,682,1104,1786,2889,4675,7564,12238,19802,32040,51841 ★ Lucas(n) - floor(Lucas(n)/2). • a(n) = ceiling(Lucas(n) / 2). •

[A262258] • 1,2,2,4,6,10,16,24,40,56,96,128,224,288,512,640,1152,1408,2560,3072,5632,6656,12288,14336,26624 ★ a(n) = the number of hills (arch length of 1 with no covering arches) for semi-meander solutions with n arches and floor((n+2)/2) arch group returns to the x axis. • a(1)=1, a(2)=2, a(n) = (2 ^ floor((n - 1) / 2) * (floor(n / 2) - (1 / 2) * (floor((n - 3) / 2)) for n>2. • a(n) = 2 ^ (n / 2 - 3) * (n + 4) for n>2 and even. • a(n) = 2 ^ ((n - 9) / 2) * (4 * n + 4) for n>2 and odd. • a(n) = 4 * a(n - 2) - 4 * a(n - 4) for n>6. •

[A293633] • 1,1,2,2,4,6,10,16,26,41,67,108,175,283,458,740,1198,1938,3136,5074,8210,13283,21493,34776,56269 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 3/4|. • a(n) = a(n - 1) + a(n - 2) + a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. • a(n) = floor(1 / 2 + 3 * Fibonacci(n) / 4). •

[A163733] • 1,1,2,2,4,6,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314 ★ Number of n X 2 binary arrays with all 1's connected, all corners 1, and no 1 having more than two 1's adjacent. • a(n) = round(phi ^ (k - 1)) - round(phi ^ (k - 1) / sqrt(5)), phi = (1 + sqrt(5)) / 2 (conjecture). [_ Federico Provvedi _ , Mar 26 2013] •

[A198834] • 0,0,2,2,4,6,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314 ★ Number of sequences of n coin flips that win on the last flip, if the sequence of flips ends with (0,1,1) or (1,1,1). • a(n) =a(n - 1) + a(n - 2) for n>3. •

[A000016] • 1,1,1,2,2,4,6,10,16,30,52,94,172,316,586,1096,2048,3856,7286,13798,26216,49940,95326,182362,349536 ★ a(n) = number of distinct (infinite) output sequences from binary n-stage shift register which feeds back the complement of the last stage. E.g., for n=6 there are 6 such sequences. • a(n) = Sum _{ odd d divides n } (phi(d) * 2 ^ (n / d)) / (2 * n), n>0. •

[A060553] • 2,2,4,6,10,16,32,52,104,192,376,720,1440,2800,5600,11072,22112,43968,87936,175296,350592,700160,1400192,2798336,5596672 ★ a(n) is the number of distinct (modulo geometric D3-operations) patterns which can be formed by an equilateral triangular arrangement of closely packed black and white cells satisfying the local matching rule of Pascal's triangle modulo 2, where n is the number of cells in each edge of the arrangement. The matching rule is such that any elementary top-down triangle of three neighboring cells in the arrangement contains either one or three white cells. • a(n) = (2 ^ (n - 1) + 2 ^ (floor(n / 3) + (n mod 3)mod 2)) / 3 + 2 ^ floor((n - 1) / 2). •

[A293673] • 0,1,1,2,2,4,6,10,17,27,44,71,115,186,302,488,790,1278,2067,3345,5412,8757,14169,22926,37094 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 4/5|. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + a(n - 5) + 2 a(n - 6) - a(n - 7) - 2 a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. • a(n) = floor(1 / 2 + 4 * Fibonacci(n) / 5). •

[A293505] • 0,0,0,1,2,2,4,6,10,17,28,44,72,116,188,305,494,798,1292,2090,3382,5473,8856,14328,23184 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 1/2|. • a(n) = a(n - 1) + a(n - 2) + a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. • a(n) = floor(1 / 2 + Fibonacci(n) / 2). •

[A063886] • 1,2,2,4,6,12,20,40,70,140,252,504,924,1848,3432,6864,12870,25740,48620,97240,184756,369512,705432,1410864,2704156 ★ Number of n-step walks on a line starting from the origin but not returning to it. • a(n) = sum { k=0..n, (k + 1)binomial(n, (n - k) / 2) (1 - cos((k + 1) * Pi / 2) (1 + (- 1) ^ (n - k)) / (n + k + 2)) } . - _ Paul Barry _ , Oct 12 2004 • a(n) = 2 ^ n * product _{ k=0..n - 1 } (k / n + 1 / n) ^ ((- 1) ^ k). - _ Peter Luschny _ , Dec 02 2013 •

[A003000] • 1,2,2,4,6,12,20,40,74,148,284,568,1116,2232,4424,8848,17622,35244,70340,140680,281076,562152,1123736,2247472,4493828 ★ Number of bifix-free (or primary, or unbordered) words of length n over a two-letter alphabet. • a(2n + 1) = 2 * a(2 * n), a(2 * n) = 2 * a(2 * n - 1) - a(n). • a(0)=1; a(n) =2 * a(n - 1) - (1 / 2) * (1 + (- 1) ^ n) * a([n / 2]). - _ Farideh Firoozbakht _ , Jun 10 2004 •

[A238014] • 1,1,2,2,4,6,12,20,48,84,216,408,1104,2280,6288,14128,40256,96240,287904,714016,2246592,5750112,18900672,49973568,169592576 ★ Number of chess tableaux with n cells. • a(n) = Sum _{ lambda : partitions(n) } chess(lambda), where chess(lambda) is the number of chess tableaux of shape lambda. •

[A128209] • 1,2,2,4,6,12,22,44,86,172,342,684,1366,2732,5462,10924,21846,43692,87382,174764,349526,699052,1398102,2796204,5592406 ★ Jacobsthal numbers(A001045) + 1. • a(n)=1 + 2 ^ n / 3 - (- 1) ^ n / 3. •

[A052953] • 2,2,4,6,12,22,44,86,172,342,684,1366,2732,5462,10924,21846,43692,87382,174764,349526,699052,1398102,2796204,5592406,11184812 ★ Expansion of 2*(1-x-x^2)/((x-1)(2x-1)(1+x)). • a(2n) = 2 * a(n - 1) - 2, a(2n + 1) = 2 * a(2n). - _ Lee Hae - hwang _ , Oct 11 2002 •

[A181926] • 1,1,2,2,4,6,13,27,70,191,609,2130,8526,38156,194000,1109673,7176149,52238676,429004471,3970438003,41454181730,488046132076,6482590679282,97134793638750,1641654359781521 ★ Diagonal sums of Fibonomial triangle A010048. • a(n) = sum(fibonomial(k,n - k),k=ceiling(n / 2)..n). •

[A069925] • 1,1,1,2,2,4,6,16,18,40,62,160,210,448,660,2048,2570,5184,9198,24672,32508,76032,121574,344064,405000 ★ a(n) = phi(2^n+1)/(2*n). • a(n) = phi(2 ^ n + 1) / (2 * n). •

[A080611] • 2,2,4,6,21,155,441,2925,10165,342056,2781505,10631544,163886800,498936010,5163068911,794010643700,17635639237580,353823355745574,16828233620277430,224220167903546529,1199047161971958678 5,11336776700319 8032480,4446177962278202834685,1183320817352031440636 19,1103720538399 012083835935 ★ a(n) is the smallest number m >= 2 for which the set of prime factors of m, m-1 and m+1 contains at least the first n primes. • a(n) is the smallest number such that the product [a(n) - 1]a(n)[a(n) + 1] has prime factors which include the first n ordinal primes excluding 1 (see A033946). •

[A067953] • 0,1,1,2,2,4,7,13,23,39,69,122,211,339,564,1001,1764,2630,4565,7192,10151,17202,26152,43543,79126 ★ Number of ways to sum numbers from 1 to n to the n-th prime. • a(n) = b(0, n), where b(m, n) satisfies b(m, n) = 1 + sum { b(i, j): m<i<j<n & i + j=prime(n) } . •

[A049868] • 1,2,2,4,7,14,26,49,91,170,317,592,1105,2063,3851,7189,13420,25052,46766,87301,162970,304226,567917,1060165,1979074 ★ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A032441] • 1,2,2,4,7,16,37,92,232,596,1541,4006,10441,27262,71254,186356,487579,1276004,3339821,8742472,22885996,59912932,156848617,410626154,1075018897 ★ Sum binomial(Fibonacci(n),i); i=0..2). • a(0)=1, a(1)=2, a(2)=2, a(3)=4, a(4)=7, a(5)=16, a(n)=4 * a(n - 1) - 2 * a(n - 2) - 6 * a(n - 3) + 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Feb 02 2015 •

[A238184] • 1,1,1,1,2,2,4,7,16,37,107,282,1020,2879,12507,39347,179231,687974,3225246,14955561,75999551,392585613,2271201137,12183159188,81562521256 ★ Sum of the squares of numbers of nonconsecutive chess tableaux over all partitions of n. • a(n) = Sum _{ lambda : partitions(n) } ncc(lambda) ^ 2, where ncc(k) is the number of nonconsecutive chess tableaux of shape k. •

[A104221] • 0,0,0,2,2,4,8,12,20,34,54,88,144,232,376,610,986,1596,2584,4180,6764,10946,17710,28656,46368 ★ a(n) = Fibonacci(n) - (Fibonacci(n) mod 2). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5). - _ Eric W. Weisstein _ , Sep 03 2017 •

[A123024] • 1,1,2,2,4,8,12,28,60,112,284,652,1404,3776,9228,22028,62092,160448,414540,1216012,3302604,9092272,27622844,78446956,227652828 ★ Simple Scaled differential equation recursion RF: a[n+2]=(a(n)+a(n-1))/((n+2)*(n+1)). • a(n) = (a(n - 2) + a(n - 3) / (n * (n - 1)) output= a(n) * n! •

[A171648] • 1,2,2,4,8,16,24,48,80,160,256,512,832,1664,2688,5376,8704,17408,28160,56320,91136,182272,294912,589824,954368 ★ a(1) = 1, a(n) = 2*a(n-1) if n is even; a(n) = a(n-1)*Fibonacci((n+1)/2)/Fibonacci((n-1)/2) if n is odd. • a(n) = 2 * a(n - 2) + 4 * a(n - 4) for n>4. •

[A090129] • 1,2,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608 ★ Smallest exponent such that -1 + 3^a(n) is divisible by 2^n. • a(n) = 2 ^ (n - 2) if n >= 3, 1 for n=1 and 2 for n=2 (see the order comment above). •

[A108774] • 1,1,2,2,4,8,16,48,160,448,2048,6400,31232,125952,604160,3119104,15638528,93478912,550141952,3367698432,24049516544,146207539200,1203934593024,7615928598528,67190404415488 ★ Sum of the squares of numbers of chess tableaux over all partitions of n. • a(n) = Sum _{ lambda : partitions(n) } chess(lambda) ^ 2, where chess(k) is the number of standard Young tableaux (SYT) with cell(i,j) + i + j == 1 mod 2. - _ Alois P. Heinz _ , Jun 30 2012 •

[A007971] • 0,1,2,2,4,8,18,42,102,254,646,1670,4376,11596,31022,83670,227268,621144,1706934,4713558,13072764,36398568,101704038,285095118,801526446 ★ INVERTi transform of central trinomial coefficients (A002426). • a(0)=0, a(1)=1, a(2)=2, then a(n)= (1 / 2) * (a(1) * a(n - 1) + a(2) * a(n - 2) + ... + a(n - 1) * a(1)). - _ Benoit Cloitre _ , Oct 24 2003 • a(n) = 2 ^ (1 - n) * Sum _{ k=1..n } (binomial(k,n - k) * a000108(k - 1) * 3 ^ (n - k)), n>0. - _ Vladimir Kruchinin _ , Feb 05 2011 •

[A100048] • 0,1,2,2,4,9,16,29,56,106,198,373,704,1325,2494,4698,8848,16661,31376,59089,111276,209554,394634,743177,1399552 ★ A Chebyshev transform of the Pell numbers. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - a(n - 4). • a(n) = |u(n)| ^ 2, where { u(n) } is the Lucas - type sequence defined by the recurrence u(0) = 0, u(1) = 1 and u(n) = P * u(n - 1) - u(n - 2) for n >= 2, where P = 1 / 2 * (sqrt(7) + i). • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = (1 + sqrt(2)) / 2 and beta = (1 - sqrt(2)) / 2 and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 1 / 4; 1, 1]. •

[A152732] • 0,0,2,2,4,10,18,36,74,146,292,586,1170,2340,4682,9362,18724,37450,74898,149796,299594,599186,1198372,2396746,4793490 ★ a(n)+a(n+1)+a(n+2)=2^n. • a(n) = (1 / 21) * (3 * 2 ^ n + 18 * Cos[(2 * n * Pi) / 3] + 2 * Sqrt[3] * Sin[(2 * n * Pi) / 3]). - _ Zak Seidov _ , Dec 12 2008 •

[A100088] • 1,2,2,4,10,20,38,76,154,308,614,1228,2458,4916,9830,19660,39322,78644,157286,314572,629146,1258292,2516582,5033164,10066330 ★ Expansion of (1-x^2)/((1-2x)(1+x^2)). • a(0)=1; a(n)=2 * a(n - 1) + period 4:repeat 0, - 2,0,2. • a(n) = 2a(n - 1) - a(n - 2) + 2a(n - 3). •

[A132824] • 1,2,2,4,10,24,54,116,242,496,1006,2028,4074,8168,16358,32740,65506,131040,262110,524252,1048538,2097112,4194262,8388564,16777170 ★ Row sums of triangle A132823. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>3. - _ Colin Barker _ , Jun 06 2014 •

[A284016] • 1,2,2,4,10,28,84,264,858,2860,9724,33592,117572,416024,1485800,5348880,19389690,70715340,259289580,955277400,3534526380,13128240840,48932534040,182965127280,686119227300 ★ a(-1)=-1; a(n) = 2*A000108(n) for n >= 0. • a(n) = (2 * 4 ^ n * Gamma(n + 1 / 2)) / (sqrt(Pi) * Gamma(n + 2)) for n>= - 1. - _ Ralf Steiner _ , Apr 02 2017 • a(n) = binomial(2 * n + 2, n + 1) / (2 * n + 1) = 4 * binomial(2 * n, n) - binomial(2 * n + 2, n + 1) for all n in Z. - _ Michael Somos _ , Jan 26 2018 •

[A260878] • 2,2,4,11,36,127,463,1717,6436,24311,92379,352717,1352079,5200301,20058301,77558761,300540196,1166803111,4537567651,17672631901,68923264411,269128937221,1052049481861,4116715363801,16123801841551 ★ Set partitions of {1, 2, ..., 2*n} with sizes in {[n, n], [2n]}. • a(n) = C(2 * n - 1,n) + 1. - _ Vladimir Kruchinin _ , Feb 26 2017 •

[A208529] • 2,2,4,12,48,240,1440,10080,80640,725760,7257600,79833600,958003200,12454041600,174356582400,2615348736000,41845579776000,711374856192000,12804747411456000,243290200817664000,4865804016353280000,102181884343418880000 ★ Number of permutations of n>1 having exactly 2 points on the boundary of their bounding square. • a(n) = 2(n - 2)!. • a(n) = 2 * n! / n. - _ Vincenzo Librandi _ , Apr 15 2014 •

[A090753] • 1,2,2,4,16,88,600,4800,43680,443296,4949920,60217408,792134528,11200176128,169375195136,2728019576832,46626359376384,842947307334144,16073131554826752,322403473258650624,6786861273524305920 ★ Coefficients of power series A(x) such that n-th term of A(x)^n = n!*n*x^(n-1), for n>0. • a(n) = Sum _{ j=2..(n - 2) } (j - 1) * a(j) * a(n - j) for n>=2, with a(0)=1, a(1)=2. •

[A114695] • 2,2,4,104,143,169,4895,6764,7921,229970,317810,372100,10803704,14930351,17480761,507544127,701408732,821223649,23843770274,32951280098,38580030724,1120149658760,1548008755919,1812440220361 ★ Three consecutive elements of the sequence built from a quadratic form over four consecutive Fibonacci numbers A000045. • a(3 * n) = (Fibonacci(4n) + Fibonacci(4n + 1)) * Fibonacci(4n + 3). • a(3n + 1) = (Fibonacci(4n) + Fibonacci(4n + 2)) * Fibonacci(4 * n + 3). • a(3n + 2) = (Fibonacci(4n + 1) + Fibonacci(4n + 2)) * Fibonacci(4n + 3). •

[A213032] • 0,0,0,1,2,2,5,5,7,11,14,14,20,20,24,31,36,36,45,45,51,61,68,68,80 ★ Floor(n/2)*floor(n/3)-floor(n/6)^2. • a(n) = a(n - 1) + 2 * a(n - 6) - 2 * a(n - 7) - a(n - 12) + a(n - 13). •

[A097896] • 1,2,2,5,5,12,13,29,34,71,89,176,233,441,610,1115,1597,2840,4181,7277,10946,18735,28657,48416,75025 ★ Number of compositions of n with either all parts odd or all parts even. • a(2 * n - 1) = Fibonacci(2 * n - 1), a(2 * n) = 2 ^ (n - 1) + Fibonacci(2 * n). - _ Vladeta Jovovic _ , Sep 05 2004 • a(n) = + a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - 2 * a(n - 4). G.f.: - x * (- 1 - x + x ^ 3 + 3 * x ^ 2) / ((2 * x ^ 2 - 1) * (x ^ 2 + x - 1)). - _ R. J. Mathar _ , Feb 06 2010 •

[A122205] • 1,1,1,2,2,5,5,12,17,31,31,96,96,197,324,629,629,1695,1695,4374,6266,10671,10671,34402,38776 ★ Number of finite sequences b with b(0) = 1, b(i+1) = b(i)+d where d|b(i), ending with n. • a(1) = 1, for n>1, a(n) = sum _{ d|n, d<n } a(n - d). •

[A007988] • 2,2,5,6,11,12,20,22,32,36,49,54,71,78,98,108,132,144,173,188,221,240,278,300,344 ★ Expansion of (x^6-x^5-x^4+2x^2)/((1-x^3)(1-x^2)^2(1-x)). • a(2)=2, a(3)=2, a(4)=5, a(5)=6, a(6)=11, a(7)=12, a(8)=20, a(9)=22; for n>9, a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Apr 04 2013 • a(n) = floor((n + 1) * (27 * (- 1) ^ n + 41 + 16 * n + 2 * n ^ 2) / 144). - _ Tani Akinari _ , Jun 26 2013 •

[A238517] • 1,1,1,2,2,5,6,11,14,26,34,52,79,110,162,231,328,446,660,872,1236,1660,2327,3060,4238 ★ Square row sums of the table A008289 (A060016). • a(n) = sum(q(n,k) ^ k,k=0..n), where q(n,k) is the number of partitions of n into k distinct parts (A008289, A060016). •

[A181716] • 0,1,2,2,5,6,12,17,30,46,77,122,200,321,522,842,1365,2206,3572,5777,9350,15126,24477,39602,64080 ★ a(n) = a(n-1) + a(n-2) + (-1)^n, with a(0)=0 and a(1)=1. • a(n) = a(n - 1) + a(n - 2) + (- 1) ^ n = 2a(n - 2) + a(n - 3). •

[A098600] • 1,2,2,5,6,12,17,30,46,77,122,200,321,522,842,1365,2206,3572,5777,9350,15126,24477,39602,64080,103681 ★ a(n) = Fibonacci(n-1) + Fibonacci(n+1) - (-1)^n. • a(n) = sum { k = 0..n, binomial(k, n - k) + binomial(k - 1, n - k - 1) } . • a(n) = Lucas(n) - (- 1) ^ n. - _ Paul Barry _ , Dec 01 2004 • a(n) = [x ^ n] ((1 + x + sqrt(1 + 6 * x + 5 * x ^ 2)) / 2) ^ n. exp(Sum _{ n >= 1 } a(n) * x ^ n / n) = Sum _{ n >= 0 } Fibonacci(n + 2) * x ^ n. Cf. A182143. - _ Peter Bala _ , Jun 29 2015 • a(n) = (- (- 1) ^ n + (1 / 2 * (1 - sqrt(5))) ^ n + (1 / 2 * (1 + sqrt(5))) ^ n). • a(n) = 2 * a(n - 2) + a(n - 3) for n>2. •

[A080880] • 1,2,2,5,6,17,22,65,86,257,342,1025,1366,4097,5462,16385,21846,65537,87382,262145,349526,1048577,1398102,4194305,5592406 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=2, a(2)=2. • a(2n)=(4 ^ n + 2) / 2, a(2n + 1)=4 ^ n + 1. • a(n) = 5 / 6 + 5 / 12 * 2 ^ n - 1 / 6 * (- 1) ^ n - 1 / 12 * (- 2) ^ n [From _ Richard Choulet _ , Dec 07 2008] • a(n + 4) = 5 * a(n + 2) - 4 * a(n) [From _ Richard Choulet _ , Dec 06 2008] •

[A216392] • 1,1,1,1,1,2,2,5,7,7,13,16,21,35,57,83,143,207,278,457,790,1064,1815,3468 ★ Number of values of k for which sigma(k) is a permutation of decimal digits of k, for k < 2^n. • a(n) = # { k in A115920 | k < 2 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A188623] • 1,2,2,5,7,8,12,15,17,22,26,29,35,40,44,51,57,62,70,77,83,92,100,107,117 ★ Number of reachable configurations in a chip-firing game on a triangle starting with n chips on one vertex. • a(3 * k) = (3 * k ^ 2 + 3 * k - 2) / 2, • a(3 * k + 1) = (3 * k ^ 2 + 5 * k + 2) / 2, • a(3 * k + 2) = (3 * k ^ 2 + 7 * k + 4) / 2. • a(n) = (n * (n + 3) - 4 * (- 1) ^ floor(2 * n / 3 + 1 / 3) - 2) / 6 . [_ Bruno Berselli _ , Feb 03 2016] •

[A036378] • 1,1,2,2,5,7,13,23,43,75,137,255,464,872,1612,3030,5709,10749,20390,38635,73586,140336,268216,513708,985818 ★ Number of primes p between powers of 2, 2^n < p <= 2^(n+1). • a(n) = primepi(2 ^ (n + 1)) - primepi(2 ^ n). •

[A293674] • 0,2,2,5,8,13,21,35,57,92,149,241,391,633,1024,1658,2682,4341,7024,11365,18389,29754,48143,77897,126041 ★ a(n) is the greatest integer k such that k/Fibonacci(n) < e. • a(n) = floor(e * Fibonacci(n)). •

[A052531] • 2,2,5,8,17,32,65,128,257,512,1025,2048,4097,8192,16385,32768,65537,131072,262145,524288,1048577,2097152,4194305,8388608,16777217 ★ If n is even then 2^n+1 otherwise 2^n. • a(n) = 2 ^ n + Sum(1 / 2 *_ alpha ^ (- n), _ alpha = RootOf(- 1 +_ Z ^ 2)). • a(n + 1) = 2 * a(n) + periodic sequence of length 2: repeat[- 2, 1]. - _ Paul Curtz _ , Jan 03 2017 •

[A060405] • 2,2,5,9,19,40,88,198,455,1061,2501,5940,14182,33982,81625,196389,473039,1140260,2749988,6634458,16009555,38638441,93261961,225122760,543443402 ★ Sum of Lucas (A000032) and Pell (A000129) numbers. • a(n) = 3 * a(n - 1) - 3 * a(n - 3) - a(n - 4). G.f.: (2 - 4 * x - x ^ 2) / ((1 - x - x ^ 2) * (1 - 2 * x - x ^ 2)). [_ Colin Barker _ , Jun 22 2012] •

[A110182] • 1,1,2,2,5,9,26,66,199,575,1790,5542,17945,58733,198880,685296,2429281,8778321,32491940,122503412,471379771,1844669495,7346727298,29712688698,122054603983 ★ Diagonal sums of number triangle A110180. • a(n)=sum { k=0..floor(n / 2), sum { j=0..floor((n - 2k) / 2), C(n - 2k, j)C(n - 2k - j, j)k ^ j }} •

[A081374] • 1,2,2,5,10,22,43,86,170,341,682,1366,2731,5462,10922,21845,43690,87382,174763,349526,699050,1398101,2796202,5592406,11184811 ★ Size of "uniform" Hamming covers of distance 1, that is, Hamming covers in which all vectors of equal weight are treated the same, included or excluded from the cover together. • a(n)=2 * a(n - 1) - a(n - 3) + 2 * a(n - 4). • a(n + 1) - 2 * a(n) has period length 6: repeat 0, - 2, 1, 0, 2, - 1 (see A080425). •

[A227999] • 1,1,1,1,2,2,5,11,25,97,220,1396,6053,30467,249431,1381913,19850884,160799404,1942868797,36133524445,458473480079,13521902050025,220176552243482,7006033824529130,276364333237297549 ★ a(n) = (a(n-1) * a(n-5) + a(n-2) * a(n-4) + a(n-3)^2) / a(n-6), a(0) = a(1) = a(2) = a(3) = 1, a(4) = a(5) = 2. • a(n) = a(3 - n) for all n in Z. - _ Michael Somos _ , Apr 25 2017 •

[A049680] • 2,2,5,11,27,67,170,436,1127,2927,7625,19901,52002,135982,355745,930931,2436527,6377807,16695530,43706576,114420627,299549527,784218605,2053091161,5375030402 ★ a(n) = (L(n) + L(2*n))/2, where L = A000032 (the Lucas sequence). • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3) + a(n - 4) for n>3. (End) •

[A033550] • 2,2,5,15,43,118,316,836,2199,5769,15117,39592,103670,271430,710633,1860483,4870831,12752026,33385264,87403784,228826107,599074557,1568397585,4106118220,10749957098 ★ A005248(n)-n. • a(n) = 3a(n - 1) - a(n - 2) + n - 1. G.f.: (2 - 8x + 11x ^ 2 - 4x ^ 3) / ((1 - 3x + x ^ 2)(1 - x) ^ 2). • a(n) = [3 / 2 + (1 / 2) * sqrt(5)] ^ n - n + [3 / 2 - (1 / 2) * sqrt(5)] ^ n, with n>= 0. - _ Paolo P. Lava _ , Jun 12 2008 •

[A032130] • 2,2,5,15,52,193,765,3143,13323,57670,254040,1134249,5122124,23349966,107310784,496633774,2312539465,10826481544,50929829953,240616214596,1141195080020,5431477088428,25933525825389,124185539096075,596268057962349 ★ Shifts left under the "BIK" (reversible, indistinct, unlabeled) transform with a(1) = 2. • a(2) = c, • a(3) = (1 / 2) * (c + 3) * c, • a(4) = (1 / 2) * (c + 3) * (c + 1) * c, • a(5) = (1 / 2) * (c ^ 3 + 5 * c ^ 2 + 10 * c + 4) * c, • a(6) = (1 / 4) * (2 * c ^ 4 + 15 * c ^ 3 + 38 * c ^ 2 + 37 * c + 8) * c, • a(7) = (1 / 8) * (4 * c ^ 4 + 38 * c ^ 3 + 103 * c ^ 2 + 109 * c + 22) * (c + 1) * c, •

[A173323] • 2,2,5,17,71,359,2159,15119,120959,1088639,10886399,119750399,1437004799,18681062399,261534873599,3923023103999,62768369663999,1067062284287999,19207121117183999,364935301226495999 ★ 3*n! - 1. • a(0)=2, a(n) = n * a(n - 1) + n - 1. - _ Vincenzo Librandi _ , Sep 30 2013 •

[A010762] • 0,0,1,2,2,6,6,8,12,15,15,24,24,28,35,40,40,54,54,60,70,77,77,96,96 ★ a(n) = floor(n/2) * floor(n/3). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) + a(n - 6) - a(n - 8) - a(n - 9) + a(n - 11). - _ Clark Kimberling _ , May 18 2012 •

[A039722] • 1,2,2,6,6,10,10,22,22,34,34,54,54,74,74,118,118,162,162,230,230,298,298,406,406 ⋆ a(1) = 1, a(m+1) = 2*Sum_{k=1..floor((m+1)/2)} a(k). • a(1)=1, a(2)=2, a(2m + 1)=a(2m), a(2m + 2)=a(2m + 1) + 2a(m + 1) { m is a positive integer. } •

[A082542] • 2,2,6,6,10,14,18,18,22,30,30,38,42,42,46,54,58,62,66,70,74,78,82,90,98 ⋆ a(n) = prime(n) + 2 - (prime(n) mod 4). • a(n + 1) = p + (- 1 / p) = p + (- 1) ^{ (p - 1) / 2) } , where p is the n - th odd prime and (a / b) denotes the value of Legendre symbol. - _ Lekraj Beedassy _ , Mar 17 2005 •

[A032302] • 1,2,2,6,6,10,18,22,30,42,66,78,110,138,186,254,318,402,522,654,822,1074,1306,1638,2022 ⋆ G.f.: Product_{k>=1} (1 + 2*x^k). • a(n) = (1 / 3) [x ^ n] QPochhammer(- 2,x). - _ Vladimir Reshetnikov _ , Nov 20 2015 •

[A290261] • 1,2,2,6,6,10,18,54,54,114,186,334,630,1314,2106,5910,7710,15642,27594,57798,97902,207762,364722,712990,1340622 ⋆ Write 1 - x/(1-x) as an inverse power product 1/(1+a(1)x) * 1/(1+a(2)x^2) * 1/(1+a(3)x^3) * ... • a(n) = Sum _ t (- 1) ^ v(t) where the sum is over all enriched p - trees of weight n (see A289501 for definition) and v(t) is the number of nodes (branching s and leaves) in t. •

[A007040] • 2,2,6,6,10,20,28,46,78,122,198,324,520,842,1366,2206,3570,5780,9348,15126,24478,39602,64078,103684,167760 ⋆ Number of cyclic n-bit binary strings containing no runs of length > 2. • a(n) = a(n - 2) + 2 * a(n - 3) + a(n - 4), n >= 7. - _ David W. Wilson _ • a(n) = n * Sum _{ k=1..n } binomial(2 * k, n - 2 * k) / k, n > 1, a(0)=0, a(1)=2. - _ Vladimir Kruchinin _ , Oct 12 2011 •

[A060549] • 0,1,2,2,6,6,12,14,28,28,60,60,120,124,248,248,504,504,1008,1016,2032,2032,4080,4080,8160 ⋆ a(n) is the number of distinct patterns (modulo geometric D3-operations) with strict median-reflective (palindrome) symmetry (i.e., having no other symmetry) which can be formed by an equilateral triangular arrangement of closely packed black and white cells satisfying the local matching rule of Pascal's triangle modulo 2, where n is the number of cells in each edge of the arrangement. The matching rule is such that any elementary top-down triangle of three neighboring cells in the arrangement contains either one or three white cells. • a(n) = 2 ^ ceiling(n / 2) - 2 ^ (floor((n + 3) / 6) + d(n)), with d(n)=1 if n mod 6=1 else d(n)=0. •

[A099577] • 1,1,2,2,6,7,13,15,38,47,85,104,245,313,558,706,1594,2080,3674,4753,10429,13817,24246,31875,68497 ⋆ Diagonal sums of triangle A099575. • a(n)=sum { k=0..floor(n / 2), sum { j=0..floor(k / 2), binomial(n - k + j, j) } } •

[A136513] • 0,0,2,2,6,8,12,16,26,30,38,44,56,60,74,82,96,108,128,138,154,166,188,196,220 ⋆ Number of unit square lattice cells inside half-plane (two adjacent quadrants) of origin centered circle of diameter n. • a(n) = 2 * Sum(floor(sqrt((n / 2) ^ 2 - k ^ 2))), k = 1 ... floor(n / 2) •

[A052957] • 2,2,6,8,20,32,72,128,272,512,1056,2048,4160,8192,16512,32768,65792,131072,262656,524288,1049600,2097152,4196352,8388608,16781312 ⋆ Expansion of 2*(1-x-x^2)/((1-2*x)*(1-2*x^2)). • a(1)=2, a(2)=6, a(0)=2, 4 * a(n) - 2 * a(n + 1) - 2 * a(n + 2) + a(n + 3) = 0. • a(n) = 2 ^ n + Sum _{ alpha } 1 / 2 * alpha ^ (- n) where alpha ranges over the roots of - 1 + 2 * x ^ 2 . • a(n) = 2 ^ (n / 2) + 2 ^ n for n even. • a(n) = 2 ^ n for n odd. •

[A080460] • 2,2,6,10,14,14,18,22,26,26,30,34,38,38,42,46,50,50,54,58,62,62,66,70,74 ⋆ a(1)=2; for n>1, a(n)=a(n-1) if n is already in the sequence, a(n)=a(n-1)+4 otherwise. • a(n) = 2 + 4 * (n - 2 - floor((n - 2) / 4)). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 5. • a(n) = (6 * n - (- 1) ^ n + 2 * sqrt(2) * sin(Pi * n / 2 + Pi / 4) - 5) / 2. (End) •

[A077017] • 2,2,6,10,14,22,26,34,38,46,58,62,74,82,86,94,106,118,122,134,142,146,158,166,178 ⋆ a(1) = 2, a(n+1) = smallest positive integer divisible by the n-th prime that also has a nontrivial common divisor with a(n). • a(n) = 2 * prime(n) for n>2. • a(n)=2 * prime(n - 1) for n>2. - _ Farideh Firoozbakht _ , Apr 22 2006 •

[A248800] • 2,2,6,10,18,26,38,50,66,82,102,122,146,170,198,226,258,290,326,362,402,442,486,530,578 ⋆ n^2 + 3/2 + (1/2)*(-1)^n. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Colin Barker _ , Oct 15 2014 •

[A019310] • 0,2,2,6,10,22,38,82,154,318,614,1250,2462,4962,9842,19766,39378,78910,157502,315322,630030,1260674,2520098,5041446,10080430 ⋆ Number of words of length n (n >= 1) over a two-letter alphabet having a minimal period of size n-1. • a(n) = 2a(n - 1) + (- 1) ^ n a(ceiling(n / 2)) for n >= 2. • a(n) = a(n - 1) + 2 * a(n - 2) if n >=4 even. a(n) = a(n - 1) + 2 * a(n - 2) + 2 * a((n - 1) / 2) if n>=7 == 3 (mod 4). _ Michael Somos _ , Jan 23 2014 •

[A014113] • 0,2,2,6,10,22,42,86,170,342,682,1366,2730,5462,10922,21846,43690,87382,174762,349526,699050,1398102,2796202,5592406,11184810 ⋆ a(n) = a(n-1) + 2*a(n-2) with a(0)=0, a(1)=2. • a(0) = 0 and if n>=1, a(n) = 2 ^ n - a(n - 1). • a(n) = (2 ^ (n + 1) - 2 * (- 1) ^ n) / 3. - _ Ralf Stephan _ , Jul 18 2013 •

[A208900] • 2,2,6,10,26,50,114,226,482,962,1986,3970,8066,16130,32514,65026,130562,261122,523266,1046530,2095106,4190210,8384514,16769026,33546242 ⋆ Number of bitstrings of length n which (if having two or more runs) the last two runs have different lengths. • a(n) = 2 ^ n + 2 - 2 ^ (floor(n / 2) + 1). • a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4), a(0) = 2, a(1) = 2, a(2) = 6, a(3) = 10. •

[A290518] • 1,1,2,2,6,12,12,48,144,288,288,1440,5760,17280,34560,34560,207360,1036800,4147200,12441600,24883200,24883200,174182400,1045094400,5225472000 ⋆ Minimum value of Product_{i in lambda} i!, where lambda ranges over all partitions of n into distinct parts. • a(n) = a(n - 1) iff n in { A000217 } \ { 0 } . •

[A027375] • 0,2,2,6,12,30,54,126,240,504,990,2046,4020,8190,16254,32730,65280,131070,261576,524286,1047540,2097018,4192254,8388606,16772880 ⋆ Number of aperiodic binary strings of length n; also number of binary sequences with primitive period n. • a(n) = sum(d|n, mu(d) * 2 ^ (n / d)). • a(p) = 2 ^ p - 2 for p prime. - _ R. J. Mathar _ , Aug 13 2006 • a(n) = 2 ^ n - O(2 ^ (n / 2)). - _ Charles R Greathouse IV _ , Apr 28 2016 •

[A059727] • 0,2,2,6,12,30,72,182,462,1190,3080,8010,20880,54522,142506,372710,975156,2552006,6679640,17484942,45771990,119825862,313697232,821252306,2150037792 ⋆ a(n) = Fibonacci(n)*(Fibonacci(n) + 1). • a(n) = Fibonacci(n) + (1 / 5) * (Lucas(2 * n) - 2 * (- 1) ^ n). •

[A051890] • 2,2,6,14,26,42,62,86,114,146,182,222,266,314,366,422,482,546,614,686,762,842,926,1014,1106 ⋆ a(n) = 2*(n^2 - n + 1). • a(n) = 4 * binomial(n, 2) + 2. - Francois Jooste (phukraut(AT)hotmail.com), Mar 05 2003 • a(n) = 4 * n + a(n - 1) - 4 for n > 0, a(0)=2. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 2 * (n ^ 2 - n + 1) = 2 * (n - 1) ^ 2 + 2(n - 1) + 2 = 222 read in base n - 1 (for n > 3). - _ Jason Kimberley _ , Oct 20 2011 •

[A002203] • 2,2,6,14,34,82,198,478,1154,2786,6726,16238,39202,94642,228486,551614,1331714,3215042,7761798,18738638,45239074,109216786,263672646,636562078,1536796802 ⋆ Companion Pell numbers: a(n) = 2a(n-1) + a(n-2), a(0) = a(1) = 2. • a(n) = (1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n. - Mario Catalani (mario.catalani(AT)unito.it), Mar 17 2003 • a(n) = [x ^ n] ((1 + 2 * x + sqrt(1 + 4 * x + 8 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[A142710] • 2,2,6,14,38,112,276,814,1998,5702,14226,39404,99908,270922,695106,1859134,4807518,12748472,33128916,87394454,227792678,599050102,1564242906,4106054164,10733283588 ⋆ A142586(n) + A142585(n). • a(n) = + 2 * a(n - 1) + 7 * a(n - 2) - 12 * a(n - 3) - 11 * a(n - 4) + 16 * a(n - 5) - 4 * a(n - 6), n>6. [R. J. Mathar, Jun 14 2010] •

[A134295] • 2,2,6,16,65,312,1813,12288,95617,840960,8254081,89441280,1060369921,13649610240,189550368001,2824077312000,44927447040001,760034451456000,13622700994560001,257872110354432000,5140559166898176001 ⋆ Sum[(n-k)!*(k-1)! - (-1)^k, {k,1,n}]. • a(n) = Sum[(n - k)! * (k - 1)! - (- 1) ^ k, { k,1,n }]. •

[A271217] • 1,2,2,6,22,50,274,598,4486,9570,90914,191398,2201078,4593554,62012978,128619510,1993602406,4115824322,72026925634,148169675590,2889308674006 ⋆ Number of symmetric reduced rearrangement maps. • a(n) = round(2 ^ n * e ^ (- 1 / 4) * (1 - (1 + (- 1) ^ n) / (4n)) * floor(n / 2)!) • a(2k + 1) = 2 * a(2k) + a(2k - 1) and a(2k) = (2k - 1) * a(2k - 1) + (2k - 2) * a(2k - 3) •

[A244049] • 0,0,0,2,2,7,7,13,16,23,23,38,38,47,55,69,69,89,89,110,120,133,133,168,173 ⋆ Sum of all proper divisors of all positive integers <= n. • a(n) = a(n - 1) if and only if n is prime. •

[A267214] • 0,2,2,7,9,13,16,26,30,37,45,57,64,76,86,101,113,127,140,160,174,191,209,231,248 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 109" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n>7. •

[A107386] • 0,1,1,2,2,7,9,16,20,29,35,46,54,67,77,92,104,121,135,154,170,191,209,232,252 ⋆ a(n) = 2*a(n-1) - 2*a(n-3) + a(n-4), n>6. • a(n)= n ^ 2 / 2 - 3 * n / 2 + 1 - (- 1) ^ n, n>2. - _ N. J. A. Sloane _ , Sep 28 2009 •

[A094116] • 0,1,1,2,2,7,11,16,20,25,25,26,26,27,27,32,36,41,45,50,50,51,51,52,52 ⋆ Partial sums of A093348. • a(5 ^ k)=(25 ^ k - 1) / 12 •

[A192921] • 1,2,2,7,16,44,113,298,778,2039,5336,13972,36577,95762,250706,656359,1718368,4498748,11777873,30834874,80726746,211345367,553309352,1448582692,3792438721 ⋆ Constant term in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) = F(n - 4) * F(n) + F(n - 1) * F(n + 2), where F(- 4)= - 3, F(- 3)=2, F(- 2)= - 1, F(- 1)=1. - _ Bruno Berselli _ , Nov 03 2015 • a(n) = (2 ^ (- n) * (- 3 * (- 2) ^ n - (- 4 + sqrt(5)) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (4 + sqrt(5)))) / 5. - _ Colin Barker _ , Oct 01 2016 •

[A203579] • 2,2,7,17,57,177,577,1857,6017,19457,62977,203777,659457,2134017,6905857,22347777,72318977,234029057,757334017,2450784257,7930904577,25664946177,83053510657,268766806017,869747654657 ⋆ Exponential (or binomial) convolution of A000032 (Lucas) with itself, divided by 2. • a(n) = 2 ^ (n - 1) * L(n) + 1. •

[A243022] • 1,1,2,2,7,18,61,198,694,2446,8873,32556,121243,455986,1731459,6625258,25527571,98947914,385587017,1509702496,5936181673,23430706276,92805006308,368747893980,1469408091637 ⋆ Expansion of -(2*x)/(1-sqrt(1-(2*(1-sqrt(1-4*x^2)))/x)). • a(n) = sum(i=0..n / 2, binomial(n - 1,i) * binomial(2 * n - 4 * i - 2,n - 2 * i)) / (n - 1), n>1, a(0)= - 1, a(1)=1. •

[A067352] • 2,2,7,30,158,985,7089,57890,529276,5358915,59543495,720476284,9431689530,132829627541,2002662076765,32185640519430,549301598198264,9921760117456135,189097075179752211,3792446896660586000,79840987298117599990,1760493769923493079769,40575189744903364314665 ⋆ Divide the natural numbers in sets of consecutive numbers starting with {1,2} as the first set. The number of elements of the n-th set is equal to the sum of the n-1 final numbers in the (n-1)st set. The number of elements of the n-th set gives a(n). • a(n) = (1 + a(1) + a(2) + ... + a(n - 1) - n / 2) * (n - 1). •

[A202736] • 2,2,8,10,32,44,128,186,512,772,2048,3172,8192,12952,32768,52666,131072,213524,524288,863820,2097152,3488872,8388608,14073060,33554432 ⋆ Number of n X 2 0..1 arrays with row sums equal and column sums unequal to adjacent columns. • a(n) = 2 ^ n * (1 - (((- 1) ^ n + 1) * Gamma((n + 1) / 2)) / (2 * sqrt(Pi) * Gamma((n + 2) / 2))). - _ Peter Luschny _ , Sep 10 2014 • a(n) = ((- 8 * n + 16) * a(n - 3) + (4 * n - 4) * a(n - 2) + (2 * n - 2) * a(n - 1)) / n. (End) •

[A087955] • 1,2,2,8,12,34,62,152,304,698,1458,3248,6924,15210,32734,71440,154432,336018,727874,1581496,3429100,7445714,16151518,35059560,76068400 ⋆

a(n) is the square of the n-th partial sum minus the n-th partial sum of the squares, divided by a(n-1), for all n>=1, starting with a(0)=1, a(1)=2. • a(n) = a(n - 1) + 3a(n - 2) - a(n - 3) for n>3; G.f.: (1 + x - 3x ^ 2 + x ^ 3) / (1 - x - 3x ^ 2 + x ^ 3). •

[A094941] • 1,2,2,8,12,64,120,768,1680,12288,30240,245760,665280,5898240,17297280,165150720,518918400,5284823040,17643225600,190253629440,670442572800,7610145177600,28158588057600,334846387814400,1295295050649600 ★ n! times coefficient of Pi^[n/2] in volume of n-dimensional unit ball. • a(n) * a(n + 1) = n! * 2 ^ (n + 1). • a(n) = Pi ^ floor((n + 1) / 2) * Int(x ^ n * exp(- pi * x ^ 2 / 4),x,0,infty). - _ Paul Barry _ , Mar 01 2011 •

[A228661] • 2,2,8,14,38,80,194,434,1016,2318,5366,12320,28418,65378,150632,346766,798662,1838960,4234946,9751826,22456664,51712142,119082134,274218560,631464962 ★ Number of 2Xn binary arrays with top left value 1 and no two ones adjacent horizontally, diagonally or antidiagonally. • a(n) = a(n - 1) + 3 * a(n - 2). • a(n)= - 2 / 13 * sqrt(13) * (- 1 / 2 * sqrt(13) + 1 / 2) ^ n + 2 / 13 * sqrt(13) * (1 / 2 * sqrt(13) + 1 / 2) ^ n. - _ Tom Edgar _ , Aug 31 2013 •

[A175395] • 0,2,2,8,18,50,128,338,882,2312,6050,15842,41472,108578,284258,744200,1948338,5100818,13354112,34961522,91530450,239629832,627359042,1642447298,4299982848 ★ a(n) = 2*Fibonacci(n)^2. • a(n) = F(n - 1) * F(n + 1) + F(n - 2) * F(n + 2), where F = A000045, - F(- 2) = F(- 1) = 1. - _ Bruno Berselli _ , Nov 03 2015 • a(n) = 2 * (- 2 * (- 1) ^ n + (1 / 2 * (3 - sqrt(5))) ^ n + (1 / 2 * (3 + sqrt(5))) ^ n) / 5. - _ Colin Barker _ , Sep 28 2016 •

[A168506] • 2,2,8,18,64,188,656,2154,7584,26276,93904,335156,1214944,4417848,16208672,59704858,221215552,822721108,3072787920,11514183900,43287544160,163193085960,616876440160,2337336770948,8875826681024 ★ Number of rooted plane trees of total weight n whose nodes are themselves planted plane trees whose roots are distinguished as either red or blue, the weight of each such node being equal to the size of the corresponding planted tree. • a(n) = Sum _{ k=1..floor(n / 2) } 2 ^ k / (n - k) * binomial(2 * k - 2,k - 1) * binomial(2 * n - 3 * k - 1,n - k - 1). •

[A242658] • 2,2,8,20,38,62,92,128,170,218,272,332,398,470,548,632,722,818,920,1028,1142,1262,1388,1520,1658 ★ a(n) = 3n^2-3n+2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. •

[A080040] • 2,2,8,20,56,152,416,1136,3104,8480,23168,63296,172928,472448,1290752,3526400,9634304,26321408,71911424,196465664,536754176,1466439680,4006387712,10945654784,29904084992 ★ a(n) = 2*a(n-1) + 2*a(n-2) with n>1, a(0)=2, a(1)=2. • a(n) = (1 + sqrt(3)) ^ n + (1 - sqrt(3)) ^ n. • a(n) = [x ^ n] (1 + x + sqrt(1 + 2 * x + 3 * x ^ 2)) ^ n for n >= 1. - _ Peter Bala _ , Jun 29 2015 •

[A060823] • 2,2,8,20,60,170,492,1414,4074,11728,33772,97240,279994,806208,2321386,6684162,19246280,55417452,159568196,459458306,1322957468,3809304206,10968454314,31582405472,90937912212 ★ 4-wave sequence beginning with 2's with middles dropped. • a(n)=2 * a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4) - Antonio G. Astudillo (afg _ astudillo(AT)lycos.com), Mar 22 2003 •

[A137774] • 1,2,2,8,20,94,438,2766,19480,163058,1546726,16598282,197708058,2586423174,36769177348,563504645310,9248221393974,161670971937362,2996936692836754,58689061747521430,1210222434323163704,26204614054454840842,594313769819021397534,14086979362268860896282 ★ Number of ways to place n nonattacking empresses on an n X n board. • a(n) / n! - > 1 / e ^ 2 for 0<r=s • a(n) / n! - > 1 / e ^ 4 for 0<r<s •

[A098557] • 0,1,2,2,8,24,144,720,5760,40320,403200,3628800,43545600,479001600,6706022400,87178291200,1394852659200,20922789888000,376610217984000,6402373705728000,128047474114560000,2432902008176640000 ★ E.g.f. (1/2)*(1+x)*log((1+x)/(1-x)). • a(n + 1) = n! + (n - 1)! * (1 - (- 1) ^ n) / 2. •

[A290604] • 2,2,9,16,37,72,149,296,597,1192,2389,4776,9557,19112,38229,76456,152917,305832,611669,1223336,2446677,4893352,9786709,19573416,39146837 ★ a(0) = 2, a(1) = 2; for n > 1, a(n) = a(n-1) + 2*a(n-2) + 3. • a(n) = (2 ^ (n + 2) + 2 * (- 1) ^ n) / 3 + 2 ^ n - (3 - (- 1) ^ n) / 2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), n > 2. - _ Iain Fox _ , Dec 18 2017 •

[A066966] • 0,2,2,10,12,30,40,82,110,190,260,422,570,860,1160,1690,2252,3170,4190,5760,7540,10142,13164,17450,22442 ★ Total sum of even parts in all partitions of n. • a(n) = 2 * Sum _{ k=1..floor { n / 2) } sigma(k) * numbpart(n - 2 * k). •

[A102446] • 2,2,10,18,58,130,362,882,2330,5858,15178,38610,99322,253762,651050,1666098,4270298,10934690,28015882,71754642,183818170,470836738,1206109418,3089456370,7913894042 ★ a(n) = a(n-1) + 4*a(n-2) for n>1, a(0) = a(1) = 2. • a(n) = (2 ^ (- n) * (- (1 - sqrt(17)) ^ (1 + n) + (1 + sqrt(17)) ^ (1 + n))) / sqrt(17). - _ Colin Barker _ , Dec 22 2016 •

[A102345] • 2,2,10,26,82,242,730,2186,6562,19682,59050,177146,531442,1594322,4782970,14348906,43046722,129140162,387420490,1162261466,3486784402,10460353202,31381059610,94143178826,282429536482 ★ a(n) = 3^n + (-1)^n. • a(n) = 3a(n - 2) + 2a(n - 1). •

[A014220] • 2,2,11,29,67,127,223,347,521,733,1009,1361,1733,2203,2749,3389,4099,4919,5839,6863,8009,9277,10651,12197,13829 ★ Next prime after n^3. • a(n) < (n + 1) ^ 3 for n sufficiently large, by Ingham's theorem in A060199. - _ Jonathan Sondow _ , May 19 2013 •

[A175976] • 2,2,11,56,245,1010,4079,16364,65513,262118,1048547,4194272,16777181,67108826,268435415,1073741780,4294967249,17179869134,68719476683,274877906888,1099511627717,4398046511042,17592186044351,70368744177596 ★ 4^n-3*n+1. • a(n) - 6 * a(n - 1) + 9 * a(n - 2) - 4 * a(n - 3) = 0 for n>2. •

[A217094] • 2,2,11,182,2621,33572,402131,4619162,51572441,564151952,6077367551,64696307942,682266771461,7140400943132,74263608488171,768372476393522,7915352287541681,81238170587875112,831143535290875991,8480291817617883902,86322626358560955101 ★ Least index k such that A011540(k) >= 10^n. • a(n + 1) = 10 * a(n) - 9 * a(n - 1) + 9 * 10 ^ (n - 1), n>0. • a(n) = 2 + 10 ^ n - 9 ^ n - (9 ^ n - 1) / 8. •

[A140431] • 0,2,2,12,22,92,222,772,2102,6732,19342,59732,175782,534172,1588862,4793892,14327062,43090412,129052782,387595252,1161911942,3487483452,10458955102,31383855812,94137586422 ★ 2*A094555(n). • a(n) = (1 - (- 2) ^ n + 3 ^ n) / 3 for n>0. a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 6 * a(n - 3) for n>3. G.f.: 2 * x * (1 - x - x ^ 2) / ((1 - x) * (1 + 2 * x) * (1 - 3 * x)). [_ Colin Barker _ , Sep 21 2012] •

[A122007] • 0,2,2,12,24,90,234,756,2160,6642,19602,59292,176904,532170,1593594,4785156,14346720,43053282,129133602,387440172,1162241784,3486843450,10460294154,31381236756,94143001680 ★ Expansion of 2*x^2*(1-2*x) / ((3*x-1)*(3*x^2-1)). • a(n) = 3 ^ (n / 2 - 1) + 3 ^ (n - 2) for n>1 and even. • a(n) = 3 ^ (n - 2) - 3 ^ ((n - 3) / 2) for n>1 and odd. •

[A052612] • 0,2,2,12,24,240,720,10080,40320,725760,3628800,79833600,479001600,12454041600,87178291200,2615348736000,20922789888000,711374856192000,6402373705728000,243290200817664000 ★ E.g.f. x*(2+x)/(1-x^2). • a(n) = n! / gcd(n, T(n)) where T(n) is the n - th triangular number. - _ Andrew Plewe _ , Jan 09 2006 •

[A130306] • 2,2,12,28,440,2456,98448,1327632,134302752,4398726432,1116577758912,89104889764288 ★ Degree of the scheme of n X n complex matrices that square to zero. • a(2n)=2 ^ n det(binomial(2i + 2j + 1,2i)), 0<=i,j<=n - 1 a(2n + 1)=2 ^ (n + 1) det(binomial(2i + 2j + 3,2i + 1)), 0<=i,j<=n - 1. •

[A087131] • 2,2,12,32,112,352,1152,3712,12032,38912,125952,407552,1318912,4268032,13811712,44695552,144637952,468058112,1514668032,4901568512,15861809152,51329892352,166107021312,537533612032,1739495309312 ★ a(n) = 2^n*Lucas(n), where Lucas = A000032. • a(n) = (1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n. • a(n) = [x ^ n] (1 + x + sqrt(1 + 2 * x + 5 * x ^ 2)) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[A127226] • 2,2,16,44,184,632,2368,8528,31264,113696,414976,1512128,5514112,20100992,73286656,267179264,974078464,3551232512,12946935808,47201266688,172084148224,627375896576,2287256682496 ★ a(0)=2, a(1)=2, a(n)=2*a(n-1)+6*a(n-2). • a(n)=[1 + sqrt(7)] ^ n + [1 - sqrt(7)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Jul 31 2008] •

[A216387] • 1,2,2,16,57,325,1666,9787 ★ Number of values of k for which phi(k) is a permutation of decimal digits of k, for 10^(n-1) < k < 10^n. • a(n) = # { k in A115921 | 10 ^ (n - 1) < k < 10 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A173785] • 2,2,18,98,338,882,1922,3698,6498,10658,16562,24642,35378,49298,66978,89042,116162,149058,188498,235298,290322,354482,428738,514098,611618 ★ Expansion of 2*(9*x^4+4*x^3+14*x^2-4*x+1)/(1-x)^5. • a(n) = 2 * (n ^ 2 - n + 1) ^ 2. •

[A081687] • 1,2,2,20,542,8132,94502,964700,9138782,82619732,724180502,6213565580,52507598222,438786732932,3636161064902,29939329241660,245281233244862,2001531240407732,16280816416067702,132088684297864940 ★ A sum of decreasing powers. • a(n)=8 ^ n - 7 ^ n - 6 ^ n - 5 ^ n + 3 * 4 ^ n. •

[A127261] • 2,2,24,68,376,1432,6624,27568,121376,518432,2250624,9685568,41877376,180610432,779994624,3366093568,14532133376,62725202432,270771738624,1168795501568,5045308389376 ★ a(0)=2, a(1)=2, a(n) = 2*a(n-1) + 10*a(n-2). • a(n) = (1 + sqrt(11)) ^ n + (1 - sqrt(11)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jul 31 2008 •

[A094347] • 2,2,26,362,5042,70226,978122,13623482,189750626,2642885282,36810643322,512706121226,7141075053842,99462344632562,1385331749802026,19295182152595802,268747218386539202,3743165875258953026 ★ a(n) = 14*a(n-1)-a(n-2); a(0) = a(1) = 2. • a(n) = ((2 + sqrt(3)) ^ (2 * n - 1) + (2 - sqrt(3)) ^ (2 * n - 1)) / 2. - _ Gerry Martens _ , Jun 03 2015 • a(n) = (1 / 2) * sqrt(4 + (- 2 * sqrt(- 2 + (7 - 4 * sqrt(3)) ^ (2 * n) + (7 + 4 * sqrt(3)) ^ (2 * n)) + sqrt(3) * sqrt(2 + (7 - 4 * sqrt(3)) ^ (2 * n) + (7 + 4 * sqrt(3)) ^ (2 * n))) ^ 2). - _ Gerry Martens _ , Jun 03 2015 •

[A127262] • 2,2,28,80,496,1952,9856,43136,204544,926720,4307968,19736576,91168768,419176448,1932378112,8894873600,40978284544,188695052288,869129519104,4002599665664,18434753560576,84900703109120 ★ a(0)=2, a(1)=2, a(n) = 2*a(n-1) + 12*a(n-2). • a(n) = ((1 + sqrt(13)) ^ n - (1 - sqrt(13) ^ n)) / (2 * sqrt(13)). •

[A038623] • 2,2,37,127,347,1087,3109,8419,24317,64553,175211,480881,1304707,3523901,9558533,25874843,70115473,189961529,514272533,1394193607,3779851091,10246935679,27788566133,75370121191,204475052401 ★ Smallest prime p such that p/pi(p)>=n. • a(n) = exp(n + 1 + o(1)). - _ Charles R Greathouse IV _ , Oct 15 2016 •

[A025784] • 1,1,1,1,1,1,1,2,3,3,3,3,3,3,4,5,6,6,6,6,6,7,8,9,10 ★ Expansion of 1/((1-x)(1-x^7)(1-x^8)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=2, a(8)=3, a(9)=3, a(10)=3, a(11)=3, a(12)=3, a(13)=3, a(14)=4, a(15)=5, a(n)= a(n - 1) + a(n - 7) - a(n - 9) - a(n - 15) + a(n - 16). - _ Harvey P. Dale _ , Jul 14 2015 •

[A029110] • 1,1,1,1,1,1,2,3,3,3,3,3,5,6,7,7,7,7,9,11,12,13,13,13,16 ★ Expansion of 1/((1-x)(1-x^6)(1-x^7)(1-x^12)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=2, a(7)=3, a(8)=3, a(9)=3, a(10)=3, a(11)=3, a(12)=5, a(13)=6, a(14)=7, a(15)=7, a(16)=7, a(17)=7, a(18)=9, a(19)=11, a(20)=12, a(21)=13, a(22)=13, a(23)=13, a(24)=16, a(25)=18, a(n)=a(n - 1) + a(n - 6) - a(n - 8) + a(n - 12) - 2 * a(n - 13) + a(n - 14) - a(n - 18) + a(n - 20) + a(n - 25) - a(n - 26). - _ Harvey P. Dale _ , May 25 2013 •

[A029120] • 1,1,1,1,1,1,1,2,3,3,3,3,4,4,5,6,7,7,7,8,9,10,11,12,14 ⋆ Expansion of 1/((1-x)(1-x^7)(1-x^8)(1-x^12)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=2, a(8)=3, a(9)=3, a(10)=3, a(11)=3, a(12)=4, a(13)=4, a(14)=5, a(15)=6, a(16)=7, a(17)=7, a(18)=7, a(19)=8, a(20)=9, a(21)=10, a(22)=11, a(23)=12, a(24)=14, a(25)=14, a(26)=15, a(27)=16; for n>27, a(n) = a(n - 1) + a(n - 7) - a(n - 9) + a(n - 12) - a(n - 13) - a(n - 15) + a(n - 16) - a(n - 19) + a(n - 21) + a(n - 27) - a(n - 28). - _ Harvey P. Dale _ , Aug 13 2013 •

[A025776] • 1,1,1,1,1,2,3,3,3,3,4,5,6,6,6,7,8,9,10,10,11,12,13,14,15 ⋆ Expansion of 1/((1-x)(1-x^5)(1-x^6)). • a(n)= + a(n - 1) + a(n - 5) - a(n - 7) - a(n - 11) + a(n - 12). - _ R. J. Mathar _ , Aug 21 2014 •

[A211535] • 0,0,0,0,0,0,0,0,0,1,1,1,1,2,3,3,3,4,5,6,6,7,8,9,10 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w=4x+5y. • a(n) = a(n - 1) + a(n - 4) - a(n - 6) - a(n - 9) + a(n - 10). •

[A279521] • 0,1,1,2,3,3,3,4,5,6,7,7,7,7,7,8,9,10,11,12,13,14,15,15,15 ⋆ Maximum numbers of single-direction edges in leveled binary trees with n nodes. • a(n) = (n + 2 ^ (h - 1) - 1) * He + (- 1) ^ He * (2 ^ h - 1), where h = \ log2(n) / and is the height of the binary tree, He = H(- n + 3 * 2 ^ (h - 1) - 1) and H is the Heaviside step function (i.e., H(x) = 1 if x>=0 and H(x) = 0 if x<0). •

[A076896] • 1,1,2,3,3,3,4,5,6,7,7,7,8,8,8,9,10,11,12,12,13,14,15,15,16 ⋆ a(1)=1, a(n)=n-a(floor(2n/3)). • a(n) is asymptotic to 6 / 10 * n •

[A216391] • 1,1,1,1,2,3,3,3,5,5,5,8,19,21,34,55,81,130,221,407,515,850,1787,2287,3968 ⋆ Number of values of k for which phi(k) is a permutation of decimal digits of k, for k < 2^n. • a(n) = # { k in A115921 | k < 2 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A029133] • 1,1,1,1,1,1,1,1,1,2,3,3,4,4,4,4,4,5,6,7,8,9,9,10 ⋆ Expansion of 1/((1-x)(1-x^9)(1-x^10)(1-x^12)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=1, a(8)=1, a(9)=2, a(10)=3, a(11)=3, a(12)=4, a(13)=4, a(14)=4, a(15)=4, a(16)=4, a(17)=4, a(18)=5, a(19)=6, a(20)=7, a(21)=8, a(22)=9, a(23)=9, a(24)=10, a(25)=10, a(26)=10, a(27)=11, a(28)=12, a(29)=13, a(30)=15, a(31)=16, a(n)=a(n - 1) + a(n - 9) - a(n - 11) + a(n - 12) - a(n - 13) - a(n - 19) + a(n - 20) - a(n - 21) + a(n - 23) + a(n - 31) - a(n - 32). - _ Harvey P. Dale _ , Mar 08 2014 •

[A266977] • 1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14 ⋆ Number of ON (black) cells in the n-th iteration of the "Rule 78" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n + (- 1) ^ n + 7) / 4 for n>0. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[A214672] • 0,0,1,1,2,3,3,4,4,5,5,6,7,7,8,8,9,9,10,10,11,12,12,13,13 ⋆ Floor of the imaginary parts of the zeros of the complex Lucas function on the left half plane. • a(n) = floor((2 * n + 1) * a / 2), n>=0, with a / 2 = - y _ 0(0) = 2 * Pi * log(phi) / (Pi ^ 2 + (2 * log(phi)) ^ 2), with phi:=(1 + sqrt(5)) / 2. a / 2 is approximately 0.2800649542. •

[A139338] • 1,2,3,3,4,4,5,6,6,7,7,8,8,9,9,10,11,11,12,12,13,13,14,15,15 ⋆ Least k>0 such that sum(i=0,2*n-1,(-k)^i/i!)<0. • a(n)=r * n + o(n) where r is the solution to x + log(x)=0 and 0<x<1 : r=0.5671432904097838729999 6...(see A030178) •

[A057355] • 0,0,1,1,2,3,3,4,4,5,6,6,7,7,8,9,9,10,10,11,12,12,13,13,14 ⋆ a(n) = floor(3*n/5). • a(n) = - 1 + Sum _{ k=0..n } (1 / 50) * (3 * (k mod 5) - 7 * ((k + 1) mod 5) + 13 * ((k + 2) mod 5) - 7 * ((k + 3) mod 5) + 13 * ((k + 4) mod 5)) - _ Paolo P. Lava _ , Nov 17 2008 •

[A171975] • 0,1,1,2,3,3,4,4,5,6,6,7,7,8,9,9,10,11,11,12,12,13,14,14,15 ⋆ Integer part of the circumsphere radius of a regular tetrahedron with edge length n. • a(n) = floor(n * sqrt(6) / 4). •

[A057363] • 0,0,1,1,2,3,3,4,4,5,6,6,7,8,8,9,9,10,11,11,12,12,13,14,14 ⋆ a(n) = floor(8*n/13). • a(n) = a(n - 1) + a(n - 13) - a(n - 14). •

[A005206] • 0,1,1,2,3,3,4,4,5,6,6,7,8,8,9,9,10,11,11,12,12,13,14,14,15 ⋆ Hofstadter G-sequence: a(n) = n - a(a(n-1)). • a(n) = floor((n + 1) * tau) - n - 1 where tau = (1 + sqrt(5)) / 2; or a(n) = floor(sigma * (n + 1)) where sigma = (sqrt(5) - 1) / 2. • a(0)=0, a(1)=1, a(n) = n - a(floor(n / tau)). - _ Benoit Cloitre _ , Nov 27 2002 • a(n + a(n)) = n. - _ Pierre Letouzey _ , Sep 09 2015 • a(n) + a(a(n + 1) - 1) = n. - _ Pierre Letouzey _ , Sep 09 2015 • a(0) = 0, a(n + 1) = a(n) + d(n) and d(0) = 1, d(n + 1)=1 - d(n) * d(a(n)). - _ Pierre Letouzey _ , Sep 09 2015 •

[A057365] • 0,0,1,1,2,3,3,4,4,5,6,6,7,8,8,9,9,10,11,11,12,13,13,14,14 ⋆ a(n) = floor(13*n/21). • a(n) = a(n - 1) + a(n - 21) - a(n - 22). •

[A096386] • 0,0,1,2,3,3,4,4,5,6,7,7,8,8,9,10,11,11,12,12,13,14,15,15,16 ⋆ Expansion of x^2(x^4+x^2+x+1)/(x^7-x^6-x+1). • a(n) = [n / 2] + [(n + 3) / 6] = [n / 3] + [(n + 2) / 6] + [(n + 4) / 6]. • a(- n) = - a(n - 1) - 1. • a(n) = 4 + a(n - 6). • a(n) = Sum _{ k=0..n } (1 / 90) * (- 11 * (k mod 6) + 19 * ((k + 1) mod 6) + 4 * ((k + 2) mod 6) + 4 * ((k + 3) mod 6) - 11 * ((k + 4) mod 6) + 19 * ((k + 5) mod 6))) - 1. - _ Paolo P. Lava _ , Jun 25 2007 •

[A076895] • 1,1,2,3,3,4,4,5,6,7,7,8,9,10,10,11,11,12,12,13,14,15,15,16,16 ⋆ a(1) = 1, a(n) = n - a(ceil(n/2)). • a(n) is asymptotic to (2 / 3) * n. •

[A274017] • 1,2,3,3,4,4,6,6,9,11,16,20,32,42,65,95,144,212,330,494,767,1171,1812,2788,4342 ⋆ Number of n-bead binary necklaces (no turning over allowed) that avoid the subsequence 110. • a(n) = 1 + (1 / n) * Sum _{ d|n } totient(n / d) * (Fibonacci(d - 1) + Fibonacci(d + 1)). •

[A110533] • 0,0,0,0,0,2,3,3,4,4,10,10,12,12,14,21,24,24,27,27,40,40,44,44,48 ⋆ a(n) = floor(n/2) * floor(n/5). • a(n) = + a(n - 2) + a(n - 5) - a(n - 7) + a(n - 10) - a(n - 12) - a(n - 15) + a(n - 17). •

[A088023] • 1,2,3,3,4,5,5,5,6,7,8,8,8,9,9,9,10,11,12,12,13,14,14,14,14 ⋆ Set a(1) = 1. Then take the list of defined initial terms, reverse their order, add 1, 2, 3...to the reversed list in succession and append this new list to the right of the previously defined terms. Repeat this process indefinitely. • a(n)=2a(n / 2) - 1 if a=2 ^ k else a(n)=a(2 ^ k - n + 1) + n - 2 ^ (k - 1) if 2 ^ (k - 1)<n<2 ^ k . (Ed.) •

[A123070] • 0,1,1,2,3,3,4,5,5,6,6,7,8,8,9,10,10,11,11,12,13,13,14,14,15 ⋆ Hofstadter Flip-G-sequence. • a(0) = 0; a(n + 1) = a(n) + d(n) where: •

[A057361] • 0,0,1,1,2,3,3,4,5,5,6,6,7,8,8,9,10,10,11,11,12,13,13,14,15 ⋆ a(n) = floor(5*n/8). • a(0)=0, a(1)=0, a(2)=1, a(3)=1, a(4)=2, a(5)=3, a(6)=3, a(7)=4, a(8)=5, a(n)=a(n - 1) + a(n - 8) - a(n - 9). - _ Harvey P. Dale _ , Jul 18 2013 •

[A074065] • 0,1,1,2,3,3,4,5,5,6,6,7,8,8,9,10,10,11,12,12,13,13,14,15,15 ⋆ Numerators a(n) of fractions slowly converging to sqrt(3): let a(1) = 0, b(n) = n - a(n); if (a(n) + 1) / b(n) < sqrt(3), then a(n+1) = a(n) + 1, else a(n+1)= a(n). • a(1) = 0. b(n) = n - a(n). If (a(n) + 1) / b(n) < sqrt(3), then a(n + 1) = a(n) + 1, else a(n + 1) = a(n). • a(n) = floor(n * (3 - sqrt(3)) / 2). - _ Vladeta Jovovic _ , Oct 04 2003 •

[A194640] • 0,1,1,2,3,3,4,5,5,6,7,7,8,8,9,10,10,11,12,12,13,13,14,15,15 ⋆ Smallest image size for which the number of endofunctions (functions f:{1,2,...,n}->{1,2,...,n}) is a maximum. • a(n) = arg max _{ k=0..n } Stirling2(n,k) * k! * C(n,k) for n!=2, a(2) = 1. •

[A131737] • 0,1,1,1,2,3,3,4,5,5,6,7,7,8,9,9,10,11,11,12,13,13,14,15,15 ⋆ Essentially even numbers followed by duplicated odd numbers. • a(n)=(1 / 9) * Sum { k=0..n }{ 5 * (k mod 3) + 2 * ((k + 1) mod 3) - ((k + 2) mod 3) }- 1 + (C(2 * n,n) mod 2) +{ C((n + 1) ^ 2,n + 3) mod 2 } , with n>=0. - _ Paolo P. Lava _ , Oct 07 2008 (corrected by _ Johannes W. Meijer _ , Jun 27 2011) •

[A004396] • 0,1,1,2,3,3,4,5,5,6,7,7,8,9,9,10,11,11,12,13,13,14,15,15,16 ⋆ One even number followed by two odd numbers. • a(n) = floor((2 * n + 1) / 3). • a(n) = a(n - 1) + (1 / 2) * ((- 1) ^ floor((4 * n + 2) / 3) + 1), a(0) = 0. - Mario Catalani (mario.catalani(AT)unito.it), Oct 20 2003 • a(n) = 2n / 3 - cos(2 * Pi * n / 3 + Pi / 3) / 3 + sqrt(3) * sin(2 * Pi * n / 3 + Pi / 3) / 9. - _ Paul Barry _ , Mar 18 2004 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>3. • a(n) = floor(n / 3) + ceiling(n / 3). - _ Jonathan Vos Post _ , Mar 19 2006 • a(n) = floor((2 * n ^ 2 + 4 * n + 2) / (3 * n + 4)). - _ Gary Detlefs _ , Jul 13 2010 •

[A175406] • 1,1,2,3,3,4,5,5,6,7,7,8,9,10,10,11,12,12,13,14,14,15,16,16,17 ⋆ The greatest integer k such that (1+1/n)^k <= 2. • a(n) = n log 2 + O(1). Conjecture: a(n) = floor((n + 1 / 2) log 2). - _ Charles R Greathouse IV _ , Apr 03 2012 •

[A013928] • 0,1,2,3,3,4,5,6,6,6,7,8,8,9,10,11,11,12,12,13,13,14,15,16,16 ⋆ Number of (positive) squarefree numbers < n. • a(n) = Sum _{ k = 1..n - 1 } mu(k) ^ 2. - _ Vladeta Jovovic _ , May 18 2001 • a(n) = Sum _{ d = 1..floor(sqrt(n - 1) } mu(d) * floor((n - 1) / d ^ 2) where mu(d) is the Moebius function (A008683). - _ Vladeta Jovovic _ , Apr 06 2001 • a(n) = Sum _{ k = 0..n } if(k <= n - 1, mu(n - k) mod 2, else 0; a(n + 1) = Sum _{ k = 0..n } mu(n - k + 1) mod 2. - _ Paul Barry _ , May 10 2005 • a(n + 1) = Sum _{ k = 0..n , abs(mu(n - k + 1)). - _ Paul Barry _ , Jul 20 2005 • a(n) = Sum _{ k = 1.. floor(sqrt(n)) } mu(k) * floor(n / k ^ 2). - _ Benoit Cloitre _ , Oct 25 2009 •

[A061288] • 1,1,2,3,3,4,5,6,6,7,8,8,9,10,10,11,12,13,13,14,15,15,16,17,18 ⋆ Integer part of square root of n-th triangular number. • a(n) = floor(sqrt(n * (n + 1) / 2)). - _ Zak Seidov _ , May 25 2015 •

[A083544] • 1,2,3,3,4,5,6,6,7,8,9,9,10,11,12,12,12,13,14,14,15,16,17,17 ⋆ a(n) = maximal value of the sum of Mobius function values over a block of n consecutive natural numbers. • a(n) = max sum m=i...(i + n - 1) Mobius(m) over i>=1. •

[A057353] • 0,0,1,2,3,3,4,5,6,6,7,8,9,9,10,11,12,12,13,14,15,15,16,17,18 ⋆ a(n) = floor(3n/4). • a(n) = - 1 + Sum _{ k=0..n }{ (1 / 8) * ((k mod 4) + ((k + 1) mod 4) - ((k + 2) mod 4) + 3 * ((k + 3) mod 4) } - _ Paolo P. Lava _ , Nov 17 2008 • a(n) = 1 / 8 * (6 * n + 2 * cos((Pi * n) / 2) + cos(Pi * n) - 2 * sin((Pi * n) / 2) - 3). - _ Ilya Gutkovskiy _ , Sep 18 2015 • a(4n) = a(4n + 1). - _ Altug Alkan _ , Sep 26 2015 •

[A076539] • 0,1,2,3,3,4,5,6,6,7,8,9,9,10,11,12,12,13,14,15,15,16,17,18,18 ⋆ Numerators a(n) of fractions slowly converging to Pi: let a(1) = 0, b(n) = n - a(n); if (a(n) + 1) / b(n) < pi, then a(n+1) = a(n) + 1, else a(n+1)= a(n). • a(1) = 0, b(n) = n - a(n), if (a(n) + 1) / b(n) < pi, then a(n + 1) = a(n) + 1, else a(n + 1) = a(n). • a(n) = floor(n * Pi / (Pi + 1)). - _ Vladeta Jovovic _ , Oct 04 2003 •

[A074184] • 1,1,2,3,3,4,5,6,6,7,8,9,9,10,11,12,12,13,14,15,15,16,17,18,19 ⋆ Index of the smallest power of n >= n!. • a(n) = ceiling(log _ n(n!)) for n>1. •

[A187329] • 0,0,1,2,3,3,4,5,6,6,7,8,9,9,10,11,12,12,13,14,15,16,16,17,18 ⋆ Floor((3-sqrt(5))n). • a(n) = floor((3 - sqrt(5)) * n). •

[A066508] • 1,1,2,3,3,4,5,6,6,7,8,9,10,10,11,12,13,14,15,16,16,17,18,19,20 ⋆ a(n) = floor(Sum_{i=1..n} (1/i)^(1/i)). • a(n) = n - log(n) ^ 2 / 2 + O(1) as n -> infinity. - _ Robert Israel _ , Jan 05 2016 •

[A091960] • 1,2,3,3,4,5,6,7,8,8,9,10,11,11,12,13,14,14,15,15,16,17,18,18,19 ⋆ a(1)=1, a(2n)=a(2n-1)+(a(n)mod 2), a(2n+1)=a(2n)+1. • a(n) is asymptotic to 3 / 4 * n. •

[A024698] • 1,1,2,3,3,4,5,6,7,8,9,10,11,12,13,15,15,17,18,18,20,21,22,24,25 ⋆ a(n) = (prime(n+1) - 1)/4 if this is an integer or (prime(n+1) + 1)/4 otherwise. • a(n) = ceiling((prime(n + 1) - 1) / 4). - _ Robert Israel _ , Jan 23 2018 •

[A011883] • 0,0,0,0,0,0,1,1,1,2,3,3,4,5,6,7,8,9,10,11,12,14,15,16,18 ⋆ [n(n-1)/30]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 15) - 2 * a(n - 16) + a(n - 17). G.f.: x ^ 6 * (x ^ 2 - x + 1) * (x ^ 4 - x ^ 2 + 1) / ((1 - x) ^ 3 * (1 + x ^ 4 + x ^ 3 + x ^ 2 + x) * (1 + x + x ^ 2) * (1 - x + x ^ 3 - x ^ 4 + x ^ 5 - x ^ 7 + x ^ 8)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A034886] • 1,1,1,1,2,3,3,4,5,6,7,8,9,10,11,13,14,15,16,18,19,20,22,23,24 ⋆ Number of digits in n!. • a(n) = floor(log(n!) / log(10)) + 1 • a(n) = ceiling(log10 (1) + log10(2) + ... + log10(n)), where log10 is the logarithm base 10. [_ Dmitry Kamenetsky _ , Nov 05 2010] •

[A025767] • 1,1,1,2,3,3,4,5,6,7,8,9,11,12,13,15,17,18,20,22,24,26,28,30,33 ⋆ Expansion of 1/((1-x)*(1-x^3)*(1-x^4)). • a(n) = floor(n ^ 2 / 24 + n / 3 + 1). • a(n) = sum { k=0..floor(n / 4), floor((n - 4k + 3) / 3) } . - _ Paul Barry _ , Jan 20 2006 • a(- 8 - n) = a(n). - _ Michael Somos _ , Nov 09 2007 • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8). - _ David Neil McGrath _ , Aug 30 2014 •

[A091848] • 0,0,0,0,0,0,1,1,2,3,3,4,5,6,7,8,9,11,12,14,15,17,18,21,22 ⋆ Johnson bound J(n,4,2). • a(n) = n ^ 2 / 24 - O(n). - _ Charles R Greathouse IV _ , Aug 25 2017 •

[A011877] • 0,0,0,0,0,0,1,1,2,3,3,4,5,6,7,8,10,11,12,14,15,17,19,21,23 ⋆ [n(n-1)/24]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8) + a(n - 9) - 2 * a(n - 10) + a(n - 11) - a(n - 12) + 2 * a(n - 13) - a(n - 14) + a(n - 15) - 2 * a(n - 16) + a(n - 17) - a(n - 18) + 2 * a(n - 19) - a(n - 20) + a(n - 21) - 2 * a(n - 22) + a(n - 23). G.f.: x ^ 6 * (1 - x + x ^ 2 - x ^ 3 + x ^ 6 - x ^ 9 + x ^ 10 - x ^ 11 + x ^ 12) / ((1 - x) ^ 3 * (1 + x + x ^ 2) * (x ^ 2 + 1) * (x ^ 4 + 1) * (x ^ 4 - x ^ 2 + 1) * (x ^ 8 - x ^ 4 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A029064] • 1,1,1,1,2,3,3,4,5,6,7,8,10,11,13,15,17,19,21,24,27,30,33,36,40 ⋆ Expansion of 1/((1-x)*(1-x^4)*(1-x^5)*(1-x^7)). • a(n) = floor((2 * n ^ 3 + 51 * n ^ 2 + 388 * n + 1680) / 1680). - _ Tani Akinari _ , May 23 2014 • a(- 17 - n) = - a(n). - _ Michael Somos _ , May 23 2014 •

[A011876] • 0,0,0,0,0,0,1,1,2,3,3,4,5,6,7,9,10,11,13,14,16,18,20,22,24 ⋆ [n(n-1)/23]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 23) - 2 * a(n - 24) + a(n - 25). [From _ R. J. Mathar _ , Apr 15 2010] •

[A029034] • 1,1,1,2,3,3,4,5,7,8,9,11,14,15,17,20,24,26,29,33,38,41,45,50,57 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^4)(1-x^8)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=3, a(5)=3, a(6)=4, a(7)=5, a(8)=7, a(9)=8, a(10)=9, a(11)=11, a(12)=14, a(13)=15, a(14)=17, a(15)=20, a(n)=a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + 2 * a(n - 8) - a(n - 9) - a(n - 11) + a(n - 13) + a(n - 15) - a(n - 16). - _ Harvey P. Dale _ , Jul 21 2013 •

[A115339] • 1,1,2,3,3,5,7,8,11,13,18,21,29,34,47,55,76,89,123,144,199,233,322,377 ⋆ a(2n-1)=F(n+1), a(2n)=L(n), where F(n) and L(n) are the Fibonacci and the Lucas sequences. • a(n + 2) = a(n) + a(n - 2). •

[A157725] • 2,3,3,4,5,7,10,15,23,36,57,91,146,235,379,612,989,1599,2586,4183,6767,10948,17713,28659,46370 ⋆ a(n) = Fibonacci(n) + 2. • a(0) = 2, a(1) = 3, a(n) = a(n - 2) + a(n - 1) - 2. - _ Reinhard Zumkeller _ , Jul 30 2013 •

[A029033] • 1,1,1,2,3,3,4,6,7,8,10,12,14,16,19,22,25,28,32,36,40,45,50,55,61 ⋆ Expansion of 1/((1-x)(1-x^3)(1-x^4)(1-x^7)). • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=3, a(5)=3, a(6)=4, a(7)=6, a(8)=7, a(9)=8, a(10)=10, a(11)=12, a(12)=14, a(13)=16, a(14)=19, a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 10) + a(n - 12) + a(n - 14) - a(n - 15). - _ Harvey P. Dale _ , Feb 26 2012 •

[A123552] • 1,1,1,2,3,3,4,6,7,8,11,14,16,20,26,31,37,47,58,69,85,106,128,155,192 ⋆ Expansion of 1/(1 - x - x^3 + x^5). • a(n) = a(n - 1) + a(n - 3) - a(n - 5) for n >= 5, with a(0)=a(1)=a(2)=1, a(3)=2, a(4)=3. • a(n) = a(n - 3) + a(n - 4) + 1 for n >= 4, with a(0)=a(1)=a(2)=1, a(3)=2. •

[A228362] • 0,0,0,1,2,3,3,4,6,8,10,13,18,24,31,41,55,73,96,127,169,224,296,392,520 ⋆ The number of all possible covers of L-length line segment by 3-length line segments with allowed gaps < 3. • a(0)=a(1)=a(2)=0; a(3)=1; a(4)=2; a(5)= a(6)=3; a(7)=4; a(n)= a(n - 3) + a(n - 4) + a(n - 5). •

[A078467] • 0,1,2,3,3,4,6,9,12,16,22,31,43,59,81,112,155,214,295,407,562,776,1071,1478,2040 ⋆ a(n) = a(n-1) + a(n-4); first four terms are 0,1,2,3. • a(n) = a(n - 1) + a(n - 4); a(0)=0, a(1)=1, a(2)=2, a(3)=3 • a(n + 1)=sum { k=0..n , binomial(n - k, floor(k / 3)) } - _ Paul Barry _ , Jul 06 2004 •

[A036410] • 1,1,1,2,3,3,5,6,7,9,11,12,15,17,19,22,25,27,31,34,37,41,45,48,53 ⋆ G.f.: (1+x^6)/((1-x)*(1-x^3)*(1-x^4)). • a(n)= + a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). G.f. (- 1 - x ^ 4 + x ^ 2) / ((1 + x) * (1 + x + x ^ 2) * (x - 1) ^ 3). - R. J. Mathar, Jan 22 2011 •

[A008670] • 1,1,1,2,3,3,5,6,7,9,11,12,16,18,20,24,28,30,36,40,44,50,56,60,69 ⋆ Molien series for Weyl group F_4. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) + a(n - 6) - 2 * a(n - 7) + a(n - 8) - a(n - 9) + a(n - 11) + a(n - 13) - a(n - 14), with a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(4)=3, a(5)=3, a(6)=5, a(7)=6, a(8)=7, a(9)=9, a(10)=11, a(11)=12, a(12)=16, a(13)=18. - _ Harvey P. Dale _ , Feb 07 2012 •

[A179492] • 1,1,2,3,3,5,6,9,12,15,20,27,36,47,63,83,109,144,190,251,331,436,575,759,1001 ⋆ a(1)=1;Floor[a(n)=a(n-1)+a(n-1)/Pi]. • a(n) = floor((1 + 1 / Pi) ^ n). [From _ R. J. Mathar _ , Jul 20 2010] •

[A258967] • 1,2,3,3,5,7,11,20,40,94,275,1017,5128,37871,444415,9290130,395420005,40404949540,12183091294648,13951642918891149,8287216978700123679,37531487765641929828636 48,20831230346748035897676277778236 ⋆ a(1)=1, a(2)=2, a(3)=3, a(n) = ceiling(sqrt(a(n-1)*a(n-2)*a(n-3))), n>3. • a(n) is approximately k ^ (c ^ n), where c is the real root of x ^ 3 - (x ^ 2 + x + 1) / 2 = 0 equal to (1 + (64 - 3 * sqrt(417)) ^ (1 / 3) + (64 + 3 * sqrt(417)) ^ (1 / 3)) / 6, and k is approximately 1.7450496... •

[A153643] • 2,3,3,5,7,13,23,45,87,173,343,685,1367,2733,5463,10925,21847,43693,87383,174765,349527,699053,1398103,2796205,5592407 ⋆ Jacobsthal numbers A001045 incremented by 2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) . - _ Andrew Howroyd _ , Feb 26 2018 •

[A049855] • 2,3,3,5,10,18,31,54,95,167,293,514,902,1583,2778,4875,8555,15013,26346,46234,81135,142382,249863,438479,769477 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-3,n-1}; a(n-2) is not a summand; 2 initial terms required. • a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3); 3 initial terms required. •

[A020878] • 2,3,3,6,7,13,18,31,47,78,123,201,322,523,843,1366,2207,3573,5778,9351,15127,24478,39603,64081,103682 ⋆ Number of maximum matchings in the n-Moebius ladder M_n. • a(n) = ((1 - sqrt(5)) / 2) ^ n + ((1 + sqrt(5)) / 2) ^ n for n even. • a(n) = ((1 - sqrt(5)) / 2) ^ n + ((1 + sqrt(5)) / 2) ^ n + 2 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>3. •

[A049875] • 2,3,3,6,11,22,41,77,143,267,498,930,1736,3241,6050,11294,21083,39357,73470,137151,256028,477943,892205,1665533,3109151 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A127582] • 2,3,3,7,31,31,127,127,1279,3583,5119,6143,8191,8191,81919,131071,131071,131071,524287,524287,14680063,14680063,109051903,109051903,654311423 ⋆ a(n) = the smallest prime number of the form k*2^n - 1, for k >= 1. • a(n) << 37 ^ n by Xylouris' improvement to Linnik's theorem. - _ Charles R Greathouse IV _ , Dec 10 2013 •

[A102678] • 0,0,0,0,0,0,1,2,3,4,4,4,4,4,4,4,5,6,7,8,8,8,8,8,8 ⋆ Number of digits >= 6 in the decimal representations of all integers from 0 to n. • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 10 ^ j + 2 / 5) * (2n + 2 - (1 / 5 + floor (n / 10 ^ j + 2 / 5)) * 10 ^ j) - floor(n / 10 ^ j) * (2n + 2 - (1 + floor(n / 10 ^ j)) * 10 ^ j)), where m = floor(log _ 10(n)). • a(10 ^ m - 1) = 4 * m * 10 ^ (m - 1). •

[A029132] • 1,1,1,1,1,1,1,1,1,2,3,4,4,4,4,4,4,4,5,6,8,9,10,10,10 ⋆ Expansion of 1/((1-x)(1-x^9)(1-x^10)(1-x^11)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=1, a(8)=1, a(9)=2, a(10)=3, a(11)=4, a(12)=4, a(13)=4, a(14)=4, a(15)=4, a(16)=4, a(17)=4, a(18)=5, a(19)=6, a(20)=8, a(21)=9, a(22)=10, a(23)=10, a(24)=10, a(25)=10, a(26)=10, a(27)=11, a(28)=12, a(29)=14, a(30)=16, a(n)=a(n - 1) + a(n - 9) - a(n - 12) - a(n - 19) + a(n - 22) + a(n - 30) - a(n - 31). - _ Harvey P. Dale _ , Dec 05 2015 •

[A072229] • 0,0,0,0,1,2,3,4,4,4,4,5,6,7,8,8,8,8,9,10,11,12,12,12,12 ⋆ Witt index of the standard bilinear form <1,1,1,...,1> over the 2-adic rationals. • a(n) = 4 floor(n / 7) + [0,0,0,0,1,2,3][n % 7 + 1]. [Formula corrected by _ Franklin T. Adams - Watters _ , Apr 13 2009] • a(n) = a(n - 1) + a(n - 7) - a(n - 8). •

[A135414] • 1,1,2,3,4,4,4,5,6,6,7,8,9,9,9,10,11,12,12,12,13,14,14,15,16 ⋆ a(1)=a(2)=1 and for n>=3, a(n)=n-a(a(n-2)). • a(n)=2 + floor(n * phi) + floor((n + 1) * phi) - floor((n + 3) * phi) where phi=(sqrt(5) - 1) / 2 •

[A099479] • 0,1,2,3,4,4,4,5,6,7,8,8,8,9,10,11,12,12,12,13,14,15,16,16,16 ⋆ Count, repeating 4n three times for n > 0. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = - cos(Pi * 2n / 3 + Pi / 3) / 6 - sqrt(3) * sin(Pi * 2n / 3 + Pi / 3) / 18 - sqrt(3) * cos(Pi * n / 3 + Pi / 6) / 6 - sin(Pi * n / 3 + Pi / 6) / 2 + 2(n + 1) / 3. • a(n) = Sum _{ k=0..floor(n / 2) } C(n - k, k) * (- 1) ^ k * (4 * 2 ^ (n - 1 - 2k) / 3 - (- 1) ^ n / 6 - 1 / 2). •

[A267530] • 0,2,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14 ⋆ Number of OFF (white) cells in the n-th iteration of the "Rule 141" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A050292] • 0,1,1,2,3,4,4,5,5,6,6,7,8,9,9,10,11,12,12,13,14,15,15,16,16 ⋆ a(2n) = 2n - a(n), a(2n+1) = 2n + 1 - a(n) (for n >= 0). • a(1)=1, a(n) = n - a(floor(n / 2)); • a(n) = sum(k=>0, (- 1) ^ k * floor(n / 2 ^ k)), - _ Benoit Cloitre _ , Jun 03 2003 • a(2 ^ n) = (2 ^ (n + 1) + (- 1) ^ n) / 3. - _ Vladimir Shevelev _ , Apr 15 2010 •

[A096336] • 0,0,0,1,1,1,2,3,4,4,5,5,6,7,8,9,10,10,11,12,13,14,15,15,16 ⋆ Spin(2n+1) and Spin(2n+2) have torsion index 2^a(n). • a(n) is usually n - floor(log _ 2((n + 1)n / 2 + 1)), but is this number plus 1 if n = 2 ^ e + b for nonnegative integers e, b such that 2b - a(b) <= e - 3. •

[A110532] • 0,0,1,1,2,3,4,4,5,5,7,7,8,8,9,10,11,11,12,12,14,14,15,15,16 ⋆ a(n) = floor(n/2) + floor(n/5). • a(n) = 7n / 10 + O(1). - _ Charles R Greathouse IV _ , Jun 11 2015 •

[A094500] • 1,2,3,4,4,5,6,6,7,8,8,9,10,11,11,12,13,13,14,15,15,16,17,17,18 ⋆ Least number k such that (n+1)^k / n^k >= 2. • a(n) = n * log(2) + O(1). - _ Charles R Greathouse IV _ , Sep 02 2015 •

[A080820] • 1,2,3,4,4,5,6,6,7,8,9,9,10,11,11,12,13,14,14,15,16,16,17,18,19 ⋆ Least m such that m^2 >= n*(n+1)/2. • a(n)=ceil(sqrt(n * (n + 1) / 2)) - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Dec 19 2004 •

[A234604] • 2,3,4,4,5,6,6,7,17,35,62,103,164,256,391,589,880,1303,1919,2814,4112,5993,8716,12655,18353 ⋆ Floor of the solutions to c = exp(1 + n/c) for n>=0, using recursion. • a(n) = floor(c) for the solutions to c = exp(1 + n / c) at n = 0 to 7, and the floor of the stable upper values of c for n>=8. •

[A107079] • 1,2,3,4,4,5,6,7,7,7,8,9,9,10,11,12,12,13,13,14,14,15,16,17,17 ⋆ Minimal number of squared primes in a squarefree gap of length n. • a(n) = sum { k=0..n - 1, moebius _ mu(n - k - 1) mod 2 } . •

[A037915] • 1,1,2,3,4,4,5,6,7,7,8,9,10,10,11,12,13,13,14,15,16,16,17,18,19 ⋆ a(n) = floor((3*n + 4)/4). • a(n) = 1 + floor(3 * n / 4). • a(n) = (1 / 8) * (6 * n + 5 + (- 1) ^ n - 2 * (- 1) ^ floor((n - 1) / 2)). - _ Ralf Stephan _ , Jun 10 2005 •

[A090223] • 0,0,1,2,3,4,4,5,6,7,8,8,9,10,11,12,12,13,14,15,16,16,17,18,19 ⋆ Nonnegative integers with doubled multiples of 4. • a(n) = floor(4 * n / 5). •

[A171974] • 0,1,2,3,4,4,5,6,7,8,8,9,10,11,12,13,13,14,15,16,17,17,18,19,20 ⋆ Integer part of the height of a regular tetrahedron with edge length n. • a(n) = floor(n * sqrt(6) / 3). •

[A280471] • 2,3,4,4,5,6,7,8,9,9,10,11,12,13,13,14,15,16,17,17,18,19,20,21,21 ⋆ Solutions to the Gamow-Stern Elevator Problem, a(n) = ceiling((log_10 5)/(log_10 (1+2(n-2)))) for integer n >= 3. • a(n) = ceiling((log _ 10 5) / (log _ 10 (1 + 2 / (n - 2)))) for integer n >= 3. •

[A105598] • 1,2,3,4,4,5,6,7,8,9,10,11,11,12,13,14,15,16,17,18,18,19,20,21,22 ⋆ Partial sums of central numbers for a Moebius-binomial triangle. • a(n)=sum { k=0..n, binomial(abs(mu(k)), abs(mu(floor(k / 2)))) } •

[A103750] • 1,1,1,2,3,4,4,5,7,11,14,17,20,28,39,53,65,82,107,148,196,253,319,419,558 ⋆ Expansion of (1+2*x^3)/(1-x+x^3-2*x^4). • a(n) = a(n - 1) - a(n - 3) + 2 * a(n - 4). •

[A193768] • 2,3,4,4,6,7,7,8,10,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ The domination number of the 4 by n board. • a(n) = n, except for n = 1, 2, 3, 5, 6 or 9. For the exceptions a(n) = n + 1. • a(n) = 2 * a(n - 1) - a(n - 2) for n>11. - _ Colin Barker _ , Oct 05 2014 •

[A248517] • 0,0,0,1,1,2,3,4,4,6,7,8,9,10,11,14,14,15,17,18,19,22,23,24,25 ⋆ Number of odd divisors > 1 in the numbers 1 through n, counted with multiplicity. • a(n) = Sum _{ i=1..n - 1 } floor(floor(i / 2) / (n - i)). - _ Wesley Ivan Hurt _ , Jan 30 2016 •

[A102676] • 0,0,0,0,0,1,2,3,4,5,5,5,5,5,5,6,7,8,9,10,10,10,10,10,10 ⋆ Number of digits >= 5 in the decimal representations of all integers from 0 to n. • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 10 ^ j + 1 / 2) * (2n + 2 - floor(n / 10 ^ j + 1 / 2) * 10 ^ j - floor(n / 10 ^ j) * (2n + 2 - (1 + floor(n / 10 ^ j)) * 10 ^ j)), where m = floor(log _ 10(n)). • a(10 ^ m - 1) = 5 * m * 10 ^ (m - 1). •

[A079411] • 1,1,2,3,4,5,5,6,6,7,7,8,9,10,10,11,12,13,14,15,16,17,17,18,19 ⋆ a(1)=1,1))) ^ 2. • a(n)=n-a(a(ceil(n/2))). • a(n) is asymptotic to n * (sqrt(3) - 1); Conjecture: (a(n) - n * (sqrt(3) - 1)) / log(n) is bounded. •

[A072932] • 1,2,3,4,5,5,6,7,8,9,10,11,12,13,14,15,15,16,17,18,19,20,21,22,23 ⋆ Least k such that floor((1+1/k)^n) = floor((1+1/n)^k). • a(n) is asymptotic to C * n with C a rational constant = 91 / 100; also a(100k)=91k •

[A102674] • 0,0,0,0,1,2,3,4,5,6,6,6,6,6,7,8,9,10,11,12,12,12,12,12,13 ⋆ Number of digits >= 4 in the decimal representations of all integers from 0 to n. • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 10 ^ j + 3 / 5) * (2n + 2 + (1 / 5 - floor(n / 10 ^ j + 3 / 5)) * 10 ^ j) - floor(n / 10 ^ j) * (2n + 2 - (1 + floor(n / 10 ^ j)) * 10 ^ j)), where m = floor(log _ 10(n)). • a(10 ^ m - 1) = 6 * m * 10 ^ (m - 1). •

[A082287] • 1,2,3,4,5,6,6,7,8,9,10,10,11,12,12,13,14,14,15,15,16,17,18,18,19 ⋆ a(1) = 1; for n>1, n appears omega(n) times, where omega(n)=A001221(n) is the number of distinct prime factors of n, a(1)=1. • a(n) is the least k such that sum _{ p<=k } floor(k / p)>=n where p runs through the primes. [From _ Benoit Cloitre _ , Nov 08 2009] •

[A145569] • 0,1,2,3,4,5,6,6,7,8,9,10,11,12,12,13,14,15,16,17,18,18,19,20,21 ⋆ Multiples of 6 appear in pairs. • a(n) = number of positive numbers <= n relatively prime to 7, n >= 1. a(0)=1. • a(n) = (1 / 49) * Sum _{ k=0..n } (9 * (k mod 7) + 2 * ((k + 1) mod 7) + 2 * ((k + 2) mod 7) + 2 * ((k + 3) mod 7) + 2 * ((k + 4) mod 7) + 2 * ((k + 5) mod 7) - 5 * ((k + 6) mod 7)), with n >= 0. - _ Paolo P. Lava _ , Feb 11 2009 • a(n) = ceiling(6 * n / 7) = n - floor(n / 7). - _ Wesley Ivan Hurt _ , Sep 29 2017 •

[A171970] • 0,1,2,3,4,5,6,6,7,8,9,10,11,12,12,13,14,15,16,17,18,19,19,20,21 ⋆ Integer part of the height of an equilateral triangle with side length n. • a(n) = floor(n * sqrt(3) / 2). •

[A064524] • 0,0,1,2,3,4,5,6,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22 ⋆ Number of noncubes <= n. • a(n) = n - floor(CubicRoot(n)). •

[A102672] • 0,0,0,1,2,3,4,5,6,7,7,7,7,8,9,10,11,12,13,14,14,14,14,15,16 ⋆ Number of digits >= 3 in the decimal representations of all integers from 0 to n. • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 10 ^ j + 7 / 10) * (2n + 2 + (2 / 5 - floor(n / 10 ^ j + 7 / 10)) * 10 ^ j) - floor(n / 10 ^ j) * (2n + 2 - (1 + floor(n / 10 ^ j)) * 10 ^ j)), where m = floor(log _ 10(n)). • a(10 ^ m - 1) = 7 * m * 10 ^ (m - 1). •

[A209900] • 1,1,2,3,4,5,6,7,7,8,9,10,11,12,13,13,14,15,16,17,18,19,20,20,21 ⋆ Floor of the expected number of occupied cells in a random placement of 2n balls into n cells. • a(n) = floor(n * (1 - (1 - 1 / n) ^ (2n))). •

[A097043] • 1,1,2,3,4,5,6,7,7,8,9,10,11,12,13,13,14,15,16,17,18,19,20,21,21 ⋆ a(n) = n - a(floor(sqrt(n))) for n > 1; a(1) = 1. • a(1)=1; a(n) = n - a(floor(sqrt(n))) for n > 1. • a(n)=n - sqrt(n) + O(n ^ (1 / 4)) - _ Benoit Cloitre _ , Jul 23 2009 •

[A060431] • 1,2,3,4,5,6,7,7,8,9,10,11,12,13,14,14,15,16,17,18,19,20,21,21,22 ⋆ Number of cubefree numbers <= n. • a(n)=Sum _{ d>=1 } mu(d) * floor(n / d ^ 3), mu(d) = Moebius function A008683. • a(n) is asymptotic to (1 / zeta(3)) * n, see A088453. - _ Benoit Cloitre _ , Jun 13 2007 •

[A124808] • 1,2,3,4,5,6,7,7,8,9,10,11,12,13,14,15,16,17,17,18,19,20,21,22,23 ⋆ Number of numbers k <= n such that k^2 + 1 is squarefree. • a(n) = Sum _{ k=0..n } mu(k ^ 2 + 1) ^ 2, where mu(n) is the Mobius function (A008683). - _ Wesley Ivan Hurt _ , Jul 15 2015 •

[A238401] • 0,0,1,1,2,3,4,5,6,7,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21 ⋆ Floor(sum(i=1..n, 1/(i+1))). • a(n) = n - log n + O(1). - _ Charles R Greathouse IV _ , Feb 26 2014 •

[A102670] • 0,0,1,2,3,4,5,6,7,8,8,8,9,10,11,12,13,14,15,16,17,18,20,22,24 ⋆ Number of digits >= 2 in the decimal representations of all integers from 0 to n. • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 10 ^ j + 0.8) * (2n + 2 + ((3 / 5) - floor(n / 10 ^ j + 4 / 5)) * 10 ^ j) - floor(n / 10 ^ j) * (2n + 2 - (1 + floor(n / 10 ^ j)) * 10 ^ j)), where m = floor(log _ 10(n)). • a(10 ^ m - 1) = 8 * m * 10 ^ (m - 1). • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 10 ^ j + (10 - d) / 10) * (2n + 2 + ((5 - d) / 5 - floor(n / 10 ^ j + (10 - d) / 10)) * 10 ^ j) - floor(n / 10 ^ j) * (2n + 2 - (1 + floor(n / 10 ^ j)) * 10 ^ j)), where m = floor(log _ 10(n)). • a(n) = (n + 1) * F(n,d) + (1 / 2) * Sum _{ j=1..m + 1 } ((((5 - d) / 5) * floor(n / 10 ^ j + (10 - d) / 10) + floor(n / 10 ^ j)) * 10 ^ j - (floor(n / 10 ^ j + (10 - d) / 10) ^ 2 - floor(n / 10 ^ j) ^ 2) * 10 ^ j), where m = floor(log _ 10(n)) and F(n,d) = number of digits >= d in the decimal representation of n. • a(10 ^ m - 1) = (10 - d) * m * 10 ^ (m - 1). •

[A081600] • 0,1,2,3,4,5,6,7,8,9,9,10,11,12,13,14,15,16,17,18,18,19,20,21,22 ⋆ Let n = 10x + y where 0 <= y <= 9, x >= 0. Then a(n) = 9x+y. • a(n) = n - floor(n / 10). - _ Bruno Berselli _ , Jun 24 2014 •

[A071604] • 1,2,3,4,5,6,7,8,9,10,10,11,11,12,13,14,14,15,15,16,17,17,17,18,19 ⋆ Number of 7-smooth numbers less than n. • a(n) = Card { k | A002473 (k) < = n } •

[A061069] • 1,2,3,4,5,6,7,8,9,10,10,11,12,13,13,14,14,15,16,17,18,19,19,20,20 ⋆ Number of distinct values in the list of divisor-sums {sigma(j) : j=1...n}. • a(n)=Length[Union[Table[DivisorSigma[1, w], { w, 1, n }]]] •

[A269445] • 0,0,0,0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,9,10,11,12 ⋆ a(n) = Sum_{k=0..n} floor(k/13). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 13) - 2 * a(n - 14) + a(n - 15). •

[A139179] • 0,0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,14,15,16,17,18,19,20,21,22 ⋆ Number of non-fourth-powers <= n. • a(n) = n - floor[n ^ (1 / 4)]. •

[A159062] • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,16,17,18,19,20,21,22,22,23,24 ⋆ Nearest integer to the variance of the number of tosses of a fair coin required to obtain at least n heads and n tails. • a(n) is the nearest integer to 2 * n * (1 + binomial(2 * n,n) / (2 ^ (2 * n))) - ((n * binomial(2 * n,n)) / (2 ^ (2 * n - 1))) ^ 2. •

[A001477] • 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24 ⋆ The nonnegative integers. • a(n) = n. • a(0) = 0, a(n) = a(n - 1) + 1. • a(0) =0, a(1)=1, a(n) = 2 * a(n - 1) - a(n - 2). - _ Jaume Oliver Lafont _ , May 07 2008 • a(n + 1) = det(C(i + 1,j), 1 <= i,j <= n), where C(n,k) are binomial coefficients. - _ Mircea Merca _ , Apr 06 2013 • a(n - 1) = floor(n / e ^ (1 / n)) for n > 0. - _ Richard R. Forberg _ , Jun 22 2013 • a(n) = floor(cot(1 / (n + 1))). - _ Clark Kimberling _ , Oct 08 2014 •

[A199969] • 0,0,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24 ⋆ a(n) = the greatest non-divisor h of n (1<h<n), or 0 if no such h exists. • a(n) = n - 1 for n>=3. •

[A244581] • 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24 ⋆ Possible numbers of Hamiltonian cycles up to direction in 8-vertex graphs. • a(n) = n - 1 for n < 90, a(n) = n + 1 for 90 < n < 106. - _ M. F. Hasler _ , Jan 18 2015 •

[A000027] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ The positive integers. Also called the natural numbers, the whole numbers or the counting numbers, but these terms are ambiguous. • a(n) = 2 * a(n - 1) - a(n - 2); a(1)=1, a(2)=2. a(n)=1 + a(n - 1). - _ Philippe Deléham _ , Nov 03 2008 • a(n) = det(binomial(i + 1,j), 1 <= i,j <= n). - _ Mircea Merca _ , Apr 06 2013 • a(n) = Product _{ k=1..n - 1 } 2 * sin(Pi * k / n), n > 1. • a(n) = Product _{ k=1..n - 1 } (2 * sin(Pi * k / (2 * n))) ^ 2, n > 1. • a(n) = Sum _{ j=0..k } (- 1) ^ (j - 1) * j * binomial(n,j) * binomial(n - 1 + k - j,k - j), k>=0. - _ Mircea Merca _ , Jan 25 2014 • a(n) = Sum _{ k=1..n ^ 2 + 2 * n } 1 / (sqrt(k) + sqrt(k + 1)). - _ Pierre CAMI _ , Apr 25 2014 •

[A087156] • 0,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ Nonnegative numbers excluding 1. • a(n) = n - 1 + [(n + 1) mod n], with n>=1. - _ Paolo P. Lava _ , Nov 06 2009 • a(n) = n mod sigma _ k(n), where sigma _ k is the k divisor sigma function. -_ Enrique Pérez Herrero _ , Nov 11 2009 • a(n + 1) = floor((n + sqrt(n ^ 2 + 8n)) / 2). - _ Philippe Deléham _ , Oct 03 2011 • a(n) = n mod n ^ 2. - _ Andrew Secunda _ , Aug 21 2015 •

[A160546] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ Not divisible by 29. • a(n) = a(n - 1) + a(n - 28) - a(n - 29) for n > 29. •

[A020725] • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26 ⋆ Integers >= 2. a(n) = n+1. • a(n) = n + 1 for n>0. (End) •

[A246091] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,26 ⋆ Paradigm shift sequence for (2,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A246098] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,27 ⋆ Paradigm shift sequence for (4,4) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A132264] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,48,50 ⋆ Product{0<=k<=floor(log_12(n)), floor(n/12^k)}, n>=1. • a(k * p ^ m)=k ^ (m + 1) * p ^ (m(m + 1) / 2), for 0<k<p. • a(n)>c * b(n), where c=product { k>0, 1 - 1 / (2 * p ^ k) } =0.47735217025489380... (for p=12 see constant A132265). •

[A081330] • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,24,25,26,27 ⋆ Numbers that can be written as sum of two 3-smooth numbers. • a(n) >> exp(n^(1/2)). - _ Charles R Greathouse IV _ , Aug 22 2011 •

[A246087] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,24,26,28 ⋆ Paradigm shift sequence for (1,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 16) for all n >= 39. •

[A246094] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,24,27,30 ⋆ Paradigm shift sequence for (3,4) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A274399] • 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,23,24,25 ⋆ a(n) = floor(n*Pi/3). • a(n) = floor(n * Pi / floor(Pi)) = floor(n * Pi / 3). •

[A246101] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,24,27,30,33 ⋆ Paradigm shift sequence for (5,3) production scheme with replacement. • a(n)

= (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A132263] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,44,46,48,50 ⋆ Product{0<=k<=floor(log_11(n)), floor(n/11^k)}, n>=1. • a(k * 11 ^ m)=k ^ (m + 1) * 11 ^ (m(m + 1) / 2), for 0<k<11. • a(n)>c * b(n), where c=0.47510412750760310539756444472... (see constant A132265). •

[A246083] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,22,24,26,28,30 ⋆ Paradigm shift sequence for (0,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 15) for all n >= 25. •

[A246090] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,22,24,27,30,33 ⋆ Paradigm shift sequence for (2,4) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A246097] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,24,27,30,33,36 ⋆ Paradigm shift sequence for (4,3) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A067080] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,40,42,44,46,48,50 ⋆ If n = ab...def in decimal notation then the left digitorial function Ld(n) = ab...def*ab...de*ab...d*...*ab*a. • a(n) = product { 0<=k<=floor(log _ 10(n)), floor(n / 10 ^ k) } , n>=1. • a(n) = n * a(floor(n / 10)); • a(n * 10 ^ m) = n ^ m * 10 ^ (m(m + 1) / 2) * a(n). • a(k * 10 ^ m) = k ^ (m + 1) * 10 ^ (m(m + 1) / 2), for 0<k<10. • a(n) > c * b(n), where c=0.472362443816572... (see constant A132026). • a(n) = O(n ^ ((1 + log _ 10(n)) / 2)). (End) •

[A246079] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,20,22,24,26,28,30,33 ⋆ Paradigm shift sequence for (-1,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 14) for all n >= 33. •

[A246086] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,20,22,24,27,30,33,36 ⋆ Paradigm shift sequence for (1,4) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 13) for all n >= 32. •

[A246093] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,21,24,27,30,33,36,40 ⋆ Paradigm shift sequence for (3,3) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A132033] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,36,38,40,42,44,46,48,50 ⋆ Product{0<=k<=floor(log_9(n)), floor(n/9^k)}, n>=1. • a(k * 9 ^ m)=k ^ (m + 1) * 9 ^ (m(m + 1) / 2), for 0<k<9. • a(n)>c * b(n), where c=0.4689451783670236932832800... (see constant A132024). •

[A160543] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,19,20,21,22,23,24,25,26 ⋆ Not divisible by 17 • a(n) = a(n - 1) + a(n - 16) - a(n - 17). G.f. x * (1 + x + x ^ 2 + x ^ 3 + x ^ 4 + x ^ 5 + x ^ 6 + x ^ 7 + x ^ 8 + x ^ 9 + x ^ 10 + x ^ 11 + x ^ 12 + x ^ 13 + x ^ 14 + x ^ 15 + x ^ 16) / ((1 + x) * (1 + x ^ 2) * (1 + x ^ 4) * (1 + x ^ 8) * (x - 1) ^ 2). - _ R. J. Mathar _ , Sep 30 2013 •

[A246076] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,20,22,24,26,28,30,33,36 ⋆ Paradigm shift sequence for the (-2,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 2 * a(n - 8) for all n >= 25. •

[A246082] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,20,22,24,27,30,33,36,39 ⋆ Paradigm shift sequence for (0,4) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 12) for all n >= 20. •

[A246089] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,21,24,27,30,33,36,40,44 ⋆ Paradigm shift sequence for (2,3) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A246100] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,21,24,28,32,36,40,45,50 ⋆ Paradigm shift sequence for (5,2) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A048340] • 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,34,51,68,85,102,119,136,153 ⋆ a(n) in base 16 is a repdigit. • a(n) = 17 * a(n - 15) - 16 * a(n - 30) for n > 29. • a(n) = (n - 15 * floor((n - 1) / 15)) * (16 ^ floor((n + 14) / 15) - 1) / 15. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A246096] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,18,21,24,28,32,36,40,45,50,55 ⋆ Paradigm shift sequence for (4,2) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). •

[A132032] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,32,34,36,38,40,42,44,46,72,75 ⋆ Product{0<=k<=floor(log_8(n)), floor(n/8^k)}, n>=1. • a(k * 8 ^ m)=k ^ (m + 1) * 8 ^ (m(m + 1) / 2), for 0<k<8. • a(n)>c * b(n), where c = 0.46456888368647639098... (see constant A132024). •

[A247160] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17,18,19,20,21,22,23,24,25,26 ⋆ Dynamic Betting Game D(n,4,3). • a(n) = floor(n * 16 / 15). • a(n) = a(n - 1) + a(n - 15) - a(n - 16). - _ Colin Barker _ , Sep 11 2014 •

[A246075] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,18,20,22,24,26,28,32,36,40,44 ⋆ Paradigm shift sequence for a (-3,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 2 * a(n - 7) for all n >= 14. •

[A246078] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,18,20,22,24,27,30,33,36,40,44 ⋆ Paradigm shift sequence for (-1,4) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 11) for all n >= 26. •

[A246085] • 1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,18,21,24,27,30,33,36,40,44,48 ⋆ Paradigm shift sequence for (1,3) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 10) for all n >= 25. •

[A048339] • 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,32,48,64,80,96,112,128,144,160 ⋆ a(n) in base 15 is a repdigit. • a(n) = 16 * a(n - 14) - 15 * a(n - 28) for n > 27. • a(n) = (n - 14 * floor((n - 1) / 14)) * (15 ^ floor((n + 13) / 14) - 1) / 14. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A246092] • 1,2,3,4,5,6,7,8,9,10,11,12,13,15,18,21,24,28,32,36,40,45,50,55,63 ⋆ Paradigm shift sequence for (3,2) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 4 * a(n - 11) for all n >= 36. •

[A048338] • 0,1,2,3,4,5,6,7,8,9,10,11,12,13,15,30,45,60,75,90,105,120,135,150,165 ⋆ a(n) in base 14 is a repdigit. • a(n) = 15 * a(n - 13) - 14 * a(n - 26) for n > 25. • a(n) = (n - 13 * floor((n - 1) / 13)) * (14 ^ floor((n + 12) / 13) - 1) / 13. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A132031] • 1,2,3,4,5,6,7,8,9,10,11,12,13,28,30,32,34,36,38,40,63,66,69,72,75 ⋆ Product{0<=k<=floor(log_7(n)), floor(n/7^k)}, n>=1. • a(k * 7 ^ m)=k ^ (m + 1) * 7 ^ (m(m + 1) / 2), for 0<k<7. • a(n)>c * b(n), where c=0.4587667266997689850200... (see constant A132023). •

[A221912] • 0,0,0,0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,9,10,11,12,14 ⋆ Partial sums of floor(n/12). • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=0, a(5)=0, a(6)=0, a(7)=0, a(8)=0, a(9)=0, a(10)=0, a(11)=0, a(12)=1, a(13)=2, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 12) - 2 * a(n - 13) + a(n - 14). - _ Harvey P. Dale _ , Mar 23 2015 •

[A011760] • 1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26 ⋆ Elevator buttons in U.S.A.: Positive integers except 13. • a(n) = n + sign(floor(n / 13)). - _ Wesley Ivan Hurt _ , Jan 12 2013 •

[A113763] • 1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,27 ⋆ Non-multiples of 13, or numbers not divisible by 13. • a(n) = n + floor((2n - 1) / 24) = n + quotient(2n - 1, 24) •

[A008730] • 1,2,3,4,5,6,7,8,9,10,11,12,14,16,18,20,22,24,26,28,30,32,34,36,39 ⋆ Molien series 1/((1-x)^2*(1-x^12)) for 3-dimensional group [2,n] = *22n. • a(n) = sum(floor(j / 12), { j,0,n + 12 }), a(n - 12) = (1 / 2) * floor(n / 12) * (2n - 10 - 12 * floor(n / 12)). - _ Mitch Harris _ , Sep 08 2008 •

[A246074] • 1,2,3,4,5,6,7,8,9,10,11,12,14,16,18,20,22,24,28,32,36,40,44,48,56 ⋆ Paradigm Shift Sequence for a (-4,5) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 2 * a(n - 6) for all n >= 12. •

[A246081] • 1,2,3,4,5,6,7,8,9,10,11,12,14,16,18,21,24,27,30,33,36,42,48,54,63 ⋆ Paradigm shift sequence for (0,3) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 9) for all n >= 15. •

[A048337] • 0,1,2,3,4,5,6,7,8,9,10,11,12,14,28,42,56,70,84,98,112,126,140,154,168 ⋆ a(n) in base 13 is a repdigit. • a(n) = 14 * a(n - 12) - 13 * a(n - 24) for n > 23. • a(n) = (n - 12 * floor((n - 1) / 12)) * (13 ^ floor((n + 11) / 12) - 1) / 12. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A246088] • 1,2,3,4,5,6,7,8,9,10,11,12,15,18,21,24,28,32,36,40,45,54,63,72,84 ⋆ Paradigm shift sequence for (2,2) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 4 * a(n - 10) for all n >= 32. •

[A193457] • 1,2,3,4,5,6,7,8,9,10,11,12,16,20,25,30,36,42,49,56,64,72,81,100,125 ⋆ Paradigm shift sequence with procedure length p=5. • a(n) = •

[A183224] • 2,3,4,5,6,7,8,9,10,11,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27 ⋆ Complement of the 12-gonal numbers. • a(n)=n + Floor[1 / 2 + (n / 5 + 1 / 5) ^ (1 / 2)]. •

[A059389] • 2,3,4,5,6,7,8,9,10,11,13,14,15,16,18,21,22,23,24,26,29,34,35,36,37 ⋆ Sums of two nonzero Fibonacci numbers. • a(1) = 2 and for n >= 2 a(n) = F _ (trinv(n - 2) + 2) + F _ (n - ((trinv(n - 2) * (trinv(n - 2) - 1)) / 2)) where F _ n is the n - th Fibonacci number, F _ 1 = 1 F _ 2 = 1 F _ 3 = 2 ... and the definition of trinv(n) is in A002262. - Noam Katz (noamkj(AT)hotmail.com), Feb 04 2001 •

[A008729] • 1,2,3,4,5,6,7,8,9,10,11,13,15,17,19,21,23,25,27,29,31,33,36,39,42 ⋆ Molien series for 3-dimensional group [2,n] = *22n. • a(n) = sum(floor(j / 11), { j,0,n + 11 }), a(n - 11) = (1 / 2) * floor(n / 11) * (2n - 9 - 11 * floor(n / 11)). [_ Mitch Harris _ , Sep 08 2008] • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 11) - 2 * a(n - 12) + a(n - 13) for n > 12. •

[A143290] • 0,0,0,0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,9,10,11,13,17 ⋆ Number of binary words of length n containing at least one subword 10^{10}1 and no subwords 10^{i}1 with i<10. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 11) - a(n - 13) - a(n - 23). - _ Vincenzo Librandi _ , Jun 05 2013 •

[A048336] • 0,1,2,3,4,5,6,7,8,9,10,11,13,26,39,52,65,78,91,104,117,130,143,157,314 ⋆ a(n) in base 12 is a repdigit. • a(n) = 13 * a(n - 11) - 12 * a(n - 22) for n > 21. • a(n) = (n - 11 * floor((n - 1) / 11)) * (12 ^ floor((n + 10) / 11) - 1) / 11. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A114801] • 1,2,3,4,5,6,7,8,9,10,11,20,22,30,33,40,44,50,55,60,66,70,77,80,88 ⋆ 2-concatenation-free sequence starting (1,2). • a(0) = 1, a(1) = 2, for n>2: a(n) = least k > a(n - 1) such that k is not an element of { Concatenate(a(i), a(j)) } for any distinct a(i) <= a(n - 1) and a(j) <= a(n - 1). •

[A064222] • 0,1,2,3,4,5,6,7,8,9,10,11,21,22,32,33,43,44,54,55,65,66,76,77,87 ⋆ a(0) = 0; a(n) = DecimalDigitsSortedDecreasing(a(n - 1) + 1) for n > 0. • a(n + 1) = (d + 0 ^ d) * 10 ^ floor(Log10(a(n) + 1)) + (1 - 0 ^ d) * floor(a(n) / 10), where d = (a(n) + 1) mod 10. - _ Reinhard Zumkeller _ , Oct 31 2007 •

[A132030] • 1,2,3,4,5,6,7,8,9,10,11,24,26,28,30,32,34,54,57,60,63,66,69,96,100 ⋆ a(n) = Product_{k=0..floor(log_6(n))} floor(n/6^k), n>=1. • a(k * 6 ^ m) = k ^ (m + 1) * 6 ^ (m(m + 1) / 2), for 0<k<6. • a(n) > c * b(n), where c = 0.45071262522603913... (see constant A132022). •

[A288327] • 1,1,2,3,4,5,6,7,8,9,10,11,24,39,56,75,96,119,144,171,200,231,528,897,1344 ⋆ Decuple factorial, 10-factorial, n!10, n!!!!!!!!!!. • a(n)=1 for n<1 otherwise a(n) = n * a(n - 10). •

[A183223] • 2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27 ⋆ Complement of the 11-gonal numbers. • a(n)=n + Floor[1 / 2 + (2n / 9 + 2 / 9) ^ (1 / 2)]. •

[A160542] • 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21,23,24,25,26,27 ⋆ Not divisible by 11 • a(n) = a(n - 10) + 11, n>10. - _ R. J. Mathar _ , May 20 2009 •

[A004775] • 0,1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,20,21,22,23,24,25,26 ⋆ Numbers n such that the binary expansion of n does not end 011. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>12; a(n) = a(n - 7) + 8 for n>11. • a(n) = (56 * n - 105 + (n mod 7) + ((n + 1) mod 7) - 6 * ((n + 2) mod 7) + ((n + 3) mod 7) + ((n + 4) mod 7) + ((n + 5) mod 7) + ((n + 6) mod 7)) / 49 for n>4. (End) • a(1) = 0, a(2) = 1, a(3) = 2, a(4) = 3, a(7 * n + k + 4) = 8 * n + k + 3, n >= 0, 1 <= k < 8. - _ Yosu Yurramendi _ , Aug 09 2016 •

[A154314] • 0,1,2,3,4,5,6,7,8,9,10,12,13,14,16,17,18,20,22,23,24,25,26,27,28 ⋆ Numbers with not more than two distinct digits in ternary representation. • a(n) >> n ^ 1.58..., where the exponent is log(3) / log(2). - _ Charles R Greathouse IV _ , Mar 17 2014 •

[A011875] • 0,0,0,0,0,0,1,1,2,3,4,5,6,7,8,9,10,12,13,15,17,19,21,23,25 ⋆ Floor(n*(n-1)/22). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 11) - 2 * a(n - 12) + a(n - 13). G.f.: x ^ 6 * (x ^ 2 - x + 1) / ((1 - x) ^ 3 * (1 + x ^ 10 + x ^ 9 + x ^ 8 + x ^ 7 + x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x)). [_ R. J. Mathar _ , Apr 15 2010] •

[A057890] • 0,1,2,3,4,5,6,7,8,9,10,12,14,15,16,17,18,20,21,24,27,28,30,31,32 ⋆ In base 2, either a palindrome or becomes a palindrome if trailing 0's are omitted. • a(7 * 2 ^ n - 4 * n - 4) = 4 ^ n + 1, a(10 * 2 ^ n - 4 * n - 6) = 2 * 4 ^ n + 1. - _ Gheorghe Coserea _ , Apr 05 2017 •

[A080672] • 2,3,4,5,6,7,8,9,10,12,14,15,16,18,20,21,22,24,25,26,27,28,30,32,33 ⋆ Numbers having divisors 2 or 3 or 5 or 7. • a(n) = a(n - 162). - _ Charles R Greathouse IV _ , Sep 14 2015 • a(n) = 35n / 27 + O(1). - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A131242] • 0,0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,9,10,12,14,16,18,20 ⋆ Partial sums of A059995: a(n) = sum_{k=0..n} floor(k/10). • a(n) = (1 / 2) * floor(n / 10) * (2n - 8 - 10 * floor(n / 10)). •

[A102685] • 0,1,2,3,4,5,6,7,8,9,10,12,14,16,18,20,22,24,26,28,29,31,33,35,37 ⋆ Partial sums of A055640. • a(n) = (1 / 2) * sum _{ j=1..m + 1 } (floor((n / 10 ^ j) + 0.9) * (2n + 2 + (0.8 - floor((n / 10 ^ j) + 0.9)) * 10 ^ j) - floor(n / 10 ^ j) * (2n + 2 - (floor(n / 10 ^ j) + 1) * 10 ^ j)), where m = floor(log _ 10 (n)). • a(10 ^ m - 1) = 9 * m * 10 ^ (m - 1). (This is the total number of non zero digits occurring in all the numbers with <= m digits.) •

[A088235] • 0,1,2,3,4,5,6,7,8,9,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38 ⋆ Total number of digits (in base 10) in all preceding terms in the sequence. • a(1) = 1; a(n + 1) = a(n) + floor(Log[10, a(n)]) + 1 •

[A064223] • 1,2,3,4,5,6,7,8,9,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40 ⋆ a(1) = 1; a(n + 1) = a(n) + number of decimal digits of a(n) for n > 0. • a(1) = 1; a(n + 1) = a(n) + ceil(log10(a(n) + 1)) for n > 0. - corrected by _ Harry J. Smith _ , Sep 10 2009 •

[A008728] • 1,2,3,4,5,6,7,8,9,10,12,14,16,18,20,22,24,26,28,30,33,36,39,42,45 ⋆ Molien series for 3-dimensional group [2,n] = *22n. • a(n) = sum(floor(j / 10), { j,0,n + 10 }), a(n - 10) = (1 / 2)floor(n / 10) * (2n - 8 - 10 * floor(n / 10)). [_ Mitch Harris _ , Sep 08 2008] •

[A083292] • 0,1,2,3,4,5,6,7,8,9,10,12,14,16,18,20,22,24,26,28,40,43,46,49,52 ⋆ a(n) = n*floor(n/10) + (n mod 10). • a(n)= + a(n - 1) + 2 * a(n - 10) - 2 * a(n - 11) - a(n - 20) + a(n - 21). - R. J. Mathar, Feb 20 2011 •

[A060472] • 1,2,3,4,5,6,7,8,9,10,12,14,16,18,20,23,25,27,29,31,36,38,40,42,44 ⋆ Smallest positive a(n) such that the number of solutions to a(n)=a(j)+a(k), j<k<n is four or less. • a(n) = a(n - 1) + a(n - 18) - a(n - 19) for n > 40. •

[A246077] • 1,2,3,4,5,6,7,8,9,10,12,14,16,18,21,24,28,32,36,42,48,56,64,72,84 ⋆ Paradigm shift sequence for (-1,-3) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 2 * a(n - 5) for all n >= 16. •

[A246084] • 1,2,3,4,5,6,7,8,9,10,12,15,18,21,24,28,32,36,45,54,63,72,84,96,112 ⋆ Paradigm shift sequence for (1,2) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 7) for all n >= 26. •

[A193456] • 1,2,3,4,5,6,7,8,9,10,12,16,20,25,30,36,42,49,56,64,80,100,125,150,180 ⋆ Paradigm shift sequence with procedure length p=4. • a(n) = •

[A143289] • 0,0,0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,9,10,12,16,22,30 ⋆ Number of binary words of length n containing at least one subword 10^{9}1 and no subwords 10^{i}1 with i<9. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 10) - a(n - 12) - a(n - 21). - _ Vincenzo Librandi _ , Jun 05 2013 •

[A064807] • 1,2,3,4,5,6,7,8,9,10,12,18,19,20,21,24,27,28,30,36,37,38,39,40,42 ⋆ Numbers which are divisible by their digital root (A010888). • a(n) = a(n - 1321) + 2520. - _ Charles R Greathouse IV _ , Dec 26 2013 •

[A033075] • 1,2,3,4,5,6,7,8,9,10,12,21,23,32,34,43,45,54,56,65,67,76,78,87,89 ⋆ Positive numbers n such that all pairs of consecutive decimal digits differ by 1. • a(n) >> n ^ 3.53267..., where the exponent is log 10 / log k and k is the largest root of x ^ 5 - x ^ 4 - 4x ^ 3 + 3x ^ 2 + 3x - 1. - _ Charles R Greathouse IV _ , Mar 11 2014 •

[A048335] • 0,1,2,3,4,5,6,7,8,9,10,12,24,36,48,60,72,84,96,108,120,133,266,399,532 ⋆ a(n) in base 11 is a repdigit. • a(n) = 12 * a(n - 10) - 11 * a(n - 20) for n > 19. • a(n) = (n - 10 * floor((n - 1) / 10)) * (11 ^ floor((n + 9) / 10) - 1) / 10. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A008817] • 1,2,3,4,5,6,7,8,9,10,13,16,19,22,25,28,31,34,37,40,45,50,55,60,65 ⋆ Expansion of (1+x^10)/(1-x)^2/(1-x^10). • a(0)=1, a(1)=2, a(2)=3, a(3)=4, a(4)=5, a(5)=6, a(6)=7, a(7)=8, a(8)=9, a(9)=10, a(10)=13, a(11)=16, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 10) - 2 * a(n - 11) + a(n - 12). - _ Harvey P. Dale _ , Jul 31 2014 •

[A081385] • 1,2,3,4,5,6,7,8,9,10,16,17,18,19,20,26,27,28,29,30,36,37,38,39,40 ⋆ Incorrect version of A006254 (or A111333). • a(n) = [p(n) / 2 + 1 / 2]. •

[A037124] • 1,2,3,4,5,6,7,8,9,10,20,30,40,50,60,70,80,90,100,200,300,400,500,600,700 ⋆ Numbers that contain only one nonzero digit. • a(n) = ((n mod 9) + 1) * 10 ^ floor(n / 9). E.g., a(39) = ((39 mod 9) + 1) * 10 ^ floor(39 / 9) = (3 + 1) * 10 ^ 4 = 40000. - _ Carl R. White _ , Jan 08 2004 • a(n + 1) = a(n) + a(n - n mod 9). - _ Reinhard Zumkeller _ , May 26 2008 • a(n) = (10 ^ floor((n - 1) / 9)) * (n - 9 * floor((n - 1) / 9)). - _ José de Jesús Camacho Medina _ , Nov 10 2014 • a(n) = 10 * a(n - 9). •

[A134817] • 1,2,3,4,5,6,7,8,9,10,21,43,87,175,526,1579,6317,25269,126346,758077,4548463,31839242,254713937,2292425434,22924254341 ⋆ a(1)=1; a(n)=a(n-1)*(number of decimal digits of a(n-1))+1. • a(n) = a(n - 1) * floor(log(a(n - 1)) + 1) + 1. •

[A132271] • 1,2,3,4,5,6,7,8,9,10,22,24,26,28,30,32,34,36,38,40,63,66,69,72,75 ⋆ Product{k>=0, 1+floor(n/10^k)}. • a(k * p ^ m - j)=(k * p ^ m - j + 1) * k ^ m * p ^ (m(m - 1) / 2), for 0<k<p, 0<j<p, m>=1, a(p ^ m)=p ^ (m(m + 1) / 2) * product { 0<=k<=m, 1 + 1 / p ^ k } , m>=1. •

[A114806] • 1,1,2,3,4,5,6,7,8,9,10,22,36,52,70,90,112,136,162,190,440,756,1144,1610,2160 ⋆ Nonuple factorial, 9-factorial, n!9, n!!!!!!!!!. • a(0) = 1, a(n) = n for 1<=n<=9, a(n) = n * a(n - 9) for n>=10. •

[A055649] • 0,1,2,3,4,5,6,7,8,9,10,100,101,102,103,104,105,106,107,108,109,110,200,201,202 ⋆ Integers in base 11 with each base 11 digit represented by 2 decimal digits. • a(n) = a(n - 1) + a(n - 11) - a(n - 12). (End) •

[A057717] • 0,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26 ⋆ The non-powers of 10. • a(n) = ceiling(log _ 10(a(n) + 1)) + n. •

[A183222] • 2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,28 ⋆ Complement of the 10-gonal numbers. • a(n)=n - 1 + Ceiling[1 / 2 + ((n + 1) / 4) ^ (1 / 2)]. •

[A065039] • 0,1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,20,22,23,24,25,26 ⋆ If n in base 10 is d_1 d_2 ... d_k then a(n) = d_1 + d_1d_2 + d_1d_2d_3 + ... + d_1...d_k. • a(10 * n)=10 * n + a(n); a(n * 10 ^ m)=10 * n * (10 ^ m - 1) / 9 + a(n). • a(k * 10 ^ m)=k * (10 ^ (m + 1) - 1) / 2, 0<=k<10, m>=0. • a(n)=10 / 9 * n + O(log(n)), a(n + 1) - a(n)=O(log(n)); this follows from the inequalities below. • a(n)<=(10 * n - 1) / 9; equality holds for powers of 10. • a(n)>=(10 * n - 9) / 9 - floor(log _ 10(n)); equality holds for n=10 ^ m - 1, m>0. • a(n) = sum(d _ (k) * RU(k + 1),k=0..nod(n) - 1), with the notation nod(n)and d _ k given in a comment above, and RU(k)is the repunit (10 ^ k - 1) / 9 (k times 1). - _ Wolfdieter Lang _ , May 04 2010 •

[A052382] • 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,21,22,23,24,25,26,27 ⋆ Numbers without 0 as a digit, a.k.a. zeroless numbers. • a(n + 1) = f(a(n)) with f(x) = 1 + if x mod 10 < 9 then x else 10 * f([x / 10]). - _ Reinhard Zumkeller _ , Nov 15 2009 • a(n) = Sum _{ j=0..m - 1 } (1 + b(j) mod 9) * 10 ^ j, where m = floor(log _ 9(8 * n + 1)), b(j) = floor((8 * n + 1 - 9 ^ m) / (8 * 9 ^ j)). • a(k * (9 ^ n - 1) / 8) = k * (10 ^ n - 1) / 9, k=1..9. • a((17 * 9 ^ n - 9) / 8) = 2 * 10 ^ n - 1. • a((9 ^ n - 1) / 8 - 1) = 10 ^ (n - 1) - 1, n > 1. • a(n) <= (10 ^ log _ 9(8 * n + 1) - 1) / 9, equality holds for n=(9 ^ k - 1) / 8, k >0. •

[A009994] • 0,1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,22,23,24,25,26,27 ⋆ Numbers with digits in nondecreasing order. • a(n) >> exp(n ^ (1 / 10)). - _ Charles R Greathouse IV _ , Mar 15 2014 •

[A167619] • 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,111,112,113,114,115,116,117 ⋆ Numbers n which have nonzero digital product equal to the last digits of n • a(n) < 10 ^ n, since 11...1 is always a member of this sequence; for n > 18, a(n) > n ^ 1.0479 because 0s are not allowed in the decimal expansion. •

[A074779] • 1,2,3,4,5,6,7,8,9,11,12,13,15,16,17,18,19,20,21,22,23,24,25,26,27 ⋆ 2^n+1 and F(n) are relatively prime, where F(n) denotes the n-th Fibonacci number. • a(n) seems to be asymptotic to c * n with c=1.207... •

[A008727] • 1,2,3,4,5,6,7,8,9,11,13,15,17,19,21,23,25,27,30,33,36,39,42,45,48 ⋆ Molien series for 3-dimensional group [2,n] = *22n. • a(n) = sum _{ j=0..n +

9 } floor(j / 9), a(n - 9) = (1 / 2) * floor(n / 9) * (2 * n - 7 - 9 * floor(n / 9)). - _ Mitch Harris _ , Sep 08 2008 •

[A279080] • 0,1,2,3,4,5,6,7,8,9,11,13,15,17,19,22,25,28,32,36,41,46,52,58,65 ⋆ Maximum starting value of X such that repeated replacement of X with X-ceiling(X/10) requires n steps to reach 0. • a(n) = floor(a(n - 1) * 10 / 9) + 1 . •

[A175772] • 1,1,1,1,1,1,1,1,1,2,3,4,5,6,7,8,9,11,13,16,20,25,31,38,46 ⋆ G.f. 1/(1 - x - x^9 - x^17 + x^18). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=1, a(8)=1, a(9)=2, a(10)=3, a(11)=4, a(12)=5, a(13)=6, a(14)=7, a(15)=8, a(16)=9, a(17)=11, a(n)=a(n - 1) + a(n - 9) + a(n - 17) - a(n - 18). - _ Harvey P. Dale _ , Jul 13 2014 •

[A219955] • 1,2,3,4,5,6,7,8,9,11,14,17,18,22,24,26,30,33,34,36,38,42,46,48,50 ⋆ Numbers that cannot be represented as 2*p + 3*q, where p and q are prime. • a(n) < 1.5n + O(n / log n). - _ Charles R Greathouse IV _ , Dec 04 2012 •

[A061379] • 1,2,3,4,5,6,7,8,9,11,14,22,25,30,33,36,41,44,47,52,55,58,63,66,69 ⋆ Difference between n and its reversal is a perfect cube. • a(n) = k if mod (k ~ R(k)) = r ^ 3.where R(k) is the digit reversal of k (A004086). •

[A143288] • 0,0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,9,11,15,21,29,39,51 ⋆ Number of binary words of length n containing at least one subword 10^{8}1 and no subwords 10^{i}1 with i<8. • a(n) = 2a(n - 1) - a(n - 2) + a(n - 9) - a(n - 11) - a (n - 19). - _ Charles R Greathouse IV _ , Jun 04 2013 •

[A227858] • 1,2,3,4,5,6,7,8,9,11,22,33,44,55,66,77,88,99,101,111,121,131,141,151,161 ⋆ Numbers which start and end with the same digit in decimal. • a(n) = 10n + O(1). - _ Charles R Greathouse IV _ , Nov 01 2013 •

[A010785] • 0,1,2,3,4,5,6,7,8,9,11,22,33,44,55,66,77,88,99,111,222,333,444,555,666 ⋆ Repdigit numbers, or numbers with repeated digits. • a(0)=0, a(1)=1 , a(2)=2, a(3)=3, a(4)=4, a(5)=5, a(6)=6, a(7)=7, a(8)=8, a(9)=9, a(10)=11, a(11)=22, a(12)=33, a(13)=44, a(14)=55, a(15)=66, a(16)=77, a(17)=88, a(n)=11 * a(n - 9) - 10 * a(n - 18). - _ Harvey P. Dale _ , Dec 28 2011 • a(n) = (n - 9 * floor((n - 1) / 9)) * (10 ^ floor((n + 8) / 9) - 1) / 9. - _ José de Jesús Camacho Medina _ , Nov 06 2014 •

[A083115] • 1,2,3,4,5,6,7,8,9,11,22,33,111,121,131,141,151,161,171,191,212,222,313,1111,1221 ⋆ Palindromes in A083114. • a(n) >> 3 ^ n. - _ Charles R Greathouse IV _ , May 15 2013 •

[A174234] • 1,2,3,4,5,6,7,8,9,12,12,12,13,24,24,30,30,40,40,42,42,60,60,70,70 ⋆ A variant of Landau's function (A000793) with a restriction on the length of cycles. a(n) is the largest value of lcm(p_1, ..., p_k), with p_1 + ... + p_k <= n, such that there exist integer offsets f_1, ..., f_k with 0 <= f_i < p_i, for which f_i and f_j are different modulo gcd(p_i, p_j). • a(n)=e ^{ Theta(sqrt[3] { n (log(n)) ^ 2 }) } . •

[A193455] • 1,2,3,4,5,6,7,8,9,12,16,20,25,30,36,42,49,64,80,100,125,150,180,216,256 ⋆ Paradigm shift sequence with procedure length p=3. • a(n) = • a(25) = 256 [C = 4 below] • a(1:24) = m ^ (C - R) * (m + 1) ^ R •

[A190876] • 1,2,3,4,5,6,7,8,9,19,29,39,49,59,69,79,89,99,109,119,129,139,149,159,169 ⋆ Numbers 1 through 8 together with numbers congruent to 9 mod 10. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jul 12 2012 •

[A051885] • 0,1,2,3,4,5,6,7,8,9,19,29,39,49,59,69,79,89,99,199,299,399,499,599,699 ⋆ Smallest number whose sum of digits is n. • a(n) = ((n mod 9) + 1) * 10 ^ floor(n / 9) - 1 = a(n - 1) + 10 ^ floor((n - 1) / 9). - _ Henry Bottomley _ , Apr 24 2001 •

[A102491] • 0,1,2,3,4,5,6,7,8,9,20,21,22,23,24,25,26,27,28,29,40,41,42,43,44 ⋆ Numbers whose base-20 representation can be written with decimal digits. • a (n + 1) = n + 1 / 2 * Sum _{ k >= 1 } 20 ^ k * floor(n / 10 ^ k). Cf. A037454, A037462 and A007091. • a(1) = 0; a(n + 1) = 20 * a(n / 10 + 1) if n == 0 (mod 10) else a(n + 1) = a(n) + 1. (End) •

[A052383] • 0,2,3,4,5,6,7,8,9,20,22,23,24,25,26,27,28,29,30,32,33,34,35,36,37 ⋆ Numbers without 1 as a digit. • a(1) = 1, a(n + 1) = f(a(n) + 1,a(n) + 1) where f(x,y) = if x<10 and x<>1 then y else if x mod 10 = 1 then f(y + 1,y + 1) else f(floor(x / 10),y). - _ Reinhard Zumkeller _ , Mar 02 2008 • a(n) = replace all nonzero digits d by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A132029] • 1,2,3,4,5,6,7,8,9,20,22,24,26,28,45,48,51,54,57,80,84,88,92,96,125 ⋆ Product{0<=k<=floor(log_5(n)), floor(n/5^k)}, n>=1. • a(k * 5 ^ m)=k ^ (m + 1) * 5 ^ (m(m + 1) / 2), for 0<k<5. • a(n)>c * b(n), where c=0.438796837203638531... (see constant A132021). •

[A276822] • 1,2,3,4,5,6,7,8,9,20,30,31,40,41,42,50,51,52,53,60,61,62,63,64,70 ⋆ Complement of A063662. • a(n + 74) = 11 a(n + 37) - 10 a(n) for n >= 10. - _ Robert Israel _ , Mar 30 2017 •

[A114800] • 1,1,2,3,4,5,6,7,8,9,20,33,48,65,84,105,128,153,360,627,960,1365,1848,2415,3072 ⋆ Octuple factorial, 8-factorial, n!8, n!!!!!!!!. • a(n) = 1 for n<1, else a(n) = n * a(n - 8). •

[A174141] • 0,1,2,3,4,5,6,7,8,9,25,26,27,28,29,30,31,32,33,34,50,51,52,53,54 ⋆ Numbers congruent to k mod 25, where 0 <= k <= 9. • a(n + 10) = a(n) + 25 for n >= 1. • a(n)= + a(n - 1) + a(n - 10) - a(n - 11). G.f. x ^ 2 * (1 + x + x ^ 2 + x ^ 3 + x ^ 4 + x ^ 5 + x ^ 6 + x ^ 7 + x ^ 8 + 16 * x ^ 9) / ((1 + x) * (1 + x + x ^ 2 + x ^ 3 + x ^ 4) * (x ^ 4 - x ^ 3 + x ^ 2 - x + 1) * (x - 1) ^ 2). - R. J. Mathar, Oct 08 2011 •

[A069510] • 1,2,3,4,5,6,7,8,9,55,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111 ⋆ a(1) = 1; a(n) = smallest palindrome of the form k*a(n-1) + 1. • a(n) = { 10 ^ (n - 8) - 1 }/ 9 for n >10. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 12. •

[A038178] • 0,1,2,3,4,5,6,7,8,9,81,512,2401 ⋆ n = (sum of digits of n)^(number of digits of n). • a(n) = (1 / 10) * (n - (n mod 10)) * (729 * n ^ 2 - 14879 * n + 75971) + (n mod 10). - _ Rolf Pleisch _ , Feb 06 2008 •

[A135480] • 0,1,2,3,4,5,6,7,8,9,81,512,2401,5748,10553,16816,24537,33716,44353,56448,139982,170003,202940,238793,277562 ⋆ Generator for the finite sequence A038178. • a(n) = 1 / 10 * (n - (n mod 10)) * (729 * n ^ 2 - 14879 * n + 75971) + (n mod 10). •

[A280658] • 0,1,2,3,4,5,6,7,8,9,91,92,93,94,95,96,97,98,99,181,182,183,184,185,186 ⋆ Numbers ending with their digital root in decimal representation. • a(n) = 10 * n - 19 - 9 * ((n - 2) mod 9) for n > 1. •

[A240237] • 0,1,2,3,4,5,6,7,8,9,101,110,121,132,143,154,165,176,187,198,202,211,220,231,242 ⋆ Concatenated digits of pyramidalized numbers: Write the decimal digits of n (a nonnegative integer) and take successive absolute differences ("pyramidalization"), then concatenate, from left to right, all the digits in each level of the pyramid, and finally concatenate those results for all levels, from the base up. The result is a(n). • a(n) = n for 0 <= n <= 9; • a(n) = 10 * n + |floor(n / 10) - (n mod 10)| for 10 <= n <= 99. •

[A183221] • 2,3,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23,25,26,27,28 ⋆ Complement of the 9-gonal numbers. • a(n)=n + Floor[1 / 2 + (2n / 7) ^ (1 / 2)]. •

[A007095] • 0,1,2,3,4,5,6,7,8,10,11,12,13,14,15,16,17,18,20,21,22,23,24,25,26 ⋆ Numbers in base 9. • a(0)=0 a(n)=10 * a(n / 9) if n==0 (mod 9) a(n)=a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 •

[A168183] • 1,2,3,4,5,6,7,8,10,11,12,13,14,15,16,17,19,20,21,22,23,24,25,26,28 ⋆ Numbers that are not multiples of 9. • a(n) = a(n - 1) + a(n - 8) - a(n - 9), n>9. • a(n) = n + floor((n - 1) / 8). (End) •

[A004774] • 0,1,2,3,4,5,6,7,8,10,11,12,13,14,15,16,18,19,20,21,22,23,24,26,27 ⋆ Numbers n whose binary expansion does not end in 001. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(1) = 0, a(2) = 1, a(7 * n + k + 2) = 8 * n + k + 1, n >= 0, 1 <= k < 8. - _ Yosu Yurramendi _ , Aug 09 2016 •

[A047594] • 0,2,3,4,5,6,7,8,10,11,12,13,14,15,16,18,19,20,21,22,23,24,26,27,28 ⋆ Numbers that are congruent to {0, 2, 3, 4, 5, 6, 7} mod 8. • a(n) = a(n - 7) + 8 for n>7. (End) • a(n) = n + floor((n - 2) / 7). - _ Wesley Ivan Hurt _ , Sep 11 2015 • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (56 * n - 35 + (n mod 7) + ((n + 1) mod 7) + ((n + 2) mod 7) + ((n + 3) mod 7) + ((n + 4) mod 7) - 6 * ((n + 5) mod 7) + ((n + 6) mod 7)) / 49. • a(7k) = 8k - 1, a(7k - 1) = 8k - 2, a(7k - 2) = 8k - 3, a(7k - 3) = 8k - 4, a(7k - 4) = 8k - 5, a(7k - 5) = 8k - 6, a(7k - 6) = 8k - 8. (End) •

[A121208] • 1,2,3,4,5,6,7,8,10,11,12,13,14,16,17,18,20,21,22,24,26,28,30,31,32 ⋆ Cyclotomic polynomials evaluated at prime number abscissae. • a(n) = Phi _ j(p), p in A000040, j=1,2,3,4... •

[A011871] • 0,0,0,0,0,1,1,2,3,4,5,6,7,8,10,11,13,15,17,19,21,23,25,28,30 ⋆ [n(n-1)/18]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 9) - 2 * a(n - 10) + a(n - 11). G.f.: x ^ 5 * (x ^ 2 - x + 1) / ((1 - x) ^ 3 * (1 + x + x ^ 2) * (x ^ 6 + x ^ 3 + 1)). - _ R. J. Mathar _ , Apr 15 2010 • a(n) = floor((1 / 3) * sum _{ i =1..n } floor(i / 3)). - _ Wesley Ivan Hurt _ , Jun 06 2014 •

[A115845] • 0,1,2,3,4,5,6,7,8,10,12,14,16,17,20,21,24,28,32,33,34,35,40,42,48 ⋆ Numbers n such that there is no bit position where the binary expansions of n and 8n are both 1. • a(n) / n ^ k is bounded (but does not tend to a limit), where k = 1.44... = A104287. - _ Charles R Greathouse IV _ , Sep 23 2012 •

[A008726] • 1,2,3,4,5,6,7,8,10,12,14,16,18,20,22,24,27,30,33,36,39,42,45,48,52 ⋆ Molien series 1/((1-x)^2*(1-x^8)) for 3-dimensional group [2,n] = *22n. • a(n) = sum(floor(j / 8), { j,0,n + 8 }), a(n - 8) = (1 / 2)floor(n / 8) * (2n - 6 - 8 * floor(n / 8)). - _ Mitch Harris _ , Sep 08 2008 • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 8) - 2 * a(n - 9) + a(n - 10). - _ R. J. Mathar _ , Apr 20 2010 •

[A060471] • 1,2,3,4,5,6,7,8,10,12,14,16,19,21,23,25,30,32,34,36,41,43,45,47,52 ⋆ Smallest positive a(n) such that number of solutions to a(n)=a(j)+a(k) j<k<n is three or less. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 17. •

[A279079] • 0,1,2,3,4,5,6,7,8,10,12,14,16,19,22,25,29,33,38,43,49,56,64,73,83 ⋆ Maximum starting value of X such that repeated replacement of X with X-ceiling(X/9) requires n steps to reach 0. • a(n) = floor(a(n - 1) * 9 / 8) + 1. •

[A029750] • 1,2,3,4,5,6,7,8,10,12,14,16,20,24,28,32,40,48,56,64,80,96,112,128,160 ⋆ List of numbers of the form 2^n times 1, 3, 5 or 7. • a(n) = 2a(n - 4) for n > 7. - _ Charles R Greathouse IV _ , Feb 18 2013 •

[A246080] • 1,2,3,4,5,6,7,8,10,12,15,18,21,24,30,36,45,54,63,72,90,108,135,162,189 ⋆ Paradigm shift sequence for (0,2) production scheme with replacement. • a(n) = (qd + r) * d ^ (C - R) * (d + 1) ^ R, where r = (n - Cp) mod q, Q = floor((R - Cp) / q), R = Q mod (C + 1), and d = floor (Q / (C + 1)). • a(n) = 3 * a(n - 6) for all n >= 10. •

[A173925] • 1,1,1,1,1,1,1,1,2,3,4,5,6,7,8,10,12,15,19,24,30,37,45,56,69 ⋆ Expansion of:1/(1 - x - x^8 - x^15 + x^16) • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=1, a(8)=2, a(9)=3, a(10)=4, a(11)=5, a(12)=6, a(13)=7, a(14)=8, a(15)=10, a(n)= a(n - 1) + a(n - 8) + a(n - 15) - a(n - 16) [From Harvey P. Dale, Apr 02 2012] •

[A143287] • 0,0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,8,10,14,20,28,38,50,64,80 ⋆ Number of binary words of length n containing at least one subword 10^{7}1 and no subwords 10^{i}1 with i<7. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 8) - a(n - 10) - a(n - 17). - _ Vincenzo Librandi _ , Jun 05 2013 •

[A048334] • 0,1,2,3,4,5,6,7,8,10,20,30,40,50,60,70,80,91,182,273,364,455,546,637,728 ⋆ a(n) in base 9 is a repdigit. • a(n) = 10 * a(n - 8) - 9 * a(n - 16). - _ R. J. Mathar _ , Mar 14 2015 •

[A114799] • 1,1,2,3,4,5,6,7,8,18,30,44,60,78,98,120,288,510,792,1140,1560,2058,2640,6624,12240 ⋆ Septuple factorial, 7-factorial, n!7, n!!!!!!!, a(n) = n*a(n-7) if n > 1, else 1. • a(n) = 1 for n <= 1, else a(n) = n * a(n - 7). •

[A183220] • 2,3,4,5,6,7,9,10,11,12,13,14,15,16,17,18,19,20,22,23,24,25,26,27,28 ★ Complement of the octagonal numbers. • a(n)=n + Floor[1 / 2 + (n / 3) ^ (1 / 2)] •

[A052421] • 0,1,2,3,4,5,6,7,9,10,11,12,13,14,15,16,17,19,20,21,22,23,24,25,26 ★ Numbers without 8 as a digit. • a(n) = replace digits d > 7 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A248375] • 0,1,2,3,4,5,6,7,9,10,11,12,13,14,15,16,18,19,20,21,22,23,24,25,27 ★ a(n) = floor(9*n/8). • a(n) = n + floor(n / 8) = a(n - 1) + a(n - 8) - a(n - 9). [_ Bruno Berselli _ , Oct 06 2014] •

[A182768] • 1,2,3,4,5,6,7,9,10,11,12,13,14,15,17,18,19,20,21,22,23,24,26,27,28 ★ Beatty sequence for 1+e^(-2). • a(n)=floor(n * (1 + e ^ (- 2))). •

[A187320] • 0,1,2,3,4,5,6,7,9,10,11,12,13,14,15,17,18,19,20,21,22,23,25,26,27 ★ Floor((Pi-2)n); complement of A186544. • a(n)=floor((pi - 2)n). •

[A047592] • 1,2,3,4,5,6,7,9,10,11,12,13,14,15,17,18,19,20,21,22,23,25,26,27,28 ★ Numbers that are congruent to {1, 2, 3, 4, 5, 6, 7} mod 8. • a(n) = n - 1 + floor((n + 6) / 7). - _ Benoit Cloitre _ , Jul 11 2009 • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (56 * n - 28 + (n mod 7) + ((n + 1) mod 7) + ((n + 2) mod 7) + ((n + 3) mod 7) + ((n + 4) mod 7) + ((n + 5) mod 7) - 6 * ((n + 6) mod 7)) / 49. • a(7k) = 8k - 1, a(7k - 1) = 8k - 2, a(7k - 2) = 8k - 3, a(7k - 3) = 8k - 4, a(7k - 4) = 8k - 5, a(7k - 5) = 8k - 6, a(7k - 6) = 8k - 7 . (End) •

[A047306] • 0,2,3,4,5,6,7,9,10,11,12,13,14,16,17,18,19,20,21,23,24,25,26,27,28 ★ Numbers that are congruent to {0, 2, 3, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = n + floor((n - 2) / 6). (End) • a(n) = (42 * n - 27 + 3 * cos(n * Pi) - 12 * cos(n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 36. • a(6k) = 7k - 1, a(6k - 1) = 7k - 2, a(6k - 2) = 7k - 3, a(6k - 3) = 7k - 4, a(6k - 4) = 7k - 5, a(6k - 5) = 7k - 7. (End) •

[A271108] • 0,2,3,4,5,6,7,9,10,11,14,16,18,20,22,25,28,31,34,37,41,44,47,51,54 ★ a(n) is the number of syllables pronounced in reading the sequence up to a(n-1) in American English. • a(0) = 0, a(n) = a(n - 1) + S(n), where S(n) is the number of syllables in n. •

[A063949] • 0,1,2,3,4,5,6,7,9,10,12,13,14,15,17,18,20,21,22,25,26,28,30,33,34 ★ Every number is the sum of 4 squares; these are the numbers n for which the first square can be taken to be any positive square < n. • a(n) = 4 * (n - 110) + 2 for all n > 1054. - _ M. F. Hasler _ , Jan 26 2018 •

[A073518] • 0,1,1,2,3,4,5,6,7,9,10,12,13,14,15,17,19,19,21,23,23,25,26,28,31 ★ Cotangent of Pi/prime(n), rounded to nearest integer. • a(n) = round(cotan(Pi / prime(n)) or a(n) = round(1 / tan(Pi / prime(n)). •

[A211543] • 0,0,0,0,1,1,1,2,3,4,5,6,7,9,11,12,14,16,18,21,23,25,28,31,34 ★ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w=3x+5y. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 6) - a(n - 8) + a(n - 9). •

[A031876] • 0,1,2,3,4,5,6,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41 ★ a(n) = Sum_{k=0..n} floor(k^(1/3)). • a(0) = 0, a(1) = 1, a(n) = 2 * a(n - 1) - a(n - 2) if n not a perfect cube, else a(n) = 2 * a(n - 1) - a(n - 2) + 1 if n is a perfect cube. • a(n) = - 1 / 4 * floor(n ^ (1 / 3)) * (floor(n ^ (1 / 3)) ^ 3 + 2 * floor(n ^ (1 / 3)) ^ 2 + floor(n ^ (1 / 3)) - 4 * (n + 1)). - _ John M. Campbell _ , Mar 22 2016 • a(n) = (3 / 4) * n ^ (4 / 3) + O(n). - _ Charles R Greathouse IV _ , Aug 23 2017 •

[A174738] • 0,0,0,0,0,0,0,1,2,3,4,5,6,7,9,11,13,15,17,19,21,24,27,30,33 ★ Partial sums of floor(n/7). • a(n) = round(n * (n - 5) / 14). • a(n) = floor((n - 2) * (n - 3) / 14). • a(n) = ceil((n + 1) * (n - 6) / 14). • a(n) = a(n - 7) + n - 6, n >6. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). - _ R. J. Mathar _ , Nov 30 2010 •

[A011867] • 0,0,0,0,0,1,2,3,4,5,6,7,9,11,13,15,17,19,21,24,27,30,33,36,39 ★ a(n) = floor(n*(n-1)/14). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). •

[A008725] • 1,2,3,4,5,6,7,9,11,13,15,17,19,21,24,27,30,33,36,39,42,46,50,54,58 ★ Molien series for 3-dimensional group [2,n] = *22n. • a(n) = sum(floor(j / 7), { j,0,n + 7 }), a(n - 7) = (1 / 2)floor(n / 7) * (2n - 5 - 7 * floor(n / 7)). - _ Mitch Harris _ , Sep 08 2008 • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). - _ R. J. Mathar _ , Apr 20 2010 •

[A275673] • 1,2,3,4,5,6,7,9,11,13,15,17,19,22,25,28,31,34,37,41,45,49,53,57,61 ★ List of numbers that are in a spoke of a hexagonal spiral. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>8. •

[A279078] • 0,1,2,3,4,5,6,7,9,11,13,15,18,21,25,29,34,39,45,52,60,69,79,91,105 ★ Maximum starting value of X such that repeated replacement of X with X-ceiling(X/8) requires n steps to reach 0. • a(n) = floor(a(n - 1) * 8 / 7) + 1. •

[A193286] • 1,2,3,4,5,6,7,9,12,16,20,25,30,36,48,64,80,100,125,150,192,256,320,400,500 ★ a(n) = maximal number of a's that can be produced in a blank document with n "keystrokes". • a(n) = 4 * a(n - 6) for n >= 27. • a(n) = a(8;9;15;21;27) = 9; 12; 48; 192; 768 - corresponding to [C=2;2;3;4;5 below]. • a(n=1:27) = Q ^ (C - R) * (Q + 1) ^ R where C = floor((n + 2) / 6 [minimum value 1], R = n + 2 mod C, and Q = floor((n + 2) / c) - 2. • a(n>=28) = 4 ^ (C - R) * 5 ^ R, where C = floor(n + 2 / 6), R = (n + 2) mod 6. •

[A005708] • 1,1,1,1,1,1,2,3,4,5,6,7,9,12,16,21,27,34,43,55,71,92,119,153,196 ★ a(n) = a(n-1) + a(n-6), with a(i) = 1 for i = 0..5. • a(n) = term (1,1) in the 6 X 6 matrix [1,1,0,0,0,0; 0,0,1,0,0,0; 0,0,0,1,0,0; 0,0,0,0,1,0; 0,0,0,0,0,1]; 1,0,0,0,0,0] ^ n. - _ Alois P. Heinz _ , Jul 27 2008 •

[A143286] • 0,0,0,0,0,0,0,0,1,2,3,4,5,6,7,9,13,19,27,37,49,63,80,102,132 ★ Number of binary words of length n containing at least one subword 10^{6}1 and no subwords 10^{i}1 with i<6. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 7) - a(n - 9) - a(n - 15). - _ Vincenzo Librandi _ , Jun 05 2013 •

[A048333] • 0,1,2,3,4,5,6,7,9,18,27,36,45,54,63,73,146,219,292,365,438,511,585,1170,1755 ★ Numbers that are repdigits in base 8. • a(n) = 9 * a(n - 7) - 8 * a(n - 14) for n > 13. •

[A007094] • 0,1,2,3,4,5,6,7,10,11,12,13,14,15,16,17,20,21,22,23,24,25,26,27,30 ★ Numbers in base 8. • a(0) = 0; a(n) = 10 * a(n / 8) if n == 0 (mod 8); a(n) = a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 •

[A078779] • 1,2,3,4,5,6,7,10,11,12,13,14,15,17,19,20,21,22,23,26,28,29,30,31,33 ★ Union of S, 2S and 4S, where S = odd squarefree numbers (A056911). • a(n) = (Pi ^ 2 / 7) * n + O(sqrt(n)). - _ Vladimir Shevelev _ , Jun 08 2016 •

[A047593] • 2,3,4,5,6,7,10,11,12,13,14,15,18,19,20,21,22,23,26,27,28,29,30,31,34 ★ Numbers that are congruent to {2, 3, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 3 - 3 * cos(n * Pi) - 4 * sqrt(3) * cos((1 + 4 * n) * Pi / 6) - 12 * sin((1 - 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 4, a(6k - 4) = 8k - 5, a(6k - 5) = 8k - 6. (End) •

[A074946] • 2,3,4,5,6,7,10,11,12,13,14,16,17,18,19,22,23,24,26,27,29,30,31,34,36 ★ Positive integers n for which the sum of the prime-factorization exponents of n (bigomega(n) = A001222(n)) divides n. • a(n) seems to be asymptotic to c * n * log(log(n)) with 1.128 < c < 1.13. •

[A008814] • 1,2,3,4,5,6,7,10,13,16,19,22,25,28,33,38,43,48,53,58,63,70,77,84,91 ★ Expansion of (1+x^7)/(1-x)^2/(1-x^7). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). [_ R. H. Hardin _ , Nov 16 2011] •

[A275910] • 2,3,4,5,6,7,11,12,13,14,15,16,20,21,22,23,24,25,29,30,31,32,33,34,38 ★ Numbers not congruent to 0, 1 or 8 mod 9. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. •

[A132028] • 1,2,3,4,5,6,7,16,18,20,22,36,39,42,45,64,68,72,76,100,105,110,115,144,150 ★ Product{0<=k<=floor(log_4(n)), floor(n/4^k)}, n>=1. • a(k * 4 ^ m)=k ^ (m + 1) * 4 ^ (m(m + 1) / 2), for 0<k<4. • a(n)>c * b(n), where c= 0.4194224417951075977... (see constant A132020). •

[A085158] • 1,1,2,3,4,5,6,7,16,27,40,55,72,91,224,405,640,935,1296,1729,4480,8505,14080,21505,31104 ★ Sextuple factorials, 6-factorials, n!!!!!!, n!6. • a(n)=1 for n<1 otherwise a(n)=n * a(n - 6) •

[A052419] • 0,1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,18,19,20,21,22,23,24,25,26 ★ Numbers without 7 as a digit. • a(n) = replace digits d > 6 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A000378] • 0,1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27 ★ Sums of three squares: numbers of the form x^2 + y^2 + z^2. • a(n) = 6n / 5 + O(log n). - _ Charles R Greathouse IV _ , Mar 14 2014 •

[A059561] • 1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28 ★ Beatty sequence for log(Pi). • a(n) = floor(n * log(Pi)). - _ Michel Marcus _ , Jan 04 2015 •

[A047304] • 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,20,22,23,24,25,26,27,29 ★ Numbers not divisible by 7. • a(n)=n - 1 + floor((n + 5) / 6) [From _ Benoit Cloitre _ , Jul 11 2009] •

[A004765] • 0,1,2,3,4,5,6,8,9,10,11,12,13,16,17,18,19,20,21,22,23,24,25,26,27 ★ Numbers n such that binary expansion does not begin 111. • a(1) = 0, a(2) = 1, a(3) = 2, a(4) = 3, a(2 ^ (m + 1) + 2 ^ m + k + 2) = 2 ^ (m + 2) + k, m >= 0, 0 <= k < (2 ^ (m + 1) + 2 ^ m). - _ Yosu Yurramendi _ , Aug 08 2016 •

[A247063] • 1,2,3,4,5,6,8,9,10,11,12,13,16,17,18,19,20,21,22,24,25,26,27,28,29 ★ Dynamic Betting Game D(n,5,3). • a(n) = a(n - 1) + a(n - 13) - a(n - 14). - _ Colin Barker _ , Sep 11 2014 •

[A032798] • 1,2,3,4,5,6,8,9,10,11,12,14,15,16,17,18,19,21,22,23,24,25,27,28,29 ★ Numbers such that n(n+1)(n+2)...(n+12) / (n+(n+1)+(n+2)+...+(n+12)) is a multiple of n. • a(n) = a(n - 1) + a(n - 11) - a(n - 12) for n > 12. •

[A068398] • 1,1,2,3,4,5,6,8,9,10,11,13,14,16,17,19,20,22,23,25,27,28,30,32,33 ★ Number of digits in (2^n)*(n!). • a(n) = floor(log(n! * 2 ^ n) / log(10)) + 1 •

[A080671] • 2,3,4,5,6,8,9,10,12,14,15,16,18,20,21,22,24,25,26,27,28,30,32,33,34 ★ Numbers having divisors 2 or 3 or 5. • a(n + 22) = a(n) + 30. • a(n) = 30 * floor(n / 22) + floor(15 * f(n) / 11) + floor(f(n + 2) / 15) + floor(f(n - 3) / 20) + floor(f(n + 11) / 21), where f(n) = n mod 22. (end) •

[A066022] • 1,1,2,3,4,5,6,8,9,11,12,13,15,17,18,20,21,23,25,27,28,30,32,34,35 ★ Number of digits in n^n. • a(n) = floor(n * log(n) / log(10)) + 1. Not correct in PARI for n=100, n=1000, ... See my PARI program. •

[A184115] • 2,3,4,5,6,8,9,11,13,14,16,18,20,22,24,27,29,31,34,36,39,42,45,48,50 ★ n + ceiling(n^2/25); complement of A184114. • a(n) = n + ceiling(n ^ 2 / 25). •

[A134030] • 1,2,3,4,5,6,8,9,11,13,15,18,20,23,26,28,32,35,38,42,46,49,54,58,62 ★ Areas of regular n-sided polygons with length of each side equal to 1 (rounded). • a(n) = Round(n / (4 * tan(Pi / n)). •

[A047424] • 0,2,3,4,5,6,8,10,11,12,13,14,16,18,19,20,21,22,24,26,27,28,29,30,32 ★ Numbers that are congruent to {0, 2, 3, 4, 5, 6} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (12 * n - 12 - sqrt(3) * cos((1 - 4 * n) * Pi / 6) - 3 * sqrt(3) * cos((1 + 2 * n) * Pi / 6)) / 9. • a(6k) = 8k - 2, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 8. (End) •

[A087721] • 2,3,4,5,6,8,10,11,12,16,20,21,22,23,24,25,30,32,38,39,40,41,42,43,44 ★ Strictly increasing domain of the Hofstadter batrachian sequence A005185. • a(n) =a(n - a(n - 1)) + a(n - a(n - 2)). •

[A000933] • 0,0,0,0,1,1,1,2,3,4,5,6,8,10,11,13,16,18,20,23,26,29,32,35,39 ★ Genus of complete graph on n nodes. • a(n) = ceiling ((n - 3) * (n - 4) / 12) if n>=3. • a(1)=0, a(2)=0, a(3)=0, a(4)=0, a(5)=1, a(6)=1, a(7)=1, a(8)=2, a(9)=3, a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 3 * a(n - 3) - 3 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 18 2011 •

[A253012] • 1,1,1,2,3,4,5,6,8,10,11,13,16,18,20,23,26,29,32,35,39,43,46,50,55 ★ ceiling((n+1) * (n+2) / 12). • a(n) = a(- 3 - n) for all n in Z. • a(n) - 2 * a(n + 1) + a(n + 2) is a period 12 integer sequence. • a(n) - 2 * a(n + 1) + 2 * a(n + 2) - 2 * a(n + 3) + a(n + 4) = 1 if n == 1 (mod 3) else 0. •

[A036409] • 0,1,1,1,2,3,4,5,6,8,10,11,14,16,18,21,24,27,30,33,37,41,44,49,53 ★ a(n) = ceiling(n^2/11). • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 11) - 2 a(n - 12) + a(n - 13). - _ R. J. Mathar _ , Mar 11 2012 • a(m + 11 k) = a(m) + 11 k ^ 2 + 2 m k. - _ Robert Israel _ , Apr 06 2016 •

[A274039] • 0,0,0,0,1,2,3,4,5,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36 ★ Expansion of (x^4 + x^10) / (1 - 2*x + x^2). • a(n) = 2 * (n - 6), n>=9. - _ R. J. Mathar _ , Jun 09 2016 •

[A011866] • 0,0,0,0,0,1,2,3,4,5,6,8,10,12,14,16,18,20,23,26,29,32,35,38,42 ★ [n(n-1)/13]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 13) - 2 * a(n - 14) + a(n - 15). [From _ R. J. Mathar _ , Apr 15 2010] •

[A174709] • 0,0,0,0,0,0,1,2,3,4,5,6,8,10,12,14,16,18,21,24,27,30,33,36,40 ★ Partial sums of floor(n/6). • a(n) = round(n * (n - 4) / 12) = round((2 * n ^ 2 - 8 * n - 1) / 24). • a(n) = floor((n - 2) ^ 2 / 12). • a(n) = ceil((n + 1) * (n - 5) / 12). • a(n) = a(n - 6) + n - 5, n>5. • a(n) = + 2 * a(n - 1) - a(n - 2) + a (n - 6) - 2 * a(n - 7) + a(n - 8). •

[A008724] • 0,0,0,0,1,2,3,4,5,6,8,10,12,14,16,18,21,24,27,30,33,36,40,44,48 ★ a(n) = floor(n^2/12). • a(n) = a(n - 6) + n - 3 . - _ Paul Barry _ , Jul 14 2004 • a(n) = sum _{ j=0..n + 2 } floor(j / 6), a(n - 2) = (1 / 2)floor(n / 6) * (2n - 4 - 6 * floor(n / 6)). - _ Mitch Harris _ , Sep 08 2008 •

[A029032] • 1,1,1,2,3,4,5,6,8,10,12,14,17,20,23,27,31,35,40,45,51,57,63,70,78 ★ Expansion of 1/((1-x)(1-x^3)(1-x^4)(1-x^5)). • a(0)=1, a(1)=1, a(2)=1, a(3) =2, a(4)=3, a(5)=4, a(6)=5, a(7)=6, a(8)=8, a(9)=10, a(10)=12, a(11)=14, a (12)=17, a(n)=a(n - 1) + a(n - 3) - a(n - 6) - a(n - 7) + a(n - 10) + a(n - 12) - a (n - 13). - _ Harvey P. Dale _ , Jan 04 2012 •

[A060470] • 1,2,3,4,5,6,8,10,12,15,17,19,24,26,28,33,35,37,42,44,46,51,53,55,6 0 ★ Smallest positive a(n) such that number of solutions to a(n)=a(j)+a(k) j<k<n is two or less. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n > 13. • a(n) = 2 * n + 3 * floor(n / 3 + 2 / 3) - 17 for n>9. - _ Bruno Berselli _ , Feb 22 2018 •

[A279077] • 0,1,2,3,4,5,6,8,10,12,15,18,22,26,31,37,44,52,61,72,85,100,117,13 7,160 ★ Maximum starting value of X such that repeated replacement of X with X-ceiling(X/7) requires n steps to reach 0. • a(n) = floor(a(n - 1) * 7 / 6) + 1. •

[A029747] • 1,2,3,4,5,6,8,10,12,16,20,24,32,40,48,64,80,96,128,160,192,256,32 0,384,512 ★ 2^n times 1, 3 or 5. • a(n) = if n<5 then n + 1 else 2 * a(n - 3). - _ Reinhard Zumkeller _ , Aug 23 2006 •

[A179053] • 0,1,2,3,4,5,6,8,10,14,19,28,42,64,99,155,245,391,626,1007,1622,26 18,4229,6835,11051 ★ Partial sums of ceil(Fibonacci(n)/11) • a(n)=round(Fib onacci(n + 2) / 11 + 3 * n / 5 + 43 / 110). • a(n)=floor(Fibonacci(n + 2) / 11 + 3 * n / 5 + 48 / 55). • a(n)=ceil(Fibonacci(n + 2) / 11 + 3 * n / 5 - 1 / 11). • a(n)=a(n - 10) + Fibonacci(n - 3) + 6, n>9. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 10) - 2 * a(n - 11) + a(n - 13), n>12. •

[A003520] • 1,1,1,1,1,2,3,4,5,6,8,11,15,20,26,34,45,60,80,106,140,185,245,325,4 31 ★ a(n) = a(n-1) + a(n-5); a(0) = ... = a(4) = 1. • a(n) = sum(j=0..(n - 1) / 4, binomial(n - 1 + (- 4) * j,j)). • a(n) = term (1,1) in the 5 X 5 matrix [1, 1,0,0,0; 0,0,1,0,0; 0,0,0,1,0; 0,0,0,0,1; 1,0,0,0,0] ^ n. - _ Alois P. Heinz _ , Jul 27 2008 •

[A143285] • 0,0,0,0,0,0,0,1,2,3,4,5,6,8,12,18,26,36,48,63,83,111,150,203,273 ★ Number of binary words of length n containing at least one subword 1000001 and no subwords 10^{i}1 with i<5. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 6) - a(n - 8) - a(n - 13). - _ Vincenzo Librandi _ , Jun 05 2013 •

[A048332] • 0,1,2,3,4,5,6,8,16,24,32,40,48,57,114,171,228,285,342,400,800,120 0,1600,2000,2400 ★ a(n) in base 7 is a repdigit. • a(n) = 8 * a(n - 6) - 7 * a(n - 12) for n > 11. • a(n) = (n - 6 * floor((n - 1) / 6)) * (7 ^ floor((n + 5) / 6) - 1) / 6. - _ Ilya Gutkovskiy _ , May 30 2016 •

[A119336] • 1,2,3,4,5,6,8,16,45,130,341,804,1730,3460,6555,12016,21845,4041 0,77540,155080,320001,669526,1398101,2884776,5858126 ★ Expansion of (1- x)^4/((1-x)^6-x^6). • a(n)=sum { k=0..n, sum { j=0..n - k, C(k,3j)C(n - k,3j) }} • a(0)=1, a(1)=2, a(2)=3, a(3)=4, a(4)=5, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5). - _ Harvey P. Dale _ , Dec 2 5 2015 •

[A272574] • 0,1,2,3,4,5,6,9,10,11,12,13,14,15,18,19,20,21,22,23,24,27,28,29,30 ★ a(n) = f(9, f(8, n)), where f(k,m) = floor(m*k/(k-1)). • a(n) = a(n - 1) + a (n - 7) - a(n - 8). • a(n) = (63 * n - 12 - 12 * (n mod 7) + 2 * ((- n - 1) mod 7)) / 49. - _ Wesley Ivan Hurt _ , Dec 25 2016 •

[A047422] • 1,2,3,4,5,6,9,10,11,12,13,14,17,18,19,20,21,22,25,26,27,28,29,30,33 ★ Numbers that are congruent to {1, 2, 3, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 21 - 3 * cos(n * Pi) - 4 * sqrt(3) * cos((1 + 4 * n) * Pi / 6) - 12 * sin((1 - 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 2, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 6 , a(6k - 5) = 8k - 7. (End) •

[A008813] • 1,2,3,4,5,6,9,12,15,18,21,24,29,34,39,44,49,54,61,68,75,82,89,96,10 5 ★ Expansion of (1+x^6)/(1-x)^2/(1-x^6). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 6) - 2 * a(n - 7) + a(n - 8). [From R. H. Hardin, Nov 16 2011] •

[A178715] • 1,2,3,4,5,6,9,12,16,20,27,36,48,64,81,108,144,192,256,324,432,57 6,768,1024,1296 ★ a(n) = solution to the "Select All, Copy, Paste" problem: Given the ability to type a single letter, or to type individual "Select All", "Copy" or "Paste" command key strokes, what is the maximal number of letters of text that can be obtained with n key strokes? • a(n) = 4 * a(n - 5) for n> =16. • a(n) = •

[A113444] • 1,1,1,1,1,2,3,4,5,6,9,13,18,24,31,43,60,83,113,151,206,283,389,53 2,721 ★ a(n) = a(n-1) + Sum_{0<k<=n/5} a(n-5k) with a(0)=1. • a(n) = a(n - 1) + 2 * a(n - 5) - a(n - 6). • a(n) = 11 * a(n - 5) - 45 * a(n - 10) + 90 * a (n - 15) - 90 * a(n - 20) + 37 * a(n - 25) - a(n - 30). •

[A007093] • 0,1,2,3,4,5,6,10,11,12,13,14,15,16,20,21,22,23,24,25,26,30,31,32,33 ★ Numbers in base 7. • a(0) = 0, a(n) = 10 * a(n / 7) if n==0 (mod 7), a(n) = a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 •

[A047423] • 2,3,4,5,6,10,11,12,13,14,18,19,20,21,22,26,27,28,29,30,34,35,36,3 7,38 ★ Numbers that are congruent to {2, 3, 4, 5, 6} mod 8. • a(n + 1) = 3 * floor(n / 5) + n + 2. - _ Gary Detlefs _ , Mar 12 2010 • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (8 * n + 2 - 3 * ((n + 4) mod 5)) / 5. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 5, a(5k - 4) = 8k - 6. (End) •

[A212774] • 0,1,2,3,4,5,6,10,11,15,16,20,22,25,26,30,31,35,36,40,41,50,51,55,5 6 ★ Amounts (in cents) of coins in denominations 1, 5, 10, 25, and 50 (cents) which, when using the minimal number of coins, have equal numbers of all denominations used. • a(n) = (n - 41) * 50 for n >= 46. •

[A057436] • 1,2,3,4,5,6,11,12,13,14,15,16,21,22,23,24,25,26,31,32,33,34,35,36,4 1 ★ Contains digits 1 through 6 only. • a(n + 1) = 1 + (if a(n) mod 10 < 6 th en a(n) else a(a(n) \ 10) * 10), a(0)=1. - _ Reinhard Zumkeller _ , Jul 13 20 07 •

[A276529] • 1,1,1,1,1,1,2,3,4,5,6,13,20,27,34,41,89,137,185,233,281,610,939,12 68,1597 ★ a(n) = (a(n-1) * a(n-5) + 1) / a(n-6), a(0) = a(1) = ... = a(5) = 1. • a(n) + a(n + 10) = 7 * a(n + 5). • a(5 - n) = a(n). •

[A085157] • 1,1,2,3,4,5,6,14,24,36,50,66,168,312,504,750,1056,2856,5616,957 6,15000,22176,62832,129168,229824 ★ Quintuple factorials, 5-factorials, n!!!!!, n!5. • a(n) = 1 for n<1 otherwise a(n) = n * a(n - 5). •

[A237343] • 0,1,2,3,4,5,6,36,336,3336,33336,333336,3333336,33333336,333333 336,3333333336,33333333336,333333333336,3333333333336,33333333333336,33 3333333333336,3333333333333336,33333333333333336,333333333333333336,33 33333333333333336 ★ For k in {2,3,...,9} define a sequence as follows: a(0)=0; for n>=0, a(n+1)=a(n)+1, unless a(n) ends in k, in which case a(n+1) is obtained by replacing the last digit of a(n) with the digit(s) of k^2. This is k(6). • a(n) = (8 + 10 ^ (n - 5)) / 3 for n>5. [_ Bruno Berselli _ , Feb 08 2014] •

[A052414] • 0,1,2,3,4,5,7,8,9,10,11,12,13,14,15,17,18,19,20,21,22,23,24,25,27 ★ Numbers without 6 as a digit. • a(n) = replace digits d > 5 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A183218] • 2,3,4,5,7,8,9,10,11,12,13,14,16,17,18,19,20,21,22,23,24,25,26,27,29 ★ Complement of the hexagonal numbers. • a(n)=n + Floor[1 / 2 + (n / 2) ^ (1 / 2)]. •

[A047595] • 0,1,2,3,4,5,7,8,9,10,11,12,13,15,16,17,18,19,20,21,23,24,25,26,27 ★ Numbers that are congruent to {0, 1, 2, 3, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = n - 1 + floor(n / 7). (End) • a(n) = a(n - 7) + 8 for n>7. • a(n) = (56 * n - 70 - 6 * (n mod 7) + ((n + 1) mod 7) + ((n + 2) mod 7) + ((n + 3) mod 7) + ((n + 4) mod 7) + ((n + 5) mod 7) + ((n + 6) mod 7)) / 49. • a(7 * k) = 8 * k - 1, a(7 * k - 1) = 8 * k - 3, a(7 * k - 2) = 8 * k - 4, a(7 * k - 3) = 8 * k - 5, a(7 * k - 4) = 8 * k - 6, a(7 * k - 5) = 8 * k - 7, a(7 * k - 6) = 8 * k - 8. (End) •

[A047368] • 0,1,2,3,4,5,7,8,9,10,11,12,14,15,16,17,18,19,21,22,23,24,25,26,28 ★ Numbers that are congruent to {0, 1, 2, 3, 4, 5} mod 7; a(n)=floor(7(n-1)/6). • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (42 * n - 57 - 3 * cos(Pi * n) - 4 * sqrt(3) * cos((4 * n + 1) * Pi / 6) - 12 * sin((1 - 2 * n) * Pi / 6)) / 36. • a(6k) = 7k - 2, a(6k - 1) = 7k - 3, a(6k - 2) = 7k - 4, a(6k - 3) = 7k - 5, a(6k - 4) = 7k - 6, a(6k - 5) = 7k - 7. (End) •

[A187394] • 1,2,3,4,5,7,8,9,10,11,12,14,15,16,17,18,19,21,22,23,24,25,26,28,29 ★ Floor(s*n), where s = 4 - sqrt(8); complement of A187393. • a(n) = floor(s * n), where s = 4 - sqrt(8). •

[A187392] • 1,2,3,4,5,7,8,9,10,11,13,14,15,16,17,18,20,21,22,23,24,26,27,28,29 ★ Floor(s*n), where s=1+sqrt(8)-sqrt(7); complement of A189391. • a(n)=flo or(s * n), where s=1 + sqrt(8) - sqrt(7). •

[A108120] • 1,2,3,4,5,7,8,9,10,11,13,14,15,16,17,19,20,21,22,23,24,26,27,28,29 ★ Floor[n*1/Sin[1]], or Beatty sequence for 1/sin(1). • a(n) = floor(n * 1 / sin (1)) •

[A047253] • 1,2,3,4,5,7,8,9,10,11,13,14,15,16,17,19,20,21,22,23,25,26,27,28,29 ★ Numbers that are congruent to {1, 2, 3, 4, 5} mod 6. • a(n) = 5 + a(n - 5). • a(n) = n - 1 + floor((n + 4) / 5). [_ Benoit Cloitre _ , Jul 11 2009] •

[A204878] • 1,2,3,4,5,7,8,9,10,11,13,14,15,16,17,19,20,21,22,23,25,26,27,29,31 ★ Numbers that cannot be written as sum of perfect numbers. • a(38 + k)=49 + 2k for all k>0 (up to occurrence of an odd perfect number, known to be > 10 ^ 300, if it exists). - M. F. Hasler, Feb 09 2012 •

[A218444] • 0,1,2,3,4,5,7,8,9,10,11,13,15,16,17,18,20,21,23,24,25,27,29,30,32 ★ a(n)=sum_{k>=0}floor(n/(5*k+1)) • a(n)=sum _{ k>=0 } floor(n / (5 * k + 1)) •

[A004764] • 0,1,2,3,4,5,7,8,9,10,11,14,15,16,17,18,19,20,21,22,23,28,29,30,31 ★ Numbers n such that binary expansion does not begin 110. • a(n) = n - 1, 1 <= n <= 6, a(2 ^ (m + 2) + 2 ^ m + k + 2) = 2 ^ (m + 2) + 2 ^ (m + 1) + 2 ^ m + k, m >= 0, 0 <= k < (2 ^ (m + 2) + 2 ^ m). - _ Yosu Yurramendi _ , Aug 08 2016 •

[A032797] • 1,2,3,4,5,7,8,9,10,12,13,14,15,16,18,19,20,21,23,24,25,26,27,29,30 ★ Numbers n such that n(n+1)(n+2)...(n+10) /(n+(n+1)+(n+2)+...+(n+10)) is a multiple of n. • a(n) = a(n - 1) + a(n - 9) - a(n - 10) for n > 10. •

[A001967] • 0,2,3,4,5,7,8,9,10,12,13,14,15,16,18,19,20,21,23,24,25,26,28,29,30 ★ Wythoff game. • a(n) = floor((n + 3 / 4) * (sqrt(5) - 1)). - R. J. Mathar,

Feb 14 2011 •

[A047203] • 0,2,3,4,5,7,8,9,10,12,13,14,15,17,18,19,20,22,23,24,25,27,28,29,30 ⋆ Numbers that are congruent to {0, 2, 3, 4} mod 5. • a(n) = floor((5n - 2) / 4). - _ Gary Detlefs _ , Mar 06 2010 • a(n) = floor((15n - 5) / 12). - _ Gary Detlefs _ , Mar 07 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (10 * n - 7 + (- 1) ^ n + 2 * (- 1) ^ ((2 * n + 3 + (- 1) ^ n) / 4)) / 8. •

[A107750] • 0,1,2,3,4,5,7,8,9,11,12,13,15,16,17,19,20,21,23,24,25,27,28,29,31 ⋆ If n=0 then 0, else smallest number greater than its predecessor and having either more or fewer zeros in its binary representation. • a(n) = n - sign(floor (n / 3)) + floor((1 / 2) * sum _{ i=1..n } (ceiling((i + 2) / 3) - floor((i + 2) / 3))). - _ Wesley Ivan Hurt _ , Jun 16 2014 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>3. •

[A079734] • 2,3,4,5,7,8,9,11,12,13,20,21,33,34,54,55,88,89,143,144,232,233,376,377,609 ⋆ n for which there is a chain (or permutation) of the numbers from 1 to n for which each adjacent pair sums to a Fibonacci number. • a(n) = 2 * a(n - 2) - a(n - 6) for n>14. - _ Colin Barker _ , Dec 02 2014 •

[A078174] • 2,3,4,5,7,8,9,11,13,15,16,17,19,21,23,25,27,29,31,32,33,35,37,39,41 ⋆ Numbers with an integer arithmetic mean of distinct prime factors. • a(n) << n log n / (log log n) ^ k for any k. - _ Charles R Greathouse IV _ , May 30 2013 •

[A014567] • 1,2,3,4,5,7,8,9,11,13,16,17,19,21,23,25,27,29,31,32,35,36,37,39,41 ⋆ Numbers n such that n and sigma(n) are relatively prime, where sigma(n) = sum of divisors of n, A000203. • a(n) << n log n. Can this be improved? - _ Charles R Greathouse IV _ , Feb 13 2013 • a(n) >> n log log log n, see Luca . - _ Charles R Greathouse IV _ , Feb 17 2014 •

[A289995] • 1,2,3,4,5,7,8,9,11,16,17,23,25,27,29,31,41,47,59,71,79,81,101,107,125 ⋆ Numbers n with omega(n) <= 1 such that omega(n+1) = 1 or omega(n+2) = 1. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 21 2017 •

[A107684] • 0,1,2,3,4,5,7,8,9,15,16,17,31,32,33,63,64,65,127,128,129,255,256,257,511 ⋆ Union of sequences 2^k-1, 2^k and 2^k+1. • a(n) = if n<=2 then n else 2 ^ (floor(n / 3) + 1) + n mod 3 - 1. - _ Reinhard Zumkeller _ , Jun 05 2005 •

[A245231] • 0,2,3,4,5,7,8,10,10,12,13,14,15,17,18,20,20,22,23,24,25,27,28,30,30 ⋆ Maximum frustration of complete bipartite graph K(n,4). • a(n) = floor(5 * n / 4) - 1 if n == 1, 4 or 5 mod 8, • a(n) = floor(5 * n / 4) otherwise. • a(n + 8) = a(n) + 10. •

[A047503] • 0,2,3,4,5,7,8,10,11,12,13,15,16,18,19,20,21,23,24,26,27,28,29,31,32 ⋆ Numbers that are congruent to {0, 2, 3, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 21 + 3 * cos(n * Pi) + 2 * sqrt(3) * cos((1 + 4 * n) * Pi / 6) - 6 * sin((1 - 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 8. (End) •

[A211540] • 0,0,0,0,0,1,1,2,3,4,5,7,8,10,12,14,16,19,21,24,27,30,33,37,40 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w = 3x + 4y. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). • a(n) = 3k ^ 2 - 6k + 3 (for n=6k - 3), 3k ^ 2 - 5k + 2 (for n=6k - 2), 3k ^ 2 - 4k + 1 (for n=6k - 1), 3k ^ 2 - 3k + 1 (for n=6k), 3k ^ 2 - 2k (for n=6k + 1), 3k ^ 2 - k (for n=6k + 2). - _ Ece Uslu _ , Esin Becenen, Dec 31 2015 •

[A069905] • 0,0,0,1,1,2,3,4,5,7,8,10,12,14,16,19,21,24,27,30,33,37,40,44,48 ⋆ Number of partitions of n into 3 positive parts. • a(n) = round(n ^ 2 / 12). • a(n) = floor((n ^ 2 + 6) / 12). - _ Washington Bomfim _ , Jul 03 2012 • a(- n) = a(n). - _ Michael Somos _ , Sep 04 2013 • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6), n>5. - _ Wesley Ivan Hurt _ , Oct 16 2015 •

[A001399] • 1,1,2,3,4,5,7,8,10,12,14,16,19,21,24,27,30,33,37,40,44,48,52,56,61 ⋆ a(n) = number of partitions of n into at most 3 parts; also partitions of n+3 in which the greatest part is 3; also number of multigraphs with 3 nodes and n edges. • a(n) = round((n + 3) ^ 2 / 12). Note that this cannot be of the form (2i + 1) / 2, so ties never arise. • a(n) = 1 + a(n - 2) + a(n - 3) - a(n - 5) for all n in Z. - _ Michael Somos _ , Sep 04 2006 • a(n) = a(- 6 - n) for all n in Z. - _ Michael Somos _ , Sep 04 2006 • a(n) = 17 / 72 + (n + 1) * (n + 5) / 12 + (- 1) ^ n / 8 + (2 / 9) * cos(2 * n * Pi / 3). - _ Benoit Cloitre _ , Feb 09 2003 • a(n) = 6 * t(floor(n / 6)) + (n % 6) * (floor(n / 6) + 1) + (n mod 6==0?1:0), where t(n)=n * (n + 1) / 2 a(n)=ceil(1 / 12 * n ^ 2 + 1 / 2 * n) + (n mod 6==0?1:0). - _ Jon Perry _ , Jun 17 2003 • a(n) = sum(i=0, floor(n / 3), 1 + floor((n - 3 * i) / 2)). - _ Jon Perry _ , Jun 27 2003 •

[A029006] • 1,1,2,3,4,5,7,8,10,12,14,16,20,22,26,30,34,38,44,48,54,60,66,72,81 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^3)(1-x^12)). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=4, a(5)=5, a(6)=7, a(7)=8, a(8)=10, a(9)=12, a(10)=14, a(11)=16, a(12)=20, a(13)=22, a(14)=26, a(15)=30, a(16)=34, a(17)=38, a(n)=a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) + a(n - 12) - a(n - 13) - a(n - 14) + a(n - 16) + a(n - 17) - a(n - 18). - _ Harvey P. Dale _ , Nov 01 2015 •

[A029004] • 1,1,2,3,4,5,7,8,10,12,15,17,21,24,28,32,37,41,47,52,59,65,73,80,89 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^3)(1-x^10)). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=4, a(5)=5, a(6)=7, a(7)=8, a(8)=10, a(9)=12, a(10)=15, a(11)=17, a(12)=21, a(13)=24, a(14)=28, a(15)=32, a(n)=a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) + a(n - 10) - a(n - 11) - a(n - 12) + a(n - 14) + a(n - 15) - a(n - 16). - _ Harvey P. Dale _ , Jun 01 2013 • a(n) = floor((2 * n ^ 3 + 48 * n ^ 2 + 327 * n + 927 + 9 * (n + 1) * (- 1) ^ n) / 720). - _ Tani Akinari _ , Jul 07 2013 •

[A029003] • 1,1,2,3,4,5,7,8,10,13,15,18,22,25,29,34,38,43,50,55,62,70,77,85,95 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^3)(1-x^9)). • a(n) = floor(2 / 27 * (floor(n / 3) + 1) * cos(2 * Pi * n / 3) + (2 * n ^ 3 + 45 * n ^ 2 + 290 * n + 744) / 648). - _ Tani Akinari _ , Jul 07 2013 •

[A116470] • 0,1,2,3,4,5,7,8,11,13,18,21,29,34,47,55,76,89,123,144,199,233,322,377,521 ⋆ All distinct Fibonacci and Lucas numbers. • a(0) = 0, a(1) = 1, a(2) = 2, a(3) = 3, a(4) = 4, a(5) = 5, a(6) = 7, a(n) = a(n - 2) + a(n - 4) for n>6 . • a(2 * n) = Lucas(n + 1) = Fibonacci(n) + Fibonacci(n + 2) for n>1. • a(2 * n + 1) = Fibonacci(n + 3) for n>2. •

[A258085] • 0,1,2,3,4,5,7,8,12,13,20,21,33,34,54,55,88,89,143,144,232,233,376,377,609 ⋆ Strictly increasing list of F and F - 1, where F = A000045, the Fibonacci numbers. • a(n) = 2 * a(n - 2) - a(n - 6) for n>8. •

[A047504] • 1,2,3,4,5,7,9,10,11,12,13,15,17,18,19,20,21,23,25,26,27,28,29,31,33 ⋆ Numbers that are congruent to {1, 2, 3, 4, 5, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (12 * n - 9 + sqrt(3) * (3 * sin(n * Pi / 3) + sin(2 * n * Pi / 3))) / 9. • a(6k) = 8k - 1, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 7. (End) •

[A036408] • 0,1,1,1,2,3,4,5,7,9,10,13,15,17,20,23,26,29,33,37,40,45,49,53,58 ⋆ Ceiling(n^2/10). • a(n)= + 2 * a(n - 1) - a(n - 2) + a(n - 10) - 2 * a(n - 11) + a(n - 12). G.f. - x * (1 - x + x ^ 7 - x ^ 9 + x ^ 10 + x ^ 3) / ((1 + x) * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x ^ 4 - x ^ 3 + x ^ 2 - x + 1) * (x - 1) ^ 3). - R. J. Mathar, Jan 22 2011 •

[A274583] • 1,2,3,4,5,7,9,10,13,16,17,21,25,26,31,36,37,43,49,50,57,64,65,73,81 ⋆ Expansion of (1 + x + x^2 - x^3 - x^4 + x^6)/((1 - x)^3*(1 + x + x^2)^2). • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7). • a(n) = 1 + 10 * n / 9 - n ^ 2 / 9 + (n / 3 - 8 / 9) * floor(n / 3) + (n / 3 - 4 / 9) * floor((n + 1) / 3). - _ Vaclav Kotesovec _ , Jun 29 2016 •

[A188551] • 1,2,3,4,5,7,9,11,12,14,17,20,23,24,27,31,35,39,40,44,49,54,59,60,65 ⋆ Numbers with locations of angle turns in pentagonal spiral. • a(n)= + a(n - 1) + 2 * a(n - 5) - 2 * a(n - 6) - a(n - 10) + a(n - 11). G.f. x * (1 + x) * (1 + x ^ 2) * (x ^ 2 - x + 1) * (x ^ 3 - x - 1) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) ^ 2 * (x - 1) ^ 3). - R. J. Mathar, Apr 12 2011 •

[A184112] • 2,3,4,5,7,9,11,12,15,17,19,21,24,27,30,32,36,39,42,45,49,53,57,60,65 ⋆ n+ceiling(n^2/16); complement of A184111. • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 8) - 2 a(n - 9) + a(n - 10). - R. J. Mathar, Mar 11 2012 •

[A032515] • 0,1,2,3,4,5,7,9,11,13,15,17,19,21,23,25,28,31,34,37,40,43,46,49,52 ⋆ Sum of the integer part of 5/2-th roots of integers less than or equal to n. • a(0) = 0, a(n) = a(n - 1) + floor(n ^ (2 / 5)). - _ Alonso del Arte _ , Jun 18 2017 • a(n) = (5 / 7) * n ^ (7 / 5) + O(n). - _ Charles R Greathouse IV _ , Jun 25 2017 •

[A130520] • 0,0,0,0,0,1,2,3,4,5,7,9,11,13,15,18,21,24,27,30,34,38,42,46,50 ⋆ a(n) = Sum_{k=0..n} floor(k/5). (Partial sums of A002266). • a(n) = 1 / 2 * floor(n / 5) * (2n - 3 - 5 * floor(n / 5)). • a(n) = floor((n - 1)(n - 2) / 10). [_ Mitch Harris _ , Sep 08 2008] • a(n) = round(n * (n - 3) / 10) = ceiling((n + 1) * (n - 4) / 10) = round((n ^ 2 - 3 * n - 1) / 10). [_ Mircea Merca _ , Nov 28 2010] • a(n) = a(n - 5) + n - 4, n>4. [_ Mircea Merca _ , Nov 28 2010] •

[A005706] • 1,2,3,4,5,7,9,11,13,15,18,21,24,27,30,34,38,42,46,50,55,60,65,70,75 ⋆ Number of partitions of 5n into powers of 5. • a(n) = a(n - 1) + a([n / 5]). • a(n) = [x ^ (5 * n)] Product _{ k>=0 } 1 / (1 - x ^ (5 ^ k)). - _ Ilya Gutkovskiy _ , Jun 05 2017 •

[A008740] • 1,2,3,4,5,7,9,11,13,16,19,22,25,28,32,36,40,44,49,54,59,64,69,75,81 ⋆ Molien series for 3-dimensional group [2+,n] = 2*(n/2). • a(n) = a(n - 4) + n. - _ Paul Barry _ , Jul 14 2004 • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 9) - 2 * a(n - 10) + a(n - 11). • a(n) = floor((n ^ 2 + 6 * n + 12) / 9). - _ Tani Akinari _ , Aug 19 2013 •

[A076677] • 1,1,2,3,4,5,7,9,11,14,17,20,24,28,32,37,42,48,54,60,67,74,82,90,99 ⋆ a(0)=a(1)=1 a(n)=a(n-1)+floor(sqrt(a(n-2))). • a(n) is asymptotic to n ^ 2 / 4 •

[A029001] • 1,1,2,3,4,5,7,9,11,14,17,20,24,28,33,38,44,50,57,64,72,81,90,100,111 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^3)(1-x^7)). • a(n) = floor((n + 12) * (2 * n ^ 2 + 15 * n + 42) / 504). - _ Tani Akinari _ , Jul 06 2013 • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=4, a(5)=5, a(6)=7, a(7)=9, a(8)=11, a(9)=14, a(10)=17, a(11)=20, a(12)=24, a(n)=a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) + a(n - 7) - a(n - 8) - a(n - 9) + a(n - 11) + a(n - 12) - a(n - 13). - _ Harvey P. Dale _ , Nov 13 2013 •

[A279076] • 0,1,2,3,4,5,7,9,11,14,17,21,26,32,39,47,57,69,83,100,121,146,176,212,255 ⋆ Maximum starting value of X such that repeated replacement of X with X-ceiling(X/6) requires n steps to reach 0. • a(n) = floor(a(n - 1) * 6 / 5) + 1. •

[A122129] • 1,1,1,2,3,4,5,7,9,12,15,19,24,30,37,46,57,69,84,102,123,148,177,211,252 ⋆ Expansion of 1 + Sum_{k>0} x^k^2/((1-x)(1-x^2)...(1-x^(2k))). • a(n) = number of partitions of n into parts that are either odd or == +/- 4 (mod 20). - _ Michael Somos _ , Jun 28 2015 •

[A233522] • 1,1,1,1,2,3,4,5,7,9,12,16,22,29,38,50,67,89,118,156,207,274,363,481,638 ⋆ Expansion of 1 / (1 - x - x^4 + x^9) in powers of x. • a(n) = a(n - 1) + a(n - 4) - a(n - 9) for all n in Z. •

[A055167] • 1,1,1,1,2,3,4,5,7,9,13,17,23,30,39,50,65,83,107,136,174,219,278,348,437 ⋆ Number of optimal binary prefix-free codes with n words all ending in 1. • a(n)=sum _{ 0 <= a < n / 3 } sum _{ 0 <= b < n / 3 } g(n, a, b) with for 1 <= n <= 4, g(n, a, b)=1 if a=b=1 and g(n, a, b)=0 otherwise; for n >= 5: g(n, b, 1)=sum _{ a = 0..b, b - a even } g(n - 1, a, b), (b >= 1); g(n, a, b)=g(n - 1, a, b - 1), (2 <= b <= a); g(n, a, b)=g(n - 1, a, b - 1), (b - a >= 2 text { even } , a >= 0); g(n, a, b)=g(n - 1, a + 1, b), (b - a >= 1 text { odd } , a >= 0); g(n, a, b)=0 (otherwise). •

[A047502] • 2,3,4,5,7,10,11,12,13,15,18,19,20,21,23,26,27,28,29,31,34,35,36,37,39 ⋆ Numbers that are congruent to {2, 3, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n

- 15 - 2 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 7 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 5, a(5k - 4) = 8k - 6. (End) •

[A144430] • 2,3,4,5,7,10,11,13,16,17,19,22,23,25,28,29,31,34,35,37,40,41,43,46,47 ⋆ 1 + A144429(n). • a(n) = a(n - 3) + 6, n>5. •

[A089597] • 1,1,1,2,3,4,5,7,10,12,14,18,23,27,31,38,46,52,59,69,80,90,100,114,130 ⋆ G.f.: (1+x)*(1+x^3)*(1+x^5)*(1+x^7)/((1-x^2)*(1-x^4)*(1-x^6)*(1-x^8)). • a(n)= + 3 * a(n - 1) - 5 * a(n - 2) + 8 * a(n - 3) - 11 * a(n - 4) + 13 * a(n - 5) - 15 * a(n - 6) + 16 * a(n - 7) - 15 * a(n - 8) + 13 * a(n - 9) - 11 * a(n - 10) + 8 * a(n - 11) - 5 * a(n - 12) + 3 * a(n - 13) - a(n - 14). - _ R. J. Mathar _ , Dec 18 2014 •

[A052335] • 1,1,1,2,3,4,5,7,10,13,17,22,28,36,46,58,73,91,114,141,173,213,261,318,387 ⋆ Number of partitions of n into at most 1 copy of 1, 2 copies of 2, 3 copies of 3, ... • a(n) = p(n,1,1) with p(n,t,k) = if t<0 then 0 else if k<=n then p(n - k,t - 1,k) + p(n,k + 1,k + 1) else 0 ^ n. [_ Reinhard Zumkeller _ , Jan 20 2010] •

[A160333] • 1,1,1,1,2,3,4,5,7,10,13,17,23,32,44,59,79,107,146,198,267,361,490,665,900 ⋆ Number of pairs of rabbits in month n in the dying rabbits problem, if they become mature after 4 months and give birth to exactly 7 pairs, one per month. • a(n) = a(n - 1) - a(n - 2) + a(n - 3) + a(n - 5) + a(n - 7) + a(n - 9) . - _ Joerg Arndt _ , Oct 04 2017 • a(n)=1 for 0 <= n <= 3, a(n) = a(n - 1) + a(n - 4) for 4 <= n <= 9, and a(n) = a(n - 4) + a(n - 5) + ... + a(n - 10) for n >= 10. - _ Robert FERREOL _ , Oct 04 2017 •

[A271489] • 1,2,3,4,5,7,10,13,18,25,34,46,64,85,117,163,217,298,415,553,759,1057,1408,1933,2692 ⋆ Maximal term of TRIP-Stern sequence of level n corresponding to permutation triple (e,132,e). • a(n) = 2 * a(n - 3) + a(n - 6) + a(n - 9) for n>8. •

[A255216] • 1,1,1,2,3,4,5,7,10,14,18,25,34,45,61,82,110,147,198,266,357,479,642,862,1156 ⋆ a(n) = floor((3/sqrt(5))^n). • a(n) = floor((3 / sqrt(5)) ^ n). •

[A099559] • 0,1,2,3,4,5,7,10,14,19,25,33,44,59,79,105,139,184,244,324,430,570,755,1000,1325 ⋆ Sum C(n-4k,k+1), k=0..floor(n/5). • a(n)=2a(n - 1) - a(n - 2) + a(n - 5) - a(n - 6). •

[A247084] • 0,1,1,1,1,2,3,4,5,7,10,14,19,26,27,32,42,50,59,64,70,75,89,99,106 ⋆ a(n)=0 when n<=0: Starting with n=1, a(n) = 1 + the sum of the digital sums of a(0) through a(n-4). • a(n) = 1 + Sum _{ k=0..n - 4 } digsum(a(k)). • a(n) = a(n - 1) + digsum(a(n - 4)). •

[A003269] • 0,1,1,1,1,2,3,4,5,7,10,14,19,26,36,50,69,95,131,181,250,345,476,657,907 ⋆ a(n) = a(n-1) + a(n-4) with a(0) = 0, a(1) = a(2) = a(3) = 1. • a(n) = a(n - 3) + a(n - 4) + a(n - 5) + a(n - 6) for n>4. • a(n) = floor(d * c ^ n + 1 / 2) where c is the positive real root of - x ^ 4 + x ^ 3 + 1 and d is the positive real root of 283 * x ^ 4 - 18 * x ^ 2 - 8 * x - 1 (c=1.38027756909761411... and d=0.396650638159203312 4...). - _ Benoit Cloitre _ , Nov 30 2002 • a(n) = term (1,2) in the 4 X 4 matrix [1,1,0,0; 0,0,1,0; 0,0,0,1; 1,0,0,0] ^ n. - _ Alois P. Heinz _ , Jul 27 2008 • a(n + 1) = Sum _{ k=0..n } C((n + 3 * k) / 4,k) * ((1 + (- 1) ^ (n - k)) / 2 + cos(Pi * n / 2)) / 2; • a(n + 1) = Sum _{ k=0..n } C(k,floor((n - k) / 3))(2 * cos(2 * Pi * (n - k) / 3) + 1) / 3. (End) • a(n) = Sum _{ j=0..(n - 1) / 3 } binomial(n - 1 - 3 * j,j). - _ Vladimir Kruchinin _ , May 23 2011 •

[A206739] • 1,1,1,1,1,2,3,4,5,7,10,14,19,26,37,52,72,99,138,193,269,373,518,722,1006 ⋆ G.f.: 1/(1 - x/(1 - x^4/(1 - x^9/(1 - x^16/(1 - x^25/(1 - x^36/(1 -...- x^(n^2)/(1 -...))))))), a continued fraction. • a(n) = sum(k=0..n, T(n,k)), where T(n, m)=sum(i=1..(n - m) / 3, binomial(m, i) * T((n - m) / 3,i)), T(n,n)=1. - _ Vladimir Kruchinin _ , Mar 21 2015 •

[A275174] • 1,1,1,1,1,1,1,1,2,3,4,5,7,10,14,33,53,74,96,141,209,300,714,1151,1611 ⋆ a(n) = (a(n-4) + a(n-1) * a(n-7)) / a(n-8), a(0) = a(1) = ... = a(7) = 1. • a(n) = 23 * a(n - 7) - 23 * a(n - 14) + a(n - 21). •

[A130080] • 1,2,3,4,5,7,10,15,22,32,47,69,100,147,216,317,465,682,1000,1468,2155,3163,4642,6813,10000 ⋆ Smallest number whose sixth power has n digits. • a(n) = ceiling(10 ^ ((n - 1) / 6)) •

[A006456] • 1,1,1,1,2,3,4,5,7,11,16,22,30,43,62,88,124,175,249,354,502,710,1006,1427,2024 ⋆ Number of compositions (ordered partitions) of n into squares. • a(n) = 1, if n = 0; a(n)=Sum(1 <= k ^ 2 <= n, a(n - k ^ 2)), if n > 0. - _ David W. Wilson _ •

[A143284] • 0,0,0,0,0,0,1,2,3,4,5,7,11,17,25,35,48,66,92,129,180,249,342,468,640 ⋆ Number of binary words of length n containing at least one subword 100001 and no subwords 10^{i}1 with i<4. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - a(n - 7) - a(n - 11). - _ Vincenzo Librandi _ , Jun 05 2013 •

[A268199] • 1,1,1,1,1,1,1,1,1,2,3,4,5,7,13,25,45,125,233,419,805,2252,8343,23554,55889 ⋆ Somos's sequence {b(3,n)} defined in comment in A078495: a(0)=a(1)=a(2)=1, for n>=9, a(n)=(a(n-1)*a(n-8)+a(n-4)*a(n-5))/a(n-9). • a(n) = a(8 - n) for all n in Z. - _ Michael Somos _ , Nov 16 2016 •

[A133476] • 0,1,2,3,4,5,7,14,36,93,220,474,948,1807,3381,6385,12393,24786,50559,103702,211585,427351,854702,1698458,3368259 ⋆ a(n) = Sum_{k>=0} binomial(n,5*k+1). • a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + 2a(n - 5). • a(n) = round((2 / 5) * (2 ^ (n - 1) + phi ^ n * cos(Pi * (n - 2) / 5))), where phi is the golden ratio, round(x) is the nearest to x integer. - _ Vladimir Shevelev _ , Jun 18 2017 • a(n + m) = a(n) * H _ 1(m) + H _ 1(n) * H _ 2(m) + H _ 5(n) * H _ 3(m) + H _ 4(n) * H _ 4(m) + H _ 3(n) * H _ 5(m), where H _ 1=A139398, H _ 3=A139714, H _ 4=A139748, H _ 5=A139761. - _ Vladimir Shevelev _ , Jun 18 2017 •

[A131023] • 1,2,3,4,5,7,14,37,101,256,593,1267,2534,4825,8921,16384,30581,58975,117950,242461,504605,1048576,2156201,4371451,8742902 ⋆ First subdiagonal of triangular array T: T(j,1) = 1 for ((j-1) mod 6) < 3, else 0; T(j,k) = T(j-1,k-1) + T(j-1,k) for 2 <= k <= j. • a(1) = 1, a(2) = 2, a(3) = 3, a(4) = 4; for n > 4, a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3). •

[A171979] • 1,1,2,3,4,5,8,8,12,14,19,21,30,31,42,50,62,69,91,99,126,144,175,198,246 ⋆ Number of partitions of n such that smaller parts do not occur more frequently than greater parts. • a(n) = p(n,0,1,1) with p(n,i,j,k) = if k<=n then p(n - k,i,j + 1,k) + p(n,max(i,j),1,k + 1) else (if j<i or n>0 then 0 else 1) . •

[A047602] • 0,1,2,3,4,5,8,9,10,11,12,13,16,17,18,19,20,21,24,25,26,27,28,29,32 ⋆ Numbers that are congruent to {0, 1, 2, 3, 4, 5} mod 8. • a(n) = floor((8 / 7) * floor(7 * (n - 1) / 6)). - _ Bruno Berselli _ , May 03 2016 • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 39 - 3 * cos(n * Pi) - 4 * sqrt(3) * cos((4 * n + 1) * Pi / 6) - 12 * sin((1 - 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 3, a(6k - 1) = 8k - 4, a(6k - 2) = 8k - 5, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A047369] • 1,2,3,4,5,8,9,10,11,12,15,16,17,18,19,22,23,24,25,26,29,30,31,32,33 ⋆ Numbers that are congruent to {1, 2, 3, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 7 for n > 5. • a(n) = n + 2 * floor((n - 1) / 5), a(n) = 7 * n / 5 - 2 * (1 + ((n + 4) mod 5)) / 5. • a(5 * k) = 7 * k - 2, a(5 * k - 1) = 7 * k - 3, a(5 * k - 2) = 7 * k - 4, a(5 * k - 3) = 7 * k - 5, a(5 * k - 4) = 7 * k - 6. (End) •

[A047247] • 2,3,4,5,8,9,10,11,14,15,16,17,20,21,22,23,26,27,28,29,32,33,34,35,38 ⋆ Numbers that are congruent to {2, 3, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (6n - 1 - i ^ (2n) - (1 - i) * i ^ (- n) - (1 + i) * i ^ n) / 4 where i = sqrt(- 1). •

[A087278] • 0,1,2,3,4,5,8,9,10,15,16,17,24,25,26,35,36,37,48,49,50,63,64,65,80 ⋆ Distance to nearest square is not greater than 1. • a(n) = floor(n / 3) * (floor(n / 3) + 2) + n mod 3. •

[A044051] • 1,2,3,4,5,8,9,11,14,16,17,23,26,32,33,37,43,47,50,54,60,64,65,77,83 ⋆ a(n)=(s(n)+1)/2, where s=A006995 (base 2 palindromes). • a(n)=2 ^ (2 * m - 2 - p) + 1 + p * (1 - (- 1) ^ n) * 2 ^ (m - 1) + (1 / 2) * sum(k=1...(m - 1 - p), (floor((n - (3 - p) * 2 ^ (m - 1)) / 2 ^ (m - 1 - k)) mod 2) * (2 ^ k + 2 ^ (2 * m - 1 - p - k)) - _ Hieronymus Fischer _ , Feb 18 2012 •

[A029000] • 1,1,2,3,4,5,8,9,12,15,18,21,27,30,36,42,48,54,64,70,80,90,100,110,125 ⋆ Expansion of 1/((1-x)(1-x^2)(1-x^3)(1-x^6)). • a(n) = floor(1 / 18 * (- 3 * floor((n + 2) / 3) + 3 * floor(n / 3) + 2) * (floor(n / 3) + 1) + 1 / 432 * (n + 6) * (2 * n ^ 2 + 24 * n + 47 + 9 * (- 1) ^ n) + 7 / 36). - _ Tani Akinari _ , Jul 04 2013 •

[A094103] • 1,1,2,3,4,5,8,9,13,16,22,26,37,43,60,71,98,115,160,187,259,304,420,492,681 ⋆ a(n) = sum along n-th diagonal of A094102 (sloping downward to left). • a(1)=1, a(2)=1, a(3)=2, a(4)=3, a(5)=4, a(6)=5, a(7)=8, a(n)=a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5) - a(n - 7) [From Harvey P. Dale, Oct 09 2011] •

[A047597] • 0,2,3,4,5,8,10,11,12,13,16,18,19,20,21,24,26,27,28,29,32,34,35,36,37 ⋆ Numbers that are congruent to {0, 2, 3, 4, 5} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 50 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) - 7 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 3, a(5k - 1) = 8k - 4, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[A211544] • 0,0,0,1,2,3,4,5,8,10,12,15,17,21,25,28,32,36,41,46,51,56,61,68,74 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w=3x-5y. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 6) - a(n - 8) + a(n - 9). •

[A110539] • 1,1,2,3,4,5,8,10,15,23,35,58,101,193,381,817,1820,4298,10550,27037,71715,197062,558923,1635948,4932931 ⋆ Diagonal sums of A110537 viewed as a number triangle. • a(n) = Sum _{ k=1..floor((n + 1) / 2) } Sum _{ j=1..min(n - 2k + 2, k) } ceiling(j ^ (n - 2k + 2) / (n - 2k + 2) ^ j) * ceiling(j ^ k / k ^ j). •

[A186041] • 2,3,4,5,8,11,13,14,17,18,20,23,25,26,28,29,32,33,35,38,39,41,43,44,46 ⋆ Numbers of the form 3*k + 2, 5*k + 3, or 7*k + 4. • a(n) = a(n - 57) + 105. • a(n) = a(n - 1) + a(n - 57) - a(n - 58). •

[A008812] • 1,2,3,4,5,8,11,14,17,20,25,30,35,40,45,52,59,66,73,80,89,98,107,116,125 ⋆ Expansion of (1+x^5)/(1-x)^2/(1-x^5). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7). - _ R. H. Hardin _ , Nov 16 2011 •

[A135318] • 1,1,1,2,3,4,5,8,11,16,21,32,43,64,85,128,171,256,341,512,683,1024,1365,2048,2731 ⋆ a(n) = a(n-2) + 2a(n-4). • a(n) = ((((- i) ^ (n + 1) - i ^ (n + 1)) * 2 * i * sqrt(2) + 3 * (1 + (- 1) ^ (n + 1)) * 2 ^ ((n + 2) / 2) + (1 - (- 1) ^ (n + 1)) * 2 ^ ((n + 5) / 2)) / (12 * sqrt(2)), where i=sqrt(- 1). (End) • a(2n) = 2 * a(2n - 1) - a(2n - 2); a(2n + 1) = a(2n) + a(2n - 2). - _ Richard R. Forberg _ , Aug 19 2013 •

[A139761] • 1,2,3,4,5,8,11,21,29,55,76,144,199,377,521,987,1364,2584,3571,6765,9349,17711,24476,46368,64079 ⋆ Numbers n for which the set of residues {Fibonacci(k) mod n, k=0,1,2,....} is minimal. • a(n) = 3 * a(n - 2) - a(n - 4) for n>9. •

[A094087] • 1,2,3,4,5,8,12,16,18,20,27,32,38,42,45,56,64,71,76,80,95 ⋆ Domination number of the Cartesian product of two n-cycles. • a(5n) = 5n ^ 2. - Richard Bean (oeis(AT)okuvrumo.fea.st), Jun 08 2006 •

[A113439] • 1,1,1,1,2,3,4,5,8,12,17,23,34,50,72,101,146,212,306,436,627,905,1305,1871,2689 ⋆ a(n) = a(n-1) + Sum_{k=1..floor(n/4)} a(n-4k), with a(0)=1. • a(n) = a(n - 1) + 2 * a(n - 4) - a(n - 5). • a(n) = 9 * a(n - 4) - 28 * a(n - 8) + 38 * a(n - 12) - 20 * a(n - 16) + a(n - 20). •

[A292325] • 2,3,4,5,8,13,20,29,40,56,80,115,164,230,320,445,620,864,1200,1660,2290,3155,4344,5975,8206 ⋆ p-INVERT of (1,0,0,0,1,0,0,0,0,0,...), where p(S) = (1 - S)^2. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 5) - 2 * a(n - 6) - a(n - 10) for n >= 11. •

[A108014] • 0,2,3,4,5,8,14,24,39,62,99,160,260,422,683,1104,1785,2888,4674,7564,12239,19802,32039,51840,83880 ⋆ Expansion of (x^2-2*x)/(x^4-x^2+2*x-1). • a(n) = (1 / 2) * [Lucas(n + 1) + 2 * cos((n + 4) * Pi / 3)]. • a(0)=0, a(1)=2, a(2)=3, a(3)=4, a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4). [_ Harvey P. Dale _ , Aug 19 2011] •

[A047603] • 1,2,3,4,5,9,10,11,12,13,17,18,19,20,21,25,26,27,28,29,33,34,35,36,37 ⋆ Numbers that are congruent to {1, 2, 3, 4, 5} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n>5. • a(n) = (40 * n - 45 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 12 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 3, a(5k - 1) = 8k - 4, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 7. (End) • a(n) = n + 3 * floor((n - 1) / 5). - _ Wesley Ivan Hurt _ , Aug 08 2016 •

[A047362] • 2,3,4,5,9,10,11,12,16,17,18,19,23,24,25,26,30,31,32,33,37,38,39,40,44 ⋆ Numbers that are congruent to {2, 3, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 7 - 3 * (i ^ (2 * n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n)) / 8 where i=sqrt(- 1). •

[A081869] • 2,3,4,5,9,10,11,21,22,23,45,46,91,92,183,365,729,1457,2913,5825,11649,11650,23299,46597,93193 ⋆ a(1)=2; for n>1, a(n)=2*a(n-1)-1 if that number is composite, a(n)=a(n-1)+1 otherwise. • a(n)=s(n) * 2 ^ c(n) where c(n) is an integer sequence and s(n) converges to 1.42200496164156575847059 5.... •

[A038201] • 1,1,1,1,1,2,3,4,5,9,12,14,15,29,41,50,55,105,146,175,190,365,511,616,671 ⋆ 5-wave sequence. • a(n) = a(n - 1) + a(n - 2) if n=4 * m + 1, a(n) = a(n - 1) + a(n - 4) if n=4 * m + 2, a(n) = a(n - 1) + a(n - 6) if n=4 * m + 3 and a(n) = a(n - 1) + a(n - 8) if n=4 * m. • a(n) = 3 * a(n - 4) + 3 * a(n - 8) - 4 * a(n - 12) - a(n - 16) + a(n - 20). • a(n - 1) = sequence(sequence(T(n, k), k=2..5), n>=2) with a(0)=1; T(n,k) = sum(T(n - 1,k1), k1 = 6 - k..5) with T(1,1) = T(1,2) = T(1,3) = T(1,4) = 0 and T(1,5) = 1; n>=1 and 1 <= k <= 5. [Steinbach] •

[A191321] • 1,1,1,1,2,3,4,5,9,14,20,27,47,74,109,153,262,415,622,894,1516,2410,3653,5335,8988 ⋆ Number of dispersed Dyck paths of length n (i.e., Motzkin paths of length n with no (1,0) steps at positive heights) having only ascents of even length (an ascent is a maximal sequence of consecutive (1,1)-steps). • a(n) = Sum _{ m=0..n } ((m + 1) * Sum _{ i=0..floor((n + 1) / 4) - m - 1) } ((binomial(2 * m + 3 * i + 1,i) * (binomial(n - 3 * (m + 1) - 4 * i,m + 1))) / (m + i + 1))) + 1. - _ Vladimir Kruchinin _ , Mar 12 2016 •

[A065885] • 2,3,4,5,9,25,26,64,169,441,1156,3025,7921,20736,54289,142129,372100,974169,2550409,6677056,17480761,45765225,119814916,313679521,821223649 ⋆ a(n)-1, a(n) and a(n)+1 form three consecutive integers that can be factored into Fibonacci numbers. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for n>10. •

[A007092] • 0,1,2,3,4,5,10,11,12,13,14,15,20,21,22,23,24,25,30,31,32,33,34,35,40 ⋆ Numbers in base 6. • a(0)=0, a(n) = 10 * a(n / 6) if n==0 (mod 6), and a(n) = a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 • a(n) = Sum { d(i) * 10 ^ i: i=0,1,...,m } , where Sum { d(i) * 6 ^ i: i=1,2,...,m } = n, and d(i) in { 0,1,...,5 } . - _ Karol Bacik _ , Sep 25 2012 •

[A047596] • 2,3,4,5,10,11,12,13,18,19,20,21,26,27,28,29,34,35,36,37,42,43,44,45,50 ⋆ Numbers that are congruent to {2, 3, 4, 5} mod 8. • a(n) = 2 * n - 1 - i ^ (n * (n + 1)) - (1 + (- 1) ^ n) / 2, where i=sqrt(- 1). [_ Bruno Berselli _ , Jul 17 2012] • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A199502] • 1,2,3,4,5,10,11,12,13,18,19,20,21,30,31,36,37,38,39,48,49,54,55,56,57 ⋆ From Janet helicoidal classification of the periodic table. • a(n + 2) - a(n) = r(n + 1) = 2, 2, 2, 6, 6, 2, 2, n=1,2,3,... • a(2 * n + 1) - a(2 * n) = 1 = A000012. •

[A140730] • 1,2,3,4,5,10,15,20,25,50,75,100,125,250,375,500,625,1250,1875,2500,3125,6250,9375,12500,15625 ⋆ a(4*n)=5^n, a(4*n+1)=2*5^n, a(4*n+2)=3*5^n, a(4*n+3)=4*5^n. • a(n + 1) = a(n) + a(n - n mod 4). • a(n) = (n + 1 - 4 * floor(n / 4)) * 5 ^ floor(n / 4). - _ Luce ETIENNE _ , Aug 05 2015 • a(n) = 5 * a(n - 4) for n>3; a(n) = n + 1 for n<5. - _ Bruno Berselli _ , Aug 05 2015 •

[A033077] • 1,2,3,4,5,10,17,18,25,32,61,104,111,154,197,370,629,666,925,1184,2221,3776,3999,5554,7109 ⋆ Numbers n with property that all pairs of consecutive base 6 digits differ by 3. • a(n) = 6 * a(n - 5) + a(n - 10) - 6 * a(n - 15) for n>15. - _ Colin Barker _ , Jun 01 2015 •

[A190912] • 1,2,3,4,5,10,19,36,69,134,263,516,1013,1990,3911,7688,15113,29710,58407,114824,225737,443786,872459,1715208,3372009 ⋆ Partial sums of pentanacci numbers (A000322). • a(1)=1, a(2)=2, a(3)=3, a(4)=4, a(5)=5, a(6)=10, a(n)=2 * a(n - 1) - a(n - 6) [From Harvey P. Dale, May 23 2011] •

[A111666] • 2,3,4,5,10,27,68,173,450,1179,3084,8069,21122,55299,144772,379013,992266,2597787,6801092,17805485,46615362,122040603,319506444,836478725,2189929730 ⋆ Expansion of (-2+3*x+3*x^2+4*x^3+3*x^4-5*x^5)/((x-1)*(x+1)*(1+x^2)*(x^2-3*x+1)). • a(0)=2, a(1)=3, a(2)=4, a(3)=5, a(4)=10, a(5)=27, a(n)=3 * a(n - 1) - a(n - 2) + a(n - 4) - 3 * a(n - 5) + a(n - 6). - _ Harvey P. Dale _ , Jan 24 2015 •

[A084545] • 1,2,3,4,5,11,12,13,14,15,21,22,23,24,25,31,32,33,34,35,41,42,43,44,45 ⋆ Alternate number system in base 5. • a(n) = Sum _{ j=0..m - 1 } (1 + b(j) mod 5) * 10 ^ j, where m = floor(log _ 5(4 * n + 1)), b(j) = floor((4 * n + 1 - 5 ^ m) / (4 * 5 ^ j)). • a(k * (5 ^ n - 1) / 4) = k * (10 ^ n - 1) / 9, for k = 1,2,3,4,5. • a((9 * 5 ^ n - 5) / 4) = (14 * 10 ^ n - 5) / 9 = 10 ^ n + 5 * (10 ^ n - 1) / 9. • a((5 ^ n - 1) / 4 - 1) = 5 * (10 ^ (n - 1) - 1) / 9, n>1. • a(n) <= (10 ^ log _ 5(4 * n + 1) - 1) / 9, equality holds for n=(5 ^ k - 1) / 4, k>0. • a(n) > (5 / 10) * (10 ^ log _ 5(4 * n + 1) - 1) / 9, n>0. •

[A132027] • 1,2,3,4,5,12,14,16,27,30,33,48,52,56,75,80,85,216,228,240,294,308,322,384,400 ⋆ a(n) = Product_{k=0..floor(log_3(n))} floor(n/3^k), n>=1. • a(k * 3 ^ m)=k ^ (m + 1) * 3 ^ (m(m + 1) / 2), for k=1 or 2. • a(n)<=b(n), where b(n)=n ^ (1 + floor(log _ 3(n))) / 3 ^ (1 / 2 * (1 + floor(log _ 3(n)))) * floor(log _ 3(n))); equality holds if n is a power of 3 or two times a power of 3. • a(n)>c * b(n), where c=0.38266319667903302328895 50... (see constant A132019). • a(n)=O(n ^ ((1 + log _ 3(n)) / 2)). •

[A175303] • 1,2,3,4,5,13,14,43,79,457,458,5145,5146,38237,259920,1702869,1702870,28603827,28603828,402599903,3319634320,34246343007,34246343008 ⋆ a(n) = number of finite sequences using numbers drawn from (1,2,3,...,n), using each number at most once, where each number in a finite sequence is not coprime to the previous number, and each finite sequence must continued if possible. (See example.) • a(p)=a(p - 1) + 1 for all primes p. •

[A237342] • 0,1,2,3,4,5,25,225,2225,22225,222225,2222225,22222225,222222225,2222222225,22222222225,222222222225,2222222222225,22222222222225,222222222222225,2222222222222225,22222222222222225,222222222222222225 ⋆ For k in {2,3,...,9} define a sequence as follows: a(0)=0; for n>=0, a(n+1)=a(n)+1, unless a(n) ends in k, in which case a(n+1) is obtained by replacing the last digit of a(n) with the digit(s) of k^2. This is k(5). • a(n) = (25 + 2 * 10 ^ (n - 4)) / 9 for n>4. [_ Bruno Berselli _ , Feb 08 2014] •

[A106006] • 0,0,1,2,3,4,6,6,7,8,10,10,12,12,13,15,16,16,18,18,20,21,22,22,24 ⋆ [n/2] + [n/3] + [n/5]. • a(n) = kn + O(1), where k = 31 / 30. - _ Charles R Greathouse IV _ , Dec 04 2013 •

[A175808] • 1,2,3,4,6,6,7,8,11,11,13,13,14,14,15,16,20,20,23,23,25,25 ⋆ n-th term is the length of a shortest common superstring of the binary representations of all natural numbers from 1 to n. • a(5)=6 because 6 is the length of 110100 or 101100, which are the 2 possible shortest common superstrings of 1, 10,11,100,101. •

[A239492] • 0,0,2,3,4,6,6,8,9,10,12,12,14,15,16,18,18,20,21,22,24,24,26,27,28 ⋆ The fifth bicycle lock sequence: a(n) is the maximum value of min{x*y, (5-x)*(n-y)} over 0 <= x <= 5, 0 <= y <= n for integers x, y. • a(n) = max(m in { x * y, (5 - x) * (n - y)) | 0 <= x <= 5, 0 <= y <= n). • a(n) = n + floor(n / 5) - [n == 1 mod 5]. - _ Ralf Stephan _ , Mar 29 2014 • a(n) = 6 * floor(n / 5) + [0,0,2,3,4][n % 5]. - _ Ralf Stephan _ , Mar 29 2014 • a(n) = n - 1 + floor(n / 5) + ceiling((n - 1) / 5) - floor((n - 1) / 5). _ Wesley Ivan Hurt _ , Mar 29 2014 •

[A052413] • 0,1,2,3,4,6,7,8,9,10,11,12,13,14,16,17,18,19,20,21,22,23,24,26,27 ⋆ Numbers without 5 as a digit. • a(n) = replace digits d > 4 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A004776] • 0,1,2,3,4,6,7,8,9,10,11,12,14,15,16,17,18,19,20,22,23,24,25,26,27 ⋆ Numbers n not congruent to 5 (mod 8). • a(n) = n + floor((n - 6) / 7). - _ M. F. Hasler _ , Nov 02 2013 • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8; a(n) = a(n - 7) + 8 for n>7. • a(n) = (56 * n - 63 + (n mod 7) - 6 * ((n + 1) mod 7) + ((n + 2) mod 7) + ((n + 3) mod 7) + ((n + 4) mod 7) + ((n + 5) mod 7) + ((n + 6) mod 7)) / 49. • a(7k) = 8k - 1, a(7k - 1) = 8k - 2, a(7k - 2) = 8k - 4, a(7k - 3) = 8k - 5, a(7k - 4) = 8k - 6, a(7k - 5) = 8k - 7, a(7k - 6) = 8k - 8. (End) •

[A183217] • 2,3,4,6,7,8,9,10,11,13,14,15,16,17,18,19,20,21,23,24,25,26,27,28,29 ⋆ Complement of the pentagonal numbers. • a(n)= n + Floor[1 / 2 + (2n / 3) ^ (1 / 2)]. •

[A047303] • 0,1,2,3,4,6,7,8,9,10,11,13,14,15,16,17,18,20,21,22,23,24,25,27,28 ⋆ Numbers that are congruent to {0, 1, 2, 3, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = n + 1 + floor((n - 2) / 6) - ceiling((n - 1) / 6) + floor((n - 1) / 6) - ceiling(n / 6) + floor(n / 6). (End) • a(n) = (42 * n - 51 + 3 * cos(n * Pi) + 4 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) + 12 * sin((1 + 2 * n) * Pi / 6)) / 36. • a(6k) = 7k - 1, a(6k - 1) = 7k - 3, a(6k - 2) = 7k - 4, a(6k - 3) = 7k - 5, a(6k - 4) = 7k - 6, a(6k - 5) = 7k - 7. (End) •

[A047226] • 0,1,2,3,4,6,7,8,9,10,12,13,14,15,16,18,19,20,21,22,24,25,26,27,28 ⋆ Numbers that are congruent to {0, 1, 2, 3, 4} mod 6; a(n)=floor(6(n-1)/5). • a(n) = floor(6 * (n - 1) / 5). • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. • a(n) = n - 1 + floor((n - 1) / 5). (End) •

[A059537] • 1,2,3,4,6,7,8,9,10,12,13,14,15,16,18,19,20,21,22,24,25,26,27,28,30 ⋆ Beatty sequence for zeta(3). • a(n) = floor(n * zeta(3)). - _ Michel Marcus _ , Jan 04 2015 •

[A187388] • 1,2,3,4,6,7,8,9,10,12,13,14,15,16,18,19,20,21,23,24,25,26,27,29,30 ⋆ Floor(s*n), where s=1+sqrt(6)-sqrt(5); complement of A187387. • a(n)=floor(s * n), where s=1 + sqrt(6) - sqrt(5). •

[A260816] • 0,0,0,1,2,3,4,6,7,8,9,10,12,13,14,16,17,18,19,21,22,23,25,26,27 ⋆ a(n) = floor(log(Catalan(n)). • a(n) = floor(log(C(n)). •

[A277644] • 1,2,3,4,6,7,8,9,11,12,13,14,15,17,18,19,20,22,23,24,25,26,28,29,30 ⋆ Beatty sequence for sqrt(6)/2. • a(n) = floor(n * sqrt(6) / 2). •

[A115180] • 1,2,3,4,6,7,8,9,11,12,13,14,16,17,18,19,20,22,23,24,25,27,28,29,30 ⋆ Beatty sequence for (Champernowne constant)*10 = 1.234567891011121314.... • a(n) = floor(n * 1.234567891011121314...). •

[A045774] • 0,1,2,3,4,6,7,8,9,11,12,13,14,16,17,18,19,21,22,23,24,25,26,27,29 ⋆ Extension of Beatty sequence; complement of A045775. • a(n)=mex { a(i), b(i):0 <= i<n } , where b=A045775, mex S=least integer >= 0 not in the sequence S. •

[A045681] • 0,1,2,3,4,6,7,8,9,11,12,13,14,16,17,18,19,21,22,23,24,25,26,28,29 ⋆ Extension of Beatty sequence; complement of A045682. • a(n)=mex { a(i), b(i):0<=i<n } , where b=A045682, mex S=least integer >= 0 not in the sequence S. •

[A047201] • 1,2,3,4,6,7,8,9,11,12,13,14,16,17,18,19,21,22,23,24,26,27,28,29,31 ⋆ Numbers not divisible by 5. • a(n) = 5 + a(n - 4). • a(n) = n - 1 + floor((n + 3) / 4). - _ Benoit Cloitre _ , Jul 11 2009 • a(n) = floor((15n - 1) / 12). - _ Gary Detlefs _ , Mar 07 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5), n>5.

• a(n) = (10 * n - 5 - (- 1) ^ n + 2 * (- 1) ^ ((2 * n + 5 - (- 1) ^ n) / 4)) / 8 . (End) •

[A001959] • 0,2,3,4,6,7,8,9,11,12,13,15,16,17,19,20,21,23,24,25,26,28,29,30,32 ⋆ Wythoff game. • a(n) = floor((n + 2 / 3) * (sqrt(13) - 1) / 2). - R. J. Mathar, Feb 14 2011 •

[A013939] • 0,1,2,3,4,6,7,8,9,11,12,14,15,17,19,20,21,23,24,26,28,30,31,33,34 ⋆ Partial sums of sequence A001221 (number of distinct primes dividing n). • a(n) = Sum _{ k <= n } omega(k). • a(n) = Sum _{ k = 1..n } floor(n / prime(k)). • a(n) = Sum _{ k=1..n } pi(floor(n / k)). - _ Vladeta Jovovic _ , Jun 18 2006 • a(n) = n log log n + O(n). - _ Charles R Greathouse IV _ , Jan 11 2012 • a(n) = n * (log log n + B) + o(n), where B = 0.261497... is the Mertens constant A077761. - _ Arkadiusz Wesolowski _ , Oct 18 2013 •

[A004763] • 0,1,2,3,4,6,7,8,9,12,13,14,15,16,17,18,19,24,25,26,27,28,29,30,31 ⋆ Numbers n such that binary expansion does not begin 101. • a(1) = 0, a(2) = 1, a(3) = 2, a(2 ^ m + k + 2) = 2 ^ m + 2 ^ (m - 1) + k, m >= 1, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 08 2016 •

[A004772] • 0,2,3,4,6,7,8,10,11,12,14,15,16,18,19,20,22,23,24,26,27,28,30,31,32 ⋆ Numbers that are not congruent to 1 mod 4. • a(n) = floor((4 * n - 2) / 3). - _ Gary Detlefs _ , Jan 02 2012 • a(n) = n + ceiling((n - 1) / 3) - 1. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = 4 + a(n - 3). • a(n) = (12 * n - 9 - 3 * cos(2 * (n - 1) * Pi / 3) + sqrt(3) * sin(2 * (n - 1) * Pi / 3)) / 9. (End) • a(n) = ceiling(4 * (n - 1) / 3). - _ Jean - François Alcover _ , Mar 07 2014 •

[A257282] • 0,1,2,3,4,6,7,8,10,12,14,16,17,18,20,22,24,26,28,30,32,34,36,38,40 ⋆ Numbers whose square is not the sum of two consecutive nonsquares. • a(n) = sqrt(A256944). •

[A023758] • 0,1,2,3,4,6,7,8,12,14,15,16,24,28,30,31,32,48,56,60,62,63,64,96,112 ⋆ Numbers of the form 2^i - 2^j with i >= j. • a(n) = 2 ^ s(n) - 2 ^ ((s(n) ^ 2 + s(n) - 2n) / 2) where s(n) = ceiling((- 1 + sqrt(1 + 8n)) / 2). - _ Sam Alexander _ , Jan 08 2005 • a(n + 1) = (2 ^ (n - r(r - 1) / 2) - 1) 2 ^ (r(r + 1) / 2 - n), where r=round(sqrt(2n)). - _ M. F. Hasler _ , May 06 2009 •

[A029748] • 1,2,3,4,6,7,8,12,14,16,24,28,32,48,56,64,96,112,128,192,224,256,384,448,512 ⋆ 2^n times 1, 3 or 7. • a(n) = 2 * a(n - 3) for n>5. G.f.: - (x ^ 5 + 2 * x ^ 4 + 2 * x ^ 3 + 3 * x ^ 2 + 2 * x + 1) / (2 * x ^ 3 - 1). - _ Colin Barker _ , Jul 19 2013 •

[A065904] • 2,3,4,6,7,9,10,11,12,13,14,19,20,21,22,23,24,26,29,31,32,37,38,39,40 ⋆ Integers i > 1 for which there is one prime p such that i is a solution mod p of x^4 = 2. • a(n) = n - th integer i such that i ^ 4 - 2 has one prime factor > i. •

[A047519] • 1,2,3,4,6,7,9,10,11,12,14,15,17,18,19,20,22,23,25,26,27,28,30,31,33 ⋆ Numbers that are congruent to {1, 2, 3, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7), for n > 7. • a(n) = (24 * n - 15 - 3 * cos(n * Pi) - 2 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) + 6 * sin((1 + 2 * n) • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 7. (End) •

[A214857] • 1,2,3,4,6,7,9,10,11,13,14,16,17,18,20,21,23,24,25,27,28,30,31,33,34 ⋆ Number of triangular numbers in interval [0, n^2]. • a(n) = floor((1 + sqrt(1 + 8 * n ^ 2)) / 2). - _ Ralf Stephan _ , Jan 30 2014 •

[A078607] • 1,2,3,4,6,7,9,10,12,13,14,16,17,19,20,22,23,25,26,27,29,30,32,33,35 ⋆ Least positive integer x such that 2*x^n>(x+1)^n. • a(n) = ceiling(1 / (2 ^ (1 / n) - 1)). For most n, a(n) is the nearest integer to n / log(2), but there are exceptions, including n=777451915729368. •

[A230748] • 2,3,4,6,7,9,10,12,13,14,16,17,19,20,22,23,25,26,27,29,30,32,33,35,36 ⋆ floor(1/(1-x)), where x^n = 1/2. • a(n) = floor(1 / (1 - 1 / 2 ^ (1 / n))). • a(n) = n / log(2) + O(1). - _ Charles R Greathouse IV _ , Oct 31 2013 •

[A079057] • 0,1,2,3,4,6,7,9,10,12,13,15,16,18,20,21,22,24,25,27,29,31,32,35,36 ⋆ a(n)=sum(k=1,n,bigomega(tau(k))). • a(n)=n * log(log(n)) + O(n) •

[A111333] • 1,2,3,4,6,7,9,10,12,15,16,19,21,22,24,27,30,31,34,36,37,40,42,45,49 ⋆ Number of odd numbers <= n-th prime. • a(n) = ceiling((prime _ n) / 2). - _ Robert G. Wilson v _ , Nov 07 2005 •

[A006254] • 2,3,4,6,7,9,10,12,15,16,19,21,22,24,27,30,31,34,36,37,40,42,45,49,51 ⋆ Numbers n such that 2n-1 is prime. • a(n) = sqrt((A065091 ^ 2 + 2 * A065091 + 1) / 4). [_ Eric Desbiaux _ , Jun 29 2009] •

[A064313] • 0,0,1,1,2,3,4,6,7,9,11,13,15,17,20,22,25,28,31,34,38,41,45,49,53 ⋆ Integer part of area of a regular polygon with n sides each of length 1. • a(n) = floor[n / (4 * tan(pi / n))]. •

[A011865] • 0,0,0,0,1,1,2,3,4,6,7,9,11,13,15,17,20,22,25,28,31,35,38,42,46 ⋆ a(n) = floor(n*(n - 1)/12). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8) + a(n - 9) - 2 * a(n - 10) + a(n - 11). •

[A253186] • 0,0,1,2,3,4,6,7,9,11,13,15,18,20,23,26,29,32,36,39,43,47,51,55,60 ⋆ Number of connected unlabeled multigraphs with 3 vertices and n edges. • a(n) = floor(n / 2) + floor((n ^ 2 + 6) / 12). •

[A249020] • 1,1,2,3,4,6,7,9,11,13,16,18,21,24,27,31,34,38,42,46,51,55,60,65,70 ⋆ a(n) = floor(n * (n+5) / 10) + 1. • a(n) = a(- 5 - n) for all n in Z. • a(n) = a(n - 5) + n for all n in Z. • a(n) + a(n + 4) = min(a(n + 1) + a(n + 3), a(n + 2) + a(n + 2)) + 1 for all n in Z. •

[A173254] • 1,1,2,3,4,6,7,9,11,13,16,19,22,26,29,33,37,41,46,51,56,62,67,73,79 ⋆ a(n) = a(n-1) + a(n-2) - [a(n-2)/2] - [a(n-4)/2]. • a(n)=a(n - 1) + a(n - 2) - Floor[a(n - 2) / 2] - Floor[a(n - 4) / 2] •

[A097987] • 1,2,3,4,6,7,9,11,14,18,19,22,23,27,31,38,43,46,47,49,54,59,62,67,71 ⋆ Numbers n such that 4 does not divide phi(n), where phi is Euler's totient function (A000010). • a(n)=1, 2, 4, p ^ k, 2 * p ^ k, with prime p == 3 (mod 4). •

[A047518] • 2,3,4,6,7,10,11,12,14,15,18,19,20,22,23,26,27,28,30,31,34,35,36,38,39 ⋆ Numbers that are congruent to {2, 3, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. •

[A055802] • 1,1,1,2,3,4,6,7,10,11,15,16,21,22,28,29,36,37,45,46,55,56,66,67,78 ⋆ T(n,n-2), array T as in A055801. • a(n) = (2 * n ^ 2 + 2 * (- 1) ^ n * n - 6 * n - 11 * (- 1) ^ n + 11) / 16 for n>2. • a(n) = (n ^ 2 - 2 * n) / 8 for n>2 and even. • a(n) = (n ^ 2 - 4 * n + 11) / 8 for n odd. •

[A134519] • 1,2,3,4,6,7,10,11,15,16,21,22,28,29,36,37,45,46,55,56,66,67,78,79,91 ⋆ Numbers remaining when the natural numbers (A000027) are arranged into a triangle and only the beginning and end terms of each row are retained. • a(n) = (16 + 4 * n + 2 * n ^ 2) / 16 for n even, a(n) = (3 + 4 * n + n ^ 2) / 8 for n odd. G.f.: - x * (x ^ 4 - x ^ 3 - x ^ 2 + x + 1) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Jul 17 2013 •

[A036405] • 0,1,1,2,3,4,6,7,10,12,15,18,21,25,28,33,37,42,47,52,58,63,70,76,83 ⋆ a(n) = ceiling(n^2/7). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). G.f.: x * (1 + x) * (x ^ 2 - x + 1) * (x ^ 4 - x ^ 3 + x ^ 2 - x + 1) / ((x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (1 - x) ^ 3). [_ R. J. Mathar _ , Jul 06 2010] •

[A226538] • 1,1,2,3,4,6,7,11,12,19,20,32,33,53,54,87,88,142,143,231,232,375,376,608,609 ⋆ a(2t) = a(2t-1) + 1, a(2t+1) = a(2t) + a(2t-2) for t >= 1, with a(0) = a(1) = 1. • a(n) = a(n - 1) + a(n - 3) * (1 - (- 1) ^ n) / 2 + (1 + (- 1) ^ n) / 2. - _ Paolo P. Lava _ , Jun 27 2013 •

[A047420] • 0,1,2,3,4,6,8,9,10,11,12,14,16,17,18,19,20,22,24,25,26,27,28,30,32 ⋆ Numbers that are congruent to {0, 1, 2, 3, 4, 6} mod 8. • a(n + 1) = 6 * floor(n / 3) + (n mod 3). - _ Gary Detlefs _ , Mar 09 2010 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (12 * n - 18 + sqrt(3) * (3 * sin(n * Pi / 3) + sin(2 * n * Pi / 3))) / 9. • a(6k) = 8k - 2, a(6k - 1) = 8k - 4, a(6k - 2) = 8k - 5, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A047229] • 0,2,3,4,6,8,9,10,12,14,15,16,18,20,21,22,24,26,27,28,30,32,33,34,36 ⋆ Numbers that are congruent to {0, 2, 3, 4} mod 6. • a(n) = (6 * (n - 1) - (1 + (- 1) ^ n) * (- 1) ^ (n * (1 + (- 1) ^ n) / 4)) / 4; also a(n) = (6 * (n - 1) - (- i) ^ n - i ^ n) / 4, where i is the imaginary unit. - _ Bruno Berselli _ , Nov 08 2010 • a(n) = floor((6 * n - 5) / 4) + floor(1 / 2 * cos((n + 2) * Pi / 2) + 1 / 2). - _ Gary Detlefs _ , Oct 28 2011 and corrected by _ Aleksey A. Solomein _ , Feb 08 2016 • a(n) = a(n - 1) + a(n - 4) - a(n - 5), n>4. - _ Giona ta Neri _ , Apr 15 2015 • a(n) = - a(2 - n) for all n in Z. - _ Michael Somos _ , Oct 05 2015 • a(n) = n + 2 * floor((n - 2) / 4) + floor(f(n + 2) / 3), where f(n) = n mod 4. - _ Aleksey A. Solomein _ , Feb 08 2016 • a(n) = (3 * n - 3 - cos(n * Pi / 2)) / 2. - _ Wesley Ivan Hurt _ , Oct 02 2017 •

[A055562] • 2,3,4,6,8,9,11,12,13,15,16,18,19,21,22,24,26,27,29,30,32,33,35,36,38 ⋆ a(n) = least number greater than a(n-1) not the sum of an earlier pair of consecutive terms, a(0) = 2. • a(2n) = 3n + 1 + (floor(log _ 2 n) mod 2), n >= 1; a(2n + 1) = 3n + 3, n >= 0 - _ Jeffrey Shallit _ , Jun 08, 2000. •

[A235933] • 1,2,3,4,6,8,9,11,12,13,16,17,18,19,22,23,24,26,27,29,31,32,33,34,36 ⋆ Numbers coprime to 35. • a(n) = a(n - 1) + a(n - 20) - a(n - 21) for n > 21. [_ Bruno Berselli _ , Mar 27 2014] •

[A278580] • 1,2,3,4,6,8,9,12,13,16,18,24,25,26,27,29,31,32,35,36,39,41,47,48,49 ⋆ Numbers n such that Jacobi(n,23) = 1. • a(n + 11) = a(n) + 23. • a(n) = a(n - 1) + a(n - 11) - a(n - 12) for n>12. •

[A036407] • 0,1,1,1,2,3,4,6,8,9,12,14,16,19,22,25,29,33,36,41,45,49,54,59,64 ⋆ Ceiling(n^2/9). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 9) - 2 * a(n - 10) + a(n - 11). •

[A083854] • 0,1,2,3,4,6,8,9,12,16,18,24,25,27,32,36,48,49,50,54,64,72,75,81,96 ⋆ Numbers that are squares, twice squares, three times squares, or six times squares, i.e., numbers whose squarefree part divides 6. • a(n) is bounded below by 0.137918... * n ^ 2 where 0.137918... = 3 * (3 - 2 * sqrt(2)) * (2 - sqrt(3)); the error appears to be O(n). •

[A121539] • 0,2,3,4,6,8,10,11,12,14,15,16,18,19,20,22,24,26,27,28,30,32,34,35,36 ⋆ Numbers n such that the binary expansion of n ends in an even number of 1's. • a(n) = 1.5n + O(log n). - _ Charles R Greathouse IV _ , Sep 23 2012 •

[A047418] • 0,2,3,4,6,8,10,11,12,14,16,18,19,20,22,24,26,27,28,30,32,34,35,36,38 ⋆ Numbers that are congruent to {0, 2, 3, 4, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 45 - 2 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5 * k) = 8 * k - 2, a(5 * k - 1) = 8 * k - 4, a(5 * k - 2) = 8 * k - 5, a(5 * k - 3) = 8 * k - 6, a(5 * k - 4) = 8 * k - 8. (End) •

[A184103] • 1,2,3,4,6,8,10,11,14,16,18,20,23,26,29,31,35,38,41,44,48,52,56,59,64 ⋆ n-1+ceiling(n^2/4); complement of A184102. • a(n)=n - 1 + ceiling(n ^ 2 / 4). • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 8) - 2 a(n - 9) + a(n - 10). - R. J. Mathar, Mar 11 2012 •

[A004271] • 0,1,2,3,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44 ⋆ 1, 3 and the nonnegative even numbers. • a(n) = 2 * n - 4 + floor(3 / n) + krondelta _{ n,2 } , n > 0. - Wesley Ivan Hurt, May 23 2013 •

[A004278] • 1,2,3,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46 ⋆ 1, 3 and the positive even numbers. • a(n) = 2 * a(n - 1) - a(n - 2), n > 2 and n is not 5. • a(n) = 2 * n - 2 + floor((4 / Pi) * arctan(2 - n)). • a(n) = (abs(4 - n) + 3 * n - 4) / 2. - _ Iain Fox _ , Dec 23 2017 •

[A113769] • 1,2,3,4,6,8,10,12,14,16,19,22,25,28,31,34,37,40,43,47,51,55,59,63,67 ⋆ a(1) = 1, a(n+1) = a(n) + round((a(n)^(1/3)). • a(1) = 1, a(n + 1) = a(n) + round(cuberoot(a(n))). •

[A097602] • 1,2,3,4,6,8,10,12,14,16,19,22,25,29,33,37,41,45,49,54,59,64,70,76,82 ⋆ a(n+1) = a(n) + number of squares so far; a(1) = 1. • a(9 * n + 1) = (3

* n + 1) ^ 2; a(9 * n + 4) = (3 * n + 2) ^ 2. - _ Vladeta Jovovic _ , Aug 30 2004 •

[A011862] • 0,0,0,0,1,2,3,4,6,8,10,12,14,17,20,23,26,30,34,38,42,46,51,56,61 ⋆ [n(n-1)/9]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 9) - 2 * a(n - 10) + a(n - 11). G.f.: x ^ 4 * (x ^ 4 + 1) / ((1 - x) ^ 3 * (1 + x + x ^ 2) * (x ^ 6 + x ^ 3 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A007183] • 0,0,0,1,2,3,4,6,8,10,12,15,16,19,22,25,27,30,32,35,37,40,42,45,48 ⋆ Maximal splittance of a planar graph with n nodes. • a(n) = 3 * n - 27 for n >= 23 [from Hammer and Simeone]. - _ Sean A. Irvine _ , Nov 12 2017 •

[A130519] • 0,0,0,0,1,2,3,4,6,8,10,12,15,18,21,24,28,32,36,40,45,50,55,60,66 ⋆ a(n) = Sum_{k=0..n} floor(k/4). (Partial sums of A002265.) • a(n) = + 2 * a(n - 1) - 1 * a(n - 2) + 1 * a(n - 4) - 2 * a(n - 5) + 1 * a(n - 6). • a(n) = floor((n - 1) ^ 2 / 8). - _ Mitch Harris _ , Sep 08 2008 • a(n) = round(n * (n - 2) / 8) = round((n ^ 2 - 2 * n - 1) / 8) = ceiling((n + 1) * (n - 3) / 8). - _ Mircea Merca _ , Nov 28 2010 • a(n) = a(n - 4) + n - 3, n>3. - _ Mircea Merca _ , Nov 28 2010 • a(n) = a(2 - n) for all n in Z. - _ Michael Somos _ , Oct 14 2011 • a(n) = Sum _{ i=1..ceiling(n / 2) - 1 } (i mod 2) * (n - 2 * i - 1). - _ Wesley Ivan Hurt _ , Jan 23 2014 •

[A001972] • 1,2,3,4,6,8,10,12,15,18,21,24,28,32,36,40,45,50,55,60,66,72,78,84,91 ⋆ Expansion of 1/((1-x)^2*(1-x^4)) = 1/((1+x)*(1+x^2)*(1-x)^3). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) + 1. a(n)=floor((n + 3) ^ 2 / 8) - _ Michael Somos _ , Apr 21 2000. • a(n)=sum { k=0..n, floor((k + 4) / 4) } =n + 1 + sum { k=0..n, floor(k / 4) } . - _ Paul Barry _ , Aug 19 2003 • a(n) = a(n - 4) + n + 1. - _ Paul Barry _ , Jul 14 2004 • a(n) = sum(j=0..n + 4, floor(j / 4)), a(n - 4) = (1 / 2) * floor(n / 4) * (2 * n - 2 - 4 * floor(n / 4)) [_ Mitch Harris _ , Sep 08 2008] • a(n) + a(n + 1) + a(n + 2) + a(n + 3) = (n + 4) * (n + 5) / 2. - _ Amarnath Murthy _ , Apr 26 2004 • a(n) = floor((n + 1) / (1 - e ^ (- 8 / (n + 1)))). - _ Richard R. Forberg _ , Aug 07 2013 •

[A005705] • 1,2,3,4,6,8,10,12,15,18,21,24,28,32,36,40,46,52,58,64,72,80,88,96,106 ⋆ Number of partitions of 4*n into powers of 4. • a(n) = a(n - 1) + a(floor(n / 4)). •

[A184109] • 2,3,4,6,8,10,13,16,18,22,25,28,32,36,40,45,50,54,60,65,70,76,82,88,95 ⋆ n + ceiling(n^2/9); complement of A184108. • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 9) - 2 a(n - 10) + a(n - 11). - R. J. Mathar, Mar 11 2012 •

[A214780] • 2,3,4,6,8,10,13,16,19,22,25,28,32,36,40,44,48,52,56,60,64,68,72,76,80 ⋆ a(1) = 2; a(n+1) = round(a(n)^(1 + 1/a(n))). • a(n + 1) = a(n) + log a(n) + O(1). a(n) ~ n log n. - _ Charles R Greathouse IV _ , Jul 30 2012 • a(n) = n log n + n log log n + O(n) so a(n) = prime(n) + O(n). - _ Thomas Ordowski _ , May 07 2013 •

[A024174] • 0,0,1,2,3,4,6,8,10,13,16,19,22,25,29,33,37,42,47,52,57,62,68,74,80 ⋆ a(n) is floor((4th elementary symmetric function of 1,2,..,n)/(3rd elementary symmetric function of 1,2,...,n)). • a(n) = floor((n - 3)(15n ^ 3 + 15n ^ 2 - 10 n - 8) / (120n(n + 1))]. - _ Ivan Neretin _ , Nov 25 2016 •

[A008748] • 1,1,2,3,4,6,8,10,13,16,19,23,27,31,36,41,46,52,58,64,71,78,85,93,101 ⋆ Expansion of (1 + x^5) / ((1 - x) * (1 - x^2) * (1 - x^3)) in powers of x. • a(n) = 1 + floor(n(n + 1) / 6). - _ Michael Somos _ , Jun 16 1999 • a(n) = 1 + a(n - 1) + a(n - 3) - a(n - 4) if n>4; a(n) = n if n=1..4. - _ Michael Somos _ , Jun 16 1999 • a(- 1 - n) = a(n). - _ Michael Somos _ , Sep 06 2013 •

[A022796] • 1,2,3,4,6,8,10,13,16,19,23,27,31,36,41,46,52,58,64,71,78,85,93,101,109 ⋆ Place where (n+1)-st 1 occurs in A023134. • a(n) = n + 1 + Sum _ ({ k=0..n } floor((n - k) / Pi. • a(n) <= floor(binomial(n + 1, 2) / Pi) + n + 1. - David A. Corneth, Mar 26 2017 •

[A109965] • 1,1,2,3,4,6,8,10,13,16,20,24,28,33,38,44,50,57,64,72,80,88,97,106,116 ⋆ Sum_i {i<n} floor(sqrt(a(i))) with a(0) = 1. • a(2 ^ (j + 1) + j + 2 * k) =2 ^ (2 * j) + 2 ^ j * (2 * k + 1) + k * (k - 1); • a(2 ^ (j + 1) + j + 2 * k + 1)=2 ^ (2 * j) + 2 ^ j * (2 * k + 2) + k ^ 2; • a(2 ^ (j + 1) + j - 1)=2 ^ (2 * j); j=0..infinity; k=0..(2 ^ j - 1). (End) •

[A008669] • 1,1,2,3,4,6,8,10,13,16,20,24,29,34,40,47,54,62,71,80,91,102,114,127,141 ⋆ Molien series for 4-dimensional complex reflection group of order 7680 (in powers of x^4). • a(n) = round((n + 3) * (2 * n + 9) * (n + 9) / 360). • a(n)=a(n - 1) + a(n - 2) - a(n - 4) - a(n - 7) + a(n - 9) + a(n - 10) - a(n - 11). - _ David Neil McGrath _ , Sep 15 2014 •

[A123015] • 1,2,3,4,6,8,10,13,17,21,26,33,41,50,62,77,94,115,142,174,212,260,319,389,475 ⋆ Grow a binary tree using the following rules. Initially there is a single node labeled 1. At each step we add 1 to all labels less than 3. If a node has label 3 and zero or one descendants we add a new descendant labeled 1. Sequence gives sum of all labels at step n. • a(n) = a(n - 3) + a(n - 4) + 3. - _ Ralf Stephan _ , Nov 12 2006 •

[A239100] • 0,1,1,2,3,4,6,8,10,13,17,22,28,37,47,59,75,96,120,153,194,242,309,391,487 ⋆ Solution to the problem of finding the number of comparisons needed for optimal merging of 3 elements with n elements. • a(3r + 1) = floor(107 * 2 ^ (r - 3) / 7) - 2, • a(3r + 2) = floor((17 * 2 ^ r - 6) / 7) - 1; initial terms are shown in sequence. •

[A003107] • 1,1,2,3,4,6,8,10,14,17,22,27,33,41,49,59,71,83,99,115,134,157,180,208,239 ⋆ Number of partitions of n into Fibonacci parts (with a single type of 1). • a(n) = f(n,1,1) with f(x,y,z) = if x<y then 0 ^ x else f(x - y,y,z) + f(x,y + z,y). - _ Reinhard Zumkeller _ , Nov 11 2009 •

[A217123] • 2,3,4,6,8,10,14,18,22,26,32,38,44,50,58,66,74,82,92,102,112,122,134,146,158 ⋆ Number of possible ordered pairs (x, y) where x is the number of beads adjacent to at least one black bead and y the number of beads adjacent to at least one white bead in a binary necklace of length n. • a(n) = (13 - (- 1) ^ n + 2 * (- i) ^ n + 2 * i ^ n + 2 * n ^ 2) / 8, where i=sqrt(- 1). G.f.: x * (x ^ 7 - 2 * x ^ 6 - x ^ 5 + 2 * x ^ 4 - x ^ 3 + x - 2) / ((x - 1) ^ 3 * (x + 1) * (x ^ 2 + 1)). [_ Colin Barker _ , Oct 04 2012] •

[A060469] • 1,2,3,4,6,8,11,13,16,18,23,25,28,30,35,37,40,42,47,49,52,54,59,61,64 ⋆ Smallest positive a(n) such that number of solutions to a(n) = a(j)+a(k) j<k<n is one or less. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>9. - _ Colin Barker _ , Feb 27 2015 •

[A211522] • 0,0,0,1,2,3,4,6,8,11,13,16,19,23,27,31,35,40,45,51,56,62,68,75,82 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w + 5y = 2x. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 5) - a(n - 6) - a(n - 7) + a(n - 8). •

[A211536] • 0,0,0,2,3,4,6,8,11,14,17,21,24,29,34,39,44,49,56,63,69,76,83,92,100 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w=4x-5y. • a(n) = a(n - 1) + a(n - 4) - a(n - 6) - a(n - 9) + a(n - 10). •

[A290743] • 2,3,4,6,8,11,14,18,22,27,32,38,44,51,58,66,74,83,92,102,112,123,134,146,158 ⋆ Maximum number of distinct Lyndon factors that can appear in words of length n over an alphabet of size 2. • a(n) = binomial(n + 1,2) - (s - p) * binomial(m + 1,2) - p * binomial(m + 2,2) + s where s=2, m=floor(n / s), p=n - m * s. - _ Andrew Howroyd _ , Aug 14 2017 • a(n) = (2 * n ^ 2 + 16) / 8 for n even. • a(n) = (2 * n ^ 2 + 14) / 8 for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 4. •

[A177339] • 0,0,0,0,0,1,2,3,4,6,8,11,14,18,22,27,33,40,47,55,64,74,85,97,110 ⋆ Partial sums of round(n^2/44). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n - 15) / 528). • a(n)=floor((n + 5) * (2 * n ^ 2 - 7 * n + 21) / 264). • a(n)=ceil((n - 4) * (2 * n ^ 2 + 11 * n + 30) / 264). • a(n)=round(n * (n - 2) * (2 * n + 7) / 264). • a(n)=a(n - 44) + (n + 1) * (n - 44) + 665, n>43. • a(n)= + 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) + a(n - 11) - 2 * a(n - 12) + 2 * a(n - 14) - a(n - 15) with G.f. x ^ 5 * (1 - x ^ 2 + x ^ 4) / ((1 + x) * (x ^ 10 + x ^ 9 + x ^ 8 + x ^ 7 + x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4) . - R. J. Mathar, Dec 13 2010 •

[A075535] • 1,1,2,3,4,6,8,11,14,18,22,28,34,42,50,61,72,86,100,118,136,158,180,208,236 ⋆ a(1)=1, a(n) = sum_{k=1..n-1} min(a(k), a(n-k)). • a(1)=a(2)=1; a(2n)=a(2n - 1) + a(n); a(2n + 1)=a(2n) + a(n); n>=3 a(n)=a(n - 1) + a(floor(n / 2)). •

[A238383] • 1,2,3,4,6,8,11,14,18,22,28,34,43,52,65,78,97,116,144,172,213,254,314,374,462 ⋆ Row sums of triangle in A139040. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 6) - a(n - 7), a(0) = 1, a(1) = 2, a(2) = 3, a(3) = 4, a(4) = 6, a(5) = 8, a(6) = 11. •

[A175870] • 0,1,2,3,4,6,8,11,14,18,23,29,35,43,52,62,73,86,100,116,133,152,173,196,220 ⋆ Partial sums of ceiling(n^2/24) • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 95) / 288) • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 95) / 144) • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 96 * n) / 144) • a(n)=a(n - 24) + (n + 1) * (n - 24) + 220 •

[A114829] • 1,2,3,4,6,8,11,14,18,23,29,36,44,53,63,74,87,101,117,135,155,177,201,227,256 ⋆ Each term is previous term plus floor of geometric mean of all previous terms. • a(1) = 1, a(n + 1) = a(n) + floor(GeometricMean[a(1),a(2),...,a(n)]). a(n + 1) = a(n) + [((a(1) * a(2) * ,..., * a(n)) ^ (1 / n)]. •

[A175869] • 0,1,2,3,4,6,8,11,14,18,23,29,36,44,53,63,75,88,103,119,137,157,179,202,228 ⋆ Partial sums of ceiling(n^2/23) • a(n)=round((2 * n + 1) * (n ^ 2 + n + 42) / 138) • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + 85 * n + 90) / 138) • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 85 * n - 6) / 138) • a(n)=a(n - 23) + (n + 1) * (n - 23) + 202 •

[A279075] • 0,1,2,3,4,6,8,11,14,18,23,29,37,47,59,74,93,117,147,184,231,289,362,453,567 ⋆ Maximum starting value of X such that repeated replacement of X with X-ceiling(X/5) requires n steps to reach 0. • a(n) = floor(a(n - 1) * 5 / 4) + 1. •

[A094707] • 0,0,1,2,3,4,6,8,11,14,19,24,32,40,53,66,87,108,142,176,231,286,375,464,608 ⋆ Partial sums of repeated Fibonacci sequence. • a(n)=a(n - 1) + a(n + 2) - a(n - 3) + a(n - 4) - a(n - 5). • a(n)=sum { k=0..n, Fib(floor(k / 2)) } . • a(n)= - 2 - (sqrt(5) / 2 - 1 / 2) ^ (n / 2)((2sqrt(5) / 5 - 1)cos(pi * n / 2) + sqrt(4sqrt(5) / 5 - 8 / 5)sin(pi * n / 2)) - (sqrt(5) / 2 + 1 / 2) ^ (n / 2)((sqrt(sqrt(5) / 5 + 2 / 5) - sqrt(5) / 5 - 1 / 2)(- 1) ^ n - sqrt(sqrt(5) / 5 + 2 / 5) - sqrt(5) / 5 - 1 / 2); •

[A175868] • 0,1,2,3,4,6,8,11,15,20,25,32,40,49,59,71,84,99,116,135,155,178,203,230,259 ⋆ Partial sums of ceiling(n^2/20). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 69) / 240). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + 70 * n + 72) / 120). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 70 * n - 3) / 120). • a(n)=a(n - 20) + (n + 1) * (n - 20) + 155. • a(0)=0, a(1)=1, a(2)=2, a(3)=3, a(4)=4, a(5)=6, a(6)=8, a(7)=11, a(8)=15, a(9)=20, a(10)=25, a(11)=32, a(12)=40, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 10) - 3 * a(n - 11) + 3 * a(n - 12) - a(n - 13). - _ Harvey P. Dale _ , Jun 10 2011 •

[A175864] • 0,1,2,3,4,6,8,11,15,20,26,33,41,50,61,73,87,103,121,140,162,186,212,240,271 ⋆ Partial sums of ceiling(n^2/19) • a(n)=round((2 * n + 1) * (n ^ 2 + n + 30) / 114) • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + 61 * n + 78) / 114) • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 61 * n - 18) / 114) • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 + 61 * n) / 114) • a(n)=a(n - 19) + (n + 1) * (n - 19) + 140 , n>18 •

[A100673] • 1,2,3,4,6,8,11,15,20,26,34,44,56,71,90,114,144,182,230,291,367,463,584,737,929 ⋆ A Graham-Pollak-like sequence with cube root instead of square root. • a(0) = 1, a(n) = Floor((2 * a(n - 1) * (a(n - 1) + 1) * (a(n - 1) + 2)) ^ (1 / 3)) •

[A027336] • 1,1,1,2,3,4,6,8,11,15,20,26,35,45,58,75,96,121,154,193,242,302,375,463,573 ⋆ Number of partitions of n that do not contain 2 as a part. • a(n) = p(n) - p(n - 2) for n >= 2, where p(n) are the partition numbers (A000041); follows at once from the g.f. - _ Emeric Deutsch _ , Feb 18 2006 •

[A023434] • 0,1,1,2,3,4,6,8,11,15,20,27,36,48,64,85,113,150,199,264,350,464,615,815,1080 ⋆ Dying rabbits: a(n) = a(n-1) + a(n-2) - a(n-4). • a(0)=0, a(1)=

1, a(2)=1 then for n>2 a(n)=ceiling(r * a(n - 1)) where r is the positive root o f x ^ 3 - x - 1=0. - _ Benoit Cloitre _ , Jun 19 2004 ● a(n) = Sum _{ 1<=k <=(n + 2) / 3 } binomial[Floor[(n + 2 - k) / 2],k]. This formula counts even run - types by length. - _ David Callan _ , Jul 14 2006 ● a(n) = a(n - 2) + a (n - 3) + 1. - M. Dols (markdols(AT)yahoo.com), Feb 01 2010 ●

[A003411] ● 1,2,3,4,6,8,11,15,21,29,40,55,76,105,145,200,276,381,526,726,100 2,1383,1909,2635,3637 ⋆ Losing initial positions in game: two players alternate in removing >= 1 stones; last player wins; first player may not remove all stones; each move <= 3 times previous move. ● a(n) = a(n - 1) + a(n - 4), n >= 5. ●

[A057048] ● 1,2,3,4,6,8,11,16,23,32,45,64,91,128,181,256,362,512,724,1024,144 8,2048,2896,4096,5793 ⋆ a(n) = A017911(n+1) = round(sqrt(2)^(n+1)). ● a(2 n - 1) = 2 ^ n, n > 0. - _ M. F. Hasler _ , Feb 20 2012 ●

[A271487] ● 1,2,3,4,6,8,11,17,23,32,48,65,90,136,184,255,385,521,722,1090,14 75,2044,3086,4176,5787 ⋆ Maximal term of TRIP-Stern sequence of level n corresponding to permutation triple (e,13,132). ● a(n) = 2 * a(n - 3) + 2 * a(n - 6) + a(n - 9) for n>9. ●

[A029744] ● 1,2,3,4,6,8,12,16,24,32,48,64,96,128,192,256,384,512,768,1024,153 6,2048,3072,4096,6144 ⋆ Numbers of the form 2^n or 3*2^n. ● a(0)=1, a(1)=1 and a(n) = a(n - 2) * (floor(a(n - 1) / a(n - 2)) + 1). - _ Benoit Cloitre _ , Aug 13 2002 ● a(n) = sqrt((17 - (- 1) ^ n) * 2 ^ (n - 4)) for n>=2. - _ Anton Zakharov _ , Jul 24 2016 ●

[A164090] ● 2,3,4,6,8,12,16,24,32,48,64,96,128,192,256,384,512,768,1024,153 6,2048,3072,4096,6144,8192 ⋆ a(n) = 2*a(n-2) for n > 2; a(1) = 2, a(2) = 3. ● a(n) = (7 - (- 1) ^ n) * 2 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 4. ●

[A179042] ● 0,1,2,3,4,6,8,12,18,27,41,64,100,159,254,407,654,1054,1700,2746,4 438,7175,11603,18768,30360 ⋆ Partial sums of ceil(Fibonacci(n)/4). ● a(n)=ro und(Fibonacci(n + 2) / 4 + n / 2). ● a(n)=floor(Fibonacci(n + 2) / 4 + n / 2 + 1 / 4). ● a(n)=ceil(Fibonacci(n + 2) / 4 + n / 2 - 1 / 4). ● a(n)=round(Fibonacci(n + 2) / 4 + n / 2 - 1 / 4). ● a(n)=a(n - 6) + Fibonacci(n - 1) + 3, n>5. ● a(n)=2 * a(n - 1) - a(n - 3) + a(n - 6) - 2 * a(n - 7) + a(n - 9), n>8. ●

[A000029] ● 1,2,3,4,6,8,13,18,30,46,78,126,224,380,687,1224,2250,4112,7685,1 4310,27012,50964,96909,184410,352698 ⋆ Number of necklaces with n beads of 2 colors, allowing turning over (these are also called bracelets). ● a(n) = Sum _{ d divides n } phi(d) * 2 ^ (n / d) / (2 * n) + either 2 ^ ((n - 1) / 2) if n o dd or 2 ^ (n / 2 - 1) + 2 ^ (n / 2 - 2) if n even. ●

[A155051] ● 1,2,3,4,6,8,13,18,32,46,88,130,262,394,823,1252,2682,4112,8974,1 3836,30632,47428,106214,165000,373012 ⋆ Expansion of c(x^2)*(1+x)/(1-x), c(x) the g.f. of A000108. ● a(n) = 2 * Sum _{ k=0..n, } (C(k / 2) * (1 + (- 1) ^ k) / 2) - C(n / 2) * (1 + (- 1) ^ n) / 2, C(n) = A000108; ● a(n) = (C(n / 2) + 2 * Sum _{ k=0..(n / 2 - 1), C(k) }) * (1 + (- 1) ^ n) / 2 + Sum _{ k=0..n / 2, C(k) }* (1 - (- 1) ^ n), C(n) = A000108. ●

[A084239] ● 1,2,3,4,6,8,13,20,32,52,90,152,268,472,845,1520,2766,5044,9277,1 7112,31724,59008,110162,206260,387282 ⋆ Rank of K-groups of Furstenberg transformation group C*-algebras of n-torus. ● a(n) = constant term of prod(i=1, n, 1 + t ^ (i - .5(n + 1))) for odd n and a(n) = constant term of (1 + t ^ (.5)) * prod(i=1, n, 1 + t ^ (i - .5(n + 1))) for even n. ●

[A000031] ● 1,2,3,4,6,8,14,20,36,60,108,188,352,632,1182,2192,4116,7712,1460 2,27596,52488,99880,190746,364724,699252 ⋆ Number of n-bead necklaces with 2 colors when turning over is not allowed; also number of output sequences from a simple n-stage cycling shift register; also number of binary irreducible polynomials whose degree divides n. ● a(n) = (1 / n) * Sum _{ d divides n } phi(d) * 2 ^ (n / d), where phi is A000010. ●

[A047419] ● 1,2,3,4,6,9,10,11,12,14,17,18,19,20,22,25,26,27,28,30,33,34,35,36,3 8 ⋆ Numbers that are congruent to {1, 2, 3, 4, 6} mod 8. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. ● a(n) = a(n - 5) + 8 for n > 5. ● a(n) = (40 * n - 40 - 2 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 7 * ((n + 4) mod 5)) / 25. ● a(5 * k) = 8 * k - 2, a(5 * k - 1) = 8 * k - 4, a(5 * k - 2) = 8 * k - 5, a(5 * k - 3) = 8 * k - 6, a(5 * k - 4) = 8 * k - 7. (End) ●

[A047300] ● 2,3,4,6,9,10,11,13,16,17,18,20,23,24,25,27,30,31,32,34,37,38,39,4 1,44 ⋆ Numbers that are congruent to {2, 3, 4, 6} mod 7. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (14 * n - 5 - i ^ (2 * n) - (1 - 3 * i) * i ^ (- n) - (1 + 3 * i) * i ^ n) / 8 where i=sqrt(- 1). ●

[A189887] ● 1,1,2,3,4,6,9,11,12,14,17,19,20,22,25,27,28,30,33,35,36,38,41,43,44 ⋆ Dimension of homogeneous component of degree n in x in the Malcev-Poisson superalgebra S^tilde(M). ● a(n) = (1 / 4 + i / 4) * ((- 11 + 11 * i) - i * (- i) ^ n + i ^ n) + 2 * n for n>3, where i=sqrt(- 1). a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>7. G.f.: x * (x ^ 6 + x ^ 5 + x ^ 4 - x ^ 3 + 2 * x ^ 2 - x + 1) / ((x - 1) ^ 2 * (x ^ 2 + 1)). - _ Colin Barker _ , Jul 24 2013 ●

[A179970] ● 0,1,2,3,4,6,9,11,12,14,17,19,25,27,36,38,44,46,49,51,57,59,68,70,76 ⋆ Numbers such that in base-4 representation all sums of two adjacent digits are odd. ● a(n) = 4 * m - m mod 2 + 1 + 2 * (1 - n mod 2). ●

[A000792] ● 1,1,2,3,4,6,9,12,18,27,36,54,81,108,162,243,324,486,729,972,1458,2 187,2916,4374,6561 ⋆ a(n) = max{ (n-i)*a(i) : i < n}; a(0) = 1. ● a(3n) = 3 ^ n; a(3 * n + 1) = 4 * 3 ^ (n - 1) for n > 0; a(3 * n + 2) = 2 * 3 ^ n. ● a(n) = 3 * a(n - 3) if n > 4. - _ Henry Bottomley _ , Nov 29 2001 ● a(n) = if n <= 2 then n else a(n - 1) + Max { gcd(a(i), a(j))| 0 < i < j < n } . - _ Reinhard Zumkeller _ , Feb 08 2002 ● a(n) = 3 ^ (n - 2 - 2 * floor((n - 1) / 3)) * 2 ^ (2 - (n - 1) mod 3) for n > 1. - _ Hieronymus Fischer _ , Nov 11 2007 ● a(n) = 3 ^ floor(n / 3) / (1 - (n mod 3) / 4), n > 1. - Kiyoshi Akima (k _ akima(AT)hotmail.com), Aug 31 2009 ● a(n) = 3 ^ (floor((n - 2) / 3)) * (2 + ((n - 2) m od 3)), n > 1. - Kiyoshi Akima (k _ akima(AT)hotmail.com), Aug 31 2009 ●

[A175848] ● 0,1,2,3,4,6,9,13,17,23,30,38,47,58,71,86,102,121,142,165,190,218,2 49,283,319 ⋆ Partial sums of ceiling(n^2/16). ● a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 51) / 192); ● a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + 52 * n + 60) / 96); ● a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 52 * n - 9) / 96); ● a(n)=a(n - 16) + (n + 1) * (n - 16) + 102. ● a(n) = 3 a(n - 1) - 3 a(n - 2) + a(n - 3) + a(n - 8) - 3 a(n - 9) + 3 a(n - 10) - a(n - 11). - _ R. J. Mathar _ , Mar 11 2012 ●

[A016028] ● 1,2,3,4,6,9,13,18,24,31,39,48,58,69,81,94,108,123,139,156,174,19 3,213,234,256 ⋆ Expansion of (1 - x + x^4) / (1 - x)^3. ● a(n) = binomial(n,2) - 3 * n + 9, n>=3. a(n - 3) = n ^ 2 / 2 - 7 * n / 2 + 9, n>=4. - _ Milan Ja njic _ , Dec 28 2007 ●

[A219282] ● 1,1,1,2,3,4,6,9,13,18,25,35,49,68,93,126,170,229,308,413,551,731,9 65,1269,1664 ⋆ Number of superdiagonal bargraphs with area n. ● a(n) = sum _{ k=0..floor((sqrt(8 * n + 1) - 3) / 2) } C(n - 1 - C(k + 1,2),k), for n>=1. ●

[A098578] ● 0,1,2,3,4,6,9,13,18,25,35,49,68,94,130,180,249,344,475,656,906,12 51,1727,2384,3291 ⋆ a(n) = Sum_{k=0..floor(n/4)} C(n-3*k,k+1). ● a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - a(n - 5). ● a(n) = a(n - 1) + a(n - 4) + 1. ●

[A050811] ● 2,3,4,6,9,13,18,26,35,48,65,87,115,152,199,258,333,427,545,692,87 5,1102,1381,1725,2145 ⋆ Partition numbers rounded to nearest integer given by the Hardy-Ramanujan approximate formula. ● a(n) = round(exp(Pi * sqrt(2 * n / 3)) / (4 * n * sqrt(3))). - _ Alonso del Arte _ , May 21 2011 ●

[A001521] ● 1,2,3,4,6,9,13,19,27,38,54,77,109,154,218,309,437,618,874,1236,17 48,2472,3496,4944,6992 ⋆ a(1) = 1; thereafter a(n+1) = floor(sqrt(2*a(n)*(a(n)+1))). ● a(n) = floor(sqrt(2) ^ (n - 1)) + floor(sqrt(2) ^ (n - 2)), n>1. - _ Ralf St ephan _ , Sep 18 2004 ●

[A003143] ● 1,1,2,3,4,6,9,13,19,27,38,54,77,109,155,219,310,438,621,877,1243,1 755,2486,3510,4973 ⋆ a(2*n) = floor(17*2^n/14), a(2*n+1) = floor(12*2^n/7). ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) + 2 * a(n - 6) - 2 * a(n - 7) for n > 7. - _ Chai Wah Wu _ , May 25 2016 ●

[A247083] ● 0,1,1,1,2,3,4,6,9,13,19,28,32,42,52,57,63,70,82,91,98,108,118,135,1 44 ⋆ a(n) = 0 for n <= 0: Starting with n=1, a(n) = 1 + the sum of the digital sums of a(0) through a(n-3). ● a(n) = 1 + Sum _{ k=0..n - 3 } digsum(a(k)). ●

[A000930] ● 1,1,1,2,3,4,6,9,13,19,28,41,60,88,129,189,277,406,595,872,1278,1 873,2745,4023,5896 ⋆ Narayana's cows sequence: a(0) = a(1) = a(2) = 1; thereafter a(n) = a(n-1) + a(n-3). ● a(n) = Sum _{ i=0..floor(n / 3) } binom ial(n - 2 * i, i). ● a(n) = a(n - 2) + a(n - 3) + a(n - 4) for n>3. ● a(n) = floor (d * c ^ n + 1 / 2) where c is the real root of x ^ 3 - x ^ 2 - 1 and d is the real root of 31 * x ^ 3 - 31 * x ^ 2 + 9 * x - 1 (c = 1.465571... = A092526 and d = 0.611491991950812...). - _ Benoit Cloitre _ , Nov 30 2002 ● a(n) = Sum _{ k=0..n } binomial(floor((n + 2k - 2) / 3), k). - _ Paul Barry _ , Jul 06 2004 ● a(n) = Sum _{ k=0..n } binomial(k, floor((n - k) / 2))(1 + (- 1) ^ (n - k)) / 2. - _ Paul Barry _ , Jan 12 2006 ● a(n) = Sum _{ k=0..n } binomial((n + 2k) / 3,(n - k) / 3) * (2 * cos(2 * Pi * (n - k) / 3) + 1) / 3. - _ Paul Barry _ , Dec 15 2006 ●

[A068921] ● 1,1,2,3,4,6,9,13,19,28,41,60,88,129,189,277,406,595,872,1278,187 3,2745,4023,5896,8641 ⋆ Number of ways to tile a 2 X n room with 1x2 Tatami mats. At most 3 Tatami mats may meet at a point. ● a(n) = sum(binomial(n - 2j + 1,j), j=0..floor(n / 2)). (End) ●

[A117791] ● 1,1,2,3,4,6,9,13,20,30,45,68,102,153,230,345,518,778,1168,1754,26 34,3955,5939,8918,13391 ⋆ Expansion of 1/(1 - x - x^2 + x^4 - x^6). ● a(n) = a(n - 1) + a(n - 2) - a(n - 4) + a(n - 6). - _ Ilya Gutkovskiy _ , Nov 16 2016 ●

[A078620] ● 1,1,1,1,2,3,4,6,9,14,21,31,46,70,106,161,245,375,576,885,1364,210 7,3261,5058,7856 ⋆ Floor(average of first n Fibonacci numbers). ● a(n) = Flo or((1 / n)(Sum _{ i=1, ..., n } Fibonacci(n)) ●

[A073941] ● 1,1,1,2,3,4,6,9,14,21,31,47,70,105,158,237,355,533,799,1199,1798,2 697,4046,6069,9103 ⋆ a(n) = ceiling(sum{a(k): 1<=k<n} / 2); a(1)=1. ● a(n) = ceiling(c * (3 / 2) ^ n - 1 / 2) where c = 0.36050455619661495910154466286 65... - _ Benoit Cloitre _ , Nov 22 2002 ●

[A005428] ● 1,1,2,3,4,6,9,14,21,31,47,70,105,158,237,355,533,799,1199,1798,26 97,4046,6069,9103,13655 ⋆ a(n) = ceiling((1 + sum of preceding terms) / 2). ● a(0) = 1; a(n) = Ceiling((1 + Sum _{ k=0..n - 1 } a(k)) / 2). - _ Don Reble _ , Apr 23 2003 ● a(1) = 1, s(1) = 2, and for n>1, a(n) = floor((3 * a(n - 1) + s(n - 1) - 1) / 2), s(n) = (s(n - 1) + a(n)) mod 3. - _ Max Alekseyev _ , M ar 28 2009 ● a(n) = floor(1 + (sum of preceding terms) / 2). - _ M. F. Hasler _ , Oct 14 2012 ●

[A179041] ● 0,1,2,3,4,6,9,14,21,33,52,82,130,208,334,538,867,1400,2262,3656,5 911,9560,15464,25017,40473 ⋆ Partial sums of ceil(Fibonacci(n)/3). ● a(n)=ro und(Fibonacci(n + 2) / 3 + 3 * n / 8 - 1 / 24). ● a(n)=floor(Fibonacci(n + 2) / 3 + 3 * n / 8 + 1 / 4). ● a(n)=ceil(Fibonacci(n + 2) / 3 + 3 * n / 8 - 1 / 3). ● a(n)=a(n - 8) + Fibonacci(n - 1) + Fibonacci(n - 3) + 3, n>7. ● a(n)=2 * a(n - 1) - a(n - 3) + a(n - 8) - 2 * a(n - 9) + a(n - 11), n>10. ●

[A103481] ● 1,1,2,3,4,6,9,16,31,69,168,447,1274,3862,12351,41472,145661,533 745,2036158,8071795,33192800,141351726,622384741,2829417288,13263528363 ⋆ Diagonal sums of A103462. ● a(n)=sum { k=0..floor(n / 2), k ^ (n - 2k) + 1 - 0 ^ (n - 2k) } ; a(n)=sum { k=0..floor(n / 2), k ^ (n - 2k) }+ floor((n + 1) / 2). ●

[A275173] ● 1,1,1,1,1,1,2,3,4,6,9,22,36,51,82,129,321,529,753,1217,1921,4786,7 891,11236,18166 ⋆ a(n) = (a(n-3) + a(n-1) * a(n-5)) / a(n-6), a(0) = a(1) = ... = a(5) = 1. ● a(n) = 16 * a(n - 5) - 16 * a(n - 10) + a(n - 15). - _ G. C. Gre ubel _ , Jul 20 2016 ●

[A047417] ● 2,3,4,6,10,11,12,14,18,19,20,22,26,27,28,30,34,35,36,38,42,43,44,4 6,50 ⋆ Numbers that are congruent to {2, 3, 4, 6} mod 8. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (8 * n - 5 - i ^ (2 * n) - (1 - 2 * i) * i ^ (- n) - (1 + 2 * i) * i ^ n) / 4 with i=sqrt(- 1). ●

[**A072944**] • 2,3,4,6,10,16,24,40,64,96,160,256,384,640,1024,1536,2560,4096,6144,10240,16384,24576,40960,65536,98304 ⋆ a(1)=2, a(n+1) = 2*a(n) - Phi(a(n)) where Phi is the Euler totient function. • a(1)=2, a(2)=3, a(3)=4, a(4)=6, a(5)=10 and for n> 5 a(n) = 4 * a(n - 3) •

[**A018142**] • 1,2,3,4,6,10,16,25,40,63,100,158,251,398,631,1000,1585,2512,3981,6310,10000,15849,25119,39811,63096 ⋆ Powers of fifth root of 10 rounded to nearest integer. • a(n) = round(10 ^ (n / 5)). - _ Wesley Ivan Hurt _ , Jun 23 2015 •

[**A293632**] • 1,1,2,3,4,6,10,16,26,42,67,108,175,283,458,741,1198,1938,3136,5074,8210,13284,21493,34776,56269 ⋆ Least integer k such that k/Fibonacci(n) >= 3/4. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 7) for n >= 8. • a(n) = ceiling(3 * Fibonacci(n) / 4). •

[**A060163**] • 0,2,3,4,6,10,17,28,44,66,95,132,178,234,301,380,472,578,699,836,990,1162,1353,1564,1796 ⋆ a(n) = (n^3 + 5*n + 18)/6. • a(n) = n + 2 + binomial(n,3) (with different offset). - _ Zerinvary Lajos _ , Jul 23 2006 •

[**A024490**] • 1,2,3,4,6,10,17,28,45,72,116,188,305,494,799,1292,2090,3382,5473,8856,14329,23184,37512,60696,98209 ⋆ a(n) = C(n-1,1) + C(n-3,3) + ... + C(n-2*m-1,2*m+1), where m = floor((n-2)/4). • a(n) = sum { k=0..n } Fib(k + 1) * 2 * sin(Pi * (n - k) / 3 + Pi / 3) / sqrt(3). - _ Paul Barry _ , May 18 2004 • a(n) = sum { k=0..floor(n / 2), C(n - k + 1,k + 1) * (1 + (- 1) ^ k) / 2 } . - _ Paul Barry _ , Jul 05 2007 •

[**A056469**] • 2,3,4,6,10,18,34,66,130,258,514,1026,2050,4098,8194,16386,32770,65538,131074,262146,524290,1048578,2097154,4194306,8388610 ⋆ Number of elements in the continued fraction for Sum_{k=0..n} 1/2^2^k. • a(n) = floor (2 ^ (n - 1) + 2). - _ Vincenzo Librandi _ , Sep 21 2011 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n > 2. •

[**A003099**] • 1,2,3,4,6,11,22,43,79,137,231,397,728,1444,3018,6386,13278,26725,51852,97243,177671,320286,579371,1071226,2053626 ⋆ a(n) = Sum_{k=0..n} C(n,k^2). • a(n) * sqrt(n) / 2 ^ n is bounded: lim sup a(n) * sqrt(n) / 2 ^ n = 0.82... and lim inf a(n) * sqrt(n) / 2 ^ n = 0.58... - _ Benoit Cloitre _ , Nov 14 2003 •

[**A245481**] • 1,2,3,4,6,12,13,26,39,52,78,156,169,338,507,676,1014,2028,2197,4394,6591,8788,13182,26364,28561 ⋆ Numbers n such that the n-th cyclotomic polynomial has a root mod 13. • a(n) = 13 * a(n - 6). G.f.: - x * (12 * x ^ 5 + 6 * x ^ 4 + 4 * x ^ 3 + 3 * x ^ 2 + 2 * x + 1) / (13 * x ^ 6 - 1). - _ Colin Barker _ , Jul 30 2014 •

[**A078495**] • 1,1,1,1,1,1,1,2,3,4,6,12,24,72,144,288,864,3456,10368,41472,124416,497664,2985984,17915904,71663616 ⋆ a(n) = (a(n-1) * a(n-6) + a(n-3) * a(n-4)) / a(n-7) (a variant of Somos-7). • a(n) = 144 * a(n - 6) * a(n - 10) / a(n - 16), a(n) = a(6 - n) for all n in Z. •

[**A161701**] • 1,2,3,4,6,12,28,64,135,262,473,804,1300,2016,3018,4384,6205,8586,11647,15524,20370,26356,33672,42528,53155 ⋆ a(n) = (n^5 - 5*n^4 + 5*n^3 + 5*n^2 + 114*n + 120)/120. • a(n) = C(n,0) + C(n,1) + C(n,4) + C(n,5). •

[**A038504**] • 0,1,2,3,4,6,12,28,64,136,272,528,1024,2016,4032,8128,16384,32896,65792,131328,262144,523776,1047552,2096128,4194304 ⋆ Sum of every 4th entry of row n in Pascal's triangle, starting at "n choose 1". • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3), n > 3. - _ Paul Curtz _ , Mar 01 2008 • a(n) = Sum _{ k=0..floor(n / 4) } binomial(n, 4 * k + 1). • a(n) = Sum _{ k=0..n } binomial(n, k) * (sin(Pi * k / 2) / 2 + (1 - (- 1) ^ k) / 4). • a(n) = 2 ^ (n - 2) + 2 ^ ((n - 2) / 2) * sin(Pi * n / 4) - 0 ^ n / 4. (End) • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. • a(n + m) = a(n) * H _ 1(m) + H _ 1(n) * a(m) + H _ 4(n) * H _ 3(m) + H _ 3(n) * H _ 4(m), where H _ 1 = A038503, H _ 3 = A038505, H _ 4 = A000749. •

[**A047549**] • 0,1,2,3,4,7,8,9,10,11,12,15,16,17,18,19,20,23,24,25,26,27,28,31,32 ⋆ Numbers that are congruent to {0, 1, 2, 3, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 33 + 3 * cos(n * Pi) + 4 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) + 12 * sin((1 + • a(6k) = 8k - 1, a(6k - 1) = 8k - 4, a(6k - 2) = 8k - 5, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[**A047337**] • 0,1,2,3,4,7,8,9,10,11,14,15,16,17,18,21,22,23,24,25,28,29,30,31,32 ⋆ Numbers that are congruent to {0, 1, 2, 3, 4} mod 7. • a(n) = 7 * floor((n - 1) / 5) + ((n - 1) mod 5). - _ Gary Detlefs _ , Mar 09 2010 • a(n) = floor((7 / 6) * floor(6 * (n - 1) / 5)). - _ Bruno Berselli _ , May 03 2016 •

[**A047227**] • 1,2,3,4,7,8,9,10,13,14,15,16,19,20,21,22,25,26,27,28,31,32,33,34,37 ⋆ Numbers that are congruent to {1, 2, 3, 4} mod 6. • a(n) = floor((n + 2) / 4) + floor((n + 1) / 4) + floor(n / 4) + 2 * floor((n - 1) / 4) + floor((n + 3) / 4). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (6n - 5 - i ^ (2n) + (1 + i) * i ^ (1 - n) + (1 - i) * i ^ (n - 1)) / 4 where i=sqrt(- 1). •

[**A074215**] • 1,2,3,4,7,8,9,11,13,14,16,17,19,21,22,23,26,27,28,29,31,32,33,34,37 ⋆ Numbers n such that n and F(n) are relatively prime, where F(n) denotes the n-th Fibonacci number. • a(n) is probably asymptotic to c * n with c=1.55(8)..... •

[**A047202**] • 2,3,4,7,8,9,12,13,14,17,18,19,22,23,24,27,28,29,32,33,34,37,38,39,42 ⋆ Numbers that are congruent to {2, 3, 4} mod 5. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>3. • a(n) = (15 * n - 3 - 6 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 1, a(3k - 1) = 5k - 2, a(3k - 2) = 5k - 3. (End) • a(n) = 2 * n - floor((n - 1) / 3) - ((n - 1) mod 3). - _ Wesley Ivan Hurt _ , Sep 26 2017 •

[**A050271**] • 1,2,3,4,7,8,9,14,15,16,23,24,25,34,35,36,47,48,49,62,63,64,79,80,81 ⋆ Numbers n such that n = floor(sqrt(n)*ceiling(sqrt(n))). • a(n) = floor((n + 4) / 3) ^ 2 + ((n + 1) mod 3) - 2. - _ Ivan Neretin _ , Feb 08 2017 • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7) for n>7. •

[**A047547**] • 0,2,3,4,7,8,10,11,12,15,16,18,19,20,23,24,26,27,28,31,32,34,35,36,39 ⋆ Numbers that are congruent to {0, 2, 3, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n>5. • a(n) = (40 * n - 40 - 7 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 4, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[**A097110**] • 1,2,3,4,7,8,15,16,31,32,63,64,127,128,255,256,511,512,1023,1024,2047,2048,4095,4096,8191 ⋆ Expansion of (1 + 2x - 2x^3) / (1 - 3x^2 + 2x^4). • a(n) = 3 * a(n - 2) - 2 * a(n - 4); • a(n) = (1 + sqrt(2) / 2) * (sqrt(2)) ^ n + (1 / 2 - sqrt(2) / 2) * (- sqrt(2)) ^ n - (1 + (- 1) ^ n) / 2; • a(n) = Sum _{ k=0..n } binomial(floor(n / 2), floor(k / 2)). • a(n) = 2 ^ floor((n + 2) / 2) - 1 + (n mod 2). - _ Reinhard Zumkeller _ , Jan 18 2005 •

[**A120611**] • 1,2,3,4,7,8,15,19,20,27,31,32,47,48,66,72,90,111,115,116,123,127,128,175,183 ⋆ Sum of previous term and preceding divisors. • a(1) = 1, a(2) = 2, for n>=2, a(n + 1) = a(n) + sum _{ 1<=k<n, a(k) divides a(n) } a(k). •

[**A047548**] • 1,2,3,4,7,9,10,11,12,15,17,18,19,20,23,25,26,27,28,31,33,34,35,36,39 ⋆ Numbers that are congruent to {1, 2, 3, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[**A047340**] • 0,2,3,4,7,9,10,11,14,16,17,18,21,23,24,25,28,30,31,32,35,37,38,39,42 ⋆ Numbers that are congruent to {0, 2, 3, 4} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 17 - i ^ (2n) - (3 - i) * i ^ (- n) - (3 + i) * i ^ n) / 8 where i=sqrt(- 1). •

[**A038197**] • 1,1,1,1,2,3,4,7,9,10,19,26,30,56,75,85,160,216,246,462,622,707,1329,1791,2037 ⋆ 4-wave sequence. • a(n) = a(n - 1) + a(n - 2) if n=3 * m + 1, a(n) = a(n - 1) + a(n - 4) if n=3 * m + 2, a(n) = a(n - 1) + a(n - 6) if n=3 * m. Also: a(n) = 2 * a(n - 3) + 3 * a(n - 6) - a(n - 9) - a(n - 12). • a(n - 1) = sequence(sequence(T(n,k), k=2..4), n>=2) with a(0)=1; T(n,k) = sum(T(n - 1,k1), k1 = 5 - k..4) with T(1,1) = T(1,2) = T(1,3) = 0 and T(1,4) = 1; n>= 1 and 1 <= k <= 4. [Steinbach] •

[**A236337**] • 2,3,4,7,9,11,15,18,21,26,30,34,40,45,50,57,63,69,77,84,91,100,108,116,126 ⋆ Expansion of (2 - x) / ((1 - x)^2 * (1 - x^3)) in powers of x. • a(n) = 2 * a(n - 3) - a(n - 6) + 3 = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). •

[**A117450**] • 1,1,2,3,4,7,9,12,15,18,23,27,32,37,42,49,55,62,69,76,85,93,102,111,120 ⋆ Expansion of (1-x+x^2+x^5)/((1-x)^2*(1-x^5)). • a(n)=2a(n - 1) - a(n - 2) + a(n - 5) - 2a(n - 6) + a(n - 7); a(n)=sum { k=0..n, C(n - k,L(k / 5)) } , where L(j / p) is the Legendre symbol of j and p; a(n)=(1 / 10 - sqrt(5) / 50) * cos(4 * pi * n / 5 + 2 * pi / 5) + sqrt(1 / 10 + sqrt(5) / 50) * sin(4 * pi * n / 5 + 2 * pi / 5) - (1 / 10 + sqrt(5) / 50) * cos(2 * pi * n / 5 + pi / 5) + sqrt(1 / 10 - sqrt(5) / 50) * sin(2 * pi * n / 5 + pi / 5) + (n ^ 2 + n + 3) / 5. •

[**A241131**] • 0,1,1,2,3,4,7,9,13,18,26,32,47,60,79,104,137,173,227,285,365,461,583,724,912 ⋆ Number of partitions p of n such that (maximal multiplicity over the parts of p) = number of 1s in p. • a(6) counts these 7 partitions: 51, 411, 321, 3111, 2211, 21111, 111111. •

[**A295619**] • 1,2,3,4,7,9,16,21,37,50,87,121,208,297,505,738,1243,1853,3096,4693,7789,11970,19759,30705,50464 ⋆ a(n) = a(n-1) + 3*a(n-2) - 2*a(n-3) - 2*a(n-4), where a(0) = 1, a(1) = 2, a(2) = 3, a(3) = 4. • a(n) = a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - 2 * a(n - 4), where a(0) = 1, a(1) = 2, a(2) = 3, a(3) = 4. •

[**A080724**] • 2,3,4,7,10,11,12,13,14,15,16,19,22,25,28,31,34,35,36,37,38,39,40,41,42 ⋆ a(0) = 2; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 1 mod 3". • a(a(n)) = 3 * n + 4, n >= 0. •

[**A047546**] • 2,3,4,7,10,11,12,15,18,19,20,23,26,27,28,31,34,35,36,39,42,43,44,47,50 ⋆ Numbers that are congruent to {2, 3, 4, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (4 * n - 2 + I ^ (1 - n) + I ^ (n - 1)) / 2 where I=sqrt(- 1). •

[**A266510**] • 0,0,1,2,3,4,7,10,11,12,15,18,23,28,35,42,43,44,47,50,55,60,67,74,79 ⋆ Partial sums of A266509. • a(n) = (a(n - 1) + a(n + 1)) / 2, if n is an odd number greater than 1. •

[**A266540**] • 0,0,1,2,3,4,7,10,11,12,15,18,23,28,35,42,43,44,47,50,55,60,67,74,83 ⋆ Partial sums of A266539. • a(n) = (a(n - 1) + a(n + 1)) / 2, if n is an odd number greater than 1. •

[**A139759**] • 1,1,2,3,4,7,10,11,20,31,42,73,110,183,292,473,762,1235,1992,3209,5198,8407,13604,22011,35614 ⋆ A Fibonacci-based recurrence. • a(n) = a(n - 1) + a(n - 2) + gcd(n,a(n - 1)) - gcd(n,a(n - 2)). •

[**A008811**] • 0,1,2,3,4,7,10,13,16,21,26,31,36,43,50,57,64,73,82,91,100,111,122,133,144 ⋆ Expansion of x(1+x^4)/((1-x)^2*(1-x^4)). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) [From R. H. Hardin , Nov 15 2011] • a(n) = (- 2 * (1 + (- 1) ^ n) * (- 1) ^ floor(n / 2) + 2 * n ^ 2 + 5 - (- 1) ^ n) / 8. - _ Tani Akinari _ , Jul 24 2013 •

[**A144678**] • 1,2,3,4,7,10,13,16,22,28,34,40,50,60,70,80,95,110,125,140,161,182,203,224,252 ⋆ Related to enumeration of quantum states (see reference for precise definition). • a(n) = sum _{ i=1..n + 8 } floor(i / 4) * floor((n + 8 - i) / 4). - _ Wesley Ivan Hurt _ , Jul 21 2014 •

[**A008824**] • 1,2,3,4,7,10,13,18,23,28,33,40,47,54,63,72,81,90,101,112,123,136,149,162,175 ⋆ Expansion of (1+2*x^4+x^7)/(1-x)^2/(1-x^7). • a(0)=1, a(1)=2, a(2)=3, a(3)=4, a(4)=7, a(5)=10, a(6)=13, a(7)=18, a(8)=23, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Apr 26 2014 •

[**A267459**] • 1,2,3,4,7,10,15,20,27,34,43,52,63,74,87,100,115,130,147,164,183,202,223,244,267 ⋆ Total number of ON (black) cells after n iterations of the "Rule 133" elementary cellular automaton starting with a single ON (black)

cell. • a(n) = (2 * n ^ 2 - 4 * n + (- 1) ^ n + 11) / 4 for n>0. • a(n) = 2 * a (n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A082766] • 1,1,2,3,4,7,10,17,24,41,58,99,140,239,338,577,816,1393,1970,3363,4756,8119,11482,19601,27720 ★ Series ratios converge alternately to sqrt(2) and 1+sqrt(1/2). • a(2n) = a(2n - 1) + a(2n - 2); a(2n + 1) = a(2n) + a(2n - 2) •

[A218495] • 1,1,1,2,3,4,7,10,17,26,39,58,89,133,195,289,420,610,875,1253,1778,2514,3527,4937,6879 ★ Number of partitions of n^2 into positive cubes. • a(n) = [x ^ (n ^ 2)] Product _{ k>=1 } 1 / (1 - x ^ (k ^ 3)). - _ Ilya Gutkovskiy _ , Jun 05 2017 •

[A166012] • 1,2,3,4,7,10,17,26,43,68,111,178,289,466,755,1220,1975,3194,5169,8362,13531,21892,35423,57314,92737 ★ a(n) = 2*(A000045(n)-(n mod 2)) + 1 + (n mod 2). • a(n) = 2 * Fibonacci(n) + (1 + (- 1) ^ n) / 2. • a(n) = 2 * Fibonacci(n) + [(n + 1)mod 2]. - _ Gary Detlefs _ , Dec 29, 2010 • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>3. • a(n) = (1 / 2 + (- 1) ^ n / 2 - (2 * ((1 / 2 * (1 - sqrt(5))) ^ n - (1 / 2 * (1 + sqrt(5))) ^ n)) / sqrt(5)). •

[A140827] • 1,1,2,3,4,7,11,15,26,41,56,97,153,209,362,571,780,1351,2131,2911,5042,7953,10864,18817,29681 ★ Interleave denominators and numerators of convergents to sqrt(3). • a(n) = 4 * a(n - 3) - a(n - 6). • a(n) = a(n - 1) + a(n - 3) if 3 |(n - 1), else a(n)=a(n - 1) + a(n - 2), with n>1. • a(n) ^ 2 = 1 + 3 * a(n - 1) ^ 2 if n==2 (mod 3). •

[A141001] • 1,1,1,2,3,4,7,11,16,21,26,32,38,44,51,59,67,75,84,94,104,114,125,137,149 ★ a(n) = number of different landings of a grasshopper after n hops. • a(n) = floor(n * (n + 1) / 4 - 1) for n >= 9. The induction proof for A141000 shows that for n >= 21, you hit all numbers of the right parity except n(n + 1) / 2 - 2 and n(n + 1) / 2 - 4. The floor expression handles the various parity cases. - _ David Applegate _ . • a(n) = (1 / 8 + i / 8) * ((- 5 + 5 * i) + (- i) ^ (1 + n) + i ^ n + (1 - i) * n + (1 - i) * n ^ 2) for n>8 where i=sqrt(- 1) . • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5) for n>9. •

[A196382] • 0,0,2,3,4,7,11,16,24,36,53,78,115,169,248,364,534,783,1148,1683,2467,3616,5300,7768,11385 ★ Number of sequences of n coin flips, that win on the last flip, if the sequence of flips ends with (1,1,0) or (1,0,1). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4), n>=5. •

[A120415] • 1,1,1,2,3,4,7,11,16,25,39,59,91,141,216,332,512,787,1210,1863,2866,4408,6783,10436,16054 ★ Expansion of 1/(1-x-x^3-x^6). • a(n) = a(n - 1) + a(n - 3) + a(n - 6). •

[A023361] • 1,1,1,2,3,4,7,11,16,25,40,61,94,147,227,351,546,846,1309,2030,3147,4876,7558,11715,18154 ★ Number of compositions of n into positive triangular numbers. • a(n) = a(n - 1) + a(n - 3) + a(n - 6) + a(n - 10) + ... _ Gregory L. Simay _ , Jun 09 2016 •

[A113435] • 1,1,1,2,3,4,7,11,16,26,41,62,98,154,237,371,581,901,1406,2197,3418,5329,8317,12956,20196 ★ a(n) = a(n-1) + Sum_{k=0..n/3} a(n-3k) with a(0)=1. • a(n) = a(n - 1) + 2 * a(n - 3) - a(n - 4) = 7 * a(n - 3) - 5 * a(n - 6) + 11 * a(n - 9) - a(n - 12). •

[A165407] • 1,1,1,2,3,4,7,11,16,27,43,65,108,173,267,440,707,1105,1812,2917,4597,7514,12111,19196,31307 ★ Expansion of 1/(1-x-x^3*c(x^3)), c(x) the g.f. of A000108. • a(n)=sum { k=0..n, if(n<=3k, C((n + k) / 2,k) * ((3k - n) / 2 + 1)(1 + (- 1) ^ (n - k)) / (2(k + 1)) } ; •

[A293672] • 0,1,1,2,3,4,7,11,17,28,44,72,116,187,302,488,790,1278,2068,3345,5412,8757,14169,22926,37095 ★ a(n) is the least integer k such that k/Fibonacci(n) > 4/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = ceiling(4 * Fibonacci(n) / 5). •

[A173173] • 0,1,1,1,2,3,4,7,11,17,28,45,72,117,189,305,494,799,1292,2091,3383,5473,8856,14329,23184 ★ a(n) = ceiling(Fibonacci(n)/2). • a(n) = ceiling(Fibonacci(n) / 2). - _ Mircea Merca _ , Jan 04 2010 • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) - _ Joerg Arndt _ , Apr 24 2011 •

[A192669] • 1,1,1,2,3,4,7,11,17,28,46,76,124,204,337,557,923,1535,2556,4266,7131,11939,20019,33611,56504 ★ Floor-Sqrt transform of Motzkin numbers (A001006). • a(n) = floor(sqrt(Motzkin(n))). •

[A293638] • 0,0,0,0,1,1,2,3,4,7,11,18,29,47,75,122,197,319,517,836,1353,2189,3542,5731,9274 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 1/5|. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + a(n - 5) + 2 a(n - 6) - a(n - 7) - 2 a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. • a(n) = floor(1 / 2 + F(n) / 5). •

[A254729] • 1,1,2,3,4,7,11,18,29,47,76,123,199,322,521,843,1364,2207,3571,5778,9349,15127,24476,39603,64079 ★ Number of numbers j + k*sqrt(2) of length n, where the length is the least number of steps to reach 0, the allowable steps being x -> x + 1 and x -> x*sqrt(2). • a(n) = a(n - 1) + a(n - 2) for n >= 6. •

[A169985] • 1,2,3,4,7,11,18,29,47,76,123,199,322,521,843,1364,2207,3571,5778,9349,15127,24476,39603,64079,103682 ★ Round phi^n to the nearest integer. • a(n) = round(sqrt(F(2n) + 2 * F(2n - 1))), for n>=0, allowing F(- 1) = 1. Also phi ^ n - > sqrt(F(2n) + 2 * F(2n - 1)), within < 0.02 % by n = 4, therefore converging rapidly. - _ Richard R. Forberg _ , Jun 23 2014 •

[A293544] • 0,0,0,1,1,2,3,4,7,11,18,30,48,78,126,203,329,532,861,1394,2255,3649,5904,9552,15456 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 1/3|. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) + a(n - 5) + a(n - 6) for n >= 7. • a(n) = floor(Fibonacci(n) / 3). •

[A292324] • 2,3,4,7,12,19,28,42,64,97,144,212,312,459,672,979,1422,2062,2984,4308,6206,8925,12816,18376,26310 ★ p-INVERT of (1,0,0,1,0,0,0,0,0,...), where p(S) = (1 - S)^2. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 4) - 2 * a(n - 5) - a(n - 8) for n >= 9. •

[A289919] • 2,3,4,7,12,19,30,48,76,119,186,290,450,696,1074,1653,2538,3889,5948,9081,13842,21068,32022,48609,73700 ★ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = (1 - S)^2. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) for n >= 7. •

[A293411] • 1,2,3,4,7,12,19,30,49,80,129,208,337,546,883,1428,2311,3740,6051,9790,15841,25632,41473,67104,108577 ★ a(n) = a(n-1) + a(n-3) + a(n-4), where a(0) = 1, a(1) = 2, a(2) = 3, a(3) = 4. • a(n) = a(n - 1) + a(n - 3) + a (n - 4), where a(0) = 1, a(1) = 2, a(2) = 3, a(3) = 4. •

[A227047] • 0,0,1,1,2,3,4,7,12,19,31,50,80,130,211,341,552,893,1444,2337,3782,6119,9901,16020,25920 ★ Expansion of x^2*(1+x^2) / ((x^2-x+1)*(-x^2-x+1)*(1+x+x^2)). • a(n + 1) / a(n) tends to A001622 (the golden ratio) as n - >infinity. • a(n) = a(n - 1) + a(n - 3) + a(n - 5) + a(n - 6). - _ Joerg Arndt _ , Jun 30 2013 •

[A107031] • 1,2,3,4,7,12,25,56,145,422,1389,5072,20283,87996,412663,2087868,11361831,66155642,409567833,2680486870,18465061963,133504614880,1011121118741,8008145020804,66201411633209 ★ Diagonal sums of number triangle A107030. • a(n)=sum { k=0..floor(n / 2), (k - 1) * C(k(n - 2k), n - 2k) - (k - 2) * sum { j=0..n - k, C(k(n - 2k), j) }} •

[A023162] • 1,2,3,4,7,13,14,17,23,26,34,37,43,46,47,53,67,73,74,83,86,94,97,103,106 ★ F(n) == -1 (mod n), where F(n) = A000045(n) is the n-th Fibonacci number. • a(n) seems to be asymptotic to c * n * log(n) where c=1.5... - _ Benoit Cloitre _ , Jan 10 2003 •

[A031149] • 0,1,2,3,4,7,13,16,19,38,57,136,253,487,604,721,1442,2163,5164,9607,18493,22936,27379,54758,82137 ★ Numbers n such that n^2 with last digit deleted is still a perfect square. • a(n) = 38 * a(n - 7) - a(n - 14) for n>15 (conjectured). - _ Colin Barker _ , Dec 31 2017 • a(8 + 7k) = (8 + 5 sqrt(10) / 2) e1 ^ k + (8 - 5 sqrt(10) / 2) e2 ^ k. - _ Robert Israel _ , Feb 16 2016 •

[A266498] • 2,3,4,7,13,22,38,66,115,198,344,595,1031,1786,3093,5357,9279,16071,27836,48213,83508,144640,250524,433920,751571 ★ Index of the smallest triangular number greater than 3^n. • a(n) = round(sqrt(2 * 3 ^ n + 1 / 4)) . •

[A270440] • 2,3,4,7,13,23,44,84,161,313,609,1189,2327,4562,8958,17614,34673,68318,134724,265878,525066,1037554,2051390,4057939,8030892 ★ Least k such that binomial(k, 2) >= binomial(2*n, n). • a(n) = ceiling((8 * binomial(2 * n,n) + 1) ^ (1 / 2) + 1) / 2). The above conjecture is true asymptotically. Using Stirling's formula for the approximation of n!, we get binomial(2 * n,n) ~ 2 ^ (2n) / (Pi * n) ^ (1 / 2) and inserting this in the formula for a(n) results in the above approximation for a(n). - _ Chai Wah Wu _ , Mar 23 2016 •

[A000690] • 1,2,3,4,7,13,24,44,83,157,297,567,1085,2086,4019,7766,15039,29181,56717,110408,215225,420076,820836,1605587,3143562 ★ Landau's approximation to population of x^2 + y^2. • a(n) = round(b * 2 ^ n / sqrt(log(2 ^ n))) where b=0.764223654... is the Landau - Ramanujan constant (A064533). •

[A049876] • 2,3,4,7,13,25,47,88,164,306,571,1066,1990,3715,6935,12946,24167,45114,84217,157213,293479,547855,1022714,1909162,3563948 ★ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a (n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A290992] • 0,0,0,1,2,3,4,7,14,27,48,82,140,242,420,726,1250,2153,3720,6446,11184,19408,33676,58431,101378 ★ p-INVERT of (0,0,0,1,2,3,4,5,...), the nonnegative integers A000027 preceded by two zeros, where p(S) = 1 - S - S^2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 2 * a(n - 5) + a(n - 6) + a(n - 8). •

[A027362] • 1,1,1,2,3,4,7,16,21,48,93,128,315,448,675,2048,3825,5376,13797,24576,27783,95232,182183,262144,629145 ★ Number of Hamiltonian cycles in the directed graph with 2n nodes {0..2n-1} and edges from each i to 2i (mod 2n) and to 2i+1 (mod 2n). • a(2 ^ k) = 2 ^ (2 ^ k - k - 1) from L. Levine 2011, Theorem 1.3. •

[A119330] • 1,2,3,4,7,18,49,120,265,554,1155,2476,5455,12138,26881,58992,128689,280466,612579,1341268,2940151,6443778,14111857,30886632,67590649 ★ Expansion of (1-x)^2/((1-x)^4-2x^4). • a(n)=4a(n - 1) - 6a(n - 2) + 4a(n - 3) + a(n - 4); a(n)=sum { k=0..n, sum { j=0..n - k, C(k,2j)C(n - k,2j) * 2 ^ j }} . •

[A047453] • 0,1,2,3,4,8,9,10,11,12,16,17,18,19,20,24,25,26,27,28,32,33,34,35,36 ★ Numbers that are congruent to {0, 1, 2, 3, 4} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 70 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 12 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 4, a(5k - 1) = 8k - 5, a(5 k - 2) = 8k - 6, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A047338] • 1,2,3,4,8,9,10,11,15,16,17,18,22,23,24,25,29,30,31,32,36,37,38,39,43 ★ Numbers that are congruent to {1, 2, 3, 4} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 15 - 3 * i ^ (2n) - (3 - 3 * i) * i ^ (- n) - (3 + 3 * i) * i ^ n) / 8 where i=sqrt(- 1). •

[A069811] • 0,1,2,3,4,8,9,10,11,15,16,20,21,25,29,30,31,35,36,40,44,48,49,53,54 ★ a(n) = Sum_{k=1..n} omega(k)^2. • a(n) = n * Log(Log(n)) ^ 2 + O(n * Log(log(n))). •

[A047228] • 2,3,4,8,9,10,14,15,16,20,21,22,26,27,28,32,33,34,38,39,40,44,45,46,50 ★ Numbers that are congruent to {2, 3, 4} mod 6. • a(n) = 2 * n - 1 - cos(2 * n * Pi / 3) + sin(2 * n * Pi / 3) / sqrt(3). (End) • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(3k) = 6k - 2, a(3k - 1) = 6k - 3, a(3k - 2) = 6k - 4. (End) •

[A244151] • 2,3,4,8,9,14,15,20,21,26,27,32,33,38,39,44,45,50,51,56,57,62,63,68,69 ★ 0-additive sequence: start with a(1) = 2; thereafter, a(n) = smallest number not already in sequence which is not the sum of any previous two terms. • a(2n) = 6(n - 1) + 2 & a(2n + 1) = 6(n - 1) + 3 for n>1. - _ Rober

t G. Wilson v _ , Jun 23 2014 • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>6. - _ Colin Barker _ , Jun 26 2014 •

[A047456] • 0,2,3,4,8,10,11,12,16,18,19,20,24,26,27,28,32,34,35,36,40,42,43,44,48 ⋆ Numbers that are congruent to {0, 2, 3, 4} mod 8. • a(n) = (- 11 - (- 1) ^ n - (2 - i) * (- i) ^ n - (2 + i) * i ^ n + 8 * n) / 4 where i=sqrt(- 1). - _ Colin Barker _ , May 14 2012 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 16 2012 •

[A207644] • 1,1,2,3,4,8,10,17,30,42,55,116,172,220,391,683,1024,1616,2050,3675,6520,9504,12505,22421,35572 ⋆ a(n) = 1 + (n-1) + (n-2)*[(n-3)/2] + (n-3)*[(n-4)/2]*[(n-5)/3] + (n-4)*[(n-5)/2]*[(n-6)/3]*[(n-7)/4] +... where [x] = floor(x), with summation extending over the initial [n/2+1] products only. • a(n) = 1 + Sum _{ k=1..[n / 2] } Product _{ j=1..k } floor((n - k - j + 1) / j). •

[A115271] • 1,2,3,4,8,12,16,20,29,38,47,56,72,88,104,120,145,170,195,220,256,292,328,364,413 ⋆ Partial sums of floor((n+4)/4)^2. • a(n) = sum { k=0..n, floor((k + 4) / 2) ^ 2 } . • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 4) - 4 * a(n - 5) + 2 * a(n - 6) - a(n - 8) + 2 * a(n - 9) - a(n - 10) with a(0)=1, a(1)=2, a(2)=3, a(3)=4, a(4)=8, a(5)=12, a(6)=16, a(7)=20, a(8)=29, a(9)=38. - _ Harvey P. Dale _ , Jun 07 2011 • a(n) = (2 * n ^ 3 + 18 * n ^ 2 + 61 * n + 75 + 3 * (n + 3) * (- 1) ^ n + 6 * (n + 4 - (n + 2) * (- 1) ^ n) * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4)) / 96. - _ Luce ETIENNE _ , Mar 17 2015 •

[A189375] • 1,2,3,4,8,12,16,20,30,40,50,60,80,100,120,140,175,210,245,280,336,392,448,504,588 ⋆ Expansion of 1/((1-x)^5*(x^3+x^2+x+1)^3). • a(n) = (2 * n ^ 4 + 56 * n ^ 3 + 538 * n ^ 2 + 2044 * n + 2469 + 3 * ((2 * n ^ 2 + 28 * n + 89) * (- 1) ^ n + (4 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) * (n ^ 2 + 16 * n + 57 - (n ^ 2 + 12 * n + 29) * (- 1) ^ n)))) / 3072. - _ Luce ETIENNE _ , Jun 25 2015 •

[A133464] • 1,2,3,4,8,12,16,32,48,64,128,192,256,512,768,1024,2048,3072,4096,8192,12288,16384,32768,49152,65536 ⋆ a(3n)=4^n, a(3n+1)=2*4^n, a(3n+2)=3*4^n • a(n + 1) = a(n) + a(n - n mod 3). - _ Reinhard Zumkeller _ , May 26 2008 •

[A126042] • 1,1,1,2,3,4,8,13,19,38,64,98,196,337,531,1062,1851,2974,5948,10468,17060,34120,60488,99658,199316 ⋆ Expansion of f(x^3)/(1-x*f(x^3)), where f(x) is the g.f. of A001764, whose n-th term is binomial(3n,n)/(2n+1). • a(n) = Sum _{ k=0..n } binomial(3 * floor((n + 2k) / 3) - 2k, floor((n + 2k) / 3) - k) * (k + 1) / (2 * floor((n + 2k) / 3) - k + 1)(2 * cos(2 * Pi * (n - k) / 3) + 1) / 3; •

[A189740] • 1,2,3,4,8,15,28,53,102,196,377,726,1399,2696,5196,10015,19304,37209,71722,138248,266481,513658,990107,1908492,3678736 ⋆ Partial sums of tetranacci numbers (A000288). • a(1)=1, a(2)=2, a(3)=3, a(4)=4, a(5)=8, a(n)=2 * a(n - 1) - a(n - 5). - _ Harvey P. Dale _ , May 23 2011 •

[A129284] • 2,3,4,8,20,44,92,188,380,856,2148,5024,17616,58768,176320,755904,3305920,13885184,69634816,348174336,2385273856,14652403712,102566830080,849285738496,6035962949632 ⋆ A129150(n) / 4. • a(n + 1)=a(n) + a'(n), with a(0)=2. [From _ Paolo P. Lava _ , Feb 08 2010] •

[A047454] • 1,2,3,4,9,10,11,12,17,18,19,20,25,26,27,28,33,34,35,36,41,42,43,44,49 ⋆ Numbers that are congruent to {1, 2, 3, 4} mod 8. • a(n) = (- 5 - (- 1) ^ n - (1 - i) * (- i) ^ n - (1 + i) * i ^ n + 4 * n) / 2 where i=sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 15 2012 •

[A081870] • 1,2,3,4,9,10,11,12,25,26,27,28,29,30,31,63,64,65,66,67,135,136,137,275,276 ⋆ a(1)=1, a(n)=2*a(n-1)+1 if that number is not squarefree, a(n)=a(n-1)+1 otherwise. • a(n)=r(n) * 2 ^ b(n) where b(n) is an integer sequence and r(n) converges to 1.124922752241150441104513529.... •

[A047339] • 2,3,4,9,10,11,16,17,18,23,24,25,30,31,32,37,38,39,44,45,46,51,52,53,58 ⋆ Numbers that are congruent to {2, 3, 4} mod 7. • a(n + 1) = 7 * floor (n / 3) + (n mod 3) + 2. - _ Gary Detlefs _ , Mar 09 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 15 - 12 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 3, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 5. (End) •

[A081871] • 1,2,3,4,9,10,21,22,45,91,183,184,369,370,741,742,1485,1486,2973,5947,11895,23791,47583,95167,190335 ⋆ a(1)=1, a(n)=2*a(n-1)+1 if that number is composite, a(n)=a(n-1)+1 otherwise. • a(n)=r(n) * 2 ^ b(n) where b(n) is an integer sequence and r(n) converges to 1.452148914690155834251.... •

[A212989] • 1,2,3,4,9,11,13,15,24,27,30,33,46,50,54,58,75,80,85,90,111,117,123,129,154 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 4*w = 4*x+y. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 7) + a(n - 8). •

[A211546] • 0,0,0,2,3,4,9,11,13,21,24,27,38,42,46,60,65,70,87,93,99,119,126,133,156 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w=3x-3y. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7). •

[A181287] • 0,1,2,3,4,9,14,19,24,49,74,99,124,249,374,499,624,1249,1874,2499,3124,6249,9374,12499,15624 ⋆ Numbers of the form i*5^j-1 (i=1..4, j >= 0). • a(n) = a(n - 1) + 5 * a(n - 4) - 5 * a(n - 5). G.f.: x ^ 2 * (x + 1) * (x ^ 2 + 1) / ((x - 1) * (5 * x ^ 4 - 1)). [_ Colin Barker _ , Feb 01 2013] •

[A217787] • 1,1,1,1,2,3,4,9,14,19,43,67,91,206,321,436,987,1538,2089,4729,7369,10009,22658,35307,47956 ⋆ a(n) = (a(n-1)*a(n-3) + 1) / a(n-4) with a(0) = a(1) = a(2) = a(3) = 1. • a(n) = a(3 - n) for all n in Z. • a(n + 3) + a(n - 3) = 5 * a(n) for all n in Z. • a(n + 1) + a(n - 1) = a(n) * (2 + [n mod 3 == 0]) for all n in Z. •

[A133993] • 1,2,3,4,9,14,31,56,117,226,459,908,1825,3638 ⋆ a(n)=a(n-1)+3a(n-2)-a(n-3)-2a(n-4), n > 3. • a(n) = 1 + 4 * 2 ^ n / 9 + (- 1) ^ n * (n / 3 - 4 / 9). •

[A033076] • 1,2,3,4,9,15,21,46,78,109,234,390,546,1171,1953,2734,5859,9765,13671,29296,48828,68359,146484,244140,341796 ⋆ Numbers n with property that all pairs of consecutive base 5 digits differ by 3. • a(n) = 5 * a(n - 3) + a(n - 6) - 5 * a(n - 9) for n>11. - _ Colin Barker _ , Jun 01 2015 •

[A124753] • 1,1,1,1,2,3,4,9,15,22,52,91,140,340,612,969,2394,4389,7084,17710,32890,53820,135720,254475,420732 ⋆ a(3n+k) = (k+1)*binomial(4n+k, n)/(3n+k+1) where k is n reduced mod 3. • a(n) = ((mod(n,3) + 1) * C(4 * floor(n / 3) + mod(n,3), floor(n / 3)) / (3 * floor(n / 3) + 1 + mod(n, 3))). - _ Paul Barry _ , Dec 14 2006 •

[A258274] • 1,2,3,4,9,19,44,94,194,294,394,494,594,694,794,894,994,1094,1194,1294,1394,1494,1594,1694,1794 ⋆ The smallest number of cents which cannot be made with fewer than n American coins. • a(n) = 100 * n - 706 for n >= 8. G.f.: x * (1 + 4 * x ^ 4 + 5 * x ^ 5 + 15 * x ^ 6 + 25 * x ^ 7 + 50 * x ^ 8) / (1 - x) ^ 2. - _ Robert Israel _ , May 31 2015 •

[A174139] • 0,1,2,3,4,10,11,12,13,14,20,21,22,23,24,25,26,27,28,29,35,36,37,38,39 ⋆ Numbers congruent to {0,1,2,3,4,10,11,12,13,14,20,21,22,23,24} mod 25. • a(15 + n) = a(n) + 25 for n >= 1. • a(n)= + a(n - 1) + a(n - 15) - a(n - 16).G.f. x ^ 2 * (1 + x + x ^ 2 + x ^ 3 + 6 * x ^ 4 + x ^ 5 + x ^ 6 + x ^ 7 + x ^ 8 + 6 * x ^ 9 + x ^ 10 + x ^ 11 + x ^ 12 + x ^ 13 + x ^ 14) / ((1 + x + x ^ 2) * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x ^ 8 - x ^ 7 + x ^ 5 - x ^ 4 + x ^ 3 - x + 1) * (x - 1) ^ 2). - R. J. Mathar, Oct 08 2011 •

[A007091] • 0,1,2,3,4,10,11,12,13,14,20,21,22,23,24,30,31,32,33,34,40,41,42,43,44 ⋆ Numbers in base 5. • a(0)=0 a(n)=10 * a(n / 5) if n==0 (mod 5) a(n)=a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 • a(n) = n + 1 / 2 * Sum _{ k >= 1 } 10 ^ k * floor(n / 5 ^ k). Cf. A037454, A037462 and A102491. - _ Peter Bala _ , Dec 01 2016 •

[A047455] • 2,3,4,10,11,12,18,19,20,26,27,28,34,35,36,42,43,44,50,51,52,58,59,60,66 ⋆ Numbers that are congruent to {2, 3, 4} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 21 - 15 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 4, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 6. (End) •

[A259561] • 0,1,2,3,4,10,11,29,40,76,199,521,1364,3571,9349,24476,64079,167761,439204,1149851,3010349,7881196,20633239,54018521,141422324 ⋆ Numbers k such that k^2+2 is the product of a Fibonacci number and a Lucas number. • a(n) = 3 * a(n - 1) - a(n - 2) for n>11. - _ Colin Barker _ , Jun 30 2015 •

[A229593] • 0,2,3,4,10,12,14,24,27,30,44,48,52,70,75,80,102,108,114,140,147,154,184,192,200 ⋆ Number of boomerang patterns appearing in n X n coins, rotation not allowed. • a(n) = (n - 1) * floor(n / 3). - _ Laurance L. Y. Lau _ , Jun 22 2015 •

[A049548] • 0,1,2,3,4,10,12,21,32,53,128,213,512,853,2048,3413,8192,13653,32768,54613,131072,218453,524288,873813,2097152 ⋆ a(n+1) = smallest number not containing any digits of a(n), working in base 4. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>5; g.f.: x * (32 * x ^ 10 + 16 * x ^ 9 - 12 * x ^ 8 - 12 * x ^ 7 - 17 * x ^ 6 - x ^ 4 - 6 * x ^ 3 - 2 * x ^ 2 + 2 * x + 1) / ((x - 1) * (x + 1) * (2 * x - 1) * (2 * x + 1)). - _ Colin Barker _ , Sep 13 2014 •

[A193775] • 1,2,3,4,10,12,52,58,394,418 ⋆ Number of signed permutations invariant under the reverse complement and avoiding (-2, -1), (-1, 2), and (1, -2). • a(n) = (\ lfloor n / 2 \ rfloor)! 2 ^{\ lfloor n / 2 \ rfloor } + \ sum _{ k= 0 }^{\ lfloor n / 2 \ lceil } k! •

[A007661] • 1,1,2,3,4,10,18,28,80,162,280,880,1944,3640,12320,29160,58240,209440,524880,1106560,4188800,11022480,24344320,96342400,264539520 ⋆ Triple factorial numbers a(n) = n!!!, defined by a(n) = n*a(n-3), a(0) = a(1) = 1, a(2) = 2. Sometimes written n!3. • a(n) = prod(i=0..floor((n - 1) / 3), n - 3 * i). - _ M. F. Hasler _ , Feb 16 2008 •

[A084544] • 1,2,3,4,11,12,13,14,21,22,23,24,31,32,33,34,41,42,43,44,111,112,113,114,121 ⋆ Alternate number system in base 4. • a(n) = Sum _{ j=0..m - 1 } (1 + b(j) mod 4) * 10 ^ j, • a(k * (4 ^ n - 1) / 3) = k * (10 ^ n - 1) / 9, k = 1,2,3,4. • a((7 * 4 ^ n - 4) / 3) = (13 * 10 ^ n - 4) / 9 = 10 ^ n + 4 * (10 ^ n - 1) / 9. • a((4 ^ n - 1) / 3 - 1) = 4 * (10 ^ (n - 1) - 1) / 9, n>1. • a(n) <= (10 ^ log _ 4(3 * n + 1) - 1) / 9, equality holds for n=(4 ^ k - 1) / 3, k>0. • a(n) > (4 / 10) * (10 ^ log _ 4(3 * n + 1) - 1) / 9, n>0. •

[A295721] • 1,2,3,4,11,13,32,41,89,122,243,349,656,973,1757,2666,4679,7217,12408,19369,32801,51658,86507,137141,227744 ⋆ a(n) = a(n-1) + 3*a(n-2) - 2*a(n-3) - 2*a(n-4), where a(0) = -1, a(1) = 2, a(2) = 3, a(3) = 4. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = - 1, a(1) = 2, a(2) = 3, a(3) = 4. •

[A139763] • 1,2,3,4,11,22,43,84,171,342,683,1364,2731,5462,10923,21844,43691,87382,174763,349524,699051,1398102,2796203,5592404,11184811 ⋆ a(n)=a(n-1)+a(n-2)+a(n-3)+2a(n-4) with a(n)=n+1 for n<=3. • a(n + 1) - 2a(n)=period 4:repeat 0, - 1, - 2, 3. • a(n)=2 * a(n - 1) + (1 / 4) *{- 5 * (n mod 4) + [(n + 1) mod 4] + [(n + 2) mod 4] + 3 * [(n + 3) mod 4] } , a(0)=1 and n>=1 - _ Paolo P. Lava _ , Jun 03 2008 • a(n)= - (1 / 2 * I) * I ^ n + (1 / 3) * (- 1) ^ n + (2 / 3) * 2 ^ n + (1 / 2 * I) * (- I) ^ n, with n>=0 and I=(- 1) ^ (1 / 2) - _ Paolo P. Lava _ , Jun 03 2008 •

[A221172] • 2,3,4,11,26,63,152,367,886,2139,5164,12467,30098,72663,175424,423511,1022446,2468403,5959252,14386907,34733066,83853039,202439144,488731327,1179901798 ⋆ a(0)=-2, a(1)=3; thereafter a(n) = 2*a(n-1) + a(n-2). • a(n)=(1 / 4) * (5 * sqrt(2) * ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) - 4 * ((1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n)). [_ Paolo P. Lava _ , Jan 04 2013] • a(n) = 7 * Pell(n) - 2 * Pell(n + 1), where Pell = A000129. - _ Vladimir Reshetnikov _ , Sep 27 2016 •

[A081350] • 1,2,3,4,15,16,35,36,63,64,99,100,143,144,195,196,255,256,323,324,399,400,483,484,575 ⋆ First column in maze array of natural numbers A081349. • a(0)=1, a(1)=2, a(n)=(n - 1) * (n + (- 1) ^ n), n>1. •

[A107241] • 1,2,3,4,20,69,238,863,3264,12100,44861,166662,619591,2301800,8551800,31774561,118060082,438649107,1629796276,6055504952,22499207241,83595676570,310599326171,1154030334396,4287794153932 ★ Sum of squares of first n tetranacci numbers (A000288). • a(n)= 3 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) + 6 * a(n - 4) - 16 * a(n - 5) - 2 * a(n - 6) + 6 * a(n - 7) - 2 * a(n - 8) + 2 * a(n - 9) + a(n - 10) - a(n - 11). G.f.: (1 - x - 5 * x ^ 2 - 11 * x ^ 3 - 8 * x ^ 4 - x ^ 5 - x ^ 6 - 7 * x ^ 7 + x ^ 8 + 4 * x ^ 9) / ((x - 1) * (x ^ 4 + x ^ 3 - 3 * x ^ 2 - 3 * x + 1) * (x ^ 6 - x ^ 5 + 2 * x ^ 4 - 2 * x ^ 3 - 2 * x ^ 2 - x - 1). [From _ R. J. Mathar _ , Aug 11 2009] •

[A000033] • 0,2,3,4,40,210,1477,11672,104256,1036050,11338855,135494844,1755206648,24498813794,366526605705,5851140525680,99271367764480,1783734385752162,33837677493828171,675799125332580020,14173726082929399560,311462297063636041906 ★ Coefficients of ménage hit polynomials. • a(n) = coefficient of t ^ 2 in polynomial p(t) = SUM(k = 0..n, (2n C(2n - k,k) (n - k)! (t - 1) ^ k) / (2n - k)) • a(n) = SUM(k = 2..n, ((- 1) ^ k n (2n - k - 1)! (n - k)!) / ((2n - 2k)! (k - 2)!)) - _ David W. Wilson _ , Jun 22 2006 •

[A187322] • 0,0,2,3,5,5,7,8,10,10,12,13,15,15,17,18,20,20,22,23,25,25,27,28,30 ★ a(n) = floor(n/2) + floor(3*n/4). • a(n) = (10 * n - 5 + 3 * cos(n * Pi) + 2 * (cos(n * Pi / 2) - sin(n * Pi / 2))) / 8. - _ Luce ETIENNE _ , Aug 14 2017 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>4. •

[A108962] • 1,1,2,3,5,5,9,11,16,20,28,34,47,57,75,92,119,143,183,220,277,332,412,491,605 ★ Number of partitions that are "3-close" to being self-conjugate. • a(n, m) ~ exp(Pi * sqrt((2 * m + 1) * n / (3 * (m + 2)))) * (2 * m + 1) ^ (1 / 4) / (2 * 3 ^ (1 / 4) * (m + 2) ^ (3 / 4) * n ^ (3 / 4)). •

[A128054] • 0,0,1,2,3,5,6,6,7,8,9,11,12,12,13,14,15,17,18,18,19,20,21,23,24 ★ Count, omitting numbers of the form 6k+4 and doubling multiples of 6. • a(n)=cos(2 * pi * n / 3) / 6 - sqrt(3) * sin(2 * pi * n / 3) / 6 + cos(pi * n / 3) / 2 - sqrt(3) * sin(pi * n / 3) / 6 + (3n - 2) / 3. •

[A052406] • 0,1,2,3,5,6,7,8,9,10,11,12,13,15,16,17,18,19,20,21,22,23,25,26,27 ★ Numbers without 4 as a digit. • a(n) = replace digits d > 3 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A047588] • 0,1,2,3,5,6,7,8,9,10,11,13,14,15,16,17,18,19,21,22,23,24,25,26,27 ★ Numbers that are congruent to {0, 1, 2, 3, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (56 * n - 56 + (n mod 7) + ((n + 1) mod 7) - 6 * ((n + 2) mod 7) + ((n + 3) mod 7) + ((n + 4) mod 7) + ((n + 5) mod 7) + ((n + 6) mod 7)) / 49. • a(7 * k) = 8 * k - 1, a(7 * k - 1) = 8 * k - 2, a(7 * k - 2) = 8 * k - 3, a(7 * k - 3) = 8 * k - 5, a(7 * k - 4) = 8 * k - 6, a(7 * k - 5) = 8 * k - 7, a(7 * k - 6) = 8 * k - 8. (End) •

[A032775] • 0,1,2,3,5,6,7,8,9,10,12,13,14,15,16,17,19,20,21,22,23,24,26,27,28 ★ Numbers that are congruent to {0, 1, 2, 3, 5, 6} mod 7. • a(n) = - 1 + Sum _{ k=1..n } ((1 / 90) * (22 * (k mod 6) - 8 * ((k + 1) mod 6) + 7 * ((k + 2) mod 6) + 7 * ((k + 3) mod 6) + 7 * ((k + 4) mod 6) + 7 * ((k + 5) mod 6)), with n >= 1. - _ Paolo P. Lava _ , Sep 03 2010 • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n > 7. • a(n) = (42 * n - 45 - 3 * cos(n * Pi) + 12 * cos(n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 36. • a(6k) = 7k - 1, a(6k - 1) = 7k - 2, a(6k - 2) = 7k - 4, a(6k - 3) = 7k - 5, a(6k - 4) = 7k - 6, a(6k - 5) = 7k - 7. (End) •

[A181092] • 1,2,3,5,6,7,8,9,11,12,13,14,15,16,17,20,21,22,23,24,25,26,27,28,30 ★ a(n) is the sum of n addends nested as follows: floor(sqrt(floor(sqrt(...(n)...)))). • a(n) = n + sqrt(n) + O(n ^ (1 / 4)). - _ Charles R Greathouse IV _ , Nov 15 2012 •

[A000037] • 2,3,5,6,7,8,10,11,12,13,14,15,17,18,19,20,21,22,23,24,26,27,28,29,30 ★ Numbers that are not squares (or, the nonsquares). • a(n) = n + floor(1 / 2 + sqrt(n)). • a(n) = n + floor(sqrt(n + floor(sqrt n))). •

[A001068] • 0,1,2,3,5,6,7,8,10,11,12,13,15,16,17,18,20,21,22,23,25,26,27,28,30 ★ a(n) = floor(5*n/4), numbers that are congruent to {0, 1, 2, 3} mod 5. • a(n) = (10 * n + 2 * (- 1) ^ ((n - 1)n / 2) + (- 1) ^ n - 3) / 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>4. • a(n) = n + floor(n / 4). (End) •

[A062071] • 1,2,3,5,6,7,8,10,11,12,13,15,16,17,18,20,21,22,23,25,26,27,28,30,31 ★ a(n) = [n/1] +[n/(2^2)] + [n/(3^3)] + [n/(4^4)]+...+[n/(k^k)+..., up to infinity, where [ ] is the floor function. • a(n) = Sum _{ i=1..n } floor(n / i ^ i). - _ Wesley Ivan Hurt _ , Sep 15 2017 •

[A182777] • 1,2,3,5,6,7,8,10,11,12,13,15,16,17,19,20,21,22,24,25,26,27,29,30,31 ★ Beatty sequence for 3-sqrt(3). • a(n)=floor(n * (3 - sqrt(3))). •

[A287770] • 1,2,3,5,6,7,8,10,11,12,14,15,16,17,19,20,21,22,24,25,26,28,29,30,31 ★ Positions of 1 in A287769; complement of A276855. • a(n) = floor(n * r), where r = (15 - sqrt(5)) / 10. - _ Michel Dekking _ , Oct 11 2017 •

[A047587] • 0,2,3,5,6,7,8,10,11,13,14,15,16,18,19,21,22,23,24,26,27,29,30,31,32 ★ Numbers that are congruent to {0, 2, 3, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 15 + 3 * cos(n * Pi) - 2 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) - 6 * sin((1 + 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 8. (End) •

[A036537] • 1,2,3,5,6,7,8,10,11,13,14,15,17,19,21,22,23,24,26,27,29,30,31,33,34 ★ Numbers n such that number of divisors of n is a power of 2. • a(n) << n. - _ Charles R Greathouse IV _ , Feb 25 2017 •

[A120486] • 1,2,3,5,6,7,8,10,13,14,15,17,18,19,20,24,25,28,29,31,32,33,34,36,41 ★ Partial sums of A000188. • a(n) = 3n log(n) / Pi ^ 2 + O(n). - _ Griffin N. Macris _ , Jan 28 2017 •

[A063752] • 1,2,3,5,6,7,8,11,13,17,19,21,23,24,27,28,29,31,32,37,41,43,47,53,54 ★ Numbers n such that cototient(n) is a square. • a(n) seems to be asymptotic to c * n * log(n) with c=1.07....(all primes are in the sequence since cototient(p)=1). - _ Benoit Cloitre _ , Sep 08 2002 •

[A187328] • 0,1,2,3,5,6,7,9,10,11,12,14,15,16,18,19,20,21,23,24,25,27,28,29,31 ★ Floor((2-1/sqrt(2))n); complement of A187338. • a(n)=floor((2 - 1 / sqrt(2))n). •

[A045749] • 0,1,2,3,5,6,7,9,10,11,13,14,15,16,17,18,20,21,22,24,25,26,28,29,30 ★ Extension of Beatty sequence; complement of A045750. • a(n)=mex { a(i), b(i):0 <= i<n } , where b=A045750, mex S=least integer >= 0 not in the sequence S. •

[A045671] • 0,1,2,3,5,6,7,9,10,11,13,14,15,16,17,19,20,21,23,24,25,27,28,29,30 ★ Extension of Beatty sequence; complement of A045672. • a(n) = mex { a(i), b(i):0 <= i<n } , where b=A045672, mex S=least integer >= 0 not in sequence S. • a(n) = (1 + sqrt(17)) / 4 * n + O(1). - _ Benoit Cloitre _ , Apr 23 2008 •

[A184480] • 1,2,3,5,6,7,9,10,11,13,14,15,16,18,19,20,22,23,24,26,27,28,29,31,32 ★ Lower s-Wythoff sequence, where s(n)=3n. Complement of A001956. • a(n)=floor[n * (- 1 + sqrt(13)) / 2]. •

[A164087] • 1,2,3,5,6,7,9,10,11,13,14,15,17,18,19,21,22,23,24,26,27,28,30,31,32 ★ Beatty sequence for 4*pi/(4*pi-3) = 1.3135986... . • a(n) = floor(4 * n * pi / (4 * pi - 3)). •

[A187386] • 1,2,3,5,6,7,9,10,11,13,14,15,17,18,19,21,22,23,25,26,27,28,30,31,32 ★ Floor(s*n), where s=1+sqrt(3)-sqrt(2); complement of A187385. • a(n)=floor(s * n), where s=1 + sqrt(3) - sqrt(2). •

[A042968] • 1,2,3,5,6,7,9,10,11,13,14,15,17,18,19,21,22,23,25,26,27,29,30,31,33 ★ Not divisible by 4. • a(n) = + 1 * a(n - 1) + 1 * a(n - 3) - 1 * a(n - 4). • a(n) = 4 + a(n - 3). • a(n) = n - 1 + floor((n + 2) / 3). - _ Benoit Cloitre _ , Jul 11 2009 • a(n) = floor((4 * n - 1) / 3). - _ Gary Detlefs _ , May 14 2011 • a(n) = 2 * n - ceil(2 * n / 3) + 1. - _ Arkadiusz Wesolowski _ , Sep 21 2012 • a(n) = (12 * n + 6 + 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. - _ Wesley Ivan Hurt _ , Sep 30 2017 •

[A047332] • 0,2,3,5,6,7,9,10,12,13,14,16,17,19,20,21,23,24,26,27,28,30,31,33,34 ★ Numbers that are congruent to {0, 2, 3, 5, 6} mod 7. • a(n) = a(n - 5) + 7. O.g.f.: x ^ 2 * (2 + x + 2 * x ^ 2 + x ^ 3 + x ^ 4) / ((- 1 + x) ^ 2 * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1)). - _ R. J. Mathar _ , Apr 19 2008 •

[A080637] • 2,3,5,6,7,9,11,12,13,14,15,17,19,21,23,24,25,26,27,28,29,30,31,33,35 ★ a(n) is smallest positive integer which is consistent with sequence being monotonically increasing and satisfying a(1)=2, a(a(n)) = 2n+1 for n>1. • a(3 * 2 ^ k - 1 + j) = 4 * 2 ^ k - 1 + 3j / 2 + |j| / 2 for k >= 0, - 2 ^ k <= j < 2 ^ k. • a(2n + 1) = 2 * a(n) + 1, a(2n) = a(n) + a(n - 1) + 1. •

[A074780] • 1,2,3,5,6,7,9,13,14,15,17,19,21,23,25,26,27,29,31,34,35,37,38,39,41 ★ 2^n-1 and F(n) are relatively prime, where F(n) denotes the n-th Fibonacci number. • a(n) seems to be asymptotic to c * n with c=1.7... •

[A259444] • 2,3,5,6,7,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,26,28,29,30,31 ★ a(1)=2. For n>1, a(n) = smallest number > a(n-1) which is different from all the numbers a(i)^a(j) for 1 <= i < n, 1 <= j < n. • a(n) = n + sqrt(n) + O(n ^ (1 / 3)). - _ Charles R Greathouse IV _ , Aug 18 2015 •

[A085971] • 2,3,5,6,7,10,11,12,13,14,15,17,18,19,20,21,22,23,24,26,28,29,30,31,33 ★ Union of primes and numbers that are not prime powers (A000040, A024619). • a(n) = n + o(sqrt n). - _ Charles R Greathouse IV _ , Oct 19 2015 •

[A004762] • 0,1,2,3,5,6,7,10,11,12,13,14,15,20,21,22,23,24,25,26,27,28,29,30,31 ★ Numbers n such that binary expansion does not begin 100. • a(1) = 0, a(2) = 1, a(3) = 2, a(4) = 3, a(2 ^ (m + 1) + 2 ^ m + k + 2) = 2 ^ (m + 2) + 2 ^ m + k, m >= 0, 0 <= k < (2 ^ (m + 1) + 2 ^ m). - _ Yosu Yurramendi _ , Aug 08 2016 •

[A047586] • 2,3,5,6,7,10,11,13,14,15,18,19,21,22,23,26,27,29,30,31,34,35,37,38,39 ★ Numbers that are congruent to {2, 3, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 5 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 7 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 3, a(5k - 3) = 8k - 5, a(5k - 4) = 8k - 6. (End) •

[A089633] • 0,1,2,3,5,6,7,11,13,14,15,23,27,29,30,31,47,55,59,61,62,63,95,111,119 ★ Numbers having not more than one 0 in their binary representation. • a(0)=0, n>0: a(n + 1) = Min { m>n: BinOnes(a(n))<=BinOnes(m) } with BinOnes=A000120. •

[A049386] • 1,2,3,5,6,8,9,10,11,12,13,15,16,17,18,19,20,21,22,23,24,26,27,28,29 ★ Binary order of 2^n-th prime. • a(n)=A029837[A033844[n]] • a(n)=Ceiling[Log[2, Prime[2 ^ n]]] •

[A047450] • 0,1,2,3,5,6,8,9,10,11,13,14,16,17,18,19,21,22,24,25,26,27,29,30,32 ★ Numbers that are congruent to {0, 1, 2, 3, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 33 - 3 * cos(n * Pi) - 2 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) + 6 * sin((1 + 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 2, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 5, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A087057] • 2,3,5,6,8,9,10,12,13,15,16,17,19,20,22,23,25,26,27,29,30,32,33,34,36 ★ Smallest number whose square is larger than 2*n^2. • a(n) = ceiling(n * sqrt(2)). - Vincenzo Librandi, Oct 22 2011 •

[A184580] • 1,2,3,5,6,8,9,10,12,13,15,16,18,19,20,22,23,25,26,27,29,30,32,33,35 ★ a(n) = floor((n-1/4)*sqrt(2)), complement of A184581. • a(n) = floor[(n - 1 / 4) * sqrt(2)]. •

[A161188] • 2,3,5,6,8,9,11,12,13,15,16,18,19,20,21,23,24,25,27,28,29,30,32,33,34 ★ Let S = A089237\{0} = union of primes and nonzero squares; sequence gives indices of primes. • a(n) = floor(sqrt(prime(n))) + n. - _ Ilya Gutkovskiy _ , Feb 16 2017 •

[A093001] • 2,3,5,6,8,9,11,12,13,15,16,18,19,20,22,23,25,26,28,29,30,32,33,35,36 ★ Least k such that Sum_{r=n+1..k} r is greater than or equal to the sum of

the first n positive integers (i.e., the n-th triangular number, A000217(n)). Or, least k such that (sum of first n positive integers) <= (sum of numbers from n+1 up to k). • a(n) = ceiling((- 1 + sqrt(8n ^ 2 + 8n + 1)) / 2). - _ Joshua Zucker _ , May 08 2006 •

[A226721] • 2,3,5,6,8,9,11,12,13,15,16,18,19,21,22,23,25,26,28,29,31,32,33,35,36 ⋆ Position of 2^n in the joint ranking of all the numbers 2^j for j>=0 and 5^k for k>=1; complement of A123384. • a(n) = floor(n * (1 + log _ c(b)). •

[A224996] • 2,3,5,6,8,9,11,12,13,15,16,18,19,21,22,24,25,26,28,29,31,32,34,35,37 ⋆ Floor(1/f(x^(1/n))) for x = 2, where f computes the fractional part. • a(n) = floor(n / log(2) - 1 / 2). - _ Andrey Zabolotskiy _ , Dec 01 2017 •

[A248758] • 0,2,3,5,6,8,9,11,12,14,15,17,18,20,21,22,24,25,27,28,30,31,33,34,36 ⋆ Ceiling(n*Pi^(1/3)). • a(n) = ceiling(n * Pi ^ (1 / 3)). •

[A267528] • 1,1,2,3,5,6,8,9,11,12,14,15,17,18,20,21,23,24,26,27,29,30,32,33,35 ⋆ Number of ON (black) cells in the n-th iteration of the "Rule 141" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A007494] • 0,2,3,5,6,8,9,11,12,14,15,17,18,20,21,23,24,26,27,29,30,32,33,35,36 ⋆ Numbers that are congruent to 0 or 2 mod 3. • a(n) = 3 * n / 2 if n even, otherwise (3 * n + 1) / 2. • a(n) = (6 * n + 1) / 4 - (- 1) ^ n / 4; a(n) = Sum _{ k=0..n - 1 } (1 + (- 1) ^ (k / 2) * cos(k * Pi / 2)). - _ Paul Barry _ , Aug 18 2007 • a(n) = 3 * n - a(n - 1) - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = n + ceiling(n / 2). - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = 2n - floor(n / 2) = floor((3n + 1) / 2) = n + (n + (n mod 2)) / 2. - _ Wesley Ivan Hurt _ , Oct 19 2013 • a(n) = n + floor(n / 2) + (n mod 2). - _ Bruno Berselli _ , Apr 04 2016 •

[A102781] • 0,1,2,3,5,6,8,9,11,14,15,18,20,21,23,26,29,30,33,35,36,39,41,44,48 ⋆ Number of even numbers less than the n-th prime. • a(n) = prime _ n - floor((prime _ n) / 2) - 1. _ Giovanni Teofilatto _ , Nov 05 2005 •

[A005097] • 1,2,3,5,6,8,9,11,14,15,18,20,21,23,26,29,30,33,35,36,39,41,44,48,50 ⋆ (Odd primes - 1)/2. • a(n) = floor(prime(n + 1) / 2) from _ Waldemar Puszkarz _ (see Mathematica field). - _ Bruno Berselli _ , Apr 20 2015 •

[A173666] • 1,2,3,5,6,8,9,14,16,18,19,23,24,26,27,41,42,47,48,53,55,57,58,70,72 ⋆ Partial sums of number of supersolvable groups of order n (A066083). • a(n) = SUM[i=1..n] A066083 = SUM[i=1..n] number of finite groups of order i for which the index of any maximal subgroup is prime. •

[A184590] • 2,3,5,6,8,10,11,13,14,16,17,19,21,22,24,25,27,29,30,32,33,35,36,38,40 ⋆ floor[(n*e+1)/(e-1)]; complement of A184589. • a(n)=floor[(n * e + 1) / (e - 1)]. •

[A047448] • 0,2,3,5,6,8,10,11,13,14,16,18,19,21,22,24,26,27,29,30,32,34,35,37,38 ⋆ Numbers that are congruent to {0, 2, 3, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 40 + 3 * (n mod 5) - 2 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[A099267] • 2,3,5,6,8,10,11,13,14,16,18,19,21,23,24,26,27,29,31,32,34,35,37,39,40 ⋆ Numbers generated by the golden sieve. • a(n) = floor(n * phi + 2 - phi) where phi = (1 + sqrt(5)) / 2. •

[A080276] • 1,2,3,5,6,8,10,12,14,15,17,19,21,23,25,27,29,31,33,35,37,39,41,42,44 ⋆ Variation on Connell sequence (A001614). In this one, a(1)=1, terms a(n) onwards are generated in "blocks" as the next a(n-1) odd numbers > a(n-1) if the previous block ends with a(n-1) even and the next a(n-1) even numbers > a(n-1) if the previous block ends with a(n-1) odd. • a(n) = round(LambertW (3 ^ ((4 * n - 3) / 2) * log(3) / 2) / log(3)) = round(LambertW(x * exp((4 * n - 3) * x)) / (2 * x)), where x=log(sqrt(3)). - Antonio G. Astudillo (afg _ astudillo(AT)hotmail.com), Feb 13 2003 •

[A011864] • 0,0,0,0,1,1,2,3,5,6,8,10,12,14,16,19,21,24,27,31,34,38,42,46,50 ⋆ [n(n-1)/11]. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 11) - 2 * a(n - 12) + a(n - 13). G.f.: x ^ 4 * (x ^ 2 - x + 1) * (1 + x ^ 4) / ((1 - x) ^ 3 * (1 + x + x ^ 2 + x ^ 3 + x ^ 4 + x ^ 5 + x ^ 6 + x ^ 7 + x ^ 8 + x ^ 9 + x ^ 10)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A249013] • 0,0,1,2,3,5,6,8,10,12,15,17,20,23,26,30,33,37,41,45,50,54,59,64,69 ⋆ a(n) = floor((n-1) * (n+4) / 10). • a(n) = a(- 3 - n) for all n in Z. • a(n) = a(n - 5) + n - 1 for all n in Z. • a(n) + a(n + 4) = min(a(n + 1) + a(n + 3), a(n + 2) + a(n + 2)) + 1 for all n in Z. •

[A001971] • 0,0,1,1,2,3,5,6,8,10,13,15,18,21,25,28,32,36,41,45,50,55,61,66,72 ⋆ Nearest integer to n^2/8. • a(n) = floor((n ^ 2 + 4) / 8). - _ Paul Weisenhorn _ , Jun 05 2009 • a(n) = a(- n) for all n in Z. - _ Michael Somos _ , Aug 29 2015 •

[A188064] • 1,2,3,5,6,8,10,16,17,19,21,27,29,35,41,65,66,68,70,76,78,84,90,114,116 ⋆ Partial sums of wt(n)! where wt(n) is the Hamming weight of n (A000120). • a(n)=sum(k=0,n,wt(k)!) where wt(k) is the Hamming weight of k. •

[A268226] • 2,3,5,6,8,11,12,14,15,17,20,21,23,24,26,29,30,32,33,35,38,39,41,42,44 ⋆ Complement of A056991. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[A247588] • 1,2,3,5,6,8,11,13,15,17,21,25,27,31,34,39,43,48,52,56,63,67,73,80,84 ⋆ Number of integer sided acute triangles with largest side n. • a(n) = Sum (j=0 .. n(1 - sqrt(2) / 2), n - j - floor(sqrt(2 * j * n - j ^ 2))). - _ Anton Nikonov _ , Oct 06 2014 •

[A275341] • 1,2,3,5,6,8,11,13,15,18,20,23,25,28,30,33,37,39,42,46,49,52,55,58,61 ⋆ Positions of ones in A275737. • a(n) is the positions of ones in round(im(zetazero(n + 1)) / (2 * Pi)) - round(im(zetazero(n)) / (2 * Pi)), where n starts at 1. •

[A216293] • 2,3,5,6,8,15,16,17,23,25,26,27,28,33,34,35,37,38,40,44,49,50,52,54,56 ⋆ Values of n such that there are exactly two primes between 10n and 10n + 9. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A047449] • 1,2,3,5,6,9,10,11,13,14,17,18,19,21,22,25,26,27,29,30,33,34,35,37,38 ⋆ Numbers that are primitively represented by x^2+y^2+z^2. • a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(5)=6, a(6)=9, a(n)=a(n - 1) + a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Mar 05 2015 •

[A047331] • 2,3,5,6,9,10,12,13,16,17,19,20,23,24,26,27,30,31,33,34,37,38,40,41,44 ⋆ Numbers that are congruent to {2, 3, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 3 - 3 * i ^ (2 * n) - (1 - i) * i ^ (- n) - (1 + i) * i ^ n) / 8 where i=sqrt(- 1). •

[A290564] • 1,2,3,5,6,9,10,13,15,21,23,27,29,33,39,43,45,52,56,61,67,71,78,85,90 ⋆ Number of primes between n^2 and 2*n^2. • a(n) = pi(2n ^ 2) - pi(n ^ 2). •

[A117142] • 1,2,3,5,6,9,10,14,15,20,21,27,28,35,36,44,45,54,55,65,66,77,78,90,91 ⋆ Number of partitions of n in which any two parts differ by at most 2. • a(n) = (2 * n ^ 2 + 10 * n + 3 + (- 1) ^ n * (2 * n - 3)) / 16. - _ Birkas Gyorgy _ , Feb 20 2011 •

[A025523] • 1,2,3,5,6,9,10,14,16,19,20,28,29,32,35,43,44,52,53,61,64,67,68,88,90 ⋆ a(n) = 1 + Sum_{ k < n and k | n} a(k). • a(n) = 1 + Sum _{ k = 2 to n } a([n / k]) [From Mitchell Lee (worthawholephan(AT)gmail.com), Jul 26 2010] •

[A008747] • 1,1,2,3,5,6,9,11,14,17,21,24,29,33,38,43,49,54,61,67,74,81,89,96,105 ⋆ Expansion of (1+x^4)/((1-x)*(1-x^2)*(1-x^3)). • a(n) = ceiling((n + 1) ^ 2 / 6). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(5)=6, a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) for n > 5. - _ Harvey P. Dale _ , Sep 05 2012 • a(n) = a(- 2 - n) for all n in Z. - _ Michael Somos _ , Oct 25 2016 •

[A028309] • 1,1,2,3,5,6,9,11,15,18,23,27,33,38,45,51,59,66,75,83,93,102,113,123,135 ⋆ Molien series for ring of symmetrized weight enumerators of self-dual codes (with respect to Euclidean inner product) of length n over GF(4). • a(n) = (1 / 8) * (2 * n ^ 2 + 3 * (- 1) ^ n + 6 * n + 4). - _ Ralf Stephan _ , Apr 29 2014 •

[A026810] • 0,0,0,0,1,1,2,3,5,6,9,11,15,18,23,27,34,39,47,54,64,72,84,94,108 ⋆ Number of partitions of n in which the greatest part is 4. • a(n) = round(n ^ 3 + 3n ^ 2 - 9n[n odd]) / 144, where [...] denotes the Iverson bracket [true] = 1 and [false] = 0. - _ Washington Bomfim _ , Jul 03 2012 • a(n) = (n ^ 3 + 3 * n ^ 2 - 9 * n) / 144 + a(m) - (m ^ 3 + 3 * m ^ 2 - 9 * m) / 144 if n = 12k + m and m is odd. For example, a(23) = a(12 * 1 + 11) = (23 ^ 3 + 3 * 23 ^ 2 - 9 * 23) / 144 + a(11) - (11 ^ 3 + 3 * 11 ^ 2 - 9 * 11) / 144 = 94. • a(n) = (n ^ 3 + 3 * n ^ 2) / 144 + a(m) - (m ^ 3 + 3 * m ^ 2) / 144 if n = 12k + m and m is even. For example, a(22) = a(12 * 1 + 10) = (22 ^ 3 + 3 * 22 ^ 2) / 144 + a(10) - (10 ^ 3 + 3 * 10 ^ 2) / 144 = 84. (End) •

[A001400] • 1,1,2,3,5,6,9,11,15,18,23,27,34,39,47,54,64,72,84,94,108,120,136,150,169 ⋆ Number of partitions of n into at most 4 parts. • a(n) = 1 + (a(n - 2) + a(n - 3) + a(n - 4)) - (a(n - 5) + a(n - 6) + a(n - 7)) + a(n - 9). - Norman J. Meluch (norm(AT)iss.gm.com), Mar 09 2000 • a(n) = round(((n + 4) ^ 3 + 3 * (n + 4) ^ 2 - 9 * (n + 4) * ((n + 4) mod 2)) / 144). - _ Washington Bomfim _ , Jul 03 2012 • a(n) = a(n - 1) + a(n - 2) - 2 * a(n - 5) + a(n - 8) + a(n - 9) - a(n - 10). - _ David Neil McGrath _ , Sep 12 2014 • a(n) = - a(- 10 - n) for all n in Z. - _ Michael Somos _ , Dec 29 2014 • a(n) - a(n + 1) - a(n + 3) + a(n + 4) = 0 if n odd else floor(n / 4) + 2 for all n in Z. - _ Michael Somos _ , Dec 29 2014 • a(n) = n ^ 3 / 144 + n ^ 2 / 24 - 7 * n / 144 + 1 + floor(n / 4) / 4 + floor(n / 3) / 3 + (n + 5) * floor(n / 2) / 8 + floor((n + 1) / 4) / 4. - _ Vaclav Kotesovec _ , Aug 18 2015 •

[A008770] • 1,1,2,3,5,6,9,11,15,19,24,29,37,44,53,63,75,87,102,117,135,154,175,197,223 ⋆ Expansion of (x^9+1)/(1-x)/(1-x^2)/(1-x^3)/(1-x^4). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(5)=6, a(6)=9, a(7)=11, a(8)=15, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) + a(n - 6) - a(n - 7) + 2 * a(n - 8) - a(n - 9). - _ Harvey P. Dale _ , Oct 02 2012 •

[A008769] • 1,1,2,3,5,6,9,11,16,19,25,30,39,45,56,65,79,90,107,121,142,159,183,204,233 ⋆ Expansion of (1+x^8)/((1-x)*(1-x^2)*(1-x^3)*(1-x^4)). • a(n) = 1 + 5 * n / 72 - n ^ 2 / 12 + n ^ 3 / 72 + 1 / 2 * floor(n / 4) + 1 / 3 * floor(n / 3) + (1 / 4 + n / 4) * floor(n / 2) + 1 / 2 * floor((1 + n) / 4) + 1 / 3 * floor((1 + n) / 3). - _ Vaclav Kotesovec _ , Apr 29 2014 • a(n) = round((n + 1) * (2 * n ^ 2 + 4 * n + 83 + 9 * (- 1) ^ n) / 144). - _ Tani Akinari _ , May 13 2014 •

[A283768] • 2,3,5,6,9,12,15,16,18,19,22,25,28,29,31,32,34,35,38,41,42,44,45,47,48 ⋆ Numbers k such that U(k) is odd, where U = A001950 = upper Wythoff sequence. • a(n + 1) - a(n) is in { 1,2,3 } for every n. •

[A008768] • 1,1,2,3,5,6,9,12,16,20,26,32,40,48,58,69,82,95,111,128,147,167,190,214,241 ⋆ Expansion of (1+x^7)/((1-x)*(1-x^2)*(1-x^3)*(1-x^4)). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(5)=6, a(6)=9, a(7)=12, a(8)=16, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) + a(n - 6) - a(n - 7) + 2 * a(n - 8) - a(n - 9). - _ Harvey P. Dale _ , Jul 06 2011 • a(n) = floor((2 * n ^ 3 + 9 * n ^ 2 + 72 * n + 160) / 144). - _ Tani Akinari _ , May 13 2014 •

[A212584] • 1,1,2,3,5,6,9,12,18,24,34,46,65,89,124,170,236,325,450,620,857,1182,1633,2253,3111 ⋆ Nonnegative walks of length n on the x-axis starting at the origin using steps {1,-1} and visiting no point more than twice. • a(n) = a(n - 2) + a(n - 4) + a(n - 5) + 1, a(0..4) = { 1,1,2,3,5 } . • a(n) = g(n) + sum(j=0..n - 4, g(j) * sum(k=1..(n - j) / 4, binomial(n - j - 3 * k - 1, k - 1))), g(j) = if(j<3,1,2) + floor(j / 2). •

[A131761] • 0,1,2,3,5,6,9,19,30,51,101,150,249,499,750,1251,2501,3750,6249,12499,18750,31251,62501,93750,156249 ⋆ a(3n) = 3a(3n-1)-3a(3n-2)+2a(3n-3), a(3n+1) = 3a(3n)-3a(3n-1)+2a(3n-2), a(3n+2) = 3a(3n+1)-3a(3n), a(0) = 0,

a(1) = 1, a(2) = 2. • a(n) = a(n - 1) - a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 5 * a(n - 5) for n>7. - _ Colin Barker _ , Nov 04 2014 •

[A047447] • 2,3,5,6,10,11,13,14,18,19,21,22,26,27,29,30,34,35,37,38,42,43,45,46,50 ★ Numbers that are congruent to {2, 3, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (1 + i) * (4 * n - 4 * n * i + 2 * i - 2 - (1 - i) * i ^ (2 * n) + i ^ (1 - n) - i ^ n) / 4 where i=sqrt(- 1). •

[A003238] • 1,1,2,3,5,6,10,11,16,19,26,27,40,41,53,61,77,78,104,105,134,147,175,176,227 ★ Number of rooted trees with n vertices in which vertices at the same level have the same degree. • a(n) = 1 + sum of a(i) such that n == 1 (mod i). - _ Jon Perry _ , Nov 20 2012 •

[A053436] • 2,3,5,6,10,11,18,19,30,31,47,48,70,71,100,101,138,139,185,186,242,243,310,311,390 ★ a(n) = n+1 + ceiling(n/2)*(ceiling(n/2)-1)*(ceiling(n/2)+1)/6. • a(n) = a(n - 1) + 3 a(n - 2) - 3 a(n - 3) - 3 a(n - 4) + 3 a(n - 5) + a(n - 6) - a(n - 7). - _ R. J. Mathar _ , Mar 11 2012 • a(n) = (2 * n ^ 3 + 3 * n ^ 2 + 91 * n + 93 - 3 * (n ^ 2 + n - 1) * (- 1) ^ n) / 96. - _ Luce ETIENNE _ , Oct 22 2014 •

[A138587] • 0,1,2,3,5,6,10,11,21,22,42,43,85,86,170,171,341,342,682,683,1365,1366,2730,2731,5461 ★ The union of all entries of A024495, A131708 and A024493 sorted into natural order. • a(n + 8) == a(n) (mod 10), n > 1. • a(2 * n + 1) - a(2 * n) = 1. • a(n) = - a(n - 1) + a(n - 2) + a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5), n>6. •

[A161715] • 1,2,3,5,6,10,15,30,171,886,3359,10143,26072,59502,123931,240048,438261,761754,1270123,2043641,3188202,4840994,7176951,10416034,14831391 ★ a(n) = (50*n^7 - 1197*n^6 + 11333*n^5 - 53655*n^4 + 132125*n^3 - 156828*n^2 + 73212*n + 5040)/5040. • a(n) = C(n,0) + C(n,1) + C(n,3) - 3 * C(n,4) + 9 * C(n,5) - 21 * C(n,6) + 50 * C(n,7). •

[A127524] • 1,1,2,3,5,6,11,12,20,25,42,43,81,82,150,192,287,288,563,564,982,1277,2182,2183,3658 ★ Number of unordered rooted trees where each subtree from given node has the same number of nodes. • a(1) = 1; a(n + 1) = Sum _{ d|n } C(a(n / d) + d - 1, d). •

[A038196] • 1,1,1,2,3,5,6,11,14,25,31,56,70,126,157,283,353,636,793,1429,1782,3211,4004,7215,8997 ★ 3-wave sequence starting with 1, 1, 1. • a(n)=a(n - 1) + a(n - 2) if n is odd, a(n)=a(n - 1) + a(n - 4) if n is even. Also: a(n)=2a(n - 2) + a(n - 4) - a(n - 6). •

[A078913] • 1,1,2,3,5,6,11,17,19,36,55,58,113,171,176,347,523,529,1052,1581,1592,3173,4765,4782,9547 ★ a(1)=a(2)=1, a(n)=a(n-1)+a(n-2) if n is not congruent to 3, a(n)=a(n-1)+a(n/3) if n is congruent to 3. • a(3n) is asymptotic to c * 3 ^ n, a(3n + 1) to 2 * c * 3 ^ n, a(3n + 2) to 3 * c * 3 ^ n where c=0.7294077182495580205611557145496836187642515585056 16.... •

[A127525] • 1,1,2,3,5,6,12,13,24,33,60,61,142,143,289,447,699,700,1558,1559,3518,5375,8977,8978,17179 ★ Number of ordered rooted trees where each subtree from given node has the same number of nodes. • a(1) = 1; a(n + 1) = sum _{ d|n } a(n / d) ^ d. •

[A047373] • 0,1,2,3,5,7,8,9,10,12,14,15,16,17,19,21,22,23,24,26,28,29,30,31,33 ★ Numbers that are congruent to {0, 1, 2, 3, 5} mod 7. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 7 for n > 5. • a(n) = (35 * n - 50 - 3 * (n mod 5) + 2 * ((n + 1) mod 5) + 2 * ((n + 2) mod 5) + 2 * ((n + 3) mod 5) - 3 * ((n + 4) mod 5)) / 25. • a(5 * k) = 7 * k - 2, a(5 * k - 1) = 7 * k - 4, a(5 * k - 2) = 7 * k - 5, a(5 * k - 3) = 7 * k - 6, a(5 * k - 4) = 7 * k - 7. (End) •

[A186042] • 1,2,3,5,7,8,9,11,13,14,15,17,18,19,20,21,23,25,26,27,28,29,31,32,33 ★ Numbers of the form 2*k + 1, 3*k + 2, or 5*k + 3. • a(n) = a(n - 22) + 30 . • a(n) = a(n - 1) + a(n - 22) - a(n - 23). •

[A047255] • 1,2,3,5,7,8,9,11,13,14,15,17,19,20,21,23,25,26,27,29,31,32,33,35,37 ★ Numbers that are congruent to {1, 2, 3, 5} mod 6. • a(n) = { n | n == 1, 2 , 3, 5 (mod 6) } . • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4), for n>4. • a(n) = (6n - 4 + i ^ (1 - n) + i ^ (n - 1)) / 4, where i=sqrt(- 1). •

[A187332] • 2,3,5,7,8,9,12,13,15,17,18,19,22,23,25,27,28,29,32,33,35,37,38,39,42 ★ Complement of A187331. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n > 7. •

[A076798] • 1,2,3,5,7,8,10,11,12,14,20,21,22,25,28,33,35,37,38,39,44,45,47,49,50 ★ Greedy powers of (Pi/6): Sum_{n>=1} (Pi/6)^a(n) = 1. • a(n) = Sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(pi / 6) and frac(y) = y - floor(y). •

[A184588] • 2,3,5,7,8,10,11,13,15,16,18,19,21,22,24,26,27,29,30,32,34,35,37,38,40 ★ floor[(n+1/2)*e/(e-1)]. • a(n)=floor[(n + 1 / 2) * e / (e - 1)]. •

[A047488] • 0,2,3,5,7,8,10,11,13,15,16,18,19,21,23,24,26,27,29,31,32,34,35,37,39 ★ Numbers that are congruent to {0, 2, 3, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 35 - 2 * (n mod 5) - 2 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[A047222] • 0,2,3,5,7,8,10,12,13,15,17,18,20,22,23,25,27,28,30,32,33,35,37,38,40 ★ Numbers that are congruent to {0, 2, 3} mod 5. • a(n) = floor((5 * n - 4) / 3). - _ Gary Detlefs _ , Oct 28 2011 • a(n) = 2 * n - 2 - floor(n / 3). - _ Wesley Ivan Hurt _ , Nov 07 2013 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n >4. • a(n) = (15 * n - 15 - 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 2, a(3k - 1) = 5k - 3, a(3k - 2) = 5k - 5. (End) • a(n) = n - 1 + floor((2n - 1) / 3). - _ Wesley Ivan Hurt _ , Dec 27 2016 •

[A186221] • 2,3,5,7,8,10,12,14,15,17,19,20,22,24,25,27,29,31,32,34,36,37,39,41,43 ★ Adjusted joint rank sequence of (f(i)) and (g(j)) with f(i) after g(j) when f(i)=g(j), where f and g are the triangular numbers and squares. Complement of A186222. • a(n)=n + floor(sqrt((n ^ 2 + 2) / 2 + 1 / 4), A186221. •

[A060107] • 0,2,3,5,7,8,10,12,14,15,17,19,20,22,24,26,27,29,31,32,34,36,38,39,41 ★ Numbers that are congruent to {0, 2, 3, 5, 7, 8, 10} mod 12. The ivory keys on a piano. • a(n) = a(n - 7) + 12 for n>7. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (84 * n - 91 - 2 * (n mod 7) + 5 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) + 5 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) - 2 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 2, a(7k - 1) = 12k - 4, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 10, a(7k - 6) = 12k - 12. (End) •

[A083028] • 0,2,3,5,7,8,11,12,14,15,17,19,20,23,24,26,27,29,31,32,35,36,38,39,41 ★ Numbers that are congruent to {0, 2, 3, 5, 7, 8, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (84 * n - 84 - 9 * (n mod 7) + 5 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) + 5 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) + 5 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 1, a(7k - 1) = 12k - 4, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 10, a(7k - 6) = 12k - 12. (End) •

[A287893] • 0,0,0,1,2,3,5,7,8,11,13,15,18,21,24,28,32,35,40,44,48,53,58,63,69 ★ a(n) = floor(n*(n+2)/9). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 9) - 2 * a(n - 10) + a(n - 11) for n>10. • a(n) = floor(n * (n + 2) / 9). - _ Alois P. Heinz _ , Jun 02 2017 •

[A245227] • 0,2,3,5,7,9,10,12,13,15,17,18,19,21,22,25,26,27,29,30,32,34,35,37,38 ★ Maximum frustration of complete bipartite graph K(n,5). • a(n) = floor(25 / 16 * n) - 1 if n == 2,4,9,13, or 15 mod 16 or if n = 1 or 3 • a(n) = floor(25 / 16 * n) otherwise • a(n + 16) = a(n) + 25 for n > 3. •

[A083033] • 0,2,3,5,7,9,10,12,14,15,17,19,21,22,24,26,27,29,31,33,34,36,38,39,41 ★ Numbers that are congruent to {0, 2, 3, 5, 7, 9, 10} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (84 * n - 84 + 5 * (n mod 7) - 2 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) + 5 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) - 2 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 2, a(7k - 1) = 12k - 3, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 10, a(7k - 6) = 12k - 12. (End) •

[A022847] • 0,2,3,5,7,9,10,12,14,16,17,19,21,23,24,26,28,29,31,33,35,36,38,40,42 ★ Integer nearest n*sqrt(3). • a(n + 1) - a(n) = 1 or 2. _ Philippe Deléham _ , Mar 09 2013 •

[A047371] • 0,2,3,5,7,9,10,12,14,16,17,19,21,23,24,26,28,30,31,33,35,37,38,40,42 ★ Numbers that are congruent to {0, 2, 3, 5} mod 7. • a(n) = floor((7n - 6) / 4). [_ Gary Detlefs _ , Mar 06 2010] • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = i ^ (- n) * ((14 * n - 15) * i ^ n + i - 1 - (1 + i) * i ^ (2 * n) + i ^ (- n)) / 8 where i=sqrt(- 1). •

[A190785] • 0,2,3,5,7,9,11,12,14,15,17,19,21,23,24,26,27,29,31,33,35,36,38,39,41 ★ Numbers that are congruent to {0, 2, 3, 5, 7, 9, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8; G.f.: (2 + x + 2 * x ^ 2 + 2 * x ^ 3 + 2 * x ^ 4 + 2 * x ^ 5 + x ^ 6) / ((x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 2). - _ R. J. Mathar _ , May 26 2011 • a(n) = 2 * n - floor(2 * n / 7) - floor(((n - 4) mod 7) / 5). - _ Rolf Pleisch _ , Jun 11 2011 • a(n) = a(n - 7) + 12 for n>7. • a(n) = (84 * n - 77 - 2 * (n mod 7) - 2 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) + 5 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) + 5 * ((n + 6) mod 7)) / 49. • a(7 * k) = 12 * k - 1, a(7 * k - 1) = 12 * k - 3, a(7 * k - 2) = 12 * k - 5, a(7 * k - 3) = 12 * k - 7, a(7 * k - 4) = 12 * k - 9, a(7 * k - 5) = 12 * k - 10, a(7 * k - 6) = 12 * k - 12. (End) •

[A004274] • 0,1,2,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45 ★ 0, 2 and the odd numbers. • a(n) = 2 * n - 3 + floor(2 / n), n > 0. - _ Wesley Ivan Hurt _ , May 23 2013 • a(n) = 2 * a(n - 1) - a(n - 2) for n > 4. •

[A004280] • 1,2,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47 ★ 2 together with the odd numbers (essentially the result of the first stage of the sieve of Eratosthenes). • a(n) = 2 * n - 3 + floor(2 / n). - _ Wesley Ivan Hurt _ , May 23 2013 •

[A095737] • 2,3,5,7,9,11,13,15,17,19,23,25,29,31,37,41,43,47,53,59,61,67,71,73,79 ★ Mersenne-like sequence factors of complex real square type 2*Prime[m]^2-n^2-1. • a(n) =if (2 ^ n - 1) / (Prime[m] ^ 2 - n ^ 2 - 1)=Integer then n •

[A046654] • 0,1,2,3,5,7,9,11,13,15,18,20,23,25,28,31,34,36,39,42,45,48,52,55,58 ★ Nearest integer to Sum_{k=1..n} log(k). • a(n) = n * log(n) - n + O(log(n)). - _ Arkadiusz Wesolowski _ , Oct 18 2013 • a(n) = round(LogGamma(n + 1)). - _ Mats Granvik _ , Roger L. Bagula, Aug 06 2016 •

[A280724] • 1,2,3,5,7,9,11,13,15,18,21,24,27,30,33,36,39,42,45,48,51,54,57,60,63 ★ Expansion of 1/(1 - x) + (1/(1 - x)^2)*Sum_{k>=0} x^(3^k). • a(n) = 1 + Sum _{ k=1..n } floor(log _ 3(k)) + 1. •

[A129895] • 1,2,3,5,7,9,11,13,15,18,21,25,29,33,37,41,45,50,55,61,67,73,79,85,91 ★ a(1)=1. a(n) = a(n-1) + number of triangular numbers among the first (n-1) terms of the sequence. • a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(5)=7, a(6)=9, a(7)=11, a(8)=13, a(n)= 2 * a(n - 1) - 2 * a(n - 3) + 2 * a(n - 5) - 2 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , May 16 2014 •

[A022554] • 0,1,2,3,5,7,9,11,13,16,19,22,25,28,31,34,38,42,46,50,54,58,62,66,70 ★ a(n) = Sum_{k=0..n} floor(sqrt(k)). • a(0)=0, a(1)=1; a(n) = 2 a(n - 1) - a(n - 2) if n is not a perfect square; a(n) = 2 a(n - 1) - a(n - 2) + 1 if n is a perfect square. • a(n) = floor(sqrt(n)) * (n - 1 / 6 * (2 * floor(sqrt(n)) + 5) * (floor(sqrt(n)) - 1)). - Yong Kong (ykong(AT)curagen.com), Mar 10 2001 • a(n) = 2 / 3 n ^ (3 / 2) - 1 / 2 n + O(sqrt(n)). - _ Charles R Greathouse IV _ , Jan 12 2012 •

[A097046] • 1,2,3,5,7,9,11,13,16,19,22,25,28,31,34,39,44,49,54,59,64,69,74,79,86 ★ a(n) = a(n-1) + a(floor(sqrt(n))) for n > 1; a(1) = 1. • a(1)=1; a(n) = a(n - 1) + a(floor(sqrt(n))) for n > 1. •

[A011861] • 0,0,0,0,1,2,3,5,7,9,11,13,16,19,22,26,30,34,38,42,47,52,57,63,69 ★ a(n) = floor(n(n-1)/8). • a(n) = + 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 4 * a(n - 4) + 4 * a(n - 5) - 4 * a(n - 6) + 4 * a(n - 7) - 3 * a(n - 8) + a(n - 9). •

[A241907] • 1,2,3,5,7,9,11,14,17,20,23,26,29,33,36,40,44,48,52,56,60,65,69,74,78 ⋆ a(n) = floor(Catalan(2*n) / Catalan(n)^2). • a(n) = floor(Catalan(2 * n) / Catalan(n) ^ 2). •

[A056834] • 0,0,0,1,2,3,5,7,9,11,14,17,20,24,28,32,36,41,46,51,57,63,69,75,82 ⋆ [n^2/7]. • a(n)= + 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). •

[A071423] • 1,2,3,5,7,9,12,15,18,22,26,30,34,39,44,49,55,61,67,74,81,88,95,103,111 ⋆ a(n) = a(n-1) + number of decimal digits of 2^n. Number of decimal digits of concatenation of first n powers of 2. • a(n) = 0.5 log 2 / log 10 * n ^ 2 + O(n) •

[A062781] • 0,0,0,1,2,3,5,7,9,12,15,18,22,26,30,35,40,45,51,57,63,70,77,84,92 ⋆ Number of arithmetic progressions of four terms and any mean which can be extracted from the set of the first n positive integers. • a(n)=P(n, 4), where: P[n, k] = n * Floor[n / (k - 1)] - (1 / 2)(k - 1)(Floor[n / (k - 1)] * (Floor[n / (k - 1)] + 1)) recursion: a(n)=a(n - 3) + n - 3; a(1)=a(2)=a(3)=0 • a(n)=1 / 2 * floor((n - 1) / 3) * (2n - 3 - 3 * floor((n - 1) / 3)). G.f.: g(x)=x ^ 4 / ((1 - x ^ 3)(1 - x) ^ 2). - _ Hieronymus Fischer _ , Jun 01 2007 •

[A001840] • 0,1,2,3,5,7,9,12,15,18,22,26,30,35,40,45,51,57,63,70,77,84,92,100,108 ⋆ Expansion of x /((1 - x)^2 * (1 - x^3)). • a(3 * k - 1) = k * (3 * k + 1) / 2; • a(3 * k) = 3 * k * (k + 1) / 2; • a(3 * k + 1) = (k + 1) * (3 * k + 2) / 2. • a(n) = a(n - 3) + n for n>2, a(0)=0, a(1)=1, a(2)=2. - _ Paul Barry _ , Jul 14 2004 • a(n) = binomial(n + 3, 3) / (n + 3) + cos(2 * Pi * (n - 1) / 3) / 9 + sqrt(3)sin(2 * Pi * (n - 1) / 3) / 9 - 1 / 9. - _ Paul Barry _ , Jan 01 2005 • a(n) = Sum _{ k=0..n } k * (cos(2 * Pi * (n - k) / 3 + Pi / 3) / 3 + sqrt(3) * sin(2 * Pi * (n - k) / 3 + Pi / 3) / 3 + 1 / 3). •

[A005704] • 1,2,3,5,7,9,12,15,18,23,28,33,40,47,54,63,72,81,93,105,117,132,147,162,180 ⋆ Number of partitions of 3n into powers of 3. • a(n) = a(n - 1) + a(floor(n / 3)). • a(n) mod 3 = binomial(2n, n) mod 3. - _ Benoit Cloitre _ , Jan 04 2004 •

[A283968] • 1,2,3,5,7,9,12,15,19,23,27,32,37,42,48,54,61,68,75,83,91,100,109,118,128 ⋆ a(n) = a(n-1) + 1 + floor(n*(3 + sqrt(5))/2), a(0) = 1. • a(n) = a(n - 1) + 1 + floor(n * (3 + sqrt(5)) / 2), a(0) = 1. •

[A039825] • 2,3,5,7,9,12,16,20,24,29,35,41,47,54,62,70,78,87,97,107,117,128,140,152,164 ⋆ a(n) = floor((n^2 + n + 8) / 4). • a(n) = sum _{ k=0..n } ((1 / 12) * ((k mod 4) + 4 * ((k + 1) mod 4) + ((k + 2) mod 4) - 2 * ((k + 3) mod 4))) + a(n - 1), with a(0)=2. - _ Paolo P. Lava _ , Aug 24 2007 •

[A080000] • 1,1,1,1,1,2,3,5,7,9,12,16,24,35,50,70,96,135,190,270,383,539,759,1065,1500 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=2, r=3, I={-1,1,2}. • a(n) = a(n - 1) + 2 * a(n - 5) - a(n - 6) + a(n - 7) - a(n - 10). •

[A280429] • 1,2,3,5,7,9,17,21,25,51,59,67,141,157,173,367,399,431,913,977,1041,2195,2323,2451,5141 ⋆ Longest word T from a string S using no breakpoint-reuse. • a(n) = (2 ^ k) * (n - 5) + 2k + 5 with k = floor((n - 1) / 3). •

[A202267] • 0,1,2,3,5,7,10,11,12,13,15,17,20,21,22,23,25,27,30,31,32,33,35,37,50 ⋆ Numbers in which all digits are noncomposites (1, 2, 3, 5, 7) or 0. • a(n) = (b _ m(n) + 1) mod 10 + floor((b _ m(n) + 2) / 5) + floor((b _ m(n) + 1) / 5) - 2 * floor(b _ m(n) / 5)) * 10 ^ m + sum _{ j=0..m - 1 } (b _ j(n) mod 6 + floor((b _ j(n) + 1) / 6) + floor((b _ j(n) + 2) / 6) - 2 * floor(b _ j(n) / 6))) * 10 ^ j, where n>1, b _ j(n)) = floor((n - 1 - 6 ^ m) / 6 ^ j), m = floor (log _ 6(n - 1)). • a(1 * 6 ^ n + 1) = 1 * 10 ^ n. • a(2 * 6 ^ n + 1) = 2 * 10 ^ n. • a(3 * 6 ^ n + 1) = 3 * 10 ^ n. • a(4 * 6 ^ n + 1) = 5 * 10 ^ n. • a(5 * 6 ^ n + 1) = 7 * 10 ^ n. •

[A047487] • 2,3,5,7,10,11,13,15,18,19,21,23,26,27,29,31,34,35,37,39,42,43,45,47,50 ⋆ Numbers that are congruent to {2, 3, 5, 7} mod 8. • a(n) = (- 3 - (- 1) ^ n + i * (- i) ^ n - i * i ^ n + 8 * n) / 4 where i=sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 17 2012 •

[A010062] • 1,2,3,5,7,10,12,14,17,19,22,25,28,31,36,38,41,44,47,52,55,60,64,65,67 ⋆ a(0)=1; thereafter a(n+1) = a(n) + number of 1's in binary representation of a(n). • a(n) = (n / 2) * log n + O(n * sqrt(log n * loglog n)), where log means log _ 2. In particular, a(n) ~ (n / 2) * log n. [Stolarsky] •

[A211520] • 0,0,0,1,2,3,5,7,10,12,16,19,24,27,33,37,44,48,56,61,70,75,85,91,102 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w + 4y = 2x. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7). • a(n) = (6 * n ^ 2 - 10 * n + 3 + (2 * n - 7) * (- 1) ^ n - 4 * (- 1) ^ ((2 * n - 3 - (- 1) ^ n) / 4)) / 32. - _ Luce ETIENNE _ , Dec 31 2015 • a(n) = Sum _{ k=1..floor(n / 2) } floor((n - k) / 2). - _ Wesley Ivan Hurt _ , Apr 01 2017 •

[A072831] • 1,1,2,3,5,7,10,13,16,19,22,26,29,33,37,41,45,49,53,57,62,66,70,75,80 ⋆ Number of bits in n!. • a(n) = floor(log(n!) / log(2)) + 1. •

[A022335] • 1,2,3,5,7,10,13,17,21,25,30,35,41,47,54,61,68,76,84,93,102,112,122,132,143 ⋆ Index of 2^n within sequence of numbers of form 2^i * 5^j. • a(n) = sum(i=0..n, 1 + floor(log(2 ^ i) / log(5))). - _ Michel Marcus _ , Oct 02 2013 •

[A022780] • 1,2,3,5,7,10,13,17,21,26,31,36,42,48,55,62,70,78,87,96,105,115,125,136,147 ⋆ Place where n-th 1 occurs in A023118. • a(n) = n + 1 + Sum { floor[(n - k) / sqrt(5)], k = 0..n } . •

[A033638] • 1,1,2,3,5,7,10,13,17,21,26,31,37,43,50,57,65,73,82,91,101,111,122,133,145 ⋆ Quarter-squares plus 1 (that is, a(n) = A002620(n) + 1). • a(n) = ceiling((n ^ 2 + 3) / 4) = ((7 + (- 1) ^ n) / 2 + n ^ 2) / 4. • a(0) = a(1) = 1, a(n) = 1 + floor(a(n - 1) / 2). - _ Benoit Cloitre _ , Nov 06 2002 • a(n) = a(n - 2) + n - 1. - _ Paul Barry _ , Jul 14 2004 • a(0) = 1; a(1) = 1; for n > 1 a(n) = a(n - 1) + round(sqrt(a(n - 1))). - _ Jonathan Vos Post _ , Jan 19 2006 • a(n) = floor((n ^ 2) / 4) + 1. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 3. - _ Philippe Deléham _ , Nov 03 2008 •

[A177337] • 0,0,0,0,0,1,2,3,5,7,10,13,17,22,27,33,40,48,57,67,78,90,103,118,134 ⋆ Partial sums of round(n^2/36). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n - 19) / 432). • a(n)=floor((n + 5) * (2 * n ^ 2 - 7 * n + 17) / 216). • a(n)= ceil((n - 4) * (2 * n ^ 2 + 11 * n + 26) / 216). • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 - 18 * n) / 216). • a(n)=a(n - 36) + (n + 1) * (n - 36) + 447 , n>35. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 18) - 3 * a(n - 19) + 3 * a(n - 20) - a(n - 21) with g.f. x ^ 5 * (1 - x + x ^ 3 - x ^ 4 + x ^ 5 - x ^ 6 + x ^ 7 - x ^ 9 + x ^ 10) / ((1 + x) * (1 + x + x ^ 2) * (x ^ 2 - x + 1) * (x ^ 6 + x ^ 3 + 1) * (x ^ 6 - x ^ 3 + 1) * (x - 1) ^ 4). - R. J. Mathar, Dec 13 2010 •

[A117143] • 1,2,3,5,7,10,13,17,22,27,33,41,48,57,68,78,90,105,118,134,153,170,190,214,235 ⋆ Number of partitions of n in which any two parts differ by at most 3. • a(n)=(2 * floor((n + 2) / 3) * (14 * floor((n + 2) / 3) ^ 2 - (10 * n + 21) * floor((n + 2) / 3) + 2 * (n ^ 2 + 5 * n + 7)) - (1 - (- 1) ^ floor((n + 2) / 3)) * (- 1) ^ (n + 2 - floor((n + 2) / 3))) / 16. - _ Luce ETIENNE _ , May 12 2015 •

[A177332] • 0,0,0,0,1,2,3,5,7,10,13,17,22,28,35,43,52,62,73,85,99,114,131,149,169 ⋆ Partial sums of round(n^2/29). • a(n)=round(n * (n + 1) * (2 * n + 1) / 174). • a(n)=floor((n + 4) * (2 * n ^ 2 - 5 * n + 21) / 174). • a(n)=ceil((n - 3) * (2 * n ^ 2 + 9 * n + 28) / 174). • a(n)=a(n - 29) + (n + 1) * (n - 29) + 266 , n>28. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 29) - 3 * a(n - 30) + 3 * a(n - 31) - a(n - 32). - R. J. Mathar, Dec 13 2010 •

[A103232] • 1,2,3,5,7,10,13,18,23,29,37,46,55,66,80,95,111,128,147,170,196,223,252,282,314 ⋆ After the first two terms, each subsequent term is the smallest integer that is an outlier of the set of the previous terms, based on the criterion of 1.5 interquartile ranges above the third quartile. • a(n) = int(q3(n - 1) + 1.5 * iqr(n - 1) + 1), where q3(n - 1) is the third quartile of the first n - 1 terms and iqr(n - 1) is the interquartile range of the first n - 1 terms. •

[A026811] • 0,0,0,0,0,1,1,2,3,5,7,10,13,18,23,30,37,47,57,70,84,101,119,141,164 ⋆ Number of partitions of n in which the greatest part is 5. • a(n) = round(((n ^ 4 + 10 * (n ^ 3 + n ^ 2) - 75 * n - 45 * n * (- 1) ^ n)) / 2880). - _ Washington Bomfim _ , Jul 03 2012 •

[A001401] • 1,1,2,3,5,7,10,13,18,23,30,37,47,57,70,84,101,119,141,164,192,221,255,291,333 ⋆ Number of partitions of n into at most 5 parts. • a(n) = 1 + (a(n - 2) + a(n - 3) + a(n - 4)) - (a(n - 6) + (2 * a(n - 7)) + a(n - 8)) + (a(n - 10) + a(n - 11) + a(n - 12)) - a(n - 14). - Norman J. Meluch (norm(AT)iss.gm.com), Mar 09 2000 • a(n) = round(((n + 5) ^ 4 + 10 * ((n + 5) ^ 3 + (n + 5) ^ 2) - 75 * (n + 5) - 45 * (n + 5) * (- 1) ^ (n + 5)) / 2880). - _ Washington Bomfim _ , Jul 03 2012 • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 6) - a(n - 7) + a(n - 8) + a(n - 9) + a(n - 10) - a(n - 13) - a(n - 14) + a(n + 15). - _ David Neil McGrath _ , Sep 13 2014 •

[A173538] • 1,1,2,3,5,7,10,14,18,23,28,34,40,47,53,61,68,77,85,94,103,113,123,134,146 ⋆ a(n) = a(n-1) + a(n-2) - [a(n-2)/4] - [a(n-3)/2] - [a(n-4)/4]. • a(n)=a(n - 1) + a(n - 2) - Floor[a(n - 2) / 4] - Floor[a(n - 3) / 2] - Floor[a(n - 4) / 4] •

[A177277] • 0,0,0,0,1,2,3,5,7,10,14,18,23,29,36,44,53,63,75,88,102,118,135,154,175 ⋆ Partial sums of round(n^2/28). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n - 3) / 336). • a(n)=floor((n + 4) * (2 * n ^ 2 - 5 * n + 18) / 168). • a(n)=ceil((n - 3) * (2 * n ^ 2 + 9 * n + 25) / 168). • a(n)=round(n * (n + 2) * (2 * n - 1) / 168). • a(n)=a(n - 28) + (n + 1) * (n - 28) + 275 , n>27. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 14) - 3 * a(n - 15) + 3 * a(n - 16) - a(n - 17) with g.f. x ^ 4 * (1 - x + x ^ 3 - x ^ 4 + x ^ 5 - x ^ 7 + x ^ 8) / ((1 + x) * (x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x ^ 6 - x ^ 5 + x ^ 4 - x ^ 3 + x ^ 2 - x + 1) * (x - 1) ^ 4). [R. J. Mathar, Dec 12 2010] •

[A175846] • 0,1,2,3,5,7,10,14,19,25,32,41,51,63,77,92,110,130,152,177,204,234,267,303,342 ⋆ Partial sums of ceiling(n^2/15). • a(n)=round((2 * n + 1) * (n ^ 2 + n + 28) / 90). • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 56) / 90). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 57 * n) / 90). • a(n)=a(n - 15) + (n + 1) * (n - 15) + 92. • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 3) - 2 a(n - 4) + 2 a(n - 5) - 2 a(n - 6) + a(n - 7) - a(n - 8) + 2 a(n - 9) - a(n - 10). - R. J. Mathar, Mar 11 2012 •

[A175842] • 0,1,2,3,5,7,10,14,19,25,33,42,53,66,80,97,116,137,161,187,216,248,283,321,363 ⋆ Partial sums of ceiling(n^2/14). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 45) / 168). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + 46 * n + 60) / 84). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 46 * n - 15) / 84). • a(n)=a(n - 14) + (n + 1) * (n - 14) + 80 , n>13. • a(n) = 3 a(n - 1) - 3 a(n - 2) + a(n - 3) + a(n - 14) - 3 a(n - 15) + 3 a(n - 16) - a(n - 17). - R. J. Mathar, Mar 11 2012 •

[A065094] • 1,2,3,5,7,10,14,20,27,36,48,63,82,106,136,173,218,273,341,423,522,641,784,955,1158 ⋆ a(1) = 1, a(n+1) is the sum of a(n) and floor(arithmetic mean of a(1) ... a(n)). • a(1) = 1, a(n + 1) = a(n) + floor((a(1) + a(2) + ... + a(n)) / n) •

[A002062] • 0,2,3,5,7,10,14,20,29,43,65,100,156,246,391,625,1003,1614,2602,4200,6785,10967,17733,28680,46392 ⋆ a(n) = n-th Fibonacci number + n. • a(n) = 2 * a(n - 1) - a(n - 3) - 1. - _ Kieren MacMillan _ , Nov 08 2008 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). - _ Emmanuel Vantieghem _ , May 19 2016 •

[A120446] • 1,1,1,1,2,3,5,7,10,14,21,31,46,67,98,143,210,308,452,662,970,1421,2083,3053,4475 ⋆ Expansion of 1/(1-x-x^4-x^6). • a(n) = a(n - 1) + a(n - 4) + a(n - 6). •

[A082531] • 1,1,1,2,3,5,7,10,14,21,32,48,70,101,148,219,325,479,704,1033,1519,2238,3300,4860,7149 ⋆ (-1)^n * coefficient of x^n in 1/x-1/(1-eta(x)) power series. • a(n) appears to be asymptotic to A * B ^ n where A=0.66695345716101663116638632... B=1.4720291570331278863609264 8... •

[A003410] • 1,2,3,5,7,10,15,22,32,47,69,101,148,217,318,466,683,1001,1467,2150,3151,4618,6768,9919,14537 ⋆ Expansion of (1+x)(1+x^2)/(1-x-x^3). • a(n)

= a(n - 1) + a(n - 3) for n>3, see also A000930. - _ Reinhard Zumkeller _ , Oct 26 2005 •

[A278706] • 1,1,1,2,3,5,7,10,16,24,36,54,81,123,185,278,419,631,951,1432,2156,3248,4892,7368,11097 ⋆ a(n) = a(n-1) + a(n-3) + a(n-5) - a(n-6), a(0) = a(1) = a(2) = 1, a(3) = 2, a(4) = 3, a(5) = 5. • a(n) = - a(- 6 - n) for all n in Z. •

[A001742] • 1,2,3,5,7,11,12,13,15,17,21,22,23,25,27,31,32,33,35,37,51,52,53,55,57 ⋆ Numbers whose digits contain no loops (version 2). • a(n) = sum _{ j =0..m - 1 } ((2 * b _ j(n) + 1) mod 10 + 2 * floor(b _ j(n) / 5) - floor((b _ j (n) + 3) / 5) - floor((b _ j(n) + 4) / 5)) * 10 ^ j, where b _ j(n)) = floor((4 * n + 1 - 5 ^ m) / (4 * 5 ^ j)), m = floor(log _ 5(4 * n + 1)). • a(1 * (5 ^ n - 1) / 4) = 1 * (10 ^ n - 1) / 9. • a(2 * (5 ^ n - 1) / 4) = 2 * (10 ^ n - 1) / 9. • a (3 * (5 ^ n - 1) / 4) = 1 * (10 ^ n - 1) / 3. • a(4 * (5 ^ n - 1) / 4) = 5 * (10 ^ n - 1) / 9. • a(5 * (5 ^ n - 1) / 4) = 7 * (10 ^ n - 1) / 9. •

[A038179] • 2,3,5,7,11,13,17,19,23,25,29,31,35,37,41,43,47,49,53,55,59,61,65,67,71 ⋆ Result of second stage of sieve of Eratosthenes. • a(n) = (1 / 9) * (4 * n ^ 3 + 3 * n ^ 2 + 1 - kronecker(- 3,n + 1)). - _ Ralf Stephan _ , Jun 01 2014 • a(n) = floor((41 / 21 - (3 mod n)) ^ (- 3 * n + 5)) + 3 * n - 4 (n>0). • a(n + 1) = 3 * n - ((n mod 2) + 1) mod n (n>0). (End) •

[A030059] • 2,3,5,7,11,13,17,19,23,29,30,31,37,41,42,43,47,53,59,61,66,67,70,71,73 ⋆ Numbers that are the product of an odd number of distinct primes. • a (n) < n * Pi ^ 2 / 3 infinitely often; a(n) > n * Pi ^ 2 / 3 infinitely often. - _ Charles R Greathouse IV _ , Sep 07 2017 •

[A000040] • 2,3,5,7,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97 ⋆ The prime numbers. • a(n) = n log n + n log log n + (n / log n) * (log log n - log n - 2) + O(n (log log n) ^ 2 / (log n) ^ 2). [Cipolla, see also Cesàro or the "Prime number theorem" Wikipedia article for more terms in the expansion] • a(n) = 2 + sum _{ k = 2..floor(2n * log(n) + 2) } (1 - floor(pi(k) / n)), for n > 1, where the formula for pi(k) is given in A000720 (Ruiz and Sondow 2002). - _ Jonathan Sondow _ , Mar 06 2004 • a(n) = { n| n! mod n ^ 2 = n(n - 1) } , n <> 4. • a(n) = { n| n! * h(n) mod n = n - 1 } , n<>4, where h(n) = sum(1 / k, k=1..n). (End) •

[A124590] • 2,3,5,7,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,97,101 ⋆ Primes p such that q-p <= 6, where q is the next prime after p. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Jan 31 2017 •

[A033875] • 2,3,5,7,11,13,17,19,23,31,47,79,83,211,227,229,233,241,257,769,773 ⋆ Skipping from prime to prime by least powers of 2. • a(1) = 2, a(n + 1) = a(n) + 2 ^ k; a(n + 1) prime, k minimal. •

[A124589] • 2,3,5,7,11,13,17,19,29,37,41,43,59,67,71,79,97,101,103,107,109,127,137,149,163 ⋆ Primes p such that q-p <= 4, where q is the next prime after p. • a(n) >> n log ^ 2 n. Infinite under standard conjectures. - _ Charles R Greathouse IV _ , Jun 01 2016 •

[A190222] • 1,2,3,5,7,11,13,17,23,31,37,53,71,73,113,127,131,137,151,157,173,211,223,227,233 ⋆ Noncomposite numbers all of whose decimal digits are noncomposite numbers (1,2,3,5,7). • a(n) >> n ^ k where k = log(10) / log(5) = 1.43067.... - _ Charles R Greathouse IV _ , Dec 28 2017 •

[A061166] • 2,3,5,7,11,13,17,72,332,1139,3129,7361,15469,29837,53797,91850,149910,235571,358397,530235,765551,1081789,1499753,2044012,2743328 ⋆ Polynomial extrapolation of 2, 3, 5, 7, 11, 13, 17. • a(n) = (23n ^ 6 - 537 n ^ 5 + 4925n ^ 4 - 22515n ^ 3 + 53732n ^ 2 - 61548n + 27360) / 720. •

[A005728] • 1,2,3,5,7,11,13,19,23,29,33,43,47,59,65,73,81,97,103,121,129,141,151,173,181 ⋆ Number of fractions in Farey series of order n. • a(n) = 1 + Sum _{ i=1..n } phi(i). • a(n) = n(n + 3) / 2 - Sum(k = 2 to n, a([n / k])). - _ David W. Wilson _ , May 25, 2002 • a(n) = a(n - 1) + phi(n) with a(0) = 1. - _ Arkadiusz Wesolowski _ , Oct 13 2012 •

[A049643] • 0,2,3,5,7,11,13,19,23,29,33,43,47,59,65,73,81,97,103,121,129,141,151,173,181 ⋆ Number of fractions in Farey series of order n. • a(n) = 1 + Sum _{ k=1..n } phi(k), with a(0)=0. • a(n) = a(n - 1) + phi(n) for n > 1. - _ Robert G. Wilson v _ , Dec 13 2017 •

[A136185] • 1,2,3,5,7,11,14,20,25,33,40,51,60,74,86,103,118,139,157,182,204,233,259,293,323 ⋆ Number of metacyclic groups of order p^n, prime p >= 3. • a(n) = (n ^ 3 + 12 * n ^ 2 + c * n + d) / 72, where c = 12 or 3 for n even / odd, and d = 72, 56 or 64 for n = 0, 1 or 2 (mod 3), according to the Liedahl paper. - _ M. F. Hasler _ , Jan 13 2015 •

[A001402] • 1,1,2,3,5,7,11,14,20,26,35,44,58,71,90,110,136,163,199,235,282,331,391,454,532 ⋆ Number of partitions of n into at most 6 parts. • a(n) = 1 + (a(n - 2) + a(n - 3) + a(n - 4)) - (2 * a(n - 7) + 2 * a(n - 8) + a(n - 9)) + (a(n - 11) + 2 * a(n - 12) + 2 * a(n - 13)) - (a(n - 16) + a(n - 17) + a(n - 18)) + (a(n - 20)). - Norman J. Meluch (norm(AT)iss.gm.com), Mar 09 2000 • a(n) = (167 + (2325 + (15400 + (47250 + 54000 * m + 4500 * r) * m + 3150 * r + 150 * r ^ 2) * m + X(r)) * m + Y(r)) * m / 6 + Z(r) where m = floor(n / 60), r = n mod 60 and X, Y, Z are functions of r (see Maple program below). - _ Alois P. Heinz _ , Aug 23 2011 • a(n) = floor((2 + 3 * (floor(n / 3) + floor(- n / 3))) * (floor(n / 3) + 1) / 54 + (6 * n ^ 5 + 315 * n ^ 4 + 6160 * n ^ 3 + 55125 * n ^ 2 + 219905 * n + 485700) / 518400 + (n + 1) * (n + 20) * (- 1) ^ n / 768). - _ Tani Akinari _ , Aug 05 2013 • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - 2 * a(n - 7) + a(n - 9) + a(n - 10) + a(n - 11) + a(n - 12) - 2 * a(n - 14) - a(n - 16) + a(n - 19) + a(n - 20) - a(n - 21). - _ David Neil McGrath _ , Apr 11 2015 •

[A008636] • 1,1,2,3,5,7,11,15,21,28,38,49,65,82,105,131,164,201,248,300,364,436,522,618,733 ⋆ Number of partitions of n into at most 7 parts. • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 7) - a(n - 8) + a(n - 10) + a(n - 11) + 2 * a(n - 12) - 2 * a(n - 16) - a(n - 17) - a(n - 18) + a(n - 20) + a(n - 21) + a(n - 23) - a(n - 26) - a(n - 27) + a(n - 28). - _ David Neil McGrath _ , Apr 11 2015 •

[A008637] • 1,1,2,3,5,7,11,15,22,29,40,52,70,89,116,146,186,230,288,352,434,525,638,764,919 ⋆ Number of partitions of n into at most 8 parts. • a(n) = floor((- 1) ^ n * ((n + 1) * (- 1) ^ (floor((n + 2) / 3)) + (2 * n + 3) * (- 1) ^ (floor((n + 1) / 3)) + (n + 2) * (- 1) ^ (floor(n / 3))) / 972 + (n + 2) * ((- 1) ^ n + 1) * (- 1) ^ (n / 2) / 512 + (n + 18) * (6 * n ^ 6 + 648 * n ^ 5 + 27018 * n ^ 4 + 545616 * n ^ 3 + 5481213 * n ^ 2 + 25163028 * n + 39226571) / 1219276800 + (n + 1) * (n ^ 2 + 53 * n + 826) * (- 1) ^ n / 36864 + 1 / 2). (See link.) - _ Tani Akinari _ , Oct 26 2012 • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 7) - a(n - 9) + a(n - 11) + 2 * a(n - 12) + a(n - 13) + a(n - 15) - a(n - 16) - a(n - 17) - 2 * a(n - 18) - a(n - 19) - a(n - 20) + a(n - 21) + a(n - 23) + 2 * a(n - 24) + a(n - 25) - a(n - 27) - a(n - 29) - a(n - 31) + a(n - 34) + a(n - 35) - a(n - 36). - _ David Neil McGrath _ , Apr 14 2015 •

[A008638] • 1,1,2,3,5,7,11,15,22,30,41,54,73,94,123,157,201,252,318,393,488,598,732,887,1076 ⋆ Number of partitions of n into at most 9 parts. • a(n) = floor((30 * n ^ 8 + 5400 * n ^ 7 + 405300 * n ^ 6 + 16443000 * n ^ 5 + 390533640 * n ^ 4 + 5486840100 * n ^ 3 + 43691213950 * n ^ 2 + 175052776500 * n + 256697834389) / 438939648000 + (n + 1) * (2 * n ^ 2 + 133 * n + 2597) * (- 1) ^ n / 147456 + (- 1) ^ n * ((n + 1) * (n + 47) * (- 1) ^ floor(n / 3 + 2 / 3) + (2 * n ^ 2 + 90 * n + 127) * (- 1) ^ floor(n / 3 + 1 / 3) + (n + 2) * (n + 40) * (- 1) ^ floor(n / 3)) / 17496 + 1 / 256 * ((- 1) ^ ((2 * n + (- 1) ^ n - 1) / 4) * floor((n + 2) / 2)) + 1 / 2). - _ Tani Akinari _ , Oct 20 2012 • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 7) - a(n - 10) + 2 * a(n - 12) + a(n - 13) + a(n - 14) + a(n - 15) - a(n - 17) - a(n - 18) - a(n - 19) - 2 * a(n - 20) - a(n - 21) - a(n - 22) + a(n - 23) + a(n - 24) + 2 * a(n - 25) + a(n - 26) + a(n - 27) + a(n - 28) - a(n - 30) - a(n - 31) - a(n - 32) - 2 * a(n - 33) + a(n - 35) + a(n - 38) + a(n - 40) - a(n - 43) - a(n - 44) + a(n - 45). - _ David Neil McGrath _ , Apr 19 2015 •

[A026816] • 0,0,0,0,0,0,0,0,0,0,1,1,2,3,5,7,11,15,22,30,42,55,75,97,128 ⋆ Number of partitions of n in which the greatest part is 10. • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 7) - a(n - 11) + a(n - 12) + a(n - 13) + a(n - 14) + 2 * a (n - 15) - a(n - 18) - a(n - 19) - a(n - 20) - a(n - 21) - 3 * a(n - 22) + a(n - 25) + a(n - 26) + 2 * a(n - 27) + 2 * a(n - 28) + a(n - 29) + a(n - 30) - 3 * a(n - 33) - a(n - 34) - a(n - 35) - a(n - 36) - a(n - 37) + 2 * a(n - 40) + a(n - 41) + a(n - 42) + a(n - 43) - a(n - 44) - a(n - 48) - a(n - 50) + a(n - 53) + a(n - 54) - a(n - 55). - _ David Neil McGrath _ , Jul 26 2015 •

[A008639] • 1,1,2,3,5,7,11,15,22,30,42,55,75,97,128,164,212,267,340,423,530,653,807,984,1204 ⋆ Number of partitions of n into at most 10 parts. • a(n) = a (n - 1) + a(n - 2) - a(n - 5) - a(n - 7) - a(n - 11) + a(n - 12) + a(n - 13) + a(n - 14) + 2 * a(n - 15) - a(n - 18) - a(n - 19) - a(n - 20) - a(n - 21) - 3 * a(n - 22) + a(n - 25) + a(n - 26) + 2 * a(n - 27) + 2 * a(n - 28) + a(n - 29) + a(n - 30) - 3 * a(n - 33) - a(n - 34) - a(n - 35) - a(n - 36) - a(n - 37) + 2 * a(n - 40) + a(n - 41) + a(n - 42) + a(n - 43) - a(n - 44) - a(n - 48) - a(n - 50) + a(n - 53) + a(n - 54) - a(n - 55). - _ David Neil McGrath _ , Apr 28 2015 •

[A008640] • 1,1,2,3,5,7,11,15,22,30,42,56,76,99,131,169,219,278,355,445,560,695,863,1060,1303 ⋆ Number of partitions of n into at most 11 parts. • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 7) + a(n - 14) + 2 * a(n - 15) + a(n - 16) - a(n - 19) - a(n - 20) - a(n - 21) - 2 * a(n - 22) - a(n - 23) - a(n - 24) - a(n - 26) + 2 * a(n - 27) + 2 * a(n - 28) + 2 * a(n - 29) + 2 * a(n - 30) + a(n - 31) + a(n - 32) - a(n - 34) - a(n - 35) - 2 * a(n - 36) - 2 * a(n - 37) - 2 * a(n - 38) - 2 * a(n - 39) + a(n - 40) + a(n - 42) + a(n - 43) + 2 * a(n - 44) + a(n - 45) + a (n - 46) + a(n - 47) - a(n - 50) - 2 * a(n - 51) - a(n - 52) + a(n - 59) + a(n - 61) - a(n - 64) - a(n - 65) + a(n - 66). - _ David Neil McGrath _ , Jul 27 2015 •

[A008641] • 1,1,2,3,5,7,11,15,22,30,42,56,77,100,133,172,224,285,366,460,582,725,905,1116,1380 ⋆ Number of partitions of n into at most 12 parts. • a(n) = a(n - 1) + a(n - 2) - a(n - 5) - a(n - 7) + a(n - 12) - a(n - 13) + 2 * a(n - 15) + a(n - 16) + a(n - 17) - a(n - 20) - a(n - 21) - 2 * a(n - 22) - a(n - 23) - a(n - 24) - 2 * a(n - 26) + a(n - 28) + 2 * a(n - 29) + 2 * a(n - 30) + 2 * a(n - 31) + 2 * a(n - 32) + a(n - 33) + a(n - 34) - a(n - 36) - 2 * a(n - 37) - a(n - 38) - 4 * a(n - 39) - a(n - 40) - 2 * a(n - 41) - a(n - 42) + a(n - 44) + a(n - 45) + 2 * a(n - 46) + 2a(n - 47) + 2 * a(n - 48) + 2 * a(n - 49) + a(n - 50) - 2 * a(n - 52) - a(n - 54) - a(n - 55) - 2 * a(n - 56) - a(n - 57) - a(n - 58) + a(n - 61) + a (n - 62) + 2 * a(n - 63) - a(n - 65) + a(n - 66) - a(n - 71) - a(n - 73) + a(n - 76) + a(n - 77) - a(n - 78). - _ David Neil McGrath _ , Jul 28 2015 •

[A000041] • 1,1,2,3,5,7,11,15,22,30,42,56,77,101,135,176,231,297,385,490,627,792,1002,1255,1575 ⋆ a(n) = number of partitions of n (the partition numbers). • a(n) - a(n - 1) - a(n - 2) + a(n - 5) + a(n - 7) - a(n - 12) - a(n - 15) + ... = 0 , where the sum is over n - k and k is a generalized pentagonal number (A001318) <= n and the sign of the k - th term is (- 1) ^ ([(k + 1) / 2]). See A001318 for a good way to remember this! • a(n) = (1 / n) * Sum _{ k=0..n - 1 } sigma(n - k) * a(k), where sigma(k) is the sum of divisors of k (A000203). • a(n) < exp((2 / 3) ^ (1 / 2) Pi sqrt(n)) (Ayoub, p. 197). • a(n) = Sum _{ i= 0..n - 1 } P(i, n - i), where P(x, y) is the number of partitions of x into at most y parts and P(0, y)=1. - _ Jon Perry _ , Jun 16 2003 • a(n) = determinant of the n X n Toeplitz matrix: • a(n - 1) = Sum _{ parts k in all partitions of n } mu(k), where mu(k) is the arithmetical Möbius function (see A008683). •

[A052955] • 1,2,3,5,7,11,15,23,31,47,63,95,127,191,255,383,511,767,1023,1535,2047,3071,4095,6143,8191 ⋆ a(2n) = 2*2^n - 1, a(2n+1) = 3*2^n - 1. • a(n) = - 1 + Sum((1 / 4) * (3 + 4 * alpha) * alpha ^ (- 1 - n), where alpha = RootOf(- 1 + 2 * Z ^ 2)) • a(n) = 2 ^ (n / 2)(3 * sqrt(2) / 4 + 1 - (3 * sqrt(2) / 4 - 1)(- 1) ^ n) - 1. - _ Paul Barry _ , May 23 2004 • a(n) = (5 - (- 1) ^ n) / 2 * 2 ^ floor(n / 2) - 1. - _ Hieronymus Fischer _ , Feb 03 2012 • a(2n + 1) = (a(2n) + a(2n + 2)) / 2. Combined with a(n) = 2 * a(n - 2) + 1, n>=2 and a(0) = 1, this specifies the sequence. - _ Richard R. Forberg _ , Nov 30 2013 • a(n) = ((5 - (- 1) ^ n) / 2) * 2 ^ ((2 * n - 1 + (- 1) ^ n) / 4) - 1. - _ L

uce ETIENNE _ , Sep 20 2014 • a(0) = 1; a(1) = 2; a(n) = 1 + 2 * a(n - 2), n >= 2. - _ Daniel Forgues _ , Feb 24 2015 •

[A239054] • 1,2,3,5,7,11,15,25,35,55,77,125,175,275,385,625,875,1375,1925,3125,4375,6675,9625,15625,21875 ★ Maximum of the partition function on the set of all partitions of n. • a(n) = 5 ^ (n / 4), if n is congruent to 0 { mod 4 } and n >= 8. • a(n) = 7 * 5 ^ ((n - 5) / 4), if n is congruent to 1 { mod 4 } and n >= 8. • a(n) = 11 * 5 ^ ((n - 6) / 4), if n is congruent to 2 { mod 4 } and n >= 8. • a(n) = 11 * 7 * 5 ^ ((n - 11) / 4), if n is congruent to 3 { mod 4 } and n >= 8. •

[A178240] • 1,2,3,5,7,11,16,23,32,46,64,88,119,156,203 ★ Row sums of triangle A178239 • a(n) = sum of r - th row terms of triangle A178239 •

[A253062] • 0,1,2,3,5,7,11,16,23,34,49,70,103,148,211,310,445,634,931,1336,1903,2794,4009,5710,8383 ★ Largest order of a rooted tree that does not contain a rooted caterpillar subtree of order n. • a(n) = a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) for n>10. •

[A112088] • 2,3,5,7,11,16,24,36,54,81,122,183,274,411,617,925,1388,2082,3123,4684,7026,10539,15809,23713,35570 ★ Number of leaf nodes in a binary tree. • a(1)=2; a(n)=floor((5 + sum(a(1) to a(n - 1))) / 2). - _ Graeme McRae _ , Jun 09 2006 •

[A271485] • 1,2,3,5,7,11,16,25,36,56,81,126,182,283,409,636,919,1429,2065,3211,4640,7215,10426,16212,23427 ★ Maximal term of TRIP-Stern sequence of level n corresponding to permutation triple (e,13,e). • a(n) = 2 * a(n - 2) + a(n - 4) - a(n - 6) for n>5. •

[A076805] • 2,3,5,7,11,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97,101 ★ Triskaidekaphobic or 13-free primes: primes that do not contain the number 13. • a(n) >> n ^ 1.0044, where the exponent is log(r) / log(10) with r the larger root of x ^ 2 - 10x + 1. [_ Charles R Greathouse IV _ , Nov 09 2011] •

[A055500] • 1,1,2,3,5,7,11,17,23,37,59,89,139,227,359,577,929,1499,2423,3919,6337,10253,16573,26821,43391 ★ a(0)=1, a(1)=1, a(n) = largest prime <= a(n-1)+a(n-2). • a(n) is asymptotic to C * phi ^ n where phi=(1 + sqrt(5)) / 2 and C=0.25861637901860700965101922576495456677... - _ Benoit Cloitre _ , Apr 21 2003 • a(n) >= prime(n - 1) for n > 1, by Ishikawa's theorem. - _ Jonathan Sondow _ , Sep 21 2013 •

[A002379] • 1,1,2,3,5,7,11,17,25,38,57,86,129,194,291,437,656,985,1477,2216,3325,4987,7481,11222,16834 ★ a(n) = floor(3^n / 2^n). • a(n) = b(n) - (- 2 / 3) ^ n where b(n) is defined by the recursion b(0):=2, b(1):=5 / 6, b(n + 1):=(5 / 6) * b(n) + b(n - 1). - _ Hieronymus Fischer _ , Dec 31 2008 • a(n) = (1 / 2) * (b(n) + sqrt(b(n) ^ 2 - (- 4) ^ n)) (with b(n) as defined above). - _ Hieronymus Fischer _ , Dec 31 2008 •

[A072465] • 1,1,1,2,3,5,7,11,17,26,40,61,94,144,221,339,520,798,1224,1878,2881,4420,6781,10403,15960 ★ A Fibonacci-like model in which each pair of rabbits dies after the birth of their 4th litter: a(n) = a(n-2) + a(n-3) + a(n-4) + a(n-5). • a(n) = a(n - 1) + a(n - 2) - a(n - 6); •

[A293637] • 0,1,1,1,1,1,2,3,5,7,11,18,29,47,76,122,198,320,517,837,1353,2190,3543,5732,9274 ★ a(n) is the least integer k such that k/Fibonacci(n) > 1/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = ceiling(Fibonacci(n) / 5). •

[A291660] • 2,3,5,7,11,18,30,49,79,127,205,332,538,871,1409,2279,3687,5966,9654,15621,25275,40895,66169,107064,173234 ★ a(n) = 2*a(n-1) - a(n-2) + a(n-4) for n>3, a(0)=2, a(1)=3, a(2)=5, a(3)=7, a sequence related to Lucas numbers. • a(3n) + a(3n + 1) = a(3n + 2). • a(n) = (1 / 15) * 2 ^ (- n - 1) * ((30 - 9 * sqrt(5)) * (1 - sqrt(5)) ^ n + (1 + sqrt(5)) ^ n * (30 + 9 * sqrt(5)) + 5 * 2 ^ (n + 1) * sqrt(3) * sin(n * Pi / 3)). •

[A061165] • 2,3,5,7,11,22,48,100,192,341,567,893,1345,1952,2746,3762,5038,6615,8537,10851,13607,16858,20660,25072,30156 ★ Polynomial extrapolation of 2, 3, 5, 7, 11. • a(n) = (3n ^ 4 - 34n ^ 3 + 141n ^ 2 - 206n + 144) / 24. • a(1)=2, a(2)=3, a(3)=5, a(4)=7, a(5)=11, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 05 2012 •

[A114421] • 1,2,3,5,7,11,26,51,95,161,319,806,1887,3895,6923,14993,42718,111333,237595,463841,1064503,3118414,8795307,19720385,41281849 ★ Quintuple primorial n##### = n#5. • a(n) = n ##### = prime(n) * ((n - 5) #####) = Prod[i == n mod 5, to n] prime(i). Notationally, prime(0) = 1; (- n) ##### = 0 #### = 1. •

[A254225] • 2,3,5,7,11,35 ★ a(n) = 2[0]2[1]2...2[n-1]2[n]2 where [n] is the n-th hyperoperator. • a(- 1) = 2, a(n) = 2[0]2[1]2...2[n - 1]2[n]2. •

[A118950] • 2,3,5,7,12,13,15,17,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36 ★ Numbers containing at least one prime digit. • a(n) = n + O(n ^ k) with k = log 6 / log 10 = 0.77815.... - _ Charles R Greathouse IV _ , Sep 15 2015 •

[A260181] • 2,3,5,7,12,13,15,17,22,23,25,27,32,33,35,37,42,43,45,47,52,53,55,57,62 ★ Numbers whose last digit is prime. • a(n) = a(n - 1) + a(n - 4) - a(n - 5), n>5. • a(n) = (5 * n - 4 - (- 1) ^ n + ((3 - (- 1) ^ n) / 2) * (- 1) ^ ((2 * n + 5 - (- 1) ^ n) / 4)) / 2. •

[A179781] • 1,1,1,2,3,5,7,12,14,27,31,54,63,119,123,240,255,490,511,990,1015,2015,2047,4020,4092 ★ a(n) = AP(n) is the total number of aperiodic k-palindromes of n, 1 <= k <= n. • a(n) = Sum _{ d | n } moebius(n / d) * 2 ^ (floor(d / 2)) (see Baek et al. page 9). - _ Michel Marcus _ , Dec 09 2014 •

[A078912] • 1,1,2,3,5,7,12,15,27,32,59,66,125,137,262,277,539,566,1105,1137,2242,2301,4543,4609,9152 ★ a(1)=a(2)=1, a(n)=a(n-1)+a(n-2) if n is odd, a(n)=a(n-1)+a(n/2) if n is even. • a(2n) is asymptotic to c * 2 ^ n and a(2n + 1) to c * 2 ^ (n + 1) where c=1.1414701156262631873057848722810239242285638421321361246366 4.... •

[A275592] • 1,1,2,3,5,7,12,16,26,35,56,74,117,154,241,317,492,645,998,1306,2014,2634,4053,5296,8139 ★ Number of compositions of n if only the order of the even numbers matter. • a(2k) = Sum _{ j=0..k } c(j) * q(2k - 2j). • a(n) = 2 * a(n - 2) + q(n) - q(n - 2). •

[A002965] • 0,1,1,1,2,3,5,7,12,17,29,41,70,99,169,239,408,577,985,1393,2378,3363,5741,8119,13860 ★ Interleave denominators (A000129) and numerators (A001333) of convergents to sqrt(2). • a(n) = 2 * a(n - 2) + a(n - 4) if n>3; a(0)=0, a(1)=a(2)=a(3)=1. • a(2n) = a(2n - 1) + a(2n - 2) and a(2n + 1) = 2a(2n) - a(2n - 1). • a(0)=0, a(1)=1, a(n) = a(n - 1) + a(2 * [(n - 2) / 2]). - _ Franklin T. Adams - Watters _ , Jan 31 2006 • a(n) = (((sqrt(2) - 2) * (- 1) ^ n + 2 + sqrt(2)) * (1 + sqrt(2)) ^ (floor(n / 2)) - ((2 + sqrt(2)) * (- 1) ^ n - 2 + sqrt(2)) * (1 - sqrt(2)) ^ (floor(n / 2))) / 8. - _ Ilya Gutkovskiy _ , Jul 18 2016 •

[A257863] • 1,1,2,3,5,7,12,18,29,45,72,112,178,279,441,693,1094,1721,2714,4273,6735,10607,16715,26329,41485 ★ Expansion of 1/(1 - x - x^2 + x^5 - x^6). • a(n) = a(n - 1) + a(n - 2) - a(n - 5) + a(n - 6). •

[A169986] • 1,2,3,5,7,12,18,30,47,77,123,200,322,522,843,1365,2207,3572,5778,9350,15127,24477,39603,64080,103682 ★ Ceiling(phi^n) where phi = (1+sqrt(5))/2. • a(n) = 3 * Fibonacci(n - 1) + Fibonacci(n - 2) + (n mod 2), n>0. - _ Gary Detlefs _ , Dec 29 2010 •

[A143642] • 1,2,3,5,7,12,19,26,45,71,97,168,265,362,627,989,1351,2340,3691,5042,8733,13775,18817,32592,51409 ★ Numerators of principal and intermediate convergents to 3^(1/2). • a(n) = 4 * a(n - 3) - a(n - 6) for n>6. •

[A293543] • 0,1,1,1,1,2,3,5,7,12,19,30,48,78,126,204,329,533,862,1394,2255,3649,5904,9553,15456 ★ a(n) is the least integer k such that k/Fibonacci(n) > 1/3. • a(n) = a(n - 1) + a(n - 2) + a(n - 8) - a(n - 9) - a(n - 10) for n >= 11. • a(n) = floor(Fibonacci(n) / 3). •

[A168484] • 2,3,5,7,13,14,16,18,24,25,27,29,35,36,38,40,46,47,49,51,57,58,60,62,68 ★ Numbers that are congruent to {2, 3, 5, 7} mod 11. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. (End) • a(n) = (22 * n - 21 - 5 * i ^ (2 * n) - (3 - 5 * i) * i ^ (- n) - (3 + 5 * i) * i ^ n) / 8 where i = sqrt(- 1). - _ Wesley Ivan Hurt _ , Jun 07 2016 •

[A092621] • 2,3,5,7,13,17,29,31,43,47,59,67,71,79,83,97,103,107,113,131,139,151,163,167,179 ★ Primes with exactly one prime digit. • a(n) >> n ^ 1.28 because of the digit restriction •

[A236340] • 1,2,3,5,7,13,19,33,51,85,135,221,355,577,931,1509,2439,3949,6387,10337,16723,27061,43783,70845,114627 ★ Number of length n binary words such that maximal runs of 1's are restricted to length one or two and maximal runs of 0's are of odd length. • a(0)=1, a(1)=2, a(2)=3, a(3)=5, a(4)=7 for n >=5, a(n) = 2 * a(n - 2) + a(n - 3). •

[A064336] • 2,3,5,7,13,23,31,47,61,83,109,139,173,211,251,293,337,389,449,509,577,647,719,797,883 ★ Maximal prime numbers with increasing prime differences. • a(1) = 2, a(n + 1) = MAX { prime p | p <= a(n) + p(n) } (where p(n) is the n - th prime number) •

[A046808] • 1,2,3,5,7,14,19,46,48,62,67,74,81,89,589,2090,2299,7742 ★ Recursive sequence of indices of Proth primes a*2^b + 1. • a(n) = least integer b greater than a(n - 1) such that a(n - 1) * 2 ^ b + 1 is prime •

[A100532] • 2,3,5,7,17,32,61,117,227,437,842,1623,3129,6031,11625,22408,43193,83257,160483,309341,596274,1149355,2215453,4270423,8231505 ★ The first four numbers of this sequence are the primes 2,3,5,7. The other terms are calculated by adding the previous four terms. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) where n >= 5 and a(1)=2, a(2)=3, a(3) = 5 and a(4) = 7. •

[A046034] • 2,3,5,7,22,23,25,27,32,33,35,37,52,53,55,57,72,73,75,77,222,223,225,227,232 ★ Numbers whose digits are primes. • a(n) = sum _{ j=0..m - 1 } ((2 * b(j) + 1) mod 8 + floor(b(j) / 4) - floor((b(j) - 1) / 4)) * 10 ^ j, where m = floor(log _ 4(3 * n + 1)), b(j) = floor((3 * n + 1 - 4 ^ m) / (3 * 4 ^ j)). • a(1 * (4 ^ n - 1) / 3) = 2 * (10 ^ n - 1) / 9. • a(2 * (4 ^ n - 1) / 3) = 1 * (10 ^ n - 1) / 3. • a(3 * (4 ^ n - 1) / 3) = 5 * (10 ^ n - 1) / 9. • a(4 * (4 ^ n - 1) / 3) = 7 * (10 ^ n - 1) / 9. • a(n) <= 2 * (10 ^ log _ 4(3 * n + 1) - 1) / 9, equality holds for n = (4 ^ k - 1) / 3, k>0. •

[A114420] • 1,2,3,5,7,22,39,85,133,506,1131,2635,4921,20746,48633,123845,260813,1224014,2966613,8297615,18517723,89353022,234362427,688702045,1648077347 ★ Quadruple primorial n#### = n#4. • a(n) = n #### = prime(n) * ((n - 4) ####) = Prod[i == n mod 4, to n] prime(i). Notationally, prime(0) = 1; (- n) #### = 0 #### = 1. •

[A106116] • 2,3,5,7,23,29,37,43,47,53,59,67,73,79,83,89,97,223,227,229,233,239,257,263,269 ★ Primes with smallest digit > 1. • a(n) >> n ^ k with k = log 10 / log 8 = 1.107.... - _ Charles R Greathouse IV _ , Jan 02 2013 •

[A211681] • 2,3,5,7,23,37,53,73,237,373,537,737,2373,3737,5373,7373,23737,37373,53737,73737,237373,373737,537373,737373,2373737 ★ Numbers such that all the substrings of length <= 2 are primes. • a(1 + 8 * k) = 2 * 10 ^ (2k) + 37 * sum _{ j=0..k - 1 } 10 ^ (2j), • a(2 + 8 * k) = 3 * 10 ^ (2k) + 73 * sum _{ j=0..k - 1 } 10 ^ (2j), • a(3 + 8 * k) = 5 * 10 ^ (2k) + 37 * sum _{ j=0..k - 1 } 10 ^ (2j), • a(4 + 8 * k) = 7 * 10 ^ (2k) + 37 * sum _{ j=0..k - 1 } 10 ^ (2j), • a(5 + 8 * k) = 23 * 10 ^ (2k) + 73 * sum _{ j=0..k - 1 } 10 ^ (2j), • a(6 + 8 * k) = 37 * 10 ^ (2k) + 37 * sum _{ j=0..k - 1 } 10 ^ (2j), •

[A047372] • 1,2,3,5,8,9,10,12,15,16,17,19,22,23,24,26,29,30,31,33,36,37,38,40,43 ★ Numbers that are congruent to {1, 2, 3, 5} mod 7. • a(n) = (14 * n + (3 * i - 1) * (- i) ^ n - (3 * i + 1) * i ^ n - (- 1) ^ n - 13) / 8, i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A047254] • 2,3,5,8,9,11,14,15,17,20,21,23,26,27,29,32,33,35,38,39,41,44,45,47,50 ★ Numbers that are congruent to {2, 3, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 2 - cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 1, a(3k - 1) = 6k - 3, a(3k - 2) = 6k - 4. (End) •

[A181155] • 2,3,5,8,9,12,14,15,17,20,22,23,26,27,29,32,33,36,38,39,42,43,45,48,50 ⋆ Odious numbers (A000069) plus one; complement of A026147. • a(a(n) - 1) = 2 * a(n) - 1. - _ Benoit Cloitre _ , Oct 07 2010 •

[A122933] • 2,3,5,8,9,12,14,18,23,28,42,58,61,70,91,95,101,103,132,142,150,161,167,170,248 ⋆ a(n)-th prime is equal to the sum_{i=1..k} pi(i) for some k (cf. A000720). • a(n) = PrimePi[A122516[n]]. •

[A232868] • 1,2,3,5,8,9,12,16,19,27,30,42,45,61,64,84,87,111,114,142,145,177,180,216,219 ⋆ Positions of the integers in the sequence (or tree) of complex numbers generated by these rules: 0 is in S, and if x is in S, then x + 1 and i*x are in S, where duplicates are deleted as they occur. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n > 10 (conjectured). •

[A047605] • 0,2,3,5,8,10,11,13,16,18,19,21,24,26,27,29,32,34,35,37,40,42,43,45,48 ⋆ Numbers that are congruent to {0, 2, 3, 5} mod 8. • a(n) = 2 * (n - 1) - (i ^ (n * (n + 1)) + 1) / 2, where i=sqrt(- 1). (End) • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. •

[A277625] • 2,3,5,8,10,12,13,17,21,26,29,33,34,37,50,55,65,70,72,82,89,101,109,122,135 ⋆ Nontrivial values of Fibonacci polynomials. • a(n) = n ^ 2 - 2 * n ^ (5 / 3) - O(n ^ (3 / 2)). - _ Charles R Greathouse IV _ , Nov 03 2016 •

[A183871] • 2,3,5,8,10,14,17,21,26,30,36,41,47,54,60,68,75,83,92,100,110,119,129,140,150 ⋆ n + ceiling((1/5)*n^2); complement of A183870. • a(n) = floor ((n + 1) * (n + 4) / 5). [_ Bruno Berselli _ , Mar 05 2014] •

[A211542] • 0,0,1,2,3,5,8,10,14,17,22,26,32,36,44,49,57,63,73,79,90,97,109,117,130 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w=4y-3x. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) - a(n - 7) + a(n - 9). •

[A087279] • 0,2,3,5,8,10,15,17,24,26,35,37,48,50,63,65,80,82,99,101,120,122,143,145,168 ⋆ Nonnegative numbers such that distance to nearest positive square equals exactly 1. • a(1) = 0; a(2 * k + 1) = a(2 * k) + 2 * k - 1; a(2 * k) = a(2 * k - 1) + 2. • a(n - 1) = floor((n + 1) / 2) ^ 2 + (- 1) ^ (n mod 2). •

[A078444] • 2,3,5,8,11,14,17,20,25,29,33,38,41,44,49,55,59,63,68,71,75,80,85,92,98 ⋆ Floor of geometric mean of consecutive primes. • a(n) = floor(sqrt(prime(n) * prime(n + 1))). •

[A054925] • 0,0,1,2,3,5,8,11,14,18,23,28,33,39,46,53,60,68,77,86,95,105,116,127,138 ⋆ a(n) = ceiling(n*(n-1)/4). • a(n + 4) = a(n) + 2 * n + 3. - _ Michael Somos _ , Mar 01 2014 •

[A096777] • 1,2,3,5,8,11,15,20,25,31,38,45,53,62,71,81,92,103,115,128,141,155,170,185,201 ⋆ a(n) = a(n-1) + Sum_{k=1..n-1}(a(k) mod 2), a(1) = 1. • a(n) = floor(n / 3) * (3 * floor(n / 3) + 2 * (n mod 3) - 1) + n mod 3 + 0 ^ (n mod 3). - _ Reinhard Zumkeller _ , Dec 29 2007 • a(n) = floor((n - 2) ^ 2 / 3) + n. - _ Christopher Hunt Gribble _ , Mar 06 2014 •

[A125811] • 1,1,1,2,3,5,8,11,15,20,26,32,39,47,56,66,76,87,99,112,126,141,156,172,189 ⋆ Number of coefficients in the n-th q-Bell number as a polynomial in q. • a(n) = n * (n + 1) / 2 - 4 - Sum _{ k=2..n - 2 } floor(1 / 2 + sqrt(2 * k + 4)) for n>2. [Due to a formula by Jan Hagberg in A023536] •

[A008762] • 1,2,3,5,8,11,15,20,26,33,41,50,61,73,86,101,118,136,156,178,202,228,256,286,319 ⋆ Expansion of (x+1)/((1-x)*(1-x^2)*(1-x^3)*(1-x^4)). • a(0)=1, a(1)=2, a(2)=3, a(3)=5, a(4)=8, a(5)=11, a(6)=15, a(7)=20, a(8)=26, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) + a(n - 6) - a(n - 7) + 2 * a(n - 8) - a(n - 9). - _ Harvey P. Dale _ , Mar 19 2013 •

[A175831] • 0,1,2,3,5,8,11,16,22,29,38,49,61,76,93,112,134,159,186,217,251,288,329,374,422 ⋆ Partial sums of ceiling(n^2/12). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 41) / 144). • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 41) / 72). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 42 * n) / 72). • a(n)=a(n - 12) + (n + 1) * (n - 12) + 61. •

[A070228] • 1,1,2,3,5,8,11,16,23,31,42,58,82,114,156,217,299,417,583,814,1136,1589,2224,3116,4369 ⋆ Number of perfect powers (A001597) not exceeding 2^n. • a(n) = 1 - Sum _{ x=2..n } Moebius(n) * floor(2 ^ (n / x) - 1). - _ Robert G. Wilson v _ , Jan 20 2015 •

[A173599] • 1,1,2,3,5,8,11,16,23,31,43,57,77,101,133,174,226,293,378,486,624,800,1023,1307,1669 ⋆ a(n) = a(n-1) + a(n-2) - [a(n-2)/4] - [a(n-4)/2] - [a(n-6)/4]. • a(n)=a(n - 1) + a(n - 2) - Floor[a(n - 2) / 4] - Floor[a(n - 4) / 2] - Floor[a(n - 6) / 4] •

[A091498] • 1,2,3,5,8,11,17,23,31,41,54,68,88,109,135,165,202,241,291,344,407,477,559,646,751 ⋆ The sixth column of triangle A091492, excluding leading zeros. • a(0)=1, a(1)=2, a(2)=3, a(3)=5, a(4)=8, a(5)=11, a(6)=17, a(7)=23, a(8)=31, a(9)=41, a(10)=54, a(11)=68, a(12)=88, a(13)=109, a(14)=135, a(15)=165, a(16)=202, a(17)=241, a(18)=291, a(19)=344, a(20)=407, a(n)=a(n - 1) + a(n - 2) - a(n - 5) - 2 * a(n - 7) + a(n - 9) + a(n - 10) + a(n - 11) + a(n - 12) - 2 * a(n - 14) - a(n - 16) + a(n - 19) + a(n - 20) - a (n - 21). - _ Harvey P. Dale _ , Dec 09 2012 •

[A084624] • 1,2,3,5,8,12,16,22,28,36,45,56,68,81,96,114,133,154,177,202,230,260,292,327,365 ⋆ floor(C(n+5,5)/C(n+2,2)). • a(n)=floor(n ^ 3 / 60 + n ^ 2 / 5 + 47n / 60) + 1 •

[A028955] • 0,2,3,5,8,12,17,18,20,23,27,30,32,38,45,47,48,50,53,57,62,68,72,75,80 ⋆ Numbers represented by quadratic form with Gram matrix [4, 1; 1, 4] (divided by 2). • a(x, y) = (4x ^ 2 + 2xy + 4y ^ 2) / 2; x, y any integer. •

[A089071] • 1,2,3,5,8,12,17,23,30,38,47,57,68,80,93,107,122,138,155,173,192,212,233,255,278 ⋆ Number of liberties a big eye of size n gives in the game of Go. • a(n) = a(n - 1) + n - 2 for n>=3. • a(n) = n + 1 - 0 ^ n + C(n - 1,2). (End) •

[A177205] • 0,0,0,1,2,3,5,8,12,17,23,30,38,48,60,73,88,105,124,145,169,195,223,254,288 ⋆ Partial sums of round(n^2/17). • a(n)=round(n * (n + 1) * (2 * n + 1) / 102). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + n + 36) / 102). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + n - 36) / 102). • a(n)=a(n - 17) + (n + 1) * (n - 17) + 105 , n>16. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 17) - 3 * a(n - 18) + 3 * a(n - 19) - a(n - 20) with g.f. x ^ 3 * (1 + x) * (x ^ 12 - 2 * x ^ 11 + 2 * x ^ 10 - x ^ 9 + x ^ 8 - x ^ 7 + x ^ 6 - x ^ 5 + x ^ 4 - x ^ 3 + 2 * x ^ 2 - 2 * x + 1) / ((x ^ 16 + x ^ 15 + x ^ 14 + x ^ 13 + x ^ 12 + x ^ 11 + x ^ 10 + x ^ 9 + x ^ 8 + x ^ 7 + x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4). - R. J. Mathar, Dec 13 2010 •

[A175829] • 0,1,2,3,5,8,12,17,23,31,41,52,66,82,100,121,145,172,202,235,272,313,357,406,459 ⋆ Partial sums of ceiling(n^2/11). • a(n)=round((2 * n + 1) * (n ^ 2 + n + 18) / 66). • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 36) / 66). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 37 * n) / 66). • a(n)=a(n - 11) + (n + 1) * (n - 11) + 52, n>10. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 11) - 3 * a(n - 12) + 3 * a(n - 13) - a(n - 14). [R. J. Mathar, Dec 06 2010] •

[A175827] • 0,1,2,3,5,8,12,17,24,33,43,56,71,88,108,131,157,186,219,256,296,341,390,443,501 ⋆ Partial sums of ceiling(n^2/10). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 27) / 120). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 + 28 * n + 36) / 60). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 28 * n - 9) / 60). • a(n)=a(n - 10) + (n + 1) * (n - 10) + 43. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 10) - 3 * a(n - 11) + 3 * a(n - 12) - a(n - 13). [R. J. Mathar, Dec 06 2010] •

[A175539] • 1,2,3,5,8,12,17,25,36,51,73,104,148,210,297,421,596,843,1193,1688,2388,3378,4778,6758,9558 ⋆ a(1)=1, then a(n) = smallest number whose square is larger than 2*(a(n-1))^2. • a(n) = ceil(sqrt(2) * a(n - 1)) with a(1)=1. - _ Benoit Cloitre _ , Oct 16 2012 •

[A173564] • 1,1,2,3,5,8,12,18,26,36,50,68,92,124,165,220,291,385,508,670,882,1161,1526,2005,2633 ⋆ a(n) = a(n-1) + a(n-2) - [a(n-3)/4] - [a(n-4)/2] - [a(n-5)/4]. • a(n)=a(n - 1) + a(n - 2) - Floor[a(n - 3) / 4] - Floor[a(n - 4) / 2] - Floor[a(n - 5) / 4] •

[A200310] • 0,1,2,3,5,8,12,18,26,37,53,76,108,154,218,309,437,620,876,1242,1754,2485,3509,4972,7020 ⋆ a(n) = n-1 for n <= 4, otherwise if n is even then a(n) = a(n-5)+2^(n/2), and if n is odd then a(n) = a(n-1)+2^((n-3)/2). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) + 2 * a(n - 6) - 2 * a(n - 7). • a(n) = floor((29 + 5(- 1) ^ n) * 2 ^ ((2n - 7 - (- 1) ^ n) / 4) / 7) - 1. (End) •

[A136275] • 1,2,3,5,8,12,18,26,38,55,79,114,164,235,337,483,692,991,1418,2029,2903,4154,5944,8504,12167 ⋆ Similar to A137284, but considering Sum{ k = 1,2,3,.. } 5^(-nk). • a(n) = ceil(a(n - 1) * log5(10)). [_ Max Alekseyev _ , May 14 2009] •

[A078408] • 1,2,3,5,8,12,18,27,38,54,76,104,142,192,256,340,448,585,760,982,1260,1610,2048,2590,3264 ⋆ Number of ways to partition 2n+1 into distinct positive integers. • a(n) = t(2 * n + 1, 0), t as defined in A079211. •

[A077868] • 1,2,3,5,8,12,18,27,40,59,87,128,188,276,405,594,871,1277,1872,2744,4022,5895,8640,12663,18559 ⋆ Expansion of (1-x)^(-1)/(1-x-x^3). • a(n - 3) =Sum(binomial(n - r, r)), r=1, 2, ... which is the case t=3 and k=2 in the general case of t - strings and k blocks: a(n - 3, k, t) = Sum(binomial(n - r * (t - 1), r) * S2(n - r * (t - 1) - 1, k - 1)), r=1, 2, ... - _ Augustine O. Munagi _ , Apr 11 2005 • a(n)=a(n - 1) + a(n - 2) - a(n - 5) for n>4. a(n)=a(n - 2) + a(n - 3) + a(n - 4) + 2 for n>3. G.f.: 1 / ((1 - x) * (1 - x - x ^ 3) - Paul Weisenhorn Oct 28 2011. •

[A061419] • 1,2,3,5,8,12,18,27,41,62,93,140,210,315,473,710,1065,1598,2397,3596,5394,8091,12137,18206,27309 ⋆ a(n) = ceiling(a(n-1)*3/2) with a(1) = 1. • a(n) = ceiling((a(n - 1) + a(n - 2)) * 9 / 10) - _ Franklin T. Adams - Watters _ , May 01 2006 •

[A124062] • 1,1,2,3,5,8,12,19,29,44,67,101,152,228,341,509,758,1127,1673,2480,3672,5431,8025,11848,17479 ⋆ Number of ways to write n as an ordered sum of 1's, 2's and 3's such that no 2 precedes any 1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) - a(n - 6). - _ Joel B. Lewis _ , Nov 06 2006 •

[A060961] • 1,1,1,2,3,5,8,12,19,30,47,74,116,182,286,449,705,1107,1738,2729,4285,6728,10564,16587,26044 ⋆ Number of compositions (ordered partitions) of n into 1's, 3's and 5's. • a(n) = a(n - 1) + a(n - 3) + a(n - 5). • a(n) = sum(m=floor((n + 1) / 2)..n, (sum(j=0..2 * m - n, binomial(j,3 * n - 5 * m + 2 * j) * binomial(2 * m - n,j)))), n>0, a(0)=1. - _ Vladimir Kruchinin _ , Mar 11 2013 •

[A225393] • 1,1,2,3,5,8,12,19,30,47,74,116,183,288,453,713,1122,1766,2779,4373,6882,10830,17043,26820,42206 ⋆ Expansion of 1/(1 - x - x^2 + x^6 - x^8). • a(n) = a(n - 1) + a(n - 2) - a(n - 6) + a(n - 8). - _ Ilya Gutkovskiy _ , Nov 16 2016 •

[A179018] • 0,1,2,3,5,8,12,19,30,47,75,120,192,309,498,803,1297,2096,3388,5479,8862,14335,23191,37520,60704 ⋆ Partial sums of ceil(Fibonacci(n)/2) • a(n)=round(Fibonacci(n + 2) / 2 + (n - 1) / 3). • a(n)=round(Fibonacci(n + 2) / 2 + n / 3 - 1 / 2). • a(n)=floor(Fibonacci(n + 2) / 2 + n / 3 - 1 / 6). • a(n)=ceil(Fibonacci(n + 2) / 2 + n / 3 - 1 / 2). • a(n)=a(n - 3) + Fibonacci(n) + 1, n>2. • a(n)=2 * a(n - 1) - 2 * a(n - 4) + a(n - 6), n>5. •

[A088795] • 1,2,3,5,8,13,20,30,43,60,81,107,138,175,218,268,325,390,463,545,636,737,848,970,1103 ⋆ Fibonacci(n) as n runs through the quarter-squares. • a(n)= - 1 / 16 - 3 * n ^ 2 / 8 + 17 * n / 12 + n ^ 3 / 12 + (- 1) ^ n / 16. [From _ R. J. Mathar _ , Jul 22 2009] •

[A173597] • 1,1,2,3,5,8,13,20,31,47,70,104,154,227,334,489,716,1046,1528,2229,3251,4739,6906,10063,14661 ⋆ a(n) = a(n-1) + a(n-2) - [a(n-4)/4] - [a(n-5)/2] - [a(n-6)/4]. • a(n)=a(n - 1) + a(n - 2) - Floor[a(n - 4) / 4] - Floor[a(n - 5) / 2] - Floor[a(n - 6) / 4] •

[A059923] • 1,2,3,5,8,13,20,31,48,74,114,176,271,417,642,988,1521,2341,3603,5545,8533,13131,20207,31096,47853 ⋆ a(n+1) is smallest number with a(n+1)^n > a(n)^(n+1). • a(n + 1) = floor(a(n) ^ (1 + 1 / n)) + 1; compare A080870

. - _ Paul D. Hanna _ , Feb 21 2003 • a(n) = floor(x ^ n), where x=1.538851 31519173... - _ Paul D. Hanna _ , Feb 21 2003 •

[A225394] • 1,1,2,3,5,8,13,20,32,51,81,129,205,326,519,826,1314,2091,3327,52 94,8424,13404,21328,33937,54000 ★ Expansion of 1/(1 - x - x^2 + x^7 - x^9). • a(n) = a(n - 1) + a(n - 2) - a(n - 7) + a(n - 9). - _ Ilya Gutkovskiy _ , No v 16 2016 •

[A293644] • 0,1,1,1,2,3,5,8,13,20,33,53,86,140,226,366,592,958,1550,2509,405 9,6568,10627,17194,27821 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 3/5|. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + a(n - 5) + 2 a(n - 6) - a(n - 7) - 2 a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. • a(n) = floor(1 / 2 + 3 * Fibonacci(n) / 5). •

[A117760] • 1,1,1,2,3,5,8,13,21,33,53,85,136,218,349,559,895,1433,2295,3675,5 885,9424,15091,24166,38698 ★ Expansion of 1/(1 - x - x^3 - x^5 - x^7). • a(n) =a(n - 1) + a(n - 3) + a(n - 5) + a(n - 7); a(0)=0, a(1)=1, a(2)=1, a(3)=1, a (4)=2, a(5)=3, a(6)=5. •

[A147660] • 1,1,2,3,5,8,13,21,34,54,87,140,225,362,582,936,1505,2420,3892,62 59,10065,16186,26029,41858,67313 ★ Coefficient expansion of toral of inverse of low ratio (1.6081283851873882) Pisot Polynomial: a(n)=Coefficient_Expansion(1/(-1 + x^2 - x^9 - x^10 + x^11)). • a(n)=Coefficient _ Expansion(1 / (- 1 + x ^ 2 - x ^ 9 - x ^ 10 + x ^ 11)). •

[A225396] • 1,1,2,3,5,8,13,21,34,55,88,142,229,369,595,959,1546,2492,4017,64 75,10438,16826,27123,43722,70479 ★ Expansion of 1/(1 - x - x^2 + x^10 - x^12). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(5)=8, a(6)=13, a(7)=21, a(8)=3 4, a(9)=55, a(10)=88, a(11)=142, a(n)=a(n - 1) + a(n - 2) - a(n - 10) + a(n - 12). - _ Harvey P. Dale _ , Apr 12 2014 •

[A132916] • 0,1,1,1,1,1,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,25 84,4181 ★ a(0)=0; a(1)=1; a(n) = Sum a(n-k), k= 1 ... [n^(1/3)] for n>=2. • a(n) = sum a(n - k), k= 1 ... [n ^ (1 / 3)] for n>=2; a(0)=0; a(1)=1. •

[A000045] • 0,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6 765,10946,17711,28657,46368 ★ Fibonacci numbers: F(n) = F(n-1) + F(n-2) with F(0) = 0 and F(1) = 1. • a(n)=F(n) has the property: F(n) * F(m) + F (n + 1) * F(m + 1) = F(n + m + 1). - _ Miklos Kristof _ , Nov 13 2003 • a(n - 1) = Sum _{ k=0..n } (- 1) ^ k * binomial(n - ceiling(k / 2), floor(k / 2)) . - _ Benoit Cloitre _ , May 05 2005 • a(n) = (b(n + 1) + b(n - 1)) / n wher e { b(n) } is the sequence A001629. - _ Sergio Falcon _ , Nov 22 2006 • a(n) = denominator of continued fraction [1,1,1,...] (with n ones); e.g., 2 / 3 = con tinued fraction [1,1,1]; where barover[1] = [1,1,1,...] = 0.6180339.... - _ Gary W. Adamson _ , Nov 29 2007 • a(2 ^ n) = Product _{ i=0..n - 2 } B(i) wher e B(i) is A001566. Example 3 * 7 * 47 = F(16). - _ Kenneth J Ramsey _ , A pr 23 2008 • a(n) = Sum _{ l _ 1=0..n + 1 } Sum _{ l _ 2=0..n } ...Sum _{ l _ i=0..n - i } ... Sum _{ l _ n=0..1 } delta(l _ 1,l _ 2,...,l _ i,...,l _ n), whe re delta(l _ 1,l _ 2,...,l _ i,...,l _ n) = 0 if any l _ i + l _ (i + 1) >= 2 for i= 1..n - 1 and delta(l _ 1,l _ 2,...,l _ i,...,l _ n) = 1 otherwise. - _ Thomas Wie der _ , Feb 25 2009 •

[A020695] • 2,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,1 0946,17711,28657,46368,75025,121393,196418 ★ Pisot sequence E(2,3). • a(n) = Fibonacci(n + 3); a(n) = a(n - 1) + a(n - 2). • a(n) = (2 ^ (- n) * ((1 - sqr t(5)) ^ n * (- 2 + sqrt(5)) + (1 + sqrt(5)) ^ n * (2 + sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Jun 05 2016 •

[A109609] • 1,1,2,3,5,8,13,21,34,55,89,144,234,378,612,990,1602,2592,4194,67 86,10980,17766,28746,46512,75259 ★ Expansion of 1/((x-1)*(x+1)*(x^2+x+1)*(x^2-x+ 1)*(x^2-x+1)*(x^2+1)*(x^4-x^2+1)). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4) =5, a(5)=8, a(6)=13, a(7)=21, a(8)=34, a(9)=55, a(10)=89, a(11)=144, a(12) =234, a(13)=378, a(n)=a(n - 1) + a(n - 2) + a(n - 12) - a(n - 13) - a(n - 14). - _ Harvey P. Dale _ , Sep 20 2013 •

[A207976] • 2,3,5,8,13,21,34,56,92,152,251,414,684,1130,1867,3084,5095,841 8,13908,22979,37966,62727,103638,171232,282911 ★ a(1) = 2; for n>1, a(n) = largest integer such that the sequence b(n) = a(n)^(1/n) is decreasing. • a(1) = 2, a(2) = 3; a(n + 1) = floor(a(n) ^ (1 + 1 / n)) for n > 1. • a(n) = 1 + f loor(q ^ n), where q = lim a(n + 1) / a(n) = 1.652213... • a(2) = 3; a(n) = fl oor(exp((n / (n - 1)) * log a(n - 1))) for n > 2. •

[A229194] • 1,1,1,2,3,5,8,13,21,35,58,97,163,275,466,793,1353,2315,3969,681 7,11726,20195,34816,60073,103724 ★ Integers nearest to (2^((n-3)/2) + 3^((n- 3)/2)). • a(n) = round(2 ^ ((n - 3) / 2) + 3 ^ ((n - 3) / 2)). •

[A236212] • 0,0,0,0,0,0,1,1,2,3,5,8,13,21,36,63,113,206,386,736,1433,2849,577 3,11919,25059 ★ Floor of the value of Riemann's xi function at n. • a(n) = [xi (n)] for n > 0. •

[A041247] • 1,1,2,3,5,8,13,21,475,496,971,1467,2438,3905,6343,10248,231799,2 42047,473846,715893,1189739,1905632,3095371,5001003,113117437 ★ Denominators of continued fraction convergents to sqrt(135). • a(n) = 488 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A293639] • 0,0,0,0,1,2,3,5,8,13,22,35,57,93,150,244,394,638,1033,1672,2706,4 378,7084,11462,18547 ★ a(n) is the greatest integer k such that k/Fibonacci(n) < 2/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = floor(2 * Fibonacci(n) / 5). •

[A004697] • 0,0,0,0,0,1,2,3,5,8,13,22,36,58,94,152,246,399,646,1045,1691,273 6,4427,7164,11592 ★ Floor(Fibonacci(n)/4). • a(n) = floor(Fibonacci(n) / 4). • a(n) = ceil(Fibonacci(n) / 4 - 3 / 4). • a(n) = round(Fibonacci(n) / 4 - 3 / 8). • a(n) = sum(k=1..n - 2,round(Fibonacci(n) / 4)); • a(n) = a(n - 6) + Fi bonacci(n - 3), n>5. (End) • a(n)= + 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 7). - R. J. Mathar, Jan 08 2011 •

[A124429] • 1,1,1,2,3,5,8,13,22,36,61,102,172,292,493,841,1429,2439,4169,712 4,12216,20930,35940,61749,106155 ★ Antidiagonal sums of triangle A124428. • a(n) = Sum _{ k=0..[n / 3] } C([(n - k) / 2],k) * C([(n - k + 1) / 2],k)). •

[A005683] • 1,2,3,5,8,13,22,37,63,108,186,322,559,973,1697,2964,5183,9071,15 886,27835,48790,85545,150021,263136,461596 ★ Numbers of Twopins positions. • a(3)=1, a(4)=2, a(5)=3, a(6)=5, a(7)=8, a(8)=13, a(n)=2 * a(n - 1) - a(n - 4) - a(n - 6). - _ Harvey P. Dale _ , Jun 20 2011 •

[A288382] • 1,2,3,5,8,13,22,39,72,137,266,523,1036,2061,4110,8207,16400,327 85,65554,131091,262164,524309,1048598,2097175,4194328 ★ Positions of 0 in A288381; complement of A288383. • a(n) = - 1 + 2 ^ (n - 3) + n for n>2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>5. •

[A257418] • 2,3,5,8,13,23,41,77,145,281,545,1073,2113,4193,8321,16577,3302 5,65921,131585,262913,525313,1050113,2099201,4197377,8392705 ★ Resulting number of pieces after a sheet of paper is folded n times and cut diagonally. • a(n) = (2 ^ n + 2 ^ (n / 2) * (1 + (- 1) ^ n + 3 * sqrt(2) * (1 - (- 1) ^ n) / 4) + 2) / 2 for n>1. (Johan Nilsson) • a(0) = 2, a(1) = 3, a(n + 1) = 2 * a(n) - 2 ^ (floor((n - 1) / 2)) - 1. •

[A132915] • 0,1,1,1,2,3,5,8,13,26,47,86,159,292,537,988,1976,3793,7294,1405 1,27114,52252,100711,194128,374205 ★ a(0)=0; a(1)=1; a(n) = Sum a(n-k), k= 1 ... [sqrt(n)] for n>=2. • a(n) = sum a(n - k), k= 1 ... [sqrt(n)] for n>=2; a(0)=0; a(1)=1. •

[A158083] • 2,3,5,8,13,30,39,48,57,66,75,84,93,102,111,120,129,138,147,156,1 65,174,183,192,201 ★ Possible answer to Marus du Satoy's puzzle sequence: a(n)=If[n <= 4, a[n - 1] + a[n - 2], If[n == 5, a[n - 1] + a[n - 2] + 9, a[n - 1] + 9]]. • a(n)=If[n <= 4, a[n - 1] + a[n - 2], If[n == 5, a[n - 1] + a[n - 2] + 9, a[n - 1] + 9]]. •

[A041957] • 1,2,3,5,8,13,47,389,436,1261,13046,14307,84581,183469,2653147,5 489763,30101962,35591725,386019212,807630149,1193649361,10356825037,322 6124472,42620949509,74885073981 ★ Denominators of continued fraction convergents to sqrt(501). • a(n) = 22485463805950 * a(n - 28) - a(n - 56) for n> 55. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A041101] • 1,1,2,3,5,8,13,190,203,393,596,989,1585,2574,37621,40195,77816,1 18011,195827,313838,509665,7449148,7958813,15407961,23366774 ★ Denominators of continued fraction convergents to sqrt(58). • a(n) = 198 * a(n - 7) + a (n - 14). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041809] • 1,1,2,3,5,8,13,528,541,1069,1610,2679,4289,6968,283009,289977,5 72986,862963,1435949,2298912,3734861,151693352,155428213,307121565,46254 9778 ★ Denominators of continued fraction convergents to sqrt(425). • a(n) = 536 * a(n - 7) + a(n - 14) for n>13. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A293641] • 0,0,0,1,1,2,3,5,8,14,22,36,58,93,151,244,395,639,1034,1672,2706,4 378,7084,11463,18547 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 2/5|. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + a(n - 5) + 2 a(n - 6) - a(n - 7) - 2 a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. • a(n) = floor(1 / 2 + 2 * Fibonacci(n) / 5). •

[A293553] • 0,0,0,0,1,1,2,3,5,8,14,22,36,58,94,152,247,399,646,1045,1691,273 6,4428,7164,11592 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 1/4|. • a(n) = a(n - 1) + a(n - 2) + a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. • a(n) = floor(1 / 2 + Fibonacci(n) / 4). •

[A131132] • 1,1,2,3,5,8,14,22,36,58,94,152,247,399,646,1045,1691,2736,4428,7 164,11592,18756,30348,49104,79453 ★ a(n) = a(n-1) + a(n-2) + 1 if n is a multiple of 6, otherwise a(n) = a(n-1) + a(n-2). • a(n) = (number of composi tions of n consisting of only 1 or 2 or 6) - (number of compositions with only 1 or ((1 or 2) and 7)) - (number of compositions with only 8 or ((1 or 2) and 8)). The "or" is inclusive. - _ Gregory L. Simay _ , May 25 2017 •

[A293545] • 0,0,0,1,2,3,5,8,14,22,36,59,96,155,251,406,658,1064,1722,2787,45 10,7297,11807,19104,30912 ★ a(n) is the greatest integer k such that k/Fibonacci(n) < 2/3. • a(n) = a(n - 1) + a(n - 2) + a(n - 8) - a(n - 9) - a(n - 10) for n >= 11. • a(n) = floor(2 * Fibonacci(n) / 3). •

[A078843] • 1,2,3,5,8,14,23,39,64,103,169,269,427,676,1065,1669,2628,4104,6 414,10023,15608,24281,37733,58503,90616 ★ Where 3^n occurs in n-almost-primes, starting at a(0)=1. • a(n) = a(n - 1) + appi3(n - k,[3 ^ n / 2 ^ k]), w here k = ceil(n * c) with c = log(5 / 3) / log(5 / 2) = 0.5574929506502400672 9857073190835923443... and appi3(k,n) is the number of k - almost - primes n ot divisible by 3 and not exceeding n. - _ Max Alekseyev _ , Jan 06 2008 •

[A120400] • 1,1,2,3,5,8,14,23,39,65,109,182,305,510,854,1429,2392,4003,6700,1 1213,18767,31409,52568,87980,147248 ★ Expansion of 1/(1-x-x^2-x^6). • a(n) = a(n - 1) + a(n - 2) + a(n - 6). •

[A000621] • 1,1,1,2,3,5,8,14,23,39,65,110,184,310,520,876,1471,2475,4159,699 6,11759,19775,33244,55902,93984 ★ Number of monosubstituted alkanes C(n-1)H(2n-1)-X with n-1 carbon atoms that are not stereoisomers. • a(n) = T(2 * n - 1,1), where T(n,m) = Sum _{ i=1..n - m } binomial(i + m - 1,i) * ((1 + (- 1) ^ (n - m)) / 2) * T((n - m) / 2,i), n > m, T(n,n)=1. - _ Vladimir Kruc hinin _ , Mar 18 2015 •

[A246360] • 1,2,3,5,8,14,23,41,68,122,203,365,608,1094,1823,3281,5468,9842,1 6403,29525,49208,88574,147623,265721,442868 ★ a(1) = 1, then A007051 ((3^n)+1)/2 interleaved with A057198 (5*3^(n-1)+1)/2. • a(1) = 1, a(2n) = (3 ^ n + 1) / 2, a(2n + 1) = (5 * 3 ^ (n - 1) + 1) / 2. •

[A191388] • 1,1,2,3,5,8,14,23,41,69,125,214,393,682,1267,2223,4171,7385,1397 6,24935,47544,85377,163863,295900,571216 ★ Number of dispersed Dyck paths of length n (i.e., Motzkin paths of length n with no (1,0) steps at positive heights) with no valleys at level 0. • a(n) = 1 + Sum _{ i=0..(n - 1) / 2 } (S um _{ k=0..i } ((k + 1) * binomial(2 * i - k,i - k) * binomial(n - 2 * i - 1,k + 1)) / (i + 1)). - _ Vladimir Kruchinin _ , Mar 27 2016 •

[A062692] • 2,3,5,8,14,23,41,71,127,226,412,747,1377,2538,4720,8800,16510,3 1042,58636,111013,210871,401428,766150,1465020,2807196 ★ Number of irre- ducible polynomials over F_2 of degree at most n. • a(n) = Sum _{ m=1..n

} 1 / m sum _{ d | m } mu(d) * 2 ^{ m / d } . •

[A290075] • 1,1,2,3,5,8,14,24,44,80,152,288,560,1088,2144,4224,8384,16640,33152,66048,131840,263168,525824,1050624,2100224 ★ Number of monomials in c(n) where c(1) = x, c(2) = y, c(n+2) = c(n+1) + c(n)^2. • a(n) = 2 ^ (n / 2 - 1) + 2 ^ (n - 4) for n>2 and even. • a(n) = 3 * 2 ^ ((n - 5) / 2) + 2 ^ (n - 4) for n>2 and odd. •

[A104882] • 1,1,2,3,5,8,14,24,45,85,170,351,749,1656,3758,8776,21013,51473,129018,329939,860901,2288528,6192526,17047248,47693661 ★ Diagonal sums of number triangle A104881. • a(n)=sum { k=0..floor(n / 2), sum { j=0..k, (n - 2k) ^ (k - j) }} . •

[A192633] • 1,2,3,5,8,14,25,45,82,151,280,522,978,1839,3474,6587,12533,23919,45773,87811,168830,325246,627706,1213418,2349157 ★ Partial sums of the Floor-Sqrt transform of Catalan numbers. • a(n) = sum(floor(sqrt(binomial(2 * k,k) / (k + 1))),k=0..n). •

[A178833] • 1,2,3,5,8,14,25,49,96,199,413,894,1924,4261,9392,21205,47534,108492,246313,568003,1302431,3024429,6990985,16343338,38026783 ★ Partial sums of "Half-Catalan numbers" A000992. • a(n) = SUM[i=1..n] SUM[k=1..floor(i / 2)] a(k) * a(i - k), with a(1) = 1. •

[A104880] • 1,1,2,3,5,8,14,26,53,117,280,721,1989,5844,18188,59652,205305,739041,2775190,10846975,44039765,185391480,807776210,3637193486,16900721837 ★ Diagonal sums of a sum-of-powers triangle. • a(0)=1, a(1)=1, a(n)=n + sum { k=2..floor(n / 2), (k ^ (n - 2k + 1) - 1) / (k - 1) } , n>1. •

[A110536] • 1,2,3,5,8,15,27,57,142,381,1110,3484,11678,41566,156319,618829,2570651,11174315,50704149,239641306,1177394450,6002778135,31706648191,173250478087,977993291266 ★ a(n) = Sum_{k=1..n} ceiling(k^n/n^k). • a(n) = Sum _{ k=1..n } ceiling(k ^ n / n ^ k). •

[A049861] • 0,2,3,5,8,15,28,53,99,185,345,644,1202,2244,4189,7820,14598,27251,50871,94964,177275,330930,617767,1153223,2152791 ★ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A215525] • 1,1,2,3,5,8,16,17,18,36,54,57,73,81,84,100,105,205,305,405,413,429,634,734,788 ★ a(0)=a(1)=1, a(n) = a(n-1) + a(a(n-2) mod n). • a(0)=a(1)=1, for n>=2, a(n) = a(n - 1) + a(a(n - 2) mod n). •

[A093000] • 2,3,5,8,16,38,101,284,852,2694,8935,30952,111598,417560,1617204,6468816,26671611,113158064,493244565,2205856753,10108505545,47413093714,227385209453,1113955476429,5569777382146 ★ Least k such that Sum (r); r = n+1 to k is just >= n! Or least k such that product of first n numbers < sum of numbers beginning with n+1 up to k. • a(n) = ceiling[(- 1 + sqrt(1 + 8n! + 4n ^ 2 + 4n)) / 2] and ignoring the - 1 outside the sqrt and + 1 inside gives the approximate formula in the comment. - _ Joshua Zucker _ , May 08 2006 •

[A205303] • 1,1,1,1,1,1,1,1,1,2,3,5,8,18,21,44,60,174,372,1344,2556,12984,24048,82224 ★ a(n) where a(n) * a(n-5) * a(n-10) = a(n-1) * a(n-6) * a(n-8) + a(n-2) * a(n-4) * a(n-9), with a(1) = ... = a(10) = 1. • a(11 - n) = a(n). • a(n + 7) * a(n - 6) = - a(n + 6) * a(n - 5) + 13 * a(n + 3) * a(n - 2). [see Grammaticos et al., Equation (3.2) for the general form of this equation.] • a(n + 7) * a(n - 7) = a(n + 5) * a(n - 5) + 13 * a(n + 1) * a(n - 1). •

[A135568] • 1,2,3,5,8,19,41,101,240,614,1782,5024,15492,48859,150069,470216,1557591,5405758,18319515,64600395,229331402,797199637,2862671427,10330509932,38308974332 ★ a(n) = floor(Product_{i=1..n} prime(i)/i). • a(n) = floor(product of the first n primes / n!). •

[A041457] • 1,1,2,3,5,8,21,29,166,195,361,3444,3805,26274,30079,296985,327064,624049,3447309,4071358,11590025,15661383,27251408,42912791,70164199 ★ Denominators of continued fraction convergents to sqrt(244). • a(n) = 3532638098 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A041157] • 1,2,3,5,8,21,386,793,1179,1972,3151,8274,152083,312440,464523,776963,1241486,3259935,59920316,123100567,183020883,306121450,489142333,1284406116,23608452421 ★ Denominators of continued fraction convergents to sqrt(88). • a(n) = 394 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - 2 * x ^ 9 + 3 * x ^ 8 - 5 * x ^ 7 + 8 * x ^ 6 - 21 * x ^ 5 - 8 * x ^ 4 - 5 * x ^ 3 - 3 * x ^ 2 - 2 * x - 1) / (x ^ 12 - 394 * x ^ 6 + 1). - _ Colin Barker _ , Jul 18 2012 •

[A042785] • 1,2,3,5,8,21,1268,2557,3825,6382,10207,26796,1617967,3262730,4880697,8143427,13024124,34191675,2064524624,4163240923,6227765547,10391006470,16618772017,43628550504,2634331802257 ★ Denominators of continued fraction convergents to sqrt(923). • a(n) = 1276 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041731] • 1,1,2,3,5,8,29,37,103,140,523,663,1186,1849,3035,4884,188627,193511,382138,575649,957787,1533436,5558095,7091531,19741157 ★ Denominators of continued fraction convergents to sqrt(385). • a(n) = 191662 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041569] • 1,2,3,5,8,37,82,119,1986,2105,6196,26889,33085,59974,93059,246092,8460187,17166466,25626653,42793119,68419772,316472207,701364186,1017836393,16986746474 ★ Denominators of continued fraction convergents to sqrt(302). • a(n) = 8553246 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 20 2013] •

[A042471] • 1,1,2,3,5,8,45,53,98,1719,1817,12621,14438,258067,272505,530572,2925365,3455937,6381302,9837239,16218541,26055780,1423230661,1449286441,2872517102 ★ Denominators of continued fraction convergents to sqrt(763). • a(n) = 1439449202 * a(n - 22) - a(n - 44) for n>43. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A041871] • 1,2,3,5,8,45,98,1319,1417,5570,6987,33518,40505,74023,336597,410620,1568457,1979077,27296458,56571993,310156423,366728416,676884839,1043613255,2764111349 ★ Denominators of continued fraction convergents to sqrt(457). • a(n) = 118179903168 * a(n - 25) + a(n - 50) for n>49. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A042667] • 1,2,3,5,8,61,69,268,873,4633,135230,680783,2177579,7213520,9391099,72951213,82342312,155293525,237635837,630565199,36810417379,74251399957,111061817336,185313217293,296375034629 ★ Denominators of continued fraction convergents to sqrt(863). • a(n) = 37048053216 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A047606] • 1,2,3,5,9,10,11,13,17,18,19,21,25,26,27,29,33,34,35,37,41,42,43,45,49 ★ Numbers that are congruent to {1, 2, 3, 5} mod 8. • a(n) = 2 * n - 3 + (3 - (- 1) ^ n) * (1 - i ^ (n * (n + 1))) / 4, where i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A047370] • 2,3,5,9,10,12,16,17,19,23,24,26,30,31,33,37,38,40,44,45,47,51,52,54,58 ★ Numbers that are congruent to {2, 3, 5} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4, with a(1)=2, a(2)=3, a(3)=5, a(4)=9. - _ Harvey P. Dale _ , Apr 29 2013 • a(n) = 7 * floor((n - 1) / 3) + 2 ^ ((n - 1) mod 3) + 1 . - _ Gary Detlefs _ , May 25 2014 • a(n) = (1 / 9) * (21 * n + 4 * sqrt(3) * sin((2 * Pi * n) / 3) - 6 * cos((2 * Pi * n) / 3) - 12). - _ Alexander R. Povolotsky _ , May 25 2014 • a(3k) = 7k - 2, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 5. - _ Wesley Ivan Hurt _ , Jun 10 2016 •

[A060482] • 1,2,3,5,9,13,21,29,45,61,93,125,189,253,381,509,765,1021,1533,2045,3069,4093,6141,8189,12285 ★ New record highs reached in A060030. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) for n>5. G.f.: x * (2 * x ^ 4 - x ^ 2 + x + 1) / ((x - 1) * (2 * x ^ 2 - 1)). [_ Colin Barker _ , Jan 12 2013] •

[A079962] • 1,1,1,2,3,5,9,14,22,36,58,94,153,247,399,646,1045,1691,2737,4428,7164,11592,18756,30348,49105 ★ Number of permutations satisfying -k <= p(i) - i <= r and p(i) - i not in I, i=1..n, with k=1, r=5, I={1,3}. • a(n) = a(n - 1) + a(n - 3) + a(n - 5) + a(n - 6). • a(n + 1) / a(n) - > golden ratio A001622. - _ Roger L. Bagula _ , Mar 13 2006 • a(n) + a(n + 2) + a(n + 4) = Fibonacci(n + 5). - _ Mark Dols _ , Aug 20 2010 • a(n) = round(Fibonacci(n + 3) / 4). - _ Mircea Merca _ , Jan 04 2011 •

[A293547] • 0,1,1,1,2,3,5,9,14,23,37,59,96,155,251,407,658,1065,1723,2787,4510,7297,11807,19105,30912 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - 2/3|. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) + a(n - 5) + a(n - 6) for n >= 7 . • a(n) = floor(1 / 2 + 2 * Fibonacci(n) / 3). •

[A124502] • 1,1,2,3,5,9,14,23,37,60,98,158,256,414,670,1085,1755,2840,4595,7435,12031,19466,31497,50963,82460 ★ a(1)=a(2)=1; thereafter, a(n+1) = a(n) + a(n-1) + 1 if n is a multiple of 5, otherwise a(n+1) = a(n) + a(n-1). • a(n + 5) = a(n) + Fibonacci(n + 5), n>5. • a(n) = 12 * a(n - 5) - 10 * a(n - 10) - a(n - 15). - _ Gary Detlefs _ , Dec 10 2010 •

[A173714] • 0,1,2,3,5,9,14,23,38,61,99,161,260,421,682,1103,1785,2889,4674,7563,12238,19801,32039,51841,83880 ★ Floor(Lucas(n+1)/2), Lucas(n) = A000032(n). • a(0)= 0, a(1)=1, a(n)=a(n - 1) + a(n - 2) + 1 if n mod 3 =2, else a(n)=a(n - 1) + a(n - 2). • a(n) = a(n - 1) + a(n - 2) + (1 + (- 1) ^ Fib(n + 1)) / 2. • a(n) = Fibonacci(n) + floor(Fibonacci(n + 1) / 2). - _ Gary Detlefs _ , Dec 10 2010 •

[A026008] • 1,1,2,3,5,9,14,28,42,90,132,297,429,1001,1430,3432,4862,11934,16796,41990,58786,149226,208012,534888,742900 ★ T(n, [n/2]), where T = Catalan triangle (A008315). • a(2n) = C(2n + 2, n + 1) / (n + 2), a(2n + 1) = 3 C(2n + 2, n) / (n + 3). - _ Ralf Stephan _ , Apr 30 2004 •

[A101461] • 1,1,1,2,3,5,9,14,28,48,90,165,297,572,1001,2002,3640,7072,13260,25194,48450,90440,177650,326876,653752 ★ Row maximum of Catalan triangle with zeros (A053121), i.e., maximum value of (m+1)*binomial(n+1,(n-m)/2)/(n+1) for given n with m same parity as n. • a(n) = (m + 1) * binomial(n + 1, (n - m) / 2) / (n + 1) where m = floor(sqrt(n + 2) - (1 + (- 1) ^ floor(n + sqrt(n + 2) - 1)) / 2). a(n) seems to be slightly less than 2 ^ n / n . •

[A147877] • 1,1,2,3,5,9,15,25,43,70,113,181,283,436,666,999,1483,2179,3166,4556,6504,9200,12918,18011,24938 ★ The number of degree sequences with degree sum 2n representable by a non-separable graph (with multiple edges allowed). • a(n) = p(2n) - p(2n - 1) - Sum _{ j=0..n - 2 } p(j). •

[A005517] • 1,2,3,5,9,15,25,45,75,125,225,375,625,1125,1875,3125,5625,9375,15625,28125,46875,78125,140625,234375,390625 ★ Smallest label f(T) given to a rooted tree T with n nodes in Matula-Goebel labeling. • a(1)=1; a(2)=2; a(n) = 3 * 5 ^ ((n - 3) / 3) if n=0 (mod 3); a(n)=5 ^ ((n - 1) / 3) if n>=4 and n= 1 (mod 3); a(n)=9 * 5 ^ ((n - 5) / 3) if n>=5 and n = 2 (mod 3) (see the Gutman and Ivic 1994 paper). - _ Emeric Deutsch _ , Apr 15 2012 • a(n + 3) = 5 * a(n) for n >= 3 under plausible assumptions about growth of prime numbers. - _ David W. Wilson _ , Jul 05 2001 •

[A079971] • 1,1,2,3,5,9,15,26,44,75,128,218,372,634,1081,1843,3142,5357,9133,15571,26547,45260,77164,131557,224292 ★ Number of compositions (ordered partitions) of n into parts 1, 2, and 5. • a(n) = Sum _{ k=0..n } Sum _{ j=floor((5 * k - n) / 4)..k } C(j,n - 5 * k + 4 * j) * C(k,j). - _ Vladimir Kruchinin _ , Dec 15 2011 •

[A073031] • 1,1,2,3,5,9,15,26,44,75,129,220,377,644,1101,1883,3219,5505,9412,16093,27517,47049,80448,137553,235195 ★ Number of ways of making change for n cents using coins of sizes 1, 2, 5, 10 cents, when order matters. • a(n) = a(n - 1) + a(n - 2) + a(n - 5) + a(n - 10), a(0)=1. •

[A286887] • 2,3,5,9,15,26,44,76,130,223,382,655,1123,1925,3300,5657,9698,16625,28500,48857,83755,143580,246137,421949,723341 ★ Number of irredundant sets in the path graph P_n. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6) for n > 6. •

[A239909] • 1,1,2,3,5,9,15,26,45,77,133,229,394,679,1169,2013,3467,5970,10281,17705,30489,52505,90418,155707,268141 ★ Arises from a construction of

equiangular lines in complex space of dimension 2. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) for n>4. •

[A005169] • 1,1,1,2,3,5,9,15,26,45,78,135,234,406,704,1222,2120,3679,6385,11081,19232,33379,57933,100550,174519 ★ Number of fountains of n coins. • a(n) = c * x ^ (- n) + O((5 / 3) ^ n), where c = 0.312363324596741... and x = 0.576148769142756... (Odlyzko & Wilf 1988). - _ Vaclav Kotesovec _ , Jul 18 2013 •

[A232866] • 1,2,3,5,9,16,27,42,61,84,111,142,177,216,259,306,357,412,471,534,601,672,747,826,909 ★ Positions of the nonnegative integers in the sequence (or tree) of complex numbers generated by these rules: 0 is in S, and if x is in S, then x + 1 and i*x are in S, where duplicates are deleted as they occur. • a(n + 4) = 2 * n ^ 2 + n + 6 for n >= 1 (conjectured). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >= 8 (conjectured). •

[A137402] • 1,1,2,3,5,9,16,28,48,81,136,229,388,661,1129,1928,3287,5594,9510,16164,27484,46757,79577,135454,230552 ★ a(n) = Sum_{k=0..n} binomial(floor(n - 2k/3), k). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=5, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5). - _ Harvey P. Dale _ , Aug 22 2011 •

[A079960] • 1,1,2,3,5,9,16,28,49,85,148,258,450,785,1369,2387,4162,7257,12654,22065,38475,67089,116983,203983,355685 ★ Number of permutations satisfying -k <= p(i) - i <= r and p(i) - i not in I, i=1..n, with k=1, r=5, I={2,3}. • a(n) = a(n - 1) + a(n - 2) + a(n - 5) + a(n - 6). •

[A005314] • 0,1,2,3,5,9,16,28,49,86,151,265,465,816,1432,2513,4410,7739,13581,23833,41824,73396,128801,226030,396655 ★ For n = 0, 1, 2, a(n) = n; thereafter, a(n) = 2*a(n-1) - a(n-2) + a(n-3). • a(n) = Sum [k=0..n, C(n - k, 2k + 1)]. • a(n) = Sum(binomial(n - k, 2k + 1), { k=0...floor((n - 1) / 3) }). - Richard Ollerton (r.ollerton(AT)uws.edu.au), May 12 2004 • a(n) = sum _{ k=0..n } binomial(n - floor((k + 1) / 2), n - floor((3k - 1) / 2)). - _ John Molokach _ , Jul 21 2013 • a(n) = sum(binomial(n - floor((4n + 15 - 6k + (- 1) ^ k) / 12), n - floor((4n + 15 - 6k + (- 1) ^ k) / 12) - floor((2n - 1) / 3) + k - 1),k,1,floor((2n + 2) / 3)). - _ John Molokach _ , Jul 24 2013 •

[A114834] • 1,2,3,5,9,16,28,50,90,162,293,529,956,1728,3124,5648,10211,18462,33380,60352,109119,197293,356716,644961,1166123 ★ Each term is previous term plus floor of root mean square of two previous terms. • a(1) = 1, a(2) = 2, for n>2: a(n + 1) = a(n) + floor(RMS[a(n),a(n - 1)]). a(n + 1) = a(n) + floor[Sqrt[[a(n) ^ 2] + [a(n - 1) ^ 2] / 2]]. •

[A000048] • 1,1,1,1,2,3,5,9,16,28,51,93,170,315,585,1091,2048,3855,7280,13797,26214,49929,95325,182361,349520 ★ Number of n-bead necklaces with beads of 2 colors and primitive period n, when turning over is not allowed but the two colors can be interchanged. • a(n) = (1 / (2 * n)) * Sum _{ odd d divides n } mu(d) * 2 ^ (n / d), where mu is the Mobius function A008683. •

[A054650] • 1,1,1,2,3,5,9,16,28,51,93,171,315,585,1092,2048,3855,7282,13797,26214,49932,95325,182361,349525,671089 ★ Nearest integer to 2^(n-1)/n. • a(n) = round(hypergeometric([- n / 2 + 1 / 2, - n / 2 + 1], [3 / 2], 1)). - _ Peter Luschny _ , Sep 18 2014 •

[A192804] • 1,1,1,2,3,5,9,16,29,53,97,178,327,601,1105,2032,3737,6873,12641,23250,42763,78653,144665,266080,489397 ★ Constant term in the reduction of the polynomial 1+x+x^2+...+x^n by x^3->x^2+x+1. See Comments. • a(n) = 2 * a(n - 1) - a(n - 4). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - 1. - _ Alzhekeyev Ascar M _ , Feb 05 2012 •

[A050253] • 1,1,1,2,3,5,9,16,29,54,101,191,365,702,1359,2647,5181,10187,20113,39856,79243,158036,316053,633689,1273559 ★ G.f.: (1 - x^2 - sqrt(1 - 2*x^2 - 4*x^3 - 3*x^4)) / (2*x^3). • a(n) = Sum _{ k=1..n } ((Sum _{ j=0..k } C(j,n - k - j) * C(k,j))) * C(n - k,k - 1)) / k). - _ Vladimir Kruchinin _ , Nov 21 2014 •

[A182558] • 0,1,2,3,5,9,16,29,54,103,199,388,762,1505,2983,5928,11802,23528,46948,93743,187270,374234,748036,1495461,2990058 ★ a(n) = a(n-1)*2 - floor(sqrt(a(n-2))). • a(0)=0, a(1)=1, a(n) = a(n - 1) * 2 - floor(sqrt(a(n - 2))). •

[A107250] • 1,1,2,3,5,9,16,30,54,104,191,372,692,1357,2550,5021,9508,18773,35766,70755,135461,268365,515849,1023092,1973159 ★ Diagonal sums of number array A107249. • a(n)=sum { k=0..floor(n / 2), C(floor((2n - 3k - 2) / 2), floor((n - 2k) / 2)) } •

[A072176] • 1,1,2,3,5,9,16,30,56,106,201,382,727,1384,2636,5021,9565,18222,34715,66137,126001,240052,457338,871304,1659978 ★ Unimodal analog of Fibonacci numbers: a(n+1)=sum_k A071922(n-k,k). • a(0)=0, a(1)=1, a(2)=1, a(3)=2, a(4)=3, a(n)=2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jun 23 2011 •

[A049858] • 0,1,2,3,5,9,17,32,60,112,209,390,728,1359,2537,4736,8841,16504,30809,57513,107363,200421,374138,698426,1303794 ★ a(n) = Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A092483] • 1,1,1,2,3,5,9,17,32,60,114,218,418,803,1549,2995,5802,11263,21900,42648,83163,162366,317352,620906,1215941 ★ a(n) is the floor of the average of the 1st moment of all previous entries. • a(n)=floor(sum(j=1, n - 1, j * a(j)) / (n - 1)) •

[A094373] • 1,2,3,5,9,17,33,65,129,257,513,1025,2049,4097,8193,16385,32769,65537,131073,262145,524289,1048577,2097153,4194305,8388609 ★ Expansion of (1-x-x^2)/((1-x)*(1-2*x)). • a(n) = (2 ^ n - 0 ^ n) / 2 + 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). • a(2 * n) = 2 * a(2 * n - 1) - 1, n>0. • a(n) = 2 * a(n - 1) - 1 for n>1, a(0)=1, a(1)=2. [_ Philippe Deléham _ , Sep 25 2009] •

[A000051] • 2,3,5,9,17,33,65,129,257,513,1025,2049,4097,8193,16385,32769,65537,131073,262145,524289,1048577,2097153,4194305,8388609,16777217 ★ a(n) = 2^n + 1. • a(n) = 2 * a(n - 1) - 1 = 3 * a(n - 1) - 2 * a(n - 2). • a(0) = 1, then a(n) = (Sum i=0..n - 1 a(i)) - (n - 2). - _ Gerald McGarvey _ , Jul 10 2004 • a(n) = Sum _{ k=0..n } C(n,k) * B _{ n - k }* 2 ^ (k + 1) / (k + 1). (See also A052584.) (End) • a(n) is the a(n - 1) - th odd number for n >= 1. - _ Jaroslav Krizek _ , Apr 25 2009 •

[A110113] • 0,1,2,3,5,9,17,34,71,154,346,802,1914,4693,11800,30379,79963,214925,589223,1645994,4681037,13541446,39817560,118925810,360577616 ★ Diagonal sums of A083856. • a(n) = Sum _{ k=0..n } ((1 + sqrt(4(k - n) + 1)) / 2) ^ n / sqrt(4(k - n) + 1) - ((1 - sqrt(4(k - n) + 1)) / 2) ^ n / sqrt(4(k - n) + 1). •

[A097332] • 1,2,3,5,9,18,39,90,217,540,1375,3563,9361,24872,66707,180341,490913,1344380,3701159,10237541,28436825,79288844,221836403,622599626,1752360041 ★ Expansion of (1/(1-x))(1+2x/(1-x+sqrt(1-2x-3x^2))). • a(n)=sum { k=0..n, (- 1) ^ (n + k)binomial(n, k)sum { i=0..k, Catalan(k - i)2 ^ i }} . •

[A099236] • 1,2,3,5,9,18,39,91,226,594,1643,4763,14419,45444,148714,504150,1766930,6390720,23815168,91306968,359694457,1454213026,6027213531,25583995337,111118605583 ★ Sums of antidiagonals of A099233. • a(n)=sum { j=0..n, sum { k=0..n - j, binomial(j(n - j - k), k) }} •

[A077643] • 1,2,3,5,9,19,39,79,157,310,621,1246,2491,4980,9958,19924,39844,79672,159365,318736,637457,1274916,2549816,5099651,10199363 ★ Number of squarefree integers in closed interval [2^n, -1 + 2*2^n], i.e., among 2^n consecutive numbers beginning with 2^n. • a(n) = Sum _{ j=0.. - 1 + 2 ^ n } abs(mu(2 ^ n + j)). • a(n) / 2 ^ n approaches 1 / Zeta(2), so limiting sequence is floor(2 ^ n / Zeta(2)), n >= 0. - _ Wouter Meeussen _ , May 25 2003 •

[A123389] • 2,3,5,9,19,42,101,241,615,1783,5024,15492,48860,150069,470216,1557591,5405759,18319515,64600395,229331403,797199638,2862671427,10330509932,38308974332,148638820408 ★ Ratio of each term of the primorial function to the corresponding term of the factorial function (rounded to nearest integer). • a(n) = round((Product _{ k=1..n } prime(k)) / factorial(n)). •

[A110542] • 1,2,3,5,9,19,48,140,458,1635,6272,25580,110130,497832,2352807,11584809,59251847,313995514,1720289573,9725340014,56636885799,339259270680,2087446695738,13177129073994,85244657070582 ★ Row sums of number triangle A110541. • a(n)=sum { k=0..n, sum { j=0..n - k, C((k - 1) * (n - k) - (k - 2) * j, j) * C(j, n - k - j) }} •

[A047604] • 2,3,5,10,11,13,18,19,21,26,27,29,34,35,37,42,43,45,50,51,53,58,59,61,66 ★ Numbers that are congruent to {2, 3, 5} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 8 * n / 3 - 2 - cos(2 * n * Pi / 3) + 5 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 8k - 3, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 6. (End) •

[A079251] • 2,3,5,10,12,14,22,24,26,28,30,32,46,48,50,52,54,56,58,60,62,64,66,68,94 ★ Complement of A079000. • a(n)=b(n - 1) + 2, with b(0)=0, b(2n)=2b(n) + 1 + 3[n>1], b(2n + 1)=2b(n) + 1 + 5[n>0]. - _ Ralf Stephan _ , Oct 07 2003 •

[A120610] • 2,3,5,10,13,33,63,126,187,442,869,1753,3506,5257,12269,24538,36805,85876,171755,343507,687019,1374038,2061055,4809126,9618252 ★ Sum of previous term and preceding non-divisors. • a(1) = 2, a(2) = 3, for n>=2, a(n + 1) = a(n) + sum _{ 1<=k<n, a(k) does not divide a(n) } a(k). •

[A133335] • 1,2,3,5,10,15,25,50,75,125,250,375,625,1250,1875,3125,6250,9375,15625,31250,46875,78125,156250,234375,390625 ★ a(3n) = 3*a(3n-1)-3*a(3n-2)+2*a(3n-3), a(3n+1) = 3*a(3n)-3*a(3n-1)+2*a(3n-2), a(3n+2) = 3*a(3n+1)-3*a(3n) with a(0)=1, a(1)=2, a(2)=3. • a(n) = 5 * a(n - 3). G.f.: - (3 * x ^ 2 + 2 * x + 1) / (5 * x ^ 3 - 1). [_ Colin Barker _ , Oct 11 2012] •

[A199594] • 0,0,0,2,3,5,10,18,31,56,100,177,315,561,997,1773,3154,5609,9975,17741,31552,56114,99798,177489,315660 ★ Number of sequences of n coin flips that win on the last flip, if the sequence of flips ends with (0,0,1,1) or (1,1,1,1). • a(n)=a(n - 1) + a(n - 2) + a(n - 3) - a(n - 5) for n>7. • a(n)=2 * a(n - 1) - a(n - 4) - a(n - 5) + a(n - 6) for n>8. •

[A002661] • 1,2,3,5,10,18,35,63,126,231,462,858,1716,3218,6435,12155,24310,46189,92378,176358,352716,676039,1352078,2600150,5200300 ★ Least integer having Radon random number n. • a(n) = ceiling(binomial(n + 1, floor((n + 1) / 2)) / 2). - _ Sean A. Irvine _ , May 21 2014; corrected by _ Matthew House _ , Jul 29 2015 •

[A237250] • 2,3,5,10,18,37,67,138,250,515,933,1922,3482,7173,12995,26770,48498,99907,180997,372858,675490,1391525,2520963,5193242,9408362 ★ Values of x in the solutions to x^2 - 4xy + y^2 + 11 = 0, where 0 < x < y. • a(n) = 4 * a(n - 2) - a(n - 4). •

[A293353] • 1,2,3,5,10,19,37,74,148,296,592,1183,2365,4729,9458,18915,37829,75657,151314,302628,605255,1210509,2421018,4842036,9684072 ★ Least integer k such that k/2^n > Euler's constant (0.577216...). • a(n) = ceiling(r * 2 ^ n), where r = Euler's constant (0.577216...). •

[A293328] • 1,2,3,5,10,19,37,74,148,296,592,1183,2365,4730,9460,18919,37838,75675,151349,302698,605396,1210792,2421583,4843166,9686331 ★ Least integer k such that k/2^n > sqrt(1/3). • a(n) = ceiling(r * 2 ^ n), where r = sqrt(1 / 3). •

[A057755] • 1,1,2,3,5,10,20,39,78,155,309,617,1234,2467,4933,9865,19729,39457,78914,157827,315653,631306,1262612,2525223,5050446 ★ Number of digits in n-th Fermat number (A000215). • a(n) = floor(lg(F _ n) + 1) (F _ n is the n - th Fermat number) [From _ Ivan Panchenko _ , Sep 06 2009] •

[A262482] • 2,3,5,10,20,40,79,158,316,631,1261,2521,5042,10083,20165,40330,80660,161320,322639,645278,1290556,2581111,5162221,10324441,20648882 ★ Number of (n+3)X(1+3) 0..1 arrays with each row and column divisible by 13, read as a binary number with top and left being the most significant bits. • a(n) = 1 + floor((2 ^ (n + 3) / 13). •

[A293323] • 1,2,3,5,10,20,40,80,159,317,633,1266,2532,5063,10126,20252,40504,81007,162014,324028,648056,1296112,2592223,5184445,10368890 ★ Least integer k such that k/2^n > 1/tau, where tau = (1+sqrt(5))/2 = golden ratio. • a(n) = ceiling(r * 2 ^ n), where r = (- 1 + sqrt(5)) / 2. •

[A014626] • 0,1,2,3,5,10,21,42,78,135,220,341,507,728,1015,1380,1836,2397,3078,3895,4865,6006,7337,8878,10650 ★ Number of intersection points of diagonals of an n-gon in general position, plus number of vertices. • a(n) = (n ^ 4 - 6 * n ^ 3 + 11 * n ^ 2 - 6 * n) / 24 + n. •

[A024494] • 1,2,3,5,10,21,43,86,171,341,682,1365,2731,5462,10923,21845,43690,87381,174763,349526,699051,1398101,2796202,5592405,11184811 ★ C(n,1) + C(n,4) + ... + C(n,3[n/3]+1). • a(n) = (1 / 3) * (2 ^ n + 2 * cos((n - 2) * Pi / 3)). • a(n) = sum { k=0..n, 2 ^ k * 2sin(- Pi * (n - k) / 3 + Pi / 3) / sqrt(3) } (offset 0). - _ Paul Barry _ , May 18 2004 • a(n) = 3a(n - 1) - 3a(n - 2) + 2a(n - 3). - _ Paul Curtz _ , Nov 20 2007 •

[A101163] • 1,2,3,5,10,24,64,182,542,1685,5473,18594,66063,245078,947057,3802469,15826392,68158314,303273906,1392503108,6590530876,32117814629,160998508095,829301391150,4385370872477 ★ Diagonal sums of a Chebyshev number triangle. • a(n)=sum { k=0..floor(n / 2), if(k=n - k, 1, 2T(n - 2k, (k + 2) / 2)) where T(n, k)=(n / 2)sum { j=0..floor(n / 2), C(n - j, j)(- 1) ^ j * (2k) ^ (n - 2j) } . •

[A011827] • 2,3,5,10,25,70,190,471,1060,2189,4203,7592,13027,21400,33868,51901,77334,112423,159905,223062,305789,412666,549034,721075,935896 ★ f-vectors for simplicial complexes of dimension at most 2 on at most n-1 vertices. • a(n + 1)= (2 * n ^ 6 - 6 * n ^ 5 + 5 * n ^ 4 + 60 * n ^ 3 - 7 * n ^ 2 + 306 * n + 720) / 360 fits terms up to 5426026. [_ Frank Ellermann _] •

[A260304] • 2,3,5,10,25,75,250,875,3125,11250,40625,146875,531250,1921875,6953125,25156250,91015625,329296875,1191406250,4310546875,15595703125,56425781250,204150390625,738623046875,2672363281250 ★ a(n) = 5*a(n-1) - 5*a(n-2) for n>1, a(0)=2, a(1)=3. • a(n) = ((5 + 2 * sqrt(5)) * ((5 - sqrt(5)) / 2) ^ n + (5 - 2 * sqrt(5)) * ((5 + sqrt(5)) / 2) ^ n) / 5. •

[A135961] • 1,1,2,3,5,10,25,79,318,1637,10753,89872,955537,12930173,222618066,4874855543,135781292309,4811103270054,216847500834513,1243214386275679,90662565414289779 0,841025715116318098 65 ★ G.f.: A(x) = Sum_{n>=0} x^n/(1 - Fibonacci(n)*x). • a(n) = Sum _{ k=0..n } Fibonacci(k) ^ (n - k). •

[A011828] • 2,3,5,10,26,95,457,2246,9705,35926,115688,331201,859587,2054860,4582126,9627831,19217260,36679253,67308375,119286676,204940824,342425909,557944719,888630900,1386246251 ★ Number of f-vectors for simplicial complexes of dimension at most 3 on at most n-1 vertices. • a(n + 1) = (12 * n ^ 10 - 112 * n ^ 9 + 351 * n ^ 8 - 132 * n ^ 7 + 378 * n ^ 6 - 2856 * n ^ 5 + 4839 * n ^ 4 + 56812 * n ^ 3 - 5580 * n ^ 2 + 309168 * n + 725760) / 362880 fits terms up to 3191757298. [_ Frank Ellermann _] •

[A204518] • 0,1,2,3,5,10,27,49,98,267,485,970,2643,4801,9602,26163,47525,95050,258987,470449,940898,2563707,4656965,9313930,25378083 ★ Numbers such that floor(a(n)^2 / 6) is a square. • a(n) = 10 * a(n - 3) - a(n - 6) for n>7; G.f.: - x ^ 2 * (x + 1) * (3 * x ^ 4 + 7 * x ^ 3 - 2 * x ^ 2 - x - 1) / (x ^ 6 - 10 * x ^ 3 + 1). - _ Colin Barker _ , Sep 18 2014 •

[A088938] • 2,3,5,10,27,104,541,3498,26615,231172,2250129,24227486,285705643,3660694200,50624828357,751426146514,11913622408671,200919532718828,3591112295892985,67803855263483142,1348467602319393299 ★ Occurrences of 2's in A088936. • a(n)=2 + (1 / 2) * sum(k=1, n, sum(i=0, k, i!)), [_ Benoit Cloitre _ and Claude Lenormand] •

[A100475] • 1,2,3,5,11,13,14,34,931,7037,95017,3549221,75296795,3518502151,34778126848,747746329129,13428156340222,728260738568834,17205012007789762 ★ Prime-th recurrence with reversal at each step. • a(n) = reversal(a(n - 1)th prime). •

[A079545] • 2,3,5,11,17,19,37,41,53,59,73,83,101,107,131,137,149,163,179,181,197,227,233,251,257 ★ Primes of the form x^2 + y^2 + 1 with x,y >= 0. • a(n) << n log ^ 2 n, see Theorem 2 in Motohashi. - _ Charles R Greathouse IV _ , Mar 03 2018 •

[A055498] • 0,1,2,3,5,11,17,29,47,79,127,211,347,563,911,1481,2393,3877,6271,10151,16427,26591,43019,69623,112643 ★ a(0)=0, a(1)=1, a(n) = smallest prime >= a(n-1) + a(n-2). • a(n + 1) = nextprime(a(n) + a(n - 1)) where nextprime(n) is smallest prime >= n. • a(n) is asymptotic to c * phi ^ n where phi = (1 + sqrt(5)) / 2 and c = 1.086541275044988562375... - _ Benoit Cloitre _ , May 02 2004 •

[A007755] • 1,2,3,5,11,17,41,83,137,257,641,1097,2329,4369,10537,17477,35209,65537,140417,281929,557057,1114129,2384897,4227137,8978569 ★ Smallest number m such that the trajectory of m under iteration of Euler's totient function phi(n) [A000010] contains exactly n distinct numbers, including m and the fixed point. • a(n + 2) ~ 2 ^ n. •

[A070865] • 2,3,5,11,19,29,41,59,79,101,127,157,191,227,269,313,359,409,461,521,587,659,733,809,887 ★ Smallest prime such that the difference of successive terms is strictly increasing. • a(n) >> n ^ 2. - _ Charles R Greathouse IV _ , Apr 30 2015 •

[A131101] • 1,2,3,5,11,23,27,29,30,32,36,41,53,60,66,75,78,83,89,113,114,117,130,131,132 ★ Numbers that when added it to their prime factors +1 the result is a prime number, member of A131102. • a(n) + prime factors of a(n) + 1 = p ; p is a prime number, member of A131102. •

[A060696] • 1,1,2,3,5,11,23,63,153,489,1329,4785,14235,56475,181215,780255,2672145,12348945,44781345,220253985,840523635,4370620275,17465201775,95498916975,397983749625 ★ Number of permutations in S_n avoiding the strings 123, 321 and 231. • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(n) = (n - 2)a(n - 2) + (n - 3)!! for n >= 4 • a(n) = (n - 1)!! + (n - 2)!! (cf. A006882). •

[A076051] • 2,3,5,11,23,63,153,489,1329,4785,14235,56475,181215,780255,2672145,12348945,44781345,220253985,840523635,4370620275,17465201775,95498916975,397983749625,2278224696825,9867844134225 ★ Sum of product of odd numbers <= n and the product of even numbers <= n. • a(n) = o(n) + e(n) where; o(n)=the product of odd numbers from 1 to n e(n)=the product of even numbers from 2 to n. • a(1)=2, a(2)=3, a(3)=5, a(n) = (n - 1) * a(n - 2) + (n - 2)!! for n >= 4. •

[A098179] • 1,2,3,5,11,27,63,135,271,527,1023,2015,4031,8127,16383,32895,65791,131327,262143,523775,1047551,2096127,4194303,8390655,16781311 ★ Expansion of (1-3*x+3*x^2)/(1-5*x+10*x^2-10*x^3+4*x^4). • a(n) = 2 ^ n + 2 ^ (n / 2)cos(pi * n / 4) - 1; a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 4a(n - 4). •

[A079557] • 2,3,5,11,31,97,469,3767,49729 ★ Numerator for global rational approximations. • a(n) is the smallest integer such that if 0< m1 / a(m) < r1 / a(r) < 1, m<n and r<n, then there is an integer n1 which satisfies m1 / a(m) < n1 / a(n) < r1 / a(r), but there is no integer n2 with n2 / a(n)=m1 / a(m) or n2 / a(n)=r1 / a(r) •

[A007097] • 1,2,3,5,11,31,127,709,5381,52711,648391,9737333,174440041,3657500101,88362852307,2428095424619,75063692618249,2586559730396077,98552043847093519,4123221751654370051,188272405179937051081,9332039515881088707361,499720579610303128776791,28785866289100396890228041 ★ Primeth recurrence: a(n+1) = a(n)-th prime. • a(n) / a(n - 1) ~ log(a(n)) ~ prime(n). - _ Thomas Ordowski _ , Mar 26 2015 •

[A006721] • 1,1,1,1,1,2,3,5,11,37,83,274,1217,6161,22833,165713,1249441,9434290,68570323,1013908933,11548470571,142844426789,2279343327171,57760865728994,979023970244321 ★ Somos-5 sequence: a(n) = (a(n-1) * a(n-4) + a(n-2) * a(n-3)) / a(n-5), with a(0) = a(1) = a(2) = a(3) = a(4) = 1. • a(4 - n) = a(n). a(n + 2) * a(n - 2) = 2 * a(n + 1) * a(n - 1) - a(n) ^ 2 if n is even. a(n + 2) * a(n - 2) = 3 * a(n + 1) * a(n - 1) - a(n) ^ 2 if n is odd. •

[A056163] • 2,3,5,11,120,191297 ★ Number of ordered antichains on an unlabeled n-set; labeled T_1-hypergraphs with n hyperedges. • a(n)=Sum _{ k= 0..C(n, floor(n / 2)) } b(k, n) where b(k, n) is the number of k - element ordered antichains on an unlabeled n - set. •

[A193776] • 1,2,3,5,12,17,65,80,473,527 ★ Number of signed permutations of length n invariant under the reverse complement and avoiding (-2, -1), (-2, 1), (2, -1). • a(2k) = 2 ^ k k! + \ sum _{ j=0 }^{ k - 1 } (k - j - 1)! a(2j) • a(2k + 1) = (2 ^ k + 1)k! + \ sum _{ j=0 }^{ k - 1 } (k - j - 1)! a(2j + 1) •

[A064688] • 1,2,3,5,12,18,38,54,104,256,340,760,1260,1610,2590,5120,9792,12076,22250,32992,40026,70488,101698,173682,345856 ★ a(n) = number of partitions of primes into distinct (also odd) parts. • a(n) = t(prime(n), 0), t as defined in A079211. •

[A233231] • 2,3,5,12,29,51,122,291,509,1212,2885,5043,12002,28563,49925,118812,282749,494211,1176122,2798931,4892189,11642412,27706565,48427683,115248002 ★ a(n) = 10*a(n-3) - a(n-6) + 4 for n>5, a(0)=2, a(1)=3, a(2)=5, a(3)=12, a(4)=29, a(5)=51. • a(n) = a(n - 1) + 10 * a(n - 3) - 10 * a(n - 4) - a(n - 6) + a(n - 7) for n>6. [_ Bruno Berselli _ , Dec 09 2013] •

[A179238] • 1,2,3,5,13,18,31,80,111,191,493,684,1177,3038,4215,7253,18721,25974,44695,115364,160059,275423,710905,986328,1697233 ★ Numerators in convergents to infinitely repeating period 3 palindromic continued fraction [1,2,1,...]. • a(1) = 1; a(n + 1) = a(n) + a(n - 1) if n == (0,1) mod 3. • a(n + 1) = 2 * a(n) + a(n - 1) if n == 2 mod 3. • a(n) = + 6 * a(n - 3) + a(n - 6). G.f.: x * (1 + 2 * x + 3 * x ^ 2 - x ^ 3 + x ^ 4) / (1 - 6 * x ^ 3 - x ^ 6). - _ R. J. Mathar _ , Jul 06 2010 •

[A041385] • 1,2,3,5,13,18,31,80,2271,4622,6893,11515,29923,41438,71361,184160,5227841,10639842,15867683,26507525,68882733,95390258,164272991,423936240,12034487711 ★ Denominators of continued fraction convergents to sqrt(207). • a(n) = 2302 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 16 2013 •

[A142881] • 0,1,2,3,5,13,21,34,89,144,233,610,987,1597,4181,6765,10946,28657,46368,75025,196418,317811,514229,1346269,2178309 ★ a(0) = 0, a(1) = 1, after which, if n=3k: a(n) = 2*a(n-1) - a(n-2), if n=3k+1: a(n) = a(n-1) + a(n-2), if n=3k+2: a(n) = 2*a(n-1) + a(n-2). • a(n) = If[Mod[n, 3] == 2, 2 * a(n - 1) + a(n - 2), If[Mod[n, 3] == 1, a(n - 1) + a(n - 2), 2 * a(n - 1) - a(n - 2)]]. • a(n) = 7 * a(n - 3) - a(n - 6). G.f.: - x ^ 2 * (x ^ 4 + 2 * x ^ 3 - 3 * x ^ 2 - 2 * x - 1) / (x ^ 6 - 7 * x ^ 3 + 1). [_ Colin Barker _ , Jan 08 2013] • a(0) = 0, a(1) = 1, after which, if n is a multiple of 3, a(n) = 2 * a(n - 1) - a(n - 2), else, if n is of the form 3k + 1, a(n) = a(n - 1) + a(n - 2), and otherwise [when n is of the form 3k + 2], a(n) = 2 * a(n - 1) + a(n - 2). - _ Antti Karttunen _ , Jan 29 2016, after the original name of the sequence. •

[A048736] • 1,1,1,1,2,3,5,13,22,41,111,191,361,982,1693,3205,8723,15042,28481,77521,133681,253121,688962,1188083,2249605 ★ Dana Scott's sequence: a(n) = (a(n-2) + a(n-1) * a(n-3)) / a(n-4), a(0) = a(1) = a(2) = a(3) = 1. • a(n) = 9 * a(n - 3) - a(n - 6) - 3 - (ceiling(n / 3) - floor(n / 3)), with a(0) = a(1) = a(2) = a(3) = 1, a(4) = 2, a(5) = 3. - _ Michael Somos _ • a(n) = 10 * a(n - 3) - 10 * a(n - 6) + a(n - 9). • a(n) = a(3 - n) for all n in Z. - _ Michael Somos _ , Feb 05 2012 •

[A041519] • 1,1,2,3,5,13,31,75,106,181,287,468,15263,15731,30994,46725,77719,202163,482045,1166253,1648298,2814551,4462849,7277400,237339649 ★ Denominators of continued fraction convergents to sqrt(276). • a(n) = 15550 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A042695] • 1,1,2,3,5,13,57,70,127,578,1283,1861,3144,5005,8149,477647,485796,963443,1449239,2412682,6274603,27511094,33785697,61296791,278972861 ★ Denominators of continued fraction convergents to sqrt(877). • a(n) = 482652 * a(n - 15) + a(n - 30) for n>29. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A041047] • 1,2,3,5,13,135,283,418,701,1820,18901,39622,58523,98145,254813,2646275,5547363,8193638,13741001,35675640,370497401,776670442,1147167843,1923838285,4994844413 ★ Denominators of continued fraction convergents to sqrt(29). • a(n) = 140 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 10 2013 •

[A041639] • 1,2,3,5,13,473,959,1432,2391,6214,226095,458404,684499,1142903,2970305,108073883,219118071,327191954,546310025,14198120045165954216 9,104738896342,156398438511,261137334853,678673108217 ★ Denominators of continued fraction convergents to sqrt(338). • a(n) = 478 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A042907] • 1,2,3,5,13,811,1635,2446,4081,10608,661777,1334162,1995939,3330101,8656141,540010843,1088677827,1628688670,2717366497,7063421664,40649509665,888362440994,1329011950659,2217374391653,5763760733965 ★ Denominators of continued fraction convergents to sqrt(985). • a(n) = 816 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A232162] • 0,0,2,3,5,14,30,62,139,305,660,1444,3158,6887,15037,32842,71698,156538,341799,746273,1629384,3557592,7767594,16959611,37029365 ★ Number of Weyl group elements, not containing an s_r factor, which contribute nonzero terms to Kostant's weight multiplicity formula when computing the multiplicity of the zero-weight in the adjoint representation for the Lie algebra of type B and rank n. • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). G.f.: - x ^ 2 * (x + 2) / (x ^ 4 + 3 * x ^ 3 + x ^ 2 + x - 1). - _ Colin Barker _ , Dec 31 2013 •

[A114411] • 1,2,3,5,14,33,65,238,627,1495,6902,19437,55315,282982,835791,2599805,14998046,49311669,158588105,1004869082,3501128499,11576931665,79384657478,290593665417,1030346918185 ★ Triple primorial n### = n#3. • a(n) = n ### = prime(n) * ((n - 3) ###) = Prod[i == n mod 3, to n] prime(i). Notationally, prime(0) = 1; (- n) ### = 0 ### = 1. •

[A259596] • 1,2,3,5,17,31,48,79,271,494,765,1259,4319,7873,12192,20065,68833,125474,194307,319781,1097009,1999711,3096720,5096431,17483311 ★ Denominators of the other-side convergents to sqrt(7). • a(n) = 16 * a(n - 4) - a(n - 8) for n>7. - _ Colin Barker _ , Jul 21 2015 •

[A004249] • 2,3,5,17,65537 ★ (2^2^...^2) (with n 2's) + 1. • a(0) = 1, a(n + 1) = 2 ^ (a(n)) for n >= 0. •

[A041293] • 1,1,2,3,5,18,23,41,64,105,2584,2689,5273,7962,13235,47667,60902,108569,169471,278040,6842431,7120471,13962902,21083373,35046275 ★ Denominators of continued fraction convergents to sqrt(159). • a(n) = 2648 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A041713] • 1,2,3,5,18,23,64,151,668,1487,3642,5129,19029,24158,43187,110532,4243403,8597338,12840741,21438079,77154978,98593057,2743410 92,647275241,2863442056 ★ Denominators of continued fraction convergents to sqrt(376). • a(n) = 4286590 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A042555] • 1,2,3,5,18,41,223,933,4888,10709,37015,47724,84739,217202,12248051,24713304,36961355,61674659,221985332,505645323,2750211947,11506493111,60282677502,132071848115,456498221847 ★ Denominators of continued fraction convergents to sqrt(806). • a(n) = 12332790 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 25 2014 •

[A041891] • 1,1,2,3,5,18,59,1257,3830,12747,16577,29324,45901,75225,3205351,3280576,6485927,9766503,16252430,58523793,191823809,4086823782,12452295155,41443709247,53896004402 ★ Denominators of continued fraction convergents to sqrt(467). • a(n) = 3251252 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A041195] • 1,2,3,5,23,28,51,130,2651,5432,8083,13515,62143,75658,137801,351260,7163001,14677262,21840263,36517525,167910363,204427888,372338251,949104390,19354426051 ★ Denominators of continued fraction convergents to sqrt(108). • a(n) = 2702 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A117696] • 2,3,5,23,8388581 ★ Primes in sequence a(1)=2, a(n+1)=2^a(n)-3^(n-1). • a(1)=2, a(n + 1)=2 ^ a(n) - 3 ^ (n - 1) •

[A042669] • 1,2,3,5,23,28,51,130,2651,5432,8083,13515,62143,75658,137801,351260,7163001,14677262,21840263,36517525,167910363,204427888,372338251,949104390,19354426051 ★ Denominators of continued fraction convergents to sqrt(108). • a(n) = 2702 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041195] • 1,2,3,5,23,28,33,457,490,2907,3397,6304,16005,934594,1885193,2819787,4704980,26344687,31049667,429990358,461040025,2735190483,3196230508,5931420991,15059072490,879357625411 ★ Denominators of continued fraction convergents to sqrt(864). • a(n) = 940898 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A041585] • 1,1,2,3,5,28,89,117,323,440,1643,8655,10298,18953,29251,48204,1668187,1716391,3384578,5100969,8485547,47528704,151071659,198600363,548272385 ★ Denominators of continued fraction convergents to sqrt(310). • a(n) = 1697438 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 20 2013] •

[A060301] • 2,3,5,30,180,300,450,1080,1800,2700,3000,4500,6480,6750,10800,16200,18000,27000,30000,38880,40500,45000,64800,67500,97200 ★ For n>3: a(n) is a multiple of three distinct earlier terms. • a(n) is of the form 2 ^ b * 3 ^ c * 5 ^ d where either b + c + d=1, or where each of b, c and d are positive and d the largest of the three is an odd number less than the sum of the other two . For n>3: a(n) is 30 times a power of 6 times a power of 10 times a power of 15. •

[A041977] • 1,1,2,3,5,33,38,565,2298,2863,62421,65284,323557,4595082,4918639,34106916,39025555,73132471,112158026,185290497,8264939894,8450230391,16715170285,25165400676,41880570961 ★ Denominators of continued fraction convergents to sqrt(511). • a(n) = 8377097920 * a(n - 20) - a(n - 40) for n>39 . [_ Bruno Berselli _ , Jan 11 2014] •

[A271387] • 1,2,3,5,35,77,1001,2431,46189,1062347,30808063,86822723,3212440751,10131543907,435656388001,20475850236047,1085220062510491,3766351981654057,229747470880897477,810162134158954261,57521511525285752531,4199070341345859934763,3317265569663229348462 77 ★ Numerator of prime(n)#/n!, where prime(n)# is the prime factorial function. • a(n) = prime(n) #/ GCD(prime(n) # , n!), where GCD(a, b) is the greatest common divisor. • a(n) = prime(n) #/ prime(pi(n)) # , where pi(n) is the number of primes <= n. •

[A041443] • 1,2,3,5,38,385,2733,3118,5851,14820,450451,915722,1366173,2281895,17339438,175676275,1247073363,1422749638,2669823001,6762395640,205541692201,417845780042,623387472243,1041233252285,7912020238238 ★ Denominators of continued fraction convergents to sqrt(237). • a(n) = 456302 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A042469] • 1,1,2,3,5,43,48,91,139,230,12559,12789,25348,38137,63485,546017,609502,1155519,1765021,2920540,159474181,162394721,321868902,484263623,806132525 ★ Denominators of continued fraction convergents to sqrt(762). • a(n) = 12698 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A041791] • 1,2,3,5,48,53,101,255,10301,20857,31158,52015,499293,551308,1050601,2652510,107151001,216954512,324105513,541060025,5193645738,5734705763,10928351501,27591408765,1114584702101 ★ Denominators of continued fraction convergents to sqrt(416). • a(n) = 10402 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A041131] • 1,1,2,3,5,83,88,171,259,430,7139,7569,14708,22277,36985,614037,651022,1265059,1916081,3181140,52814321,55995461,108809782,164805243,273615025 ★ Denominators of continued fraction convergents to sqrt(74). • a(n) = 86 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041343] • 1,1,2,3,5,133,138,271,409,680,18089,18769,36858,55627,92485,2460237,2552722,5012959,7565681,12578640,334610321,347188961,681799282,1028988243,1710787525 ★ Denominators of continued fraction convergents to sqrt(185). • a(n) = 136 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A041655] • 1,1,2,3,5,183,188,371,559,930,34039,34969,69008,103977,172985,6331437,6504422,12835859,19340281,32176140,1177681321,1209857461,2387538782,3597396243,5984935025 ★ Denominators of continued fraction convergents to sqrt(346). • a(n) = 186 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A187327] • 0,0,1,2,3,6,6,7,8,9,12,12,13,14,15,18,18,19,20,21,24,24,25,26,27 ★ Floor(n/5)+floor(2n/5)+floor(3n/5). • a(n)=floor(n / 5) + floor(2n / 5) + floor(3n / 5). • a(n)= + a(n - 1) + a(n - 5) - a(n - 6). G.f. (x ^ 4 * (1 + x + x ^ 2 + 3 * x ^ 3)) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 2). - R. J. Mathar, Mar 18 2011 •

[A187326] • 0,0,2,3,6,6,8,9,12,12,14,15,18,18,20,21,24,24,26,27,30,30,32,33,36 ★ Floor(n/4)+floor(n/2)+floor(3n/4). • a(n) = + 1 * a(n - 1) + 1 * a(n - 4) - 1 * a(n - 5). - _ Joerg Arndt _ , Apr 01 2011 • a(n) = (6 * (n - 1) + (1 + (- 1) ^ n) * (2 + i ^ n)) / 4, where i=sqrt(- 1). - _ Bruno Berselli _ , Mar 08 2011 • a(n) = (3 * n - 4 + gcd(4,n)) / 2. - _ Jose Eduardo Blazek _ , Mar 22 2014 • a(n + 1)=a(n) + (3 + gcd(4,n + 1) - gcd(4,n)) / 2 and a(0)=0. - _ Jose Eduardo Blazek _ , Mar 23 2014 • a(n + 4) = a(n) + 6. - _ Michael Somos _ , Feb 23 2014 •

[A060464] • 0,1,2,3,6,7,8,9,10,11,12,15,16,17,18,19,20,21,24,25,26,27,28,29,30 ★ Numbers that are not congruent to 4 or 5 mod 9. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8; a(n) = a(n - 7) + 9 for n>7. • a(n) = (63 * n - 63 + 2 * (n mod 7) + 2 * ((n + 1) mod 7) - 12 * ((n + 2) mod 7) + 2 * ((n + 3) mod 7) + 2 * ((n + 4) mod 7) + 2 * ((n + 5) mod 7) + 2 * ((n + 6) mod 7)) / 49. • a(7k) = 9k - 1, a(7k - 1) = 9k - 2, a(7k - 2) = 9k - 3, a(7k - 3) = 9k - 6, a(7k - 4) = 9k - 7, a(7k - 5) = 9k - 8, a(7k - 6) = 9k - 9. (End) •

[A047505] • 0,1,2,3,6,7,8,9,10,11,14,15,16,17,18,19,22,23,24,25,26,27,30,31,32 ★ Numbers that are congruent to {0, 1, 2, 3, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 27 - 3 * cos(n * Pi) + 12 * cos(n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 5, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A047287] • 0,1,2,3,6,7,8,9,10,13,14,15,16,17,20,21,22,23,24,27,28,29,30,31,34 ★ Numbers that are congruent to {0, 1, 2, 3, 6} mod 7. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. _ Vincenzo Librandi _ , May 15 2012 • a(n) = (7n - 5 - 2 * (n mod 5) / 5. - _ Wesley Ivan Hurt _ , Dec 28 2016 •

[A047246] • 0,1,2,3,6,7,8,9,12,13,14,15,18,19,20,21,24,25,26,27,30,31,32,33,36 ★ Numbers that are congruent to {0, 1, 2, 3} mod 6. • a(n) = floor((6 / 5) * floor(5 * (n - 1) / 4)). - _ Bruno Berselli _ , May 03 2016 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (6n - 9 - i ^ (2n) - (1 - i) * i ^ (- n) - (1 + i) * i ^ n) / 4 where i=sqrt(- 1). •

[A003605] • 0,2,3,6,7,8,9,12,15,18,19,20,21,22,23,24,25,26,27,30,33,36,39,42,45 ★ Unique monotonic sequence of nonnegative integers satisfying a(a(n)) = 3n. • a(3n)=3a(n), a(3n + 1)=2a(n) + a(n + 1), a(3n + 2)=a(n) + 2a(n + 1), n >0. Also a(n + 1) - 2 * a(n) + a(n - 1)= { 2 if n=3 ^ k, - 2 if n=2 * 3 ^ k, otherwise 0 } , n>1. - _ Michael Somos _ , May 03 2000. • a(n) = abs(2 * 3 ^ floor(log _ 3(n)) - n) + 2n - 3 ^ floor(log _ 3(n)) for n>=1. - _ Theodore Lamort de Gail _ , Sep 12 2017 •

[A132188] • 1,2,3,6,7,8,9,12,17,18,19,22,23,24,25,32,33,38,39,42,43,44,45,48,57 ★ Number of 3-term geometric progressions with no term exceeding n. • a(n) = Sum [sqrt(n / k)] ^ 2, where the sum is over all squarefree k not exceeding n. •

[A059590] • 0,1,2,3,6,7,8,9,24,25,26,27,30,31,32,33,120,121,122,123,126,127,128,129,144 ★ Numbers obtained by reinterpreting base-2 representation of n in the factorial base: a(n) = Sum_{k>=0} A030308(n,k)*A000142(k+1). • a(n) = a(n - mbs(n)) + (1 + floor(log(n) / log(2)))!. - _ David A. Corneth _ , Aug 21 2016 •

[A047560] • 0,2,3,6,7,8,10,11,14,15,16,18,19,22,23,24,26,27,30,31,32,34,35,38,39 ★ Numbers that are congruent to {0, 2, 3, 6, 7} mod 8. • a(n) = a(n - 1) +

a(n - 5) - a(n - 6) for n>6. •

[A047223] • 1,2,3,6,7,8,11,12,13,16,17,18,21,22,23,26,27,28,31,32,33,36,37,38,41 ⋆ Numbers that are congruent to {1, 2, 3} mod 5. • a(n) = 2 * floor((n - 1) / 3) + n. - _ Gary Detlefs _ , Dec 22 2011 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (15 * n - 12 - 6 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 2, a(3k - 1) = 5k - 3, a(3k - 2) = 5k - 4. (End) •

[A047561] • 1,2,3,6,7,9,10,11,14,15,17,18,19,22,23,25,26,27,30,31,33,34,35,38,39 ⋆ Numbers that are congruent to {1, 2, 3, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[A047285] • 0,2,3,6,7,9,10,13,14,16,17,20,21,23,24,27,28,30,31,34,35,37,38,41,42 ⋆ Numbers that are congruent to {0, 2, 3, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 13 + 3 * i ^ (2 * n) + (1 + i) * i ^ (- n) + (1 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A053438] • 1,2,3,6,7,10,11,14,15,18,19,22,23,26,27,30,31,34,35,38,39,42,43,46,47 ⋆ Expansion of (1+x+2*x^3)/((1-x)*(1-x^2)). • a(n) = 2 * n - (1 + (- 1 ^ n)) / 2 (with a different offset). - _ Frank Ellermann _ , Feb 12 2002 •

[A042964] • 2,3,6,7,10,11,14,15,18,19,22,23,26,27,30,31,34,35,38,39,42,43,46,47,50 ⋆ Numbers congruent to 2 or 3 mod 4. • a(n) = a(n - 1) + 2 + (- 1) ^ n. (End) • a(n) = 2n if n is odd, otherwise n = 2n - 1. - _ Amarnath Murthy _ , Oct 16 2003 • a(n) = (2 + (- 1) ^ n + (- 1) ^ (n + 1)) * n - (1 + (- 1) ^ n) / 2, n >= 1. - _ Paolo P. Lava _ , Feb 15 2008 • a(n) = (3 + (- 1) ^ (n - 1)) / 2 + 2 * (n - 1) = 2n + 2 - (n mod 2). - _ Hieronymus Fischer _ , Oct 20 2007 • a(n) = 4 * n - a(n - 1) - 3 (with a(1) = 2). - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = 2 * n + ((- 1) ^ (n - 1) - 1) / 2. - _ Gary Detlefs _ , Oct 29 2013 •

[A073170] • 0,0,1,2,3,6,7,10,11,14,19,20,25,28,29,32,37,42,43,48,51,52,57,60,65 ⋆ a(1) = a(2) = 0; for n>2, a(n) = prime(n-1)-n+1. • a(n)=Min { x; composite[x] - x=n } •

[A069813] • 1,2,3,6,7,10,13,16,19,24,27,32,37,42,47,54,59,66,73,80,87,96,103,112,121 ⋆ Maximum number of triangles in polyiamond with perimeter n. • a(n) = round((- 25 + 9 * (- 1) ^ n + 8 * exp(- 2 / 3 * i * n * Pi) + 8 * exp((2 * i * n * Pi) / 3) + 6 * n ^ 2) / 36), where i=sqrt(- 1). •

[A113545] • 1,2,3,6,7,11,13,14,17,19,21,23,26,29,31,33,34,37,38,39,41,42,43,46,47 ⋆ Numbers both pentagon-free and squarefree. • a(n) has no factor >1 of form b ^ 2 nor c * (3 * c - 1) / 2. A005117 INTERSECTION A113508. •

[A130404] • 1,2,3,6,7,12,13,20,21,30,31,42,43,56,57,72,73,90,91,110,111,132,133,156,157 ⋆ Partial sums of A093178. • a(1) = 1; for n > 1, a(n) = a(n - 1) + 1 if n is odd, a(n) = a(n - 1) + (n - 1) if n is even. • a(1) = 1; a(n) = a(n - 1) + n ^ (n mod 2) = 1 / 4 * (n ^ 2 + 2n + 4 + (n mod 2) * (2n - 1)). - _ Rolf Pleisch _ , Feb 04 2008 • a(n) = (2 * (n - 1) * (n + 2) + (2 * n - 3) * (- 1) ^ n + 7) / 8 - _ Bruno Berselli _ , Mar 31 2011 •

[A075427] • 1,2,3,6,7,14,15,30,31,62,63,126,127,254,255,510,511,1022,1023,2046,2047,4094,4095,8190,8191 ⋆ a(0) = 1; a(n) = if n is even then a(n-1)+1 else 2*a(n-1). • a(0) = 1; for n>=1, a(2 * n) = 2 ^ (n + 1) - 1, a(2 * n - 1) = 2 ^ (n + 1) - 2; a(n) = 2 ^ floor((n + 3) / 2) - 3 / 2 + (- 1) ^ n / 2. - _ Benoit Cloitre _ , Sep 17 2002 [corrected by _ Robert Ferreol _ , Jan 26 2011] • a(n) = (- 1) ^ n / 2 - 3 / 2 + 2 ^ (n / 2) * (1 + sqrt(2) + (1 - sqrt(2)) * (- 1) ^ n) . - _ Paul Barry _ , Apr 22 2004 •

[A245479] • 1,2,3,6,7,14,21,42,49,98,147,294,343,686,1029,2058,2401,4802,7203,14406,16807,33614,50421,100842,117649 ⋆ Numbers n such that the n-th cyclotomic polynomial has a root mod 7. • a(n) = 7 * a(n - 4). G.f.: - x * (2 * x + 1) * (3 * x ^ 2 + 1) / (7 * x ^ 4 - 1). - _ Colin Barker _ , Jul 30 2014 • a(n) appears to satisfy x * Prod _{ n>=0 } (1 + a(2 ^ n + 1)x ^ (2 ^ n)) = Sum _{ n>=1 } a(n)x ^ n. •

[A109976] • 1,2,3,6,7,16,19,46,66,159,274,667,1320,3263,7156,18084,42794,111018,278752,743889,1959482,5383395,14761634,41740307,118517301 ⋆ Diagonal sums of number triangle A109974. • a(n)=sum { k=1..floor((n + 1) / 2), sigma(k - 1, n - 2k + 2) } •

[A119746] • 1,2,3,6,7,19,38,49,118,197,440,716,992,1268,1544,1820,2040,2313,9524,12113,33210,45596,60298,74944,89646 ⋆ Sum of previous term and preceding relatively prime terms. • a(1)=1, a(2)=2, for n>=2, a(n + 1) = a(n) + sum _{ 1<=k<n, gcd(a(n),a(k))=1 } a(k). •

[A047286] • 1,2,3,6,8,9,10,13,15,16,17,20,22,23,24,27,29,30,31,34,36,37,38,41,43 ⋆ Numbers that are congruent to {1, 2, 3, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 11 + i ^ (2n) + (1 + 3i) * i ^ (- n) + (1 - 3i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047244] • 0,2,3,6,8,9,12,14,15,18,20,21,24,26,27,30,32,33,36,38,39,42,44,45,48 ⋆ Numbers that are congruent to {0, 2, 3} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 7 - 2 * cos(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 3, a(3k - 1) = 6k - 4, a(3k - 2) = 6k - 6. (End) •

[A047403] • 0,2,3,6,8,10,11,14,16,18,19,22,24,26,27,30,32,34,35,38,40,42,43,46,48 ⋆ Numbers that are congruent to {0, 2, 3, 6} mod 8. • a(n) = 2 * n - ((n mod 4) == 2). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 9 + i ^ (2 * n) + i ^ (1 - n) - i ^ (1 + n)) / 4, where i=sqrt(- 1). •

[A082667] • 0,1,2,3,6,8,10,15,18,21,28,32,36,45,50,55,66,72,78,91,98,105,120,128,136 ⋆ a(n) = floor(2n/3) * ceiling(2n/3) / 2. • a(n) = a(n - 1) + 2a(n - 3) - 2a(n - 4) - a(n - 6) + a(n - 7), (with 0,0,0 prefixed as in the Comments section). - _ Clark Kimberling _ , Apr 15 2012 • a(n) = floor((n + 1) / 3) * (n - floor((n + 1) / 3)). - _ Wesley Ivan Hurt _ , Jun 06 2014 •

[A097383] • 0,2,3,6,8,11,13,17,20,24,27,31,34,38,41,46,50,55,59,64,68,73,77,82,86 ⋆ Minimum total number of comparisons to find each of the values 1 through n using a binary search with 3-way comparisons (less than, equal and greater than). • a(n) = min _{ 1<=k<=n - 1 } n + a(k) + a(n - 1 - k). •

[A211519] • 0,1,2,3,6,8,11,15,19,23,29,34,40,47,54,61,70,78,87,97,107,117,129,140,152 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w=2x+3y. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). •

[A198442] • 0,0,2,3,6,8,12,15,20,24,30,35,42,48,56,63,72,80,90,99,110,120,132,143,156 ⋆ Number of sequences of n coin flips that win on the last flip, if the sequence of flips ends with (1,1,0) or (1,0,0). • a(n) = (2 * n ^ 2 - 5 - 3 * (- 1) ^ n) / 8. • a(2n) = n ^ 2 - 1. a(2n + 1) = n(n + 1). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) with n>=4. • a(n) = a(- n) for all n in Z. a(0) = - 1. - _ Michael Somos _ , Jan 09 2015 •

[A035106] • 1,2,3,6,8,12,15,20,24,30,35,42,48,56,63,72,80,90,99,110,120,132,143,156,168 ⋆ 1, together with numbers of the form 1 or k*(k+1) or k*(k+2), k>0. • a(n + 2) = (2 * n ^ 2 + 12 * n + 3 * (- 1) ^ n + 13) / 8, i.e., a(n + 2) = (n + 2) * (n + 4) / 4 if n is even and (n + 1) * (n + 5) / 4 if n is odd. - _ Vladeta Jovovic _ , Oct 23 2001 • a(1)=1, a(2)=2, a(3)=3, a(4)=6, a(5)=8; for n>5, a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , May 03 2012 • a(n) = floor(n / 2) * (1 + ceiling(n / 2)), a(1) = 1. - _ Arkadiusz Wesolowski _ , Sep 25 2012 • a(n) = ceil((n - 1)(n + 3) / 4), n > 1. - _ Wesley Ivan Hurt _ , Jun 14 2013 •

[A049194] • 1,2,3,6,8,12,18,27,39,58,85,125,183,269,394,578,847,1242,1820,2668,3910,5731,8399,12310,18041 ⋆ Number of digits in n-th term of A001387. • a(n) = (8 / 9 + (1 / 18) * (748 - 36 * sqrt(93)) ^ (1 / 3) + (1 / 18) * (748 + 36 * sqrt(93)) ^ (1 / 3)) * (1 / 3 + (1 / 6) * (116 - 12 * sqrt(93)) ^ (1 / 3) + (1 / 6) * (116 + 12 * sqrt(93)) ^ (1 / 3)) ^ n •

[A003405] • 1,1,2,3,6,8,13,19,30,41,59,80,113,149,202,264,350,447,578,730,928,1155,1444,1777,2193 ⋆ G.f.: (1+x^4+x^7+2*x^8+x^9+x^12+x^16)/Prod_{i=1..8} (1-x^i). • a(n) = p(n,8) + p(n - 4,8) + p(n - 7,8) + 2p(n - 8,8) + p(n - 9,8) + p(n - 12,8) + p(n - 16,8) where p(n,k) is the number of partitions of n into at most k parts. - _ Sean A. Irvine _ , Apr 22 2015 •

[A133586] • 1,2,3,6,8,16,21,42,55,110,144,288,377,754,987,1974,2584,5168,6765,13530,17711,35422,46368,92736,121393 ⋆ Expansion of x*(1+2*x)/((x^2-x-1)*(x^2+x-1)). • a(n) = (2 ^ (- 2 - n) * ((1 - sqrt(5)) ^ n * (- 5 + sqrt(5)) - (- 1 - sqrt(5)) ^ n * (- 3 + sqrt(5)) - (- 1 + sqrt(5)) ^ n * (3 + sqrt(5)) + (1 + sqrt(5)) ^ n * (5 + sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Mar 28 2016 •

[A047404] • 1,2,3,6,9,10,11,14,17,18,19,22,25,26,27,30,33,34,35,38,41,42,43,46,49 ⋆ Numbers that are congruent to {1, 2, 3, 6} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (4 * n - 4 + i ^ (1 - n) - i ^ (1 + n)) / 2 where i = sqrt(- 1). •

[A047284] • 2,3,6,9,10,13,16,17,20,23,24,27,30,31,34,37,38,41,44,45,48,51,52,55,58 ⋆ Numbers that are congruent to {2, 3, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 9 + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 5. (End) •

[A007780] • 1,2,3,6,9,11,18,20,27,30,54,81,162,168,243,486,729,1458,2187,4374,6561,13122,19683,39366,59049 ⋆ Losing initial configurations in 2-hole Tchuka Ruma. • a(n) = 3 * a(n - 2) for n>2. •

[A077121] • 1,2,3,6,9,12,15,19,23,28,32,37,42,47,53,59,65,71,77,83,90,97,104,111,118 ⋆ Number of integer squares <= n^3. • a(n) = floor(n ^ (3 / 2)) + 1. •

[A008810] • 0,1,2,3,6,9,12,17,22,27,34,41,48,57,66,75,86,97,108,121,134,147,162,177,192 ⋆ a(n) = ceiling(n^2 / 3). • a(- n) = a(n) = ceiling(n ^ 2 / 3). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5), n>4. - _ Harvey P. Dale _ , Jun 20 2011 •

[A144677] • 1,2,3,6,9,12,18,24,30,40,50,60,75,90,105,126,147,168,196,224,252,288,324,360,405 ⋆ Related to enumeration of quantum states (see reference for precise definition). • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). • a(n) = ((2 + floor(n / 3)) ^ 3 - floor((n + 4) / 3) + floor((n + 4) / 3) ^ 3 - floor((n + 5) / 3) + floor((n + 5) / 3) ^ 3 - floor((n + 6) / 3)) / 6. (End) •

[A008823] • 1,2,3,6,9,14,19,24,31,38,47,56,65,76,87,100,113,126,141,156,173,190,207,226,245 ⋆ Expansion of (1+2*x^3+x^5)/(1-x)^2/(1-x^5). • a(n) = floor(n * (2 * n + 3) / 5) + 1. - _ Tani Akinari _ , Jun 15 2014 • a(0)=1, a(1)=2, a(2)=3, a(3)=6, a(4)=9, a(5)=14, a(6)=19, a(n)= 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jan 02 2016 •

[A261243] • 1,1,2,3,6,9,14,19,26,33,42,51,62,73,86,99,114,129,146,163,182,201,222,243,266 ⋆ Row lengths of the irregular triangles A258643 and A261242: maximal number of 0-islands (holes) of certain bisymmetric n X n matrices with 0 or 1 entries only. • a(n) = ceiling(((n - 2) ^ 2) / 2) + 1, n >= 2, a(1) = 1. • a(n) = (1 / 2) * (n - 2) ^ 2 + 1 if n is even, a(n) = (ceiling((n - 2) / 2)) ^ 2 + (floor((n - 2) / 2)) ^ 2 + 1 if n is odd >= 3, and a(1) = 1. •

[A061925] • 1,2,3,6,9,14,19,26,33,42,51,62,73,86,99,114,129,146,163,182,201,222,243,266,289 ⋆ a(n) = ceiling(n^2/2) + 1. • a(n) = floor((n ^ 2 + 3) / 2). - _ Gary Detlefs _ , Feb 13 2010 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (2 * n ^ 2 - (- 1) ^ n + 5) / 4. - _ Bruno Berselli _ , Sep 29 2011 •

[A073736] • 1,2,3,6,9,14,19,26,33,42,55,64,79,96,107,126,149,166,187,216,237,260,295,320,349 ⋆ Sum of primes whose index is congruent to n (mod 3); equals the partial sums of A073737 (in which sums of three successive terms form the primes). • a(n) = Sum _{ m<=n, m=n (mod 3) } p _ m, where p _ m is the m - th prime; that is, a(3n + k) = p _ (3n) + p _ (3(n - 1)) + p _ (3(n - 2)) + ... + p _ k, for 0<=k<3, where a(0)=1 and the 0th prime is taken to be 1. •

[A084628] • 1,2,3,6,9,14,20,28,39,52,68,87,110,138,171,209,253,303,361,427,501,585,678,783,899 ⋆ Floor(C(n+7,7)/C(n+3,3)). • a(n)=floor(n ^ 4 / 840 + 11n ^ 3 / 420 + 179n ^ 2 / 840 + 319n / 420) + 1 •

[A228364] • 0,0,1,2,3,6,9,14,22,32,48,70,101,146,208,296,419,590,829,1160,1619,2254,3130,4338,6000 ⋆ The number of 2-length segments in all possible covers

of L-length line by these segments with allowed gaps < 2. • a(0)=a(1)=0, a(2)=1, a(3)=2, a(4)=3, a(5)=6; for n>5, a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 2 * a(n - 5) - a(n - 6). •

[A018060] • 1,1,2,3,6,9,14,23,36,56,88,138,216,338,529,828,1296,2028,3174,4968,7776,12170,19047,29810,46656 ★ Powers of fourth root of 6 rounded down. • a(n) = floor(6 ^ (n / 4)). - _ Wesley Ivan Hurt _ , Aug 28 2015 •

[A080239] • 1,1,2,3,6,9,15,24,40,64,104,168,273,441,714,1155,1870,3025,4895,7920,12816,20736,33552,54288,87841 ★ Antidiagonal sums of triangle A035317. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 5) - a(n - 6). • a(n) = Sum _{ j=0..floor(n / 2) } Sum _{ k=0..floor((n - j) / 2) } binomial(n - j - 2k, j - 2k } for n>=0. • a(n) = 8 * a(n - 4) - 8 * a(n - 8) + a(n - 12), n>12. - _ Gary Detlefs _ , Dec 10 2010 • a(n) = Sum _{ k=0..floor((n - 1) / 4) } Fibonacci(n - 4 * k). - _ Johannes W. Meijer _ , Apr 19 2012 •

[A114323] • 1,2,3,6,9,15,25,39,63,99,158,251,398,630,999,1584,2511,3981,6309,9999,15848,25118,39810,63095,99999 ★ Largest number whose 5th power has n digits. • a(n) = ceiling((10 ^ n) ^ (1 / 5)) - 1. •

[A293631] • 0,0,1,2,3,6,9,15,25,41,66,108,174,282,457,740,1197,1938,3135,5073,8209,13283,21492,34776,56268 ★ Greatest integer k such that k/Fibonacci(n) <= 3/4. • a(n) = a(n - 1) + a(n - 2) + a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. • a(n) = floor(3 * Fibonacci(n) / 4). •

[A018158] • 1,2,3,6,9,15,26,45,77,131,225,387,665,1143,1964,3375,5801,9971,17137,29455,50625,87013,149556,257052,441813 ★ Powers of fifth root of 15 rounded up. • a(n) = ceiling(15 ^ (n / 5)). - _ Wesley Ivan Hurt _ , Dec 28 2013 •

[A062114] • 0,1,2,3,6,9,16,25,42,67,110,177,288,465,754,1219,1974,3193,5168,8361,13530,21891,35422,57313,92736 ★ a(n) = 2*Fibonacci(n) - [1 - (-1)^n]/2. • a(n + 1)=sum(k=0, n, binomial(n - floor(k / 2), floor(k / 2))) - _ Benoit Cloitre _ , May 05 2005 • a(n)=(1 / 2) * [(- 1) ^ n - 1] + (2 / 5) * sqrt(5) *{ [(1 / 2) + (1 / 2) * sqrt(5)] ^ n - [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Jan 13 2009] • a(n)=a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4), n>3[From Harvey P. Dale, Nov 02 2011] •

[A275548] • 1,1,2,3,6,9,16,25,43,68,113,181,298,479,781,1260,2048,3308,5364,8672,14048,22720,36782,59502,96305 ★ Number of compositions of n if only the order of the odd numbers matter. • a(2k) = p(k) + Sum _{ j=0..(k - 1) } p(j) * F(2k - 2j). • a(2k + 1) = a(2k) + a(2k - 1). • a(2k) = a(2k - 1) + a(2k - 2) + p(k) - p(k - 1). •

[A260710] • 1,1,2,3,6,9,16,25,43,69,116,188,313,511,846,1386,2288,3756,6191,10174,16756,27552,45357,74604,122787 ★ Expansion of 1/(1 - x - x^2 - x^4 + x^5 + x^7). • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 5) - a(n - 7). •

[A056768] • 1,1,2,3,6,9,17,23,40,87,111,219,336,413,614,1083,1850,2198,3630,5007,5861,9282,12488,19232,33439 ★ Number of partitions of the n-th prime into prime parts. • a(n) = [x ^ prime(n)] Product _{ k>=1 } 1 / (1 - x ^ prime(k)). - _ Ilya Gutkovskiy _ , Jun 05 2017 •

[A079289] • 1,1,2,3,6,9,17,26,47,73,128,201,345,546,923,1469,2456,3925,6509,10434,17199,27633,45344,72977,119345 ★ For even n, a(n) = a(n-2) + a(n-1) + 2^(n/2-2), n>2. For odd n, a(n) = a(n-2) + a(n-1). • a(n) = a(n - 2) + a(n - 1) + floor(2 ^ (n / 2 - 2)) * (1 - (- 1) ^ (n + 1)) / 2 for n>1. •

[A182522] • 1,1,2,3,6,9,18,27,54,81,162,243,486,729,1458,2187,4374,6561,13122,19683,39366,59049,118098,177147,354294 ★ a(0) = 1; thereafter a(2*n + 1) = 3^n, a(2*n + 2) = 2 * 3^n. • a(n) = (3 - (1 + (- 1) ^ n) * (3 - 2 * sqrt(3)) / 2) * sqrt(3) ^ (n - 3) for n>0, a(0)=1. - _ Bruno Berselli _ , Mar 19 2013 • a(0) = 1, a(1) = 1, a(n) = a(n - 1) + a(n - 2) if n is odd, and a(n) = a(n - 1) + a(n - 2) + a(n - 3) if n is even. - _ Jon Perry _ , Mar 19 2013 •

[A038754] • 1,2,3,6,9,18,27,54,81,162,243,486,729,1458,2187,4374,6561,13122,19683,39366,59049,118098,177147,354294,531441 ★ a(2n) = 3^n, a(2n+1) = 2*3^n. • a(n) = a(n - 1) * a(n - 2) / a(n - 3) with a(0)=1, a(1)=2, a(2)=3. • a(2n) = (3 / 2) * a(2n - 1) = 3 ^ n, a(2n + 1) = 2 * a(2n) = 2 * 3 ^ n. • a(1)=1, a(n)=2 * a(n - 1) if a(n - 1) is odd, or a(n)=3 / 2 * a(n - 1) if a(n - 1) is even. - _ Benoit Cloitre _ , Apr 27 2003 • a(n) = (1 / 6) * (5 - (- 1) ^ n) * 3 ^ floor(n / 2); a(2n) = a(2n - 1) + a(2n - 2) + a(2n - 3); a(2n + 1) = a(2n) + a(2n - 1). - _ Benoit Cloitre _ , Apr 27 2003 • a(n) = sqrt(3)(2 + sqrt(3))(sqrt(3)) ^ n / 6 - sqrt(3)(2 - sqrt(3))(- sqrt(3)) ^ n / 6. - _ Paul Barry _ , Sep 16 2003 • a(n + 1) = a(n) + a(n - n mod 2). - _ Reinhard Zumkeller _ , May 26 2008 •

[A095718] • 1,2,3,6,9,18,30,56,101,186,339,630,1167,2182,4092,7710,14561,27594,52425,99862,190647,364722,699045,1342176,2581107 ★ Sum(floor(C(n,k)/(k+1)), k=0..n) • a(n) = sum(floor(C(n, k) / (k + 1)), k=0..n) •

[A161704] • 1,2,3,6,9,18,59,190,513,1186,2435,4566,7977,13170,20763,31502,46273,66114,92227,125990,168969,222930,289851,371934,471617 ★ a(n) = (3*n^5 - 35*n^4 + 145*n^3 - 235*n^2 + 152*n + 30)/30. • a(n) = C(n,0) + C(n,1) + 2 * C(n,3) - 4 * C(n,4) + 12 * C(n,5). •

[A193196] • 1,1,2,3,6,9,19,29,57,94,172,280,519,833,1472,2433,4185,6800,11666,18816,31686,51340,84929,136561,225476 ★ G.f.: A(x) = Sum_{n>=0} x^n / Product_{k=1..n} (1 - k*x^k). • a(n) = sum(prod(j=2..m, min(C[j - 1], C[j]))) where the sum is over all partitions C[1..m] (m parts) of n, see example. - _ Joerg Arndt _ , Sep 03 2014 •

[A286954] • 0,2,3,6,10,11,14,14,30,62,66,99,143,212,343,478,697,992,1501,2246,3251,4776,6969,10283,15210 ★ Number of maximal irredundant sets in the n-cycle graph. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5) - a(n - 7) - 2 * a(n - 8) - a(n - 9) + 2 * a(n - 10) + a(n - 11) - a(n - 14) for n > 14. •

[A047402] • 2,3,6,10,11,14,18,19,22,26,27,30,34,35,38,42,43,46,50,51,54,58,59,62,66 ★ Numbers that are congruent to {2, 3, 6} mod 8. • a(n) = a(n - 3) + 8. - Herman Jamke (hermanjamke(AT)fastmail.fm), Sep 14 2006 • a(n) = 1 + 2 * [- 1 / 2 - (1 / 2) * I * sqrt(3)] ^ (- 2) * [- 1 / 2 - (1 / 2) * I * sqrt(3)) ^ (n - 1) + 2 * [- 1 / 2 + (1 / 2) * I * sqrt(3)] ^ (- 2) * [- 1 / 2 + (1 / 2) * I * sqrt(3)] ^ (n - 1) + (8 / 3) * (n - 1) - (4 / 9) * I * sqrt(3) * [- 1 / 2 + (1 / 2) * I * sqrt(3)] ^ (n - 1) + 2 * [- 1 / 2 - (1 / 2) * I * sqrt(3)] ^ (n - 1) + 2 * [- 1 / 2 + (1 / 2) * I * sqrt(3)] ^ (n - 1) + (4 / 9) * I * sqrt(3) * [- 1 / 2 - (1 / 2) * I * sqrt(3)] ^ (n - 1) + [- 1 / 2 - (1 / 2) * I * sqrt(3)] ^ (- 1) * [- 1 / 2 - (1 / 2) * I * sqrt(3)] ^ (n - 1) + [- 1 / 2 + (1 / 2) * I * sqrt(3)] ^ (- 1) * [- 1 / 2 + (1 / 2) * I * sqrt(3)] ^ (n - 1), for n>=1 where I=sqrt(- 1). - _ Paolo P. Lava _ , Oct 01 2008 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 15 - 3 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 6. (End) •

[A001635] • 0,2,3,6,10,11,21,30,48,72,110,171,260,401,613,942,1445,2216,3401,5216,8004,12278,18837,28899,44335 ★ A Fielder sequence: a(n) = a(n-1) + a(n-2) - a(n-6), n >= 7. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5), n >= 6. • a(n) = Sum _{ k=0..n } C(2 * n + 1, 2 * k + 1) * 2 ^ k. - Pat Costello (pat.costello(AT)eku.edu), May 20 2003 •

[A140785] • 2,3,6,10,12,15,18,20,28,30,35,40,42,45,49,56,60,63,70,72,77,80,84,90,100 ★ a(n) = the single integer k, where p(n) <= k <= p(n+1), that is divisible by (p(n+1)-p(n)+1), where p(n) is the n-th prime. • a(n) = (p(n + 1) - p(n) + 1) * floor(p(n + 1) / (p(n + 1) - p(n) + 1)), where p(n) is the n - th prime. •

[A102366] • 1,1,2,3,6,10,15,21,28,84,120,165,220,286,364,455,1820,2380,3060,3876,4845,5985,7315,8855,10626 ★ Number of subsets of {1,2,...,n} in which exactly half of the elements are less than or equal to sqrt(n). • a(n) = binomial(n, floor(sqrt(n))). [From Paul D. Hanna, Jun 25 2011] •

[A269403] • 0,2,3,6,10,16,21,28,36,46,55,66,78,92,105,120,136,154,171,190,210,232,253,276,300 ★ Expansion of x*(2 - x + 2*x^2 + x^3)/((1 - x)^3*(1 + x + x^2 + x^3)). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6). • a(n) = (2 * n ^ 2 + 2 * n + 2 * sin((Pi * n) / 2) - (- 1) ^ n + 1) / 4. •

[A001636] • 0,2,3,6,10,17,21,38,57,92,143,225,351,555,868,1366,2142,3365,5282,8296,13023,20451,32108,50417,79160 ★ A Fielder sequence: a(n) = a(n-1) + a(n-2) - a(n-7), n >= 8. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5) + a(n - 6), n >= 7. •

[A099517] • 1,1,2,3,6,10,17,27,44,71,116,188,305,493,798,1291,2090,3382,5473,8855,14328,23183,37512,60696,98209 ★ A transform of (1-x)/(1-2x). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + 2 * a(n - 4) - a(n - 6). • a(n) = sum { k=0..floor(n / 3), binomial(n - 2 * k, k) * (- 1) ^ k * (2 ^ (n - 3 * k) + 0 ^ (n - 3 * k)) / 2 } . •

[A001610] • 0,2,3,6,10,17,28,46,75,122,198,321,520,842,1363,2206,3570,5777,9348,15126,24475,39602,64078,103681,167760 ★ a(n) = a(n-1) + a(n-2) + 1. • a(n) = F(n) + F(n + 2) - 1 where F(n) is the n - th Fibonacci number. - _ Zervinary Lajos _ , Jan 31 2008 • a(n) = - 1 + (1 / 2) * (1 / 2 + (1 / 2) * sqrt(5)) ^ n + (1 / 2) * (1 / 2 + (1 / 2) * sqrt(5)) ^ n * sqrt(5) - (1 / 2) * sqrt(5) * (1 / 2 - (1 / 2) * sqrt(5)) ^ n + (1 / 2) * (1 / 2 - (1 / 2) * sqrt(5)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Sep 29 2008 • a(n) = Sum _{ i=1..floor((n + 1) / 2) } ((n + 1) / i) * C(n - i,i - 1). In more general case of polynomials Q _ n(x)=a(n,x) (see our comment) we have Q _ n(x) = Sum _{ i=1..floor((n + 1) / 2) } ((n + 1) / i) * C(n - i,i - 1) * x ^ (i - 1). - _ Vladimir Shevelev _ , Apr 23 2010 • a(0)=0, a(1)=2, a(2)=3; for n>=3, a(n) = 2 * a(n - 1) - a(n - 3). - _ George F. Johnson _ , Jan 28 2013 •

[A245437] • 0,0,0,0,0,1,1,2,3,6,10,17,29,50,86,147,252,432,741,1270,2177,3732,6398,10968,18802 ★ Expansion of x^5/(x^6-x^4-x^2-x+1). • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6) for n>5. •

[A123908] • 1,1,2,3,6,10,17,30,52,90,156,271,470,815,1414,2453,4255,7381,12804,22211,38529,66836,115940,201120,348881 ★ Number of sequences with terms 1, 2 or 3 summing to n with no three consecutive 1's. • a(n) = a(n - 2) + 2a(n - 3) + 2a(n - 4) + a(n - 5) •

[A121364] • 0,0,1,2,3,6,10,18,29,50,81,136,220,364,589,966,1563,2550,4126,6710,10857,17622,28513,46224,74792 ★ Convolution of A066983 with the double Fibonacci sequence A103609. • a(n) = F(n) - D(n + 1), where F is the Fibonacci sequence (A000045) and D is "A double Fibonacci sequence" (A103609). •

[A215006] • 0,1,2,3,6,10,18,30,51,84,139,227,371,603,980,1589,2576,4172,6756,10936,17701,28646,46357,75013,121381 ★ a(0)=0, a(n+1) is the least k>a(n) such that k+a(n)+n+1 is a Fibonacci number. • a(n) = a(n - 1) + a(n - 2) + floor(n / 2) - 1 with n>1, a(0)=0, a(1)=1. •

[A172516] • 2,3,6,10,18,30,60,108,180,360,720,1260,2520,5040,9240,17640,35280,65520,131040,257040,498960,982800,1884960,3603600,7207200 ★ Least number k such that sigma(k) >= 2^n. • a(n) <= 2 * a(n - 1) •

[A102702] • 2,3,6,10,18,31,54,93,160,274,468,797,1354,2295,3882,6554,11046,18587,31230,52401,87812,146978,245736,410425,684818 ★ G.f. (2-x-2*x^2-x^3)/(x^4+2*x^2-2*x+1). • a(0)=2, a(1)=3, a(2)=6, a(3)=10, a(n)=2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Apr 21 2014 •

[A181532] • 0,1,1,2,3,6,10,18,31,55,96,169,296,520,912,1601,2809,4930,8651,15182,26642,46754,82047,143983,252672 ★ a(0) = 0, a(1) = 1, a(2) = 1; a(n) = a(n-1) + a(n-2) + a(n-4) • a(0) = 0, a(1) = 1, a(2) = 1; a(n) = a(n - 1) + a(n - 2) + a(n - 4). •

[A060945] • 1,1,2,3,6,10,18,31,55,96,169,296,520,912,1601,2809,4930,8651,15182,26642,46754,82047,143983,252672,443409 ★ Number of compositions (ordered partitions) of n into 1's, 2's and 4's. • a(n) = a(n - 1) + a(n - 2) + a(n - 4). • a(n) = Sum _{ k=0..floor(n / 2) } sum _{ i=0..n - k } C(i, n - k - i) * C(2 * i - n + k, 3 * k - 2 * n + 2 * i). - _ Paul Barry _ , Oct 24 2005 •

[A023359] • 1,1,2,3,6,10,18,31,56,98,174,306,542,956,1690,2983,5272,9310,16448,29050,51318,90644,160118,282826,499590 ★ Number of compositions (ordered partitions) of n into powers of 2. • a(n) = (n=0) + sum(a(n - 2 ^ k), k =0...) - _ Len Smiley _ , May 07 2001 • a(n) seems to be asymptotic to A *

B ^ n where A=0.332198... B=1.766398... - _ Benoit Cloitre _ , Dec 17 2002. More accurately: B=1.766398114550173597228488392440099730232069287957072775278285074408384 34..., A=0.586793745293511448450132082941622591988244012501947136085553482783597 75... - _ Vaclav Kotesovec _ , Apr 30 2014 •

[A089985] • 2,3,6,10,18,34,66,130,258,514,1026,2050,4098,8194,16386,32770,65538,131074,262146,524290,1048578,2097154,4194306,8388610,16777218 ★ a(n)=Antisymmetrizing the Dirichlet kernel of order n. • a(n) = 2 ^ (n - 1) + 2, n>2. •

[A079959] • 1,1,2,3,6,10,19,33,60,106,191,340,610,1089,1950,3485,6236,11150,19946,35670,63802,114107,204091,365018,652857 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={2,4}. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + a(n - 6) G.f.: - 1 / (x ^ 6 + x ^ 4 + x ^ 2 + x - 1) •

[A028495] • 1,1,2,3,6,10,19,33,61,108,197,352,638,1145,2069,3721,6714,12087,21794,39254,70755,127469,229725,413908,745889 ★ Expansion of (1-x^2)/(1-x-2*x^2+x^3). • a(n) = sum(1 / 7 * (1 + 2 *_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(_ Z ^ 3 - 2 *_ Z ^ 2 -_ Z + 1)). • a(n) = a(n - 1) + sum(a(n - 2k), k=1..floor(n / 2)). - _ Floor van Lamoen _ , Oct 29 2005 • a(n) = 5 * a(n - 2) - 6 * a(n - 4) + a(n - 6). - _ Floor van Lamoen _ , Nov 02 2005 •

[A191519] • 1,1,2,3,6,10,19,33,62,110,205,368,683,1235,2286,4153,7674,13986,25813,47150,86949,159077,293176,537014,989267 ★ Number of dispersed Dyck paths of semilength n (i.e., Motzkin paths of length n with no (1,0)-steps at positive heights) having no UUU's (U=(1,1)). • a(n - 1)=sum(m=floor((n + 1) / 2)..n, ((2 * m - n) * sum(j=0..m, binomial(j,n + 2 * j - 3 * m) * binomial(m,j))) / m). [_ Vladimir Kruchinin _ , Mar 09 2013] •

[A050291] • 2,3,6,10,20,30,60,96,192,288,576,960,1920,2880,5760,9360,18720,28080,56160,93600,187200,280800,561600,898560,1797120 ★ Number of double-free subsets of {1, 2, ..., n}. • a(n) = a(n - 1) * Fib(b(2n) + 2) / Fib(b(2n) + 1), Fib = A000045, b = A007814. •

[A214002] • 1,1,2,3,6,10,20,31,65,101,216,336,728,1128,2472,3823,8451,13051,29050,44803,100298,154518,347568,534964,1208220 ★ Number of compositions of n into ceiling(n/2) parts with 1 <= each part <=4. • a(n) = sum((- 1) ^ h * binomial(n - 4 * h - 1, ceiling(n / 2) - 1) * binomial(ceiling(n / 2), h), h=0..floor((n - 1) / 4)). •

[A030436] • 1,1,2,3,6,10,20,34,68,116,232,396,792,1352,2704,4616,9232,15760,31520,53808,107616,183712,367424,627232,1254464 ★ Expansion of (1+x-2*x^2-x^3)/(1-4*x^2+2*x^4). • a(0)=a(1)=1, a(2)=2, a(3)=3, a(n)=4 * a(n - 2) - 2 * a(n - 4). - _ Harvey P. Dale _ , May 11 2011 • a(n) = (2 + sqrt(2 + sqrt(2))) / 8 * (sqrt(2 + sqrt(2))) ^ n + (2 - sqrt(2 + sqrt(2))) / 8 * (- sqrt(2 + sqrt(2))) ^ n + (2 + sqrt(2 - sqrt(2))) / 8 * (sqrt(2 - sqrt(2))) ^ n + (2 - sqrt(2 - sqrt(2))) / 8 * (- sqrt(2 - sqrt(2))) ^ n. - _ Sergei N. Gladkovskii _ , Aug 23 2012 •

[A061551] • 1,1,2,3,6,10,20,35,69,124,241,440,846,1560,2977,5525,10490,19551,36994,69142,130532,244419,460737,863788,1626629 ★ Number of paths along a corridor width 8, starting from one side. • a(n) = sum(b(n,i)) where b(n,0) = b(n,9) = 0, b(0,1)=1, b(0, n)=0 if n!=1 and b(n,i) = b(n - 1,i) + b(n + 1,i) if 0 < n < 9. • a(n) = 7 * a(n - 2) - 15 * a(n - 4) + 10 * a(n - 6) - a(n - 8). (End) • a(n) = a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4), for n > 3, with { a(k) } = { 1,1,2,3 } , k=0,1,2,3. - _ L. Edson Jeffery _ , Mar 18 2011 •

[A178381] • 1,1,2,3,6,10,20,35,70,125,250,450,900,1625,3250,5875,11750,21250,42500,76875,153750,278125,556250,1006250,2012500 ★ Number of paths of length n starting at initial node of the path graph P_9. • a(n) =5 * a(n - 2) - 5 * a(n - 4) for n>=5 with a(0)=1, a(1)=1, a(2)=2, a(3)=3 and a(4)=6. •

[A037031] • 1,2,3,6,10,20,35,70,126,210,462,792,1716,3003,5005,8008,19448,31824,75582,125970,203490,319770,817190,1307504,2042975 ★ Number of combinations of n objects taken pi(n) at a time. • a(n) = C(n, pi(n)). •

[A210736] • 1,1,1,2,3,6,10,20,35,70,126,252,462,924,1716,3432,6435,12870,24310,48620,92378,184756,352716,705432,1352078 ★ Expansion of (1 + sqrt((1 + 2*x) / (1 - 2*x))) / 2 in powers of x. • a(n) = (- 1) ^ floor(n / 2) * hypergeom2F1([1 - n, - n],[1], - 1). - _ Peter Luschny _ , Sep 01 2012 •

[A001405] • 1,1,2,3,6,10,20,35,70,126,252,462,924,1716,3432,6435,12870,24310,48620,92378,184756,352716,705432,1352078,2704156 ★ a(n) = binomial(n, floor(n/2)). • a(n) = max C(n, k), 1 <= k <= n. • a(0) = 1; a(2 * m + 2) = 2 * a(2 * m + 1); a(2 * m + 1) = Sum _{ k = 0..2 * m } (- 1) ^ k * a(k) * a(2m - k). - _ Len Smiley _ , Dec 09 2001 • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, k) * binomial(1, n - 2k). - _ Paul Barry _ , May 13 2005 • a(n) = Sum _{ k=0..floor((n + 1) / 2) } (binomial(n + 1, k)(cos((n - 2 * k + 1) * Pi / 2) + sin((n - 2 * k + 1) * Pi / 2))); • a(n) = Sum _{ k=0..n + 1 } , (binomial(n + 1, (n - k + 1) / 2) * (1 - (- 1) ^ (n - k)) * (cos(k * Pi / 2) + sin(k * Pi)) / 2). (End) • a(n) = Sum _{ k=floor(n / 2)..n } (binomial(n,n - k) - binomial(n,n - k - 1)). - _ Paul Barry _ , Sep 06 2007 •

[A036557] • 1,1,2,3,6,10,20,35,70,126,252,463,926,1730,3460,6555,13110,25126,50252,97223,194446,379050,758100,1486675,2973350 ★ Number of multiples of 3 in 0..2^n-1 with an even sum of base 2 bits. • a(n) = (1 / 12) *{ 3 ^ [(n + 1) / 2] + 3 ^ [(n + 2) / 2] + 2 ^ (n + 1) + (- 1) ^ n + 3 } , n>0. •

[A173125] • 1,1,2,3,6,10,20,35,70,127,254,474,948,1807,3614,6995,13990,27370,54740,107883,215766,427351,854702,1698458,3396916 ★ Sum_{k=floor[n/2] mod 5} C(n,k). • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + 2 * a(n - 5). - _ Colin Barker _ , Sep 14 2014 •

[A005418] • 1,2,3,6,10,20,36,72,136,272,528,1056,2080,4160,8256,16512,32896,65792,131328,262656,524800,1049600,2098176,4196352,8390656 ★ Number of (n-1) bead black-white reversible strings; also binary grids; also row sums of Losanitsch's triangle A034851; also number of caterpillar graphs on n nodes. • a(n) = 2 ^ (n - 2) + 2 ^ ([n / 2] - 1). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) - _ Jaume Oliver Lafont _ , Dec 05 2008 • a(2 * n) = 2 * a(2 * n - 1) and a(2 * n + 1) = a(2 * n) + 4 ^ (n - 1) with a(1) = 1. - _ Johannes W. Meijer _ , Aug 26 2013 •

[A045690] • 1,1,2,3,6,10,20,37,74,142,284,558,1116,2212,4424,8811,17622,35170,70340,140538,281076,561868,1123736,2246914,4493828 ★ Number of binary words of length n (beginning with 0) whose autocorrelation function is the indicator function of 0. • a(2n) = 2 * a(2n - 1) - a(n) for n >= 1; a(2n + 1) = 2 * a(2n) for n >= 1. •

[A007148] • 1,2,3,6,10,20,37,74,143,284,559,1114,2206,4394,8740,17418,34696,69194,137971,275280,549258,1096286,2188333,4369162,8724154 ★ Number of self-complementary 2-colored bracelets (turn over necklaces) with 2n beads. • a(n) = 2 ^ (n - 2) + (1 / (4n)) * Sum _{ d|n } phi(2d) * 2 ^ (n / d). - _ N. J. A. Sloane _ , Sep 25 2012 •

[A215067] • 1,1,1,2,3,6,10,21,37,80,146,322,602,1347,2563,5798,11181,25512,49720,114236,224540,518848,1027038,2384538,4748042 ★ Number of Motzkin n-paths avoiding odd-numbered steps that are up steps. • a(2 * n) = Sum _{ k=0..n } binomial(n + k - 1,n - k) * binomial(n,k) / (n - k + 1); • a(2 * n + 1) = Sum _{ k=0..n } binomial(n + k + 1,n - k) * binomial(n,k) / (n - k + 1). • a(n) = 3 _ F _ 2([- r,1 - r - 2 * m,1 + r + m],[(3 - m) / 2,(4 - m) / 2],1 / 4) * r ^ (1 - m) for n>0 where m = n mod 2 and r = floor(n / 2). - _ Peter Luschny _ , Aug 03 2012 •

[A242563] • 0,0,2,3,6,10,21,42,86,171,342,682,1365,2730,5462,10923,21846,43690,87381,174762,349526,699051,1398102,2796202,5592405 ★ a(n) = 2*a(n-1) - a(n-3) + 2*a(n-4), a(0)=a(1)=0, a(2)=2, a(3)=3. • a(n + 3) = 3 * 2 ^ n - a(n), a(0)=a(1)=0, a(2)=2. • a(n + 1) = 2 * a(n) + period 6: repeat 0, 2, - 1, 0, - 2, 1. a(0)=0. • a(n + 6) = a(n) + 21 * 2 ^ n, a(0)=a(1)=0, a(2)=2, a(3)=3, a(4)=6, a(5)=10. • a(n) = 1 / 3 * ((- 1) ^ n - 2 * cos((n * Pi) / 3) + 2 ^ n). - _ Alexander R. Povolotsky _ , Jun 02 2014 •

[A137208] • 2,3,6,10,22,38,86,150,342,598,1366,2390,5462,9558,21846,38230,87382,152918,349526,611670,1398102,2446678,5592406,9786710,22369622 ★ a(n) = a(n-1) + 4*a(n-2) - 4*a(n-3) for n > 2; a(0)=2, a(1)=3, a(2)=6. • a(n) = (2 / 3) + (5 / 4) * 2 ^ n + (1 / 12) * (- 2) ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 09 2008 •

[A218155] • 2,3,6,11,14,15,18,23,26,27,30,35,38,39,42,47,50,51,54,59,62,63,66,71,74 ★ Curvatures of tangents circle in circle of curvature -1-1. • a(n) = 2a(n - 1) - 2a(n - 2) + 2a(n - 3) - a(n - 4). - _ Charles R Greathouse IV _ , Nov 09 2012 • a(n)= { m>1|C(m,4)==0 (mod C(m,2)) } . - _ Gary Detlefs _ , Jan 11 2014 •

[A076307] • 1,2,3,6,11,15,21,28,36,46,56,66,79,92,105,120,137,153,171,190,210,232,254,276,301 ★ a(n) = n+min(2*floor(a(n-1)/2), 3*floor(a(n-1)/3)) for n > 1, a(1)=1. • a(n) = n * (n - 1) / 2 + b(n) where b repeats the period (1, 1, 0, 1, 1, 0, 0, 0, 1, 1, 1, 0) of length 12. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 12) - 2 * a(n - 13) + a(n - 14). •

[A059100] • 2,3,6,11,18,27,38,51,66,83,102,123,146,171,198,227,258,291,326,363,402,443,486,531,578 ★ a(n) = n^2 + 2. • a(n) = ((n - 2) ^ 2 + 2 * (n + 1) ^ 2) / 3. - _ Reinhard Zumkeller _ , Feb 13 2009 • a(n) = 2 * n + a(n - 1) - 1 with a(0)=2. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A291725] • 2,3,6,11,18,30,50,81,130,208,330,520,816,1275,1984,3077,4758,7337,11286,17322,26532,40563,61908,94336,143540 ★ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = (1 - S)^2. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) for n >= 7. •

[A039827] • 1,2,3,6,11,19,26,34,44,54,65,77,90,104,119,135,152,170,189,209,230,252,275,299,324 ★ Number of different coefficient values in expansion of Product (1+q^i+q^(2i)), i=1 to n. • a(n) = n * (n + 1) / 2 - 1 for n >= 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 11. •

[A131269] • 1,2,3,6,11,20,35,60,101,168,277,454,741,1206,1959,3178,5151,8344,13511,21872,35401,57292,92713,150026,242761 ★ a(n) = 3*a(n-1) - 2*a(n-2) - a(n-3) + a(n-4) with n>3, a(0)=1, a(1)=2, a(2)=3, a(3)=6. • a(n) = a(n - 2) + a(n - 1) + n - 2 with n>1, a(0)=1, a(1)=2. [_ Alex Ratushnyak _ , May 02 2012] •

[A079976] • 1,1,2,3,6,11,20,36,65,118,214,388,703,1274,2309,4185,7585,13747,24915,45156,81841,148329,268832,487232,883061 ★ G.f.: 1/(1-x-x^2-x^4-x^5). • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + a(n - 5). •

[A186546] • 1,1,1,2,3,6,11,20,37,69,129,242,456,861,1635,3113,5946,11386,21854,42038,81019,156416,302460,585712,1135739 ★ Floor-Sqrt transform of Catalan numbers (A000108). • a(n) = floor(sqrt(binomial(2 * n,n) / (n + 1))) •

[A079969] • 1,1,2,3,6,11,21,38,70,128,236,434,799,1469,2702,4969,9140,16811,30921,56872,104604,192396,353872,650872,1197141 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={2}. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + a(n - 5) + a(n - 6) G.f.: - 1 / (x ^ 6 + x ^ 5 + x ^ 4 + x ^ 2 + x - 1) •

[A049856] • 0,0,1,1,2,3,6,11,21,39,73,136,254,474,885,1652,3084,5757,10747,20062,37451,69912,130509,243629,454797 ★ a(n) = Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. • a(n + 2) = Sum _{ i=0..n } F(i + 1) * C(n - i,i)) where F=A000045. - _ Benoit Cloitre _ , Sep 21 2004 •

[A113409] • 1,1,2,3,6,11,21,39,74,141,271,521,1004,1939,3756,7291,14176,27599,53805,105031,205268,401573,786328,1541037,3022528 ★ A transform of the central binomial coefficients A001405. • a(n) = Sum _{ k=0..floor(n / 2) } C(n - k, k) * C(k, floor(k / 2)). • a(n) = Sum _{ k=0..n } C((n + k) / 2, k) * C(floor((n - k) / 2), floor((n - k) / 4)). •

[A092684] • 1,1,2,3,6,11,21,39,74,141,272,527,1026,2002,3914,7659,14996,29369,57531,112727,220963,433342,850386,1670011,3282259 ★ First column and

main diagonal of triangle A092683, in which the convolution of each row with {1,1} produces a triangle that, when flattened, equals the flattened form of A092683. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k,k) * a(k). - _ Vladeta Jovovic _ , May 07 2006 •

[A123341] • 1,1,2,3,6,11,22,42,81,156,312,613,1226,2430,4818,9555,19110,38064,76128,151944,303275,605324,1210648,2418866,4832914 ⋆ a(1) = 1, a(n) = Sum_{k=1}^{Pi(n)} a(n-k) for n > 1, where Pi(n) is the number of primes less than or equal to n. • a(1) = a(2) = 1, for p an odd prime, a(p) = 2a(p - 1), otherwise a(n) = 2a(n - 1) - a(n - pi(n) - 1). •

[A002083] • 1,1,1,2,3,6,11,22,42,84,165,330,654,1308,2605,5210,10398,20796,41550,83100,166116,332232,664299,1328598,2656866 ⋆ Narayana-Zidek-Capell numbers: a(2n) = 2a(2n-1), a(2n+1) = 2a(2n) - a(n). • a(1)=1, else a(n) is sum of floor(n / 2) previous terms. • a(n) is the permanent of the (n - 1) X (n - 1) matrix with (i, j) entry = 1 if i - 1 <= j <= 2 * i - 1 and = 0 otherwise. - _ David Callan _ , Nov 02 2005 • a(n) = Sum _{ k=1..n } K(n - k + 1, k) * a(n - k), where K(n,k) = 1 if 0 <= k AND k <= n and K(n,k)=0 else. (Several arguments to the K - coefficient K(n,k) can lead to the same sequence. For example, we get A002083 also from a(n) = Sum _{ k=1..n } K((n - k)!,k!) * a(n - k), where K(n,k) = 1 if 0 <= k <= n and 0 else. See also the comment to a similar formula for A002487.) - _ Thomas Wieder _ , Jan 13 2008 •

[A005578] • 1,1,2,3,6,11,22,43,86,171,342,683,1366,2731,5462,10923,21846,43691,87382,174763,349526,699051,1398102,2796203,5592406 ⋆ a(2*n) = 2*a(2*n-1), a(2*n+1) = 2*a(2*n)-1. • a(n) = ceiling(2 ^ n / 3). • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). • a(n) = (2 ^ (n + 1) + 3 + (- 1) ^ n) / 6. - _ Vladeta Jovovic _ , Jul 02 2002 • a(n) = sum _{ k=0..n, (- 1) ^ k * sum { j=0..n - k, if(mod(j - k, 2)=0, binomial(n - k, j), 0 }} . - _ Paul Barry _ , Jan 25 2005 •

[A063895] • 1,1,1,1,2,3,6,11,22,43,88,179,372,774,1631,3448,7347,15713,33791,72923,158021,343495,749102,1638103,3591724 ⋆ Start with x, xy; then concatenate each word in turn with all preceding words, getting x xy xxy xxxy xyxxy xxxxy xyxxxy xxyxxxy ...; sequence gives number of words of length n. Also binary trees by degree: x (x,y) (x,(x,y)) (x,(x,(x,y))) ((x,y),(x,(x,y)))... • a(n) = (sum a(i) * a(j), i + j=n, i<j) + (if n=2k, (a(k) - 1) * a(k) / 2), n>2. a(1)=a(2)=1. •

[A192652] • 1,2,3,6,11,22,44,86,169,332,652,1280,2513,4932,9688,19040,37439,73658,144985,285530,562589,1108994,2187050,4314894,8516372 ⋆ Convolution of the Floor-Sqrt transform of Catalan numbers. • a(n) = sum(floor(sqrt(binomial(2 * k,k) / (k + 1))) * floor(sqrt(binomial(2 * n - 2 * k,n - k) / (n - k + 1))),k=0..n). •

[A007477] • 1,1,1,2,3,6,11,22,44,90,187,392,832,1778,3831,8304,18104,39666,87296,192896,427778,951808,2124135,4753476,10664458 ⋆ Shifts 2 places left when convolved with itself. • a(n) = sum(a(k) * a(n - 2 - k)), n>1. • a(n) = sum _{ k=0..n - 2 } binomial(2 * k + 2,n - k - 2) * binomial(n - k - 2,k) / (k + 1), n>1, a(0)=1, a(1)=1. - _ Vladimir Kruchinin _ , Nov 22 2014 •

[A001190] • 0,1,1,1,2,3,6,11,23,46,98,207,451,983,2179,4850,10905,24631,56011,127912,293547,676157,1563372,3626149,8436379 ⋆ Wedderburn-Etherington numbers: unlabeled binary rooted trees (every node has out-degree 0 or 2) with n endpoints (and 2n-1 nodes in all). • a(2n - 1) = a(1)a(2n - 2) + a(2)a(2n - 3) + ... + a(n - 1)a(n), a(2n) = a(1)a(2n - 1) + a(2)a(2n - 2) + ... + a(n - 1)a(n + 1) + a(n)(a(n) + 1) / 2. •

[A090344] • 1,1,2,3,6,11,23,47,102,221,493,1105,2516,5763,13328,30995,72556,170655,403351,957135,2279948,5449013,13063596,31406517,75701508 ⋆ Number of Motzkin paths of length n with no level steps at odd level. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k) * binomial(2 * k, k) / (k + 1)). - _ Paul Barry _ , Nov 13 2004 • a(n) = 1 + Sum _{ k=1..n - 1 } a(k - 1)a(n - k - 1). - _ Henry Bottomley _ , Feb 22 2005 •

[A217312] • 1,1,2,3,6,11,23,48,107,244,578,1402,3485,8826,22729,59340,156766,418319,1125956,3053400,8334578,22881070,63135802,175000959,487042069 ⋆ Number of Motzkin paths of length n with no level steps at height 1. • a(n) = 1 + Sum _{ k=0..(n - 1) / 2 } ((k + 1) * Sum _{ i=0..n - 2 * k - 1 } (((Sum _{ j=0..i } ((- 1) ^ (j - i) * binomial(k + i + 1,i - j) * binomial(k + 2 * j,j))) * binomial(n - k - i - 1,k + 1)) / (k + i + 1))). - _ Vladimir Kruchinin _ , Mar 12 2016 •

[A047750] • 1,2,3,6,11,24,48,110,231,546,1183,2856,6324,15504,34884,86526,197087,493350,1134705,2861430,6633315,16829280,39268320,100134216,234930276 ⋆ If n mod 2 = 0 then m := n/2 and a(n) = (3*m)!*(5*m+1)/((m+1)!*(2*m+1)!), otherwise m := (n-1)/2, a(n) = 6*(3*m+2)!/(m!*(2*m+3)!). • a(n) = sum of top row terms in M ^ n, M = the infinite square production matrix: •

[A122852] • 1,1,2,3,6,11,24,51,122,291,756,1979,5526,15627,46496,140451,442194,1414931,4687212,15785451,54764846,193129659,698978136,2570480147,9672977706 ⋆ Row sums of number triangle A122851. • a(n)=sum { k=0..n, C(k, n - k) * (n - k)! } . • a(n)=sum { k=0..floor(n / 2), C(n - k,k)k! } . (End) •

[A107113] • 1,1,2,3,6,11,24,52,125,307,809,2190,6249,18348,56016,176272,571113,1906091,6517283,22879944,82144248,301617448,1131401427,4327790902,16886037207 ⋆ Diagonal sums of A107111, viewed as a number triangle. • a(n)= sum { k=0..floor(n / 2), sum { j=0..k, binomial((n - 2k)(k + 1), k - j) * binomial(k + j, j) }/ (k + 1) } •

[A115114] • 2,3,6,11,26,63,158,411,1098,2955,8054,22151,61322,170823,478318,1345211,3798242,10761723,30585830,87169619,249056138,713205903,2046590846,5883948951,16945772210 ⋆ Asymmetric rhythm cycles (patterns): binary necklaces of length 2n subject to the restriction that for any k if the k-th bead is of color 1 then the (k+n)-th bead (modulo 2n) is of color 0. • a(n)=(Sum _{ d|n } phi(2d) + Sum _{ d|n, d odd } phi(d)3 ^ (n / d)) / (2n), where phi(n) is the Euler function A000010. •

[A185265] • 1,2,3,6,12,22,39,70,127,231,419,759,1375,2492,4517,8187,14838,26892,48739,88335,160099,290164,525894,953132,1727460 ⋆ a(0)=1, a(1)=2; thereafter a(n) = f(n-1) + f(n-2) where f() = A164387(). • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + a(n - 5) for n>5. •

[A289920] • 1,2,3,6,12,22,42,80,151,287,544,1031,1956,3708,7031,13333,25280,47936,90895,172350,326806,619677,1175008,2228011,4224672 ⋆ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = 1 - S - S^2. • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3) - a(n - 4) - a(n - 6) for n >= 7. •

[A154324] • 1,1,2,3,6,12,23,43,74,124,195,300,441,637,890,1226,1647,2187,2848,3673,4664,5874,7305,9021,11024 ⋆ Diagonal sums of number triangle A113582. • a(n) = Sum _{ k=0..floor(n / 2) } (1 + C(k + 1,2) * C(n - 2k + 1,2)). • a(n) = (2895 + 945 * (- 1) ^ n + (1786 - 90 * (- 1) ^ n) * n - 30 * (3 + (- 1) ^ n) * n ^ 2 + 40 * n ^ 3 + 30 * n ^ 4 + 4 * n ^ 5) / 3840. • a(n) = (2 * n ^ 5 + 15 * n ^ 4 + 20 * n ^ 3 - 60 * n ^ 2 + 848 * n + 1920) / 1920 for n even. • a(n) = (2 * n ^ 5 + 15 * n ^ 4 + 20 * n ^ 3 - 30 * n ^ 2 + 938 * n + 975) / 1920 for n odd. (End) •

[A001630] • 0,0,1,2,3,6,12,23,44,85,164,316,609,1174,2263,4362,8408,16207,31240,60217,116072,223736,431265,831290,1602363 ⋆ Tetranacci numbers: a(n) = a(n-1) + a(n-2) + a(n-3) + a(n-4), with a(0)=a(1)=0, a(2)=1, a(3)=2. • a(n) = 2 * a(n - 1) - a(n - 5) with n>4, a(0)=a(1)=0, a(2)=1, a(3)=2, a(4)=3. [_ Vincenzo Librandi _ , Dec 21 2010] •

[A293363] • 1,2,3,6,12,23,45,89,178,355,710,1420,2840,5679,11357,22714,45427,90853,181705,363409,726818,1453635,2907270,5814540,11629080 ⋆ Least integer k such that k/2^n > log 2. • a(n) = ceiling(r * 2 ^ n), where r = log 2. •

[A293340] • 1,1,2,3,6,12,24,48,95,189,377,754,1507,3014,6028,12055,24110,48219,96438,192875,385750,771500,1542999,3085997,6171993 ⋆ Least integer k such that k/2^n > 1/e. • a(n) = ceiling(r * 2 ^ n), where r = 1 / e. •

[A098011] • 1,1,2,3,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456 ⋆ 10^a(n) + 1 = A088773(n). • a(n) = 3 * 2 ^ (n - 4) for n>3; a(1)=a(2)=1, a(3)=2. - _ Emeric Deutsch _ , May 19 2006 • a(n) = 2 ^ (n - 4) + 2 ^ (n - 3) for n>3. - _ Jaroslav Krizek _ , Aug 17 2009 • a(0) = 1, a(2) = 1, a(3) = 2, for n>3: a(n) = sum _ (i=2..n - 1) a(i). - _ Jaroslav Krizek _ , Nov 16 2009 • a(n) = ceiling(2 ^{ n - 2 }) - floor(2 ^{ n - 4 }). - _ Martin Grymel _ , Oct 17 2012 •

[A042950] • 2,3,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824 ⋆ Row sums of the Lucas triangle A029635. • a(n) = 2 * a(n - 1), n>1; a(0)=2, a(1)=3. • a(0) = 2, a(n) = 3 * 2 ^ (n - 1) = 2 ^ n + 2 ^ (n - 1) for n >= 1. - _ Jaroslav Krizek _ , Aug 17 2009 • a(n) = 2 ^ (n + 1) - 2 ^ (n - 1), for n >0 . - _ Ilya Gutkovskiy _ , Aug 8 2015 •

[A187741] • 1,1,1,2,3,6,12,24,60,120,360,720,2520,5040,20160,40320,181440,362880,1814400,3628800,19958400,39916800,239500800,479001600,3113510400 ⋆ G.f.: Sum_{n>=0} (1 + n*x)^n * x^n / (1 + x + n*x^2)^n. • a(2 * n) = (n + 1)! / 2, a(2 * n - 1) = n!, for n>0 with a(0)=1. •

[A192805] • 1,1,1,2,3,6,12,25,53,113,242,519,1114,2392,5137,11033,23697,50898,109323,234814,504356,1083305,2326829,4997793,10734754 ⋆ Constant term in the reduction of the polynomial 1+x+x^2+...+x^n by x^3->x^2+2x+1. See Comments. • a(n)=2 * a(n - 1) + a(n - 2) - a(n - 3) - a(n - 4). •

[A001677] • 1,2,3,6,12,26,59,146,368,976,2667,7482,21440,62622,185637,557680,1694256,5198142,16086486,50165218,157510504,497607008,1580800091,5047337994,16190223624 ⋆ Number of series-parallel networks with n edges. • a(n) = s(n) - (1 / 2) * Sum _{ i=1..n - 1 } s(i) * s(n - i) - (1 / 2) * s(n / 2), where s() = A000084 and the last term is omitted if n is odd. •

[A019525] • 2,3,6,12,27,60,138,315,726,1668,3843,8844,20370,46899,108006,248700,572715,1318812,3036954,6993387,16104246,37084404,85397139,196650348,452841762 ⋆ Poincaré series [or Poincare series] for depths of roots in a certain root system. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3). • a(n) = (78 + (13 - 5 * sqrt(13)) * ((1 - sqrt(13)) / 2) ^ n + ((1 + sqrt(13)) / 2) ^ n * (13 + 5 * sqrt(13))) / 78. - _ Colin Barker _ , Aug 03 2017 •

[A082395] • 1,1,2,3,6,12,27,63,154,386,989,2574,6787,18085,48622,131719,359194,985186,2715973,7521568,20915257,58373587,163462816,459136810,1293223231 ⋆ Number of shifted Young tableaux with height <= 3. • a(n) = Sum _{ k=1..n } (- 1) ^ (k + 1) * binomial(n, k) * binomial(k - 1, floor(k / 2)). - _ Vladeta Jovovic _ , Sep 18 2003 •

[A061343] • 1,1,2,3,6,12,27,63,154,398,1055,2970,8503,25651,78483,250487,811802,2723130,9295483,32653552,116866283,428464743,1600474365,6102119282,23690388631 ⋆ Number of standard shifted tableaux with n entries. • a(n) is the sum over all partitions into distinct parts of Thrall's formula (4) on page 83, see the Pari script arndt - A061343.gp. [_ Joerg Arndt _ , May 09 2013] •

[A155996] • 1,2,3,6,13,25,50,101,201,402,804,1608,3217,6434,12868,25736,51472,102944,205887,411775,823550,1647099,3294199,6588397,13176795 ⋆ Nearest integer to 2^n*Pi/4. • a(n) = - floor(2 ^ (- 2 + n) * Pi) + floor(2 ^ (- 1 + n) * Pi), n>=0. - _ Mariusz Iwaniuk _ , Apr 30 2017 •

[A086514] • 1,2,3,6,13,26,47,78,121,178,251,342,453,586,743,926,1137,1378,1651,1958,2301,2682,3103,3566,4073 ⋆ Difference between the arithmetic mean of the neighbors of the terms and the term itself follows the pattern 0,1,2,3,4,5,... • a(n) + n - 2 = { a(n - 1) + a(n + 1) }/ 2 • a(n) = (n ^ 3 - 6 * n ^ 2 + 14 * n - 6) / 3. • a(n) - 4 * a(n - 1) + 6 * a(n - 2) - 4 * a(n - 3) + a(n - 4) = 0 with n>4. For n=9, 121 - 4 * 78 + 6 * 47 - 4 * 26 + 13 = 0. •

[A079662] • 1,2,3,6,13,26,50,96,184,350,661,1242,2324,4332,8047,14902,27521,50700,93191,170942,312974,572030,1043852,1902044,3461067 ⋆ a(n) = the number of occurrences of 1 in all compositions of n without 2's = # of occurrences of the integer k in compositions of n+k-1 without 2's (k > 2). • a(n) =

c(0)c(n - 1) + c(1)c(n - 2) + c(2)c(n - 3) + ... + c(n - 1)c(0), where c(i) is given by sequence A005251; generating function = (x(1 - x) ^ 2) / (1 - 2x + x ^ 2 - x ^ 3) ^ 2 • a(n) = Sum _{ k=1..floor((n + 2) / 3) } k * binomial(n - k + 1, 2 * k - 1). - _ Vladeta Jovovic _ , Apr 10 2004 •

[A290991] • 0,0,1,2,3,6,13,26,50,96,184,351,669,1278,2447,4692,9004,17285,33182,63687,122208,234461,449774,862776,1655010 ⋆ p-INVERT of (0,0,1,2,3,4,5,...), the nonnegative integers A000027 preceded by one zero, where p(S) = 1 - S - S^2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 3 * a(n - 4) + a(n - 5) + a(n - 6). •

[A007910] • 1,2,3,6,13,26,51,102,205,410,819,1638,3277,6554,13107,26214,52429,104858,209715,419430,838861,1677722,3355443,6710886,13421773 ⋆ Expansion of 1/((1-2*x)*(1+x^2)). • a(0) = 1, a(2n + 1) = 2 * a(2n) and a(2n) = 2 * a(2n - 1) + (- 1) ^ n. [Corrected by _ M. F. Hasler _ , Feb 22 2018] • a(n) = (4 * 2 ^ n + cos(Pi * n / 2) + 2 * sin(Pi * n / 2)) / 5. - _ Paul Barry _ , Dec 17 2003 • a(n) = 2a(n - 1) - a(n - 2) + 2a(n - 3). Sequence equals half its second differences with first term dropped. a(n) + a(n + 2) = 2 ^ (n + 2). - _ Paul Curtz _ , Dec 17 2007 • a(n) = round(2 ^ (n + 2) / 5). - _ Mircea Merca _ , Dec 27 2010 •

[A293315] • 2,3,6,13,26,52,104,207,414,828,1657,3314,6627,13255,26510,53020,106039,212079,424158,848316,1696632,3393263,6786526,13573053,27146106 ⋆ The integer k that minimizes |k/2^n - r|, where r = golden ratio. • a(n) = floor(1 / 2 + r * 2 ^ n), where r = (1 + sqrt(5)) / 2. •

[A132045] • 1,2,3,6,13,28,59,122,249,504,1015,2038,4085,8180,16371,32754,65521,131056,262127,524270,1048557,2097132,4194283,8388586,16777193 ⋆ Row sums of triangle A132044. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>3. • a(0)=1, a(n) = 2 ^ n - n + 1 for n > 0. - _ Jon E. Schoenfield _ , Jun 15 2017 •

[A287128] • 2,3,6,13,29,65,145,323,719,1599,3555,7903,17567,39047,86791,192911,428783,953055,2118351,4708447,10465439,23261471,51703135,114920255,255432575 ⋆ a(n) = 3*a(n-1) - 2*a(n-2) + 2*a(n-3) - 4*a(n-4) + 2*a(n-5), where a(0) = 2, a(1) =3, a(2) = 6, a(3)=13, a(4) = 29. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5), where a(0) = 2, a(1) =3, a(2) = 6, a(3)=13, a(4) = 29.. •

[A286062] • 2,3,6,13,29,65,146,328,737,1656,3721,8361,18787,42214,94854,213135,478910,1076101,2417977,5433145,12208166,27431500,61638021,138499376,311205273 ⋆ a(n) = 2*a(n-1) + a(n-2) - a(n-3), where a(0) = 2, a(1) =3, a(2) = 6. • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3), where a(0) = 2, a(1) =3, a(2) = 6. •

[A174191] • 1,2,3,6,13,30,71,170,409,986,2379,5742,13861,33462,80783,195026,470833,1136690,2744211,6625110,15994429,38613966,93222359,225058682,543339721 ⋆ Expansion of (1+x)*(2*x-1)/((1-x)*(x^2+2*x-1)). • a(n)=2 * a(n - 1) + a(n - 2) - 2, with a(0)=1, a(1)=2. • a(n)=1 + (1 / 4) * sqrt(2) *{ [1 + sqrt(2)] ^ n - [1 - sqrt(2)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Mar 17 2010] •

[A052937] • 2,3,6,13,30,71,170,409,986,2379,5742,13861,33462,80783,195026,470833,1136690,2744211,6625110,15994429,38613966,93222359,225058682,543339721,1311738122 ⋆ Expansion of (2-3*x-x^2)/((1-x)*(1-2*x-x^2)). • a(2)=6, a(1)=3, a(0)=2, - a(n) - 2 * a(n + 1) + a(n + 2) + 2=0. • a(n) = (1 + (- (1 - sqrt(2)) ^ (1 + n) + (1 + sqrt(2)) ^ (1 + n)) / (2 * sqrt(2))). - _ Colin Barker _ , Mar 16 2016 •

[A005554] • 1,2,3,6,13,30,72,178,450,1158,3023,7986,21309,57346,155469,424206,1164039,3210246,8893161,24735666,69051303,193399578,543310782,1530523638,4322488212 ⋆ Sums of successive Motzkin numbers. • a(n) = (- 1) ^ n * 2 * hypergeometric([2 - n,5 / 2],[4],4), for n>1. - _ Peter Luschny _ , Aug 15 2012 • a(n) = (2 * Sum _{ j=0..(n + 2) / 2 } (binomial(n,j) * binomial(n - j + 1,n - 2 * j + 2))) / n. - _ Vladimir Kruchinin _ , Oct 04 2015 •

[A220699] • 0,0,1,2,3,6,13,32,85,246,757,2480,8537,30858,116229,455668,1850417,7774102,33679941,150291472,689170529,3244125554,15649195077,77287580604,390271482145 ⋆ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n-4)*a(n-2) + 1 • a(0)=a(1)=0, a(2)=1, a(n) = 2 * a(n - 1) + (n - 5) * a(n - 2) - (n - 5) * a(n - 3). •

[A117403] • 1,1,2,3,6,13,34,105,386,1681,8706,53793,395266,3442753,35659778,440672385,6476038146,112812130561,2336999211010,57759810847233,1697654543745026,59146046307566593,2450521284684021762 ⋆ a(n) = Sum_{k=0..[n/2]} 2^((n-2*k)*k) for n>=0. • a(2 * n) = Sum _{ k=0..n } 4 ^ ((n - k) * k); • a(2 * n + 1) = Sum _{ k=0..n } 2 ^ k * 4 ^ ((n - k) * k). •

[A135967] • 1,2,3,6,13,38,141,672,4081,31544,310171,3879588,61725481,1249215110,32159093791,1053086855394,43865027507209,2324162212695626,156642025511922149,13429008862711938180,1464446313265909756141 ⋆ Row sums of triangle A135966. • a(n) = Sum _{ k=0..n } fibonacci(k(n - k) + 1). •

[A291401] • 1,2,3,6,14,32,67,134,266,538,1110,2304,4760,9770,19991,40931,83976,172519,354452,727830,1493768,3065341,6291208,12914136,26511196 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S - S^4. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + 4 * a(n - 5) + 6 * a(n - 6) + 4 * a(n - 7) + a(n - 8) for n >= 9. •

[A093467] • 1,2,3,6,14,35,90,234,611,1598,4182,10947,28658,75026,196419,514230,1346270,3524579,9227466,24157818,63245987,165580142,433494438,1134903171,2971215074 ⋆ a(1) = 1, a(2) = 2; for n >= 2, a(n+1) = a(n) + Sum_{i = 1..n} (a(i) - a(1)). • a(n) = 3 * a(n - 1) - a(n - 2) - 1, n > 3. - _ Robert G. Wilson v _ , Apr 08 2004 •

[A246640] • 2,3,6,14,35,90,234,611,1598,4182,10947,28658,75026,196419,514230,1346270,3524579,9227466,24157818,63245987,165580142,433494438,1134903171,2971215074,7778742050 ⋆ Sequence a(n) = 1 + A001519(n+1) appearing in a certain touching problem for three circles and a chord, together with A246638. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n >= 1, with a(- 2) = 3, a(- 1) = 2 and a(0) = 2. • a(n) = 1 + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5). - _ Colin Barker _ , Nov 02 2016 •

[A080408] • 2,3,6,14,35,116,448,1980,10098,57840,368201,2578384,19697486,163017000,1452918806,13874348700,141322966623,1529472867448,17526468199148,211996227034964,2699219798770446,36085910558435148,505406091697374877 ⋆ Boustrophedon transform of the continued fraction of e (cf. A003417, A001113). • a(n) appears to be asymptotic to C * n! * (2 / Pi) ^ n where C =9.279213652776352637612279705622071830191102985804986629088783 10... - _ Benoit Cloitre _ and Mark Hudson (mrmarkhudson(AT)hotmail.com) •

[A007611] • 2,3,6,14,40,152,784,5168,40576,363392,3629824,39918848,479005696,6227028992,87178307584,1307674400768,20922789953536,355687428227072,6402373705990144,121645100409356288,2432902008177688576 ⋆ a(n) = n! + 2^n. • a(n) = (n + 4) a(n - 1) - 4n a(n - 2) + (4n - 8) a(n - 3) with a(0) = 2, a(1) = 3, a(2) = 6. - Dennis S. Kluk (mathemagician(AT)ameritech.net), Feb 12 2006 •

[A255353] • 2,3,6,15,24,40,104,168,273,714,1155,1870,4895,7920,12816,33552,54288,87841,229970,372099,602070,1576239,2550408,4126648,10803704 ⋆ Denominators in an expansion of 3 - sqrt(5) as a sum of fractions +-1/d. • a(n) = 8 * a(n - 3) - 8 * a(n - 6) + a(n - 9) for n>9. •

[A100249] • 1,1,2,3,6,15,29,63,160,333,749,1914,4135,9490,24335,53791,125104,321521,721887,1694914,4362855,9907851,23429158,60379623,138320021 ⋆ Antidiagonal sums of the slanted Catalan convolution table A100247. • a(n) = Sum _{ k=0..[2n / 3] } C(n + k - [k / 2], k) * (n - k - [k / 2]) / (n + k - [k / 2]), with a(0)=1. G.f. A(x) satisfies: A(x ^ 2) = ((1 + x) / (2 * x - (1 - sqrt(1 - 4 * x ^ 3))) - (1 - x) / (2 * x + (1 - sqrt(1 + 4 * x ^ 3)))). •

[A052102] • 0,1,2,3,6,15,36,81,180,405,918,2079,4698,10611,23976,54189,122472,276777,625482,1413531,3194478,7219287,16315020,36870633,83324700 ⋆ The second of the three sequences associated with the polynomial x^3 - 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3), n >2 •

[A129960] • 1,1,2,3,6,15,37,100,283,851,2693,8934,30951,111597,417560,1617203,6468815,26671611,113158063,493244564,2205856753 ⋆ Closed integer minimal solutions to: Solve[n!-m*(m-1)/2=0,m] Nearest SO(m) group below the symmetric group Sn in dimension. • a(n) = Round[Abs[m]] such that Solve[n! - m * (m - 1) / 2=0,m] •

[A115098] • 2,3,6,15,42,123,366,1095,3282,9843,29526,88575,265722,797163,2391486,7174455,21523362,64570083,193710246,581130735,1743392202,5230176603,15690529806,47071589415,141214768242 ⋆ a(0)=2, a(n)=3*a(n-1)-3. • a(n) = (3 ^ n + 3) / 2. •

[A110181] • 1,2,3,6,15,42,131,432,1497,5420,20373,79422,319927,1328764,5677653,24904584,111961129,515029020,2421047613,11616330342,56829235095,283211069352,1436529522233,7410596379456,38852645340297 ⋆ Row sums of number triangle A110180. • a(n)=sum { k=0..n, sum { j=0..floor((n - k) / 2), C(n - k, j)C(n - k - j, j)k ^ j }} . •

[A159340] • 2,3,6,16,38,88,204,474,1102,2562,5956,13846,32188,74828,173954,404394,940102,2185472,5080606,11810976,27457188,63830218,148387254,344958514,801931252 ⋆ Transform of the finite sequence (1, 0, -1) by the T_{0,1} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 5, with a(0)=2, a(1)=3, a(2)=6, a(3)=16, a(4)=38. •

[A159343] • 2,3,6,16,39,89,205,478,1113,2586,6010,13973,32485,75517,175554,408115,948754,2205584,5127359,11919665,27709861,64417610,149752773,348132962,809310950 ⋆ Transform of A056594 by the T_{0,1} transformation (see link). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 4 * a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>=5, with a(0)=2, a(1)=3, a(2)=6, a(3)=16, a(4)=39. •

[A159341] • 2,3,6,16,39,89,206,479,1114,2590,6021,13997,32539,75644,175851,408804,950354,2209305,5136011,11939777,27756614,64526299,150005446,348720354,810676469 ⋆ Transform of the finite sequence (1, 0, -1, 0, 1) by the T_{0,1} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 7, with a(0)=2, a(1)=3, a(2)=6, a(3)=16, a(4)=39, a(5)=89, a(6)=206. •

[A159342] • 2,3,6,16,39,89,207,480,1116,2595,6033,14025,32604,75795,176202,409620,952251,2213715,5146263,11963610,27812019,64655100,150304872,349416435,812294661 ⋆ Transform of the finite sequence (1, 0, -1, 0, 1, 0, -1) by the T_{0,1} transform (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 9, with a(0)=2, a(1)=3, a(2)=6, a(3)=16, a(4)=39, a(5)=89, a(6)=207, a(7)=480, a(8)=1116. •

[A078344] • 1,2,3,6,17,43,109,278,708,1803,4592,11695,29785,75857,193194,492030,1253111,3191446,8128033,20700623,52720725,134270106,341961560,870913951,2218059568 ⋆ a(1)=1; a(2)=2; a(3)=3; a(n) = sum(k=3,n-1,a(k) + a(k-1) + a(k-2)). • a(n) is asymptotic to a * b ^ n where a = 0.157045052450758415 0437292... and b is the real root of: x ^ 3 - 2 * x ^ 2 - x - 1; b = 2.546818276884082079135997.. • a(n) = 2 * a(n - 1) + a(n - 2) + a(n - 3) for n>4. G.f.: x * (3 * x ^ 3 + 2 * x ^ 2 - 1) / (x ^ 3 + x ^ 2 + 2 * x - 1). - _ Colin Barker _ , Jun 24 2013 •

[A093468] • 1,2,3,6,18,78,438,2958,23118,204558,2018958,21977358,261478158,3374988558,46964134158,700801318158,11162196262158,189005910310158,3390192763174158,64212742967590158,1280663747055910158 ⋆ a(1) = 1, a(2) = 2; for n >= 2, a(n+1) = a(n) + Sum {a(n)-a(i), i = 1 to n}. • a(n)=n * a(n - 1) - (n - 1) * a(n - 2), n>3. - _ Gary Detlefs _ , Dec 30 2010 •

[A182250] • 2,3,6,19,76,381,2286,16007,128056,1152505,11525050,126775551,1521306620,19776986061,276877804862,4153167072943,66450673167088,1129661443840497,20333905989128946,386344213793449975,7726884275868999516

⋆ a(0)=2, a(n) = (a(n-1) * n) OR n. • a(0)=2, a(n)=(a(n - 1) * n) OR n, where OR is the bitwise logical inclusive - OR operator. •

[A000341] • 1,2,3,6,26,96,210,1106,3759,12577,74072,423884,2333828,16736611,99838851,630091746,4525325020,38848875650,342245714017,3335164762941,31315463942337,241353231085002,2350106537365732,17903852593938447,158065352670318614 ⋆ Number of ways to pair up {1..2n} so sum of each pair is prime. • a(n) = permanent(m), where the n X n matrix m is defined by m(i,j) = 1 or 0, depending on whether 2i + 2j - 1 is prime or composite, respectively. - _ T. D. Noe _ , Feb 10 2007 •

[A047534] • 0,1,2,3,7,8,9,10,11,15,16,17,18,19,23,24,25,26,27,31,32,33,34,35,39 ⋆ Numbers that are congruent to {0, 1, 2, 3, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6), for n > 6. •

[A047361] • 0,1,2,3,7,8,9,10,14,15,16,17,21,22,23,24,28,29,30,31,35,36,37,38,42 ⋆ Numbers that are congruent to {0, 1, 2, 3} mod 7. • a(n) = 7 * floor(n / 4) + (n mod 4), with offset 0 and a(0) = 0. - _ Gary Detlefs _ , Mar 09 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 23 - 3 * i ^ (2 * n) - (3 - 3 * i) * i ^ (- n) - (3 + 3 * i) * i ^ n) / 8, where i=sqrt(- 1). •

[A047245] • 1,2,3,7,8,9,13,14,15,19,20,21,25,26,27,31,32,33,37,38,39,43,44,45,49 ⋆ Numbers that are congruent to {1, 2, 3} mod 6. • a(n) = ceiling(n / 3) + ceiling((n - 1) / 3) + ceiling((n - 2) / 3) + 3 * ceiling((n - 3) / 3). • a(n) = 3 * floor((n - 1) / 3) + n. [_ Gary Detlefs _ , Dec 22 2011] • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * n - 3 + ((2 * n - 3) mod 3). (End) • a(n) = 2 * n - 2 - cos(2 * n * Pi / 3) + sin(2 * n * Pi / 3) / sqrt(3). • a(3k) = 6k - 3, a(3k - 1) = 6k - 4, a(3k - 2) = 6k - 5. (End) •

[A088340] • 0,2,3,7,8,10,11,13,16,17,18,20,21,23,25,27,29,31,34,35,36,39,40,41,44 ⋆ Numbers n such that frac(x^n)=frac(x*frac(x^(n-1))) where x=5/2 and frac(x) denotes the fractional part of x. • a(n) appears to be asymptotic to 2 * n and a(n)=2n for infinitely many values of n such as n=164, 178, 260, 276, 1200, 1208, 1290, ... •

[A047532] • 0,2,3,7,8,10,11,15,16,18,19,23,24,26,27,31,32,34,35,39,40,42,43,47,48 ⋆ Numbers that are congruent to {0, 2, 3, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = 2 * n + (1 + i) * (4 * i - 4 + (1 - i) * i ^ (2n) + i ^ (- n) - i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A233998] • 2,3,7,8,12,13,17,18,22,23,27,28,32,33,37,38,42,43,47,48,50,52,53,57,58 ⋆ Values of n such that numbers of the form x^2+n*y^2 for some integers x, y cannot have prime factor of 5 raised to an odd power. • a(n) = 2.4 n + O(log n). - _ Charles R Greathouse IV _ , Dec 19 2013 •

[A047221] • 2,3,7,8,12,13,17,18,22,23,27,28,32,33,37,38,42,43,47,48,52,53,57,58,62 ⋆ Numbers that are congruent to {2, 3} mod 5. • a(n) = - 3 + (1 / 2) * Sum _{ k=0..n }{ 5 - 3 * (- 1) ^ k } . - _ Paolo P. Lava _ , Feb 29 2008 • a(n) = 5 * (n - 1) - a(n - 1) (with a(1)=2). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (10 * n - 3 * (- 1) ^ n - 5) / 4. • a(n) = 5 * (floor(n - 1) / 2) + 3 - n mod 2. - _ Reinhard Zumkeller _ , Nov 27 2012 •

[A033082] • 1,2,3,7,8,13,29,34,55,119,136,221,477,546,887,1911,2184,3549,7645,8738,14199,30583,34952,56797,122333 ⋆ Numbers n with property that all pairs of consecutive base 4 digits differ by 2. • a(n) = 4 * a(n - 3) + a(n - 6) - 4 * a(n - 9) for n>9. - _ Colin Barker _ , Jun 01 2015 •

[A047533] • 1,2,3,7,9,10,11,15,17,18,19,23,25,26,27,31,33,34,35,39,41,42,43,47,49 ⋆ Numbers that are congruent to {1, 2, 3, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 7 + i ^ (2 * n) + (1 + 2 * i) * i ^ (- n) + (1 - 2 * i) * i ^ n) / 4 where i=sqrt(- 1). •

[A047359] • 0,2,3,7,9,10,14,16,17,21,23,24,28,30,31,35,37,38,42,44,45,49,51,52,56 ⋆ Numbers that are congruent to {0, 2, 3} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 27 - 9 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 4, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 7. (End) •

[A294263] • 0,0,0,2,3,7,9,11,13,20,23,32,36,47,52,57,62,67,72,87,93,110,117,124,131 ⋆ Sum of the larger parts of the partitions of n into two parts with smaller part squarefree > 1. • a(n) = Sum _{ i=2..floor(n / 2) } (n - i) * mu(i) ^ 2. •

[A212985] • 1,2,3,7,9,11,18,21,24,34,38,42,55,60,65,81,87,93,112,119,126,148,156,164,189 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 3w=3x+y. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7). •

[A262775] • 0,2,3,7,9,13,15,19,21,27,33,37,39,49,51,55,57,63,67,69,81,85,99,105,109 ⋆ For a(n+1), sift out all numbers congruent to a(n-1) mod a(n) except for a(n-1); a(0)=0, a(1)=2. • a(0)=0, a(1)=2; for n>1, a(n) is the smallest integer k>a(n - 1) such that k a(j) mod a(j - 1) for all j<n. •

[A294283] • 0,0,2,3,7,9,15,18,21,24,33,37,48,53,66,72,78,84,90,96,113,120,139,147,155 ⋆ Sum of the larger parts of the partitions of n into two distinct parts with smaller part squarefree. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } (n - i) * mu(i) ^ 2. •

[A211539] • 0,0,2,3,7,9,15,18,26,30,40,45,57,63,77,84,100,108,126,135,155,165,187,198,222 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w = 2n - 2x + y. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = Sum _{ k=floor((n + 1) / 2) + 1..n } k. • a(n) = a(n - 1) + n for even n; a(n) = a(n - 1) + (n - 1) / 2 for odd n. (End) • a(n) = (1 / 16) * (6n ^ 2 + 2n - 3 + (2n + 3) * (- 1) ^ n). •

[A291740] • 1,2,3,7,9,18,25,47,65,118,165,290,408,702,992,1677,2379,3966,5643,9300,13266,21654,30954,50116,71770 ⋆ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = (1 - S)(1 - S^2). • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 4) - 3 * a(n - 5) + a(n - 6) - 3 * a(n - 7) - a(n - 9) for n >= 10. •

[A225202] • 1,1,2,3,7,9,20,29,52,80,143,217,376,588,977,1563,2583,4116,6764,10854,17688,28512,46367,74763,121385 ⋆ Number of aperiodic tilings of an n X 1 rectangle by tiles of dimension 1 X 1 and 2 X 1. • a(n) is the Möbius transform of Fibonacci(n + 1). •

[A207643] • 1,1,2,3,7,9,26,31,71,129,262,291,1222,1333,2198,5139,11881,12673,39594,41923,117326,251841,354292,371163,1870453 ⋆ a(n) = 1 + (n-1) + (n-1)*[n/2-1] + (n-1)*[n/2-1]*[n/3-1] + (n-1)*[n/2-1]*[n/3-1]*[n/4-1] +... for n>0 with a(0)=1, where [x] = floor(x). • a(n) = 1 + Sum _{ k=1..[n / 2] } Product _{ j=1..k } floor((n - j) / j). •

[A047531] • 2,3,7,10,11,15,18,19,23,26,27,31,34,35,39,42,43,47,50,51,55,58,59,63,66 ⋆ Numbers that are congruent to {2, 3, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n > 4. • a(n) = (24 * n + 5 * sqrt(3) * sin(2 * Pi * n / 3) + 3 * cos(2 * Pi * n / 3) - 12) / 9. - _ Ilya Gutkovskiy _ , May 30 2016 • a(3k) = 8k - 1, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 6. - _ Wesley Ivan Hurt _ , Jun 10 2016 •

[A266813] • 0,0,2,3,7,10,14,19,26,31,39,47,56,65,76,86,99,111,124,138,154,168,185,202,220 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 62" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n>7. •

[A088163] • 0,1,2,3,7,10,15,31,42,63,127,170,255,511,682,1023,2047,2730,4095,8191,10922,16383,32767,43690,65535 ⋆ Numbers for which rotating one binary place to the right less rotating one binary place to the left is equal to zero. • a(n) = 5 * a(n - 3) - 4 * a(n - 6) for n>5. •

[A271713] • 2,3,7,10,18,23,35,42,58,67,87,98,122,135,163,178,210,227,263,282,322,343,387,410,458 ⋆ Numbers n such that 3*n - 5 is a square. • a(n) = (3 / 2) * n ^ 2 + O(n). - _ Charles R Greathouse IV _ , Apr 12 2016 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. - _ Wesley Ivan Hurt _ , Apr 13 2016 •

[A295723] • 0,1,2,3,7,10,21,31,60,91,167,258,457,715,1236,1951,3315,5266,8837,14103,23452,37555,62031,99586,163665 ⋆ a(n) = a(n-1) + 3*a(n-2) -2*a(n-3) - 2*a(n-4), where a(0) = 0, a(1) = 1, a(2) = 2, a(3) = 3. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 0, a(1) = 1, a(2) = 2, a(3) = 3. •

[A291241] • 1,2,3,7,10,22,32,67,99,200,299,588,887,1708,2595,4913,7508,14018,21526,39725,61251,111922,173173,313752,486925 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 + S^3. • a(n) = a(n - 1) + 4 * a(n - 2) - 3 * a(n - 3) - 4 * a(n - 4) + a(n - 5) + a(n - 6) for n >= 7. •

[A062113] • 1,2,3,7,10,24,34,82,116,280,396,956,1352,3264,4616,11144,15760,38048,53808,129904,183712,443520,627232,1514272,2141504 ⋆ a(0)=1; a(1)=2; a(n)=a(n-1)+ a(n-2)*(3-(-1)^n)/2 • a(n) = 4 * a(n - 2) - 2 * a(n - 4). G.f.: (1 + 2 * x - x ^ 2 - x ^ 3) / (1 - 4 * x ^ 2 + 2 * x ^ 4). [_ Colin Barker _ , Apr 20 2012] •

[A089174] • 2,3,7,11,13,17,19,23,37,41,59,73,101,137,157,239,257,271,547,2153,2251,4649,7309,9091,19697 ⋆ Unique prime factors in A007907 extended to modulo 10 (past 20 elements). • a(n) = If [PrimeQ[IntegerFractors[A007907[m]]]==True, IntegerFractors[A007907[m]]] •

[A174060] • 0,1,2,3,7,11,15,19,23,32,41,50,59,68,77,86,102,118,134,150,166,182,198,214,230 ⋆ Sum_{k=1..n} {floor(sqrt(k))^2}. • a(n) = (1 / 6) * m * (6 * m * n - (m + 1) * (3 * m ^ 2 + m - 1)) with m = floor(sqrt(n)). - _ Yalcin Aktar _ , Jan 30 2012 •

[A092353] • 1,2,3,7,11,15,24,33,42,58,74,90,115,140,165,201,237,273,322,371,420,484,548,612,693 ⋆ Expansion of (1+x^3)/((1-x)^2*(1-x^3)^2). • a(n) = Sum(i=1..n + 3, floor(i / 3) ^ 2). - Enrique Pérez Herrero, Mar 20 2012 •

[A189374] • 1,2,3,7,11,15,25,35,45,65,85,105,140,175,210,266,322,378,462,546,630,750,870,990,1155 ⋆ Expansion of 1/((1-x)^5*(x^2+x+1)^3). • a(n) = (2 * a(n - 1) + 2 * a(n - 2) + (8 + n) * a(n - 3)) / n with a(0)=1, a(1)=2, a(2)=3 and a(3)=7. • a(n) = (floor(n / 3) + 1) * (floor(n / 3) + 2) * (floor(n / 3) + 3) * (3 * floor(n / 3) + 4 * (4 - (3 * floor((n + 3) / 3) - n))) / 24. - _ Luce ETIENNE _ , Jun 29 2015 •

[A180516] • 0,1,2,3,7,11,15,31,47,63,127,191,255,511,767,1023,2047,3071,4095,8191,12287,16383,32767,49151,65535 ⋆ Numbers of the form i*4^j-1 (i=1..3, j >= 0). • a(n) = a(n - 1) + 4 * a(n - 3) - 4 * a(n - 4). G.f.: x ^ 2 * (x ^ 2 + x + 1) / ((x - 1) * (4 * x ^ 3 - 1)). [_ Colin Barker _ , Feb 01 2013] •

[A245738] • 2,3,7,11,20,32,54,87,143,231,376,608,986,1595,2583,4179,6764,10944,17710,28655,46367,75023,121392,196416,317810 ⋆ Number of compositions of n into parts 1 and 2 with both parts present. • a(n) = (- 20 + sqrt(5) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n)) / 2 ^ n) / 10 for n even. • a(n) = (- 10 + sqrt(5) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n)) / 2 ^ n) / 10 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>6. (End) • a(n) = Sum _{ i=1..floor((n - 1) / 2) } C(n - i,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[A133044] • 1,2,3,7,11,20,36,61,110,191,335,591,1032,1816,3185,5586,9811,17207,30203,53004,93004,163229,286430,502655,882111 ⋆ Area of the spiral of equilateral triangles with side lengths which follow the Padovan sequence, divided by the area of the initial triangle. • a(n) = 2 * p(n + 4) * p(n + 5) - p(n + 2) ^ 2 where p is the Padovan sequence (A000931). This establishes Colin Barker's conjecture, because • a(n) = a(n - 1) + p(n + 4) ^ 2 •

[A037078] • 0,1,2,3,7,11,21,34,65,102,196,308,588,925,1766,2775,5299,8327,15897,24982,47693,74946,143080,224840,429240 ⋆ In ternary expansion of n, reading from right to left, digits occur in order ...,0,1,2,0,1,2,... • a(0)=0, a(1)=1, a(2)=2, a(3)=3, a(4)=7, a(n)=3 * a(n - 2) + a(n - 3) - 3 * a(n - 5). - _ Harvey P. Dale _ , Aug 23 2013 •

[A226937] • 1,2,3,7,11,23,34,52,68,87,105,134,153,182,213,237 ⋆ Number of different numbers of square parts in the set of partitions of an n X n square lattice into squares, considering only the list of parts. • a(n) <= n ^ 2. •

[A007481] • 1,2,3,7,11,25,39,89,139,317,495,1129,1763,4021,6279,14321,22363,51005,79647,181657,283667,646981,1010295,2304257,3598219 ⋆ Number of subsequences of [1,...,n] in which each even number has an odd neighbor. • a(n) = 3 * a(n - 2) + 2 * a(n - 4). •

[A005246] • 1,1,1,2,3,7,11,26,41,97,153,362,571,1351,2131,5042,7953,18817,29681,70226,110771,262087,413403,978122,1542841 ★ a(n) = (1+a(n-1)*a(n-2))/a(n-3). • a(n) = a(2 - n) for all n in Z. - _ Michael Somos _ , Nov 15 2006 • a(2 * m) = sum((- 1) ^ p * binomial(m - p,p) * 4 ^ (m - 2 * p),p=0..floor(m / 2)) - 3 * sum((- 1) ^ p * binomial(m - 1 - p,p) * 4 ^ (m - 1 - 2 * p),p=0..floor((m - 1) / 2)). a(2 * m + 1)=sum((- 1) ^ p * binomial(m - p,p) * 4 ^ (m - 2 * p),p=0..floor(m / 2)) - 2 * sum((- 1) ^ p * binomial(m - 1 - p,p) * 4 ^ (m - 1 - 2 * p),p=0..floor((m - 1) / 2)). [_ Richard Choulet _ , Feb 24 2010] • a(2 * n + 2) = sum { k = 0..n } 2 ^ k * binomial(n + k,2 * k); a(2 * n + 1) = sum { k = 0..n } n / (n + k) * 2 ^ k * binomial(n + k,2 * k) for n >= 1. Row sums of A211956. - _ Peter Bala _ , May 01 2012 • a(n) = ((sqrt(2) + sqrt(3) + (- 1) ^ n * (sqrt(2) - sqrt(3))) * sqrt(2 + (2 - sqrt(3)) ^ n * (2 + sqrt(3)) - (- 2 + sqrt(3)) * (2 + sqrt(3)) ^ n)) / (4 * sqrt(3)). - _ Gerry Martens _ , Jun 06 2015 •

[A116406] • 1,1,2,3,7,11,26,42,99,163,382,638,1486,2510,5812,9908,22819,39203,89846,155382,354522,616666,1401292,2449868,5546382 ★ Expansion of ((1+x-2x^2)+(1+x)sqrt(1-4x^2))/(2(1-4x^2)). • a(n)=sum { k=0..floor(n / 2), binomial(n - 1,k) } ; - _ Paul Barry _ , Oct 06 2007 •

[A107857] • 1,1,2,3,7,11,28,45,117,189,494,799,2091,3383,8856,14329,37513,60697,158906,257115,673135,1089155,2851444,4613733,12078909 ★ a(n) = floor[(phi + n mod 2)*a(n-1)], a(1)=1. • a(2n + 2) = (1 / 2) * (Fib(3n + 2) + 1), a(2n + 1) = (1 / 2) * (Fib(3n + 1) + 1). •

[A138000] • 2,3,7,11,29,53,107,211,431,853,1709,3433,6857,13709,27427,54851,109717,219409,438827,877651,1755319,3510623,7021249,14042491,28084997 ★ Least prime such that the subsets of { a(1), ..., a(n) } sum up to 2^n different values. • a(n) > a(n - 1) and a(n) <= nextprime((Sum _{ i=1..n - 1 } a(i)) - (- 1) ^ n); but in fact a(n) ~ Sum _{ i=1..n - 1 } a(i) and thus a(n) ~ constant * 2 ^ n. •

[A289977] • 0,0,0,1,1,2,3,7,12,23,41,77,140,258,470,861,1570,2867,5225,9526,17352,31607,57547,104766,190684 ★ p-INVERT of (0,0,0,1,2,3,5,8,...), the Fibonacci numbers preceded by three zeros, where p(S) = 1 - S - S^2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 5) - a(n - 6) + a(n - 8). •

[A036538] • 2,3,7,12,23,45,89,178,356,707,1409,2822,5639,11273,22546,45088,90165,180315,360637,721258,1442491,2884973,5769941,11539858,23079721 ★ Number of integers m below 2^n such that d(m) = 2^k for some k = 0, 1, 2, 3, ... • a(n) = number of 1s in f(tau(k)) mapped across k = 1..2 ^ n, with f(x):= 1 - sign(log _ 2 x - floor(log _ 2 x)). - _ Michael De Vlieger _ , Mar 01 2017 •

[A090596] • 1,1,2,3,7,12,24,45,91,176,352,693,1387,2752,5504,10965,21931,43776,87552,174933,349867,699392,1398784,2796885,5593771 ★ a(n) = - a(n-1) + 5*(a(n-2)+a(n-3)) - 2*(a(n-4)+a(n-5)) - 8*(a(n-6)+a(n-7)). • a(n) = { 2 ^{ n - 3 }+ 2 ^{ [n / 2] - 2 ^{ n (mod 2) }+ { [n / 2] (mod 2) } (- 1) ^{ n - 1 }}/ 3. - Slavik Jablan, Dec 20 2003 •

[A259593] • 2,3,7,12,26,45,97,168,362,627,1351,2340,5042,8733,18817,32592,70226,121635,262087,453948,978122,1694157,3650401,6322680,13623482 ★ Numerators of the other-side convergents to sqrt(3). • a(n) = 4 * a(n - 2) - a(n - 4) for n>3. - _ Colin Barker _ , Jul 21 2015 •

[A099163] • 1,1,2,3,7,12,27,49,106,199,419,804,1663,3237,6618,13003,26383,52156,105299,209001,420586,836991,1680747,3350548,6718807 ★ Expansion of (1-2x^2)/((1-2x)(1+x-x^2));. • a(n)=a(n - 1) + 3a(n - 2) - 2a(n - 3); a(n)=((sqrt(5) - 1) / 2) ^ n(3 / 10 + sqrt(5) / 10) + ((- sqrt(5) - 1) / 2) ^ n(3 / 10 - sqrt(5) / 10) + 2 ^ (n + 1) / 5; a(n)=sum { k=0..n, (- 1) ^ (n - k)Fib(n - k + 1)(2 ^ (k - 1) + 0 ^ k / 2 - sum { j=0..k, C(k, j)j(- 1) ^ j }) } . • a(n) = Sum _{ k= - [n / 5]..[n / 5] } C(n, [(n - 5 * k) / 2]). • a(n) = 2 * Sum _{ k= - [n / 10]..[n / 10] } C(n, [n / 2] - 5 * k) - fibonacci(n + 1). (End) •

[A182692] • 2,3,7,12,28,48,113,195,461,798,1888,3270,7736,13399,31702,54909,129916,225021,532405,922152,2181835,3779049,8941325,15486829,36642230 ★ Composite Beatty sequence of sqrt(3). • a(n)=floor(s * a(n - 1)) if n odd, a(n)=floor(r * a(n - 1)) if n even, where r=sqrt(3), s=(r + 3) / 2, a(1)=floor(s). •

[A047749] • 1,1,1,2,3,7,12,30,55,143,273,728,1428,3876,7752,21318,43263,120175,246675,690690,1430715,4032015,8414640,23841480,50067108 ★ If n = 2m then a(n) = binomial(3m,m)/(2m+1); if n=2m+1 then a(n) = binomial(3m+1,m+1) / (2m+1). • a(n) = upper left term in M ^ n, M = the infinite square production matrix: •

[A100982] • 1,1,2,3,7,12,30,85,173,476,961,2652,8045,17637,51033,108950,312455,663535,1900470,5936673,13472296,39993895,87986917,257978502,820236724 ★ Number of admissible sequences of order j; related to 3x+1 problem and Wagon's constant. • a(n) = (m + n - 2)! / (m! * (n - 2)!) - Sum _{ i=2..n - 1 } binomial(floor((3 * (n - i) + b) / 2), n - i) * a(i), where m = floor((n - 1) * log _ 2(3)) - (n - 1) and b assumes different integer values within the sum at intervals of 5 or 6 terms. (Conjecture) •

[A084423] • 1,1,2,3,7,12,43,127,544,2361,11703,61690,351773,2126497,13639372,92197523,655035769,4874404108,37893370473,306986431847,2586209749712,22612848403571,204850732480285,1919652428481930,18581619724363401 ★ Set partitions up to rotations. • a(p) = (Bell(p) + 2 * (p - 1)) / p for prime p ; cf. A079609. - _ Vladeta Jovovic _ , Jul 04 2003 •

[A100764] • 1,2,3,7,13,19,25,31,37,43,49,55,61,67,73,79,85,91,97,103,109,115,121,127,133 ★ a(1) = 1, a(2) = 2, a(3) = 3, a(n) = least number not the sum of three or less previous terms. • a(n + 4) = a(4) + 6n for n > 4; a(n) = 6n - 17 , n >3. •

[A271827] • 1,2,3,7,13,23,41,73,129,227,399,701,1231,2161,3793,6657,11683,20503,35981,63143,110809,194457,341249,598851,1050911 ★ Expansion of (x^5-2*x^4+2*x^3-x+1)/(x^4-2*x^3+3*x^2-3*x+1). • a(n) = 1 + 2 * Sum _{ k= 1..n } Sum _{ j=0..(n - k) / 2 } binomial(k + 1,j) * binomial(n - k - j - 1,n - k - 2 * j), a(1)=2. •

[A075058] • 1,2,3,7,13,23,47,97,193,383,769,1531,3067,6133,12269,24533,49069,98129,196247,392503,785017,1570007,3140041,6280067,12560147 ★ 1 followed by the greatest primes selected to form a complete sequence (see algorithm below). • a(n) = (greatest prime) <= Sum(a(i),(i,0,n - 1)) + 1. •

[A256494] • 0,1,1,2,3,7,13,26,51,103,205,410,819,1639,3277,6554,13107,26215,52429,104858,209715,419431,838861,1677722,3355443 ★ Expansion of -x^2*(x^3+x-1) / ((x-1)*(x+1)*(2*x-1)*(x^2+1)). • a(n) = 2 * a(n - 1) + r((n - 1) % 4); r = array(1, - 1, 0, - 1). • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>5. • a(n) = (5 + 5 * (- 1) ^ n - (1 + 2 * i) * (- i) ^ n - (1 - i * 2) * i ^ n + 2 ^ (1 + n)) / 20 for n>0 where i=sqrt(- 1). •

[A088172] • 1,2,3,7,13,26,53,106,211,422,845,1689,3379,6758,13515,27031,54061,108122,216245,432489,864979,1729958,3459915,6919830,13839661 ★ First differences of A019300. • a(n + 1) = 2 * a(n) + 0 or +- 1. - _ Robert G. Wilson v _ , Sep 27 2003 •

[A113823] • 0,2,3,7,13,29,53,97,181,337,617,1151,2111,3881,7151,13147,24181,44483,81817,150497,276817,509137,936469,1722431,3168097 ★ Tribonacci analog of A055502. • a(0) = 0, a(1) = 2, for n>2: a(n) = smallest prime > a(n - 1) + a(n - 2) + a(n - 3). •

[A113843] • 0,2,3,7,13,29,53,103,199,389,751,1447,2789,5381,10369,19991,38543,74287,143197,276019,532061,1025579,1976857,3810517,7345031 ★ Tetranacci analog of A055502. • a(- n) = a(0) = 0, a(1) = 2, for n>1: a(n) = smallest prime > a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4). •

[A113884] • 0,2,3,7,13,29,59,113,223,439,877,1721,3389,6653,13093,25741,50599,99487,195581,384509,755959 ★ Pentanacci analog of A055502. • a(- n) = a(0) = 0, a(1) = 2, for n>1: a(n) = smallest prime > a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5). •

[A124430] • 1,1,2,3,7,13,31,61,144,296,714,1534,3761,8303,20495,46115,114461,261445,651114,1503207,3749017,8726147,21788311,51072555,127698665 ★ Eigenvector of triangle A124428. • a(n) = Sum _{ k=0..[n / 2] } a(k) * C([n / 2],k) * C([(n + 1) / 2],k) for n>0, with a(0)=1. •

[A171416] • 1,1,2,3,7,13,31,65,156,351,849,1993,4866,11733,28921,70997,176560,438979,1100302,2761797,6969909,17625015,44742636,113822415,290416803 ★ A sequence with Somos-4 Hankel transform. • a(n)=if(n=0,1,if(n=1,1,a(n - 2) + sum { k=1..n - 1, a(k - 1) * a(n - k - 1) })). •

[A032131] • 1,1,1,2,3,7,13,31,66,160,369,907,2191,5461,13558,34209,86426,220359,563475,1449282,3739365,9688104,25173917,65621067,171498288 ★ Shifts left 2 places under the "BIK" (reversible, indistinct, unlabeled) transform with a(1) = a(2) = 1. • a(3) = a(1), • a(4) = (1 / 2) * (a(1) ^ 2 + a(1) + 2 * a(2)), • a(5) = (1 / 2) * (a(1) ^ 2 + a(1) + 2 * a(2) + 2) * a(1), • a(6) = (1 / 2) * (a(1) ^ 4 + 4 * a(1) ^ 2 + (3 * a(1) ^ 2 + a(1) + 3) * a(2) + a(2) ^ 2 + a(1)), • a(7) = (1 / 2) * (a(1) ^ 4 + 4 * a(1) ^ 2 * a(2) + 6 * a(1) ^ 2 + 3 * a(2) ^ 2 + 3 * a(1) + 7 * a(2) + 2) * a(1), •

[A237255] • 2,3,7,13,33,62,158,297,757,1423,3627,6818,17378,32667,83263,156517,398937,749918,1911422,3593073,9158173,17215447,43879443,82484162,210239042 ★ Values of x in the solutions to x^2 - 5xy + y^2 + 17 = 0, where 0 < x < y. • a(n) = 5 * a(n - 2) - a(n - 4). •

[A056953] • 1,1,2,3,7,13,34,73,209,501,1546,4051,13327,37633,130922,394353,1441729,4596553,17572114,58941091,234662231,824073141,3405357682,12470162233,53334454417 ★ Denominators of continued fraction for alternating factorial. • a(0)=1; a(1)=1; a(n)=a(n - 1) + n * a(n - 2) / 2. • a(n) = Sum _{ k=0..[n / 2] } k! * C([n / 2],k) * C([(n + 1) / 2],k). - _ Paul D. Hanna _ , Oct 31 2006 •

[A225879] • 1,1,2,3,7,14,23,51,102,167,371,742,1215,2699,5398,8839,19635,39270,64303,142843,285686,467799,1039171,2078342,3403199 ★ Number of n-length words w over ternary alphabet {1,2,3} such that for every prefix z of w we have 0<=#(z,1)-#(z,2)<=2 and 0<=#(z,2)-#(z,3)<=2 and #(z,x) gives the number of occurrences of letter x in z. • a(n) = 7 * a(n - 3) + 2 * a(n - 6) for n>5. (End) •

[A293326] • 2,3,7,14,28,55,111,222,443,887,1774,3547,7094,14189,28378,56756,113512,227023,454047,908093,1816187,3632374,7264748,14529495,29058991 ★ Positive integer k that minimizes |k/2^n - sqrt(3))|. • a(n) = floor(1 / 2 + r * 2 ^ n), where r = sqrt(3). •

[A131666] • 0,0,1,1,2,3,7,14,29,57,114,227,455,910,1821,3641,7282,14563,29127,58254,116509,233017,466034,932067,1864135 ★ First differences of (A113405 prefixed with a 0). • a(n + 1) - 2a(n) = 0, 1, - 1, 0, - 1, 1, ... is the hexaperiodic A092220 (corrected Sep 24 2007). •

[A113822] • 1,1,2,3,7,14,35,85,226,600,1658,4622,13141,37699,109419,320017,943329,2797788,8346030,25019401,75340824,227777899,691146578,2104028507,6424449318 ★ Number of binary trees of weight n where leaves have positive integer weights, where the order of subtrees is insignificant. Commutative non-associative version of partitions of n. • a(2n) = 1 + C(a(n) + 1, 2) + sum _{ k=1 }^{ n / 2 - 1 } a(k) * a(2n - k). a(2n + 1) = 1 + sum _{ k=1 }^{ (n - 1) / 2 } a(k) * a(2n + 1 - k), with a(0)=0. •

[A165433] • 1,1,2,3,7,14,39,97,308,897,3139,10304,38997,140893,570002,2230599,9567979,40091222,181203603,805962157,3819522284,17912075229,88646095447,435959031488,2245454002137 ★ A transform of the double factorial numbers A001147. • a(n)=sum { k=0..floor(n / 2), C(n - k,k) * (2k)! / (k! * 2 ^ k) } . •

[A276600] • 0,2,3,7,15,20,42,88,117,245,513,682,1428,2990,3975,8323,17427,23168,48510,101572,135033,282737,592005,787030,1647912 ★ Values of n such that n^2 + 6 is a triangular number (A000217). • a(n) = 6 * a(n - 3) - a(n - 6) for n>6. •

[A001276] • 2,3,7,15,27,41,62,85,115,150,186,229,274,323,380,443,509,577,653,733,818,912,1010,1114,1222 ★ Smallest k such that the product of q/(q-1) over the primes from prime(n) to prime(n+k-1) is greater than 2. • a(n) = li(prime(n) ^ 2) + O(n ^ 2 / exp((log n) ^ (4 / 7 - e))) for any e > 0. •

[A020873] • 2,3,7,15,29,53,95,171,313,585,1115,2159,4229,8349,16567,32979,65777,131345,262451,524631,1048957,2097573,4194767,8389115,16777769 ★ a(n) = number of cycles in Moebius ladder M_n. • a(n) = 2 ^ n + n ^ 2 - n + 1. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). G.f.: (2 - 7 * x + 10 * x ^ 2 - 7 * x ^ 3) / ((2 * x - 1) * (x - 1) ^ 3). - _ R. J. Mathar _ , May 31 2010 •

[A052321] • 1,1,2,3,7,15,35,81,195,473,1171,2924,7396,18848,48446,125311,326145,853188,2242616,5919197,15683008,41694334,111195166,297393668,797475499 ★ Number of rooted trees with a forbidden limb of length 3. • a(n) satisfies a = SHIFT _ RIGHT(EULER(a - b)) where b(3)=1, b(k)=0 if k != 3. •

[A045629] • 1,1,2,3,7,15,44,128,415,1367,4654,16080,56450,200170,716728,2585850,9393119,34319667,126047906,465076160,1723097066,6407856892,23910271224,89493903438,335912741682 ★ Number of 2n-bead black-white complementable necklaces with n black beads. • a(n) = (1 / 2n) * Sum _{ d|n } (phi(n / d) * C(2d - 1, d - 1) + phi(2n / d) * 2 ^ (d - 1)). - _ Christian G. Bower _ •

[A034731] • 1,2,3,7,15,46,133,436,1433,4878,16797,58837,208013,743034,2674457,9695281,35357671,129646266,477638701,1767268073,6564120555,24466283818,91482563641,343059672916,1289904147339 ★ Dirichlet convolution of b_n=1 with Catalan numbers. • a(n) = Sum _{ d divides n } C(d - 1) where C() are the Catalan numbers (A000108). •

[A289844] • 1,2,3,7,16,31,64,134,274,567,1168,2405,4967,10232,21094,43505,89672,184892,381203,785886,1620327,3340606,6887304,14199737,29275538 ★ p-INVERT of A175676 (starting at n=3), where p(S) = 1 - S - S^2. • a(n) = a(n - 1) + a(n - 2) + 4 * a(n - 3) - 2 * a(n - 4) - 6 * a(n - 7) + a(n - 8) + 4 * a(n - 10) - a(n - 13). •

[A081207] • 1,2,3,7,16,37,89,216,529,1307,3248,8111,20339,51176,129143,326717,828374,2104361,5354979,13647682,34830191,89000157,227674188,583017657,1494365341 ★ Main diagonal of number square A081206. • a(n) = Sum _{ k=0..n } (binomial(floor((n + k) / 2), k)) ^ 2. •

[A114582] • 1,1,2,3,7,16,40,100,256,663,1741,4620,12376,33416,90853,248515,683429,1888449,5240509,14598709,40810390,114447429,321885675,907723460,2566079622 ★ Number of Motzkin paths of length n having no UDH's starting at level 0 (U=(1,1),H=(1,0),D=(1,-1)). • a(n)=sum(k=1..n / 3 + 1, (k * sum (j=0..n - 2 * k + 3, binomial(j,k + 2 * j - n - 3) * binomial(n - 2 * k + 3,j))) / (n - 2 * k + 3) * (- 1) ^ (k - 1)). [From Vladimir Kruchinin, Oct 22 2011] •

[A089125] • 1,1,2,3,7,16,51,179,842,4601,33229,286284,3243665,44468561,800242506,17564890003,505712818663,17842259251624,825465630656435,46929863536852851,3498201665311407586,320978728492120944601 ★ a(n+2) = a(n+1) + F(n+1)*a(n), where F = Fibonacci number (A000045) and a(0) = a(1) = 1. • a(n) * a(n + 1) * a(n + 3) - a(n) * a(n + 2) * a(n + 3) - a(n + 1) * a(n + 2) ^ 2 = 0. [_ Emanuele Munarini _ , Feb 18 2016] •

[A268539] • 0,2,3,7,17,25,28,38,58,72,77,93,123,143,150,172,212,238,247,275,325,357,368,402,462 ★ Numbers k such that 48*k+25 is a perfect square. • a(n) = a(- n + 1) = 3 * a(n - 1) - 5 * a(n - 2) + 7 * a(n - 3) - 7 * a(n - 4) + 5 * a(n - 5) - 3 * a(n - 6) + a(n - 7) for n>6. • a(n) = (3 * (n - 1) * n + (2 * n - 1) * (- 1) ^ ((n - 2) * (n - 1) / 2) - 1) / 4. Therefore: • a(4 * k) = k * (12 * k - 5), • a(4 * k + 1) = k * (12 * k + 5), • a(4 * k + 2) = k * (12 * k + 11) + 2 = (3 * k + 2) * (4 * k + 1), • a(4 * k + 3) = k * (12 * k + 13) + 3 = (3 * k + 1) * (4 * k + 3). •

[A158498] • 1,2,3,7,17,36,67,113,177,262,371,507,673,872,1107,1381,1697,2058,2467,2927,3441,4012,4643,5337,6097 ★ a(n) = (1/2)*(n^3 - 6*n^2 + 13*n - 6). • a(n) = (1 / 2) * (n ^ 3 - 6 * n ^ 2 + 13 * n - 6). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Feb 19 2017 •

[A135364] • 1,2,3,7,17,40,93,216,502,1167,2713,6307,14662,34085,79238,184206,428227,995507,2314273,5380032,12507057,29075380,67592058,157132471,365288677 ★ First column of a triangle - see Comments lines. • a(n + 1) = a(n) + a(n - 1) + (n - 1) * a(1) + (n - 2) * a(2) + ... + 2 * a(n - 2) for n>=3. • a(0) = 1, a(n) = term (1,3) in the 1 X 3 matrix [7,3,2].[3,1,0; - 2,0,1; 1,0,0] ^ (n - 1) (n>0). - _ Alois P. Heinz _ , Jul 24 2008 •

[A005248] • 2,3,7,18,47,123,322,843,2207,5778,15127,39603,103682,271443,710647,1860498,4870847,12752043,33385282,87403803,228826127,599074578,1568397607,4106118243,10749957122 ★ Bisection of Lucas numbers: a(n) = L(2*n) = A000032(2*n). • a(n) = Fibonacci(2 * n - 1) + Fibonacci(2 * n + 1). • a(n) = a(k) * a(n - k) - a(n - 2k) for all k, i.e., a(n) = 2 * a(n) - a(n) = 3 * a(n - 1) - a(n - 2) = 7 * a(n - 2) - a(n - 4) = 18 * a(n - 3) - a(n - 6) = 47 * a(n - 4) - a(n - 8) etc., a(2n) = a(n) ^ 2 - 2. - _ Henry Bottomley _ , May 08 2001 • a(0)=2, a(1)=3, a(n) = 3 * a(n - 1) - a(n - 2) = a(- n). - _ Michael Somos _ , Jun 28 2003 • a(n) = phi ^ (2 * n) + phi ^ (- 2 * n) where phi=(sqrt(5) + 1) / 2, the golden ratio. E.g. a(4)=47 because phi ^ (8) + phi ^ (- 8)=47. - _ Dennis P. Walsh _ , Jul 24 2003 • a(n) = (floor((3 + sqrt(5)) ^ n) + 1) / 2 ^ n. - _ Lekraj Beedassy _ , Oct 22 2004 • a(n) = ((3 - sqrt 5) ^ n + (3 + sqrt 5) ^ n) / 2 ^ n (Note: substituting the number 1 for 3 in the last equation gives A000204, substituting 5 for 3 gives A020876). - _ Creighton Dement _ , Apr 19 2005 •

[A052919] • 2,3,7,19,55,163,487,1459,4375,13123,39367,118099,354295,1062883,3188647,9565939,28697815,86093443,258280327,774840979,2324522935,6973568803,20920706407,62762119219,188286357655 ★ a(0)=2; a(n)= 1+2*3^(n-1) for n>0. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). _ Vincenzo Librandi _ , Jun 22 2012 •

[A005807] • 2,3,7,19,56,174,561,1859,6292,21658,75582,266798,950912,3417340,12369285,45052515,165002460,607283490,2244901890,8331383610,31030387440,115948830660,434542177290,1632963760974,6151850548776 ★ Sum of adjacent Catalan numbers. • a(n) = C(n) + C(n + 1) = ((5 * n + 4) * (2 * n)!) / (n! * (n + 2)!). • a(n) = binomial(2 * n,n) / (n + 1) * hypergeom([- 1, n + 1 / 2],[n + 2], - 4). - _ Peter Luschny _ , Aug 15 2012 •

[A038159] • 2,3,7,22,89,446,2677,18740,149921,1349290,13492901,148421912,1781062945,23153818286,324153456005,4862301840076,77796829441217,1322546100500690,23805829809012421,452310766371236000,9046215327424720001,189970521875919120022 ★ a(n) = n*a(n-1) + 1, a(0) = 2. • a(n) = floor(n! * (e + 1)), n>0. [_ Gary Detlefs _ , Jul 18 2010] •

[A127581] • 2,3,7,23,31,127,127,383,1279,3583,5119,6143,8191,73727,81919,131071,131071,524287,524287,14680063,14680063,14680063,109051903,109051903,654311423 ★ Smallest prime of the form k*2^n - 1, for k >= 2. • a(n) << 37 ^ n by Xylouris' improvement to Linnik's theorem. - _ Charles R Greathouse IV _ , Dec 10 2013 •

[A006720] • 1,1,1,1,2,3,7,23,59,314,1529,8209,83313,620297,7869898,126742987,1687054711,47301104551,1123424582771,32606721084786,1662315215971057,61958046554226593,4257998884448335457,334806306946199122193,2338575673186968332251 4 ★ Somos-4 sequence: a(0)=a(1)=a(2)=a(3)=1; for n >= 4, a(n) = (a(n-1) * a(n-3) + a(n-2)^2) / a(n-4). • a(n + 1) / a(n) seems to be asymptotic to C ^ n with C=1.226..... - _ Benoit Cloitre _ , Aug 07 2002. Confirmed by Hone - see below. • a(n) = (a(n - 1) * a(n - 3) + a(n - 2) ^ 2) / a(n - 4); a(0) = a(1) = a(2) = a(3) = 1; exact formula is a(n) = A * B ^ n * sigma (z _ 0 + nk) / (sigma (k)) ^ (n ^ 2), where sigma is the Weierstrass sigma function associated to the elliptic curve y ^ 2 = 4 * x ^ 3 - 4 * x + 1, A = 1 / sigma(z _ 0) = 0.112724016 - 0.824911687 * i, B = sigma(k) * sigma (z _ 0) / sigma (z _ 0 + k) = 0.215971963 + 0.616028193 * i, k = 1.859185431, z _ 0 = 0.204680500 + 1.225694691 * i, sigma(k) = 1.555836426, all to 9 decimal places. This is a special case of a general formula for 4th order bilinear recurrences. The Somos - 4 sequence corresponds to the sequence of points (2n - 3)P on the curve, where P = (0, 1). - _ Andrew Hone _ , Oct 12 2005 •

[A163834] • 2,3,7,23,87,343,1367,5463,21847,87383,349527,1398103,5592407,22369623,89478487,357913943,1431655767,5726623063,22906492247,91625968983,366503875927,1466015503703,5864062014807,23456248059223,93824992236887 ★ a(n) = (4^n + 5)/3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A077213] • 2,3,7,23,97,487,2927,20507,164057,1476523,14765237,162417611,1949011333,25337147347,354720062861,5320800943001,85132815088031,1447257856496689,26050641416940457,494962186921868723 ★ a(1) = 2, a(n+1) is the smallest prime greater than n*a(n). • a(n) = nextprime((n - 1) * a(n - 1)). •

[A074189] • 1,1,2,3,7,25,118,683,4663,36621,324926,3212639,35014103,416956597,5385421658,74978946615,1119298777567,17833801494457,302055326628202,5419162077813179 ★ a(1) = 1, a(2) = 2; for n > 2, a(n) = {a(n-1) +a(n+1)}/n or a(n+1) = n*a(n)-a(n-1). • a(n + 2) = (n + 1) * a(n + 1) - a(n); a(0) = - 1, a(1) = 1; a(2) = 2. G.f. A(x) = sum(a(n) * x ^ n) is a solution of the differential equation (x ^ 2) * A'(x) - (1 + x ^ 2) * A(x) = 1 - x - Bruce Corrigan (scentman(AT)myfamily.com), Oct 19 2002 •

[A089708] • 1,2,3,7,26,136,887,6785,59116,576528,6215729,73368729,940718528,13016462714,193285275705,3065510539375,51713071208774,924496937994286,17458742846249615,347270877144570683,7256791451501057782 ★ a(1) = 1, a(2) = 2, a(n) = a(n-1) + d where d is the sum of the absolute differences between all pairs of previous terms. • a(n) = a(n - 1) + sum _{ 1<=i<j<n } (a(j) - a(i)) • a(n) = (n + 1)(a(n - 1) - a(n - 2)) + a(n - 3) for n>=5. •

[A037843] • 2,3,7,39,2551,22928343,6641112790058484007 ★ Number of matrices with n columns whose rows do not cover each other; ordered antichains of subsets of an n-set. • a(n)=Sum _{ k=0..C(n, floor(n / 2)) } k! * M(n, k) where M(n, k) is the number of distinct monotone Boolean functions of n variables with k mincuts. •

[A062529] • 2,3,7,89,1831,5591,89689,3851459,1872851947,1999066711391,22790428875364879 ★ Smallest prime p such that there is a gap of 2^n between p and the next prime. • a(n) = A000230[2 ^ (n - 1)]. - _ R. J. Mathar _ , Jan 12 2007 • a(n) = A000230[2 ^ (n - 1)] = Min { p|nextprime(p) - p = 2 ^ n } [May need adjusting since offset has been changed] •

[A283776] • 1,2,3,8,9,10,11,15,16,17,18,23,24,25,26,30,31,32,33,38,39,40,41,45,46 ★ Numbers k such that floor(k*sqrt(3)) is odd. • a(n + 1) - a(n) is in { 1,4,5 } for every n. •

[A047476] • 0,1,2,3,8,9,10,11,16,17,18,19,24,25,26,27,32,33,34,35,40,41,42,43,48 ★ Numbers that are congruent to {0, 1, 2, 3} mod 8. • a(n) = 8 * floor(n / 4) + (n mod 4), with offset 0.. a(0)=0. - _ Gary Detlefs _ , Mar 09 2010 • a(n) = (- 7 - (- 1) ^ n - (1 - i) * (- i) ^ n - (1 + i) * i ^ n + 4 * n) / 2, where i =sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ Vincenzo Librandi _ , May 16 2012 •

[A037462] • 0,1,2,3,8,9,10,11,16,17,18,19,24,25,26,27,64,65,66,67,72,73,74,75,80 ★ a(n) = Sum_{i = 0..m} d(i)*8^i, where Sum_{i = 0..m} d(i)*4^i is the base 4 representation of n. • a(n) = n + 1 / 2 * Sum _{ k >= 1 } 8 ^ k * floor(n / 4 ^ k). Cf. A037454, A007091 and A102491. • a(0) = 0; a(n) = 8 * a(n / 4) if n == 0 (mod 4) else a(n) = a(n - 1) + 1. (End) •

[A047360] • 1,2,3,8,9,10,15,16,17,22,23,24,29,30,31,36,37,38,43,44,45,50,51,52,57 ★ Numbers that are congruent to {1, 2, 3} mod 7. • a(n) = 7 * floor(n / 3) + (n mod 3) + 1, with offset 0. - _ Gary Detlefs _ , Mar 09 2010 • a(n) = 4 * floor((n - 1) / 3) + n. - _ Gary Detlefs _ , Dec 22 2011 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 24 - 12 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 4, a(3k - 1) = 7k - 5, a

(3k - 2) = 7k - 6. (End) •

[A047243] • 2,3,8,9,14,15,20,21,26,27,32,33,38,39,44,45,50,51,56,57,62,63,68,69,74 ★ Numbers that are congruent to {2, 3} mod 6. • a(n) = 6 * n - a(n - 1) - 7 (with a(1)=2). - _ Vincenzo Librandi _ , Aug 05 2010 •

[A247375] • 0,1,2,3,8,9,18,19,32,33,50,51,72,73,98,99,128,129,162,163,200,201,242,243,288 ★ Numbers n such that floor(n/2) is a square. • a(n) = 1 + (2 * n * (n - 1) + (2 * n - 3) * (- 1) ^ n - 1) / 4. •

[A030439] • 0,1,2,3,8,9,26,27,80,81,242,243,728,729,2186,2187,6560,6561,19682,19683,59048,59049,177146,177147,531440 ★ a(n+1) = smallest number not containing any digits of a(n), working in base 3. • a(n) = 4 * a(n - 2) - 3 * a(n - 4); g.f.: - x * (x ^ 2 - 2 * x - 1) / ((x - 1) * (x + 1) * (3 * x ^ 2 - 1)). - _ Colin Barker _ , Sep 13 2014 • a(n) = 3 ^ floor(n / 2) - 1 + (n mod 2). - _ Alois P. Heinz _ , Sep 14 2014 •

[A047474] • 0,2,3,8,10,11,16,18,19,24,26,27,32,34,35,40,42,43,48,50,51,56,58,59,64 ★ Numbers that are congruent to {0, 2, 3} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 33 - 12 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 5, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 8. (End) •

[A057543] • 1,1,2,3,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48 ★ Maximum cycle length (orbit size) in the rotation permutation of 2n non-crossing handshakes. • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(n)=2n •

[A190650] • 1,2,3,8,10,12,14,16,27,30,33,36,39,42,45,128,136,144,152,160,168,176,184,192,250 ★ Product of iterated integral part of square root. • a(1) = 1; for n>1, a(n) = n * a(floor(sqrt(n)). • a(n) <= n ^ 2 / 2 for n > 1. Equality holds for n = 2 ^ 2 ^ k. •

[A132327] • 1,2,3,8,10,12,21,24,27,80,88,96,130,140,150,192,204,216,399,420,441,528,552,576,675 ★ Product{k>=0, 1+floor(n/3^k)}. • a(k * 3 ^ m - j)=(k * 3 ^ m - j + 1) * 3 ^ m * p ^ (m(m - 1) / 2), for 0<k<3, 0<j<3, m>=1, a(3 ^ m)=3 ^ (m(m + 1) / 2) * product { 0<=k<=m, 1 + 1 / 3 ^ k } , m>=1. •

[A093353] • 2,3,8,10,18,21,32,36,50,55,72,78,98,105,128,136,162,171,200,210,242,253,288,300,338 ★ a(n) = (n + n mod 2)*(n + 1)/2. • a(n) = (n + 1) * (2 * n + 1 - (- 1) ^ n) / 4. - _ Paul Barry _ , Mar 31 2008 • a(n) = (n + 1) * floor((n + 1) / 2). - _ Wesley Ivan Hurt _ , Jan 26 2013 • a(n) = Sum _{ i=1 ..floor((n + 1) / 2) } i + Sum _{ i=ceiling((n + 1) / 2)..n } i. - _ Wesley Ivan Hurt _ , Jun 08 2013 •

[A098844] • 1,2,3,8,10,18,21,64,72,100,110,216,234,294,315,1024,1088,1296,1368,2000,2100,2420,2530,5184,5400 ★ a(1)=1, a(n) = n*a(floor(n/2)). • a(n) = product _{ k=0..floor(log _ 2(n)) } floor(n / 2 ^ k), n>=1. • a(n * 2 ^ m) = n ^ m * 2 ^ (m(m + 1) / 2) * a(n). • a(n) >= c(n) * (n + 1) ^ ((1 + log _ 2(n + 1)) / 2) for n != 2, • a(n) > c * (n + 1) ^ ((1 + log _ 2(n + 1)) / 2) • a(n) = O(n ^ ((1 + log _ 2(n)) / 2)). (End) •

[A010786] • 1,2,3,8,10,36,42,128,216,600,660,3456,3744,9408,18900,61440,65280,279936,295488,1152000,2116800,4878720,5100480,31850496,41472000 ★ Floor-factorial numbers: Product(floor(n/k), k=1..n). • a(n) = product { 1<=k <=n } floor(n / k). •

[A041075] • 1,1,2,3,8,11,19,30,379,409,788,1197,3182,4379,7561,11940,150841,162781,313622,476403,1266428,1742831,3009259,4752090,60034339 ★ Denominators of continued fraction convergents to sqrt(44). • a(n) = 398 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041893] • 1,1,2,3,8,11,19,30,1279,1309,2588,3897,10382,14279,24661,38940,1660141,1699081,3359222,5058303,13475828,18534131,32009959,50544090,2154861739 ★ Denominators of continued fraction convergents to sqrt(468). • a(n) = 1298 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A295333] • 1,2,3,8,11,19,49,68,117,302,419,721,1861,2582,4443,11468,15911,27379,70669,98048,168717,435482,604199,1039681,2683561 ★ Numerators of continued fraction convergents to sqrt(10)/2 = sqrt(5/2) = A020797 + 1. • a(n) = 6 * a(n - 3) + a(n - 6), for n >= 6, with inputs a(0)..a(5). •

[A042263] • 1,1,2,3,8,11,19,106,125,606,731,4261,4992,9253,23498,32751,56249,89000,4506249,4595249,9101498,13696747,36494992,50191739,86686731 ★ Denominators of continued fraction convergents to sqrt(657). • a(n) = 4562498 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A285113] • 1,2,3,8,11,24,52,108,207,448,720,1376,2892,5544,12532,23448,47239,98112,186672,377896,743656,1519816,2983160,6354536,11975324 ★ Row sums of A285116: a(n) = 2 + Sum_{k=1..(n-1)} (C(n-1,k-1) bitwise-or C(n-1,k)), a(0) = 1, a(1) = 2. • a(0) = 1, a(1) = 2, for n > 1, a(n) = 2 + Sum _{ k=1..(n - 1) } C(n - 1,k - 1) OR C(n - 1,k), where C(n,k) is binomial coefficient and OR is bitwise - OR (A003986). •

[A048788] • 0,1,2,3,8,11,30,41,112,153,418,571,1560,2131,5822,7953,21728,29681,81090,110771,302632,413403,1129438,1542841,4215120 ★ a(2n+1) = a(2n) + a(2n-1), a(2n) = 2*a(2n-1) + a(2n-2). • a(n) = 4 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 10 2013 • a(n) = ((r + (- 1) ^ n / r) * s ^ n / 2 ^ (n / 2) - (1 / r + (- 1) ^ n * r) * 2 ^ (n / 2) / s ^ n) * sqrt(6) / 12, where r = 1 + sqrt(2), s = 1 + sqrt(3). - _ Vladimir Reshetnikov _ , May 11 2016 •

[A041123] • 1,2,3,8,11,30,491,1012,1503,4018,5521,15060,246481,508022,754503,2017028,2771531,7560090,123732971,255026032,378759003,1012544038,1391303041,3795150120,62113704961 ★ Denominators of continued fraction convergents to sqrt(70). • a(n) = 502 * a(n - 6) - a(n - 12). G.f.: - (x ^ 2 - 2 * x - 1) * (x ^ 8 + 4 * x ^ 6 + 15 * x ^ 4 + 4 * x ^ 2 + 1) / (x ^ 12 - 502 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2012] •

[A042045] • 1,2,3,8,11,30,1391,2812,4203,11218,15421,42060,1950181,3942422,5892603,15727628,21620231,58968090,2734152371,5527272832,8261425203,22050123238,30311548441,82673220120,3833279673961 ★ Denominators of continued fraction convergents to sqrt(546). • a(n) = 1402 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 13 2014 •

[A041587] • 1,1,2,3,8,11,74,233,4035,12338,78063,90401,258865,349266,608131,957397,33159629,34117026,67276655,101393681,270064017,371457698,2498810205,7867888313,136252911526 ★ Denominators of continued fraction convergents to sqrt(311). • a(n) = 33767760 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 20 2013] •

[A134683] • 1,2,3,8,12,32,48,128,192,512,768,2048,3072,8192,12288,32768,49152,131072,196608,524288,786432,2097152,3145728,8388608,12582912 ★ Expansion of 1+x*(2+3*x)/(1-4*x^2). • a(n) = 4 * a(n - 2), n>2. _ Gary W. Adamson _ , Jul 08 2012 • a(n) = 2 ^ (n - 3) * (7 - (- 1) ^ n), n>0. - _ R. J. Mathar _ , Jul 22 2012 •

[A142880] • 0,1,2,3,8,13,21,55,89,144,377,610,987,2584,4181,6765,17711,28657,46368,121393,196418,317811,832040,1346269,2178309 ★ a(n)= +7*a(n-3) - a(n-6). • a(n) = 2 * a(n - 1) + a(n - 2) if n == 1 (mod3). • a(n) = a(n - 1) + a(n - 2) if n == 0 (mod 3). • a(n) = 2 * a(n - 1) - a(n - 2) if n == 2 (mod 3). •

[A004138] • 1,2,3,8,13,24,37,66,107,186,303,516,849,1436,2377,3998,6639,11134,18531,31024,51701,86464,144205,241018,402163 ★ From a counter moving problem. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + 2 * a(n - 4) + 2 for n >= 5. [Rawlins] •

[A213046] • 2,3,8,13,25,41,71,116,193,314,514,834,1356,2197,3562,5767,9339,15115,24465,39590,64067,103668,167748,271428,439190 ★ Convolution of Lucas numbers and positive integers repeated (A000032 and A008619). • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) + a(n - 5). • a(n) = (- 9 / 4 + (3 * (- 1) ^ n) / 4 + (2 ^ (- n) * ((1 - t) ^ n * (- 5 + 2 * t) + (1 + t) ^ n * (5 + 2 * t))) / t + (- 1 - n) / 2) where t=sqrt(5). - _ Colin Barker _ , Feb 09 2017 •

[A151889] • 2,3,8,13,34,55,144,233,610,987,2584,4181,10946,17711,46368,75025,196418,317811,832040,1346269,3524578,5702887,14930352,24157817,63245986 ★ a(1)=2, a(2)=3; a(2k-1)=2a(2k-2)+a(2k-3), a(2k)=3a(2k-2)+2a(2k-3), k >= 2. • a(2k - 1) = Fib(3k - 1), a(2k) = Fib(3k). •

[A294566] • 1,2,3,8,13,38,63,188,313,938,1563,4688,7813,23438,39063,117188,195313,585938,976563,2929688,4882813,14648438,24414063,73242188,122070313 ★ a(n) is the smallest positive integer of length (distance from origin) n in the Cayley graph of the integers generated by all powers of 5. • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) for n > 3. • a(n) = (3 * 5 ^ (n / 2) + 5) / 10 for n even. • a(n) = (5 ^ ((n - 1) / 2) + 1) / 2 for n odd. •

[A171237] • 2,3,8,14,25,42,70,115,188,306,497,806,1306,2115,3424,5542,8969,14514,23486,38003,61492,99498,160993,260494,421490 ★ a(0)=2, a(1)=3, a(n)=3+a(n-1)+a(n-2) for n>=2 • a(0)=2, a(1)=3, a(n)=3 + a(n - 1) + a(n - 2) n>=2 •

[A080877] • 1,1,2,3,8,14,40,72,208,376,1088,1968,5696,10304,29824,53952,156160,282496,817664,1479168,4281344,7745024,22417408,40553472,117379072 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=1, a(2)=2. • a(n + 4) = 6 * a(n + 2) - 4 * a(n) [From _ Richard Choulet _ , Dec 06 2008] • a(n) = (- 1 / 20 * 5 ^ (1 / 2) + 1 / 16 * 5 ^ (1 / 2) * 2 ^ (1 / 2) - 1 / 16 * 2 ^ (1 / 2) + 1 / 4) * (sqrt(3 + sqrt(5))) ^ n + (1 / 20 * 5 ^ (1 / 2) + 1 / 16 * 5 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 16 * 2 ^ (1 / 2) + 1 / 4) * (sqrt(3 - sqrt(5))) ^ n + (- 1 / 20 * 5 ^ (1 / 2) - 1 / 16 * 5 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 16 * 2 ^ (1 / 2) + 1 / 4) * (- (sqrt(3 + sqrt(5)))) ^ n + (1 / 20 * 5 ^ (1 / 2) - 1 / 16 * 5 ^ (1 / 2) * 2 ^ (1 / 2) - 1 / 16 * 2 ^ (1 / 2) + 1 / 4) * (- (sqrt(3 - sqrt(5)))) ^ n [From _ Richard Choulet _ , Dec 07 2008] •

[A128035] • 1,1,2,3,8,15,24,42,72,117,190,308,504,819,1330,2160,3504,5678,9198,14877,24080,38976,63074,102051,165144 ★ a(0)=a(1)=1. a(n) = the multiple of n which is >= a(n-1)+a(n-2) and is < a(n-1)+a(n-2)+n. • a(n) = n * ceiling[(a(n - 1) + a(n - 2)) / n]. •

[A291400] • 0,1,2,3,8,15,26,52,100,193,378,726,1396,2699,5210,10065,19444,37528,72448,139890,270104,521547,1007026,1944336,3754132 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S^2 - S^4. • a(n) = a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) + 4 * a(n - 5) + 6 * a(n - 6) + 4 * a(n - 7) + a(n - 8) for n >= 9. •

[A179991] • 2,3,8,15,28,49,84,141,234,385,630,1027,1670,2711,4396,7123,11536,18677,30232,48929,79182,128133,207338,335495,542858 ★ Nonhomogeneous three-term sequence a(n) = a(n-1) + a(n-2) + n. • a(n) = F(n) + sum(i; i=1 to n) + sum((F(k) * sum(j;j=1 to k - n - 1); k=0 to n - 4)) + 2F(n - 3). • a(n) = 2 ^ (- n) * (- 3 * 2 ^ n + (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ n + sqrt(5) * (1 + sqrt(5)) ^ n - 2 ^ n * n). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A099920] • 0,2,3,8,15,30,56,104,189,340,605,1068,1872,3262,5655,9760,16779,28746,49096,83620,142065,240812,407353,687768,1159200 ★ a(n) = (n+1)*F(n), F(n) = Fibonacci numbers A000045. • a(n) = sum { k=0..n, F(n - k) * (L(k - 1) + 0 ^ k) } ; • a(n) = sum { k=0..n + 1, F(n - k) * binomial(n - k + 1, k) * binomial(1, (k + 1) / 2) * (1 - (- 1) ^ k) / 2 } . • a(0)=0, a(1)=2, a(2)=3, a(3)=8, a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 18 2012 •

[A128022] • 1,2,3,8,15,30,63,128,252,510,1012,2028,4056,8120,16230,32464,64923,129852,259711,519420,1038828,2077658,4155318,8310648,16621300 ★ a(1)=1, a(n) = the multiple of n which is >= (sum{k=1 to n-1} a(k)) and is < (n + sum{k=1 to n-1} a(k)). • a(1)=1, a(n) = n * ceiling(sum { k=1 to n - 1 } a(k) / n). •

[A195095] • 1,2,3,8,15,30,63,128,252,510,1023,2040,4095,8190,16365,32768,65535,131040,262143,524280,1048509,2097150,4194303,8388480,16777200 ★ G.f.: Sum_{n>=1} -moebius(2*n)*x^n/(1 - 2*x^n). • a(2 ^ n) = 2 ^ (2 ^ n - 1). • a(p) = 2 ^ (p - 1) for odd prime p. • a(n) = floor(2 ^ (n - 1) / n) * n unless n =3k, k>4. - _ M. F. Hasler _ , Sep 08 2011 •

[**A166920**] • 0,2,3,8,15,32,63,128,255,512,1023,2048,4095,8192,16383,32768,65535,131072,262143,524288,1048575,2097152,4194303,8388608,16777215 ⋆ a(n) = 2^n - (1 + (-1)^n)/2. • a(n) = 2 ^ n - (1 + (- 1) ^ n) / 2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). • a(n) = Sum _{ k=1..n + 1 } Sum _{ i=0..n + 1 } C(n - k,i). - _ Wesley Ivan Hurt _ , Sep 22 2017 •

[**A242510**] • 1,2,3,8,15,32,67,138,289,600,1249,2600,5409,11258,23427,48752,101455,211128,439363,914322,1902721,3959600,8240001,17147600,35684481 ⋆ Number of n-length words on {1,2,3} such that the maximal blocks (runs) of 1's have odd length, the maximal blocks of 2's have even length and the maximal blocks of 3's have odd length. • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - a(n - 4). - _ Fung Lam _ , May 18 2014 •

[**A132862**] • 1,1,2,3,8,15,36,63,192,405,1080,2079,6048,12285,31752,59535,193536,433755,1224720,2488563,7620480,16253055,44008272,86266215,274337280 ⋆ Number of permutations divided by the number of (binary) heaps on n elements. • a(0) = 1; a(1) = 1; a(n) = n * a(nl) * a(n - 1 - nl) with nl = min(b - 1,n - b / 2) and b = 2 ^ floor(log _ 2(n)). •

[**A006882**] • 1,1,2,3,8,15,48,105,384,945,3840,10395,46080,135135,645120,2027025,10321920,34459425,185794560,654729075,3715891200,13749310575,81749606400,316234143225,1961990553600 ⋆ Double factorials n!!: a(n) = n*a(n-2) for n>1, a(0) = a(1) = 1. • a(n) = prod(i=0..floor((n - 1) / 2), n - 2 * i). • a(n) = 2 ^{ [1 + 2 * n - cos(n * Pi)] / 4 }* Pi ^{ [cos(n * Pi) - 1] / 4 }* Gamma a(1 + 1 / 2 * n). - _ Paolo P. Lava _ , Jul 24 2007 • a(n) = n! / a(n - 1). - _ Vaclav Kotesovec _ , Sep 17 2012 • a(n) * a(n + 3) = a(n + 1) * (a(n + 2) + a(n)). a(n) * a(n + 1) = (n + 1)!. - _ Michael Somos _ , Dec 29 2012 • a(2 * n) = 2 ^ n * a(n) * a(n - 1). a(2 ^ n) = 2 ^ (2 ^ n - 1) * 1!! * 3!! * 7!! * ... * (2 ^ (n - 1) - 1)!!. - _ Peter Bala _ , Nov 01 2016 •

[**A219751**] • 0,0,0,0,2,3,8,16,36,76,164,348,740,1564,3300,6940,14564,30492,63716,132892,276708,575260,1194212,2475804,5126372 ⋆ Expansion of x^4*(2-3*x-x^2)/((1+x)*(1-2*x)^2). • a(n) = (2 ^ (n - 5) * (3 * n + 16) + 4 * (- 1) ^ n) / 9 with n>3, a(0)=a(1)=a(2)=a(3)=0. [_ Bruno Berselli _ , Nov 29 2012] •

[**A121133**] • 1,1,2,3,8,16,38,80,180,384,840,1792,3856,8192,17440,36864,77888,163840,344192,720896,1507584,3145728,6554112,13631488,28312576 ⋆ Numbers of isomers of unbranched a-4-catapolypentagons - see Brunvoll reference for precise definition. • a(n) = 2 ^ (n - 5) * (n + 2) for n>3 and even. • a(n) = 2 ^ (n - 5) * (n + 2) + 2 ^ ((n - 5) / 2) for n>3 and odd. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 8 * a(n - 4) for n>4. •

[**A005648**] • 1,1,2,3,8,16,50,133,440,1387,4752,16159,56822,200474,718146,2587018,9398520,34324174,126068558,465093571,1723176308,6407924300,23910576230,89494164973,335913918902 ⋆ Number of 2n-bead black-white reversible necklaces with n black beads. • a(n) = (Sum _{ d|n } phi(n / d) * C(2 * d, d)) / (4 * n) + C(2 * k, k) / 2, where k = floor(n / 2). - _ Michael Somos _ •

[**A113947**] • 1,2,3,8,16,64,264,1580,10648,84320,750380,7455312,81566928,974988768,12636692720,176505029160,2642791002368,42224138928712,716984262871596,12893605560786944 ⋆ Number of non-equivalent n-fold branched coverings of the projective plane with two cyclic branch points. • a(n) = (1 / n) * Sum _{ k|n } gcd(2, n / k) * phi(n / k) ^ 2 * (n / k) ^ (k - 1) * Sum _{ i=0..k - 1 } i! * (k - i - 1)! where phi(n) is the Euler function A000010. •

[**A292401**] • 2,3,8,17,34,71,144,289,578,1147,2264,4449,8706,16975,32992,63937,123586,238323,458600,880753,1688482,3231639,6175728,11785313,22460802 ⋆ p-INVERT of (1,0,2,0,2,0,2,0,2,0,...), where p(S) = (1 - S)^2. • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 4) - 2 * a(n - 5) - s(n - 6) for n >= 7. •

[**A219788**] • 2,3,8,17,39,87,196,440,989,2222,4993,11219,25209,56644,127278,285991,642616,1443945,3244515,7290359,16381288,36808420,82707769,185842670,417584689 ⋆ Consider the succession rule (x, y, z) -> (z, y+z, x+y+z). Sequence gives z values starting at (0, 1, 2). • a(n) = 2a(n - 1) + a(n - 2) - a(n - 3). - _ Charles R Greathouse IV _ , Nov 28 2012 •

[**A232165**] • 0,1,2,3,8,18,37,82,181,392,856,1873,4086,8919,19480,42530,92853,202742,442665,966496,2110240,4607473,10059866,21964555,47957080 ⋆ Cardinality of the Weyl alternation set corresponding to the zero-weight in the adjoint representation of the Lie algebra sp(2n). • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). G.f.: - x * (x + 1) / (x ^ 4 + 3 * x ^ 3 + x ^ 2 + x - 1). - _ Colin Barker _ , Jan 01 2014 •

[**A129955**] • 2,3,8,18,40,88,192,416,896,1920,4096,8704,18432,38912,81920,172032,360448,753664,1572864,3276800,6815744,14155776,29360128,60817408,125829120 ⋆ Third differences of A129952. • a(0) = 2, a(1) = 3; for n > 1, a(n) = (n + 6) * 2 ^ (n - 2). •

[**A272642**] • 1,2,3,8,18,42,97,225,521,1207,2796,6477,15004,34757,80515,186514,432062,1000877,2318544,5370936,12441840,28821677,66765773,154663743,358280483 ⋆ Expansion of (x^4+x^3+x^2-x-1)/(x^4+2*x^3+2*x^2+x-1). • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5). - _ Vincenzo Librandi _ , May 08 2016 •

[**A113183**] • 1,1,2,3,8,18,58,155,546,1592,5774,17798,65676,210362,785248,2588155,9743348,32832290,124416022,426685544,1625465732,5654938190,21636274202,76171463926,292498386900 ⋆ Number of unrooted two-face maps in the plane (considered up to orientation-preserving homeomorphism) with the faces of equal degree n: planar maps with a distinguished outside face. • a(n) = (1 / n) Sum _{ k|n } phi(k) C((n / k) - 1,floor(n / (2k))) ^ 2 where phi(k) is the Euler function A000010. •

[**A041205**] • 1,1,2,3,8,19,27,46,73,1506,1579,3085,4664,12413,29490,41903,71393,113296,2337313,2450609,4787922,7238531,19264984,45768499,65033483 ⋆ Denominators of continued fraction convergents to sqrt(113). • a(n) = 1552 * a(n - 9) + a(n - 18). - _ Vincenzo Librandi _ , Dec 13 2013 •

[**A041281**] • 1,2,3,8,19,46,65,176,4289,8754,13043,34840,82723,2002869,283009,766304,18674305,38114914,56789219,151693352,360175923,872045198,1232221121,3336487440,81307919681 ⋆ Denominators of continued fraction convergents to sqrt(153). • a(n) = 4354 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 14 2013 •

[**A078343**] • 1,2,3,8,19,46,111,268,647,1562,3771,9104,21979,53062,128103,309268,746639,1802546,4351731,10506008,25363747,61233502,147830751,356895004,861620759 ⋆ a(0) = -1, a(1) = 2; a(n) = 2*a(n-1) + a(n-2). • a(n) is asymptotic to (1 / 4) * (8 - 5 * sqrt(2)) * (1 + sqrt(2)) ^ n. • a(n) = 4 * Pell(n) - Pell(n + 1), where Pell = A000129. - _ Vladimir Reshetnikov _ , Sep 27 2016 •

[**A042697**] • 1,1,2,3,8,19,84,103,2968,3071,15252,33575,82402,115977,198379,314356,18431027,18745383,37176410,55921793,149019996,353961785,1564867136,1918828921,55292076924 ⋆ Denominators of continued fraction convergents to sqrt(878). • a(n) = 18629406 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 26 2014 •

[**A042905**] • 1,2,3,8,19,141,301,743,1044,2831,176566,355963,532529,1421021,3374571,25043018,53460607,131964232,185424839,502813910,31359887259,63222588428,94582475687,252387539802,599357555291 ⋆ Denominators of continued fraction convergents to sqrt(984). • a(n) = 177610 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Feb 01 2014 •

[**A029895**] • 1,1,2,3,8,20,58,169,526,1667,5448,18084,61108,208960,723354,2527074,8908546,31630390,113093022,406680465,1470597342,5342750699,19499927828,71442850111,262754984020 ⋆ Number of partitions of floor(n^2/2) with at most n parts and maximal height n. • a(n) equals the central coefficient of q in the central q - binomial coefficients for n>0: a(n) = [q ^ ([n ^ 2 / 2])] Product _{ i=1..n } (1 - q ^ (n + i)) / (1 - q ^ i), with a(0)=1. - _ Paul D. Hanna _ , Feb 15 2007 •

[**A073268**] • 1,1,2,3,8,20,58,179,576,1902,6426,22092,77026,271702,967840,3476555,12578728,45800278,167693698,617037126,2280467586,8461771342,31510700712,117725789124,441141656810 ⋆ Number of plane binary trees whose right (or respectively: left) subtree is a unique "complete" tree of (2^m)-1 nodes with all the leaf-nodes at the same depth m and the left (or respectively: right) subtree is any plane binary tree of size n - 2^m + 1. • a(0)=1, a(n) = Sum _{ i=0..[log2(n)] } Cat(n - (2 ^ i)) •

[**A032096**] • 2,3,8,23,74,227,704,2135,6482,19523,58808,176663,530714,1592867,4780784,14344535,43040162,129127043,387400808,1162222103,3486725354,10460235107,31380882464,94142824535,282429005042 ⋆ "BHK" (reversible, identity, unlabeled) transform of 2,2,2,2... • a(n) = (1 / 6) * ((- 1) ^ n - 5) * 3 ^ floor(n / 2) + 3 ^ (n - 1) + 2. - _ Ralf Stephan _ , May 11 2004 •

[**A120260**] • 1,1,2,3,8,24,92,432,2740,23822,264185,3545166,59474514,1343942004,41179884383,1593533376361,74665098131246,4404743069577837,3511388582791139 87,377403957233477177 5,5093113605218543006445 ⋆ Diagonal sums of number triangle A120258. • a(n)=sum { k=0..floor(n / 2), Product { j=0..k - 1, C(2n - 4k + j, n - 2k) / C(n - 2k + j, j) }} •

[**A002619**] • 1,1,2,3,8,24,108,640,4492,36336,329900,3326788,36846288,444790512,5811886656,81729688428,1230752346368,19760413251956,336967037143596,6082255029733168,115852476579940152,2322315553428424200,48869596859895986108 ⋆ Number of 2-colored patterns on an n X n board. • a(n) = (1 / n ^ 2) * Sum(phi(p) ^ 2 * (n / p)! * p ^ (n / p)), where phi is Euler's totient function (A000010) and summation is over all divisors of n (see the Vella reference, p. 31). - _ Emeric Deutsch _ , Aug 23 2005 •

[**A127905**] • 0,1,2,3,8,25,66,168,456,1269,3490,9581,26544,73944,206220,576045,1613264,4527661,12725946,35818135,100950440,284869263,804726934,2275500998,6440230392 ⋆ Construct triangle in which n-th row is obtained by expanding (1+x+x^3)^n and take the next-to-central column. • a(n)=n * sum { k=0..floor((n - 1) / 3), C(n - 1,3k) * C(3k,k) / (2k + 1) } ; a(n)=sum { k=0..floor((n - 1) / 3), (3k + 1) * C(n,3k + 1) * C(3k,k) / (2k + 1) } ; a(n)=sum { k=0..n - 1, sum { j=0..floor(k / 3), C(k,3j) * C(3j + 1,j) }} ; •

[**A065619**] • 1,2,3,8,25,96,427,2176,12465,79360,555731,4245504,35135945,313155584,2990414715,30460116992,329655706465,3777576173568,45692713833379,581777702256640,7777794952988025,108932957168730112,1595024111042171723,24370173276164456448 ⋆ E.g.f. x * (tan(x) + sec(x)). • a(n) = n * 2 ^ (n - 1) * |E _{ n - 1 } (1 / 2) + E _{ n - 1 } (1)| for n > 1; E _{ n } (x) Euler polynomial. - _ Peter Luschny _ , Nov 25 2010 •

[**A107704**] • 1,1,2,3,8,26,107,492,2481,13599,81288,531343,3790344,29279668,242278645,2125160800,19608039385,189437263949,1912477987102,20161911603747,221869317899264,2546362514225134,30430660439311103 ⋆ Diagonal sums of A103209, viewed as number triangle. • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - 2k, C(n - 2k + j, 2j) * k ^ j * C(k) }} , C(n) given by A000108 . •

[**A041399**] • 1,1,2,3,8,27,35,167,1538,1705,3243,17920,57003,815962,2504889,13340407,15845296,29185703,278516623,1143252195,1421768818,5408558649,12238886116,17647444765,29886330881 ⋆ Denominators of continued fraction convergents to sqrt(214). • a(n) = 1390718379850 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Dec 17 2013 •

[**A093858**] • 1,2,3,8,27,116,607,3758,26913,219062,1998471,20203772,224239963,2711083328,35468323227,499267608506,7524482450817,120890986821578,2062671258417643,37248973638339152,709793170386861531 ⋆ a(0) = 1, a(1)= 2, a(n) = {a(n+1)-a(n-1)}/n, or a(n+1) = n*a(n) +a(n-1). • a(n) = - 2 * (BesselI[n, - 2] * (2 BesselK[0, 2] - BesselK[1, 2]) + (- 2 BesselI[0, 2] + BesselI[1, - 2]) * BesselK[n, 2]) - _ Ryan Propper _ , Sep 14 2005 •

[**A001048**] • 2,3,8,30,144,840,5760,45360,403200,3991680,43545600,518918400,6706022400,93405312000,1394852659200,22230464256000,376610217984000,6758061133824000,128047474114560000,2554547108585472000,53523844179886

080000,1175091669949317120000 ★ a(n) = n! + (n-1)!. ● a(n) = (n + 1) * (n - 1)!. ● a(n) = (n + 1)! / n. - Claude Lenormand (claude.lenormand(AT)free.fr), Aug 24 2003 ● a(1) = 2, a(2) = 3, a(n) = (n ^ 2 - n - 2) * a(n - 2) for n > = 3. - _ Jaume Oliver Lafont _ , Dec 01 2009 ● a(n) = (n - 1) * a(n - 1) + (n - 1)!. - _ Bruno Berselli _ , Feb 22 2017 ●

[A082569] ● 2,3,8,32,160,960,6720,53760,483840,4838400,53222400,638668800,8302694400,116237721600,1743565824000,27897053184000,4742499041280000,85364982743040000,1621934672117760000,32438693442355200000 ★ a(1)=2; a(n)=ceiling(n*(a(n-1)-1/a(n-1))). ● a(1)=2 a(2)=3 and for n>2, a(n)= 4 * n! / 3. ●

[A041657] ● 1,1,2,3,8,35,43,766,809,4002,8813,12815,21628,34443,1261576,1296019,2557595,3853614,10264823,44912906,55177729,982934299,1038112028,5135382411,11308876850 ★ Denominators of continued fraction convergents to sqrt(347). ● a(n) = 1283204 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 22 2013 ●

[A041789] ● 1,2,3,8,35,218,253,471,1666,2137,3803,24955,103623,232201,335824,903849,36489784,73883417,110373201,294629819,1288892477,8027984681,9316877158,17344861839,61351462675 ★ Denominators of continued fraction convergents to sqrt(415). ● a(n) = 36825608 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Dec 24 2013 ●

[A042553] ● 1,2,3,8,43,51,706,1463,2169,23153,25322,73797,984683,1058480,6277083,13612646,19889729,53392104,3009847553,6073087210,9082934763,24238956736,130277718443,154516675179,2138994495770 ★ Denominators of continued fraction convergents to sqrt(805). ● a(n) = 3029737282 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 25 2014 ●

[A042139] ● 1,2,3,8,43,1040,5243,11526,16769,45064,2179841,4404746,6584587,17573920,94454187,2284474408,11516826227,25318126862,36834953089,98988033040,4788260539009,9675509111058,14463769650067,38603048411192,207479011706027 ★ Denominators of continued fraction convergents to sqrt(594). ● a(n) = 2196610 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 15 2014 ●

[A042365] ● 1,1,2,3,8,59,244,791,2617,11259,81430,174119,255549,429668,685217,36060952,36746169,72807121,109553290,291913701,2152949197,8903710489,28864080664,95495952481,410847890588 ★ Denominators of continued fraction convergents to sqrt(709). ● a(n) = 36490620 * a(n - 15) + a(n - 30) for n >29. - _ Vincenzo Librandi _ , Jan 20 2014 ●

[A042815] ● 1,1,2,3,8,67,142,209,351,560,33951,34511,68462,102973,274408,2298237,4870882,7169119,12040001,19209120,1164587201,1183796321,2348383522,3532179843,9412743208 ★ Denominators of continued fraction convergents to sqrt(938). ● a(n) = 34302 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 30 2014 ●

[A047475] ● 1,2,3,9,10,11,17,18,19,25,26,27,33,34,35,41,42,43,49,50,51,57,58,59,65 ★ Numbers that are congruent to {1, 2, 3} mod 8. ● a(n) = 1 + 8 * floor ((n - 1) / 3) + ((n - 1) mod 3). - _ Alois P. Heinz _ , May 13 2012 ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = (24 * n - 30 - 15 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3k) = 8k - 5, a(3k - 1) = 8 k - 6, a(3k - 2) = 8k - 7. (End) ●

[A047358] ● 2,3,9,10,16,17,23,24,30,31,37,38,44,45,51,52,58,59,65,66,72,73,79,80,86 ★ Numbers that are congruent to {2, 3} mod 7. ● a(n) = 7 * n - a(n - 1) - 9, n > 1. - _ Vincenzo Librandi _ , Aug 05 2010 ●

[A057569] ● 0,2,3,9,11,21,24,38,42,60,65,87,93,119,126,156,164,198,207,245,255,297,308,354,366 ★ Numbers of the form k*(5*k+1)/2 or k*(5*k-1)/2. ● a(n) = a(1 - n) for all n in Z. - _ Michael Somos _ , Jan 13 2012 ● a(n) = n * (5 * n - 2) / 8 for n even. ● a(n) = (5 * n - 3) * (n - 1) / 8 for n odd. ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. ●

[A295857] ● 0,0,2,3,9,14,31,49,96,153,281,450,795,1277,2200,3541,5997,9666,16175,26097,43296,69905,115249,186178,305523 ★ a(n) = a(n-1) + 3*a(n-2) - 2*a(n-3) - 2*a(n-4), where a(0) = 0, a(1) = 0, a(2) = 2, a(3) = 3. ● a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 0, a(1) = 0, a(2) = 2, a(3) = 3. ●

[A237254] ● 1,2,3,9,14,43,67,206,321,987,1538,4729,7369,22658,35307,108561,169166,520147,810523,2492174,3883449,11940723,18606722,57211441,89150161 ★ Values of x in the solutions to x^2 - 5xy + y^2 + 5 = 0, where 0 < x < y. ● a(n) = 5 * a(n - 2) - a(n - 4). ●

[A220123] ● 1,1,2,3,9,16,35,65,143,281,590,1174,2440,4925,10142,20563,42178,85819,175632,357875,731536,1491966,3047879,6218844,12699982 ★ Number of tilings of a 4 X n rectangle using integer sided rectangular tiles of area 4. ● a(n) = a(n - 1) + a(n - 2) + 5 * a(n - 4) - a(n - 5) + a(n - 6) - a(n - 8). - _ Caleb Wagner _ , Nov 06 2013 ●

[A156066] ● 2,3,9,16,52,93,303,542,1766,3159,10293,18412,59992,107313,349659,625466,2037962,3645483,11878113,21247432,69230716,123839109,403506183,721787222,2351806382 ★ Numbers n with property that n^2 are squares arising in A154138. ● a(1..4) = (2,3,9,16); a(n>4) = 6 * a(n - 2) - a(n - 4). ●

[A079992] ● 1,1,2,3,9,19,49,100,233,503,1166,2580,5884,13092,29622,66281,149569,335524,755737,1697149,3819301,8582469,19306314,43397191,97600441 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={-2,2}. ● a(n) = a(n - 1) + 3 * a(n - 2) - a(n - 3) + a(n - 4) + a(n - 5) + 3 * a(n - 6) - 5 * a(n - 7) - 9 * a(n - 8) + a(n - 9) + a(n - 10) + a(n - 11) - a(n - 12) + a(n - 13) + a(n - 14). ●

[A277251] ● 2,3,9,29,107,430,1840,8230,38015,179873,867079,4242111,21006358,105072063,530058079,2693632580,13775807415,70847283680,366167521240,1900884870494,9907318315587,51822028122623,271949090063769,1431369293422604,7554372307564282 ★ Exponential convolution of Lucas (A000032) and Catalan (A000108) numbers. ● a(n) = phi ^ n * hypergeom([1 / 2, - n], [2], - 4 / phi) + (- phi) ^ (- n) * hypergeom([1 / 2, - n], [2], 4 * phi), where phi = (1 + sqrt(5)) / 2 = A001622. ●

[A073950] ● 1,2,3,9,30,81,225,702,2187,6561,19602,59049,177633,532170,1594323,4782969,14351094,43046721,129127041,387400806,1162261467,3486784401,10460294154,31381059609,94143533121 ★ Number of strings over Z_3 of length n with trace 1 and subtrace 0. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 2, s + 2t + 1) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A281270] ● 0,0,1,2,3,9,30,81,242,838,2799,9365,33616,122937,449698,1696724,6558855,25559806,101294687,409363758,1673735259,6928460475,29115833976,123835124242,532449210893 ★ a(n) is the number of closed BCK (aka affine) lambda terms of size n. ● a(n) = 1 + a(n - 1) + 2 * Sum _{ k=2..n - 3 } k * a(k) + Sum _{ k=2..n - 3 } a(k) * a(n - 1 - k) for n>=2. ●

[A219673] ● 2,3,9,42,197,913,4302,20611,99773,486438,2385319,11752931,58139858,288572079,1436398329,7167499522,35842352013,179576501169,901226053422,4529717794607,22797936691207,114881558737498,579544350869889,2926592507364717,14792448049794122 ★ a(n) = Sum_{k=0..n} binomial(n,k)^2*Lucas(k) where Lucas(n) = A000032(n). ● a(n) = hypergeom([- n, - n], [1], phi) + hypergeom([- n, - n], [1], 1 - phi) = phi ^ n * P _ n(sqrt(5) - 2) + (1 - phi) ^ n * P _ n(- sqrt(5) - 2), where phi = (1 + sqrt(5)) / 2, P _ n(x) is the Legendre polynomial. - _ Vladimir Reshetnikov _ , Sep 28 2016 ●

[A007090] ● 0,1,2,3,10,11,12,13,20,21,22,23,30,31,32,33,100,101,102,103,110,111,112,113,120 ★ Numbers in base 4. ● a(n) = Sum { d(i) * 10 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 4 ^ i: i=0, 1, ..., m } is the base 4 representation of n. ● a(0) = 0, a(n) = 10 * a(n / 4) if n==0 (mod 4), a(n) = a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 ●

[A278742] ● 1,2,3,10,11,12,20,30,100,110,200,300,1000,1100,2000,2100,3000,10000,20000,30000,100000,110000,120000,200000,300000 ★ Lexicographically least strictly increasing sequence such that, for any n>0, Sum_{k=1..n} a(k) can be computed without carries in base 10. ● a(n + 17) = 10000 * a(n) for any n>0 . ● a(17k + 1) = 10 ^ (4k), k >= 0. - _ N. J. A. Sloane _ , Jan 06 2017 ●

[A032804] ● 2,3,10,11,14,15,42,43,46,47,58,59,62,63,170,171,174,175,186,187,190,191,234,235,238 ★ Set of base 4 digits of n is {2,3}. ● a(0) = 0, a(2 * n) = 4 * a(n - 1) + 3, a(2 * n + 1) = 4 * a(n) + 2. - _ Robert Israel _ , May 05 2014 ●

[A047473] ● 2,3,10,11,18,19,26,27,34,35,42,43,50,51,58,59,66,67,74,75,82,83,90,91,98 ★ Numbers that are congruent to {2, 3} mod 8. ● a(n) = 8 * n - a(n - 1) - 11 for n>1, a(1)=2. - _ Vincenzo Librandi _ , Aug 06 2010 ● a(n) = 4 * n - 7 / 2 - 3 * (- 1) ^ n / 2. ● a(1)=2, a(2)=3, a(3)=10; for n>3, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Sep 28 2012 ●

[A281366] ● 1,2,3,10,11,20,21,100,110,200,210,1000,1100,2000,2100,10000,11000,20000,21000,100000,110000,200000,210000,1000000,1100000 ★ Lexicographically least strictly increasing sequence such that, for any n>0, Sum_{k=1..n} a(k) can be computed without carries in base 9 (the numbers are written in base 9). ● a(n) = 10 * a(n - 4) for n>7. (End) ●

[A193652] ● 0,1,2,3,10,11,42,43,170,171,682,683,2730,2731,10922,10923,43690,43691,174762,174763,699050,699051,2796202,2796203,11184810 ★ A020988 and A007583 interleaved. ● a(n) = 2 * (4 ^ floor(n / 2) - 1) / 3 + n mod 2. ●

[A023856] ● 2,3,10,13,28,34,60,70,110,125,182,203,280,308,408,444,570,615,770,825,1012,1078,1300,1378,1638 ★ a(n) = s(1)t(n) + s(2)t(n-1) + ... + s(k)t(n+1-k), where k = floor((n+1)/2), s = (natural numbers), t = (natural numbers >= 2). ● a(n) = (n + 2) * (4 * n ^ 2 + 13 * n + 6 - 3(n + 2)(- 1) ^ n) / 48. ● a(n) = Sum _{ k=1..(2 * n + 1 + (- 1) ^ (n + 1)) / 4 } (n - k + 1) * (k - 1), with n >= 3. - _ Paolo P. Lava _ , Jan 31 2007 ● a(n) = Sum _{ i=1..ceiling(n / 2) } i * (n - i + 2) = - ceiling(n / 2) * (ceiling(n / 2) + 1) * (2 * ceiling(n / 2) - 3n - 5) / 6. - _ Wesley Ivan Hurt _ , Sep 20 2013 ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). - _ Wesley Ivan Hurt _ , Dec 01 2017 ●

[A187767] ● 0,2,3,10,15,35,63,138,255,527,1023,2083,4095,8255,16383,32906,65535,131327,262143,524815,1048575,2098175,4194303,8390691,16777215 ★ Number of bicolored cyclic patterns n X n. ● a(1) = 0; a(n) = 2 ^ (n - 1) - 1 if n is odd, 2 ^ (n - 1) + a(n / 2) if n is even (conjectured). ●

[A226881] ● 0,0,2,3,10,15,41,63,162,255,637,1023,2509,4095,9907,16383,39202,65535,155381,262143,616665,1048575,2449867,4194303,9740685 ★ Number of n-length binary words w with #(w,0) >= #(w,1) >= 1, where #(w,x) gives the number of digits x in w. ● a(n) = Sum _{ i=1..floor(n / 2) } C(n,i). - _ Wesley Ivan Hurt _ , Mar 14 2015 ●

[A027913] ● 1,1,2,3,10,15,50,77,266,414,1452,2277,8074,12727,45474,71955,258570,410346,1481108,2355962,8533660,13599915,49402850,78855339,287134346 ★ T(n,[n/2]), T given by A027907. ● a(n) = GegenbauerC(floor(n / 2), - n, - 1 / 2). - _ Emanuele Munarini _ , Oct 18 2016 ●

[A081204] ● 1,2,3,10,15,56,84,330,495,2002,3003,12376,18564,77520,116280,490314,735471,3124550,4686825,20030010,30045015,129024480,193536720,834451800,1251677700 ★ Staircase on Pascal's triangle. ● a(n) = binomial(ceiling((n) / 2) + n, n). ● a(n) = sum { k=0..floor(n / 2), binomial(n + k - 1, k) } . - _ Paul Barry _ , Jul 06 2004 ●

[A213391] ● 0,1,2,3,10,17,24,43,62,81,118,155,192,253,314,375,466,557,648,775,902,1029,1198,1367,1536 ★ Number of (w,x,y) with all terms in {0,...,n} and 2*max(w,x,y) < 3*min(w,x,y). ● a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) - a(n - 5) + 2 * a(n - 6) - a(n - 7). ●

[A143609] ● 2,3,10,17,58,99,338,577,1970,3363,11482,19601,66922,114243,390050,665857,2273378,3880899,13250218,22619537,77227930,131836323,450117362,768398401,2623476242 ★ Numerators of the upper principal and intermediate convergents to 2^(1/2). ● a(n) = (2 + sqrt(2) + (- 1) ^ n * (- 2 + sqrt(2)))

* ((- 1 + sqrt(2)) ^ n + (1 + sqrt(2)) ^ n) / (4 * sqrt(2)). - _ Colin Barker _ , Mar 27 2016 ●

[A264038] ● 0,2,3,10,20,47,98,210,435,902,1848,3775,7670,15542,31403,63330,127500,256367,514938,1033450,2072675,4154702,8324528,16673535,33386670 ⋆ Convolution of Lucas and Jacobsthal numbers. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3) - 2 * a(n - 4) for n > 3. ●

[A130002] ● 1,1,2,3,10,23,60,139,326,735,1648,3635,7962,17287,37316,80091,171118,364079,771864,1631107,3436994,7223511,15146092,31690283,66176790 ⋆ Alternating sum along antidiagonals of the array of A129952 and its iterated differences. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 7 * a(n - 4) + 4 * a(n - 5) - 4 * a(n - 6) for n > 6. ●

[A059929] ● 0,2,3,10,24,65,168,442,1155,3026,7920,20737,54288,142130,372099,974170,2550408,6677057,17480760,45765226,119814915,313679522,821223648,2149991425,5628750624 ⋆ a(n) = Fibonacci(n)*Fibonacci(n+2). ● a(n) = ((7 + 3 * sqrt(5)) / 10) * ((3 + sqrt(5)) / 2) ^ (n - 1) + ((7 - 3 * sqrt(5)) / 10) * ((3 - sqrt(5)) / 2) ^ (n - 1) + (3 / 5) * (- 1) ^ (n - 1). - _ Tim Monahan _ , Aug 09 2011 ● a(n) = (Lucas(n + 1) ^ 2 - Fibonacci(n + 1) ^ 2) / 4. - _ Vincenzo Librandi _ , Aug 02 2014 ● a(n) = F(n - 2) * F(n) + F(n - 1) * F(n) + F(n - 2) * F(n + 1) + F(n - 1) * F(n + 1), where F=A000045, F(- 2)= - 1, F(- 1)=1. - _ Bruno Berselli _ , Nov 03 2015 ●

[A123029] ● 1,1,2,3,10,24,130,504,4420,27720,393380,3991680,91657540,1504863360,55911099400,1485300136320,89290025741800,3838015552250880,373321597626465800,25964175210977203200,4086378207619294646800 ⋆ a(2*n-1) = prod(i=1..n, fibonacci(2*i-1)) and a(2*n) = prod(i=1..n, fibonacci(2*i)). ● a(n) = F(n) * a(n - 2). ● a(n) = 1 by convention since empty products equal 1. - _ Michael Somos _ , Oct 07 2014 ●

[A182926] ● 1,2,3,10,25,161,721,5706,40881,385687,3628801,41268613,479001601,6324319717,87212177053,1317906346186,20922789888001,35709970870202 3,6402373705728001,121882752536893635,2432928081076384321,51140835669924352717 ⋆ Row sums of absolute values of A182928. ● a(n) = Sum _{ d|n } n! / (d * ((n / d)!) ^ d). ●

[A005225] ● 1,2,3,10,25,176,721,6406,42561,436402,3628801,48073796,479001601,7116730336,88966701825,1474541093026,20922789888001,40016058885302 6,6402373705728001,133991603578884052,2457732174030848001,557355732919 77790576,1124000727777607680001 ⋆ Number of permutations of length n with equal cycles. ● a(n) = n! * sum(((n / k)! * k ^ (n / k)) ^ (- 1)) where sum is over all divisors k of n. Exponential generating function [for a(1) through a(n)]= sum(exp(t ^ k / k) - 1, k=1..n). ●

[A052929] ● 2,3,10,27,82,243,730,2187,6562,19683,59050,177147,531442,1594323,4782970,14348907,43046722,129140163,387420490,1162261467,3486784402,10460353203,31381059610,94143178827,282429536482 ⋆ Expansion of (2-3*x-x^2)/((1-x^2)*(1-3*x)). ● a(n) = 3 ^ n + (1 + (- 1) ^ n) / 2. [_ Bruno Berselli _ , Aug 27 2013] ● a(n) = Sum _{ k=0..n } (- 1) ^ k + 2 ^ k * binomial(n,k). [_ Bruno Berselli _ , Aug 27 2013] ●

[A084380] ● 2,3,10,29,66,127,218,345,514,731,1002,1333,1730,2199,2746,3377,4098,4915,5834,6861,8002,9263,10650,12169,13826 ⋆ a(n) = n^3 + 2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 24 2012 ●

[A286814] ● 2,3,10,29,82,227,618,1661,4418,11651,30506,79389,205522,529635,1359434,3476989,8865026,22538755,57157578,144615709,365127634,920110051,2314564522,5812911741,14576950082 ⋆ Number of matchings in the n-helm graph. ● a(n) = ((1 - sqrt(2)) ^ n * (4 - sqrt(2) * n) + (1 + sqrt(2)) ^ n * (4 + sqrt(2) * n)) / 4; ● a(n) = LucasL(n, 2) + n * Fibonacci(n, 2). ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) - a(n - 4). ●

[A131764] ● 1,2,3,10,30,102,335,1170,4080,14560,52377,190650,698870,2581110,9586395,35791358,134215680,505290270,1908866960,7233629130,27487764474,104715392730,399822314775,1529755308210,5864061663920 ⋆ Inverse EULER transform of central binomial coefficients A000984. ● a(n) = (1 / n) * Sum _{ d|n } moebius(n / d) * 2 ^ (2 * d - 1). ●

[A057146] ● 2,3,10,33,109,354,1148,3716,12026,38918,125943,407562,1318899,4268047,13811692,44695576,144637922,468058148,1514667986,4901568568,15861809082,51329892437,166107021206,537533612162,1739495309150 ⋆ The sequence 2, floor(a), floor(a^2), floor(a^3), ..., with a = 1+sqrt(5). ● a(n) = floor((1 + sqrt(5)) ^ n) for n>0, a(0)=2. - _ Artur Jasinski _ , Nov 22 2006 ●

[A144720] ● 2,3,10,37,138,515,1922,7173,26770,99907,372858,1391525,5193242,19381443,72332530,269948677,1007462178,3759900035,14032137962,52368651813,195442469290,729401225347,2722162432098,10159248503045 ⋆ a(0) = 2, a(1) = 3, a(n) = 4 * a(n-1) - a(n-2). ● a(n)=(1 / 6) * sqrt(3) * [2 - sqrt(3)] ^ n - (1 / 6) * sqrt(3) * [2 + sqrt(3)] ^ n + [2 - sqrt(3)] ^ n + [2 + sqrt(3)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Oct 15 2008] ●

[A164933] ● 1,2,3,10,37,151,674,3263,17007,94828,562594,3534961,23428397,163187870,1190538144,9066908419,71837342107,590009213152,5004416730974,43667740987637,390497323261737,3565602957116674,33130941174471484,312322981161532615,2979191694795132887 ⋆ Word structures of length n using a 10-ary alphabet, including a special character, which may occur in the leftmost word position only if n=1. ● a(n) = Sum _{ m=0..n - 1 } C(n - 1,m) Sum _{ k=0..9 } S2 (n - m, k), if n>1; a(n) = n + 1 else. ● a(n) = 2119 / 11520 * 2 ^ n + 103 / 840 * 3 ^ n + 53 / 1152 * 4 ^ n + 11 / 900 * 5 ^ n + 6 ^ n / 384 + 7 ^ n / 2520 + 8 ^ n / 11520 + 10 ^ n / 403200, if n>1; a(n) = n + 1 else. ●

[A003048] ● 1,2,3,10,39,196,1175,8226,65807,592264,5922639,65149030,781788359,10163248668,142285481351,2134282220266,34148515524255,580524763912336,10449445750422047,198539469258018894 ⋆ a(n+1) = n*a(n) - (-1)^n. ● a(n + 2) = n(a(n) + a(n + 1)) for n > 0. - _ Amarnath Murthy _ , Oct 05 2002 ● a(n) = 2 * (n - 1)! - floor(((n - 1)! + 1) / e), n > 1. - _ Gary Detlefs _ , Apr 11 2010 ●

[A007226] ● 2,3,10,42,198,1001,5304,29070,163438,937365,5462730,32256120,192565800,1160346492,7048030544,43108428198,265276342782,1641229898525,10202773534590,63698396932170,399223286267190,2510857763851185,15842014607109600 ⋆ 2*det(M(n,-1))/det(M(n, 0)), where M(n,m) is the n X n matrix with element 1/binomial(n+i+j+m,n). ● a(n + 2) = 2 * C(3n, n) - C(3n, n + 1), (n>=0). - _ David Callan _ , Oct 25 2004 ● a(n) = C(3n,n) / (2n + 1) + C(3n + 1,n) / (n + 1)=C(3n,n) / (2n + 1) + 2 * C(3n + 1,n) / (2n + 2). - _ Paul Barry _ , Nov 05 2006 ●

[A243642] ● 1,2,3,10,43,210,1106,6120,35059,206050,1235130,7520860,46385822,289160620,1818956184,11531388580,73599630147,472547337650,3049962382850,19777692906300,128789274380746 ⋆ Expansion of -(4*x)/((1-sqrt(1-4*x))/2-sqrt(-3*(1-sqrt(1-4*x))+(1-sqrt(1-4*x))^2/4+1)+1). ● a(n) = Sum _{ k=0..(n - 1) } binomial(3 * n - 3,n - 4 * k) * binomial(n + k - 2,k)) / (n - 1), n>1, a(0) = - 1, a(1)=2. ●

[A093856] ● 1,2,3,10,57,446,4403,52390,729057,11612522,208296339,4154314258,91186617337,2184324501830,56701250430243,1585450687544974,47506819375918977,1518632769341862290,51586007338247398883 ⋆ a(0)=1; a(1)=2; a(n+1) = 2*n*a(n) - a(n-1) for n >= 1. ● a(- n) = (- 1) ^ n * a(n). - _ Michael Somos _ , Jan 25 2014 ● a(n + 1) ~ 1.0903447... * 2 ^ n * n! * f(1 / (4 * n)) where f(x) = 1 + x + x ^ 2 / 2! + 13 * x ^ 3 / 3! + 241 * x ^ 4 / 4! + 6201 * x ^ 5 / 5! + ...). - _ Michael Somos _ , Jan 26 2014 ●

[A007932] ● 1,2,3,11,12,13,21,22,23,31,32,33,111,112,113,121,122,123,131,132,133,211,212,213,221 ⋆ Numbers that contain only 1's, 2's and 3's. ● a(n) = sum _{ j=0..m - 1 } (1 + b(j) mod 3) * 10 ^ j, ● a(k * (3 ^ n - 1) / 2) = k * (10 ^ n - 1) / 9, k=1,2,3. ● a((5 * 3 ^ n - 3) / 2) = (4 * 10 ^ n - 1) / 3 = 10 ^ n + (10 ^ n - 1) / 3. ● a((3 ^ n - 1) / 2 - 1) = (10 ^ (n - 1) - 1) / 3, n>1. ● a(n) <= (10 ^ log _ 3(2 * n + 1) - 1) / 9, equality holds for n=(3 ^ k - 1) / 2, k>0. ● a(n) > (3 / 10) * (10 ^ log _ 3(2 * n + 1) - 1) / 9, n>0. ●

[A042665] ● 1,2,3,11,14,25,239,981,2201,5383,12967,18350,104717,123067,596985,1317037,25620688,206282541,438185770,644468311,18483298478,19127766789,56738832056,473038423237,9044468873559 ⋆ Denominators of continued fraction convergents to sqrt(862). ● a(n) = 716045132294624251006 * a(n - 40) - a(n - 80) for n>79. - _ Vincenzo Librandi _ , Jan 26 2012 ●

[A041029] ● 1,2,3,11,14,39,326,691,1017,3742,4759,13260,110839,234938,345777,1272269,1618046,4508361,37684934,79878229,117563163,432567718,550130881,1532829480,12812766721 ⋆ Denominators of continued fraction convergents to sqrt(19). ● a(n) = 340 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - 2 * x ^ 9 + 3 * x ^ 8 - 11 * x ^ 7 + 14 * x ^ 6 - 39 * x ^ 5 - 14 * x ^ 4 - 11 * x ^ 3 - 3 * x ^ 2 - 2 * x - 1) / (x ^ 12 - 340 * x ^ 6 + 1). [_ Colin Barker _ , Jul 16 2012] ●

[A041235] ● 1,2,3,11,14,95,109,422,531,1484,33179,67842,101021,370905,471926,3202461,3674387,14225622,17900009,50025640,1118464089,2286953818,3405417907,12503207539,15908625446 ⋆ Denominators of continued fraction convergents to sqrt(129). ● a(n) = 33710 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 13 2013 ●

[A041637] ● 1,2,3,11,14,165,344,1541,1885,7196,23473,30669,146149,322967,3698786,4021753,15764045,19785798,55335641,2011868874,4079073389,6090942263,22351900178,28442842441,335223167029 ⋆ Denominators of continued fraction convergents to sqrt(337). ● a(n) = 2031654672 * a(n - 19) + a(n - 38) for n>37. [_ Bruno Berselli _ , Dec 22 2013] ●

[A147655] ● 1,2,3,11,17,40,86,153,283,547,1069,1737,3238,5340,9574,17251,27897,45845,78601,126725,207153,353435,550422,881454,1393870 ⋆ Coefficients of x^n in the polynomial given by (1+prime(1)*x)(1+prime(2)*x^2) ... . ● a(n) = [x ^ n] Product _{ k>=1 } 1 + prime(k) * x ^ k. - _ Alois P. Heinz _ , Sep 05 2014 ●

[A041955] ● 1,2,3,11,25,36,61,646,707,1353,3413,11592,15005,41602,1845493,3732588,5578081,20466831,46511743,66978574,113490317,1201881744,1315372061,2517253805,6349879671 ⋆ Denominators of continued fraction convergents to sqrt(500). ● a(n) = 1860498 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 27 2013 ●

[A157161] ● 1,2,3,11,25,79,245,869,2692,9544,32065,115381,400023,1462730,5165327,19165035,68635477,255546242,930138521,3491772737,12810761323,48334512920,178987624513,678272753284,2528210175630 ⋆ Formal infinite product representation for the Catalan numbers (A000108) o.g.f. series. ● a(n) = sum((d / n) * (- a(d) ^ (n / d)),d|n with 1<d<n) + sum((((- 1) ^ (m - 1)) * (1 / m) * sum(M0(p) * C(1) ^ e(1) * ... * C(n) ^ e(n), p=(1 ^ e(1),...,n ^ e(n)) from P(n,m)), m=1..n - 1), n>=2; a(1)=C(1)=1. The exponents e(j)>=0 satisfy sum(j * e(j),j=1..n)=n and sum(e(j),j=1..m). If e _ j=0 then part j does not appear. The M0 numbers are m! / product(e(j)!,j=1..n). ●

[A041811] ● 1,1,2,3,11,25,161,347,1202,1549,2751,4300,174751,179051,353802,532853,1952361,4437575,28577811,61593197,213357402,274950599,488308001,763258600,31018652001 ⋆ Denominators of continued fraction convergents to sqrt(426). ● a(n) = 177502 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 24 2013 ●

[A248161] ● 2,3,11,26,71,183,482,1259,3299,8634,22607,59183,154946,405651,1062011,2780378,7279127,19056999,49891874,130618619,341963987,895273338,2343856031,6136294751,16065028226 ⋆ Expansion of (2-x+x^2)/((1+x)*(1-3*x+x^2)). ● a(n) = - (F(n) ^ 2 + F(n + 1) ^ 2 + F(n + 2) ^ 2 - F(n + 3) ^ 2). ● a(n) = (4 * (- 1) ^ n + F(2 * n) + 6 * F(2 * n + 2)) / 5, with the Fibonacci numbers F = A000045. ●

[A006497] ● 2,3,11,36,119,393,1298,4287,14159,46764,154451,510117,1684802,5564523,18378371,60699636,200477279,662131473,2186871698,7222746567,23855111399,78788080764,260219353691,859446141837,2838557779202 ⋆ a(n) =

3*a(n-1) + a(n-2). • a(n) = [(3 + sqrt13) / 2] ^ n + [(3 - sqrt13) / 2] ^ n. • a(n) = 2 ^ (1 - n) * Sum _{ k=0..floor(n / 2) } C(n, 2 * k) * (13) ^ k * 3 ^ (n - 2 * k). • a(n) = 2 * T(n, 3i / 2) * (- i) ^ n with T(n, x) Chebyshev's polynomials of the first kind (see A053120) and i ^ 2= - 1. (End) • a(n) = round(((3 + sqrt(13)) / 2) ^ n) for n>0. (End) • a(n) = [x ^ n] ((1 + 3 * x + sqrt(1 + 6 * x + 13 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[A046224] • 1,2,3,11,40,147,546,2046,7722,29315,111826,428298,1646008,6344366,24515700,94942620,368404110,1431985635,5574725970,21732560850,84828633120,331488081210,1296712152060,5077282282020,19897457591700 ⋆ Distinct numbers seen when writing first numerator and then denominator of central elements of 1/2-Pascal triangle. • a(n) = Sum _{ k=1..n - 2 } (2 * k + 1) * binomial(2 * n - k - 5,n - 3), n>2; a(1)=1, a(2)=2. - _ Vladimir Kruchinin _ , Sep 27 2011 • a(n) = (5 * n - 9) / (8 * n - 12) * binomial(2 * n - 2,n - 1), n>2; a(1)=1, a(2)=2. - _ Eric Werley _ , Sep 16 2015 •

[A107327] • 2,3,11,43,251,1931,19237,239347,3627181,65467067,1381237531 ⋆ Prime Fibonacci sequence: each term is the prime with index equal to the sum of the previous two terms. • a(n) = p(a(n - 1) + a(n - 2)); a(1)=2; a(2)=3. •

[A041345] • 1,1,2,3,11,47,152,199,351,550,14651,15201,29852,45053,165011,705097,2280302,2985399,5265701,8251100,219794301,228045401,447839702,675885103,2475495011 ⋆ Denominators of continued fraction convergents to sqrt(186). • a(n) = 15002 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A041441] • 1,2,3,11,58,69,472,541,3177,10072,13249,36570,1110349,2257268,3367617,12360119,65168212,77528331,530338198,607866529,3569670843,11316879058,14886549901,41089978860,1247585915701 ⋆ Denominators of continued fraction convergents to sqrt(236). • a(n) = 1123598 * a(n - 12) - a(n - 24) for n>23. [_ Bruno Berselli _ , Dec 18 2013] •

[A109809] • 2,3,11,223,1009,22111,100003,2211127,10000019,221111257,1000000009,22111111123,100000000019,2211111111227,10000000000051,221111111111197,1000000000000223,22111111111111117,100000000000000003 ⋆ Primes at Levenshtein distance n from previous value when considered as a decimal string. • a(0) = 2, a(n + 1) = least prime p such that LD(a(n), p) = n, where LD(A,B) = Levenshtein distance from A to B as decimal strings. •

[A081347] • 1,2,3,12,13,30,31,56,57,90,91,132,133,182,183,240,241,306,307,380,381,462,463,552,553 ⋆ First column in maze arrangement of natural numbers. • a(n) = ((1 + 2 * n ^ 2) + (1 - 2 * n) * (- 1) ^ n) / 2. •

[A289870] • 1,2,3,12,15,30,35,56,63,90,99,132,143,182,195,240,255,306,323,380,399,462,483,552,575 ⋆ a(n) = n*(n + 1) for n odd, otherwise a(n) = (n - 1)*(n + 1). • a(n) = (n + 1) * (n - 1 + (n mod 2)). •

[A290168] • 0,0,2,3,12,15,36,42,80,90,150,165,252,273,392,420,576,612,810,855,1100,1155,1452,1518,1872 ⋆ If n is even then a(n) = n^2*(n+2)/8, otherwise a(n) = (n-1)*n*(n+1)/8. • a(n) = (1 / 16) * (- 1) ^ n * n * (1 + (- 1) ^ (n + 1) + 2 * (1 + (- 1) ^ n) * n + 2 * (- 1) ^ n * n ^ 2). •

[A123761] • 1,2,3,12,15,60,60,240,360,1440,1800,7200,7200,28800,43200,172800,216000,864000,864000,3456000,5184000,20736000,25920000,103680000,103680000 ⋆ Let k(n) = mod(3,n)-1. Then a(n) = 4*a(n-1) if n is odd, otherwise ((5+k(n))/4)*a(n-1), with a(0) = 1, a(1) = 2. • a(n) = 120 * a(n - 6) for n>=7. G.f.: (60 * x ^ 6 - 60 * x ^ 5 - 15 * x ^ 4 - 12 * x ^ 3 - 3 * x ^ 2 - 2 * x - 1) / (120 * x ^ 6 - 1). - _ Colin Barker _ , May 08 2014 •

[A105045] • 0,1,2,3,12,20,91,154,713,1209,5610,9515,44164,74908,347699,589746,2737425,4643057,21551698,36554707,169676156,287794596,1335857547,2265802058,10517184217 ⋆ a(0)=0, a(1)=1, a(2)=2, a(3)=3, a(4)=12, for n>4 a(n) = 8*a(n-2) - a(n-4) - 3. • a(n)=1 / 2 + 1 / 2 * (4 - sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 - sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) * (4 - sqrt(15)) ^ (- 1 / 4) - 1 / 4 * (- 1) ^ (n - 1) * (4 - sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 - sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) * (4 - sqrt(15)) ^ (- 1 / 4) + 1 / 10 * (4 + sqrt(15)) ^ (- 1 / 4) * sqrt(15) * (4 + sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 + sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) - 1 / 12 * (4 + sqrt(15)) ^ (- 1 / 4) * (- 1) ^ (n - 1) * sqrt(15) * (4 + sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 + sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) + 1 / 2 * (4 + sqrt(15)) ^ (- 1 / 4) * (4 + sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 + sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) + 1 / 12 * (- 1) ^ (n - 1) * sqrt(15) * (4 - sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 - sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) * (4 - sqrt(15)) ^ (- 1 / 4) - 1 / 4 * (4 + sqrt(15)) ^ (- 1 / 4) * (4 + sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 + sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) - 1 / 10 * sqrt(15) * (4 - sqrt(15)) ^ (1 / 2 * (n - 1)) * (4 - sqrt(15)) ^ (1 / 4 * (- 1) ^ (n - 1)) * (4 - sqrt(15)) ^ (- 1 / 4) - [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Aug 28 2009] • a(n)=((15 + r) * (4 + r) ^ ((n - 1) / 2) + (15 - r) * (4 - r) ^ ((n - 1) / 2) + 30) / 60; n odd • a(n)=((45 + 11 * r) * (4 + r) ^ ((n - 2) / 2) + (45 - 11 * r) * (4 - r) ^ ((n - 2) / 2) + 30) / 60; n even • a(0)=0, a(1)=1, a(2)=2, a(3)=3, a(4)=12, a(5)=20, a(n)=a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) - a(n - 4) + a (n - 5) [From Harvey P. Dale, Nov 10 2011] •

[A295366] • 1,2,3,12,23,44,77,132,221,367,604,987,1608,2613,4240,6873,11134,18029,29186,47240,76453,123720,200201,323950,524181 ⋆ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) + b(n-2) - b(n-3), where a(0) = 1, a(1) = 2, a[2] = 3, b(0) = 4, b(1) = 5, b(2) = 6, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[A099429] • 0,0,2,3,12,25,66,147,344,765,1710,3751,8196,17745,38234,81915,174768,371365,786438,1660239,3495260,7340025,15379122,32156323,67108872 ⋆ A Jacobsthal-Lucas convolution. • a(n) = sum { k=0..n, J(n - k) * (2 ^ (k - 1) - (- 1) ^ k + 0 ^ k / 2) } . • a(n) = sum { k=0..n + 1, J(n - k) * binomial(n - k + 1, k) * binomial(1, (k + 1) / 2) * (1 - (- 1) ^ k) / 2 } . •

[A049601] • 0,0,2,3,12,25,76,182,504,1275,3410,8811,23256,60580,159094,415715,1089648,2850645,7466468,19541994,51170460,133951675,350713222,918141623,2403786672 ⋆ a(n)=Sum{T(2i,n-2i): i=0,1,...,[n/2]}, array T as in A049600. • a(n) = (Fibonacci(2 * n) + (- 1) ^ n * Fibonacci(n)) / 2. - _ Vladeta Jovovic _ , Aug 30 2004 •

[A249490] • 2,3,12,28,63,113,208,296,473,657,946,1236,1661,2071,2688,3228,4059,4811,5898,6858,8209,9433,11116,12572,14637 ⋆ a(n) = Sum_{m=0..floor((n-1)/2)} prime((n-m)(n-m-1)/2+m+1). • a(n) = Sum _{ m=0..floor((n - 1) / 2) } prime((n - m)(n - m - 1) / 2 + m + 1). •

[A215602] • 2,3,12,28,77,198,522,1363,3572,9348,24477,64078,167762,439203,1149852,3010348,7881197,20633238,54018522,141422323,370248452,969323028,2537720637,6643838878,17393796002 ⋆ a(n) = L(n)*L(n+1), where L = A000032 (Lucas numbers). • a(n) = F(n - 1) * F(n) + F(n - 1) * F(n + 2) + F(n + 1) * F(n) + F(n + 1) * F(n + 2), where F=A000045, F(- 1)=1. - _ Bruno Berselli _ , Nov 03 2015 • a(n) = ((- 1) ^ n + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Oct 01 2016 •

[A247651] • 1,2,3,12,30,60,210,840,2520,7560,27720,83160,240240,840840,2702700,10810800,36756720,122522400,465585120,1551950400,4888643760,19554575040,74959204320,257002986240,936990054000 ⋆ Maximum number of binary strings of length 2n obtained from a partition of n. • a(n) = Max[(n + 1)! / (Prod _ j(m _ j!)(n - m + 1)!)] over all partitions of n. •

[A169636] • 1,2,3,12,30,180,1260,5040,15120,151200,1663200 ⋆ Number of permutations of A004001 sequence vectors:a(n)=Length[Permutations[Table[A004001[i] {i, 0, m}]]] • a(n)=Length[Permutations[Table[f(i), { i, 0, m }]]] •

[A135522] • 2,3,12,33,102,303,912,2733,8202,24603,73812,221433,664302,1992903,5978712,17936133,53808402,161425203,484275612,1452826833,4358480502,13075441503,39226324512,117678973533,353036920602 ⋆ a(n) = 2*a(n-1) + 3*a(n-2), with a(0) = 2 and a(1) = 3. • a(n) = (5 * 3 ^ n + 3 * (- 1) ^ n) / 4 . (End) •

[A107240] • 1,2,3,12,37,118,407,1368,4617,15642,52891,178916,605325,2047726,6927407,23435376,79281105,268206130,907335091,3069492092,10384017717,35128880742,118840150983,402033352264,1360069089113 ⋆ Sum of squares of first n tribonacci numbers (A000213). • a(n)= 3 * a(n - 1) + a(n - 2) + 3 * a(n - 3) - 7 * a(n - 4) + a(n - 5) - a(n - 6) + a(n - 7). G.f.: (x ^ 3 - x ^ 2 + 3 * x - 1) * (1 + x) ^ 2 / ((x - 1) * (x ^ 3 + x ^ 2 + 3 * x - 1) * (x ^ 3 - x ^ 2 - x - 1)). [_ R. J. Mathar _ , Aug 11 2009] •

[A232864] • 1,1,2,3,12,45,234,1323,8856,65529,543510,4937031,49030596,526930677,6101871426,75686176035,1001517264432,14079895613937,209594037600558,3293305758743679,54470994630103260,945988795762018029,17211193919411902938,327371367293394753627 ⋆ Number of permutations of n elements not cyclically containing the consecutive pattern 123. • a(n) = n! * Sum _{ k= - oo..oo } (sqrt(3) / (2 * Pi * (k + 1 / 3))) ^ n for n >= 2. •

[A083746] • 1,2,3,12,54,288,1800,12960,105840,967680,9797760,108864000,1317254400,17244057600,242853811200,3661488230400,58845346560000,1004293914624000,18140058832896000,345728180109312000,6933770723303424000 ⋆ a(1) = 1, a(2) = 2; for n>2, a(n) = 3*(n-2)*(n-2)!. • a(n) = (n - 2) * sum _{ i=1..n - 1 } a(i). •

[A052183] • 2,3,12,60,330,1911,11424,69768,432630,2713425,17168580,109390320,700939512,4512458580,29164264320,189120846288,1229917589262,8018580361365,52392620853300,342991368096300,2249282417749290 ⋆ A second-order recursive sequence. • a(n) = (n + 2) * c(2; n), where c(2; n) = C(3n, n) / (2n + 1) (A001764). •

[A188588] • 1,2,3,12,60,360,2520,20160,181440,1814400,19958400,239500800,3113510400,43589145600,653837184000,10461394944000,177843714048000,3201186852864000,60822550204416000,1216451004088320000,25545471085854720000 ⋆ Row sums of 1-Euler triangle A188587. • a(n) = (n + 1) * a(n - 1), n >2. •

[A155579] • 2,3,12,63,378,2457,16848,120042,880308,6602310,50417640,390736710,3065780340,24307258410,194458067280,1567818167445,12726994535730,103937122041795,853378475711580,7040372424620535,58334514375427290 ⋆ Recursive sequence (n+1)*a(n) = 3*(3*n-2)*a(n-1). • a(n) = 3 ^ (2 * n - 1) * sum(binomial(k,n - k) * 2 ^ (2 * k - n) * (- 1) ^ (n - k) * (if k=1 then (1 / 3) else 1 / k * (1 / 3) ^ k * sum(binomial(i,k - 1 - i) * (- 1 / 3) ^ (k - 1 - i) * binomial(i + k - 1,k - 1),i,1,k - 1)),k,1,n),n>0. (End) •

[A108261] • 2,3,12,65,374,2175,12672,73853,430442,2508795,14622324,85225145,496728542,2895146103,16874148072,98349742325 ⋆ 2nd order recursive series having the property that the product of any two adjacent terms is a triangular number, T(b) = b(b+1)/2 where b equals term a(n) of related series A108262. • a(n) = 6 * a(n - 1) - a(n - 2) - 4 • a(n)=1 + (1 / 8) * sqrt(2) * [3 - 2 * sqrt(2)] ^ n + (1 / 2) * [3 + 2 * sqrt(2)] ^ n - (1 / 8) * [3 + 2 * sqrt(2)] ^ n * sqrt(2) + (1 / 2) * [3 - 2 * sqrt(2)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 25 2008 •

[A193507] • 2,3,13,19,31,43,53,61,71,73,101,103,109,131,151,157,173,181,191,229,233,239,241,251,269 ⋆ Ramanujan primes of the second kind: a(n) is the smallest prime such that if prime x >= a(n), then pi(x) - pi(x/2) >= n, where pi(x) is the number of primes <= x. • a(n)>p _ (2 * n - 1); a(n) ~ p _{ 2n } (Cf. properties of R _ n in A104272 and the above comment). - _ Vladimir Shevelev _ , Aug 28 2011 •

[A229117] • 2,3,13,20,37,78,119,218,457,696,1273,2666,4059,7422,15541,23660,43261,90582,137903,252146,527953,803760,1469617,3077138,4684659 ⋆ Numbers n where d/n reaches a new record, with d the distance of the n-th triangular number to the nearest square. • a(n) = a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7) if n>9. - _ Michael Somos _ , Dec 25 2016 •

[A133201] • 0,1,2,3,13,23,33,133,233,333,1333,2333,3333,13333,23333,33333,133333,233333,333333,1333333,2333333,3333333,13333333,23333333,33333333 ⋆

A133195/3. • a(n) = a(n - 1) + 10 * a(n - 3) - 10 * a(n - 4). G.f.: x * (x ^ 2 + x + 1) / ((x - 1) * (10 * x ^ 3 - 1)). [_ Colin Barker _ , Feb 01 2013] •

[**A228278**] • 2,3,13,35,112,337,1034,3154,9637,29431,89895,274564,838609,2561372,7823242,23894643,72981777,222909351,680835436,2079486057,6351405998,19399196250,59251261117,180972030923,552745635451 ⋆ Number of nX3 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or nw-se diagonally. • a(n) = a(n - 1) + 5 * a(n - 2) + 4 * a(n - 3) - a(n - 5) •

[**A206776**] • 2,3,13,45,161,573,2041,7269,25889,92205,328393,1169589,4165553,14835837,52838617,188187525,670239809,2387094477,8501763049,30279478101,107841960401,384084837405,1367938433017,4871984973861,1735183178761 7 ⋆ a(n) = 3*a(n-1) + 2*a(n-2) for n>1, a(0)=2, a(1)=3. • a(n) = ((3 - sqrt(17)) ^ n + (3 + sqrt(17)) ^ n) / 2 ^ n. • a(n) = [x ^ n] ((1 + 3 * x + sqrt(1 + 6 * x + 17 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 • a(n) = (- 2) ^ n * a(- n) for all n in Z. - _ Michael Somos _ , Oct 13 2016 •

[**A164582**] • 2,3,13,62,297,1423,6818,32667,156517,749918,3593073,17215447,82484162,395205363,1893542653,9072507902,43468996857,208272476383,997893385058,4781194448907,22908078859477,109759199848478,525887920382913,2519680402066087 ⋆ a(n) = 5*a(n - 1) - a(n - 2), with n>2, a(1)=2, a(2)=3. • a(n) = (2 ^ (- 1 - n) * ((5 + sqrt(21)) ^ n * (- 31 + 7 * sqrt(21)) + (5 - sqrt(21)) ^ n * (31 + 7 * sqrt(21)))) / sqrt(21). - _ Colin Barker _ , Nov 08 2017 •

[**A098406**] • 2,3,13,113,1113,11113,111113,1111113,11111113,111111113,1111111113,11111111113,111111111113,1111111111113,11111111111113,111111111111113,1111111111111113,11111111111111113,111111111111111113 ⋆ a(n) = (10^n + 17)/9. • a(1) = 3; a(n) = a(n - 1) + 10 ^ (n - 1). • a(1) = 3; a(n) = 10 * a(n - 1) - 17. •

[**A281500**] • 2,3,14,15,62,63,254,255,1022,1023,4094,4095,16382,16383,65534,65535,262142,262143,1048574,1048575,4194302,4194303,16777214,16777215,67108862 ⋆ Reduced denominators of f(n) = (n+1)/(2^(2+n)-2) with A026741(n+1) as numerators. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>3. (End) • a(n) = (3 + (- 1) ^ n) * (2 ^ (n + 1) - 1) / 2. • a(n) = 4 ^ ((n + 1 + ((n + 1) mod 2)) / 2) - 1 - ((n + 1) mod 2). (End) • a(2 * k) = 4 ^ (k + 1) - 2, a(2 * k + 1) = a(2 * k) + 1 = 4 ^ (k + 1) - 1. •

[**A041869**] • 1,2,3,14,17,48,2033,4114,6147,28702,34849,98400,4167649,8433698,12601347,58839086,71440433,201719952,8543678417,17289076786,25832755203,120620097598,146452852801,413525803200,17514536587201 ⋆ Denominators of continued fraction convergents to sqrt(456). • a(n) = 2050 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 26 2013 •

[**A041010**] • 1,2,3,14,17,82,99,478,577,2786,3363,16238,19601,94642,114243,551614,665857,3215042,3880899,18738638,22619537,109216786,131836323,636562078,768398401 ⋆ Numerators of continued fraction convergents to sqrt(8). • a(n) = 6 * a(n - 2) - a(n - 4). • a(2n) = a(2n - 1) + a(2n - 2), a(2n + 1) = 4 * a(2n) + a(2n - 1). •

[**A188289**] • 0,2,3,14,45,167,609,2270,8517,32207,122463,467843,1794195,6903353,26635773,103020254,399300165,1550554583,6031074183,23493410759,91638191235,357874310213,1399137067683,5475504511859,21447950506395 ⋆ Binomial sum related to rooted trees. • a(n) = binomial(2n,n) - (- 1) ^ n - sum(binomial(2k, n - 1), k=0..n - 1) • a(n) = sum(binomial(n + k,k) * (sum((- 1) ^ r binomial(n - k,r), r=n - k..n), k=1..n) • a(n) = (- 1) ^ n 2 ^ (- (1 + n)) (1 - 2 ^ (1 + n) + ((- 2) ^ n) * binomial(2 + 2 * n,1 + n) * 2F1(1,2 + 2 * n;2 + n)(- 1) •

[**A070207**] • 1,2,3,14,50,181,657,2383,8644,31355,113736,412562,1496513,5428399,19690785,71425666,259086967,939803018,3409008654,12365718965,44854977221,162705378247,590191808148,2140841158159,7765612469020 ⋆ Expansion of (1-x-5*x^2)/(1-3*x-2*x^2-x^3). • a(0)=1, a(1)=2, a(2)=3, a(n) = 3 * a(n - 1) + 2 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 01 2013 •

[**A041167**] • 1,1,2,3,14,87,362,449,811,1260,23491,24751,48242,72993,340214,2114277,8797322,10911599,19708921,30620520,570878281,601498801,1172377082,1773875883,8267880614 ⋆ Denominators of continued fraction convergents to sqrt(93). • a(n) = 24302 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 12 2013 •

[**A042071**] • 1,1,2,3,14,213,227,440,1987,2427,6841,9268,43913,53181,97094,1509591,6135458,7645049,13780507,21425556,999356083,1020781639,2020137722,3040919361,14183815166 ⋆ Denominators of continued fraction convergents to sqrt(559). • a(n) = 1013136590 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Jan 13 2014 •

[**A172012**] • 2,3,15,54,207,783,2970,11259,42687,161838,613575,2326239,8819442,33437043,126769455,480619494,1822166847,6908359023,26191577610,99299809899,376474162527,1427321917278,5411388239415,20516130470079,77782556128482 ⋆ Expansion of (2-3*x)/(1-3*x-3*x^2) . • a(0)=2, a(1)=3, a(n) = 3 * a(n - 1) + 3 * a(n - 2). [_ Harvey P. Dale _ , Aug 24 2011] • a(n) = [x ^ n] ((1 + 3 * x + sqrt(1 + 6 * x + 21 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[**A076801**] • 1,2,3,16,17,20,22,24,26,29,31,32,34,38,40,43,44,46,48,50,52,53,57,58,60 ⋆ Greedy powers of (e/5): sum_{n=1..inf} (e/5)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(e / 5) and frac(y) = y - floor(y). •

[**A122656**] • 0,0,2,3,16,20,54,63,128,144,250,275,432,468,686,735,1024,1088,1458,1539,2000,2100,2662,2783,3456 ⋆ n*floor(n/2)^2. • a(n) = (n * (1 - (- 1) ^ n + 2 * (- 1 + (- 1) ^ n) * n + 2 * n ^ 2)) / 8. G.f.: x ^ 2 * (x ^ 4 + x ^ 3 + 7 * x ^ 2 + x + 2) / ((x - 1) ^ 4 * (x + 1) ^ 3). - _ Colin Barker _ , Sep 20 2013 •

[**A092503**] • 1,1,2,3,16,25,216,343,4096,6561,100000,161051,2985984,4826809,105413504,170859375,4294967296,6975757441,198359290368,322687697779,10240000000000,16679880978201,584318301411328 ⋆ a(n) = n^floor(n/2). • a(n) = n ^ ((n - (1 - (- 1) ^ n) / 2) / 2). - _ Wesley Ivan Hurt _ , Mar 19 2015 •

[**A074182**] • 1,2,3,16,25,216,2401,32768,59049,1000000,19487171,429981696,815730721,20661046784,576650390625,17592186044416,342718963076 33,1156831381426176,42052983462257059,1638400000000000000 ⋆ Largest power of n <= n!. • a(n) = n ^ floor(log _ n(n!)) for n>1. •

[**A074759**] • 1,1,2,3,16,25,396,721,11264,46089,602200,3628801,133494912,479001601,7692266960,95904273375,1914926104576,20922789888001,628693317946656,6402373705728001,182635841123840000,2496321046987530021,55826951075231672512,1124000727777607680001 ⋆ Number of degree-n permutations of order dividing n. Number of solutions to x^n = 1 in S_n. • a(n) = n! * coefficient of x ^ n in expansion of exp(Sum _{ k divides n } x ^ k / k). •

[**A072684**] • 2,3,16,31,103,235,674,1669,4526,11595,30769,79885,210226,548623,1439156,3763159,9859523,25800519,67566130,176858881,463073602,1212259843,3173871101,8309086201,21753819938 ⋆ Expansion of (2+x+3*x^2+2*x^3+x^4)/(1-x-5*x^2+x^3+3*x^4-x^5). • a(n)=2 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) + a(n - 4) + 3 * (- 1) ^ n. •

[**A052858**] • 0,0,2,3,16,65,456,3157,28624,276705,3136240,38531141,528468744,7837577761,126588882616,2194957583925,40854219413536,810192673705793,17082845929433952,381225135102420997 ⋆ E.g.f.: log(-1/(-1+x*exp(x)-x)). • a(n) = n! * Sum _{ k=1..n / 2 } ((k - 1)! * stirling2(n - k,k) / (n - k)!). - _ Vladimir Kruchinin _ , Mar 22 2016 •

[**A073997**] • 1,2,3,16,76,272,1008,4096,16576,65792,261888,1048576,4197376,16781312,67104768,268435456,1073790976,4295032832,17179803648,68719476736,274878693376,1099512676352,4398045462528,17592186044416,70368756760576 ⋆ Number of strings of length n over GF(4) with trace 1 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t - 1, s - (t - 1)) + a(n - 1; t - 2, s - 2(t - 2)) + a(n - 1; t - 3, s - 3(t - 3)) where t is the trace and s is the subtrace. Note that all operations involving operands t or s are carried out over GF(4). •

[**A171990**] • 1,2,3,16,3814280 ⋆ Lowest integer a(n) for which the iterated function log, iterated n times, is defined. • a(n) = Ceiling(e ^ (e ^ ...))), n times. •

[**A041295**] • 1,1,2,3,17,20,37,57,1405,1462,2867,4329,24512,28841,53353,82194,2026009,2108203,4134212,6242415,35346287,41588702,76934989,118523691,2921503573 ⋆ Denominators of continued fraction convergents to sqrt(160). • a(n) = 1442 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 15 2013 •

[**A042699**] • 1,1,2,3,17,54,71,267,605,5712,12029,41799,53828,203283,1070243,1273526,2343769,3617295,212146879,215764174,427911053,643675227,3646287188,115825367 91,15228823979 ⋆ Denominators of continued fraction convergents to sqrt(879). • a(n) = 214490648 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 27 2014 •

[**A201455**] • 2,3,17,63,257,1023,4097,16383,65537,262143,1048577,4194303,16777217,67108863,268435457,1073741823,4294967297,17179869183,68719476737,274877906943,1099511627777,4398046511103,17592186044417,70368744177663,281474976710657 ⋆ a(n) = 3*a(n-1) + 4*a(n-2) for n>1, a(0)=2, a(1)=3. • a(n) = 4 ^ n + (- 1) ^ n. • a(n) = [x ^ n] ((1 + 3 * x + sqrt(1 + 6 * x + 25 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[**A041383**] • 1,2,3,17,241,1222,1463,4148,117607,239362,356969,2024207,28695867,145503542,174199409,493902360,14003465489,28500833338,42504298827,241022327473,3416816883449,17325106744718,20741923628167,58808954001052,1667392635657623 ⋆ Denominators of continued fraction convergents to sqrt(206). • a(n) = 119070 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 16 2013 •

[**A042903**] • 1,2,3,17,530,2667,3197,9061,564979,1139019,1703998,9659009,301133277,1515325394,1816458671,5148242736,321007508303,647163259342,968170767645,5488017097567,171096700792222,860971521058677,1032068221850899,2925107964760475 ⋆ Denominators of continued fraction convergents to sqrt(983). • a(n) = 568176 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Feb 01 2014 •

[**A003693**] • 0,2,3,18,54,222,779,2953,10771,40043,147462,545603,2013994,7442927,27490263,101563680,375176968,1386004383,5120092320,18914660608,69873991466,258127586367,953569519203,3522660270539 ⋆ Number of 2-factors in P_4 X P_n. • a(n) = 2a(n - 1) + 7a(n - 2) - 2a(n - 3) - 3a(n - 4) + a(n - 5), n > 5. •

[**A288492**] • 1,2,3,18,95,440,1897,7882,32139,129804,521741,2092046,8378383,33533968,134176785,536789010,2147319827,8589606932,34359083029,137437642774,549753192471,2199018012696,8796082536473,35184351117338,140737446412315 ⋆ Indices of terms of A288349 that are powers of 2. • a(n) = 2 - 5 * 2 ^ (n - 2) + 2 ^ (2 * n - 3) + n for n>2. • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 22 * a(n - 3) - 8 * a(n - 4) for n>6. •

[**A073983**] • 1,2,3,18,180,1296,8100,50544,297432,1679616,9722592,58576608,358108128,2179768320,13162730688,78976384128,472093588224,2821109907456,16891882995456,101356447675392,608764662139392,3656158440062976,21947538146863104,131685972252346368 ⋆ Number of strings of length n over Z_6 with trace 2 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[**A072263**] • 2,3,19,72,311,1293,5434,22767,95471,400248,1678099,7035537,29497106,123669003,518492539,2173822632,9113930591,38210904933,160202367754,671661627927,2815996722551,11806298307288,49498878534619,2075281271

40297 ★ a(n) = 3*a(n-1) + 5*a(n-2), with a(0)=2, a(1)=3. • a(n) = ((3 + sqrt(29)) / 2) ^ n + ((3 - sqrt(29)) / 2) ^ n. • a(n) = [x ^ n] ((1 + 3 * x + sqrt(1 + 6 * x + 29 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[**A042265**] • 1,1,2,3,20,23,43,66,3343,3409,6752,10161,67718,77879,145597,223476,11319397,11542873,22862270,34405143,229293128,263698271,492991399,756689670,38327474899 ★ Denominators of continued fraction convergents to sqrt(658). • a(n) = 3386 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 19 2014 •

[**A041093**] • 1,2,3,20,23,66,947,1960,2907,19402,22309,64020,918589,1901198,2819787,18819920,21639707,62099334,891030383,1844160100,2735190483,18255302998,20990493481,60236289960,864298552921 ★ Denominators of continued fraction convergents to sqrt(54). • a(n) = 970 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - 2 * x ^ 9 + 3 * x ^ 8 - 20 * x ^ 7 + 23 * x ^ 6 - 66 * x ^ 5 - 23 * x ^ 4 - 20 * x ^ 3 - 3 * x ^ 2 - 2 * x - 1) / ((x ^ 4 - 10 * x ^ 2 + 1) * (x ^ 8 + 10 * x ^ 6 + 99 * x ^ 4 + 10 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 18 2012] •

[**A042781**] • 1,2,3,20,23,273,842,1115,3072,7259,24849,32108,56957,89065,146022,235087,2026718,40769447,328182294,368951741,697134035,1066085776,1763219811,2829305587,10251136572 ★ Denominators of continued fraction convergents to sqrt(921). • a(n) = 5044115425671470 * a(n - 34) - a(n - 68) for n >67. - _ Vincenzo Librandi _ , Jan 29 2014 •

[**A295365**] • 1,2,3,20,41,82,147,256,433,722,1191,1952,3185,5182,8415,13648,22117,35823,58002,93891,151962,245925,397962,643965,1042008 ★ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) + b(n-2) + b(n-3), where a(0) = 1, a(1) = 2, a[2] = 3, b(0) = 4, b(1) = 5, b(2) = 6, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[**A055814**] • 1,0,1,2,3,20,55,210,1225,4760,26145,157850,811195,5345340,3517013522472250,1650073425,12000388400,88563700225,720929459250,5786843137075,48072795270500,424314078763575,3731123025279650,3408405821843522 5 ★ E.g.f: exp(x^3/3 + x^2/2). • a(n) = subs(x=0, (d ^ n / dx ^ n)exp(x ^ 3 / 3 + x ^ 2 / 2)), n=0, 1, 2, ... • a(n) = (n - 1) * a(n - 2) + (n - 1) * (n - 2) * a(n - 3). - _ Joerg Arndt _ , Oct 02 2009 •

[**A041567**] • 1,2,3,20,63,83,229,541,770,1311,11258,125149,261556,1171373,2604302,29818695,241153862,270972557,512126419,1295225395,3102577209,4397802604,16295985021,102173712730,118469697751 ★ Denominators of continued fraction convergents to sqrt(301). • a(n) = 11766785075390 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Dec 20 2013 •

[**A066166**] • 2,3,20,90,594,4200,34544,316008,3207240,35699400,432690312,5672581200,79991160144,1207367605080,19423062612480,331770360922560,5997105160795584,114373526841360000,2295170834453089920 ★ Stanley's children's game. Class of n (named) children forms into rings with exactly one child inside each ring. We allow the case when outer ring has only one child. a(n) gives number of possibilities, including clockwise order (or which hand is held), in each ring. • a(n) = b(n), n>0, a(0)=0, where b(n) = (n - 1)! * sum(i=1..n - 1, (1 + 1 / i) * b(n - i - 1) / (n - i - 1)!), b(0)=1. - _ Vladimir Kruchinin _ , Feb 25 2015 •

[**A267652**] • 2,3,20,92,448,2160,10432,50368,243200,1174272,5669888,27376640,132186112,638251008,3081748480,14879997952,71846985728,346907934720,1675019681792,8087710466048,39050920591360,188554524229632,910421779283968,4395905214054400,21225307973353472 ★ a(n) = 4*a(n - 1) + 4*a(n - 2) for n>1, a(0)=2, a(1)=3. • a(n) = 2 ^ (n - 5 / 2) * ((1 + 4 * sqrt(2)) * (1 - sqrt(2)) ^ n - (1 - 4 * sqrt(2)) * (1 + sqrt(2)) ^ n). •

[**A042441**] • 1,2,3,20,103,123,1579,1702,10089,62236,72325,206886,11244169,22695224,33939393,226331582,1165597303,1391928885,17868743923,19260672808,114172107963,704293320586,818465428549,2341224177684,127244571023485 ★ Denominators of continued fraction convergents to sqrt(748). • a(n) = 11316494 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 22 2014 •

[**A032810**] • 2,3,22,23,32,33,222,223,232,233,322,323,332,333,2222,2223,2232,2233,2322,2323,2332,2333,3222,3223,3232 ★ Numbers using only digits 2 and 3. • a(n) is Theta(n ^ (log _ 2 10)); there are about n ^ (log _ 10 2) members of this sequence up to n. - _ Charles R Greathouse IV _ , Mar 18 2010 •

[**A154254**] • 2,3,22,59,114,187,278,387,514,659,822,1003,1202,1419,1654,1907,2178,2467,2774,3099,3442,3803,4182,4579,4994 ★ a(n) = 9n^2 - 8n + 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[**A041787**] • 1,2,3,23,49,366,415,1196,48255,97706,145961,1119433,2384827,17813222,20198049,58209320,2348570849,4755351018,7103921867,54482804087,116069530041,866969514374,983039044415,2833047603204,114304943172575 ★ Denominators of continued fraction convergents to sqrt(414). • a(n) = 48670 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 24 2013 •

[**A195241**] • 1,2,3,23,59,111,179,263,363,479,611,759,923,1103,1299,1511,1739,1983,2243,2519,2811,3119,3443,3783,4139 ★ Expansion of (1-x+19*x^3-3*x^4)/(1-x)^3. • a(n) = 8 * n ^ 2 - 20 * n + 11 for n>1; a(0)=1, a(1)=2. •

[**A041459**] • 1,1,2,3,23,141,1010,1151,2161,3312,101521,104833,206354,311187,2384663,14619165,104718818,119337983,224056801,343394784,10525900321,10869295105,21395195426,32264490531,247246629143 ★ Denominators of continued fraction convergents to sqrt(245). • a(n) = 103682 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 18 2013 •

[**A238265**] • 2,3,23,6911,238878721,5944066965503999 ★ Primes p such that p + 1 or p - 1 is in A055462. • a(n) are the prime values of 1! * (1! * 2!) * (1! * 2! * 3!) * (1! * 2! * 3! * n!) +/- 1. •

[**A032811**] • 2,3,24,25,35,36,266,267,277,278,387,388,398,399,2928,2929,2939,2940,3049,3050,3060,3061,4259,4260,4270 ★ Numbers whose set of base 11 digits is {2,3}. • a(1)=2, a(2)=3; a(n) = 11 * a(floor(n / 2)) + 2 for n odd, otherwise a(n) = 11 * a(floor((n - 1) / 2)) + 3. - _ Bruno Berselli _ , May 28 2012 •

[**A041659**] • 1,1,2,3,26,29,55,84,3079,3163,6242,9405,81482,90887,172369,263256,9649585,9912841,19562426,29475267,255364562,284839829,540204391,825044220,30241796311 ★ Denominators of continued fraction convergents to sqrt(348). • a(n) = 3134 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 22 2013 •

[**A042043**] • 1,2,3,26,29,84,3893,7870,11763,101974,113737,329448,15268345,30866138,46134483,399942002,446076485,1292094972,59882445197,12105698536,180939430563,1568572429870,1749511860433,5067596150736,2348589347942 89 ★ Denominators of continued fraction convergents to sqrt(545). • a(n) = 3922 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 13 2014 •

[**A001094**] • 0,1,2,3,28,125,366,847,1688,3033,5050,7931,11892,17173,24038,32775,43696,57137,73458,93043,116300,143661,175582,212543,255048 ★ n + n*(n-1)*(n-2)*(n-3). • a(0)=0, a(1)=1, a(2)=2, a(3)=3, a(4)=28, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Feb 02 2012] •

[**A003017**] • 1,1,2,3,28,605,9366,116767,1310408,15812505,263924650,6018875291,148630870092,3548481410773,82543469312318,2000101425252855,54347539111582096,1678367049470539697,56020955060945897298 ★ Expansion of 1/(1 - x*exp(x) + x^2*exp(2*x) - x^3*exp(3*x)). • a(n) = sum(sum(k ^ (n - k) / (n - k)! * sum(binomial(j,k - 3 * m + 2 * j) * (- 1) ^ (k - 3 * m + 2 * j) * binomial(m,j),j,0,m),k,m,n),m,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 20 2010 •

[**A096580**] • 2,3,28,8718,51426757439 ★ a(n) = smallest m >= 2 such that Sum_{k=2..m} 1/(k*log(k)) >= n. • a(n) is roughly exp(exp(n - k)), where k = 0.7946786454... - _ Charles R Greathouse IV _ , Jul 23 2007 •

[**A041193**] • 1,2,3,29,32,93,1892,3877,5769,55798,61567,178932,3640207,7459346,11099553,107355323,118454876,344265075,7003756376,14351777827,21355534203,206551585654,227907119857,662365825368 ★ Denominators of continued fraction convergents to sqrt(107). • a(n) = 1924 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - 2 * x ^ 9 + 3 * x ^ 8 - 29 * x ^ 7 + 32 * x ^ 6 - 93 * x ^ 5 - 32 * x ^ 4 - 29 * x ^ 3 - 3 * x ^ 2 - 2 * x - 1) / (x ^ 12 - 1924 * x ^ 6 + 1). - _ Colin Barker _ , Jul 19 2012 •

[**A041053**] • 1,1,2,3,32,35,67,102,1087,1189,2276,3465,36926,40391,77317,117708,1254397,1372105,2626502,3998607,42612572,46611179,89223751,135834930,1447573051 ★ Denominators of continued fraction convergents to sqrt(32). • a(0)=1, a(1)=1, a(2)=2, a(3)=3, a(4)=32, a(5)=35, a(6)=67, a(7)=102, a(n)=34 * a(n - 4) - a(n - 8). - _ Harvey P. Dale _ , Jun 15 2015 •

[**A212763**] • 0,2,3,32,40,162,189,512,576,1250,1375,2592,2808,4802,5145,8192,8704,13122,13851,20000,21000,29282,30613,41472,43200 ★ Number of (w,x,y,z) with all terms in {0,...,n}, and w, x and y odd. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n) = (n + 1) * (2 * n ^ 3 + 3 * n ^ 2 + 3 * n + 1 - (3 * n ^ 2 + 3 * n + 1) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Oct 01 2015 •

[**A041895**] • 1,1,2,3,32,195,1982,2177,4159,6336,270271,276607,546878,823485,8781728,53513853,543920258,597434111,1141354369,1738788480,74170470529,75909259009,150079729538,225988988547,2409969615008 ★ Denominators of continued fraction convergents to sqrt(469). • a(n) = 274430 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 •

[**A042663**] • 1,2,3,35,493,528,1021,2570,6161,14892,21053,35945,524283,5803058,6327341,18457740,1076876261,2172210262,3249086523,37912162015,534019354733,571931516748,1105950871481,2783833259710,6673617390901 ★ Denominators of continued fraction convergents to sqrt(861). • a(n) = 1083203602 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 26 2014 •

[**A041329**] • 1,2,3,38,41,120,3161,6442,9603,121678,131281,384240,10121521,20627282,30748803,389612918,420361721,1230336360,32409107081,66048550522,98457657603,1247540441758,1345998099361,3939536640480,103773950751841 ★ Denominators of continued fraction convergents to sqrt(178). • a(n) = 3202 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 15 2013 •

[**A041501**] • 1,2,3,47,50,147,4754,9655,14409,225790,240199,706188,22838215,46382618,69220833,1084695113,1153915946,3392527005,109714780106,222822087217,332536867323,5210875097062,5543411964385,16297699025832,527069780791009 ★ Denominators of continued fraction convergents to sqrt(267). • a(n) = 4804 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 19 2013 •

[**A041133**] • 1,1,2,3,50,53,103,156,2599,2755,5354,8109,135098,143207,278305,421512,7022497,7444009,14466506,21910515,365034746,386945261,751980007,1138925268,18974784295 ★ Denominators of continued fraction convergents to sqrt(75). • a(n) = 52 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 •

[**A268251**] • 0,1,2,3,50,243,4802,23763,470450,2328483,46099202,228167523,4517251250,22358088723,442644523202,2190864527283,43374646022450,214682365584963,4250272665676802,21036680962799043,416483346590304050,2061380051988721203,40811117693184120002 ★ Expansion of x*(1 + 2*x - 96*x^2 - 148*x^3 + 45*x^4 + 50*x^5 + 2*x^6)/(1 - 99*x^2 + 99*x^4 - x^6). • a(n) = 99 * a(n - 2) - 99 * a(n - 4) + a(n - 6) for n>7. • a(n) = - a(n - 1) + 98 * a(n - 2) + 98 * a(n - 3) - a(n - 4) - a(n - 5) - 144 for n>6. •

[**A041953**] • 1,2,3,65,68,201,8912,18025,26937,583702,610639,1804980,80029759,161864498,241894257,5241643895,5483538152,16208720199,718667226908,1453543174015,2172210400923,47069961593398,49242171994321,145554305582040,6453631617604081 ★ Denominators of continued fraction convergents to sqrt(499). • a(n) = 8980 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 27 2013 •

[**A041249**] • 1,1,2,3,68,71,139,210,4759,4969,9728,14697,333062,347759,680821,1028580,23309581,24338161,47647742,71985903,1631337608,1703323511,333

4661119,5037984630,114170322979 ⋆ Denominators of continued fraction convergents to sqrt(136). • a(n) = 70 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A041401] • 1,1,2,3,86,89,175,264,7567,7831,15398,23229,665810,689039,1354849,2043888,58583713,60627601,119211314,179838915,5154700934,5334539849,10489240783,15823780632,453555098479 ⋆ Denominators of continued fraction convergents to sqrt(215). • a(n) = 88 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A042901] • 1,2,3,92,95,282,17579,35440,53019,1626010,1679029,4984068,310691245,626366558,937057803,28738100648,29675158451,88088417550,5491157046551,11070402510652,16561559557203,507917189226742,524478748783945,15568746867946 32,97050709330051129 ⋆ Denominators of continued fraction convergents to sqrt(982). • a(n) = 17674 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A041589] • 1,1,2,3,104,107,211,318,11023,11341,22364,33705,1168334,1202039,2370373,3572412,123832381,127404793,251237174,378641967,13125064052,13503706019,26628770071,40132476090,1391132957131 ⋆ Denominators of continued fraction convergents to sqrt(312). • a(n) = 106 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A041813] • 1,1,2,3,122,125,247,372,15127,15499,30626,46125,1875626,1921751,3797377,5719128,232562497,238281625,470844122,709125747,2883587400 2,29544999749,58380873751,87925873500,3575415813751 ⋆ Denominators of continued fraction convergents to sqrt(427). • a(n) = 124 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A042701] • 1,1,2,3,176,179,355,534,31327,31861,63188,95049,5576030,5671079,11247109,16918188,992502013,1009420201,2001922214,3011342415,176659782284,179671124699,356330906983,536002031682,31444448744539 ⋆ Denominators of continued fraction convergents to sqrt(880). • a(n) = 178 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A236680] • 1,2,4,4,4,4,8,8,16,32,64,64,64,64,128,128,256,512,1024,1024,1024,1024,2048,2048,4096 ⋆ Dimension of the space of spinors in n-dimensional real space. • a(n) = 16 * a(n - 8) = 2 * a(n - 1) - 2 * a(n - 2) + 4 * a(n - 4) - 8 * a(n - 5) + 8 * a(n - 6). •

[A140201] • 0,1,2,4,4,5,6,8,8,9,10,12,12,13,14,16,16,17,18,20,20,21,22,24,24 ⋆ Partial sums of A140081. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>4. • a(n) = n when n + 1 is not a multiple of 4, and a(n) = n + 1 when n + 1 is a multiple of 4. - _ Dennis P. Walsh _ , Aug 06 2012 • a(n) = (4 * n + 1 - i ^ (2 * n) + (- i) ^ (1 + n) + i ^ (1 + n)) / 4 where i=sqrt(- 1). - _ Wesley Ivan Hurt _ , Jun 04 2016 • a(n) = n + 1 - (sign((n + 1) mod 4) mod 3). - _ Wesley Ivan Hurt _ , Sep 26 2017 •

[A147534] • 1,1,2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,19,19,20,22,22,23,25 ⋆ a(n) is congruent to (1,1,2) mod 3. • a(1)=1, a(2)=1, a(3)=2, a(4)=4, a(n)=a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Harvey P. Dale _ , Dec 09 2012 • a(n) = (3 * n - 2 - cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. - _ Wesley Ivan Hurt _ , Jul 24 2016 • a(n) = 1 + floor((n - 1) / 3) + floor(2 * (n - 1) / 3). - _ Wesley Ivan Hurt _ , Jul 25 2016 • a(n) = n - sign((n - 1) mod 3). - _ Wesley Ivan Hurt _ , Sep 25 2017 •

[A111138] • 0,0,1,1,2,4,4,5,7,10,10,11,13,16,20,20,21,23,26,30,35,35,36,38,41 ⋆ Let b(n) denote the number of nontriangular numbers less than or equal to n. Then a(n) = b(n-1) + a(b(n-1)), with a(1) = a(2) = 0, a(3) = 1. • a(N)=Comb(T,2) + Comb(R,3). - _ Gerald Hillier _ , Nov 18 2017 •

[A014684] • 1,1,2,4,4,6,6,8,9,10,10,12,12,14,15,16,16,18,18,20,21,22,22,24,25 ⋆ In the sequence of positive integers subtract 1 from each prime number. • a(n) = phi(n!) / phi((n - 1)!). - _ Vladeta Jovovic _ , Nov 30 2002 •

[A187323] • 0,0,1,2,4,4,6,6,8,9,10,10,13,13,14,15,17,17,19,19,21,22,23,23,26 ⋆ Floor(n/2)+floor(n/3)+floor(n/4). • a(n)=floor(n / 2) + floor(n / 3) + floor(n / 4). •

[A014246] • 1,2,4,4,6,7,8,9,10,12,12,14,15,16,17,18,20,20,21,23,24,25,26,28,28 ⋆ (n-th term of Beatty sequence for e) - (n-th term of Beatty sequence for e/(e-1)). • a(n) = floor(e * n) - floor(e / (e - 1) * n). - _ Franklin T. Adams - Watters _ , Nov 02 2006 •

[A063224] • 0,2,4,4,6,8,8,10,12,12,14,16,16,18,20,20,22,24,24,26,28,28,30,32,32 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(60). • a(n) = (n - 1) + floor((n - 1) / 3) + ((n - 1) mod 3). - _ Bruno Berselli _ , Apr 04 2016 •

[A076466] • 1,2,4,4,8,10,13,16,23,30,38,40,41,42,54,60,69,72,87,100,116,122,129,144,163 ⋆ a(1)=1 a(n) = a(n-1) + ((-1)^a(n-1)*a(n-1)) mod n. • a(n) is asymptotic to 4n ^ 2 / 15; a(n)=4n ^ 2 / 15 if n is of the form 30 * (2k + 1) hence a(60k + 30) = 1800 * (2k + 1) ^ 2 •

[A076342] • 2,4,4,8,12,12,16,20,24,28,32,36,40,44,48,52,60,60,68,72,72,80,84,88,96 ⋆ a(n) = A076340(A000040(n)), real part of primes mapped as defined in A076340, A076341. • a(n) = p - (- 1 / p) = p + (- 1) ^{ (p + 1) / 2 } for an odd prime p. { (a / b) stands for the value of the Legendre symbol } . - _ Lekraj Beedassy _ , Oct 22 2004 •

[A135268] • 1,1,2,4,4,8,12,18,24,30,30,40,48,60,72,84,96,112,128,146,164,184,204,226,248 ⋆ a(0) = 1; a(n) = a(n-1) + n - gcd(n,a(n-1)). • a(n) = c * n * (n - 1), where c ~ 0.48.... •

[A089887] • 1,2,4,4,8,16,32,64,64,128,256,512,1024,2048,4096,4096,8192,16384,32768,65536,131072,262144,524288,1048576,1048576 ⋆ Number of subsets of {1,.., n} containing no squares. • a(n) = 2 ^ (n - n ^ (1 / 2)). •

[A114215] • 0,1,2,4,4,9,12,25,30,64,80,169,208,441,546,1156,1428,3025,3740,7921,9790,20736,25632,54289,67104 ⋆ Number of derangements of [n] avoiding the patterns 123, 132 and 213. • a(n) = F(n) - F((n - 2) / 2) ^ 2 if n is even; a(n)=F(n) - F((n - 1) / 2) ^ 2 if n is odd; here F(n) is the Fibonacci sequence with F(0)=F(1)=1. • a(n) = 2 * a(n - 2) + 2 * a(n - 4) - a(n - 6). G.f.: - x ^ 2 * (x + 1) * (x ^ 3 - x ^ 2 - x - 1) / ((x ^ 2 - x - 1) * (x ^ 2 + 1) * (x ^ 2 + x - 1)). - _ Colin Barker _ , Mar 29 2014 •

[A052405] • 0,1,2,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22,24,25,26,27 ⋆ Numbers without 3 as a digit. • a(n) >> n ^ k with k = log(10) / log(9) = 1.0479.... - _ Charles R Greathouse IV _ , Oct 16 2012 • a(n) = replace digits d > 2 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A047573] • 0,1,2,4,5,6,7,8,9,10,12,13,14,15,16,17,18,20,21,22,23,24,25,26,28 ⋆ Numbers that are congruent to {0, 1, 2, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = n + floor((n - 4) / 7). (End) • a(n) = a(n - 7) + 8 for n>7. • a(n) = (56 * n - 49 + (n mod 7) + ((n + 1) mod 7) + ((n + 2) mod 7) - 6 * ((n + 3) mod 7) + ((n + 4) mod 7) + ((n + 5) mod 7) + ((n + 6) mod 7)) / 49. • a(7 * k) = 8 * k - 1, a(7 * k - 1) = 8 * k - 2, a(7 * k - 2) = 8 * k - 3, a(7 * k - 3) = 8 * k - 4, a(7 * k - 4) = 8 * k - 6, a(7 * k - 5) = 8 * k - 7, a(7 * k - 6) = 8 * k - 8. (End) •

[A047318] • 0,1,2,4,5,6,7,8,9,11,12,13,14,15,16,18,19,20,21,22,23,25,26,27,28 ⋆ Numbers that are congruent to {0, 1, 2, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = n + floor((n - 4) / 6). (End) • a(n) = (42 * n - 39 + 3 * cos(n * Pi) - 4 * sqrt(3) * cos((1 + 4 * n) * Pi / 6) + 12 * sin((1 - 2 * n) * Pi / 6)) / 36. • a(6k) = 7k - 1, a(6k - 1) = 7k - 2, a(6k - 2) = 7k - 3, a(6k - 3) = 7k - 5, a(6k - 4) = 7k - 6, a(6k - 5) = 7k - 7. (End) •

[A047263] • 0,1,2,4,5,6,7,8,10,11,12,13,14,16,17,18,19,20,22,23,24,25,26,28,29 ⋆ Numbers that are congruent to {0, 1, 2, 4, 5} mod 6. • a(n) = a(n - 5) + 6 for n > 5. - _ R. J. Mathar _ , Feb 25 2008 • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. - _ Harvey P. Dale _ , Oct 05 2014 • a(n) = n + floor((n - 4) / 5). • a(n) = (6 * n - 4 - ((n + 1) mod 5)) / 5. • a(5k) = 6k - 1, a(5k - 1) = 6k - 2, a(5k - 2) = 6k - 4, a(5k - 3) = 6k - 5, a(5k - 4) = 6k - 6. (End) •

[A127428] • 0,1,2,4,5,6,7,8,10,11,12,13,14,17,18,19,20,21,23,24,25,26,27,29,30 ⋆ v_5((10n)!) - v_5((5n)!), where v_p(N) is the p-adic valuation defined in A112765. • a(n) - n = a([(n + 2) / 5]). •

[A001963] • 0,1,2,4,5,6,7,8,10,11,12,13,15,16,17,18,20,21,22,23,25,26,27,28,29 ⋆ Wythoff game. • a(n) = floor((n + 1 / 4) * (sqrt(5) - 1)). - R. J. Mathar, Feb 14 2011 •

[A146215] • 1,2,4,5,6,7,8,10,11,12,14,16,17,18,21,22,23,24,28,29,30,32,34,35,36 ⋆ Addition of lowest nonzero prime division remainders. • a(1) = 1 a(n + 1) = a(n) + mod(a(n), P), where P is the lowest prime such that mod(a(n), P) is nonzero. •

[A047571] • 0,2,4,5,6,7,8,10,12,13,14,15,16,18,20,21,22,23,24,26,28,29,30,31,32 ⋆ Numbers that are congruent to {0, 2, 4, 5, 6, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (8 * n - 2 * sqrt(3) * sin(Pi * (n + 1) / 3) + 2 * sin(2 * Pi * (n + 1) / 3) / sqrt(3) - 4) / 6. - _ Ilya Gutkovskiy _ , May 30 2016 • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 4, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 8. - _ Wesley Ivan Hurt _ , Jun 16 2016 •

[A276706] • 1,2,4,5,6,7,8,10,14,16,20,22,26,28,32,34,38,40,44,46,50,52,56,58,62 ⋆ Indices of records in A249860. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. • a(n) = (6 * n - 27 - (- 1) ^ n) / 2 for n>6. •

[A103838] • 2,4,5,6,7,9,10,11,12,13,14,15,16,17,18,19,20,22,23,24,25,26,27,28,29 ⋆ Complement of A001671. • a(n) = n + [log(n + [log(n)])], apart from some initial exceptions. - David W. Wilson, Mar 29 2005 •

[A265187] • 0,1,2,4,5,6,7,9,10,11,12,13,15,16,17,18,20,21,22,23,24,26,27,28,29 ⋆ Nonnegative m for which 2*floor(m^2/11) = floor(2*m^2/11). • a(n) = a(n - 1) + a(n - 9) - a(n - 10) for n>10. •

[A184738] • 1,2,4,5,6,7,9,10,11,12,14,15,16,17,19,20,21,22,23,25,26,27,28,30,31 ⋆ floor(nr+h), where r=-1+sqrt(5), h=1/2; complement of A184735. • a(n)=floor(nr + h), where r= - 1 + sqrt(5), h=1 / 2. •

[A032769] • 0,1,2,4,5,6,7,9,10,11,12,14,15,16,17,19,20,21,22,24,25,26,27,29,30 ⋆ Numbers that are congruent to {0, 1, 2, 4} mod 5. • a(n) = (1 / 8) * (10 * n - 1 - (- 1) ^ n - 2 * (- 1) ^ (n / 2 - 1 / 2). - _ Ralf Stephan _ , Jun 09 2005 • a(n) = floor((5 * n - 4) / 4). - _ Gary Detlefs _ , Mar 06 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (10 * n - 11 + i ^ (2 * n) + (1 + i) * I ^ (- n) + (1 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047572] • 1,2,4,5,6,7,9,10,12,13,14,15,17,18,20,21,22,23,25,26,28,29,30,31,33 ⋆ Numbers that are congruent to {1, 2, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 9 - 3 * cos(n * Pi) - 6 * cos(n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 4, a(6k - 4) = 8k - 6, a(6k - 5) = 8k - 7. (End) •

[A255165] • 0,1,2,4,5,6,7,9,11,12,13,14,15,16,17,20,21,22,23,24,25,26,27,28,30 ⋆ a(n) = Sum_{k=2..n} floor(log(n)/log(k)), n>=1. • a(n) = Sum _{ k=2..n } floor(log(n) / log(k)), n>=1. •

[A007238] • 0,1,2,4,5,6,7,10,11,12,13,15,16,17,18,22,23,24,25,27,28,29,30,33,34 ⋆ Length of longest chain of subgroups in S_n. • a(n) = ceiling(3n / 2) - b(n) - 1, where b(n) = # 1's in binary expansion of n (A000120). •

[A047570] • 2,4,5,6,7,10,12,13,14,15,18,20,21,22,23,26,28,29,30,31,34,36,37,38,39 ⋆ Numbers that are congruent to {2, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6). •

[A059921] • 1,2,4,5,6,8,9,10,11,12,13,14,15,16,17,19,20,21,22,23,24,25,26,27,28 ⋆ a(n) = floor(n^((n+1)/n)). • a(n) = floor(n ^ (1 + 1 / n)). - _ M. F. Hasler _ , Nov 03 2014 •

[A062289] • 2,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,23,24,25,26,27,28,29 ⋆ Numbers n such that n-th row in Pascal triangle contains an even number,

i.e., A048967(n) > 0. • a(n) = if n=1 then 2 else max { min { 2 * i, a(n - i + 1) + i } : 1 < i <= n } . •

[A276216] • 1,2,4,5,6,8,9,10,11,12,14,15,16,17,18,20,21,22,23,24,25,27,28,29,30 ★ Position of n^r in the joint ranking of {h^r} and {k^s}, where r = sqrt(2), s = sqrt(6), h > 1, k > 1. • a(n) = n + floor(n ^ (r / s)); the complement is given by n + floor(n ^ (s / r)). •

[A030124] • 2,4,5,6,8,9,10,11,13,14,15,16,17,19,20,21,22,23,24,25,27,28,29,30,31 ★ Complement (and also first differences) of Hofstadter's sequence A005228. • a(n) = n + sqrt(2n) + o(n ^ (1 / 2)). - _ M. F. Hasler _ , Jun 04 2008 [proved in Jubin's paper]. •

[A004773] • 0,1,2,4,5,6,8,9,10,12,13,14,16,17,18,20,21,22,24,25,26,28,29,30,32 ★ Numbers congruent to {0, 1, 2} mod 4: a(n) = floor(4*n/3). • a(0) = 0, a(n + 1) = a(n) + a(n) mod 4 + 0 ^ (a(n) mod 4). - _ Reinhard Zumkeller _ , Mar 23 2003 • a(n) = floor(n / 3) + n. - _ Gary Detlefs _ , Mar 20 2010 • a(n) = (12 * n - 3 + 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. - _ Wesley Ivan Hurt _ , Sep 30 2017 •

[A059553] • 1,2,4,5,6,8,9,10,12,13,14,16,17,18,20,21,23,24,25,27,28,29,31,32,33 ★ Beatty sequence for Gamma(2/3). • a(n) = floor(n * Gamma(2 / 3)). - _ Michel Marcus _ , Jan 04 2015 •

[A079709] • 1,2,4,5,6,8,9,10,12,13,14,16,18,20,21,22,25,27,28,29,30,32,33,34,36 ★ Squarefree kernel of n is < than the squarefree kernel of (n+1). • a(n) is asymptotic to c * n where c=1.51... •

[A003511] • 1,2,4,5,6,8,9,10,12,13,15,16,17,19,20,21,23,24,25,27,28,30,31,32,34 ★ A Beatty sequence: floor(n * (1 + sqrt(3))/2). • a(n) = floor(n * (1 + sqrt(3)) / 2). - _ Michel Marcus _ , Jan 05 2015 •

[A260483] • 1,2,4,5,6,8,9,10,12,13,15,16,17,19,20,21,23,24,26,27,28,30,31,32,34 ★ Beatty sequence for e^(1/Pi) = A179706. • a(n) = floor(n * e ^ (1 / Pi)). •

[A004128] • 0,1,2,4,5,6,8,9,10,13,14,15,17,18,19,21,22,23,26,27,28,30,31,32,34 ★ a(n) = Sum_{k=1..n} floor(3n/3^k). • a(n) = sum { k>=0, floor(n / 3 ^ k) } . a(n)=sum { 0<=k<=floor(log _ 3(n)), floor(n / 3 ^ k) } , n>=1. - _ Hieronymus Fischer _ , Aug 14 2007 • a(k * 3 ^ m) = k * (3 ^ (m + 1) - 1) / 2, 0<=k<3, m>=0. - _ Hieronymus Fischer _ , Aug 14 2007 • a(n) <= (3n - 1) / 2; equality holds for powers of 3. - _ Hieronymus Fischer _ , Aug 14 2007 • a(n) >= (3n - 2) / 2 - floor(log _ 3(n)); equality holds for n=3 ^ m - 1, m> 0. - _ Hieronymus Fischer _ , Aug 14 2007 •

[A023717] • 0,1,2,4,5,6,8,9,10,16,17,18,20,21,22,24,25,26,32,33,34,36,37,38,40 ★ Numbers with no 3's in base 4 expansion. • a(n)=Sum { d(i) * 4 ^ i: i=0, 1 , ..., m } , where Sum { d(i) * 3 ^ i: i=0, 1, ..., m } is the base 3 representation of n. - _ Clark Kimberling _ • a(3n)=4a(n); a(3n + 1)=4a(n) + 1; a(3n + 2)=4a(n) + 2; a(n)=4 * a(floor(n / 3)) + n - 3 * floor(n / 3) - _ Benoit Cloitre _ , Apr 27 2003 •

[A087118] • 0,2,4,5,6,8,9,11,12,13,14,16,17,19,23,24,25,27,28,29,30,32,33,35,39 ★ Numbers having exactly one maximal group of consecutive zeros in binary representation of n. • a((n ^ 3 - n) / 6 + 2) = 2 ^ n for n >= 1. • a((n ^ 3 - n) / 6 + 2 + n) = 2 ^ n + 2 ^ (n - 1) for n >= 2. • a((n ^ 3 - n) / 6 + 2 + n + n - 1) = 2 ^ n + 2 ^ (n - 1) + 2 ^ (n - 2) for n >= 3. • a(n) < 2 * 2 ^ ((6 * n) ^ (1 / 3)) and limsup a(n) / 2 ^ ((6 * n) ^ (1 / 3)) = 2. • a(n) > 1 / 2 * 2 ^ ((6 * n) ^ (1 / 3)) for n>=3 and 1 / 2 <= liminf a(n) / (2 ^ ((6 * n) ^ (1 / 3))) <= 1. •

[A047317] • 1,2,4,5,6,8,9,11,12,13,15,16,18,19,20,22,23,25,26,27,29,30,32,33,34 ★ Numbers that are congruent to {1, 2, 4, 5, 6} mod 7. • a(n) = + 1 * a(n - 1) + 1 * a(n - 5) - 1 * a(n - 6). • a(n) = floor((7 * n - 1) / 5). [_ Gary Detlefs _ , May 14 2001] •

[A247161] • 1,2,4,5,6,8,9,11,12,13,16,17,18,20,21,22,24,25,27,28,29,32,33,34,36 ★ Dynamic Betting Game D(n,4,2). • a(n) = floor(12 * n / 11) + floor((4 * n + 1) / 11). • a(n) = a(n - 1) + a(n - 11) - a(n - 12). - _ Colin Barker _ , Sep 11 2014 •

[A080086] • 0,1,1,2,4,5,6,8,9,13,14,17,18,19,21,23,27,28,31,32,34,36,40,42,46 ★ Number of factors of 3 in the factorial of the n-th prime, counted with multiplicity. • a(n) = sum _{ k=1..L } floor(prime(n) / 3 ^ k), where L = log(p _ n) / log(3). •

[A047262] • 0,2,4,5,6,8,10,11,12,14,16,17,18,20,22,23,24,26,28,29,30,32,34,35,36 ★ Numbers that are congruent to {0, 2, 4, 5} mod 6. • a(n) = 3 * n / 2 - 1 - sin(Pi * n / 2) / 2. (End) • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (6n - 4 - i ^ (1 - n) + i ^ (1 + n)) / 4 where i = sqrt(- 1). •

[A047434] • 0,2,4,5,6,8,10,12,13,14,16,18,20,21,22,24,26,28,29,30,32,34,36,37,38 ★ Numbers that are congruent to {0, 2, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 35 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5 k - 2) = 8k - 4, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[A065502] • 2,4,5,6,8,10,12,14,15,16,18,20,22,24,25,26,28,30,32,34,35,36,38,40,42 ★ Positive numbers divisible by 2 or 5; 1/n not purely periodic after decimal point. • a(n) = 10 * floor(n / 6) + s(n mod 6) - floor((n - 1)mod 6) / 5), where s(n) = n + 1 + floor((n + 1) / 3). - _ Gary Detlefs _ , Oct 05 2013 •

[A206926] • 2,4,5,6,9,10,11,12,13,18,19,20,22,25,26,37,38,41,44,50,52,75,77,83,89 ★ Numbers such that the number of contiguous palindromic bit patterns in their binary representation is minimal (for a given number of places). • a(6 (k + 1) + 4) = 2a(6k + 4) + floor(37 * 2 ^ (k + 5) / 63) mod 2. • a(6(k + 1) + 5) = 2a(6k + 5) + floor(41 * 2 ^ (k + 1) / 63) mod 2. • a(6(k + 1) + 6) = 2a(6k + 6) + floor(41 * 2 ^ (k + 5) / 63) mod 2. • a(6(k + 1) + 7) = 2a(6k + 7) + floor(37 * 2 ^ (k + 2) / 63) mod 2. • a(6(k + 1) + 8) = 2a(6k + 8) + floor(37 * 2 ^ (k + 4) / 63) mod 2. • a(6(k + 1) + 9) = 2a(6k + 9) + floor(41 * 2 ^ (k + 4) / 63) mod 2. •

[A069470] • 0,1,2,4,5,6,9,10,11,13,15,16,19,20,21,24,25,26,29,30,32,35,36,37,40 ★ a(n) = Sum_{k>=1} floor(n/(k*(k+1)/2)). • a(n) <= floor((2 * n * floor((1 + 2 * sqrt(2 * n)) / 2)) / (1 + floor((1 + 2 * sqrt(2 * n)) / 2))). (End) •

[A047435] • 1,2,4,5,6,9,10,12,13,14,17,18,20,21,22,25,26,28,29,30,33,34,36,37,38 ★ Numbers that are congruent to {1, 2, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 30 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 7 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 7. (End) •

[A047315] • 2,4,5,6,9,11,12,13,16,18,19,20,23,25,26,27,30,32,33,34,37,39,40,41,44 ★ Numbers that are congruent to {2, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 1 - i ^ (2 * n) - (3 - i) * i ^ (- n) - (3 + i) * i ^ n) / 8 where i=sqrt(- 1). •

[A288429] • 2,4,5,6,9,13,18,26,38,55,80,117,171,250,366,536,785,1150,1685,2469,3618,5302,7770,11387,16688 ★ a(n) = 2*a(n-1) - a(n-2) + a(n-3) - a(n-4), where a(0) = 2, a(1) = 4, a(2) = 5, a(3) = 6. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4), where a(0) = 2, a(1) = 4, a(2) = 5. a(3) = 6. •

[A047433] • 2,4,5,6,10,12,13,14,18,20,21,22,26,28,29,30,34,36,37,38,42,44,45,46,50 ★ Numbers that are congruent to {2, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 3 - i ^ (2 * n) - (2 - i) * i ^ (- n) - (2 + i) * i ^ n) / 4 where i=sqrt(- 1). •

[A187325] • 0,0,1,2,4,5,7,7,9,10,12,12,15,15,16,18,20,20,22,22,25,26,27,27,30 ★ Floor(n/2) + floor(n/3) + floor(n/4) + floor(n/5). • a(n) = floor(n / 2) + floor(n / 3) + floor(n / 4) + floor(n / 5). • a(n) = - a(n - 1) - a(n - 2) + a(n - 4) + 2 * a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 9) - a(n - 10) - a(n - 11). •

[A183573] • 2,4,5,7,8,9,10,12,13,14,15,17,18,19,20,21,22,24,25,26,27,28,29,31,32 ★ a(n) = n + floor(sqrt(2n+1)). • a(n + 1)=a(n) + 2 if n is in A047838, otherwise a(n + 1) = a(n) + 1. •

[A079726] • 1,2,4,5,7,8,9,10,12,13,14,16,17,19,20,21,23,24,26,27,28,29,31,32,33 ★ a(1)=1, a(n) is the smallest integer > a(n-1) such that a(n) is even if k(n)=1, a(n) is odd if k(n)=2, where k(n) denotes the n-th term of the Kolakoski sequence (A000002). • a(n) is conjectured to be asymptotic to 4 / 3 * n. •

[A047498] • 0,1,2,4,5,7,8,9,10,12,13,15,16,17,18,20,21,23,24,25,26,28,29,31,32 ★ Numbers that are congruent to {0, 1, 2, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 27 + 3 * cos(n * Pi) + 6 * cos(n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A026367] • 1,2,4,5,7,8,9,10,12,13,15,16,17,18,20,21,23,24,26,27,29,30,31,32,34 ★ a(n) = least k such that s(k) = n, where s = A026366. • a(n) = a(n - 1) + 2 if n is in the set 2A + 1, a(n) = a(n - 1) + 1 if n is not in 2A + 1 where 2A + 1 = { 2a(1) + 1,2a(2) + 1,2a(3) + 1,... } = { 3,5,9,11,15,17,19,21,25,27,31, 33,... } . a(n) = (1 + sqrt(3)) / 2 * n + O(1) For example, a(3) = a(2) + 2 = 2 + 2 = 4 since 3 is in 2A + 1. a(10) = a(9) + 1 = 12 + 1 = 13 since 10 is not in 2A + 1. - _ Benoit Cloitre _ , Apr 23 2008 •

[A014132] • 2,4,5,7,8,9,11,12,13,13,14,16,17,18,19,20,22,23,24,25,26,27,29,30,31,32 ★ T(n,k) = ((n+k)^2 + n-k)/2, n, k > 0, read by antidiagonals. • a(n) = n + round(sqrt(2 * n)). • a(a(n)) = n + 2 * floor(1 / 2 + sqrt(2n)) + 1. • a(n) = ((t + 2) ^ 2 + i - j) / 2, where •

[A276220] • 1,2,4,5,7,8,9,11,12,14,15,16,18,19,20,22,23,24,26,27,28,29,31,32,33 ★ Position of n^s in the joint ranking of {h} and {k^s}, where s = sqrt(2), h >= 1, k >= 2. • a(n) = n + floor(n ^ s), n >= 1; the complement is given by n + floor(n ^ (1 / s)), n >= 2. •

[A047381] • 0,1,2,4,5,7,8,9,11,12,14,15,16,18,19,21,22,23,25,26,28,29,30,32,33 ★ Numbers that are congruent to {0, 1, 2, 4, 5} mod 7. • a(n)= floor((7 / 5)(n - 1)). [_ Gary Detlefs _ , Feb 20 2010] • a(n)= + a(n - 1) + a(n - 5) - a(n - 6). G.f. x ^ 2 * (1 + x + 2 * x ^ 2 + x ^ 3 + 2 * x ^ 4) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 2). - R. J. Mathar, Mar 11 2011 •

[A184014] • 2,4,5,7,8,10,11,12,13,15,16,17,18,20,21,22,23,24,26,27,28,29,30,32,33 ★ n + floor(sqrt(e*n)); complement of A184015. • a(n) = n + floor(sqrt(e * n)) •

[A155902] • 0,1,2,4,5,7,8,10,11,12,14,15,17,18,20,21,22,24,25,27,28,30,31,32,34 ★ Arises in Connell's game, a variation of Wythoff's Nim game. • a(n) = floor (n * (sqrt(13) - 1) / 6) + n = floor(n * (sqrt(13) + 5) / 6). •

[A059549] • 1,2,4,5,7,8,10,11,12,14,15,17,18,20,21,22,24,25,27,28,30,31,32,34,35 ★ Beatty sequence for 1 + 1/log(10). • a(n) = floor(n * (1 + 1 / log(10))). - _ Michel Marcus _ , Jan 04 2015 •

[A037087] • 0,1,2,4,5,7,8,10,11,13,14,15,17,18,20,21,23,24,26,27,28,30,31,33,34 ★ Beatty sequence for e^(1/e). • a(n) = floor(n * e ^ (1 / e)) = floor(n * A073229). •

[A240977] • 0,1,2,4,5,7,8,10,11,13,14,16,17,19,20,21,23,24,26,27,29,30,32,33,35 ★ Beatty sequence for cube root of Pi: a(n) = floor(n*Pi^(1/3)). • a(n) = floor(n * (Pi ^ 1 / 3)). •

[A138251] • 1,2,4,5,7,8,10,11,13,14,16,17,19,20,21,23,24,26,27,29,30,32,33,35,36 ★ Beatty sequence of the positive root of x^3 - x^2 - 1. • a(n)=Floor(r * n), where r=1.46557123187676...; see A092526 for more decimal places. •

[A127450] • 1,2,4,5,7,8,10,11,13,14,16,17,19,20,22,23,24,26,27,29,30,32,33,35,36 ★ Beatty sequence for e^Pi - Pi^e, complement of A127451. • a(n) = floor(n / (e ^ Pi - Pi ^ e)) •

[A059564] • 1,2,4,5,7,8,10,11,13,14,16,17,19,20,22,23,25,26,28,29,31,32,34,35,36 ★ Beatty sequence for (e^2 + 1)/(e^2 - e + 1). • a(n) = floor(n * (e ^ 2 + 1) / (e ^ 2 - e + 1)). - _ Michel Marcus _ , Jan 05 2015 •

[A001651] • 1,2,4,5,7,8,10,11,13,14,16,17,19,20,22,23,25,26,28,29,31,32,34,35,37 ⋆ Numbers not divisible by 3. • a(n) = 3 + a(n - 2) for n > 2. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 3. • a(2 * n + 1) = 3 * n + 1, a(2 * n) = 3 * n - 1. • a(n) = (4 - n) * a(n - 1) + 2 * a(n - 2) + (n - 3) * a(n - 3) (from the Carlitz et al. article). • a(n) = floor((3 * n - 1) / 2). [Corrected by _ Gary Detlefs _] • a(1) = 1, a(n) = 2 * a(n - 1) - 3 * floor(a(n - 1) / 3). - _ Benoit Cloitre _ , Aug 17 2002 •

[A229973] • 1,2,4,5,7,8,10,11,14,16,17,19,20,22,23,25,28,29,31,32,34,35,37,38,40 ⋆ Numbers coprime to 39. • a(n + 24) = a(n) + 39. • a(n)= 39 * floor((n - 1) / 24) + f(n) + floor(11 * f(n) / 25) + 2 * floor(f(n) / 8) - 2 * floor(((n - 1) mod 8) / 7) + 40 * floor(f(n - 1) / 23), where f(n) = n mod 24. •

[A020914] • 1,2,4,5,7,8,10,12,13,15,16,18,20,21,23,24,26,27,29,31,32,34,35,37,39 ⋆ Number of digits in the base-2 representation of 3^n. • a(n) = floor(1 + n * log(3) / log(2)) - _ K. Spage _ , Oct 22 2009 •

[A204399] • 0,2,4,5,7,8,10,12,13,15,16,18,20,21,23,24,26,27,29,31,32,34,35,37,39 ⋆ Numbers k such that floor(2^k / 3^n) = 1. • a(n) = ceil(n lg 3). [_ Charles R Greathouse IV _ , Jan 15 2012] •

[A047496] • 0,2,4,5,7,8,10,12,13,15,16,18,20,21,23,24,26,28,29,31,32,34,36,37,39 ⋆ Numbers that are congruent to {0, 2, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 30 - 2 * (n mod 5) + 3 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[A223735] • 1,2,4,5,7,8,10,12,13,15,16,20,23,24,25,28,31,32,36,37,39,40,44,47,48 ⋆ Positive numbers that are not representable as a primitive sum of three nonzero squares. • a(n) has no representation as a ^ 2 + b ^ 2 + c ^ 2 with 0 < a <= b <= c and gcd(a,b,c) = 1. •

[A123663] • 0,1,2,4,5,7,8,10,12,13,15,17,18,20,22,24,25,27,29,31,32,34,36,38,40 ⋆ Number of shared edges in a spiral of n unit squares. • a(n) = 2n - ceiling(2 * sqrt(n)). - _ Julian F. Fleron _ , Nov 29 2016 •

[A229968] • 1,2,4,5,7,8,10,13,14,16,17,19,20,23,25,26,28,29,31,32,34,35,37,38,40 ⋆ Numbers not divisible by 3 or 11. • a(n + 20) = a(n) + 33. • a(n) = 33 * floor((n - 1) / 20) + f(n) + floor(8 * f(n) / 19) + 2 * floor(f(n) / 7) - floor(f(n + 12) / 19) + 32 * floor(f(n - 1) / 19), where f(n) = n mod 20. • a(n) = a(n - 1) + a(n - 20) - a(n - 21). G.f.: x * (x ^ 20 + x ^ 19 + 2 * x ^ 18 + x ^ 17 + 2 * x ^ 16 + x ^ 15 + 2 * x ^ 14 + 3 * x ^ 13 + x ^ 12 + 2 * x ^ 11 + x ^ 10 + 2 * x ^ 9 + x ^ 8 + 3 * x ^ 7 + 2 * x ^ 6 + x ^ 5 + 2 * x ^ 4 + x ^ 3 + 2 * x ^ 2 + x + 1) / ((x - 1) ^ 2 * (x + 1) * (x ^ 2 + 1) * (x ^ 4 - x ^ 3 + x ^ 2 - x + 1) * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x ^ 8 - x ^ 6 + x ^ 4 - x ^ 2 + 1)) . - _ Colin Barker _ , Oct 08 2013 •

[A029749] • 1,2,4,5,7,8,10,14,16,20,28,32,40,56,64,80,112,128,160,224,256,320,448,512,640 ⋆ 2^n times 1, 5 or 7. • a(n) = 2 * a(n - 3) for n>4. G.f.: - (3 * x ^ 4 + 3 * x ^ 3 + 4 * x ^ 2 + 2 * x + 1) / (2 * x ^ 3 - 1). - _ Colin Barker _ , Jul 19 2013 •

[A006693] • 2,4,5,7,8,10,25,53,62,134,574,2431,13147,27167,229073,315416,435474,771789,1522716,3853889,7878986,7922488,8844776,9182596,9388467 ⋆ Modified Engel expansion of 3/7. • a(n) = floor(1 / A(n)) where A(1) = 3 / 7 , A(n + 1) = (1 / a(n) - A(n)) * (a(n) + 1). - _ Sean A. Irvine _ , Jun 17 2017 •

[A022559] • 0,0,1,2,4,5,7,8,11,13,15,16,19,20,22,24,28,29,32,33,36,38,40,41,45 ⋆ Sum of exponents in prime-power factorization of n!. • a(n) = n log log n + B _ 2 * n + o(n), with B _ 2 = A083342. - _ Charles R Greathouse IV _ , Jan 11 2012 •

[A072920] • 1,2,4,5,7,8,12,14,16,17,19,20,24,26,28,29,35,36,46,48,50,51,53,56,60 ⋆ Sum(k=1,n, A034693(k)). • a(n) appears to be asymptotic to (zeta(2) - 1) * n * Log(n) where zeta(2) - 1 = Pi ^ 2 / 6 - 1 = 0.6449.....Example: a(10 ^ 5) / 10 ^ 5 / log(10 ^ 5) = 0.6449(1..... •

[A032924] • 1,2,4,5,7,8,13,14,16,17,22,23,25,26,40,41,43,44,49,50,52,53,67,68,70 ⋆ Numbers whose ternary expansion contains no 0. • a(1)=1, a(n + 1) = f(a(n) + 1,f(a(n) + 1) where f(x,y) = if x<3 and x<>0 then y else if x mod 3 = 0 then f(y + 1,y + 1) else f(floor(x / 3),y). - _ Reinhard Zumkeller _ , Mar 02 2008 • a(2n) = a(2n - 1) + 1, n>0. - _ Zak Seidov _ , Jul 27 2009 • a(2n + 1) = 3 * a(n) + 1. - _ Robert Israel _ , Aug 05 2015 •

[A159615] • 2,4,5,7,9,10,11,13,15,17,19,20,21,22,23,25,27,29,31,33,35,37,39,40,41 ⋆ The slowest increasing sequence beginning with a(1)=2 such that a(n) and n are both odious or both not odious. • a(2n + 1)=2a(n) + 1. • a(2n)=3 n + 1 + j,if n=2 ^ k + j; a(2n)=(10n - 4j) / 3,if n=2 ^ k + 2 ^ (k - 1) + j, where 0<=j<=2 ^ (k - 1) - 1. •

[A047497] • 1,2,4,5,7,9,10,12,13,15,17,18,20,21,23,25,26,28,29,31,33,34,36,37,39 ⋆ Numbers that are congruent to {1, 2, 4, 5, 7} mod 8. • a(n) = floor((8n - 3) / 5). [_ Gary Detlefs _ , Mar 07 2010] • a(n) = + a(n - 1) + a(n - 5) - a(n - 6). G.f.: x * (1 + x + 2 * x ^ 2 + x ^ 3 + 2 * x ^ 4 + x ^ 5) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 2). [_ R. J. Mathar _ , Mar 23 2010] •

[A184656] • 1,2,4,5,7,9,10,12,14,15,17,18,20,22,23,25,27,28,30,31,33,35,36,38,39 ⋆ floor(nr+h), where r=(1+sqrt(5))/2, h=-1/2; complement of A184657. • a(n)=floor(nr + h), where r=(1 + sqrt(5)) / 2, h= - 1 / 2. •

[A047212] • 0,2,4,5,7,9,10,12,14,15,17,19,20,22,24,25,27,29,30,32,34,35,37,39,40 ⋆ Numbers that are congruent to {0, 2, 4} mod 5. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = floor((5 * n - 3) / 3). - _ Gary Detlefs _ , May 14 2011 • a(n) = n + ceiling(2 * (n - 1) / 3) - 1. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = (15 * n - 12 + 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3 * k) = 5 * k - 1, a(3 * k - 1) = 5 * k - 3, a(3 * k - 2) = 5 * k - 5. (End) •

[A083120] • 0,2,4,5,7,9,10,12,14,16,17,19,21,22,24,26,28,29,31,33,34,36,38,40,41 ⋆ Numbers that are congruent to {0, 2, 4, 5, 7, 9, 10} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (84 * n - 77 + 5 * (n mod 7) - 2 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) + 5 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) - 2 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 2, a(7k - 1) = 12k - 3, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 8, a(7k - 5) = 12k - 10, a(7k - 6) = 12k - 12. (End) •

[A001614] • 1,2,4,5,7,9,10,12,14,16,17,19,21,23,25,26,28,30,32,34,36,37,39,41,43 ⋆ Connell sequence: 1 odd, 2 even, 3 odd, ... • a(n) = 2 * n - floor((1 + sqrt(8 * n - 7)) / 2). • a(1) = 1; then a(n) = a(n - 1) + 1 if a(n - 1) is a square, a(n) = a(n - 1) + 2 otherwise. For example, a(21)=36 is a square therefore a(22)=36 + 1=37 which is not a square so a(23)=37 + 2=39 ... - _ Benoit Cloitre _ , Feb 07 2007 • a(n) ^ 2 = a(n * (n + 1) / 2). - _ Ivan N. Ianakiev _ , Aug 15 2013 • a(n) = 2 * n - round(sqrt(2 * n)). - _ Gerald Hillier _ , Apr 15 2015 •

[A083026] • 0,2,4,5,7,9,11,12,14,16,17,19,21,23,24,26,28,29,31,33,35,36,38,40,41 ⋆ Numbers that are congruent to {0, 2, 4, 5, 7, 9, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n > 8. • a(n) = (84 * n - 70 - 2 * (n mod 7) - 2 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) + 5 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) + 5 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 1, a(7k - 1) = 12k - 3, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 8, a(7k - 5) = 12k - 10, a(7k - 6) = 12k - 12. (End) •

[A047379] • 0,2,4,5,7,9,11,12,14,16,18,19,21,23,25,26,28,30,32,33,35,37,39,40,42 ⋆ Numbers that are congruent to {0, 2, 4, 5} mod 7. • a(n) = floor(floor((7n + 2) / 2) / 2). • a(n) = floor((7n - 5) / 4). - _ Gary Detlefs _ , Mar 07 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5), n>5; • a(n) = (14 * n - 13 - (- 1) ^ n + 2 * i ^ n * (- 1) ^ ((3 + (- 1) ^ n) / 4)) / 8, where i = sqrt(- 1); •

[A049039] • 1,2,4,5,7,9,11,12,14,16,18,20,22,24,26,27,29,31,33,35,37,39,41,43,45 ⋆ Geometric Connell sequence: 1 odd, 2 even, 4 odd, 8 even, ... • a(n) = 2n - 1 - floor(log _ 2(n)). a(2 ^ n - 1) = 2 ^ (n + 1) - (n + 2), the Eulerian numbers • a(0)=0, a(2n) = a(n) + 2n - 1, a(2n + 1) = a(n) + 2n + 1. - _ Ralf Stephan _ , Oct 11 2003 •

[A005152] • 0,1,2,4,5,7,9,11,12,15,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44 ⋆ Rotation distance between binary trees on n nodes. • a(n) = 2n - 6 for n >= 11. • a(n) = 2 * a(n - 1) - a(n - 2) for n > 12. •

[A060831] • 0,1,2,4,5,7,9,11,12,15,17,19,21,23,25,29,30,32,35,37,39,43,45,47,49 ⋆ Number of sums less than or equal to n of sequences of consecutive positive integers (including sequences of length 1). • a(n) = n + floor(n / 3) + floor(n / 5) + floor(n / 7) + floor(n / 9) + ... •

[A185546] • 1,2,4,5,7,9,11,13,15,18,20,23,26,29,32,35,38,41,44,48,51,55,58,62,66 ⋆ a(n) = floor((1/2)*(n+1)^(3/2)); complement of A185547. • a(n) = floor((1 / 2) * (n + 1) ^ (3 / 2)). •

[A058577] • 2,4,5,7,9,11,14,16,20,23,27,31,36,42,48,54,61,69,78,87,97,108,121,134,148 ⋆ a(n) = floor(e^sqrt(n)). • a(n) = floor(e ^ (x ^ 0.5)). •

[A071917] • 0,1,2,4,5,7,9,11,14,18,21,25,28,31,35,40,44,48,52,56,61,67,72,78,84 ⋆ Number of pairs (x,y) where x is even, y is odd, 1<=x<=n, 1<=y<=n and x+y is prime. • a(n) = sum over primes p from 3 to 2n - 1 of min(p - 1, 2n + 1 - p) / 2. • a(n) = a(n - 1) + pi(2 * n - 1) - pi(n) for n>0, a(0) = 0. - _ Alois P. Heinz _ , Feb 03 2017 •

[A000788] • 0,1,2,4,5,7,9,12,13,15,17,20,22,25,28,32,33,35,37,40,42,45,48,52,54 ⋆ Total number of 1's in binary expansions of 0, ..., n. • a(0) = 0, a(2n) = a(n) + a(n - 1) + n, a(2n + 1) = 2a(n) + n + 1. - _ Ralf Stephan _ , Sep 13 2003 • a(n)=n * log _ 2(n) / 2 + O(n); a(2 ^ n)=n * 2 ^ (n - 1) + 1. - _ Benoit Cloitre _ , Sep 25 2003 (The first result is due to Bellman and Shapiro, - _ N. J. A. Sloane _ , Mar 24 2014) • a(n)=n * log _ 2(n) / 2 + n * F(log _ 2(n)) where F is a nowhere differentiable continuous function of period 1 (see Allouche & Shallit). - _ Benoit Cloitre _ , Jun 08 2004 • a(4 ^ n - 2) = n(4 ^ n - 2). • a(n) = (1 / 2) * Sum _{ j=1..m + 1 } (floor(n / 2 ^ j + 1 / 2) * (2n + 2 - floor(n / 2 ^ j + 1 / 2)) * 2 ^ j - floor(n / 2 ^ j) * (2n + 2 - (1 + floor(n / 2 ^ j)) * 2 ^ j)), where m=floor(log _ 2(n)). • a(2 ^ m - 1) = m * 2 ^ (m - 1). •

[A288511] • 2,4,5,7,9,12,17,23,33,48,70,103,152,228,343,515,779,1180,1787,2715,4124,6264,9526,14483,22025 ⋆ a(n) = 2*a(n-1) - a(n-2) + 2*a(n-3) - 4*a(n-4) + 4*a(n-5) - 4*a(n-6) + 4*a(n-7) - 4*a(n-8) + 4*a(n-9) - 3*a(n-10) + 2*a(n-11) - 3*a(n-12) + 2*a(n-13) for n >= 16, with initial values as shown. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 4 * a(n - 5) - 4 * a(n - 6) + 4 * a(n - 7) - 4 * a(n - 8) + 4 * a(n - 9) - 3 * a(n - 10) + 2 * a(n - 11) - 3 * a(n - 12) + 2 * a(n - 13) for n >= 16, where a(0)=2, a(1)=4, a(2)=5, a(3)=7, a(4)=9, a(5)=12, a(6)=17, a(7)=23, a(8)=33, a(9)=48, a(10)=70, a(11)=103, a(12)=152, a(13)=228, a(14)=343, a(15)=515. •

[A193494] • 0,1,2,4,5,7,9,13,14,16,18,22,24,28,32,40,41,43,45,49,51,55,59,67,69 ⋆ Worst case of an unbalanced recursive algorithm over all n-node binary trees. • a(n) = O(n ^{ lg 3 }); • a(n) = 2 ^{ nu(n) - 1 } + a(n - 1) when n>0 and has nu(n) 1 - bits in binary; •

[A080725] • 2,4,5,7,10,11,13,14,15,16,19,20,22,25,28,31,32,33,34,37,38,40,41,42,43 ⋆ a(1) = 2; for n>1, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 1 mod 3". • a(a(n)) = 3 * n + 1, n >= 1. •

[A014370] • 1,2,4,5,7,10,11,13,16,20,21,23,26,30,35,36,38,41,45,50,56,57,59,62,66 ⋆ If n = binomial(b,2)+binomial(c,1), b>c>=0 then a(n) = binomial(b+1,3)+binom • a(n) = b(n) * (b(n) + 1) * (b(n) + 2) / 6 + c(n) * (c(n) + 1) / 2, where b(n) = [sqrt(2 * n) - 1 / 2] and c(n) = n - b(n) * (b(n) + 1) / 2 - Robert A. Stump (bee _ ess107(AT)msn.com), Sep 20 2002 •

[A047495] • 2,4,5,7,10,12,13,15,18,20,21,23,26,28,29,31,34,36,37,39,42,44,45,47,50 ⋆ Numbers that are congruent to {2, 4, 5, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (1 + i) * (4 * n - 4 * n * i + i - 1 + i ^ (1 - n) - i ^ n) / 4 where i=sqrt(- 1). •

[A007997] • 0,0,1,1,2,4,5,7,10,12,15,19,22,26,31,35,40,46,51,57,64,70,77,85,92 ⋆ a(n) = ceiling((n-3)(n-4)/6). • a(n) = a(n - 3) + n - 2, a(0)=0, a(1)=0, a(2)=1 [Offset 0]. - _ Paul Barry _ , Jul 14 2004 • a(n + 5) = sum _{ k=0..floor(n / 2) } C(n - k,L(k / 3)), where L(j / p) is the Legendre symbol of j and p. - _ Paul Barry _ , Mar 16 2006 • a(3)=0, a(4)=0, a(5)=1, a(6)=1, a(7)=2, a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jan 21 2014 • a(n) = (n ^ 2 - 7 * n + 14 - 2 * (- 1) ^ (2 ^ (n + 1 - 3 * floor((n + 1) / 3)))) / 6. - _ Luce ETIENNE _ , Dec 27 2014 •

[A211523] • 0,0,1,2,4,5,7,10,13,17,20,24,29,34,40,45,51,58,65,73,80,88,97,106,116 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w+2x=5y. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7). •

[A168639] • 0,1,2,4,5,7,10,15,21,29,40,56,78,108,149,206,285,394,544,751,1037,1432,1977,2729,3767 ⋆ Expansion of x*(1 + x^2 - x^3)) / ((1-x)*(1-x-x^4)). • a(n)= 2 * a(n - 1) - a(n - 2) + a(n - 4) - a(n - 5). - _ R. J. Mathar _ , Dec 02 2009 •

[A288349] • 1,2,4,5,7,11,12,14,18,26,27,29,33,41,57,58,60,64,72,88,120,121,123,127,135 ⋆ Partial sums of A059268. • a(n) = 2 ^ t + 2 ^ (n - t * (t - 1) / 2) - t - 2, where t = floor(sqrt(2 * n) + 1 / 2), n>=1. •

[A056527] • 2,4,5,7,11,13,14,16,20,22,23,25,29,31,32,34,38,40,41,43,47,49,50,52,56 ⋆ Numbers where iterated sum of digits of square settles down to a cyclic pattern (in fact 13, 16, 13, 16, ...). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Harvey P. Dale _ , Apr 05 2015 • a(n) = (- 9 + (- 1) ^ (1 + n) - (3 - 3 * i) * (- i) ^ n - (3 + 3 * i) * i ^ n + 18 * n) / 8 where i=sqrt(- 1). •

[A147991] • 1,2,4,5,7,11,13,14,16,20,22,32,34,38,40,41,43,47,49,59,61,65,67,95,97 ⋆ Sequence S such that 1 is in S and if x is in S, then 3x-1 and 3x+1 are in S. • a(n) = 3 * a(n / 2) - 1 if n>=2 is even, 3 * a((n - 1) / 2) + 1 if n is odd, a(0)=0. - _ Robert Israel _ , May 05 2014 •

[A097581] • 2,4,5,7,11,13,23,25,47,49,95,97,191,193,383,385,767,769,1535,1537,3071,3073,6143,6145,12287 ⋆ a(n) = 3*2^floor((n-1)/2) + (-1)^n. • a(n) = - a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3). •

[A085624] • 2,4,5,8,8,10,11,14,14,16,17,20,20,22,23,26,26,28,29,32,32,34,35,38,38 ⋆ Sum of the entries in the character table of the dihedral group D_{2n} of order 2n. • a(n) = 1 + (6 * n + (1 + (- 1) ^ n) * i ^ n + 2 * (- 1) ^ n) / 4, where i=sqrt(- 1). - _ Bruno Berselli _ , Jul 09 2012 •

[A130048] • 1,2,4,5,8,9,10,11,13,14,15,16,18,19,21,22,23,24,25,26,27,28,30,31,33 ⋆ Complement of inductive sum sequence A130049. • a(1)=1, a(2)=2, b(1)=0, b(2)=3; for n>=3, let x=Floor(n / 2) and y=n - x + 1. Then a(n)=least positive integer not among a(1),a(2),...,a(n - 1), b(1),b(2),...b(n - 1) and b(n)=a(1) + a(2) + ... + a(x) if n is even, b(n)=a(y) + a(y + 1) + ... + a(n) if n is odd. •

[A004761] • 0,1,2,4,5,8,9,10,11,16,17,18,19,20,21,22,23,32,33,34,35,36,37,38,39 ⋆ Numbers n whose binary expansion does not begin with 11. • a(1)=0, a(2)=1 and for k>1: a(2 * k - 1) = a(2 * k - 2) + 1, a(2 * k) = 2 * a(k + 1). - _ Reinhard Zumkeller _ , Jan 09 2002, corrected by _ Robert Israel _ , Mar 31 2017 • a(1) = 0, a(2) = 1, a(2 ^ m + k + 2) = 2 ^ (m + 1) + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Jul 30 2016 •

[A004754] • 2,4,5,8,9,10,11,16,17,18,19,20,21,22,23,32,33,34,35,36,37,38,39,40,41 ⋆ Numbers n whose binary expansion starts 10. • a(2n) = 2a(n), a(2n + 1) = 2a(n) + 1 + [n==0]. • a(2 ^ m + k) = 2 ^ (m + 1) + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 08 2016 •

[A003714] • 0,1,2,4,5,8,9,10,16,17,18,20,21,32,33,34,36,37,40,41,42,64,65,66,68 ⋆ Fibbinary numbers: if n = F(i1) + F(i2) +...+ F(ik) is the Zeckendorf representation of n (i.e., write n in Fibonacci number system) then a(n) = 2^(i1-2) + 2^(i2-2) + ... + 2^(ik-2). • a(n) / n ^ k is bounded (but does not tend to a limit), where k = 1.44... = A104287. - _ Charles R Greathouse IV _ , Sep 19 2012 •

[A047380] • 1,2,4,5,8,9,11,12,15,16,18,19,22,23,25,26,29,30,32,33,36,37,39,40,43 ⋆ Numbers that are congruent to {1, 2, 4, 5} mod 7. • a(n) = (1 / 4) *{ 6 * (n mod 4) + [(n + 1) mod 4] + [(n + 2) mod 4] } + 7 * A002265. - _ Paolo P. Lava _ , Nov 05 2007 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 11 - 3 * I ^ (2 * n) - (1 + I) * I ^ (- n - 1) - (1 - I) * I ^ (n + 1)) / 8 where I=sqrt(- 1). •

[A002541] • 0,1,2,4,5,8,9,12,14,17,18,23,24,27,30,34,35,40,41,46,49,52,53,60,62 ⋆ a(n) = Sum_{k=1..n-1} floor((n-k)/k). • a(n) = - n + Sum _{ k=1..n } tau(k). - _ Vladeta Jovovic _ , Oct 17 2002 • a(n) = Sum _{ i=2..n } floor(n / i). - _ Jon Perry _ , Feb 02 2004 • a(n) = Sum _{ i=2..n } ceiling((n + 1) / 2)) - n + 1. - _ Jon Perry _ , May 26 2004 • a(n) = - Sum _{ i=1..n } floor((n - 2i + 1) / (n - i + 1)). - _ Wesley Ivan Hurt _ , May 08 2016 • a(n) = Sum _{ i=1..floor(n / 2) } floor((n - i) / i). - _ Wesley Ivan Hurt _ , Nov 16 2017 •

[A101881] • 1,2,4,5,8,9,13,14,19,20,26,27,34,35,43,44,53,54,64,65,76,77,89,90,103 ⋆ Write two numbers, skip one, write two, skip two, write two, skip three... and so on. • a(n) = (1 / 16) * (2 * n ^ 2 + 18 * n + 15 + (2 * n + 1) * (- 1) ^ n). - _ Ralf Stephan _ , Mar 09 2014 •

[A280050] • 0,1,2,4,5,8,9,13,16,21,22,28,29,36,41,49,50,59,60,70,77,88,89,101,106 ⋆ a(n) = Sum_{k=2..n} k/lpf(k), where lpf(k) is the least prime dividing k (A020639). • a(p ^ k) = a(p ^ k - 1) + p ^ (k - 1), for p is prime. •

[A160545] • 1,2,4,5,8,10,11,13,16,17,19,20,22,23,25,26,29,31,32,34,37,38,40,41,43 ⋆ Coprime to 21. • a(n + 12) = a(n) + 21. • a(n) = 21 * floor((n - 1) / 12) + f(n) + floor(f(n) / 2) + 2 ^ floor(f(n) / 4) + floor(((n + 5) mod 12) / 1 1) + floor(((n + 3) mod 12) / 11), where f(n)= (n - 1) mod 12. - _ Gary Detlefs _ , Sep 22 2013 •

[A131396] • 1,2,4,5,8,10,11,13,16,17,19,21,24,25,27,30,31,34,35,37,39,41,43,46,48 ⋆ Positions of n-th positive integer in A131394, minus 1. • a(n) = position of n - th positive integers in A131393, minus 1. •

[A131391] • 1,2,4,5,8,10,11,13,16,17,19,21,24,25,28,29,32,33,35,37,39,41,44,46,47 ⋆ Positions of positive integers in A131389, minus 1. • a(n) = - 1 + position of the n - th positive integer in the sequence A131389=(0,1,2, - 1,3,4, - 2, - 3,6, - 4,5,...) •

[A047261] • 2,4,5,8,10,11,14,16,17,20,22,23,26,28,29,32,34,35,38,40,41,44,46,47,50 ⋆ Numbers that are congruent to {2, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 1 - 2 * cos(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 1, a(3k - 1) = 6k - 2, a(3k - 2) = 6k - 4. (End) •

[A046809] • 1,2,4,5,8,10,11,26,286,365,602,630,713,808,1327,3561,3566,5286,5477,10600,13485,15441,17339,76856 ⋆ Recursive sequence of indices of Proth primes a*2^b - 1. • a(n) = least integer greater than a(n - 1) such that a(n - 1) * 2 ^ a(n) - 1 is prime •

[A047612] • 0,2,4,5,8,10,12,13,16,18,20,21,24,26,28,29,32,34,36,37,40,42,44,45,48 ⋆ Numbers that are congruent to {0, 2, 4, 5} mod 8. • a(n) = 2 * n - 2 - (1 + (- 1) ^ n) * (1 + i ^ n) / 4, where i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A186349] • 1,2,4,5,8,10,13,15,19,22,26,29,34,38,43,47,53,58,64,69,76,82,89,95,103 ⋆ Adjusted joint rank sequence of (f(i)) and (g(j)) with f(i) after g(j) when f(i)=g(j), where f(i)=8i and g(j)=j^2. Complement of A186348. • a(n) = n + floor((n ^ 2 - 1) / 8). • a(n) = n + ceiling(n ^ 2 / 8) - 1. - _ Wesley Ivan Hurt _ , Jun 28 2013 • a(n) = (2 * n * (n + 8) - (1 + (- 1) ^ n) * (5 + 2 * i ^ (n * (n + 1))) - 2) / 16 where i=sqrt(- 1). - _ Bruno Berselli _ , Jul 05 2013 •

[A126026] • 0,1,2,4,5,8,10,13,17,20,24,28,33,38,43,49,55,61,68,75,82,90,97,106,114 ⋆ Conjectured upper bound on area of the convex hull of any edge-to-edge connected system of regular unit hexagons (n-polyhexes). • a(n) = floor((n ^ 2 + 14 * n / 3 + 1) / 6). •

[A094958] • 1,2,4,5,8,10,16,20,32,40,64,80,128,160,256,320,512,640,1024,1280,2048,2560,4096,5120,8192 ⋆ Numbers of the form 2^n or 5*2^n. • a(1)=1, a(2)=2, a(3)=4, for n>=0, a(2n + 3) = 4 * 2 ^ n, a(2n + 4) = 5 * 2 ^ n. •

[A288523] • 2,4,5,8,11,16,25,36,55,84,125,192,291,440,673,1020,1551,2364,3589,5464,8315,12640,19241,29268,44519 ⋆ a(n) = a(n-1) + a(n-2) + a(n-3) - 2*a(n-4) for n >= 5, where a(0) = 2, a(1) = 4, a(2) = 5, a(3) = 8, a(4) = 11. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - 2 * a(n - 4) for n >= 5, where a(0) = 2, a(1) = 4, a(2) = 5, a(3) = 8, a(4) = 11. •

[A080588] • 0,2,4,5,8,12,13,14,16,17,18,19,20,24,28,29,32,36,40,44,48,49,50,51,52 ⋆ a(n) is smallest nonnegative integer which is consistent with sequence being monotonically increasing and satisfying a(a(n)) = 4n. • a(a(n)) = 4n. a(2 ^ k) = 2 ^ (k + 1). •

[A288668] • 2,4,5,8,13,18,29,44,65,102,153,232,357,538,821,1252,1897,2894,4401,6688,10189,15490,23565,35868,54545 ⋆ a(n) = a(n-2) + 2*a(n-3) for n >= 3, where a(0) = 2, a(2) = 4, a(3) = 5. • a(n) = a(n - 2) + 2 * a(n - 3) for n >= 3, where a(0) = 2, a(2) = 4, a(3) = 5. •

[A264800] • 1,1,2,4,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,10946,17711,28657,46368,75025 ⋆ Nearly-Fibonacci sequence. • a(n) = F(n) for 1 <= n <= 3 and n >= 5, and a(4) = 4; where F = A000045, the Fibonacci numbers. • a(n) = a(n - 1) - a(n - 2) for n>6. •

[A160967] • 0,1,2,4,5,8,16,21,32,64,85,128,256,341,512,1024,1365,2048,4096,5461,8192,16384,21845,32768,65536 ⋆ Numbers of the form (4^k - 1)/3 or 2^k. • a(n + 6) = 5 * a(n + 3) - 4 * a(n) for n >= 1. - _ Robert Israel _ , Jan 01 2015 •

[A253426] • 1,2,4,5,8,16,28,37,64 ⋆ Reusable Paper Tape Numbers: Maximum number of symbols that can be encoded on an n-hole paper tape, such that a used paper tape can always be reused at least once. • a(n) >= 2 ^ floor(n / 2). •

[A152603] • 1,2,4,5,8,41,60,70,410,412,416,418,452,454,458,470,472,476,478,812,814,818,830,832,836 ⋆ a(1) = 1; thereafter, a(n) is always the smallest integer > a(n-1) not leading to a contradiction, such that any three consecutive digits in the sequence sum up to a prime. • a(n) = b(n) * 10 ^ [3n / 52] = c(n) * 10 ^ (3n / 52) with (except for smaller initial terms) 20 < b(n) < 611 and c(52k + 23) = 9.89... < c(n) < c(52k) = 91.1... for all integers k > 0. - _ M. F. Hasler _ , Oct 16 2009 •

[A047613] • 1,2,4,5,9,10,12,13,17,18,20,21,25,26,28,29,33,34,36,37,41,42,44,45,49 ⋆ Numbers that are congruent to {1, 2, 4, 5} mod 8. • a(n) = 2 * n - 2 - ((- 1) ^ n + i ^ (n * (n + 1))) / 2, where i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A089221] • 1,2,4,5,9,10,13,14,16,19,21,25,28,29,31,34,38,39,44,46,47,50,53,56,60 ⋆ The complex magnitude of a set of points for the geometric and arithmetic averages of the primes and their distribution. • a(n) = Floor[Sqrt[((Prime[n] + PrimePi[n]) / 2) ^ 2 + Prime[n] * PrimePi[n]]] •

[A282737] • 1,2,4,5,9,10,15,16,22,23,30,31,39,40,49,50,60,61,72,73,85,86,99,100,114 ⋆ Expansion of (x^6 - x^4 + x^3 - x - 1)/((x - 1)^3*(x + 1)^2). • a(n) = (n ^ 2 + 14 * n) / 8 for n>1 and even. • a(n) = (n ^ 2 + 12 * n - 5) / 8 for n>1 and odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. (End) • a(n) = Sum _{ k=0..n } k * (k + 1) / 2 mod (k + 2) for n >=2. - _ Paolo P. Lava _ , Apr 11 2017 •

[A047378] • 2,4,5,9,11,12,16,18,19,23,25,26,30,32,33,37,39,40,44,46,47,51,53,54,58 ⋆ Numbers that are congruent to {2, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 9 - 9 * cos(2 * n * Pi / 3) + sqrt(

3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 5. (End) •

[A211521] • 0,0,1,2,4,5,9,11,16,18,25,28,36,39,49,53,64,68,81,86,100,105,121,127,144 ★ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w + 2x = 4y. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7). • a(n) = (2 * n ^ 2 - 5 * n + 4 - (n - 2) * (- 1) ^ n + (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) - (- 1) ^ ((6 * n - 5 + (- 1) ^ n) / 4)) / 8. - _ Luce ETIENNE _ , Dec 31 2015 •

[A077882] • 0,1,1,2,4,5,9,14,20,33,49,74,116,173,265,406,612,937,1425,2162,3300,5013,7625,11614,17652 ★ Expansion of x/((1-x)*(1-x^2-2*x^3)). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - 2 * a(n - 4) - _ Roger L. Bagula _ , Mar 25 2005 • a(n + 1)=sum { k=0..n, sum { j=0..floor(k / 2), C(j, k - 2j)2 ^ (k - 2j) }} ; - _ Paul Barry _ , Jul 18 2005 •

[A067298] • 1,1,2,4,5,9,28,32,36,64,256,284,300,328,584,2704,2960,3072,3184,3440,6144,31168,33872,34896,35680 ★ Generalized Catalan triangle, based on C(2,2; n) := A064340(n). • a(n, m)= sum(C(2, 2; j)C(2, 2; n - j), j=0..m) if n >=m>=0 else 0. •

[A003278] • 1,2,4,5,10,11,13,14,28,29,31,32,37,38,40,41,82,83,85,86,91,92,94,95,109 ★ Szekeres's sequence: a(n)-1 in ternary = n-1 in binary; also: a(1) = 1, a(2) = 2, a(n) is smallest number k which avoids any 3-term arithmetic progression in a(1), a(2), ..., a(n-1), k. • a(2k + 2) = a(2k + 1) + 1, a(2 ^ k + 1) = 2 * a(2 ^ k). • a(n) = b(n + 1) with b(0)=1, b(2n)=3b(n) - 2, b(2n + 1)=3b(n) - 1. - _ Ralf Stephan _ , Aug 23 2003 •

[A109511] • 0,1,2,4,5,10,11,19,23,40,41,79,80,145,164,292,293,577,578,1096,1163,2188,2189,4357,4373 ★ Number of subsets of the first n numbers having a common divisor greater than 1. • a(n) = Sum(- mu(k) * (2 ^ floor(n / k) - 1) : 1<k<=n), mu=A008683. •

[A091856] • 1,2,4,5,10,11,22,23,46,47,94,95,100,101,202,203,210,211,422,423,426,427,434,435,438 ★ Beginning with 1, minimum value such that gcd(a(2n-1),a(2n)) = 1, gcd(a(2n),a(2n+1))>1 and a(n) > a(n-1). • a(2n) = a(2n - 1) + 1, a(2n + 1) = a(2n) + LeastPrimeFactor(a(2n)). •

[A083416] • 1,2,4,5,10,11,22,23,46,47,94,95,190,191,382,383,766,767,1534,1535,3070,3071,6142,6143,12286 ★ Add 1, double, add 1, double, etc. • a(2 * n) = 3 * 2 ^ (n - 1) - 1, a(2 * n + 1) = 3 * 2 ^ n - 2. • a(n) = 3 * 2 ^ ((2 * n - (- 1) ^ n - 3) / 4) + ((- 1) ^ n - 3) / 2. - _ Bruno Berselli _ , Feb 17 2011 •

[A047611] • 2,4,5,10,12,13,18,20,21,26,28,29,34,36,37,42,44,45,50,52,53,58,60,61,66 ★ Numbers that are congruent to {2, 4, 5} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 15 - 12 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 6. (End) •

[A097132] • 1,2,4,5,10,12,25,30,64,77,166,200,433,522,1132,1365,2962,3572,7753,9350,20296,24477,53134,64080,139105 ★ Sum F(k)+(-1)^k*F(k-1), k=0..n. • a(n)=a(n - 1) + 3a(n - 2) - 3a(n - 3) - a(n - 4) + a(n - 5); •

[A253198] • 0,1,2,4,5,10,16,25,42,68,109,178,288,465,754,1220,1973,3194,5168,8361,13530,21892,35421,57314,92736 ★ a(n) = a(n-1) + a(n-2) - (-1)^(a(n-1) + a(n-2))) with a(0)=0, a(1)=1. • a(n) = a(n - 1) + a(n - 2) - (- 1) ^ (a(n - 1) + a(n - 2))), a(0)=0, a(1)=1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) for n>4. - _ Colin Barker _ , Mar 28 2015 •

[A049332] • 2,4,5,10,17,34,65,130,257,514,1025,2050,4097,8194,16385,32770,65537,131074,262145,524290,1048577,2097154,4194305,8388610,16777217 ★ Number of conjugacy classes in Clifford group CL(n). • a(n) = (3 / 2 - (- 1) ^ n / 2 + 2 ^ n). a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). G.f.: (2 - 5 * x ^ 2) / ((1 - x) * (1 + x) * (1 - 2 * x)). - _ Colin Barker _ , Apr 18 2012 •

[A245478] • 1,2,4,5,10,20,25,50,100,125,250,500,625,1250,2500,3125,6250,12500,15625,31250,62500,78125,156250,312500,390625 ★ Numbers n such that the n-th cyclotomic polynomial has a root mod 5. • a(3j + i) = 2 ^ (i - 1) * 5 ^ j for i = 1,2,3 and j >= 0. • a(n) = 5 * a(n - 3). G.f.: - x * (4 * x ^ 2 + 2 * x + 1) / (5 * x ^ 3 - 1). - _ Colin Barker _ , Aug 01 2014 •

[A292412] • 1,1,2,4,5,11,13,29,34,76,89,199,233,521,610,1364,1597,3571,4181,9349,10946,24476,28657,64079,75025 ★ Numbers of the form Fibonacci(2*k-1) or Lucas(2*k-1); i.e., union of sequences A001519 and A002878. • a(n) = 3 * a(n - 2) - a(n - 4) for n>4. (End) •

[A000063] • 1,1,2,4,5,14,14,39,42,132,132,424,429,1428,1430,4848,4862,16796,16796,58739,58786,208012,208012,742768,742900 ★ Symmetrical dissections of an n-gon. • a(n) = Catalan(floor(n / 2) - 1) - Catalan(n / 4 - 1) - Catalan(n / 6 - 1), where Catalan(x) = 0 for noninteger x (from Guy's 1958 paper). - _ Joseph Myers _ , Jun 21 2012 •

[A267460] • 0,2,4,6,6,8,8,10,10,12,12,14,14,16,16,18,18,20,20,22,22,24,24,26,26 ★ Number of OFF (white) cells in the n-th iteration of the "Rule 133" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n - (- 1) ^ n + 5) / 2 for n>1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A030118] • 1,1,2,4,6,7,7,7,8,10,12,13,13,13,14,16,18,19,19,19,20,22,24,25,25 ★ a(0) = 1, a(1) = 1, a(n) = a(n-1) - a(n-2) + n. • a(n)=(1 / 30) *{ 37 * (n mod 6) + 2 * [(n + 1) mod 6] - 3 * [(n + 2) mod 6] - 3 * [(n + 3) mod 6] + 2 * [(n + 4) mod 6] + 7 * [(n + 5) mod 6] }+ 6 * sum { k=0..n }{ 1 / 3 * (cos(2 * Pi * k / 3) + 1 / 2) * (1 + (- 1) ^ k }- 6, with n>=0. - _ Paolo P. Lava _ , Jun 01 2007 • a(n) = n iff n is either 1 or 2 mod 6. - _ Jon Perry _ , Nov 02 2014 •

[A147613] • 2,4,6,7,8,9,10,12,13,14,15,16,17,18,19,20,22,23,24,25,26,27,28,29,30 ★ Numbers that are not Jacobsthal numbers. • a(n) = floor(- LambertW(- 1, - 1 / 3 * ln(2) * 2 ^ (3 / 2 - n)) / ln(2) + 1 / 2). - Nicolas Normand (Nicolas.Normand(at)polytech.univ - nantes.fr), Nov 29 2017 •

[A047513] • 0,1,2,4,6,7,8,9,10,12,14,15,16,17,18,20,22,23,24,25,26,28,30,31,32 ★ Numbers that are congruent to {0, 1, 2, 4, 6, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6), n>6. • a(n) = (24 * n - 24 - 2 * sqrt(3) * (cos((1 - 4 * n) * Pi / 6) - 3 * cos((2 * n + 1) * Pi / 6))) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A229785] • 1,2,4,6,7,8,9,10,12,14,16,18,19,20,22,24,25,26,28,30,31,32,33,34,36 ★ Partial sums of A157129. • a(n)=(3 / 2)n + O(1). More precisely, let b(n) =3 * n - 2 * a(n); then b(n) satisfies the following recurrence modulo 12: b(n) =1,2,1,0,1,2,3,4,3,2,1 for n=1,2,3,4,5,6,7,8,9,10,11. Then for k>=1 we have b(12k)=b(4k), b(12k + 1)=b(4k + 1), b(12k + 2)=b(4k + 2), b(12k + 2)=b(4k + 2), b(12k + 3)=b(4k + 2) - 1, b(12k + 4)=b(4k + 2) - 2, b(12k + 5)=b(4k + 2) - 1, b(12k + 6)=b(4k + 2), b(12k + 7)=4 - b(4k + 3), b(12k + 8)=4 - b(4k + 4), b(12k + 9)=4 - b(4k + 3), b(12k + 10)=4 - b(4k + 2), b(12k + 11) =b(4k + 3). •

[A183858] • 2,4,6,7,8,10,11,12,14,15,16,18,19,20,21,22,24,25,26,27,28,30,31,32,33 ★ n+floor(sqrt(3n)); complement of A183859. • a(n) = n + floor(sqrt(3n)). •

[A080645] • 1,2,4,6,7,8,10,12,13,14,15,16,18,20,22,24,25,26,27,28,29,30,31,32,34 ★ a(1) = 1; for n>1, a(n) is taken to be the smallest integer greater than a(n-1) which is consistent with the condition "for n>1, if n is a member of the sequence then a(n) is even". • a(1)=1, a(2)=2, a(3)=4; then for k>=1, abs(j) <=2 ^ k: a(3 * 2 ^ k + j)=4 * 2 ^ k + 3 / 2 * j + abs(j) / 2. •

[A047237] • 0,1,2,4,6,7,8,10,12,13,14,16,18,19,20,22,24,25,26,28,30,31,32,34,36 ★ Numbers that are congruent to {0, 1, 2, 4} mod 6. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (6n - 8 + i ^ (1 - n) - i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A047511] • 0,2,4,6,7,8,10,12,14,15,16,18,20,22,23,24,26,28,30,31,32,34,36,38,39 ★ Numbers that are congruent to {0, 2, 4, 6, 7} mod 8. • a(0)=0, a(1)=2, a(2)=4, a(3)=6, a(4)=7, a(5)=8, a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. - _ Harvey P. Dale _ , May 09 2014 • a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 25 + 3 * (n mod 5) - 2 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) •

[A096750] • 1,1,1,1,2,4,6,7,8,12,21,33,44,55,76,119,185,263,351,480,706,1066,1551,2156,2982 ★ Expansion of (1-x+x^2)/(1-2x+2x^2-x^3-x^4). • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + a(n - 3) + a(n - 4). •

[A247000] • 1,2,4,6,7,9,10,12,13,15,16,18,19,21,23,24,26,28,29,31,33,34,36,38,39 ★ Maximal number of palindromes in a circular binary word of length n. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. •

[A047512] • 1,2,4,6,7,9,10,12,14,15,17,18,20,22,23,25,26,28,30,31,33,34,36,38,39 ★ Numbers that are congruent to {1, 2, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. (End) • a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 20 + 3 * (n mod 5) - 2 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 7. (End) •

[A026273] • 1,2,4,6,7,9,10,12,14,15,17,19,20,22,23,25,27,28,30,31,33,35,36,38,40 ★ a(n) = least k such that s(k) = n, where s = A026272. • a(n)=floor[r * (n - 2 * r + 3)], where r=golden ratio. •

[A184658] • 1,2,4,6,7,9,10,12,14,15,17,19,20,22,23,25,27,28,30,32,33,35,36,38,40 ★ floor(nr+h), where r=(1+sqrt(5))/2, h=-1/3; complement of A184659. • a(n)=floor(nr + h), where r=(1 + sqrt(5)) / 2, h= - 1 / 3. •

[A189518] • 1,2,4,6,7,9,10,12,14,15,17,19,20,22,24,25,27,28,30,32,33,35,37,38,40 ★ n+[ns/r]+[nt/r]; r=1, s=1/e, t=1/(e+1). • a(n)=n + [n / e] + [n / (e + 1)], •

[A080711] • 2,4,6,7,9,10,12,15,16,18,21,22,24,25,26,27,30,31,33,34,35,36,39,40,42 ★ a(0) = 2; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is a multiple of 3". • a(a(n)) = 3 * (n + 2). •

[A184732] • 1,2,4,6,7,9,11,12,14,15,17,19,20,22,24,25,27,28,30,32,33,35,36,38,40 ★ floor(nr+h), where r=(1+sqrt(5))/2, h=-1/4; complement of A184733. • a(n)=floor(nr + h), where r=(1 + sqrt(5)) / 2, h= - 1 / 4. •

[A032793] • 1,2,4,6,7,9,11,12,14,16,17,19,21,22,24,26,27,29,31,32,34,36,37,39,41 ★ Numbers that are congruent to {1, 2, 4} mod 5. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = - 1 + Sum _{ k=1..n } { (1 / 9) * (2 * (k mod 3) + 8 * [(k + 1) mod 3] + 5 * [(k + 2) mod 3] } , with n>=1. - _ Paolo P. Lava _ , Sep 03 2010 • a(n) = floor((5 * n - 2) / 3). [_ Gary Detlefs _ , May 14 2011] • a(n) = (15 * n - 9 + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 1, a(3k - 1) = 5k - 3, a(3k - 2) = 5k - 4. (End) •

[A083088] • 1,2,4,6,7,9,11,12,14,16,18,19,21,23,24,26,28,30,31,33,35,36,38,40,41 ★ First column of table A083087. • a(n) = floor(n * x / (x - 1)) + 1, n>=0, where x=1 + sqrt(2). • a(n) = floor(n / sqrt(2)) + n + 1. •

[A083089] • 0,2,4,6,7,9,11,12,14,16,18,19,21,23,24,26,28,30,31,33,35,36,38,40,42 ★ Numbers that are congruent to {0, 2, 4, 6, 7, 9, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (84 * n - 63 - 2 * (n mod 7) - 2 * ((n + 1) mod 7) + 5 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) - 2 * ((n + 5) mod 7) + 5 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 1, a(7k - 1) = 12k - 3, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 6, a(7k - 4) = 12k - 8, a(7k - 5) = 12k - 10, a(7k - 6) = 12k - 12. (End) • a(n) = 2 * n - 2 - floor(2 * (n - 1) / 7). - _ Wesley Ivan Hurt _ , Sep 29 2017 •

[A047293] • 0,2,4,6,7,9,11,13,14,16,18,20,21,23,25,27,28,30,32,34,35,37,39,41,42 ★ Numbers that are congruent to {0, 2, 4, 6} mod 7. • a(n) = floor(ceiling((7n + 2) / 2) / 2). • a(n) = 2n - 2 - floor((n - 1) / 4). - _ Gary Detlefs _ , Mar 27 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 11 + i ^ (2n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n) / 8 where i=sqrt(- 1). •

[A184585] • 2,4,6,7,9,11,13,15,16,18,20,22,24,25,27,29,31,33,34,36,38,40,42,44,45 ⋆ floor[(n+1/3)(1+r)], where r=sqrt(5); complement of A184584. • a(n) =floor[(n + 1 / 3)(1 + r)], where r=sqrt(5). •

[A282896] • 2,4,6,7,9,12,13,15,19,22,24,26,27,30,31,34,38,39,42,43,45,47,48,51,53 ⋆ Indices n such that sign(Im(zetazero(n)) - 2*Pi*e*exp(LambertW((n - 11/8)/e))) = 1. • a(n) = positions where A288640 = 1. •

[A047510] • 2,4,6,7,10,12,14,15,18,20,22,23,26,28,30,31,34,36,38,39,42,44,46,47,50 ⋆ Numbers that are congruent to {2, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 1 - i ^ (2 * n) - i ^ (- n) - i ^ n) / 4 where i=sqrt(- 1). •

[A047412] • 0,1,2,4,6,8,9,10,12,14,16,17,18,20,22,24,25,26,28,30,32,33,34,36,38 ⋆ Numbers that are congruent to {0, 1, 2, 4, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 55 - 2 * (n mod 5) - 2 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5 * k) = 8 * k - 2, a(5 * k - 1) = 8 * k - 4, a(5 * k - 2) = 8 * k - 6, a(5 * k - 3) = 8 * k - 7, a(5 * k - 4) = 8 * k - 8. (End) •

[A184012] • 2,4,6,8,9,11,12,14,15,16,18,19,20,22,23,24,26,27,28,29,31,32,33,34,36 ⋆ n + floor(sqrt(5n-4)); complement of A184013. • a(n) = n + floor(sqrt(5n - 4)) •

[A184740] • 1,2,4,6,8,9,11,13,14,16,18,20,21,23,25,26,28,30,32,33,35,37,39,40,42 ⋆ floor(n*(e-1)-1/2); complement of A184741. • a(n)=floor(n * e - 1 / 2); complement of A184741. •

[A184638] • 1,2,4,6,8,9,11,13,15,16,18,20,22,23,25,27,28,30,32,34,35,37,39,41,42 ⋆ floor(nr+h), where r=sqrt(3), h=-1/2; complement of A184653. • a(n)=floor(nr + h), where r=sqrt(3), h= - 1 / 2. •

[A047294] • 1,2,4,6,8,9,11,13,15,16,18,20,22,23,25,27,29,30,32,34,36,37,39,41,43 ⋆ Numbers that are congruent to {1, 2, 4, 6} mod 7. • a(n) = ceiling(floor((7 * n - 5) / 2) / 2). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (- 9 - (- 1) ^ n + (1 + i) * (- i) ^ n + (1 - i) * i ^ n + 14 * n) / 8 where i=sqrt(- 1). - _ Colin Barker _ , May 14 2012 •

[A228246] • 1,2,4,6,8,9,11,13,15,16,18,20,22,24,26,28,29,31,33,35,37,39,41,43,44 ⋆ a(1)=1; for n>=2, a(n) is the round(x), where x = average length of a first-to-n match between two equal in strength chessplayers without accounting of draws. • a(n) = round(2 * n * (1 - 4 ^ (- n) * Binom(2 * n,n))); a(n) = 2 * n * (1 - 1 / sqrt(\ pi * n)) + •

[A184587] • 2,4,6,8,9,11,13,15,17,18,20,22,24,26,28,29,31,33,35,37,38,40,42,44,46 ⋆ a(n) = floor((n+1/2)*s), where s=(5+sqrt(5))/4; complement of A184586. • a(n)=floor[(n + 1 / 2)s], where s=(5 + sqrt(5)) / 4. •

[A225773] • 2,4,6,8,9,11,13,15,18,20,22,24,25,27,29,31,34,36,38,40,41,43,45,47,50 ⋆ The squares on a chessboard that are black, counting from top left corner and down. • a(1) = 2 • a(n) = a(n - 1) + 2 + (mod(a(n - 1) + 1, 8) = = 0) - (mod(a(n - 1), 8) == 0) •

[A276138] • 0,2,4,6,8,9,20,22,24,26,28,29,40,42,44,46,48,49,60,62,64,66,68,69,80 ⋆ Numbers without the decimal digits 1, 3, 5 and 7. • a(6n - 6 + k) = 10 a(n) + a(k) for k = 1..6. - _ Robert Israel _ , Aug 24 2016 •

[A214671] • 0,2,4,6,8,10,11,13,15,17,19,21,22,24,26,28,30,31,33,35,37,39,41,42,44 ⋆ Floor of the real parts of the zeros of the complex Lucas function on the right half plane. • a(n) = floor((k + 1 / 2) * alpha), with alpha / 2 = x _ 0(0) defined in the comment section. •

[A228295] • 0,2,4,6,8,10,12,14,15,17,19,21,23,25,27,28,30,32,34,36,38,40,41,43,45 ⋆ The 'Honeycomb' or 'Beehive' sequence: a(n) = ceiling(12^(1/4)*n). • a(n) = ceiling(12 ^ (1 / 4) * n). •

[A184592] • 2,4,6,8,10,12,14,15,17,19,21,23,25,27,29,30,32,34,36,38,40,42,44,45,47 ⋆ floor[(n*(pi-1)+1)/(pi-2)]; complement of A184591. • a(n)=floor[(n * (pi - 1) + 1) / (pi - 2)]. •

[A214673] • 0,2,4,6,8,10,12,14,16,18,20,21,23,25,27,29,31,33,35,37,39,41,43,44,46 ⋆ Floor of the moduli of the zeros of the complex Lucas function. • a(n) = floor((2 * k + 1) * tau / 2), n>=0, with tau / 2 = rho(0) defined in the comment section. •

[A004275] • 0,1,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46 ⋆ 1 together with nonnegative even numbers. • a(n) = floor((2 * n ^ 2) / (1 + n)). - _ Enrique Pérez Herrero _ , Apr 05 2010 • a(n) = 2n - 2 + floor(2 / (n + 1)) = max(n, 2n - 2) = 2n - 1 + sgn(1 - n). Also, a(0)=0, a(1)=1, a(n) = 2n - 2 for n > 1. - _ Wesley Ivan Hurt _ , Nov 05 2013 •

[A004277] • 1,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48 ⋆ 1 together with positive even numbers. • a(n) = sum { k=0..floor(n / 2), binomial(n - k - 1)(- 1) ^ k * 2 ^ (n - 2k) } . - _ Paul Barry _ , Jan 16 2005 •

[A005843] • 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48 ⋆ The nonnegative even numbers: a(n) = 2n. • a(0) = 0, a(1) = 2, a(n) = 2a(n - 1) - a(n - 2). - _ Jaume Oliver Lafont _ , May 07 2008 • a(n) = Sum _{ k=1..n } floor(6n / 4 ^ k + 1 / 2). - _ Vladimir Shevelev _ , Jun 04 2009 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Dec 23 2011 • a(n) = 2 * n = product(2 * sin(Pi * k / (2 * n)), k=1..2 * n - 1), n>=0 (undefined product := 1). See an Oct 09 2013 formula contribution in A000027 with a reference. - _ Wolfdieter Lang _ , Oct 10 2013 •

[A276106] • 1,1,1,1,1,1,1,2,4,6,8,10,12,14,17,23,33,47,65,87,113,144,184,240,320 ⋆ Number of compositions of n into parts 1, 7, and 8. • a(n) = a(n - 1) + a(n - 7) + a(n - 8) for n > 7. •

[A278453] • 0,1,2,4,6,8,10,12,15,17,19,22,25,27,30,33,35,38,41,44,47,50,53,56,59 ⋆ a(n) = nearest integer to b(n) = c^(b(n-1)/(n-1)), where b(1)=0 and c is chosen such that the sequence neither explodes nor goes to 1. • a(n) = round(n * log _ c((n + 1) * log _ c((n + 2) * log _ c(...)))). - _ Andrey Zabolotskiy _ , Nov 30 2016 •

[A011860] • 0,0,0,0,1,2,4,6,8,10,12,15,18,22,26,30,34,38,43,48,54,60,66,72,78 ⋆ Floor(n(n-1)/7). • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). G.f.: x ^ 4 * (x ^ 2 + 1) / ((1 - x) ^ 3 * (1 + x + x ^ 2 + x ^ 3 + x ^ 4 + x ^ 5 + x ^ 6)). [_ R. J. Mathar _ , Apr 15 2010] •

[A259278] • 1,1,1,1,1,1,2,4,6,8,10,12,15,21,31,45,63,85,112,148,200,276,384,532,729 ⋆ Number of compositions of n into parts 1, 6, and 7. • a(n) = a(n - 1) + a(n - 6) + a(n - 7). •

[A049445] • 1,2,4,6,8,10,12,16,18,20,21,24,32,34,36,40,42,48,55,60,64,66,68,69,72 ⋆ Numbers n with property that the number of 1's in binary expansion of n (see A000120) divides n. • a(n) seems to be asymptotic to c * n * log(n) where 0.7 < c < 0.8. - _ Benoit Cloitre _ , Jan 22 2003 •

[A090778] • 1,2,4,6,8,10,12,16,18,20,24,32,36,40,42,48,50,54,60,64,72,80,84,96,100 ⋆ phi(n) divides n*(n-phi(n)). • a(n) seems to be asymptotic to c * n ^ 2 with c=0.11..... •

[A112421] • 2,4,6,8,10,12,16,20,24,28,32,36,42,48,54,60,66,72,80,88,96,104,112,120,130 ⋆ Number of 6 element subsets of {1,2,3,...,n} for which the sum-set has 12 elements. • a(n) = 2 * j * (n - 3 * j - 3), where j=floor(n / 6). - _ Jon E. Schoenfield _ , Dec 20 2013 •

[A182766] • 2,4,6,8,10,13,15,17,19,21,23,26,28,30,32,34,36,39,41,43,45,47,49,52,54 ⋆ Beatty sequence for 5 - 2*sqrt(2). • a(n) = floor(s * n), where s = 5 - 2 * sqrt(2). •

[A061168] • 0,1,2,4,6,8,10,13,16,19,22,25,28,31,34,38,42,46,50,54,58,62,66,70,74 ⋆ Partial sums of A000523. • a(n) = Sum _{ k=1..n } floor(log _ 2(k)) = (n + 1) * floor(log _ 2(n)) - 2 * (2 ^ floor(log _ 2(n)) - 1). - Diego Torres (torresvillarroel(AT)hotmail.com), Oct 29 2002 •

[A165453] • 0,1,2,4,6,8,10,13,16,19,22,25,28,32,36,40,44,48,52,56,60,65,70,75,80 ⋆ Linear interpolation of the sequence that maps an entry of A002378 to the corresponding entry of A006331. • a(0)=0, a(n) = max(min(a(n - 1) + x, n + a(n - x))), where the maximum is taken over all values for x from 1 to n. •

[A056827] • 0,0,0,1,2,4,6,8,10,13,16,20,24,28,32,37,42,48,54,60,66,73,80,88,96 ⋆ [n^2/6]. • a(n) = floor((1 / 2) * sum _{ i=1..n + 1 } (ceiling(i / 3) + floor (i / 3) - 1)). - _ Wesley Ivan Hurt _ , Jun 06 2014 •

[A085577] • 1,1,2,4,6,8,10,13,17,20,25,29,34,40,45,52,58,65,73,80,89,97,106,116,125 ⋆ Size of maximal subset of the n^2 cells in an n X n grid such that there are at least 3 edges between any pair of chosen cells. • a(n) approaches n ^ 2 / 5 as n - > infinity. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) for n>8. •

[A121832] • 1,1,1,1,1,2,4,6,8,10,13,19,29,43,61,84,116,164,236,340,485,685,965,1365,1941 ⋆ Expansion of 1/(1-x-x^5-x^6). • a(n) = a(n - 1) + a(n - 5) + a(n - 6). •

[A288732] • 2,4,6,8,10,14,18,22,26,34,42,50,58,74,90,106,122,154,186,218,250,314,378,442,506 ⋆ a(n) = a(n-1) + 2*a(n-4) - 2*a(n-5) for n >= 5, where a(0) = 2, a(2) = 4, a(3) = 6, a(4) = 8, a(5) = 10. • a(n) = a(n - 1) + 2 * a(n - 4) - 2 * a(n - 5) for n >= 5, where a(0) = 2, a(2) = 4, a(3) = 6, a(4) = 8, a(5) = 10. •

[A226722] • 1,2,4,6,8,11,12,15,17,18,21,22,25,27,29,31,33,35,37,39,41,44,45,47,50 ⋆ Positions of the numbers 2^n, for n >=0, in the joint ranking of all the numbers 2^h, 3^k, 5^k, for h >= 0, k >= 1. • a(n) = 1 + n + floor(n * log _ 3(2)) + floor(n * log _ 5(2). •

[A054683] • 0,2,4,6,8,11,13,15,17,19,20,22,24,26,28,31,33,35,37,39,40,42,44,46,48 ⋆ Numbers n such that sum of digits is even. • a(n) = n * 2 for the first 5 numbers; a(n) = n * 2 + 1 for the second 5 numbers (recurrence) •

[A184809] • 2,4,6,8,11,13,15,17,20,22,24,26,28,31,33,35,37,40,42,44,46,48,51,53,55 ⋆ n + floor(r*n), where r = sqrt(3/2); complement of A184808. • a(n) = n + floor(r * n), where r = sqrt(3 / 2). •

[A186152] • 1,2,4,6,8,11,13,15,18,21,23,26,29,32,35,38,41,44,48,51,55,58,61,65,69 ⋆ Rank of (1/8)n^3 when {(1/8)i^3: i>=1} and {j^2>: j>=1} are jointly ranked with (1/8)i^3 before j^2 when (1/8)i^3=j^2. Complement of A186153. • a(n)=n + floor(((1 / 8)n ^ 3 - 1 / 16) ^ (1 / 2)), A186152. •

[A077473] • 1,2,4,6,8,11,13,18,21,24,27,28,30,32,35,37,40,43,45,50,51,59,62,64,73 ⋆ Greedy powers of (5/9): sum_{n=1..inf} (5/9)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(5 / 9) and frac(y) = y - floor(y). • a(n) seems to be asymptotic to c * n with c around 2.8... - _ Benoit Cloitre _ •

[A060655] • 2,4,6,8,11,14,18,21,25,29,33,37 ⋆ Pack n integer sided rectangles into the smallest possible square so that no sides of the rectangle are the same. Sequence gives the side of the smallest square. • a(n)>=sqrt(n(n + 1)(2n + 1) / 3). •

[A117490] • 0,1,2,4,6,8,11,14,18,21,25,29,33,38,42,48,54,59,64,70,77,84,90,96,105 ⋆ Number of primes between n and n^2 (with n and n^2 excluded). • a(n) = pi(n ^ 2) - pi(n), cf. A000720. •

[A011858] • 0,0,0,1,2,4,6,8,11,14,18,22,26,31,36,42,48,54,61,68,76,84,92,101,110 ⋆ a(n) = floor(n*(n-1)/5). • a(1 - n) = a(n). a(n) = a(n - 5) + 2 * n - 6 for all n in Z. - _ Michael Somos _ , Jul 04 2011 • a(n) = a(n - 1) + a(n - 5) - a(n - 6) + 2 for all n in Z. - _ Michael Somos _ , Jul 06 2011 • a(n) = (1 / 5) * (n ^ 2 - n + [0,0, - 2, - 1, - 2](mod 5)). - _ Ralf Stephan _ , Aug 11 2013 • a(n) - 2 * a(n + 1) + a(n + 2) = (n == 1 (mod 5)) + (n == 3 (mod 5)) for all n in Z. - _ Michael Somos _ , Oct 19 2014 •

[A084627] • 1,1,2,4,6,8,11,14,18,22,28,34,40,48,57,66,77,88,101,115,130,146,163,182,203 ⋆ Floor(C(n+6,6)/C(n+3,3)). • a(n)=floor(n ^ 3 / 120 + n ^ 2 / 8 + 37n / 60) + 1 •

[A039823] • 1,2,4,6,8,11,15,19,23,28,34,40,46,53,61,69,77,86,96,106,116,127,139,151,163 ⋆ a(n) = ceiling((n^2 + n + 2)/4). • a(n) = (n * (n + 1) + i ^ (n * (n + 1)) + 3) / 4, where i=sqrt(- 1). - _ Bruno Berselli _ , Jul 25 2012 • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5) for n>5 . - _ Wesley Ivan Hurt _ , Sep 25 2015 • a(n) = ceiling((n ^ 2 + n + 1) / 4). - _ Bob Selcoe _ , Sep 26 2015 •

[A079972] • 1,1,1,1,2,4,6,8,11,17,27,41,60,88,132,200,301,449,669,1001,1502,2252,3370,5040,7543 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=4, I={1,2}. • a(n) = a(n - 1) + a(n - 4) + a(n - 5). • a(n)=sum(k=0..n, sum(j=floor((n - k) / 4)..floor((n - k) / 3), binomial(k,j) * binomial(j,n - k - 3 * j))); [From Vladimir Kruchinin, May 26 2011] •

[A006998] • 0,1,2,4,6,8,12,14,16,24,26,28,32,40,48,52,54,56,64,72,80,96,100,104,108 ⋆ Partitioning integers to avoid arithmetic progressions of length 3. • a(n) = a([2n / 3]) + a([(2n + 1) / 3]). •

[A007694] • 1,2,4,6,8,12,16,18,24,32,36,48,54,64,72,96,108,128,144,162,192,216,256,288,324 ⋆ Numbers n such that phi(n) divides n. • a(n) is approximately exp(sqrt(2 * log(2) * log(3) * n)) / sqrt(3 / 2). - _ Charles R Greathouse IV _ , Nov 10 2015 •

[A082662] • 1,2,4,6,8,12,16,20,24,28,32,40,48,56,64,72,80,88,96,104,112,120,128,144,160 ⋆ Numbers n such that A001227(n) = A082647(n). • a(1) = 1. a(3 * 2 ^ m + k - 2) = 2 ^ (2m + 1) + (k - 1) * 2 ^ (m + 1), where m >= 0, k=1..(3 * 2 ^ m). •

[A097921] • 1,1,2,4,6,8,12,16,20,26,32,38,46,54,62,72,82,92,104,116,128,142,156,170,186 ⋆ G.f.: (1-x^6)*(1-x^8)/((1-x)*(1-x^2)*(1-x^3)^2*(1-x^4)). • a(n) = 2 + floor(n * (n - 1) / 3), for n>=2, with a(0)=1, a(1)=1. - _ G. C. Greubel _ , Dec 20 2017 •

[A061553] • 2,4,6,8,12,16,20,28,36,44,54,72,92,104,138,176,212,268,332,416,508,628,776,968,1192 ⋆ Sum of absolute values of coefficients of expansion of (1-x)(1-x^2)(1-x^3)...(1-x^n). • a(n) := |c(n, 0)| + |c(n, 1)| + ... + |c(n, n(n + 1) / 2)| where c(n, j) are the coefficients of the polynomial P(n, x) := (1 - x)(1 - x ^ 2)(1 - x ^ 3)...(1 - x ^ n) •

[A288603] • 2,4,6,8,12,18,28,44,70,112,180,290,468,756,1222,1976,3196,5170,8364,13532,21894,35424,57316,92738,150052 ⋆ a(n) = 2*a(n-1) - a(n-3) for n >= 3, where a(0) = 2, a(1) = 4, a(2) = 6, a(3) = 8. • a(n) = 2 * a(n - 1) - a(n - 3) for n >= 3, where a(0) = 2, a(1) = 4, a(2) = 6, a(3) = 8. •

[A283769] • 2,4,6,8,13,15,17,19,21,26,28,30,32,39,41,43,45,52,54,56,58,65,67,69,71 ⋆ Numbers k such that L(k) = 0 mod 3, where L = A000201 = lower Wythoff sequence. • a(n + 1) - a(n) is in { 2,5,7 } for every n. •

[A213506] • 1,1,2,4,6,8,13,17,23,31,40,50,65,79,97,119,143,169,203,237,277,323,373,427,492 ⋆ Number of nonisomorphic 2-generator p-groups of class at most 2 and order p^n. • a(n) = sum _{ r + s + t=n, r >= s >= t >= 0 } ((t + 1) + (1 / 2) * min { t,r - s }* (2t + 1 - min { t,r - s }). • a(n) = floor((n ^ 4 + 26 * n ^ 3 + 234 * n ^ 2 + (909 - 64 * (n mod 3)) * n + 1701) / 1728 + (n + 1) * (- 1) ^ n / 64). [_ Tani Akinari _ , Jun 28 2014 - see PARI code] •

[A192333] • 0,2,4,6,8,15,17,19,21,23,30,32,34,36,38,45,47,49,51,53,60,62,64,66,68 ⋆ Numbers that are "unsafe" when playing the game Dollar Nim, which is a Nim game where users can remove 1, 5, 10, or 25 cents from an initial pile of money. The most common version of the game is played with an initial amount of $1, hence the name. • a(n) = 5 * floor((n - 1) / 5) + 2 * n - 2. •

[A014263] • 0,2,4,6,8,20,22,24,26,28,40,42,44,46,48,60,62,64,66,68,80,82,84,86,88 ⋆ Numbers that contain even digits only. • a(n) = ((2 * b _ m(n)) mod 8 + 2) * 10 ^ m + sum _{ j=0..m - 1 } ((2 * b _ j(n)) mod 10) * 10 ^ j, where n>1, b _ j(n)) = floor((n - 1 - 5 ^ m) / 5 ^ j), m = floor(log _ 5(n - 1)). • a(1 * 5 ^ n + 1) = 2 * 10 ^ n. • a(2 * 5 ^ n + 1) = 4 * 10 ^ n. • a(3 * 5 ^ n + 1) = 6 * 10 ^ n. • a(4 * 5 ^ n + 1) = 8 * 10 ^ n. • a(n) = 2 * 10 ^ log _ 5(n - 1) for n=5 ^ k + 1, •

[A210380] • 1,2,4,6,9,10,11,15,18,20,21,24,26,28,32,34,36,38,40,42,50,52,54,56,58 ⋆ Consider all n-tuples of distinct positive integers for which no two different elements add up to a square. This sequence gives the smallest maximal integer in such tuples. • a(n) <= (32 / 11)n - 2. Erdos conjectures that a(n) >= (32 / 11)n - k for some fixed k. •

[A047411] • 1,2,4,6,9,10,12,14,17,18,20,22,25,26,28,30,33,34,36,38,41,42,44,46,49 ⋆ Numbers that are congruent to {1, 2, 4, 6} mod 8. • a(n) = a(n - 4) + 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 5. - _ R. J. Mathar _ , Feb 11 2010 • a(n) = (8n - 7 - i ^ (2n) + i ^ (1 - n) - i ^ (1 + n)) / 4 where i=sqrt(- 1). • a(n) = (8 * n - 7 - cos(n * Pi) + 2 * sin(n * Pi / 2)) / 4. - _ Wesley Ivan Hurt _ , Oct 05 2017 •

[A252169] • 2,4,6,9,11,13,15,18,20,22,24,27,29,31,33,36,38,40,42,45,47,49,51,54,56 ⋆ Beatty sequence for sqrt(Pi*phi) where phi is the golden ratio A001622. • a(n) = floor(n * sqrt(Pi * phi)) = floor(n * sqrt(Pi * (1 + sqrt(5)) / 2)). •

[A059566] • 2,4,6,9,11,13,15,18,20,22,25,27,29,31,34,36,38,41,43,45,47,50,52,54,57 ⋆ Beatty sequence for e^gamma/(e^gamma-1). • a(n) = floor(n * e ^ gamma / (e ^ gamma - 1)). - _ Michel Marcus _ , Jan 04 2015 •

[A059545] • 2,4,6,9,11,13,16,18,20,23,25,27,29,32,34,36,39,41,43,46,48,50,52,55,57 ⋆ Beatty sequence for log(10). • a(n) = floor(n * log(10)). - _ Stefan Steinberger _ , May 09 2006 •

[A187339] • 2,4,6,9,11,13,16,18,20,23,25,27,30,32,34,36,39,41,43,46,48,50,53,55,57 ⋆ Floor((7+sqrt(5))*n/4); complement of A187330. • a(n)=floor((7 + sqrt(5)) * n / 4). •

[A047292] • 2,4,6,9,11,13,16,18,20,23,25,27,30,32,34,37,39,41,44,46,48,51,53,55,58 ⋆ Numbers that are congruent to {2, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = floor((7 * n - 1) / 3). [_ Gary Detlefs _ , May 14 2011] • a(n) = 2 * n + ceiling(n / 3) - 1. - _ Arkadiusz Wesolowski _ , Sep 19 2012 • a(n) = (21 * n - 6 - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 5. (End) •

[A184627] • 2,4,6,9,11,13,16,18,20,23,25,28,30,32,35,37,39,42,44,46,49,51,54,56,58 ⋆ floor((n-h)*s+h), where s=(3+sqrt(3))/2 and h=1/4; complement of A184626. • a(n)=floor((n - h) * s + h), where s=(3 + sqrt(3)) / 2 and h=1 / 4. •

[A224995] • 2,4,6,9,11,14,16,19,21,24,26,29,31,34,36,38,41,43,46,48,51,53,56,58,61 ⋆ Floor(1/f(x^(1/n))) for x = 3/2, where f computes the fractional part. • a(n) = floor(n / log(3 / 2) - 1 / 2) for n>1. - _ Andrey Zabolotskiy _ , Dec 01 2017 •

[A091626] • 1,2,4,6,9,11,14,16,19,22,25,27,31,33,36,39,43,45,49,51,55,58,61,63,68 ⋆ Number of ordered integer pairs (b,c) with 0 <= b, c <= n such that both roots of x^2+bx+c=0 are integers. • a(n) = a(n - 1) + ceiling(tau(n) / 2) + 1, n>1. - _ Vladeta Jovovic _ , Jun 12 2004 •

[A276223] • 2,4,6,9,11,14,17,19,22,24,27,30,33,35,38,41,44,47,49,52,55,58,61,64,67 ⋆ Position of n^Pi in the joint ranking of {h^e} and {k^Pi}, h > 1, k > 1. • a(n) = n + floor(n ^ (Pi / e)); the complement is given by n + floor(n ^ (e / Pi)). •

[A054519] • 1,2,4,6,9,11,15,17,21,24,28,30,36,38,42,46,51,53,59,61,67,71,75,77,85 ⋆ Number of increasing arithmetic progressions of nonnegative integers ending in n, including those of length 1 or 2. • a(n) = Sum _{ i=1..n + 1 } ceiling((n + 1) / (i + 1)). - _ Wesley Ivan Hurt _ , Sep 15 2017 •

[A256393] • 2,4,6,9,12,15,18,21,24,27,30,35,40,45,48,51,54,57,60,65,70,77,84,91,98 ⋆ Start from a(1) = 2, then alternately add either the largest (if n is even), or the smallest (if n is odd) prime factor of the preceding term a(n-1) to get a(n). • a(1) = 2; a(2n) = a(2n - 1) + gpf(a(2n - 1)), a(2n + 1) = a(2n) + lpf(a(2n)), where gpf = greatest prime factor = A006530, lpf = least prime factor = A020639. •

[A014011] • 1,2,4,6,9,12,15,18,21,24,28,32,36,40,45,50,55,60,65,70,75,80,85,90,96 ⋆ Defined by a chi-inequality greedy algorithm. • a(n) = max { (k + 1) * (n - a(k)): 1<=k<n } , a(1) = 1. - _ Reinhard Zumkeller _ , Jul 10 2013 •

[A083652] • 1,2,4,6,9,12,15,18,22,26,30,34,38,42,46,50,55,60,65,70,75,80,85,90,95 ⋆ Sum of lengths of binary expansions of 0 through n. • a(n) = 2 + (n + 1) * ceiling(log _ 2(n + 1)) - 2 ^ ceiling(log _ 2(n + 1)). •

[A294060] • 0,0,1,2,4,6,9,12,15,18,22,26,31,36,42,48,54,60,66,72,79,86,94,102,110 ⋆ Sum of the differences of the larger and smaller parts in the partitions of n into two parts with the smaller part squarefree. • a(n) = Sum _{ i=1..floor(n / 2) } (n - 2i) * mu(i) ^ 2. •

[A036441] • 2,4,6,9,12,15,20,25,30,35,42,49,56,63,70,77,88,99,110,121,132,143,156,169,182 ⋆ a(n+1) = next number having largest prime dividing a(n) as a factor, with a(1) = 2. • a(n) = p(m) * (n + 2 - p(m)), where p(k) is the k - th prime and m is the smallest index such that n + 2 <= p(m) + p(m + 1). - _ Max Alekseyev _ , Oct 21 2008 •

[A257637] • 0,1,2,4,6,9,12,16,17,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50 ⋆ Maximal number of edges in an n-vertex triangle-free graph with maximal degree at most 4. • a(9) = 17. •

[A053096] • 1,2,4,6,9,12,16,19,23,27,31,35,40,44,49,54,59,64,69,74,79,84,90,96,102 ⋆ When the Euler phi function is iterated with initial value A002110(n) = primorial, a(n) = number of iterations required to reach the fixed number = 1. • a(n) is the smallest number such that Nest[EulerPhi, A002110, a(n)]=1 •

[A033291] • 1,2,4,6,9,12,16,20,24,28,30,35,40,45,50,54,60,66,72,78,84,91,98,105,112 ⋆ A Connell-like sequence: take the first multiple of 1, the next 2 multiples of 2, the next 3 multiples of 3, etc. • a(n) = q(n) * n - q(n) * floor(q(n) * (q(n) + 1) / 6) with q(n) = ceil((1 / 2) * (- 1 + sqrt(1 + 8 * (n)))). •

[A224813] • 1,1,1,1,1,1,1,1,1,1,1,1,1,2,4,6,9,12,16,20,25,30,36,42,49 ⋆ Number of subsets of {1,2,...,n-12} without differences equal to 2, 4, 6, 8, 10 or 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) + a(n - 9) - a(n - 10) + a(n - 11) - a(n - 12) + a(n - 13) + 3 * a(n - 14) - 2 * a(n - 15) + 2 * a(n - 16) - a(n - 17) + a(n - 18) - 3 * a(n - 21) + 2 * a(n - 22) - 4 * a(n - 23) + 2 * a(n - 24) - 3 * a(n - 25) - 3 * a(n - 28) + a(n - 29) - 2 * a(n - 30) + 3 * a(n - 35) - a(n - 36) + 3 * a(n - 37) + a(n - 42) - a(n - 49). •

[A002620] • 0,0,1,2,4,6,9,12,16,20,25,30,36,42,49,56,64,72,81,90,100,110,121,132,144 ⋆ Quarter-squares: floor(n/2)*ceiling(n/2). Equivalently, floor(n^2/4). • a(n) = (2 * n ^ 2 - 1 + (- 1) ^ (n)) / 8. - _ Paul Barry _ , May 27 2003 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Jaume Oliver Lafont _ , Dec 05 2008 • a(- n) = a(n) for all n in Z. • a(n) = a(n - 1) + int(n / 2), n > 0. Partial sums of A004526. - _ Adam Kertesz _ , Sep 20 2000 • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + 1 [with a(- 1) = a(0) = a(1) = 0], a(2k) = k ^ 2, a(2k - 1) = k(k - 1). - _ Henry Bottomley _ , Mar 08 2000 • a(n) = Sum _{ k=1..n } floor(k / 2). - Yong Kong (ykong(AT)curagen.com), Mar 10 2001 •

[A087811] • 1,2,4,6,9,12,16,20,25,30,36,42,49,56,64,72,81,90,100,110,121,132,144,156,169 ⋆ Numbers n such that ceiling(sqrt(n)) divides n. • a(n) = (n + n mod 2) * (n + 2 - n mod 2) / 4. • a(1) = 1, a(2) = 2, a(n) = n + a(n - 2). - _ Alonso del Arte _ , Jun 18 2005 • a(n) = (C(n + 2,2) - floor((n + 2) / 2)) / 2. - _ Mircea Merca _ , Nov 23 2013 • a(n) = ((- 1) ^ n * (- 1 + (- 1) ^ n * (1 + 2 * n * (2 + n)))) / 8. - _ Fred Daniel Kline _ , Jan 06 2015 • a(n) = Product _{ k=1...n - 1 } (1 + 2 / (k + k mod 2)), n>=1. - _ Fred Daniel Kline _ , Oct 30 2016 •

[A224812] • 1,1,1,1,1,1,1,1,1,1,1,2,4,6,9,12,16,20,25,30,36,42,49,63,81 ⋆ Number of subsets of {1,2,...,n-10} without differences equal to 2, 4, 6, 8 or 10. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) + a(n - 9) - a(n - 10) + a(n - 11) + 3 * a(n - 12) - 2 * a(n - 13) + 2 * a(n - 14) - a(n - 15) + a(n - 16) - 2 * a(n - 19) + a(n - 20) - 2 * a(n - 21) - 3 * a(n - 24) + a(n - 25) - 2 * a(n - 26) + a(n - 31) + a(n - 36). •

[A224811] • 1,1,1,1,1,1,1,1,1,2,4,6,9,12,16,20,25,30,36,48,64,88,121,165,225 ★ Subsets of {1,2,...,n-8} without differences equal to 2, 4, 6 or 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) + a(n - 7) - a(n - 8) + a(n - 9) + 2 * a(n - 10) - a(n - 11) + a(n - 12) - 2 * a(n - 15) + a(n - 16) - 2 * a(n - 17) - a(n - 20) + a(n - 25) . •

[A224808] • 1,1,1,1,1,1,1,2,4,6,9,12,16,20,25,35,49,70,100,140,196,266,361,494,676 ★ Number of permutations (p(1), p(2), ..., p(n)) satisfying -k <= p(i)-i <= r and p(i)-i not in the set I, i=1..n, with k=2, r=6, I={-1,1,2,3,4,5}. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) + a(n - 7) + 2 * a(n - 8) - a(n - 9) + a(n - 10) - a(n - 13) + a(n - 16). •

[A022778] • 1,2,4,6,9,12,16,21,26,32,38,45,52,60,69,78,88,98,109,120,132,145,158,172,186 ★ Place where n-th 1 occurs in A023116. • a(n) = n + 1 + Sum { floor[(n - k) / sqrt(3)], k = 0..n } . •

[A224809] • 1,1,1,1,1,2,4,6,9,12,16,24,36,54,81,117,169,247,361,532,784,1148,1681,2460,3600 ★ Number of permutations (p(1), p(2), ..., p(n)) satisfying -k <= p(i)-i <= r and p(i)-i not in the set I, i=1..n, with k=2, r=4, I={-1,1,2,3}. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) + a(n - 6) - a(n - 9). •

[A229093] • 0,0,1,2,4,6,9,12,17,22,27,34,41,48,57,66,75,86,97,108,121,134,147,162,177 ★ The clubs patterns appearing in n X n coins. • a(n) = ceiling((n - 1) ^ 2 / 3), a(0) = 0, a(4) = 4. •

[A102379] • 0,1,2,4,6,9,12,17,22,29,36,46,56,69,82,100,118,141,164,194,224,261,298,345,392 ★ a(n) = minimal number of nodes in a binary tree of height n. • a(n) = a(n - 1) + a([n / 2]) + 1, a(1) = 0 •

[A238374] • 1,2,4,6,9,12,17,22,30,38,51,64,85,106,140,174,229,284,373,462,606,750,983,1216,1593 ★ Row sums of triangle in A204026. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5), a(0) = 1, a(1) = 2, a(2) = 4, a(3) = 6, a(4) = 9. •

[A267161] • 0,2,4,6,9,12,18,20,31,35,48,50,69,73,94,96,123,127,156,158,193,197,234,236,279 ★ Total number of OFF (white) cells after n iterations of the "Rule 107" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n>12. •

[A255977] • 1,2,4,6,9,13,17,22,27,33,40,47,55,64,73,83,93,104,116,128,141,154,168,183,198 ★ The number of numbers j+k*r <= n, where r = golden ratio and j and k are nonnegative integers. • a(n) = n + 1 + Sum { floor[(n - k) / tau], k = 0..n } , where tau = (1 + sqrt(5)) / 2. •

[A087483] • 1,2,4,6,9,13,17,22,28,34,41,49,57,66,76,86,97,109,121,134,148,162,177,193,209 ★ Row 0 of the order array of 3/2, i.e., row 0 of the transposable dispersion in A087465. • a(n) = n + 1 - floor(n / 3) + Sum _{ i=1..n } floor(2i / 3). •

[A006697] • 1,2,4,6,9,13,17,22,28,35,43,51,60,70,81,93,106,120,135,151,167,184,202,221,241 ★ Number of subwords of length n in infinite word generated by a -> aab, b -> b. • a(n) = sum(k=0,n,min(2 ^ k,n - k + 1)) = 2 ^ (m + 1) - 1 + (n - m)(n - m + 1) / 2 with m = [n + 1 - LambertW(2 ^ (n + 1) * log(2)) / log(2)] = integer part of the solution to 2 ^ m = n + 1 - m. (conjecture d). - _ M. F. Hasler _ , Dec 14 2007 •

[A247179] • 0,0,2,4,6,9,13,18,23,29,35,42,50,58,67,76,87,98,109,121,134,147,161,176,191 ★ Floor of area enclosed in the interior of n unit circles arranged in a circle. • a(n) = Floor((n / tan(Pi / n)) - Pi * ((n / 2) - 1)). •

[A175780] • 0,0,0,0,0,1,2,4,6,9,13,18,24,31,39,48,58,70,83,98,114,132,152,174,198 ★ Partial sums of floor(n^2/24). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n - 37) / 288). • a(n)=floor((2 * n + 11) * (n - 2) ^ 2 / 144). • a(n)=ceil((2 * n - 9) * (n + 3) ^ 2 / 144). • a(n)=a(n - 24) + (n + 1)(n - 24) + 198 , n>23. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 12) - 3 * a(n - 13) + 3 * a(n - 14) - a(n - 15). [R. J. Mathar, Dec 06 2010] •

[A114830] • 1,2,4,6,9,13,18,24,31,39,48,59,71,85,101,119,139,162,187,215,246,280,318,359,404 ★ Each term is previous term plus ceiling of geometric mean of all previous terms. • a(1) = 1, a(n + 1) = a(n) + ceiling(GeometricMean[a(1),a(2),...,a(n)]). a(n + 1) = a(n) + ceiling[((a(1) * a(2) * ,..., * a(n)) ^ (1 / n)]. •

[A177239] • 0,0,0,0,1,2,4,6,9,13,18,24,31,39,49,60,73,87,103,121,141,163,187,213,242 ★ Partial sums of round(n^2/20). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n - 15) / 240). • a(n)=floor((n + 4) * (2 * n ^ 2 - 5 * n + 6) / 120). • a(n)=ceil((n - 3) * (2 * n ^ 2 + 9 * n + 13)120). • a(n)=round(n * (n - 2) * (2 * n + 7) / 120). • a(n)=a(n - 20) + (n + 1) * (n - 20) + 141, n>19. • a(n) = + 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) + a(n - 5) - 2 * a(n - 6) + 2 * a(n - 8) - a(n - 9) with g.f. x ^ 4 / ((1 + x) * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4). - R. J. Mathar, Dec 12 2010 •

[A001304] • 1,2,4,6,9,13,18,24,31,39,49,60,73,87,103,121,141,163,187,213,242,273,307,343,382 ★ Expansion of 1/((1-x)^2*(1-x^2)*(1-x^5)). • a(n) = floor((n + 8) * (2 * n ^ 2 + 11 * n + 18) / 120). - _ Tani Akinari _ , May 14 2014 •

[A000064] • 1,2,4,6,9,13,18,24,31,39,50,62,77,93,112,134,159,187,218,252,292,335,384,436,494 ★ Partial sums of (unordered) ways of making change for n cents using coins of 1, 2, 5, 10 cents. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) + a(n - 5) - 2 * a(n - 6) + 2 * a(n - 8) - a(n - 9) + a(n - 10) - 2 * a(n - 11) + 2 * a(n - 13) - a(n - 14) - a(n - 15) + 2 * a(n - 16) - 2 * a(n - 18) + a(n - 19). - _ Fung Lam _ , May 07 2014 •

[A088575] • 1,1,2,4,6,9,13,18,24,31,40,50,63,77,95,114,138,163,194,226,266,307,357,408,471 ★ Bisection of A088567. • a(n) = a(n - 1) + a(floor(n / 2)) + (1 - (- 1) ^ n) / 2, n>1. - _ Vladeta Jovovic _ , Dec 02 2003 •

[A177189] • 0,0,0,1,2,4,6,9,13,18,24,32,41,52,64,78,94,112,132,155,180,208,238,271,307 ★ Partial sums of round(n^2/16). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 3) / 192). • a(n)=floor((n + 3) * (2 * n ^ 2 - 3 * n + 13) / 96). • a(n)=ceil((n - 2) * (2 * n ^ 2 + 7 * n + 18) / 96). • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 + 4 * n) / 96). • a(n)=a(n - 16) + (n + 1) * (n - 16) + 94 , n>15 . • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) - a(n - 11) with g.f. x ^ 3 * (1 - x + x ^ 2 + x ^ 4 - x ^ 3) / ((1 + x) * (1 + x ^ 2) * (1 + x ^ 4) * (x - 1) ^ 4). - R. J. Mathar, Dec 13 2010 •

[A081659] • 1,2,4,6,9,13,19,28,42,64,99,155,245,390,624,1002,1613,2601,4199,6784,10966,17732,28679,46391,75049 ★ a(n) = n + Fibonacci(n+1). • a(n) = (sqrt(5) * (1 + sqrt(5)) ^ (n + 1) - sqrt(5) * (1 - sqrt(5)) ^ (n + 1)) / (10 * 2 ^ n) + n. •

[A003402] • 1,1,2,4,6,9,14,19,27,37,49,64,84,106,134,168,207,253,309,371,445,530,626,736,863 ★ G.f.: 1/((1-x)*(1-x^2)*(1-x^3)^2*(1-x^4)*(1-x^5)). • a(n) = a(n - 1) + b(n), b(n) = b(n - 2) + c(n) - e(n), c(n) = c(n - 3) + 2e(n), e(n) = e(n - 4) + f(n), f(n) = f(n - 5) + g(n), g(n) = g(n - 6), g(0) = 1, all functions are 0 for negative indexes. [From Miller paper.] - _ Sean A. Irvine _ , Apr 22 2015 •

[A119737] • 1,2,4,6,9,14,20,30,45,69,104,165,255,405,642,1029,1640,2645,4243,6852,11040,17840,28787,46567,75227 ★ a(n) = Sum{k=1..n} Fibonacci(floor(n/k)). • a(n) also equals n + sum { k=1..n - 2 } Fibonacci(k) floor(n / (k + 2)), for n >= 2. •

[A157679] • 0,1,2,4,6,9,15,25,35,49,70,100,160,256,416,676,936,1296,1800,2500,3550,5041,7171,10201,16261 ★ Number of subtrees of a complete binary tree • a(0) = 0, a(1) = 1 • a(n) = 1 + a(floor((n - 1) / 2) + a(ceiling((n - 1) / 2) + a(floor((n - 1) / 2) * a(ceiling((n - 1) / 2) = (1 + a(floor((n - 1) / 2)) * (1 + a(ceiling((n - 1) / 2)) •

[A171646] • 1,1,1,2,4,6,9,15,25,35,49,77,121,165,225,330,484,660,900,1260,1764,2352,3136,4312,5929 ★ a(1) = 1, then partial products of Product_{n=1..inf.}(p(n)/p(1)*p(n)/p(n-1)) = = 1*1*1*(2)*(2)*(3/2)*(3/2)*(5/3)*(5/3)*(7/5)*(7/5)*...*; p = partition numbers, A000041 starting (1, 2, 3, 5,...). • a(1) = 1, then partial products of Product _{ n=1..inf. } (p(n) / p(n - 1) * p(n) / p(n - 1)) = = 1 * 1 * 1 * (2) * (2) * (3 / 2) * (3 / 2) * (5 / 3) * (5 / 3) * (7 / 5) * (7 / 5) * ...; p = partition numbers, A000041 starting (1, 2, 3, 5,...). •

[A074677] • 0,1,1,1,2,4,6,9,15,25,40,64,104,169,273,441,714,1156,1870,3025,4895,7921,12816,20736,33552 ★ a(n) = Sum_{i = 0..floor(n/2)} (-1)^(i + floor(n/2)) F(2*i + e), where F = A000045 (Fibonacci numbers) and e = (1-(-1)^n)/2. • a(n) = a(n - 1) + a(n - 3) + a(n - 4) for n>3, a(0)=0, a(1)=1, a(2)=1, a(3)=1 . •

[A006498] • 1,1,1,2,4,6,9,15,25,40,64,104,169,273,441,714,1156,1870,3025,4895,7921,12816,20736,33552,54289 ★ a(n) = a(n-1)+a(n-3)+a(n-4), a(0) = a(1) = a(2) = 1, a(3) = 2. • a(n) = round((- 1 / 5 * sqrt(5) - 1 / 5) * (- 2 * 1 / (- sqrt(5) + 1)) ^ n / (- sqrt(5) + 1) + (1 / 5 * sqrt(5) - 1 / 5) * (- 2 * 1 / (sqrt(5) + 1)) ^ n / (sqrt(5) + 1)). G.f.: 1 / (1 - x - x ^ 2) / (1 + x ^ 2). - _ Vladeta Jovovic _ , May 03 2002 • a(n) = (- i) ^ n * sum { k=0..n, U(n - 2k, i / 2) } with i ^ 2= - 1. - _ Paul Barry _ , Nov 15 2003 • a(n) = sum { k=0..floor(n / 2), (- 1) ^ k * F(n - 2k + 1) } . - _ Paul Barry _ , Oct 12 2007 • a(n + 1) * a(n + 3) = a(n) * a(n + 2) + a(n + 1) * a(n + 2) for all n in Z. - _ Michael Somos _ , Jan 19 2014 • a(n) = round(1 / (1 / F(n + 2) + 2 / F(n + 3))), where F(n) = A000045, and 0.5 is rounded to 1. - _ Richard R. Forberg _ , Aug 04 2014 • a(n) = Sum _{ j=0..floor(n / 3) } Sum _{ k=0..j } binomial(n - 3j,k) * binomial(j,k) * 2 ^ k. - _ Tony Foster III _ , Sep 18 2017 •

[A110538] • 1,2,4,6,9,16,25,42,78,152,317,706,1685,4234,11173,30850,88804,265936,826931,2665434,8892534,30664346,109149206,400544458,1513655722 ★ Row sums of A110537 viewed as a number triangle. • a(n) = Sum _{ k=1..n } Sum _{ j=1..min(n - k + 1,k) } ceiling(j ^ (n - k + 1) / (n - k + 1) ^ j) * ceiling(j ^ k / k ^ j). •

[A244470] • 1,1,2,4,6,9,17,25,40,72,106,169,305,449,716,1292,1902,3033,5473,8057,12848,23184,34130,54425,98209 ★ Maximal term in row n of sequence A240388 when regarded as a triangle. • a(n)=4 * a(n - 3) + a(n - 6). - _ Harvey P. Dale _ , Apr 08 2015 •

[A079143] • 2,4,6,9,20,25,42,49,110,121,156,169,272,289,342,361,506,529,812,841,930,961,1332,1369,1640 ★ Numbers divisible by prime ceilings of their square roots + 1. • a(n) = prime(ceiling(n / 2)) * (prime(ceiling(n / 2)) - (n mod 2)) •

[A187333] • 0,0,2,4,6,10,10,12,14,16,20,20,22,24,26,30,30,32,34,36,40,40,42,44,46 ★ Floor(n/5)+floor(2n/5)+floor(3n/5)+floor(4n/5). • a(n)=floor(n / 5) + floor(2n / 5) + floor(3n / 5) + floor(4n / 5). •

[A047410] • 2,4,6,10,12,14,18,20,22,26,28,30,34,36,38,42,44,46,50,52,54,58,60,62,66 ★ Numbers that are congruent to {2, 4, 6} mod 8. • a(n) = 2 * floor((n - 1) / 3) + 2 * n. - _ Gary Detlefs _ , Mar 18 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4, with a(1)=2, a(2)=4, a(3)=6, a(4)=10. - _ Harvey P. Dale _ , Oct 06 2014 • a(n) = 2 * (12 * n - 6 - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 6. (End) •

[A006093] • 1,2,4,6,10,12,16,18,22,28,30,36,40,42,46,52,58,60,66,70,72,78,82,88,96 ★ a(n) = prime(n) - 1. • a(n) = (p - 1)! mod p where p is the n - th prime, by Wilson's theorem. - _ Jonathan Sondow _ , Jul 13 2010 •

[A152919] • 1,2,4,6,10,12,18,20,28,30,40,42,54,56,70,72,88,90,108,110,130,132,154,156,180 ★ Simple switched sequence: a(n)= If[n == 1, 1, If[Mod[n, 2] == 0, n^2/4 + n/2, n^2/4 + n - 5/4]]. • a(n)= If[n == 1, 1, If[Mod[n, 2] == 0, n ^ 2 / 4 + n / 2, n ^ 2 / 4 + n - 5 / 4]]. •

[A002088] • 0,1,2,4,6,10,12,18,22,28,32,42,46,58,64,72,80,96,102,120,128,140,150,172,180 ★ Sum of totient function: a(n) = Sum_{k=1..n} phi(k), cf. A000010. • a(n) = (3n ^ 2) / (Pi ^ 2) + O(n log n). • a(n) = (1 / 2) * sum { k>=1 } mu(k) * floor(n / k) * floor(1 + n / k). - _ Benoit Cloitre _ , Apr 11 2003 •

[A002491] • 1,2,4,6,10,12,18,22,30,34,42,48,58,60,78,82,102,108,118,132,150,154,174,192,210 ★ Smallest number of stones in Tchoukaillon (or Mancala, or

Kalahari) solitaire that make use of n-th hole. • a(n + 1) = 1 + [..[[[[n * 3 / 2]5 / 4]7 / 6]9 / 8]...(2k + 1) / 2k]...] (_ Birkas Gyorgy _ , Mar 07 2011) •

[A293821] • 1,1,2,4,6,10,12,20,23,35,38,56,60,84,88,120,125,165,170,220,226,286,292,364,371 ★ Number of integer-sided quadrilaterals having perimeter n, modulo rotations but not reflections. • a(n) = (1 / 96) * (- 3 * (- 1 + (- 1) ^ n + 4 * i * (- i) ^ n - 4 * i * i ^ n) + (7 - 15 * (- 1) ^ n) * n + 3 * (- 1 + (- 1) ^ n) * n ^ 2 + 2 * n ^ 3) where i=sqrt(- 1). •

[A133871] • 2,4,6,10,12,20,24,34,44,64,78,116,148,208,286,410,556,808,1120,1620,2308,3352,4784,6980,10064 ★ a(n) = the definite integral int_{0..1} prod_{j=1..n} 4 sin^2(Pi jx)dx. • a(n) = sum of squares of coefficients in Product _{ k=1..n } (1 - x ^ k). - _ Paul D. Hanna _ , Nov 30 2010 •

[A267452] • 1,2,4,6,10,13,19,24,30,37,46,53,63,73,84,95,108,120,135,149,164,180,198,214,233 ★ Total number of ON (black) cells after n iterations of the "Rule 131" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n>7. •

[A140652] • 1,2,4,6,10,13,19,24,31,38,48,55,67,78,90,102,118,131,149,164,182,201,223,240,263 ★ Partial sums of A062968. • a(n) = Sum _{ i=1..n } i - floor(n / (i + 1)). - _ Wesley Ivan Hurt _ , Sep 13 2017 •

[A191113] • 1,2,4,6,10,14,16,22,28,38,40,46,54,62,64,82,86,110,112,118,136,150,158,160,182 ★ Increasing sequence generated by these rules: a(1)=1, and if x is in a then 3x-2 and 4x-2 are in a. • a(1)=1, and if x is in a then 3x - 2 and 4 x - 2 are in a; the terms of a are listed in without repetitions, in increasing order. •

[A128422] • 0,0,0,2,4,6,10,14,18,24,30,36,44,52,60,70,80,90,102,114,126,140,154,168,184 ★ Projective plane crossing number of K_{4,n}. • a(n) = floor(n / 3)(2n - 3(floor(n / 3) + 1)). • a(n) = ceil(n ^ 2 / 3) - n. - _ Charles R Greathouse IV _ , Jun 06 2013 • a(n) = floor((n - 1)(n - 2) / 3). - _ Christopher Hunt Gribble _ , Oct 13 2009 •

[A024204] • 0,2,4,6,10,14,19,24,30,37,44,53,61,71,81,92,103,115,128,141,156,170,186,202,219 ★ [(3rd elementary symmetric function of S(n))/(2nd elementary symmetric function of S(n))], where S(n) = {first n+2 odd positive integers}. • a(n) = floor[(n ^ 4 + 5n ^ 3 + 7n ^ 2 + 2n) / (3n ^ 2 + 11n + 9)]. - Neven Juric (neven.juric(AT)apis - it.hr), neven.juric(AT)apis - it.hr, May 17 2007 • a(n) = floor((n ^ 3 + 2 * n ^ 2) / (3 * n + 2)). [_ Gary Detlefs _ , Jul 13 2010] •

[A008804] • 1,2,4,6,10,14,20,26,35,44,56,68,84,100,120,140,165,190,220,250,286,322,364,406,455 ★ Expansion of 1/((1-x)^2*(1-x^2)*(1-x^4)). • a(n) = - a(- 8 - n) for all n in Z. - _ Michael Somos _ , Feb 05 2011 •

[A000123] • 1,2,4,6,10,14,20,26,36,46,60,74,94,114,140,166,202,238,284,330,390,450,524,598,692 ★ Number of binary partitions: number of partitions of 2n into powers of 2. • a(n) = a(n - 1) + a(floor(n / 2)). For proof see A018819. • a(n) = Sum _{ i=0..n } a(floor(i / 2)) [O'Shea]. •

[A277277] • 1,2,4,6,10,14,20,28,36,44,56,72,92,116,148,188,240,304,388,492,628,796,1016,1288,1644 ★ Number of overpal-free binary words of length n. • a(n) = a(n - 2) + a(n - 4) for n>9. •

[A048670] • 2,4,6,10,14,22,26,34,40,46,58,66,74,90,100,106,118,132,152,174,190,200,216,234,258 ★ Jacobsthal function A048669 applied to the product of the first n primes (A002110). • a(n) << n ^ 2 * (log n) ^ 2, see Iwaniec. - _ Charles R Greathouse IV _ , Sep 08 2012 • a(n) >= (2e ^ gamma + o(1)) n log ^ 2 n log log log n / (log log n) ^ 2, see Pintz. •

[A027383] • 1,2,4,6,10,14,22,30,46,62,94,126,190,254,382,510,766,1022,1534,2046,3070,4094,6142,8190,12286 ★ Number of balanced strings of length n: let d(S) = #(1's) - #(0's), # == count in S, then S is balanced if every substring T of S has -2 <= d(T) <= 2. • a(n) = Sum _{ k=0..n } 2 ^ min(k, n - k). • a(n + 2) = 2 * a(n) + 2. • a(n) = 2 ^ floor((n + 2) / 2) + 2 ^ floor((n + 1) / 2) - 2. - Quim Castellsaguer (qcastell(AT)pie.xtec.es) • a(n) = 2 ^ (n / 2)(3 + 2sqrt(2) + (3 - 2sqrt(2))(- 1) ^ n) / 2 - 2. - _ Paul Barry _ , Apr 23 2004 • a(n) = 2 * ((a(n - 2) + 1) mod (a(n - 1) + 1)), n > 1. - _ Pierre Charland _ , Dec 12 2010 • a(n) = 2 ^ ((2 * n + 3 * (1 - (- 1) ^ n)) / 4) * 3 ^ ((1 + (- 1) ^ n) / 2) - 2. - _ Luce ETIENNE _ , Sep 01 2014 •

[A113118] • 2,4,6,10,14,26,46,86,166,326,634,1262,2518,5006,10006,19946,39874,79738,159398,318778,637502,1274998,2549978,5099902,10199786 ★ a(1) = 2. a(n) is smallest integer > a(n-1) which is a multiple of the largest prime <= a(n-1). • a(n) = 2 * (largest prime <= a(n - 1)), by Bertrand's postulate. •

[A175826] • 0,1,2,4,6,10,15,22,30,41,54,70,88,110,135,164,196,233,274,320,370,426,487,554,626 ★ Partial sums of ceiling(n^2/8). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 27) / 96). • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 27) / 48). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 28 * n) / 48). • a(n)=a(n - 8) + (n + 1) * (n - 8) + 30. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7). [R. J. Mathar, Dec 06 2010] •

[A035294] • 1,1,2,4,6,10,15,22,32,46,64,89,122,165,222,296,390,512,668,864,1113,1426,1816,2304,2910 ★ Number of ways to partition 2n into distinct positive integers. • a(n) = t(2 * n, 0), t as defined in A079211. •

[A239288] • 0,1,2,4,6,10,15,22,33,48,69,102,147,210,309,444,633,930,1335,1902,2793,4008,5709,8382,12027 ★ Maximal sum of x0 + x0*x1 + ... + x0*x1*...*xk over all compositions x0 + ... + xk = n. • a(0) = 0, a(n) = max { k + k * a(n - k) | 1 <= k <= n } . •

[A192447] • 0,2,4,6,10,16,22,28,36,46,56,66,78,92,106,120,136,154,172,190,210,232,254,276,300 ★ n*(n-1)/2 if this is even, otherwise (n*(n-1)/2)+1 • a(n)= n * (n - 1) / 2 if this is even and a(n)=(n * (n - 1) / 2) + 1 otherwise. •

[A227572] • 0,1,1,1,2,4,6,10,16,26,41,67,108,175,283,458,741,1199,1941,3140,5081,8221,13302,21524,34826 ★ A sequence related to Le Corbusier's Modulor: round(phi^(-13+n)*175). • a(n) = round(phi ^ (- 13 + n) * 175) with the golden section phi:=(1 + sqrt(5)) / 2, with decimals given in A001622. •

[A065795] • 1,2,4,6,10,16,26,42,72,124,218,390,706,1292,2388,4436,8292,15578,29376,55592,105532,200858,383220,732756,1403848 ★ Number of subsets of {1,2,...,n} that contain the average of their elements. • a(n) = 1 / 2 * sum _{ i=1..n } (f(i) - 1) where f(i) = 1 / i * sum _{ d divides i and d is odd } 2 ^ (i / d) * phi(d). •

[A023557] • 0,1,1,2,4,6,10,16,27,43,70,113,183,297,480,777,1257,2034,3291,5326,8617,13943,22560,36503,59063 ★ Convolution of A023531 and Fibonacci numbers. • a(n)= a(n - 1) + a(n - 2) + 1 if n mod 4 = 0, else a(n)=a(n - 1) + a(n - 2), with offset 0 [From _ Gary Detlefs _ , Dec 05 2010] •

[A293671] • 0,0,0,1,2,4,6,10,16,27,44,71,115,186,301,488,789,1277,2067,3344,5412,8756,14168,22925,37094 ★ a(n) is the greatest integer k such that k/Fibonacci(n) < 4/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = floor(4 * Fibonacci(n) / 5). •

[A173434] • 0,0,0,1,2,4,6,10,16,27,44,72,116,188,304,493,798,1292,2090,3382,5472,8855,14328,23184,37512 ★ a(n) = (A000045(n)-A173432(n))/2. • a(n)= 2 * a(n - 1) - 2 * a(n - 3) + 2 * a(n - 4) - a(n - 6). - _ R. J. Mathar _ , Mar 01 2010 •

[A288599] • 2,4,6,10,16,28,50,90,164,300,550,1010,1856,3412,6274,11538,21220,39028,71782,132026,242832,446636,821490,1510954,2779076 ★ a(n) = 2*a(n-1) - a(n-4) for n >= 4, where a(0) = 2, a(1) = 4, a(2) = 6, a(3) = 10, a(4) = 16. • a(n) = 2 * a(n - 1) - a(n - 4) for n >= 4, where a(0) = 2, a(1) = 4, a(2) = 6, a(3) = 10, a(4) = 16. •

[A228779] • 0,1,1,1,2,4,6,10,17,27,43,70,113,183,296,479,775,1254,2030,3284,5313,8597,13910,22508,36418 ★ A sequence related to Le Corbusier's Modulor: round(phi^(-13+n)*183). • a(n) = round(phi ^ (- 13 + n) * 183) with the golden section phi:=(1 + sqrt(5)) / 2, with decimals given in A001622. •

[A004695] • 0,0,0,1,1,2,4,6,10,17,27,44,72,116,188,305,493,798,1292,2090,3382,5473,8855,14328,23184 ★ a(n) = floor(Fibonacci(n)/2). • a(n) = Fibonacci(n) / 2 - (1 - cos(2Pi * n / 3)) / 3. - _ Paul Barry _ , Oct 06 2003 • a(n + 2) = Sum _{ k=0..floor(n / 3) } F(n - 3 * k). • a(n + 2) = Sum _{ k=0..n } if(mod(n - k, 3)=0, F(k), 0). (End) • a(n + 2) = Sum _{ k=0..n } F(k) * (cos(2 * Pi * (n - k) / 3 + Pi / 3) / 3 + sqrt(3) * sin(2 * Pi * (n - k) / 3 + Pi / 3) / 3 + 1 / 3). - _ Paul Barry _ , Apr 16 2005 • a(n) = a(n - 1) + a(n - 2) + 1 if n mod 3 = 0, else a(n) = a(n - 1) + a(n - 2). - _ Gary Detlefs _ , Dec 05 2010 • a(n) = Fibonacci(n - 2) + floor(Fibonacci(n - 3) / 2). - _ Gary Detlefs _ , Mar 28 2011 •

[A079961] • 1,1,1,2,4,6,10,17,28,46,77,128,212,352,585,971,1612,2677,4445,7380,12254,20347,33784,56095,93141 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={1,4}. • a(n) = a(n - 1) + a(n - 3) + a(n - 4) + a(n - 6). •

[A288465] • 2,4,6,10,18,32,58,106,194,356,654,1202,2210,4064,7474,13746,25282,46500,85526,157306,289330,532160,978794,1800282,3311234 ★ a(n) = 2*a(n-1) - a(n-4), where a(0) = 2, a(1) = 4, a(2) = 6, a(3) = 10. • a(n) = 2 * a(n - 1) - a(n - 4), where a(0) = 2, a(1) = 4, a(2) = 6. a(3) = 10. •

[A176716] • 1,2,4,6,10,20,26,42,52,110,130,260,286,442,484,798,850,1196,1306,3190,3320,4030,4290,9620,9906 ★ a(1) = 1; p(n)*a(n) = a(2n); p(n)*a(n) + a(n+1) = a(2n+1); p(n) = n-th prime. • a(1) = 1; p(n) * a(n) = a(2n); p(n) * a(n) + a(n + 1) = a(2n + 1); p(n) = n - th prime. •

[A115269] • 1,2,4,6,11,16,24,32,46,60,80,100,130,160,200,240,295,350,420,490,581,672,784,896,1036 ★ Row sums of correlation triangle for floor((n+4)/4). • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } [j<=k] * floor((k - j + 4) / 4) * [j<=n - k] * floor((n - k - j + 4) / 4). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + 3 * a(n - 4) - 4 * a(n - 5) + 4 * a(n - 7) - 3 * a(n - 8) + 2 * a(n - 9) - 2 * a(n - 11) + a(n - 12). • a(n) = (2 * (n ^ 4 + 24 * n ^ 3 + 197 * n ^ 2 + 636 * n) + 3 * (431 + (2 * n ^ 2 + 24 * n + 65) * (- 1) ^ n) + 24 * ((n + 7) * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) - (n + 5) * (- 1) ^ ((6 * n - 1 + (- 1) ^ n) / 4))) / 1536. - _ Luce ETIENNE _ , Mar 03 2015 •

[A014217] • 1,1,2,4,6,11,17,29,46,76,122,199,321,521,842,1364,2206,3571,5777,9349,15126,24476,39602,64079,103681 ★ a(n) = floor(phi^n), where phi = (1+sqrt(5))/2 is the golden ratio. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4). • a(2n - 1) = (Fibonacci(4n + 1) - 2) / Fibonacci(2n + 2). - _ Gary Detlefs _ , Feb 16 2011 • a(n) = floor(Fibonacci(2n + 3) / Fibonacci(n + 3)). - _ Gary Detlefs _ , Feb 28 2011 • a(2n) = Fibonacci(2 * n - 1) + Fibonacci(2 * n + 1) - 1. - _ Gary Detlefs _ , Mar 10 2011 • a(n) = ((- 1) ^ (1 + n) - 1) / 2 + ((1 - sqrt(5)) / 2) ^ n + ((1 + sqrt(5)) / 2) ^ n. - _ Colin Barker _ , Nov 05 2017 •

[A131298] • 1,1,2,4,6,11,18,30,50,82,135,221,361,589,959,1560,2535,4116,6679,10832,17560,28457,46103,74674,120928 ★ A difference of Fibonacci and Padovan numbers. • a(n) = Sum _{ k=0..floor(n / 2) } C(n - k + 1,k) - C(k,n - 2k + 1). •

[A140443] • 0,0,1,2,4,6,11,19,31,52,86,140,228,372,604,980,1589,2575,4171,6754,10933,17696,28640,46349,75003 ★ Difference between n-th Fibonacci number and floored n-th power of Viswanath's constant. • a(n) = F(n) - floor(v ^ n), where F(n) is given by A000045 with F(1) = F(2) = 1 and v = 1.13198824879 43 as given by A078416. •

[A026385] • 1,1,2,4,6,11,20,33,59,104,178,314,549,952,1669,2913,5074,8872,15482,27007,47172,82325,143675,250848,437822 ★ Sum{T(n-k,k)}, 0<=k<=[n/2], where T is the array in A026374. • a(n) = a(n - 2) + 3 * a(n - 3) + a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jun 19 2014 •

[A199926] • 0,0,0,1,1,1,2,4,6,11,20,35,62,111,197,350,623,1108,1970,3504,6232,11083,19711,35056,62346 ★ Number of sequences of n coin flips that win on the last flip, if the sequence of flips ends with (1,1,1,1). • a(n)=a(n - 1) + a(n

- 2) + a(n - 3) - a(n - 5) for n>7. • a(n)=2 * a(n - 1) - a(n - 4) - a(n - 5) + a(n - 6) for n>8. •

[A049870] • 1,2,4,6,11,20,38,71,133,248,463,864,1613,3011,5621,10493,19588,36566,68260,127425,237872,444050,828935,1547423,2888668 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A084979] • 1,2,4,6,11,22,44,66,111,121,141,161,212,232,242,272,292,323,343,383,414,464,474,545,565 ⋆ Palindromes such that the product of the digits + 1 is prime. • a(n) >> n ^ k, where k = log _ 3(10) = 2.0959.... •

[A098895] • 2,4,6,12,16,24,48,60,120,240,288,384,576,1152,2304,2688,5376,8064,16128,20160,40320,46080,92160,184320,368640 ⋆ Number of divisors of the n-th superior highly composite number. • a(n) = a(n - 1) * (1 + 1 / k(n)), where k(n) is the p(n) - adic valuation of the n - th superior highly composite number N(n), with p(n) = N(n) / N(n - 1) and N(0)=1. •

[A060735] • 1,2,4,6,12,18,24,30,60,90,120,150,180,210,420,630,840,1050,1260,1470,1680,1890,2100,2310,4620 ⋆ Where n / (phi(n) + 1) increases. • a(1) = 1, a(n) = a(n - 1) + rad(a(n - 1)) with rad=A007947, squarefree kernel. - _ Reinhard Zumkeller _ , Apr 10 2006 •

[A225566] • 2,4,6,12,18,24,36,48,60,80,100,120,150,180,210,252,294,336,392,448,504,576,648,720,810 ⋆ The set of magic numbers for an idealized harmonic oscillator atomic nucleus with a biaxially deformed prolate ellipsoid shape and an oscillator ratio of 3:1 • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8) for n>8. •

[A068911] • 1,2,4,6,12,18,36,54,108,162,324,486,972,1458,2916,4374,8748,13122,26244,39366,78732,118098,236196,354294,708588 ⋆ Number of n step walks (each step +/-1 starting from 0) which are never more than 2 or less than -2. • a(n) = 2 ^ ((3 + (- 1) ^ n) / 2) * 3 ^ ((2 * n - 3 - (- 1) ^ n) / 4) - ((1 - (- 1) ^ (2 ^ n))) / 6. - _ Luce ETIENNE _ , Aug 30 2014 • a(n) = 2 * a(n - 1) if n is even, a(n - 1) + a(n - 2) if n is odd. - _ Vincenzo Librandi _ , Feb 26 2016 •

[A068018] • 1,2,4,6,12,18,40,62,148,234,576,918,2284,3650,9112,14574,36420,58266,145648,233030,582556,932082,2330184,3728286,9320692 ⋆ Number of fixed points in all 132- and 213-avoiding permutations of {1,2,...,n} (these are permutations with runs consisting of consecutive integers). • a(n)=2 ^ n / 4 - (- 2) ^ n / 36 + 2 * n / 3 - 2 / 9; ogf=z(1 - 3z ^ 2) / [(1 - 4z ^ 2)(1 - z) ^ 2] •

[A279245] • 1,2,4,6,12,20,40,64,128,208,416,672,1344,2176,4352,7040,14080,22784,45568,73728,147456,238592,477184,772096,1544192 ⋆ Number of subsets of {1, 2, 3, ..., n} that include no consecutive odd integers. • a(n) = 2a(n - 2) + 4a(n - 4). - _ Charles R Greathouse IV _ , Dec 13 2016 •

[A292320] • 1,1,2,4,6,12,22,36,67,122,209,377,681,1193,2130,3823,6764,12043,21531,38252,68076,121456,216126,384691,685636 ⋆ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = 1 - S - S^3. • a(n) = a(n - 1) + 4 * a(n - 3) - 2 * a(n - 4) - 3 * a(n - 6) + a(n - 7) + a(n - 9) for n >= 10. •

[A002182] • 1,2,4,6,12,24,36,48,60,120,180,240,360,720,840,1260,1680,2520,5040,7560,10080,15120,20160,25200,27720 ⋆ Highly composite numbers, definition (1): where d(n), the number of divisors of n (A000005), increases to a record. • a(n + 1) < a(n) * (1 + log(a(n)) ^- c) for some positive c (see Erdős). - _ David A. Corneth _ , May 16 2016 •

[A068010] • 1,1,2,4,6,12,24,44,88,176,344,688,1376,2736,5472,10944,21856,43712,87424,174784,349568,699136,1398144,2796288,5592576 ⋆ Number of subsets of {1,2,3,...,n} that sum to 0 mod 3. • a(0)=1, a(1)=1, a(n) = 2 * a(n - 1) if 3 does not divide n - 1 and a(n) = 2 * a(n - 1) - (2 ^ ((n - 1) / 3)) if 3 divides n - 1. • a(n) = (2 ^ n + 2 ^ ((n + 1 + (4 / sqrt(3)) * cos(((4 * n) + 1) * Pi / 6)) / 3)) / 3. - Fred Galvin • a(0)=1, a(1)=1, a(2)=2, a(n) = 2 * a(n - 3) + 2 ^ (n - 2), n>=3. - _ Baris Arslan _ , Mar 27 2017 •

[A291738] • 1,1,2,4,6,13,23,43,76,138,244,444,795,1444,2600,4705,8474,15307,27583,49797,89800,162088,292388,527663,951922 ⋆ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = 1 - S - S^4. • a(n) = a(n - 1) + a(n - 3) + a(n - 4) + 4 * a(n - 6) + 6 * a(n - 8) + 4 * a(n - 10) + a(n - 12) for n >= 13. •

[A095698] • 1,2,4,6,14,18,46,54,146,162,454,486,1394,1458,4246,4374,12866,13122,38854,39366,117074,118098,352246,354294,1058786 ⋆ Number of permutations of {1,2,3,...,n} where, for 1 < i <= n, the i-th number has maximized sum of the i-1 absolute differences from all previous numbers of the permutation. • a(1) = 1; Conjectured: For k >= 1, a(2k) = a(2k - 1) + 2 ^ (k - 1) and a(2k + 1) = 2 * a(2k - 1) + a(2k) (needs proof or a reference). • a(2n) = 2 * 3 ^ (n - 1) for n >= 1. a(2n + 1) = 2 * 3 ^ n - 2 ^ n for n >= 0. - _ Joel B. Lewis _ , May 16 2009 •

[A062112] • 0,1,1,2,4,6,14,20,48,68,164,232,560,792,1912,2704,6528,9232,22288,31520,76096,107616,259808,367424,887040 ⋆ a(0)=0; a(1)=1; a(n) = a(n-1) + (3+(-1)^n)*a(n-2)/2 • a(0)=0, a(1)=1, a(2)=1, a(3)=2, a(n)=4 * a(n - 2) - 2 * a(n - 4). - _ Harvey P. Dale _ , May 24 2013 •

[A151794] • 2,4,6,14,26,54,106,214,426,854,1706,3414,6826,13654,27306,54614,109226,218454,436906,873814,1747626,3495254,6990506,13981014,27962026 ⋆ a(1)=2, a(2)=4, a(3)=6; a(n+3) = a(n+2)+ 2*a(n), n>=1. • a(n) = (4 * (- 1) ^ n + 5 * 2 ^ n) / 6 for n>1. - _ Colin Barker _ , Jun 12 2015 •

[A286850] • 2,4,6,16,20,52,80,176,296,592,1104,2064,3936,7296,14048,25984,49600,92736,175872,330240,623232,1175296,2213632,4176128,7863808 ⋆ Number of minimal dominating sets in the 2 X n king graph. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) + 4 * a(n - 4) - 8 * a(n - 6) for n>6. •

[A279480] • 1,2,4,6,16,28,46,82,88,106,180,198,210,228,238,276,312,352,430,442,466,498,540,556,568 ⋆ Numbers n such that n+1 and n^4+1 are primes. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Dec 13 2016 •

[A019464] • 1,1,2,4,6,18,21,84,88,440,445,2670,2676,18732,18739,149912,149920,1349280,1349289,13492890,13492900,148421900,148421911,1781062932,1781062944 ⋆ Multiply by 1, add 1, multiply by 2, add 2, etc., start with 1. • a(n + 1) = (1 / 2) * a(n) * (n + 1 mod 2) * (n + 2) + 1 / 2 * (n mod 2) * (2 * a(n) + n + 1). - Francois Jooste (pin(AT)myway.com), Jun 25 2003 •

[A245766] • 2,4,6,20,26,52,62,100,114,164,182,244,266,340,366,452,482,580,614,724,762,884,926,1060,1106 ⋆ a(n) = 2*(n^2 + 1) - n*(1 + (-1)^n). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5), n>4. • a(n) = (2n + 2) * floor((n + 1) / 2) + (2n - 2) * floor((n - 1) / 2). •

[A047542] • 0,1,2,4,7,8,9,10,12,15,16,17,18,20,23,24,25,26,28,31,32,33,34,36,39 ⋆ Numbers that are congruent to {0, 1, 2, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 50 - 7 * (n mod 5) - 2 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 4, a(5k - 2) = 8k - 6, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A047351] • 0,1,2,4,7,8,9,11,14,15,16,18,21,22,23,25,28,29,30,32,35,36,37,39,42 ⋆ Numbers that are congruent to {0, 1, 2, 4} mod 7. • a(n) = n - 3 + (6 * n + (2 - (- 1) ^ n)(1 - 2 * i ^ (n(n + 1))) + 1) / 8, where i=sqrt(- 1). - _ Bruno Berselli _ , Dec 03 2012 • a(0)=0, a(1)=1, a(2)=2, a(3)=4, a(4)=7, a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Harvey P. Dale _ , Jun 04 2013 •

[A047540] • 0,2,4,7,8,10,12,15,16,18,20,23,24,26,28,31,32,34,36,39,40,42,44,47,48 ⋆ Numbers that are congruent to {0, 2, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 7 + i ^ (2 * n) + i ^ (- n) + i ^ n) / 4 where i=sqrt(- 1). •

[A047236] • 1,2,4,7,8,10,13,14,16,19,20,22,25,26,28,31,32,34,37,38,40,43,44,46,49 ⋆ Numbers that are congruent to {1, 2, 4} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 5 - cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 2, a(3k - 1) = 6k - 4, a(3k - 2) = 6k - 5. (End) •

[A229829] • 1,2,4,7,8,11,13,14,16,17,19,22,23,26,28,29,31,32,34,37,38,41,43,44,46 ⋆ Numbers coprime to 15. • a(n + 8) = a(n) + 15. • a(n) = 15 * floor((n - 1) / 8) + 2 * f(n) + floor(2 * phi * (f(n + 1) + 2)) - 2 * floor(phi * (f(n + 1) + 2)), where f(n) = (n - 1) mod 8 and phi=(1 + sqrt(5)) / 2. • a(n) = 15 * floor((n - 1) / 8) + 2 * f(n) + floor((2 * f(n) + 5) / 5) - floor((f(n) + 2) / 3), where f(n) = (n - 1) mod 8. • a(n) = a(n - 1) + a(n - 8) - a(n - 9) for n>9. [_ Bruno Berselli _ , Oct 01 2013] •

[A000069] • 1,2,4,7,8,11,13,14,16,19,21,22,25,26,28,31,32,35,37,38,41,42,44,47,49 ⋆ Odious numbers: numbers with an odd number of 1's in their binary expansion. • a(1) = 1; for n>1: a(2 * n) = 6 * n - 3 - a(n), a(2 * n + 1) = a(n + 1) + 2 * n. - Corrected by _ Vladimir Shevelev _ , Sep 25 2011 •

[A001839] • 0,0,1,1,2,4,7,8,12,13,17,20,26,28,35,37,44,48,57,60,70,73,83,88,100 ⋆ The coding-theoretic function A(n,4,3). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 6) - a(n - 7) - a(n - 8) + a(n - 9). - _ Eric W. Weisstein _ , Jul 13 2017 •

[A236217] • 1,2,4,7,8,13,14,16,17,19,23,26,28,29,31,32,34,37,38,41,43,46,47,49,52 ⋆ Numbers not divisible by 3, 5 or 11. • a(n) = a(n - 1) + a(n - 80) - a(n - 81) for n > 81. [_ Bruno Berselli _ , Mar 25 2014] •

[A047541] • 1,2,4,7,9,10,12,15,17,18,20,23,25,26,28,31,33,34,36,39,41,42,44,47,49 ⋆ Numbers that are congruent to {1, 2, 4, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (1 + i) * (n * (4 - 4 * i) + 3 * i - 3 + i ^ (- n) - i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A022848] • 0,2,4,7,9,11,13,16,18,20,22,25,27,29,31,34,36,38,40,42,45,47,49,51,54 ⋆ Integer nearest nx, where x = sqrt(5). • a(n + 1) - a(n) = 2 or 3. - _ Philippe Deléham _ , Mar 09 2013 •

[A043000] • 2,4,7,9,11,13,16,19,21,23,25,27,29,31,35,37,39,41,43,45,47,49,51,54,56 ⋆ Number of digits in all base b representations of n, for 2<=b<=n. • a(n) = sum { i=2,...,n } floor(log _ i(i * n)); a(n)=n * log _ 2(n) + O(n). - _ Vladimir Shevelev _ , Jun 03 2011 •

[A047349] • 0,2,4,7,9,11,14,16,18,21,23,25,28,30,32,35,37,39,42,44,46,49,51,53,56 ⋆ Numbers that are congruent to {0, 2, 4} mod 7. • a(n + 1) = floor(n / 3) + 2 * n. - _ Gary Detlefs _ , Mar 27 2010 • a(n) = n + floor(4 * (n - 1) / 3) - 1. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 24 - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 3, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 7. (End) •

[A182761] • 2,4,7,9,11,14,16,19,21,23,26,28,30,33,35,38,40,42,45,47,50,52,54,57,59 ⋆ Beatty sequence for (7-5^(1/2))/2. • a(n)=floor(n * (7 - 5 ^ (1 / 2)) / 2). •

[A081841] • 0,2,4,7,9,11,14,16,19,21,24,26,28,31,33,36,38,40,43,45,48,50,52,55,57 ⋆ a(1)=0, a(n)=a(n-1)+3 if n is already in the sequence, a(n)=a(n-1)+2 otherwise. • a(1)=0; for n>=1 a(n)=floor(r * n - (4 * r - 1) / (r + 1)) where r =1 + sqrt(2) •

[A175884] • 0,2,4,7,9,12,14,16,19,21,24,26,28,31,33,36,38,40,43,45,48,50,52,55,57 ⋆ Numbers that are congruent to {0, 2, 4, 7, 9} mod 12. • a(n) = 1 + 2 * n + floor((n - 3) / 5) + floor(n / 5). - _ Federico Provvedi _ , Jan 13 2018 •

[A059542] • 2,4,7,9,12,14,17,19,21,24,26,29,31,34,36,39,41,43,46,48,51,53,56,58,61 ⋆ Beatty sequence for 1 + 1/log(2). • a(n) = floor(n * (1 + 1 / log(2))). - _ Michel Marcus _ , Jan 04 2015 •

[A047211] • 2,4,7,9,12,14,17,19,22,24,27,29,32,34,37,39,42,44,47,49,52,54,57,59,62 ⋆ Numbers that are congruent to {2, 4} mod 5. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = (10 * n - 3 - (- 1) ^ n) / 4, (n>=1). [Corrected by _ Bruno Berselli _ , Sep 20 2010] • a(n) = 5 * floor((n - 1) / 2) + 3 + (- 1) ^ n. - _ Gary Detlefs _ , Mar 02 2010 • a(n) = 5 * n - a(n - 1) - 4 (with a(1)=2). - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = floor((5 * n - 1) / 2). - _ Gary Detlefs _ , May 14 2011 • a(n) = 2 * n + floor((n - 1) / 2). - _ Arkadiusz Wesolowski _ , Sep 19 2012 •

[A189677] • 2,4,7,9,12,14,17,19,22,25,28,30,33,35,37,40,42,45,48,51,53,56,58,61,63 ⋆ n+[ns/r]+[nt/r]; r=1, s=arctan(1/2), t=arctan(2). • a(n)=n + [n * arctan(1 / 2)] + [n * arctan(2)]. •

[A087733] • 0,1,1,2,4,7,9,12,14,17,19,22,26,31,35,40,46,53,59,66,74,83,91,100,108 ⋆ Partial sums of A068639. • a(0)=0, a(2n + 1) = - a(n) - a(n + 1) + n ^ 2 + n, a(2n + 1) = - 2a _ n + n ^ 2 + 2n + 1. - _ Ralf Stephan _ , Oct 16 2003 •

[A184583] • 2,4,7,9,12,15,17,20,23,25,28,30,33,36,38,41,43,46,49,51,54,57,59,62,64 ⋆ floor[(n-1/5)(1+r)], where r=(1+sqrt(5))/2; complement of A184582. • a(n)=floor[(n - 1 / 5)(1 + r)], where r=(1 + sqrt(5)) / 2. •

[A212988] • 1,1,2,4,7,9,12,16,21,25,30,36,43,49,56,64,73,81,90,100,111,121,132,144,157 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 4*w = x+y. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6). •

[A080057] • 1,2,4,7,9,13,15,17,20,21,23,27,29,34,35,38,40,42,43,46,48,49,51,54,57 ⋆ Greedy powers of (e^-Gamma): sum_{n=1..inf} (e^-Gamma)^a(n) = 1, where e^-Gamma = e^(-.57721566490153286...) = .561459483566885169... • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(e ^- Gamma) and frac(y) = y - floor(y). See A077468 for mathematica program by _ Robert G. Wilson v _ . •

[A077597] • 0,2,4,7,9,13,15,19,22,26,28,34,36,40,44,49,51,57,59,65,69,73,75,83,86 ⋆ Coefficient of x in the n-th Moebius polynomial (A074586), M(n,x), which satisfies M(n,-1)=mu(n) the Moebius function of n. • a(n) = Sum _{ k = 1..n } floor((n + 1) / k). - _ N. J. A. Sloane _ , Oct 28 2008 •

[A036386] • 0,1,2,4,7,9,13,16,20,26,31,40,50,61,78,93,119,150,189,242,310,400,525,684,900 ⋆ Number of prime powers (p^2, p^3, ...) <= 2^n. • a(n) = Sum _{ j=2..n + 1 } pi(floor(2 ^ (n / j))). The summation starts with squares(j=2); for arbitrary range (=y), the y ^ (1 / j) argument has to be used. •

[A097433] • 2,4,7,9,15,18,24,26,32,41,43,52,57,60,66,74,83,86,94,100,103,111,117,125,137 ⋆ Integer part of the hypotenuse of prime leg isosceles right triangles. • a(n) = floor(sqrt(2 * p(n) ^ 2)), where p(n) = n - th prime. - _ N. J. A. Sloane _ , Feb 23 2015 •

[A047539] • 2,4,7,10,12,15,18,20,23,26,28,31,34,36,39,42,44,47,50,52,55,58,60,63,66 ⋆ Numbers that are congruent to {2, 4, 7} mod 8. • a(n) = floor((8 * n - 2) / 3). - _ Gary Detlefs _ , Mar 13 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 9 + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 6. (End) •

[A276209] • 2,4,7,10,12,15,18,21,24,27,30,34,37,40,43,47,50,53,57,60,64,67,71,74,78 ⋆ Position of n^s in the joint ranking of {h^r} and {k^s}, where r = sqrt(2), s = sqrt(3), h > 1, k > 1. • a(n) = n + floor(n ^ (s / r)), with complement given by n + floor(n ^ (r / s)). •

[A033627] • 1,2,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,77 ⋆ 0-additive sequence: not the sum of any previous pair. • a(n) = 3 * n - 5, for n > 2. • a(n) = 2 * a(n - 1) - a(n - 2), for n > 4; •

[A088236] • 0,1,2,4,7,10,14,18,23,28,33,39,45,51,57,63,69,76,83,90,97,104,111,118,125 ⋆ Total number of digits (in base 2) in all preceding terms in the sequence. • a(1) = 1; a(n + 1) = a(n) + floor(Log[2, a(n)]) + 1. •

[A184674] • 1,2,4,7,10,14,18,23,28,34,40,47,54,62,70,79,88,98,108,119,130,142,154,167,180 ⋆ a(n) = n+floor((n/2-1/(2*n))^2); complement of A184675. • a(n) = n + floor((n / 2 - 1 / (2 * n)) ^ 2). •

[A014616] • 2,4,7,10,14,18,23,28,34,40,47,54,62,70,79,88,98,108,119,130,142,154,167,180,194 ⋆ a(n) = solution to the postage stamp problem with 2 denominations and n stamps. • a(n) = floor((n ^ 2 + 6 * n + 1) / 4). •

[A227353] • 0,1,2,4,7,10,14,18,23,29,35,42,49,57,66,75,85,95,106,118,130,143,156,170,185 ⋆ Number of lattice points in the closed region bounded by the graphs of y = 3*x/5, x = n, and y = 0, excluding points on the x-axis. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2a(n - 6) + a(n - 7). •

[A183136] • 0,1,2,4,7,10,14,18,23,29,35,42,50,58,67,76,86,97,108,120,132,145,159,173,188 ⋆ a(n) = [1/r]+[2/r]+...+[n/r], where r = golden ratio = (1+sqrt(5))/2 and []=floor. • a(n) = [1 / r] + [2 / r] + ... + [n / r], where r = golden ratio = (1 + sqrt(5)) / 2 and []=floor. •

[A144873] • 0,0,2,4,7,10,14,18,24,28,35,40,47,54,62,70,80,88,98,108,120,130,142,154,168 ⋆ If n mod 8 = 0 or n mod 10 = 0 then floor(n^2/4)+n otherwise floor(n^2/4)+n-1. • a(n)=2 * a(n - 1) - a(n - 2) + a(n - 40) - 2 * a(n - 41) + a(n - 42). [From _ R. J. Mathar _ , Feb 13 2009] •

[A047808] • 1,2,4,7,10,14,19,24,30,37,44,52,59,69,78,87,98,109,121,133,146,158,173,186,200 ⋆ a(n) counts different values of i^2 + j^2 <= n^2 or number of distances from the origin to all integer points inside a circle of radius n. • a(n) = number of b(i) <= n ^ 2, b() = A001481. •

[A007980] • 1,2,4,7,10,14,19,24,30,37,44,52,61,70,80,91,102,114,127,140,154,169,184,200,217 ⋆ Expansion of (1+x^2)/((1-x)^2*(1-x^3)). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + 2 = a(- 3 - n) for all n in Z. - _ Michael Somos _ , Jun 07 2003 • a(n) = ceiling((n + 1) * (n + 2) / 3). - _ Paul Boddington _ , Jan 26 2004 • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>4. • a(n) = floor(floor((n + 2) ^ 3 / 3) / (n + 3) + 1 / 3). - _ Bruno Berselli _ , Jan 24 2017 •

[A022776] • 1,2,4,7,10,14,19,24,30,37,45,53,62,72,82,93,105,118,131,145,160,175,191,208,225 ⋆ Place where n-th 1 occurs in A023115. • a(n) = 1 + sum(k=1,n - 1,ceiling(r * k)) where r=1 / sqrt(2). - _ Benoit Cloitre _ , Jan 24 2009 •

[A023536] • 1,2,4,7,10,14,19,25,31,38,46,55,65,75,86,98,111,125,140,155,171,188,206,225,245 ⋆ Convolution of natural numbers with A023532. • a(n) = (n(n + 5) - 4) / 2 - Sum _{ k=2..n } floor(1 / 2 + sqrt(2(k + 2))). - Jan Hagberg (jan.hagberg(AT)stat.su.se), Oct 16 2002 • a(n) = (n + 1)(n + 2) / 2 - Sum _{ k=1..n + 1 } floor((sqrt(8k + 1) - 1) / 2); • a(n) = Sum _{ k=1..n + 1 } k - floor((sqrt(8k + 1) - 1) / 2). (End) •

[A177237] • 0,0,0,0,1,2,4,7,10,14,19,25,33,42,52,64,77,92,109,128,149,172,197,225,255 ⋆ Partial sums of round(n^2/19). • a(n)=round((n - 2) * (n + 3) * (2 * n + 1) / 114). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 - 11 * n + 42) / 114). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 - 11 * n - 54) / 114). • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 - 11 * n) / 114). • a(n)=a(n - 19) + (n + 1) * (n - 19) + 128 , n>18. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 19) - 3 * a(n - 20) + 3 * a(n - 21) - a(n - 22) with G.f. x ^ 4 * (1 + x) * (x ^ 4 - x ^ 3 + x ^ 2 - x + 1) * (x ^ 8 - x ^ 7 + x ^ 6 - x ^ 4 + x ^ 2 - x + 1) / ((x ^ 18 + x ^ 17 + x ^ 16 + x ^ 15 + x ^ 14 + x ^ 13 + x ^ 12 + x ^ 11 + x ^ 10 + x ^ 9 + x ^ 8 + x ^ 7 + x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4). [R. J. Mathar, Dec 13 2010] •

[A079963] • 1,1,1,1,2,4,7,10,14,21,34,55,86,131,200,310,485,757,1174,1815,2810,4362,6778,10524,16323 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={1,2}. • a(n) = a(n - 1) + a(n - 4) + a(n - 5) + a(n - 6) G.f.: - 1 / (x ^ 6 + x ^ 5 + x ^ 4 + x - 1) •

[A036702] • 1,2,4,7,10,15,20,25,32,40,49,57,66,78,89,102,114,128,142,158,175,190,209,227,245 ⋆ a(n)=number of Gaussian integers z=a+bi satisfying |z|<=n, a>=0, 0<=b<=a. • a(n) = sum(floor(sqrt(n ^ 2 - m ^ 2)) - (m - 1), m = 0.. floor(n / sqrt(2))), n >= 0. See A255250. - _ Wolfdieter Lang _ , Mar 15 2015 •

[A160790] • 0,1,2,4,7,10,16,20,30,35,50,56,77,84,112,120,156,165,210,220,275,286,352,364,442 ⋆ Vertex number of a rectangular spiral. The first differences (A160791) are the edge lengths of the spiral. The distances between two nearest edges, that are parallel to the initial edge, are the natural numbers. • a(n) = + a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = (2 * n + 3 + (- 1) ^ n) * (2 * n + 3 - 3 * (- 1) ^ n) * (2 * n + 15 + 5 * (- 1) ^ n) / 384. - _ Luce ETIENNE _ , Mar 31 2015 •

[A034744] • 1,2,4,7,10,20,26,48,72,120,178,316,466,780,1240,2025,3194,5268,8362,13670,21944,35600,57314,93156,150075 ⋆ Dirichlet convolution of Fibonacci numbers with themselves. • a(n) = sum(Fibonacci(d) * Fibonacci(n / d), d|n). [_ Emanuele Munarini _ , Feb 14 2014] •

[A078617] • 1,2,4,7,11,15,20,25,31,38,46,54,63,72,82,93,105,117,130,143,157,172,188,204,221 ⋆ Floor(average of first n squares). • a(n) = floor(n / (1 - e ^ (- 3 / n))). Also see related exponential formula in A171662 with symmetry as above. - _ Richard R. Forberg _ , Jun 22 2013 •

[A025703] • 1,2,4,7,11,15,20,26,33,40,48,57,67,78,89,101,114,128,142,157,173,190,208,226,245 ⋆ Index of 4^n within sequence of numbers of form 4^i*6^j. • a(n) = n + 1 + Sum(j= 1 .. n, floor(j * log[6](4))). - _ Robert Israel _ , May 10 2015 •

[A077169] • 1,2,4,7,11,15,20,26,33,41,50,60,71,83,96,110,125,141,158,176,195,215,236,258,281 ⋆ Initial terms of rows of A077168. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), n >= 7. •

[A293239] • 1,2,4,7,11,15,21,28,35,43,53,64,76,88,102,117,133,149,167,186,206,226,248,271,295 ⋆ Number of terms in the fully expanded n-th derivative of x^x. • a(n) = (5 + (- 1) ^ n + (1 - i) * (- i) ^ n + (1 + i) * i ^ n + 2 * n + 4 * n ^ 2) / 8 for n>7 where i=sqrt(- 1). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) for n>6. •

[A067744] • 2,4,7,11,16,20,26,31,37,43,50,56,64,71,79,86,95,103,112,120,129,139,148,158,168 ⋆ Number of terms yielding particularly small errors in a numerical integration of exp((cos(x)-1)/(cos(x)+1)) having non-monotonic subgeometric convergence. • a(n) = round(((2 * Pi / (3 ^ (3 / 2))) * ((6 * n - 5) / 6)) ^ (3 / 2)). •

[A024224] • 0,2,4,7,11,16,22,28,35,43,51,60,70,81,93,105,118,132,146,161,177,194,212,230,249 ⋆ a(n) = floor((4th elementary symmetric function of S(n))/(3rd elementary symmetric function of S(n))), where S(n) = {first n+3 positive integers congruent to 1 mod 3}. • a(n) = floor((3 n ^ 2 + 5 n - 6) / 8). • a(8 * k + j) = 24 * k ^ 2 + (5 + 6 * j) k + b(j), where b(j) = - 1,0,2,4,7,11,16,22 for j = 0..7. (End) •

[A254835] • 2,4,7,11,16,22,29,37,46,56,67,79,92,106,121,133,136,144,153,161,170,180,187,197,206 ⋆ Total number of nonagons in a variant of a nonagon expansion ("side-to-side", two consecutive sides) after n iterations. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>21. •

[A152947] • 1,1,2,4,7,11,16,22,29,37,46,56,67,79,92,106,121,137,154,172,191,211,232,254,277 ⋆ a(n) = 1+(n-2)*(n-1)/2. • a(n) = a(n - 1) + n - 2 for n>1, a(1) = 1. - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. - _ Wesley Ivan Hurt _ , Jun 20 2016 •

[A000124] • 1,2,4,7,11,16,22,29,37,46,56,67,79,92,106,121,137,154,172,191,211,232,254,277,301 ⋆ Central polygonal numbers (the Lazy Caterer's sequence): n(n+1)/2 + 1; or, maximal number of pieces formed when slicing a pancake with n cuts. • a(n + 3) = 3 * a(n + 2) - 3 * a(n + 1) + a(n) and a(1) = 1, a(2) = 2, a(3) = 4. - _ Artur Jasinski _ , Oct 21 2008 • a(n) = a(n - 1) + n. E.g.f.:(1 + x + x ^ 2 / 2) * exp(x). - _ Geoffrey Critzer _ , Mar 10 2009 • a(n) = sum(k=0..n + 1, binomial(n + 1, 2(k - n))). - _ Paul Barry _ , Aug 29 2004 • a(n) = binomial(n + 2,1) - 2 * binomial(n + 1,1) + binomial(n + 2,2). - _ Zerinvary Lajos _ , May 12 2006 • a(n) = Sum _{ l _ 1=0..n + 1 } Sum _{ l _ 2=0..n } ...Sum _{ l _ i=0..n - i } ...Sum _{ l _ n=0..1 } delta(l _ 1,l _ 2,...,l _ i,...,l _ n) where delta(l _ 1,l _ 2,...,l _ i,...,l _ n) = 0 if any l _ i != l _ (i + 1) and l _ (i + 1) != 0 and delta(l _ 1,l _ 2,...,l _ i,...,l _ n) = 1 otherwise. (End) • a(n) = 2 * a(n - 1) - a(n - 2) + 1. - _ Eric Werley _ , Jun 27 2011 •

[A212369] • 1,1,1,1,1,1,1,1,1,1,1,2,4,7,11,16,22,29,37,46,56,68,85,112,156 ⋆ Number of Dyck n-paths all of whose ascents and descents have lengths equal to 1

(mod 10). • a(n) = a(n - 1) + Sum _{ k=1..n - 10 } a(k) * a(n - 10 - k) if n> 0; a(0) = 1. •

[A212368] • 1,1,1,1,1,1,1,1,1,1,2,4,7,11,16,22,29,37,46,57,73,99,142,211,317 ⋆ Number of Dyck n-paths all of whose ascents and descents have lengths equal to 1 (mod 9). • a(n) = a(n - 1) + Sum _{ k=1..n - 9 } a(k) * a(n - 9 - k) if n >0; a(0) = 1. •

[A212367] • 1,1,1,1,1,1,1,1,1,2,4,7,11,16,22,29,37,47,62,87,129,197,302,457,677 ⋆ Number of Dyck n-paths all of whose ascents and descents have lengths equal to 1 (mod 8). • a(n) = a(n - 1) + Sum _{ k=1..n - 8 } a(k) * a(n - 8 - k) if n >0; a(0) = 1. •

[A175777] • 0,0,0,0,1,2,4,7,11,16,22,29,38,48,60,74,90,108,128,150,175,202,232,265,301 ⋆ Partial sums of floor(n^2/16). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n - 21) / 192). • a(n)=floor((n - 1) * (2 * n ^ 2 + 5 * n - 15) / 96). • a(n)=ceil((n + 2) * (2 * n ^ 2 - n - 18) / 96). • a(n)=round(n * (n + 4) * (2 * n - 5) / 96). • a(n)=a(n - 16) + (n + 1)(n - 16) + 90 , n>15. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) - a(n - 11). [R. J. Mathar, Dec 06 2010] •

[A212366] • 1,1,1,1,1,1,1,1,2,4,7,11,16,22,29,38,52,76,117,184,288,442,662,972,1414 ⋆ Number of Dyck n-paths all of whose ascents and descents have lengths equal to 1 (mod 7). • a(n) = a(n - 1) + Sum _{ k=1..n - 7 } a(k) * a(n - 7 - k) if n>0; a(0) = 1. •

[A175776] • 0,0,0,0,1,2,4,7,11,16,22,30,39,50,63,78,95,114,135,159,185,214,246,281,319 ⋆ Partial sums of floor(n^2/15). • a(n)=round((2 * n + 1) * (n ^ 2 + n - 14) / 90). • a(n)=floor((n - 2) * (2 * n ^ 2 + 7 * n - 13) / 90). • a(n)= ceil((n + 3) * (2 * n ^ 2 - 3 * n - 18) / 90). • a(n)=a(n - 15) + (n + 1)(n - 15) + 78, n>14. • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=1, a(5)=2, a(6)=4, a(7)=7, a(8)=11, a(9)=16, a(10)=22, a(11)=30, a(12)=39, a(13)=50, a(14)=63, a(15)=78, a(16)=95, a(17)=114, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 15) - 3 * a(n - 16) + 3 * a(n - 17) - a(n - 18) [From Harvey P. Dale, May 04 2012] •

[A177176] • 0,0,0,1,2,4,7,11,16,22,30,39,50,63,78,95,115,137,162,190,221,255,292,333,377 ⋆ Partial sums of round(n^2/13). • a(n)=round(n * (n + 1) * (2 * n + 1) / 78). • a(n)=floor((n + 3) * (2 * n ^ 2 - 3 * n + 10) / 78). • a(n)=ceil((n - 2) * (2 * n ^ 2 + 7 * n + 15) / 78). • a(n)=a(n - 13) + (n + 1) * (n - 13) + 63 , n>12. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 13) - 3 * a(n - 14) + 3 * a(n - 15) - a(n - 16) with g.f. x ^ 3 * (1 + x) * (x ^ 2 - x + 1) * (x ^ 6 - x ^ 5 + x ^ 4 - x ^ 3 + x ^ 2 - x + 1) / ((x ^ 12 + x ^ 11 + x ^ 10 + x ^ 9 + x ^ 8 + x ^ 7 + x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4). - R. J. Mathar, Dec 13 2010 •

[A212365] • 1,1,1,1,1,1,1,2,4,7,11,16,22,30,43,66,106,172,275,429,656,996,1522,2360,3714 ⋆ Number of Dyck n-paths all of whose ascents and descents have lengths equal to 1 (mod 6). • a(n) = a(n - 1) + Sum _{ k=1..n - 6 } a(k) * a (n - 6 - k) if n>0; a(0) = 1. •

[A131075] • 1,2,4,7,11,16,22,30,46,92,232,628,1652,4096,9544,21000,43912,87824,169120,315952,578096,1048576,1913440,3567072,6874336 ⋆ First subdiagonal of triangular array T: T(j,1) = 1 for ((j-1) mod 8) < 4, else 0; T(j,k) = T(j-1,k-1) + T(j,k-1) for 2 <= k <= j. • a(1) = 1, a(2) = 2, a(3) = 4, a(4) = 7, a(5) = 11; for n > 5, a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 10 * a(n - 4) + 4 * a(n - 5). •

[A181120] • 0,0,0,1,2,4,7,11,16,23,31,41,53,67,83,102,123,147,174,204,237,274,314,358,406 ⋆ Partial sums of round(n^2/12) (A069905). • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 - 6 * n) / 72) • a(n)=round((4 * n ^ 3 + 6 * n ^ 2 - 12 * n - 7) / 144) • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 - 6 * n + 9) / 72) • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 - 6 * n + 9 - 16) / 72) • a(n)=a(n - 6) + (n ^ 2 - 5 * n + 8) / 2 , n>5 •

[A000601] • 1,2,4,7,11,16,23,31,41,53,67,83,102,123,147,174,204,237,274,314,358,406,458,514,575 ⋆ Expansion of 1/((1-x)^2*(1-x^2)*(1-x^3)). • a(0)=1, a(1)=2, a(2)=4, a(3)=7, a(4)=11, a(5)=16, a(6)=23, a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7). - _ Harvey P. Dale _ , Mar 17 2013 • a(- 7 - n) = - a(n). - _ Michael Somos _ , May 28 2014 •

[A065095] • 1,2,4,7,11,16,23,33,46,62,83,110,144,186,238,303,383,481,600,744,918,1128,1380,1681,2039 ⋆ a(1) = 1, a(n+1) is the sum of a(n) and ceiling(arithmetic mean of a(1) ... a(n)). • a(1) = 1, a(n + 1) = a(n) + ceil((a(1) + a(2) + ... + a(n)) / n) •

[A005253] • 1,1,1,1,2,4,7,11,16,23,34,52,81,126,194,296,450,685,1046,1601,2452,3753,5739,8771,13404 ⋆ Number of binary words not containing ..01110... • a(n - 1) = Sum { k=0..floor(n / 5) } binomial(n - 3k, 2k). - _ Paul Barry _ , Sep 16 2004 •

[A212364] • 1,1,1,1,1,1,2,4,7,11,16,23,35,57,96,161,264,425,682,1106,1821,3030,5055,8412,13956 ⋆ Number of Dyck n-paths all of whose ascents and descents have lengths equal to 1 (mod 5). • a(n) = a(n - 1) + Sum _{ k=1..n - 5 } a(k) * a(n - 5 - k) if n>0; a(0) = 1. •

[A129339] • 1,2,4,7,11,16,23,37,74,175,431,1024,2291,4825,9650,18571,34955,65536,124511,242461,484922,989527,2038103,4194304,8565755 ⋆ Main diagonal of triangular array T: T(j,1) = 1 for ((j-1) mod 6) < 3, else 0; T(j,k) = T(j-1,k-1) + T(j,k-1) for 2 <= k <= j. • a(1) = 1, a(2) = 2, a(3) = 4, a(4) = 7; f or n > 4, a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3). •

[A011912] • 0,0,0,0,0,2,4,7,11,16,24,33,44,57,72,91,112,136,163,193,228,266,308,354,404 ⋆ a(n) = floor(n(n-1)(n-2)/30). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8). •

[A120118] • 2,4,7,11,16,26,43,71,116,186,300,487,792,1287,2087,3382,5484,8898,14438,23423,37993,61625,99965,162165,263065 ⋆ a(n) is the number of binary strings of length n such that no subsequence of length 5 or less contains 3 or more ones. • a(n) = a(n - 1) + a(n - 3) + 2a(n - 5) - a(n - 8) - a(n - 10). •

[A266448] • 1,2,4,7,11,17,21,31,35,49,53,71,75,97,101,127,131,161,165,199,203,241,245,287,291 ⋆ Total number of ON (black) cells after n iterations of the "Rule 25" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n ^ 2 + 2 * n + (- 1) ^ n * (7 - 2 * n) + 5) / 4 for n>2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>7. •

[A084267] • 1,2,4,7,11,17,24,33,44,57,72,89,109,131,156,184,215,250,288,330,376,426,480,538,601 ⋆ Partial sums of a binomial quotient. • a(n)=sum { k=0.. n, floor(C(k + 4, 4) / C(k + 2, 2)) } •

[A177116] • 0,0,0,1,2,4,7,11,17,24,33,44,57,72,90,110,133,159,188,221,257,297,341,389,441 ⋆ Partial sums of round(n^2/11). • a(n)=round((n - 2) * (n + 3) * (2 * n + 1) / 66). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 - 11 * n + 18) / 66). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 - 11 * n - 30) / 66). • a(n)=round(n * (2 * n ^ 2 + 3 * n - 11) / 66). • a(n)=a(n - 11) + (n + 1) * (n - 11) + 44 , n>10. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 11) - 3 * a(n - 12) + 3 * a(n - 13) - a(n - 14). [R. J. Mathar, Dec 10 2010] •

[A175822] • 0,1,2,4,7,11,17,24,34,46,61,79,100,125,153,186,223,265,312,364,422,485,555,631,714 ⋆ Partial sums of ceiling(n^2/7). • a(n)=round((2 * n + 1) * (n ^ 2 + n + 12) / 42). • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 24) / 42). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 25 * n) / 42). • a(n)=a(n - 7) + (n + 1) * (n - 7) + 24 , n>6. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 7) - 3 * a(n - 8) + 3 * a(n - 9) - a(n - 10). [R. J. Mathar, Dec 06 2010] •

[A028291] • 1,2,4,7,11,17,25,35,48,64,84,108,137,171,211,258,312,374,445,525,616,718,832,959,1100 ⋆ Expansion of 1/((1-x)^2(1-x^2)(1-x^3)(1-x^5)) in powers of x. • a(n) = round((n + 1) * (n ^ 3 + 23 * n ^ 2 + 173 * n + 451) / 720). - _ Tani Akinari _ , Jun 05 2014 • a(n) - 2 * a(n - 1) + a(n + 3) + a(n + 4) - 2 * a(n + 6) + a(n + 7) = 1 if n == 3 (mod 5) else 0. - _ Michael Somos _ , Jun 05 2014 • a(n) = a(- 12 - n) for all n in Z. - _ Michael Somos _ , May 14 2015 •

[A289060] • 2,4,7,11,17,25,36,51,70,93,120,151,186,225,268,315,366,421,480,543,610,681,756,835,918 ⋆ a(n) = 3*a(n-1) - 3*a(n-2) + *a(n-3) for n >= 8, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 17, a(5) = 25, a(6) = 36, a(7) = 51. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >= 8, wher e a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 17, a(5) = 25, a(6) = 36, a(7) = 51. • a(n) = 30 - 11 * n + 2 * n ^ 2 for n>4. - _ Colin Barker _ , Jul 02 2017 •

[A006999] • 0,1,2,4,7,11,17,26,40,61,92,139,209,314,472,709,1064,1597,2396,3595,5393,8090,12136,18205,27308 ⋆ Partitioning integers to avoid arithmetic progressions of length 3. • a(n) = floor((3a(n - 1) + 2) / 2). • a(n) = - 1 + floor(c * (3 / 2) ^ n) where c=1.08151366858984487730463398859954940871073704154202495479029559158562266648498965092241102655548894 0... - _ Benoit Cloitre _ , Jan 10 2002 •

[A005252] • 1,1,1,1,2,4,7,11,17,27,44,72,117,189,305,493,798,1292,2091,3383,5473,8855,14328,23184,37513 ⋆ a(n) = Sum_{k=0..floor(n/4)} binomial(n-2k,2k). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4); a(0) = a(1) = a(2) = a(3) = 1 . - _ Philippe Deléham _ , May 01 2006 •

[A023428] • 1,1,1,1,1,1,2,4,7,11,17,27,45,77,132,224,378,640,1093,1881,3250,5622,9732,16874,29332 ⋆ Generalized Catalan Numbers. • a(0)=1. a(n) = a(n - 1) + sum _{ k=2..n - 4 } a(k) * a(n - 4 - k). •

[A129929] • 1,2,4,7,11,17,29,58,129,292,639,1333,2666,5188,9999,19388,38166,76332,154261,312703,632171,1271107,2542214,5066717,10087066 ⋆ Binomial transform of the periodic sequence with periodic pattern 1,1,1,0,0. • a(n)=5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + 2a(n - 5). - _ R. J. Mathar _ , Mar 06 2008 •

[A073738] • 1,2,4,7,11,18,24,35,43,58,72,89,109,130,152,177,205,236,266,303,337,376,416,459,505 ⋆ Sum of every other prime <= n-th prime down to 2 or 1; equals the partial sums of A036467 (in which sums of two consecutive terms form the primes). • a(n) = Sum _{ m<=n, m=n (mod 2) } p _ m, where p _ m is the m - th prime; that is, a(2n + k) = p _ (2n + k) + p _ (2(n - 1) + k) + p _ (2(n - 2) + k) + ... + p _ k, for 0<=k<2, where a(0)=1 and the 0th prime is taken to be 1. •

[A289131] • 2,4,7,11,18,28,43,65,96,142,205,299,426,616,871,1253,1764,2530,3553,5087,7134,10204,14299,20441,28632 ⋆ a(n) = a(n-1) + 3*a(n-2) - 3*a(n-3) - 2*a(n-4) + 2*a(n-5) for n >= 6, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 18, a(5) = 28. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) for n >= 6, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 18, a(5) = 28. • a(n) = - (3 * n) / 2 + 7 * 2 ^ (n / 2) - 4 for n>0 and even. • a(n) = (- 3 * n + 5 * 2 ^ ((n + 3) / 2) - 9) / 2 for n odd. •

[A091838] • 1,2,4,7,11,18,29,47,76,121,199,310,521,841,1364,2207,3571,5776,9349,15125,24476,39601,64079,103682,167761 ⋆ a(n) = number of images of the border correlation function for binary words of length n (cf. link). • a(n) < 2 ^ (n - 1) • a(n) <= F(n) + F(n - 2) - m where F(i) is the i - th Fibonacci number and m=2 if n is in the set { 2i | i >= 0 } - { 2 ^ j, 3x2 ^ j | j >= 0 } - Dirk Nowotka (nowotka(AT)utu.fi), May 16 2004 • a(n) seems to be asymptotic to phi ^ n where phi=(1 + sqrt(5)) / 2. •

[A288219] • 2,4,7,11,18,29,47,76,123,199,322,521,843,1364,2207,3571,5778,9349,15127,24476,39603,64079,103682,167761,271443 ⋆ a(n) = a(n-1) + a(n-2) for n >= 3, where a(0) = 2, a(1) = 4, a(2) = 7. • a(n) = a(n - 1) + a(n - 2) f or n >= 3, where a(0) = 2, a(1) = 4, a(2) = 7. • a(n) = L(n + 2) for n >=1, where L = A000032 (Lucas numbers). •

[A293418] • 0,1,1,2,4,7,11,18,29,48,77,125,203,329,533,862,1395,2258,3654,5912,9567,15479,25047,40527,65574 ⋆ a(n) is the greatest integer k such that k/Fibonacci(n) < sqrt(2). • a(n) = floor(Fibonacci(n) * sqrt(2)). •

[A289077] • 2,4,7,11,18,30,47,74,114,176,269,411,625,950,1441,2185,3310,5013,7589,11487,17384,26306,39804,60225,91120 ⋆ a(n) = 2*a(n-1) + a(n-2) -

4*a(n-3) + 2*a(n-4) + a(n-5) -2*a(n-6) + a(n-7) for n >= 7, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 18, a(5) = 30, a(6) = 47. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4) + a(n - 5) - 2 * a(n - 6) + a(n - 7) for n >= 7, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 18, a(5) = 30, a(6) = 47. •

[A289004] • 2,4,7,11,18,31,52,89,151,257,438,748,1277,2179,3719,6348,10837,18499,31579,53908,92027,157099,268182,457812,781531 ⋆ a(n) = 2*a(n-1) - a(n-2) + 2*a(n-4) - a(n-5) + a(n-7) - a(n-8) - a(n-10) for n >= 10, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 18, a(5) = 31, a(6) = 52, a(7) = 89, a(9) = 151, a(9) = 257. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 4) - a(n - 5) + a(n - 7) - a(n - 8) - a(n - 10) for n >= 10, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 18, a(5) = 31, a(6) = 52, a(7) = 89, a(9) = 151, a(9) = 257. •

[A000570] • 1,1,2,4,7,11,18,31,53,89,149,251,424,715,1204,2028,3418,5761,9708,16358,27565,46452,78279,131910,222285 ⋆ Number of tournaments on n nodes determined by their score vectors. • a(n) = a(n - 5) + a(n - 4) + a(n - 3) + a(n - 1). - _ Jon E. Schoenfield _ , Aug 07 2006 •

[A192670] • 1,1,1,2,4,7,11,19,33,56,94,160,271,461,785,1337,2279,3890,6644,11357,19426,33246,56930,97535,167177 ⋆ Floor-Sqrt transform of central trinomial coefficients (A002426). • a(n) = floor(sqrt(trinomial(2 * n,n))). •

[A118647] • 2,4,7,11,19,33,57,97,166,285,489,838,1436,2462,4221,7236,12404,21264,36453,62491,107127,183646,314822,539695,925191 ⋆ a(n) is the number of binary strings of length n such that no subsequence of length 4 contains 3 or more ones. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6). - suggested by _ Jon E. Schoenfield _ •

[A000802] • 1,2,4,7,11,19,34,50,82,146,274,529,785,1297,2321,4369,8465,16657,33041,65809,131344,196880,327952,590096,1114384 ⋆ Maximal number of states in deterministic finite automaton accepting a language consisting of some words of length n. • a(n) = sum(min(2 ^ k,2 ^ (2 ^ (n - k)) - 1),k=0..n). - _ Sean A. Irvine _ , Jun 24 2011 •

[A236392] • 0,1,1,2,4,7,11,19,34,59,100,172,299,517,889,1532,2647,4570,7880,13591,23455,40475,69826,120463,207848 ⋆ G.f.: (x+x^3+x^4)/(1-x-x^3-2*x^4). • a(n) = a(n - 1) + a(n - 3) + 2 * a(n - 4), a(0) = 0, a(1) = 1, a(2) = 1, a(3) = 2, a(4) = 4. - _ Philippe Deléham _ , Jan 25 2014 •

[A080005] • 1,1,1,2,4,7,11,19,35,62,107,186,328,578,1012,1771,3107,5455,9568,16774,29417,51603,90513,158741,278404 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=2, r=3, I={-1,1}. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + a(n - 5) - 2 * a(n - 6) + a(n - 8) - a(n - 10), n >9. •

[A160393] • 1,2,4,7,11,20,34,58,100,172,298,516,893,1547,2679,4640,8036,13918,24107,41754,72320,125262,216960,375786,650880 ⋆ Square root of A003462, rounded up • a(n) = ceiling(sqrt((3 ^ n - 1) / 2)). •

[A288380] • 2,4,7,11,20,38,70,130,245,461,866,1630,3070,5780,10883,20495,38596,72682,136874,257762,485417,914137,1721506,3241946,6105242 ⋆ a(n) = 3*a(n-1) - 3*a(n-2) + 3*a(n-3) - 3*a(n-4) + a(n-5) for n >= 1, where a(0) = 2, a(1) = 4, a(2) = 7. a(3) = 11, a(4) = 20. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3) - 3 * a(n - 4) + a(n - 5) for n >= 1, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 11, a(4) = 20. •

[A033054] • 1,2,4,7,12,13,14,21,22,23,37,40,43,64,67,70,111,112,113,120,121,122,129,130,131 ⋆ Numbers n such that base 3 representation Sum{d(i)*3^i: i=0,1,...,m} has d(i)=1 for m-i odd. • a(3n + 3) = 9a(n) + 4. •

[A267529] • 1,2,4,7,12,18,26,35,46,58,72,87,104,122,142,163,186,210,236,263,292,322,354,387,422 ⋆ Total number of ON (black) cells after n iterations of the "Rule 141" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A005521] • 1,2,4,7,12,18,26,35,46,60,75,93,113,134,157,183,212,242,275,310,346,385,426,470,518 ⋆ 1 + (sum of first n odd primes - n)/2. • a(n + 1) = a(n) + (prime(n + 1) - 1) / 2 for odd primes prime(n + 1). •

[A173722] • 0,0,1,2,4,7,12,18,26,36,49,64,82,103,128,156,188,224,265,310,360,415,476,542,614 ⋆ Partial sums of round(n^2/8). • a(n) = Sum _{ k=0..n } round(k ^ 2 / 8). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 + 4 * n) / 48). • a(n) = round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 3) / 96). • a(n) = floor((n + 2) * (2 * n ^ 2 - n + 6) / 48). • a(n) = ceiling((2 * n ^ 3 + 3 * n ^ 2 + 4 * n - 9) / 48). • a(n) = a(n - 4) + n * (n - 3) / 2 + 2, n>3. •

[A175812] • 0,1,2,4,7,12,18,27,38,52,69,90,114,143,176,214,257,306,360,421,488,562,643,732,828 ⋆ Partial sums of ceiling(n^2/6). • a(n)=round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 17) / 72). • a(n)=floor((n + 1) * (2 * n ^ 2 + n + 17) / 36). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 + 18 * n) / 36). • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 + 18 * n) / 36). • a(n)=a(n - 6) + (n + 1) * (n - 6) + 18 , n>5. • a(n)=2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7), n>6. - Mircea Merca, Jan 09 2011 •

[A002621] • 1,2,4,7,12,18,27,38,53,71,94,121,155,194,241,295,359,431,515,609,717,837,973,1123,1292 ⋆ Expansion of 1 / ((1-x)^2*(1-x^2)*(1-x^3)*(1-x^4)). • a(n) = + 2 * a(n - 1) - a(n - 3) - 2 * a(n - 5) + 2 * a(n - 6) + a(n - 8) - 2 * a(n - 10) + a(n - 11). • a(n)=floor((n + 1) * (9 * (- 1) ^ n + n ^ 3 + 21 * n ^ 2 + 145 * n + 350) / 576 + 1 / 2). - _ Tani Akinari _ , Nov 10 2012 •

[A103231] • 1,2,4,7,12,19,29,42,59,80,107,140,180,228,285,351,429,519,622,740,874,1025,1195,1385,1597 ⋆ After the first two terms, each subsequent term is the smallest integer that is an outlier of the previous dataset, based on the criterion of 3 sample standard deviations above the mean. • a(n) = int(m(n - 1) + 3s(n - 1) + 1), where m(n - 1) is the arithmetic mean of the first n - 1 terms and s(n - 1) is the sample standard deviation of the first n - 1 terms •

[A002622] • 1,2,4,7,12,19,29,42,60,83,113,150,197,254,324,408,509,628,769,933,1125,1346,1601,1892,2225 ⋆ Number of partitions of at most n into at most 5 parts. • a(n)= 2 * a(n - 1) - a(n - 3) - a(n - 5) + 2 * a(n - 8) - a(n - 11) - a(n - 13) + 2 * a(n - 15) - a(n - 16). • a(n) = round((n + 1) * (6 * n ^ 4 + 234 * n ^ 3 + 3326 * n ^ 2 + 20674 * n + 50651 + 675 * (- 1) ^ n) / 86400). - _ Tani Akinari _ , May 05 2014 •

[A000070] • 1,2,4,7,12,19,30,45,67,97,139,195,272,373,508,684,915,1212,1597,2087,2714,3506,4508,5763,7338 ⋆ a(n) = Sum_{k=0..n} p(k) where p(k) = number of partitions of k (A000041). • a(n) = (1 / n) * Sum _{ k=1..n } (sigma(k) + 1) * a(n - k), n > 1, a(0)=1. - _ Vladeta Jovovic _ , Aug 22 2002 • a(n - 2) = sum { parts k in all partitions in P(2,n) } phi(k), where phi(k) is the Euler totient function (see A000010). Using this result and Merten's theorem on the average order of the phi function, leads to the asymptotic result •

[A287525] • 2,4,7,12,19,31,49,80,129,210,339,549,887,1436,2323,3760,6083,9843,15925,25768,41693,67462,109155,176617,285771 ⋆ a(n) = a(n-1) + a(n-2) - a(n-3) +a(n-4) + a(n-5) for n >= 6, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12, a(4) = 19, a(5) = 31. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) + a(n - 5) for n >= 6, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12, a(4) = 19, a(5) = 31. •

[A244472] • 1,2,4,7,12,19,31,50,81,131,212,343,555,898,1453,2351,3804,6155,9959,16114,26073,42187,68260,110447,178707 ⋆ 2nd-largest term in n-th row of Stern's diatomic triangle A002487. • a(n) = a(n - 1) + a(n - 2), n>5. - _ Colin Barker _ , Jul 10 2015 •

[A279890] • 0,1,1,2,4,7,12,19,31,50,82,133,216,349,565,914,1480,2395,3876,6271,10147,16418,26566,42985,69552 ⋆ Expansion of x*(1 - x + 2 x^3 - x^4)/((1 - x)*(1 + x)*(1 - x + x^2)*(1 - x - x^2)). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + 2 * a(n - 4) - a(n - 6). • a(n) = (9 * sqrt(5) * (((1 + sqrt(5)) / 2) ^ n - ((1 - sqrt(5)) / 2) ^ n) + 5 * ((- 1) ^ n + 2 * cos(Pi * n / 3) - 3)) / 30. • a(n) = floor(3 * F(n) * F(n + 1) * F(n + 2) / (2 * F(n + 1) * F(n + 2) - (- 1) ^ n)), where F(n) is the n - th Fibonacci number (A000045). •

[A289115] • 2,4,7,12,20,32,50,77,116,174,260,386,571,843,1242,1827,2685,3943,5787,8490,12452,18259,26770,39244,57526 ⋆ a(n) = 3*a(n-1) - 3*a(n-2) + 2*a(n-3) - 2*a(n-4) + a(n-5) for n >= 10, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12, a(4) = 20, a(5) = 32, a(6) = 50, a(7) = 77, a(8) = 116, a(9) = 174. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + a(n - 5) for n >= 10, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12, a(4) = 20, a(5) = 32, a(6) = 50, a(7) = 77, a(8) = 116, a(9) = 174. •

[A000071] • 0,0,1,2,4,7,12,20,33,54,88,143,232,376,609,986,1596,2583,4180,6764,10945,17710,28656,46367,75024 ⋆ Fibonacci numbers - 1. • a(0) = - 1, a(1) = 0; thereafter a(n) = a(n - 1) + a(n - 2) + 1. • a(n) = 2 * a(n - 1) - a(n - 3). - _ R. H. Hardin _ , Apr 02 2011 • a(n) = - 1 + (A * B ^ n + C * D ^ n) / 10, with A, C = 5 +- 3 * sqrt(5), B, D = (1 +- sqrt(5)) / 2. - _ Ralf Stephan _ , Mar 02 2003 • a(1) = 0, a(2) = 0, a(3) = 1, then a(n) = ceiling(phi * a(n - 1)) where phi is the golden ratio (1 + sqrt(5)) / 2. - _ Benoit Cloitre _ , May 06 2003 • a(n) = Sum _{ k = 0..floor((n - 2) / 2) } binomial(n - k - 2, k + 1). - _ Paul Barry _ , Sep 23 2004 • a(n + 3) = Sum _{ k = 0..floor(n / 3) } binomial(n - 2k, k)(- 1) ^ k * 2 ^ (n - 3k). - _ Paul Barry _ , Oct 20 2004 •

[A179111] • 0,0,0,0,0,0,1,2,4,7,12,20,33,54,88,143,233,378,613,993,1608,2603,4213,6818,11033 ⋆ Partial sums of round(Fibonacci(n)/11) • a(n)=round(Fibonacci(n + 2) / 11 - n / 10 - 83 / 220). • a(n)=floor(Fibonacci(n + 2) / 11 - n / 10 - 4 / 55). • a(n)=ceil(Fibonacci(n + 2) / 11 - n / 10 - 15 / 22). • a(n)=a(n - 10) + Fibonacci(n - 3) - 1, n>10. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 10) - 2 * a(n - 11) + a(n - 13), n>11. •

[A182746] • 1,1,2,4,7,12,21,34,55,88,137,210,320,478,708,1039,1507,2167,3094,4378,6153,8591,11914,16424,22519 ⋆ Bisection (even part) of number of partitions that do not contain 1 as a part A002865. • a(n) = p(2 * n + 2) - p(2 * n + 1), where p is the partition function, A000041. - _ George Beck _ , Jun 05 2017 •

[A100671] • 1,2,4,7,12,21,37,64,111,193,335,581,1007,1745,3023,5236,9069,15708,27207,47124,81622,141374,244867,424122,734601 ⋆ A Graham-Pollak-like sequence with multiplier 3 instead of 2. • a(0) = 1, a(n) = Floor(Sqrt(3 * a(n - 1) * (a(n - 1) + 1))). •

[A005251] • 0,1,1,1,2,4,7,12,21,37,65,114,200,351,616,1081,1897,3329,5842,10252,17991,31572,55405,97229,170625 ⋆ a(0) = 0, a(1) = a(2) = a(3) = 1; thereafter, a(n) = a(n-1) + a(n-2) + a(n-4). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3). • a(n + 1) = Sum(binomial(n - k, 2k), { k=0...n }). - Richard Ollerton (r.ollerton(AT)uws.edu.au), May 12 2004 • a(n + 2) has g.f. (F _ 3(- x) + F _ 2(- x)) / (F _ 4(- x) + F _ 3(- x)) = 1 / (- x + 1 / (- x + 1 / (- x + 1))) where F _ n(x) is the n - th Fibonacci polynomial; see A011973. - Qiaochu Yuan (qchu(AT)mit.edu), Feb 19 2009 •

[A103197] • 1,2,4,7,12,21,37,65,115,208,386,727,1367,2536,4630,8376,15217,28170,53620,104843,208547,416448,824990,1608138,3071813 ⋆ Number of compositions of n into Fibonacci number of parts. • a(n) = Sum _{ k>1 } (x / (1 - x)) ^ Fibonacci(k). •

[A000709] • 1,2,4,7,12,21,38,68,124,229,428,806,1530,2919,5591,10750,20730,40077,77653,150752,293161,570963,1113524,2174315,4250367 ⋆ Related to population of numbers of form x^2 + y^2. • a(n) = int (1 / sqrt(log(u)), u=1..2 ^ (n - 1)))). - Based on _ Alois P. Heinz _ 's Maple program, _ Alonso del Arte _ , Oct 24 2014 •

[A288133] • 1,2,4,7,12,21,38,71,136,265,522,1035,2060,4109,8206,16399,32784,65553,131090,262163,524308,1048597,2097174,4194327,8388632 ⋆ Positions of 0 in A288132; complement of A288134. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>4. •

[A289107] • 2,4,7,12,22,37,62,102,167,272,442,717,1162,1882,3047,4932,7982,12917,20902,33822,54727,88552,143282,231837,375122 ⋆ a(n) = 2*a(n-1) - a(n-3) for n >= 5, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12, a(4) = 22. • a(n) = 2

* a(n - 1) - a(n - 3) for n >= 5, a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12, a(4) = 22. • a(n) = - 3 + 2 ^ (- 1 - n) * sqrt(5) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n)) for n>1. - _ Colin Barker _ , Jun 28 2017 •

[A257932] • 1,1,2,4,7,12,22,38,67,118,207,363,638,1119,1964,3447,6049,10615,18629,32691,57369,100676,176674,310041,544085 ⋆ Expansion of 1/(1-x-x^2-x^3+x^5+x^7). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 5) - a(n - 7). •

[A287439] • 2,4,7,12,22,38,68,120,212,376,664,1176,2080,3680,6512,11520,20384,36064,63808,112896,199744,353408,625280,1106304,1957376 ⋆ a(n) = 2*a(n-2) + 2*a(n-3) for n >= 3, where a(0) = 2, a(2) = 4, a(3) = 7. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) for n >= 3, where a(0) = 2, a(2) = 4, a(3) = 7. •

[A254685] • 1,1,2,4,7,12,22,39,69,123,219,389,692,1231,2189,3893,6924,12314,21900,38949,69270,123195,219100,389665,693011 ⋆ Number of partially ordered partitions of n into parts less than or equal to 3, in which the order of adjacent 2's and 3's is unimportant. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 5). •

[A288317] • 2,4,7,12,22,40,75,139,262,489,922,1726,3252,6097,11479,21540,40531,76096,143130,268816,505483,949575,1785262,3354205,6305358 ⋆ a(n) = a(n-1) + 3*a(n-2) - 2*a(n-3) - a(n-4) for n >= 4, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12. • a(n) = a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n >= 4, where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 12. •

[A099604] • 1,1,2,4,7,12,23,40,72,131,233,420,756,1355,2438,4381,7868,14144,25413,45661,82058,147444,264943,476092,855483 ⋆ Antidiagonal sums of triangle A099602, in which row n equals the inverse binomial transform of column n of the triangle of trinomial coefficients (A027907). • a(n) = 2 * a(n - 2) + 3 * a(n - 3) - 2 * a(n - 5) - a(n - 6) for n>=6. •

[A002466] • 1,1,2,4,7,13,17,30,60,107,197,257,454,908,1619,2981,3889,6870,13740,24499,45109,58849,103958,207916,370723 ⋆ A jumping problem. • a(1) = a(2) = 1, a(3) = 2, a(5 * k + 2) = a(5 * k + 1) + a(5 * k - 1), a(5 * k + 3) = a(5 * k + 2) + a(5 * k + 1), a(5 * k + b) = a(5 * k + b - 1) + a(5 * k + b - 2) + a(5 * k + b - 3) for b= - 1,0,1 [From Domoryad]. - _ Sean A. Irvine _ , Apr 21 2016 •

[A165753] • 0,0,0,0,1,1,2,4,7,13,20,34,56,93,150,244,396,643,1043,1689,2733,4425,7161,11587,18754 ⋆ Number of trailing zeros in sequence of factorials of Fibonacci numbers. • a(n) = k * phi ^ n + O(n), for k = 1 / sqrt(80). •

[A026625] • 1,1,2,4,7,13,21,36,58,96,155,253,409,664,1074,1740,2815,4557,7373,11932,19306,31240,50547,81789,132337 ⋆ a(n) = Sum_{k=0..floor(n/2)} A026615(n-k,k). • a(n) = 2 ^ (- 1 - n) * (- 5 * ((- 2) ^ n + 3 * 2 ^ n) - (- 15 + sqrt(5)) * (1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n * (15 + sqrt(5))) / 5 for n>1. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>5. •

[A061255] • 1,1,2,4,7,13,21,37,60,98,157,251,392,612,943,1439,2187,3293,4930,7330,10839,15935,23315,33933,49170 ⋆ Euler transform of Euler totient function phi(n), cf. A000010. • a(n)=1 / n * Sum _{ k=1..n } a(n - k) * b(k), n>1, a(0)=1, b(k)=Sum _{ d|k } d * phi(d), cf. A057660. •

[A281362] • 1,2,4,7,13,22,38,63,105,172,282,459,747,1212,1966,3185,5159,8352,13520,21881,35411,57302,92724,150037,242773 ⋆ a(0) = 1, a(1) = 2; for n>1, a(n) = a(n-1) + a(n-2) + floor(n/2). • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) + a(n - 5) for n>4. •

[A114832] • 1,2,4,7,13,23,40,70,121,210,364,631,1093,1894,3281,5683,9844,17050,29532,51151,88597,153455,265792,460366,797377 ⋆ Each term is previous term plus ceiling of harmonic mean of two previous terms. • a(1) = 1, a(2) = 2, for n > 2: a(n + 1) = a(n) + ceiling(HarmonicMean(a(n), a(n - 1))). a(n + 1) = a(n) + ceiling((2 * a(n) * a(n - 1)) / (a(n) + a(n - 1))). •

[A260917] • 1,1,2,4,7,13,23,41,74,132,236,422,754,1348,2409,4305,7694,13750,24573,43915,78481,140255,250652,447944,800528 ⋆ Expansion of 1/(1 - x - x^2 - x^3 + x^6 + x^7). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 6) - a(n - 7). •

[A287381] • 2,4,7,13,23,42,75,136,244,441,793,1431,2576,4645,8366,15080,27167,48961,88215,158970,286439,516164,930072,1675961,3019941 ⋆ a(n) = a(n-1) + 2*a(n-2) - a(n-3), where a(0) = 2, a(1) = 4, a(2) = 7. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3), where a(0) = 2, a(1) = 4, a(2) = 7. •

[A048888] • 0,1,2,4,7,13,23,42,76,139,255,471,873,1627,3044,5718,10779,20387,38673,73561,140267,268065,513349,984910,1892874 ⋆ a(n) = Sum{T(m,n+1-m): m=1,2,...,n}, array T as in A048887. • a(m) = Sum _{ n=2..m + 1 } Fn(m) where Fn is a Fibonacci n - step number (Fibonacci, tetranacci, etc.) indexed as in A000045, A000073, A000078. - _ Gerald McGarvey _ , Sep 25 2004 •

[A000073] • 0,0,1,1,2,4,7,13,24,44,81,149,274,504,927,1705,3136,5768,10609,19513,35890,66012,121415,223317,410744 ⋆ Tribonacci numbers: a(n) = a(n-1) + a(n-2) + a(n-3) with a(0)=a(1)=0, a(2)=1. • a(n + 1) / a(n) - > A058265. a(n - 1) / a(n) - > A192918. • a(n) = central term in M ^ n * [1 0 0] where M = the 3X3 matrix [0 1 0 / 0 0 1 / 1 1 1]. (M ^ n * [1 0 0] = [a(n - 1) a(n) a(n + 1)].) a(n) / a(n - 1) tends to the tribonacci constant, 1.839286755... = A058265, an eigenvalue of M and a root of x ^ 3 - x ^ 2 - x - 1 = 0. - _ Gary W. Adamson _ , Dec 17 2004 • a(n + 2) = Sum _{ k=0..n } T(n - k, k), where T(n, k) = trinomial coefficients (A027907). - _ Paul Barry _ , Feb 15 2005 • a(n) = j * C ^ n + k * r1 ^ n + l * r2 ^ n where C is the tribonacci constant (C = 1.8392867552...), real root of x ^ 3 - x ^ 2 - x - 1=0, and r1 and r2 are the two other roots (which are complex), r1 = m + pI and r2 = m - pI, where m = (1 - C) / 2 (m = - 0.4196433776...) and p = ((3 * C - 5) * (C + 1) / 4) ^ (1 / 2) (p=0.6062907292...), and where j = 1 / ((C - m) ^ 2 + p ^ 2) (= 0.1828035330...), k = a + bI, and l = a - bI, where a = - j / 2 (a = - 0.0914017665...) and b = (C - m) / (2 * p * ((C - m) ^ 2 + p ^ 2)(b = 0.3405465308...). - Philippe LALLOUET (philip.lallouet(AT)wanadoo.fr), Jun 23 2007 • a(n + 1) = 3 * c * ((1 / 3) * (a + b + 1)) ^ n / (c ^ 2 - 2 * c + 4) where a=(19 + 3 * sqrt(33)) ^ (1 / 3), b=(19 - 3 * sqrt(33)) ^ (1 / 3), c=(586 + 102 * sqrt(33)) ^ (1 / 3). Round off to the nearest integer. - Al Hakanson (hawkuu(AT)gmail.com), Feb 02 2009 • a(n) = 3 * ((a + b + 1) / 3) ^ n / (a ^ 2 + b ^ 2 + 4) where a=(19 + 3 * sqrt(33)) ^ (1 / 3), b=(19 - 3 * sqrt(33)) ^ (1 / 3). Round off to the nearest integer. - _ Anton Nikonov _ •

[A265826] • 1,1,2,4,7,13,24,45,84,157,293,547,1021,1906,3558,6642,12399,23146,43208,80659,150571,281080,524709,979506,1828503 ⋆ a(0) = 1, a(n) = Sum_{k=1..n, a(n-k)*ceiling(sin(k))} • a(0) = 1 • a(n) = Sum _{ k=1..n, a(n - k) * ceiling(sin(k)) } •

[A059633] • 1,2,4,7,13,24,45,84,157,293,547,1021,1906,3558,6642,12399,23146,43208,80659,150571,281080,524709,979506,1828503,3413377 ⋆ G.f.: x^3/(1 - 2*x + x^3 - x^4). Recurrence: a(n) = 2*a(n-1) - a(n-3) + a(n-4). • a(n) = Sum _{ k=0..n + 1 } C(k + 1, n - k + 1)F(n - k + 1) [offset 0]. - _ Paul Barry _ , Feb 23 2005 •

[A086445] • 1,2,4,7,13,24,46,89,175,346,688,1371,2737,5468,10930,21853,43699,87390,174772,349535,699061,1398112,2796214,5592417,11184823 ⋆ Partial sums of A005578. • a(n) = 2 * 2 ^ n / 3 + (- 1) ^ n / 12 + n / 2 + 1 / 4. • a(0) = 1, a(n) = floor(2 * a(n - 1) - n / 2 + 1) for n>0. - _ Gerald McGarvey _ , Aug 31 2004 •

[A079958] • 1,1,2,4,7,13,25,46,86,161,300,560,1046,1952,3644,6803,12699,23706,44254,82611,154215,287883,537408,1003212,1872757 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={3,4}. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 6) G.f.: - 1 / (x ^ 6 + x ^ 3 + x ^ 2 + x - 1) •

[A108361] • 1,1,2,4,7,13,25,47,90,172,329,629,1202,2294,4374,8330,15847,30115,57172,108434,205473,389019,735927,1391121,2627720 ⋆ Diagonal sums of number triangle A108359. • a(n) = sum { k=0..floor(n / 2) } (sum { j=0..n - 2k } C(k, j) * C(n - k - j, k) * floor((j + 2) / 2)). •

[A103204] • 2,4,7,13,25,49,97,193,385,769,1537,3073,6145,12289,24577,49153,98305,196609,393217,786433,1572865,3145729,6291457,12582913,25165825 ⋆ a(1) = 2, a(2) = 4; a(n) = 2*a(n-1) - 1. • a(n) = 3 * 2 ^ (n - 2) + 1 for n>1. - _ Ralf Stephan _ , May 18 2007 •

[A262267] • 2,4,7,13,26,52,103,205,410,820,1639,3277,6554,13108,26215,52429,104858,209716,419431,838861,1677722,3355444,6710887,13421773,26843546 ⋆ Number of (n+2) X (1+2) 0..1 arrays with each row and column divisible by 5, read as a binary number with top and left being the most significant bits. • a(n) = 1 / 2 + 2 ^ (2 + n) / 5 - (1 / 20 - i / 20) * ((1 + 2 * i) * (- i) ^ n + (2 + i) * i ^ n) where i=sqrt(- 1). •

[A293314] • 2,4,7,13,26,52,104,208,415,829,1657,3314,6628,13255,26510,53020,106040,212079,424158,848316,1696632,3393264,6786527,13573053,27146106 ⋆ Least integer k such that k/2^n > (1+sqrt(5))/2 (the golden ratio). • a(n) = ceiling(r * 2 ^ n), where r = (1 + sqrt(5)) / 2. •

[A023431] • 1,1,1,2,4,7,13,26,52,104,212,438,910,1903,4009,8494,18080,38656,82988,178802,386490,837928,1821664,3970282,8673258 ⋆ Generalized Catalan Numbers. • a(n + 1)=a(n) + a(0)a(n - 2) + a(1)a(n - 3) + ... + a(n - 2)a(0). - _ Michael Somos _ , Jul 13 2003 •

[A112740] • 1,2,4,7,13,26,58,147,423,1366,4880,19039,80281,362914,1747598,8918299,48024291,271891710,1613325844,10005690695,64702147429,4353115894 18,3041246276098,22024930755299,165082467634303 ⋆ Row sums of number triangle A112739. • a(n)=sum { k=0..n, sum { j=0..k, (2 - 0 ^ j) * (n - 1) ^ (k - j) }} . •

[A136408] • 1,2,4,7,13,27,55,107,211,427,859,1707,3403,6827,13675,27307,54571,109227,218539,436907,873643,1747627,3495595,6990507,13980331 ⋆ a(n)=3a(n-1)-4a(n-2)+6a(n-3)-4a(n-4). • a(n)=(1 / 3) + (5 / 6) * 2 ^ n - (1 / 12) * [I * sqrt(2)] ^ n - (1 / 12) * [- I * sqrt(2)] ^ n, with n>0= and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A280430] • 2,4,7,14,19,34,63,76,137,248,282,502,891,980,1718,3000,3233,5594,9646,10256,17565,30000,31597,53690,91033 ⋆ Longest word T from 2 equal length strings S using no breakpoint reuse. • a(n) = n + Sum _{ 0..k } (((n - 2) / (1 + Beta ^ 2)) + (2 / (Beta - alpha)))alpha ^ k + (((Beta ^ 2(n - 2)) / (1 + Beta ^ 2)) - (2 / (Beta - alpha)))Beta ^ k + 2 where alpha = (1 + sqrt(5)) / 2, beta = (1 - sqrt(5)) / 2, n = number of letters in each chromosome, and k = floor(2(n - 1) / 3). •

[A217730] • 1,2,4,7,14,24,48,82,164,280,560,956,1912,3264,6528,11144,22288,38048,76096,129904,259808,443520,887040,1514272,3028544 ⋆ Expansion of (1+2*x-x^3)/(1-4*x^2+2*x^4). • a(n) = 4 * a(n - 2) - 2 * a(n - 4) for n>=4, a(0)=1, a(1)=2, a(2)=4, a(3)=7. • a(n) * a(n + 1) - a(n - 1) * a(n + 2) = (1 - (- 1) ^ n) * 2 ^ floor(n / 2 - 1) for n>0. [_ Bruno Berselli _ , Mar 22 2013] •

[A287185] • 2,4,7,14,25,47,88,166,311,586,1097,2068,3877,7301,13699,25778,48397,91033,170969,321496,603938,1135456,2133310,4010306,7535386 ⋆ a(n) = 3*a(n-2) + a(n-3) + a(n-5) - 3*a(n-6) - a(n-7), where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 14, a(4) = 25, a(5) = 47, a(6) = 88, a(7) = 166. • a(n) = 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) - a(n - 7), where a(0) = 2, a(1) = 4, a(2) = 7, a(3) = 14, a(4) = 25, a(5) = 47, a(6) = 88, a(7) = 166. •

[A026010] • 1,2,4,7,14,25,50,91,182,336,672,1254,2508,4719,9438,17875,35750,68068,136136,260338,520676,999362,1998724,3848222,7696444 ⋆ a(n) = number of (s(0), s(1), ..., s(n)) such that s(i) is a nonnegative integer and |s(i) - s(i-1)| = 1 for i = 1,2,...,n and s(0) = 2. Also a(n) = sum of numbers in row n+1 of array T defined in A026009. • a(2n) = (3n + 1) / (2n + 1) C(2n + 1, n), n>=0 a(2n - 1) = a(2n) / 2, n>=1 - _ Herbert Kociemba _ , May 08 2004 • a(n) = sum { k=0..n, C(floor((n + k) / 2), floor(k / 2)) } - _ Paul Barry _ , Jul 15 2004 •

[**A097596**] • 1,1,1,2,4,7,14,26,48,89,165,304,559,1029,1893,3482,6404,11779,21666,39850,73296,134813,247961,456072,838847,1542881 ⋆ An A001644 Binet like function for a Bonacci 3 type sequence using two negative roots instead of all positive. • a(n) = (r3 ^ n - r2 ^ n - r1 ^ n) / (r3 - r2 - r1) r1= - 0.4196433776 07080569‘ - 0.606290729207199419‘ I r2= - 0.419643377607080569‘ + 0.606290 729207199419‘ I r3=1.83928675521416113‘ •

[**A257792**] • 1,1,1,2,4,7,14,26,49,92,174,328,618,1166,2197,4143,7811,14726,27764,52344,98687,186058,350784,661347,1246865,2350768 ⋆ Expansion of 1/(1-x-x^2-x^3-x^5+x^8-x^9). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 5) - a(n - 8) + a(n - 9). •

[**A253511**] • 1,2,4,7,14,26,49,93,176,333,630,1192,2255,4267,8073,15274,28900,54679,103455,195741,370348,700713,1325774,2508412,4746007 ⋆ Number of n-bit binary strings in which the length of any run of ones is a power of two. • a(n) = a(n - 1) + Sum _{ k>=0 } a(n - (1 + 2 ^ k)), with a(- 1) = a(0) = 1 and a(n) = 0 for n < - 1. •

[**A052535**] • 1,1,2,4,7,14,26,50,95,181,345,657,1252,2385,4544,8657,16493,31422,59864,114051,217286,413966,788674,1502555,2862617 ⋆ Expansion of (1-x)(1+x)/(1-x-2x^2+x^4). • a(n)=sum { k=0..floor(n / 2), binomial(2n - 3k, k) } . - _ Paul Barry _ , Jan 21 2005 •

[**A079968**] • 1,1,2,4,7,14,27,51,98,187,357,683,1305,2494,4767,9110,17411,33276,63596,121544,232293,443954,848478,1621597,3099169 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={3}. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 5) + a(n - 6) G.f.: - 1 / (x ^ 6 + x ^ 5 + x ^ 3 + x ^ 2 + x - 1) •

[**A171231**] • 2,4,7,14,27,54,107,214,427,854,1707,3414,6827,13654,27307,54614,109227,218454,436907,873814,1747627,3495254,6990507,13981014,27962027 ⋆ a(n) = (10*2^n + 3 - (-1)^n)/6. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), n>=3. • a(n) - a(n - 2) = 5 * 2 ^ n. • a(n) = ceil((5 / 3) * (2 ^ n)). - _ Wesley Ivan Hurt _ , Jun 28 2013 •

[**A293325**] • 2,4,7,14,28,56,111,222,444,887,1774,3548,7095,14189,28378,56756,113512,227024,454047,908094,1816187,3632374,7264748,14529496,29058991 ⋆ Least integer k such that k/2^n > sqrt(3). • a(n) = ceiling(r * 2 ^ n), where r = sqrt(3). •

[**A113405**] • 0,0,0,1,2,4,7,14,28,57,114,228,455,910,1820,3641,7282,14564,29127,58254,116508,233017,466034,932068,1864135 ⋆ Expansion of x^3/(1-2*x+x^3-2*x^4) = x^3/((1-2*x)*(1+x)*(1-x+x^2)). • a(n) = 2a(n - 1) - a(n - 3) + 2a(n - 4). • a(n) = round(2 ^ n / 9). - _ Ross Drewe _ , Sep 03 2009 •

[**A293336**] • 0,1,2,4,7,14,29,57,114,229,458,916,1832,3664,7327,14654,29309,58617,117234,234469,468937,937875,1875750,3751500,7502999 ⋆ The integer k that minimizes |k/2^n - sqrt(1/5))|. • a(n) = floor(1 / 2 + r * 2 ^ n), where r = sqrt(1 / 5). •

[**A013326**] • 1,2,4,7,14,31,68,146,313,674,1453,3130,6740,14515,31262,67331,145012,312314,672637,1448674,3120041,6719698,14472356,31169423,67130254 ⋆ Expansion of -(2*x^3-x^2+x-1)/(x^4-3*x^3+3*x^2-3*x+1). • a(0)=1, a(1)=2, a(2)=4, a(3)=7, a(n)=3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , May 22 2013 •

[**A259592**] • 1,2,4,7,15,26,56,97,209,362,780,1351,2911,5042,10864,18817,40545,70226,151316,262087,564719,978122,2107560,3650401,7865521 ⋆ Denominators of the other-side convergents to sqrt(3). • a(n) = 4 * a(n - 2) - a(n - 4) for n>3. - _ Colin Barker _ , Jul 21 2015 •

[**A291220**] • 1,1,2,4,7,15,27,55,101,199,370,718,1347,2595,4898,9397,17803,34066,64682,123561,234917,448289,852979,1626689,3096695 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^4. • a(n) = a(n - 1) + 4 * a(n - 2) - 3 * a(n - 3) - 5 * a(n - 4) + 3 * a(n - 5) + 4 * a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. •

[**A136336**] • 1,2,4,7,15,27,59,107,235,427,939,1707,3755,6827,15019,27307,60075,109227,240299,436907,961195,1747627,3844779,6990507,15379115 ⋆ a(n) = a(n-1) + 4*a(n-2) - 4*a(n-3) for n>3. • a(n) = (8 + (- 2) ^ n + 21 * 2 ^ n) / 24 for n>0. •

[**A129682**] • 1,1,2,4,7,15,30,60,123,249,506,1030,2093,4257,8658,17606,35807,72821,148096,301188,612531,1245717,2533444,5152318,10478383 ⋆ Number of ways tiling a 2 X n rectangle with 2 X 1 (domino) and 3 X 1 (tromino) tiles. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 2 * r(n - 3), where r(n) = r(n - 1) + r(n - 2) + a(n - 2); • a(n)=2 * a(n - 1) + a(n - 3) - 2 * a(n - 4) + a(n - 5) - a(n - 6) - _ Robert Gerbicz _ , May 09 2008 •

[**A072964**] • 1,1,2,4,7,15,32,66,141,295,619,1286,2654,5460,11066,22357,44962,89258,176459,347103,675846,1309903,2525893,4830943,9196093 ⋆ Number of partitions of n-th triangular number n(n+1)/2 (A000217(n)) into triangular parts. • a(n) = A007294[n(n + 1) / 2] = coefficient of x ^ [n(n + 1) / 2] in the expansion of product _{ k=1..inf } 1 / (1 - x ^ (k(k + 1) / 2)). •

[**A259544**] • 1,2,4,7,16,32,75,169,396 ⋆ Minimum greatest integer in a set of n positive integers whose nonempty subsets all have distinct arithmetic means. • a(n) < 4 ^ (n - 1) for n > 1, see comments. •

[**A276027**] • 1,1,1,2,4,7,18,43,93,266,702,1687,5136,14405,36898,117016,341842,914064,2983027,8972121,24743851,82478973,253555061,715745648,2424954125 ⋆ Number of ways to transform a sequence of n ones to a single number by continually removing two numbers and replacing them with their sum modulo 3. • a(n) = f(0, n, 0) where f(a, b, c) is the number of ways to reach one number beginning with a zeros, b ones, and c twos. •

[**A291403**] • 0,2,4,7,20,42,92,214,472,1062,2396,5361,12052,27074,60764,136497,306520,688292,1545768,3471224,7795184,17505588,39311608,88280985,198250312 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 2 S^2 - S^4. • a(n) = 2 * a(n - 2) + 4 * a(n - 3) + 3 * a(n - 4) + 4 * a(n - 5) + 6 * a(n - 6) + 4 * a(n - 7) + a(n - 8) for n >= 9. •

[**A171978**] • 1,1,2,4,7,22,37,84,172,454,745,2904,4722,10464,38546,88769,147439,475153,785894,3140342,10412267,19169464,32132160,125087460,224341028 ⋆ Number of partitions of n into fractions k/(k+1), 0<k<=n. • a(n) = q(n,1) with q(x,k) = if x < k / (k + 1) then 0 ^ x else if k>n then 0 else q(x - k / (k + 1),k) + q(x,k + 1). •

[**A047466**] • 0,1,2,4,8,9,10,12,16,17,18,20,24,25,26,28,32,33,34,36,40,41,42,44,48 ⋆ Numbers that are congruent to {0, 1, 2, 4} mod 8. • a(n) = 2 * n - 4 + (3 - (- 1) ^ n) * (1 - i ^ (n * (n + 1))) / 4, where i=sqrt(- 1). [_ Bruno Berselli _ , Jul 18 2012] • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[**A003485**] • 1,2,4,8,9,10,12,16,17,18,20,24,25,26,28,32,33,34,36,40,41,42,44,48,49 ⋆ Hurwitz-Radon function at powers of 2. • a(n) = ceil((n + 1) / 4) + ceil((n) / 4) + 2 * ceil((n - 1) / 4) + 4 * ceil((n - 2) / 4). - _ Johannes W. Meijer _ , Jun 07 2011 • a(0)=1, a(1)=2, a(2)=4, a(3)=8, a(4)=9, a(n)=a(n - 1) + a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Jun 13 2011 •

[**A136803**] • 0,1,2,4,8,9,11,13,15,16,17,18,21,22,23,25,26,29,30,31,32,34,35,36,42 ⋆ Squares mod 257. • a(n) + a(131 - n) = 257 for n>1. •

[**A010410**] • 0,1,2,4,8,9,11,15,16,18,22,23,25,29,30,32,36,37,39,43,44,46 ⋆ Squares mod 49. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for 5 < n <= 22. - _ Chai Wah Wu _ , Jan 30 2018 •

[**A233999**] • 1,2,4,8,9,11,15,16,18,22,23,25,29,30,32,36,37,39,43,44,46,49,50,51,53 ⋆ Values of n such that numbers of the form x^2+n*y^2 for some integers x, y cannot have prime factor of 7 raised to an odd power. • a(n) = 16n / 7 + O(log n). - _ Charles R Greathouse IV _ , Jan 12 2017 •

[**A047350**] • 1,2,4,8,9,11,15,16,18,22,23,25,29,30,32,36,37,39,43,44,46,50,51,53,57 ⋆ Numbers that are congruent to {1, 2, 4} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n > 4. • a(n) = a(n - 3) + 7 for n > 3. (End) • a(n) = (21 * n - 21 - 6 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 3, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 6. (End) •

[**A136805**] • 0,1,2,4,8,9,13,15,16,17,18,19,21,25,26,30,32,33,34,35,36,37,38,42,49 ⋆ Squares mod 65537. • a(n) + a(32771 - n) = 65537 for n>1. •

[**A048715**] • 0,1,2,4,8,9,16,17,18,32,33,34,36,64,65,66,68,72,73,128,129,130,132,136,137 ⋆ Binary expansion matches (100(0)*)*; or, Zeckendorf-like expansion of n using recurrence f(n) = f(n-1) + f(n-3). • a(0) = 0, a(n) = (2 ^ (invfoo(n) - 1)) + a(n - foo(invfoo(n))), where foo(n) is foo(n - 1) + foo(n - 3) (A000930) and invfoo is its "integral" (floored down) inverse. • a(n) XOR 6 * a(n) = 7 * a(n); 3 * a(n) XOR 4 * a(n) = 7 * a(n); 3 * a(n) XOR 5 * a(n) = 6 * a(n); (conjectures). - _ Paul D. Hanna _ , Jan 22 2006 •

[**A028982**] • 1,2,4,8,9,16,18,25,32,36,49,50,64,72,81,98,100,121,128,144,162,169,196,200,225 ⋆ Squares and twice squares. • a(n) is asymptotic to c * n ^ 2 with c = 2 / (1 + sqrt(2)) ^ 2 = 0.3431457.... - _ Benoit Cloitre _ , Sep 17 2002 •

[**A079931**] • 1,2,4,8,9,16,20,22,23,32,33,36,39,42,43,46,47,50,51,55,59,60,63,69,74 ⋆ Greedy powers of (1/sqrt(Pi)): sum_{n=1..inf} (1/sqrt(Pi))^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(1 / sqrt(Pi)) and frac(y) = y - floor(y). •

[**A047464**] • 0,2,4,8,10,12,16,18,20,24,26,28,32,34,36,40,42,44,48,50,52,56,58,60,64 ⋆ Numbers that are congruent to {0, 2, 4} mod 8. • a(n) = 2 * floor((n - 1) / 3) + 2 * n - 2. [_ Gary Detlefs _ , Mar 18 2010] • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * (12 * n - 15 - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 4, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 8. (End) •

[**A047235**] • 2,4,8,10,14,16,20,22,26,28,32,34,38,40,44,46,50,52,56,58,62,64,68,70,74 ⋆ Numbers that are congruent to {2, 4} mod 6. • a(n) = 3n + 5..n odd, 3n + 4..n even a(n) = 6 * floor((n + 1) / 2) + 3 + (- 1) ^ n. - _ Gary Detlefs _ , Mar 02 2010 • a(n) = 6 * n - a(n - 1) - 6 (with a(1) = 2). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n + 1) = a(n) + (a(n) mod 6). - _ M. F. Hasler _ , Jan 14 2014 •

[**A074330**] • 2,4,8,10,14,18,26,28,32,36,44,48,56,64,80,82,86,90,98,102,110,118,134,138,146 ⋆ a(n)=sum(k=1,n,2^b(k)) where b(k) denotes the number of 1's in the binary representation of k. • a(0)=0, a(2n) = 2a(n - 1) + a(n) + 2, a(2n + 1) = 3a(n) + 2. G.f. 1 / (1 - x) * prod(k>=0, 1 + 2x ^ 2 ^ k). - _ Ralf Stephan _ , Oct 07 2003 •

[**A022340**] • 0,2,4,8,10,16,18,20,32,34,36,40,42,64,66,68,72,74,80,82,84,128,130,132,136 ⋆ Even Fibbinary numbers (A003714); also 2*Fibbinary(n). • a(n) + a(n) / 2 = a(n) XOR a(n) / 2, see A106409. - _ Reinhard Zumkeller _ , May 02 2005 •

[**A083655**] • 0,1,2,4,8,10,16,32,36,64,128,136,256,512,528,1024,2048,2080,4096,8192,8256,16384,32768,32896,65536 ⋆ Numbers which do not appear prematurely in the binary Champernowne word (A030190). • a(0)=0, a(1)=1, a(2)=2; then for n>=1, a(3n)=2 ^ (2n), a(3n + 1)=2 ^ (2n + 1), a(3n + 2)=2 ^ (2n + 1) + 2 ^ n - _ Graeme McRae _ , Aug 11 2007 •

[**A099942**] • 1,2,4,8,10,20,22,44,46,92,94,188,190,380,382,764,766,1532,1534,3068,3070,6140,6142,12284,12286 ⋆ Start with 1, then alternately double or add 2. • a(0)=1; for n > 0, a(n) = a(n - 1) * (1 + n mod 2) + 2 * ((n + 1) mod 2). •

[**A235700**] • 1,2,4,8,11,12,14,18,21,22,24,28,31,32,34,38,41,42,44,48,51,52,54,58,61 ⋆ a(n+1) = a(n) + (a(n) mod 5), a(1)=1. • a(n) = 2 ^ (n - 1 mod 4) + 10 * floor((n - 1) / 4). • a(n) = (- 10 + (1 + 2 * i) * (- i) ^ n + (1 - 2 * i) * i ^ n + 10 * n) / 4 where i=sqrt(- 1). a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). G.f.: x * (2 * x ^ 3 + 2 * x ^ 2 + 1) / ((x - 1) ^ 2 * (x ^ 2 + 1)). - _ Colin Barker _ , Jan 16 2014 •

[**A078649**] • 2,4,8,11,13,16,18,22,26,28,31,35,38,40,44,48,51,53,56,58,62,65,67,70,74 ⋆ Numbers n such that A000002(n)=A000002(n+1) where A000002 is the Kolakoski sequence. • a(n) is probably asymptotic to 3 * n. •

[A086790] • 1,2,4,8,11,15,19,23,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90 ⋆ a(n) = floor((1+n+2*n^2+4*n^3)/(1+2*n+n^2)) • a(n) = floor(4 * n - 6 + 9 / (n + 1) - 2 / (n + 1) ^ 2). For n>=8 a(n)=4 * n - 6 - _ Benoit Cloitre _ , Aug 06 2003 •

[A242313] • 1,2,4,8,11,16,21,22,31,32,41,42,44,51,61,62,64,71,81,82,84,88,91,101,102 ⋆ Numbers belonging to a geometric sequence whose ratio is 2 and whose first term ends in 1. • a(n) = 5n + O(log n). - _ Charles R Greathouse IV _ , May 14 2014 •

[A295674] • 1,2,4,8,11,17,29,48,76,122,199,323,521,842,1364,2208,3571,5777,9349,15128,24476,39602,64079,103683,167761 ⋆ a(n) = a(n-1) + a(n-3) + a(n-4), where a(0) = 1, a(1) = 2, a(2) = 4, a(3) = 8. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 1, a(1) = 2, a(2) = 4, a(3) = 8. •

[A053439] • 1,2,4,8,11,18,22,32,37,50,56,72,79,98,106,128,137,162,172,200,211,242,254,288,301 ⋆ Expansion of (1+x+2*x^3)/((1-x)*(1-x^2)^2). • a(n) = Sum _{ k=0..n } binomial(n, k mod 2). - _ Paul Barry _ , Jul 24 2003 •

[A159693] • 1,2,4,8,11,20,24,40,45,70,76,112,119,168,176,240,249,330,340,440,451,572,584,728,741 ⋆ Partial sums of A000463. • a(n) = (n ^ 3 + 3 * n ^ 2 + 8 * n + r(n)) / 24, where r(n) = 3 * n + 9 if n is odd, 3 * n ^ 2 if n is even. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). - _ R. J. Mathar _ , Apr 20 2009 • a(n) = (2 * n ^ 3 + 9 * n ^ 2 + 19 * n + 9 + 3 * (n ^ 2 - n - 3) * (- 1) ^ n) / 48. - _ Luce ETIENNE _ , Dec 29 2014 •

[A118286] • 2,4,8,12,14,16,20,24,26,28,32,36,38,40,44,48,50,52,56,60,62,64,68,72,74 ⋆ Numbers n such that n=0 (mod 4) or n=2 (mod 12). • a(n) = (- 2 + (- i) ^ n + i ^ n + 6 * n) / 2, where i = sqrt(- 1). - _ Colin Barker _ , Oct 19 2015 •

[A007590] • 0,0,2,4,8,12,18,24,32,40,50,60,72,84,98,112,128,144,162,180,200,220,242,264,288 ⋆ a(n) = floor(n^2/2). • a(n + 1) = Sum _{ k=1..n } (k + (k mod 2)). Therefore a(n) = Sum _{ k=1..n } 2 * floor(k / 2). - _ William A. Tedeschi _ , Mar 19 2008 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ R. H. Hardin _ , Mar 28 2011 • a(n) = (2 * n ^ 2 + (- 1) ^ n - 1) / 4. - _ Bruno Berselli _ , Mar 28 2011 • a(n) = ceiling((n ^ 2 - 1) / 2) = binomial(n + 1, 2) - ceiling(n / 2). - _ Wesley Ivan Hurt _ , Mar 08 2014, Jun 14 2013 • a(n) = binomial(n,2) + floor(n / 2). - _ Bruno Berselli _ , Jun 08 2017 •

[A080476] • 1,2,4,8,12,18,24,32,40,50,60,72,84,98,112,128,144,162,180,200,220,242,264,288,312 ⋆ Floor(geometric mean of next n numbers). • a(n + 3) = 2 * a(n + 2) - a(n + 1) if n even, a(n + 3) = 2 * a(n + 2) - a(n + 1) + 2 if n odd, with a(1)=1, a(2)=2, a(3)=4 - _ Yosu Yurramendi _ , Sep 12 2008 • a(n)= 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>5. G.f.: x * (x ^ 4 - 2 * x ^ 3 - 1) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Aug 08 2013 •

[A284122] • 0,2,4,8,12,18,26,38,56,84,128,198,310,490,780,1248,2004,3226,5202,8398,13568,21932,35464,57358,92782 ⋆ Number of binary words w of length n for which s, the longest proper suffix of w that appears at least twice in w, is of length 1 (i.e., either s = 0 or s = 1). • a(n) = 2 * (- 2 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (1 + sqrt(5)) + (- 1 + sqrt(5)) * (1 + sqrt(5)) ^ n)) / sqrt(5) + n) for n>1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A006501] • 1,2,4,8,12,18,27,36,48,64,80,100,125,150,180,216,252,294,343,392,448,512,576,648,729 ⋆ Expansion of (1+x^2) / ((1-x)^2 * (1-x^3)^2). • a(n) = [(n + 3) / 3] * [(n + 4) / 3] * [(n + 5) / 3]. - _ Reinhard Zumkeller _ , May 18 2004 • a(n - 3) = sum(k=0..n, [k / 3][(k + 1) / 3]). - _ Mitch Harris _ , Dec 02 2004 •

[A224814] • 1,1,1,1,1,1,1,1,1,2,4,8,12,18,27,36,48,64,80,100,125,175,245,343 ⋆ Number of subsets of {1,2,...,n-9} without differences equal to 3, 6 or 9. • a(n) = a(n - 1) + a(n - 4) - a(n - 6) + a(n - 7) - 3 * a(n - 9) + 4 * a(n - 10) + 5 * a(n - 12) - 2 * a(n - 13) + 3 * a(n - 15) - 8 * a(n - 16) + a(n - 18) - 4 * a(n - 19) + 3 * a(n - 21) - 4 * a(n - 22) - 3 * a(n - 24) - 5 * a(n - 27) + 8 * a(n - 28) + 7 * a(n - 30) - 2 * a(n - 31) - 9 * a(n - 33) + 2 * a(n - 34) + 5 * a(n - 36) + 4 * a(n - 37) + a(n - 39) - 6 * a(n - 40) - 3 * a(n - 42) + 2 * a(n - 43) + 2 * a(n - 45) + a(n - 46) - a(n - 48) - a(n - 49) + a(n - 52). •

[A224810] • 1,1,1,1,1,1,1,2,4,8,12,18,27,36,48,64,96,144,216,324,486,729,1053,1521,2197 ⋆ Subsets of {1,2,...,n-6} without differences equal to 3 or 6. • a(n) = a(n - 1) - a(n - 3) + 2 * a(n - 4) - 2 * a(n - 6) + 4 * a(n - 7) + 2 * a(n - 9) + 2 * a(n - 10) + 4 * a(n - 12) - 2 * a(n - 13) + 2 * a(n - 15) - 4 * a(n - 16) - 2 * a(n - 18) - 2 * a(n - 19) - a(n - 21) - a(n - 22) - a(n - 24) •

[A006500] • 1,2,4,8,12,18,27,45,75,125,200,320,512,832,1352,2197,3549,5733,9261,14994,24276,39304,63580,102850,166375 ⋆ Restricted combinations. • a(n) = F(floor(n / 3) + 3) ^ (n mod 3) * F(floor(n / 3) + 2) ^ (3 - (n mod 3)) where F(n) is the n - th Fibonacci number. - _ David Nacin _ , Feb 29 2012 •

[A011908] • 0,0,0,0,0,2,4,8,12,19,27,38,50,66,84,105,129,156,188,223,263,306,355,408,467 ⋆ [n(n-1)(n-2)/26]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 13) - 3 * a(n - 14) + 3 * a(n - 15) - a(n - 16). G.f.: x ^ 5 * (2 - 2 * x + 2 * x ^ 2 - 2 * x ^ 3 + 3 * x ^ 4 - 2 * x ^ 5 + 2 * x ^ 6 - 2 * x ^ 7 + 3 * x ^ 8 - 2 * x ^ 9 + x ^ 10) / ((- 1 + x) ^ 4 * (1 + x ^ 12 + x ^ 11 + x ^ 10 + x ^ 9 + x ^ 8 + x ^ 7 + x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A037168] • 2,4,8,12,20,24,32,36,44,56,60,72,80,84,92,104,116,120,132,140,144,156,164,176,192 ⋆ 2*prime(n)-2 • a(n) = 2 * prime(n) - 2 = 2 * phi(prime(n)). - _ Alonso del Arte _ , Jun 30 2013 •

[A014557] • 0,0,0,0,0,0,2,4,8,12,20,28,40,52,70,88,112,136,168,200,240,280,330,380,440 ⋆ Multiplicity of K_3 in K_n. • a(n) = binomial(n,3) - floor(n / 2 * floor(((n - 1) / 2) ^ 2)). - _ Alexander Adamchuk _ , Nov 29 2006 •

[A263615] • 2,4,8,12,20,28,44,59,89,115,167,209,293,357,485,578,764,894,1154,1330,1682,1914,2378,2677,3275 ⋆ Partial sums of A263614 starting at n=2. • a(n) = (2 * n * (3 * n ^ 3 - 14 * n ^ 2 + 147 * n + 272) + (4 * n ^ 3 - 30 * n ^ 2 + 128 * n - 27) * (- 1) ^ n - 741) / 768. •

[A131770] • 1,2,4,8,12,20,32,52,72,104,156,228,332,436,592,820,1152,1588,2180,2772,3592,4744,6332,8512,11284 ⋆ First differences (A131771) equal this sequence with terms repeated at positions: {m*(m+1)/2, m>=0}. • a(n) = a(n - 1) + a(n - t(n)) where t(n) = [(sqrt(8n + 17) - 3) / 2] for n>0, with a(0)=1. •

[A081410] • 1,1,2,4,8,12,21,35,56,92,150,242,393,637,1030,1668,2700,4368,7069,11439,18508,29948,48458,78406,126865 ⋆ a(1)=a(2)=1; a(n)=a(n-1)+a(n-2) + n (mod 3). • a(n)=floor(C * F(n)) + b(n) where C=(9 - sqrt(5)) / 4, F(n) is the n - th Fibonacci number and b(n) is the 6 - periodic sequence (0, 0, - 1, - 1, 0, - 1) • a(1)=1, a(2)=1, a(3)=2, a(4)=4, a(5)=8, a(n)=a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Feb 01 2013 •

[A171647] • 1,2,4,8,12,24,32,64,80,160,192,384,448,896,1024,2048,2304,4608,5120,10240,11264,22528,24576,49152,53248 ⋆ a(1) = 1; for n>1, a(n) = 2*a(n-1) if n is even, a(n) = ((n+1)/(n-1))*a(n-1) if n is odd. • a(n) = + 4 * a(n - 2) - 4 * a(n - 4). G.f.: x * (1 + 2 * x) / (- 1 + 2 * x ^ 2) ^ 2. [_ R. J. Mathar _ , Dec 06 2010] • a(n) = (2 * n - (- 1) ^ n + 1) * 2 ^ ((2 * n + (- 1) ^ n - 9) / 4). [_ Bruno Berselli _ , Dec 07 2010] •

[A089821] • 0,2,4,8,12,24,32,64,128,256,320,640,768,1536,3072,6144,7168,14336,16384,32768,65536,131072,147456,294912,589824 ⋆ Number of subsets of {1,.., n} containing exactly one prime. • a(n) = pi(n) * 2 ^ (n - pi(n)), with pi = A000720. •

[A279312] • 1,2,4,8,12,24,40,80,128,256,416,832,1344,2688,4352,8704,14080,28160,45568,91136,147456,294912,477184,954368,1544192 ⋆ Number of subsets of {1, 2, 3, ..., n} that include no consecutive even integers. • a(n) = 2a(n - 2) + 4a(n - 4). - _ Charles R Greathouse IV _ , Dec 13 2016 •

[A030503] • 2,4,8,13,19,27,36,46,58,71,85,101,118,136,156,177,199,223,248,274,302,331,361,393,426 ⋆ Graham-Sloane-type lower bound on the size of a ternary (n,3,3) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[A245094] • 1,2,4,8,13,20,24,27,33,36,42,45,51,54,60,63,69,72,78,81,87,90,96,99,105 ⋆ Total squares count in n-th generation of Pythagoras tree variation which is rhombitrihexagonal tiling. • a(n) = 3 * ((- 1) ^ n + 6 * n - 5) / 4 for n>5. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>8. •

[A084684] • 1,2,4,8,13,20,28,38,49,62,76,92,109,128,148,170,193,218,244,272,301,332,364,398,433 ⋆ Degrees of certain maps. • a(n) = (6 * n ^ 2 + 9 - (- 1) ^ n) / 8. - _ Charles R Greathouse IV _ , Sep 10 2014 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Colin Barker _ , Sep 11 2014 • a(n) = a(- n) for all n in Z. - _ Michael Somos _ , Feb 08 2015 •

[A011907] • 0,0,0,0,0,2,4,8,13,20,28,39,52,68,87,109,134,163,195,232,273,319,369,425,485 ⋆ [n(n-1)(n-2)/25]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 25) - 3 * a(n - 26) + 3 * a(n - 27) - a(n - 28). G.f.: x ^ 5 * (2 - 2 * x + 2 * x ^ 2 - x ^ 3 + x ^ 4 - x ^ 5 + 2 * x ^ 6 - x ^ 7 + x ^ 8 + x ^ 12 - x ^ 13 + 2 * x ^ 14 - x ^ 15 + x ^ 16 - x ^ 17 + 2 * x ^ 18 - 2 * x ^ 19 + 3 * x ^ 20 - 2 * x ^ 21 + x ^ 22) / ((- 1 + x) ^ 4 * (1 + x ^ 4 + x ^ 3 + x ^ 2 + x) * (x ^ 20 + x ^ 15 + x ^ 10 + x ^ 5 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A172131] • 0,0,0,1,2,4,8,13,20,29,40,53,69,87,108,133,161,193,229,269,313,362,415,473,537 ⋆ Partial sums of floor(n^2/9) (A056838). • a(n) = sum(k=0..n,floor(k ^ 2 / 9)). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 15 * n - 9) / 54). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 15 * n - 8) / 54). • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 - 15 * n + 18) / 54). • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 15 * n - 34) / 54). • a(n) = a(n - 9) + (n - 4) ^ 2 + 4, n>8. •

[A173721] • 0,0,1,2,4,8,13,20,29,41,55,72,93,117,145,177,214,255,301,353,410,473,542,618,700 ⋆ Partial sums of A056833. • a(n) = sum(k=0..n,round(k ^ 2 / 7)). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 + n) / 42). • a(n) = a(n - 7) + (n - 3) ^ 2 + 4, n>6. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 7) - 3 * a(n - 8) + 3 * a(n - 9) - a(n - 10). • a(n) = n * (n + 1) * (2 * n + 1) / 42 - b(n) / 7 where b(n) = 0, 1, - 2, 0, 2, - 1, 0,.. with period length 7. (End) •

[A061866] • 0,0,0,1,2,4,8,13,20,30,42,57,76,98,124,155,190,230,276,327,384,448,518,595,680 ⋆ a(n) = DivSumChoose(n,3), the number of solutions to x+y+z = 0 mod 3, where 1 <= x < y < z <= n. • a(n) = (binomial(n,3) + 2 * floor (n / 3)) / 3. - _ Claude Morin _ , Mar 06 2012 •

[A026039] • 2,4,8,13,21,31,44,61,81,106,135,169,209,254,306,364,429,502,582,671,768,874,990,1115,1251 ⋆ a(n) = (d(n) - r(n))/5, where d = A026037 and r is the periodic sequence with fundamental period (1,2,0,2,0). • a(n) = (n + 3) * (2 * n ^ 2 + 9 * n + 22) / 30 - 1 / 5 - (- 1 / 25 * ((5 - 5 ^ (1 / 2)) ^ (1 / 2) - (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * 2 ^ (1 / 2)) * sin(2 * n * Pi / 5) - (1 / 25 * ((5 - 5 ^ (1 / 2)) ^ (1 / 2) + (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * 2 ^ (1 / 2)) * sin(4 * n * Pi / 5). - _ Richard Choulet _ , Dec 14 2008 • a(n) = round((2 * n - 1) * (n ^ 2 - n + 6) / 30) = floor((2 * n ^ 3 - 3 * n ^ 2 + 13 * n) / 30) = ceiling((n - 1) * (2 * n ^ 2 - n + 12) / 30) = round((n - 1) * (2 * n ^ 2 - n + 12) / 30). - _ Mircea Merca _ , Dec 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8); • a(n) = a(n - 5) + n ^ 2 - 6 * n + 13, n > 5, a(1)=0, a(2)=1. - _ Mircea Merca _ , Dec 03 2010 •

[A164480] • 1,2,4,8,13,21,34,55,88,142,229,370,598,967,1564,2530,4093,6622,10714,17335,28048,45382,73429,118810,192238 ⋆ Number of binary strings of length n with no substrings equal to 0001, 0110 or 1100. • a(n) = 2 * a(n - 1) - a(n - 3) for n>6. •

[A134035] • 2,4,8,13,21,39,64,138,236,551,963,2315,4078,9892,17468,42481,75069,182691,322900,785970,1389248,3381731,5977491,14550695,25719658 ⋆ The 4 X 4 Fibonacci/ anti-Fibonacci game switched modulo 2 with its dual: MA1={{0,1},{1,
MA2={{0,1},1,3}};MB2={{1,0},{1,1}}; the game has two characteristic polynomials: (-3 + 5 x - 3 x^3 + x^4, -1 + x + 2 x^2 - 3 x^3 + x^4}. • a(n) = +

a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - 8 * a(n - 4) + 8 * a(n - 5) + 3 * a(n - 6) - 3 * a(n - 7). G.f.: x * (2 + 2 * x - 8 * x ^ 2 - 7 * x ^ 3 + 4 * x ^ 5 + 3 * x ^ 6) / ((1 + x) * (3 * x ^ 4 - 5 * x ^ 2 + 1) * (x - 1) ^ 2). [From _ R. J. Math ar _ , May 24 2010] •

[A164413] • 1,2,4,8,13,22,36,58,94,152,246,398,644,1042,1686,2728,4414,7142,11556,18698,30254,48952,79206,128158,207364 ⋆ Number of binary strings of length n with no substrings equal to 0000, 0001 or 1001. • a(n) = 2 * (((1 - sqrt(5)) / 2) ^ n + ((1 + sqrt(5)) / 2) ^ n) for n>4. • a(n) = a(n - 1) + a(n - 2) for n>6. •

[A227910] • 1,2,4,8,13,24,40,71,119,216,372,678,1215,2240,4102,7674,14299,27000,50952,96896,184397,352684,675174,1296843,2493711 ⋆ The number of necklaces with n beads of white and red colors, including at least three white ones. • a(n) = (Sum _{ m=3..n } (1 / n * sum _{ d|gcd(m,n) } phi(d) * binomial(n / d,m / d)) + binomial(floor(m / 2) + floor((n - m) / 2), floor(m / 2)) / 2. •

[A288925] • 2,4,8,13,26,47,89,159,300,548,1021,1868,3471,6383,11821,21766,40264,74237,137198,253091,467549,862823,1593492,2941192,5431149 ⋆ a(n) = a(n-1) + a(n-2) + 3*a(n-4) - 2*a(n-5) for n >= 5, where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 13, a(4) = 26. • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 4) - 2 * a(n - 5) for n >= 5, where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 13, a(4) = 26. •

[A128309] • 2,4,8,14,16,22,26,28,32,38,42,44,50,52,56,62,64,70,74,76,82,84,88,94,98 ⋆ 2*A000069(n). • a(n) = 4n + O(1). - _ Charles R Greathouse IV _ , Mar 22 2013 •

[A140164] • 1,2,4,8,14,20,26,32,38,44,50,56,62,68,74,80,86,92,98,104,110,116,122,128,134 ⋆ Binomial transform of [1, 1, 1, 1, -1, -1, 5, -11, 19, -29, 41, ...]. • a(n) = 2 * (3n - 5), n >= 3, if offset is 0 instead of 1. - _ Daniel Forgues _ , Jul 17 2016 •

[A014206] • 2,4,8,14,22,32,44,58,74,92,112,134,158,184,212,242,274,308,344,382,422,464,508,554,602 ⋆ a(n) = n^2 + n + 2. • a(n) = a(n - 1) + 2 * n (with a(0) = 2). - _ Vincenzo Librandi _ , Nov 20 2010 • a(0) = 2, a(1) = 4, a(2) = 8, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 14 2011 • a(n + 1) = n ^ 2 + 3 * n + 4. - _ Alonso del Arte _ , Apr 12 2015 • a(n) = Sum _{ i=n - 2..n + 2 } i * (i + 1) / 5. - _ Bruno Berselli _ , Oct 20 2016 •

[A084626] • 1,2,4,8,14,22,33,47,66,91,121,158,204,258,323,399,487,590,708,843,996,1170,1365,1583,1827 ⋆ Floor(C(n+6,6)/C(n+2,2)). • a(n) = floor(n ^ 4 / 360 + n ^ 3 / 20 + 119 * n ^ 2 / 360 + 19 * n / 20) + 1 •

[A015128] • 1,2,4,8,14,24,40,64,100,154,232,344,504,728,1040,1472,2062,2864,3948,5400,7336,9904,13288,17728,23528 ⋆ Number of overpartitions of n: an overpartition of n is an ordered sequence of nonincreasing integers that sum to n, where the first occurrence of each integer may be overlined. • a(n) = (1 / n) * Sum _{ k=1..n } (sigma(2 * k) - sigma(k)) * a(n - k). - _ Vladeta Jovovic _ , Dec 05 2004 •

[A123655] • 1,2,4,8,14,24,40,64,101,156,236,352,518,752,1080,1536,2162,3018,4180,5744,7840,10632,14328,19200,25591 ⋆ Expansion of q * psi(q^8) / phi(-q) in powers of q where psi(), phi() are Ramanujan theta functions. • a(n) is odd iff n is an odd square. If n>2 is a power of 2 then the highest power of 2 dividing a(n) is (n / 2) ^ 3. - _ Michael Somos _ , Feb 18 2007 •

[A019274] • 0,0,2,4,8,14,24,40,66,108,176,286,464,752,1218,1972,3192,5166,8360,13528,21890,35420,57312,92734,150048 ⋆ Number of recursive calls needed to compute the n-th Fibonacci number F(n), starting with F(1) = F(2) = 1. • a(n) = sum _{ k=0..n } (2 - 2 * 0 ^ (n - k)) * F(k) } . - _ Paul Barry _ , Oct 24 2007 • a(n) = F(n) + F(n + 3) - 2, n>= - 1 (where F(n) is the n - th Fibonacci number). - _ Zerinvary Lajos _ , Jan 31 2008 • a(1)=0, a(2)=0, a(3)=2, a(n) = 2 * a(n - 1) - a(n - 3). - _ Harvey P. Dale _ , Oct 16 2012 •

[A164402] • 1,2,4,8,14,24,40,68,116,200,344,592,1016,1744,2992,5136,8816,15136,25984,44608,76576,131456,225664,387392,665024 ⋆ Number of binary strings of length n with no substrings equal to 0010 or 0110. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + 2 * a(n - 4). - _ Andrew Howroyd _ , Feb 14 2018 •

[A182747] • 0,1,2,4,8,14,24,41,66,105,165,253,383,574,847,1238,1794,2573,3660,5170,7245,10087,13959,19196,26252 ⋆ Bisection (odd part) of number of partitions that do not contain 1 as a part A002865. • a(n) = p(2 * n + 1) - p(2 * n), where p is the partition function, A000041. - _ George Beck _ , Aug 14 2011 •

[A164406] • 1,2,4,8,14,24,41,68,111,180,289,460,728,1146,1795,2800,4352,6742,10414,16044,24659,37818,57885,88440,134899 ⋆ Number of binary strings of length n with no substrings equal to 0011 or 0101. • a(n) = Sum _{ i=0..floor((n + 1) / 2) } (n + 1 - 2i) * C(n + 1 - 2i,i). - _ Wesley Ivan Hurt _ , Nov 17 2017 •

[A178982] • 0,0,0,1,2,4,8,14,24,41,68,112,184,300,488,793,1286,2084,3376,5466,8848,14321,23176,37504,60688 ⋆ Partial sums of floor(Fibonacci(n)/2) • a(n)=round(Fibonacci(n + 2) / 2 - (n + 2) / 3). • a(n)=round(Fibonacci(n + 2) / 2 - n / 3 - 1 / 2). • a(n)=floor(Fibonacci(n + 2) / 2 - n / 3 - 1 / 2). • a(n)=ceil(Fibonacci(n + 2) / 2 - (n + 1) / 3 - 1 / 2). • a(n)=a(n - 3) + Fibonacci(n) - 1, n>3. • a(n)=2 * a(n - 1) - 2 * a(n - 4) + a(n - 6), n>5. •

[A164396] • 1,2,4,8,14,24,41,70,120,205,350,597,1018,1736,2960,5047,8605,14671,25013,42645,72706,123957,211335,360306,614287 ⋆ Number of binary strings of length n with no substrings equal to 0001 or 0110. • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 5) - a(n - 6). - _ Andrew Howroyd _ , Feb 14 2018 •

[A164405] • 1,2,4,8,14,24,41,70,120,207,358,620,1074,1860,3220,5573,9644,16688,28877,49970,86472,149640,258954,448124,775485 ⋆ Number of binary strings of length n with no substrings equal to 0010 or 1100. • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 6). - _ Andrew Howroyd _ , Feb 14 2018 •

[A164395] • 1,2,4,8,14,24,42,72,122,208,354,600,1018,1728,2930,4968,8426,14288,24226,41080,69658,118112,200274,339592,575818 ⋆ Number of binary strings of length n with no substrings equal to 0001 or 0101. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4). - _ Andrew Howroyd _ , Feb 14 2018 •

[A164394] • 1,2,4,8,14,24,42,74,130,228,400,702,1232,2162,3794,6658,11684,20504,35982,63144,110810,194458,341250,598852,1050912 ⋆ Number of binary strings of length n with no substrings equal to 0001 or 0100. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) for n > 3. - _ Andrew Howroyd _ , Feb 14 2018 •

[A066456] • 1,1,2,4,8,14,25,40,65,97,146,206,292,394,533,694,905,1145,1450,1792,2216,2686,3257,3884,4633 ⋆ Upper bound on number of regular triangulations of cyclic polytope C(n, n-4). • a(n) = (n ^ 4 - 8 * n ^ 3 + 52 * n ^ 2 - 112 * n + 128) / 64 for n even. • a(n) = (n ^ 4 - 8 * n ^ 3 + 54 * n ^ 2 - 120 * n + 137) / 64 for n odd. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>8. •

[A020956] • 1,2,4,8,14,25,42,71,117,193,315,514,835,1356,2198,3562,5768,9339,15116,24465,39591,64067,103669,167748,271429 ⋆ Sum of [tau^(n-k)] for k from 1 to infinity. • a(n) = 2 ^ (- 2 - n) * ((- 2) ^ n - 5 * 2 ^ n + 2 * (1 - t) ^ (1 + n) + 2 * (1 + t) ^ n + 2 * t * (1 + t) ^ n - 2 ^ (1 + n) * n) where t=sqrt(5). - _ Colin Barker _ , Feb 09 2017 •

[A164393] • 1,2,4,8,14,25,44,76,132,228,393,678,1168,2012,3466,5969,10280,17704,30488,52504,90417,155706,268140,461760,795190 ⋆ Number of binary strings of length n with no substrings equal to 0001 or 0011. • a(n) = 2 * a(n - 1) - 2 * a(n - 4) + a(n - 5). - _ Andrew Howroyd _ , Feb 14 2018 •

[A164391] • 1,2,4,8,14,25,44,77,134,233,405,703,1220,2117,3673,6372,11054,19176,33265,57705,100101,173645,301221,522526,906422 ⋆ Number of binary strings of length n with no substrings equal to 0000 or 0111. • a(n) = 1.6443631... * 1.7346913... ^ n + O(1), where 1.7346913... is the real root of x ^ 5 - x ^ 3 - 2x ^ 2 - 2x - 1. [_ Charles R Greathouse IV _ , Jan 18 2012] •

[A164392] • 1,2,4,8,14,25,44,78,137,241,423,743,1304,2289,4017,7050,12372,21712,38102,66865,117340,205918,361361,634145,1112847 ⋆ Number of binary strings of length n with no substrings equal to 0001 or 0010. • a(n) = 2 ^ n for n<4; otherwise, a(n) = a(n - 1) + a(n - 2) + a(n - 4) + 1. (End) •

[A199925] • 0,0,0,1,2,4,8,14,25,45,80,142,253,450,800,1423,2531,4501,8005,14237,25320,45031,80087,142433,253314 ⋆ Number of sequences of n coin flips that win on the last flip, if the sequence of flips ends with (0,0,1,1). • a(n)=a(n - 1) + a(n - 2) + a(n - 3) - a(n - 5) for n>7. • a(n)=2 * a(n - 1) - a(n - 4) - a(n - 5) + a(n - 6) for n>8. •

[A164388] • 1,2,4,8,14,25,45,80,142,253,450,800,1423,2531,4501,8005,14237,25320,45031,80087,142433,253314,450514,801230,1424971 ⋆ Number of binary strings of length n with no substrings equal to 0000 or 0011. • a(n)=2 ^ n for n<4, a(4)=14, a(5)=25, a(6)=45, a(7)=80, a(8)=142, a(n)=a(n - 1) + a(n - 2) + a(n - 3)) - a(n - 5). - _ Harvey P. Dale _ , Feb 15 2013 •

[A164401] • 1,2,4,8,14,25,45,81,146,264,477,861,1554,2805,5063,9139,16497,29779,53754,97031,175150,316162,570702,1030171,1859556 ⋆ Number of binary strings of length n with no substrings equal to 0010 or 0101. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) + a(n - 6). - _ Andrew Howroyd _ , Feb 14 2018 •

[A027557] • 1,2,4,8,14,26,44,78,130,224,370,626,1028,1718,2810,4656,7594,12506,20356,33374,54242,88640,143906,234594,380548 ⋆ Number of 3-balanced strings of length n: let d(S)= #(1)'s in S - #(0)'s, then S is k-balanced if every substring T has -k<=d(T)<=k; here k=3. • a(n) = a(n - 1) + 3a(n - 2) - 2a(n - 3) - 2a(n - 4); g.f. (1 + x - x ^ 2) / (1 - x - x ^ 2)(1 - 2x ^ 2). •

[A135491] • 1,2,4,8,14,26,48,88,162,298,548,1008,1854,3410,6272,11536,21218,39026,71780,132024,242830,446634,821488,1510952,2779074 ⋆ Number of ways to toss a coin n times and not get a run of four. • a(n) = a(n - 1) + a(n - 2) + a(n - 3). • a(n) = nearest integer to b * c ^ n, where b = 1.2368... and c = 1.839286755... is the real root of x ^ 3 - x ^ 2 - x - 1 = 0. - _ N. J. A. Sloane _ , Jan 06 2010 •

[A257934] • 1,1,2,4,8,14,26,48,89,163,300,552,1016,1868,3436,6320,11625,21381,39326,72332,133040,244698,450070,827808,1522577 ⋆ Expansion of 1/(1-x-x^2-x^3-x^4+x^5+x^6+x^7). • a(n)= a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) - a(n - 7). •

[A258000] • 1,1,2,4,8,14,26,48,89,164,302,557,1028,1896,3496,6448,11893,21935,40455,74613,137613,253807,468108,863354,1592327 ⋆ Expansion of 1/(1-x-x^2-x^3-x^4+x^5+x^6+x^7-x^9). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) - a(n - 7) + a(n - 9) •

[A068912] • 1,2,4,8,14,28,48,96,164,328,560,1120,1912,3824,6528,13056,22288,44576,76096,152192,259808,519616,887040,1774080,3028544 ⋆ Number of n step walks (each step +/-1 starting from 0) which are never more than 3 or less than -3. • a(n) = 4 * a(n - 2) - 2 * a(n - 4). •

[A187813] • 0,1,2,4,8,14,30,32,38,42,44,54,60,62,74,84,90,98,102,104,108,110,114,128,138 ⋆ Numbers n whose base-b digit sum is not b for all bases b >= 2. • a(n + 1) = 1 + min (p > a(n) | p is prim AND ((q := p + 1 - 2 ^ floor(log _ 2(p + 1)) = 0) OR (2 ^ floor(log _ 2(q)) <> q))) • a(n) > Prime(n), for n > 5. • a(n - m) < Prime(n), for n > 1, where m := i * (i - 1) / 2 + j - 1, i := floor(log _ 2(Prime(n))), j := floor(log _ 2(Prime(n) - 2 ^ i)). • a(n - m) < Prime(n), for n > 32, where m := i * (i - 1) / 2 + j - 16 with i and j above. •

[A033623] • 1,2,4,8,15,16,32,51,64,85,106,128,150,171,219,237,247,256,279,297,455,512,537,557,594 ⋆ Grundy function for turn-at-most-4-coins game. • a(n)=smallest natural not the exclusive - or of at most three a(k) for k<n. •

[A026474] • 1,2,4,8,15,22,29,36,43,50,57,64,71,78,85,92,99,106,113,120,127,134,141,148,155 ⋆ a(n) = least positive integer > a(n-1) and not equal to a(i)+a(j) or a(i)+a(j)+a(k) for 1<=i<j<k<n (a 3-Stohr sequence). • a(n) = 7 * n - 20 for n>3. a(n) = 2 * a(n - 1) - a(n - 2) for n>5. G.f.: x * (1 + x ^ 2 + 2 * x ^ 3 + 3 * x ^ 4) / (1 - x) ^ 2. - _ Colin Barker _ , Sep 19 2012 •

[A082562] • 1,2,4,8,15,24,35,48,63,80,99,120,143,168,195,224,255,288,323,360,399,440,483,528,575 ⋆ a(n) = number of values of m such that m can be expressed as the sum of distinct odd numbers with largest odd number in the sum = 2n+1. • a(n) = n ^ 2 - 1 for n>2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>5. •

[A204555] • 1,2,4,8,15,26,41,63,89,126,166,222,279,358,435,541,641,778,904,1076,1231,1442,1629,1883,2105 ⋆ The number of subsets of the numbers {1,2,3...,n} consisting of at most 3 elements and at most two of those are even. • a(n) = { (14 * n ^ 3 + 15 * n ^ 2 + 49 * n + 111) - (3 * n ^ 2 - 15 * n + 15)(- 1) ^ n }/ 96. •

[A000125] • 1,2,4,8,15,26,42,64,93,130,176,232,299,378,470,576,697,834,988,1160,1351,1562,1794,2048,2325 ⋆ Cake numbers: maximal number of pieces resulting from n planar cuts through a cube (or cake): C(n+1,3)+n+1. • a(n) = (n + 1) * (n ^ 2 - n + 6) / 6 = (n ^ 3 + 5 * n + 6) / 6. • a(n) = binomial(n,3) + binomial(n,2) + binomial(n,1) + binomial(n,0). [Peter C. Heinig (algorithms(AT)gmx.de), Oct 19 2006] • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 1). •

[A129961] • 1,2,4,8,15,26,42,64,94,140,232,464,1092,2744,6840,16384,37384,81296,169120,338240,654192,1232288,2280864,4194304,7761376 ⋆ Main diagonal of triangular array T: T(j,1) = 1 for ((j-1) mod 8) < 4, else 0; T(j,k) = T(j-1,k-1)+T(j,k-1) for 2 <= k <= j. • a(1) = 1, a(2) = 2, a(3) = 4, a(4) = 8, a(5) = 15; for n > 5, a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 10 * a(n - 4) + 4 * a(n - 5). •

[A179001] • 0,0,0,0,1,2,4,8,15,26,44,73,121,198,323,526,855,1387,2248,3641,5896,9544,15447,24999,40455 ⋆ Partial sums of floor(Fibonacci(n)/3). • a(n)=round(Fibonacci(n + 2) / 3 - 3 * n / 8 - 11 / 24). • a(n)=round(Fibonacci(n + 2) / 3 - 3 * n / 8 - 1 / 3). • a(n)=floor(Fibonacci(n + 2) / 3 - 3 * n / 8 - 1 / 6). • a(n)=ceil(Fibonacci(n + 2) / 3 - 3 * n / 8 - 3 / 4). • a(n)=a(n - 8) + Fibonacci(n - 1) + Fibonacci(n - 3) - 3, n>8. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 8) - 2 * a(n - 9) + a(n - 11), n>10. •

[A125513] • 2,4,8,15,26,48,89,165,305,561,1034,1908,3521,6496,11982,22101,40770,75210,138741,255934,472117,870911,1606567,2963628,5466988 ⋆ a(n) is the number of binary strings of length n such that no subsequence of length 5 or less contains 4 or more ones. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + 2a(n - 5) - a(n - 7) - a(n - 10). •

[A001523] • 1,1,2,4,8,15,27,47,79,130,209,330,512,784,1183,1765,2604,3804,5504,7898,11240,15880,22277,31048,43003 ⋆ Number of stacks, or planar partitions of n; also weakly unimodal partitions of n. • a(n) = Sum _{ k=1..n } f(k, n - k), where f(n, k) (= A054250) = 1 if k = 0; Sum _{ j=1..min(n, k) } (n - j + 1) f(j, k - j)) if k > 0. - _ David W. Wilson _ , May 05 2000 •

[A000126] • 1,2,4,8,15,27,47,80,134,222,365,597,973,1582,2568,4164,6747,10927,17691,28636,46346,75002,121369,196393,317785 ⋆ A nonlinear binomial sum. • a(n) = 2 * a(n - 1) - a(n - 3) + 1. - _ Franklin T. Adams - Watters _ , Jan 13 2006 • a(n + 1) = 1 + sum { k=0..n, F(k + 2) - 1 } =sum { k=0..n, F(k + 2) }- n=F(n + 4) - n - 2. - _ Paul Barry _ , Mar 06 2008 • a(0)=1, a(1)=2, a(2)=4, a(3)=8, a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , May 05 2011 •

[A289692] • 0,1,2,4,8,15,27,48,85,150,264,464,815,1431,2512,4409,7738,13580,23832,41823,73395,128800,226029,396654,696080 ⋆ The number of partitions of [n] with exactly 2 blocks without peaks. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. (End) •

[A029907] • 0,1,2,4,8,15,28,51,92,164,290,509,888,1541,2662,4580,7852,13419,22868,38871,65920,111556,188422,317689,534768 ⋆ a(n+1) = a(n) + a(n-1) + Fibonacci(n). • a(n + 1) = sum { k=0..n, sum { j=0..floor(k / 2), binomial (n - j, j) }} . - _ Paul Barry _ , Oct 23 2004 • a(n) = sum(F(k) * F(n - k): k =1..n - 1) + F(n), where F = A000045. - _ Reinhard Zumkeller _ , Nov 01 2013 •

[A005682] • 1,2,4,8,15,28,51,92,165,294,522,924,1632,2878,5069,8920,15686,27570,48439,85080,149405,262320,460515,808380,1418916 ⋆ Number of Twopins positions. • a(n) = 2a(n - 1) - a(n - 4) - a(n - 6). - _ John W. Layman _ •

[A114833] • 0,1,2,4,8,15,28,51,93,168,304,550,995,1799,3253,5882,10635,19229,34767,62861,113656,205497,371550,671782,1214618 ⋆ Each term is previous term plus ceiling of root mean square of two previous terms. • a(1) = 1, a(2) = 2, for n>2: a(n + 1) = a(n) + ceiling(RMS[a(n),a(n - 1)]). a(n + 1) = a(n) + ceiling[Sqrt[[a(n) ^ 2] + [a(n - 1) ^ 2] / 2]]. •

[A008937] • 0,1,2,4,8,15,28,52,96,177,326,600,1104,2031,3736,6872,12640,23249,42762,78652,144664,266079,489396,900140,1655616 ⋆ a(n) = Sum_{k=0..n} T(k) where T(n) are the tribonacci numbers A000073. • a(n) = 1 + a(n - 1) + a(n - 2) + a(n - 3). E.g., a(11) = 1 + 600 + 326 + 177 = 1104. - Philippe LALLOUET (philip.lallouet(AT)orange.fr), Oct 29 2007 • a(n) = term (4,1) in the 4 X 4 matrix [1,1,0,0; 1,0,1,0; 1,0,0,0; 1,0,0,1] ^ n. - _ Alois P. Heinz _ , Jul 24 2008 • a(n) = Sum _{ j=0..floor(n / 2) } Sum _{ k=0..j } binomial(n - 2j,k + 1) * binomial(j,k) * 2 ^ k. - _ Tony Foster III _ , Sep 08 2017 • a(n) = Sum _{ k=0..floor(n / 2) } (n - 2 * k) * hypergeom([- k, - n + 2 * k + 1], [2], 2). - _ Peter Luschny _ , Nov 09 2017 •

[A049864] • 1,1,1,2,4,8,15,28,52,97,181,338,631,1178,2199,4105,7663,14305,26704,49850,93058,173717,324288,605368,1130077 ⋆ a(n) = Sum_{k=0,1,2,...,n-4,n-2,n-1} a(k); a(n-3) is not a summand; 3 initial terms required. • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A001383] • 1,1,1,2,4,8,15,29,53,98,177,319,565,1001,1749,3047,5264,9054,15467,26320,44532,75054,125904,210413,350215 ⋆ Number of n-node rooted trees of height at most 3. • a(n + 1) is the Euler transform of p(n - 1), where p() = A000041 is the partition function. - _ Franklin T. Adams - Watters _ , Mar 01 2006 •

[A217733] • 1,2,4,8,15,29,54,103,192,364,680,1285,2405,4536,8501,16014,30040,56544,106135,199673,374950,705155,1324524,2490416,4678728 ⋆ Expansion of (1+x-x^2)/((1-x)*(1-3*x^2-x^3)). • a(n) = a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>=4, a(0)=1, a(1)=2, a(2)=4, a(3)=8. •

[A000078] • 0,0,0,1,1,2,4,8,15,29,56,108,208,401,773,1490,2872,5536,10671,20569,39648,76424,147312,283953,547337 ⋆ Tetranacci numbers: a(n) = a(n-1) + a(n-2) + a(n-3) + a(n-4) with a(0)=a(1)=a(2)=0, a(3)=1. • a(n) = term (1,4) in the 4 X 4 matrix [1,1,0,0; 1,0,1,0; 1,0,0,1; 1,0,0,0] ^ n. - _ Alois P. Heinz _ , Jun 12 2008 • a(n) = sum(k=1..n, sum(i=k..n mod(5 * k - i,4)=0 binomial(k,(5 * k - i) / 4) * (- 1) ^ ((i - k) / 4) * binomial(n - i + k - 1,k - 1))), n>0. - _ Vladimir Kruchinin _ , Aug 18 2010 • a(n) = 2 * a(n - 1) - a(n - 5), n>=5. - _ Bob Selcoe _ , Jul 06 2014 •

[A293335] • 1,1,2,4,8,15,29,58,115,229,458,916,1832,3664,7328,14655,29309,58618,117235,234469,468938,937875,1875750,3751500,7503000 ⋆ Least integer k such that k/2^n > sqrt(1/5). • a(n) = ceiling(r * 2 ^ n), where r = sqrt(1 / 5). •

[A217777] • 1,2,4,8,15,30,55,110,200,400,725,1450,2625,5250,9500,19000,34375,68750,124375,248750,450000,900000,1628125,3256250,5890625 ⋆ Expansion of (1+x)*(1+2*x)*(1-x)/(1-5*x^2+5*x^4). • a(n) = 5 * a(n - 2) - 5 * a(n - 4) for n>=4, a(0) = 1, a(1) = 2, a(2) = 4, a(3) = 8. •

[A026023] • 1,2,4,8,15,30,56,112,210,420,792,1584,3003,6006,11440,22880,43758,87516,167960,335920,646646,1293292,2496144,4992288,9657700 ⋆ a(n) = number of (s(0), s(1), ..., s(n)) such that s(i) is a nonnegative integer and |s(i) - s(i-1)| = 1 for i = 1,2,...,n and s(0) = 3. Also a(n) = Sum{T(n,k), k = 0,1,...,[(n+3)/2]}, where T is defined in A026022. • a(2n) = C(2n + 2, n), a(2n + 1) = 2 * a(2n). •

[A079967] • 1,1,2,4,8,15,30,58,113,220,429,835,1627,3169,6173,12024,23422,45623,88869,173107,337194,656817,1279409,2492150,4854439 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=1, r=5, I={4}. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + a(n - 6). •

[A192655] • 1,1,2,4,8,15,30,58,113,220,429,839,1644,3224,6333,12454,24516,48307,95263,188003,371276,733660,1450551,2869395,5678697 ⋆ Floor-Sqrt transform of central binomial coefficients (A000984). • a(n) = floor(sqrt(binomial(2 * n,n)); •

[A191497] • 0,0,0,0,1,2,4,8,15,30,60,120,241,482,964,1928,3855,7710,15420,30840,61681,123362,246724,493448,986895 ⋆ a(n+1) = 2*a(n) + A014017(n+5), a(0) = 0. • a(n + 4) = 2 ^ n - a(n). • a(n) = 2 * a(n - 1) - a(n - 4) + 2 * a(n - 5). • a(4 * n + 4) = 16 * a(4 * n) + (- 1) ^ n. •

[A052325] • 1,1,1,1,1,2,4,8,15,30,60,122,249,513,1061,2210,4620,9708,20472,43337,92023,196018,418653,896485,1924154 ⋆ Number of asymmetric rooted trees with a forbidden limb of length 3. • a(n) satisfies a = SHIFT _ RIGHT(WEIGH(a - b)) where b(3)=1, b(k)=0 if k != 3. •

[A048718] • 0,1,2,4,8,16,17,32,33,34,64,65,66,68,128,129,130,132,136,256,257,258,260,264,272 ⋆ Binary expansion matches ((0)*0001)*(0*); or, Zeckendorf-like expansion of n using recurrence f(n) = f(n-1) + f(n-4). • a(0) = 0, a(n) = (2 ^ (invfyy(n) - 1)) + a(n - fyy(invfyy(n))) where fyy(n) is fyy(n - 1) + fyy(n - 4) (A003269) and invfyy is its "integral" (floored down) inverse. • a(n) XOR 14 * a(n) = 15 * a(n); 3 * a(n) XOR 9 * a(n) = 10 * a(n); 3 * a(n) XOR 13 * a(n) = 14 * a(n); 5 * a(n) XOR 9 * a(n) = 12 * a(n); 5 * a(n) XOR 11 * a(n) = 14 * a(n); 6 * a(n) XOR 11 * a(n) = 13 * a(n); 7 * a(n) XOR 9 * a(n) = 14 * a(n); 7 * a(n) XOR 10 * a(n) = 13 * a(n); 7 * a(n) XOR 11 * a(n) = 12 * a(n); 12 * a(n) XOR 21 * a(n) = 25 * a(n); 12 * a(n) XOR 37 * a(n) = 41 * a(n); etc. (conjectures). - _ Paul D. Hanna _ , Jan 22 2006 •

[A076057] • 2,4,8,16,18,32,38,46,48,62,66,80,90,102,120,138,158,160,180,212,242,278,324,364,436 ⋆ Numbers n such that sum(k=1,n, A006513(k)) = 3*n/2. • a(n) seems to be asymptotic to c * n ^ 2 with 1 / 2<c<1 •

[A001856] • 1,2,4,8,16,21,42,51,102,112,224,235,470,486,972,990,1980,2002,4004,4027,8054,8078,16156,16181,32362 ⋆ A self-generating sequence: every positive integer occurs as a(i)-a(j) for a unique pair i,j. • a(1)=1, a(2)=2, a(2n + 1) = 2a(2n), a(2n + 2) = a(2n + 1) + r(n), where r(n) = smallest positive number not of form a(j) - a(i) with 1 <= i < j <= 2n + 1. •

[A102039] • 1,2,4,8,16,22,24,28,36,42,44,48,56,62,64,68,76,82,84,88,96,102,104,108,116 ⋆ a(n) = a(n-1) + last digit of a(n-1), starting at 1. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>5. G.f.: x * (5 * x ^ 4 + 2 * x ^ 3 + 2 * x ^ 2 + 1) / ((x - 1) ^ 2 * (x ^ 2 + 1)). - _ Colin Barker _ , Sep 20 2014 • a(n) = (- 10 - (1 - i / 2) * (- i) ^ n - (1 + i / 2) * i ^ n + 5 * n) for n>1, where i = sqrt(- 1). - _ Colin Barker _ , Oct 18 2015 •

[A002081] • 2,4,8,16,22,24,28,36,42,44,48,56,62,64,68,76,82,84,88,96,102,104,108,116,122 ⋆ Numbers congruent to {2, 4, 8, 16} mod 20. • a(n) = Sum _{ k =0..n }{ 1 / 6 * (8 * (k mod 4) - ((k + 1) mod 4) + 2 * ((k + 2) mod 4) + 11 * ((k + 3) mod 4)) }- 4. - Paolo P. Lava, Aug 01 2007 • a(n + 4) = a(n) + 20 for n > 3. - _ Reinhard Zumkeller _ , Sep 15 2011 • a(n) = 5 * n + (1 / 2) * (3 + (- 1) ^ n) * (- 1) ^ (n(n + 1) / 2). - Bruno Berselli, Sep 15 2011 •

[A045844] • 1,2,4,8,16,22,24,28,36,42,46,52,57,64,70,77,84,92,101,102,104,108,116,122,124 ⋆ a(n+1) = a(n) + largest digit of a(n); a(0) = 1. • a(0) = 1; a(n) = a(n - 1) + MaxDigit(a(n - 1)) for n > 0 where MaxDigit(x) is the largest digit in decimal notation for an integer x. •

[A007612] • 1,2,4,8,16,23,28,29,31,35,43,50,55,56,58,62,70,77,82,83,85,89,97,104,109 ⋆ a(n+1) = a(n) + digital root (A010888) of a(n). • a(1) = 1, a(n + 1) = a(n) + a(n) mod 9. - _ Reinhard Zumkeller _ , Mar 23 2003 • a(6n + 1) =27n + 1, a(6n + 2)=27n + 2, a(6n + 3)=27n + 4, a(6n + 4)=27n + 8, a(6n + 5)=27n + 16, a(6n + 6)=27n + 23. - _ Franklin T. Adams - Watters _ , Mar 13 2006 •

[A219675] • 0,1,2,4,8,16,23,28,38,49,62,70,77,91,101,103,107,115,122,127,137,148,161,169,185 ⋆ Starting with a(0)=0, a(n) = 1 + the sum of the digital sums of a(0) through a(n-1). • a(n) = Sum _{ k=0..n - 1 } digsum(a(k)) + 1. • a(n) = a(n - 1) + digsum(a(n - 1)). •

[A294364] • 1,2,4,8,16,23,37,56,94,152,250,401,649,1046,1696,2744,4444,7187,11629,18812,30442,49256,79702,128957,208657 ⋆ Linear recurrence with signature (1,1,-1,1,1), where the first terms are powers of 2 (1,2,4,8,16). • a(n) = (9 / 2) * fibonacci(n) + (- 1) ^ n - sqrt(3) * sin(n * Pi / 3). •

[A008233] • 0,0,0,0,1,2,4,8,16,24,36,54,81,108,144,192,256,320,400,500,625,750,900,1080,1296 ⋆ a(n) = floor(n/4)*floor((n+1)/4)*floor((n+2)/4)*floor((n+3)/4). • a(n) = + 2 * a(n - 1) - a(n - 2) + 3 * a(n - 4) - 6 * a(n - 5) + 3 * a(n - 6) - 3 * a(n - 8) + 6 * a(n - 9) - 3 * a(n - 10) + a(n - 12) - 2 * a(n - 13) + a(n - 14). G.f. - x ^ 4 * (1 + x ^ 6 + x ^ 2 + 2 * x ^ 3 + x ^ 4) / ((1 + x) ^ 3 * (x ^ 2 + 1) ^ 3 * (x - 1) ^ 5). - _ R. J. Mathar _ , Feb 20 2011 •

[A224815] • 1,1,1,1,1,1,1,1,1,2,4,8,16,24,36,54,81,108,144,192,256,384,576,864,1296 ⋆ Number of subsets of {1,2,...,n-8} without differences equal to 4 or 8. • a(n) = a(n - 1) + a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) + 2 * a(n - 7) - 6 * a(n - 8) + 6 * a(n - 9) + 6 * a(n - 11) + a(n - 12) - a(n - 13) - a(n - 15) + 13 * a(n - 16) - 13 * a(n - 17) - 13 * a(n - 19) + 15 * a(n - 20) - 15 * a(n - 21) - 15 * a(n - 23) - 6 * a(n - 24) + 6 * a(n - 25) + 6 * a(n - 27) + 3 * a(n - 28) - 3 * a(n - 29) - 3 * a(n - 31) - 2 * a(n - 32) + 2 * a(n - 33) + 2 * a(n - 35) + 8 * a(n - 36) - 8 * a(n - 37) - 8 * a(n - 39) + 3 * a(n - 40) - 3 * a(n - 41) - 3 * a(n - 43) - a(n - 44) + a(n - 45) + a(n - 47) - a(n - 48) + a(n - 49) + a(n - 51). •

[A031923] • 1,2,4,8,16,24,36,54,81,135,225,375,625,1000,1600,2560,4096,6656,10816,17576,28561,46137,74529,120393,194481 ⋆ Let r and s be consecutive Fibonacci numbers. Sequence is r^4, r^3 s, r^2 s^2, and r s^3. • a(n) = F(floor((n - 1) / 4) + 3) ^ (n - 1 mod 4) * F(floor((n - 1) / 4) + 2) ^ (4 - (n - 1 mod 4)) where F(n) is the n - th Fibonacci number. - _ David Nacin _ , Mar 07 2012 • a(n) = a(n - 1) + a(n - 2) - 2 * a(n - 4) + 2 * a(n - 5) + 2 * a(n - 6) + 2 * a(n - 8) - 2 * a(n - 9) - 2 * a(n - 10) + a(n - 12) - a(n - 13) - a(n - 14). - _ David Nacin _ , Mar 07 2012 •

[A138278] • 1,2,4,8,16,24,40,80,120,200,400,600,1000,2000,3000,5000,10000,15000,25000,50000,75000,125000,250000,375000,625000 ⋆ Sequence identical to its third differences in absolute values: a(2n)=3a(2n-1)-3a(2n-2)+2a(2n-3)), a(2n+1)=3a(2n)-3a(2n-1) n > 1. • a(n) = 5 * a(n - 3), n>5. G.f.: (3 * x ^ 3 + 6 * x ^ 4 + 4 * x ^ 5 + 1 + 2 * x + 4 * x ^ 2) / (1 - 5 * x ^ 3). [From _ R. J. Mathar _ , Mar 23 2010] •

[A089827] • 2,4,8,16,24,48,80,160,320,640,1280,2560,3840,7680,15360,30720,61440,122880,184320,368640,737280,1474560,2949120,5898240,11796480 ⋆ Number of subsets of {1,.., n} containing no twin prime pairs. • a(n) = if n and n - 2 are primes then (if n=7 then a(n - 1) * 5 / 3 else a(n - 1) * 3 / 2) else a(n - 2) * 2. •

[A236292] • 1,2,4,8,16,27,48,75,118,178,265,377,544,760,1048,1437,1949,2611,3480,4594,6024,7867,10184,13122,16823 ⋆ Number of distinct cyclic permutations of the partitions of n; see comments. • a(n) = (d(n), f(2), f(3),..., f(n - 1)) * (1,2,3,...,n - 1), where d(n) = (number of divisors of n) = (number of constant partitions of n), and f(k) = number of nonconstant partitions of n, for k = 2,3,...,n - 1. •

[A104899] • 2,4,8,16,28,32,64,128,256,512,1024,2048,3100,4096,8192,16384,32768,65536,118458,131072,262144,524288,1048576,2097152,4194304 ⋆ Numbers n such that sum of the proper divisors of n is equal to sigma(phi(n)). • a(5)= 28; a(13)=3100; a(19)=118458 & If n<5 then a(n)=2 ^ n, if 5<n<13 then a(n)=2 ^ (n - 1), if 13<n<19 then a(n)=2 ^ (n - 2) and if 19<n<30 then a(n)=2 ^ (n - 3). •

[A260881] • 1,2,4,8,16,28,46,70,102,140,190,250,318,398,496,602,724,862,1018,1192,1382,1584,1816,2070,2340 ⋆ Number of trapezoidal words of length n. • a(n) = 1 + Sum _{ i=1..n } (n - i + 1) * phi(i) + Sum _{ i=0..floor((n - 4) / 2) } 2 * (n - 2 * i - 3) * phi(i + 2), where phi is the Euler phi function. •

[A276677] • 1,2,4,8,16,28,48,76,120,180,272,396,584,836,1216,1724,2488,3508,5040,7084,10152,14244,20384,28572,40856 ⋆ Number of squares added at the n-th generation of a symmetric (with 45-degree angles), non-overlapping Pythagoras tree. • a(0) = 1, a(n) = 2 * a(n - 1) - 4 * C(n - 1), where: • a(0) = 1; for n >= 1, a(n) = 6 * 2 ^ floor(n / 2) + 8 * 2 ^ floor((n - 1) / 2) - (4 * n + 8). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4) for n>4. • a(n) = - 4 + 2 ^ ((n - 1) / 2) * (7 - 7 * (- 1) ^ n + 5 * sqrt(2) + 5 * (- 1) ^ n * sqrt(2)) - 4 * (1 + n) for n>0. Therefore: • a(n) = 5 * 2 ^ (n / 2 + 1) - 8 - 4 * n for n>0 and even; • a(n) = 7 * 2 ^ ((n + 1) / 2) - 8 - 4 * n for n>0 and odd. (End) •

[A209410] • 1,2,4,8,16,28,49,91,169,312,576,1056,1936,3564,6561,12069,22201,40826,75076,138096,254016,467208,859329,1580535,2907025 ⋆ Number of subsets of {1,...,n} not containing {a,a+2,a+4} for any a. • a(n) = t[floor(n / 2) + 2] * t[floor((n + 1) / 2) + 2] where t(n) is the n - th tribonacci number. • a(n) = a(n - 1) + 2 * a(n - 3) + 2 * a(n - 5) + 2 * a(n - 6) - a(n - 8) - a(n - 9). •

[A208531] • 2,4,8,16,28,52,89,147,224,324,445,589,758,954,1179,1435,1724,2048,2409,2809,3250,3734,4263,4839,5464 ⋆ Number of distinct sums of subsets of the first n squares {1,4,9,...,n^2}. • a(n) = (2 * n ^ 3 + 3 * n ^ 2 + n - 366) / 6 for n>8. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>12. •

[A255937] • 1,1,2,4,8,16,28,56,108,204,332,664,1114,2228,4078,7018,11402,22804,40638,81276,140490,230328,391544,783088,1287034 ⋆ Number of distinct products of distinct factorials up to n!. • a(p) = 2 * a(p - 1) for prime p. - _ Jon E. Schoenfield _ , Apr 01 2015 •

[A085583] • 1,2,4,8,16,29,51,83,131,196,286,402,554,743,981,1269,1621,2038,2536,3116,3796,4577,5479,6503,7671 ⋆ Number of (3412,1234)-avoiding involutions in S_n. • a(n) = (2 * n ^ 4 - 4 * n ^ 3 + 28 * n ^ 2 - 2 * n + 81 - 6 * n * (- 1) ^ n + 15 * (- 1) ^ n) / 96. •

[A046127] • 0,2,4,8,16,30,52,84,128,186,260,352,464,598,756,940,1152,1394,1668,1976,2320,2702,3124,3588,4096 ⋆ Maximal number of regions into which space can be divided by n spheres. • a(n) = n * (n ^ 2 - 3 * n + 8) / 3 (n >= 0). • a(n) = Sum _{ i=1..n } (i * (i - 3) + 4). • a(n) = a(n - 1) + n * (n - 3) + 4, a(0) = 0. (End) • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A271480] • 1,2,4,8,16,30,53,88,139,210,306,432,594,798,1051,1360 ⋆ Dimension of n-qubit subspace H^{MPS}_{2,n} for bond dimension 2. • a(n) = (93 + 3 * (- 1) ^ n + 88 * n + 4 * n ^ 2 + 8 * n ^ 3 + 2 * n ^ 4) / 96. • a(n) = (n ^ 4 + 4 * n ^ 3 + 2 * n ^ 2 + 44 * n + 48) / 48 for n even. • a(n) = (n ^ 4 + 4 * n ^ 3 + 2 * n ^ 2 + 44 * n + 45) / 48 for n odd. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6) for n>5. •

[A054668] • 1,2,4,8,16,30,56,104,192,354,652,1200,2208,4062,7472,13744,25280,46498,85524,157304,289328,532158,978792,1800280,3311232 ⋆ Number of distinct non-extendable sequences X={x(1),x(2),...,x(k)} where x(1)=1, the x(i)'s are distinct elements of {1,...,n} with |x(i)-x(i+1)|=1 or 2, for i=1,2,...,k. • a(1) = 1, a(n) = term (4,2) in the 4 X 4 matrix [1,1,0,0; 1,0,1,0; 1,0,0,0; 2,0,0,1] ^ n (n > 1). - _ Alois P. Heinz _ , Jul 24 2008 •

[A027559] • 1,2,4,8,16,30,58,106,200,360,668,1190,2182,3858,7012,12328,22256,38958,69962,122042,218248,379656,676636,1174390,2087222 ⋆ Number of 4-balanced strings of length n: let d(S)= #(1)'s in S - #(0)'s, then S is k-balanced if every substring T has -k<=d(T)<=k; here k=4. • a(n) = a(n - 1) + 4 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4). • a(0) = 1; for n>0 odd, a(n) = 7 * 3 ^ floor(n / 2) - F(n + 4); for n>0 even, a(n) = 4 * 3 ^ floor(n / 2) - F(n + 4) where F(n) is the n - th Fibonacci number. - Barry Guiduli (guiduli(AT)gmail.com), Jun 23 2005 •

[A135492] • 2,4,8,16,30,58,112,216,416,802,1546,2980,5744,11072,21342,41138,79296,152848,294624,567906,1094674,2110052,4067256,7839888,15111870 ⋆ Number of ways to toss a coin n times and not get a run of five. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4). •

[A027423] • 1,1,2,4,8,16,30,60,96,160,270,540,792,1584,2592,4032,5376,10752,14688,29376,41040,60800,96000,192000,242880 ⋆ Number of positive divisors of n!. • a(n) <= a(n + 1) <= 2 * a(n) - _ Benoit Cloitre _ , Sep 07 2002 •

[A216212] • 1,2,4,8,16,30,60,110,220,400,800,1450,2900,5250,10500,19000,38000,68750,137500,248750,497500,900000,1800000,3256250,6512500 ⋆ Number of n step walks (each step +/-1 starting from 0) which are never more than 4 or less than -4. • a(n) = 5 * a(n - 2) - 5 * a(n - 4), a(0) = 1, a(1)= 2, a(2) = 4, a(3) = 8, a(4) = 16. •

[A051039] • 1,2,4,8,16,31,46,61,76,91,106,121,136,151,166,181,196,211,226,241,256,271,286,301,316 ⋆ 4-Stohr sequence. • a(n) = 15 * n - 59 for n>4. a(n) = 2 * a(n - 1) - a(n - 2) for n>6. G.f.: x * (7 * x ^ 5 + 4 * x ^ 4 + 2 * x ^ 3 + x ^ 2 + 1) / (x - 1) ^ 2. [_ Colin Barker _ , Sep 19 2012] •

[A000127] • 1,2,4,8,16,31,57,99,163,256,386,562,794,1093,1471,1941,2517,3214,4048,5036,6196,7547,9109,10903,12951 ⋆ Maximal number of regions obtained by joining n points around a circle by straight lines. Also number of regions in 4-space formed by n-1 hyperplanes. • a(n) = Sum _{ k=0..2 } C(n, 2k). - Jo el Sanderi (sanderi(AT)itstud.chalmers.se), Sep 08 2004 • a(n) = (n ^ 4 - 6 * n ^ 3 + 23 * n ^ 2 - 18 * n + 24) / 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n > 4. - _ Harvey P. Dale _ , Aug 24 2011 •

[A133552] • 1,2,4,8,16,31,57,109,209,401,769,1473,2817,5391,10321,19761,37834,72432,138663,265455,508195,972909,1862575,3565778,6826437 ⋆ Number of length n binary sequences with at most 4 of every adjacent 6 bits set. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 5) + 2 * a(n - 6) - 2 * a(n - 8) - 2 * a(n - 9) - a(n - 12) + a(n - 15) for n>14. •

[A007800] • 1,2,4,8,16,31,59,111,207,384,710,1310,2414,4445,8181,15053,27693,50942,93704,172356,317020,583099,1072495,1972635,3628251 ⋆ From a problem in AI planning: a(n) = 4+a(n-1)+a(n-2)+a(n-3)+a(n-4)-a(n-5)-a(n-6)-a(n-7), n>7. • a(1)=1, a(2)=2, a(3)=4, a(4)=8, a(5)=16, a(n)=3 * a(n - 1) - 2 * a(n - 2) + 0 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 24 2013 •

[A107066] • 1,2,4,8,16,31,60,116,224,432,833,1606,3096,5968,11504,22175,42744,82392,158816,306128,590081,1137418,2192444,4226072,8146016 ⋆ Expansion of 1/(1-2x+x^5). • a(n) = 2a(n - 1) - a(n - 5); a(n) = sum { k=0..floor(n / 5), C(n - 4k, k)2 ^ (n - 2k)(- 1) ^ k } . •

[A210003] • 1,2,4,8,16,31,60,116,224,433,837,1618,3128,6047,11690,22599,43688,84457,163271,315633,610177,1179585,2280356,4408350,8522156 ⋆ Number of binary words of length n containing no subword 10001. • a(n) = 2 ^ n if n <5, and a(n) = 2 * a(n - 1) - a(n - 4) + a(n - 5) otherwise. •

[A209888] • 1,2,4,8,16,31,60,116,225,436,845,1637,3172,6146,11909,23075,44711,86633,167863,325256,630226,1221144,2366125,4584673,8883398 ⋆ Number of binary words of length n containing no subword 01101. • a(n) = 2 ^ n if n <5, and a(n) = 2 * (a(n - 1) + a(n - 4)) - a(n - 3) - a(n - 5) otherwise. •

[A210021] • 1,2,4,8,16,31,60,116,225,437,849,1649,3202,6217,12071,23438,45510,88368,171586,333171,646922,1256136,2439055,4735945,9195847 ⋆ Number of binary words of length n containing no subword 11011. • a(n) = 2 ^ n if n <5, and a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 4) + a(n - 5) otherwise. •

[A152718] • 1,1,1,1,2,4,8,16,31,60,117,228,444,865,1685,3282,6393,12453,24257,47250,92038,179280,349218,680239,1325032 ⋆ a(n) = 2*a(n-1)-a(n-2)+2*a(n-3)-a(n-4)+a(n-5), n>5. • a(n)=1, n<4. a(4)=2, a(5)=4. a(n)=2 * a(n - 1) - a(n - 2) + 2a(n - 3) - a(n - 4) + a(n - 5), n>5. •

[A192656] • 1,2,4,8,16,31,61,119,232,452,881,1720,3364,6588,12921,25375,49891,98198,193461,381464,752740,1486400,2936951,5806346,11485043 ⋆ Partial sums of the Floor-Sqrt transform of central binomial coefficients. • a(n) = sum(floor(sqrt(binomial(2 * k,k))),k=0..n). •

[A001591] • 0,0,0,0,1,1,2,4,8,16,31,61,120,236,464,912,1793,3525,6930,13624,26784,52656,103519,203513,400096 ⋆ Pentanacci numbers: a(n) = a(n-1) + a(n-2) + a(n-3) + a(n-4) + a(n-5), a(0)=a(1)=a(2)=a(3)=0, a(4)=1. • a(n) = Sum _{ k=1..n } (Sum _{ r=0..k } (binomial(k,r) * Sum _{ m=0..r } (binomial(r,m) * Sum _{ j=0..m } (binomial(m,j) * binomial(j,n - m - k - j - r))))), n > 0. - _ Vladimir Kruchinin _ , Aug 30 2010 • a(n) = 2 * a(n - 1) - a(n - 6) with initial values 0, 0, 0, 0, 1, 1. - _ Vincenzo Librandi _ , Dec 19 2010 •

[A008382] • 0,0,0,0,0,1,2,4,8,16,32,48,72,108,162,243,324,432,576,768,1024,1280,1600,2000,2500 ⋆ Floor(n/5)*floor((n+1)/5)*floor((n+2)/5)*floor((n+3)/5)*floor((n+4)/5) • a(n)= + 2 * a(n - 1) - a(n - 2) + 4 * a(n - 5) - 8 * a(n - 6) + 4 * a(n - 7) - 6 * a(n - 10) + 12 * a(n - 11) - 6 * a(n - 12) + 4 * a(n - 15) - 8 * a(n - 16) + 4 * a(n - 17) - a(n - 20) + 2 * a(n - 21) - a(n - 22). - _ R. J. Mathar _ , May 08 2013 •

[A208742] • 2,4,8,16,32,48,72,108,162,243,405,675,1125,1875,3125,5000,8000,12800,20480,32768,53248,86528,140608,228488,371293 ⋆ Number of subsets of the set {1,2,...,n} which do not contain two elements whose difference is 5. • a(n) = F(floor(n / 5) + 3) ^ (n mod 5) * F(floor(n / 5) + 2) ^ (5 - (n mod 5)) where F(n) is the n - th Fibonacci number. • a(n) = a(n - 1) + a(n - 2) - 3 * a(n - 5) + 3 * a(n - 6) + 3 * a(n - 7) + 6 * a(n - 10) - 6 * a(n - 11) - 6 * a(n - 12) + 3 * a(n - 15) - 3 * a(n - 16) - 3 * a(n - 17) - a(n - 20) + a(n - 21) + a(n - 22). •

[A217833] • 0,1,2,4,8,16,32,49,64,81,98,121,128,162,196,225,242,256,324,361,392,441,450,484,512 ⋆ The largest number not exceeding n^2, such that there are no terms of the sequence in the interval (a(n-1)/2, a(n)/2), with a(0)=0, a(1)=1. • a(n) = min(2 * a(k + 1), n ^ 2) for n>=2 and a(k) <= a(n - 1) / 2 < a(k + 1). •

[A135493] • 2,4,8,16,32,62,122,240,472,928,1824,3586,7050,13860,27248,53568,105312,207038,407026,800192,1573136,3092704,6080096,11953154,23499282 ⋆ Number of ways to toss a coin n times and not get a run of six. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5). •

[A216241] • 1,2,4,8,16,32,62,124,236,472,890,1780,3340,6680,12502,25004,46732,93464,174554,349108,651740,1303480,2432918,4865836,9080956 ⋆ Number of n-step walks (each step +/-1 starting from 0) which are never more than 5 or less than -5. • a(n) = 6 * a(n - 2) - 9 * a(n - 4) + 2 * a(n - 6). • a(n) = 2 ^ n for n<6. • a(2 * n + 1) = 2 * a(2 * n). •

[A111663] • 1,2,4,8,16,32,62,124,248,494,988,1976,3952,7904,15808,31616,63232,126464,252926,505852,1011704,2023406,4046812,8093624,16187248 ⋆ Expansion of (-1+x^3+x^6+x^9)/((1-x)*(2*x-1)*(x^2+1)*(x^2+x+1)*(x^4-x^2+1)) • a(0)=1, a(1)=2, a(2)=4, a(3)=8, a(4)=16, a(5)=32, a(6)=62, a(7)=124, a(8)=248, a(9)=494, a(n) = 2 * a(n - 1) + a(n - 3) - 2 * a(n - 4) - a(n - 6) + 2 * a(n - 7) + a(n - 9) - 2 * a(n - 10). [_ Harvey P. Dale _ , May 04 2012] •

[A051040] • 1,2,4,8,16,32,63,94,125,156,187,218,249,280,311,342,373,404,435,466,497,528,559,590,621 ⋆ 5-Stohr sequence. • a(n) = 31 * n - 154 for n>5. a(n) = 2 * a(n - 1) - a(n - 2) for n>7. G.f.: x * (15 * x ^ 6 + 8 * x ^ 5 + 4 * x ^ 4 + 2 * x ^ 3 + x ^ 2 + 1) / (x - 1) ^ 2. [_ Colin Barker _ , Sep 19 2012] •

[A006261] • 1,2,4,8,16,32,63,120,219,382,638,1024,1586,2380,3473,4944,6885,9402,12616,16664,21700,27896,35443,44552,55455 ⋆ a(n) = Sum_{k=0..5} C(n,k). • a(n) = binomial(n + 1, 5) + binomial(n + 1, 3) + binomial(n + 1, 1). - _ Len Smiley _ , Oct 20 2001 • a(n) = (n ^ 5 - 5 * n ^ 4 + 25 * n ^ 3 + 5 * n ^ 2 + 94 * n + 120) / 120. - _ Reinhard Zumkeller _ , Jun 17 2009 •

[A001949] • 0,0,0,0,0,1,2,4,8,16,32,63,124,244,480,944,1856,3649,7174,14104,27728,54512,107168,210687,414200 ⋆ A probability difference equation. • a(n) = sum(k=1..n - 4, sum(j=0..(n - k - 4) / 5, (- 1) ^ j * binomial(n - 5 * j - 5,k - 1) * binomial(n - k - 5 * j - 4,j),j,0,(n - k - 4) / 5)). [_ Vladimir Kruchinin _ , Oct 19 2011] •

[A210031] • 1,2,4,8,16,32,63,124,244,480,944,1857,3653,7186,14136,27808,54703,107610,211687,416424,819176,1611457,3170007,6235937,12267137 ⋆ Number of binary words of length n containing no subword 100001. • a(n) = 2 ^ n if n<6, and a(n) = 2 * a(n - 1) - a(n - 5) + a(n - 6) otherwise. •

[A001592] • 0,0,0,0,0,1,1,2,4,8,16,32,63,125,248,492,976,1936,3840,7617,15109,29970,59448,117920,233904 ⋆ Hexanacci numbers: a(n+1) = a(n)+...+a(n-5) with a(0)=...=a(4)=0, a(5)=1. • a(n) = 2 * a(n - 1) - a(n - 7) with initial values 0, 0, 0, 0, 0, 1, 1. - _ Vincenzo Librandi _ , Dec 19 2010 •

[A217832] • 0,1,1,2,4,8,16,32,63,126,252,502,1004,2008,4012,8024,16048,32089,64178,128356,256696,513392,1026784,2053538,4107076 ⋆ Number of sequences of n 2's and 3's with curling number 2 and which have the form XY^2 with Y = 2. • a(n + 4) - 2 * a(n + 3) = 0,0,0, 0,0, - 1, 0,0, - 2, 0,0, - 4, 0,0, - 7, 0,0, - 16, 0,0, - 30, 0,0, - 63, 0,0, - 122,... . See - A217929. This is the formula given above. •

[A208743] • 2,4,8,16,32,64,96,144,216,324,486,729,1215,2025,3375,5625,9375,15625,25000,40000,64000,102400,163840,262144,425984 ⋆ Number of subsets of the set {1,2,...,n} which do not contain two elements whose difference is 6. • a(n) = F(floor(n / 6) + 3) ^ (n mod 6) * F(floor(n / 6) + 2) ^ (6 - (n mod 6)) where F(n) is the n - th Fibonacci number. • a(n) = a(n - 1) + a(n - 2) - 5 * a(n - 6) + 5 * a(n - 7) + 5 * a(n - 8) + 15 * a(n - 12) - 15 * a(n - 13) - 15 * a(n - 14) + 15 * a(n - 18) - 15 * a(n - 19) - 15 * a(n - 20) - 5 * a(n - 24) + 5 * a(n - 25) + 5 * a(n - 26) - a(n - 30) + a(n - 31) + a(n - 32). •

[A008859] • 1,2,4,8,16,32,64,127,247,466,848,1486,2510,4096,6476,9949,14893,21778,31180,43796,60460,82160,110056,145499,190051 ⋆ a(n) = Sum_{k=0..6} C(n,k). • a(n) = sum(binomial(n + 1, 2k), k=0..3). - _ Len Smiley _ , Oct 20 2001 • a(n) = (n ^ 6 - 9 * n ^ 5 + 55 * n ^ 4 - 75 * n ^ 3 + 304 * n ^ 2 + 444 * n + 720) / 720. - _ Gerry Martens _ , May 04 2016 •

[A208127] • 1,2,4,8,16,32,64,127,252,495,969,1886,3655,7054,13562,25978,49602,94440,179380,340001,643276,1215178,2292431,4319603,8131123 ⋆ Cardinality of the set f^n({s}), where f is a variant of the Collatz function that replaces any element x in the argument set by both x/2 and 3*x+1, and s is an arbitrary irrational number. • a(n) = |f ^ n({ s })| where f(M) = { x / 2 : x in M } union { 3x + 1 : x in M } and s is an arbitrary irrational number. •

[A172316] • 1,2,4,8,16,32,64,127,252,500,992,1968,3904,7744,15361,30470,60440,119888,237808,471712,935680,1855999,3681528,7302616,14485344 ⋆ 7th column of the array A172119. • a(n) = Sum _{ j=0..floor(n / (k + 1)) } ((- 1) ^ j * binomial(n - k * j,n - (k + 1) * j) * 2 ^ (n - (k + 1) * j)) with k=6. •

[A066178] • 1,1,2,4,8,16,32,64,127,253,504,1004,2000,3984,7936,15808,31489,62725,124946,248888,495776,987568,1967200,3918592,7805695 ⋆ Number of binary bit strings of length n with no block of 8 or more 0's. Nonzero heptanacci numbers, A122189. • a(n) = Sum _{ i=n - 7..n - 1 } a(i). • a(n) = round({ r - 1 }/{ (t + 1)r - 2t } * r ^{ n - 1 }), where r is the heptanacci constant, the real root of the equation x ^{ t + 1) - 2x ^ t + 1=0 which is greater than 1. The formula could also be used for a k - step Fibonacci sequence if r is replaced by the k - bonacci constant, as in A000045, A000073, A000078, A001591, A001592. - _ Du, Zhao Hui _ , Aug 24 2008 •

[A089889] • 1,2,4,8,16,32,64,128,192,384,768,1536,3072,6144,12288,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,5242880 ⋆ Number of subsets of {1,.., n} containing exactly one square. • a(n) = n ^ (1 / 2) * 2 ^ (n - n ^ (1 / 2)). •

[A008860] • 1,2,4,8,16,32,64,128,255,502,968,1816,3302,5812,9908,16384,26333,41226,63004,94184,137980,198440,280600,390656,536155 ⋆ a(n) = Sum_{k=0..7} binomial(n,k). • a(n) = Sum _{ k=1..4 } binomial(n + 1, 2k - 1) = (n ^ 6 - 14 * n ^ 5 + 112 * n ^ 4 - 350 * n ^ 3 + 1099 * n ^ 2 + 364 * n + 3828) * n / 5040 + 1. [Len Smiley's formula for A006261, copied by _ Frank Ellermann _] •

[A079262] • 0,0,0,0,0,0,0,1,1,2,4,8,16,32,64,128,255,509,1016,2028,4048,8080,16128,32192,64256 ⋆ Octanacci numbers: a(0)=a(1)=...=a(6)=0, a(7)=1; for n >= 8, a(n) = Sum_{i=1..8} a(n-i). • a(1)..a(9) = 1, 1, 2, 4, 8, 16, 32, 64, 128 . a(10) and following are given by 63 * 2 ^ (n - 8) + (1 / 2 + sqrt(5 / 4)) ^ (n - 6) / sqrt(5) - (1 / 2 - sqrt(5 / 4)) ^ (n - 6) / sqrt(5). Offset 10. a(10)=255. - Al Hakanson (hawkuu(AT)gmail.com), Feb 14 2009 •

[A008861] • 1,2,4,8,16,32,64,128,256,511,1013,1981,3797,7099,12911,22819,39203,65536,106762,169766,263950,401930,600370,880970,1271626 ⋆ Sum C(n,k), k=0..8. • a(n)=sum(binomial(n + 1, 2k), k=0..4), compare A008859. •

[A172318] • 1,2,4,8,16,32,64,128,256,511,1020,2036,4064,8112,16192,32320,64512,128768,257025,513030,1024024,2043984,4079856,8143520,16254720 ⋆ 9th column of the array A172119. • a(n) = sum((- 1) ^ j * binomial(n - k * j,n - (k + 1) * j) * 2 ^ (n - (k + 1) * j),j=0..floor(n / (k + 1))) with k=8. •

[A104144] • 0,0,0,0,0,0,0,0,1,1,2,4,8,16,32,64,128,256,511,1021,2040,4076,8144,16272,32512 ⋆ a(n) = a(n-1)+a(n-2)+a(n-3)+a(n-4)+a(n-5)+a(n-6)+a(n-7)+a(n-8)+a(n-9). • a(n) = sum _{ k=1..9 } a(n - k) for n>8, a(8)=1, a(n)=0 for n =0..7. •

[A008862] • 1,2,4,8,16,32,64,128,256,512,1023,2036,4017,7814,14913,27824,50643,89846,155382,262144,431910,695860,1097790,1698160,2579130 ⋆ Sum C(n,k), k=0..9. • a(n) = sum(binomial(n + 1, 2k - 1) for k=1..5), compare A008860. • a(0)=1, a(1)=2, a(2)=4, a(3)=8, a(4)=16, a(5)=32, a(6)=64, a(7)=128, a(8)=256, a(9)=512, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Mar 18 2012 •

[A172319] • 1,2,4,8,16,32,64,128,256,512,1023,2044,4084,8160,16304,32576,65088,130048,259840,519168,1037313,2072582,4141080,8274000,16531696 ⋆ 10th column of A172119. • a(n)=sum((- 1) ^ j * binomial(n - k * j,n - (k + 1) * j) * 2 ^ (n - (k + 1) * j),j=0..floor(n / (k + 1))). a(n + 10)=2 * a(n + 9) - a(n). •

[A122265] • 0,0,0,0,0,0,0,0,0,1,1,2,4,8,16,32,64,128,256,512,1023,2045,4088,8172,16336 ⋆ 10th-order Fibonacci numbers: a(n+1) = a(n)+...+a(n-9) with a(0) = ... = a(8) = 0, a(9) = 1. • a(n) = Sum _{ j=1..10 } a(n - j) for n>=10; a(n) = 0 for 0<=n<=8, a(9) = 1 (follows from the minimal polynomial of M; a Maple program based on this recurrence relation is much slower than the given Maple program, based on the definition). •

[A008863] • 1,2,4,8,16,32,64,128,256,512,1024,2047,4083,8100,15914,30827,58651,109294,199140,354522,616666,1048576,1744436,2842226,4540386 ⋆ a(n) = Sum_{k=0..10} C(n,k). • a(n) = Sum _{ k=0..5 } binomial(n + 1, 2k), compare A008859. • a(0)=1, a(1)=2, a(2)=4, a(3)=8, a(4)=16, a(5)=32, a(6)=64, a(7)=128, a(8)=256, a(9)=512, a(10)=1024, a(n)=11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Apr 25 2012 •

[A172320] • 1,2,4,8,16,32,64,128,256,512,1024,2047,4092,8180,16352,32688,65344,130624,261120,521984,1043456,2085888,4169729,8335366,16662552 ⋆ 11th column of A172119. • a(n)=sum((- 1) ^ j * binomial(n - k * j,n - (k + 1) * j) * 2 ^ (n - (k + 1) * j),j=0..floor(n / (k + 1))) with k=10. • a(n + 11)=2 * a(n + 10) - a(n). •

[A219531] • 1,2,4,8,16,32,64,128,256,512,1024,2048,4095,8178,16278,32192,63019,121670,230964,430104,784626,1401292,2449868,4194304,7036530 ⋆ Sum C(n, k), k = 0 .. 11. • a(n) = 1 + (n ^ 11 - 44 * n ^ 10 + 935 * n ^ 9 - 11550 * n ^ 8 + 94083 * n ^ 7 - 497112 * n ^ 6 + 1870385 * n ^ 5 - 3920950 * n ^ 4 + 8550916 * n ^ 3 + 4429656 * n ^ 2 + 29400480 * n) / 11!. a(n) = 2 * a(n -

1), for 1 <= n <= 11 with a(0) = 1, a(n) = 2 * a(n - 1) - C(n - 1, 11), for n > 11. - Mohamed •

[**A219615**] • 1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8191,16369,32647,64839,127858,249528,480492,910596,1695222,3096514,5546382,9740686 ⋆ a(n) = Sum_{k=0..12} binomial(n,k). • a(n) = (n ^ 12 - 54n ^ 11 + 1397n ^ 10 - 21450n ^ 9 + 218823n ^ 8 - 1508562n ^ 7 + 7374191n ^ 6 - 23551110n ^ 5 + 58206676n ^ 4 - 48306984n ^ 3 + 173699712n ^ 2 + 312888960n) / 479001600. - _ Charles R Greathouse IV _ , Nov 27 2012 • a(0)=1, a(1)=2, a(2)=4, a(3)=8, a(4)=16, a(5)=32, a(6)=64, a(7)=128, a(8)=256, a(9)=512, a(10)=1024, a(11)=2048, a(12)=4096, a(n)= 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13). - _ Harvey P. Dale _ , Nov 29 2012 •

[**A219676**] • 1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16383,32752,65399,130238,258096,507624,988116,1898712,3593934,6690448,12236830 ⋆ Sum_{k=0..13} binomial(n, k). • a(n) = 1 + (n ^ 13 - 65 * n ^ 12 + 2015 * n ^ 11 - 37609 * n ^ 10 + 470613 * n ^ 9 - 4081935 * n ^ 8 + 25378925 * n ^ 7 - 110205667 * n ^ 6 + 351042406 * n ^ 5 - 657328100 * n ^ 4 + 1303568760 * n ^ 3 + 771653376 * n ^ 2 + 4546558080 * n) / 13!. - corrected by Mokhtar Mohamed, Dec 01 2012 • a(n) = 2 * a(n - 1), for 1 <= n <= 13, with a(0) = 1, a(n) = 2 * a(n - 1) - C(n - 1, 13), for n > 13. •

[**A220051**] • 1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32767,65519,130918,261156,519252,1026876,2014992,3913704,7507638,14198086 ⋆ Sum_{k=0..14} binomial(n,k). • a(n) = 1 + (n ^ 14 - 77 * n ^ 13 + 2821 * n ^ 12 - 6288 * n ^ 11 + 947947 * n ^ 10 - 10081071 * n ^ 9 + 77889383 * n ^ 8 - 435638203 * n ^ 7 + 1793239448 * n ^ 6 - 5043110072 * n ^ 5 + 1111159696 * n ^ 4 - 8346754416 * n ^ 3 + 30605906304 * n ^ 2 + 57424792320 * n) / 14!. • a(n) = 2 * a(n - 1), for 1 <= n <= 14, with a(0) = 1, a(n) = 2 * a(n - 1) - C(n - 1,14), for n > 14. •

[**A249169**] • 1,1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65535,131069,262136,524268,1048528,2097040,4194048,8388032 ⋆ Fibonacci 16-step numbers, a(n) = a(n-1) + a(n-2) + ... + a(n-16). • a(n) = a(n - 1) + a(n - 2) + ... + a(n - 16). •

[**A166444**] • 0,1,1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304 ⋆ a(0) = 0, a(1) = 1 and for n > 1, a(n) = sum of all previous terms. • a(n) = (1 - n) * a(n - 1) + 2 * Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 •

[**A011782**] • 1,1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608 ⋆ Expansion of (1-x)/(1-2*x) in powers of x. • a(0) = 1, a(n) = 2 ^ (n - 1). • a(0) = 1 and for n>0, a(n) = sum of all previous terms. • a(n) = Sum { k=0..n, binomial(n, 2 * k) } . - _ Paul Barry _ , Feb 25 2003 • a(n) = Sum { k=0..n, binomial(n, k) * (1 + (- 1) ^ k) / 2 } . - _ Paul Barry _ , May 27 2003 • a(n) = floor((1 + 2 ^ n) / 2). - Toby Bartels (toby + sloane(AT)math.ucr.edu), Aug 27 2003 • a(n) = sum { k=0..n, (- 1) ^ (n - k) * binomial(k + 1, n - k) * binomial(2 * k, k) } . - _ Paul Barry _ , Mar 18 2005 •

[**A000079**] • 1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216 ⋆ Powers of 2: a(n) = 2^n. • a(n) = 2 ^ n. • a(0) = 1; a(n) = 2 * a(n - 1). • a(n)= Sum _{ k=0..n } binomial(n, k). • a(n) = StirlingS2(n + 1,2) + 1. - _ Ross La Haye _ , Jan 09 2008 • a(n + 2)=6a(n + 1) - 8a(n), n=1,2,3,... with a(1)=1, a(2)=2. - _ Yosu Yurramendi _ , Aug 06 2008 • a(n) = ka(n - 1) + (4 - 2k)a(n - 2) for any integer k and n > 1, with a(0) = 1, a(1) = 2. - _ Jaume Oliver Lafont _ , Dec 05 2008 •

[**A275065**] • 1,1,1,1,1,1,1,1,1,1,2,4,8,16,32,64,128,256,512,1024,3072,9216,27648,82944 ⋆ Number of permutations p of [n] such that p(i)-i is a multiple of ten for all i in [n]. • a(n) = Product _{ i=0..9 } floor((n + i) / 10)!. •

[**A275064**] • 1,1,1,1,1,1,1,1,1,1,2,4,8,16,32,64,128,256,512,1536,4608,13824,41472,124416,373248 ⋆ Number of permutations p of [n] such that p(i)-i is a multiple of nine for all i in [n]. • a(n) = Product _{ i=0..8 } floor((n + i) / 9)!. •

[**A275063**] • 1,1,1,1,1,1,1,1,1,2,4,8,16,32,64,128,256,768,2304,6912,20736,62208,186624,559872,1679616 ⋆ Number of permutations p of [n] such that p(i)-i is a multiple of eight for all i in [n]. • a(n) = Product _{ i=0..7 } floor((n + i) / 8)!. •

[**A210544**] • 1,1,1,1,1,1,1,2,4,8,16,32,64,128,257,524,1106,2470,5924,15262,41690,118595,345861,1023028,3050590 ⋆ Number of arrays of n nonnegative integers with value i>0 appearing only after i-1 has appeared at least 7 times • a(n) = 1 if n<=7 else sum { i=0..n - 7 } (binomial(n - 7,i) * a(i)) •

[**A264791**] • 1,1,1,1,1,1,1,2,4,8,16,32,64,128,384,1152,3456,10368,31104,93312,279936,1119744,4478976,17915904,71663616 ⋆ Number of n X 1 arrays of permutations of 0..n*1-1 with rows nondecreasing modulo 2 and columns nondecreasing modulo 7. • a(n) = Product _{ i=0..6 } floor((n + i) / 7)!. - _ Alois P. Heinz _ , Jul 12 2016 •

[**A117302**] • 1,2,4,8,16,32,64,129,258,516,1032,2064,4128,8256,16513,33026,66052,132104,264208,528416,1056832,2113665,4227330,8454660,16909320 ⋆ Number of cases in which the first player gets killed in a Russian roulette game where 7 players use a gun with n chambers and the number of the bullets can be from 1 to n. In the game they do not rotate the cylinder after the game starts. • a(n) = (2 ^ (n + 6) - 2 ^ (Mod[n - 1, 7])) / (2 ^ 7 - 1), where Mod[,7] is the remaining part of the number when divided by 7. In the followings we present the formula based on the theory we used to define our sequence as a Mathematica code. The above formula is a lot easier to use, but the Mathematica code has an important mathematical meaning in it. • a(n) = floor(2 ^ (n + 6) / 127). - _ Mircea Merca _ , Dec 22 2010 •

[**A084638**] • 1,1,2,4,8,16,32,64,129,265,558,1200,2610,5682,12288,26292,55587,116179,240366,493108,1004780,2036692,4112144,8278552,16631717 ⋆ Binomial transform of (1,0,1,0,1,0,1,0,2,0,2,0,2,....). • a(n) = Sum _{ k=0..3, C(n, 2 * k) } + 2 * Sum _{ k=4..floor(n / 2), C(n, 2 * k) } . • a(n) = (n ^ 6 - 15 * n ^ 5 + 115 * n ^ 4 - 405 * n ^ 3 + 964 * n ^ 2 - 660 * n + 720) / 720 + 2 * Sum _{ k=4..floor(n / 2), C(n, 2k) } . •

[**A210543**] • 1,1,1,1,1,1,2,4,8,16,32,64,129,267,582,1364,3454,9338,26429,76929,227579,680113,2050000,6242818,19284165 ⋆ Number of arrays of n nonnegative integers with value i>0 appearing only after i-1 has appeared at least 6 times • a(n) = 1 if n<=6 else sum { i=0..n - 6 } (binomial(n - 6,i) * a(i)) •

[**A264701**] • 1,1,1,1,1,1,2,4,8,16,32,64,192,576,1728,5184,15552,46656,186624,746496,2985984,11943936,47775744,191102976,955514880 ⋆ Number of n X 1 arrays of permutations of 0..n-1 with rows nondecreasing modulo 2 and columns nondecreasing modulo 6. • a(n) = Product _{ i=0..5 } floor((n + i) / 6)!. - _ Alois P. Heinz _ , Jul 12 2016 •

[**A195904**] • 1,2,4,8,16,32,65,130,260,520,1040,2080,4161,8322,16644,33288,66576,133152,266305,532610,1065220,2130440,4260880,8521760,17043521 ⋆ Base 2 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0,0,0,0. • a(n) = floor(2 ^ (n + 5) / 63). •

[**A084637**] • 1,1,2,4,8,16,32,65,136,293,642,1410,3072,6606,14004,29295,60592,124137,252742,511672,1031912,2075452,4166408,8353165,16732664 ⋆ Binomial transform of (1,0,1,0,1,0,1,1,1,1,1,....). • a(n) = sum { k=0..2, C(n, 2 * k) } + sum { k=6..n, C(n, k) } ; • a(n) = 2 ^ n - n(n ^ 4 - 10 * n ^ 3 + 55 * n ^ 2 - 110 * n + 184) / 120. •

[**A210542**] • 1,1,1,1,1,2,4,8,16,32,65,138,315,782,2090,5885,17112,50743,152705,466760,1455562,4658963,15392116,52663709,186632887 ⋆ Number of arrays of n nonnegative integers with value i>0 appearing only after i-1 has appeared at least 5 times • a(n) = 1 if n<=5 else sum { i=0..n - 5 } (binomial(n - 5,i) * a(i)) •

[**A264656**] • 1,1,1,1,1,2,4,8,16,32,96,288,864,2592,7776,31104,124416,497664,1990656,7962624,39813120,199065600,995328000,4976640000,24883200000 ⋆ Number of n X 1 arrays of permutations of 0..n*1-1 with rows nondecreasing modulo 2 and columns nondecreasing modulo 5. • a(n) = Product _{ i=0..4 } floor((n + i) / 5)!. - _ Alois P. Heinz _ , Jul 12 2016 •

[**A119610**] • 1,2,4,8,16,33,66,132,264,528,1057,2114,4228,8456,16912,33825,67650,135300,270600,541200,1082401,2164802,4329604,8659208,17318416 ⋆ Number of cases in which the first player is killed in a Russian roulette game where 5 players use a gun with n chambers and the number of bullets can be from 1 to n. Players do not rotate the cylinder after the game starts. • a(n) = floor(2 ^ (n + 4) / 31), which is obtained by letting p=5 in the formula above. • a(n) = + 2 * a(n - 1) + a(n - 5) - 2 * a(n - 6). (End) •

[**A121485**] • 1,1,2,4,8,16,33,66,136,274,562,1138,2327,4725,9645,19613,39997,81397,165906,337773,688260,1401565,2855432,5815477,11846941 ⋆ Number of nondecreasing Dyck paths of semilength n and having no peaks at even level (n>=0). A nondecreasing Dyck path is a Dyck path for which the sequence of the altitudes of the valleys is nondecreasing. • a(n) = a(n - 1) + 4 * a(n - 2) - 2 * a(n - 3) - 4 * a(n - 4) + a(n - 6) for n>6. - _ Colin Barker _ , Sep 11 2015 •

[**A098588**] • 1,2,4,8,16,33,68,140,288,592,1217,2502,5144,10576,21744,44705,91912,188968,388512,798768,1642241,3376394,6941756,14272024,29342816 ⋆ a(n) = 2^n for n = 0..4; for n > 4, a(n) = 2*a(n-1) + a(n-5). • a(n) = Sum _{ k=0..floor(n / 4) } Sum _{ i=0..n } binomial(n - 4k, i)binomial(i, k). •

[**A084636**] • 1,1,2,4,8,16,33,71,157,349,768,1662,3534,7398,15291,31297,63595,128555,258930,520240,1043540,2090956,4186757,8379499,16766313 ⋆ Binomial transform of (1,0,1,0,1,0,2,0,2,0,2,0....). • a(n)=sum { k=0..2, C(n, 2k) }+ 2 * sum { k=3..floor(n / 2), C(n, 2k) } ; a(n)=(n ^ 4 - 6n ^ 3 + 23n ^ 2 - 18n + 24) / 24 + 2 * sum { k=3..floor(n / 2), C(n, 2k) } . •

[**A210541**] • 1,1,1,1,2,4,8,16,33,73,177,467,1309,3813,11409,34999,110510,361194,1226930,4334048,15877297,60049447,233426007,929616461,3786970033 ⋆ Number of arrays of n nonnegative integers with value i>0 appearing only after i-1 has appeared at least 4 times • a(n) = 1 if n<=4 else sum { i=0..n - 4 } (binomial(n - 4,i) * a(i)) •

[**A273972**] • 1,2,4,8,16,34,68,128,256,544,1088,2056,4112,8738,17476,32768,65536,139264,278528,526336,1052672,2236928,4473856,8388736,16777472 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 20", based on the 5-celled von Neumann neighborhood. • a(2 * n + 2) = 2 * a(2 * n + 1). - _ Paul Curtz _ , Nov 16 2016 •

[**A288170**] • 2,4,8,16,34,70,144,292,590,1186,2380,4768,9546,19102,38216,76444,152902,305818,611652,1223320,2446658,4893334,9786688,19573396,39146814 ⋆ a(n) = 3*a(n-1) - a(n-2) - 4*a(n-3) + 2*a(n-4) for n >= 4, where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 16, a(4) = 34, a(5) = 70 . • a(n) = 3 * a(n - 1) - a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4) for n >= 4, where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 16, a(4) = 34, a(5) = 70 . • a(n) = (3 + (- 1) ^ n + 7 * 2 ^ (1 + n) - 6 * n) / 6 for n>0. - _ Colin Barker _ , Sep 29 2017 •

[**A288260**] • 2,4,8,16,34,72,152,324,690,1468,3128,6664,14194,30240,64424,137244,292386,622900,1327016,2827072,6022786,12830904,27334904,58234164,124061778 ⋆ a(n) = 2*a(n-1) + 2*a(n-3) - 3*a(n-4), where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 16. • a(n) = 2 * a(n - 1) + 2 * a(n - 3) - 3 * a(n - 4), where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 16. •

[**A288176**] • 2,4,8,16,34,72,156,336,730,1580,3432,7440,16154,35040,76060,165024,358162,777172,1686632,3659984,7942706,17236024,37404156,81169520,17

6145962 ⋆ a(n) = 2*a(n-1) + 2*a(n-2) - 4*a(n-3) + a(n-4), where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 16. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) + a(n - 4), where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 16. •

[A209971] • 0,2,4,8,16,34,76,176,416,994,2388,5752,13872,33474,80796,195040,470848,1136706,2744228,6625128,15994448,38613986,93222380,225058704,543339744 ⋆ a(n) = A000129(n) + n. • a(n) = (- (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n) / (2 * sqrt(2)) + n. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 4) for n>3. •

[A166354] • 1,1,2,4,8,16,34,78,200,568,1806,6282,24052,99100,443178,2107966,10775664,58092112,334087750,2012990930,12863046636,85662585604,602124105122,4391793687974,33676375206568 ⋆ Row sums of exponential Riordan array [1+x*tan(x/2),x], A166353. • a(n)=sum { k=0..n, C(n,k) * G(k / 2)(1 + (- 1) ^ k) / 2 } where •

[A162428] • 1,2,4,8,16,37,87,210,523,1352,3579,9715,26956,76367,220408,648044,1940191,5907256,18279257,57449874,183261022,592970009,1945136089,6465415945,21764630304 ⋆ Antidiagonal sums of table A162424. • a(n) = Sum _{ k=0..n } Sum _{ m=k * (k + 1) / 2..k * (k + 1) / 2 + k } [x ^ m] S(x) ^ (n - k) for n>=1 where S(x) = Sum _{ n>=0 } x ^ ((n + 1)(n + 2) / 2 - 1). •

[A264635] • 1,1,1,1,2,4,8,16,48,144,432,1296,5184,20736,82944,331776,1658880,8294400,41472000,207360000,1244160000,7464960000,44789760000,268738560000,1881169920000 ⋆ Number of n X 1 arrays of permutations of 0..n*1-1 with rows nondecreasing modulo 2 and columns nondecreasing modulo 4. • a(n) = Product _{ i=0..3 } floor((n + i) / 4)!. - _ Alois P. Heinz _ , Jul 12 2016 •

[A083593] • 1,2,4,8,17,34,68,136,273,546,1092,2184,4369,8738,17476,34952,69905,139810,279620,559240,1118481,2236962,4473924,8947848,17895697 ⋆ Expansion of 1/((1-2*x)*(1-x^4)). • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5). • a(n) = - 1 / 4 + [1 / 20 - (1 / 10) * I] * I ^ n + (1 / 12) * (- 1) ^ n + (16 / 15) * 2 ^ n + [1 / 20 + (1 / 10) * I] * (- I) ^ n, with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Jun 10 2008 • a(n) = floor((2 ^ (n + 5) + 1) / 30). - _ Tani Akinari _ , Jul 09 2013 • a(n) = 2 * a(n - 1) + floor(((n - 1) mod 4) / 3), with a(0)=1. - _ Andres Cicuttin _ , Mar 29 2016 • a(n) = 2 * a(n - 1) + 1 - ceiling[(n mod 4) / 4], with a(0)=1. - _ Andres Cicuttin _ , Mar 29 2016 •

[A267045] • 1,2,4,8,17,34,69,138,277,554,1109,2218,4437,8874,17749,35498,70997,141994,283989,567978,1135957,2271914,4543829,9087658,18175317 ⋆ Decimal representation of the middle column of the "Rule 91" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * (- 1) ^ n + 1 3 * 2 ^ n - 6) / 12 for n>1. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n >2. •

[A266446] • 1,2,4,8,17,34,69,138,277,555,1110,2220,4440,8881,17762,35525,71050,142101,284202,568405,1136810,2273621,4547242,9094485,18188970 ⋆ Decimal representation of the middle column of the "Rule 25" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- (- 1) ^ n + 66 61 * 2 ^ (n - 10) - 3) / 6 for n>10. •

[A293331] • 2,4,8,17,35,71,143,286,572,1144,2289,4579,9158,18317,36635,73271,146542,293085,586171,1172343,2344687,4689374,9378748,18757497,37514995 ⋆ Greatest integer k such that k/2^n < sqrt(5). • a(n) = floor(r * 2 ^ n), where r = sqrt(5). •

[A292322] • 1,2,4,8,17,36,73,152,317,653,1355,2812,5818,12061,25001,51786,107323,222409,460824,954942,1978840,4100398,8496827,17606974,36484494 ⋆ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = 1 - S - S^2 - S^3. • a(n) = a(n - 1) + a(n - 2) + 4 * a(n - 3) - 2 * a(n - 4) - a(n - 5) - 3 * a(n - 6) + a(n - 7) + a(n - 9) for n >= 10. •

[A008999] • 1,2,4,8,17,36,76,160,337,710,1496,3152,6641,13992,29480,62112,130865,275722,580924,1223960,2578785,5433292,11447508,24118976,50816737 ⋆ a(n) = 2 a(n-1) + a(n-4). • a(n) = sum(m=0..n, sum(j=0..(n - m) / 3, binomial(n - m + (- 3) * j,j) * binomial(n - 3 * j,m))). [_ Vladimir Kruchinin _ , May 23 2011] •

[A262735] • 0,1,1,2,4,8,17,36,77,165,354,760,1632,3505,7528,16169,34729,74594,160220,344136,739169,1587660,3410133,7324621,15732546 ⋆ Expansion of x*(1-x-x^2)/((1-x)*(1-x-2*x^2-x^3)). • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3) - a(n - 4) for n>3. - _ Wesley Ivan Hurt _ , Oct 10 2015 • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - 1, n>=3. - _ R. J. Mathar _ , Nov 07 2015 •

[A002955] • 1,1,1,2,4,8,17,36,79,175,395,899,2074,4818,11291,26626,63184,150691,361141,869057,2099386,5088769,12373721,30173307,73771453 ⋆ Number of (unordered, unlabeled) rooted trimmed trees with n nodes. • a(n) satisfies a=SHIFT _ RIGHT(EULER(a - b)) where b(2)=1, b(k)=0 if k != 2. •

[A137255] • 1,2,4,8,17,36,80,178,409,942,2212,5204,12377,29472,70592,169198,406801,978426,2357092,5679488,13696385,33032892,79703120,192321034,464168041 ⋆ a(n)=2a(n-1)+4a(n-2)-6a(n-3)-3a(n-4). • a(n)=(3 / 8)3 ^ (n / 2) * [1 + (- 1) ^ n] + (5 / 24) * 3 ^ ((n + 1) / 2) * [1 - (- 1) ^ n] + (1 / 8) * [1 + sqrt(2)] ^ (n + 1) + (1 / 8) * [1 - sqrt(2)] ^ (n + 1). - _ Emeric Deutsch _ , Mar 31 2008 •

[A136671] • 0,1,2,4,8,17,37,81,177,388,850,1864,4088,8966,19664,43128,94591,207464,455026,997999,2188891 ⋆ Recursion based on Exp[Pi/4]: a(n)=Floor[a(n-1)*Exp[Pi/4]] Angular domain {0,Pi/4} is the smallest self-similar piece of a sine wave. • a(0)=0;a(1)=1;a(2)=Floor[Exp[Pi / 4]]; a(n)=Floor[a(n - 1) * Exp[Pi / 4]] •

[A203019] • 0,0,1,1,1,2,4,8,17,37,82,185,423,978,2283,5373,12735,30372,72832,175502,424748,1032004,2516347,6155441,15101701 ⋆ Number of elevated peakless Motzkin paths. • a(n) = Sum _{ m=0..(n - 1) / 2 } ((binomial(2 * m + 1,m) * Sum _{ k=0..n - 2 * m - 2 } (binomial(k,n - 2 * m - k - 2) * binomial(2 * m + k,k) * (- 1) ^ (n - k))) / (2 * m + 1)). - _ Vladimir Kruchinin _ , Mar 12 2016 •

[A004148] • 1,1,1,2,4,8,17,37,82,185,423,978,2283,5373,12735,30372,72832,175502,424748,1032004,2516347,6155441,15101701,37150472,91618049 ⋆ Generalized Catalan numbers: a(n+1) = a(n) + Sum_{k=1..n-1} a(k)*a(n-1-k). • a(n + 1) = a(n) + a(1) * a(n - 2) + a(2) * a(n - 3) + ... + a(n - 1) * a(0). • a(n) = Sum _{ k=ceiling((n + 1) / 2)..n } (binomial(k, n - k) * binomial(k, n - k + 1) / k) for n >= 1. - _ Emeric Deutsch _ , Nov 12 2003 This formula counts (i) disjoint - diagonal dissections by number of diagonals, (ii) peak - less Motzkin paths by number of up steps, (iii) UUU - and DDD - free Dyck paths by number of ascents. - _ David Callan _ , Mar 23 2004 • a(n,m) = Sum _{ k=0..n } Sum _{ j=0..k } C(n - k + j + m,n - k) * m / (n - k + j + m) * C(n - k,k - j) * C(k - j,j). •

[A214999] • 2,4,8,17,38,84,187,418,934,2088,4668,10437,23337,52183,116684,260913,583419,1304564,2917093,6522818,14585464,32614088,72927317,163070438,364636584 ⋆ Power floor sequence of sqrt(5). • a(n) = [x * a(n - 1)], where x=sqrt(5), a(0) = [x]. •

[A084635] • 1,1,2,4,8,17,38,86,192,419,894,1872,3864,7893,16006,32298,64960,130375,261310,523300,1047416,2095801,4192742,8386814,16775168 ⋆ Binomial transform of 1,0,1,0,1,1,1,... • a(n)=2 ^ n - n(n ^ 2 - 3n + 8) / 6; a(n)=1 + C(n, 2) + sum { k=4..n, C(n, k) } . •

[A154222] • 1,2,4,8,17,38,87,200,457,1034,2315,5132,11277,24590,53263,114704,245777,524306,1114131,2359316,4980757,10485782,22020119,46137368,96469017 ⋆ Row sums of number triangle A154221. • a(n) = (1 / 4) * (4 * (n + 1) + (n - 1) * 2 ^ n + 0 ^ n). • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4) for n>4. • a(n) = (4 - 2 ^ n + (4 + 2 ^ n) * n) / 4 for n>0. •

[A006196] • 0,1,1,1,2,4,8,17,38,87,203,482,1160,2822,6929,17149,42736,107144,270060,683940,1739511,4441255,11378814,29245927,75386341 ⋆ Number of leftist trees with n leaves. • a(n)=T(n,1),a(0)=0, T(n,m)=sum(j=0..m - 1, binomial(m,j) * sum(k=0..floor((n + j) / 2) - m, T(n - k - m,k + m - j) * T(k + m - j,m - j))), n>m, T(n,n)=1. - _ Vladimir Kruchinin _ , May 04 2012 •

[A100131] • 1,2,4,8,17,38,88,208,497,1194,2876,6936,16737,40398,97520,235424,568353,1372114,3312564,7997224,19306993,46611190,112529352,271669872,655869073 ⋆ Sum C(n-2k,2k)2^(n-4k), k=0..floor(n/4). • a(n)=sUm { k=0..n, sum { j=0..n - k, C(k, j) * C(n - j, k) * mod(j + 1, 2) }} ; - _ Paul Barry _ , May 31 2005 •

[A086615] • 1,2,4,8,17,38,89,216,539,1374,3562,9360,24871,66706,180340,490912,1344379,3701158,10237540,28436824,79288843,221836402,622599625,1752360040,4945087837 ⋆ Antidiagonal sums of triangle A086614. • a(n)=sum { k=0..floor((n + 1) / 2), binomial(n + 1, 2k + 1)binomial(2k, k) / (k + 1) } - _ Paul Barry _ , Nov 29 2004 • a(n) = n + 1 + sum _ k a(k - 1)a(n - k - 1), starting from a(n)=0 for n negative. - _ Henry Bottomley _ , Feb 22 2005 • a(n)=sum { k=0..n, sum { j=0..n - k, C(j)C(n - k, 2j) }} ; - _ Paul Barry _ , Aug 19 2005 •

[A081124] • 1,2,4,8,17,38,90,224,585,1594,4520,13288,40409,126782,409646,1360512,4637681,16202034,57941164,211860488,791272129,3015807254,11719800674,46401584096,187039192185 ⋆ Binomial transform of floor(n/2)!. • a(n) = Sum _{ k=0..n } C(n, k) * floor(k / 2)!. •

[A210540] • 1,1,1,2,4,8,17,40,104,291,857,2634,8455,28424,100117,368465,1410903,5599073,22968514,97267342,424927846,1913764155,8877181958,42358589064,207639979365 ⋆ Number of arrays of n nonnegative integers with value i>0 appearing only after i-1 has appeared at least 3 times • a(n) = 1 if n<=3 else sum { i=0..n - 3 } (binomial(n - 3,i) * a(i)) •

[A104879] • 1,2,4,8,17,40,106,316,1049,3830,15208,65072,297841,1449756,7468542,40555748,231335961,1381989882,8623700812,56078446616,379233142801,2662013133296,19362917622002,145719550012300,1133023004941273 ⋆ Row sums of a sum-of-powers triangle. • a(n)=1 + n + sum { k=2..n + 1, (k ^ (n - k + 1) - 1) / (k - 1) } •

[A200542] • 1,1,1,1,2,4,8,17,41,113,340,1070,3592,12979,50107,204325,875702,3947560,18724328,93137201,484066913,2623523381,14811843184,87000588266,530736806728 ⋆ E.g.f. A(x) satisfies differential equation A"'(x)=A(x)+1/2*A(x)^2, A(0)=0, A'(0)=1, A"(0)=1, A"'(0)=1. • a(n)=n! * b(n), b(n)=1 / (n * (n - 1) * (n - 2)) * (i=1..n - 4, b(n - 3) + 1 / 2 * sum(b(i) * b(n - 3 - i))), n>3, b(1)=1, b(2)=1 / 2, b(3)=1 / 6. •

[A291583] • 1,2,4,8,18,36,72,144,292,586,1172,2344,4696,9396,18792,37584,75186,150380,300764,601528,1203092,2406200,4812408,9624816,19249704 ⋆ Expansion of Product_{k>=1} 1/(1 - 2*x^(k^2)). • a(n) = c * 2 ^ n, where c = Product _{ k>=2 } 1 / (1 - 2 ^ (1 - k ^ 2)) = 1.147374019070625079101237889272899035897980088529928128690625767436689335822 2... •

[A288206] • 2,4,8,18,38,80,164,334,674,1356,2720,5450,10910,21832,43676,87366,174746,349508,699032,1398082,2796182,5592384,11184788,22369598,44739218 ⋆ a(n) = 3*a(n-1) - a(n-2) - 3*a(n-3) + 2*a(n-4), where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 18. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4), where a(0) = 2, a(1) = 4, a(2) = 8, a(3) = 18. • a(n) = (- 3 + (- 1) ^ (1 + n) + 2 ^ (4 + n) - 6 * n) / 6. - _ Colin Barker _ , Sep 29 2017 •

[A288309] • 2,4,8,18,40,92,210,484,1112,2562,5896,13580,31266,72004,165800,381810,879208,2024636,4662258,10736164,24722936,56931426,131100232,301894508,695195202 ⋆ a(n) = 2*a(n-1) + 2*a(n-2) - 3*a(n-3), where a(0) = 2, a(1) = 4, a(2) = 8. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3), where a(0) = 2, a(1) = 4, a(2) = 8. • a(n) = (2 ^ (1 - n) * (13 * 2 ^ n + (13 - 4 * sqrt(13)) * (1 - sqrt(13)) ^ n + (1 + sqrt(13)) ^ n * (13 + 4 * sqrt(13)))) / 39. - _ Colin Barker _ , Jun 09 2017 •

[A078678] • 1,2,4,8,18,42,100,242,592,1460,3624,9042,22656,56970,143688,363348,920886,2338566,5949148,15157874,38674978,98803052,252701484,646990518,1658066668 ⋆ Number of binary strings with n 1's and n 0's avoiding zigzags, that is avoiding the substrings 101 and 010. • a(n) = sum(binomial(n - k +

2 * floor(k / 3), floor(k / 3)) ^ 2, k=0..n + floor(n / 2)). • a(n) = sum(binomial(n - k,k) ^ 2 * (2 * n ^ 2 - 6 * n * k + 6 * k ^ 2) / (n - k) ^ 2), k=0..floor(n / 2)). • a(n) = [x ^ n y ^ n](1 + x * y + x ^ 2 * y ^ 2) / (1 - x - y + x * y - x ^ 2 * y ^ 2). - _ Gheorghe Coserea _ , Jul 18 2016 •

[A052327] • 1,1,2,4,8,18,43,102,251,625,1584,4055,10509,27451,72307,191697,511335,1370995,3693452,9991671,27133149,73934800,202096673,553999573,1522651908 ★ Number of rooted trees with a forbidden limb of length 4. • a(n) satisfies a = SHIFT _ RIGHT(EULER(a - b)) where b(4)=1, b(k)=0 if k != 4. •

[A100132] • 1,2,4,8,18,44,112,288,740,1896,4848,12384,31624,80752,206208,526592,1344784,3434272,8770368,22397568,57198368,146071744,373034240,952645120,2432840256 ★ Sum C(n-2k,2k)2^(n-3k), k=0..floor(n/4). • a(n)=sum { k=0..floor(n / 2), C(n - k, k)2 ^ (n - 3k / 2)(1 + (- 1) ^ k) / 2 } - _ Paul Barry _ , Jan 22 2005 •

[A116723] • 1,2,4,8,18,53,219,1201,8055,62860,556070,5488126,59740688,710771367,9174170117,127661752527,1904975488573,30341995265190,513771331467544,9215499383109764,174548332364311774,3481204991988351785,72920994844093191807,1600596371590399672061 ★ We have one bead labeled i for every i=1, 2, ...; a(n) = number of necklaces that can be made using any subset of the first n beads. • a(n) = 1 + n + n(n - 1) / 2 + Sum _{ k=3..n } n! / (2k(n - k)!). •

[A139784] • 0,0,0,0,1,2,4,8,19,38,76,152,315,630,1260,2520,5083,10166,20332,40664,81499,162998,325996,651992,1304667 ★ a(4n+1)=2a(4n), a(4n+2)=2a(4n+1), a(4n+3)=2a(4n+2), a(4n+4)=2a(4n+3)+A007583(n). • a(4n + s) = 2 ^ s * (- 1 / 45 + 7 * 16 ^ n / 90 - 4 ^ n / 18), s=0,1,2,3. - _ R. J. Mathar _ , May 18 2008 • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=1, a(5)=2, a(6)=4, a(7)=8, a(8)=19, a(n)=2 * a(n - 1) + 5 * a(n - 4) - 10 * a(n - 5) - 4 * a(n - 8) + 8 * a(n - 9). - _ Harvey P. Dale _ , Jan 21 2013 •

[A099526] • 1,2,4,8,19,44,100,224,505,1142,2584,5840,13195,29816,67384,152288,344161,777770,1757692,3972248,8976979,20287268,45847612,103611968,234154873 ★ Expansion of 1/(1-2x-3x^4). • a(n)=2a(n - 1) + 3a(n - 4); a(n)=sum { k=0..floor(n / 4), binomial(n - 3k, k)3 ^ (n - 3k)(2 / 3) ^ (n - 4k) } . •

[A099598] • 1,2,4,8,19,50,162,576,2469,11218,59984,331432,2120663,13784290,102616622,766648128,6507054537,54919451490,523342287196,4923469621256,52040350449307,539901936037202,6268123599148282 ★ Antidiagonal sums of array A099597. • a(n)=sum { k=0..n, C(n,k) * (floor(k / 2)!) ^ 2 } ; a(n)=sum { k=0..n, sum { j=0..n - k, C(n - k,j)C(k,j)j! ^ 2 }} ; - _ Paul Barry _ , May 26 2007 •

[A128816] • 1,1,2,4,8,19,53,160,512,1753,6431,25072,103022,444145,2004281,9447784,46407476,236950873,1254862955,6880495528,38999582018,228195894313,1376543144453,8550048509440,54619642413848 ★ Number of partitions of an n-element set avoiding the pattern 12|3. • a(0)=1, a(1)=1, a(n) = 1 + a(n - 1) + Sum _{ k=1..n - 2 } binomial(n - 2, k) * a(n - k - 2). •

[A005518] • 1,2,4,8,19,67,331,2221,19577,219613,3042161,50728129,997525853,22742734291,592821132889,17461204521323,575411103069067,21034688742654437,846729487306354343 ★ Largest label f(T) given to a rooted tree T with n nodes in Matula-Goebel labeling. • a(1)=1; a(2)=2; a(3)=4; a(4)=8; a(n) = the a(n - 1) - th prime (see the Gutman and Ivic 1994 paper). - _ Emeric Deutsch _ , Apr 15 2012 •

[A288476] • 2,4,8,20,44,108,244,588,1348,3212,7428,17580,40868,96332,224644,528236,1234148,2897804,6777924,15900844,37216932,87264460,204330500,478954476,1121747556 ★ a(n) = a(n-1) + 4*a(n-2) - 2*a(n-3), where a(0) = 2, a(1) = 4, a(2) = 8. • a(n) = a(n - 1) + 4 * a(n - 2) - 2 * a(n - 3), where a(0) = 2, a(1) = 4, a(2) = 8. •

[A115219] • 0,0,2,4,8,20,52,132,332,836,2108,5316,13404,33796,85212,214852,541724,1365892,3443932,8683460,21894300,55203844,139189852,350950468,884879388 ★ Expansion of 2*x^2*(1-x)/(1-3*x+2*x^2-2*x^3). • a(n + 3) = 3 * a(n + 2) - 2 * a(n + 1) + 2 * a(n). - _ G. C. Greubel _ , Feb 05 2016 •

[A123611] • 1,2,4,8,20,52,160,492,1620,5408,18504,64132,225440,800048,2865720,10341208,37568340,137270956,504176992,1860277044,6892335720,25631327688,95640894056,357975249028,1343650267296 ★ Row sums of triangle A123610. • a(n) = (1 / n) * Sum _{ d | n } phi(n / d) * binomial(2 * d, d) for n>0. - _ Andrew Howroyd _ , Apr 02 2017 •

[A113180] • 1,2,4,8,20,56,160,448,1240,3440,9632,27200,77216,219840,627200,1793024,5136480,14743232,42390400,122064640,351951232,1015990528,2936079360,8493340672,24591589120 ★ Expansion of 1/sqrt((1-2*x)^2-8*x^4). • a(n) = Sum _{ k=0..floor(n / 2) } C(n - 2k,k) * C(n - 3k,k) * 2 ^ (n - 3k). •

[A241891] • 1,2,4,8,20,72,244,968,3700,14792,58484,233928,932980,3731912,14916724,59666888,238623860,954495432,3817806964,15271227848,61084212340,244336849352,977344601204,3909378404808,15637502434420 ★ Total number of unit squares appearing in the Thue-Morse sequence of logical matrices (1, 0 version) after n stages. • a(n) = 4 * a(n - 1) + 5 * a(n - 2) - 20 * a(n - 3) - 4 * a(n - 4) + 16 * a(n - 5). - _ Colin Barker _ , Jan 17 2015 •

[A262345] • 2,4,8,22,24,26,98,228,246,808,1556,1792,1978,3424,69738,108376,169584 ★ Numbers n such that 4^n + 21 is prime. • a(n) = half of even terms of A057201. •

[A217975] • 2,4,8,22,46,128,268,746,1562,4348,9104,25342,53062,147704,309268,860882,1802546,5017588,10506008,29244646,61233502,170450288,356895004,993457082,2080136522 ★ 2*n^2 - 7 is a square. • a(n) = 6 * a(n - 2) - a(n - 4) with a(1)=2, a(2)=4, a(3)=8, a(4)=22. - _ Sture Sjöstedt _ , Oct 16 2012 • a(n) = a(- n + 1) = ((4 + sqrt(2)) * (1 - (- 1) ^ n * sqrt(2)) ^ (2 * floor(n / 2)) + (4 - sqrt(2)) * (1 + (- 1) ^ n * sqrt(2)) ^ (2 * floor(n / 2))) / 4. - _ Bruno Berselli _ , Oct 25 2012 •

[A291405] • 0,2,4,8,24,52,120,290,672,1592,3760,8824,20800,48976,115296,271588,639488,1505816,3546032,8350064,19662944,46302800,109033952,256754760,604609280 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 2 S^2 - 2 S^4. • a(n) = 2 * a(n - 2) + 4 * a(n - 3) + 4 * a(n - 4) + 5 * a(n - 5) + 12 * a(n - 6) + 8 * a(n - 7) + 2 * a(n - 8) for n >= 9. •

[A115115] • 2,4,8,24,70,232,782,2744,9710,34990,127102,466152,1720742,6391714,23860936,89479864,336860182,1272587758,4822419422,18325211326,69810262088,266548336954,1019836872142,3909374909672,15011998757958 ★ Number of 3-asymmetric rhythm cycles: binary necklaces of length 3n subject to the restriction that for any k if the k-th bead is of color 1 then the (k+n)-th and (k+2n)-th beads (modulo 3n) are of color 0. • a(n)=(Sum _{ d|n } phi(3d) + Sum _{ d|n, (3, d)=1 } phi(d)4 ^ (n / d)) / (3n), where phi(n) is the Euler function A000010. •

[A026097] • 1,2,4,8,24,72,216,648,1944,5832,17496,52488,157464,472392,1417176,4251528,12754584,38263752,114791256,344373768,1033121304,3099363912,9298091736,27894275208,83682825624 ★ a(n) = number of (s(0), s(1), ..., s(n)) such that every s(i) is an integer, s(0) = 0, |s(i) - s(i-1)| = 1 for i = 1,2,3; |s(i) - s(i-1)| <= 1 for i >= 4. Also a(n) = sum of numbers in row n+1 of the array T defined in A026082 and a(n) = 24*3^(n-4) for n >= 4. • a(n) = 3 * a(n - 1) for n>3. G.f.: (4 * x ^ 3 + 2 * x ^ 2 + x - 1) / (3 * x - 1). - _ Colin Barker _ , Jun 15 2013 •

[A264557] • 1,1,1,2,4,8,24,72,216,864,3456,13824,69120,345600,1728000,10368000,62208000,373248000,2612736000,18289152000,128024064000,1024192512000,8193540096000,65548320768000,589934886912000 ★ Number of n X 1 arrays of permutations of 0..n*1-1 with rows nondecreasing modulo 2 and columns nondecreasing modulo 3. • a(n) = Product _{ i=0..2 } ceiling((n - i) / 3)!. - _ Alois P. Heinz _ , Jul 09 2016 •

[A152875] • 2,4,8,24,72,288,1152,5760,28800,172800,1036800,7257600,50803200,406425600,3251404800,29262643200,263363788800,2633637888000,26336378880000,289700167680000,3186701844480000,38240422133760000 ★ Number of permutations of {1,2,...,n} (n>=2) with all odd entries preceding all even entries or all even entries preceding all odd entries. • a(2n) = 2n! ^ 2; a(2n + 1) = 2n!(n + 1)!. •

[A179190] • 1,2,4,8,24,80,288,1088,4256,17088,70016,291584,1230592,5251584,22623232,98248704,429677056,1890700288,8364824576,37186449408,166030266368,744180244480,3347321831424,15104525959168,68357598756864 ★ Coefficient [x^n] of the Maclaurin series for 2-(1-4x-4x^2)^(1/2). • a(n) = sum _{ k=0..floor(n / 2) } (2n - 2k - 3)!! * 2 ^ (n - k) / (k! * (n - 2k)!), n>0. - R. J. Mathar, Jul 11 2011 •

[A291482] • 0,1,2,4,8,24,80,456,2368,20352,139648,1577984,13327360,185992832,1860708096,30882985472,356724338688,6860887896064,89815091306496,1963843714723840,28724760194564096,703639672161697792,11370790299166343168,308435832182144040960,5456591088206554333184 ★ Expansion of e.g.f. arcsin(x)*exp(x). • a(n) = Sum _{ k=0..(n - 1) / 2 } binomial(n,2 * k + 1) * binomial(2 * k,k) * (2k)! / 4 ^ k. • a(n + 4) - 2 * a(n + 3) - (n ^ 2 + 4 * n + 3) * a(n + 2) + (n + 2) * (2 * n + 3) * a(n + 1) - (n + 1) * (n + 2) * a(n) = 0. (End) •

[A066535] • 1,2,4,8,24,112,544,2368,9328,34802,129064,491768,1938336,7801744,31553344,127083328,509145568,2035437440,8148505828,32728127192,131880275664,532597541344,2153312518240,8710505815360,35250721087168 ★ Number of ways of writing n as a sum of n squares. • a(n) equals the coefficient of x ^ n in the n - th power of Jacobi theta _ 3(x) where theta _ 3(x) = 1 + 2 * Sum _{ n>=1 } x ^ (n ^ 2). - _ Paul D. Hanna _ , Oct 25 2009 •

[A271216] • 1,2,4,8,32,64,384,768,6144,12288,122880,245760,2949120,5898240,82575360,165150720,2642411520,5284823040,95126814720,190253629440,3805072588800 ★ a(n) = 2^n floor(n/2)! • a(n) = 2 ^ n floor(n / 2)! •

[A102000] • 1,2,4,8,32,80,208,560,1552,4144,11152,30128,81424,219440,592016,1597616,4310800,11629616,31377808,84661168,228421648,616292144,1662802576,4486362800,12104509712 ★ Sequence generated from a lattice packing matrix. • a(n) = right term of M ^ n * [1 1 1 1], where M = the 4X4 matrix that generates the D _ 4 lattice, [1 1 1 1 / 2 0 0 0 / 0 2 0 0 / 0 0 2 0]. a(n) = a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3) + 8 * a(n - 4), n>3. •

[A192008] • 1,2,4,8,32,96,456,2016,11232,61632,419328,2695680,21358080,161049600,1433894400,12429158400,123511910400,1202903654400,13229501644800,143113833676800,1722282128179200,20516624400384000,268083853148160000,3485314242772992000,49167975665958912000 ★ Modified linear pay-phone sequence: number of ways to occupy n pay-phones in a row one-by-one, each time picking a phone adjacent to the smallest number of previously occupied phones. • a(n) = SUM (m + k + 1)! * binomial(m + k,m) * 2 ^ k * (k + v1 + v2)! * (m + k)!, where the sum is taken over v1,v2 each from 0 to 1, and over nonnegative m,k such that 2 * m + 3 * k = n - 1 - v1 - v2. - _ Max Alekseyev _ , Sep 11 2016 •

[A228920] • 2,4,8,32,192,1024,4608,18432,69632,262144,1015808,4063232,16515072,67108864,270532608,1082130432,4311744512,17179869184,68585259008,274341036032,1098437885952,4398046511104,17600775979008,70403103916032,281543696187392 ★ Number of solutions to Sum(x_i^2, i=1...n) == 0 (mod 4). • a(n) = ((2 + 2i) ^ n + (2 - 2i) ^ n + 4 ^ n) / 4. - _ Charles R Greathouse IV _ , Sep 15 2013 •

[A036544] • 2,4,8,32,256,2480,24704,246928,2469152,24691376,246913600,2469135824,24691358048,246913580272,2469135802496,24691358024720,246913580246944 ★ (2*(1+n+(((10^n-1)/9)-n)/9)). • a(n) = (2 / 81) * (72 * n + 10 ^ n + 80). •

[A068620] • 1,2,4,8,56,272,1184,4736,17536,65792,254464,1015808,4130816,16781312,67641344,270565376,1077968896,4295032832,17146445824,6858525900

8,274609995776,1099512676352,4400196091904,17600784367616,703859324354
56 ★ Number of strings over Z_4 of length n with trace 0 and subtrace 0. • a(
n; t, s) = a(n - 1; t, s) + a(n - 1; t + 3, s + 3t + 1) + a(n - 1; t + 2, s + 2t)
+ a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •
[A263451] • 1,2,4,8,61,221,442,884,8761,75221,544210,8842100,87642100,875
422100,8754421000,88754210000,877542100000,8755421000000,8754211000000
0,875422100000000,8754421000000000,88754210000000000,87754210000000000
0,8755421000000000000 ★ a(n) is the largest anagram of 2*a(n-1), a(1)=1. • a
(n) = 10 ^ 6 * a(n - 6) for n >= 20. (End) •
[A267457] • 1,2,4,8,84,168,1364,2728,21844,43688,349524,699048,5592404,11
184808,89478484,178956968,1431655764,2863311528,22906492244,4581298448
8,366503875924,733007751848,5864062014804,11728124029608,9382499223688
4 ★ Decimal representation of the n-th iteration of the "Rule 133" elementary
cellular automaton starting with a single ON (black) cell. • a(n) = 17 * a(n -
2) - 16 * a(n - 4) for n>5. •
[A047465] • 1,2,4,9,10,12,17,18,20,25,26,28,33,34,36,41,42,44,49,50,52,57,58,6
0,65 ★ Numbers that are congruent to {1, 2, 4} mod 8. • a(n) = a(n - 1) + a(
n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , May 16 2012 • a(n) = 8 *
n / 3 - 3 - cos(2 * n * Pi / 3) + 5 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k)
= 8k - 4, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 7. (End) •
[A047348] • 2,4,9,11,16,18,23,25,30,32,37,39,44,46,51,53,58,60,65,67,72,74,79,8
1,86 ★ Numbers that are congruent to {2, 4} mod 7. • a(n) = a(n - 1) + a(n -
2) - a(n - 3). • a(n) = 7 * floor((n - 1) / 2) + 3 + (- 1) ^ n. - _ Gary Detlefs
_ , Mar 02 2010 • a(n) = 7 * n - a(n - 1) - 8 with n > 1, a(1)=2. - _ Vincenz
o Librandi _ , Aug 05 2010 •
[A266257] • 1,2,4,9,11,20,22,35,37,54,56,77,79,104,106,135,137,170,172,209,21
1,252,254,299,301 ★ Total number of ON (black) cells after n iterations of the
"Rule 11" elementary cellular automaton starting with a single ON (black) cell.
• a(n) = ((n + 1) ^ 2 - (- 1) ^ n * (n - 1)) / 2. • a(n) = a(n - 1) + 2 * a(n -
2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •
[A241200] • 2,4,9,12,19,23,32,37,48,54,67,74,89,97,114,123,142,152,173,184,20
7,219,244,257,284 ★ For the n in A241199, the index of the first of 4 terms in
binomial(n,k) that satisfy a quadratic relation. • a(n) = (- 11 - 5 * (- 1) ^ n
- 2 * (- 15 + (- 1) ^ n) * n + 6 * n ^ 2) / 16. G.f.: x * (x ^ 2 - 2) * (x ^ 2 +
x + 1) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Apr 18 2014 and Ap
r 29 2015 •
[A092530] • 0,2,4,9,12,20,24,35,40,54,60,77,84,104,112,135,144,170,180,209,22
0,252,264,299,312 ★ a(0) = 0; for n>0, a(n) = T(n) + k where T(n) is a trian-
gular number (A000217) and k (see A026741) is the smallest positive number
such that a(n) is divisible by n. • a(0) = 0, a(2n) = a(2n - 1) + n, a(2n - 1) =
a(2n - 2) + 3n - 1. - _ Amarnath Murthy _ , Jul 04 2004 •
[A266596] • 0,2,4,9,15,20,30,35,49,54,72,77,99,104,130,135,165,170,204,209,24
7,252,294,299,345 ★ Total number of OFF (white) cells after n iterations of the
"Rule 37" elementary cellular automaton starting with a single ON (black) cell.
• a(n) = (n ^ 2 + 4 * n + (- 1) ^ n * (n - 3) - 3) / 2 for n>0. • a(n) = a(n -
1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •
[A058296] • 2,4,9,15,21,30,39,45,56,64,72,81,93,102,108,120,134,144,154,165,1
76,186,195,205,225 ★ Average of consecutive primes. • a(1)=2, a(n) = (p(2n -
2) + p(2n - 1)) / 2 for n>1, where p(i) is the i - th prime. •
[A080004] • 1,1,1,2,4,9,15,25,46,84,156,280,501,909,1647,2990,5408,9773,1769
5,32033,58000,104976,189968,343860,622409 ★ Number of permutations satis-
fying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=2, r=3, I={-1,2}. • a(
n) = a(n - 1) + a(n - 3) + a(n - 4) + 4 * a(n - 5) - a(n - 6) + a(n - 7) - a(n - 9
) - a(n - 10). •
[A082894] • 2,4,9,16,30,66,126,256,513,1020,2046,4092,8190,16380,32775,655
36,131070,262152,524286,1048580,2097144,4194300,8388606,16777224,3355442
5 ★ a(n) is the closest number to 2^n which is divisible by n. • a(n) = n * floo
r((floor(n / 2) + 2 ^ n) / n). •
[A060401] • 2,4,9,16,65,66,427,848,2529,2530,27731,27732,360373,360374,360
375,720736,12252257,12252258,232792579,232792580,232792581,232792582,535
4228903,5354228904,26771144425 ★ a(n) = minimal m such that m>n, n divides
m, n-1 divides m-1, n-2 divides m-2 and so on down to 1 divides m-n+1. • a(
n) = n + lcm(seq(i, i=1..n)). •
[A007502] • 1,2,4,9,17,33,61,112,202,361,639,1123,1961,3406,5888,10137,1738
9,29733,50693,86204,146246,247577,418299,705479,1187857 ★ Les Marvin se-
quence: a(n) = F(n)+(n-1)*F(n-1), F() = Fibonacci numbers. • a(n) = 2 * a(
n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>3, a(0)=1, a(1)=2, a(2)=4, a(3
)=9. - Harvey P. Dale, Jul 13 2011 •
[A266108] • 1,1,2,4,9,17,33,67,133,256,488,935,1798,3437,6507,12239,22950,42
959,80283,149717,278338,515579,952014,1753899,3225529 ★ Expansion of Prod-
uct_{k>=1} (1 + (x + x^2)^k). • a(n) = Sum _{ k=0..n } binomial(k,n - k)
* q(k), where q(n) is A000009. •
[A115451] • 1,1,2,4,9,17,34,68,137,273,546,1092,2185,4369,8738,17476,34953,6
9905,139810,279620,559241,1118481,2236962,4473924,8947849 ★ Expansion of
1/((1+x)*(1-2*x)*(1+x^2)). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 2 * a(n
- 4); • a(n) = Sum _{ k=0..n } (2 ^ (n - k + 1) - 1)(- 1) ^ k } - Sum _{ k=0
..floor(n / 2) } (2 ^ (n - 2k) - 1)(- 1) ^ k } . •
[A291728] • 1,2,4,9,17,35,70,142,285,576,1160,2340,4716,9510,19171,38653,7
7926,157110,316747,638599,1287479,2595698,5233196,10550681,21271280 ★ p-
INVERT of (1,0,1,0,0,0,0,...), where p(S) = 1 - S - S^2. • a(n) = a(n - 1) + a(
n - 2) + a(n - 3) + 2 * (a(n - 4) + a(n - 6) for n >= 7. •
[A103321] • 1,2,4,9,18,35,68,130,246,463,867,1617,3007,5579,10332,19107,352
95,65140,120137,221444,407999,751453,1383641,2547116,4688106 ★ Expansion
of 1 / ((1-x-x^2-x^3)*(1-x-x^3)). • a(0)=1, a(1)=2, a(2)=4, a(3)=9, a(4)=18,
a(5)=35, a(n)=2 * a(n - 1) + a(n - 3) - 2 * a(n - 4) - a(n - 5) - a(n - 6). - _ H
arvey P. Dale _ , Nov 06 2011 •
[A101351] • 2,4,9,18,36,71,140,276,545,1078,2136,4239,8424,16760,33377,665
22,132668,264727,528468,1055340,2108097,4212014,8417264,16823583,3362945
6 ★ a(n) = 2^n-1 + Fibonacci(n). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - a(n - 3)
+ 2 * a(n - 4). G.f.: x * (2 - 4 * x + x ^ 2) / ((x - 1) * (2 * x - 1) * (1 - x - x
^ 2)). - _ R. J. Mathar _ , Feb 06 2010 • a(n) = ((1 + sqrt(5)) ^ n - (1 - sqrt
(5)) ^ n) / (2 ^ n * sqrt(5)) + 2 ^ n - 1. - _ Colin Barker _ , Nov 02 2016 •
[A293333] • 2,4,9,18,36,72,143,286,572,1145,2290,4579,9159,18318,36636,732
71,146543,293086,586172,1172344,2344687,4689374,9378749,18757498,3751499
5 ★ The integer k that minimizes |k/2^n - sqrt(5))|. • a(n) = floor(1 / 2 + r *
2 ^ n), where r = sqrt(5). •
[A155803] • 0,0,0,1,2,4,9,18,36,73,146,292,585,1170,2340,4681,9362,18724,374
49,74898,149796,299593,599186,1198372,2396745 ★ A023001 interleaved with
2*A023001 and 4*A023001. • a(n)= 2 * a(n - 1) + a(n - 3) - 2 * a(n - 4). G.f.
: x ^ 3 / ((x - 1) * (2 * x - 1) * (1 + x + x ^ 2)). [_ R. J. Mathar _ , Jul 23
2009] • a(n)=floor(2 ^ n / 7) [_ Mircea Merca _ , Dec 22 2010] •
[A033138] • 1,2,4,9,18,36,73,146,292,585,1170,2340,4681,9362,18724,37449,74
898,149796,299593,599186,1198372,2396745,4793490,9586980,19173961 ★ a(n)
= floor(2^(n+2)/7). • a(n) = 2 * a(n - 1) + a(n - 3) - 2 * a(n - 4). -_ John W
. Layman _ • a(n) = floor(2 ^ (n + 2) / 7). - _ Gary Detlefs _ , Sep 06 2010
• a(n) = floor((4 * 2 ^ n - 1) / 7) = ceiling((4 * 2 ^ n - 4) / 7) = round((4 * 2
^ n - 2) / 7) = round((8 * 2 ^ n - 5) / 14); a(n) = a(n - 3) + 2 ^ (n - 1), n>3.
- _ Mircea Merca _ , Dec 28 2010 • a(n) = 4 / 7 * 2 ^ n - 5 / 21 * cos(2 / 3 *
Pi * n) + 1 / 21 * 3 ^ (1 / 2) * sin(2 / 3 * Pi * n) - 1 / 3. - _ Leonid Bedraty
uk _ , May 13 2012 •
[A293352] • 0,1,2,4,9,18,36,73,147,295,591,1182,2364,4728,9457,18914,37828,7
5656,151313,302627,605254,1210508,2421017,4842035,9684071 ★ Greatest inte-
ger k such that k/2^n < Euler's constant (0.577216...). • a(n) = floor((r * 2 ^
n)), where r = Euler's constant (0.577216...). •
[A293327] • 0,1,2,4,9,18,36,73,147,295,591,1182,2364,4729,9459,18918,37837,7
5674,151348,302697,605395,1210791,2421582,4843165,9686330 ★ Least integer
k such that k/2^n > sqrt(1/3). • a(n) = ceiling(r * 2 ^ n), where r = sqrt(1 /
3). •
[A081253] • 2,4,9,18,37,74,149,298,597,1194,2389,4778,9557,19114,38229,764
58,152917,305834,611669,1223338,2446677,4893354,9786709,19573418,3914683
7 ★ Numbers n such that A081252(m)/m^2 has a local minimum for m = n. •
a(n) = floor(2 ^ n * 7 / 3) • a(n) = 2 * a(n - 1) for even n, otherwise a(n) = 2
* a(n - 1) + 1, with a(1)=2. [_ Bruno Berselli _ , Jun 19 2014] •
[A118255] • 1,2,4,9,18,37,74,149,299,599,1198,2397,4794,9589,19179,38359,76
718,153437,306874,613749,1227499,2454999,4909998,9819997,19639995 ★ a(1)=1,
then a(n)=2*a(n-1) if n is prime, a(n)=2*a(n-1)+1 if n not prime. • a(n) = fl
oor(k * 2 ^ n) where k = 0.585317... = 1 - A051006. [_ Charles R Greathous
e IV _ , Dec 27 2011] •
[A206927] • 2,4,9,18,37,75,150,300,601,1202,2405,4811,9622,19244,38489,769
78,153957,307915,615830,1231660,2463321,4926642,9853285,19706571,3941314
2 ★ Minimal numbers of binary length n+1 such that the number of contiguous
palindromic bit patterns in the binary representation is minimal. • a(n) = 37
* 2 ^ (1 + n mod 6) * (2 ^ (6 * floor(n / 6)) - 1) / 63 + floor(37 * 2 ^ (n mod
6) / 2 ^ 5). • a(n) = floor((37 * 2 ^ (n + 1) / 63)) mod 2 ^ (n + 1). • a(n +
1) = 2a(n) + floor(37 * 2 ^ (n + 2) / 63) mod 2. •
[A219755] • 0,0,0,0,1,2,4,9,18,39,80,169,350,731,1516,3149,6522,13503,27912,5
7649,118934,245155,504868,1038869,2135986 ★ Expansion of x^4*(1-3*x^2-
x^3)/((1+x)*(1-2*x)*(1-x-2*x^2)). • a(n) = (2 ^ (n - 5) * (3 * n + 38) -
(3 * n - 14) * (- 1) ^ n) / 27 with n>3, a(0)=a(1)=a(2)=a(3)=0. [_ Bruno
Berselli _ , Nov 29 2012] •
[A289846] • 1,2,4,9,18,39,80,170,353,744,1553,3262,6824,14313,29970,62823,1
31596,275782,577777,1210704,2536657,5315210,11136700,23334969,48893202 ★
p-INVERT of (1,0,1,0,1,0,1,0,1,...) (A059841), where p(S) = 1 - S - S^2. • a(n
) = a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4). •
[A038044] • 1,1,2,4,9,18,40,80,168,340,698,1396,2844,5688,11456,22948,4607
2,92144,184696,369392,739536,1479232,2959860,5919720,11842696 ★ Shifts left
under transform T where Ta is a DCONV a. • a(1)=1, a(n + 1)=sum(d|n, a(
d) * a(n / d)); a(prime(k) + 1)=2 * a(prime(k)); a(n) is asymptotic to c * 2 ^
n where c=0.353030198... - Benoit Cloitre, Aug 29 2004 •
[A189911] • 1,2,4,9,18,40,80,175,350,756,1512,3234,6468,13728,27456,57915,1
15830,243100,486200,1016158,2032316,4232592,8465184,17577014,35154028 ★
Row sums of the extended Catalan triangle A189231. • a(2 * n) = (n + 1) *
C(2 * n, n) (A037965); • a(2 * n + 1) = (n + 2) * C(2 * n + 1, n + 1) (A097
070). (End) •
[A081490] • 1,2,4,9,19,36,62,99,149,214,296,397,519,664,834,1031,1257,1514,1
804,2129,2491,2892,3334,3819,4349 ★ Leading term of n-th row of A081491. •
a(n)=(n - 2) ^ 2 + a(n - 1) + 1, n>1. - _ Gary Detlefs _ , Jun 29 2010 • a(1)
=1, a(2)=2, a(3)=4, a(4)=9, a(n)=4a(n - 1) - 6a(n - 2) + 4a(n - 3) - a(n - 4).
- _ Harvey P. Dale _ , Apr 30 2011 •
[A292478] • 1,2,4,9,19,36,66,127,256,513,998,1916,3717,7311,14396,28134,547
19,106624,208577,408426,798340,1558049,3041323,5942916,11618026 ★ p-INVERT
of A010892, where p(S) = 1 - S - S^3. • a(n) = 4 * a(n - 1) - 8 * a(n - 2) + 11
* a(n - 3) - 8 * a(n - 4) + 4 * a(n - 5) - a(n - 6) for n >= 7. •
[A262864] • 1,2,4,9,19,38,76,153,307,614,1228,2457,4915,9830,19660,39321,78
643,157286,314572,629145,1258291,2516582,5033164,10066329,20132659 ★ Dec-
imal representation of the middle column of the "Rule 147" elementary cellular
automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) - 3 * a
(n - 2) + 3 * a(n - 3) - 2 * a(n - 4) for n>3. •

[A293322] • 0,1,2,4,9,19,39,79,158,316,632,1265,2531,5062,10125,20251,40503,81006,162013,324027,648055,1296111,2592222,5184444,10368889 ⋆ Greatest integer k such that k/2^n < 1/tau, where tau = (1+sqrt(5))/2 = golden ratio. • a(n) = floor((r * 2 ^ n)), where r = (- 1 + sqrt(5)) / 2. •

[A267157] • 1,2,4,9,19,39,79,159,319,639,1278,2557,5114,10229,20458,40917,81834,163669,327338,654677,1309354,2618709,5237418,10474837,20949674 ⋆ Decimal representation of the middle column of the "Rule 107" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- (- 1) ^ n + 959 * 2 ^ (n - 7) - 3) / 6 for n>7. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>4. •

[A054135] • 2,4,9,19,39,79,159,319,639,1279,2559,5119,10239,20479,40959,81919,163839,327679,655359,1310719,2621439,5242879,10485759,20971519,41943039 ⋆ T(n,1), array T as in A054134. • a(1)=1, a(n) = Sum _ i=1..n - 1 a(i) + n for n>1 - _ Gerald McGarvey _ , Sep 06 2004 •

[A099568] • 1,2,4,9,19,39,80,163,330,666,1341,2695,5409,10846,21733,43526,87140,174409,349007,698291,1396988,2794571,5590014,11181306,22364485 ⋆ Expansion of (1-x)/((1-2x)(1-x-x^3)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - 2 * a(n - 4). • a(n) = sum { k=0..n, sum { j=0..floor(n / 3), binomial(n - 2j, k + j) }} . •

[A084172] • 1,2,4,9,19,40,82,167,337,678,1360,2725,5455,10916,21838,43683,87373,174754,349516,699041,1398091,2796192,5592394,11184799,22369609 ⋆ a(n) = +3*a(n-1) -1*a(n-2) -3*a(n-3) +2*a(n-4). • a(n)=2 ^ (n + 2) / 3 - (- 1) ^ n / 12 - (2 * n + 1) / 4. • a(n + 2)=a(n + 1) + 2 * a(n) + n, a(0)=0, a(1)=2. • a(n + 1) = 2 * a(n) + floor(n / 2). _ Franklin T. Adams - Watters _ , Oct 17 2013 •

[A141683] • 1,1,2,4,9,19,41,88,189,406,872,1873,4023,8641,18560,39865,85626,183916,395033,848491,1822473,3914488,8407925,18059374,38789712 ⋆ An Padovan Invert transform of A000931 in an Vladeta Jovovic A001906 form: b(n)=b(n-2)+b(n-3); a(n)=Sum[b[k]*a(n - k), {k, 1, n}]. • a(n)=a(n - 1) + 2 * a(n - 2) + a(n - 3), n>4. G.f.: x * (1 - x ^ 2 - x ^ 3) / (1 - x - 2 * x ^ 2 - x ^ 3). [Colin Barker, Feb 01 2012] •

[A275862] • 1,1,2,4,9,19,41,89,194,424,927,2026,4429,9682,21166,46272,101157,221143,483449,1056887,2310503,5051084,11042380,24140196,52773864 ⋆ floor(r*a(n-1)) + floor(r*a(n-2)), where r = 3/2, a(0) = 1, a(1) = 1. • a(n) = floor(3 * a(n - 1) / 2) + floor(3 * a(n - 2) / 2). •

[A089941] • 1,2,4,9,19,42,90,197,424,923,1989,4315,9300,20129,43374,93724,201888,435713,938218,2022972,4354569,9382489,20190181,43477688,93534469 ⋆ Row sums of triangle A089940. • a(n)=sum { k=0..n, Bin(n + k, floor((n - k) / 2)) } . •

[A192923] • 0,1,2,4,9,19,42,91,200,437,959,2101,4609,10106,22168,48620,106649,233928,513126,1125541,2468901,5415578,11879209,26057330,57157443 ⋆ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3) - a(n - 4). •

[A192673] • 1,1,2,4,9,19,42,92,203,453,1018,2300,5224,11919,27301,62750,144662,334392,774802,1799089,4185524,9754468,22769099,53225213,124585182 ⋆ Floor-Sqrt transform of large Schroder numbers (A006318). • a(n) = floor(sqrt(largeSchroder(n))). •

[A289845] • 1,2,4,9,19,43,91,202,433,952,2055,4494,9737,21236,46099,100403,218164,474833,1032256,2245929,4883690,10623848,23103985,50255443,109298635 ⋆ p-INVERT of A079977, where p(S) = 1 - S - S^2. • a(n) = a(n - 1) + 3 * a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - 2 * a(n - 6) - a(n - 8). •

[A052328] • 1,1,2,4,9,19,46,110,273,684,1747,4505,11763,30956,82153,219437,589747,1593170,4324445,11787195,32251520,88548011,243877256,673605521,1865445693 ⋆ Number of rooted trees with a forbidden limb of length 5. • a(n) satisfies a = SHIFT _ RIGHT(EULER(a - b)) where b(5)=1, b(k)=0 if k != 5. •

[A101338] • 1,2,4,9,20,41,77,134,219,340,506,727,1014,1379,1835,2396,3077,3894,4864,6005,7336,8877,10649,12674,14975 ⋆ Antidiagonal sums in A101321. • a(n) = n ^ 4 / 24 + n ^ 3 / 12 - n ^ 2 / 24 + 11 * n / 12 + 1. • a(0)=1, a(1)=2, a(2)=4, a(3)=9, a(4)=20, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , May 21 2013 •

[A179744] • 1,2,4,9,20,43,90,185,376,759,1526,3061,6132,12275,24562,49137,98288,196591,393198,786413,1572844,3145707,6291434,12582889,25165800 ⋆ a(0) = 1, a(n) = 3*2^(n-1) - n for n>0. • a(0) = 1, a(1) = 2; a(n) = 2 * a(n - 1) + (n - 2) for n>1. •

[A109975] • 1,2,4,9,20,44,96,208,448,960,2048,4352,9216,19456,40960,86016,180224,376832,786432,1638400,3407872,7077888,14680064,30408704,62914560 ⋆ Second differences of A045623, prefixed by an initial 1. • a(n) = 2 ^ (n - 3) * (n + 6) with n>1, a(0)=1, a(1)=2 (see the PARI code). - _ Bruno Berselli _ , Jun 27 2012 •

[A129988] • 1,2,4,9,20,44,96,209,456,999,2198,4854,10752,23877,53142,118517,264816,592744,1328880,2983565,6707396,15096727,34014866,76712042,173150400 ⋆ Fourth differences of A129983. • a(n)= + 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 3 * a(n - 4) - 2 * a(n - 5), n>5. - _ R. J. Mathar _ , Feb 11 2016 •

[A008998] • 1,2,4,9,20,44,97,214,472,1041,2296,5064,11169,24634,54332,119833,264300,582932,1285697,2835694,6254320,13794337,30424368,67103056,148000449 ⋆ a(n) = 2*a(n-1) + a(n-3). • a(n) = sum { k=0..floor(n / 3), binomial(n - 2k, k)2 ^ (n - 3k) } . - _ Paul Barry _ , Oct 20 2004 •

[A052534] • 1,2,4,9,20,45,101,227,510,1146,2575,5786,13001,29213,65641,147494,331416,744685,1673292,3759853,8448313,18983187,42654834,95844542,215360731 ⋆ Expansion of (1-x)(1+x)/(1-2x-x^2+x^3). • a(n) = central term in the (n + 1) - th power of the 3 X 3 matrix (shown in the example of A066170): [1 1 1 / 1 1 0 / 1 0 0]. E.g. a(6) = 101 since the central term in M ^ 7 = 101. - _ Gary W. Adamson _ , Feb 01 2004 •

[A227978] • 1,2,4,9,20,45,102,231,520,1161,2570,5643,12300,26637,57358,122895,262160,557073,1179666,2490387,5242900,11010069,23068694,48234519,100663320 ⋆ a(0)=1, a(1)=2; for n>1, a(n) = n*(2^n+4)/4. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4) for n>5. •

[A138164] • 1,1,2,4,9,20,47,109,262,622,1516,3653,8988,21883,54213,133004,331233,817432,2044151,5068346,12716872,31651555,79636493,198843284,501466519 ⋆ Row sums of Riordan array (c(-x^2),xc(-x^2)^2)^(-1) where c(x) is the g.f. of A000108. • a(n) = top left term of M ^ n. a(n + 1) = sum of top row terms of M ^ n. Example: top row of M ^ 3 = (4, 3, 1, 1), where a(3) = 4 and a(4) = 9 = (4 + 3 + 1 + 1). - _ Gary W. Adamson _ , Jul 07 2011 •

[A052329] • 1,1,2,4,9,20,47,113,281,706,1807,4671,12224,32247,85782,229683,618767,1675618,4559263,12457483,34168574,94040433,259637564,718892281,1995739380 ⋆ Number of rooted trees with a forbidden limb of length 6. • a(n) satisfies a=SHIFT _ RIGHT(EULER(a - b)) where b(6)=1, b(k)=0 if k != 6. •

[A124497] • 1,1,2,4,9,20,48,116,288,724,1849,4768,12423,32628,86342,229952,616042,1659012,4489101,12199521,33284546,91140797,250396629,690043032,1907022197 ⋆ Number of 1-2-3 trees with n edges and with thinning limbs. • a(n) = Sum _{ m=1..n + 2 } (binomial(3 * m,m) * Sum _{ k=0..n - m } ((binomial(2 * m + 2 * k,k) * binomial(n - m - k,2 * m + k)) / (2 * m + k + 1))) + Sum _{ k=0..n / 2 } ((binomial(2 * k,k) * binomial(n - k,k)) / (k + 1)). - _ Vladimir Kruchinin _ , Apr 24 2016 •

[A286983] • 1,2,4,9,20,48,117,294,748,1925,4984,12960,33785,88218,230580,603057,1577836,4129232,10807885,28291230,74060636,193882317,507572784,1328814144,3478834225 ⋆ a(n) is the smallest integer that can appear as the n-th term of two distinct nondecreasing sequences of positive integers that satisfy the Fibonacci recurrence relation. • a(n) = F(n) * (1 + F(n - 1)) where F = A000045 (the Fibonacci sequence). • a(n) = 3 * a(n - 1) + a(n - 2) - 5 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A018105] • 1,2,4,9,21,44,96,206,441,944,2020,4326,9261,19824,42439,90849,194481,416324,891223,1907838,4084101,8742815,18715701,40064612,85766121 ⋆ Powers of fourth root of 21 rounded down. • a(n) = floor((21) ^ (n / 4)). - _ Wesley Ivan Hurt _ , Apr 24 2017 •

[A061439] • 2,4,9,21,46,99,215,464,999,2154,4641,9999,21544,46415,99999,215443,464158,999999,2154434,4641588,9999999,21544346,46415888,99999999,215443469 ⋆ Largest number whose cube has n digits. • a(n)=ceil(10 ^ (n / 3)) - 1 - Antonio G. Astudillo (afg _ astudillo(AT)lycos.com), Mar 30 2003 •

[A027711] • 0,1,2,4,9,21,47,101,212,440,907,1859,3791,7699,15586,31476,63445,127689,256671,515433,1034248,2073968,4156791,8327911,16679007 ⋆ Number of binary sequences of length n with an even number of ones, at least two of the ones being contiguous. • a(n)= + 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) + a(n - 4) - 2 * a(n - 5). •

[A084634] • 1,2,4,9,21,48,106,227,475,978,1992,4029,8113,16292,32662,65415,130935,261990,524116,1048385,2096941,4194072,8388354,16776939,33554131 ⋆ Binomial transform of 1,1,1,2,2,2,2,..... • a(n)=2 ^ (n + 1) - (n ^ 2 + n + 2) / 2; a(n)=1 + n + n(n - 1) / 2 + 2 * sum { k=3..n, C(n, k) } . • a(n)=5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ R. J. Mathar _ , Apr 07 2008 •

[A119967] • 1,1,2,4,9,21,49,113,259,595,1376,3202,7479,17499,40986,96116,225755,531115,1251310,2951556,6968883,16468775,38951925,92204241,218426037 ⋆ A transform of the central binomial coefficients C(n,floor(n/2)). • a(n) = sum { k=0..floor(n / 2), C(n,2k) * C(k,floor(k / 2)) } . •

[A052921] • 1,2,4,9,21,49,114,265,616,1432,3329,7739,17991,41824,97229,226030,525456,1221537,2839729,6601569,15346786,35676949,82938844,192809420,448227521 ⋆ Expansion of (1-x)/(1-3*x+2*x^2-x^3). • a(n) = Sum(1 / 23 * (8 - 5 *_ alpha + 7 *_ alpha ^ 2) *_ alpha ^ (- 1 - n), _ alpha=RootOf(- 1 + 3 *_ Z - 2 *_ Z ^ 2 +_ Z ^ 3)) •

[A275864] • 1,1,2,4,9,21,50,118,279,661,1566,3711,8795,20843,49396,117064,277432,657492,1558206,3692830,8751726,20740926,49154420,116492243,276077771 ⋆ Floor(r*a(n-1)) + floor(r*a(n-2)), where r = 5/3, a(0) = 1, a(1) = 1. • a(n) = floor(r * a(n - 1)) + floor(r * a(n - 2)), where r = 5 / 3, a(0) = 1, a(1) = 1. •

[A171842] • 1,1,2,4,9,21,50,120,289,697,1682,4060,9801,23661,57122,137904,332929,803761,1940450,4684660,11309769,27304197,65918162,159140520,384199201 ⋆ Binomial transform of 1,0,1,0,2,0,4,0,8,0,16,... • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3). G.f.: (1 - 2 * x) / ((1 - x) * (1 - 2 * x - x ^ 2)). - _ Colin Barker _ , Apr 01 2012 • a(n) = (2 + (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n) / 4. - _ Colin Barker _ , Mar 16 2016 •

[A024537] • 1,2,4,9,21,50,120,289,697,1682,4060,9801,23661,57122,137904,332929,803761,1940450,4684660,11309769,27304197,65918162,159140520,384199201,927538921 ⋆ a(n) = floor(a(n-1)/(sqrt(2) - 1)), with a(0) = 1. • a(n) = 2 * a(n - 1) + a(n - 2) - 1. - _ Christian G. Bower _ • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3). • a(n) = (1 / 4) * (2 + (1 - sqrt(2)) ^ (n + 1) + (1 + sqrt(2)) ^ (n + 1)). - _ Herbert Kociemba _ , Jun 02 2004 • a(n) = 1 + sum _{ k=1..floor((n + 1) / 2) } C(n + 1,2 * k) * 2 ^ (k - 1). - _ Andrew Woods _ , Jan 03 2015 •

[A091964] • 1,2,4,9,21,50,121,296,730,1812,4521,11328,28485,71844,181674,460443,1169283,2974574,7578937,19337489,49401526,126350742,323495259,829033334,2126454271 ⋆ Number of left factors of peakless Motzkin paths of length n (i.e., number of paths from (0,0) to the line x=n, consisting of steps u=(1,1), h=(1,0), d=(1,-1), that never go below the x-axis and a u step is never followed by a d step). • a(n) = Sum _{ k=0..n } C(n - floor(k / 2), floor((k + 1) / 2))

* C(n - floor((k + 1) / 2), floor(k / 2)). - _ Paul D. Hanna _ , Mar 24 2005 • a(n) = Sum _{ k=0..n } C(floor((n + k) / 2),k) * C(floor((n + k + 1) / 2),k)). - _ Paul D. Hanna _ , Oct 31 2006 •

[A176334] • 1,1,2,4,9,21,51,124,305,755,1879,4698,11792,29694,74984,189811,481498,1223713,3115200,7942134,20275362,51823246,132604193,339644739,870745187 ★ Diagonal sums of number triangle A176331. • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, C(j,n - 2k) * C(j,k) * (- 1) ^ (n - k - j) }} . •

[A005207] • 1,2,4,9,21,51,127,322,826,2135,5545,14445,37701,98514,257608,673933,1763581,4615823,12082291,31628466,82798926,216761547,567474769,1485645049,3889431721 ★ a(n) = (F(2*n-1) + F(n+1))/2 where F(n) is a Fibonacci number. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3) + a(n - 4). • a(n) = (w ^ (2 * n - 1) + w ^ (1 - 2 * n) + w ^ (n + 1) - (- w) ^ (- 1 - n)) / (4 * w - 2) where w = (1 + sqrt(5)) / 2. • a(n) = 2 / 5 * Sum _{ k=1..4 } (sin(Pi * k / 5) ^ 2 * (1 + 2 * cos(Pi * k / 5)) ^ n). - _ Herbert Kociemba _ , May 31 2004 •

[A094287] • 1,2,4,9,21,51,127,323,835,2188,5798,15510,41822,113531,309937,850118,2340918,6466953,17913087,49726649,138287113,385126811,1073832695,2996974774,8370739326 ★ Number of (s(0), s(1), ..., s(n)) such that 0 < s(i) < 7 and |s(i) - s(i-1)| <= 1 for i = 1,2,....,n, s(0) = 1, s(n) = 1. • a(n) = (2 / 7) * Sum _{ k=1..6 } sin(Pi * k / 7) ^ 2(1 + 2 * cos(Pi * k / 7)) ^ n. •

[A094288] • 1,2,4,9,21,51,127,323,835,2188,5798,15511,41835,113633,310557,853333,2355861,6531062,18171848,50722229,141973073,398351055,1120056347,3155043447,8901325751 ★ Number of (s(0), s(1), ..., s(n)) such that 0 < s(i) < 8 and |s(i) - s(i-1)| <= 1 for i = 1,2,....,n, s(0) = 1, s(n) = 1. • a(n)=(1 / 4) * Sum _{ k=1..7 } sin(Pi * k / 8) ^ 2(1 + 2 * cos(Pi * k / 8)) ^ n. •

[A086246] • 0,1,1,1,2,4,9,21,51,127,323,835,2188,5798,15511,41835,113634,310572,853467,2356779,6536382,18199284,50852019,142547559,400763223 ★ Expansion of (1 + x - sqrt(1 - 2*x - 3*x^2)) / 2 in powers of x. • a(n) + a(n - 1) = a(0) * a(n) + a(1) * a(n - 1) + ... + a(n) * a(0), n > 2. • a(n) = Sum _{ k =1..n } binomial(2 * k - 2, k - 1) * (- 1) ^ (n - k) * binomial(n - 2, n - k) / k. - _ Vladimir Kruchinin _ , May 27 2014 •

[A001006] • 1,1,2,4,9,21,51,127,323,835,2188,5798,15511,41835,113634,310572,853467,2356779,6536382,18199284,50852019,142547559,400763223,1129760415,3192727797 ★ Motzkin numbers: number of ways of drawing any number of nonintersecting chords joining n (labeled) points on a circle. • a(n) = (- 1 / 2) Sum _ (- 3) ^ i C(1 / 2, i) C(1 / 2, j); i + j=n + 2, i >= 0, j >= 0. • a(n) = (3 / 2) ^ (n + 2) * Sum _{ k >= 1 } 3 ^ (- k) * Catalan(k - 1) * binomial(k, n + 2 - k). [Doslic et al.] • a(n + 2) - a(n + 1) = a(0) * a(n) + a(1) * a(n - 1) + ... + a(n) * a(0). [Bernhart] • a(n) = (1 / (n + 1)) * Sum _{ i } (n + 1)! / (i! * (i + 1)! * (n - 2 * i)!). [Bernhart] • a(n) = sum((- 1) ^ j * binomial (n + 1, j) * binomial(2n - 3j, n), j=0..floor(n / 3)) / (n + 1). - _ Emeric Deutsch _ , Mar 13 2004 • a(n)=(1 / (2 * pi)) * int(x ^ n * sqrt((3 - x) * (1 + x)), x, - 1,3) is the moment representation. - _ Paul Barry _ , Sep 10 2007 •

[A247100] • 1,2,4,9,21,51,127,324,844,2243,6073,16737,46905,133556,386062,1132107,3365627,10137559,30920943,95457178,298128278,941574417,3006040523,9697677885,31602993021 ★ The number of ways to write an n-bit binary string and then define each run of ones as an element in an equivalence relation. • a (n) = 1 + Sum _{ k=1..ceiling(n / 2) } binomial(n + 1, 2k) * Bell(k), where Bell(x) refers to Bell numbers (A000110). •

[A289666] • 0,1,2,4,9,21,52,134,355,957,2608,7154,19701,54379,150302,415762,1150609,3185147,8818620,24418128,67615743,187239359,518506932,1435875288,3976322869 ★ a(n) = number of weakly threshold graphs on n nodes. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - a(n - 3) - a(n - 5) for n>5. - _ Colin Barker _ , Jul 26 2017 •

[A084261] • 1,1,2,4,9,21,52,134,361,1009,2926,8768,27121,86373,282864,950866,3277169,11564353,41739130,153919324,579411641,2224535125,8703993420,34681783422,140637608089 ★ A binomial transform of factorial numbers. • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k) * k!. • a(n) = Sum _{ k=0..n } C(n , k) * (k / 2)! * ((1 + (- 1) ^ k) / 2) . •

[A055094] • 0,1,2,4,9,22,52,72,146,313,738,1156,2829,6772,9520,18496,53643,75154,162438,312328,600116,1513186,4023888,4737152,9741609 ★ Binary encoding of quadratic residue set of n. L(1/n) is the most significant bit, L(n-1/n) is the least significant bit, i.e., the rows of A055088 interpreted as binary numbers. • a(n) = qrs2bincode(n) •

[A290996] • 1,2,4,9,22,55,136,330,789,1872,4433,10510,24968,59409,141470,336935,802340,1910166,4546845,10822176,25758097,61308650,145928764,347350473,826795942 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^4. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - a(n - 4) for n >= 4. •

[A055588] • 1,2,4,9,22,56,145,378,988,2585,6766,17712,46369,121394,317812,832041,2178310,5702888,14930353,39088170,102334156,267914297,701408734,1836311904,4807526977 ★ a(n) = 3a(n-1) - a(n-2) - 1 with a(0)=1, a(1)=2. • a(n) = ((((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) / sqrt(5)) + 1. • a(n) = 4a(n - 1) - 4a(n - 2) + a(n - 3); • a(n) = Sum _{ k=0..floor(n / 3) } binomial(n - k, 2k)2 ^ (n - 3k). (End) • a(n) = Fibonacci(2n) + 1; • a(n) = Sum _{ k=0..n } Fibonacci(2k + 2)(2 * 0 ^ (n - k) - 1); • a(n) = Sum _{ k=0..2n + 1 } ((- 1) ^ (k + 1)) * fibonacci(k). - _ Michel Lagneau _ , Feb 03 2014 •

[A091561] • 1,2,4,9,22,56,146,388,1048,2869,7942,22192,62510,177308,506008,1451866,4185788,12119696,35227748,102753800,300672368,882373261,2596389190,7658677856,22642421206 ★ Expansion of (1-2x-sqrt(1-4x+4x^2-4x^3))/(2x^2) • a(n)=2 * a(n - 1) + a(1) * a(n - 3) + a(2) * a(n - 4) + ... + a(n - 3) * a(1) for n>1. •

[A143017] • 1,2,4,9,22,56,147,396,1088,3036,8582,24524,70727,205594,601756,1771937,5245544,15602496,46606356,139753120,420520000,1269361000,3842722454,11663928644,35490451807 ★ Number of {2-1-3, 2'^e-31}-avoiding permutations of size n (see definition in the Elizalde paper). • a(n)=(1 / n)Sum[2 * binom(n,2k) * binom(n - k,k - 1) + n * binom(n,2k + 1) * binom(n - k,k) / (n - k) G.f. G(x) satisfies xG ^ 3 + (4x - 2)G ^ 2 + (4x - 1)G + x = 0. •

[A099754] • 2,4,9,22,57,154,429,1222,3537,10354,30549,90622,269817,805354,2407869,7207222,21588897,64701154,193972389,581655022,1744440777,5232273754,15694724109,47079978022,141231545457 ★ a(n) = (3^n+1)/2 + 2^n. • a(n) = (3 ^ n + 1) / 2 + 2 ^ n. •

[A105633] • 1,2,4,9,22,57,154,429,1223,3550,10455,31160,93802,284789,871008,2681019,8298933,25817396,80674902,253106837,796968056,2517706037,7977573203,25347126630,80738862085 ★ Row sums of triangle A105632. • a(n) = 2 * a(n - 1) + Sum(a(i) * (a(n - 1 - i) - a(n - 2 - i)),i=1..n - 2). a(n) = Sum((- 1) ^ i * binomial(n + 1 - i,i) * binomial(2 * (n + 1) - 3 * i,n - 2 * i) / (n + 1 - i), i=0..[n / 2]). - I. Tasoulas (jtas(AT)unipi.gr), Feb 15 2006 • a(n) = sum { k=0..floor(n / 2), sum { j=0..n - k, C(n - k,j)(0 ^ (j + k) + (1 / (j + 0 ^ j)) * C(j,k) * C(j,k + 1)) }} . - _ Paul Barry _ , Jun 30 2009 •

[A099241] • 1,2,4,9,22,57,155,441,1311,4066,13130,44046,153144,550706,2044248,7819897,30779570,124487688,516723174,2198726181,9581247648,42717268934,194688593966,906331074605,4306472500778 ★ Sums of antidiagonals of A099239. • a(n)=sum { k=0..n, sum { j=0..n - k, binomial(k(n - k) - (k - 1)(j - 1), j) } •

[A249563] • 1,1,2,4,9,22,57,156,447,1335,4140,13290,44055,150494,528860,1909010,7068879,26820161,104156616,413634176,1678323602,6952182325,29378908664,126568357635,555540596435 ★ Number of length n permutations avoiding (132,{2},{}) and (123,{},{1}). • a(n,k,i,l) = aup(n,k,i,l) + adown(n,k,i,l) • a(n) = sum(sum(sum(a(n,k,j,m) for m in [1..k]) for j in [1..k]) for k in [1..n]) •

[A059019] • 1,1,2,4,9,22,58,163,483,1494,4783,15740,52956,181391,630533,2218761,7888266,28291588,102237141,371884771,1360527143,5002837936,18479695171,68539149518,255137783916 ★ Number of Dyck paths of semilength n with no peak at height 3. • a(n) = the upper left term in M ^ n, M = an infinite square production matrix in which a column of (1,1,0,0,0,...) is prepended to an infinite lower triangular matrix of all 1's and the rest zeros, as follows: • a(n) = Sum _{ k=1..n - 1 } (Sum _{ j=0..min(k,n - k) } binomial(k,j) * j * binomial(2 * n - 2 * k - j - 1, n - k - j) / (n - k)) + 1. - _ Vladimir Kruchinin _ , Oct 02 2013 •

[A024427] • 1,1,2,4,9,22,58,164,495,1587,5379,19195,71872,281571,1151338,4902687,21696505,99598840,473466698,2327173489,11810472444,61808852380,333170844940,1847741027555,10532499571707 ★ S(n,1) + S(n-1,2) + S(n-2,3) + ... + S(n+1-k,k), where k = floor((n+1)/2) and S(i,j) are Stirling numbers of the second kind. • a(n) = sum(stirling2(n + 1 - i,i), i=0..n). - _ Zerinvary Lajos _ , Jan 31 2008 •

[A092920] • 1,1,2,4,9,22,58,164,496,1601,5502,20075,77531,315947,1354279,6087421,28611385,140239297,715116827,3785445032,20760746393,117759236340,689745339984,4165874930885,25911148634728 ★ Number of strongly monotone partitions of n. • a(n) = leftmost column terms of M ^ n * V, where M = an infinite tridiagonal matrix with all 1's in the super and subdiagonals and (1,1,2,3,4,5,...) as the main diagonal; and the rest zeros. V = vector [1,0,0,0,...]. - _ Gary W. Adamson _ , Jun 16 2011 •

[A193361] • 0,0,1,2,4,9,22,59,170,525,1716,5917,21362,80533,315516,1281913,5383622,23330405,104084736,477371217,2246811730,10839493637,53528916508,270318789249,1394426035918 ★ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n-3)*a(n-2) + 1. • a(0)=a(1)=0, a(2)=1, a(n) = 2 * a(n - 1) + (n - 4) * a(n - 2) - (n - 4) * a(n - 3). •

[A159329] • 2,4,9,23,54,125,290,674,1567,3643,8469,19688,45769,106400,247350,575019,1336757,3107583,7224254,16794353,39042134,90761950,210995935,490506039,1140288197 ★ Transform of the finite sequence (1, 0, -1) by the T_{1,1} transformation (see link) • a(0)=2, a(1)=4, a(2):=9, a(3):=23, a(4): =54 and for n>=2 a(n + 3)=3 * a(n + 2) - 2 * a(n + 1) + a(n) •

[A159330] • 2,4,9,23,55,126,292,679,1579,3671,8534,19839,46120,107216,249247,579429,1347009,3131416,7279659,16923154,39341560,91458031,212614127,494267879,1149033414 ★ Transform of the finite sequence (1, 0, -1, 0, 1) by the T_{1,1} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 7, with a(0)=2, a(1)=4, a(2)=9, a(3)=23, a(4)=55, a(5)=126, a(6)=292. •

[A159331] • 2,4,9,23,55,126,293,680,1581,3676,8546,19867,46185,107367,249598,580245,1348906,3135826,7289911,16946987,39396965,91586832,212913553,494963960,1150651606 ★ Transform of the finite sequence (1, 0, -1, 0, 1, 0, -1) by the T_{1,1} transform (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 9, with a(0)=2, a(1)=4, a(2)=9, a(3)=23, a(4)=55, a(5)=126, a (6)=293, a(7)=680, a(8)=1581. •

[A190277] • 1,1,2,4,9,23,62,174,497,1433,4150,12044,34989,101695,295642,859566,2499277,7267081,21130538,61441732,178655937,519483767,1510520966,4392195390,12771343961 ★ Number of trails between opposite vertices in a triangle strip. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - 2 * a(n - 4) for n > 4. •

[A058585] • 1,1,2,4,9,23,63,177,514,1526,4624,14230,44357,139779,444557,1425151,4600338,14939849,48778197,160019884,527200711,1743607825,5786756469,19266336882,64331275266 ★ An approximation to A000084(n). • a(n) = floor(u(n)) where u(n) has g.f. (1 / 2) * (5 - 3 * x - 2 * x ^ 2 - sqrt(9 - 30 * x - 11 * x ^ 2 + 12 * x ^ 3 + 4 * x ^ 4)). •

[A135307] • 1,1,2,4,9,23,63,178,514,1515,4545,13827,42540,132124,413741,1304891,4141198,13214815,42375461,136478383,441285890,1431925180,4661485203,15219836738,49827678840 ★ Number of Dyck paths of semilength n that do not contain the string UDDU. • a(n) is the sum of top row terms in M ^ (n - 1), where M = the following infinite square production matrix: •

[A164039] • 1,2,4,9,23,64,186,551,1645,4926,14768,44293,132867,398588,1195750,3587235,10761689,32285050,96855132,290565377,871696111,2615088312,7845264914,23535794719,70607384133 ⋆ a(n+1) = 3*a(n) - n. • a(0) = 1; a(n + 1) = 3 * a(n) - n. • a(n) = (3 ^ n + 2 * n + 3) / 4. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). •

[A014137] • 1,2,4,9,23,65,197,626,2056,6918,23714,82500,290512,1033412,3707852,13402697,48760367,178405157,656043857,2423307047,8987427467,33453694487,124936258127,467995871777,1757900019101 ⋆ Partial sums of Catalan numbers (A000108). • a(n) = Sum _{ k=0..n } (2k)! / (k!) ^ 2 / (k + 1). - _ Alexander Adamchuk _ , Jul 11 2006 •

[A093156] • 1,2,4,9,24,63,177,514,1527,4625,14230,44358,139779,444558,1425151,4600339,14939849,48778197,160019885,527200711,1743607826,5786756470,19266336882,64331275266,215377539119 ⋆ Another approximation to A000084(n). • a(n) is the nearest integer to u(n) (with round(0.5)=0), where u(n) has o.g.f .: U(x) = (5 - 3 * x - 2 * x ^ 2 - sqrt(9 - 30 * x - 11 * x ^ 2 + 12 * x ^ 3 + 4 * x ^ 4)) / 2. [Riordan & Shannon] •

[A200966] • 1,2,4,9,24,68,204,642,2096,7026,24026,83454,293562,1043488,3741954,13520253,49171485,179859763,661240417,2442023860,9055315765,33701442548,125845246605,471346884115,1770306347204 ⋆ Expansion (1-sqrt(1-4*x))/(2*(1-x^4-x)). • a(n) = Sum _{ i=0..(n - 1) } (Sum _{ j=0..(i / 3) } binomial(i - 3 * j,j)) * binomial(2 * (n - i) - 2,n - i - 1)) / (n - i)), n>0. •

[A081913] • 1,2,4,9,24,72,224,688,2048,5888,16384,44288,116736,301056,761856,1896448,4653056,11272192,27000832,64028672,150470656,350748672,811597824,1865416704,4261412864 ⋆ 2^n(n^3-3n^2+2n+48)/48. • a(n)=2 ^ n(n ^ 3 - 3n ^ 2 + 2n + 48) / 48 G.f.: (1 - 6x + 12x ^ 2 - 7x ^ 3) / (1 - 2x) ^ 4 •

[A005001] • 0,1,2,4,9,24,76,279,1156,5296,26443,142418,820988,5034585,32679022,223578344,1606536889,12086679036,94951548840,777028354999,6609770560056,58333928795428,533203744952179,5039919483399502,4919192533848384 8 ⋆ a(0) = 0; for n>0, a(n) = Sum_k={0..n-1} Bell(k), where the Bell numbers Bell(k) are given in A000110. • a(0) = 0; for n >= 0, a(n + 1) = 1 + Sum _{ j=1..n } (C(n, j) - C(n, j + 1)) * a(j). •

[A210342] • 1,2,4,9,24,78,317,1636,10752,89871,955536,12930172,222618065,4874855542,135781292308,4811103270053,216847500834512,1243214386275677 8,906625645142897789,8410257151163180986 4,99239796993120245694 40,148954640820597662746331 ⋆ Row sums of triangle A210341. • a(n) = [x ^ n]sum(x ^ k / (1 - Fibonacci(k + 2)x),k=0..n). •

[A192801] • 1,2,4,9,25,84,312,1199,4637,17906,68976,265249,1019069,3913484,15026092,57690143,221487945,850350482,3264725772,12534190569,48122302705,184755243892,709328262928,2723314511871,10455585321989 ⋆ Constant term in the reduction of the polynomial (x+2)^n by x^3->x^2+x+1. See Comments. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3). •

[A005095] • 1,2,4,9,28,125,726,5047,40328,362889,3628810,39916811,479001612,6227020813,87178291214,1307674368015,20922789888016,355687428096017,6402373705728018,121645100408832019 ⋆ a(n) = n! + n. • a(n) + (- n - 3) * a(n - 1) + 3 * (n) * a(n - 2) + (- 3 * n + 5) * a(n - 3) + (n - 3) * a(n - 4)= 0. - _ R. J. Mathar _ , Oct 30 2015 •

[A054119] • 1,2,4,9,32,150,864,5880,46080,408240,4032000,43908480,522547200,6745939200,93884313600,1401079680000,22317642547200,377917892350000,6778983923712000,128403161542656000,2560949482291200000,53645489280294912000,1177524571957493760000,27027108408834293760000 ⋆ a(n) = n! + (n-1)! + (n-2)!. • a(n) = (n + 1)! * (H(n - 1) + H(n + 1) - H(n - 2) - H(n)) / 2, n>1, where H(n) is the n - th harmonic number. [_ Gary Detlefs _ , Oct 04 2011] •

[A047463] • 2,4,10,12,18,20,26,28,34,36,42,44,50,52,58,60,66,68,74,76,82,84,90,92,98 ⋆ Numbers that are congruent to {2, 4} mod 8. • a(n) = 8 * n - a(n - 1) - 10, with a(1)=2. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 4 * n - (- 1) ^ n - 3. •

[A053417] • 0,2,4,10,14,24,30,48,60,76,92,110,130,154,178,208,230,264,288,330,364,406,442,482,522 ⋆ Circle numbers (version 5): a(n) = number of points (i+j/2,j*sqrt(3)/2), i,j integers (triangular grid) contained in a circle of diameter n, centered at (1/2,0). • a(n) / (n / 2) ^ 2 - > Pi * 2 / sqrt(3). •

[A137928] • 2,4,10,16,26,36,50,64,82,100,122,144,170,196,226,256,290,324,362,400,442,484,530,576,626 ⋆ The even principal diagonal of a 2n X 2n spiral. • a(n) = 2 * ceiling(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 • a(n) = n ^ 2 + (n mod 2). - _ Bruno Berselli _ , Oct 03 2017 •

[A280186] • 0,0,0,0,2,4,10,16,28,40,60,80,110,140,182,224,280,336,408,480,570,660,770,880,1012 ⋆ Number of 3-element subsets of S = {1..n} whose sum is odd. • a(n) = C((n + 1) / 2, 3) + C((n - 1) / 2, 2) * C((n + 1) / 2,1) when n is odd. • a(n) = C(n / 2, 3) + C(n / 2, 2) * C(n / 2, 1) when n is even. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>5. • a(n) = n * (n - 1) * (n - 2) / 12 for n even. • a(n) = (n - 1) * (n + 1) * (n - 3) / 12 for n odd. •

[A006584] • 0,0,0,2,4,10,16,28,40,60,80,110,140,182,224,280,336,408,480,570,660,770,880,1012,1144 ⋆ If n mod 2 = 0 then n*(n^2-4)/12 else n*(n^2-1)/12. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) . - _ Jaume Oliver Lafont _ , Dec 05 2008 • a(n) = n * (2 * n ^ 2 - 5 - 3 * (- 1) ^ n) / 24. - _ Luce ETIENNE _ , Apr 03 2015 • a(n) = Sum _{ i=1..n } floor(i * (n - i) / 2). - _ Wesley Ivan Hurt _ , May 07 2016 •

[A032246] • 2,4,10,16,28,42,64,90,126,168,224,288,370,462,576,704,858,1030,1232,1456,1716,2002,2330,2688,3094 ⋆ "DHK[5]" (bracelet, identity, unlabeled, 5 parts) transform of 1,1,1,1,1... • a(n) = a(5 - n) for all n in Z. - _ Michael Somos _ , Nov 28 2016 •

[A077627] • 2,4,10,16,30,52,92,160,280,484,840,1456,2524,4372,7574,13120,22726,39364,68182,118096,204550,354292,613654,1062880,1840964 ⋆ Largest term in periodic part of continued fraction expansion of square root of -1+3^n. • a(2 * m) = 2 * (3 ^ m - 1); in general a(n) is close to 2 * (3 ^ (n / 2) - 1) and for any n, 0 <= a(n) - 2 * (3 ^ (n / 2) - 1) < 2. Conjecture: a(n)=ceiling(2 * (3 ^ (n / 2) - 1)) except for n=3, 9, 27 and all powers of 3, in this case a(n)=1 + ceiling(2 * (3 ^ (n / 2) - 1)). - Benoit Cloitre, Nov 24 2002 •

[A117862] • 2,4,10,16,34,52,106,160,322,484,970,1456,2914,4372,8746,13120,26242,39364,78730,118096,236194,354292,708586,1062880,2125762 ⋆ Number of palindromes (in base 3) below 3^n. • a(n) = 4 * 3 ^ ((n - 1) / 2) - 2 (n odd), 2 * 3 ^ (n / 2) - 2 (n even). •

[A182248] • 0,2,4,10,18,28,36,46,54,72,84,106,122,140,156,174,206,240,260,298,338,364,404,430,470 ⋆ a(0)=0, a(n) = (a(n-1) OR n) + n. • a(0)=0, a(n)=(a(n - 1) OR n) + n, where OR is the bitwise logical inclusive - OR operator. •

[A093695] • 0,0,2,4,10,18,34,56,94,146,228,340,506,730,1050,1476,2066,2844,3896,5268,7090,9442,12518,16454,21534 ⋆ Number of one-element transitions among partitions of the integer n for unlabeled parts. • a(n) = Sum _ p=1 ^ P(n) Sum _ i=1 ^ D(p) Sum _ j=1 ^ D(p) 1 [subject to: i <> j and d(i,p) <= d(j,p) and d(i,p) <> d(i - 1,p) (if i > 1) and d(j,i) <> d(j - 1,i) (if j > 1 and if d(j - 1,p) has given a contribution to the sum)]; P(n) = number of partitions of n, D(p) = number of digits in partition p, d(i,p) and d(j,p) = digits number i and j in partition p of integer n. • a(n) = Sum _ i=1 ^ P(n + 1) S(i, n + 1) ^ 2 - S(i, n + 1), where P(n + 1) is the number of integer partitions of n + 1 and S(i, n + 1) is the number of digits in the set of digits of the i - th partition of n + 1. (E.g. the partition [1111233] has the set of digits { 1, 2, 3 } and would contribute 3 ^ 2 - 3 = 6 to the sum.) •

[A218008] • 0,0,2,4,10,18,38,68,138,250,502,922,1846,3430,6862,12868,25738,48618,97238,184754,369510,705430,1410862,2704154,5408310 ⋆ Sum of successive absolute differences of the binomial coefficients = 2*A014495(n) • a(n) = sum |C(n,k + 1) - C(n,k)|, k=0..n - 1 = 2 * sum C(n,k + 1) - C(n,k), k=0..floor((n - 1) / 2) = 2 * (C(n, floor((n + 1) / 2)) - 1) •

[A079162] • 0,1,2,4,10,18,46,82,210,374,958,1706,4370,7782,19934,35498,90930,161926,414782,738634,1892050,3369318,8630686,15369322,39369330 ⋆ a(n) = 5a(n-2) - 2a(n-4). • a(n)=(1 / 68) * (- 1) ^ n * [5 / 2 + (1 / 2) * sqrt(17)] ^ (- 1 / 4) * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 + (1 / 2) * sqrt(17)] ^ (1 / 2) * n * sqrt(17) - (1 / 68) * [5 / 2 - (1 / 2) * sqrt(17)] ^ (- 1 / 4) * (- 1) ^ n * sqrt(17) * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 - (1 / 2) * sqrt(17)] ^ (1 / 2) * n + (1 / 4) * [5 / 2 - (1 / 2) * sqrt(17)] ^ (- 1 / 4) * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 - (1 / 2) * sqrt(17)] ^ (1 / 2) * n + (1 / 4) * [5 / 2 + (1 / 2) * sqrt(17)] ^ (- 1 / 4) * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 + (1 / 2) * sqrt(17)] ^ (1 / 2) * n - (1 / 4) * (- 1) ^ n * [5 / 2 + (1 / 2) * sqrt(17)] ^ (- 1 / 4) * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 2) * n] - (1 / 4) * [5 / 2 - (1 / 2) * sqrt(17)] ^ (- 1 / 4) * (- 1) ^ n * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 - (1 / 2) * sqrt(17)] ^ (1 / 2) * n + (7 / 68) * [5 / 2 + (1 / 2) * sqrt(17)] ^ (- 1 / 4) * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 + (1 / 2) * sqrt(17)] ^ (1 / 2) * n * sqrt(17) - (7 / 68) * [5 / 2 - (1 / 2) * sqrt(17)] ^ (- 1 / 4) * sqrt(17) * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 2) * n], with n>=0 [From _ Paolo P. Lava _ , Oct 06 2008] •

[A228705] • 1,2,4,10,19,28,40,60,85,110,140,182,231,280,336,408,489,570,660,770,891,1012,1144,1300,1469 ⋆ Expansion of (1-2*x+4*x^2-2*x^3+x^4)/((1-x)^4*(1+x^2 • a(n) = (n + 2) * (2 * (n + 1) * (n + 3) + 3 * (1 + (- 1) ^ n) * i ^ (n * (n + 1))) / 24, where i=sqrt(- 1). [_ Bruno Berselli _ , Sep 07 2013] • a(0)=1, a(1)=2, a(2)=4, a(3)=10, a(4)=19, a(5)=28, a(6)=40, a(7)=60, a(n)=4 * a(n - 1) - 8 * a(n - 2) + 12 * a(n - 3) - 14 * a(n - 4) + 12 * a(n - 5) - 8 * a(n - 6) + 4 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Apr 10 2014 •

[A219555] • 1,2,4,10,19,38,73,134,242,430,749,1282,2171,3622,5979,9770,15802,25334,40288,63560,99554,154884,239397,367800,561846 ⋆ Number of bipartite partitions of (i,j) with i+j = n into distinct pairs. • a(n) = Sum _{ i + j =n } [x ^ i * y ^ j] 1 / 2 * Product _{ k,m>=0 } (1 + x ^ k * y ^ m). •

[A271624] • 2,4,10,20,34,52,74,100,130,164,202,244,290,340,394,452,514,580,650,724,802,884,970,1060,1154 ⋆ a(n) = 2n^2 - 4n + 4. • a(n) = 2 + 2 * (n - 1) ^ 2. - _ Tyler Skywalker _ , Jul 21 2016 •

[A004647] • 1,2,4,10,20,40,100,200,400,1000,2000,4000,10000,20000,40000,100000,200000,400000,1000000,2000000,4000000,10000000,20000000,40000000,100000000 ⋆ Powers of 2 written in base 8. • a(0)=1, a(1)=2, a(2)=4, a(n)=10 * a(n - 3). - _ Harvey P. Dale _ , Aug 16 2012 •

[A026644] • 1,2,4,10,20,42,84,170,340,682,1364,2730,5460,10922,21844,43690,87380,174762,349524,699050,1398100,2796202,5592404,11184810,22369620 ⋆ a(n) = a(n-1) + 2*a(n-2) + 2, for n>=3, where a(0)= 1, a(1)= 2, a(2)= 4. • a(2k) = 2 * a(2k - 1), a(2k + 1) = 2 * a(2k) + 2. - _ Peter Shor _ , Apr 11 2002 • a(2n) = 2n - 1 + sum _{ k=0..2n - 1 } a(k), n>0; a(2n + 1) = 2n + 1 + sum _{ k=0..n } a(k). - _ Lee Hae - hwang _ , Sep 17 2002; corrected by _ R. J. Mathar _ , Oct 21 2008 • a(n) = 2n + 2 * sum _{ k=1..n - 2 } a(k), n>0. - _ Lee Hae - hwang _ , Sep 19 2002; corrected by _ R. J. Mathar _ , Oct 21 2008 • a(n) = - 1 + (1 / 3) * (- 1) ^ (n - 1) + (8 / 3) * 2 ^ (n - 1) + (C(2 * n,n) mod 2). - _ Paolo P. Lava _ , Oct 03 2008 • a(n + 3) = 3 * 2 ^ (n + 2) - 2 - a(n), n>=1, a(1)=2, a(2)=4, a(3)=10 . - _ Yosu Yurramendi _ , Jul 05 2016 •

[A094536] • 0,0,2,4,10,20,44,88,182,364,740,1480,2980,5960,11960,23920,47914,95828,191804,383608,767500,1535000,3070568,6141136,12283388 ⋆ Number of binary words of length n that are not "bifix-free". • a(0) = 0; a(1) = 0; a(2 * n + 1) = 2 * a(2 * n); a(2 * n) = 2 * a(2 * n - 1) + 2 ^ n - a(n). - _ Peter Kagey _ , Jan 11 2015 •

[A026395] • 1,2,4,10,20,50,100,250,500,1250,2500,6250,12500,31250,62500,15

6250,312500,781250,1562500,3906250,7812500,19531250,39062500,97656250,195312500 ⋆ a(n) = 5*a(n-2), starting 1,2,4. ● a(n) = a(n - 1) + 2 * 5 ^ (n / 2 - 1) if n is even, a(n) = a(n - 2) + 2 * phi(5 ^ [(n - 1) / 2]) if n is odd, where phi is the Euler phi function. - Shannon Ezzat (sez10(AT)math.canterbury.ac.nz), Jan 20 2009 ●

[A018003] ● 1,2,4,10,21,46,100,215,464,1000,2154,4641,10000,21544,46415,100000,215443,464158,1000000,2154434,4641588,10000000,21544346,46415888,100000000 ⋆ Powers of cube root of 10 rounded down. ● a(n) = floor(10 ^ (n / 3)). ●

[A165136] ● 1,2,4,10,21,50,99,250,454,1242,2223,6394,11389,35002,62034,202010,359483,1233518,2203507,7944100,14249715,53810836,96911168,382258438,691048071 ⋆ a(n) is the number of patterns for n-digit papaya numbers. ● a(n) = R(n) - Sum _{ d|n,d<n } phi(n / d) * a(d) where R(2 * k)=k * (b(k) + b(k + 1)), R(2 * k + 1)=(2 * k + 1) * b(k + 1), b(k)=Sum _{ j=1..10 } stirlin g2(k,j). - _ Andrew Howroyd _ , Mar 29 2016 ●

[A036954] ● 2,4,10,22,34,46,58,67,79,94,103,139,145,157,166,169,172,181,190,193,199,205,211,214,229 ⋆ Primes with digits in {0,1,2} taken as base 3 and converted to base 10. ● a(n) = 1 (mod 3) for all n > 1. - _ M. F. Hasler _ , Jul 25 2015 ●

[A291397] ● 1,2,4,10,22,46,97,209,452,972,2084,4472,9608,20645,44345,95238,204552,439366,943734,2027046,4353861,9351633,20086392,43143592,92668072 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S - S^3. ● a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) for n >= 7. ●

[A164990] ● 1,2,4,10,22,52,114,260,564,1256,2698,5908,12588,27224,57620,123432,259816,552400,1157466,2446004,5105532,10735352,22334524,46766200,97021272 ⋆ Number of square involutions of n ● a(n) = (n + 2)2 ^ (n - 3) - (n - 2)C(n - 3,(n - 3) / 2), n>1. ●

[A221839] ● 1,1,2,4,10,22,57,157,447 ⋆ Number of rectangles dissectable into a minimum of n squares. ● a(n) is the number of rectangles pXq for which GCD(p,q) = 1 and T(p,q) = n in A219158. ●

[A210460] ● 1,2,4,10,23,53,123,285,660,1529,3542,8205,19007,44030,101996,236275,547334,1267906,2937120,6803875,15761261,36511157,84578549,195927260,453867933 ⋆ Expansion of x*(1+x)/(1-x-2*x^2-2*x^3-x^4). ● a(n) = sum(Fibonacci(k) * binomial(k,n - k), k=floor((n - 1) / 2) + 1..n). ●

[A032171] ● 1,1,1,2,4,10,23,59,148,385,1006,2678,7170,19421,52933,145364,401421,1114713,3109710,8713076,24506121,69168705,195849114,556165311,1583601840 ⋆ Number of rooted compound windmills (mobiles) of n nodes with no symmetries. ● a(n + 1) = (1 / n) * Sum _{ d|n } mu(n / d) * c(d), where c(n) = n * a(n) + Sum _{ s=1..n - 1 } c(s) * a(n - s) with a(1) = c(1) = 1. ●

[A136427] ● 0,1,2,4,10,24,48,92,188,388,772,1524,3060,6164,12308,24532,49108,98388,196692,393044,786260,1573204,3146068,6290772,12582228 ⋆ a(n)=3a(n-1)-4a(n-2)+6a(n-3)-4a(n-4). ● a(n)= - (2 / 3) + (2 / 3) * 2 ^ n - [(1 / 12) * I] * [I * sqrt(2)] ^ n * sqrt(2) + [(1 / 12) * I] * sqrt(2) * [- I * sqrt(2)] ^ n, with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 ●

[A159328] ● 2,4,10,24,56,130,302,702,1632,3794,8820,20504,47666,110810,257602,598852,1392162,3236384,7523680,17490434,40660326,94523790,219741152,510836202,1187550092 ⋆ Transform of 1 by the T_{1,1} transformation (see link) ● a(0), a(1)=4, a(2)=10 and for n>=0 a(n + 3)=3 * a(n + 2) - 2 * a(n + 1) + a(n). ●

[A052912] ● 1,2,4,10,24,56,132,312,736,1736,4096,9664,22800,53792,126912,299424,706432,1666688,3932224,9277312,21888000,51640448,121835520,287447040,678174976 ⋆ Expansion of 1/(1-2x-2x^3). ● a(n) = 2 * a(n - 1) + 2 * a(n - 3). ● a(n)=sum { k=0..n, C(k, floor((n - k) / 2))2 ^ k(1 + (- 1) ^ (n - k)) / 2 } ; - _ Paul Barry _ , Jan 12 2006 ●

[A165409] ● 1,2,4,10,24,56,136,328,784,1896,4576,11008,26592,64192,154752,373696,902144,2176640,5255424,12687488,30621952,73931392,178484736,430845952,1040176640 ⋆ Transform of 2^n by the aerated Catalan triangle A165408. ● a(n) = sum { k=0..n, if(n<=3k, 2 ^ k * C((n + k) / 2,k) * ((3k - n) / 2 + 1)(1 + (- 1) ^ (n - k)) / (2(k + 1)) } . ●

[A052542] ● 1,2,4,10,24,58,140,338,816,1970,4756,11482,27720,66922,161564,390050,941664,2273378,5488420,13250218,31988856,77227930,186444716,450117362,1086679440 ⋆ a(0) = 1, a(1) = 2, a(2) = 4; for n >= 3, a(n) = 2*a(n-1) + a(n-2). ● a(n) = Sum _ (- 1 / 2 * (- 1 +_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(- 1 + 2 *_ Z +_ Z ^ 2)) ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k - 1, k)2 ^ (n - 2k). - _ Paul Barry _ , Jan 16 2005 ● a(n) = round(sqrt(Pell(2n) + Pell(2n - 1))). - _ Richard R. Forberg _ , Jun 22 2014 ●

[A163271] ● 0,2,4,10,24,58,140,338,816,1970,4756,11482,27720,66922,161564,390050,941664,2273378,5488420,13250218,31988856,77227930,186444716,450117362,1086679440 ⋆ Numerators of fractions in a 'zero-transform' approximation of sqrt(2) by means of a(n) = (a(n-1) + c)/(a(n-1) + 1) with c=2 and a(1)=0. ● a(n) = 2 * a(n - 1) + a(n - 2). - _ Jacob Antony _ , Jun 07 2013 ●

[A110236] ● 1,2,4,10,24,58,143,354,881,2204,5534,13940,35213,89162,226238,575114,1464382,3734150,9534594,24374230,62377881,159793932,409717004,1051405260,2700168229 ⋆ Number of (1,0) steps in all peakless Motzkin paths of length n (can be easily translated into RNA secondary structure terminology). ● a(n) = Sum _{ k=1..n } k * T(n, k), where T(n, k)=[2 / (n + k)]binomial((n + k) / 2, k) * binomial((n + k) / 2, k - 1) for n + k mod 2 = 0 and T(n, k)=0 otherwise. ● a(n + 1) = sum { k=0..n, sum { j=0..n - k, C(k + j,n - k - j) * C(k,n - k - j) }} . - _ Paul Barry _ , Oct 24 2006, index corrected Jul 13 2011 ● a(n + 1) = sum { k=0..,floor(n / 2), C(n - k + 1,k + 1) * C(n - k,k) } ; a(n + 1):=sum { k=0..n, C(k + 1,n - k + 1) * C(k,n - k) } . [_ Paul Barry _ , Aug 17 2009, indices corrected Jul 13 2011] ● a(n) = - f _{ n } (- n) with f _ 1(n)=n and f _{ p } (n)= (n + p - 1) * (n + p + 1 - 1) ^ 2 * (n + p + 2 - 1) ^ 2 * ... * (n + p + (p - 1) - 1) ^ 2 / (p! * (p - 1)!) + f _{ p - 1 } (n) for p > 1. - _ Alzhekeyev Ascar M _ , Jun 27 2011 ●

[A100087] ● 1,2,4,10,24,60,148,370,920,2300,5736,14340,35808,89520,223668,559170,1397496,3493740,8732920,21832300,54575888,136439720,341082504,852706260,2131706864 ⋆ Expansion of x/(sqrt(1-4*x^2)+x-1). ● a(n) = sum { k=0..n, k * C(n - 1,(n - k) / 2)(1 + (- 1) ^ (n - k))2 ^ k / (n + k) } . - _ Paul Barry _ , Jan 17 2005 ●

[A006575] ● 1,2,4,10,24,60,156,410,1092,2952,8052,22140,61320,170820,478288,1345210,3798240,10761660,30585828,87169608,249055976,713205900,2046590844,5883948540,16945772184 ⋆ Number of primitive (aperiodic, or Lyndon) asymmetric rhythm cycles: ones having no nontrivial shift automorphism. ● a(n) = (Sum _{ d|n, d odd } mu(d)(3 ^ (n / d) - 1)) / (2n). ● a(n) = (3 ^ n - 1) / (2n) for n=2 ^ k and a(n) = (Sum _{ d|n, d odd } mu(d)3 ^ (n / d)) / (2n) otherwise. (End) ●

[A089928] ● 1,2,4,10,25,60,144,348,841,2030,4900,11830,28561,68952,166464,401880,970225,2342330,5654884,13652098,32959081,79570260,192099600,463769460,1119638521 ⋆ a(n)=2a(n-1)+2a(n-3)+a(n-4). ● a(n) = ((1 + sqrt(2)) ^ (n + 2) + (1 - sqrt(2)) ^ (n + 2) + 2 * (- 1) ^ floor(n / 2)) / 8. ● a(n) = (- i) ^ nsum { k=0..floor(n / 2), U(n - 2k, i) } with i ^ 2= - 1; ●

[A166516] ● 1,1,2,4,10,25,65,169,442,1156,3026,7921,20737,54289,142130,372100,974170,2550409,6677057,17480761,45765226,119814916,313679522,821223649,2149991425 ⋆ A product of consecutive doubled Fibonacci numbers. ● a(n) = F(2 * floor(n / 2) + 1) * F(2 * floor((n - 1) / 2) + 1). ● a(n) = F(n) ^ 2 * (1 - (- 1) ^ n) / 2 + F(n - 1) * F(n + 1)(1 + (- 1) ^ n) / 2. ● a(n + 1) * a(n + 3) - a(n + 2) ^ 2 = F(n + 2) ^ 2 * (1 - (- 1) ^ n) / 2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). - _ G. C. Greubel _ , May 15 2016 ●

[A189912] ● 1,2,4,10,25,66,177,484,1339,3742,10538,29866,85087,243478,699324,2015082,5822619,16865718,48958404,142390542,414837699,1210439958,3536809521,10347314544,30306977757 ⋆ Extended Motzkin numbers, Sum_{k>=0} C(n,k)C(k), C(k) the extended Catalan number A057977(k). ● a(n) = Sum _{ k=0..n } (n! / (((n - k)! * floor(k / 2)! ^ 2) * (floor(k / 2) + 1)). ●

[A032128] ● 1,1,2,4,10,25,69,193,565,1680,5113,15757,49223,155228,493937,1583002,5106386,16563542,53995678,176797966,581196445,1917446630,6346554919,21068877925,70133571797 ⋆ Number of dyslexic planted planar trees with n nodes. ● a(2) = c, ● a(3) = (1 / 2) * (c + 3) * c, ● a(4) = (1 / 2) * (c + 3) * (c + 1) * c, ● a(5) = (1 / 2) * (c ^ 3 + 5 * c ^ 2 + 10 * c + 4) * c, ● a(6) = (1 / 4) * (2 * c ^ 4 + 15 * c ^ 3 + 38 * c ^ 2 + 37 * c + 8) * c, ● a(7) = (1 / 8) * (4 * c ^ 4 + 38 * c ^ 3 + 103 * c ^ 2 + 109 * c + 22) * (c + 1) * c, ●

[A001998] ● 1,2,4,10,25,70,196,574,1681,5002,14884,44530,133225,399310,1196836,3589414,10764961,32291602,96864964,290585050,871725625,2615147350,7845353476,23535971854,70607649841 ⋆ Bending a piece of wire of length n+1; walks of length n+1 on a tetrahedron; also non-branched catafusenes with n+2 condensed hexagons. ● a(n) = if n mod 2 = 0 then ((3 ^ ((n - 2) / 2) + 1) / 2) ^ 2 else 3 ^ ((n - 3) / 2) + (1 / 4) * (3 ^ (n - 2) + 1). ● a(n) = 4 * a(n - 1) - 12 * a(n - 3) + 9 * a(n - 4), with a(0)=1, a(1)=2, a(2)=4, a(3)=10. - _ Harvey P. Dale _ , Apr 10 2013 ● a(n) = (1 + 3 ^ n + 3 ^ (1 / 2 * (- 1 + n)) * (2 - 2 * (- 1) ^ n + sqrt(3) + (- 1) ^ n * sqrt(3))) / 4. - _ Colin Barker _ , May 15 2016 ●

[A124419] ● 1,1,1,2,4,10,25,75,225,780,2704,10556,41209,178031,769129,3630780,17139600,87548580,447195609,2452523325,13450200625,78697155750,460457244900,2859220516290,17754399678409 ⋆ Number of partitions of the set {1,2,...n} having no blocks that contain both odd and even entries. ● a(n) = Q[n](1,1,0), where the polynomials Q[n]=Q[n](t,s,x) are defined by Q[0]=1; Q[n]=t * dQ[n - 1] / dt + x * dQ[n - 1] / ds + x * dQ[n - 1] / dx + t * Q[n - 1] if n is odd and Q[n]=x * dQ[n - 1] / dt + s * dQ[n - 1] / ds + x * dQ[n - 1] / dx + s * Q[n - 1] if n is even. ●

[A154322] ● 1,2,4,10,26,62,133,260,471,802,1298,2014,3016,4382,6203,8584,11645,15522,20368,26354,33670,42526,53153,65804,80755 ⋆ a(n) = 1 + n + binomial(n+3,5). ● a(n) = n + 1 + Sum _{ k=0..n } binomial(k + 1,2) * binomial(n - k + 1,2). ● a(n) = (n + 1) * (n ^ 4 + 4 * n ^ 3 + n ^ 2 - 6 * n + 120) / 120. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. - _ Wesley Ivan Hurt _ , Oct 08 2015 ●

[A217988] ● 1,2,4,10,26,66,160,372,840,1864,4096,8944,19424,41952,90112,192576,409728,868480,1835008,3866368,8125952,17038848,35651584,74449920,155191296 ⋆ Binomial transform of A215495(n). ● a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 8 * a(n - 4) with n>5. ● a(n) = 2 ^ (n - 3) * (3 * n + 2) + ((1 + i) ^ n + (1 - i) ^ n) / 4, where i=sqrt(- 1) and n>1, with a(0)=1, a(1)=2. ●

[A052995] ● 0,2,4,10,26,68,178,466,1220,3194,8362,21892,57314,150050,392836,1028458,2692538,7049156,18454930,48315634,126491972,331160282,866988874,2269806340,5942430146 ⋆ Expansion of 2*x*(1-x)/(1-3*x+x^2). ● a(0)=0, a(1)=2, a(2)=4; for n>0, a(n) - 3 * a(n + 1) + a(n + 2) = 0. ● a(n) = Sum(2 / 5 * (- 1 + 4 *_ alpha) *_ alpha ^ (- 1 - n), _ alpha = RootOf(_ Z ^ 2 - 3 *_ Z + 1)). ● a(n + 2) = F(n) ^ 2 + F(n + 3) ^ 2 = 2 * F(n + 1) ^ 2 + 2 * F(n + 2) ^ 2, where F = A000045. - _ N. J. A. Sloane _ , Feb 20 2005 ● a(n) = 1 / 2 * (F(2 * n + 8) mod F(2 * n + 2)) for n>2. - _ Gary Detlefs _ , Nov 22 2010 ● a(n) = F(n - 3) * F(n - 1) + F(n) * F(n + 2) for n>0, F(- 2)= - 1, F(- 1)=1. - _ Bruno Berselli _ , Nov 03 2015 ● a(n) = (2 ^ (- n) * ((3 - sqrt(5)) ^ n * (1 + sqrt(5)) + (- 1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5) for n>0. - _ Colin Barker _ , Mar 30 2016 ●

[A055819] ● 1,2,4,10,26,68,178,466,1220,3194,8362,21892,57314,150050,392836,1028458,2692538,7049156,18454930,48315634,126491972,331160282,866988874,2269806340,5942430146 ⋆ Row sums of array T in A055818; twice the odd-index Fibonacci numbers after initial term. ● a(n) = 3 * a(n - 1) - a(n - 2) for

n > 0. •

[A081881] • 1,2,4,10,26,69,186,504,1369,3720,10111,27483,74705,203068,551995,1500477,4078718,11087104,30137872,81923228,222690421,605335323,1645472007,4472856655,12158484965 ★ Pack bins of size 1 sequentially with items of size 1/1, 1/2, 1/3, 1/4, ... Sequence gives values of n for which 1/n starts a new bin. • a(n) is asymptotic to C * exp(n) where C=0.1688... - _ Benoit Cloitre _ , Apr 14 2003 • a(n) = 1 + (A136616 ^ (n - 1))(0). - _ Rainer Rosenthal _ , Feb 16 2008 •

[A025565] • 1,2,4,10,26,70,192,534,1500,4246,12092,34606,99442,286730,829168,2403834,6984234,20331558,59287740,173149662,506376222,1482730098,4346486256,12754363650,37461564504 ★ a(n) = T(n,n-1), where T is array defined in A025564. • a(1) = 1, a(n) = M(n - 1) + sum (M(k - 1) * a(n - k), k=1..n - 1) with M=A001006, the Motzkin Numbers. - _ Reinhard Zumkeller _ , Mar 30 2012 • a(n) = n * hypergeom([2 - n, 1 / 2 - n / 2, 1 - n / 2], [2, - n], 4). - _ Peter Luschny _ , Jul 12 2016 • a(n) = (- 1) ^ n * 2 * hypergeom([3 / 2, 2 - n], [2], 4) for n>1. - _ Peter Luschny _ , Jan 30 2017 •

[A257520] • 1,1,2,4,10,26,71,197,554,1570,4477,12827,36895,106471,308114,893804,2598314,7567466,22076405,64498427,188689685,552675365,1620567764,4756614062,13974168191 ★ Number of factorizations of m^2 into 2 factors, where m is a product of exactly n distinct primes and each factor is a product of n primes (counted with multiplicity). • a(n) = ((3 * n ^ 2 - 7 * n + 3) * a(n - 1) + (n - 1) * (n - 3) * a(n - 2) - 3 * (n - 1) * (n - 2) * a(n - 3)) / (n * (n - 2)) for n>2, a(0) = a(1) = 1, a(2) = 2. •

[A102407] • 1,1,2,4,10,26,72,206,606,1820,5558,17206,53872,170298,542778,1742308,5627698,18277698,59652952,195541494,643506310,2125255036,7041631854,23400092142,77971706848 ★ Number of Dyck paths of semilength n having no ascents of length 1 that start at an odd level. • a(n) = top left term in M ^ n, a(n + 1) = sum of top row terms in M ^ n. Example: top row of M ^ 5 = (26, 19, 16, 7, 3, 1, 0, 0, 0,...) where 26 = a(5) and 72 = a(6) = (26 + 19 + 16 + 7 + 3 + 1). - _ Gary W. Adamson _ , Jul 11 2011 •

[A049130] • 1,1,2,4,10,26,73,211,630,1918,5944,18668,59311,190243,615269,2004025,6568174,21645438,71681152,238416580,796107464,2667768904,8968626418,30240087086,102238147891 ★ Revert transform of ((x - 1)(x + 1))/(-1 - x + x^3). • a(n) = sum { k=0..floor(n / 2), C(n,2k) * C(3k,k) / (2k + 1) } ; a(n)=sum { k=0..n, C(3k / 2,k / 2)(1 + (- 1) ^ k) / (2(k + 1)) } . - _ Paul Barry _ , Nov 05 2006 •

[A000085] • 1,1,2,4,10,26,76,232,764,2620,9496,35696,140152,568504,2390480,10349536,46206736,211799312,997313824,4809701440,23758664096,119952692896,618884638912,3257843882624,17492190577600 ★ Number of self-inverse permutations on n letters, also known as involutions; number of standard Young tableaux with n cells. • a(n) = a(n - 1) + (n - 1) * a(n - 2), n>1. • a(n)=Sum _{ k=0..[n / 2] } n! / ((n - 2 * k)! * 2 ^ k * k!). • a(m + n) = Sum _{ k >=0 } k! * binomial(m, k) * binomial(n, k) * a(m - k) * a(n - k). - _ Philippe Deléham _ , Mar 05 2004 • a(n) = (n - 1) * a(n - 2) + a(n - 1); e.g. a(7) = 232 = 6 * 26 + 76. • a(n) = (1 / sqrt(2 * Pi)) * int(exp(- x ^ 2 / 2) * (x + 1) ^ (n),x= - infinity..infinity) - _ Groux Roland _ , Mar 14 2011. • a(n) = sum(s(n,k) * (- 1) ^ (n - k) * 2 ^ k * B(k,1 / 2),k=0..n), where the s(n,k) are (signless) Stirling numbers of the first kind, and the B(n,x) = sum(S(n,k) * x ^ k,k=0..n) are the Stirling polynomials, where the S(n,k) are the Stirling numbers of the second kind. - _ Emanuele Munarini _ , May 16 2014 •

[A179381] • 1,2,4,10,26,78,236,770,2520,8606,29364,103302,362226,1298882,4645670,16897224,61296686,225457006,826950080,3067763394,11353597198,42414220022,158095481910,594108418428,2227714454332 ★ Row sums of A179318. • a(n) = s(1,n), where s(m,n) = C(n - 1) + sum(k=m..n / 2, C(k - 1) * s(k,n - k), a(n,n) = C(n - 1), C(n) are the Catalan numbers (A000108). - _ Vladimir Kruchinin _ , Sep 06 2014 •

[A003239] • 1,1,2,4,10,26,80,246,810,2704,9252,32066,112720,400024,1432860,5170604,18784170,68635478,252088496,930138522,3446167860,12815663844,47820447028,178987624514,671825133648 ★ Number of rooted planar trees with n non-root nodes: circularly cycling the subtrees at the root gives equivalent trees. • a(n) = Sum _{ d|n } (phi(n / d) * binomial(2d, d)) / (2n), n>0. • a(n) = (1 / n) Sum _{ d|n } (phi(n / d) * binomial(2d - 1, d)), n>0. •

[A114507] • 1,1,2,4,10,27,79,240,750,2387,7711,25214,83315,277799,933596,3159187,10755190,36811479,126594819,437220744,1515844359,5273760446,18406122609,64426136558,226108087891 ★ Number of Dyck paths of semilength n having no ascents of length 3. • a(n) = 1 / n * sum(j=ceiling((n + 1) / 2)..n, C(n,j) * C(4 * j - 2 * n - 2,j - 1) * (- 1) ^ (n - j)) n>0. [From _ Vladimir Kruchinin _ , Mar 07 2011] •

[A121690] • 1,1,2,4,10,27,81,262,910,3363,13150,54135,233671,1053911,4951997,24177536,122381035,640937746,3466900453,19337255086,111057640382,655892813805,3978591077096,24760700544301,157941950878839 ★ G.f.: A(x) = Sum_{k>=0} x^k * (1+x)^(k*(k+1)/2). • a(n) = Sum _{ k=0..n } C(k * (k + 1) / 2,n - k). •

[A276051] • 1,2,4,10,28,80,244,732,2320,7172 ★ a(n) is the number of top arches with length =1 for all semi meander solutions with n top arches. • a(n + 1)= sum of x=1 to M(n)for [r(x) * h(x) - i(x)] + 2 * M(n) - 2 * M(n - 1) • a(5)=(3 * 3 - 1) + (3 * 3 - 1) + (2 * 2 - 0) + (2 * 2 - 0) + 2 * 4 - 2 * 2= 28. •

[A034472] • 2,4,10,28,82,244,730,2188,6562,19684,59050,177148,531442,1594324,4782970,14348908,43046722,129140164,387420490,1162261468,3486784402,10460353204,31381059610,94143178828,282429536482 ★ a(n) = 3^n + 1. • a(n) = 3 * a(n - 1) - 2 = 4 * a(n - 1) - 3 * a(n - 2). (Lucas sequence, with A003462, associated to the pair (4, 3).) •

[A187256] • 1,2,4,10,28,82,248,770,2440,7858,25644,84618,281844,946338,3199728,10885122,37230352,127951714,441633812,1530242954,5320853260,18560408050,64932101224,227767796482,800928670232 ★ Number of peakless Motzkin paths of length n, assuming that the (1,0)-steps come in 2 colors. • a(n) = Sum _{ i=0..n / 2 } ((- 1) ^ i * binomial(n - i,i) * binomial(2 * n - 4 * i + 2,n - 2 * i)) / (n - 2 * i + 1)). - _ Vladimir Kruchinin _ , Jun 01 2014 •

[A192653] • 1,2,4,10,28,82,264,866,2984,10476,37500,135916,496242,1821384,6712394,24818020,92016874,342043052,1274461144,4759439600,17812520318,66803249358,251038475982,945202437760,3565529448118 ★ Binomial convolution of the Floor-Sqrt transform of Catalan numbers. • a(n) = sum(binomial(n,k) * floor(sqrt(binomial(2 * k,k) / (k + 1))) * floor(sqrt(binomial(2 * n - 2 * k,n - k) / (n - k + 1))),k=0..n). •

[A068875] • 1,2,4,10,28,84,264,858,2860,9724,33592,117572,416024,1485800,5348880,19389690,70715340,259289580,955277400,3534526380,13128240840,48932534040,182965127280,686119227300,2579808294648 ★ Expansion of (1+x*C)*C, where C = (1-(1-4*x)^(1/2))/(2*x) is the g.f. for Catalan numbers, A000108. • a(n) = sum of top row terms in M ^ n, where M is the following infinite square production matrix: •

[A135336] • 1,1,2,4,10,28,85,271,893,3013,10351,36075,127219,453097,1627378,5887660,21436354,78484402,288779728,1067263660,3960081904,14746806292,55094725918,206450572930,775724723086 ★ Number of Dyck paths of semilength n with no UUDU's starting at level 0. • a(n) = Sum _{ j=0..floor(n / 3) } (- 1) ^ j * (3 * j + 1) * binomial(2 * n - 3 * j,n) / (n + 1). •

[A253409] • 1,2,4,10,28,86,282,984,3630,14138,57904,248854,1118554,5246980,25619018,129961850,683561488,3722029314,20946195078,121671375312,728511702462,4491224518274,28475638336144,185499720543262,1240358846060122 ★ The number of ways to write an n-bit binary string and then define each run of ones as an element in an equivalence relation, and each run of zeros as an element in a second equivalence relation. • a(n) = 2 * Sum _{ k=1..ceiling(n / 2) } C(n - 1,2k - 1) * Bell(k) ^ 2 + C(n - 1,2k - 2) * Bell(k) * Bell(k - 1), where C(x,y) refers to binomial coefficients and Bell(x) refers to Bell numbers (A000110). •

[A229046] • 1,1,2,4,10,28,88,304,1144,4648,20248,94024,463144,2409928,13198888,75848584,456066664,2862257608,18708144808,127096142344,895846801384,6540722530888,49392459602728,385251753351304,3099780861286504 ★ G.f.: Sum_{n>=0} n! * x^n * (1+x)^n / Product_{k=1..n} (1 + k*x). • a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ i=0..k } (- 1) ^ i * binomial(k,i) * (k - i + 1) ^ (n - k). (See Paul Barry's formula in A105795). - _ Paul D. Hanna _ , Jul 13 2014 • a(n) = Sum _{ k=0..floor(n / 2) } k! * Stirling2(n - k + 1,k + 1). •

[A191501] • 1,2,4,10,28,96,354,1372,5512,22740,95768,410016,1779210,7807724,34589432,154488460,694883528,3144917888,14311109396,65439770904,300534169744,1385612474536,6410981989808,29757955549888,138534010818650 ★ Expansion of 2-sqrt(1-4*x-4*x^2-4*x^3) • a(n)=2 * sum(k=1..n, (binomial(2 * k - 2,k - 1) * sum(j=0..k, binomial(j,n - 3 * k + 2 * j) * binomial(k,j))) / k), n>0, a(0)=1. •

[A061417] • 1,2,4,10,28,136,726,5100,40362,363288,3628810,39921044,479001612,6227066928,87178295296,1307675013928,20922789888016,355687438476444,6402373705728018,121645100594641896,2432902008177690360 ★ Number of permutations up to cyclic rotations; permutation siteswap necklaces. • a(n) = (1 / n) * Sum _{ d|n } phi(n / d) * ((n / d) ^ d) * (d!). •

[A243814] • 0,1,2,4,10,29,86,259,806,2573,8332,27301,90498,302933,1022074,3472148,11868242,40788053,140851104,488485195,1700694884,5941906864,20826229564,73208454375,258031793698 ★ Expansion of -(x*(1-sqrt((2*(1-sqrt(4*x^2+1)))/x^2))) / sqrt(4*x^2+1))-1. • a(n) = sum(i=0..(n - 1) / 2, (- 1) ^ i * binomial(n,i) * binomial(2 * n - 4 * i,n - 2 * i + 1)) / n, n>0, a(0)=0. •

[A262592] • 1,2,4,10,29,88,268,812,2449,7366,22124,66406,199261,597836,1793572,5380792,16142465,48427498,145282612,435847970,1307544061,3922632352,11767897244,35303691940,105911076049 ★ a(n) = (3^(n+1) - 2n^2 + 4n + 5) / 8.. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 10 * a(n - 3) - 3 * a(n - 4) for n >3. - _ Colin Barker _ , Oct 23 2015 •

[A135334] • 1,1,2,4,10,29,90,290,960,3246,11164,38934,137358,489341,1757882,6360634,23160528,84802606,312041692,1153271984,4279311348,15935808866,59537435012,223099337404,838282693560 ★ Number of Dyck paths of semilength n having no UDDU's starting at level 1. • a(n) = 2 * (Sum _{ j=0..floor((n - 1) / 2) } (- 1) ^ j * (j + 1) * binom(2n - 2j - 1,n)) / (n + 1) (n >=1). •

[A026119] • 1,2,4,10,30,94,316,1096,3856,13798,49940,182362,671092,2485534,9256396,34636834,130150588,490853416,1857283156,7048151672,26817356776,102280151422,390937468408,1497207322930,5744387279818 ★ Bisection of A000016 (also of A000013). • a(n) = (Sum _{ d | 2n + 1 } phi(d) * 2 ^ ((2n + 1) / d)) / (4n + 2). •

[A087161] • 1,2,4,10,30,98,330,1122,3826,13058,44578,152194,519618,1774082,6057090,20680194,70606594,241065986,823050754,2810071042,9594182658,32756588546,111837988866,381838778370,1303679135746 ★ Records in A087159: A087159(a(n))=n and satisfies recurrence: a(n+3)=5a(n+2)-6a(n+1)+2a(n), with a(1)=1, a(2)=2, a(3)=4. • a(n)=((2 - sqrt(2)) ^ (n) / (1 - sqrt(2)) + (2 + sqrt(2)) ^ (n) / (1 + sqrt(2))) / 2 + 2 (offset 0) - _ Paul Barry _ , Aug 26 2003 • a(1)=1, a(2)=2, a(3)=4, a(n)=5 * a(n - 1) - 6 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Oct 12 2015 •

[A274232] • 1,2,4,10,30,102,374,1430,5590,22102,87894,350550,1400150,5596502,22377814,89494870,357946710,1431721302,5726754134,22906754390,91626493270,366504924502,1466017600854,5864066209110,23456256447830 ★ Number of partitions of 2^n into at most three parts. • a(n) = (8 + 3 * 2 ^ (1 + n) + 4 ^ n) / 12 for n>0. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A186021] • 1,2,4,10,30,104,406,1754,8280,42294,231950,1357140,8427194,55288874,381798644,2765917090,20960284294,165729739608,1364153612318,11665484410114,103448316470744,949739632313502,9013431476894646,88304011710168692,891917738589610578 ⋆ a(n) = Bell(n)*(2 - 0^n). • a(n + 1) = 1 + Sum _{ k=0..n } C(n,k) * a(k). - _ Franklin T. Adams - Watters _ , Oct 02 2011. •

[A071954] • 2,4,10,32,114,420,1562,5824,21730,81092,302634,1129440,4215122,15731044,58709050,219105152,817711554,3051741060,11389252682,42505269664,158631825970,592022034212,2209456310874,8245803209280,30773756526242 ⋆ a(n) = 4*a(n-1) - a(n-2) - 4, with a(0)=2, a(1)=4. • a(0)=2, a(1)=4, a(2)=10, a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3) for n > 2. • a(n) = (2 + (- (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n) / sqrt(3)). - _ Colin Barker _ , Nov 03 2016 •

[A001250] • 1,1,2,4,10,32,122,544,2770,15872,101042,707584,5405530,44736512,398721962,3807514624,38783024290,419730685952,4809759350882,58177770225664,740742376475050,9902996106248192,138697748786275802,2030847773013704704,31029068327114173810 ⋆ Number of alternating permutations of order n. • a(n) = coefficient of x ^ (n - 1) / (n - 1)! in power series expansion of (tan(x) + sec(x)) ^ 2 = (tan(x) + 1 / cos(x)) ^ 2. • a(n) = coefficient of x ^ n / n! in power series expansion of 2 * (tan(x) + sec(x)) - 2 - x. - _ Michael Somos _ , Feb 05 2011 • a(n) = 4 * |Li _{- n } (i)| - [n=1] = sum _{ m=0...n / 2 } (- 1) ^ m * 2 ^{ 1 - k }* sum _{ j=0...k } binomial(k,j) * (- 1) ^ j * (k - 2 * j) ^ (n + 1) / k - [n=1], where k = k(m) = n + 1 - 2 * m and [n=1] equals 1 if n=1 and zero else; Li denotes the polylogarithm (and i ^ 2 = - 1). - _ M. F. Hasler _ , May 20 2012 •

[A098830] • 0,1,2,4,10,32,126,588,3170,19384,132550,1002212,8301930,74767056,727348814,7601002876,84920459890,1010058659048,12742908917718,169962226236180,2389587638934650,35321010036943360,547577222471444062 ⋆ 3*Sum_{k>=0} k^n/binomial(2k, k) = Pi*sqrt(3)*q(n) + a(n) for some rational sequence (q(n)). • a(n) = Sum _{ k=0..n } Sum _{ j=0..n - k } (j + 1) ^ k * Sum _{ i=0..j } (- 1) ^ (n - k + j - i) * C(j, i) * (j - i) ^ (n - k). - _ Paul D. Hanna _ , Nov 03 2004 • a(n) = Sum _{ k=0..n } Sum _{ m=0..k } (- 1) ^ (k + m) * (m + 1) ^ (n - k) * m! * stirling2(k,m). - _ Vladimir Reshetnikov _ , Dec 17 2015 •

[A166741] • 1,2,4,10,32,130,640,3770,25600,199810,1740800,16983850,181043200,2122981250,26794393600,367275756250,5358878720000,84106148181250,1393308467200000,24643101417106250,457005177241600000 ⋆ E.g.f.: exp(2*arcsin(x)) • a(n) = (n ^ 2 - 4 * n + 8) * a(n - 2). • a(n) = 2 ^ (n - 1) * (exp(Pi) - (- 1) ^ n * exp(- Pi)) * GAMMA(n / 2 - I) * GAMMA(n / 2 + I) / Pi. •

[A054091] • 1,2,4,10,32,130,652,3914,27400,219202,1972820,19728202,217010224,2604122690,33853594972,473950329610,7109254944152,113748079106434,1933717344809380,34806912206568842,661331331924808000,13226626638496160002 ⋆ Row sums of A054090. • a(n + 1) = Sum(2 * n! / j!, j=0..n). - _ Zerinvary Lajos _ , Oct 20 2006 • a(n) = 2 * floor(e * (n - 1)!), n>1. - _ Gary Detlefs _ , May 20 2010 • a(n) = n * a(n - 1) - (n - 2) * a(n - 2), a(0)=1, a(1)=2. - _ Vincenzo Librandi _ , Feb 23 2012 •

[A003422] • 0,1,2,4,10,34,154,874,5914,46234,409114,4037914,43954714,522956314,6749977114,93928268314,1401602636314,22324392524314,378011820620314,6780385526348314,128425485935180314,2561327494111820314,53652269665821260314 ⋆ Left factorials: !n = Sum_{k=0..n-1} k!. • a(n) = n * a(n - 1) - (n - 1) * a(n - 2). - _ Henry Bottomley _ , Feb 28 2001 • a(n) = Sum[P(n, k) / C(n, k) { k = 0...n - 1 }]. - _ Ross La Haye _ , Sep 20 2004 • a(n) = Integral _{ x = 0..infinity } [(x ^ n - 1) / (x - 1)] * exp(- x) dx. - _ Gerald McGarvey _ , Oct 12 2007 • a(n) = a(n - 1) + (n - 1)! for n >= 2. - _ Jaroslav Krizek _ , Jun 16 2009 •

[A210772] • 1,2,4,10,35,165,969,6545,47905,366145,2862209,22632705,180007425,1435853825,11470030849,91693092865,733276217345,5865135816705,46916791205889,375317149057025,3002468471537665,24019472891510785,192154683614691329,1537233070859485185 ⋆ Number of partitions of 2^n into powers of 2 less than or equal to 8. • a(n) = [x ^ 2 ^ (n - 1)] 1 / (1 - x) * 1 / Product _{ j=0..2 } (1 - x ^ (2 ^ j)) for n>0. • a(n) = 1 + (11 * 2 ^ (n - 3)) / 3 + 2 ^ (3 * n - 7) / 3 + 4 ^ (n - 2) for n>1. - _ Colin Barker _ , Jan 26 2018 •

[A103854] • 2,4,10,36,56,94,126,224,260,270,300,350,686,716,780,1036,1070,1080,1156,1174,1210,1394,1416,1434,1440 ⋆ Positive integers n such that n^6 + 1 is semiprime. • a(n) ^ 6 + 1 is semiprime. (a(n) ^ 2 + 1) is prime and (a(n) ^ 4 - a(n) ^ 2 + 1) is prime. •

[A210773] • 1,2,4,10,36,201,1625,17361,222241,3160641,47594625,738433281,11633144321,184687354881,2943499290625,47004182220801,751333186150401,12015464030289921,192200500444954625,3074832660977745921,49194319991205396481,787085099922532597761 ⋆ Number of partitions of 2^n into powers of 2 less than or equal to 16. • a(n) = [x ^ 2 ^ (n - 1)] 1 / (1 - x) * 1 / Product _{ j=0..3 } (1 - x ^ (2 ^ j)) for n>0. •

[A113208] • 1,1,2,4,10,44,1426,17592187106356 ⋆ Half-fixed-point of ascending descending base exponent transform. • a(1) = 1. For n>1: a(n) = (1 / 2) * SUM[from i = 1 to n] (a(i)) ^ a(n - i + 1). •

[A120402] • 2,4,10,70,430,4090,86530,513100,913570,7914340 ⋆ a(1)=2; a(n)=first even number greater than a(n-1) such that 2*a(n)-1 is prime and a(i)+a(n)-1 is prime for all 1<=i<=n-1. • a(1)=2; a(n) = s where s is the first even number s>a(n - 1) such that 2 * s - 1 is prime and s + a(i) - 1 is prime, 1<=i<=n - 1. •

[A214429] • 0,1,2,4,11,15,18,23,37,44,49,57,78,88,95,106,134,147,156,170,205,221,232,249,291 ⋆ Integers of the form (n^2 - 49) / 120. • a(n) = 2 * a(n - 4) - a(n - 8) + 15 = a(- 1 - n). •

[A277867] • 1,2,4,11,16,47,64,191,256,767,1024,3071,4096,12287,16384,49151,65536,196607,262144,786431,1048576,3145727,4194304,12582911,16777216 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 3", based on the 5-celled von Neumann neighborhood. • a(n) = (- 2 - (- 2) ^ n + 2 * (- 1) ^ n + 5 * 2 ^ n) / 4. (End) •

[A283216] • 1,2,4,11,17,46,68,187,273,750,1092,3003,4369,12014,17476,48059,69905,192238,279620,768955,1118481,3075822,4473924,12303291,17895697 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 597", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * a(n - 2) + a(n - 4) - 4 * a(n - 6) for n>5. •

[A283357] • 1,2,4,11,17,46,70,190,286,766,1150,3070,4606,12286,18430,49150,73726,196606,294910,786430,1179646,3145726,4718590,12582910,18874366 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 621", based on the 5-celled von Neumann neighborhood. • a(n) = (- 32 - 3 * (- 2) ^ n + 21 * 2 ^ n) / 16 for n>4. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) for n>5. •

[A182642] • 2,4,11,17,46,76,199,321,842,1364,3571,5777,15126,24476,64079,103681,271442,439204,1149851,1860497,4870846,7881196,20633239,33385282,87403803 ⋆ Subsequence of A014217 (n=2,3,5,6,8,9,11,12,...). • a(n)=floor(r ^ m (n)), where r=(1 + sqrt(5)) / 2 and m(n) •

[A039824] • 1,2,4,11,20,31,46,61,78,97,118,141,166,193,222,253,286,321,358,397,438,481,526,573,622 ⋆ Number of different coefficient values in expansion of Product (1+q^1+q^3...+q^(2i-1)), i=1 to n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>9. •

[A061152] • 1,2,4,11,23,51,107,216,430,839,1614,3046,5684,10465,19046,34321,61225,108245,189779,330093,569916,977139,1664304,2817039,4740000 ⋆ 1 + Sum_{n=1..inf} a_n x^n = Product_{n=1..inf} (1+x^n)^ithprime(n). • a(n)=1 / n * Sum _{ k=1..n } a(n - k) * b(k), k>0, a(0)=1, b(k)=Sum _{ d|k } (- 1) ^ (k / d + 1) * d * ithprime(d). •

[A006452] • 1,1,2,4,11,23,64,134,373,781,2174,4552,12671,26531,73852,154634,430441,901273,2508794,5253004,14622323,30616751,85225144,178447502,496728541 ⋆ a(n) = 6*a(n-2) - a(n-4). • a(n + 2) = sqrt(17 * a(n) ^ 2 + 6 * (sqrt(8 * a(n) ^ 2 - 7)) * a(n) * sgn(2 * n - 1) - 7) with a(0) = 1, a(1) = 1. - _ Raphie Frank _ , Feb 08 2013 •

[A086424] • 1,2,4,11,25,64,171,569,3406,27697,243374,1759619,28381401,222323189,3416307938 ⋆ Numbers needed to generate all other natural numbers, only allowing multiplication and addition. Each number can be used only once. • a(n) >= 2a(n - 1). - _ Charles R Greathouse IV _ , Jun 17 2013 •

[A080009] • 1,1,2,4,11,26,56,127,288,660,1500,3401,7729,17565,39930,90735,206176,468536,1064750,2419661,5498621,12495505,28395889,64529315,146642077 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=2, r=3, I={2}. • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3) + 3 * a(n - 4) + 5 * a(n - 5) + a(n - 7) - a(n - 8) - a(n - 9) - a(n - 10). •

[A159336] • 1,2,4,11,26,60,139,323,751,1746,4059,9436,21936,50995,118549,275593,640676,1489391,3462414,8049136,18711971,43500055,101125359,235087938,546513151 ⋆ Transform of the finite sequence (1, 0, -1) by the T_{1,0} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 5, with a(0)=1, a(1)=2, a(2)=4, a(3)=11, a(4)=26. •

[A159338] • 1,2,4,11,27,61,140,327,761,1769,4112,9559,22222,51660,120095,279187,649031,1508814,3507567,8154104,18955992,44067335,102444125,238153697,553640176 ⋆ Transform of the finite sequence (1, 0, -1, 0, 1, 0, -1) by the T_{1,0} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 9, with a(0)=1, a(1)=2, a(2)=4, a(3)=11, a(4)=27, a(5)=61, a(6)=140, a(7)=327, a(8)=761. •

[A159339] • 1,2,4,11,27,61,140,327,762,1770,4113,9563,22233,51684,120149,279314,649328,1509503,3509167,8157825,18964644,44087447,102490878,238262386,553892849 ⋆ Transform of A056594 by the T_{1,0} transformation (see link). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 4 * a(n - 3) - 2 * a(n - 4) + a(n - 5) for n >= 5, with a(0)=1, a(1)=2, a(2)=4, a(3)=11, a(4)=27. •

[A159337] • 1,2,4,11,27,61,141,328,763,1774,4124,9587,22287,51811,120446,280003,650928,1513224,3517819,8177937,19011397,44196136,102743551,238849778,555258368 ⋆ Transform of the finite sequence (1, 0, -1, 0, 1) by the T_{1,0} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >= 7, with a(0)=1, a(1)=2,a(2)=4, a(3)=11, a(4)=27, a(5)=61, a(6)=141. •

[A099525] • 1,2,4,11,28,68,169,422,1048,2603,6472,16088,39985,99386,247036,614027,1526212,3793532,9429145,23436926,58254448,144796331,359903440,894570224,2223529441 ⋆ Expansion of 1/(1-2x-3x^3). • a(n)=2a(n - 1) + 3a(n - 3); a(n)=sum { k=0..floor(n / 3), binomial(n - 2k, k)3 ^ (n - 2k)(2 / 3) ^ (n - 3k) } . •

[A099016] • 1,2,4,11,28,74,193,506,1324,3467,9076,23762,62209,162866,426388,1116299,2922508,7651226,20031169,52442282,137295676,359444747,941038564,2463670946,6449974273 ⋆ a(n) = 3*L(2*n)/5 - (-1)^n/5, where L = A000032. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) = 2 * F(n) ^ 2 + F(n) * F(n - 1) + F(n - 1) ^ 2, where F = A000045. • a(n) = 3 * ((3 / 2 - sqrt(5) / 2) ^ n + (3 / 2 + sqrt(5) / 2) ^ n) / 5 - (- 1) ^ n / 5. • a(n) = 3 * F(n) ^ 2 + (- 1) ^ n. • a(n) = F(n + 1) ^ 2 + F(n) * F(n - 2). See also A192914, fourth formula. - _ Bruno Berselli _ , Feb 15 2017 •

[A061860] • 1,2,4,11,28,152,726,5268,40438,365944,3628810,39974466,479001612,6228256404,87178339984,1307706805928,20922789888016,355688409760972,6402373705728018,121645133931170028,2432902008232456692 ⋆ Variant of A061417. • a(n) = (1 / n) * Sum _{ d|n } phi(n / d) * C(n, d) * (d!). •

[A093960] • 1,2,4,11,29,76,199,521,1364,3571,9349,24476,64079,167761,439204,1149851,3010349,7881196,20633239,54018521,141422324,370248451,969323029,2537720636,6643838879 ★ a(1) = 1, a(2) = 2, a(n + 1) = n*a(1) + (n-1)*a(2) + ...(n-r)*a(r + 1) + ... + a(n). • a(n) = F(2n - 2) + F(2n - 4), where F(k) is k - th Fibonacci number, n > 2. • a(n) = 3 * a(n - 1) - a(n - 2) for n>4. - _ Colin Barker _ , Mar 26 2015 •

[A267912] • 1,2,4,11,29,77,201,525,1361,3525,9097,23453,60353,155189,398649,1023501,2626289,6736677,17274601,44286845,113516321,290925845,745515417,1910267373,4894426193 ★ Number of 1 X n 0..2 arrays with every repeated value in every row unequal to the previous repeated value, and in every column equal to the previous repeated value, and new values introduced in row-major sequential order. • a(n) = (1 / 17) * 2 ^ (- 5 - n) * (- 17 * 4 ^ (1 + n) + (85 - 19 * sqrt(17)) * (1 - sqrt(17)) ^ n + (1 + sqrt(17)) ^ n * (85 + 19 * sqrt(17))) for n>2. •

[A039300] • 1,2,4,11,31,92,274,821,2461,7382,22144,66431,199291,597872,1793614,5380841,16142521,48427562,145282684,435848051,1307544151,3922632452,11767897354,35303692061,105911076181 ★ Number of distinct quadratic residues mod 3^n. • a(n) = floor((3 ^ n + 3) * 3 / 8). • a(n) = (3 ^ (n + 1) + 6 + (- 1) ^ (n + 1)) / 8 - - _ Lekraj Beedassy _ , Jan 07 2005 • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 3 with n>1, a(0)=1, a(1)=1. [_ Zerinvary Lajos _ , Dec 14 2008] • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). _ Vincenzo Librandi _ , Apr 21 2012 •

[A247333] • 1,1,2,4,11,31,92,283,893,2875,9407,31189,104555,353794,1206821,4145350,14326184,49778473,173794610,609392578,2145057797,7577098816,26850456704,95425761829,340047930692 ★ Number of Dyck paths of semilength n avoiding the consecutive step pattern UDUDU, where U=(1,1) and D=(1,-1). • a(n) = Sum _{ k=1..n } binomial(k,n - k) * M(k + 1), a(0)=1, where M(k) is Motzkin numbers (A001006). - _ Vladimir Kruchinin _ , Mar 03 2016 •

[A110140] • 1,1,2,4,11,31,103,351,1321,5113,21201,90465,406621,1879021,9051309,44754061,229059633,1201271409,6488957521,35853950609,203303964341,1177299817093,6976709899853,42161309544541,260154190137865 ★ Binomial transform of (n^n with interpolated zeros). • a(n)=sum { k=0..n, C(n, k)(k / 2) ^ (k / 2) * (1 + (- 1) ^ k) / 2 } •

[A190452] • 1,1,2,4,11,31,106,372,1499,6211,28606,135356,697357,3688049,20935006,121837276,753159801,4767863657,31807384354,217048147396,1551200297291,11327527814191,86206555248122,669666314150164,5399592811359331 ★ E.g.f. exp(x+x^2/2+x^4/24). • a(n) = n! * sum(k=1..n, sum(j=floor((4 * k - n) / 3)..floor((4 * k - n) / 2), binomial(j,n - 4 * k + 3 * j) * 12 ^ (j - k) * binomial(k,j) * 2 ^ (- n + 3 * k - 2 * j)) / k!), n>0, a(0)=1. •

[A191586] • 1,2,4,11,32,92,271,814,2464,7508,23024,70952,219503,681358,2121116,6619571,20703040,64873328,203625604,640109128,2014951552,6350490808,20037015200,63284778256,200063948527 ★ Binomial row sums of the Riordan matrix (1/(1-x),x/(1-x^2)) (A046854). • a(n) = Sum _{ k=0..n } binomial(n, k) * binomial(floor((n + k) / 2),k). •

[A135339] • 1,1,2,4,11,32,99,318,1051,3550,12200,42520,149930,533890,1917181,6934722,25243539,92405718,339940116,1256122632,4660081434,17350844808,64814186646,242838410652,912333763806 ★ Number of Dyck paths of semilength n having no DUDU's starting at level 1. • a(n) = binomial(2 * n - 2,n - 1) / n + (Sum _{ j=0..n - 2 } (- 1) ^ j * (j + 3) * binomial(2 * n - j - 2,n)) / (n + 1) for n>=1. - _ Emeric Deutsch _ , Dec 13 2007 •

[A220902] • 2,4,11,33,104,339,1133,3861,13364,46852,166022,593674,2139552,7763305,28337265,103981965,383351580,1419269280,5274495930,19669409790,73580417040,276043317030,1038327097314,3915101867778,14795310818024 ★ a(n) = Catalan(n) - A000245(n-2). • a(n) = Catalan(n) - Catalan(n - 1) + Catalan(n - 2). - _ Andrei Asinowski _ , Dec 16 2015 •

[A249945] • 2,4,11,33,105,363,1449,7227,46881,382563,3687849,40093947,479533041,6228615123,87183074169,1307688716907,20922832934721,355687557236163,6402374093148489,121645101571093467,2432902011663424401,51090942182169793203,1124000727808988739609 ★ n! + 3^n. • a(n) = n! + 3 ^ n. •

[A127782] • 1,1,1,2,4,11,33,114,438,1845,8458,41823,221539,1250269,7481758,47278652,314374316,2192798077,16000160519,121831654450,965946444587,7958739329386,68023023892680,602115897105136,5511499584735858 ★ G.f. satisfies: A(x) = 1 + x*A(x+x^2). • a(n) = Sum _{ k=0..[n / 2] } C(n - k,k) * a(n - k - 1) for n>0 with a(0)=1. •

[A188478] • 1,1,1,2,4,11,33,116,456,1999,9623,50603,288287,1769352,11636669,81652911,608857325,4807873069,40080193414,351751992542,3241754135966,31301851579056,316012152140592,3329322705562603,36539984716325869 ★ Binomial variation of the Catalan numbers • a(n) = sum(binomial(n - 1 - i, i) * a(i) * a(n - 1 - i), i=0..(n - 1)) with a(0)=1 •

[A281481] • 2,4,11,37,137,529,2081,8257,32897,131329,524801,2098177,8390657,33558529,134225921,536887297,2147516417,8590000129,34359869441,137439215617,549756338177,2199024304129,8796095119361,35184376283137,140737496743937 ★ a(n) = 2^(n - 1) * (2^n + 1) + 1. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>2. •

[A107107] • 1,1,2,4,11,37,168,926,6181,47651,418546,4106264,44537519,528408261,6807428748,94588717554,1409927483625,22437711255279,379674820846534,6806486383431340,128862216628864163,2569080120361323721 ★ For each partition of n, calculate (dM2/dM3) where dM2 = A036039(p) and dM3 = A036040(p); then sum over all partitions of n. • a(n) = S(n,1), where S(n,m) = sum(k=m..n / 2, (k - 1)! * S(n - k,k)) + (n - 1)!, S(n,n)=(n - 1)!, S(0,m)=1, S(n,m)=0 for m>n. - _ Vladimir Kruchinin _ , Sep 07 2014 •

[A013170] • 1,2,4,11,40,185,1030,6785,51160,438425,4176250,44098925,507867100,6375156125,86130937750,1253044612625,19429666282000,321457635604625,5626346310003250,104323833636303125,2034312191276462500 ★ E.g.f.: exp(arctanh(x)+arcsin(x)). • a(n) = (n ^ 2 - 3 * n + 5) * a(n - 2) + (n ^ 2 - 6 * n + 10) * a(n - 3). - _ Vaclav Kotesovec _ , Oct 07 2012 •

[A067353] • 2,4,11,41,199,1184,8273,66163,595439,5954354,65497849,785974133,10217663663,143047291204,2145709367969,34331349887399,583632948085663,10505393065541798,199602468245294009,3992049364905880009,83833036663023479999 ★ Divide the natural numbers in sets of consecutive numbers starting with {1,2} as the first set. The number of elements of the n-th set is equal to the sum of the n-1 final numbers in the (n-1)st set. The final number of the n-th set gives a(n). • a(n)=n * a(n - 1) - (n - 1)(n - 2) / 2 with a(1)=2. a(n)=b(1) + b(2) + ... + b(n) with b(n) as in A067352. •

[A107703] • 1,2,4,11,43,218,1336,9557,78053,714578,7223548,79704015,951626175,12210506762,167413540912,2440529176297,37665520151241,613124748803618,10492684074110772,188241358671950227,3531254422923432083 ★ Sums of antidiagonals of number array A103209. • a(n)=sum { k=0..n, sum { j=0..n - k, C(n - k + j, 2j) * k ^ j * C(k) }} , C(n) given by A000108. •

[A134019] • 1,2,4,11,46,227,1114,5231,23566,102827,438274,1836551,7601686,31183427,127084234,515429471,2083077406,8396552027,33779262994,135696871991,544528258726,2183337968627,8749031918554,35043178292111,140313885993646 ★ Let P(A) be the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are intersecting but for which x is not a subset of y and y is not a subset of x, or 1) x = y. • a(n) = (1 / 2)(4 ^ n - 3 ^ (n + 1) + 5 * 2 ^ n - 1) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 1,2) + 1. •

[A132314] • 0,2,4,12,16,40,48,112,128,288,320,704,768,1664,1792,3840,4096,8704,9216,19456,20480,43008,45056,94208,98304 ★ a(n) = n*2^floor((n+1)/2). • a(n) = 4 * a(n - 2) - 4 * a(n - 4) for n > 3. •

[A198392] • 2,4,12,18,31,41,59,73,96,114,142,164,197,223,261,291,334,368,416,454,507,549,607,653,716 ★ a(n) = (6*n*(3*n+7)+(2*n+13)*(-1)^n+3)/16 + 1. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A168380] • 2,4,12,20,38,56,88,120,170,220,292,364,462,560,688,816,978,1140,1340,1540,1782,2024,2312,2600,2938 ★ Row sums of A168281. • a(n) = (n + 1) * (3 + 2 * n ^ 2 + 4 * n - 3 * (- 1) ^ n) / 12. • a(n)= + 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A121569] • 1,2,4,12,20,54,88,232,986,1596,6764,17710,28656,75024,317810,1346268,2178308,9227464,24157816,39088168,165580140,433494436,1836311902,12586269024,32951280098 ★ a(n) = Fibonacci((prime(n)+3)/2) - 1. • a(n) = Fibonacci[(Prime[n] + 3) / 2] - 1, n>1. a(n) = Sum[Fibonacci[k], { k,1,(p - 1) / 2 }], p = Prime[n], n>1. •

[A099603] • 1,2,4,12,20,64,104,336,544,1760,2848,9216,14912,48256,78080,252672,408832,1323008,2140672,6927360,11208704,36272128,58689536,189923328,307302400 ★ Row sums of triangle A099602, in which row n equals the inverse binomial transform of column n of the triangle of trinomial coefficients (A027907). • a(n) = fibonacci(n + 1) * 2 ^ [(n + 1) / 2]. a(n) = 6 * a(n - 2) - 4 * a(n - 4) for n>4. G.f.: (1 + 2 * x - 2 * x ^ 2) / (1 - 6 * x ^ 2 + 4 * x ^ 4). •

[A173650] • 0,0,1,2,4,12,22,64,126,340,714,1824,3998,9868,22210,53688,122790,293124,676906,1603824,3725198,8786684,20479826,48176168,112522102 ★ Expansion of x^2*(1 + 2*x - x^2) / ((1 + x)*(1 - x - 4*x^2 + 2*x^3)). • a(n) = 5 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) for n>4. - _ Colin Barker _ , Feb 17 2018 •

[A291404] • 0,1,2,4,12,23,42,89,188,404,856,1763,3652,7641,16030,33612,70252,146623,306334,640637,1340024,2802056,5857264,12243403,25596040 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S^2 - 2 S^4. • a(n) = a(n - 2) + 2 * a(n - 3) + 3 * a(n - 4) + 8 * a(n - 5) + 12 * a(n - 6) + 8 * a(n - 7) + 2 * a(n - 8) for n >= 9. •

[A089822] • 0,0,2,4,12,24,48,96,192,384,640,1280,1920,3840,7680,15360,21504,43008,57344,114688,229376,458752,589824,1179648,2359296 ★ Number of subsets of {1,.., n} containing exactly two primes. • a(n) = (pi(n) * (pi(n) - 1) * 2 ^ (n - pi(n))) / 2, with pi = A000720. •

[A079352] • 1,2,4,12,24,48,96,192,384,768,1536,4608,9216,18432,36864,73728,147456,294912,589824,1179648,2359296,4718592,9437184,28311552,56623104 ★ a(1)=1, then a(n)=3*a(n-1) if n is already in the sequence, a(n)=2*a(n-1) otherwise. • a(n + 1)=3 * a(n) for n=3 n of the form 3 * 2 ^ k - 1, k>=2 . a(n + 1)=2 * a(n) otherwise. Hence a(n)=3 * (3 / 2) ^ floor((log(n / 3)) / log(2)) * 2 ^ n. •

[A089888] • 1,2,4,12,24,48,96,192,448,896,1792,3584,7168,14336,28672,61440,122880,245760,491520,983040,1966080,3932160,7864320,15728640,32505856 ★ Number of subsets of {1,.., n} containing at least one square. • a(n) = (2 ^ (n ^ (1 / 2)) - n ^ (1 / 2)) * 2 ^ (n - 1). •

[A233411] • 0,0,2,4,12,24,56,112,240,480,992,1984,4032,8064,16256,32512,65280,130560,261632,523264,1047552,2095104,4192256,8384512,16773120 ★ The number of length n binary words with some prefix which contains two more 1's than 0's or two more 0's than 1's. • a(n) = 2 ^ n - 2 ^ ceiling(n / 2). •

[A135139] • 1,2,4,12,24,68,144,388,856,2228,5056,12852,29736,74372,174384,431332,1020664,2505428,5965984,14568468,34840776,84774308,203340816,493553092,1186252696 ★ a(n) = 5*a(n-2) + 2*a(n-3). • a(n) = (4 / 7) * [1 + sqrt(2)] ^ n - (1 / 7) * sqrt(2) * [1 - sqrt(2)] ^ n - (1 / 7) * (- 2) ^ n + (4 / 7) * [1 - sqrt(2)] ^ n + (1 / 7) * [1 + sqrt(2)] ^ n * sqrt(2), with n>=0. - _ Paolo P. Lava _ , Jun 09 2008 •

[A096421] • 1,1,2,4,12,24,88,224,720,1792,7200,16512,69952,185984,608896,1797120,7495424,17936896,79457792,211576832,742306816,2190231552,9482688512,23198867456,97967427584 ★ a(1)=1; for n>1, a(n) = sum{1<=j<n,GCD(j,n)=1} a(j) a(n-j). • a(1) = 1 & a(n)=sum([1 / GCD(n, j)]a(j)a(n - j), { j=1..n - 1 }). - _ Farideh Firoozbakht _ , Aug 09 2004 •

[**A066843**] • 1,2,4,12,24,96,192,768,2304,9216,18432,110592,221184,884736,3538944,17694720,35389440,212336640,424673280,2548039680,10192158720,40768634880,81537269760,652298158080,1956894474240 ⋆ a(n) = Product_{k=1..n} d(k); d(k) is the number of positive divisors of k. • a(n) = product { p=primes<=n } product { 1<=k<=log(n) / log(p) } (1 + 1 / k) ^ floor(n / p ^ k). - _ Leroy Quet _ , Mar 20 2007 •

[**A291406**] • 0,1,2,4,12,26,60,145,336,796,1880,4412,10400,24488,57648,135794,319744,752908,1773016,4175032,9831472,23151400,54516976,128377380,302304640 ⋆ a(n) = (1/2)A291405(n). • a(n) = 2 * a(n - 2) + 4 * a(n - 3) + 4 * a(n - 4) + 5 * a(n - 5) + 12 * a(n - 6) + 8 * a(n - 7) + 2 * a(n - 8) for n >= 9. •

[**A242536**] • 1,2,4,12,26,66,160,386,946,2292,5582,13578,33016,80330,195370,475236,1155974,2811762,6839416,16636178,40466002,98429844,239421374,582370554,1416562360 ⋆ Number of n-length words on {1,2,3,4} such that the maximal runs of identical odd integers are of odd length and the maximal runs of identical even integers are of even length. • a(n) = a(n - 1) + 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4). - _ Fung Lam _ , May 18 2014 •

[**A275434**] • 0,0,0,2,4,12,28,68,156,356,796,1764,3868,8420,18204,39140,83740,178404,378652,800996,1689372,3553508,7456540,15612132,32622364 ⋆ Sum of the degrees of asymmetry of all compositions of n. • a(n) = - (4 / 9) * (- 1) ^ n + (3n - 2) * 2 ^ n / 36 for n>=2; a(1)=0 •

[**A080876**] • 1,1,1,2,4,12,28,88,208,656,1552,4896,11584,36544,86464,272768,645376,2035968,4817152,15196672,35955712,113429504,268377088,846649344,2003193856 ⋆ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=1, a(2)=1. • a(n + 4) = 8 * a(n + 2) - 4 * a(n). - _ Richard Choulet _ , Dec 06 2008 • a(n) = (1 / 24 * 3 ^ (1 / 2)) * ((1 + sqrt(3))) ^ n + (- 1 / 24 * 3 ^ (1 / 2)) * ((1 - sqrt(3))) ^ n + (1 / 2 - 7 / 24 * 3 ^ (1 / 2)) * (- (1 + sqrt(3))) ^ n + (1 / 2 + 7 / 24 * 3 ^ (1 / 2)) * (- ((1 - sqrt(3)))) ^ n. - _ Richard Choulet _ , Dec 06 2008 •

[**A059412**] • 2,4,12,30,78,180,432,978,2220,4926,10908,23790,51750,111564,239604,511758,1089306,2309118,4880946,10285146,21619770,45334776,94865904,198116082,413013684 ⋆ Number of distinct minimal unary DFA's with exactly n states. • a(n) = psi(n) + sum(psi(n - j) * 2 ^ (j - 1), j=1..n - 1), where psi(n) is number of primitive words of length n over a 2 - letter alphabet (expressible in terms of the Moebius function). •

[**A079472**] • 0,2,4,12,30,80,208,546,1428,3740,9790,25632,67104,175682,459940,1204140,3152478,8253296,21607408,56568930,148099380,387729212,1015088254,2657535552,6957518400 ⋆ Number of perfect matchings on an n X n L-shaped graph. • a(n) = 2 * F(n) * F(n - 1) where F(n) are the Fibonacci numbers (A000045). • a(n) = Im((F(n) + i * F(n + 1)) ^ 2) (cf. A121646). - Daniele Corradetti (d.corradetti(AT)gmail.com), May 02 2008 • a(n) = F(n + 1) ^ 2 - F(n) ^ 2 - F(n - 1) ^ 2. a(1 - n) = - a(n). - _ Michael Somos _ , Jun 28 2014 • a(n) = (2 ^ (- n) * ((- 1) ^ n * 2 ^ (1 + n) - (3 - sqrt(5)) ^ n * (1 + sqrt(5)) + (- 1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Sep 27 2016 •

[**A242659**] • 0,2,4,12,32,70,132,224,352,522,740,1012,1344,1742,2212,2760,3392,4114,4932,5852,6880,8022,9284,10672,12192 ⋆ a(n) = n*(n^2 - 3*n + 4). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 3. •

[**A109388**] • 2,4,12,32,80,240,672,1792,5376,15360,42240,126720,366080,1025024,3075072,8945664,25346048,76038144,222265344,635043840,1905131520,5588385792,16066609152,48199827456,141764198400 ⋆ Maximum number of pairwise incomparable subcubes of the discrete n-cube. Largest antichain in partial ordering {0,1,*}^n where 0 and 1 are less than *. Maximum number of implicants in an irredundant disjunctive normal form for n Boolean variables. • a(n) = binomial(n, floor(n / 3)) * 2 ^{ n - floor(n / 3) } . •

[**A293007**] • 0,0,2,4,12,32,88,240,656,1792,4896,13376,36544,99840,272768,745216,2035968,5562368,15196672,41518080,113429504,309895168,846649344,2313089024,6319476736 ⋆ Expansion of 2*x^2 / (1-2*x-2*x^2). • a(n) = ((1 - sqrt(3)) ^ n * (1 + sqrt(3)) + (- 1 + sqrt(3)) * (1 + sqrt(3)) ^ n) / (2 * sqrt(3)) for n>0. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) for n>2. •

[**A025178**] • 0,2,4,12,32,90,252,714,2032,5814,16700,48136,139152,403286,1171380,3409020,9938304,29017878,84844044,248382516,727971360,2135784798,6272092596,18435108258,54228499920 ⋆ First differences of the central trinomial coefficients A002426. • a(n) = T(n,n) for n>=1, where T is the array defined in A025177. • a(n) is asymptotic to c * 3 ^ n / sqrt(n) with c around 1.02... - _ Benoit Cloitre _ , Nov 02 2002 • a(n) = ((2 + n) * a(n - 2) + 3 * (3 - n) * a(n - 3) + 3 * (n - 1) * a(n - 1)) / n, a(0)=1, a(1)=0, a(2)=2. - _ Sergei N. Gladkovskii _ , Aug 16 2012 [adapted to new offset by _ Peter Luschny _ , Nov 04 2015] • a(n) = Sum _{ k = 0..floor(n / 2) } binomial(n - 1,2 * k - 1) * binomial(2 * k,k). Cf. A097893. • a(n) = 2 * (n - 1) * hypergeom([1 - n / 2,3 / 2 - n / 2],[2],4). • a(n) = (n - 1)! * [x ^ (n - 1)](2 * exp(x) * BesselI(1,2 * x)). •

[**A087211**] • 1,2,4,12,32,92,264,772,2272,6732,20024,59732,178512,534172,1599784,4793892,14370752,43090412,129227544,387595252,1162610992,3487483452,10461751304,31383855812,94148771232 ⋆ Floor((1+2^n+3^n)/3). • a(n)=(3 ^ n + 2 ^ n + 2 * 0 ^ n - (- 1) ^ n) / 3. •

[**A039721**] • 1,2,4,12,32,96,280,840,2496,7488,22400,67200,201408,604224,1812112,5436336,16307328,48921984,146760960,440282880,1320833664,3962500992,11887458176,35662374528,106986989184 ⋆ a(1) = 1, a(m+1) = 2*Sum_{k=1..floor(m/2)} a(k)*a(m+1-k). • a(1)=1, a(2)=2, a(2m + 1)=3 * a(2m) - 2 * a(m), a(2m + 2)=3 * a(2m + 1) (m is positive integer). •

[**A069727**] • 1,1,2,4,12,34,154,675,3534,18985,108070,632109,3807254,23411290,146734695,934382820,6034524474,39457153432,260855420489,1741645762265,11732357675908 ⋆ Number of nonisomorphic unrooted Eulerian planar maps with n edges (Eulerian means that all vertices are of even valency; there is an Eulerian cycle). • a(n) = (1 / (2n))(3 * 2 ^ (n - 1)binomial(2n, n) / ((n + 1)(n + 2)) + Sum _{ k=1..n - 1, k|n } phi(n / k)d(n / k)2 ^ (k - 2)binomial(2k, k)) + q(n) where phi is the Euler function A000010, q(n) = 2 ^ ((n - 4) / 2)binomial(n, n / 2) / (n + 2) if n is even, q(n) = 2 ^ ((n - 1) / 2)binomial(n - 1, (n - 1) / 2) / (n + 1) if n is odd, d(n)=4, if n is even and d(n)=3 if n is odd. - _ Valery A. Liskovets _ , Mar 17 2005 •

[**A010552**] • 1,1,2,4,12,36,108,432,1728,6912,27648,138240,691200,3456000,17280000,86400000,518400000,3110400000,18662400000,111974400000,671846400000,4031078400000,28217548800000,197522841600000,1382659891200000 ⋆ Multiply successively by 1 (once), 2 (twice), 3 (thrice), etc. • a(0)=1, a(n) = a(n - 1) * floor(sqrt(2 * n) + 1 / 2)) for n>0. - _ Alois P. Heinz _ , May 20 2013 •

[**A226022**] • 1,1,2,4,12,36,112,360,1184,3968,13504,46544,162144,570016,2019648,7204864,25856896,93288576,338167296,1231045376,4498577408,16496039936,60681046016,223860786432,828040881664 ⋆ A modified version of Catalan numbers. • a(n) = Sum _{ k=0..n - 1 } a(k)a(n - k) for n>3 just like the Catalan sequence formula. •

[**A054542**] • 1,2,4,12,36,116,382,1287,4420,15397,54264,193154,693374,2507288,9124560,33393355,122821380,453756765,1683107800,6265751310,23402516280,87670790155,329337229104,1240292449350,4681874312510 ⋆ A Catalan-like sequence. • a(n) = Ceiling (1 / (n + k) * C(pn, n)), where k=2, p=2 (in the standard Catalan sequence k=1 and p=2). •

[**A009623**] • 0,1,2,4,12,36,118,456,1816,7888,37354,184064,974372,5444544,31769182,195982208,1259350576,8441139456,59073098706,428299217920,3226127944764,25165446157312,202778723085382,1689266143553536 ⋆ Expansion of sinh(x).exp(sinh(x)). • a(n) = D ^ n(x * exp(x)) evaluated at x = 0, where D is the operator sqrt(1 + x ^ 2) * d / dx. Cf. A003724 and A009541. - Peter Bala, Dec 06 2011 •

[**A241530**] • 1,2,4,12,36,120,400,1400,4900,17640,63504,232848,853776,3171168,11778624,44169840,165636900,625739400,2363904400,8982836720,34134779536,130332794592,497634306624,1907598175392,7312459672336 ⋆ a(n) = binomial(n,floor(n/2))*binomial(n+1,floor(n/2+1/2))*(1+floor(n/2))/(1+2*floor(n/2)). • a(n) = ((8 * n - 4) * a(n - 1) + 16 * (n - 1) * (n - 2) * a(n - 2)) / (n * (n + 1)) for n>=2, a(n) = 2 ^ n for n<2. - _ Alois P. Heinz _ , Apr 25 2014 •

[**A010551**] • 1,1,1,2,4,12,36,144,576,2880,14400,86400,518400,3628800,25401600,203212800,1625702400,14631321600,131681894400,1316818944000,13168189440000,144850083840000,1593350922240000,19120211066880000,229442532802560000 ⋆ Multiply successively by 1,1,2,2,3,3,4,4,..., n >= 1, a(0) = 1. • a(n) = floor(n / 2)! * floor((n + 1) / 2)! is the number of permutations p of { 1, 2, 3, ..., n } such that for every i, i and p(i) have the same parity, i.e., p(i) - i is even. - Avi Peretz (njk(AT)netvision.net.il), Feb 22 2001 • a(n) = n! / binomial(n, floor(n / 2)). - _ Paul Barry _ , Sep 12 2004 • a(n) = a(n - 1) * (a(n - 2) + a(n - 3)) / a(n - 3) for all n >= 3. - _ Michael Somos _ , Dec 29 2012 •

[**A255432**] • 1,1,2,4,12,36,160,680,4368,24976,219616,1599104,18145600,160805568,2245960704,23437238656,389201754368,4669754525952,89893314615808,1218303508421632,26673872401980416,402798557886395392,9883555312758398976 ⋆ E.g.f. sqrt(1-t^2)*exp(t*(1+arctanh(t))). • a(n) = a(n - 1) + sum(k=1..n / 2, (n - 1)! / (n - 2 * k)! * (1 / (2 * k - 1)) * a(n - 2 * k)), a(0)=1. •

[**A275539**] • 1,2,4,12,36,160,810,5376,41160,366336,3638250,39959040,479126340,6227619840,87180183090,1307684044800,20922822320400,355687603568640,6402374325997650,121645103938928640,2432902021271221500,51090942249743155200,1124000728080092512650 ⋆ a(n) = n! + n*(n-1)!!. • a(n) = n! + n * (n - 1)!! = n * ((n - 1)! + (n - 1)!!). •

[**A193049**] • 0,1,1,2,4,12,37,105,268,625,1355,2772,5414,10188,18605,33161,57954,99683,169265,284452,474066,784852,1292567,2119923,3465620 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=7 * a(n - 1) - 20 * a(n - 2) + 29 * a(n - 3) - 20 * a(n - 4) +* a(n - 5) + 8 * a(n - 6) - 5 * a(n - 7) + a(n - 8). •

[**A113179**] • 1,2,4,12,40,128,408,1328,4384,14560,48576,162816,547936,1850048,6263680,21257856,72298240,246345728,840775424,2873802240,9835840512,33704557568,115622041600,397032488960,1364610270720 ⋆ Expansion of 1/sqrt((1-2x)^2-8x^3). • a(n)=sum { k=0..floor(n / 2), C(n - k, k)C(n - 2k, k)2 ^ (n - 2k) } . •

[**A056236**] • 2,4,12,40,136,464,1584,5408,18464,63040,215232,734848,2508928,8566016,29246208,99852800,340918784,1163969536,3974040576,13568223232,46324811776,158162800640,540001579008,1843680714752,6294719700992 ⋆ a(n) = (2+sqrt(2))^n + (2-sqrt(2))^n. • a(n) = 4 * a(n - 1) - 2 * a(n - 2). • a(n) = 2 ^ (2 * n) * [cos(Pi / 8) ^ (2 * n) + cos(3 * Pi / 8) ^ 2 * n]. • a(n) = 3 * a(n - 1) + Sum _{ k=1..(n - 2) } a(k), for n>1, with a(0)=2, a(1)=4. (End) • a(n) = [x ^ n] ((1 + 4 * x + sqrt(1 + 8 * x + 8 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[**A028329**] • 2,4,12,40,140,504,1848,6864,25740,97240,369512,1410864,5408312,20801200,80233200,310235040,1202160780,4667212440,18150270600,70690527600,275693057640,1076515748880,4208197927440,16466861455200 ⋆ Twice central binomial coefficients. • a(n) = 2 * binomial(2 * n, n). •

[**A025227**] • 0,1,2,4,12,40,144,544,2128,8544,35008,145792,615296,2625792,11311616,49124352,214838528,945350144,4182412288,18593224704,83015133182,372091122240,1673660915712,7552262979584,34178799378432 ⋆ a(n) = a(1)*a(n-1) + a(2)*a(n-2) + ...+ a(n-1)*a(1) for n >= 3. • a(n) = sum(C(n - k - 1) * binomial(n - k, k), k=0..floor(n / 2)), where C(q)=binomial(2q, q) / (q + 1) are the Catalan numbers (A000108). - _ Emeric Deutsch _ , Nov 14 2001 • a(n) = sum { k=0..n - 1, C(k)C(k + 1, n - k - 1) } - _ Paul Barry _ , Feb 23 2005 • a(n + 1), n >= 0, is column sum for the n - th column of the table R(m,n)=binomial(m + 1, n - m)c(m) where c(m) is the m - th Catalan number A000108. •

[**A188479**] ● 1,1,2,4,12,40,156,700,3520,19592,119992,801272,5792464,45071600,375615696,3338063600,31511918816,314913425280,3321357021600,36868596345056,429672869359360,5245439731918784,66941714022827072,891387254398818752,1236347887322276556 8 ★ Binomial variation of the Catalan Numbers ● a(n) = sum(binomial(n - i, i) * a(i) * a(n - 1 - i), i=0..(n - 1)) with a(0)=1 ●

[**A039301**] ● 1,2,4,12,44,172,684,2732,10924,43692,174764,699052,2796204,11184812,44739244,178956972,715827884,2863311532,11453246124,45812984492,183251937964,733007751852,2932031007404,11728124029612,46912496118444 ★ Number of distinct quadratic residues mod 4^n. ● a(n) = floor((4 ^ n + 10) / 6). ● a(n) - 5 * a(n - 1) + 4 * a(n - 2) = 0 for n>1. - _ Bruno Berselli _ , Jul 27 2010 ●

[**A002871**] ● 1,2,4,12,48,200,1040,5600,33600,222432,1460928,11487168,84713728,731574272,6314147840,55456727040,548291597568,5226494727168,54361802626560,586042688924160,6149776714099200,72895623466265600,855187250563024896 ★ a(n) = max_{k=0..n} 2^k*A048993(n,k) ● a(n) = max { 2 ^ k * stirling2(n,k), k=0..n } . - _ Sean A. Irvine _ , Mar 26 2013 ●

[**A098558**] ● 1,2,4,12,48,240,1440,10080,80640,725760,7257600,79833600,958003200,12454041600,174356582400,2615348736000,41845579776000,711374856192000,12804747411456000,243290200817664000,4865804016353280000,102181884343418880000,2248001455555215360000 ★ E.g.f. (1+x)/(1-x). ● a(n) = 2 * n! - 0 ^ n = 2 * n! - !n. ●

[**A227037**] ● 1,2,4,12,54,312,2136,16800,149160,1475280,16081920,191530080,2473999920,34446303360,514240110720,8193624284160,138780284791680,2489891543596800,47169750454848000,940914453958617600,19712190644360121600 ★ Partial sums of A013999. ● a(n) = sum(sum(C(j - k + 1,k) * (- 1) ^ k * (j - k + 1)!, k=0..floor((j + 1) / 2)), j=0..n). ● a(n) = (n + 3) * a(n - 1) - 2 * (n + 1) * a(n - 2) + (n + 1) * a(n - 3) for n>2, a(n) = 2 ^ n for n<=2. - _ Alois P. Heinz _ , Jul 01 2013 ●

[**A133453**] ● 2,4,13,40,122,365,1094,3280,9841,29524,88574,265721,797162,2391484,7174453,21523360,64570082,193710245,581130734,1743392200,5230176601,15690529804,47071589414,141214768241,423644304722 ★ a(n)=3a(n-1)-a(n-3)+3a(n-4). ● a(n)=(1 / 6) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n + (3 / 2) * 3 ^ n + (1 / 6) * (- 1) ^ n + (1 / 6) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n - (1 / 6) * I *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n * sqrt(3) + (1 / 6) * I *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n * sqrt(3), with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 ●

[**A085422**] ● 1,2,4,13,40,125,392,1231,3867,12148,38164,119895,376661,1183315,3717493,11678848,36690183,115265609,362117590,1137625960,3573957358,11227918180,35273545269,110815110683,348135937628 ★ A sequence analogous to the Lucas numbers (A000032), with ratios converging to Pi. ● a(0) = - 1, a (1) = 2, a(n + 2) = floor[k * a(n + 1) + a(n)], where k = Pi - 1 / Pi = 2.82328276.... ●

[**A087214**] ● 1,1,2,4,13,41,196,862,5489,31033,247006,1706816,16302397,133131649,1483518128,13978823146,178022175361,1901119947857,27237392830234,325091511083548,5175104637744461,68269217327545081,1195449171318970492,17272111983868905494 ★ Expansion of e.g.f.: exp(x)/(1-x^2/2). ● a(n) = S um _{ k=0..floor(n / 2) } n! / ((n - 2 * k)! * 2 ^ k). ● a(n) = hypergeom([1, - n / 2, - n / 2 + 1 / 2], [], 2). ● a(n) = ((- 1) ^ n * exp(- sqrt(2)) * Gamma(n + 2, - sqrt(2)) + exp(sqrt(2)) * Gamma(n + 2,sqrt(2))) / ((n + 1) * 2 ^ (n / 2 + 1)). ●

[**A002771**] ● 1,2,4,13,41,226,1072,9374,60958,723916,5892536,86402812,837641884,14512333928,162925851376,3252104882056,41477207604872,937014810365584,13380460644770848,337457467862898896,5333575373478669136,148532521250931168352 ★ Number of terms in a skew determinant: a(n) = (A000085(n) + A081919(n))/2. ● a(n) = sum(binomial(n, 2 * k) * (2 * k - 1)!! * (1 + (2 * k - 1)!!) / 2, k=0..floor(n / 2)). - _ Sean A. Irvine _ , Aug 18 2014 ● a(n) = (hyper2F0([- n / 2,(1 - n) / 2],[],2) + hyper3F0([1 / 2, - n / 2,(1 - n) / 2],[],4)) / 2. - _ Peter Luschny _ , Aug 21 2014 ●

[**A007858**] ● 1,2,4,13,44,164,636,2559,10556,44440,190112,824135,3612244,15981632,71277736,320121747,1446537564,6571858168,30000766128,137544893940,633051803120,2923867281660,13547594977500,62955434735505,293336372858724 ★ G.f. is 1 - 1/f(x), where f(x) = 1+x+3*x^2+9*x^3+32*x^4+... is 1/x times g.f. for A063020. ● a(n + 1) = Sum _{ k = 1..n } (binomial(n + k,k) / (n + k) * Sum _{ j = 0..k } (binomial(j,n - k - j + 1) * binomial(k,j) * (- 1) ^ (n + k - j + 1))) + C(n), where C(n) is a Catalan number. - _ Vladimir Kruchinin _ , Nov 13 2014 ●

[**A184177**] ● 1,1,2,4,13,46,184,805,3840,19775,109180,642382,4007712,26399764,182939900,1329327991,10100670183,80053631844,660328296777,5657449573120,50255253534312,462096537041953,4391648990609487,43079839534282880 ★ Number of set partitions of {1,2,...,n} having no blocks of the form {i,i+1,i+2}. ● a(n) = Sum((- 1) ^ j * binom(n - 2j,j) * bell(n - 3j,j), j=0..floor(n / 3)). ●

[**A173184**] ● 1,1,2,4,13,57,322,2176,17009,150505,1485466,16170036,192384877,2483177809,34554278858,515620794592,8212685046337,139062777326001,2494364438359954,47245095998005060,942259727190907181 ★ Partial sums of A000166. ● a(n + 2) - (n + 3) * a(n + 1) + (n + 2) * a(n) = (- 1) ^ n. (End) ● a(n + 3) - (n + 3) * a(n + 2) + (n + 2) * a(n) = 0. - _ Emanuele Munarini _ , Aug 24 2017 ●

[**A245764**] ● 2,4,14,20,42,52,86,100,146,164,222,244,314,340,422,452,546,580,686,724,842,884,1014,1060,1202 ★ a(n) = 2*(n^2 + 1) + n*(1 + (-1)^n). ● a(n) = 2 * (n ^ 2 + 1) + n * (1 + (- 1) ^ n). ● a(n) = (2n + 2) * ceiling((n + 1) / 2) + (2n - 2) * ceiling((n - 1) / 2). ●

[**A090889**] ● 0,0,2,4,14,24,40,56,96,136,186,236,310,384,472,560,712,864,1034,1204,1414,1624,1856,2088,2392 ★ Double partial sums of (n * its dyadic valuation). ● a(0)=0, a(2n) = 2a(n) + 2a(n - 1) + n(n + 1)(2n + 1) / 3, a(2n + 1) = 4a(n) + 2 / 3 * (n + 1)(n + 2)(n + 3). ●

[**A115626**] ● 1,1,2,4,14,26,107,190,1234,2182,9947,17414,126953,228398,1039404,1857419,19047146,35215110,168364007,307674658,2378963269,4429446046,20237375204,37371654467,410117798653 ★ Number of non-squashing partitions of {1,...,n}. ● a(n) = SUM { i = 0 to ceiling(n / 2) - 1 } (binomial(n, i) * a(i)) + [if n is even] binomial(n, n / 2) * (a(n / 2) - 1 / 2). ●

[**A283353**] ● 1,2,4,14,28,62,124,254,508,1022,2044,4094,8188,16382,32764,65534,131068,262142,524284,1048574,2097148,4194302,8388604,16777214,33554428 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by ”Rule 619”, based on the 5-celled von Neumann neighborhood. ● a(n) = 2 ^ (n + 1) - 4 for n>0 and even. ● a(n) = 2 ^ (n + 1) - 2 for n odd. ● a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>3. ●

[**A295909**] ● 2,4,14,30,82,160,386,718,1646,3000,6742,12190,27194,49024,109082,196446,436726,786232,1747406,3145486,6990242,12582624,27961714,50331310,111847742 ★ Number of (not necessarily maximum) cliques in the n X n black bishop graph. ● a(n) = ((- 2) ^ (n + 1) + (- 1) ^ n + 19 * 2 ^ (n + 1) - 6 * n * (n + 4) - 25) / 12. ● a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 10 * a(n - 3) + a(n - 4) + 8 * a(n - 5) - 4 * a(n - 6). ●

[**A095977**] ● 2,4,14,32,82,188,438,984,2202,4852,10622,23056,49762,106796,228166,485448,1029162,2174820,4582670,9631360,20194802,42253724,88235734,183927992,382769082 ★ Expansion of 2*x / ((1+x)^2*(1-2*x)^2). ● a(n) = (1 / 27) * ((3 * n + 2) * 2 ^ (n + 2) - (6 * n + 8) * (- 1) ^ n). ● a(n) = Sum _{ k =0..floor((n + 1) / 2) } k * 2 ^ k * binomial(n + 1 - k,k). - _ Emeric Deutsch _ , Feb 18 2007 ●

[**A129744**] ● 2,4,14,32,82,196,478,1152,2786,6724,16238,39200,94642,228484,551614,1331712,3215042,7761796,18738638,45239072,109216786,263672644,636562078,1536796800,3710155682 ★ a(n) = -(u^n-1)*(v^n-1) with u = 1+sqrt(2), v = 1-sqrt(2). ● a(n) = - det(I - M ^ n) where I is the 2X2 identity matrix and M = [2, 1; 1, 0]. Cf. A001350. ●

[**A035010**] ● 1,2,4,14,38,132,420,1426,4834,16796,58688,208012,742636,2674384,9693976,35357670,129641774,477638700,1767253368,6564119892,24466233428,91482563640,343059494120,1289904147128,4861945985428 ★ Number of prime binary rooted trees with n external nodes. ● a(n) = C(n - 1) - sum _{ d _ 1 * d _ 2=n and 1<d _ 1<n } a(d _ 1) * C(d _ 2 - 1) where C(n) is the n - th Catalan number (A000108). ●

[**A079995**] ● 1,1,2,4,14,39,103,255,665,1741,4605,12046,31474,82206,215157,563083,1473635,3855111,10085589,26386595,69038554,180630858,472594580,1236463719,3235013481 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={2}. ● a(n) = a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 4 * a(n - 4) + 6 * a(n - 5) + 13 * a(n - 6) - 9 * a(n - 7) - 11 * a(n - 8) - 7 * a(n - 9) + 5 * a(n - 10) - a(n - 11) - 11 * a(n - 12) + 3 * a(n - 13) + 9 * a(n - 14) + 4 * a(n - 15) - 4 * a(n - 16) - a(n - 17) + 2 * a(n - 18) - a(n - 19) - a(n - 20). ●

[**A152011**] ● 1,2,4,14,40,122,364,1094,3280,9842,29524,88574,265720,797162,2391484,7174454,21523360,64570082,193710244,581130734,1743392200,5230176602,15690529804,47071589414,141214768240 ★ a(0) = 1 and a(n) = (3^n - (-1)^n)/2 for n >= 1. ● a(n) = 2 ^ n * Product _{ k=1..floor((n - 1) / 2) } (1 + 3 * cos(k * Pi / n) ^ 2). ● a(n) = (3 ^ n - (- 1) ^ n) / 2, n > 0. ● a(n) = 2 * a(n - 1) + 3 * a(n - 2) for n >= 2, a(1)=2, and a(2)=4. - _ David Neil Mc Grath _ , Sep 04 2014 ●

[**A228477**] ● 2,4,14,41,127,386,1181,3605,11013,33635,102734,313780,958385,2927208,8940618,27307464,83405606,254747013,778077691,2376494562,7258563605,22169941573,67713990833,206819875427,631693101322 ★ Number of nX3 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or antidiagonally. ● a(n) = a(n - 1) + 5 * a(n - 2) + 4 * a(n - 3) - a(n - 5). ●

[**A266695**] ● 1,1,2,4,14,46,230,1066,6902,41506,329462,2441314,22934774,202229266,2193664790,22447207906,276054834902,3216941445106,44222780245622,578333776748674,8787513806478134,127464417117501586,2121181056663291350,33800841048945424546 ★ Number of acyclic orientations of the Turán graph T(n,2). ● a(n) = Sum _{ i=0..floor(n / 2) } i! ^ 2 * Stirling2(ceiling(n / 2) + 1,i + 1) * Stirling2(floor(n / 2) + 1,i + 1). ●

[**A152103**] ● 1,2,4,14,48,158,532,1778,5952,19922,66676,223166,746928,2499950,8367268,28005026,93732096,313718882,1050008932,3514352558,11764446512,39368602238,131765686708,441016322834,1476070150464 ★ a(n) = 2^n*prod(k=1..floor(n / 1)/2), 1 + 2*cos(k*Pi/n)^2 + 4*cos(k*Pi/n)^4). ● a(n) = 2 * a(n - 1) + 4 * a (n - 2) + 2 * a(n - 3) - a(n - 4) for n>5. G.f.: (x ^ 4 - 4 * x ^ 3 - 4 * x ^ 2 + 1) / (x ^ 4 - 2 * x ^ 3 - 4 * x ^ 2 - 2 * x + 1). - _ Colin Barker _ , Jan 05 2014 ●

[**A003500**] ● 2,4,14,52,194,724,2702,10084,37634,140452,524174,1956244,7300802,27246964,101687054,379501252,1416317954,5285770564,19726764302,73621286644,274758382274,1025412242452,3826890587534,14282150107684 ★ a(n) = 4*a(n-1) - a(n-2) with a(0) = 2, a(1) = 4. ● a(n) = (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n. ● a(n) = trace of (n + 1)st power of the 2 X 2 matrix [1 2 / 1 3]. - _ Gary W. Adamson _ , Jun 30 2003 ● a(n) = [x ^ n] ((1 + 4 * x + sqrt(1 + 8 * x + 12 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 ● a(n) = Sum _{ k=0..floor(n / 2) } (- 1) ^ k * n * (n - k - 1)! / (k! * (n - 2 * k)!) * 4 ^ (n - 2 * k) for n>=1. - _ Peter Luschny _ , May 10 2016 ●

[**A122972**] ● 1,2,4,14,58,302,1858,13262,107698,980942,9905458,109844942,1327159858,17353902542,244180971058,3678842132942,59089527531058,1007972756756942,18199148360427058,346736152866068942 ★ a(1) = 1, a(2) = 2; for n>2, a(n+1) = a(n)*(n-1) + a(n-1)*n. ● a(n) = 2 * (- 1) ^ n - 3 * (- 1) ^ n * Sum _{ k=0..n - 1 } (- 1) ^ k * k!. - _ Vaclav Kotesovec _ , Oct 28 2012 ●

[**A192815**] ● 0,2,4,14,72,346,1612,7526,35216,164786,770964,3606974,168754

80,78953226,369388508,1728211222,8085563168,37828901730,176985297700,828038725486,3874040046440,18124981139642,84799056637292,3967386200926 14 ★ Coefficient of x in the reduction of the polynomial (2x+1)^n by x^3->x^2+x+1. ● a(n)=5 * a(n - 1) - 3 * a(n - 2) + 7a(n - 3). ●

[A181442] ● 1,2,4,15,35,144,342,1421,3381,14062,33464,139195,331255,1377884,3279082,13639641,32459561,135018522,321316524,1336545575,3180705675,13230437224,31485740222,130967826661,311676696541 ★ Solutions a(n) to (r(n)-2)*(r(n)-3) = 6*a(n)*(a(n)-1). ● a(2 * n)=(12 + (6 + r) * s ^ n + (6 - r) * t ^ n) / 24. ● a(2 * n + 1)=(12 + (18 + 7 * r) * s ^ n + (18 - 7 * r) * t ^ n) / 24. ● a(n)=11 * a(n - 2) - 11 * a(n - 4) + a(n - 6). ● a(n) = + a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A193868] ● 2,4,16,22,46,56,92,106,154,172,232,254,326,352,436,466,562,596,704,742,862,904,1036,1082,1226 ★ Even central polygonal numbers. ● a(n) = (3 + (- 1) ^ n - 2 * (2 + (- 1) ^ n) * n + 4 * n ^ 2) / 2. ● a(n) = 2 * n ^ 2 - 3 * n + 2 for n even. ● a(n) = 2 * n ^ 2 - n + 1 for n odd. ●

[A131475] ● 0,0,2,4,16,24,54,72,128,160,250,300,432,504,686,784,1024,1152,1458,1620,2000,2200,2662,2904,3456 ★ floor(n/2) * floor(n^2/2). ● a(n) = + 1 * a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + 1 * a(n - 6) - 1 * a(n - 7). ●

[A144797] ● 2,4,16,26,94,152,548,886,3194,5164,18616,30098,108502,175424,632392,1022446,3685874,5959252,21482848,34733066,125211214,202439144,729784436,1179901798,4253495402 ★ Numbers n such that 2*n^2+17 is a square. ● a(n) = 6 * a(n - 2) - a(n - 4). - _ Colin Barker _ , Oct 20 2014 ●

[A274497] ● 0,0,2,4,16,32,96,192,512,1024,2560,5120,12288,24576,57344,114688,262144,524288,1179648,2359296,5242880,10485760,23068672,46137344,100663296 ★ Sum of the degrees of asymmetry of all binary words of length n. ● a(n) = (1 / 8) * (2n - 1 + (- 1) ^ n) * 2 ^ n. ●

[A001088] ● 1,1,2,4,16,32,192,768,4608,184432,184320,737280,8847360,53084160,424673280,3397386240,54358179840,326149079040,5870683422720,46965467381760,563585608581120,5635856085811200,123988833887846400,991910671102771200,19838213422055424000 ★ Product of totient function: a(n) = Product_{k=1..n} phi(k) (cf. A000010). ● a(n) = phi(1) * phi(2) * ... * phi(n). ●

[A103435] ● 0,2,4,16,48,160,512,1664,5376,17408,56320,182272,589824,1908736,6176768,19988480,64684032,209321984,677380096,2192048128,7093616640,22955425792,74285318144,240392339456,777925951488 ★ a(n) = 2^n * Fibonacci(n). ● a(n) = Sum _{ i=0..n - 1 } (2 ^ i * Lucas(i)). ● a(n) = 2 * a(n - 1) + 4 * a(n - 2). - _ Carmine Suriano _ , May 13 2010 ● a(n) = a(- n) * - (- 4) ^ n for all n in Z. - _ Michael Somos _ , Sep 20 2014 ●

[A003433] ● 1,2,4,16,48,160,576,4096,14336,73728,327680,2985984,14929920,77635584,418037760,4294967296,21474836480,146028888064,894426939392,10240000000000,59392000000000 ★ Hadamard maximal determinant problem: largest determinant of (+1,-1)-matrix of order n. ● a(n) <= n ^ (n / 2). ●

[A001472] ● 1,1,2,4,16,56,256,1072,6224,33616,218656,1326656,9893632,70186624,574017536,4454046976,40073925376,347165733632,3370414011904,31426411211776,328454079574016,3331595921852416,37125035407900672,400800185285464064 ★ Number of degree-n permutations of order dividing 4. ● a(0)=1, a(1)=1, a(2)=2, a(3)=4, a(n)=a(n - 1) + (n - 1) * a(n - 2) + (n ^ 3 - 6n ^ 2 + 11n - 6) * a(n - 4) for n>3. [H. Palsdottir (hronn07(AT)ru.is), Sep 19 2008] ● a(n)=n! * sum(sum(binomial(k,j) * binomial(j,n - 4 * k + 3 * j) * (1 / 2) ^ (n - 4 * k + 3 * j) * (1 / 4) ^ (k - j),j,floor((4 * k - n) / 3),k) / k!,k,1,n), n>0. [_ Vladimir Kruchinin _ , Sep 07 2010] ●

[A081919] ● 1,1,2,4,16,56,376,1912,17984,119296,1438336,11749376,172665472,1674715264,29022277376,325841353216,6504163557376,82954203410432,1874028623417344,26760916479840256,674914911967133696 ★ E.g.f.: exp(x)/sqrt(1-x^2). ● a(n) = hyper3F0([1 / 2, - n / 2,(1 - n) / 2],[],4). - _ Peter Luschny _ , Aug 21 2014 ● a(n) = sum _{ k=0..floor(n / 2) } ((2 * k - 1)!!) ^ 2 * binomial(n, 2 * k). - _ Andrew Howroyd _ , Feb 28 2016 ●

[A152876] ● 1,1,2,4,16,60,288,1584,10368,74880,604800,5356800,51840000,544320000,6147187200,74579097600,962415820800,13241346048000,192255565824000,2957575348224000,47721518530560000,811595019755520000,14407079038894080000,268390402745794560000 ★ Number of permutations of {1,2,...,n} having no consecutive triples of the form (odd, even, odd) or (even, odd, even). ● a(2n) = (n!) ^ 2 * Sum[(binom(n - j,j)) ^ 2 * (2n ^ 2 - 6jn + 6j ^ 2) / (n - j) ^ 2, j=0..floor(n / 2)]; a(2n + 1) = n! * (n + 1)! * Sum[binom(n + 1 - j,j) * binom(n - j,j)(2n ^ 2 + 2n - 6jn - 3j + 6j ^ 2) / [(n + 1 - j)(n - j)], j=1..floor(n / 2)]. ●

[A001901] ● 1,2,4,16,64,128,256,2048,16384,32768,65536,262144,1048576,2097152,4194304,67108864,1073741824,2147483648,4294967296,17179869184,687194767 36,137438953472,274877906944,2199023255552 ★ Successive numerators of Wallis's approximation to Pi/2 (reduced). ● a(n) = numerator(W(n)), for n >= 0, with W(n) = Product _{ k=0..n } N(k) / D(k) (reduced), with N(k) = 2 * floor((k + 1) / 2) for k >= 1 and N(0) = 1, and D(k) = 2 * floor(k / 2) + 1, for k >= 0. (End) ●

[A106186] ● 1,2,4,16,64,224,800,3008,11392,43008,163328,624640,2397696,9227264,35608576,137764864,534102016,2074394624,8069922816,31440338944,122652655616,479052693504,1873097261056,7331070869504,28718945140736 ★ Expansion of 1/sqrt(1-4x+4x^2-16x^3). ● a(n)=sum { k=0..floor(n / 2), C(2k, k)C(2(n - 2k), n - 2k) * (- 1) ^ k } . ●

[A113247] ● 1,1,2,4,16,64,384,2544,20352,181632,1816320,19960320,239523840,3113533440,43589468160,653837506560,10461400104960,177843719208960,3201186945761280,60822550297313280,1216451005946265600 ★ Number of permutations pi in S_n such that maj pi and maj pi^(-1) have the same parity where maj is the major index. Equivalently, the number of pi such that maj pi and inv pi have the same parity where inv is the inversion number. ● a(2n) = 2 n ^ 2 a(2n - 2) + 2 n (n - 1) b(2n - 2) and a(2n + 1) = 2 n (n + 1) a(2n - 1) + 2 n ^ 2 b(2n - 1) where b(n) is sequence A113248 ●

[A155519] ● 1,2,4,16,72,432,2880,23040,201600,2016000,21772800,261273600,3353011200,46942156800,697426329600,11158821273600,188305108992000,3389491961856000,64023737057280000,1280474741145600000 ★ a(n) = Sum (J(p): p is a permutation of {1,2,...,n}), where J(p) is the number of j <= ceiling(n/2) such that p(j) + p(n+1-j) = n+1. ● a(2n - 1) = n(2n - 2)!; a(2n) = 2(2n - 2)! * n ^ 2. ●

[A000831] ● 1,2,4,16,80,512,3904,34816,354560,4063232,51733504,724566016,11070525440,183240753152,3266330312704,62382319599616,1270842139934720,27507470234550272,630424777638805504,15250953398036463616,388362339077351014400,10384044045105304174592 ★ E.g.f. (1 + tan(x))/(1 - tan(x)). ● a(n)=sum(if even(n + k) ((- 1) ^ ((n + k) / 2) * sum(j! * stirling2(n,j) * 2 ^ (n - j + 1) * (- 1) ^ (j) * binomial(j - 1,k - 1),j,k,n)),k,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 19 2010 ● a(n) = 4 ^ n * (E _{ n } (1 / 2) + E _{ n } (1)) * (- 1) ^ ((n ^ 2 - n) / 2) for n > 0, where E _{ n } (x) is an Euler polynomial. - _ Peter Luschny _ , Nov 24 2010 ●

[A000090] ● 1,1,2,4,16,80,520,3640,29120,259840,2598400,28582400,343235200,4462057600,62468806400,936987251200,14991796019200,254860532326400,4587501779660800,87162533813555200,1743250676271104000,36608259566534656000,805381710463762432000 ★ E.g.f. exp((-x^3)/3)/(1-x). ● a(n) = n! * sum i=0 ... [n / 3]((- 1) ^ i / (i! * 3 ^ i)); a(n) / n! ~ sum i >= 0 (- 1) ^ i / (i! * 3 ^ i) = e ^ (- 1 / 3); a(n) ~ e ^ (- 1 / 3) * n!; a(n) ~ e ^ (- 1 / 3) * (n / e) ^ n * sqrt(2 * Pi * n). - Avi Peretz (njk(AT)netvision.net.il), Apr 22 2001 ● a(n,k) = n! * floor(floor(n / k)! * k ^ floor(n / k) / exp(1 / k) + 1 / 2) / (floor(n / k)! * k ^ floor(n / k)), here k=3, n>=0. - _ Simon Plouffe _ from old notes , 1993 ●

[A295922] ● 2,4,16,81,393,1777,7633,31745,129537,523009,2099969,8409089,33634305,134475777,537628673,2149580801,8595505153,34374090753,137475063809,549844942849,2199239786497,8796612067329,35185602068481,140740374036481,562956664307713 ★ Number of (not necessarily maximum) cliques in the n-halved cube graph. ● a(n) = (24 * (2 + 4 ^ n) + 2 ^ n * n * ((n - 9) * n - 16)) / 48. ● a(n) = 13 * a(n - 1) - 68 * a(n - 2) + 184 * a(n - 3) - 272 * a(n - 4) + 208 * a(n - 5) - 64 * a(n - 6). ●

[A281964] ● 1,2,4,16,104,624,3648,29184,302976,3029760,29698560,356382720,5111976960,71567677440,986336870400,15781389926400,289206418636800,5205715535462400,92506221468057600,1850124429361152000,41285515024760832000,908281330544738304000 ★ Real part of n!*Sum_{k=1..n} i^(k-1)/k, where i is sqrt(-1). ● a(1) = 1, a(n + 1) = a(n) * (n + 1) + n! * cos(Pi * n / 2). ●

[A110365] ● 2,4,16,112,448,3136,12544,87808,351232,2458624,9834496,68841472,275365888,1927561216,7710244864,53971714048,215886856192,1511207993344,6044831973376,42313823813632,169255295254528,1184787066781696,4739148267126784,33174037869887488 ★ a(1)=2, a(n+1) = a(n)*A010888(a(n)). ● a(1) = 2, a(2) = 4, a(3) = 16. a(2 * n) = 4 * a(2 * n - 1), a(2 * n + 1) = 7 * a(2 * n) for n>1. ● a(n) = 2 ^ (- 1 + n) * (7 ^ (1 / 2 * (- 3 + n)) * (2 - 2 * (- 1) ^ n + sqrt(7) + (- 1) ^ n * sqrt(7))) for n>1. ● a(n) = 2 ^ n * 7 ^ (n / 2 - 1) for n>1 and even. ● a(n) = 2 ^ (n + 1) * 7 ^ ((n - 3) / 2) for n>1 and odd. ● a(n) = 28 * a(n - 2) for n>3. ●

[A014221] ● 0,1,2,4,16,65536 ★ a(n+1) = 2^a(n) with a(-1) = 0. ● a(n) = H _ 4(2,n) = 2 ^^ n; ● a(n) = A _ 3(n) the Ackermann function defined in the Comments; ● a(- 1) = 0, a(0) = 1, a(n) = 2 ^ 2 ^ ... ^ 2 (n times); ●

[A276557] ● 1,1,2,4,17,39,191,410,1771,13805,26459,170897,556698,988053,3019206,15074481,70202708,115639004,498047289,1281427052,2039282754,7981334946,19374343049,71015123687,380553620426 ★ Number of partitions of prime(n)^2 into squares of primes. ● a(n) = [x ^ (prime(n) ^ 2)] Product _{ k >=1 } 1 / (1 - x ^ (prime(k) ^ 2)). ●

[A064723] ● 1,1,2,4,18,40,210,492,2786,39650,97108,1459960,9030450,22542396,141358274,2249412290,36259245522,91815545800,1500020153484,9702063416738,24704432285040,409634464205812,2672366681180466,4472084239030 2450,1927655270098608960 ★ (L(p)-1)/p where L() are the Lucas numbers (A000032) and p runs through the primes. ● a(n) = (round(phi ^ prime(n + 1)) - 1) / prime(n + 1), where phi is golden ratio (A001622). Indeed, L(p) = round(phi ^ p), and round(phi ^ p) == 1 (mod p) and, what is more, for p>=5, round(phi ^ p) == 1 (mod 2 * p) (see Shevelev link). In particular, all terms >=2 are even. - _ Vladimir Shevelev _ , Mar 24 2014 ●

[A106520] ● 2,4,18,48,156,472,1526,4852,16000,52940,178276,605520,2079862,7201084,25138878,88358520,312576996,1112087012,3977502766,14294093652,51596165872,186997738504,680272334202,2483340387644,9094756956908 ★ a(n) = A068875(n-1) - A003239(n). ● a(n) = 1 / n * binomial(2 * n - 2, n - 1) * 2 - 1 / (2 * n) * sum(d divides n, phi(d) * binomial(2 * n / d, n / d)). ●

[A093045] ● 0,0,2,4,18,50,176,546,1806,5780,18810,60698,196704,636090,2059174,6662420,21562002,69772930,225795088,730679922,2364543390,7651801300,24761784522,80130760714,259308681408 ★ 2*Jacobsthal(n-1)*Fibonacci(n). ● a(n) = 2(2 ^ n / 6 + (- 1) ^ n / 3)(((1 + sqrt(5)) / 2) ^ n / sqrt(5) - ((1 - sqrt(5)) / 2) ^ n / sqrt(5)). ●

[A083694] ● 0,2,4,18,56,202,684,2378,8176,28242,97364,335938,1158696,3997082,13787644,47560698,164059616,565922722,1952143524,6733900658,2322851893 6,80126541162,276395677004,953424059818,3288826504656 ★ a(n)= 2*A002532(n). ● a(n) = 2 * a(n - 1) + 5 * a(n - 2), a(0)=0, a(1)=2. ● a(n) = 1 / sqrt(6) * ((1 + sqrt(6)) ^ n - (1 - sqrt(6)) ^ n). ●

[A241685] ● 0,2,4,18,60,242,924,3698,14620,58482,233244,932978,3729180,14916722,59655964,238623858,954451740,3817806962,15271053084,61084212338,2

44336150300,977344601202,3909375608604 ★ The total number of squares and rectangles appearing in the Thue-Morse sequence logical matrices after n stages. • a(n) = floor((2 ^ (n + 2) + 3 - (- 1) ^ n) ^ 2 / 72). - _ G. C. Greubel _ , Sep 29 2017 •

[A009679] • 1,2,4,18,60,252,1860,9552,59616,565920,4051872,33805440,465239808,4294865664,35413136640,768372168960,8757710173440,79772814777600,1986906367584000,22082635812268800,280886415019776000,7683780010315046400 ★ Number of partitions of {1, ..., 2n} into coprime pairs. • a(n) = permanent(m), where the n X n matrix m is defined by m(i,j) = 1 or 0, depending on whether gcd(2i,2j - 1) is 1 or >1, respectively. - _ T. D. Noe _ , Feb 11 2007 •

[A014448] • 2,4,18,76,322,1364,5778,24476,103682,439204,1860498,7881196,33385282,141422324,599074578,2537720636,10749957122,45537549124,192900153618,817138163596,3461452808002,14662949395604,62113250390418 ★ Even Lucas numbers: L(3n). • a(n) = 4 * a(n - 1) + a(n - 2) with n>1, a(0)=2, a(1)=4. • a(n) = (2 + sqrt(5)) ^ n + (2 - sqrt(5)) ^ n. • a(n) = Sum _{ k=0..n } C(n,k) * Lucas(n + k). - _ Paul D. Hanna _ , Oct 19 2010 • a(n) = Fibonacci(6 * n) / Fibonacci(3 * n), n>0. - _ Gary Detlefs _ Dec 26 2010 • a(n) = (Fibonacci(3 * n + 2 * k) - F(3 * n - 2 * k)) / Fibonacci(2 * k) for nonzero integer k. • a(n) = (Fibonacci(3 * n + 2 * k + 1) + F(3 * n - 2 * k - 1)) / Fibonacci(2 * k + 1) for arbitrary integer k. (End) •

[A120664] • 0,2,4,18,92,442,2004,8738,37132,155082,640004,2619058,10653372,43144922,174174004,701478978,2820264812,11324105962,45425564004,182089676498,729520967452,2921570654202,11696742970004,46818352939618 ★ Expansion of 2*x*(1-6*x+12*x^2)/(1-8*x+19*x^2-12*x^3). • a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 12 * a(n - 3) for n > 3. •

[A099938] • 2,4,18,100,578,3364,19602,114244,665858,3880900,22619538,131836324,768398402,4478554084,26102926098,152139002500,886731088898,5168247530884,30122754096402,175568277047524,1023286908188738,5964153172084900,34761632124320658 ★ Consider the sequence of circles C0, C1, C2, C3 ..., where C0 is a half-circle of radius 1. C1 is the largest circle that fits into C0 and has radius 1/2. C(n+1) is the largest circle that fits inside C0 but outside C(n), etc. Sequence gives the curvatures (reciprocals of the radii) of the circles. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). G.f.: - 2 * x * (2 * x ^ 2 - 5 * x + 1) / ((x - 1) * (x ^ 2 - 6 * x + 1)). - _ Colin Barker _ , Jan 07 2013 • a(n) = 1 / 2 * (2 + (3 - 2 * sqrt(2)) ^ n * (3 + 2 * sqrt(2)) + (3 - 2 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n). - _ Colin Barker _ , Jun 05 2016 •

[A154140] • 2,4,19,29,114,172,667,1005,3890,5860,22675,34157,132162,199084,770299,1160349,4489634,6763012,26167507,39417725,152515410,229743340,888924955,1339042317,5181034322 ★ Indices k such that 6 plus the k-th triangular number is a perfect square. • a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). • a(1..4) = (2,4,19,29); a(n) = 6 * a(n - 2) - a(n - 4) + 2, for n > 4. - _ Ctibor O. Zizka _ , Nov 10 2009 •

[A192380] • 0,2,4,20,60,230,776,2792,9720,34410,120780,425788,1497716,5274190,18562320,65348560,230024944,809742418,2850375060,10033806180,35320352940,124333050422,437670231064,1540664252600,5423363437800 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = 2 * a(n - 1) + 6 * a(n - 2) - 2 * a(n - 3) - a(n - 4). G.f.: 2 * x ^ 2 / (x ^ 4 + 2 * x ^ 3 - 6 * x ^ 2 - 2 * x + 1). [_ Colin Barker _ , Dec 09 2012] •

[A274520] • 0,2,4,20,64,248,880,3248,11776,43040,156736,571712,2083840,7597952,27698944,100985600,368164864,1342243328,4893475840,17840411648,65041678336,237125826560,864501723136,3151758405632,11490527150080 ★ a(n) = ((1 + sqrt(7))^n - (1 - sqrt(7))^n)/sqrt(7). • a(n) = 2 * a(n - 1) + 6 * a(n - 2). •

[A192377] • 0,2,4,20,68,262,968,3624,13512,50442,188236,702524,2621836,9784846,36517520,136285264,508623504,1898208786,7084211604,26438637668,98670339028,368242718486,1374300534872,5128959421048,19141537149272 ★ Coefficient of x in the reduction by x^2->x+2 of the polynomial p(n,x) defined below in Comments. • a(n) = 2 * a(n - 1) + 6 * a(n - 2) + 2 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Dec 09 2012 •

[A081440] • 1,1,2,4,20,76,632,3424,38096,265360,3682592,31332544,520705088,5232870592,101265169280,1173634791424,25911499036928,340187621683456,8436057652027904,123731966851240960,3404264757518332928 ★ Expansion of e.g.f.: exp(x)*cosh(x/sqrt(1 - x^2)). • a(n) = 2 * a(n - 1) + 3 * (n - 2) ^ 2 * a(n - 2) - 3 * (n - 2) * (2 * n - 5) * a(n - 3) - 3 * (n - 3) * (n - 2) * (n ^ 2 - 7 * n + 11) * a(n - 4) + 6 * (n - 4) ^ 2 * (n - 3) * (n - 2) * a(n - 5) + (n - 7) * (n - 5) * (n - 4) * (n - 3) ^ 2 * (n - 2) * a(n - 6) - (n - 6) * (n - 5) * (n - 4) * (n - 3) * (n - 2) * (2 * n - 11) * a(n - 7) + (n - 7) * (n - 6) * (n - 5) * (n - 4) * (n - 3) * (n - 2) * a(n - 8). - _ Vaclav Kotesovec _ , Oct 29 2014 •

[A271944] • 0,2,4,22,56,250,732,2926,9264,34866,115316,419846,1422824,5086122,17471692,61823966,213983072,752927074,2616950756,9179311350,31978941080,111975792474,390606950844,1366410142030,4769896907152 ★ Expansion of 2*x*(1 + x)/(1 - x - 9*x^2 + x^3). • a(n) = a(n - 1) + 9 * a(n - 2) - a(n - 3). •

[A080042] • 2,4,22,100,466,2164,10054,46708,216994,1008100,4683382,21757828,101081458,469599316,2181641638,10135364500,47086382914,218751625156,1016265649366,4721317472932,21934066839826,101900219778100 ★ a(n) = 4*a(n-1)+3*a(n-2) for n>1, a(0)=2, a(1)=4. • a(n) = (2 + sqrt(7)) ^ n + (2 - sqrt(7)) ^ n. • a(n) = [x ^ n] ((1 + 4 * x + sqrt(1 + 8 * x + 28 * x ^ 2)) / 2) ^ n for n >= 1. - _ Peter Bala _ , Jun 23 2015 •

[A081680] • 1,2,4,23,274,2927,27094,228923,1827634,14069687,105715534,781107923,5702856394,41273440847,296753044774,2122921300523,15127554995554,107462125890407,761485887090814,5385095865086723,38019827430709114 ★ A sum of decreasing powers. • a(n)=(7 ^ n - 6 ^ n - 5 ^ n - 4 ^ n + 4 * 3 ^ n) / 2. •

[A192384] • 0,2,4,24,72,312,1088,4288,15744,60192,224832,851072,3197056,12062592,45398016,171104256,644354048,2427699712,9144222720,34448209920,129761986560,488821962752,1841370087424,6936475090944,26129575084032 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = 2 * a(n - 1) + 8 * a(n - 2) - 4 * a(n - 3) - 4 * a(n - 4). G.f.: 2 * x ^ 2 / (4 * x ^ 4 + 4 * x ^ 3 - 8 * x ^ 2 - 2 * x + 1). [_ Colin Barker _ , Dec 09 2012] •

[A192382] • 0,2,4,24,80,352,1344,5504,21760,87552,349184,1398784,5591040,22372352,89473024,357924864,1431633920,5726666752,22906404864,91626143744,366503526400,1466016202752,5864060616704,23456250855424,93824986644480 ★ Coefficient of x in the reduction by x^2->x+2 of the polynomial p(n,x) defined below in Comments. • a(n) = 2 ^ (- 2 + n) * (2 * (- 1) ^ n + 2 ^ n) / 3. • a(n) = 2 * a(n - 1) + 8 * a(n - 2). •

[A009672] • 0,1,2,4,24,172,1192,10176,106176,1212048,15123872,210069440,3195595392,52434870464,926003117184,17548224583168,354716499392512,7614573123195136,173087393243492864,4153672167748662272 ★ Expansion of e.g.f. tan(sin(x)*exp(x)). • a(n) = 2 * sum(k=0..(n - 1) / 2, ((sum(j=1..2 * k + 1, j ! * 2 ^ (- j) * (- 1) ^ (j) * stirling2(2 * k + 1,j))) * sum(r=k..(n - 1) / 2, binomial(n,n - 1 - 2 * r) * ((2 * k + 1) ^ (n - 1 - 2 * r) * sum(i=0..(2 * k + 1) / 2, (2 * i - 2 * k - 1) ^ (2 * r + 1) * binomial(2 * k + 1,i) * (- 1) ^ (r - i))))) / (2 * k + 1)!). - _ Vladimir Kruchinin _ , Jun 13 2011 •

[A062531] • 2,4,24,282,738,8688,273413,92276646 ★ Index of smallest prime p such that there is a gap of 2^n between p and next prime. • a(n) =A000720[A000230[2 ^ (n - 1)]] = Pi[Min { p|p - prevprime(p)=2 ^ n }] •

[A155120] • 2,4,26,76,166,308,514,796,1166,1636,2218,2924,3766,4756,5906,7228,8734,10436,12346,14476,16838,19444,22306,25436,28846 ★ 2*(n^3+n^2+n-1). • a(n) = 2 * (n ^ 3 + n ^ 2 + n - 1). •

[A189896] • 1,2,4,27 ★ Weak Ackermann numbers: H_n(n,n) where H_n is the n-th hyperoperator. • a(n) = H _ n(n, n), where H _ n the hyperoperation indexed by n. •

[A274526] • 0,2,4,28,96,472,1904,8528,36096,157472,675904,2926528,12612096,54489472,235099904,1015094528,4381188096,18913321472,81638523904,352410262528,1521205764096,6566514153472,28345085947904,122355313430528,528161486340096 ★ a(n) = ((1 + sqrt(11))^n - (1 - sqrt(11))^n)/sqrt(11). • a(n) = 2 * a(n - 1) + 10 * a(n - 2). •

[A192387] • 0,2,4,32,96,512,1856,8576,33792,147456,602112,2566144,10637312,44892160,187269120,787087360,3292069888,13812760576,57837355008,242497880064,1015868817408,4258009186304,17841063460864,74771320537088,313317428035584 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = 2 * a(n - 1) + 12 * a(n - 2) - 8 * a(n - 3) - 16 * a(n - 4). G.f.: 2 * x ^ 2 / (16 * x ^ 4 + 8 * x ^ 3 - 12 * x ^ 2 - 2 * x + 1). [_ Colin Barker _ , Dec 09 2012] •

[A277091] • 0,2,4,36,128,760,3312,17264,80896,403488,1939520,9527872,46209024,225808256,1098542848,5358401280,26096402432,127210422784,619770479616,3020486878208,14717760471040,71722337236992,349493321068544,1703099363454976,8299105221869568 ★ a(n) = ((1 + sqrt(15))^n - (1 - sqrt(15))^n)/sqrt(15). • a(n) = 2 * a(n - 1) + 14 * a(n - 2). •

[A187468] • 1,2,4,40,208,928,3904,16000,64768,260608,1045504,4188160,16764928,67084288,268386304,1073643520,4294770688,17179475968,68718690304,274876334080,1099508482048,4398040219648,17592173461504,70368719011840,281474926379008 ★ Sum of the squares modulo 2^n of the odd numbers less than 2^n. • a(n) = 2 ^ (n - 2) * (2 ^ n - 6) for n>2. a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>4. G.f.: x * (32 * x ^ 3 - 4 * x + 1) / ((2 * x - 1) * (4 * x - 1)). - _ Colin Barker _ , Aug 19 2013 •

[A105282] • 2,4,46,154,266,472,748,1434,1738,2058,2204,2222,2428,2478,2510,2866,3132,3288,3576,3688,3756,4142,4506,4940,5164 ★ Positive integers n such that n^20 + 1 is semiprime (A001358). • a(n) ^ 20 + 1 is semiprime (A001358). •

[A212429] • 1,1,2,4,48,96,1152,2304,276480,552960,6635520,13271040,33443020800,66886041600,802632499200,1605264998400,385263599616000,770527199232000,194172854206464000,388345708412928000,51261633510506496000000,102523267021012992000000 ★ a(n) is the LCM of denominators of polynomials of degree n which are integer-valued on primes together with their first divided differences. • a(n) = Prod _{ p prime } p ^ w _ p(n - 1) where w _ p(n) = Sum _{ k>=0 } floor(n / ((p - 1) * p ^ k)) - t _{ p,n } and p ^ (t _{ p,n }- 1) <= n / (p - 1) < p ^ t _{ p,n } . •

[A275203] • 1,2,4,64 ★ Hyperoperations using consecutive integers. • a(n) = H _ n(a(n - 1),n), where H _ n is the n - th hyperoperation. •

[A168199] • 2,5,5,8,8,11,11,14,14,17,17,20,20,23,23,26,26,29,29,32,32,35,35,38,38 ★ a(n) = 3*n - a(n-1) + 1 with n > 1, a(1)=2. • a(n) = (6 * n + 5 + 3 * (- 1) ^ n) / 4. - _ Jon E. Schoenfield _ , Jun 24 2010 •

[A081240] • 1,2,5,5,10,13,20,20,20,25,34,34,45,52,61,61,74,74,89,89,100,113,130,130,130 ★ #{(i,j): mu(i)*mu(j) = 1, 1<=i,j<=n}, where mu=A008683 (Moebius function). • a(n) = |sum(i=1..n, sqrt(mu(i))| ^ 2. - _ Enrique Pérez Herrero _ , Jul 30 2012 •

[A206625] • 0,1,1,1,2,5,5,13,16,37,45,109,130,313,377,905,1088,2617,3145,7561,9090,21853,26269,63157,75920 ★ Expansion of x * (1 + x) * (1 - x^2) * (1 + x^3) / (1 - 2*x^2 - 2*x^4 - 2*x^6 + x^8) in powers of x. • a(- n) = a(n) = 2 * a(n - 2) + 2 * a(n - 4) + 2 * a(n - 6) - a(n - 8). •

[A112835] • 1,2,5,5,13,16,37,45,109,130,313,377,905,1088,2617,3145,7561,9090,21853,26269,63157,75920,182525,219413,527509 ★ Small-number statistic from the enumeration of domino tilings of a 3-pillow of order n. • a(- n)

= a(- 6 + n). a(- 1) = a(- 2) = 1, a(- 3) = 0. a(n) = 2 * a(n - 2) + 2 * a(n - 4) + 2 * a(n - 6) - a(n - 8). - _ Michael Somos _ , Dec 15 2011 ●

[A271222] ● 0,2,5,5,59,221,221,1679,3866,16988,56354,174452,174452,705893,705893,10271831,24620738,110714180,239854343,627274832,2951797766,2951797766,2951797766,65713916984,159857095811 ★ One of the two successive approximations up to 3^n for the 3-adic integer sqrt(-2). These are the numbers congruent to 2 mod 3 (except for the initial 0). ● a(n) ^ 2 + 2 == 0 (mod 3 ^ n), and a(n) == 2 (mod 3). Representatives of the complete residue system { 0, 1, ..., 3 ^ n - 1 } are taken. ●

[A239868] ● 0,1,2,5,6,6,7,14,18,26,27,31,32,42,51,66,67,70,71,73,84,98,99,111,117 ★ Sum of sigma(i) mod i for i from 1 to n. ● a(n) = a(n - 1) for multiply - perfect numbers n (A007691). ● a(p) = a(p - 1) + 1 for prime p. ●

[A057544] ● 1,1,2,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26 ★ Maximum cycle length (orbit size) in the rotation permutation of n+2 side polygon triangularizations. ● a(0)=1, a(1)=1, a(2)=2, a(n)=n + 2. ●

[A047581] ● 0,1,2,5,6,7,8,9,10,13,14,15,16,17,18,21,22,23,24,25,26,29,30,31,32 ★ Numbers that are congruent to {0, 1, 2, 5, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. ● a(n) = (8 * n + (- 1) ^ n - 2 * sqrt(3) * sin(Pi * n / 3) - 4 * sin(2 * Pi * (n + 1) / 3) / sqrt(3) + 2 * cos(Pi * n / 3) - 7) / 6. - _ Ilya Gutkovskiy _ , May 30 2016 ● a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 6, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. - _ Wesley Ivan Hurt _ , Jun 16 2016 ●

[A047579] ● 0,2,5,6,7,8,10,13,14,15,16,18,21,22,23,24,26,29,30,31,32,34,37,38,39 ★ Numbers that are congruent to {0, 2, 5, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. ● a(n) = a(n - 5) + 8 for n > 5. ● a(n) = (40 * n - 20 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 7 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. ● a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 3, a(5k - 3) = 8k - 6, a(5k - 4) = 8k - 8. (End) ●

[A047269] ● 0,1,2,5,6,7,8,11,12,13,14,17,18,19,20,23,24,25,26,29,30,31,32,35,36 ★ Numbers that are congruent to {0, 1, 2, 5} mod 6. ● a(n) = (- 7 + (- 1) ^ n + (1 + i) * (- i) ^ n + (1 - i) * i ^ n + 6 * n) / 4 where i=sqrt(- 1). ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 15 2012 ●

[A074940] ● 2,5,6,7,8,11,14,15,16,17,18,19,20,21,22,23,24,25,26,29,32,33,34,35,38 ★ Numbers having at least one 2 in their ternary representation. ● a(n) = n + O(n ^ 0.631). [_ Charles R Greathouse IV _ , Aug 21 2011] ●

[A080727] ● 1,2,5,6,7,8,11,14,17,18,19,20,21,22,23,24,25,26,29,32,35,38,41,44,47 ★ a(0) = 1; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 2 mod 3". ● a(a(n)) = 3 * n + 2, n >= 0. ●

[A134026] ● 2,5,6,7,8,14,15,16,17,18,19,20,21,22,23,24,25,26,41,42,43,44,45,46,47 ★ Numbers that are in balanced ternary representation longer than in ternary representation. ● a(n) = g(n,0,0) with g(n,m,k) = if n=0 then k else if k=3 ^ m - 1 then g(n - 1,m,3 * (k + 1) / 2 + 1) else g(n - 1,m,k + 1). ●

[A047580] ● 1,2,5,6,7,9,10,13,14,15,17,18,21,22,23,25,26,29,30,31,33,34,37,38,39 ★ Numbers that are congruent to {1, 2, 5, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6), for n > 6. ●

[A047324] ● 0,2,5,6,7,9,12,13,14,16,19,20,21,23,26,27,28,30,33,34,35,37,40,41,42 ★ Numbers that are congruent to {0, 2, 5, 6} mod 7. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 5. ● a(n) = (14 * n - 9 - i ^ (2 * n) + (1 - 3 * i) * i ^ (- n) + (1 + 3 * i) * i ^ n) / 8 where i = sqrt(- 1). ●

[A047217] ● 0,1,2,5,6,7,10,11,12,15,16,17,20,21,22,25,26,27,30,31,32,35,36,37,40 ★ Numbers that are congruent to {0, 1, 2} mod 5. ● a(n) = 5 + a(n - 3) for n>3. - _ Robert Israel _ , Sep 02 2014 ● a(n) = floor((5 / 4) * floor(4 * (n - 1) / 3)). - _ Bruno Berselli _ , May 03 2016 ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = (15 * n - 21 - 6 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3 * k) = 5 * k - 3, a(3 * k - 1) = 5 * k - 4, a(3 * k - 2) = 5 * k - 5. (End) ● a(n) = n - 1 + 2 * floor((n - 1) / 3). - _ Bruno Berselli _ , Feb 06 2017 ●

[A037453] ● 1,2,5,6,7,10,11,12,25,26,27,30,31,32,35,36,37,50,51,52,55,56,57,60,61 ★ Positive numbers n such that the base 5 representation of n contains no 3 or 4. ● a(3n)=5a(n), a(3n + 1)=5a(n) + 1, a(3n + 2)=5a(n) + 2, where by definition a(0)=0. - _ Emeric Deutsch _ , Mar 23 2004 ●

[A047578] ● 2,5,6,7,10,13,14,15,18,21,22,23,26,29,30,31,34,37,38,39,42,45,46,47,50 ★ Numbers that are congruent to {2, 5, 6, 7} mod 8. ● a(n) = 2 * n - cos(Pi * n / 2). - _ Wesley Ivan Hurt _ , Oct 22 2013 ● a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. ● a(n) = (4 * n - I ^ (- n) - I ^ n) / 2 where I=sqrt(- 1). ●

[A224778] ● 2,5,6,8,9,10,11,13,14,15,17,18,19,20,21,22,23,24,25,26,27,29,30,31,32 ★ One half of the even numbers that are the sum of four nonzero squares. ● a(n) is one half of the n - th even number of the sequence A000414. ●

[A047442] ● 0,1,2,5,6,8,9,10,13,14,16,17,18,21,22,24,25,26,29,30,32,33,34,37,38 ★ Numbers that are congruent to {0, 1, 2, 5, 6} mod 8. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. ● a(n) = (40 * n - 50 + 3 * (n mod 5) - 7 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. ● a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 6, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) ●

[A047325] ● 1,2,5,6,8,9,12,13,15,16,19,20,22,23,26,27,29,30,33,34,36,37,40,41,43 ★ Numbers that are congruent to {1, 2, 5, 6} mod 7. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (14n - 7 - 3 * i ^ (2n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n) / 8 where i=sqrt(- 1). ●

[A087943] ● 2,5,6,8,10,11,14,15,17,18,20,22,23,24,26,29,30,32,33,34,35,38,40,41,42 ★ Numbers n such that 3 divides sigma(n). ● a(n) << n ^ k for any k > 1, where << is the Vinogradov symbol. - _ Charles R Greathouse IV _ , Sep 04 2013 ●

[A047441] ● 0,2,5,6,8,10,13,14,16,18,21,22,24,26,29,30,32,34,37,38,40,42,45,46,48 ★ Numbers that are congruent to {0, 2, 5, 6} mod 8. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (8 * n - 7 - i ^ (2 * n) - i ^ (1 - n) + i ^ (1 + n)) / 4 where i=sqrt(- 1). ● a(n) = (8 * n - 7 - cos(n * Pi) - 2 * sin(n * Pi / 2)) / 4. - _ Wesley Ivan Hurt _ , Oct 05 2017 ●

[A047267] ● 0,2,5,6,8,11,12,14,17,18,20,23,24,26,29,30,32,35,36,38,41,42,44,47,48 ★ Numbers that are congruent to {0, 2, 5} mod 6. ● a(n) = 3 * n - 3 * floor(n / 3) - (n ^ 2 mod 3), with offset 0. - _ Gary Detlefs _ , Mar 19 2010 ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = (6 * n - 5 + 2 * cos(2 * n * Pi / 3)) / 3. ● a(3k) = 6k - 1, a(3k - 1) = 6k - 4, a(3k - 2) = 6k - 6. (End) ●

[A247062] ● 1,2,5,6,8,11,12,16,17,18,21,22,24,27,28,32,33,34,37,38,40,43,44,48,49 ★ Dynamic Betting Game D(n,5,2). ● a(n) = a(n - 1) + a(n - 8) - a(n - 9). - _ Colin Barker _ , Sep 11 2014 ●

[A224779] ● 2,5,6,9,10,11,13,14,15,17,18,19,21,22,23,25,26,27,29,30,31,33,34,35,37 ★ One half of the even numbers that are a primitive sum of four nonzero squares at least once. ● a(n) is one half of the n - th even number of the sequence A222949. ●

[A264120] ● 0,1,2,5,6,9,10,13,14,17,18,21,22,25,26,29,30,33,34,37,38,41,42,45,46 ★ Values of k such that A001163(k) is positive. ● a(1) = 0. ●

[A042963] ● 1,2,5,6,9,10,13,14,17,18,21,22,25,26,29,30,33,34,37,38,41,42,45,46,49 ★ Congruent to 1 or 2 mod 4. ● a(n) = a(n - 1) + 2 + (- 1) ^ n, a(0)=1. (End) ● a(n) = 4 * n - a(n - 1) - 1 (with a(0)=1). ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Ant King _ , Nov 17 2010 ● a(n) = (4n - 3 - (- 1) ^ n) / 2. - _ Ant King _ , Nov 17 2010 ● a(n) = (n mod 2) + 2n - 2. - _ Wesley Ivan Hurt _ , Oct 10 2013 ●

[A078632] ● 0,1,2,5,6,9,10,15,18,21,22,28,29,32,35,43,44,50,51,57,60,63,64,73,76 ★ Number of geometric subsequences of [1,...,n] with integral successive-term ratio and length > 1. ● a(n) = sum { r > 1, j > 0 } floor(n / r ^ j) ●

[A032925] ● 1,2,5,6,9,10,21,22,25,26,37,38,41,42,85,86,89,90,101,102,105,106,149,150,153 ★ Numbers whose set of base 4 digits is {1,2}. ● a(2n) = 4a(n - 1) + 2, a(2n + 1) = 4a(n) + 1. - _ Ralf Stephan _ , Oct 07 2003, corrected _ R. J. Mathar _ , Sep 07 2016 ●

[A244749] ● 2,5,6,9,10,28,29,85,86,256,257,769,770,2308,2309,6925,6926,20776,20777,62329,62330,186988,186989,560965,560966 ★ 0-additive sequence: a(n) is the smallest number larger than a(n-1) that is not the sum of any subset of earlier terms, starting with initial values {2, 5}. ● a(2n) = 4a(2n - 2) - 3a(2n - 4) and a(2n + 1) = a(2n) + 1, for n>2. ● a(n) = - a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3) for n>6. - _ Colin Barker _ , Jul 11 2014 ●

[A047323] ● 2,5,6,9,12,13,16,19,20,23,26,27,30,33,34,37,40,41,44,47,48,51,54,55,58 ★ Numbers that are congruent to {2, 5, 6} mod 7. ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = (21 * n - 3 - 6 * cos(2 * n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3k) = 7k - 1, a(3k - 1) = 7k - 2, a(3k - 2) = 7k - 5. (End) ●

[A050487] ● 1,2,5,6,9,12,15,16,19,22,25,28,31,34,37,38,41,44,47,50,53,56,59,62,65 ★ Geometric Connell sequence: start with 1; then next two numbers == 2 mod 3; next four == 3 mod 3; next eight == 1 mod 3; etc. ● a(n) = 3n - 2 * (1 + floor(log _ 2(n)). ●

[A077471] ● 1,2,5,6,10,11,14,18,19,23,27,29,30,35,36,39,55,56,60,62,64,73,75,78,79 ★ Greedy powers of (4/7): sum_{n=1..inf} (4/7)^a(n) = 1. ● a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(4 / 7) and frac(y) = y - floor(y). ● a(n) seems to be asymptotic to c * n with c around 3.3... - _ Benoit Cloitre _ ●

[A007969] ● 2,5,6,10,12,13,14,17,18,20,21,22,26,28,29,30,33,34,37,38,39,41,42,44,45 ★ Rectangular numbers. ● a(n) is in the sequence if a(n) = C * B with integers B >= 1 and C >= 2, such that C * S ^ 2 - B * R ^ 2 = 1 has an integer solution (without loss of generality one may take S and R positive). See the Conway link. - _ Wolfdieter Lang _ , Sep 18 2015 ●

[A047440] ● 2,5,6,10,13,14,18,21,22,26,29,30,34,37,38,42,45,46,50,53,54,58,61,62,66 ★ Numbers that are congruent to {2, 5, 6} mod 8. ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = (24 * n - 9 - 9 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3k) = 8k - 2, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 6. (End) ●

[A140144] ● 1,2,5,6,11,12,19,20,29,30,41,42,55,56,71,72,89,90,109,110,131,132,155,156,181 ★ a(1)=1, a(n)=a(n-1)+n^1 if n odd, a(n)=a(n-1)+ n^0 if n is even. ● a(n) = a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n +{ [1 + (- 1) ^ n] / 2 } , with a(1)=1 a(n)= - (1 / 8) - (1 / 4) * (- 1) ^ n * n + (1 / 8) * (- 1) ^ n + (1 / 4) * n ^ 2 + (3 / 4) * n, with n>=1. - _ Paolo P. Lava _ , Jun 06 2008 ● a(n) = a(n - 1) + 2a(n - 2) - 2a(n - 3) - a(n - 4) + a(n - 5). G.f.: x * (- 1 - x - x ^ 2 + x ^ 3) / ((1 + x) ^ 2 * (x - 1) ^ 3). - _ R. J. Mathar _ , Feb 22 2009 ●

[A030130] ● 0,2,5,6,11,13,14,23,27,29,30,47,55,59,61,62,95,111,119,123,125,126,191,223,239 ★ Binary expansion contains a single 0. ● a(n) = 2 ^ (g(n)) - 1 - 2 ^ (((2 * g(n) - 1) ^ 2 - 1 - 8 * n) / 8) with g(n)=int((sqrt(8 * n - 7) + 3) / 2) for all n>0 and g(0)=1. - Ulrich Schimke (ulrschimke(AT)aol.com) ●

[A015613] ● 0,0,1,2,5,6,11,14,19,22,31,34,45,50,57,64,79,84,101,108,119,128,149,156,175 ★ a(n) = Sum_{i=1..n} phi(i)*ceiling(n/i) - Sum_{i=1..n} phi(i)*floor(n/i). ● a(n) = sum of phi(e) where e ranges over all nondivisors of n that are between 1 and n. - _ Joseph L. Pe _ , Oct 24 2002 ●

[A135013] ● 1,2,5,6,11,14,21,22,31,36,47,50,63,70,85,86,103,112,131,136,157,168,191,194,219 ★ Partial sums of A000265. ● a(n) = sum(k>=1, (round(n / 2 ^ k)) ^ 2). - _ Alejandro Erickson _ , Apr 13 2012 ● a(n) = n ^ 2 / 3 + O(x) (see MacLeod link). - _ Michel Marcus _ , Dec 05 2013 ●

[A239447] • 0,1,2,5,6,11,14,21,22,31,36,49,52,63,70,85,86,103,112,137,142,163,176,205,208 ★ Partial sums of A030101. • a(4n) = 6 a(2n) - 5 a(n) - 3 a(n - 1) - 1. • a(4n + 1) = 2 a(2n + 1) + 4 a(2n) - 6 a(n) - 2 a(n - 1) - 1. • a(4n + 2) = 3 a(2n + 1) + 3 a(2n) - 6 a(n) - 2 a(n - 1) - 1. • a(4n + 3) = 6 a(2n + 1) - 8 a(n) - 1. •

[A289206] • 1,2,5,6,12,13,15,16,32,33,35,39,40,42,56,81,84,85,88,90,93,94,108,109,113 ★ Greedy strictly increasing sequence starting at a(1)=1 avoiding both arithmetic and geometric progressions of length 3. • a(n) >= 3n / 2 for n > 2 . •

[A153485] • 0,1,2,5,6,12,13,20,24,32,33,49,50,60,69,84,85,106,107,129,140,154,155,191,197 ★ Sum of all aliquot divisors of all positive integers <= n. • a(n) = Sum _{ k=1..n } k * floor((n - k) / k). - _ Wesley Ivan Hurt _ , Apr 02 2017 •

[A113240] • 1,2,5,6,13,14,25,30,49,50,97,98,165,186,325,326,621,622,1161,1230,2257,2258,4481,4498,8597 ★ Expansion of (1/(1-x))*sum(k>=2,x^k/(1-2x^k)). • a(n)=sum { k=0..floor(n / 2), floor((n - k + 1) / (k + 1)) * 2 ^ k } . •

[A215147] • 1,2,5,6,14,15,30,31,55,56,91,92,140,141,204,205,285,286,385,386,506,507,650,651,819 ★ For n odd, a(n)= 1^2+2^2+3^2+...+n^2; for n even, a(n)=(1^2+2^2+3^2+...+n^2) + 1. • a(n) = (6 * (5 + 3 * (- 1) ^ n) + (13 - 9 * (- 1) ^ n) * n - 3 * (- 3 + (- 1) ^ n) * n ^ 2 + 2 * n ^ 3) / 48. G.f.: - x * (x ^ 6 - x ^ 5 - 2 * x ^ 4 + 2 * x ^ 3 - x - 1) / ((x - 1) ^ 4 * (x + 1) ^ 3). [_ Colin Barker _ , Nov 16 2012] •

[A166753] • 1,2,5,6,17,18,61,62,233,234,917,918,3649,3650,14573,14574,58265,58266,233029,233030,932081,932082,3728285,3728286,14913097 ★ Partial sums of A166752. • a(n) = a(n + 1) + 5 * a(n + 2) - 5 * a(n - 3) - 4 * a(n - 4) + 4 * a(n - 5). •

[A136324] • 0,1,1,2,5,6,21,22,85,86,341,342,1365,1366,5461,5462,21845,21846,87381,87382,349525,349526,1398101,1398102,5592405 ★ Mix A002450(n), A002450(n)+1. • a(n)=5a(n - 2) - 4a(n - 4). • a(n)=1 / 6 - (1 / 2) * (- 1) ^ n + (1 / 4) * 2 ^ n + (1 / 12) * (- 2) ^ n; g.f.: (- 3 * x ^ 3 + x ^ 2 + x) / (4 * x ^ 4 - 5 * x ^ 2 + 1). - Lambert Herrgesell (zero815(AT)googlemail.com), Apr 19 2008 •

[A047483] • 0,1,2,5,7,8,9,10,13,15,16,17,18,21,23,24,25,26,29,31,32,33,34,37,39 ★ Numbers that are congruent to {0, 1, 2, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6). _ Vincenzo Librandi _ , May 17 2012 •

[A047388] • 0,1,2,5,7,8,9,12,14,15,16,19,21,22,23,26,28,29,30,33,35,36,37,40,42 ★ Numbers that are congruent to {0, 1, 2, 5} mod 7. • a(n) = (- 19 + (- 1) ^ n + (1 + 3 * i) * (- i) ^ n + (1 - 3 * i) * i ^ n + 14 * n) / 8 where i=sqrt(- 1). - _ Colin Barker _ , May 14 2012 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 16 2012 •

[A283778] • 2,5,7,8,10,11,13,16,19,21,22,24,25,27,30,33,35,36,38,41,44,46,47,49,50 ★ Numbers k such that floor(k*e) is odd. • a(n + 1) - a(n) is in { 1,2,3 } for every n. •

[A047481] • 0,2,5,7,8,10,13,15,16,18,21,23,24,26,29,31,32,34,37,39,40,42,45,47,48 ★ Numbers that are congruent to {0, 2, 5, 7} mod 8. • a(n) = (1 / 4 + i / 4) * ((- 3 + 3 * i) - i * (- i) ^ n + i ^ n + (4 - 4 * i) * n) where i=sqrt(- 1) . • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , May 16 2012 • a(n) = (- 1 * ((- 1) ^ ((n - 1) / 2 - (- 1) ^ n / 4 - 1 / 4))) / 2 + 2 * (n - 1) + 1 / 2. • a(n) = cos(n * Pi / 2) - 1 / 2 * cos((n - 1) * Pi / 2) - 1 / 2 * cos(n * Pi / 2) + 2 * (n - 1) + 1 / 2. - _ Cédric Christian Bernard Gagneux _ , Mar 05 2014 •

[A047268] • 1,2,5,7,8,11,13,14,17,19,20,23,25,26,29,31,32,35,37,38,41,43,44,47,49 ★ Numbers that are congruent to {1, 2, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = 2 * n - 1 - floor((n mod 3) / 2). - _ Gary Detlefs _ , Jun 01 2012 • a(n) = (6 * n - 4 + cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 1, a(3k - 1) = 6k - 4, a(3k - 2) = 6k - 5. (End) •

[A047482] • 1,2,5,7,9,10,13,15,17,18,21,23,25,26,29,31,33,34,37,39,41,42,45,47,49 ★ Numbers that are congruent to {1, 2, 5, 7} mod 8. • a(n) = (- 5 - (- 1) ^ n + (- i) ^ n + i ^ n + 8 * n) / 4 where i=sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 17 2012 •

[A163985] • 0,1,2,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47 ★ Sum of all isolated parts of all partitions of n. • a(n) = n for n<3, a(n) = 2 * n - 1 for n>=3. •

[A184737] • 2,5,7,9,11,13,16,18,20,22,24,27,29,31,33,35,38,40,42,44,46,49,51,53,55 ★ floor(n*s+h-h*s), where s=-1+2^(3/2), h=-1/2; complement of A184736. • a(n)=floor(n * s + h - h * s), where s= - 1 + 2 ^ (3 / 2), h= - 1 / 2. •

[A184743] • 2,5,7,9,12,14,16,19,21,23,25,28,30,32,35,37,39,41,44,46,48,51,53,55,58 ★ a(n) = floor(n*s + h - h*s), where s = sqrt(Pi)/(sqrt(Pi)-1), h = -1/2; complement of A184742. • a(n) = floor(n * s + h - h * s), where s = sqrt(Pi) / (sqrt(Pi) - 1), h = - 1 / 2. •

[A184749] • 2,5,7,9,12,14,16,19,21,23,26,28,30,32,35,37,39,42,44,46,49,51,53,56,58 ★ floor(n*s+h-h*s), where s=(7+sqrt(5))/4, h=-1/2; complement of A184748. • a(n)=floor(n * s + h - h * s), where s=(7 + sqrt(5)) / 4, h= - 1 / 2. •

[A047386] • 0,2,5,7,9,12,14,16,19,21,23,26,28,30,33,35,37,40,42,44,47,49,51,54,56 ★ Numbers that are congruent to {0, 2, 5} mod 7. • a(n + 1) = 3 * n - 2 * floor(n / 3) - (n ^ 2 mod 3). - _ Gary Detlefs _ , Mar 19 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 21 + 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 7. (End) •

[A184007] • 2,5,7,9,12,14,17,19,21,24,26,28,31,33,35,38,40,43,45,47,50,52,54,57,59 ★ floor(n*s+h-h*s), where s=(3+sqrt(3))/2, h=-1/3. Complement of A184006. • a(n)=floor(n * s + h - h * s), where s=(3 + sqrt(3)) / 2, h= - 1 / 3. •

[A080652] • 2,5,7,9,12,14,17,19,22,24,26,29,31,34,36,38,41,43,46,48,50,53,55,58,60 ★ a(1)=2; for n>1, a(n)=a(n-1)+3 if n is already in the sequence, a(n)=a(n-1)+2 otherwise. • a(n) = floor(n * r + 1 / (1 + r)) where r = 1 + sqrt(2). •

[A142879] • 0,1,2,5,7,9,25,34,43,120,163,206,575,781,987,2755,3742,4729,13200,17929,22658,63245,85903,108561,303025 ★ a(n) = 5a(n-3) - a(n-6) with terms 1..6 as 0, 1, 2, 5, 7, 9. • a(n) = 2 * a(n - 1) + a(n - 2) if 3 | n, a(n) = a(n - 1) + a(n - 2) if n = 1 mod 3, and a(n) = 2 * a(n - 1) - a(n - 2) if n = 2 mod 3. •

[A108118] • 1,2,5,7,10,11,13,14,17,19,22,23,25,26,29,31,34,35,37,38,41,43,46,47,49 ★ Integers not divisible by 3 or 4. • a(n) = 2 * a(n - 1) - a(n - 2) - a(n - 3) + 2 * a(n - 4) - a(n - 5) for n>5. • a(n) = a(n - 6) + 12 for n>6. • a(n) = (6 * n - 3 + cos(n * Pi / 3) - cos(n * Pi) - sqrt(3) * sin(n * Pi / 3)) / 3. • a(6k) = 12k - 1, a(6k - 1) = 12k - 2, a(6k - 2) = 12k - 5, a(6k - 3) = 12k - 7, a(6k - 4) = 12k - 10, a(6k - 5) = 12k - 11. (End) •

[A081032] • 2,5,7,10,12,14,17,19,22,24,26,29,31,34,36,38,41,43,46,48,50,53,55,58,60 ★ Positions of black keys on piano keyboard. • a(n) = [(12n + 2) / 5] •

[A082845] • 2,5,7,10,12,14,17,19,22,24,26,29,31,34,36,39,41,43,46,48,51,53,55,58,60 ★ Partial sums of A082844. • a(n)=1 + floor((1 + sqrt(2)) * n - (2 - sqrt(2))) •

[A047215] • 0,2,5,7,10,12,15,17,20,22,25,27,30,32,35,37,40,42,45,47,50,52,55,57,60 ★ Numbers that are congruent to {0, 2} mod 5. • a(n) = floor(5 * n / 2). • a(n) = 5 * n / 2 + ((- 1) ^ n - 1) / 4. • a(n) = 5 * n - a(n - 1) - 8 with a(1) =0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 2 * n + floor(n / 2). - _ Arkadiusz Wesolowski _ , Sep 19 2012 •

[A059536] • 2,5,7,10,12,15,17,20,22,25,28,30,33,35,38,40,43,45,48,51,53,56,58,61,63 ★ Beatty sequence for zeta(2)/(zeta(2)-1). • a(n) = floor(n * zeta(2) / (zeta(2) - 1)). - _ Michel Marcus _ , Jan 05 2015 •

[A182771] • 2,5,7,10,12,15,18,20,23,25,28,30,33,36,38,41,43,46,48,51,54,56,59,61,64 ★ Beatty sequence for (6+sqrt(3))/3. • a(n)=floor(n * (6 + sqrt(3)) / 3). •

[A182773] • 2,5,7,10,12,15,18,20,23,25,28,31,33,36,38,41,43,46,49,51,54,56,59,62,64 ★ Beatty sequence for 1+2^(2/3). • a(n)=floor(n * (1 + 2 ^ (2 / 3))). •

[A001950] • 2,5,7,10,13,15,18,20,23,26,28,31,34,36,39,41,44,47,49,52,54,57,60,62,65 ★ Upper Wythoff sequence (a Beatty sequence): a(n) = floor(n*phi^2), where phi = (1+sqrt(5))/2. • a(n) = n + floor(n * phi). In general, floor(n * phi ^ m) = Fibonacci(m - 1) * n + floor(Fibonacci(m) * n * phi). - _ Benoit Cloitre _ , Mar 18 2003 •

[A047480] • 2,5,7,10,13,15,18,21,23,26,29,31,34,37,39,42,45,47,50,53,55,58,61,63,66 ★ Numbers that are congruent to {2, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 6 - 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 6. (End) •

[A057347] • 2,5,7,10,13,16,18,21,24,26,29,32,35,37,40,43,46,48,51,54,56,59,62,65,67 ★ Leap years in the Islamic calendar starting year 1 AH (Anno Hegirae) = 622 CE (Common Era or AD). There are 11 leap years in a 30 year cycle. • a(n) = floor((30n - 4) / 11), ((14 + 11 * n) mod 30) < 11 •

[A067008] • 2,5,7,10,13,16,19,20,31,34,37,40,41,44,46,48,51,53,55,56,62,64,65,67,68 ★ Numbers n such that sum(k=1,n, A008472(k)) divides n!. • a(n) seems to be asymptotic to c * n with c=2.3..... •

[A094065] • 0,2,5,7,10,13,16,19,22,26,29,32,36,39,42,46,49,53,57,60,64,67,71,75,78 ★ Asymptotic form for prime. • a(n) = Floor[Re[- (- 2 * n - n * Log[n] / 2 + n * Sqrt[I / Pi + 2 / n])]] •

[A073593] • 1,2,5,7,10,13,17,20,23,27,31,35,38,42,46,51,55,59,63,67,72,76,81,85,90 ★ Number of cards needed to be drawn (with replacement) from a deck of n cards to have a 50% or greater chance of seeing each card at least once. • a(n) seems to be asymptotic to n * (log(n) + c) with c=0.3(6)...and maybe c=1 / e. - _ Benoit Cloitre _ , Sep 07 2002 •

[A276213] • 2,5,7,10,14,17,20,24,27,31,34,38,42,45,49,53,57,61,65,69,74,78,82,86,91 ★ Position of n^s in the joint ranking of {h^r} and {k^s}, where r = sqrt(3), s = sqrt(5), h > 1, k > 1. • a(n) = n + floor(n ^ (s / r)); the complement is given by n + floor(n ^ (r / s)). •

[A266594] • 1,2,5,7,10,16,19,29,32,46,49,67,70,92,95,121,124,154,157,191,194,232,235,277,280 ★ Total number of ON (black) cells after n iterations of the "Rule 37" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 - (- 1) ^ n * (n - 3) + 5) / 2 for n>0. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A076802] • 1,2,5,7,10,18,20,22,23,26,30,33,37,41,44,46,48,49,53,56,58,59,68,69,75 ★ Greedy powers of the gamma constant (0.577215664...) sum_{n=1..inf} (gamma)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=gamma and frac(y) = y - floor(y). •

[A079933] • 1,2,5,7,11,12,19,22,27,33,37,39,42,44,53,54,60,62,68,69,75,77,78,83,86 ★ Greedy powers of (1/sqrt(3)): sum_{n=1..inf} (1/sqrt(3))^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(1 / sqrt(3)) and frac(y) = y - floor(y). •

[A113543] • 1,2,5,7,11,13,14,17,19,22,23,26,29,31,34,35,37,38,41,43,46,47,53,58,59 ★ Numbers both squarefree and triangle-free. • a(n) has no factor >1 of form a * (a + 1) / 2 nor b ^ 2. A005117 INTERSECTION A112886. •

[A229470] • 2,5,7,11,13,16,21,23,26,30,36,38,41,45,50,57,59,62,66,71,77,85,87,90,94 ★ Positions of 2 in decimal expansion of 0.123123233123233333..., whose definition is given below. • a((n ^ 2 + n + 2m - 2) / 2) = (n ^ 3 + 6n ^ 2 + 3 m ^ 2 + 11n - 3m + 6) / 6; n + 2>=m>=2. •

[A184676] • 1,2,5,7,11,14,19,23,29,34,41,47,55,62,71,79,89,98,109,119,131,142,155,167,181 ★ a(n) = n + floor((n/2-1/(4*n))^2); complement of A183867. • a(n) = n + floor((n / 2 - 1 / (4 * n)) ^ 2). •

[A216094] • 2,5,7,11,15,19,23,27,31,37,43,47,51,55,59,61,67,73,77,81,87,91,95,99,105 ⋆ a(1) = 2; a(n+1) = a(n) + |A036263(n)| + 2. • a(1)=2; a(n + 1) = a(n) + |prime(n + 2) - 2 * prime(n + 1) + prime(n)| + 2. •

[A089781] • 1,2,5,7,11,16,23,29,37,46,57,67,79,92,107,121,137,154,173,191,211,232,255,277,301 ⋆ Successive coprime numbers with distinct successive differences: gcd(a(k+1),a(k)) = gcd(a(m+1),a(m)) = 1 and a(k+1)-a(k) = a(m+1)-a(m) <==> m=k. • a(n + 1) = a(n) + (smallest number coprime with a(n) and not already added). - _ Reinhard Zumkeller _ , Aug 15 2015 •

[A163695] • 2,5,7,11,18,29,47,76,123,199,322,521,843,1364,2207,3571,5778,9349,15127,24476,39603,64079,103682,167761,271443 ⋆ Number of n X 2 binary arrays with all 1s connected, a path of 1s from top row to lower right corner, and no 1 having more than two 1s adjacent. • a(n) = a(n - 1) + a(n - 2) for n >=5. • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (1 + sqrt(5)) ^ n * (5 + sqrt(5)))) / sqrt(5) for n>2. •

[A063217] • 2,5,7,12,14,17,21,24,26,31,33,36,40,43,45,50,52,55,59,62,64,69,71,74,78 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(50). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). G.f.: x * (2 + 5 * x + 5 * x ^ 2 + 5 * x ^ 3 + 2 * x ^ 4) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A294146] • 0,1,2,5,7,12,15,18,21,29,33,43,48,60,66,72,78,84,90,106,113,131,139,147,155 ⋆ Sum of the larger parts of the partitions of n into two parts with smaller part squarefree. • a(n) = Sum _{ i=1..floor(n / 2) } (n - i) * mu(i) ^ 2. •

[A088822] • 0,2,5,7,12,15,22,24,27,32,43,46,59,66,71,73,90,93,112,117,124,135,158,161,166 ⋆ a(n) = sum of largest prime factors of numbers from 1 to n. • a(n) = Pi ^ 2 / 12 * n ^ 2 / log n + O(n ^ 2 / log ^ 2 n). - _ Charles R Greathouse IV _ , Feb 19 2014 •

[A001318] • 0,1,2,5,7,12,15,22,26,35,40,51,57,70,77,92,100,117,126,145,155,176,187,210,222 ⋆ Generalized pentagonal numbers: n*(3*n-1)/2, n=0, +- 1, +- 2, +- 3, ... • a(n) = 3 + 2 * a(n - 2) - a(n - 4). - _ Ant King _ , Aug 23 2011 • a(n) = n * (n + 1) / 6 when n runs through numbers == 0 or 2 mod 3. - _ Barry E. Williams _ • a(n) = Sum _{ k=1..floor((n + 1) / 2) } (n - k + 1) . - _ Paul Barry _ , Sep 07 2005 • a(n) = 1 / 2 * ceiling(n / 2) * ceiling((3 * n + 1) / 2). - _ Mircea Merca _ , Jul 13 2012 • a(n) = floor((n + 1) / 2) * ((n + 1) - (1 / 2) * floor((n + 1) / 2) - (1 / 2)). - _ Wesley Ivan Hurt _ , Jan 26 2013 • a(n) = Sum _{ i = ceiling((n + 1) / 2)..n } i. - _ Wesley Ivan Hurt _ , Jun 08 2013 •

[A001060] • 2,5,7,12,19,31,50,81,131,212,343,555,898,1453,2351,3804,6155,9959,16114,26073,42187,68260,110447,178707,289154 ⋆ a(n) = a(n-1) + a(n-2) with a(0)=2, a(1)=5. Sometimes called the Evangelist Series. • a(n) = 2 * Fibonacci(n) + Fibonacci(n + 3). - _ Zerinvary Lajos _ , Oct 05 2007 • a(n) = Fibonacci(n + 4) - Fibonacci(n - 1) for n >= 1. - _ Ian Stewart _ , Jun 07 2012 • a(n) = Fibonacci(n) + 2 * Fibonacci(n + 2) = 5 * Fibonacci(n) + 2 * Fibonacci(n - 1). The ratio r(n) := a(n + 2) / a(n) satisfies the recurrence r(n + 1) = (2 * r(n) - 1) / (r(n) - 1). If M denotes the 2 X 2 matrix [2, - 1; 1, - 1] then [a(n + 2), a(n)] = M ^ n[2, - 1]. - _ Peter Bala _ , Dec 06 2013 • a(n) = 6 * F(n) + F(n - 3), for F(n)=A000045. - _ J. M. Bergot _ , Jul 14 2017 •

[A042691] • 1,1,2,5,7,12,19,31,112,143,255,398,653,1704,2357,4061,237895,241956,479851,1201658,1681509,2883167,4564676,7447843,26908205 ⋆ Denominators of continued fraction convergents to sqrt(875). • a(n) = 240252 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A041793] • 1,2,5,7,12,19,107,447,554,7095,7649,37691,196104,233795,429899,663694,1757287,4178268,168888007,341954282,852796571,1194750853,2047547424,3242298277,18259038809 ⋆ Denominators of continued fraction convergents to sqrt(417). • a(n) = 170645294 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A213044] • 1,1,2,5,7,12,22,34,56,94,150,244,399,643,1042,1691,2733,4424,7164,11588,18752,30348,49100,79448,128557 ⋆ Convolution of Fibonacci numbers and positive integers repeated three times (A000045 and A008620). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 2 * a(n - 4) - a(n - 5) + a(n - 6) + a(n - 7). •

[A295334] • 1,1,2,5,7,12,31,43,74,191,265,456,1177,1633,2810,7253,10063,17316,44695,62011,106706,275423,382129,657552,1697233 ⋆ Denominators of continued fraction convergents to sqrt(10)/2 = sqrt(5/2) = A020797 + 1. • a(n) = 6 * a(n - 3) + a(n - 6), n >= 6, with inputs a(0)..a(5). •

[A041033] • 1,1,2,5,7,12,103,115,218,551,769,1320,11329,12649,23978,60605,84583,145188,1246087,1391275,2637362,6665999,9303361,15969360,137058241 ⋆ Denominators of continued fraction convergents to sqrt(21). • a(n) = 110 * a(n - 6) - a(n - 12). G.f.: - (x ^ 4 - x ^ 3 + 2 * x ^ 2 + x + 1) * (x ^ 6 - 6 * x ^ 3 - 1) / ((x ^ 4 - 5 * x ^ 2 + 1) * (x ^ 8 + 5 * x ^ 6 + 24 * x ^ 4 + 5 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 16 2012] •

[A041203] • 1,1,2,5,7,12,247,259,506,1271,1777,3048,62737,65785,128522,322829,451351,774180,15934951,16709131,32644082,81997295,114641377,196638672,4047414817 ⋆ Denominators of continued fraction convergents to sqrt(112). • a(n) = 254 * a(n - 6) - a(n - 12). G.f.: - (x ^ 4 - x ^ 3 + 2 * x ^ 2 + x + 1) * (x ^ 6 - 6 * x ^ 3 - 1) / ((x ^ 6 - 16 * x ^ 3 + 1) * (x ^ 6 + 16 * x ^ 3 + 1)). [_ Colin Barker _ , Jul 19 2012] •

[A041517] • 1,1,2,5,7,12,391,403,794,1991,2785,4776,155617,160393,316010,792413,1108423,1900836,61935175,63836011,125771186,315378383,441149569,756527952,24650044033 ⋆ Denominators of continued fraction convergents to sqrt(275). • a(n) = 398 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A041975] • 1,1,2,5,7,12,535,547,1082,2711,3793,6504,289969,296473,586442,1469357,2055799,3525156,157162663,160687819,317850482,796388783,1114239265,1910628048,85181873377 ⋆ Denominators of continued fraction convergents to sqrt(510). • a(n) = 542 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 28 2013 •

[A065897] • 1,2,5,7,13,16,22,25,31,41,43,52,59,62,69,78,87,91,101,107,111,120,127,137,149 ⋆ The a(n)-th composite number is twice the n-th prime. • a(n) = 2 * prime(n) - (pi(2 * prime(n))) - 1, where pi = A000720. •

[A160794] • 0,1,2,5,7,13,17,28,35,53,65,94,114,156,189,248,302,380,468,569,712,842,1074,1235,1611 ⋆ Vertex number of a rectangular spiral related to Fibonacci numbers and prime numbers. The distances between nearest edges of the spiral that are parallel to the initial edge are the Fibonacci numbers, while the distances between nearest edges perpendicular to the initial edge are the prime numbers. • a(2n) = a(2n - 1) + sum(fibonacci(j),j=1..n), a(2n + 1) = a(2n) + sum(prime(j),j=1..n) + 1 for n >= 1. - Nathaniel Johnston, Jun 16 2011 •

[A262392] • 2,5,7,13,19,31,43,61,79,103,131,163,199,241,283,331,383,443,503,571,641,715,793,877,965 ⋆ a(n) = A007504(n) + A010693(n). • a(n) = Sum _{ k=1..n } prime(k) + n mod 2 + 2 for n>0, a(0)=2 (from Pari code). •

[A266259] • 0,2,5,7,14,16,27,29,44,46,65,67,90,92,119,121,152,154,189,191,230,232,275,277,324 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 11" elementary cellular automaton starting with a single ON (black) cell. • a(n) = ((n + 1) ^ 2 + (- 1) ^ n * (n - 1)) / 2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •

[A133146] • 2,5,7,14,18,29,35,50,58,77,87,110,122,149,163,194,210,245,263,302,322,365,387,434,458 ⋆ Antidiagonal sums of the triangle A133128. • a(n) = 19 / 8 + 5 * n / 4 + 3 * n ^ 2 / 4 - (- 1) ^ n * (n / 4 + 3 / 8). - _ R. J. Mathar _ , Oct 15 2008 • a(0)=2, a(1)=5, a(2)=7, a(3)=14, a(4)=18, a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 26 2013 •

[A228208] • 1,2,5,7,14,19,37,50,97,131,254,343,665,898,1741,2351,4558,6155,11933,16114,31241,42187,81790,110447,214129 ⋆ y-values in the solution to x^2 - 20y^2 = 176. • a(n) = 3 * a(n - 2) - a(n - 4). •

[A002531] • 1,1,2,5,7,19,26,71,97,265,362,989,1351,3691,5042,13775,18817,51409,70226,191861,262087,716035,978122,2672279,3650401 ⋆ Numerators of continued fraction convergents to sqrt(3). • a(2 * n) = a(2 * n - 1) + a(2 * n - 2), a(2 * n + 1) = 2 * a(2 * n) + a(2 * n - 1), n>0. • a(n) = ((1 + sqrt(3)) ^ n + (1 - sqrt(3)) ^ n) / (2 * 2 ^ floor(n / 2)). - _ Bruno Berselli _ , Nov 10 2011 • a(2 * n) = (- 1) ^ n * T(2 * n,u) and a(2 * n + 1) = (- 1) ^ n * 1 / u * T(2 * n + 1,u), where u = sqrt(- 1 / 2) and T(n,x) denotes the Chebyshev polynomial of the first kind. - _ Peter Bala _ , May 01 2012 •

[A041387] • 1,2,5,7,19,45,1279,2603,6485,9088,24661,58410,1660141,3378692,8417525,11796217,32009959,75816135,2154861739,4385539613,10925940965,15311480578,41548902121,98409284820,2797008877081 ⋆ Denominators of continued fraction convergents to sqrt(208). • a(n) = 1298 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A041583] • 1,1,2,5,7,19,83,102,185,287,2481,15173,17654,191713,209367,1447915,11792687,13240602,25033289,38273891,178128853,394531597,572660450,1539852497,2112512947 ⋆ Denominators of continued fraction convergents to sqrt(309). • a(n) = 128405450990 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A042931] • 1,1,2,5,7,33,40,73,332,405,1142,1547,2689,168265,170954,339219,849392,1188611,5603836,6792447,12396283,56377579,68773862,193925303,262699165 ⋆ Denominators of continued fraction convergents to sqrt(997). • a(n) = 28836115346 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A041875] • 1,2,5,7,33,700,2833,3533,9899,23331,989801,2002933,4995667,6998600,32990067,699790007,2832150095,3531940102,9896030299,23324000700,989504059699,2002332120098,4994168299895,6996500419993,32980169979867 ⋆ Denominators of continued fraction convergents to sqrt(459). • a(n) = 999700 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A042559] • 1,2,5,7,40,47,87,134,221,3007,3228,6235,9463,15698,87953,103651,295255,694161,39168271,79030703,197229677,276260380,1578531577,1854791957,3433323534 ⋆ Denominators of continued fraction convergents to sqrt(808). • a(n) = 39463526 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 25 2014 •

[A041653] • 1,1,2,5,7,47,54,155,209,364,13313,13677,26990,67657,94647,635539,730186,2095911,2826097,4922008,180018385,184940393,364958778,914857949,1279816727 ⋆ Denominators of continued fraction convergents to sqrt(345). • a(n) = 13522 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A041125] • 1,2,5,7,54,61,176,413,6784,13981,34746,48727,375835,424562,1224959,2874480,47216639,97307758,241832155,339139913,2615811546,2954951459,8525714464,20006380387,328627800656 ⋆ Denominators of continued fraction convergents to sqrt(71). • a(n) = 6960 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A042257] • 1,1,2,5,7,68,75,143,2363,2506,4869,46327,51196,148719,199915,348634,17631615,17980249,35611864,89203977,124815841,1212546546,1337362387,2549908933,42135905315 ⋆ Denominators of continued fraction convergents to sqrt(654). • a(n) = 17831530 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A041445] • 1,2,5,7,103,110,323,756,23003,46762,116527,163289,2402573,2565862,7534297,17634456,536567977,1090770410,2718108797,3808879207,56042417695,59851296902,175745011499,411341319900,12515984608499 ⋆ Denominators of continued fraction convergents to sqrt(238). • a(n) = 23326 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A042673] • 1,2,5,7,201,208,617,1442,84253,169948,424149,594097,17058865,17652962,52364789,122382540,7150552109,14423486758,35997525625,50421012383,1447785872349,1498206884732,4444199641813,10386606168358,6068673574 06577 ★ Denominators of continued fraction convergents to sqrt(866). • a(n) = 84870 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A047620] • 0,1,2,5,8,9,10,13,16,17,18,21,24,25,26,29,32,33,34,37,40,41,42,45,48 ★ Numbers that are congruent to {0, 1, 2, 5} mod 8. • a(n) = 2 * n - 3 + sin(n * Pi / 2). (End) • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (4n - 6 + I ^ (1 - n) - I ^ (1 + n)) / 2 where i=sqrt(- 1). •

[A212591] • 0,1,2,5,8,9,10,21,32,33,34,37,40,41,42,85,128,129,130,133,136,137,138,149,160 ★ a(n) = smallest value of k for which A020986(k) = n. • a(2 * n - 1) - a(2 * n - 2) = (2 ^ (2 * k + 1) + 1) / 3 and a(2 * n) - a(2 * n - 1) = (2 ^ (2 * k + 1) + 1) / 3 with a(0) = a(1) = 0, where n = (2 ^ k) * (2 * m - 1) for some integers k >= 0 and m > 0. •

[A174438] • 0,2,5,8,9,11,14,17,18,20,23,26,27,29,32,35,36,38,41,44,45,47,50,53,54 ★ Numbers that are congruent to {0, 2, 5, 8} mod 9. • a(n) = 3 * (n - floor(n / 4)) - (3 - I ^ n - (- I) ^ n - (- 1) ^ n) / 4 where I=sqrt(- 1), offset=0. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (18 * n - 15 + i ^ (2 * n) + (3 - i) * i ^ (- n) + (3 + i) * i ^ n) / 8 where i=sqrt(- 1). (End) •

[A047387] • 1,2,5,8,9,12,15,16,19,22,23,26,29,30,33,36,37,40,43,44,47,50,51,54,57 ★ Numbers that are congruent to {1, 2, 5} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>1. • a(n) = 7 * n / 3 - 2 + 4 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 7k - 2, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 6. (End) •

[A039770] • 1,2,5,8,10,12,17,32,34,37,40,48,57,60,63,74,76,85,101,108,114,125,126,128,136 ★ Numbers n such that phi(n) is a perfect square. • a(n) seems to be asymptotic to c * n ^ (3 / 2) with 1<c<1.3 - _ Benoit Cloitre _ , Sep 08 2002 •

[A047618] • 0,2,5,8,10,13,16,18,21,24,26,29,32,34,37,40,42,45,48,50,53,56,58,61,64 ★ Numbers that are congruent to {0, 2, 5} mod 8. • a(n) = 3 * (n - 1) - floor((n - 1) / 3) - ((n - 1) ^ 2 % 3). - _ Gary Detlefs _ , Mar 19 2010; corrected by _ L. Edson Jeffery _ , Sep 02 2014 • a(n) = floor(8 * (n - 1) / 3). - _ Gary Detlefs _ , Jan 02 2012 • a(n) = a(n - 1) + a(n - 3) - a(n - 4), n>4, with a(1)=0, a(2)=2, a(3)=5, a(4)=8. - _ L. Edson Jeffery _ , Sep 02 2014 • a(n) = ((8 * n - 9) + 2 * sin((2 * n * Pi) / 3) / sqrt(3)) / 3. - _ L. Edson Jeffery _ , Sep 02 2014 • a(3k) = 8k - 3, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 8. - _ Wesley Ivan Hurt _ , Jun 10 2016 •

[A059551] • 2,5,8,10,13,16,18,21,24,26,29,32,34,37,40,42,45,48,50,53,56,58,61,64,66 ★ Beatty sequence for Gamma(1/3). • a(n) = floor(n * Gamma(1 / 3)). - _ Michel Marcus _ , Jan 04 2015 •

[A182769] • 2,5,8,10,13,16,18,21,24,27,29,32,35,37,40,43,46,48,51,54,56,59,62,64,67 ★ Beatty sequence for (4 + sqrt(2))/2. • a(n) = floor(n * (4 + sqrt(2)) / 2). •

[A117630] • 2,5,8,10,13,16,18,21,24,27,29,32,35,37,40,43,46,48,51,54,56,59,62,65,67 ★ Complement of A056576. • a(n) = floor(n * log(3) / log(3 / 2)). •

[A022843] • 0,2,5,8,10,13,16,19,21,24,27,29,32,35,38,40,43,46,48,51,54,57,59,62,65 ★ Beatty sequence for e: a(n) = floor(n*e). • a(n) / n converges to e because |a(n) / n - e|=|a(n) - n * e| / n < 1 / n. - _ Hieronymus Fischer _ , Jan 22 2006 •

[A054088] • 2,5,8,10,13,16,19,21,24,27,30,32,35,38,40,43,46,49,51,54,57,60,62,65,68 ★ a(n) = A054086(3n); also a bisection of A003511. • a(n) = floor(n * (1 + sqrt(3))) = n + floor(n * sqrt(3)). - _ R. J. Mathar _ , Feb 26 2011 •

[A007826] • 2,5,8,11,13,15,30,34,40,46,52,56,60,63,69 ★ Numbered stops on the Market-Frankford rapid transit (SEPTA) railway line in Philadelphia, PA USA. • a(n) = 2 + 3 n - binomial(n, 4) + 3 binomial(n, 5) + 7 binomial(n, 6) - 66 binomial(n, 7) + 248 binomial(n, 8) - 679 binomial(n, 9) + 1554 binomial(n, 10) - 3158 binomial(n, 11) + 5897 binomial(n, 12) - 10352 binomial(n, 13) + 17384 binomial(n, 14). •

[A187341] • 2,5,8,11,13,16,19,22,24,27,30,33,35,38,41,44,46,49,52,55,58,60,63,66,69 ★ Floor((5-sqrt(5))n); complement of A187342. • a(n)=floor((5 - sqrt(5))n). •

[A093609] • 2,5,8,11,13,16,19,22,25,27,30,33,36,38,41,44,47,50,52,55,58,61,63,66,69 ★ Upper Beatty sequence for e^G, G = Euler's gamma constant. • a(n) = floor (n * (k + 1)) where k = 1.781072417...= e ^ G, G = Euler's gamma constant, .577215664901... •

[A059560] • 2,5,8,11,14,16,19,22,25,28,31,33,36,39,42,45,47,50,53,56,59,62,64,67,70 ★ Beatty sequence for 1 - 1/log(gamma). • a(n) = floor(n * (1 - 1 / log(gamma))). - _ Michel Marcus _ , Jan 05 2015 •

[A022842] • 2,5,8,11,14,16,19,22,25,28,31,33,36,39,42,45,48,50,53,56,59,62,65,67,70 ★ Beatty sequence for sqrt(8). • a(n) = floor(2 * n * sqrt(2)). - _ Michel Marcus _ , Oct 31 2017 •

[A045930] • 1,2,5,8,11,14,17,18,21,24,27,30,33,36,39,42,45,48,49,52,55,58,61,64,67 ★ The generalized Connell sequence C_{3,5}. • a(n) = 3 * n - 2 * floor((13 + sqrt(40 * n - 31)) / 10). See general formula in A045928. - _ Michel Marcus _ , Apr 02 2013 •

[A016789] • 2,5,8,11,14,17,20,23,26,29,32,35,38,41,44,47,50,53,56,59,62,65,68,71,74 ★ a(n) = 3*n + 2. • a(n) = 2 * a(n - 1) - a(n - 2); a(0)=2, a(1)=5. - _ Philippe Deléham _ , Nov 03 2008 • a(n) = 6 * n - a(n - 1) + 1 with a(0)=2. - _ Vincenzo Librandi _ , Aug 25 2010 •

[A000093] • 0,1,2,5,8,11,14,18,22,27,31,36,41,46,52,58,64,70,76,82,89,96,103,110,117 ★ a(n) = floor(n^(3/2)). • a(n) = floor(n * sqrt(n)). [_ Arkadiusz Wesolowski _ , Jun 01 2011] •

[A070214] • 1,2,5,8,11,14,19,23,28,32,37,43,49,55 ★ Maximal number of occupied cells in all monotonic matrices of order n. • a(r * s) >= a(r) * a(s); if a(n) = n ^ e(n) then L := lim n - > infinity e(n) exists and is in the range 1.513 <= L <= 2. •

[A257984] • 2,5,8,11,15,18,21,24,27,30,33,37,40,43,46,49,52,55,59,62,65,68,71,74,77 ★ Nonhomogeneous Beatty sequence: ceiling((n - 1/2)*Pi)) • a(n) = ceiling((n - 1 / 2) * Pi). •

[A184747] • 2,5,8,11,15,18,21,24,28,31,34,37,40,44,47,50,53,57,60,63,66,70,73,76,79 ★ floor(n*s+h-h*s), where s=1+sqrt(5), h=1/2; complement of A184746. • a(n)=floor(n * s + h - h * s), where s=1 + sqrt(5), h=1 / 2. •

[A032765] • 0,1,2,5,8,11,16,21,26,33,40,47,56,65,74,85,96,107,120,133,146,161,176,191,208 ★ Floor(n(n+1)(n+2) / (n+ n+1 + n+2)), which equals floor(n(n + 2)/3). • a(n) = n ^ 2 - ceiling(n(n - 1) / 3). G.f.: [x(1 + 2x ^ 2 - x ^ 3)] / [(1 + x + x ^ 2)(1 - x) ^ 3]. - _ Ralf Stephan _ , May 05 2004 • a(n) = Floor [n(n + 2) / 3]. - Saburo Tamura, sent by _ Alexandre Wajnberg _ , Dec 19 2005 •

[A193767] • 2,5,8,12,14,17,21,24,26,30,33,36,39,42,45,48,51,54,57,60,63,66,69,72,75 ★ The number of dominoes in a largest saturated domino covering of the 4 by n board. • a(n) = 3n, except for n = 1, 2, 3, 5, 6 or 9. For the exceptions a(n) = 3n - 1. • a(n) = 2 * a(n - 1) - a(n - 2) for n>11. - _ Colin Barker _ , Oct 05 2014 •

[A003314] • 0,2,5,8,12,16,20,24,29,34,39,44,49,54,59,64,70,76,82,88,94,100,106,112,118 ★ Binary entropy function: a(1)=0; for n > 1, a(n) = n + min { a(k)+a(n-k) : 1 <= k <= n-1 }. • a(1) = 0; a(n) = n + a([n / 2]) + a(n - [n / 2]). (See the Morris reference.) •

[A229154] • 1,2,5,8,12,16,21,27,33,40,48,56,65,75,85,96,108,120,133,147,161,176,192,208,225 ★ The clubs patterns appearing in n X n coins, with rotation allowed. • a(n) = floor(n ^ 2 / 3), a(3) = 2. • a(n) = n ^ 2 / 3 + 2 / 9 * cos((2 * Pi * n) / 3) - 2 / 9. G.f.: - x ^ 2 * (x ^ 6 - 2 * x ^ 5 + x ^ 4 - x ^ 3 + 2 * x ^ 2 + 1) / ((x - 1) ^ 3 * (x ^ 2 + x + 1)). - _ Colin Barker _ , Oct 08 2013 •

[A183861] • 1,2,5,8,12,17,22,28,35,42,50,59,68,78,89,100,112,125,138,152,167,182,198,215,232 ★ n-1+ceiling((-1+n^2)/3); complement of A183860. • a(n)=n - 1 + ceiling((- 1 + n ^ 2) / 3). •

[A178752] • 2,5,8,13,16,28,32,56,80,136,208,400,656,1232,2240,4192,7744,14728,27632,52664,99968,190984,364768,699760,1342256 ★ a(n) gives the number of conjugacy classes in the permutation group generated by transposition (1 2) and double n-cycle (1 3 5 7 ... 2n-1)(2 4 6 8 ... 2n). This group is a semidirect product formed by a cyclic group acting on an elementary abelian 2-group of rank n by cyclically permuting the factors. • a(n) = sum (1 / gcd(n,k) 2 ^ s phi(gcd(n,k) / s), k=0..n - 1, s \ in divisors(gcd(n,k))). •

[A290268] • 1,2,5,8,13,18,25,31,41,49,61,71,85,97,113,126,145,160,181,198,221,240,265,285,313 ★ Number of terms in the fully expanded n-th derivative of x^(x^2). • a(n) = n ^ 2 / 2 + n + 1 - (n mod 2) * (1 / 2 + floor((n + 1) / 8)). •

[A000982] • 0,1,2,5,8,13,18,25,32,41,50,61,72,85,98,113,128,145,162,181,200,221,242,265,288 ★ a(n) = ceiling(n^2/2). • a(2 * n) = 2 * n ^ 2, a(2 * n + 1) = 2 * n ^ 2 + 2 * n + 1. • a(n) = (2 * n ^ 2 + 1 - (- 1) ^ n) / 4. • a(0)=0, a(1)=1; for n>1, a(n + 1) = n + 1 + max(2 * floor(a(n) / 2), 3 * floor(a(n) / 3)). (End) • a(n) = a(n - 2) + 2n - 2. - _ Paul Barry _ , Jul 17 2004 • a(n) = Sum _{ k=0..n } (k ^ 2 - k + 1 - 0 ^ k) * (- 1) ^ (n - k); • a(n) = Sum _{ k=0..n } (1 + (- 1) ^ (n - k) - 0 ^ (n - k)) * k. (End) •

[A083704] • 0,0,1,2,5,8,13,19,25,33,41,51,61,73,86,99,114,129,146,163,182,202,222,244,266 ★ a(n)=sum(k=1,n,floor(r*floor(k/r))) where r=sqrt(3). • a(n) = n(n - 3) / 2 + ceiling(n / sqrt(3)) •

[A266287] • 0,2,5,8,14,18,27,32,44,50,65,72,90,98,119,128,152,162,189,200,230,242,275,288,324 ★ Total number of OFF (white) cells after n iterations of the "Rule 13" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n ^ 2 + 5 * n + (- 1) ^ n * (n - 1) + 1) / 4. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •

[A006918] • 0,1,2,5,8,14,20,30,40,55,70,91,112,140,168,204,240,285,330,385,440,506,572,650,728 ★ a(n) = binomial(n+3,3)/4, n odd; n(n+2)(n+4)/24, n even. • a(0)=0, a(1)=1, a(n) = (2 / (n - 1)) * a(n - 1) + ((n + 3) / (n - 1)) * a(n - 2). - _ Benoit Cloitre _ , Jun 28 2004 • a(n) = floor(binomial(n + 4, 4) / (n + 4)) - floor((n + 2) / 8)(1 + (- 1) ^ n) / 2. - _ Paul Barry _ , Jan 01 2005 • a(n + 1) = a(n) + binomial(floor(n / 2) + 2,2), i.e., first differences are A008805. Convolution of A008619 with itself, then shifted right (or A004526 with itself, shifted left by 3). - _ Franklin T. Adams - Watters _ , Jan 27 2006 • a(- 4 - n) = - a(n). • a(n) = (n + 2) * (2 * n * (n + 4) - 3 * (- 1) ^ n + 3) / 48. - _ Bruno Berselli _ , May 21 2011 • a(2k) = 2 * C(k + 2,3). - _ Jon Perry _ , Nov 10 2014 •

[A011842] • 0,0,0,0,1,2,5,8,14,21,30,41,55,71,91,113,140,170,204,242,285,332,385,442,506 ★ a(n) = floor(n(n-1)(n-2)/24). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) - a(n - 11). • a(n) = floor(binomial(n + 1,4) / (n + 1)). - _ Gary Detlefs _ , Nov 23 2011 •

[A077866] • 1,2,5,8,15,22,37,52,83,114,177,240,367,494,749,1004,1515,2026,3049,4072,6119,8166,12261,16356,24547 ★ Expansion of (1-x)^(-1)/(1-x-2*x^2+2*x^3). • a(n)=2 ^ (n / 2)(3 + 2sqrt(2) + (3 - 2sqrt(2))(- 1) ^ n) - n - 5. - _ Paul Barry _ , Apr 23 2004 • a(0)=1, a(1)=2, a(2)=5, a(3)=8, a(n)=2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). - _ Harvey P. Dale _ , Feb 16 2013 •

[A073335] • 0,1,2,5,8,15,23,39,58,89,128,189,264,375,515,713,960,1301,1726,2298,3011,3948,5113,6625,8492 ★ Total number of prime power parts in all partitions of n. • a(n) = Sum _{ k=1..n } bigomega(k) * numbpart(n - k). •

[A154327] • 1,1,2,5,8,15,24,41,66,109,176,287,464,753,1218,1973,3192,5167,8360,13529,21890,35421,57312,92735,150048 ★ Diagonal sums of number triangle A132046. • a(n) = 0 ^ n - (3 + (- 1) ^ n) / 2 + 2 * Fibonacci(n + 1). •

[A066629] • 1,2,5,8,15,24,41,66,109,176,287,464,753,1218,1973,3192,5167,8360,13529,21890,35421,57312,92735,150048,242785 ⋆ a(n) = 2*Fibonacci(n+2) + ((-1)^n - 3)/2. • a(0)=1, a(1)=2, a(2)=5, a(3)=8, a(n)=a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 09 2011 •

[A081660] • 1,2,5,8,15,26,49,92,179,350,693,1376,2743,5474,10937,21860,43707,87398,174781,349544,699071,1398122,2796225,5592428,11184835 ⋆ n+A001045(n+1) • a(n) = 2 ^ (n + 1) / 3 + n + (- 1) ^ n / 3. •

[A080084] • 1,2,5,8,16,20,29,33,41,56,60,76,85,89,98,114,129,134,151,160,166,180,192,207,229 ⋆ Number of prime factors in the factorial of the n-th prime, counted with multiplicity. • a(n) = sum _{ m=1..n } sum _{ k=1..L } floor(p _ n / (p _ m) ^ k), where L = ceiling(log(p _ n) / log(p _ m)). •

[A295998] • 1,2,5,8,16,23,41,56,93,124,199,262,413,541,844,1101,1708,2223,3438,4470,6901,8966,13829,17960,27687 ⋆ Solution of the complementary equation a(n) = 2*a(n-2) + b(n-2), where a(0) = 1, a(1) = 2, b(0) = 3, and (a(n)) and (b(n)) are increasing complementary sequences. • a(0) = 1, a(1) = 2, b(0) = 3, so that a(2) = 5, b(1) = 4. •

[A096541] • 0,0,1,2,5,8,16,24,41,61,95,136,204,284,407,560,779,1050,1432,1901,2543,3338,4393,5698,7411 ⋆ Number of parts unequal to 1 in all partitions of the integer n. Also the difference between the labeled and the unlabeled case of one-element transitions from the partitions of n to the partitions of n+1. • a(n) = Sum _{ k=1..n } (tau(k) - 1) * numbpart(n - k). - _ Vladeta Jovovic _ , Jun 26 2004 •

[A169826] • 1,2,5,8,16,27,45,69,109,171,268,404,597,860,1215 ⋆ Row sums of triangle A178568 • a(n) = sum of n - th row terms of triangle A178568 •

[A280373] • 1,2,5,8,16,40,84,130,257,640,1344,2080,4096,10240,21504,33280,65536,163840,344064,532480,1048576,2621440,5505024,8519680,16777216 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 260", based on the 5-celled von Neumann neighborhood. • a(n) = 16 * a(n - 4) for n>3. •

[A216307] • 2,5,8,17,23,26,35,37,38,44,50,56,59,65,73,101,110,112,122,128,143,149,154,155,161 ⋆ Values of k such that 10*k+3 and 10*k+9 alone are prime between 10*k and 10*k+9. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A062318] • 0,1,2,5,8,17,26,53,80,161,242,485,728,1457,2186,4373,6560,13121,19682,39365,59048,118097,177146,354293,531440 ⋆ Numbers of the form 3^m - 1 or 2*3^m - 1; i.e., the union of sequences A048473 and A024023. • a(n) = 2 * 3 ^ (n / 2 - 1) - 1 if n is even; a(n) = 3 ^ (n / 2 - 1 / 2) - 1 if n is odd. - _ Emeric Deutsch _ , Feb 03 2005, offset updated • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3). Differences: A108411. - _ Paul Curtz _ , Feb 21 2008 • a(2n + 1) = 3 * a(2n - 1) + 2; a(2n) = (a(2n - 1) + a(2n + 1)) / 2. See A060647 for case where a(1)= 1. - _ Richard R. Forberg _ , Nov 30 2013 • a(n) = 2 ^ ((1 + (- 1) ^ n) / 2) * 3 ^ ((2 * n - 3 - (- 1) ^ n) / 4) - 1. - _ Luce ETIENNE _ , Aug 29 2014 •

[A259580] • 2,5,8,17,30,50,78,116,162,227,300,389,498,628,766,940,1128,1347,1584,1855,2146,2486,2838,3236,3660 ⋆ Sum of numbers in the n-th antidiagonal of the reciprocity array of 2. • a(n) = Sum _{ m=1..n } Sum _{ k=0..m - 1 } floor((n * k + x) / m), where x = 2. •

[A103745] • 1,2,5,8,17,34,65,128,257,514,1029,2048,4097,8194,16385,32768,65537,131074,262149,524296,1048577,2097154,4194305,8388608,16777217 ⋆ a(n) = (A102371(n) + n)/2. • a(n) = Sum _{ k>= 1, k==n mod 2 ^ k } 2 ^ (k - 1). - _ N. J. A. Sloane _ and _ David Applegate _ , Mar 22 2005. •

[A243094] • 1,2,5,8,19,44,92,201,444,965,2104,4602,10045,21924,47879,104540,228236,498337,1088072,2375657,5186976,11325186,24727205,53988976,117878715 ⋆ Cardinality of the Weyl alternation set corresponding to the zero-weight in the representation of the Lie algebra sp(2n) whose highest weight is the second fundamental weight. • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). •

[A104721] • 1,2,5,8,20,32,80,128,320,512,1280,2048,5120,8192,20480,32768,81920,131072,327680,524288,1310720,2097152,5242880,8388608,20971520 ⋆ Expansion of (1+x)^2/(1-4x^2). • a(n)=9 * 2 ^ n / 8 + (- 2) ^ n / 8 - 0 ^ n / 4 •

[A245191] • 1,2,5,8,20,34,85,128,320,544,1360,2056,5140,8738,21845,32768,81920,139264,348160,526336,1315840,2236928,5592320,8388736,20971840 ⋆ Successive states of one-sided one-dimensional cellular automaton using Rule 90, starting with a single ON cell, converted to decimal. • a(n) = Sum _{ i>=0, i==n mod 2 } (binomial(2n + 2,n + 2 + i) mod 2) * 2 ^ i. •

[A121568] • 1,1,2,5,8,21,34,89,377,610,2584,6765,10946,28657,121393,514229,832040,3524578,9227465,14930352,63245986,165580141,701408733,4807526976,12586269025 ⋆ Fibonacci[(p - 1)/2], where p = Prime[n]. • a(n) = Fibonacci[(Prime[n] - 1) / 2], n>1. •

[A007369] • 2,5,9,10,11,16,17,19,21,22,23,25,26,27,29,33,34,35,37,41,43,45,46,47,49 ⋆ Numbers n such that sigma(x) = n has no solution. • a(n) < 2n + sqrt(8n). - _ Charles R Greathouse IV _ , Oct 23 2015 •

[A100530] • 0,2,5,9,10,12,15,19,20,22,25,29,30,32,35,39,40,42,45,49,50,52,55,59,60 ⋆ Numbers == 0,2,5,9 modulo 10. • a(n) = a(n - 1) + Mod[n,4] + 1; a(0)=0. •

[A055394] • 2,5,9,10,12,17,24,26,28,31,33,36,37,43,44,50,52,57,63,65,68,72,73,76,80 ⋆ Numbers that are the sum of a positive square and a positive cube. • a(n) >> n ^ (6 / 5). - _ Charles R Greathouse IV _ , May 15 2015 •

[A047619] • 1,2,5,9,10,13,17,18,21,25,26,29,33,34,37,41,42,45,49,50,53,57,58,61,65 ⋆ Numbers that are congruent to {1, 2, 5} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 24 - 3 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 7. (End) •

[A063957] • 2,5,9,12,15,19,22,26,29,32,36,39,43,46,50,53,56,60,63,67,70,73,77,80,84 ⋆ Numbers not of the form round(m*sqrt(2)) for any integer m, i.e., complement of A022846. • a(n) = round((n - 1 / 2) * (2 + sqrt(2))) = round(n * 3.4142... - 1.7071...). •

[A184579] • 2,5,9,12,15,19,22,26,29,33,36,39,43,46,50,53,56,60,63,67,70,73,77,80,84 ⋆ floor[(n-1/3)(2+sqrt(2))]; complement of A184578. • a(n)=floor[(n - 1 / 3)(2 + sqrt(2))]. •

[A184922] • 2,5,9,12,16,19,22,26,29,33,36,39,43,46,50,53,57,60,63,67,70,74,77,80,84 ⋆ n+[rn/t]+[sn/t]+[un/t], where []=floor and r=2^(1/2), s=r+1, t=r+2, u=r+3. • a(n) = floor(n * (2 + sqrt(2))) - 1. - _ Michel Dekking _ , Feb 22 2018 •

[A047385] • 2,5,9,12,16,19,23,26,30,33,37,40,44,47,51,54,58,61,65,68,72,75,79,82,86 ⋆ Numbers that are congruent to {2, 5} mod 7. • a(n) = 7 * n - a(n - 1) - 7, n>1. [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) = (14 * n - (- 1) ^ n - 7) / 4. - _ Bruno Berselli _ , Dec 05 2011 • a(n) = 4n - 2 - floor(n / 2). - _ Wesley Ivan Hurt _ , Oct 16 2013 •

[A276217] • 2,5,9,12,16,20,24,29,33,38,43,48,53,59,64,69,75,81,87,93,99,105,111,117,124 ⋆ Position of n^s in the joint ranking of {h^r} and {k^s}, where r = sqrt(3), s = sqrt(6), h > 1, k > 1. • a(n) = n + floor(n ^ (s / r)); the complement is given by n + floor(n ^ (r / s)). •

[A239876] • 0,0,2,5,9,12,18,23,28,35,45,47,59,70,76,85,101,107,125,133,143,162,184,184,203 ⋆ Partial sums of A229110, where A229110(n) = antisigma(n) mod n = A024816(n) mod n. • a(n) = a(n - 1) for numbers n from A159907 if there are no odd multiply perfect numbers (A007691). •

[A063203] • 2,5,9,13,17,19,25,27,31,35,39,41,47,49,53,57,61,63,69,71,75,79,83,85,91 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(23). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) for n>6. G.f.: x * (2 + 5 * x + 7 * x ^ 2 + 6 * x ^ 3 + 3 * x ^ 4 - x ^ 5) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A267531] • 0,2,5,9,13,18,23,29,35,42,49,57,65,74,83,93,103,114,125,137,149,162,175,189,203 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 141" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 4. •

[A120615] • 0,1,2,5,9,13,19,25,33,42,51,62,74,86,100,114,130,147,164,183,202,223,245,267,291 ⋆ a(n)=sum(k=0,n,floor(phi*floor(n/phi))) where phi=(1+sqrt(5))/2. • a(n)=n * (n - 3) / 2 + ceil(n / phi) •

[A038707] • 0,0,2,5,9,13,19,26,34,42,52,63,75,87,101,116,132,148,166,185,205,225,247,270,294 ⋆ a(n) = floor(n*(n+1/2)/2). • a(n) = (1 / 8) { 4n ^ 2 + 2n - 3 + (- 1) ^ n - 2(- 1) ^ [(n - 1) / 2] } . - _ Ralf Stephan _ , Jun 10 2005 • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) with a(0)=0, a(1)=0, a(2)=2, a(3)=5, a(4)=9, a(5)=13. - _ Harvey P. Dale _ , Dec 27 2015 • a(n) = floor(n(1 + 2 * n)) / 4). - _ Harvey P. Dale _ , Dec 27 2015 • a(n) = (- 3 + (- 1) ^ n + 2 * i ^ (n * (1 + n)) + 2 * n + 4 * n ^ 2) / 8, where i is the imaginary unit. •

[A290140] • 1,2,5,9,13,19,27,39,57,85,129,199,311,491,781,1249,2005,3227,5203,8399,13569,21933,35465,57359,92783 ⋆ The number of maximal subsemigroups of the Jones monoid on the set [1..n]. • a(n) = - 5 + (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (1 + sqrt(5)) + (- 1 + sqrt(5)) * (1 + sqrt(5)) ^ n)) / sqrt(5) + 2 * (1 + n) for n>2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>6. •

[A160663] • 2,5,9,14,19,26,33,41,50,60,70,82,93,105,119,134,147,164,179,197,215,234,251,272,293 ⋆ Number of distinct sums that one can obtain by adding two squares among the n first ones. • a(n) = card(A + A) where A= { k ^ 2 } k=1..n and A + A = { a,b,a + b where (a,b) in A ^ 2 } . • a(n) << n ^ 2 / sqrt(log n). - _ Charles R Greathouse IV _ , Oct 30 2015 •

[A266450] • 0,2,5,9,14,19,28,33,46,51,68,73,94,99,124,129,158,163,196,201,238,243,284,289,334 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 25" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n ^ 2 + 2 * ((- 1) ^ n + 3) * n - 7 * (- 1) ^ n - 1) / 4 for n>2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>7. •

[A000096] • 0,2,5,9,14,20,27,35,44,54,65,77,90,104,119,135,152,170,189,209,230,252,275,299,324 ⋆ a(n) = n*(n+3)/2. • a(n) = a(n - 1) + n + 1. - Bryan Jacobs (bryanjj(AT)gmail.com), Apr 01 2005 • a(n) = 2 * t(n) - t(n - 1) where t () are the triangular numbers, e.g., a(5) = 2 * t(5) - t(4) = 2 * 15 - 10 = 20. - _ Jon Perry _ , Jul 23 2003 • a(- 3 - n) = a(n). - _ Michael Somos _ , May 26 2004 • a(n) = C(3 + n, 2) - C(3 + n, 1). - _ Zerinvary Lajos _ , Dec 09 2005 • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3). - _ Paul Curtz _ , Jan 02 2008 • a(n) = Sum _{ k=1..n } (k + 1)! / k!. - _ Gary Detlefs _ , Aug 03 2010 •

[A026053] • 1,2,5,9,14,21,29,40,53,68,86,106,130,157,187,221,258,300,346,396,451,510,575,645,720 ⋆ (d(n)-r(n))/5, where d = A008778 and r is the periodic sequence with fundamental period (0,3,1,0,1). • a(n)=(n + 2) * (n ^ 2 + 10 * n + 15) / 30 - 1 / 5 * (1 + (- 1 / 2 + 3 / 10 * 5 ^ (1 / 2)) * cos(2 * n * Pi / 5) + (1 / 5 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2) + 1 / 10 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(2 * n * Pi / 5) + (- 1 / 2 - 3 / 10 * 5 ^ (1 / 2)) * cos(4 * n * Pi / 5) + (- 1 / 10 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2) + 1 / 5 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(4 * n * Pi / 5)) [From _ Richard Choulet _ , Dec 14 2008] • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8). G.f.: - x ^ 2 * (- 1 + x - 2 * x ^ 2 + x ^ 3) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4). [From _ R. J. Mathar _ , Oct 05 2009] •

[A199935] • 0,0,2,5,9,14,22,36,60,99,161,260,420,680,1102,1785,2889,4674,7562,12236,19800,32039,51841,83880,135720 ⋆ Size (b^3_n) of unit sphere in a

certain graph (see Hazama article for precise definition). • a(2)=0, a(3)=0, a(4)=2, a(5)=5, a(6)=9, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Jul 04 2013 •

[A090937] • 1,2,5,9,14,23,30,41,50,61,72,85,98,113,128,145,162,181,200,221,242,265,288,313,338 ★ a(1) = 1, a(2) = 2; for n > 2, a(n) = a(n-1) + (smallest integer >= n which is coprime to a(n-1)). • a(2n - 1) = 2n ^ 2, a(2n) = 2n ^ 2 + 2n + 1, for n > 4. •

[A101201] • 0,2,5,9,15,21,28,37,47,60,71,84 ★ Maximal number of kings in the toroidal king's graph on an n X n board such that each king is attacking no more than four other kings. • a(n) is approximately 3n ^ 2 / 5 (conjecture). •

[A184535] • 1,2,5,9,15,21,29,38,48,60,72,86,101,117,135,153,173,194,216,240,264,290,317,345,375 ★ a(n) = floor(3/5 * n^2), with a(1)=1. • a(n) = floor(1 /{ (5 + n ^ 3) ^ (1 / 3) }), where {} =fractional part. • a(n)= + 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7), for n>8, with g.f. 1 - x ^ 2 * (1 + x) * (2 * x ^ 2 - x + 2) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 3), so a(n) is (3n ^ 2 - 2) / 5 plus a fifth of A164116 for n>1. [_ Bruno Berselli _ , Jan 30 2011. See the following Bala's comment.] • a(n) = floor(3 / 5 * n ^ 2) for n >= 2. •

[A195014] • 0,2,5,9,15,21,30,38,50,60,75,87,105,119,140,156,180,198,225,245,275,297,330,354,390 ★ Vertex number of a square spiral whose edges have length A195013. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (10 * n ^ 2 + 18 * n + 3 + (2 * n - 3) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Aug 11 2014 •

[A047809] • 1,2,5,9,15,23,32,43,55,70,86,103,122,143,166,190,215,243,273,304,336,371,406,443,482 ★ a(n) counts different values of i^2+j^2+k^2 <= n^2 or number of distances from the origin to all integer points inside a sphere of radius n. • a(n) = number of b(i) <= n ^ 2, b() = A000378. •

[A176691] • 2,5,9,15,25,43,77,143,273,531,1045,2071,4121,8219,16413,32799,65569,131107,262181,524327,1048617,2097195,4194349,8388655,16777265 ★ a(n) = 2^n + 2*n + 1. • a(n) = + 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A175287] • 0,1,2,5,9,16,25,38,54,75,100,131,167,210,259,316,380,453,534,625,725,836,957,1090,1234 ★ Partial sums of ceiling(n^2/4). • a(n) = round((2 * n + 1) * (2 * n ^ 2 + 2 * n + 9) / 48). • a(n) = floor((n + 1) * (2 * n ^ 2 + n + 9) / 24). • a(n) = ceiling((2 * n ^ 3 + 3 * n ^ 2 + 10 * n) / 24). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 + 10 * n) / 24). • a(n) = a(n - 4) + n ^ 2 - 3 * n + 5 , n>3. • a(n) = (2 * n * (2 * n ^ 2 + 3 * n + 10) - 9 * (- 1) ^ n + 9) / 48. - _ Bruno Berselli _ , Dec 03 2010 •

[A007979] • 1,2,5,9,16,25,39,56,79,107,142,183,233,290,357,433,520,617,727,848,983,1131,1294,1471,1665 ★ Expansion of (1+x^2)(1+x^4)/((1-x)^2*(1-x^2)*(1-x^3)). • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 + 24 * n + 18) / 18). - _ Tani Akinari _ , Jun 26 2013 •

[A097701] • 1,2,5,9,16,25,39,56,80,109,147,192,249,315,396,489,600,726,874,1040,1232,1446,1690,1960,2265 ★ Expansion of 1/((1-x)^2*(1-x^2)^2*(1-x^3)). • a(n) = floor((n + 1) * (9 * (- 1) ^ n + n ^ 3 + 17 * n ^ 2 + 95 * n + 184) / 288 + 1 / 2). - _ Tani Akinari _ , Oct 07 2012 • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) + a(n - 5) + 3 * a(n - 6) - a(n - 7) - 2 * a(n - 8) + a(n - 9) for n >= 9, with initial values as shown. - _ Harvey P. Dale _ , May 20 2013 • a(n) = (6 * n * (9 * ((- 1) ^ n + 31) + n * (n * (n + 18) + 112)) + 243 * (- 1) ^ n + 128 * cos((2 * Pi * n) / 3) + 1357) / 1728. - _ Ilya Gutkovskiy _ , Apr 23 2016 • a(n) = 1 + 175 * n / 288 + 47 * n ^ 2 / 144 + n ^ 3 / 16 + n ^ 4 / 288 + (9 / 16 + n / 8) * floor(n / 2) + 2 * floor(n / 3) / 9 + floor((n + 1) / 3) / 9. - _ Vaclav Kotesovec _ , Apr 24 2016 •

[A014739] • 1,2,5,9,16,27,45,74,121,197,320,519,841,1362,2205,3569,5776,9347,15125,24474,39601,64077,103680,167759,271441 ★ Expansion of (1+x^2)/(1-2*x+x^3). • a(n) = 2 * a(n - 1) - a(n - 3). - _ Vincenzo Librandi _ , Dec 31 2010 •

[A130752] • 2,5,9,16,31,63,128,257,513,1024,2047,4095,8192,16385,32769,65536,131071,262143,524288,1048577,2097153,4194304,8388607,16777215,33554432 ★ Binomial transform of periodic sequence (2, 3, 1). • a(0) = 2; a(1) = 5; a(2) = 9; for n > 2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3). • a(n) = 2 ^ (n + 1) + (2 * sin((Pi * n) / 3)) / sqrt(3). - _ Colin Barker _ , Jan 20 2017 •

[A271318] • 1,1,2,5,9,16,33,67,126,239,477,946,1809,3471,6858,13515,26001,50100,98577,193705,373734,721691,1416933,2779780,5372001 ★ Expansion of 1/(-x*sqrt(4*x^2+1)-x^2+1). • a(n) = Sum _{ k=0..n } Sum _{ j=floor(n / 2)..(n + k) / 2 } 4 ^ (j - k) * binomial(k,2 * j - n) * binomial((2 * j - n) / 2,j - k). •

[A093694] • 1,2,5,9,17,27,46,69,108,158,234,331,476,657,915,1244,1694,2262,3029,3988,5257,6844,8901,11461,14749 ★ Number of one-element transitions from the partitions of n to the partitions of n+1 for labeled parts. • a(n) = Sum _ k=1 ^ p(n) (nops(p(k, n)) + 1), where p(n) is the number of partitions of n and nops(p(k, n)) is the number of parts in the k - th partition p(n, k) of n. • a(n) = Sum _ k=1 ^ p(n) nops(p(k, n)[subject to: at least one p(l, k, n) = 1]; p(n) = number of partitions of n, p(k, n) = k - th partition, p(l, k, n) = l - th part in the k - th partition p(k, n) of integer n. •

[A129696] • 1,2,5,9,17,29,50,83,138,226,370,602,979,1588,2575,4171,6755,10935,17700,28645,46356,75012,121380,196404,317797 ★ Antidiagonal sums of triangular array T defined in A014430: T(j,k) = Binomial(j+1, k)-1 for 1 <= k <= j. • a(n) = Sum _{ k=0..floor(n / 2) } (Sum _{ j=0..n - 2 * k } Fibonacci(j + 1)). (End) • a(n + 1) = a(n - 1) + a(n) + 1 + floor(n / 2) for n>1, a(0)=1, a(1)=2. - _ Alex Ratushnyak _ , Jul 30 2012 • a(n) = Fibonacci(n + 3) - 2 - floor(n / 2). - _ Emeric Deutsch _ , Nov 22 2014 • a(n) = (- 5 / 4 - (- 1) ^ n / 4 + (2 ^ (- n) * ((1 - t) ^ n * (- 2 + t) + (1 + t) ^ n * (2 + t))) / t + (- 1 - n) / 2), where t=sqrt(5). - _ Colin Barker _ , Feb 09 2017 •

[A295724] • 0,0,1,2,5,9,18,31,57,96,169,281,482,795,1341,2200,3669,5997,9922,16175,26609,43296,70929,115249,188226 ★ a(n) = a(n-1) + 3*a(n-2) -2*a(n-3) - 2*a(n-4), where a(0) = 0, a(1) = 0, a(2) = 1, a(3) = 2. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 0, a(1) = 0, a(2) = 1, a(3) = 2. •

[A077865] • 1,2,5,9,18,32,60,107,196,351,637,1144,2068,3720,6713,12086,21793,39253,70754,127468,229724,413907,745888,1343979,2421849 ★ Expansion of (1-x)^(-1)/(1-x-2*x^2+x^3). • a(n)=a(n - 1) + 2a(n - 2) - a(n - 3) + 1 for n>=3. a(n)=2a(n - 1) + a(n - 2) - 3a(n - 3) + a(n - 4) for n>=4. - _ Clark Kimberling _ , Jun 26 2004 •

[A289976] • 0,0,1,1,2,5,9,18,36,70,137,268,522,1017,1980,3852,7492,14568,28321,55051,106999,207952,404134,785366,1526186 ★ p-INVERT of (0,0,1,2,3,5,8,...), the Fibonacci numbers preceded by two zeros, where p(S) = 1 - S - S^2. • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + a(n - 6). •

[A077947] • 1,1,2,5,9,18,37,73,146,293,585,1170,2341,4681,9362,18725,37449,74898,149797,299593,599186,1198373,2396745,4793490,9586981 ★ Expansion of 1/(1 - x - x^2 - 2*x^3). • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3). - _ Paul Curtz _ , May 23 2008 • a(n) = round(2 ^ (n + 2) / 7). - _ Mircea Merca _ , Dec 28 2010 • a(n) = 4 * 2 ^ n / 7 + 3 * cos(2 * Pi * n / 3) / 7 + sqrt(3) * sin(2 * Pi * n / 3) / 21. - _ Paul Barry _ , Jan 23 2004 • a(n) = sum(sum(binomial(k,j) * binomial(j,n - 3 * k + 2 * j) * 2 ^ (k - j),j,0,k),k,1,n), n>0. - _ Vladimir Kruchinin _ , Sep 07 2010 • a(n) = 1 / 14 * (2 ^ (n + 3) + (- 1) ^ n * ((- 1) ^ floor(n / 3) + 4 * (- 1) ^ floor((n + 1) / 3) + 2 * (- 1) ^ floor((n + 2) / 3) + (- 1) ^ floor((n + 4) / 3))). - _ John M. Campbell _ , Dec 23 2016 • a(n) = 1 / 63 * (9 * 2 ^ (2 + n) + (- 1) ^ n * (2 + 9 * floor(n / 6) - 32 * floor((n + 5) / 6) + 24 * floor((n + 7) / 6) + 20 * floor((n + 8) / 6) - 10 * floor((n + 9) / 6) - 27 * floor((n + 10) / 6) + 14 * floor((n + 11) / 6) + 3 * floor((n + 13) / 6) - 2 * floor((n + 14) / 6) + floor((n + 15) / 6))). - _ John M. Campbell _ , Dec 23 2016 •

[A293354] • 1,1,2,5,9,18,37,74,148,296,591,1182,2364,4729,9457,18914,37828,75657,151314,302627,605254,1210509,2421018,4842036,9684072 ★ The integer k that minimizes |k/2^n - r|, where r = Euler's constant (0.577216...). • a(n) = floor(1 / 2 + r * 2 ^ n), where r = Euler's constant (0.577216...). •

[A293329] • 1,1,2,5,9,18,37,74,148,296,591,1182,2365,4730,9459,18919,37837,75674,151349,302698,605396,1210791,2421583,4843165,9686330 ★ The integer k that minimizes |k/2^n - sqrt(1/3)|. • a(n) = floor(1 / 2 + r * 2 ^ n), where r = sqrt(1 / 3). •

[A014495] • 0,0,1,2,5,9,19,34,69,125,251,461,923,1715,3431,6434,12869,24309,48619,92377,184755,352715,705431,1352077,2704155 ★ Central binomial coefficient - 1. • a(n) = C(n - 1,floor((n - 1) / 2)) - 1. - _ Alois P. Heinz _ , Oct 03 2012 •

[A056326] • 0,1,2,5,9,19,35,71,135,271,527,1055,2079,4159,8255,16511,32895,65791,131327,262655,524799,1049599,2098175,4196351,8390655 ★ Number of reversible string structures with n beads using exactly two different colors. • a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4). •

[A062092] • 2,5,9,19,37,75,149,299,597,1195,2389,4779,9557,19115,38229,76459,152917,305835,611669,1223339,2446677,4893355,9786709,19573419,39146837 ★ a(n) = 2*a(n-1)-(-1)^n for n>0, a(0)=2. • a(n) = a(n - 1) + 2 * a(n - 2) = (7 * 2 ^ n - (- 1) ^ n) / 3. •

[A105309] • 1,1,2,5,9,20,41,85,178,369,769,1600,3329,6929,14418,30005,62441,129940,270409,562725,1171042,2436961,5071361,10553600,21962241 ★ a(n) = |b(n)|^2 = x^2 + 3*y*2 where (x,y,y,y) is the quaternion b(n) of the sequence b of quaternions defined by b(0)=1,b(1)=1, b(n) = b(n-1) + b(n-2)*(0,c,c,c) where c = 1/sqrt(3). • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = (1 + sqrt(17)) / 4 and beta = (1 - sqrt(17)) / 4 and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 1; 1, 1 / 2]. • a(n) = U(n - 1,(1 + i) / sqrt(8)) * U(n - 1,(1 - i) / sqrt(8)), where U(n,x) denotes the Chebyshev polynomial of the second kind. • a(n) = abs(((sqrt(4 * i - 1) + i) ^ (n + 1) - (i - sqrt(4 * i - 1)) ^ (n + 1)) / 2 ^ (n + 1) / sqrt(4 * i - 1)) ^ 2. - _ Daniel Suteu _ , Dec 20 2016 • a(n) = a(- 2 - n) for all n in Z. - _ Michael Somos _ , Dec 20 2016 •

[A097163] • 1,2,5,9,21,37,85,149,341,597,1365,2389,5461,9557,21845,38229,87381,152917,349525,611669,1398101,2446677,5592405,9786709,22369621 ★ Expansion of (1+x-x^2)/((1-x)*(1-4*x^2)). • a(n) = 5 * 2 ^ n / 4 + (- 2) ^ n / 12 - 1 / 3. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3). • a(n) = (15 * 2 ^ n - (- 2) ^ n - 8) / 24. - _ Harvey P. Dale _ , Jun 17 2011 •

[A185160] • 1,1,1,1,2,5,9,61,193,1439,13892,121853,1908467,47166783,675904139,39429369055,1213855360958,67750536841003,6132239054249611,493982993144750867,58550607494335286859,14200800262701050362129,1702987663133991103090484 ★ Somos-4 variation with periodic coefficients. • a(0) = a(1) = a(2) = a(3) = 1, a(n + 4) * a(n) = c(n) * a(n + 3) * a(n + 1) + a(n + 2) ^ 2, c(0) = 2, c(1) = 1, c(n + 2)=c(n). •

[A194350] • 1,1,2,5,10,10,20,50,100,100,200,500,1000,1000,2000,5000,10000,10000,20000,50000,100000,100000,200000,500000,1000000 ★ Numbers covering A000027: a(n)=(1, 1, 2, 5) * A011557(n)). • a(1)=1, a(2)=1, a(3)=2, a(4)=5, a(n)=10 * a(n - 4). G.f.: x * (1 + x + 2 * x ^ 2 + 5 * x ^ 3) / (1 - 10 * x ^ 4). [Colin Barker, Jan 25 2012] •

[A245480] • 1,2,5,10,11,22,55,110,121,242,605,1210,1331,2662,6655,13310,14641,29282,73205,146410,161051,322102,805255,1610510,1771561 ★ Numbers n such that the n-th cyclotomic polynomial has a root mod 11. • a(n) = 11 * a(n - 4). • a(n) appears to satisfy x * Prod _{ n>=0 } (1 + a(2 ^ n + 1)x ^ (2 ^ n)) = Sum _{ n>=1 } a(n) * x ^ n. •

[A103215] • 1,2,5,10,13,17,25,26,29,34,37,41,49,50,53,58,61,65,73,74,77,82,85,89,97 ★ Numbers congruent to {1, 2, 5, 10, 13, 17} mod 24. • a(1)=1, a(2)=2, a(3)=5, a(4)=10, a(5)=13, a(6)=17, a(7)=25, a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. - _ Harvey P. Dale _ , Feb 19 2015 • a(n) = a(n - 6) + 24 for n

>6. • a(n) = (12 * n - 18 + cos(n * Pi / 3) - 3 * cos(2 * n * Pi / 3) - cos(n * Pi) + 2 * sqrt(3) * sin(n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(6k) = 24k - 7, a(6k - 1) = 24k - 11, a(6k - 2) = 24k - 14, a(6k - 3) = 24k - 19, a(6k - 4) = 24k - 22, a(6k - 5) = 24k - 23. (End) •

[A047617] • 2,5,10,13,18,21,26,29,34,37,42,45,50,53,58,61,66,69,74,77,82,85,90,93,98 ★ Numbers that are congruent to {2, 5} mod 8. • a(n) = 8 * n - a(n - 1) - 9 (with a(1)=2). [_ Vincenzo Librandi _ , Aug 06 2010] • a(n) = 4 * n - (5 + (- 1) ^ n) / 2. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(1)=2, a(2)=5, a(3)=10, a(n)=a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Feb 23 2016 •

[A185647] • 1,2,5,10,13,26,29,58,61,122,125,250,253,506,509,1018,1021,2042,2045,4090,4093,8186,8189,16378,16381 ★ Expansion of (1+2x)*(1+2*x^2)/((1-x)*(1+x)*(1-2*x^2)). • a(n) = a(n - 1) * 2 if n odd. • a(n) = a(n - 1) + 3 if n even. • a(n) = 3 * a(n - 2) - 2 * a(n - 4) with a(0)=1, a(1)=2, a(2)=5, a(3)=10. •

[A140411] • 1,2,5,10,13,37,58,85,130 ★ Conjectured complete list of squarefree numbers that can be written as a sum of at most two positive squares, but not as a sum of three positive squares. • a(n) in A005117 and a(n) in { i ^ 2 + j ^ 2 for i,j > 1 } and a(n) not in { i ^ 2 + j ^ 2 + k ^ 2 for i,j,k > 1 } . •

[A135042] • 1,2,5,10,15,20,25,30,35,40,45,50,55,60,65,70,75,80,85,90,95,100,105,110,115 ★ Binomial transform of [1, 1, 2, 0, -2, 4, -6, 8, -10, 12,...]. • a(n) = 2 * a(n - 1) - a(n - 2), n>3. - _ R. J. Mathar _ , Apr 21 2010, corrected Sep 02 2010 • a(n) = 5 * (n + 1) for n>=3. •

[A215098] • 0,1,2,5,10,15,20,27,36,45,54,65,78,91,104,119,136,153,170,189,210,231,252,275,300 ★ a(0)=0, a(1)=1, a(n) = n*(n-1) - a(n-2). • a(n) = (n ^ 2 + n - 1 + cos(pi * n / 2) + sin(pi * n / 2)) / 2. - _ Vaclav Kotesovec _ , Aug 11 2012 •

[A179207] • 1,2,5,10,15,22,29,38,47,58,69,82,95,110,125,142,159,178,197,218,239,262,285,310,335 ★ a(n) = n - 1 + ceiling((-3 + n^2)/2), complement of A182835. • a(n) = n - 1 + ceiling((- 3 + n ^ 2) / 2). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Joerg Arndt _ , Apr 02 2011 •

[A008822] • 1,2,5,10,15,22,31,40,51,64,77,92,109,126,145,166,187,210,235,260,287,316,345,376,409 ★ Expansion of (1 + 2*x^2 + x^3)/((1 - x)^2*(1 - x^3)). • a(n) = ceiling((n + 1) * (2 * n + 1) / 3). - _ Jörg Zurkirchen _ , Oct 15 2008 • a(n) = (n + 1) ^ 2 - floor((n + 1) * (n + 2) / 3). - _ Bruno Berselli _ , Mar 02 2017 •

[A267454] • 0,2,5,10,15,23,30,40,51,63,75,91,106,123,141,161,181,204,226,251,277,304,331,362,392 ★ Total number of OFF (white) cells after n iterations of the "Rule 131" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n>7. •

[A135061] • 2,5,10,16,22,29,37,45,54,63,72,83,93,104,116,128,140,152,165,178,192,206,220,235,250 ★ a(n) = minimum (floor(n^3/m) + m) for any integer m>=1. • a(n) = floor(2 n ^ (3 / 2)), with the minimum occurring at m = ceil (n ^ (3 / 2)). See link for proof. - _ Robert Israel _ , Mar 03 2017 •

[A086849] • 2,5,10,16,23,31,41,52,64,77,91,106,123,141,160,180,201,223,246,270,296,323,351,380,410 ★ Sum of first n nonsquares. • a(n) = [1 / 2 + (n + sqrt(n)) * (n / 2 + sqrt(n) / 6 + 1 / 3) - ([1 / 2 + sqrt(n)] - sqrt(n)) ^ 2 * sqrt(n)] - _ Graeme McRae _ , Aug 28 2007 • a(n) = n ^ 2 / 2 + 2n * sqrt(n) / 3 + O(n). - _ Charles R Greathouse IV _ , Aug 28 2016 •

[A026056] • 2,5,10,16,23,33,45,60,77,96,119,145,175,208,244,285,330,380,434,492,556,625,700,780,865 ★ a(n) = (d(n)-r(n))/5, where d = A026054 and r is the periodic sequence with fundamental period (3,3,0,0,4). • a(n)=(n + 2) * (n + 3) * (n + 13) / 30 - 1 / 5 * (2 + (1 / 2 + 7 / 10 * 5 ^ (1 / 2)) * cos(2 * n * Pi / 5) + (- 1 / 10 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * sin(2 * n * Pi / 5) + (1 / 2 - 7 / 10 * 5 ^ (1 / 2)) * cos(4 * n * Pi / 5) + (- 1 / 10 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(4 * n * Pi / 5)) [From _ Richard Choulet _ , Dec 14 2008] •

[A267159] • 1,2,5,10,16,24,31,44,50,65,73,94,100,123,131,160,166,197,205,242,248,287,295,340,346 ★ Total number of ON (black) cells after n iterations of the "Rule 107" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n>12. •

[A084587] • 2,5,10,16,24,33,44,55,68,83,99,116,135,155,177,199,224,249,276,305,335,366,398,432,468 ★ Integer floor of the reciprocal of Gauss-Kuzmin distribution of n: a(n) = floor(log(2)/log(1 + 1/(n*(n+2)))). • a(n) = (n ^ 2 + 2n) * log(2) + O(1). - _ Charles R Greathouse IV _ , Sep 04 2015 •

[A001859] • 0,2,5,10,16,24,33,44,56,70,85,102,120,140,161,184,208,234,261,290,320,352,385,420,456 ★ Triangular numbers plus quarter-squares: n*(n+1)/2 + floor((n+1)^2/4) (i.e., A000217(n) + A002620(n+1)). • a(n) = n + floor((3n ^ 2 + 1) / 4). • a(n) = (6n ^ 2 + 8n + 1 - (- 1) ^ n) / 8; • a(n) = Sum _{ k=0..n } max(k, n - k). (End) • a(0)=0, a(1)=2, a(2)=5, a(3)=10, a(n) = 2 * a(n - 1) + 0 * a(n - 2) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Apr 01 2012 • a(n) = Sum _{ k=1..n } floor((n + k + 2) / 2). - _ Wesley Ivan Hurt _ , Mar 31 2017 •

[A011903] • 0,0,0,0,1,2,5,10,16,24,34,47,62,81,104,130,160,194,233,276,325,380,440,506,578 ★ a(n) = floor(n*(n-1)*(n-2)/21). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 7) - 3 * a(n - 8) + 3 * a(n - 9) - a(n - 10). •

[A079984] • 1,1,1,1,2,5,10,16,26,43,80,148,264,465,816,1444,2588,4619,8214,14591,25903,46071,82015,145904,259492 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={-1,1,2}. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) + a(n - 5) + 3 * a(n - 6) - 4 * a(n - 7) - 4 * a(n - 8) - 2 * a(n - 9) + 4 * a(n - 10) + 2 * a(n - 11) - 4 * a(n - 12) + 4 * a(n - 13) + 3 * a(n - 14) - a(n - 15) - a(n - 16) - a(n - 17) + a(n - 18) - a(n - 19) - a(n - 20) •

[A002522] • 1,2,5,10,17,26,37,50,65,82,101,122,145,170,197,226,257,290,325,362,401,442,485,530,577 ★ a(n) = n^2 + 1. • a(n) * a(n - 2) = (n - 1) ^ 4 + 4. - _ Reinhard Zumkeller _ , Feb 12 2009 • a(n) = 2 * a(n - 1) - a(n - 2) + 2. a(n) = a(n - 1) + 2 * n - 1. - _ Eric Werley _ , Jun 27 2011 • a(n) = (n - 1) ^ 2 + 2(n - 1) + 2 = 122 read in base n - 1 (for n > 3). - _ Jason Kimberley _ , Oct 20 2011 • a(n) * a(n + 1) = a(n(n + 1) + 1) so a(1)a(2) = a(3). More generally, a(n) * a(n + k) = a(n(n + k) + 1) + k ^ 2 - 1. - _ Jon Perry _ , Aug 01 2012 • a(n) = (n!) ^ 2 * [x ^ n] BesselI(0, 2 * sqrt(x)) * (1 + x). - _ Peter Luschny _ , Aug 25 2012 •

[A248193] • 1,1,1,1,1,1,2,5,10,17,26,37,51,74,118,201,347,586,955,1509,2351,3682,5871,9545,15700 ★ G.f.: Sum_{n>=0} x^n * Sum_{k=0..n} C(n,k)^2 * x^(5*k). • a(n) = Sum _{ k=0..[n / 5] } C(n - 5 * k, k) ^ 2. •

[A246884] • 1,1,1,1,1,2,5,10,17,26,38,59,101,182,326,564,945,1566,2622,4476,7750,13455,23231,39837,68101 ★ G.f.: Sum_{n>=0} x^n * Sum_{k=0..n} C(n,k)^2 * x^(4*k). • a(n) = Sum _{ k=0..[n / 4] } C(n - 4 * k, k) ^ 2. •

[A246883] • 1,1,1,1,2,5,10,17,27,46,86,165,308,558,1006,1841,3421,6383,11863,21966,40697,75662,141099,263429,491778 ★ G.f.: Sum_{n>=0} x^n * Sum_{k=0..n} C(n,k)^2 * x^(3*k). • a(n) = Sum _{ k=0..[n / 3] } C(n - 3 * k, k) ^ 2. •

[A007504] • 0,2,5,10,17,28,41,58,77,100,129,160,197,238,281,328,381,440,501,568,639,712,791,874,963 ★ Sum of first n primes. • a(n) has the asymptotic expression a(n) ~ n ^ 2 * log(n) / 2. - Ahmed Fares (ahmedfares(AT)my - deja.com), Apr 24 2001 (see Bach & Shallit 1996) • a(n) = n ^ 2 / 2 (log n + log log n - 3 / 2 + (log log n - 3) / log n + (2 (log log n) ^ 2 - 14 log log n + 27) / (4 log ^ 2 n) + O((log log n / log n) ^ 3)) [Sinha]. - _ Charles R Greathouse IV _ , Jun 11 2015 •

[A011894] • 0,0,0,0,2,5,10,17,28,42,60,82,110,143,182,227,280,340,408,484,570,665,770,885,1012 ★ a(n) = floor(n(n-1)(n-2)/12). • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7); • a(n) = (2 * n ^ 3 - 6 * n ^ 2 + 4 * n - 3 * (1 - (- 1) ^ n) * (1 - (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4))) / 24. - _ Luce ETIENNE _ , Jun 26 2014 •

[A109377] • 2,5,10,17,29,51,90,158,277,486,853,1497,2627,4610,8090,14197,24914,43721,76725,134643,236282,414646,727653,1276942,2240877 ★ Expansion of (2+x+2*x^2) / (1-2*x+x^2-x^3). • a(n) = P(2 * n + 4) where P is the Perrin sequence (A001608). a(n) is asymptotic to r ^ (n + 2) where r is the real root of x ^ 3 - 2 * x ^ 2 + x - 1 (A109134). For n>2, a(n) = round(r ^ (n + 2)). - _ Gerald McGarvey _ , Jan 12 2008 •

[A213299] • 2,5,10,17,40,77,130,203,440,813,1350,2087,4460,8197,13570,20943,44680,82053,135790,209527,446900,820637,1358010,2095383,4469120 ★ Partial sums of A211681. • a(n) = ((3982 + 2709 * k + 567 * k ^ 2 + 54 * k ^ 3) * 10 ^ m - 1980 * m - 2200 - 495 * k + 162 * ((n + 1) mod 2) * (- 1) ^ m * (- 1) ^ floor(n / 2)) / 891, where m=floor((n - 1) / 4), k=(n - 1) mod 4. •

[A177787] • 2,5,10,18,30,47,70,100,138,185,242,310,390,483,590,712,850,1005,1178,1370,1582,1815,2070,2348,2650 ★ Number of paths from (0,0) to (n+2,n) using only up and right steps and avoiding two or more consecutive moves up or three or more consecutive moves right. • a(n) = 1 / 6 * n (11 + n ^ 2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A006327] • 0,2,5,10,18,31,52,86,141,230,374,607,984,1594,2581,4178,6762,10943,17708,28654,46365,75022,121390,196415,317808 ★ Fibonacci numbers - 3. Number of total preorders. • a(n + 3) = Sum _{ k= - n + 1..n } F(abs(n) + 1). - _ Paul Barry _ , Oct 24 2007 • a(n) = F(4 * n) mod F(n + 1) = F(n) - (F(n + 4) ^ 2 - F(n) ^ 2) / F(2 * n + 4). - _ Gary Detlefs _ , Apr 02 2012 •

[A185721] • 0,0,0,0,0,1,2,5,10,18,32,51,79,118,172,243,335,454,604,792,1024,1306,1649,2059,2548 ★ Arises in the maximum number of C5's in a triangle-free graph. • a(n) = floor[(n / 5) ^ 5]. •

[A246840] • 1,1,1,2,5,10,18,35,73,151,306,623,1286,2668,5531,11477,23889,49852,104175,217936,456534,957609,2010839,4226417,8891022 ★ G.f.: Sum_{n>=0} x^n * Sum_{k=0..n} C(n,k)^2 * x^(2*k). • a(n) = Sum _{ k=0..[n / 2] } C(n - 2 * k, k) ^ 2. •

[A011893] • 0,0,0,0,2,5,10,19,30,45,65,90,120,156,198,248,305,370,445,528,621,725,840,966,1104 ★ [n(n-1)(n-2)/11]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 11) - 3 * a(n - 12) + 3 * a(n - 13) - a(n - 14). [_ R. J. Mathar _ , Apr 15 2010] •

[A104161] • 0,1,2,5,10,19,34,59,100,167,276,453,740,1205,1958,3177,5150,8343,13510,21871,35400,57291,92712,150025,242760 ★ G.f.: x*(1 - x + x^2)/((1-x)^2 * (1 - x - x^2)). • a(n) = 2 * (Fibonacci(n + 2) - 1) - n. • a(n) = a(n - 1) + a(n - 2) + n - 1. • a(n) = row sums of A117915, starting (1, 2, 5, 10...). (End) • a(n) = (Sum _{ k=0..n } (n - k)Fibonacci(k - 1) + Fibonacci(k)) - n. - _ Ross La Haye _ , May 31 2006 • a(n) = - 2 - n + (- A094214) ^ n * (1 - A010499 / 5) + (1 + A010499 / 5) / A094214 ^ n. • a(0)=0, a(1)=1, a(2)=2, a(3)=5, a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Sep 06 2012 •

[A061705] • 2,5,10,19,36,66,120,215,382,673,1178,2050,3550,6121,10514,17999,30720,52290,88788,150427,254342,429245,723190,1216514,2043386 ★ Number of matchings in the wheel graph with n spokes. • a(n) = (n + 1) * Fibonacci(n) + 2 * Fibonacci(n - 1). • a(n) = sqrt(5) * ((n + 1) * (u ^ n - v ^ n) + 2 * (u ^ (n - 1) - v ^ (n - 1))) / 5, where u = (1 + sqrt(5)) / 2, v = (1 - sqrt(5)) / 2. • a(0)=2, a(1)=5, a(2)=10, a(3)=19; for n > 3, a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 05 2011 • a(n) = n * Fibonacci(n) + Lucas(n) = (n + 1) * Fibonacci(n + 1) - (n - 1) * Fibonacci(n - 1). - _ Bruno Berselli _ , May 26 2015 •

[A052944] • 0,2,5,10,19,36,69,134,263,520,1033,2058,4107,8204,16397,32782,65551,131088,262161,524306,1048595,2097172,4194325,8388630,16777239 ★ a(n) = 2^n + n - 1. • a(n + 1)=2 * a(n) - n + 2 with a(0)=0. - Pieter Moree, Mar

06 2004 • a(0)=0, a(1)=2, a(2)=5, a(n + 3) = 4a(n + 2) - 5a(n + 1) + 2a(n). - Hermann Kremer (Hermann.Kremer(AT)online.de), Mar 16 2004 •

[A016029] • 1,1,2,5,10,19,38,77,154,307,614,1229,2458,4915,9830,19661,39322,78643,157286,314573,629146,1258291,2516582,5033165,10066330 ⋆ a(1) = a(2) = 1, a(2n + 1) = 2*a(2n) and a(2n) = 2*a(2n - 1) + (-1)^n. • a(n) =2a(n - 1) - a(n - 2) + 2a(n - 3). Sequence is identical to its half second differences from the second term. First differences: 0, 1, 3, 5, 9, 19, 39, ... = 0 before absolute values of A078066. Second differences: 1, 2, 2, 4, 10, 20, 38, ... = A100088. a(n) + a(n + 2)=3 * 2 ^ n, A007283;a(n) + a(n + 6)=39 * 2 ^ n. - _ Paul Curtz _ , Dec 18 2007 • a(n)=[1 / 5 + (1 / 10) * I] * I ^ n + (3 / 5) * 2 ^ n + [1 / 5 - (1 / 10) * I] * (- I) ^ n, with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 10 2008 •

[A000712] • 1,2,5,10,20,36,65,110,185,300,481,752,1165,1770,2665,3956,5822,8470,12230,17490,24842,35002,49010,68150,94235 ⋆ Number of partitions of n into parts of 2 kinds. • a(0) = 1, a(n) = 1 / n * Sum _{ k=0..n - 1 } 2 * a(k) * sigma _ 1(n - k)). - _ Joerg Arndt _ , Feb 05 2011 • a(n) is odd iff n = 2 * m and p(m) is odd. • a(n) = 2 / n * Sum _{ k = 0..n } k * p(k) * p(n - k) for n >= 1. •

[A001629] • 0,0,1,2,5,10,20,38,71,130,235,420,744,1308,2285,3970,6865,11822,20284,34690,59155,100610,170711,289032,488400 ⋆ Fibonacci numbers convolved with themselves. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4), n>3. • a(n) = Sum _{ k=0..floor(n / 2) - 1 } (k + 1) * binomial(n - k - 1, k + 1). - _ Emeric Deutsch _ , Nov 15 2001 • a(n) = floor((1 / 5) * (n - 1 / sqrt(5)) * phi ^ n + 1 / 2) where phi=(1 + sqrt(5)) / 2 is the golden ratio. - _ Benoit Cloitre _ , Jan 05 2003 • a(n) = Sum _{ k=0..floor((n - 2) / 2) } (n - k - 1)binomial(n - k - 2, k). - _ Paul Barry _ , Jan 25 2005 • a(n) = a(n - 1) + a(n - 2) + F(n - 1), where F=A000045, the Fibonacci sequence. - _ Graeme McRae _ , Jun 02 2006 • a(n) = (1 / 5)(n - 1 / sqrt(5))((1 + sqrt(5)) / 2) ^ n + (1 / 5)(n + 1 / sqrt(5))((1 - sqrt(5)) / 2) ^ n. - _ Graeme McRae _ , Jun 02 2006 •

[A293324] • 1,1,2,5,10,20,40,79,158,316,633,1266,2531,5063,10126,20252,40503,81007,162014,324028,648056,1296111,2592222,5184445,10368890 ⋆ The integer k that minimizes |k/2^n - 1/tau|, where tau = (1+sqrt(5))/2 = golden ratio. • a(n) = floor(1 / 2 + r * 2 ^ n), where r = (- 1 + sqrt(5)) / 2. •

[A084215] • 1,2,5,10,20,40,80,160,320,640,1280,2560,5120,10240,20480,40960,81920,163840,327680,655360,1310720,2621440,5242880,10485760,20971520 ⋆ G.f.: (1+x^2)/(1-2x). • a(n) = sum(k=0..n, 2 ^ (n - k) * binomial(1, k / 2) * (1 + (- 1) ^ k) / 2). - _ Paul Barry _ , Oct 15 2004 • a(n) is the sum of top row terms of M ^ n, M = an infinite square production matrix as follows: • a(n) = floor(2 ^ (n - 2) * 5). - _ Taher Jamshidi _ , Sep 15 2012 • a(n) = 2 * a(n - 1) for n>=3, a(0) = 1, a(1) = 2, a(2) = 5. - _ Philippe Deléham _ , Mar 13 2013 •

[A024810] • 1,2,5,10,20,40,81,162,325,651,1303,2607,5215,10430,20860,41721,83443,166886,333772,667544,1335088,2670176,5340353,10680707,21361414 ⋆ a(n) = floor(tan(m*Pi/2)), where m = 1 - 2^(-n). • a(n) = floor(1 / tan(Pi / 2 ^ (n + 1))). - _ Michael Somos _ , Feb 24 2014 • a(n) = floor(4 * 2 ^ n / Pi). - _ Clark Kimberling _ , Oct 10 2017 •

[A266613] • 1,2,5,10,20,41,82,165,330,661,1322,2645,5290,10581,21162,42325,84650,169301,338602,677205,1354410,2708821,5417642,10835285,21670570 ⋆ Decimal representation of the middle column of the "Rule 41" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (31 * 2 ^ n - 4 * ((- 1) ^ n + 3)) / 24 for n>2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2. •

[A293319] • 2,5,10,20,41,83,167,335,670,1340,2680,5361,10723,21446,42893,85787,171575,343150,686301,1372603,2745207,5490415,10980830,21961660,43923321 ⋆ Greatest integer k such that k/2^n < tau^2, where tau = (1+sqrt(5))/2 = golden ratio. • a(n) = floor((r * 2 ^ n)), where r = (3 + sqrt(5)) / 2. •

[A267589] • 1,2,5,10,20,41,83,167,335,671,1343,2687,5375,10751,21503,43007,86015,172031,344063,688127,1376255,2752511,5505023,11010047,22020095 ⋆ Decimal representation of the middle column of the "Rule 169" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>3. •

[A129847] • 1,1,2,5,10,20,42,87,179,370,765,1580,3264,6744,13933,28785,59470,122865,253838,524428,1083466,2238435,4624595,9554390,19739321 ⋆ b(n) = number of set partitions of {1, 2, ..., n} whose blocks consist only of elements that differ by two or less (that is, have only the forms {i}, {i,i+1}, {i,i+2}, or {i,i+1,i+2}). • a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ j=0..n - 2k } C(n - j - k,k) * C(2k,j). - _ Paul Barry _ , Mar 24 2009 • a(n) = a(n - 1) + a(n - 2) + 2 * (n - 3) + a(n - 4) with a(0) = a(1) = 1, a(2) = 2, a(3) = 5. - _ Taras Goy _ , Aug 04 2017 •

[A051109] • 1,2,5,10,20,50,100,200,500,1000,2000,5000,10000,20000,50000,100000,200000,500000,1000000,2000000,5000000,10000000,20000000,50000000,100000000 ⋆ Hyperinflation sequence for banknotes. • a(3n)=10 ^ n, a(3n + 1) =2 * 10 ^ n, a(3n + 2)=5 * 10 ^ n • a(n) = [(n % 3) ^ 2 + 1] * 10 ^ floor(n / 3). E.g. a(0) = [(0 % 3) ^ 2 + 1] * 10 ^ floor(0 / 3) = [0 ^ 2 + 1] * 10 ^ 0 = 1, a(4) = [(4 % 3) ^ 2 + 1] * 10 ^ floor(4 / 3) = [1 ^ 2 + 1] * 10 ^ 1 = 20, a(8) = [(8 % 3) ^ 2 + 1] * 10 ^ floor(8 / 3) = [2 ^ 2 + 1] * 10 ^ 2 = 500. - Justin L. Brown (jlbrown(AT)neo.tamu.edu), Jun 17 2004 • a(n) = 10 * a(n - 3) with n>2, a(0)=1, a(1)=2, a(2)=5. - _ Philippe Deléham _ , Apr 08 2013 •

[A261681] • 1,2,5,10,21,41,83,162,325,637,1275,2509,5019,9907,19815,39202,78405,155381,310763,616665,1233331,2449867,4899735,9740685,19481371 ⋆ a(n) = 2^n + binomial(n, floor(n/2)) - 1. • a(n) = Sum _{ i=1..n + 1 } C(n,floor(i / 2)). - _ Wesley Ivan Hurt _ , Nov 22 2017 •

[A267515] • 1,2,5,10,21,42,84,169,338,677,1354,2709,5418,10836,21673,43346,86693,173386,346773,693546,1387092,2774185,5548370,11096741,22193482 ⋆ Decimal representation of the middle column of the "Rule 137" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) + a(n - 7) - 2 * a(n - 8) for n>7. •

[A243988] • 1,2,5,10,21,42,85,169,333,655,1286,2519,4935,9675,18982,37285,73346,144509,285158,563546,1115309,2210243,4385443,8710876,17319387 ⋆ G.f.: Sum_{n>=0} (1 + x^n)^n * x^n / (1-x)^(n+1). • a(n) - 2 ^ n ~ n / 5 * ((1 + sqrt(5)) / 2) ^ n. - _ Vaclav Kotesovec _ , Jul 02 2014 •

[A000975] • 0,1,2,5,10,21,42,85,170,341,682,1365,2730,5461,10922,21845,43690,87381,174762,349525,699050,1398101,2796202,5592405,11184810 ⋆ a(2n) = 2*a(2n-1), a(2n+1) = 2*a(2n)+1 (also a(n) is the n-th number without consecutive equal binary digits). • a(n) = ceiling(2 * (2 ^ n - 1) / 3). • a(n) = a(n - 1) + 2 * a(n - 2) + 1. • a(n) = 2 * 2 ^ n / 3 - 1 / 2 - (- 1) ^ n / 6. • a(n) = n + 2 * Sum _{ k = 1..n - 2 } a(k). • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). - _ Paul Barry _ , Feb 11 2003 • a(n) = Sum _{ k=0..floor((n - 1) / 2) } 2 ^ (n - 2k - 1) } ; a(n + 1) = Sum _{ k=0..floor(n / 2) } 2 ^ (n - 2k). - _ Paul Barry _ , Nov 11 2003 •

[A266248] • 1,2,5,10,21,43,86,173,346,693,1386,2773,5546,11093,22186,44373,88746,177493,354986,709973,1419946,2839893,5679786,11359573,22719146 ⋆ Decimal representation of the middle column of the "Rule 9" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (65 * 2 ^ n - 8 * ((- 1) ^ n + 3)) / 48 for n>3. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2. •

[A267880] • 1,2,5,10,21,43,87,175,351,703,1407,2815,5631,11263,22527,45055,90111,180223,360447,720895,1441791,2883583,5767167,11534335,23068671 ⋆ Decimal representation of the middle column of the "Rule 233" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>4. •

[A101510] • 1,2,5,10,21,43,87,175,352,707,1417,2836,5674,11353,22716,45443,90886,181748,363451,726870,1453773,2907648,5815315,11630195,23259059 ⋆ Diagonal sums of binomial-Mobius product. • a(n)=sum { k=0..floor(n / 2), sum { i=0..n - k, if(mod(i + 1, k + 1)=0, binomial(n - k, i), 0) }} •

[A052540] • 1,1,2,5,10,21,45,95,201,426,902,1910,4045,8566,18140,38415,81351,172276,364827,772590,1636105,3464761,7337285,15538085,32904826 ⋆ Expansion of (1-x)/(1-2x-x^3+x^4). • a(n)=sum(k=0..n, (sum(j=ceiling((- n + 3 * k + 1) / 3)..k, binomial(k,j) * binomial(n - 3 * (k - j) - 1,j - 1))) + kron _ delta(3 * k,n)). [_ Vladimir Kruchinin _ , May 12 2013] •

[A215422] • 1,1,2,5,10,22,44,88,177,355,710,1421,2843,5687,11374,22748,45497,90995,181991,363982,727965,1455930,2911861,5823723,11647446 ⋆ Length of binary representation of Fibonacci(2^n). • a(n) = 2 ^ n * log _ 2 phi + O(1). - _ Charles R Greathouse IV _ , Jun 05 2013 •

[A026633] • 1,2,5,10,22,44,90,180,362,724,1450,2900,5802,11604,23210,46420,92842,185684,371370,742740,1485482,2970964,5941930,11883860,23767722 ⋆ T(n,0) + T(n,1) + ... + T(n,n), T given by A026626. • a(n) = (- 1) ^ n / 3 - 1 + 17 * 2 ^ (n - 2) / 3, n>=2. - _ R. J. Mathar _ , May 22 2013 •

[A093370] • 0,1,2,5,10,22,44,91,182,369,738,1486,2972,5962,11924,23884,47768,95607,191214,382568,765136,1530552,3061104,6122765,12245530 ⋆ Start with any initial string of n numbers s(1), ..., s(n), with s(1) = 2, other s(i)'s = 2 or 3 (so there are 2^(n-1) starting strings). The rule for extending the string is this as follows: To get s(n+1), write the string s(1)s(2)...s(n) as xy^k for words x and y (where y has positive length) and k is maximized, i.e., k = the maximal number of repeating blocks at the end of the sequence. Then a(n) = number of starting strings for which k > 1. • a(n) / 2 ^ (n - 1) seems to converge to a number around 0.73. •

[A135098] • 1,2,5,10,22,44,92,184,376,752,1520,3040,6112,12224,24512,49024,98176,196352,392960,785920,1572352,3144704,6290432,12580864,25163776 ⋆ First differences of A135094. • a(n) = 2 ^ ((n - 5) / 2) * (3 * 2 ^ ((n + 1) / 2) - (1 - (- 1) ^ n) - (1 + (- 1) ^ n) * sqrt(2)). •

[A045621] • 0,1,2,5,10,22,44,93,186,386,772,1586,3172,6476,12952,26333,52666,106762,213524,431910,863820,1744436,3488872,7036530,14073060 ⋆ a(n) = 2^n - binomial(n, [n/2]). • a(2 * k) = 2 * a(2 * k - 1), a(2 * k + 1) = 2 * a(2 * k) + Catalan(k). • a(n + 1) = b(0) * b(n) + b(1) * b(n - 1) + ... + b(n) * b(0), b(k)=C(k, [k / 2]). • a(n) = sum(k=0..n - 1, C(n, floor(k / 2))). - _ Paul Barry _ , Aug 05 2004 • a(n + 1) = 2 * a(n) + Catalan(n / 2)(1 + (- 1) ^ n) / 2. - _ Paul Barry _ , Aug 05 2004 •

[A100938] • 1,2,5,10,22,46,97,200,412,844,1729,3536,7227,14754,30093,61312,124782,253664,515085,1044796,2117158,4286330,8671103,17529304,35416016 ⋆ Self-convolution of A092684. • a(n) = 1 + Sum _{ k=1..n } Sum _{ j=0..n - k } binomial(k, j) * a(j). •

[A124329] • 0,1,2,5,10,22,46,101,220,492,1104,2515,5762,13327,30994,72555,170654,403350,957134,2279947,5449012,13063595,31406516,75701507,182902336 ⋆ Number of ordered trees with n edges, with thinning limbs and with root of degree 2. An ordered tree with thinning limbs is such that if a node has k children, all its children have at most k children. • a(n) = 2 * Sum _{ k = 0..(n - 1) / 2 } binomial(2 * k + 1, k + 1) * binomial(n - k, k + 1) / (k + 2). - _ Vladimir Kruchinin _ , Apr 21 2016 •

[A123491] • 1,2,5,10,22,48,112,274,715,1982,5837,18180,59644,205296,739032,2775180,10846965,44039754,185391469,807776198,3637193474,16900721824,80939650552,399061251246,2023408865983 ⋆ Diagonal sums of number triangle A123490. • a(n) = Sum _{ k=0..floor(n / 2) } ((k + 2) ^ (n - 2k) + k) / (k + 1). •

[A232163] • 0,1,2,5,10,22,49,106,231,506,1104,2409,5262,11489,25082,54766,119577,261078,570035,1244610,2717456,5933249,12954570,28284797,61756570 ⋆ Cardinality of the Weyl alternation set corresponding to the zero-weight in the

adjoint representation of the Lie algebra so(2n+1). • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). G.f.: - x * (2 * x ^ 2 + x + 1) / (x ^ 4 + 3 * x ^ 3 + x ^ 2 + x - 1). - _ Colin Barker _ , Jan 01 2014 •

[A174542] • 1,2,5,10,23,44,99,188,421,798,1785,3382,7563,14328,32039,60696,135721,257114,574925,1089154,2435423,4613732,10316619,19544084,43701901 ⋆ Partial sums of odd Fibonacci numbers (A014437). • a(2n) = (1 / 2) * (Fibonacci(3n + 2) - 1). • a(2n + 1) = (1 / 2) * (Fibonacci(3n + 1) + Fibonacci(3n + 3) - 1). • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) + a(n - 4) - a(n - 5) for n>4. - _ Colin Barker _ , Oct 26 2014 • a(n) = ((sin(Pi * n / 2) * sqrt(5 / phi) - cos(Pi * n / 2) / phi ^ 2) / phi ^ (3 * n / 2) + (sqrt(5 * phi) * sin(Pi * n / 2) ^ 2 + phi ^ 2 * cos(Pi * n / 2) ^ 2) * phi ^ (3 * n / 2)) / (2 * sqrt(5)) - 1 / 2, where phi=(1 + sqrt(5)) / 2. •

[A284181] • 1,2,5,10,23,47,87,171,381,766,1407,2751,6111,12287,22527,44031,97791,196607,360447,704511,1564671,3145727,5767167,11272191,25034751 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 813", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 16 * a(n - 4) - 16 * a(n - 5) for n>10. •

[A291249] • 1,2,5,10,23,47,102,214,452,955,2003,4223,8854,18610,39032,81896,171752,360103,754985,1582497,3316978,6951684,14568692,30530311,63977107 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 - S^3 + S^4 + S^5. • a(n) = a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - 14 * a(n - 4) + 3 * a(n - 5) + 14 * a(n - 6) - 3 * a(n - 7) - 6 * a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. •

[A087640] • 1,1,2,5,10,23,48,107,228,501,1078,2353,5086,11067,23972,52087,112936,245225,531946,1154685,2505298,5437407,11798616,25605539,55563980 ⋆ To obtain a(n+1), take the square of the n-th partial sum, minus the sum of the first n squared terms, then divide this difference by a(n); for all n>1, starting with a(0)=1, a(1)=1. • a(n) = a(n - 1) + 3a(n - 2) - a(n - 3) for n>3. •

[A291247] • 1,2,5,10,24,49,112,238,526,1142,2491,5442,11842,25873,56344,122975,268042,584633,1274820,2779895,6062306,13219186,28827703,62861754,137082358 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 - S^3 + S^4. • a(n) = a(n - 1) + 5 * a(n - 2) - 2 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) + 5 * a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. •

[A026383] • 1,2,5,10,25,50,125,250,625,1250,3125,6250,15625,31250,78125,156250,390625,781250,1953125,3906250,9765625,19531250,48828125,97656250,244140625 ⋆ a(n) = 5a(n-2), starting 1,2. • a(2n)=5 ^ n, a(2n + 1)=2 * 5 ^ n. G.f.=(1 + 2z) / (1 - 5z ^ 2). - _ Emeric Deutsch _ , Jan 25 2004 • a(n) = a(n - 1) + 2a(n - 2) + 5 ^ floor((n - 2) / 2); a(n)= sum { k=0..floor(n / 2), binomial(floor(n / 2), k)2 ^ (n - 2k) } . - _ Paul Barry _ , Jul 14 2004 • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Reinhard Zumkeller _ , Mar 04 2011 •

[A162963] • 2,5,10,25,50,125,250,625,1250,3125,6250,15625,31250,78125,156250,390625,781250,1953125,3906250,9765625,19531250,48828125,97656250,244140625,488281250 ⋆ a(n) = 5*a(n-2) for n > 2; a(1) = 2, a(2) = 5. • a(n) = (3 - (- 1) ^ n) * 5 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2. •

[A115725] • 1,2,5,10,26,42,118,171,389,692,1442,1854,5534,6895,11910,21116,44278,52568,118734,138670,300326,492507,728514,829244,2167430 ⋆ Number of partitions with maximum rectangle <= n. • a(n) = subpart([<floor(n / k)]). The subpart function is A115728 (or A115729), [<floor(n / k)>] is row n of A010766. •

[A074801] • 1,2,5,10,28,50,116,178,528,1282,2794,4778,10594,17166,33426,60242,183072,304202,759716,1288642,2965286,6352098,11776586,18326642,48714362 ⋆ a(n) is the sum of the n-th row of the triangle formed by replacing each m in Pascal's triangle with sigma(m). • a(n) >= 2 ^ n with equality for n<= 2. - _ Michel Marcus _ , Mar 19 2017 •

[A075885] • 1,2,5,10,29,46,169,239,745,1450,4111,5182,27157,33164,84001,186496,610065,713474,3061009,3526553,13783421,27380452,63264389,71240523,444872761 ⋆ a(n) = 1 + n + n*[n/2] + n*[n/2]*[n/3] + n*[n/2]*[n/3]*[n/4] +... where [x]=floor(x). • a(n) = 1 + Sum _{ m=1..n } Product _{ k=1..m } floor(n / k). •

[A155580] • 1,1,2,5,10,30,180,585,1430,3575,9100,31850,83300,220150,792540,11888100,32167800,87567900,1576222200,4334611050,11971782900,33194488950,92367273600,257858638800,722004188640 ⋆ a(n)=If[IntegerQ[((3*n - 2)/(n + 1))*a(n - 1)], ((3*n - 2)/(n + 1))* a(n - 1), If[IntegerQ[((4*n - 2)/(n + 1))*a(n - 1)], ((4*n - 2)/(n + 1))*a(n - 1), n*a(n - 1)]] • a(n)=If[IntegerQ[((3 * n - 2) / (n + 1)) * a(n - 1)], ((3 * n - 2) / (n + 1)) * a(n - 1), •

[A089073] • 1,1,2,5,10,32,64,231,462,1792,3584,14586,29172,122880,245760,1062347,2124694,9371648,18743296,84021990,168043980,763363328,1526726656,7012604550,14025209100 ⋆ Number of symmetric non-crossing connected graphs. • a(2k) = 4 ^ k * binomial((3k - 1) / 2, k) / [2(k + 1)], a(2k + 1) = 2a(2k). •

[A276660] • 2,5,11,13,19,23,37,43,47,61,67,73,79,103,151,157,163,191,193,211,223,271,277,283,313 ⋆ Primes of the form p*2^k - 1 where p is an odd prime and k >= 0. • a(n) >> n (log n) ^ 2. - _ Charles R Greathouse IV _ , Sep 11 2016 •

[A086319] • 2,5,11,17,23,41,47,71,89,167,191,281,353,359,761,1409,1433,1439,3041,5639,12161,48647,194591,778361,3113447 ⋆ Primes produced by repeated application of the formula p -> (4p +/- 3) starting at the prime 2. • a(n) = (4 * a(n - m)) - 3 or (4 * a(n - m)) + 3 •

[A228344] • 2,5,11,17,26,35,47,59,74,89,107,125,146,167,191,215,242,269,299,329,362,395,431,467,506 ⋆ Floor(3*n^2/4) - 1. • a(n) = (- 11 + 3 * (- 1) ^ n + 6 * n ^ 2) / 8. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: x ^ 2 * (x - 2) * (x ^ 2 + x + 1) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Aug 27 2013 •

[A274830] • 0,2,5,11,17,27,36,50,62,80,95,117,135,161,182,212,236,270,297,335,365,407,440,486,522 ⋆ Numbers n such that 7*n+1 is a triangular number (A000217). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. • a(n) = (14 * (n - 1) * n + (2 * n - 1) * (- 1) ^ n + 1) / 16. Therefore: • a(n) = n * (7 * n - 6) / 8 for n even, • a(n) = (n - 1) * (7 * n - 1) / 8 for n odd. •

[A038390] • 1,2,5,11,17,27,42,57,78,106,134,170,215,260,315,381,447,525,616,707,812,932,1052,1188,1341 ⋆ Bisection of A028289. • a(n) = (2 * n ^ 2 + 2 + floor(n / 3) * (10 * floor(n / 3) ^ 2 - (8 * n - 15) * floor(n / 3) + 2 * n ^ 2 - 8 * n + 7)) / 2. - _ Luce ETIENNE _ , Sep 14 2015 •

[A064337] • 2,5,11,17,29,41,59,79,101,127,157,191,229,271,317,367,421,487,557,631,709,787,877,967,1061 ⋆ Minimal prime numbers with increasing prime differences. • a(1) = 2, a(n + 1) = MIN { prime p | p >= a(n) + p(n) } (where p(n) is the n - th prime number) •

[A228353] • 2,5,11,17,29,47,53,83,89,107,137,173,179,197,233,263,317,389,443,449,467,569,587,593,677 ⋆ Primes of the form 3p - 4 where p is prime. • a(n) >> n * log ^ 2 n. - _ Charles R Greathouse IV, Jun 04 2015 •

[A171769] • 2,5,11,18,28,39,53,68,86,105,127,150,176,203,233,264,298,333,371,410,452,495,541,588,638 ⋆ Partial sums of A042964 (numbers congruent to 2 or 3 mod 4). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ R. H. Hardin _ , Nov 13 2011 • a(n) = ceil((2 * n + 1) * n / 2). - _ Andrew Woods _ , Jun 06 2013 • a(n) = round(n / (1 - exp(- 1 / n))). - _ Richard R. Forberg _ , Jan 28 2015 •

[A132455] • 1,1,2,5,11,18,30,45,80,147,330,882,1935,3298,4676,7613,18409,53724,141094,293407,473604,639418,1138534,3086050,9159520 ⋆ a(n) = sum of the squares of the coefficients of x^n in x^(n-2*k)/A(x^2)^(n-2*k+1), as k varies from 0 to floor(n/2), with a(0)=1, where A(x) is the g.f. of this sequence. • a(n) = Sum _{ k=0..[n / 2] } ([x ^ n] (x / A(x ^ 2)) ^ (n - 2 * k + 1)) ^ 2 for n>0 with a(0)=1. •

[A245207] • 2,5,11,19,29,41,54,70,88,108,130,154,179,207,237,269,303,339,376,416,458,502,548,596,645 ⋆ Floor((n + sqrt(2))^2). • a(n) = floor((n + sqrt(2)) ^ 2). •

[A160536] • 0,2,5,11,19,30,44,62,85,115,155,210,288,402,573,835,1243,1886,2908,4542,7165,11387,18195,29186,46944 ⋆ a(n) = Fibonacci(n) + n^2. • a(n) = a(n - 4) - a(n - 3) - 2 * a(n - 2) + 3 * a(n - 1) - 2 for n > 3; a(0)=0, a(1)=2, a(2)=5), a(3)=11. - _ Klaus Brockhaus _ , May 22 2009 •

[A139482] • 1,2,5,11,20,32,47,65,86,110,137,167,200,236,275,317,362,410,461,515,572,632,695,761,830 ⋆ Binomial transform of [1, 1, 2, 1, -1, 1, -1, 1, -1, 1, -1, 1, -1, ...]. • a(n) = (10 - 9n + 3n ^ 2) / 2 for n>=2. - _ Emeric Deutsch _ , May 03 2008 • a(1)=1, a(2)=2, a(3)=5, a(4)=11, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 02 2015 •

[A050407] • 0,1,1,1,2,5,11,21,36,57,85,121,166,221,287,365,456,561,681,817,970,1141,1331,1541,1772 ⋆ a(n) = n*(n^2 - 6*n + 11)/6. • a(n) = binomial(n - 1,3) + binomial(n - 1,0), n>=0. - _ Zerinvary Lajos _ , Jul 24 2006 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 22 2012 •

[A100134] • 1,1,1,1,1,1,2,5,11,21,36,57,86,128,194,305,497,827,1381,2287,3739,6042,9693,15519,24901 ⋆ a(n) = Sum_{k=0..floor(n/6)} C(n-3k,3k). • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3) + a(n - 6). •

[A137356] • 1,1,1,1,1,2,5,11,21,36,58,92,149,250,431,750,1299,2227,3784,6401,10828,18364,31236,53228,90741 ⋆ a(n) = Sum_{k <= n/2 } binomial(n-2k, 3k). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5). - _ Vincenzo Librandi _ , Aug 09 2015 • a(n) = hypergeom([- (1 / 5) * n, - (1 / 5) * n + 1 / 5, 2 / 5 - (1 / 5) * n, 3 / 5 - (1 / 5) * n, - (1 / 5) * n + 4 / 5], [1 / 3, 2 / 3, - (1 / 2) * n, - (1 / 2) * n + 1 / 2], - 3125 / 108). - _ Robert Israel _ , May 26 2017 •

[A103198] • 1,1,1,2,5,11,21,36,58,94,166,331,716,1574,3368,6892,13447,25127,45391,80428,142615,259085,491855,982400,2045001 ⋆ Number of compositions of n into a square number of parts. • a(n) = Sum _{ k>0 } (x / (1 - x)) ^ (k ^ 2). •

[A023548] • 2,5,11,21,38,66,112,187,309,507,828,1348,2190,3553,5759,9329,15106,24454,39580,64055,103657,167735,271416,439176,710618 ⋆ Convolution of natural numbers >= 2 and Fibonacci numbers. • a(n) = 4 * (F(n + 1) - 1) + 3 * F(n) - n; F(n)=A000045 (Fibonacci); g.f.: x * (2 - x) / ((1 - x - x ^ 2) * (1 - x) ^ 2). Also convolution of natural numbers n >= 1 with Lucas numbers (A000032). - _ Wolfdieter Lang _ • a(n) = Fib(n + 3) + F(n + 1) - (n + 3) for n > 1. - Alex Vinokur (alexvn(AT)barak - online.net), Oct 26 2004 • a(n) = (- 4 + (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 5 + 2 * sqrt(5)) + (1 + sqrt(5)) ^ n * (5 + 2 * sqrt(5)))) / sqrt(5) - n). - _ Colin Barker _ , Mar 11 2017 • a(n) = Sum _{ i=1..n } C(n - i + 2,i + 1) + C(n - i + 1,i). - _ Wesley Ivan Hurt _ , Sep 13 2017 •

[A024493] • 1,1,1,2,5,11,22,43,85,170,341,683,1366,2731,5461,10922,21845,43691,87382,174763,349525,699050,1398101,2796203,5592406 ⋆ a(n) = C(n,0) + C(n,3) + ... + C(n,3[n/3]). • a(n) = (1 / 3) * (2 ^ n + 2 * cos(n * Pi / 3)). • a(n) = (1 / 3) * (2 ^ n + b(n)) where b(n) is the 6 - periodic sequence { 2, 1 , - 1, - 2, - 1, 1 } . - _ Benoit Cloitre _ , May 23 2004 • a(n) = Sum _{ k=0.. n } binomial(n, 3(n - k)). - _ Paul Barry _ , Aug 30 2004 •

[A130781] • 1,1,2,5,11,22,43,85,170,341,683,1366,2731,5461,10922,21845,43691,87382,174763,349525,699050,1398101,2796203,5592406,11184811 ⋆ Sequence is identical to its third differences: a(n+3)=3a(n+2)-3a(n+1)+2a(n), with a(0)=a(1)=1, a(2)=2. • a(n)=(1 / 6) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n + (1 / 6) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n + (2 / 3) * 2 ^ n - (1 / 6) * I *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n * sqrt(3) + (1 / 6) * I *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n * sqrt(3), with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A293362] • 0,1,2,5,11,22,44,88,177,354,709,1419,2839,5678,11356,22713,45426,90852,181704,363408,726817,1453634,2907269,5814539,11629079 ⋆ Greatest integer k such that k/2^n < log 2. • a(n) = floor(r * 2 ^ n), where r = log 2. •
[A084188] • 1,2,5,11,22,45,90,181,362,724,1448,2896,5792,11585,23170,46340,92681,185363,370727,741455,1482910,2965820,5931641,11863283,23726566 ⋆ a(0)=1, a(n+1) = 2*a(n) + b(n+2), where b(n)=A004539(n) is the n-th bit in the binary expansion of sqrt(2). • a(n) = floor(sqrt(2) * 2 ^ n). •
[A266721] • 1,2,5,11,22,45,90,181,362,725,1450,2901,5802,11605,23210,46421,92842,185685,371370,742741,1485482,2970965,5941930,11883861,23767722 ⋆ Decimal representation of the middle column of the "Rule 59" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 2 * (- 1) ^ n + 17 * 2 ^ n - 6) / 12 for n>1. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>4. •
[A033120] • 1,2,5,11,22,45,91,182,365,731,1462,2925,5851,11702,23405,46811,93622,187245,374491,748982,1497965,2995931,5991862,11983725,23967451 ⋆ Base 2 digits of a(n) are, in order, the first n terms of the periodic sequence with initial period 1,0,1. • a(3n) = (5 * 8 ^ n - 5) / 7, a(3n + 1) = (10 * 8 ^ n - 3) / 7, a(3n + 2) = (20 * 8 ^ n - 6) / 7. G.f.: [1 + x ^ 2] / [(1 - x)(1 - 2x)(1 + x + x ^ 2)]. - _ Ralf Stephan _ , May 05 2004 • a(n) = a(n - 6) + 45 * 2 ^ (n - 6). - _ Lekraj Beedassy _ , Sep 12 2006 • a(n) = floor((5 / 7) * 2 ^ n). - _ Tani Akinari _ , Jul 15 2014 •
[A147878] • 1,2,5,11,23,46,86,156,273,463,766,1241,1969,3073,4723,7157,10711,15850,23206,33654,48373,68955,97544,137002,191125 ⋆ The number of degree sequences with degree sum 2n representable by a connected graph (with multiple edges allowed). • a(n) = p(2n) - p(n - 1) - 2 * Sum _{ j=0..n - 2 } p(j). •
[A140992] • 0,1,2,5,11,23,46,89,168,311,567,1021,1820,3217,5646,9849,17091,29523,50794,87081,148820,253611,431087,731065,1237176 ⋆ a(0)=0, a(1)=1; for n>1 a(n)=a(n-2)+a(n-1)+A000071(n+1). • a(n)= + 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + a(n - 4) + a(n - 5). G.f.: - x * (1 - x + x ^ 3) / ((x - 1) * (x ^ 2 + x - 1) ^ 2). [From _ R. J. Mathar _ , Apr 27 2010] •
[A248646] • 2,5,11,23,46,92,184,368,736,1472,2944,5888,11776,23552,47104,94208,188416,376832,753664,1507328,3014656,6029312,12058624,24117248,48234496 ⋆ The Golden Book sequence. • a(n) = 23 * 2 ^ (n - 3) for n > 2. • a(n) = 2 * a(n - 1) for n > 3. •
[A000100] • 0,0,0,1,2,5,11,23,47,94,185,360,694,1328,2526,4781,9012,16929,31709,59247,110469,205606,382087,709108,1314512 ⋆ a(n) is the number of compositions of n in which the maximal part is 3. • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5). Convolution of Fibonacci and tribonacci numbers (A000045 and A000073). - _ Franklin T. Adams - Watters _ , Jan 13 2006 •
[A293339] • 0,0,1,2,5,11,23,47,94,188,376,753,1506,3013,6027,12054,24109,48218,96437,192874,385749,771499,1542998,3085996,6171992 ⋆ Greatest integer k such that k/2^n < 1/e. • a(n) = floor(r * 2 ^ n), where r = 1 / e. •
[A266550] • 1,1,2,5,11,23,47,95,191,383,767,1535,3071,6143,12287,24575,49151,98303,196607,393215,786431,1572863,3145727,6291455,12582911 ⋆ Independence number of the n-Mycielski graph. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. - _ Vincenzo Librandi _ , Jan 01 2016 •
[A055010] • 0,2,5,11,23,47,95,191,383,767,1535,3071,6143,12287,24575,49151,98303,196607,393215,786431,1572863,3145727,6291455,12582911,25165823 ⋆ a(0) = 0; for n > 0, a(n) = 3*2^(n-1) - 1. • a(n) = (- 1 + 3 * 2 ^ (n - 1)) * (1 - (C(2 * n,n) mod 2)), with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •
[A083329] • 1,2,5,11,23,47,95,191,383,767,1535,3071,6143,12287,24575,49151,98303,196607,393215,786431,1572863,3145727,6291455,12582911,25165823 ⋆ a(0) = 1; for n > 0, a(n) = 3*2^(n-1) - 1. • a(n) = (3 * 2 ^ n - 2 + 0 ^ n) / 2. • a(0) = 1, a(n) = sum of all previous terms + n. - _ Amarnath Murthy _ , Jun 20 2004 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2, a(0)=1, a(1)=2, a(2)=5. - _ Philippe Deléham _ , Nov 29 2013 • a(n) = (...((((((1) + 1) * 2 + 1) * 2 + 1) * 2 + 1) * 2 + 1)...), with n + 1 1's, n >= 0. • a(n) = 2 * a(n - 1) + 1, n >= 2. • a(n) = 2 ^ n + 2 ^ (n - 1) - 1, n >= 2. (End) •
[A153893] • 2,5,11,23,47,95,191,383,767,1535,3071,6143,12287,24575,49151,98303,196607,393215,786431,1572863,3145727,6291455,12582911,25165823,50331647 ⋆ a(n) = 3*2^n - 1. • a(n) = a(n - 1) * 2 + 1, a(0)=2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •
[A059411] • 2,5,11,23,47,283,1699,20389,244669,7340071,205521989,411043979,4932527749,295951664941,4735226639057,227290878674737,12273707448435799,8837069362873775 29,24743794216046570813 ⋆ a(1) = 2, a(n) = k*a(n-1) + 1, where a(n) is the smallest prime of the form k*a(n-1) + 1 and k>1. • a(n + 1)=a(n) * q(n) + 1, q(n)=Min { q|qa(n) + 1 is prime } •
[A182557] • 0,1,2,5,11,24,51,106,219,448,910,1841,3712,7466,14992,30070,60262,120697,241639,483625,967741,1936177,3873337,7748065,15498098 ⋆ a(n) = a(n-1)*2 + floor(sqrt(a(n-2))). • a(0)=0, a(1)=1, a(n) = a(n - 1) * 2 + floor(sqrt(a(n - 2))). •
[A027934] • 0,1,2,5,11,24,51,107,222,457,935,1904,3863,7815,15774,31781,63939,128488,257963,517523,1037630,2079441,4165647,8342240,16702191 ⋆ a(0)=0, a(1)=1, a(2)=2; for n>2, a(n)=3*a(n-1)-a(n-2)-2*a(n-3). • a(n) = sum(sum(C(n - j,n - 2j - k), k=0..n - 2j), j=0..floor(n / 2)). - _ Paul Barry _ , Feb 07 2003 • a(n) = sum { j=0..n, sum { k=0..n, binomial(n - k, k + j) }} . - _ Paul Barry _ , Aug 29 2004 • a(n) = (sum of (n + 1) - th row of the triangle in A108617) / 2. - _ Reinhard Zumkeller _ , Jun 12 2005 • a(n) = term (1,1) - term (2,2) in the 3x3 matrix [2,0,0; 0,1,1; 0,1,0] ^ n. - _ Alois P. Heinz _ , Jul 28 2008 • a(n) = 2 ^ n - (1 / 2) * [1 / 2 + (1 / 2) * sqrt(5)] ^ n - (1 / 10) * [1 / 2 + (1 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 10) * sqrt(5) * [1 / 2 - (1 / 2) * sqrt(5)] ^ n - (1 / 2) * [1 / 2 - (1 / 2) * sqrt(5)] ^ n, with n>=0. - _ Paolo P. Lava _ , Oct 02 2008 •
[A286945] • 1,2,5,11,24,51,109,234,503,1081,2322,4987,10711,23006,49415,106139,227976,489669,1051759,2259072,4852259,10422163,22385754,48082339,103276009 ⋆ Number of maximal matchings in the ladder graph P_2 X P_n. • a(n) = 2 * a(n - 1) + a(n - 4) + a(n - 5) for n>5. •
[A111297] • 1,2,5,11,24,52,112,240,512,1088,2304,4864,10240,21504,45056,94208,196608,409600,851968,1769472,3670016,7602176,15728640,32505856,67108864 ⋆ First differences of A109975. • a(n) = 2 * a(n - 1) + 2 ^ (n - 3) for n>2, a(0) = 1, a(1) = 2, a(2) = 5 . - _ Philippe Deléham _ , Mar 02 2012 •
[A077864] • 1,2,5,11,24,52,112,241,518,1113,2391,5136,11032,23696,50897,109322,234813,504355,1083304,2326828,4997792,10734753,23057166,49524465,106373551 ⋆ Expansion of (1-x)^(-1)/(1-x-2*x^2-x^3). • a(0)=1, a(1)=2, a(2)=5, a(3)=11, a(n)=2 * a(n - 1) + a(n - 2) - a(n - 3) - a(n - 4) for n>3. - _ Philippe Deléham _ , Oct 25 2006 • a(n) = term (4,1) in the 4x4 matrix [1,1,0,0; 2, 0,1,0; 1,0,0,0; 1,0,0,1] ^ (n + 1). - _ Alois P. Heinz _ , Jul 24 2008 •
[A018007] • 1,2,5,11,24,54,121,269,598,1331,2960,6583,14641,32561,72416,161051,358174,796572,1771561,3939916,8762296,19487171,43339080,96385252,214358881 ⋆ Powers of cube root of 11 rounded to nearest integer. • a(n) = round(11 ^ (n / 3)). - _ Wesley Ivan Hurt _ , Dec 21 2013 •
[A071879] • 1,1,1,2,5,11,24,57,141,349,871,2212,5688,14730,38403,100829,266333,706997,1885165,5047522,13565203,36578497,98934826,268342933,729709432 ⋆ G.f. satisfies: A(x) = 1 + x*A(x) + x^3*A(x)^3. • a(n) = sum(C(n + 1, 1 + 2i) * C(n - 2i, i), i=0..floor(n / 3)) / (n + 1). - _ Emeric Deutsch _ , Nov 03 2002 • a(n) = sum { k=0..floor(n / 3), C(n,3k)C(3k,k) / (2k + 1) } . - _ Paul Barry _ , Sep 07 2006 •
[A084978] • 1,2,5,11,25,51,110,221,456,918,1864,3729,7528,15057,30227,60485,121205,242411,485337,970675,1942307,3884730,7771327,15542655,31089330 ⋆ Number of ways to represent n as a+b*(c+d*(e+f*(...x+y*(z)...))) in positive integers. • a(n + 1) = Sum(k=1..n; Sum(d|k; a(d)). • a(n + 1) = 1 + Sum(k=1..n; Sum(d|k; a(d)) or a(n + 1) = a(n) + Sum(d|n; a(d)). - _ Vladeta Jovovic _ , Aug 08 2004 •
[A291737] • 1,2,5,11,25,54,121,267,591,1310,2899,6422,14218,31486,69722,154389,341881,757050,1676405,3712200,8220236,18202762,40307892,89257156,197649588 ⋆ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = 1 - S - S^2 - S^3. • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) + 3 * a(n - 5) + a(n - 6) + 3 * a(n - 7) + a(n - 9) for n >= 10. •
[A177795] • 0,1,2,5,11,25,55,120,258,550,1163,2444,5108,10627,22021,45474,93621,192232,393779,804947,1642355,3345307,6803734,13818636,28031472 ⋆ Number of length n binary words that have at least one maximal run of 1's having length two. • a(n) = 2 * a(n - 1) + 2 ^ n - 3 - a(n - 3) - 2 ^ n - 4 + a(n - 4). •
[A215091] • 2,5,11,25,55,123,275,615,1375,3075,6875,15373,34375,76865,171875,384325,859376,1921624,4296881,9608119,21484407,48040595,107422036,240202975,537110180 ⋆ Power floor-ceiling sequence of sqrt(5). • a(n) = ceiling(x * a(n - 1)) if n is odd, a(n) = floor(x * a(n - 1) if n is even, where x = sqrt(5) and a(0) = floor(x). •
[A228765] • 1,2,5,11,25,56,126,283,633,1419,3178,7118,15943,35710,79985,179152,401270,898777,2013107,4509015,10099422,22620977,50667115,113485664,254188460 ⋆ The curvature of circles (rounded to nearest integer), successively inscribed toward the 45-degree angle of a 45-45-90 triangle, starting with a unit circle. • a(n + 1) = round(k ^ n), with k = 7 - 4 sqrt(2) + 2 sqrt(20 - 14 sqrt(2)) = 2.23982.... - _ Charles R Greathouse IV _ , Sep 05 2013 •
[A006054] • 0,0,1,2,5,11,25,56,126,283,636,1429,3211,7215,16212,36428,81853,183922,413269,928607,2086561,4688460,10534874,23671647,53189708 ⋆ a(n) = 2*a(n-1) + a(n-2) - a(n-3). • a(n + 3) = sum(k=1..n, sum(j=0..k, binomial (j,n - 3 * k + 2 * j) * (- 1) ^ (j - k) * binomial(k,j) * 2 ^ (- n + 3 * k - j))), a (0)=0, a(1)=0, a(2)=1. - _ Vladimir Kruchinin _ , May 05 2011 •
[A085945] • 1,2,5,11,26,53,116,236,488,983,2006,4016,8111,16238,32603,65243,130778,261566,523709,1047479,2095988,4192115,8386418,16772858,33550058 ⋆ Number of subsets of {1,2,..,n} with relatively prime elements. • a(n) = Sum _{ k=1..n } mu(k) * (2 ^ floor(n / k) - 1). - _ Geoffrey Critzer _ , Jan 03 2012 •
[A291233] • 1,2,5,11,26,58,134,303,693,1576,3593,8184,18645,42480,96773,220481,502290,1144350,2607062,5939501,13531493,30827806,70232669,160005808,364529269 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 - S^3. • a(n) = a(n - 1) + 4 * a(n - 2) - a(n - 3) - 4 * a(n - 4) + a(n - 5) + a(n - 6) for n >= 7. •
[A006138] • 1,2,5,11,26,59,137,314,725,1667,3842,8843,20369,46898,108005,248699,572714,1318811,3036953,6993386,16104245,37084403,85397138,196650347,452841761 ⋆ a(n) = a(n-1) + 3*a(n-2). • a(n) = Sum _{ k=0..n } C(floor((2n - k) / 2),n - k) * 3 ^ floor(k / 2). - _ Paul Barry _ , Feb 02 2007 • a(n) = (1 / 2) * (((1 / 2) - (1 / 2) * sqrt(13)) ^ n + ((1 / 2) + (1 / 2) * sqrt(13)) ^ n) + (3 / 26) * sqrt(13) * (((1 / 2) + (1 / 2) * sqrt(13)) ^ n - ((1 / 2) - (1 / 2) * sqrt(13)) ^ n). - _ Paolo P. Lava _ , Jul 17 2009 •
[A124217] • 1,1,2,5,11,26,61,143,336,789,1853,4352,10221,24005,56378,132409,310975,730354,1715305,4028555,9461440,22221081,52188297,122569120,287865097 ⋆ Expansion of (1-x-x^2)/(1-2x-x^2+x^4). • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, C(n - k,j)C(j,2(j - k))2 ^ (j - k) }} ; •
[A095981] • 0,0,1,2,5,11,26,61,147,357,879,2183,5471,13811,35100,89724,230562,595237,1543191,4016038,10487553,27473602,72178312,190127740,502044221 ⋆ Number of plateau-free Motzkin paths of length n. • a(n) = a(n - 1) + a(n - 2) + 1 + a(2)(1 + a(n - 4)) + a(3)(1 + a(n - 5)) + ... + a(n - 2)(1 + a(0)) for n>=3. This recurrence counts plateau - free Motzkin n - paths by location of first return to ground level. •

[A082397] • 1,2,5,11,26,62,153,385,988,2573,6786,18084,48621,131718,359193,985185,2715972,7521567,20915256,58373586,163462815,459136809,1293223230,3651864606,10336625731 ★ Number of directed aggregates of height <= 2 with n cells. • a(n) = Sum _{ k=1..n } (- 1) ^ (k + 1) * binomial(n + 1, k + 1) * binomial(k, floor((k - 1) / 2)). E.g.f.: - exp(x) * int(- BesselI(1, 2 * x) + BesselI(2, 2 * x), x) - exp(x) * (- BesselI(1, 2 * x) + BesselI(2, 2 * x)). - _ Vladeta Jovovic _ , Sep 18 2003 •

[A051286] • 1,1,2,5,11,26,63,153,376,931,2317,5794,14545,36631,92512,234205,594169,1510192,3844787,9802895,25027296,63972861,163701327,419316330,1075049011 ★ Whitney number of level n of the lattice of the ideals of the fence of order 2n. • a(n) = Sum _{ k=0..n } C(n - k, k) ^ 2. Limit _{ n - >inf } a(n + 1) / a(n) = (sqrt(5) + 3) / 2. G.f.: 1 / sqrt((1 + x + x ^ 2) * (1 - 3 * x + x ^ 2)). - _ Paul D. Hanna _ , May 22 2005 • a(n) = sum { k=0..n, sum { j=0..n, (- 1) ^ ((n - j) / 2) * C((n + j) / 2,j)((1 + (- 1) ^ (n - j)) / 2) * C(j,k) }* C(k,k / 2)(1 + (- 1) ^ k) / 2 } . [_ Paul Barry _ , Mar 31 2010] •

[A192475] • 2,5,11,26,63,157,398,1021,2639,6854,17855,46601,121770,318421,833027,2179906,5705471,14934533,39094934,102345101,267932007,701437390,1836358271,4807602001,12586390418 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x)=1+x^(n+1)+x^(2n). • a(n) = F(2n) + F(n + 1), where F(n) is A000045. - _ Carl Najafi _ , May 06 2014 •

[A095892] • 1,1,1,2,5,11,26,66,173,469,1307,3676,10506,30260,87922,256990,756381,2236409,6648893,19846902,59507503,179051839,540778436,1638019284,4977317066 ★ a(n) = sum of the squares of the coefficients of x^n in x^(n-2k)*A(x^2)^(n-2k), as k varies from 0 to floor(n/2), with a(0)=1. • a(n) = Sum _{ k=0..[n / 2] } ([x ^ n] (x * A(x ^ 2)) ^ (n - 2k)) ^ 2, where [x ^ n] f(x) denotes the coefficient of x ^ n in f(x). •

[A212567] • 0,0,2,5,11,27,42,68,106,149,201,279,354,452,572,701,845,1031,1212,1428,1676,1937,2219,2559,2892 ★ Number of (w,x,y,z) with all terms in {1,...,n} and 2w+2x=3y+3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) - a(n - 6) + 2 * a(n - 7) + 2 * a(n - 8) - a(n - 10). •

[A000625] • 1,1,1,2,5,11,28,74,199,551,1553,4436,12832,37496,110500,328092,980491,2946889,8901891,27012286,82300275,251670563,772160922,2376294040,7333282754 ★ Number of n-node steric rooted ternary trees; number of n carbon alkyl radicals C(n)H(2n+1) taking stereoisomers into account. • a(0)=a(1)=1; a(n + 1):=[2na(n / 3) / 3 + sum(ja(j)sum(a(i) * a(n - j - i), i=0..n - j), j=1..n)] / n, (n>=2), where a(k)=0 if k not an integer (essentially eq (4) in the Robinson et al. paper). - _ Emeric Deutsch _ , May 16 2004 •

[A190865] • 1,1,1,2,5,11,31,106,337,1205,5021,20186,86461,417847,1992355,9860306,53734241,292816841,1633818457,9855157330,59926837141,370352343971,2439935383271,16283034762842,109982177787505 ★ E.g.f. exp(x+x^3/6). • a(n) = n! * sum(k=0..n / 3, 1 / ((k)! * (n - 3 * k)! * 6 ^ (k))), n>0, a(0)=1. •

[A172297] • 2,5,11,41,116,197,312,435,684,1046,1430,1892,2404,3155,3977,9289,17044,26575,38954,54776,73661,96632,119637,218363,361381 ★ Partial sums of A002234. • a(n) = sum[i=1..n] { i such that the Woodall number i * 2 ^ i - 1 is prime } . •

[A267527] • 1,2,5,11,87,175,1375,2751,21887,43775,349695,699391,5593087,11186175,89481215,178962431,1431666687,2863333375,22906535935,45813071871,366504050687,733008101375,5864062713855,11728125427711,93824995033087 ★ Decimal representation of the n-th iteration of the "Rule 141" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) + 14 * a(n - 2) - 48 * a(n - 3) + 32 * a(n - 4) for n>5. •

[A069506] • 2,5,11,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111 ★ a(1) = 2; a(n) = smallest palindromic number of the form k*a(n-1) + 1 with k > 1. • a(n) = (10 ^ (n - 1) - 1) / 9 for n > 2. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 3. •

[A085227] • 2,5,12,13,31,32,34,35,36,87,88,90,91,92,96,97,99,100,101,103,104,105,106,261,262 ★ Column 0 of A085205. • a(n) = A085205bi(0, n). •

[A042467] • 1,1,2,5,12,17,29,1583,1612,3195,8002,19199,27201,46400,2532801,2579201,5112002,12803205,30718412,43521617,74240029,4052483183,4126723212,8179206395,20485136002 ★ Denominators of continued fraction convergents to sqrt(761). • a(n) = 1600 * a(n - 7) + a(n - 14). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A041889] • 1,1,2,5,12,17,46,247,293,1126,1419,29506,30925,122281,153206,888311,1929828,2818139,7566106,17950351,25516457,43466808,1851122393,1894589201,3745711594 ★ Denominators of continued fraction convergents to sqrt(466). • a(n) = 1876638850 * a(n - 22) - a(n - 44) for n>43. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A041641] • 1,2,5,12,17,301,318,937,2192,5321,193748,392817,979382,2351581,3330963,58977952,62308915,183595782,429500479,1042596740,3796298319,76968562978,191900109075,460768781128,652668890203 ★ Denominators of continued fraction convergents to sqrt(339). • a(n) = 195940 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A116728] • 1,2,5,12,19,26,33,40,47,54,61,68,75,82,89,96,103,110,117,124,131,138,145,152,159 ★ Number of permutations of length n which avoid the patterns 321, 1243, 2134. • a(n) = 2 * a(n - 1) - a(n - 2) for n=4. - _ Colin Barker _ , Oct 24 2017 •

[A276478] • 1,2,5,12,19,34,45,56,77,98,127,148,169,206,239,280,311,350,393,440,495,534,593,644,697 ★ Number of points in square lattice in and on the boundary of the area encompassed by two arcs of radius n and centers at (0,0) and (n,0). • a(n) = 1 - 3 * n - 2 * (n - 1) * m(n) + 4 * Sum _{ k=0..m(n) } floor(sqrt(n ^ 2 - k ^ 2)) where m(n) = floor(n * sqrt(3) / 2). - _ Franz Vrabec _ , Oct 02 2016 •

[A080838] • 0,0,0,2,5,12,21,36,54,80,110,150,195,252,315,392,476,576,684,810,945,1100,1265,1452,1650 ★ Orchard crossing number of complete bipartite graph K_{1,n}. • a(n) = n / 16 * (2n ^ 2 - 8n + 7 + (- 1) ^ n). G.f.: (x ^ 5 + 2x ^ 4) / (1 - x) ^ 4 / (1 + x) ^ 2. •

[A244396] • 2,5,12,21,39,54,87,117,162,204,279,333,435,516,624,732,900,1017,1224,1380,1590,1785,2082,2286,2616 ★ a(n) = sum{k=1, n} phi(k)*index(k, n), with phi(k) the Euler totient A000010(k) and index(k,n) the position of 1/k in the n-th row of the Farey sequence of order k, A049805(n,k). • a(n) = n ^ 3 / (6 * zeta(3)) + O(n ^ 2). (see (22) in Tomás link). •

[A106331] • 0,1,2,5,12,21,50,119,208,495,1178,2059,4900,11661,20382,48505,115432,201761,480150,1142659,1997228,4752995,11311158,19770519,47049800 ★ Numbers j such that 24*(j^2) + 25 = k^2. • a(n)= + 10 * a(n - 3) - a(n - 6). G..f: x ^ 2 * (1 + 2 * x + 5 * x ^ 2 + 2 * x ^ 3 + x ^ 4) / (1 - 10 * x ^ 3 + x ^ 6). [From _ R. J. Mathar _ , May 22 2010] •

[A116727] • 1,2,5,12,22,32,42,52,62,72,82,92,102,112,122,132,142,152,162,172,182,192,202,212,222 ★ Number of permutations of length n which avoid the patterns 321, 2134, 3412. • a(n) = 2 * a(n - 1) - a(n - 2) for n=5. - _ Colin Barker _ , Oct 24 2017 •

[A116718] • 1,1,2,5,12,22,37,60,96,153,244,390,625,1004,1616,2605,4204,6790,10973,17740,28688,46401,75060,121430,196457 ★ Number of permutations of length n which avoid the patterns 321, 1342, 3124. • a(0)=1, a(1)=1, a(2)=2, a(3)=5, a(4)=12, a(5)=22, a(6)=37, a(n)=3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a (n - 4). - _ Harvey P. Dale _ , Oct 21 2011 •

[A026035] • 2,5,12,22,38,59,88,124,170,225,292,370,462,567,688,824,978,1149,1340,1550,1782,2035,2312,2612,2938 ★ Expansion of x^2*(2 - x + x^2) / ((1 + x)*(1 - x)^4). • a(n) = (2 * n ^ 3 + 4 * n - 3 + 3 * (- 1) ^ n) / 12. - _ Ralf Stephan _ , Jan 30 2005. • a(2)=2, a(3)=5, a(4)=12, a(5)=22, a(6)=38; for n>6, a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , May 31 2013 • a(n) = binomial(n,3) + floor(n ^ 2 / 2). - _ Bruno Berselli _ , Jun 08 2017 •

[A116711] • 1,2,5,12,23,36,51,68,87,108,131,156,183,212,243,276,311,348,387,428,471,516,563,612,663 ★ Number of permutations of length n which avoid the patterns 123, 3214, 4312. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. - _ Colin Barker _ , Oct 23 2017 •

[A115520] • 1,2,5,12,23,36,61,88,123,170,227,288,373,462,565,688,827,972,1153,1340,1547,1782,2039,2304,2617 ★ Number of ordered triples (i,j,k) in range [0..n] satisfying i == j mod 2 and j == k mod 3. • a(n) = binomial(n + 1,3) - linear (PORC) correction term which depends on n mod 6. •

[A096376] • 2,5,12,23,38,57,80,107,138,173,212,255,302,353,408,467,530,597,668,743,822,905,992,1083,1178 ★ a(n) = n + (n-1)^2 + (n+1)^2. • a(n) = 2 * n ^ 2 + n + 2. - _ N. J. A. Sloane _ , Nov 10 2009 • a(n) = 4 * n + a(n - 1) - 1 (with a(0)=2). - _ Vincenzo Librandi _ , Nov 16 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A116721] • 1,2,5,12,24,42,67,100,142,194,257,332,420,522,639,772,922,1090,1277,1484,1712,1962,2235,2532,2854 ★ Number of permutations of length n which avoid the patterns 123, 3142, 4312; or avoid the patterns 123, 3421, 4231. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. - _ Colin Barker _ , Oct 24 2017 •

[A116713] • 1,2,5,12,24,45,83,154,290,555,1077,2112,4172,8281,16487,32886,65670,131223,262313,524476,1048784,2097381,4194555,8388882,16777514 ★ Number of permutations of length n which avoid the patterns 123, 2431, 4132. • a(n) = (- 4 + 2 ^ n - n + n ^ 2) / 2 for n>2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>6. •

[A116731] • 1,2,5,12,25,46,77,120,177,250,341,452,585,742,925,1136,1377,1650,1957,2300,2681,3102,3565,4072,4625 ★ Number of permutations of length n which avoid the patterns 321, 2143, 3124; or avoid the patterns 132, 2314, 4312, etc. • a(n) = (n ^ 3 - 3 * n ^ 2 + 5 * n) / 3. - _ Franklin T. Adams - Watters _ , Sep 13 2006 •

[A116722] • 1,2,5,12,25,47,82,135,212,320,467,662,915,1237,1640,2137,2742,3470,4337,5360,6557,7947,9550,11387,13480 ★ Number of permutations of length n which avoid the patterns 312, 1324, 3421; or avoid the patterns 312, 1324, 2341, etc. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Colin Barker _ , Oct 24 2017 •

[A116730] • 1,2,5,12,25,48,87,152,259,434,719,1182,1933,3150,5121,8312,13477,21836,35363,57252,92671,149982,242715,392762,635545 ★ Number of permutations of length n which avoid the patterns 321, 1342, 1423. • a(n) = 1 + (2 ^ (1 - n) * ((1 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (1 + sqrt(5)) ^ n * (2 + sqrt(5)))) / sqrt(5) - 3 * (1 + n). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A166106] • 0,1,1,2,5,12,25,50,96,180,331,600,1075,1908,3360,5878,10225,17700,30509,52390,89664,153000,260375,442032,748775 ★ a(n) = a(n-1) + a(n-2) + F(n), with a(0) = 0, a(1) = 1, a(2) = a(1) + a(0), a(3) = a(2) + a(1), a(4) = a(3) + a(2) + 2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>6. • a(n) = (1 / 25) * 2 ^ (- n - 1) * (5 * ((1 - sqrt(5)) ^ (n + 1) + (1 + sqrt(5)) ^ (n + 1)) * n - (25 + sqrt(5)) * (1 + sqrt(5)) ^ n + (sqrt(5) - 25) * (1 - sqrt(5)) ^ n), n>2. - _ Ilya Gutkovskiy _ , Apr 26 2016 •

[A067331] • 2,5,12,25,50,96,180,331,600,1075,1908,3360,5878,10225,17700,30509,52390,89664,153000,260375,442032,748775,1265832,2136000,3598250 ★ Convolution of Fibonacci F(n+1), n>=0, with F(n+3), n>=0. • a(n) = sum(binom(n + 3 - i,i) * (n + 2 - 2 * i), i=0..[(n + 3) / 2]). - _ John M. Campbell _ , Jan 04 2016 •

[A116734] • 1,2,5,12,25,50,97,184,345,642,1189,2196,4049,7458,13729,25264,46481,85506,157285,289308,532137,978770,1800257,3311208,6090281 ★ Number of permutations of length n which avoid the patterns 231, 1432, 4123. • a(0)=

0, a(1)=1, a(2)=2, then a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 2 * n - 4. [From _ Gerald McGarvey _ , Oct 06 2009] •

[A116715] • 1,2,5,12,25,54,120,265,580,1272,2796,6143,13488,29619,65053,142873,313771,689095,1513390,3323699,7299465,16031000,35207128,77321545,169812767 ⋆ Number of permutations of length n which avoid the patterns 312, 2341, 4321. • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3) + 3 * a(n - 4) + a(n - 5) for n>5. - _ Colin Barker _ , Oct 20 2017 •

[A221720] • 1,1,2,5,12,26,49,83,129,187,257,339,433,539,657,787,929,1083,1249,1427,1617,1819,2033,2259,2497 ⋆ An avoidance sequence for a pair of tree patterns that is not the avoidance sequence for any set of permutations. • a(n) = 6 * n ^ 2 - 56 * n + 147 for n>6. [_ Bruno Berselli _ , Feb 05 2013] •

[A027927] • 1,2,5,12,26,51,92,155,247,376,551,782,1080,1457,1926,2501,3197,4030,5017,6176,7526,9087,10880,12927,15251 ⋆ Number of plane regions after drawing (in general position) a convex n-gon and all its diagonals. • a(n) = T(n,2n - 4), T given by A027926. • a(n) = 1 + binomial(n, 4) + binomial(n - 1, 2) = (n ^ 4 - 6n ^ 3 + 23n ^ 2 - 42n + 48) / 24. •

[A221948] • 0,1,1,2,5,12,26,52,98,176,303,502,803,1244,1872,2744,3928,5504,7565,10218,13585,17804,23030,29436,37214 ⋆ Expansion of (x-5*x^2+11*x^3-12*x^4+7*x^5-2*x^6+x^7) / (1-6*x+15*x^2-20*x^3+15*x^4-6*x^5+x^6). • a(n) = (n - 1) * (n ^ 4 - 14 * n ^ 3 + 111 * n ^ 2 - 354 * n + 480) / 120 for n >1. - _ Bruno Berselli _ , Feb 06 2013 •

[A116717] • 1,2,5,12,26,52,98,177,310,531,895,1491,2463,4044,6611,10774,17520,28446,46136,74771,121116,196117,317485,513877,831661 ⋆ Number of permutations of length n which avoid the patterns 231, 1423, 3214. • a(n) = - 3 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + 5 * sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + 5 * sqrt(5)))) / sqrt(5) - n - (1 + n) * (2 + n) / 2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5) for n>5. • a(n) = 1 + Sum _{ k=1..n } Sum _{ j=1..k } Sum _{ i=1..j - 1 } Fibonacci(i). - _ Ehren Metcalfe _ , Oct 22 2017 •

[A116725] • 1,2,5,12,26,52,99,184,340,632,1189,2268,4382,8556,16839,33328,66216,131888,263113,525428,1049906,2098692,4196075,8390632,16779516 ⋆ Number of permutations of length n which avoid the patterns 132, 3421, 4231. • a(n) = (3 * 2 ^ n + 2 * n - 3 * n ^ 2 + n ^ 3) / 6. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) for n>5. •

[A026622] • 1,2,5,12,26,54,110,222,446,894,1790,3582,7166,14334,28670,57342,114686,229374,458750,917502,1835006,3670014,7340030,14680062,29360126 ⋆ a(n) = T(n,0) + T(n,1) + ... + T(n,n), T given by A026615. • a(n) = 7 * 2 ^ (n - 2) - 2, a(0) = 1, a(1) = 2 (conjectured). Cf. A026624. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 2 * a(n - 1) + 2, n>2. - _ Gary Detlefs _ , Jun 22 2010 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>3. G.f.: (1 - x + x ^ 2 + x ^ 3) / ((1 - x) * (1 - 2 * x)). - _ Colin Barker _ , Feb 17 2016 •

[A228078] • 0,0,2,5,12,26,55,114,234,477,968,1958,3951,7958,16006,32157,64548,129474,259559,520106,1041810,2086205,4176592,8359950,16730847 ⋆ a(n) = 2^n - Fibonacci(n) - 1. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 2 * a(n - 4) for n>3. - _ Colin Barker _ , Mar 20 2015 • a(n) = (- 1 + 2 ^ n + (((1 - sqrt(5)) / 2) ^ n - ((1 + sqrt(5)) / 2) ^ n) / sqrt(5)). - _ Colin Barker _ , Nov 02 2016 •

[A125180] • 2,5,12,26,56,114,232,466,936,1878,3758,7522,15048,30098,60200,120406,240818,481638,963282,1926568,3853138,7706282,15412568,30825142,61650292 ⋆ a(n)=2a(n-1)+p(n)-p(n-1), a(1)=2, where p(n) denotes the n-th prime. • a(n)=p(n) + Sum(2 ^ (n - j - 1) * p(j),j=1..n - 1), where p(k) denotes the k - th prime. •

[A073778] • 0,0,1,2,5,12,26,56,118,244,499,1010,2027,4040,8004,15776,30956,60504,117845,228818,443057,855732,1649022,3171128,6086626 ⋆ Sum(k=0..n, T(k)*T(n-k)), convolution of A000073 with itself. • a(n) = sum(k=0..n - 2, (k + 1) * sum(j=0..k, binomial(j,n - 3 * k + 2 * j - 2) * binomial(k,j))). [_ Vladimir Kruchinin _ , Dec 14 2011] •

[A116716] • 1,2,5,12,26,58,131,295,662,1487,3342,7510,16874,37915,85195,191432,430143,966522,2171756,4879892,10965017,24638169,55361464,124396081,279515456 ⋆ Number of permutations of length n which avoid the patterns 321, 2341, 4123. • a(n) = 2 * a(n - 1) + a(n - 3) + a(n - 4) - a(n - 5) for n>5. - _ Colin Barker _ , Oct 20 2017 •

[A078410] • 2,5,12,27,54,104,192,340,585,982,1610,2590,4097,6378,9792,14848,22250,32992,48446,70488,101698,145578,206848,291874,409174 ⋆ Number of ways to partition 4*n+3 into distinct positive integers. • a(n) = t(4 * n + 3, 0), t as defined in A079211. •

[A111000] • 2,5,12,27,58,120,245,498,1006,2024,4064,8149,16327,32692,65435,130938,261966,524051,1048260,2096731,4193743,8387860,16776219,33553102,67107091 ⋆ Integer part of Zeta(Zeta(n)). • a(n) = 2 ^ n - (4 / 3) ^ n + O(1) and more precisely lim n – >infty zeta(zeta(n)) - 2 ^ n + (4 / 3) ^ n + 1=gamma where gamma is the Euler - Mascheroni constant. - _ Benoit Cloitre _ , Oct 04 2005 •

[A000325] • 1,1,2,5,12,27,58,121,248,503,1014,2037,4084,8179,16370,32753,65520,131055,262126,524269,1048556,2097131,4194282,8388585,16777192 ⋆ a(n) = 2^n - n. • a(n + 1) = 2 * a(n) + n - 1, a(0) = 1. - _ Reinhard Zumkeller _ , Apr 12 2003 • a(n + 1) = sum of n - th row for the triangle in A109128. - _ Reinhard Zumkeller _ , Jun 20 2005 • a(n) = [x ^ n](B(x) ^ n - B(x) ^ (n - 1)), n>0, a(0)=1, where B(x) = (1 + 2 * x + sqrt(1 + 4 * x ^ 2)) / 2. - _ Vladimir Kruchinin _ , Mar 07 2014 •

[A076878] • 0,2,5,12,27,58,121,248,503,1014,2037,4084,8179,16370,32753,65520,131055,262126,524269,1048556,2097131,4194282,8388585,16777192,33554407 ⋆ a(n) = ceiling(n^(1/n))^n - n. • a(1)=0; a(n) = 2 ^ n - n for n > 1. - _ Benoit Cloitre _ , Nov 28 2002 •

[A083378] • 1,2,5,12,27,58,125,271,584,1259,2714,5848,12599,27144,58480,125992,271441,584803,1259921,2714417,5848035,12599210,27144176,58480354,125992104 ⋆ a(n) = the largest integer whose cube has n digits and first digit 1; but a(2)=2. • a(n) = floor(cuberoot(10 ^ n / 5)). •

[A000102] • 0,0,0,0,1,2,5,12,27,59,127,269,563,1167,2400,4903,9960,20135,40534,81300,162538,324020,644282,1278152,2530407 ⋆ a(n) = number of compositions of n in which the maximum part size is 4. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 4) - 3 * a(n - 5) - 2 * a(n - 6) - a(n - 7). Convolution of tribonacci and tetranacci numbers (A000073 and A000078). - _ Franklin T. Adams - Watters _ , Jan 13 2006 •

[A091596] • 0,1,2,5,12,27,62,137,304,663,1442,3109,6676,14259,30342,64321,135928,286415,601962,1262173,2640860,5514731,11495502,23923065,49710272 ⋆ Expansion of x(1-2x^2)/(1-x-2x^2)^2. • a(n) := sum { k=0..floor((n - 1) / 2), binomial(n - k - 1, k)2 ^ k } ; a(n)=2a(n - 1) + 3a(n - 2) - 4a(n - 3) - 4a(n - 4) . • a(n)=(1 / 9) * (- 1) ^ n * n - (8 / 27) * (- 1) ^ n + (8 / 27) * 2 ^ n + (1 / 9) * 2 ^ n * n, with n>=0 - _ Paolo P. Lava _ , Jun 10 2008 •

[A291248] • 1,2,5,12,27,65,146,346,788,1845,4239,9865,22758,52818,122072,282954,654528,1516221,3508817,8125763,18808494,43550500,100815652,233418699,540371471 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 - S^3 - S^4 + S^5. • a(n) = a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - 12 * a(n - 4) + 3 * a(n - 5) + 12 * a(n - 6) - 3 * a(n - 7) - 6 * a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. •

[A118898] • 0,0,0,0,1,2,5,12,28,62,136,294,628,1328,2787,5810,12043,24840,51016,104380,212848,432732,877400,1774672,3581605 ⋆ Number of binary sequences of length n containing exactly one subsequence 0000. • a(1)=0,a(2)=0,a(3)=0,a(4)=1,a(5)=2,a(6)=5,a(7)=12,a(8)=28 • a(n)=2a(n - 1) + a(n - 2) - a(n - 4) - 4a(n - 5) - 3a(n - 6) - 2a(n - 7) - a(n - 8) (End) •

[A192657] • 1,2,5,12,28,62,138,300,646,1378,2919,6148,12890,26914,56010,116224,240567,496854,1024202,2107660,4330651,8886094,18210883,37278902,76234264 ⋆ Convolution of the Floor-Sqrt transform of central binomial coefficients. • a(n) = sum(floor(sqrt(binomial(2 * k,k))) * floor(sqrt(binomial(2 * n - 2 * k ,n - k))),k=0..n). •

[A045623] • 1,2,5,12,28,64,144,320,704,1536,3328,7168,15360,32768,69632,147456,311296,655360,1376256,2883584,6029312,12582912,26214400,54525952,113246208 ⋆ Number of 1's in all compositions of n+1. • a(0)=1, a(n)=(n + 3) * 2 ^ (n - 2), n >= 1. a(n + 1) = 2 * a(n) + 2 ^ (n - 1), n>0. • a(n) = sum _{ 0<=i _ 1<=i _ 2<=n } binomial(n, i _ 1 + i _ 2). - _ Benoit Cloitre _ , Oct 14 2004 • a(n) = Sum { k=0..n, C(n, k) * floor((k + 2) / 2) } . - _ Paul Barry _ , Mar 06 2003 • a(n + 1) - 2a(n)= 0, 1, 2, 4, 8, 16, ... = A131577. - _ Paul Curtz _ , May 18 2008 • a(n) = Sum _{ k=0..n } (k + 1) * C(n - 1,n - k). - _ Peter Luschny _ , Apr 20 2015 •

[A290990] • 0,1,2,5,12,28,64,145,328,743,1686,3830,8704,19781,44950,102133,232048,527208,1197808,2721421,6183108,14048151,31917714,72517738,164761792 ⋆ p-INVERT of the nonnegative integers (A000027), where p(S) = 1 - S - S^2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) + a(n - 4). •

[A019485] • 2,5,12,28,65,150,346,797,1836,4228,9737,22422,51634,118901,273804,630508,1451921,3343446,7699210,17729549,40827180,94015828,216497369,498544854,1148036962 ⋆ a(n) = 2*a(n-1) + 2*a(n-2) - 3*a(n-3). • a(n) = - (1 / 3) + (7 / 6) * [1 / 2 - (1 / 2) * sqrt(13)] ^ n + (7 / 6) * [1 / 2 + (1 / 2) * sqrt(13)] ^ n + (25 / 78) * sqrt(13) * [1 / 2 + (1 / 2) * sqrt(13)] ^ n - (25 / 78) * [1 / 2 - (1 / 2) * sqrt(13)] ^ n * sqrt(13), with n>=0. - _ Paolo P. Lava _ , Jul 31 2008 •

[A018914] • 2,5,12,28,65,150,346,798,1840,4242,9779,22543,51967,119796,276157,636604,1467515,3382951,7798460,17977197,41441465,95531857,220222323,507661769,1170274058 ⋆ Pisot sequence T(2,5), a(n) = floor(a(n-1)^2/a(n-2)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - a(n - 6) (holds at least up to n = 1000 but is not known to hold in general). •

[A034943] • 1,1,1,2,5,12,28,65,151,351,816,1897,4410,10252,23833,55405,128801,299426,696081,1618192,3761840,8745217,20330163,47261895,109870576 ⋆ Binomial transform of Padovan sequence A000931. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n + k - 1, 3 * k). - _ Paul Barry _ , Jul 06 2004 •

[A181984] • 1,2,5,12,28,65,151,351,816,1897,4410,10252,23833,55405,128801,299426,696081,1618192,3761840,8745217,20330163,47261895,109870576,255418101,593775046 ⋆ INVERT transform of A028310. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) satisfies 1 = f(a(n - 2), a(n - 1), a(n)) where f(u, v, w) = u ^ 3 - 5 * v ^ 3 + w ^ 3 + u * v * (7 * v - 4 * u) + u * w * (3 * u + 2 * w) + v * w * (11 * v - 6 * w) - 9 * u * v * w. •

[A255115] • 1,2,5,12,28,66,156,368,868,2048,4832,11400,26896,63456,149712,353216,833344,1966112,4638656,10944000,25820224,60917760,143723520,339087488,800010496 ⋆ Number of n-length words on {0,1,2} in which 0 appears only in runs of length 2. • a(n + 3) = 2 * a(n + 2) + 2 * a(n) with n>1, a(0) = 1, a(1) = 2, a(2)=5. •

[A291234] • 1,2,5,12,28,67,156,370,866,2044,4799,11304,26574,62547,147108,346149,814270,1915795,4506952,10603417,24945414,58687660,138068915,324824928,764187814 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 - S^3 - S^4. • a(n) = a(n - 1) + 5 * a(n - 2) - 2 * a(n - 3) - 7 * a(n - 4) + 2 * a(n - 5) + 5 * a(n - 6) - a(n - 7) - a(n - 8) for n >= 9. •

[A290073] • 1,2,5,12,29,60,125,252,509,1020,2045,4092,8189,16380,32765,65532,131069,262140,524285,1048572,2097149,4194300,8388605,16777212,33554429 ⋆ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 641", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>4. •

[A131045] • 1,2,5,12,29,68,155,348,775,1712,3745,8112,17431,37252,79355,168710,358037,758020,1599675,3362876,7041593,14692956,30577435,63531092,131901879 ★ Binomial transform of Euler's totient function phi(n+1). • a(n)=Sum(binom(n,j)phi(j + 1),j=0..n). - _ Emeric Deutsch _ , Jul 09 2007 •

[A291235] • 1,2,5,12,29,69,166,394,944,2245,5365,12781,30506,72734,173520,413838,987130,2354465,5615889,13395047,31949764,76206828,181768094,433554067,1034112065 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^2 - S^3 - S^4 - S^5. • a(n) = a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - 12 * a(n - 4) + 5 * a(n - 5) + 12 * a(n - 6) - 3 * a(n - 7) - 6 * a(n - 8) + a(n - 9) + a(n - 10) for n >= 11. •

[A000129] • 0,1,2,5,12,29,70,169,408,985,2378,5741,13860,33461,80782,195025,470832,1136689,2744210,6625109,15994428,38613965,93222358,225058681,543339720 ★ Pell numbers: a(0) = 0, a(1) = 1; for n > 1, a(n) = 2*a(n-1) + a(n-2). • a(n) = 2 * a(n - 1) + a(n - 2), a(0)=0, a(1)=1. • a(n) = ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) / (2 * sqrt(2)). • a(n) = integer nearest a(n - 1) / (sqrt(2) - 1), where a(0) = 1. - _ Clark Kimberling _ • a(n) = Sum _{ i, j, k >= 0: i + j + 2k=n } (i + j + k)! / (i! * j! * k!). • a(n) ^ 2 + a(n + 1) ^ 2 = a(2n + 1) (1999 Putnam examination). • a(n) = ((- i) ^ (n - 1)) * S(n - 1, 2 * i), with S(n, x) := U(n, x / 2) Chebyshev's polynomials of the second kind. See A049310. S(- 1, x)=0, S(- 2, x)= - 1. •

[A215928] • 1,1,2,5,12,29,70,169,408,985,2378,5741,13860,33461,80782,195025,470832,1136689,2744210,6625109,15994428,38613965,93222358,225058681,543339720 ★ a(n) = 2*a(n-1) + a(n-2) for n > 2, a(0) = a(1) = 1, a(2) = 2. • a(n) = 2 * a(n - 1) + a(n - 2) for n > 2, a(0) = a(1) = 1, a(2) = 2. • a(n) = 1 / 2 * ((1 + sqrt(2)) ^ (n - 1) + (1 - sqrt(2)) ^ (n - 1)) + 1 / 4 * sqrt(2) * ((1 + sqrt(2)) ^ (n - 1) - (1 - sqrt(2)) ^ (n - 1)), for n>0. - _ Paolo P. Lava _ , Oct 26 2012 •

[A089372] • 1,1,1,2,5,12,29,72,183,473,1239,3282,8777,23665,64261,175584,482395,1331795,3692891,10280190,28719659,80493514,226268539,637767720,1802113489 ★ Number of Motzkin paths of length n with no peaks at level 1. • a(n) = sum(k=1..(n + 3) / 2, (k * sum(j=0..n - k + 3, binomial(j,n - j + 3) * binomial(n - k + 3,j))) / (n - k + 3) * (- 1) ^ (k - 1)). - _ Vladimir Kruchinin _ , Oct 22 2011 •

[A132807] • 1,2,5,12,29,73,195,556,1685,5373 ★ A000108(n) + A000079(n) - 1. • a(n) = C(n) + 2 ^ n - 1. •

[A042789] • 1,2,5,12,29,1752,3533,8818,21169,51156,3090529,6232214,15554957,37342128,90239213,5451694908,10993629029,27438952966,65871534961,159182022888,9616792908241,19392767839370,48402328586981,116197425013332,280797178613645 ★ Denominators of continued fraction convergents to sqrt(925). • a(n) = 1764 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Jan 29 2014 •

[A291253] • 2,5,12,30,70,166,382,881,2002,4540,10210,22891,51050,113506,251430,555466,1223680,2689591,5898290,12909880,28204178,61515521,133961048,291308806,632628710 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S - S^2)^2. • a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 8 * a(n - 3) - 9 * a(n - 4) + 8 * a(n - 5) + 5 * a(n - 6) - 2 * a(n - 7) - a(n - 8) for n >= 9. •

[A054341] • 1,2,5,12,30,74,185,460,1150,2868,7170,17904,44760,111834,279585,698748,1746870,4366460,10916150,27287944,68219860,170541252,426353130,1065853432,2664633580 ★ Row sums of triangle A054336 (central binomial convolutions). • a(n) is the upper left term of M ^ n, M = an infinite square production matrix as follows: •

[A076883] • 1,2,5,12,30,75,187,467,1167,2917,7292,18230,45575,113937,284842,712105,1780262,4450655,11126637,27816592,69541480,173853700,434634250,1086585625,2716464062 ★ Let u(0)=1, u(n) = 5/2 * floor(u(n-1)); then a(n) = (2/5)*u(n). • a(n)=ceiling(c * (5 / 2) ^ n) with c=0.7646166585498893366580827509018408889021729 9... •

[A092247] • 1,2,5,12,30,75,190,484,1242,3206,8316,21657,56591,148303,389615,1025810,2706014,7150411,18923033,50146688,133054093,353426693,939750924,2501100209,6662258807 ★ a(0)=1, a(n+1)=ceiling((1+1/n)^n*a(n)). • a(n) is asymptotic to c * exp(n) / sqrt(n) where c=1.261(6)... •

[A051163] • 1,2,5,12,30,76,194,496,1269,3250,8337,21428,55184,142376,367916,952000,2466014,6393372,16586678,43054344,111801908,290412296,754543052,1960808160,5096293794 ★ Sequence is defined by property that (a0,a1,a2,a3,...) = binomial transform of (a0,a0,a1,a1,a2,a2,a3,a3,...). • a(n) = 1 + Sum _{ k =1..n } Sum _{ j=0..n - k } C(k, j) * C(n - k, j) * a(j). - _ Paul D. Hanna _ , Nov 22 2004 •

[A051450] • 1,2,5,12,30,76,195,504,1309,3410,8900,23256,60813,159094,416325,1089648,2852242,7466468,19546175,51170460,133962621,350713222,918170280,2403786672,6293172025 ★ Number of positive rational knots with 2n+1 crossings. • a(n) = (Fibonacci(2 * n) + Fibonacci(n)) / 2. - _ Vladeta Jovovic _ , Jul 17 2004 • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3) + a(n - 4). - _ Colin Barker _ , Nov 01 2014 •

[A038508] • 1,2,5,12,30,76,196,512,1352,3600,9648,25984,70240,190400,517184,1406976,3831936,10445056,28488448,77735936,212186624,579320832,1581966336,4320477184,11800692736 ★ Expansion of (1-2*x-x^2)/(1-4*x+2*x^2+4*x^3). • a(n)=(3 * 2 ^ (n + 1) - Sqrt[3](1 - Sqrt[3]) ^ (n + 1) + Sqrt[3](1 + Sqrt[3]) ^ (n + 1)) / 12 - _ Herbert Kociemba _ , Jun 17 2004 •

[A002026] • 0,1,2,5,12,30,76,196,512,1353,3610,9713,26324,71799,196938,542895,1503312,4179603,11662902,32652735,91695540,258215664,728997192,2062967382,5850674704 ★ Generalized ballot numbers (first differences of Motzkin numbers). • a(n) = sum(b = 1 to (n + 1) / 2) [n choose (2b - 1)][2b choose b] / (b + 1). •

[A086622] • 1,2,5,12,30,76,197,520,1398,3820,10594,29768,84620,243000,704045,2055760,6043750,17875020,53148310,158773320,476311940,1434313960,4333867170,13135533552,39924668220 ★ G.f. A(x) satisfies: A(x) = 1/(1-2*x) + x^2*A(x)^2. • a(n) = Sum _{ k=0..floor(n / 2) } C(n - k,k) C(2k,k) 2 ^ (n - 2k) / (k + 1). - _ Paul Barry _ , Nov 13 2004 • a(n) = Sum _{ i=0..floor(n / 2) } 2 ^ (n - 2i) * C(i) * binomial(n - i,i), where C(n) is the n - th Catalan number A000108. - _ José Luis Ramírez Ramírez _ , Apr 20 2015 •

[A253831] • 1,2,5,12,30,76,197,522,1418,3956,11354,33554,102104,319608,1027237,3381714,11371366,38946892,135505958,477781296,1703671604,6132978608,22256615602,81327116484,298938112816 ★ Number of 2-Motzkin paths with no level steps at height 1. • a(n) = Sum _{ m=1..n / 2 } (Sum _{ j=0..n - 2 * m } (((Sum _{ k=0..j } ((k + 1) * binomial(k + m,k + 1) * binomial(2 * j - k + m - 1,j - k) * (- 1) ^ (k))) * 2 ^ (n - j - 2 * m) * binomial(n - m - j,m)) / (j + m))) + 2 ^ n. - _ Vladimir Kruchinin _ , Mar 11 2016 •

[A188378] • 2,5,12,30,77,200,522,1365,3572,9350,24477,64080,167762,439205,1149852,3010350,7881197,20633240,54018522,141422325,370248452,969323030,2537720637,6643838880,17393796002 ★ Partial sums of A005248. • a(n) = 2 ^ (- 1 - n) * (2 ^ (1 + n) - (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n). - _ Colin Barker _ , Nov 02 2016 •

[A136704] • 0,1,2,5,12,30,78,205,546,1476,4026,11070,30660,85410,239144,672605,1899120,5380830,15292914,43584804,124527988,356602950,1023295422,2941974270,8472886092 ★ Number of Lyndon words on {1,2,3} with an odd number of 1's and an odd number of 2's. • a(1)=0; for n>1, if n=odd then a(n)= sum(mu(d) * 3 ^ (n / d)) / (4n); d|n. If n=even, then a(n)= sum(mu(d) * (3 ^ (n / d) - 1)) / (4n); d|n, d odd. •

[A101785] • 1,1,1,2,5,12,30,79,213,584,1628,4600,13138,37871,110043,321978,947813,2805104,8341608,24912004,74686460,224694128,678143656,2052640752,6229616730 ★ G.f. satisfies: A(x) = 1 + x*A(x)/(1 - x^2*A(x)^2). • a(n) = Sum _{ k=0..[(n - 1) / 2] } C(n - k - 1, k) * C(n, 2 * k) / (2 * k + 1) for n>0, with a(0)=1. •

[A291239] • 2,5,12,31,74,184,442,1081,2604,6323,15250,36912,89074,215293,519660,1255223,3030106,7317032,17664170,42649553,102963276,248587051,600137378,1448890464,3497918306 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S^2) (1 - 2 S). • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 6 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) + a(n - 6) for n >= 7. •

[A290616] • 2,5,12,31,80,205,526,1350,3464,8889,22810,58532,150198,385420,989018,2537899,6512450,16711463,42882940,110041025,282373998,724594076,1859365870,4771280299,12243483684 ★ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = 1 - 2 S - S^2. • a(n) = 2 * a(n - 1) + a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) for n >= 7. •

[A110035] • 1,2,5,12,31,80,209,546,1429,3740,9791,25632,67105,175682,459941,1204140,3152479,8253296,21607409,56568930,148099381,387729212,1015088255,2657535552,6957518401 ★ Row sums of an unsigned characteristic triangle for the Fibonacci numbers. • a(n)=1 / 2 + (1 / 5) * [3 / 2 + (1 / 2) * sqrt(5)] ^ n + (1 / 10) * (- 1) ^ n + (1 / 5) * [3 / 2 + (1 / 2) * sqrt(5)] ^ n * sqrt(5) - (1 / 5) * [3 / 2 - (1 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 5) * [3 / 2 - (1 / 2) * sqrt(5)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 12 2008 •

[A097893] • 1,2,5,12,31,82,223,616,1723,4862,13815,39468,113257,326198,942425,2730032,7926659,23061590,67214399,196211252,573590621,1678941350,4920076877,14433305000,42381641381 ★ Partial sums of the central trinomial coefficients (A002426). • a(n) = Sum _{ 0<=j<=i<=n } C(i, i - j) * C(j, i - j). - _ Benoit Cloitre _ , Oct 23 2004 • a(n) = sum _{ k=0..n } Sum _{ j=0..n - k } C(k,j)C(n - k,j)C(2j,j). - _ Paul Barry _ , Jan 03 2008 • a(n) = Sum _{ k = 0..floor(n / 2) } binomial(n + 1,2 * k + 1) * binomial(2 * k,k). Cf. A025178. - _ Peter Bala _ , Oct 28 2015 • a(n) = (n + 1) * hypergeom([1 / 2, (1 - n) / 2, - n / 2],[1,3 / 2],4). - _ Peter Luschny _ , Oct 29 2015 •

[A093379] • 0,1,2,5,12,31,82,225,632,1811,5262,15445,45652,135591,404042,1206665,3609072,10805371,32372422,97029885,290914892,872395151,2616486402,7848061105,23541387112 ★ Expansion of x(1-2x-2x^2)/((1+x)(1-2x)(1-3x)). • a(n)=3 ^ n / 12 - (- 1) ^ n / 12 + 2 ^ n / 3 - 0 ^ n / 3; • a(n)=4a(n - 1) - a(n - 2) - 6a(n - 3). •

[A071359] • 0,1,1,2,5,12,31,83,227,634,1799,5171,15027,44074,130299,387880,1161665,3497734,10581819,32150411,98057835,300116888,921456715,2837379238,8760199757 ★ Expansion of (1-x-sqrt(1-2*x-3*x^2-4*x^3))/(2*x*(1+x)). • a(n + 1) = sum(k=0..n / 2, binomial(2 * k,k) / (k + 1) * sum(i=0..k, binomial(k,i) * binomial(n - i,2 * k))). • a(0)=0, a(1)=1, a(2)=1, a(3)=2, a(n) = ((n - 2) * a(n - 1) + (5 * n - 7) * a(n - 2) + (7 * n - 20) * a(n - 3) + (4 * n - 14) * a(n - 4)) / (n + 1). - _ Tani Akinari _ , Jul 03 2013 •

[A162434] • 1,2,5,12,32,82,218,598,1702,4925,14496,43720,134854,423988,1357884,4425384,14664610,49386081,168884638,586012116,2061993475,7353614415,26566226591,97177708497,359765742126 ★ Antidiagonal sums of table A162430. • a(n) = Sum _{ k=0..n } Sum _{ m=k(k + 1) / 2..k(k + 1) / 2 + k } [x ^ m] S(x) ^ (n - k) for n>=1 where S(x) = Sum _{ n>=0 } x ^ (n(n + 1) / 2). •

[A143657] • 1,1,2,5,12,32,95,301,1001,3495,12708,47932,186581,747619,3073207 ★ Number of 4-noncrossing stack-free partial matching without 1-arcs. • a(n) = C _ 4(n,h) = SUM[b=0.. { h - 1 }](- 1) ^{ h - b - 1 }{ h - 1 Choose b }{ T }_ 4(h - 2h + 2b + 2,b + 1); where the T function is defined in Jin and Reidys. •

[A115523] • 1,2,5,12,33,60,111,176,287,440,637,864,1237,1652,2147,2752,3555,4428,5517,6700,8177,9878,11785,13824,16441 ★ Number of ordered quadruples (i,j,k,l) in range [0..n] satisfying i == j mod 2, j == k mod 3 and k == l mod 4. • a(n) = binomial(n + 1,4) - presumably quadratic (PORC) correction term which depends on n mod 24. • a(n) = (19958400 * (n ^ 4 + 4 * n ^ 3 + 12 * n ^ 2 + 24 * n + 24) - (1235 * n ^ 2 + 2 * 1127 * n + 215) * m ^ 11 + (74987 * n ^ 2 + 2 * 69047 * n + 13541) * m ^ 10 - (1983300 * n ^ 2 + 2 * 18

44700 * n + 377520) * m ^ 9 + (29983800 * n ^ 2 + 2 * 28201800 * n + 6115890) * m ^ 8 - (285731655 * n ^ 2 + 2 * 272034411 * n + 63415275) * m ^ 7 + (1784142591 * n ^ 2 + 2 * 1720539051 * n + 436295013) * m ^ 6 - (7344548530 * n ^ 2 + 2 * 7175131810 * n + 1995595030) * m ^ 5 + (19515989350 * n ^ 2 + 2 * 19301456350 * n + 5911801060) * m ^ 4 - (31672473360 * n ^ 2 + 2 * 31658103312 * n + 10685562360) * m ^ 3 + (27907182072 * n ^ 2 + 2 * 28127231352 * n + 10490664096) * m ^ 2 - (9932634720 * n ^ 2 + 2 * 10110299040 * n + 4359398400) * m) / 479001600 where m=n - 12 * floor(n / 12). - _ Luce ETIENNE _ , Sep 27 2017 ●

[A032124] ● 2,5,12,33,90,261,756,2241,6642,19845,59292,177633,532170,1595781,4785156,14353281,43053282,129153285,387440172,1162300833,3486843450,10460471301,31381236756,94143533121,282430067922 ★ "BIK" (reversible, indistinct, unlabeled) transform of 2,2,2,2... ● a(n) = (1 / 6) * ((5 - (- 1) ^ n) * 3 ^ floor(n / 2) + 2 * 3 ^ n). - _ Ralf Stephan _ , May 11 2004 ● a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3). G.f.: - x * (9 * x ^ 2 + x - 2) / ((3 * x - 1) * (3 * x ^ 2 - 1)). - _ Colin Barker _ , Dec 15 2012 ●

[A221206] ● 2,5,12,33,93,269,788,2330,6947,20840,62834,190240,577990,1761279,5380796,16475256,50543777,155330201,478096270,1473591670,4547602623,14050145290,43453847676,134519899690,416794664987 ★ a(n) = nearest integer to sqrt(10^n/log(10^n)). ● a(n) = round(sqrt(10 ^ n / log(10 ^ n))). ●

[A281489] ● 1,1,1,2,5,12,33,93,276,833,2574,8057,25565,81889,264703,861889,2824974,9311875,30851395,102676439,343112116,1150785092,3872588051,13071583810,44245023261 ★ Number of partitions of n^2 into distinct odd parts. ● a(n) = [x ^ (n ^ 2)] Product _{ j>=0 } (1 + x ^ (2 * j + 1)). ●

[A186739] ● 0,0,1,2,5,12,33,94,293,952,3297,11866,44837,175364,713409,2993142,12980869,57878000,265571905,1249497906,6029792197,29770252412,150366096353,775541397006,4083595516773 ★ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n-2)*a(n-2) + 1. ● a(n) = 2 * a(n - 1) + (n - 3) * a(n - 2) - (n - 3) * a(n - 3) with a(0)=a(1)=0, a(2)=1. - _ Vincenzo Librandi _ , Dec 24 2012 ●

[A196545] ● 1,1,2,5,12,34,92,277,806,2500,7578,24198,75370,243800,776494,2545777,8223352,27221690,88984144,296856400,979829772,3287985078,10934749788,36912408342,123519937044 ★ Number of weakly ordered plane trees with n leaves. ● a(1) = 1, a(n>1) = Sum _ y Prod _ i a(y _ i) where the sum is over all partitions of n with at least two parts. ●

[A101292] ● 1,2,5,12,34,135,741,5068,40356,362925,3628855,39916866,479001678,6227020891,87178291305,1307674368120,20922789888136,355687428096153,6402373705728171,121645100408832190,2432902008176640210,51090942171709440231,1124000727777607680253 ★ a(n) = n! + Sum_{i=1..n} i. ● a(n) = n! + n * (n + 1) / 2. ● a(n) = Sum _{ j=0..n - 1 } ((n - 1)! + (j + 1)) for n >0. - _ Zerinvary Lajos _ , Oct 20 2006 ●

[A003724] ● 1,1,1,2,5,12,37,128,457,1872,8169,37600,188685,990784,5497741,32333824,197920145,1272660224,8541537105,59527313920,432381471509,3252626013184,25340238127989,204354574172160,1699894200469849 ★ Number of partitions of n-set into odd blocks. ● a(n) = sum(1 / 2 ^ k * sum((- 1) ^ i * C(k,i) * (k - 2 * i) ^ n, i=0..k) / k!, k=1..n). - _ Vladimir Kruchinin _ , Aug 22 2010 ● a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator sqrt(1 + x ^ 2) * d / dx. Cf. A002017 and A009623. - _ Peter Bala _ , Dec 06 2011 ●

[A291484] ● 0,1,2,5,12,49,190,1301,7224,69441,495898,6095429,53005700,792143793,8110146070,142633278997,1679413757168,33964965659649,451969255722162,10331348137881349,153288815339260796,3907452790559751857,63949589015139119598,1798373345567005989781,32179694275204166066728 ★ Expansion of e.g.f. arctanh(x)*exp(x). ● a(n) = Sum _{ k=0..n / 2 } binomial(n + 1,2 * k + 1) * ((n - 2 * k) / (n + 1)) * (2 * k)!. ● a(n + 3) - a(n + 2) - (n + 1) * (n + 2) * a(n + 1) + (n + 1) * (n + 2) * a(n) = 1. ● a(n + 4) - 2 * a(n + 3) - (n ^ 2 + 5 * n + 5) * a(n + 2) + 2 * (n + 2) ^ 2 * a(n + 1) - (n + 1) * (n + 2) * a(n) = 0. ●

[A041095] ● 1,2,5,12,173,358,889,2136,30793,63722,158237,380196,5480981,11342158,28165297,67672752,975583825,2018840402,5013264629,12045369660,173648439869,3593422493 98,892332938665,2144008126728,30908446712857 ★ Denominators of continued fraction convergents to sqrt(55). ● a(n) = 178 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 ●

[A041333] ● 1,2,5,12,317,646,1609,3864,102073,208010,518093,1244196,32867189,66978574,166824337,400627248,10583132785,21566892818,537169184 21,129000729660,3407735889581,6944472508822,17296680907225,41537834323272,1097280373312297 ★ Denominators of continued fraction convergents to sqrt(180). ● a(n) = 322 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 15 2013 ●

[A041715] ● 1,2,5,12,461,934,2329,5592,214825,435242,1085309,2605860,100107989,202821838,505751665,1214325168,46650108049,94514541266,2356791905 81,565872922428,21738850242845,44043573408118,109825997059081,26369556 7526280,10130257563057721 ★ Denominators of continued fraction convergents to sqrt(377). ● a(n) = 466 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 23 2013 ●

[A042241] ● 1,2,5,12,605,1222,3049,7320,369049,745418,1859885,4465188,225119285,454703758,1134526801,2723757360,137322394801,277368546962,69205 9488725,1661487524412,83766435709325,169194358943062,422155153595449,1013504666133960,51097388460293449 ★ Denominators of continued fraction convergents to sqrt(646). ● a(n) = 610 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 18 2014 ●

[A042911] ● 1,2,5,12,749,1510,3769,9048,564745,1138538,2841821,6822180,425816981,858456142,2142729265,5143914672,321065438929,647274792530,1615615023989,3878504840508,242082915135485,488044335111478,121817158535 8441,2924387505828360 ★ Denominators of continued fraction convergents to sqrt(987). ● a(n) = 754 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Feb 01 2014 ●

[A220268] ● 2,5,13,14,23,25,33,43,46,58,60,61,71,77,80,88,103,104,116,123,127,144,145,148,150 ★ a(n) is the smallest number, such that for N >= a(n) there are at least n primes between 2*N and 3*N. ● a(1) = 2; for n>=2, a(n) = ceil (R _ (3 / 2)(n) / 3), where R _ v(n) (v>1) are generalized Ramanujan numbers (see Shevelev's link). In particular, for n>=1, { R _ (3 / 2)(n) } = { 2, 13 , 37, 41, 67, 73, 97, 127, 137, 173, 179, 181, 211, 229, 239, ... } . ●

[A168486] ● 2,5,13,16,24,27,35,38,46,49,57,60,68,71,79,82,90,93,101,104,112,115,123,126,134 ★ Numbers that are congruent to {2, 5} mod 11. ● a(n) = 11 * n - a(n - 1) - 4 with n>1, a(1)=2. ● a(n) = (22 * n - 5 * (- 1) ^ n - 19) / 4. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ●

[A235204] ● 2,5,13,18,32,41,50,72,85,113,128,145,181,200,242,265,313,338,365,421,450,512,545,578,648 ★ Number of integer lattice points inside the square ABCD with side length n>0 with A(0|0), B(n*sqrt(2)/2| n*sqrt(2)/2), C(0| n*sqrt(2)) and D(-n*sqrt(2)/2| n*sqrt(2)/2). ● a(n) = (2 * z ^ 2 + 1 - (- 1) ^ z) / 4, where z = ceil(sqrt(2) * n). - _ Giovanni Resta _ , Jan 10 2014 ●

[A273462] ● 0,2,5,13,19,31,41,56,81,103,136,171,201,235,280,335,384,444,505,560,626,693,772,869,966 ★ Rounded variance of the first n primes, for n > 1. ● a(n) = round(Sum _{ i=1..n } (prime(i) - Sum _{ j=1..n } prime(j) / n) ^ 2 / (n - 1)), n > 1. ●

[A049779] ● 2,5,13,23,41,62,94,130,180,235,307,385,483,588,716,852,1014,1185,1385,1595,1837,2090,2378,2678,3016 ★ a(n) = Sum{T(n,2k): k=1,2,...,[n/2]}, array T as in A049777. ● a(n) = Sum _{ k=1..n } k * floor(k / 2). - _ Vladeta Jovovic _ , Apr 29 2006 ● a(n) = n ^ 3 / 6 + n ^ 2 / 8 - n / 24 - 1 / 16 + (- 1) ^ n * (n / 8 + 1 / 16). - _ Robert Israel _ , Jun 08 2015 ● a(n) = 1 / 4 * (n * (n + 1) * (4 * n - 1) / 6 + (- 1) ^ n * floor((n + 1) / 2)). - _ Néstor Jofré _ , Apr 24 2017 ●

[A256491] ● 2,5,13,23,43,59,79,97,113,157,173,211,239,257,281,331,373,389,433,461,479,523,569,607,659 ★ a(n) = A256464(prime(n)). ● a(n) = prime(prime pi(n) + n - 2). ●

[A072921] ● 1,2,5,13,25,44,71,106,148,203,263,334,415,506,608,724,853,998,1169,1357,1561,1778,2018,2269,2539 ★ a(1)=1; a(n) = a(n-1) + [sum of all decimal digits present so far in the sequence]. ● a(1)=1, a(2)=2; a(n + 1)=2a(n) - a(n - 1) + sod(a(n)) (sod = "sum of digits"). - _ Farideh Firoozbakht _ , Oct 01 2009 ●

[A126656] ● 1,2,5,13,27,62,125,266,538,1106,2213,4509,9019,18166,36365,73012,146025,292658,585317,1171783,2343697,4689610,9379221,18763300,37526628 ★ a(1)=1; for n>1, a(n) = sum{k=1 to n-1} a(k) floor(n/k). ● a(n) is asymptotic to c * 2 ^ n where c=1.118656792139919360830375675285583554251806141777100646700242129904 6146... [From _ Benoit Cloitre _ , Nov 10 2009] ●

[A225690] ● 1,1,2,5,13,28,48,73,103,138,178,223,273,328,388,453,523,598,678,763,853,948,1048,1153,1263 ★ Number of Dyck paths of semilength n avoiding the pattern U^3 D^3 U D. ● a(n) = (5 * n ^ 2 - 15 * n + 6) / 2 for n >= 4. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. - _ Colin Barker _ , Jul 10 2015 ●

[A122491] ● 0,0,0,2,5,13,28,58,114,218,407,747,1352,2420,4292,7554,13209,22969,39748,68494,117590,201210,343275,584087,991440 ★ a(n) = n * Fibonacci(n) - Sum_{i=0..n} Fibonacci(i). ● a(n) = n * Fibonacci(n) - Fibonacci(n + 2) + 1. - _ Stefan Steinerberger _ , Feb 22 2008 ●

[A011756] ● 2,5,13,29,47,73,107,151,197,257,317,397,467,571,659,769,883,1019,1151,1291,1453,1607,1783,1987,2153 ★ Prime(n(n+1)/2). ● a(n) is asymptotic to [n * (n + 1) / 2] * log [n * (n + 1) / 2] = [n * (n + 1) / 2] * [log(n) + log(n + 1) - log(2)] ~ (n ^ 2 + n) * (2 log n) / 2 ~ (n ^ 2 + n) * (log n). - _ Jonathan Vos Post _ , Mar 12 2006 ●

[A218152] ● 1,2,5,13,29,56,97,155,233,334,461,617,805,1028,1289,1591,1937,2330,2773,3269,3821,4432,5105,5843,6649 ★ a(n) = 1 + n + ((n-1)*n^2)/2. ● a(n) = a(n - 1) + (4 - 5 * n + 3 * n ^ 2) / 2 for n > 0 and a(0)=1. ●

[A079991] ● 1,1,1,2,5,13,29,58,124,280,632,1406,3101,6851,15217,33846,75181,166823,370177,821760,1824620,4051056,8993220,19964240,44320545 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={-1,1}. ● a(n) = 2 * a(n - 1) + 3 * a(n - 4) + a(n - 6) - 8 * a(n - 7) - a(n - 8) - 3 * a(n - 10) + 2 * a(n - 13) + a(n - 14). ●

[A289843] ● 1,2,5,13,29,73,168,410,962,2317,5483,13131,31193,74509,177311,423025,1007505,2402354,5723761,13644587,32514730,77501115,184698088,440216833,1049148789 ★ p-INVERT of (1,0,2,0,3,0,4,0,5,...) (A027656), where p(S) = 1 - S - S^2. ● a(n) = a(n - 1) + 5 * a(n - 2) - 2 * a(n - 3) - 6 * a(n - 4) + a(n - 5) + 4 * a(n - 6) - a(n - 8). ●

[A116699] ● 1,2,5,13,30,61,112,190,303,460,671,947,1300,1743,2290,2956,3757,4710,5833,7145,8666,10417,12420,14698,17275 ★ Number of permutations of length n which avoid the patterns 123 and 4312. ● a(n) = (n ^ 4 + 2 * n ^ 3 - 13 * n ^ 2 + 34 * n) / 24. - _ Franklin T. Adams - Watters _ , Sep 16 2006 ●

[A282153] ● 0,1,2,5,13,30,63,127,254,509,1021,2046,4095,8191,16382,32765,65533,131070,262143,524287,1048574,2097149,4194301,8388606,16777215 ★ Expansion of x*(1 - 2*x + 3*x^2)/((1 - x)*(1 - 2*x)*(1 - x + x^2)). ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 2 * a(n - 4) for n>3. (End) ● a(n) = 2 ^ n + ((- 1) ^ floor(n / 3) + (- 1) ^ floor((n + 1) / 3)) / 2 - 2. Therefore: ● a(3 * k) = 8 ^ k + (- 1) ^ k - 2, ● a(3 * k + 1) = 2 * 8 ^ k + (- 1) ^ k - 2, ● a(3 * k + 2) = 4 * 8 ^ k - 2. (End) ● a(n + 6 * h) = a(n) + 2 ^ n * (64 ^ h - 1) with h>=0. For h=1, a(n + 6) = a(n) + 63 * 2 ^ n. ●

[A184052] ● 1,2,5,13,30,66,137,279,556,1104,2179,4309,8518,16886,33509,66643,132672,264492,527639,1053441,2104042,4204242,8402617,16797343,33582724 ★ The number of order-decreasing partial isometries (of an n-chain) ● a(n)= 3 * a(n - 1) - 2 * a(n - 2) - 2 ^ floor(n / 2) + n + 1. ●

[A098501] • 1,2,5,13,31,49,70,93,121,151,186,223,265,309,358,409,465,523,586,651,721,793,870,949,1033 ★ Number of squares on infinite octant of chessboard at <=n knight moves from the corner. The octant includes the diagonal. • a(n) = (1 / 8) * [14n ^ 2 + 8n + 5 + 3(- 1) ^ n], for n>4. •

[A116701] • 1,2,5,13,31,66,127,225,373,586,881,1277,1795,2458,3291,4321,5577,7090,8893,11021,13511,16402,19735,23553,27901 ★ Number of permutations of length n that avoid the patterns 132, 4321. • a(n) = (n ^ 4 - 4n ^ 3 + 11n ^ 2 - 8n + 12) / 12. - _ Franklin T. Adams - Watters _ , Sep 16 2006 •

[A179257] • 1,2,5,13,32,72,148,281,499,838,1343,2069,3082,4460,6294,8689,11765,15658,20521,26525,33860,42736,53384,66057,81031 ★ Number of permutations of length n which avoid the patterns 321 and 1324. • a(n) = 1 + binomial(n,2) + binomial(n + 2,5). •

[A116702] • 1,2,5,13,32,74,163,347,722,1480,3005,6065,12196,24470,49031,98167,196454,393044,786241,1572653,3145496,6291202,12582635,25165523,50331322 ★ Number of permutations of length n which avoid the patterns 123, 3241. • a(n) = 3 * 2 ^ (n - 1) + n - (n + 1) * (2 + n) / 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>4. •

[A098156] • 1,2,5,13,32,76,176,400,896,1984,4352,9472,20480,44032,94208,200704,425984,901120,1900544,3997696,8388608,17563648,36700160,76546048,159383552 ★ Interleave n+1 and 2n+1 and take binomial transform. • a(n) = 0 ^ n / 2 + sum { k=0..n, binomial(- 1) ^ (n - k) * k) }/ 4 + 2 ^ n / 2 + 3n * 2 ^ (n - 1) / 4. • a(n) = sum { j=0..n, sum { k=0..n, binomial(n, 2(k - j) }} . • a(n) = sum { k=0..n, sum { i=0..k, C(n, 2i) }} . - _ Paul Barry _ , Jan 13 2005 • a(n) = 2 ^ (n - 3) * (3 * n + 4) for n>=2. - _ Philip B. Zhang _ , May 25 2016 •

[A267862] • 1,2,5,13,32,77,178,399,877,1882,3959,8179,16636,33333,65894,128633,248169,473585,894573,1673704,3103334,5705383,10405080,18831761,33836627 ★ Number of planar lattice convex polygonal lines joining the origin and the point (n,n). • a(n) = [x ^ n * y ^ n] 1 / ((1 - x) * (1 - y) * Product _{ i>0,j>0,gcd(i,j)=1 } (1 - x ^ i * y ^ j)). •

[A098586] • 2,5,13,32,78,189,457,1104,2666,6437,15541,37520,90582,218685,527953,1274592,3077138,7428869,17934877,43298624,104532126,252362877,609257881,1470878640,3551015162 ★ a(n) = (1/2) * (5*P(n+1) + P(n) - 1), where P(k) are the Pell numbers A000129. • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3) with a(0)=2, a(1)=5, a(2)=13. - _ Hermann Stamm - Wilbrandt _ , Aug 26 2014 • a(n) = 7 * a(n - 2) - 7 * a(n - 4) + a(n - 6), for n>5. - _ Hermann Stamm - Wilbrandt _ , Aug 27 2014 • a(n) = (- 2 + (5 - 3 * sqrt(2)) * (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n * (5 + 3 * sqrt(2))) / 4. - _ Colin Barker _ , Mar 16 2016 •

[A255630] • 1,2,5,13,32,79,197,490,1217,3025,7520,18691,46457,115474,287021,713413,1773248,4407559,10955357,27230458,67683593,168233257,418157888,1039366555,2583432881 ★ Number of n-length ternary words avoiding runs of zeros of length 1 (mod 3). • a(n + 3) = 2 * a(n + 2) + 3 * a(n) with n > 0, a(0) = 1, a(2) = 2, a(3) = 5. •

[A027929] • 1,2,5,13,33,79,176,365,709,1300,2267,3785,6085,9465,14302,21065,30329,42790,59281,80789,108473,143683,187980,243157,311261 ★ T(n,2n-6), T given by A027926. • a(n) = sum(binomial(n - k, 6 - 2k), k=0..3). - _ Len Smiley _ , Oct 20 2001 • a(n) = (3600 - 3420 * n + 1684 * n ^ 2 - 525 * n ^ 3 + 115 * n ^ 4 - 15 * n ^ 5 + n ^ 6) / 720. G.f.: x ^ 3 * (1 - x + x ^ 2) * (1 - 4 * x + 7 * x ^ 2 - 4 * x ^ 3 + x ^ 4) / (1 - x) ^ 7. - _ Colin Barker _ , May 01 2012 •

[A088921] • 1,2,5,13,33,80,185,411,885,1862,3853,7881,15993,32284,64945,130359,261293,523282,1047397,2095781,4192721,8386792,16775145,33552083,67106213 ★ The number of 321- and 2143-avoiding permutations of length n. • a(n) = 2 ^ (n + 1) - binomial(n + 1, 3) - 2 * n - 1. •

[A005183] • 1,2,5,13,33,81,193,449,1025,2305,5121,11265,24577,53249,114689,245761,524289,1114113,2359297,4980737,10485761,22020097,46137345,96468993,201326593 ★ a(n) = n*2^(n-1) + 1. • a(n) = 2 * a(n - 1) + 2 ^ (n - 1) - 1 (with a(0)=1). - _ Vincenzo Librandi _ , Dec 31 2010 •

[A005348] • 1,2,5,13,33,81,193,449,1089,2673,6561,15633,37249,88209,216513,531441,1266273,3017169,7189057,17537553,43046721,102568113,244390689,582313617,1420541793 ★ Number of ways to add n ordinals. • a(n) = 81 * a(n - 5) for n >= 21. •

[A007443] • 2,5,13,33,83,205,495,1169,2707,6169,13889,30993,68701,151469,332349,725837,1577751,3413221,7349029,15751187,33616925,71475193,151466705,320072415,674721797 ★ Binomial transform of primes. • a(n) = sum _{ 1 <= k <= n } binomial(n - 1,k - 1) * prime(k). - _ M. F. Hasler _ , Jun 02 2017 •

[A120925] • 1,2,5,13,33,83,209,527,1329,3351,8449,21303,53713,135431,341473,860983,2170865,5473575,13800961,34797463,87737617,221219847,557779233,1406373239,3546000945 ★ Number of ternary words on {0,1,2} having no isolated 0's. • a(n)=3a(n - 1) - 2a(n - 2) + 2a(n - 3); a(0)=1, a(1)=2,a(2)=5. G.f.=(1 - z + z ^ 2) / (1 - 3z + 2z ^ 2 - 2z ^ 3). •

[A077939] • 1,2,5,13,33,84,214,545,1388,3535,9003,22929,58396,148724,378773,964666,2456829,6257097,15935689,40585304,103363394,263247781,670444260,1707499695,4348691431 ★ Expansion of 1/(1-2*x-x^2-x^3). • a(n)=sum(m=1..n + 1, sum(k=0..n - m + 1, (sum(j=0..k, binomial(j,n - m - 3 * k + 2 * j + 1) * binomial(k,j))) * binomial(m + k - 1,m - 1))). [_ Vladimir Kruchinin _ , Oct 11 2011] •

[A027931] • 1,2,5,13,34,88,221,530,1204,2587,5270,10220,18955,33775,58060,96647,156299,246280,379051,571103,843944,1225258,1750255,2463232,3419366 ★ T(n,2n-8), T given by A027926. • a(n)=sum(binomial(n - k, 8 - 2k), k=0..4). - _ Len Smiley _ , Oct 20 2001 •

[A103142] • 1,2,5,13,34,88,228,591,1532,3971,10293,26680,69156,179256,464641,1204374,3121801,8091873,20974562,54367172,140922580,365278767,946821848,2454212215,6361447625 ★ a(n) = 2*a(n-1) + a(n-2) + a(n-3) + a(n-4). • a(n) = 2 * a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4). •

[A027933] • 1,2,5,13,34,89,232,596,1490,3588,8273,18228,38403,77533,150438,281403,509015,892926,1523117,2532359,4112704,6536993,10186540,15586342,23449376 ★ a(n) = T(n, 2*n-10), T given by A027926. • a(n) = sum(binomial(n - k, 10 - 2k), k=0..5). - _ Len Smiley _ , Oct 20 2001 • a(n) = 34 - 9161 * n / 280 - 101897 * n ^ 3 / 20160 + 794293 * n ^ 2 / 50400 - 287 * n ^ 5 / 1280 + 438209 * n ^ 4 / 362880 + 5593 * n ^ 6 / 172800 - 47 * n ^ 7 / 13440 - n ^ 9 / 80640 + n ^ 8 / 3780 + n ^ 10 / 3628800. - _ R. J. Mathar _ , Oct 05 2009 •

[A141448] • 0,1,2,5,13,34,89,232,605,1578,4116,10736,28003,73041,190515,496926,1296147,3380779,8818187,23000741,59993521,156482896,408159020,1064613385,2776862948 ★ Generalized Pell numbers P(n,5,5). • a(n) = 2 * a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5). • a(n + 1) = sum(k=1..n, sum(r=0..k, binomial(k,r) * 2 ^ (k - r) * sum(m=0..r,(sum(j=0..m, binomial(j, - r + n - m - k - j) * binomial(m,j))) * binomial(r,m)))), a(0)=0, a(1)=1. [_ Vladimir Kruchinin _ , May 05 2011] •

[A001519] • 1,1,2,5,13,34,89,233,610,1597,4181,10946,28657,75025,196418,514229,1346269,3524578,9227465,24157817,63245986,165580141,433494437,1134903170,2971215073 ★ a(n) = 3*a(n-1) - a(n-2), with a(0) = a(1) = 1. • a(n) = a(1 - n) for all n in Z. • a(n + 2) = (a(n + 1) ^ 2 + 1) / a(n) with a(1)=1, a(2)=2. - _ Benoit Cloitre _ , Aug 29 2002 • a(n) = (phi ^ (2n - 1) + phi ^ (1 - 2n)) / sqrt(5) where phi=(1 + sqrt(5)) / 2. - _ Michael Somos _ , Oct 28 2002 • a(n) = Sum _{ k=0..n } binomial(n + k, 2k). - _ Len Smiley _ , Dec 09 2001 • a(n) = Sum _{ k=0..n } C(n, k) * F(k + 1). - _ Benoit Cloitre _ , Sep 03 2002 • a(n) = (1 / 2) * (3 * a(n - 1) + sqrt(5 * a(n - 1) ^ 2 - 4)). - _ Benoit Cloitre _ , Apr 12 2003 •

[A122367] • 1,2,5,13,34,89,233,610,1597,4181,10946,28657,75025,196418,514229,1346269,3524578,9227465,24157817,63245986,165580141,433494437,1134903170,2971215073,7778742049 ★ Dimension of 3-variable non-commutative harmonics (twisted derivative). The dimension of the space of non-commutative polynomials in 3 variables which are killed by all symmetric differential operators (where for a monomial w, d_{xi} (xi w) = w and d_{xi} (xj w) = 0 for i/=j). • a(n) = 3 * a(n - 1) - a(n - 2) with a(0) = 1, a(1) = 2. • a(n) = (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5). - _ Colin Barker _ , Oct 14 2015 • a(n) = Sum _{ k=0..n } Sum _{ i=0..n } C(k + i - 1,k - i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A048575] • 2,5,13,34,89,233,610,1597,4181,10946,28657,75025,196418,514229,1346269,3524578,9227465,24157817,63245986,165580141,433494437,1134903170,2971215073,7778742049,20365011074 ★ Pisot sequences L(2,5), E(2,5). • a(n) = Fib(2n + 3). a(n) = 3a(n - 1) - a(n - 2). • a(n) = [(3 / 2) + (1 / 2) * sqrt(5)] ^ n + (2 / 5) * [(3 / 2) + (1 / 2) * sqrt(5)] ^ n * sqrt(5) - (2 / 5) * [(3 / 2) - (1 / 2) * sqrt(5)] ^ n * sqrt(5) + [(3 / 2) - (1 / 2) * sqrt(5)] ^ n, with n>=0. [_ Paolo P. Lava _ , Nov 20 2008] •

[A064780] • 2,5,13,34,94,255,693,1884,5123,13923,37848,102880,279659,760191,2066413,5617093,15268842,41505017,112822331,306682895,833650539,2266097112,6159890600,16744318683,45515777208 ★ Number of times n occurs in A000195. • a(n) = floor(exp(n + 1)) - floor(exp(n)), n>0. •

[A291242] • 2,5,13,35,91,241,631,1662,4362,11470,30127,79179,208023,546633,1436257,3773939,9916134,26055432,68461966,179888381,472667065,1241962303,3263330095,8574599917,22530279167 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - 2 S - S^2 + S^3. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 5 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) + a(n - 6) for n >= 7. •

[A057960] • 1,2,5,13,35,95,259,707,1931,5275,14411,39371,107563,293867,802859,2193451,5992619,16372139,44729515,122203307,333865643,912137899,2492007083,6808289963,18600594091 ★ Number of base 5 n-digit numbers with adjacent digits differing by one or less. • a(n) = sum(b(n, i)) where b(n, 0) = b(n, 6) = 0, b(0, 1) = 1, b(0, n) = 0 if n<> 1 and b(n + 1, i) = b(n, i - 1) + b(n, i) + b(n, i + 1) if 1<=i<=5. • a(n) = ceiling((1 + sqrt(3)) ^ (n + 2) / 12). - _ Mitch Harris _ , Apr 26 2006 • a(n) = floor(a(n - 1) * (a(n - 1) + 1 / 2) / a(n - 2). - _ Franklin T. Adams - Watters _ and _ Max Alekseyev _ , Apr 25 2006 • a(n) = floor(a(n - 1) * (1 + 3 ^ 0, 5)). - _ Philippe Deléham _ , Jul 25 2003 •

[A007075] • 1,2,5,13,35,95,260,714,1965,5415,14934,41206,113730,313958,866801,2393315,6608473,18248017,50389350,139144906,384237186,1061044865,2930013158,8091077148,22343115337 ★ Number of irreducible positions of size n in Montreal solitaire. • a(n) = d(n, 1) where d(n, k) is defined in A007046. - _ Sean A. Irvine _ , Oct 06 2017 •

[A085810] • 1,2,5,13,35,96,266,741,2070,5791,16213,45409,127206,356384,998509,2797678,7838801,21963661,61540563,172432468,483144522,1353740121,3793094450,10628012915,29779028189 ★ Number of three-choice paths along a corridor of height 5, starting from the lower side. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - a(n - 3); • a(n) = Sum _{ k=0..floor(n / 2) } (Sum _{ j=0..n - k } C(n - k, j) * C(j + k, 2k)); • a(n) = Sum _{ k=0..floor(n / 2) } (Sum _{ j=0..n - k } C(n - k, k + j) * C(k, k - j) * 2 ^ (n - 2k - j)); • a(n) = Sum _{ k=0..floor(n / 2) } (Sum _{ j=0..n - 2 * k } C(n - j, n - 2 * k - j) * C(k, j)(- 1) ^ j * 2 ^ (n - 2 * k - j)). (End) • a(n - 1) = - B(n; - 1) = (1 / 7) * ((c(4) - c(1)) * (1 - c(1)) ^ n + (c(1) - c(2)) * (1 - c(2)) ^ n + (c(2) - c(4)) * (1 - c(4)) ^ n), where a(- 1):=0, c(j):=2 * cos(2 * Pi * j / 7). Moreover, B(n;d), n \ in N, d \ in C, denotes the respective quasi - Fibonacci number defined in comments to A121449 or in Witula - Slota - Warzynski's paper (see also A077998, A006054, A052975, A094789, A121442). - _ Roman Witula _ , Aug 09 2012 •

[A005773] • 1,1,2,5,13,35,96,267,750,2123,6046,17303,49721,143365,414584,1201917,3492117,10165779,29643870,86574831,253188111,741365049,2173243128,6377181825,18730782252 ⋆ Number of directed animals of size n (or directed n-ominoes in standard position). • a(n) = Sum _{ q=0..n } binomial(q, floor (q / 2)) * binomial(n - 1, q) for n>0. - _ Emeric Deutsch _ , Aug 15 2002 • a(n + 1) = Sum _{ k=0..n } (- 1) ^ (n + k)C(n, k)C(2k + 1, k + 1). • a(n) = 0 ^ n + Sum _{ k=0..n - 1 } (- 1) ^ (n + k - 1)C(n - 1, k)C(2k + 1, k + 1) . (End) • a(n) = Sum _{ l _ 1=0..n + 1 } Sum _{ l _ 2=0..n } ...Sum _{ l _ i=0..n - i } ...Sum _{ l _ n=0..1 } delta(l _ 1,l _ 2,...,l _ i,...,l _ n) where delta(l _ 1,l _ 2,...,l _ i,...,l _ n) = 0 if any (l _ i - l _ (i + 1)) ^ 2 >= 2 for i=1..n - 1 and delta(l _ 1,l _ 2,..., l _ i,...,l _ n) = 1 otherwise. - _ Thomas Wieder _ , Feb 25 2009 • a(n) = Sum _{ k=1..n } (k / n * Sum _{ j=0..n } binomial(n,j) * binomial(j,2 * j - n - k)). - _ Vladimir Kruchinin _ , Sep 06 2010 • a(0) = 1; a(n + 1) = Sum _{ t=0..n } n! / ((n - t)! * ceiling(t / 2)! * floor(t / 2)!. - _ Andrew S. Hays _ , Feb 02 2011 •

[A085281] • 1,2,5,13,35,97,275,793,2315,6817,20195,60073,179195,535537,1602515,4799353,14381675,43112257,129271235,387682633,1162785755,3487832977,10462450355,31385253913,94151567435 ⋆ Expansion of (1-3*x+x^2)/((1-2*x)*(1-3*x)). • a(n)=3 ^ n / 3 + 2 ^ n / 2 + 0 ^ n / 6 •

[A007689] • 2,5,13,35,97,275,793,2315,6817,20195,60073,179195,535537,1602515,4799353,14381675,43112257,129271235,387682633,1162785755,3487832977,10462450355,31385253913,94151567435,282446313697 ⋆ a(n) = 2^n + 3^n. • a(n) = 2 * a(n - 1) + 3 ^ (n - 1), with a(0)=2. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A082582] • 1,1,1,2,5,13,35,97,275,794,2327,6905,20705,62642,190987,586219,1810011,5617914,17518463,54857506,172431935,543861219,1720737981,5459867166,17369553427 ⋆ Expansion of (1 + x^2 - sqrt(1 - 4*x + 2*x^2 + x^4)) / (2*x) in powers of x. • a(n + 1) = a(n) + Sum(a(k) * a(n - k): k=2..n), a(0) = a(1) = 1. - _ Reinhard Zumkeller _ , Nov 13 2012 •

[A086581] • 1,1,2,5,13,35,97,275,794,2327,6905,20705,62642,190987,586219,1810011,5617914,17518463,54857506,172431935,543861219,1720737981,5459867166,17369553427,55391735455 ⋆ Number of Dyck paths of semilength n with no DDUU. • a(n + 2) - 2 * a(n + 1) + a(n) = a(0) * a(n) + a(1) * a(n - 1) + ... + a(n) * a(0). • a(n) = 1 + sum(k=0..n, sum(i=0..k, C(n - 1,k) * C(2i + 2,i) * C(i + 2,k - 2i - 1) / (i + 1))). - _ Thomas Baruchel _ , Jan 19 2015 • a(n) = sum(k=0..n, C(2k,k) C(n + k,3k) / (k + 1). - _ Thomas Baruchel _ , Jan 19 2015 •

[A059027] • 1,1,2,5,13,35,97,276,805,2404,7343,22916,72980,236857,782275,2625265,8938718,30834165,107608097,379454447,1350434278,4845475311,17512579630,63703732426,233063976059 ⋆ Number of Dyck paths of semilength n with no peak at height 4. • a(n) = sum(k=1..n - 2, sum(j=max(2 * k - n + 1, 0)..k - 1, (binomial(k,j) * ((k - j) * binomial(2 * n - 3 * k + j - 3,n - 1 - 2 * k + j))) / (n - k - 1) * 2 ^ j)) + 2 ^ (n - 1). - _ Vladimir Kruchinin _ , Oct 03 2013 •

[A234643] • 1,2,5,13,35,99,297,951,3265,12047,47761,202975,921281,4447327,22737537,122639583,695404929,4132531679,25667031937,166211936735,1119791799425,7833568488415,56802921911681,426267651506655,3305731721387649 ⋆ E.g.f.: Sum_{n>=0} Integral^n (exp(x) + 1)^n dx^n, where integral^n F(x) dx^n is the n-th integration of F(x) with no constant of integration. • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } binomial(k,j) * j ^ (n - k). •

[A036765] • 1,1,2,5,13,36,104,309,939,2905,9118,28964,92940,300808,980864,3219205,10626023,35252867,117485454,393133485,1320357501,4449298136,15038769672,50973266380,173214422068 ⋆ Number of ordered rooted trees with n non-root nodes and all outdegrees <= three. • a(n) = (1 / (n + 1)) * sum(j=0..floor(n / 2), binomial(n + 1, n - 2j) * binomial(n + 1, j)). G.f. A(z) satisfies A=1 + z * A + (z * A) ^ 2 + (z * A) ^ 3. - _ Emeric Deutsch _ , Nov 29 2003 •

[A125094] • 1,1,2,5,13,36,104,313,977,3152,10486,35880,126039,453725,1671322,6291148,24170312,94680426,377788108,1534169595,6335718925,26589240583,113323479393,490203781505,2150975413846 ⋆ Eigensequence of A061554 regarded as a triangle: a(n) = Sum_{k=0..n-1} A061554(n-1,k)*a(k) with a(0)=1. • a(n) = Sum _{ k=0..n - 1 } a(k) * C(n - 1, floor[n / 2 - (- 1) ^ (n - k - 1) * (k + 1) / 2]). •

[A135310] • 1,1,2,5,13,36,105,319,1002,3235,10685,35970,123045,426667,1496782,5303623,18956417,68270576,247518777,902708185,3309559838,12190954231,45096739797,167462013888,624019924009 ⋆ Number of Dyck paths of semilength n having no UUUU's starting at level 0. • a(n) = Sum _{ j=0..floor(n / 4) } (- 1) ^ (j) * (5j + 1) * binomial(2n - 3j,n + j) / (n + j + 1). • a(n) = the upper left term in M ^ n, M = the following production matrix in which a column of (1,1,1,0,0,0,...) is prepended to an infinite lower triangular matrix with all 1's and the rest zeros: •

[A135337] • 1,1,2,5,13,36,105,320,1011,3289,10957,37216,128435,449142,1588228,5669505,20403322,73945553,269647630,988642372,3642310793,13476857235,50059454347,186598634398,697777187275 ⋆ Number of Dyck paths of semilength n with no DUUU's starting at level 1. • a(n) = sum of top row terms of M ^ (n - 1), M = an infinite square production matrix as follows, in which a column of [1,1,0,0,0,...] is prepended to an infinite lower triangular matrix of all 1's and the rest zeros: • a(n) = Sum _{ m=0..n } 1 / (m + 1) * Sum _{ k=0..n - m } k * C(2 * m - k + 1,m - k + 1) * C(n - m - 1,n - m - k). - _ Vladimir Kruchinin _ . Jan 16 2018 •

[A114509] • 1,1,2,5,13,37,111,345,1104,3611,12016,40548,138414,477076,1657956,5802920,20436910,72369903,257518806,920333307,3302003826,11888979066,42944410207,155576009845,565127618392 ⋆ Number of Dyck paths of semilength n having no ascents of length 4. • a(n) = 1 / n * sum(j=ceiling((3 * n + 2) / 5)..n, C(n,j) * C(5 * j - 3 * n - 2,j - 1) * (- 1) ^ (n - j)), n>0. [From _ Vladimir Kruchinin _ , Mar 07 2011] •

[A003080] • 1,1,2,5,13,37,111,345,1105,3624,12099,41000,140647,487440,1704115,6002600,21282235,75890812,272000538,979310627,3540297130,12845634348,46764904745,170767429511,625314778963 ⋆ Number of rooted triangular cacti with 2n+1 nodes (n triangles). • a(n)=b(2n + 1). b shifts left under transform T where Tb = EULER(E _ 2(b)). E _ 2(b) has g.f. (B(x ^ 2) + B(x) ^ 2) / 2. •

[A000800] • 1,1,1,2,5,13,38,125,449,1742,7269,32433,153850,772397,4088773,22746858,132601933,807880821,5132235182,33925263901,232905588441,1657807491222,12215424018837,93042845392105,731622663432978 ⋆ Sum of upward diagonals of Eulerian triangle. • a(n) = Sum _{ m=0..n } (- 1) ^ (n - m) * m ! * Sum _{ k=0..(n - m) / 2 } C(n - m - k,k) * stirling2(n - k,m). - _ Vladimir Kruchinin _ , Jan 23 2018 •

[A127986] • 2,5,13,39,151,783,5167,40575,363391,3629823,39918847,479005695,6227028991,87178307583,1307674400767,20922789953535,355687428227071,6402373705990143,121645100409356287,2432902008177688575,51090942171711537151,1124000727777611874303 ⋆ n! + 2^n - 1. • a(n) = n! + 2 ^ n - 1. •

[A133448] • 2,5,13,40,121,365,1094,3281,9841,29524,88573,265721,797162,2391485,7174453,21523360,64570081,193710245,581130734,1743392201,5230176601,15690529804,47071589413,141214768241,423644304722 ⋆ a(n) = 3*a(n-1) - a(n-3) + 3*a(n-4). • a(n)=(1 / 3) *{ 1 / 2 - (1 / 2) * I] * sqrt(3) }^ n + (3 / 2) * 3 ^ n - (1 / 6) * (- 1) ^ n + (1 / 3) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n, with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A247981] • 2,5,13,41,137,149,229,293,397,509,661,677,709,761,809,877,881,1217,1249,1277,1601,2053,2633,3637,3701 ⋆ Primes dividing nonzero terms in A003095: the iterates of x^2 + 1 starting at 0. • a(n) << exp(k ^ n) for some constant k > 0, see Jones theorem 6.1. In particular this sequence is infinite. - _ Charles R Greathouse IV _ , Sep 28 2014 •

[A269068] • 1,1,2,5,13,48,191,1055,6594,56179,557323,7467340,118374617,2522858097,64196033554,2190965409325,89754355176981,4925215013557256,325438017350556407,28783330365684381575,3071303354576036230618,438476741796283676315643,75611697648399346456921811,17440606103006621779585331540 ⋆ a(n+2) = a(n+1) + L(n+1)*a(n), where L = Lucas number (A000032) and a(0) = a(1) = 1. • a(n) * a(n + 1) * a(n + 3) - a(n) * a(n + 2) * a(n + 3) - a(n + 1) * a(n + 2) ^ 2 = 0. •

[A228958] • 1,2,5,14,19,44,51,100,109,190,201,322,335,504,519,744,761,1050,1069,1430,1451,1892,1915,2444,2469 ⋆ a(n) = 1*2 + 3*4 + 5*6 + 7*8 + 9*... (ending with n). • a(n) = (1 / 12) * (2 * n ^ 3 + 4 * n + 3 / 2 + (3 * n ^ 2 - 6 * n - 3 / 2) * (- 1) ^ n) [based on Alcover program] •

[A076664] • 0,0,2,5,14,23,43,64,96,133,187,237,314,395,491,596,731,863,1033,1201,1400,1617,1869,2109,2403 ⋆ a(n) = Sum_{k=1..n} antisigma(k), where antisigma(i) = sum of the nondivisors of i that are between 1 and i. • a(n) = Sum _{ k=1..n } Sum _{ i=1..k - 1 } (n - k - i + 1) mod (n - i + 1). - _ Wesley Ivan Hurt _ , Sep 13 2017 •

[A290414] • 1,2,5,14,25,63,112,255,480,1023,1984,4095,8064,16383,32512,65535,130560,262143,523264,1048575,2095104,4194303,8384512,16777215,33546240 ⋆ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 785", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (n / 2 + 1) * (2 ^ (n / 2) - 1) for n>4 and even. • a(n) = 2 ^ (n + 1) - 1 for n>4 and odd. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - 2 * a(n - 4) + 4 * a(n - 5) for n>6. •

[A212346] • 1,1,2,5,14,28,48,75,110,154,208,273,350,440,544,663,798,950,1120,1309,1518,1748,2000,2275,2574 ⋆ Sequence of coefficients of x^0 in marked mesh pattern generating function Q_{n,132}^(0,4,0,0)(x). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>6. •

[A120328] • 2,5,14,29,50,77,110,149,194,245,302,365,434,509,590,677,770,869,974,1085,1202,1325,1454,1589,1730 ⋆ Sum of three consecutive squares: n^2 + (n + 1)^2 + (n + 2)^2. • a(n) = 3 * (2 * n + 1) + a(n - 1) (with a(- 1) = 2). - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 3n ^ 2 + 6n + 5. - _ T. D. Noe _ by way of _ Alonso del Arte _ , Oct 29 2012 • a(n) = 3 * (n + 1) ^ 2 + 2 == 2 (mod 3), hence a(n) is never square. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for all n in Z. (End) •

[A212393] • 1,1,2,5,14,30,72,195,485,1059,2065,3682,6120,9620,14454,20925,29367,40145,53655,70324,90610,115002,144020,178215,218169 ⋆ Expansion of (1-4*x+7*x^2-5*x^3+4*x^4-6*x^5+21*x^6+18*x^7-5*x^8)/(1-x)^5. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>8, a(0)=a(1)=1, a(2)=2, a(3)=5, a(4)=14, a(5)=30, a(6)=72, a(7)=195, a(8)=485. • a(n) = (n - 3) * (31 * n ^ 3 - 369 * n ^ 2 + 1454 * n - 1560) / 24 for n>3, a(0)=a(1)=1, a(2)=2, a(3)=5. •

[A080039] • 1,2,5,14,33,82,197,478,1153,2786,6725,16238,39201,94642,228485,551614,1331713,3215042,7761797,18738638,45239073,109216786,263672645,636562078,1536796801 ⋆ a(n) = floor((1+sqrt(2))^n). • a(n) = (sqrt(2) + 1) ^ n - (1 / 2) + (- 1) ^ n * ((sqrt(2) - 1) ^ n - (1 / 2)) for n>0. (End) •

[A102714] • 2,5,14,36,95,248,650,1701,4454,11660,30527,79920,209234,547781,1434110,3754548,9829535,25734056,67372634,176383845,461778902,1208952860,3165079679,8286286176,21693778850 ⋆ Expansion of (x+2) / ((x+1)*(x^2-3*x+1)). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3), a(0) = 2, a(1) = 5, a(2) = 14. • a(n) = (2 ^ (- 1 - n) * ((- 1) ^ n * 2 ^ (1 + n) + (9 - 5 * sqrt(5)) * (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n * (9 + 5 * sqrt(5)))) / 5. - _ Colin Barker _ , Oct 01 2016 •

[A038990] • 1,2,5,14,37,98,257,674,1765,4622,12101,31682,82945,217154,568517,1488398,3896677,10201634,26708225,69923042,183060901,479259662,125471

8085,3284894594,8599965697 ★ Expansion of (1-x-x^2+2*x^3) / ((1-x)*(1+x)*(1-3*x+x^2)). ● a(0)=1, a(1)=2, a(2)=5, a(3)=14, a(n)=3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Feb 17 2012 ● a(n) = (- 1) * (2 ^ (- 1 - n) * ((- 2) ^ n + 5 * 2 ^ n - 8 * (3 - sqrt(5)) ^ n - 8 * (3 + sqrt(5)) ^ n)) / 5 . - _ Colin Barker _ , Jul 16 2017 ●

[A077938] ● 1,2,5,14,37,98,261,694,1845,4906,13045,34686,92229,245234,652069,1733830,4610197,12258362,32594581,86667918,230447141,612751362,1629285701,4332217046,11519222517 ★ Expansion of 1/(1-2*x-x^2-2*x^3). ● a(n)=sum(k=1..n, sum(j=0..k, binomial(j,n - 3 * k + 2 * j) * binomial(k,j) * 2 ^ (- n + 4 * k - 2 * j))), n>0, a(0)=1. [_ Vladimir Kruchinin _ , May 05 2011] ● a(n) = 2 * a(n - 1) + a(n - 2) + 2 * a(n - 3). [_ Stefan Schuster _ , Apr 24 2015] ●

[A292327] ● 2,5,14,38,102,271,714,1868,4858,12569,32374,83058,212350,541219,1375570,3487384,8821170,22266413,56098206,141087934,354268502,888238903,2223968666,5561234916,13889778218 ★ p-INVERT of the Fibonacci sequence (A000045), where p(S) = (1 - S)^2. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. ●

[A052945] ● 1,2,5,14,38,104,284,776,2120,5792,15824,43232,118112,322688,881600,2408576,6580352,17977856,49116416,134188544,366609920,1001596928,2736413696,7476021248,20424869888 ★ Number of compositions of n when each odd part can be of two kinds. ● a(n)=((2 + sqrt3)(1 + sqrt3) ^ n + (2 - sqrt3)(1 - sqrt3) ^ n) / 2 offset 0. Lead w. one. a(n)=first binomial transform of 2, 3,6,9,18... offset 0. Lead w. one. [From Al Hakanson (hawkuu(AT)gmail.com), Jun 29 2009] ●

[A291729] ● 2,5,14,39,106,290,794,2173,5946,16272,44530,121860,333480,912597,2497400,6834349,18702782,51181767,140063294,383295214,1048920220,2870460125,7855260268,21496593296,58827270844 ★ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = 1 - 2 S - S^2. ● a(n) = 2 * a(n - 1) + a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) + a(n - 6) for n >= 7. ●

[A142586] ● 1,2,5,14,39,107,290,779,2079,5522,14615,38579,101634,267347,702455,1844114,4838079,12686507,33254210,87141659,228301839,598026002,1566300455,4101923939,10741568514 ★ Binomial transform of A014217. ● a(0)=1, a(1)=2, a(2)=5, a(3)=14, a(n)=5 * a(n - 1) - 7 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Aug 08 2011 ● a(n) = (- 2 ^ (- 1 + n) + ((3 - sqrt(5)) / 2) ^ n + ((3 + sqrt(5)) / 2) ^ n) for n>0. - _ Colin Barker _ , Jun 05 2017 ●

[A026135] ● 1,2,5,14,39,110,312,890,2550,7334,21161,61226,177575,516114,1502867,4383462,12804429,37452870,109682319,321563658,943701141,2772060618,8149661730,23978203662,70600640796 ★ Number of (s(0),s(1),...,s(n)) such that every s(i) is a nonnegative integer, s(0) = 1, |s(1) - s(0)| = 1, |s(i) - s(i-1)| <= 1 for i >= 2. Also sum of numbers in row n+1 of the array T defined in A026120. ● a(n) = Sum _{ k=0..n } binomial(n - 1, k - 1) * binomial(k + 1, floor((k + 1) / 2)). - _ Vladeta Jovovic _ , Sep 18 2003 ●

[A059505] ● 2,5,14,40,114,323,910,2551,7120,19796,54852,151525,417434,1147145,3145394,8606848,23507190,64093031,174474790,474261691,1287398452,3490267820,9451319304,25565098825,69080289074 ★ Transform of A059502 applied to sequence 2,3,4,... ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). ● a(n) = ((3 - n) * Fibonacci(2 * n) + (5 + 3 * n) * Fibonacci(2 * n - 1)) / 5. (End) ●

[A117189] ● 1,2,5,14,40,114,324,920,2612,7416,21056,59784,169744,481952,1368400,3885280,11031424,31321376,88930368,252498816,716916544,2035531648,5779458048,16409538688,46591385856 ★ Binomial transform of the tribonacci sequence A000073 (shifted left twice). ● a(n) = 4a(n - 1) - 4a(n - 2) + 2a(n - 3), n>2. - _ T. D. Noe _ , Nov 07 2006 ● a(n) = 2 * a(n - 1) + sum _{ j=1..n - 1 } j * a(n - j - 1), n>=1; with a(0) = 1. - _ Bob Selcoe _ , Jun 28 2014 ●

[A052963] ● 1,2,5,14,40,115,331,953,2744,7901,22750,65506,188617,543101,1563797,4502774,12965221,37331866,107492824,309513251,891207887,2566130837,7388879260,21275429893,61260158842 ★ a(0)=1, a(1)=2, a(2)=5, a(n) = 3*a(n+2) - a(n+3). ● a(n) / a(n - 1) tends to 2.8793852... = 2Cos(4)Pi / 9, a root of x ^ 3 - 3x ^ 2 + 1 (the characteristic polynomial of the 3 X 3 matrix). The latter polynomial is a factor (with (x + 1)) of the 4th degree polynomial of A066170: x ^ 4 - 2x ^ 3 - 3x ^ 2 + x + 1. Given the 3 X 3 matrix [0 1 0 / 0 0 1 / - 1 0 3], (M ^ n) * [1 1 1] = [a(n - 2), a(n - 1), a(n)]. - _ Gary W. Adamson _ , Feb 29 2004 ●

[A075496] ● 1,1,2,5,14,40,118,349,1042,3112,9322,27926,83738,251096,753170,2259161,6777134,20330360,60990038,182967002,548897894,1646684360,4940043758,14820103348,44460282118 ★ a(1)=1, a(n) = sum(k=1,n-1, Max(a(k),a(n-k))). ● a(n) is asymptotic to c * 3 ^ n where c=0.052473532403527236078834469922176934048617034711904730589975028466575548 68.... ●

[A225691] ● 1,1,2,5,14,41,110,245,450,739,1126,1625,2250,3015,3934,5021,6290,7755,9430,11329,13466,15855,18510,21445,24674 ★ Number of Dyck paths of semilength n avoiding the pattern U^4 D^4 U D. ● a(n) = (14 * n ^ 3 - 84 * n ^ 2 + 124 * n - 84) / 6 for n >= 6. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>6. - _ Colin Barker _ , Jul 10 2015 ●

[A116844] ● 1,2,5,14,41,116,302,715,1549,3106,5831,10352,17525,28484,44696,68021,100777,145810,206569,287186,392561,528452,701570,919679,1191701 ★ Number of permutations of length n which avoid the patterns 231, 12345. ● a(n) = (n ^ 6 - 9n ^ 5 + 43n ^ 4 - 99n ^ 3 + 172n ^ 2 - 108n + 144) / 144. - Franklin T. Adams - Watters, Sep 16 2006 ●

[A116851] ● 1,2,5,14,41,116,307,760,1779,3986,8641,18282,38005,78024,158791,321236,647247,1300630,2609029,5227766,10467521,20949692,41917115,83855504,167736331 ★ Number of permutations of length n which avoid the patterns 321, 31245. ● a(n) = 5 * 2 ^ n - (n + 2) * (n ^ 3 + 11 * n + 24) / 12. - _ R. J. Mathar _ , Jan 12 2013 ●

[A038989] ● 1,2,5,14,41,118,341,986,2849,8234,23797,68774,198761,574430,1660133,4797874,13866113,40073810,115815461,334712894,967338217,2795659334,8079605429,23350493066,67484177441 ★ Expansion of (1-x^2-2*x^3) / (1-2*x-2*x^2-2*x^3+x^4). ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>3. - _ Colin Barker _ , Jul 16 2017 ●

[A116850] ● 1,2,5,14,41,119,334,902,2351,5945,14660,35408,84061,196715,454778,1040522,2359451,5308589,11862208,26345684,58196201,127926527,279970070,610271534,1325400391 ★ Number of permutations of length n which avoid the patterns 231, 12354. ● a(n) = (1 / 16) * (32 - 9 * 2 ^ (1 + n) + (8 + 2 ^ n) * n + (8 + 2 ^ n) * n ^ 2). ● a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 63 * a(n - 3) - 66 * a(n - 4) + 36 * a(n - 5) - 8 * a(n - 6) for n>6. ●

[A116847] ● 1,2,5,14,41,119,336,924,2492,6636,17536,46137,121095,317434,831571,2177734,5702191,14929519,39087182,102332996,267912946,701407172,1836310110,4807524929,12586266701 ★ Number of permutations of length n which avoid the patterns 123, 51432. ● a(n) = 1 - ((3 - sqrt(5)) / 2) ^ n / sqrt(5) + ((3 + sqrt(5)) / 2) ^ n / sqrt(5) - (4 * n) / 3 + n ^ 2 / 2 - n ^ 3 / 6. - _ Colin Barker _ , Oct 31 2017 ●

[A116848] ● 1,2,5,14,41,119,336,927,2527,6870,18717,51155,140120,384147,1053147,2886182,7906953,21657679,59318944,162475127,445041287,1219069014,3339354501,9147387195,25057021032 ★ Number of permutations of length n which avoid the patterns 231, 51234. ● a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 17 * a(n - 3) - 10 * a(n - 4) + 4 * a(n - 5) for n>5. - _ Colin Barker _ , Nov 01 2017 ●

[A122055] ● 1,1,1,1,1,1,1,1,1,2,5,14,41,121,353,989,2393,9397,49121,342793,2842633,24619238,211654405,1731275594,11581792513 ★ A Somos 9 type recursion:a(n) = (3*a(n - 1)a(n - 8) - a(n - 4)*a(n - 5))/a(n - 9). ● a(n) = (3 * a(n - 1)a(n - 8) - a(n - 4) * a(n - 5)) / a(n - 9) ●

[A244885] ● 1,1,2,5,14,41,121,354,1021,2901,8130,22513,61713,167746,452789,1215197,3246050,8637641,22912633,60624546,160075117,421960101,1110785922,2920883425,7673884449 ★ Expansion of (1-6*x+12*x^2-8*x^3+x^4)/((1-2*x)^2*(1-3*x+x^2)). ● a(n) = Fibonacci(2 * n + 1) - (n + 1) * 2 ^ (n - 2) for n>0. [_ Bruno Berselli _ , Jul 10 2014] ● a(n) = ((2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5) - 2 ^ (- 2 + n) * (1 + n)) for n>0. ● a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 16 * a(n - 3) - 4 * a(n - 4) for n>4. ●

[A116845] ● 1,2,5,14,41,121,355,1032,2973,8496,24111,68017,190885,533294,1484021,4115186,11375765,31358377,86223943,236540916,647556621,1769374932,4826148315,13142564449,35736448201 ★ Number of permutations of length n which avoid the patterns 231, 12534. ● a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 17 * a(n - 3) - 7 * a(n - 4) + a(n - 5) for n>5. - _ Colin Barker _ , Oct 19 2017 ●

[A116849] ● 1,2,5,14,41,121,356,1044,3057,8948,26192,76674,224465,657137,1923817,5632105,16488346,48270655,141315320,413709331,1211159679,3545745012,10380388294,30389230117,88966354626 ★ Number of permutations of length n which avoid the patterns 213, 51432. ● a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 6 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jun 29 2014 ● a(n) = 2 * a(n - 1) + sum _{ i=1..n - 3 } a(n - i - 2) * [(i * (i + 1) / 2) + 1]. ● a(n) = 2 * a(n - 1) + sum _{ i=2..4 } a(n - i) * 2 ^ (i - 2) + sum _ ({ i=5..n - 1 } , { j=0..i - 5 }) a(n - i) * (2 ^ (i - 2) - sum _ [(i - 2)! / (j! * (i - 2 - j)!)]). (End) ●

[A124302] ● 1,1,2,5,14,41,122,365,1094,3281,9842,29525,88574,265721,797162,2391485,7174454,21523361,64570082,193710245,581130734,1743392201,5230176602,15690529805,47071589414 ★ Number of set partitions with at most 3 blocks; number of Dyck paths of height at most 4; dimension of space of symmetric polynomials in 3 noncommuting variables. ● a(0) = 1, a(n) = (3 ^ (n - 1) + 1) / 2 for n>=1, see A007051. - _ Philippe Deléham _ , Oct 30 2006 ●

[A007051] ● 1,2,5,14,41,122,365,1094,3281,9842,29525,88574,265721,797162,2391485,7174454,21523361,64570082,193710245,581130734,1743392201,5230176602,15690529805,47071589414,141214768241 ★ a(n) = (3^n + 1)/2. ● a(n) = 3 * a(n - 1) - 1. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n > 1, a(0)=1, a(1)=2. ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * 2 ^ (n - 2 * k). - _ Paul Barry _ , May 08 2003 ● a(n) = M ^ n * [1,1,1,0,0,0,...], leftmost column term; where M = an infinite bidiagonal matrix with all 1's in the superdiagonal and (1,2,3,...) in the main diagonal and the rest zeros. - _ Gary W. Adamson _ , Jun 23 2011 ● a(n) = M ^ n *{ 1,1,1,0,0,0,...], top entry term; where M is an infinite bidiagonal matrix with all 1's in the superdiagonal, (1,2,3,...) as the main diagonal, and the rest zeros. - _ Gary W. Adamson _ , Jun 24 2011 ●

[A113485] ● 1,2,5,14,41,122,367,1114,3423,10670,33841,109398,361045,1217346,4195267,14775986,53172411,195396310,732806677,2802898190,10926431393,43381582538,175311002903,720640632074,3011495745175 ★ Number of partitions of [n] avoiding the pattern 12/34. ● a(n) = Sum[Sum[(k + 1) ^ 2 binomial[n, 2k + p] k!, { k, 0, Floor[(n - p) / 2] }], { p, 3, n }] + Sum[binomial[n, 2 k] k!, { k, 0, Floor[n / 2] }]. ●

[A054391] ● 1,1,2,5,14,41,123,374,1147,3538,10958,34042,105997,330632,1032781,3229714,10109310,31667245,99260192,311294876,976709394,3065676758,9625674442,30231524869,94972205349 ★ Number of permutations with certain forbidden subsequences. ● a(n) = upper left term of M ^ n, a(n + 1) = sum of top row terms of M ^ n; M = an infinite square production matrix as follows with a main diagonal of (1, 1, 1, 0, 0, 0,...): ● a(n) = Sum _{ k=1..n - 1 } (sum(l=1..k, (binomial(k,l) * l * sum(j=0..n + l - k - 1, binomial(j,1 - n - 2 * l + k + 2 * j) * binomial(n - 1 + l - k,j))) / (n + l - k - 1))) + 1; - _ Vladimir Kruchinin _ , Oct 31 2011 ●

[A108626] ● 1,2,5,14,41,124,383,1200,3799,12122,38919,125578,406865,1322772,4313155,14099524,46192483,151628090,498578411,1641921014,5414619739,17878144968,59097039545,195548471268,647665451911 ★ Antidiagonal sums of

square array A108625, in which row n equals the crystal ball sequence for A_n lattice. • a(n) = Sum _{ k=0..n } Sum _{ i=0..k } C(n, i) ^ 2 * C(n + k - i, k - i). • a(n) = ((5 * n - 3) * a(n - 1) - (6 * n - 8) * a(n - 2) + (2 * n - 4) * a(n - 3) - (n - 2) * a(n - 4) + (n - 3) * a(n - 5)) / n. - _ Thomas Baruchel _ , Nov 08 2014 • a(n) = Sum _{ k=0..n } binomial(n,k) * hypergeom([- k,k - n ,k - n], [1, - n], 1). - _ Peter Luschny _ , Feb 13 2018 •

[A159772] • 1,1,2,5,14,41,124,384,1210,3865,12482,40677,133572,441468,1467296,4900760,16439370,55357305,187050302,633998079,2154950454,7343407521,25082709012,85858848820,294480653064 ★ Number of n-leaf binary trees that do not contain (()(((((())))))())) as a subtree. • a(n) = sum(k=1..n - 1, k * sum(j=0..n - 1, binomial(n - 1,j) * sum(i=j..n - k + j - 1, binomial(j,i - j) * binomial(n - j - 1,3 * j - n - k - i + 1)))) / (n - 1), n>1. a(0)=0, a(1)=1. - _ Vladimir Kruchinin _ , Oct 23 2011 •

[A159971] • 1,1,2,5,14,41,124,385,1220,3929,12822,42309,140922,473169,1599864,5442561,18615176,63975857,220816906,765121477,2660426630,9280204025,32466050612,113883898241,400464335116 ★ Number of n-leaf binary trees that do not contain (()((()))((()))()))) as a subtree. • a(n) = Sum _{ k=0..floor(n / 2) } 1 / (n - k + 0 ^ (n - k)) * C(n - k,k) * C(n - k,k + 1) * 2 ^ (n - 2 k - 1). - _ Paul Barry _ , Nov 18 2009 •

[A036766] • 1,1,2,5,14,41,125,393,1265,4147,13798,46476,158170,543050,1878670,6542330,22915999,80682987,285378270,1013564805,3613262795,12924536005,46373266470,166856922125,601928551824 ★ Number of ordered rooted trees with n non-root nodes and all outdegrees <= four. • a(n - 4) - 625 * (733 * n - 400) * (n - 2) * (n - 3) * (n - 4) * a(n - 5)=0. - _ R. J. Mathar _ , Aug 04 2015 •

[A080937] • 1,1,2,5,14,42,131,417,1341,4334,14041,45542,147798,479779,1557649,5057369,16420730,53317085,173118414,562110290,1825158051,5926246929,19242396629,62479659622,202870165265 ★ Number of Catalan paths (non-negative, starting and ending at 0, step +/-1) of 2*n steps with all values <= 5. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + a(n - 3) - _ Herbert Kociemba _ , Jun 11 2004 • a(n) = (4 / 7 - 4 / 7 * cos(1 / 7 * Pi) ^ 2) * (4 * (cos(Pi / 7)) ^ 2) ^ n + (1 / 7 - 2 / 7 * cos(1 / 7 * Pi) + 4 / 7 * cos(1 / 7 * Pi) ^ 2) * (4 * (cos(2 * Pi / 7)) ^ 2) ^ n + (2 / 7 + 2 / 7 * cos(1 / 7 * Pi)) * (4 * (cos(3 * Pi / 7)) ^ 2) ^ n for n>=0. [_ Richard Choulet _ , Apr 19 2010] •

[A162746] • 1,2,5,14,42,132,427,1402,4629,15290,50412,165816,544253,1783602,5839313,19106766,62504002,204457540,668825279,2188016442,7158417217,23421034442,76632061852,250740203864,820430583305 ★ Row sums of Fibonacci-Pascal matrix A162745. • a(n)=sum { k=0..floor(n / 2), C(n,2k) * 2 ^ (n - 2k) * F(k + 1) } =sum { k=0..n, C(n,k) * 2 ^ (n - k) * F(k / 2 + 1) * (1 + (- 1) ^ k) / 2 } . •

[A024175] • 1,1,2,5,14,42,132,428,1416,4744,16016,54320,184736,629280,2145600,7374944,24979584,85262464,291057920,993641216,3392317952,11581872722,39541748736,135002491904,460924372992 ★ Expansion of (x^3-6*x^2+5*x-1)/((2*x-1)*(2*x^2-4*x+1)) • a(n) = (1 / 4) * Sum(r, 1, 7, Sin(r * Pi / 8) ^ 2 (2Cos(r * Pi / 8)) ^ (2n)), n>=1 a(n)= 6a(n - 1) - 10a(n - 2) + 4a(n - 3), n>=4. - _ Herbert Kociemba _ , Jun 11 2004 • a(n) = (1 / 4) * ((2 + sqrt(2)) ^ (n - 1) + (2 - sqrt(2)) ^ (n - 1) + 2 ^ n) for n>=1. [_ Richard Choulet _ , Apr 19 2010] •

[A058094] • 1,1,2,5,14,42,132,429,1426,4806,16329,55740,190787,654044,2244153,7704047,26455216,90860572,312090478,1072034764,3682565575,12650266243,43456340025,149282561256,512821712570 ★ Number of 321-hexagon-avoiding permutations in S_n, i.e., permutations of 1..n with no submatrix equivalent to 321, 56781234, 46781235, 56718234 or 46718235. • a(n + 1) = 6 a(n) - 11a(n - 1) + 9a(n - 2) - 4a(n - 3) - 4a(n - 4) + a(n - 5) for n >= 5. •

[A080938] • 1,1,2,5,14,42,132,429,1429,4846,16645,57686,201158,704420,2473785,8704089,30664890,108126325,381478030,1346396146,4753200932,16783118309,59266297613,209302921830,739203970773 ★ Number of Catalan paths (nonnegative, starting and ending at 0, step +/-1) of 2n steps with all values less than or equal to 7. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 10 * a(n - 3) - a(n - 4) - _ Herbert Kociemba _ , Jun 13 2004 •

[A033191] • 1,1,2,5,14,42,132,429,1430,4861,16778,58598,206516,732825,2613834,9358677,33602822,120902914,435668420,1571649221,5674201118,20497829133,74079051906,267803779710,968355724724 ★ Binomial transform of [1, 0, 1, 1, 3, 6, 15, 36, 91, 231, 595,...], which is essentially binomial(fibonacci(k) + 1, 2). • a(n) = (1 / 5) * sum(r, 1, 9, sin(r * Pi / 10) ^ 2(2 * cos(r * Pi / 10)) ^ (2n)), n>=1; a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4), n>=5. - _ Herbert Kociemba _ , Jun 14 2004 •

[A120588] • 1,1,1,2,5,14,42,132,429,1430,4862,16796,58786,208012,742900,2674440,9694845,35357670,129644790,477638700,1767263190,6564120420,24466267020,91482563640,343059613650 ★ G.f. satisfies: 3*A(x) = 2 + x + A(x)^2, with a(0) = 1. • a(n) = Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 •

[A000108] • 1,1,2,5,14,42,132,429,1430,4862,16796,58786,208012,742900,2674440,9694845,35357670,129644790,477638700,1767263190,6564120420,24466267020,91482563640,343059613650,1289904147324 ★ Catalan numbers: C(n) = binomial(2n,n)/(n+1) = (2n)!/(n!(n+1)!). Also called Segner numbers. • a(n) = binomial(2 * n, n) - binomial(2 * n, n - 1). • a(n) = Sum _{ k=0..n - 1 } a(k)a(n - 1 - k). • a(n) = Product _{ k=2..n } (1 + n / k), if n>1. • a(n + 1) = Sum _{ i } binomial(n, 2 * i) * 2 ^ (n - 2 * i) * a(i). - Touchard • a(n + 1) = (1 / (n + 1)) * Sum _{ k=0..n } a(n - k) * binomial(2k + 1, k + 1). - _ Philippe Deléham _ , Jan 24 2004 • a(n) = Sum _{ k=0..n } (- 1) ^ k * 2 ^ (n - k) * binomial(n, k) * binomial(k, floor(k / 2)). - Paul Barry, Jan 27 2005 •

[A126569] • 1,2,5,14,42,132,430,1444,4981,17594,63442,232828,867146,3269060,12446684,47771496,184544427,716658870,2794956099,10938266562,42930256917,168890693650,665739119129,2628578437646,10393091551794 ★ Top-left "head" entry of the n-th power of the E8 Cartan matrix. • a(n) = leftmost term in M ^ n * [1,0,0,0,0,0,0,0], where M = the 8x8 matrix [2, - 1,0,0,0,0,0,0; - 1,2, - 1,0,0,0,0,0; 0, - 1,2, - 1,0,0,0, - 1; 0,0, - 1,2, - 1,0,0,0; 0,0,0, - 1,2, - 1,0,0; 0,0,0,0, - 1,2, - 1,0; 0,0,0,0,0, - 1,2,0; 0,0, - 1,0,0,0,0,2]. • a(n) = 16a(n - 1) - 105 a(n - 2) + 364a(n - 3) - 714a(n - 4) + 784(n - 5) - 440a(n - 6) + 96a(n - 7) - a(n - 8). G.f.: - (2 * x - 1) * (2 * x ^ 2 - 4 * x + 1) * (x ^ 4 - 16 * x ^ 3 + 20 * x ^ 2 - 8 * x + 1) / (1 - 16 * x + 105 * x ^ 2 - 364 * x ^ 3 + 714 * x ^ 4 - 784 * x ^ 5 + 440 * x ^ 6 - 96 * x ^ 7 + x ^ 8). - _ R. J. Mathar _ , May 08 2009 •

[A162748] • 1,2,5,14,42,132,430,1444,4984,17648,64024,237712,902416,3499680,13853424,55931168,230142848,964460288,4113656704,17846729984,78708574976,352678567424,1604739694848,7411167960576,34723660917760 ★ Row sums of factorial-Pascal matrix A162747. • a(n)=sum { k=0..floor(n / 2), C(n,2k) * 2 ^ (n - 2k) * F(k + 1) } =sum { k=0..n, C(n,k) * 2 ^ (n - k) * (k / 2)! * (1 + (- 1) ^ k) / 2 } . •

[A276989] • 1,1,2,5,14,43,140,474,1650,5863,21170,77441,286372,1068790,4020704,15230470,58044354,222401745,856235030,3310615055,12849946406,50051007940,195571906140,766413504375,3011469930300 ★ Reversion of x - x^2 - x^6. • a(n) = (Sum _{ j=0..(n - 1) / 2 } C(n - 1 - 4 * j,j) * C(2 * n - 4 * j - 2 ,n - 1)) / n. •

[A123020] • 1,1,2,5,14,43,142,493,1766,6443,23750,88045,327406,1219531,4546622,16958765,63272054,236096683,881049142,3287968813,12270563966,45793762763,170903438510,637817894125,2380363943686 ★ Let M = {{1, 1, 0, 0}, {1, 2, 1, 1}, {0, 1, 2, 1}, {0, 0, 1, 2}}, v[1] = {1, 0, 0, 0}, v[n] = M.v[n - 1]. Then a(n) = v[n][[1]]. • a(n)=(2 - sqrt(3)) ^ n * (1 / 3 - sqrt(3) / 6) + (2 + sqrt(3)) ^ n * (1 / 3 - sqrt(3) / 6) + 2 ^ n / 3. (End) •

[A005317] • 1,2,5,14,43,142,494,1780,6563,24566,92890,353740,1354126,5204396,20066492,77575144,300572963,1166868646,4537698722,17672894044,68923788698,269129985796,1052051579012,4116719558104,16123810230158 ★ a(n) = (2^n + C(2*n,n))/2. • a(n) = sum(k=0..floor(n / 2),(- 1) ^ k * C(2 * n,n - 2 * k)), n>0. - _ Mircea Merca _ , Jun 20 2011 • a(n) = sum[k * (k + 1) / 2 { k=C(n,r) 0<=r<=n }]. - _ J. M. Bergot _ , Sep 04 2013 •

[A110489] • 1,2,5,14,43,142,497,1828,7037,28326,119361,527748,2454929,12041410,62354641,340840118,1963757863,11896370734,75549183725,501393978466,3467199478543,24916100775758,185646100106929,1431332539961350 ★ Row sums of a triangle based on the Catalan numbers. • a(n) = Sum _{ k=0..n } Sum _{ j=0..(n - k) } 2 * (j + 1) * (k - 1) ^ j * C(2 * (n - k) + 1, n - k - j) / (n - k + j + 2). •

[A005425] • 1,2,5,14,43,142,499,1850,7193,29186,123109,538078,2430355,11317646,54229907,266906858,1347262321,6965034370,36833528197,199037675054,1097912385851,6176578272782,35409316648435,206703355298074,1227820993510153 ★ a(n) = 2*a(n-1) + (n-1)*a(n-2). • a(n) = (- i * sqrt(2)) ^ n * H(n, i * sqrt(2)), where H(n, x) is the n - th Hermite polynomial and i = sqrt(- 1). - _ Emeric Deutsch _ , Nov 24 2004 • a(n) = Sum _{ k=0..[n / 2] } 2 ^{ n - 3 * k }* n! / ((n - 2 * k)! * k!). - Huajun Huang (hua _ jun(AT)hotmail.com), Oct 10 2005 • a(n) = (1 / sqrt(2 * Pi)) * int(exp(- x ^ 2 / 2) * (x + 2) ^ n, x= - infinity..infinity). - _ Groux Roland _ , Mar 14 2011 •

[A249562] • 1,1,2,5,14,43,143,509,1921,7631,31725,137412,617822,2874819,13809305,68331089,347657464,1815839759,9722708061,53301771604,298854490602,1712023130016,10011533550216,59714205975048,363008132101658 ★ Number of length n permutations avoiding (123,{2},{}) and (123,{},{1}). • a(n,k,i,l) = aup(n,k,i,l) + adown(n,k,i,l) + abar(n,k,i,l) • a(n) = sum(sum(sum(a(n,k,j, m) for m in [0..k]) for j in [1..k]) for k in [1..n]) •

[A098569] • 1,2,5,14,43,143,510,1936,7775,32869,145665,674338,3251208,16282580,84512702,453697993,2514668492,14367066833,84489482201,510760424832,3170267071640,20182121448815,131642848217536,878999194493046 ★ Row sums of the triangle of triangular binomial coefficients given by A098568. • a(n) = Sum _{ k=0..n } C((k + 1) * (k + 2) / 2 + n - k - 1, n - k). •

[A257273] • 2,5,14,44,152,560,2144,8384,33152,131840,525824,2100224,8394752,33566720,134242304,536920064,2147581952,8590131200,34360131584,137439739904,549757386752,2199026401280,8796099313664,35184384671744,140737513521152 ★ a(n) = 2^(n-1)*(2^n+3). • a(n) = 6 * a(n - 1) - 8 * a(n - 2). - _ Colin Barker _ , Apr 27 2015 •

[A204064] • 1,1,2,5,14,44,152,572,2324,10124,47012,231572,1204964,6599444,37924292,228033332,1431128804,9354072404,63548071172,447923400692,3270361265444,24696229801364,192625876675652,1549890430643252,12849460733123684 ★ G.f.: Sum_{n>=0} x^n * Product_{k=1..n} (k + n*x) / (1 + k*x + n*x^2). • a(n) = (1 / 2) * Sum _{ k=0..floor((n + 1) / 2) } Sum _{ i=0..k } (- 1) ^ i * C(k,i) * (k - i + 1) ^ (n - k + 1) for n>1. (See Paul Barry's formula in A105795). - _ Paul D. Hanna _ , Jul 13 2014 •

[A101226] • 0,2,5,14,44,165,725,3607,19624,115127,716177,4675144,31743253 ★ Numbers formed by the fourth nesting of pi(10^n). • a(n) = pi(pi(pi(pi(10 ^ n)))) where pi(x) is the number of primes LE x. •

[A285201] • 1,2,5,14,45,174,825,4738,32137,251338,2224157,21952358,238962581,2843085270,36696680241,510647009850,7619901954001,121367981060434,2055085325869813,36861997532438654,698193329457246653,13924819967953406654,291683979376372766697,6402385486361598687666,146948520147021794869977 ★ Stage at which Ken Knowlton's elevator (version 1) reaches floor n for the first time. • a(n) = 2 - n + 2 *{ Sum(Sum(k! / j!, j=0..k), k=0..n - 2). •

[A001680] • 1,1,2,5,14,46,166,652,2780,12644,61136,312676,1680592,9467680,55704104,341185496,2170853456,14314313872,97620050080,687418278544,4989946902176,37286121988256,286432845428192,2259405263572480,18280749571449664 ★ The partition function G(n,3). • a(n) = n! * sum(k=1..n, 1 / k! * sum(j=0..k, C(k,j) * C(j,n - 3 * k + 2 * j) * 2 ^ (- n + 2 * k - j) * 3 ^ (j - k))).

[_ Vladimir Kruchinin _ , Jan 25 2011] • a(n) = G(n,3) with G(0,i) = 1, G(n,i) = 0 for n>0 and i<1, otherwise G(n,i) = Sum _{ j=0..floor(n / i) } G(n - i * j,i - 1) * n! / (i! ^ j * (n - i * j)! * j!). - _ Alois P. Heinz _ , Apr 20 2012 •

[A107268] • 1,1,2,5,14,46,173,733,3436,17572,96997,573268,3604687,23990345,168254444,1238889493,9546211068,76761000444,642524333589,5586361188966,50351455288661,469653513479395,4526242614854118,45005754238016688 ★ Sums of antidiagonals of A107267. • a(n) = Sum _{ k=0..n } Sum _{ j=0..n - k } 1 / (j + 1) C(j + 1,n - k - j + 1) C(n - k,j) k ^ j. • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } 1 / (j + 1) C(j + 1,k - j + 1) C(k,j) (n - k) ^ j. •

[A096402] • 1,1,1,2,5,14,47,182,786,3774,19974,115236,720038,4846512,34950929,268836776,2197143724,19013216102,173672030192,1669863067916,16858620684522,178306120148144,1971584973897417,22748265125187632 ★ n! times the volume of the polytope x_i >= 0 for 1 <= i <= n and x_i + x_{i+1} + x_{i+2} <= 1 for 1 <= i <= n-2. • a(n) = n! * g(0, 1, n + 1) where g(a, b, n) = f(a, b, n) / a. - _ Michael Somos _ , Feb 21 2012 •

[A143918] • 1,2,5,14,47,194,977,5870,41099,328802,2959229,29592302,325515335,3906184034,50780392457,710925494414,10663882416227,170622118659650,2900576017214069,52210368309853262,991996997887211999,19839939957744240002,416638739112629040065 ★ G.f. A(x) satisfies: A(x) = 1/(1-x)^2 + x^2*A'(x). • a(n) = 3 * floor(e * (n - 1)!) - 1, n>1. - _ Gary Detlefs _ , Jun 10 2010 •

[A006390] • 1,1,2,5,14,49,240,1259,7570,47996,319518,2199295,15571610,112773478,832809504,6253673323,47650870538,367784975116,2871331929096,22647192990256,180277915464664 ★ Number of unrooted loopless planar n-edge maps. • a(n)=(1 / 2n)[2(4n + 1)binomial(4n, n) / ((n + 1)(3n + 1)(3n + 2)) + sum _{ 0<k<n, k|n } phi(n / k)binomial(4k, k) + q(n)] where phi is the Euler function (A000010), q(n)=binomial(2n, (n - 2) / 2) if n is even and q(n)= 2n * binomial(2n, (n - 1) / 2) / (n + 1) if n is odd. •

[A000679] • 1,1,2,5,14,51,267,2328,56092,10494213,49487365422 ★ Number of groups of order 2^n. • a(n) = 2 ^ ((2 / 27)n ^ 3 + O(n ^ (8 / 3))). •

[A081439] • 1,2,5,14,53,242,1505,10334,89129,797090,8618045,94186094,1220350301,15745031954,237660317081,3534411032894,60889488170321,1025300949710402,19847126167227509,373194859437512654,8017708459752349061 ★ Expansion of exp(2x)*cosh(x/sqrt(1 - x^2)). • a(n) = 4 * a(n - 1) + 3 * (n - 3) * (n - 1) * a(n - 2) - 6 * (n - 2) * (2 * n - 5) * a(n - 3) - 3 * (n - 3) * (n - 2) * (n ^ 2 - 7 * n + 8) * a(n - 4) + 12 * (n - 4) ^ 2 * (n - 3) * (n - 2) * a(n - 5) + (n - 5) * (n - 4) * (n - 3) * (n - 2) * (n ^ 2 - 10 * n + 12) * a(n - 6) - 2 * (n - 6) * (n - 5) * (n - 4) * (n - 3) * (n - 2) * (2 * n - 11) * a(n - 7) + 4 * (n - 7) * (n - 6) * (n - 5) * (n - 4) * (n - 3) * (n - 2) * a(n - 8). - _ Vaclav Kotesovec _ , Oct 29 2014 •

[A052649] • 2,5,14,54,264,1560,10800,85680,766080,7620480,83462400,997920000,12933043200,180583603200,2702527027200,43153254144000,732297646080000,13160434839552000,249692574523392000 ★ E.g.f. (2+x-x^2)/(1-x)^2. • a(n) = (3 + 2 * n) * n!. • a(0) = 2; for n >= 1, a(n) = 2 * (n + 1)! + n! - _ Antti Karttunen _ , Sep 24 2016 •

[A174795] • 1,2,5,14,56,202,715,3244,12945,49742,238048,996158,3991995,19676358,84649176,347993910,1747681160,7656026268,32018897274,162900330572,722787262419,3060338457400,15718332812096,70407433197686 ★ Number of admissible sequences of order j; related to 5x+1 problem • a(1)=1 and a(k + 1) = Sum _{ m=1..k } (- 1) ^ (m - 1) * binomial(floor((k - m + 1) * (log(5) / log(2))) + m - 1, m) * a(k - m + 1) for k >= 1. - _ Vladimir M. Zarubin _ , Sep 25 2015 •

[A110043] • 2,5,14,57,284,1705,11934,95473,859256,8592561,94518170,1134218041,14744834532,20642783449,3096415251734,49542644027745,842224948471664,15160049072489953,288040932377309106,5760818647546162121 ★ a(1) = 2; for n>1, a(n) = n*a(n-1) + (-1)^n. • a(n) = 2 * n! + floor((n! + 1) / e) [From _ Gary Detlefs _ , Apr 11 2010] •

[A006847] • 1,1,2,5,14,58,238,1516,9020,79892,635984,7127764,70757968,949723600,11260506056,175400319992,2416123951952,42776273847184,671238787733920,13302324582892048,234257439470319776,5135062189842955616,100292619307729965152 ★ Number of extreme points of the set of n X n symmetric doubly-stochastic matrices. • a(n) = n! * sum((if r=0 then 1 else sum((1 / 2) ^ k * C(k,r - k) / k!, k=1..r)) * b(n - r), r=0..n), b(n)=if n=0 then 1 else 1 / 2 + sum(2 ^ m * C(n - 1,m - 1) * (- 1) ^ (m - 1) * ((1 / 4) ^ m * sum(sum(C(j,m - 1 - 3 * k + 2 * j) * C(k,j) * 3 ^ (3 * k - m + 1 - j) * 2 ^ (m - 1 - 5 * k + 3 * j) * (- 1) ^ (m - 1 - 3 * k), j=0..k) * C(k + m - 1,m - 1), k=1..m - 1)) / m, m=2..n). - _ Vladimir Kruchinin _ , Sep 09 2010 •

[A104585] • 0,2,5,15,22,40,51,77,92,126,145,187,210,260,287,345,376,442,477,551,590,672,715,805,852 ★ (1/2) * (3*n^2 - n*(-1)^n). • a(n) = (1 / 2) * (3 * n ^ 2 - n * (- 1) ^ n). - _ Ralf Stephan _ , Nov 13 2010. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 04 2013 •

[A290527] • 1,2,5,15,24,63,112,255,480,1023,1984,4095,8064,16383,32512,65535,130560,262143,523264,1048575,2095104,4194303,8384512,16777215,33546240 ★ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 833", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (n / 2 + 1) * (2 ^ (n / 2) - 1) for n>2 and even. • a(n) = 2 ^ (n + 1) - 1 for n >2 and odd. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - 2 * a(n - 4) + 4 * a(n - 5) for n>4. •

[A290828] • 1,2,5,15,28,63,124,255,508,1023,2044,4095,8188,16383,32764,65535,131068,262143,524284,1048575,2097148,4194303,8388604,16777215,33554428 ★ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 961", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * (2 ^ n - 2) for n>2 and even. • a(n) = 2 ^ (n + 1) - 1 for n>2 and odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>5. •

[A290836] • 1,2,5,15,28,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607,16777215,33554431 ★ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 969", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (1 + n) - 1 for n>4. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>6. •

[A006451] • 0,2,5,15,32,90,189,527,1104,3074,6437,17919,37520,104442,218685,608735,1274592,3547970,7428869,20679087,43298624,120526554,252362877,702480239,1470878640 ★ Numbers n such that n*(n+1)/2+1 is a square. • a(n) = 6a(n - 2) - a(n - 4) + 2 with a(0)=0, a(1)=2, a(2)=5, a(3)=15. - _ Zak Seidov _ , Apr 15 2008 • a(n) = 3 * a(n - 2) + 4 * sqrt ((a(n - 2) ^ 2 + a(n - 2) / 2 + 1) + 1 with a(0) = 0, a(1) = 2. - _ Raphie Frank _ , Feb 02 2013 • a(0)=0, a(1)=2, a(2)=5, a(3)=15, a(4)=32, a(n)=a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jul 17 2013 • a(n) = 7 * a(n - 2) - 7 * a(n - 4) + a(n - 6), for n>5. - _ Hermann Stamm - Wilbrandt _ , Aug 26 2014 •

[A245961] • 0,0,0,0,2,5,15,35,80,171,355,715,1410,2730,5208,9810,18280,33745,61785,112309,202840,364245,650705,1157015,2048532 ★ Number of 4-cycles in the Lucas cube Lambda(n). • a(n) = 3 * a(n - 1) - 5 * a(n - 3) + 3 * a(n - 5) + a(n - 6). G.f.: x ^ 4 * (x - 2) / (x ^ 2 + x - 1) ^ 3. - _ Colin Barker _ , Aug 11 2014 •

[A059840] • 0,0,2,5,15,39,104,272,714,1869,4895,12815,33552,87840,229970,602069,1576239,4126647,10803704,28284464,74049690,193864605,507544127,1328767775,3478759200 ★ a(n) = F(n)*F(n-1) if n odd otherwise F(n)*F(n-1)-1, where F = Fibonacci numbers A000045. • a(n) = Sum _{ k=1..n - 2 } F(k) * F(k + 2). - _ Alexander Adamchuk _ , May 17 2007 • a(n + 2) = (3 * (- 1) ^ (n + 1) - 5 + 2 * Lucas(2 * n + 3)) / 10, n >= 0. - _ Ehren Metcalfe _ , Aug 21 2017 •

[A190140] • 1,2,5,15,41,112,310,855,2356,6497,17915,49395,136196,375532,1035445,2855010,7872061,21705467,59848025,165017700,454999826,1254561427,3459175780,9537912465,26298684991 ★ a(n) = 2*a(n-1) + a(n-2) + 3*a(n-3), a(0)=1. • a(n) = sum(k=1..n, sum(j=0..k, binomial(j,n - 3 * k + 2 * j) * 3 ^ (k - j) * binomial(k,j) * 2 ^ (- n + 3 * k - j))), n>0, a(0)=1. •

[A292524] • 0,1,2,5,15,44,133,398,1194,3582,10747,32240,96720,290159,870478,2611435,7834305,23502914,70508742,211526225,634578675,1903736026,5711208079,17133624236,51400872708 ★ Interpret the values of the Moebius function mu(k) for k = 1 to n as a balanced ternary number. • a(n) = Sum _{ k = 1..n } mu(k) 3 ^ (n - k). •

[A139782] • 1,2,5,15,46,139,417,1250,3749,11247,33742,101227,303681,911042,2733125,8199375,24598126,73794379,221383137,664149410,1992448229,5977344687,17932034062,53796102187,161388306561 ★ Binomial transform of A077947. • a(n)=3a(n - 1) - a(n - 3) + 3a(n - 4). •

[A143094] • 1,2,5,15,47,145,470 ★ Arises in counting relative Milnor rings in K-theory. • a(n) = the number of nonisomorphic elementary types K _* (F) / S with |F ^ X / S| = 2 ^ n, if we view the K - structures just as graded rings . •

[A268407] • 1,2,5,15,48,160,548,1914,6785,24335,88109,321521,1181039,4362855,16195747,60379623,225955264,848432824,3195394520,12067450014,45685766306,173350890788,659126407978,2510942564760,9582235262428 ★ Number of North-East lattice paths that do not bounce off the diagonal y = x to the right. • a(n):= Sum _{ k=0..n } ((k + 1) * fib(k) * binomial(2 * n - k,n - k)) / (n + 1) + C(n), where fib(n) - Fibonacci numbers, C(n) - Catalan numbers. - _ Vladimir Kruchinin _ , Feb 27 2016 •

[A189176] • 1,2,5,15,49,168,594,2145,7865,29172,109174,411502,1560090,5943200,22732740,87253605,335897865,1296447900,5015206350,19439895090,75487384830,293595204240,1143532045500 ★ Row sums of the Riordan matrix (1+x/sqrt(1-4*x),(1-sqrt(1-4*x))/2) (A189175). • a(n) = sum(binomial(2 * n - k,n - k) * (n ^ 2 + n * k - k ^ 2 - k) / ((2 * n - k) * (2 * n - k - 1)),k=0..n), for n>=2. • a(n)=sum(k=1..n, (3 - k) * binomial(2 * n - k - 1,n - 1)), n>0, a(0)=1. [From Vladimir Kruchinin, Oct 18 2011] • a(n) is the sum of top row terms in M ^ n, M = an infinite square production matrix as follows, with the Fibonacci sequence as the left border: •

[A063021] • 0,1,1,2,5,15,49,168,594,2150,7931,29718,112814,432957,1677050,6547856,25742454,101819100,404885630,1617725010,6491294600,26147434885,105691660110,428578242900,1742925259725 ★ Reversion of y - y^2 - y^5. • a(n) = sum(j=0..(n - 1) / 3, C(n - 1 - 3 * j,j) * C(2 * n - 3 * j - 2,n - 1)) / n, n>0, a(0)=0. - _ Vladimir Kruchinin _ , May 24 2011 •

[A001892] • 1,2,5,15,49,169,602,2191,8095,30239,113906,431886,1646177,6301715,24210652,93299841,360490592,1396030396,5417028610,21056764914,81978913225,319610939055,1247641114021,4875896455975 ★ Number of permutations of (1,...,n) having n-2 inversions (n>=2). • a(n) = 2 ^ (2 * n - 3) / sqrt(Pi * n) * Q * (1 + O(n ^{- 1 })), where Q is a digital search tree constant, Q = 0.288788095... (see A048651). - corrected by _ Vaclav Kotesovec _ , Mar 16 2014 •

[A093129] • 1,2,5,15,50,175,625,2250,8125,29375,106250,384375,1390625,5031250,18203125,65859375,238281250,862109375,3119140625,11285156250,40830078125,147724609375,534472656250,1933740234375,6996337890625 ★ Binomial transform of Fib(2n-1) (A001519). • a(n) = (5 - sqrt(5))((5 + sqrt(5)) / 2) ^ n / 10 + (5 + sqrt(5))((5 - sqrt(5)) / 2) ^ n / 10; •

[A020876] • 2,5,15,50,175,625,2250,8125,29375,106250,384375,1390625,5031250,18203125,65859375,238281250,862109375,3119140625,11285156250,40830007

8125,147724609375,534472656250,1933740234375,6996337890625,25312988281250 ⋆ a(n) = ((5+sqrt(5))/2)^n+((5-sqrt(5))/2)^n. ● a(n)= 5 * a(n - 1) - 5 * a(n - 2). G.f.: (2 - 5 * x) / (1 - 5 * x + 5 * x ^ 2). - _ R. J. Mathar _ , Feb 06 2010 ●

[A196836] ● 2,5,15,50,177,650,2445,9350,36177,141170,554325,2186750,8656377,34355690,136617405,544061750,2169039777,8654570210,34553579685,138020346350,551499730377,2204254480730,8811785649165,35231447872550,140878711512177 ⋆ (1^n + 2^n +3^n + 4^n)/2. ● a(n) = (1 ^ n + 2 ^ n + 3 ^ n + 4 ^ n) / 2, n>=0. ●

[A245311] ● 1,1,2,5,15,50,182,707,2903,12479,55844,258860,1238588,6099054,30836886,159770751,846927495,4586883023,25351486346,142843162421,819783142271,4788268962584,28444114318056,171737405798836,1053285775758916 ⋆ G.f. satisfies: A(x) = 1 + x*A(x) + x^2*A(x)^2 + x^3*A(x)*A'(x). ● a(n) = [x ^ n] G(x) ^ (n + 1) / (n + 1) for n>=0 where G(x) is the g.f. of A245310. ● a(n) = [x ^ (n + 2)] G(x) ^ (n + 1) / (n + 1) ^ 2 for n>=0 where G(x) is the g.f. of A245310. ●

[A007581] ● 1,2,5,15,51,187,715,2795,11051,43947,175275,700075,2798251,11188907,44747435,178973355,715860651,2863377067,11453377195,45813246635,183252462251,733008800427,2932033104555,11728128223915 ⋆ a(n) = (2^n+1)*(2^n+3)/3. ● a(n) = (3 * 2 ^ (n - 1) + 2 ^ (2 * n - 1) + 1) / 3. ● a(n) = Sum _{ k=1..4 } stirling2(n, k). - Winston Yang (winston(AT)cs.wisc.edu), Aug 23 2000 ● a(n) is the top entry of the vector M ^ n * [1,1,1,1,0,0,0,...], where M is an infinite bidiagonal matrix with M(r,r)=r, r>=1, as the main diagonal, M(r,r + 1)=1, and the rest zeros. ([1,1,1,..] is a column vector and transposing gives the same in terms of a leftmost column term.) - _ Gary W. Adamson _ , Jun 24 2011 ● a(0)=1, a(1)=2, a(2)=5, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Jul 24 2011 ●

[A124303] ● 1,1,2,5,15,51,187,715,2795,11051,43947,175275,700075,2798251,11188907,44747435,178973355,715860651,2863377067,11453377195,45813246635,183252462251,733008800427,2932033104555,11728128223915 ⋆ Number of set partitions of length <= 4; sum of first 4 columns of triangle of Stirling numbers of 2nd kind; dimension of space of symmetric polynomials in 4 noncommuting variables. ● a(n) = (8 + 3 * 2 ^ (1 + n) + 4 ^ n) / 24 for n>0. - _ Colin Barker _ , Nov 03 2017 ●

[A181768] ● 1,1,2,5,15,51,188,731,2950,12235,51822,223191,974427,4302645,19181100,86211885,390248055,1777495635,8140539950,37463689775,173164232965,803539474345,3741930523740,17481709707825,81912506777200 ⋆ G.f.: (1/2)*(3 - sqrt((1-5*x)/(1-x))). ● a(n) = JacobiP(n - 1,1, - n - 1 / 2,9) / n for n>0. - _ Peter Luschny _ , Sep 23 2014 ●

[A007317] ● 1,2,5,15,51,188,731,2950,12235,51822,223191,974427,4302645,19181100,86211885,390248055,1777495635,8140539950,37463689775,173164232965,803539474345,3741930523740,17481709707825,81912506777200,38484717388501 ⋆ Binomial transform of Catalan numbers. ● a(n) = hypergeom([1 / 2, - n], [2], - 4), n=0, 1, 2...; Integral representation as n - th moment of a positive function on a finite interval of the positive half - axis: a(n)=int(x ^ n * sqrt((5 - x) / (x - 1)) / (2 * Pi), x=1..5), n=0, 1, 2... This representation is unique. - _ Karol A. Penson _ , Sep 24 2001 ● a(1)=1, a(n)=1 + sum(i=1, n - 1, a(i) * a(n - i)). - _ Benoit Cloitre _ , Mar 16 2004 ● a(n) = sum { k=0..n, (- 1) ^ k * 3 ^ (n - k) * binomial(n, k) * binomial(k, floor(k / 2)) } [offset 0]. - _ Paul Barry _ , Jan 27 2005 ● a(n) = upper left term in M ^ (n - 1), M = an infinite square production matrix as follows: ● a(n) = JacobiP(n - 1,1, - n - 1 / 2,9) / n. - _ Peter Luschny _ , Sep 23 2014 ●

[A193296] ● 1,1,1,1,2,5,15,51,191,773,3338,15243,73131,366815,1916260,10394665,58404853,339223859,2033188222,12556915219,79807729238,521399203037,3497978659977,24076009827669,169865542733652 ⋆ G.f. satisfies: A(x) = 1+x + x^2*A((A(x)-1-x)/x). ● a(n) = [x ^ (n - 2)] A(x) ^ (n - 1) / (n - 1) for n>=2 with a(0)=a(1)=1. ●

[A001681] ● 1,1,2,5,15,51,196,827,3795,18755,99146,556711,3305017,20655285,135399720,927973061,6631556521,49294051497,380306658250,3039453750685,25120541332271,214363100120051,1885987611214092,17085579637664715,159185637725413675 ⋆ The partition function G(n,4). ● a(n) = n! * sum(k=1..n , 1 / k! * sum(j=0..k, C(k,j) * sum(i=j..n - k + j, C(j,i - j) * C(k - j,n - 3 * k + 3 * j - i) * 2 ^ (5 * k - 4 * j + i - 2 * n) * 3 ^ (j - k)))). [_ Vladimir Kruchinin _ , Jan 25 2011] ● a(n) = G(n,4) with G(0,i) = 1, G(n,i) = 0 for n>0 and i<1, otherwise G(n,i) = Sum _{ j=0..floor(n / i) } G(n - i * j,i - 1) * n! / (i! ^ j * (n - i * j)! * j!). - _ Alois P. Heinz _ , Apr 20 2012 ●

[A192553] ● 1,2,5,15,51,197,850,3897,19461,104264 ⋆ Sums of powers of permutations of length n. ● a(n) <= Bell(n) ●

[A224071] ● 1,2,5,15,52,201,841,3726,17213,82047,400600,1993377,10071777,51532938,266462229,1390174911,7308741084,38682855225,205940368441,1102093935 74,59251773925 73,31987877317887,173337754977904 ⋆ Number of Schroeder paths of semilength n in which there are no (2,0)-steps at level 1. ● a(n) = Sum _{ k=0..n } ((k + 1) * ((- 1) ^ floor((k + 2) / 3) + (- 1) ^ floor ((k + 1) / 3)) * Sum _{ i=0..n - k } (binomial(n + 1,n - k - i) * binomial(n + i,n))) / (2 * (n + 1)). - _ Vladimir Kruchinin _ , Mar 08 2016 ●

[A056272] ● 1,2,5,15,52,202,855,3845,18002,86472,422005,2079475,10306752,51263942,255514355,1275163905,6368612302,31821472612,159042661905,795019337135,3974515030652,19870830712482,99348921288655 ⋆ Word structures of length n using a 5-ary alphabet. ● a(n) = sum(k=1..5, stirling2(n, k)). ● a(n) = (5 ^ n + 10 * 3 ^ n + 20 * 2 ^ n + 45) / 5!. - _ Vladeta Jovovic _ , Aug 17 2003 ● a(n + 1) is the top entry of the vector M ^ n * [1,1,1,1,1,0,0,0,...], where M is an infinite bidiagonal matrix with M(r,r + 1)=1 in the superdiagonal and M(r,r)=r, r>=1 as the main diagonal, and the rest zeros. The n - th power of the matrix is multiplied from the right with a column vector starting with 5 1's. - _ Gary W. Adamson _ , Jun 24 2011 ●

[A110038] ● 1,1,2,5,15,52,202,869,4075,20645,112124,648649,3976633,25719630,174839120,1245131903,9263053753,71806323461,578719497070,4839515883625,41916097982471,375401824277096,3471395994487422,33099042344383885,325005134436155395 ⋆ The partition function G(n,5). ● a(n) = n! * sum(k=1..n , 1 / k! * sum(r=0..k, C(k,r) * sum(m=0..r, 2 ^ (m - r) * C(r,m) * sum(j=0..m, C(m,j) * C(j,n - m - k - j - r) * 6 ^ (j - m) * 24 ^ (n - r - m - k - 2 * j) * 120 ^ (m + k + j + r - n))))). - _ Vladimir Kruchinin _ , Jan 25 2011 ● a(n) = G(n,5) with G(0,i) = 1, G(n,i) = 0 for n>0 and i<1, otherwise G(n,i) = Sum _{ j=0..floor(n / i) } G(n - i * j,i - 1) * n! / (i! ^ j * (n - i * j)! * j!). - _ Alois P. Heinz _ , Apr 20 2012 ●

[A056273] ● 1,2,5,15,52,203,876,4111,20648,109299,601492,3403127,19628064,114700315,676207628,4010090463,23874362200,142508723651,852124263684,5101098232519,30560194493456,183176170057707 ⋆ Word structures of length n using a 6-ary alphabet. ● a(n) = sum(k=1..6, stirling2(n, k)). ●

[A148092] ● 1,1,2,5,15,52,203,876,4131,21065,115274,672673,4163743,27216840,187160429,1349511178,10173555345,79982663997,654277037674,5557624876513,48931106059451,445790174654588,4196351007814659,40757862664061104,407245375184911787 ⋆ The partition function G(n,6). ● a(n) = G(n,6) with G(0,i) = 1, G(n,i) = 0 for n>0 and i<1, otherwise G(n,i) = Sum _{ j=0..floor(n / i) } G(n - i * j,i - 1) * n! / (i! ^ j * (n - i * j)! * j!). - _ Alois P. Heinz _ , Apr 20 2012 ●

[A164863] ● 1,1,2,5,15,52,203,877,4140,21147,115974,678514,4211825,27602602,190077045,1368705291,10254521370,79527284317,635182667816,5199414528808,43426867585575,368654643520692,3170300933550687,27542984610086665,241205285284001240 ⋆ Number of ways of placing n labeled balls into 9 indistinguishable boxes; word structures of length n using a 9-ary alphabet. ● a(n) = Sum _{ k=0..9 } stirling2 (n,k). ● a(n) = ceil (103 / 560 * 2 ^ n + 53 / 864 * 3 ^ n + 11 / 720 * 4 ^ n + 5 ^ n / 320 + 6 ^ n / 2160 + 7 ^ n / 10080 + 9 ^ n / 362880). ●

[A164864] ● 1,1,2,5,15,52,203,877,4140,21147,115975,678569,4213530,27641927,190829797,1381367941,10448276360,82285618467,672294831619,5676711562593,49344452550230,439841775811967,4005444732928641,37136385907400125,349459367068932740 ⋆ Number of ways of placing n labeled balls into 10 indistinguishable boxes; word structures of length n using a 10-ary alphabet. ● a(n) = Sum _{ k=0..10 } stirling2 (n,k). ● a(n) = ceiling(2119 / 11520 * 2 ^ n + 103 / 1680 * 3 ^ n + 53 / 3456 * 4 ^ n + 11 / 3600 * 5 ^ n + 6 ^ n / 1920 + 7 ^ n / 15120 + 8 ^ n / 80640 + 10 ^ n / 3628800). ●

[A203641] ● 1,2,5,15,52,203,877,4140,21147,115975,678570,4213596,27644358,190895863,1382847419,10477213268,82797679445,680685836527,5806124780384,51245294979716,466668627500968,4371727233798927,42000637216351225 ⋆ Number of arrays of n 0..10 integers with new values introduced in order 0..10 but otherwise unconstrained. ● a(n) = Sum _{ k=1..11 } stirling2(n,k). - _ Danny Rorabaugh _ , Mar 03 2015 ●

[A000110] ● 1,1,2,5,15,52,203,877,4140,21147,115975,678570,4213597,27644437,190899322,1382958545,10480142147,82864869804,682076806159,5832742205057,51724158235372,474869816156751,4506715738447323,44152005855084346,445958869294805289 ⋆ Bell or exponential numbers: number of ways to partition a set of n labeled elements. ● a(n) = Sum _{ k=0..n } Stirling2(n, k). ● a(n) = exp(- 1) * Sum _{ k >= 0 } k ^ n / k! [Dobinski]. - _ Benoit Cloitre _ , May 19 2002 ● a(n) is asymptotic to n! * (2 Pi r ^ 2 exp(r)) ^ (- 1 / 2) exp(exp(r) - 1) / r ^ n, where r is the positive root of r exp(r) = n. See, e.g., the Odlyzko reference. ● a(n) is asymptotic to b ^ n * exp(b - n - 1 / 2) * sqrt(b / (b + n)) where b satisfies b * log(b) = n - 1 / 2 (see Graham, Knuth and Patashnik, Concrete Mathematics, 2nd ed., p. 493). - _ Benoit Cloitre _ , Oct 23 2002, corrected by _ Vaclav Kotesovec _ , Jan 06 2013 ● a(n + 1) = exp(- 1) * Sum _{ k>=0 } (k + 1) ^ (n) / k!. - _ Gerald McGarvey _ , Jun 03 2004 ● a(n) = Sum _{ k=1..n } (1 / k!) * (Sum _{ i=1..k } (- 1) ^ (k - i) * binomial(k, i) * i ^ n + 0 ^ n). - _ Paul Barry _ , Apr 18 2005 ●

[A249892] ● 1,1,2,5,15,52,207,923,4532,24271,140581,874434,5806557,40955973,305544958,2402139329,19837601155,171598571288,1550865447043,14611295961047,143210242799872,1457573997373131,15379106145570681,167962044452359398,1896100883094424657 ⋆ G.f.: Sum_{n>=0} x^n / (1 - n*x - n^2*x^2). ● a(n) = Sum _{ k=0..n } Fibonacci(n - k + 1) * k ^ (n - k). ●

[A277175] ● 1,2,5,15,53,222,1120,6849,50111,427510,4142900,44693782,529276962,6813205468,94642629984,1410507388421,22445134308123,379776665469030,6808016435182620,128886547350655050,2569493300908367550,53805226930896987540,1180673761078007109840 ⋆ Convolution of Catalan numbers and factorial numbers. ● a(n) = Sum _{ i=0..n } C(i) * (n - i)!. ●

[A107112] ● 1,2,5,15,54,228,1106,6069,37212,252287,1873928,15127191,131788320,1231650843,12283477562,130137706957,1458823402224,17242265101407,214202486482516,2789239633559763,37974772474452740,539356744121554370 ⋆ Row sums of A107111, viewed as a number triangle. ● a(n)=sum { k=0..n, sum { j=0..k, binomial((n - k)(k + 1), k - j) * binomial(k + j, j) }/ (k + 1) } ●

[A051295] ● 1,1,2,5,15,54,235,1237,7790,57581,489231,4690254,49986715,585372877,7463687750,102854072045,1522671988215,24093282856182,405692082526075,7242076686885157,136599856992122366,2714409550073698925 ⋆ a(0)=1; thereafter, a(m+1) = Sum_{k=0 to m} k!*a(m-k). ● a(n) = upper left term in M ^ n, M = an infinite square production matrix in which a column of 1's is prepended to Pascal's triangle, as follows: ●

[A216388] ● 1,2,5,15,55,270,1494,8081,3395709,53903207 ⋆ Number of values of k for which sigma(k)-k is a permutation of decimal digits of k, for k < 10^n. ● a(n) = # { k in A085844 | k < 10 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 ●

[A274100] ● 1,2,5,15,64,351,2280,16335,123464,959631,7566280,60090255,47

8968264,3824743311,30569959880,244447781775,1955134763464,15639288341391,125107148059080,1000828550570895,8006513870533064,64051652831273871,512411390124519880 ⋆ Number of partitions of 2^n into at most four parts. ● a(n) = 14 * a(n - 1) - 55 * a(n - 2) + 50 * a(n - 3) + 56 * a(n - 4) - 64 * a(n - 5) for n>6. ●

[A174988] ● 0,1,2,5,16,31,110,203,736,1345,4898,8933,32560,59359,216398,394475,1438144,2621569,9557570,17422277,63517264,115784095,422119982,769472267,2805304480 ⋆ Expansion of -x*(x-1)*(3*x+1) / (9*x^4-8*x^2+1). ● a(n) = 8 * a(n - 2) - 9 * a(n - 4). G.f.: - x * (x - 1) * (3 * x + 1) / (9 * x ^ 4 - 8 * x ^ 2 + 1). [_ Colin Barker _ , Jan 05 2013] ●

[A179992] ● 2,5,16,37,78,151,278,493,852,1445,2418,4007,6594,10797,17616,28669,46574,75567,122502,198469,321412,520365,842306,1363247,2206178 ⋆ Extended three term Fibonacci sequence a(n)=a(n-1)+a(n-2)+n^2. a(1)=2; a(2)=5 ● a(n)=F(n) + sum(i ^ 2; i=1 to n) + sum(F(k) * sum(j ^ 2; j=0 to n - k - 1); k=0 to n - 3)). ● a(n) - 4 * a(n - 1) + 5 * a(n - 2) - a(n - 3) - 2 * a(n - 4) + a(n - 5) = 0 with n>5. [From _ Bruno Berselli _ , Aug 25 2010] ●

[A124720] ● 2,5,16,38,96,220,512,1144,2560,5616,12288,26592,57344,122816,262144,556928,1179648,2490112,5242880,11009536,23068672,48233472,100663296,209713152,436207616 ⋆ Number of ternary Lyndon words of length n with exactly two 1's. ● a(n) = 2 ^ (n - 3) * (n - 1) - 2 ^ (n / 2 - 2) for n even. ● a(n) = 2 ^ (n - 3) * n - 2 ^ (n - 3) for n odd. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 8 * a(n - 4) for n>6. ●

[A138573] ● 0,1,2,5,16,45,130,377,1088,3145,9090,26269,75920,219413,634114,1832625,5296384,15306833,44237570,127848949,369490320,1067846845,3086134658,8919094697,25776662080 ⋆ a(0)=0, a(1)=1, a(2)=2, a(3)=5, a(n+4) = 2*a(n+3) + 2*a(n+2) + 2*a(n+1) - a(n). ● a(n) = (alpha(1) ^ n + beta(1) ^ n - alpha(2) ^ n - beta(2) ^ n) / (2 * sqrt(5)), where alpha(1), beta(1) are the roots of x ^ 2 - (1 + sqrt(5)) * x + 1 = 0, and alpha(2), beta(2) are the roots of x ^ 2 - (1 - sqrt(5)) * x + 1 = 0. ● a(n) = (1 / sqrt(5)) * (T(n,phi) - T(n, - 1 / phi)), where phi = 1 / 2 * (1 + sqrt(5)) is the golden ratio and T(n,x) denotes the Chebyshev polynomial of the first kind. Compare with the Fibonacci numbers, A000045, whose terms are given by the Binet formula 1 / sqrt(5) * (phi ^ n - (- 1 / phi) ^ n). ● a(n) = top right (or bottom left) entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 1; 1, 1]; the off - diagonal elements of M ^ n give the sequence of Fibonacci numbers. Bottom right entry of the matrix T(n, M) gives A138574. See the remarks in A100047 for the general connection between Chebyshev polynomials and linear divisibility sequences of the fourth order. (End) ● a(n) = (((phi + sqrt(phi)) ^ n + (phi - sqrt(phi)) ^ n) / 2 - (- 1) ^ n * cos(n * arctan(sqrt(phi)))) / sqrt(5), where phi =(1 + sqrt(5)) / 2. - _ Vladimir Reshetnikov _ , May 11 2016 ●

[A075887] ● 1,2,5,16,45,171,421,1968,4553,19225,57261,226854,496309,3136420,6764563,24850336,84877201,380461599,805949533,4411165990,9288196621,48275465722,154143694937,527401107276,1100708161081 ⋆ a(n) = 1 + n + n[n/2] + n[n/2][n/3] +... + n[n/2][n/3]...[n/n], where [x]=ceiling(x). ● a(n) = 1 + Sum _{ m=1..n } Product _{ k=1..m } ceiling(n / k) for n>0 and a(0)=1. ●

[A257970] ● 1,2,5,16,48,144,432,1296,3888,11664,34992,104976,314928,944784,2834352,8503056,25509168,76527504,229582512,688747536,2066242608,6198727824,18596183472,55788550416,167365651248 ⋆ a(1) = 1, a(2) = 2, a(3) = 5; thereafter a(n) = 2 * Sum_{k=1..n-1} a(k). ● a(n) = 3 * a(n - 1) for n>=5. ● a(n) = 16 * 3 ^ (n - 4) for n>=4. ●

[A108529] ● 1,1,2,5,16,51,177,621,2246,8245,30783,116257,443945,1710255,6640939,25961690,102105115,403701135,1603721999,6397931901,25621989760,102965680728,415091909292,1678226164646,6803121058354 ⋆ Number of asymmetric mobiles (cycle rooted trees) with n generators. ● a(n) = (1 / 2) * (a(n - 1) + (1 / n) * Sum _{ d|n } mu(d) * c(n / d)) for n>=2, where c(n) = n * a(n) + Sum _{ s=1..n - 1 } c(s) * a(n - s) and a(1) = c(1) = 1. ●

[A011819] ● 2,5,16,52,152,392,904,1899,3694,6743,11672,19318,30772,47426,71024,103717,148122,207385,285248,386120,515152,678316,882488,1135535,1446406 ⋆ M-sequences m_0,m_1,m_2,m_3 with m_1 < n. ● a(n)= (2 * n ^ 6 + 15 * n ^ 5 + 50 * n ^ 4 + 165 * n ^ 3 + 308 * n ^ 2 + 540 * n + 720) / 360. [_ Frank Ellermann _] ●

[A101500] ● 1,2,5,16,53,178,609,2112,7393,26066,92437,329360,1178149,4228322,15218305,54907136,198527617,719170850,2609577701,9483269008,34508808789,125727351186,458573578977,1674270763584,6118472289889 ⋆ A Chebyshev transform of the central binomial numbers. ● a(n) = sum(k=0..floor(n / 2), C(n - k, k) * (- 1) ^ k * C(2(n - 2k), n - 2k)). ● a(n) = sum { k=0..n, C(n + k - 1,n - k) * C(k,k / 2) * (1 + (- 1) ^ k) / 2 } . (End) ● a(n) = sum(k= ceiling(n / 2)..n, C(k,n - k) ^ 2 * 2 ^ (2 * k - n)). - _ Vladimir Kruchinin _ , Apr 09 2014 ●

[A081126] ● 1,2,5,16,53,206,817,3620,16361,80218,401501,2139512,11641885,66599846,388962953,2367284236,14700573137,94523836850,619674301621,4186249123808,28809504493061,203556335785342,1463877667140065 ⋆ Binomial transform of n!/floor(n/2)!. ● a(n) = sum(k=0..n, C(n, k) * n! / floor(n / 2)!) . ● a(n) = sum(k=0..n, C(n,k) * k! / floor(k / 2)!); a(n) = sum(k=0..n, C(k + 1,n - k) * n! / k!). - _ Paul Barry _ , Apr 17 2007 ●

[A006191] ● 1,2,5,16,54,180,595,1964,6485,21418,70740,233640,771661,2548622,8417525,27801196,91821114,303264540,1001614735,3308108744,10925940965,36085931638,119183735880,393637139280,1300095153721 ⋆ Number of paths on square lattice. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) + a(n - 4) for n>4. ●

[A161941] ● 2,5,16,54,184,628,2144,7320,24992,85328,291328,994656,3395968,11594560,39586304,135156096,461451776,1575494912,5379076096,18365314560,62703106048,214081795072,730920968192,2495520282624,8520239194112 ⋆ a(n) = ((4+sqrt(2))*(2+sqrt(2))^n + (4-sqrt(2))*(2-sqrt(2))^n)/4. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n>1; a(0) = 2; a(1) = 5. ●

[A141754] ● 1,2,5,16,54,190,684,2505,9291,34793,131277,498312,1900862,7280732,27983141,107868939,416869874,1614609446,6265869591,24358231651,94837442844,369755864507,1443420649734,5641088964709,22068939198169 ⋆ Secondary diagonal of A139755, the table of q-derangement numbers of type A. ● a(n) = [q ^ n] { ([n + 2] _ q)! * Sum _{ m=0..n + 2 } (- 1) ^ m * q ^ (m(m - 1) / 2) / ([m] _ q)! } ; here, the q - factorial of n is denoted by ([n] _ q)! = Product _{ j=1..n } (1 - q ^ j) / (1 - q), with ([0] _ q)! = 1. ●

[A051960] ● 2,5,16,55,196,714,2640,9867,37180,140998,537472,2057510,7904456,30458900,117675360,455657715,1767883500,6871173870,26747767200,104268528210,406975466040,1590307356300,6220814327520,24357232569150,95452906901976 ⋆ a(n) = C(n)*(3n+2) where C(n) = Catalan numbers = A000108. ● a(n) = Sum _{ k=0..(n + 1) / 2 } (binomial(n - k + 1,k) * 2 ^ (n - 2 * k + 1) * binomial(n,k)). - _ Vladimir Kruchinin _ , Sep 30 2015. ● a(n) = 4 ^ n * (2 + 3 * n) * Gamma(1 / 2 + n) / (sqrt(Pi) * Gamma(2 + n)). - _ Peter Luschny _ , Dec 14 2015 ●

[A137732] ● 1,1,2,5,16,55,224,935,4400,21262,111624,596805,3457354,20147882,125455512,792576243,5277532388,35519373064,252120178596,1800810613940,13492153025558,102095379031327,804122472505530,6395239610004277 ⋆ Repeated set splitting, unlabeled elements. Repeated integer partitioning into two parts. ● a(n) = Sum _{ k=1..n - 1 } p(n - 1,k) * a(k) * a(n - k), with a(1)=1 and where p(n,k) denotes the number of integer partitions of n into k parts. ●

[A176332] ● 1,2,5,16,56,202,741,2752,10318,38972,148070,565280,2166646,8332378,32136205,124249856,481433286,1868972828,7267804550,28304698336,110383060776,431000853028,1684754608210,6592277745536,25818887839956 ⋆ Row sums of triangle A176331. ● a(n)=sum { k=0..n, sum { j=0..n, C(j,n - k) * C(j,k) * (- 1) ^ (n - j) }} . ●

[A191241] ● 1,1,2,5,16,56,204,759,2880,11132,43732,174122,700952,2847840,11661592,48080811,199433880,831649380,3484523460,14662036550,61931353880,262503848400,1116179957160,4759795460550,20351410848288 ⋆ Reversion of x-x^2-2*x^5 ● a(n)=sum(j=0..(n - 1) / 3, 2 ^ j * binomial(n - 3 * j - 1,j) * binomial(2 * n - 3 * j - 2,n - 1)) / n, n>0. ●

[A180678] ● 1,2,5,16,57,206,737,2612,9213,32442,114205,402072,1415713,4985126,17554489,61816252,217679141,766531986,2699251381,9505089568,33471028105,117864194430,415044573969,1461529529924,5146600421325 ⋆ The Ze2 sums of the Pell-Jacobsthal triangle A013609. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 8 * a(n - 3) with a(0)=1, a(1)=2 and a(2)= 5. ●

[A121689] ● 1,1,2,5,16,57,231,1023,4926,25483,140601,822422,5074015,32881868,223027542,1578435549,11625317128,88894615929,704269188135,5770209550496,48810504348082,425650324975153,3821377057170313 ⋆ G.f.: Sum_{n>=0} x^n * (1+x)^(n^2). ● a(n) = Sum _{ k=0..n } C(k ^ 2,n - k). ●

[A286946] ● 1,1,2,5,16,57,286,1431,9064,51398,359787,3118155,25568872,223727631,2311852188,15990310968,105935810164,1038449718056,10903722039589,185715007642033,3528585145198628,46753753173881822,658243630211230916,9215410822957232825,197209791611284782456 ⋆ a(1) = 1; a(n+1) = Sum_{k=1..n} a(n)/gcd(a(k),a(n)). ● a(1) = 1; a(n + 1) = Sum _{ k=1..n } lcm(a(k),a(n)) / a(k). ●

[A087949] ● 1,1,1,2,5,16,59,246,1131,5655,30428,174835,1066334,6870542,46581883,331237074,2463361903,19112314727,154364077009,1295325828045,11273167827343,101589943242179,946577526626181,9107029927925714,90359115887726302 ⋆ G.f. satisfies A(x) = 1 + x*A(x*A(x)). ● a(n,m) = Sum _{ k=0..n } m * C(n - k + m,k) / (n - k + m) * a(n - k,k) with a(0,m)=1. ●

[A275711] ● 1,1,1,2,5,16,61,272,1385,7936,50521,353791,2702767,22368251,199360995,1903757268,19391512295,209865342434,2404879677510,29088885104489,370371188272931,4951498052966308,69348874393874527,1015423886503257017,15514534163575397655 ⋆ Nearest integer to 2*n!*(2/Pi)^(n+1). ● a(n) = round (2 * n! * (2 / Pi) ^ (n + 1)) ●

[A000111] ● 1,1,1,2,5,16,61,272,1385,7936,50521,353792,2702765,22368256,199360981,1903757312,19391512145,209865342976,2404879675441,29088885112832,370371188237525,4951498053124096,69348874393137901,1015423886506852352,15514534163557086905 ⋆ Euler or up/down numbers: e.g.f. sec(x) + tan(x). Also for n >= 2, half the number of alternating permutations on n letters (A001250). ● a(n) = P _ n(0) + Q _ n(0) (see A155100 and A104035) , defining Q _{- 1 } = 0. Cf. A156142. ● a(n) = (n - 1) * a(n - 1) - Sum _{ i =2..n - 2 } (i - 1) * E(n - 2, n - 1 - i), where E are the Entringer numbers A008281. - _ Jon Perry _ , Jun 09 2003 ● a(2 * k) = (- 1) ^ k euler(2k) and a(2 k - 1) = (- 1) ^ (k - 1)2 ^ (2k)(2 ^ (2k) - 1) bernoulli(2k) / (2k). - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Jan 17 2005 ● a(n) = 2 ^ n|E(n,1 / 2) + E(n,1)| where E(n,x) are the Euler polynomials. - _ Peter Luschny _ , Jan 25 2009 ● a(n) = 2 ^ (n + 2) * n! * S(n + 1) / (Pi) ^ (n + 1), where S(n) = Sum _{ k = - inf..inf } 1 / (4k + 1) ^ n (see the Elkies reference). - _ Emeric Deutsch _ , Aug 17 2009 ● a(n) = i ^ (n + 1) Sum _{ k=1..n + 1 } Sum _{ j =0..k } binomial(k,j)(- 1) ^ j (k - 2j) ^ (n + 1) (2i) ^ (- k) k ^{- 1 } . - Ross Tang (ph.tchaa(AT)gmail.com), Jul 28 2010 ●

[A033543] ● 1,2,5,16,62,270,1257,6096,30398,154756,800834,4199720,22269976,119207942,643277553,3495713184,19113486390,105074982876,580435709622,3220217022144,17935186513044,100243540330188,562080274898250,3160904659483104,17823384503589996 ⋆ Expansion of (1-sqrt((1-2*x)*(1-6*x)))/(2*x*(2-3*x)). ● a(n) = upper left term in M ^ n, M = an infinite square production matrix as follows (with the main diagonal (2,3,3,3,...)): ●

[A173469] ● 1,2,5,16,62,280,1440,8296,52864,368848,2794864,22842048,200201408,1872466944,18608903968,195778297664,2173272774016,25380361760000,311011886153856,3989579297299712,53458990592638976,746817531317769728 ⋆

Number of permutations of length n that can be sorted in 2^(n-1)-1 steps of Elizalde and Winkler's homing algorithm • a(n) is the coefficient of t ^ n in t he generating function F(t,t), where F(u,v) satisfies the partial differential eq uation F(u,v)=u * v + u * v * D _ u(f) + u * v * D _ v(f) - u ^ 2 * v ^ 2 * D _ u(D _ v(f)). •

[A112951] • 1,2,5,16,63,271,1225,5726,27461,134461,669795,3384945,17316771,89518347,466932059,2454546192,12990743783,69164599115,370186756425,1990638982239,10749412063853,58265968105385,316903203993921 ★ a(n) = number of indecomposable Schur rings over the group Z_{2^n}. • a(n) = (- 1) ^ n Binomial(- 1,n - 2) + 2 * y(n), n>1, where y(n) is the recurrence function a s defined in the Mathematica code below. - _ Benedict W. J. Irwin _ , May 2 9 2016 •

[A136127] • 1,2,5,16,63,294,1585,9692,66275,501106,4150965,37383528,363674407,3800501438,42460229945,505029329524,6371454458859,84981113118090,1194793819467325,17660505018471680,273788611235722031,4442085091233531862,75276072393821203905 ★ Number of permutations of {1,2,...,n} having excedance set {1,2,...,k} for some k=0...n-1 (for k=0 we have the empty set). The excedance set of a permutation p in S_n is the set of indices i such that p(i)>i. • a(n) = Sum(Sum (- 1) ^ (k + 1 - i) * i! * i ^ (n - 1 - k) * Stirling2(k + 1,i), i=1..k + 1), k=0..n - 1). •

[A003149] • 1,2,5,16,64,312,1812,12288,95616,840960,8254080,89441280,1060369920,13649610240,189550368000,2824077312000,44927447040000,760034451456000,13622700994560000,257872110354432000,5140559166898176000 ★ a(n) = Sum_{k=0..n} k!(n-k)!. • a(n) = n! + ((n + 1) / 2)a(n - 1), n >= 1. - _ Leroy Quet _ , Sep 06 2002 • a(n) = ((3n + 1) / 2)a(n - 1) - (n ^ 2 / 2)a(n - 2), n >= 2. - _ David W. Wilson _ , Sep 06, 2002 • a(n) = 2 * int(Ei(t) * ex p(- 2 * t) * t ^ (n + 1),t=0..infinity) where Ei is the exponential integral fun ction. • a(n) = (n + 1)! / 2 ^ n * Sum _{ k=0..n } 2 ^ k / (k + 1). - _ Vacl av Kotesovec _ , Oct 27 2012 • a(n) = - (n + 1)! * Re(Beta(2; n + 2, 0)) / 2 ^ (n + 1), where Beta(z; a, b) is the incomplete Beta function. • a(n) = - 2 * (n + 1)! * Re(LerchPhi(2, 1, n + 2)), where LerchPhi(z, s, a) is the Lerch tra nscendent. •

[A000522] • 1,2,5,16,65,326,1957,13700,109601,986410,9864101,108505112,1302061345,16926797486,236975164805,3554627472076,56874039553217,966858672404690,17403456103284421,330665665962404000,6613313319248080001,138879579704209680022,3055350753492612960485,70273067330330098091156 ★ Total number of arrangements of a set with n elements: a(n) = Sum_{k=0..n} n!/k!. • a(n) = n * a(n - 1) + 1, a(0) = 1. • a(n) = n! * Sum _{ k=0..n } 1 / k! = n! * (e - Sum _{ k>=n + 1 } 1 / k!). - _ Michael Somos _ , Mar 26 19 99 • a(0) = 1; for n > 0, a(n) = floor(e * n!). • a(n) = e * Gamma(n + 1,1) where Gamma(z,t) = Integral _{ x>=t } e ^ (- x) * x ^ (z - 1) dx is incompl ete gamma function. - _ Michael Somos _ , Jul 01 2004 • a(n) = Sum _{ k= 0..n } P(n, k). - _ Ross La Haye _ , Aug 28 2005 • a(n) = 1 + n + n * (n - 1) + n * (n - 1) * (n - 2) + ... + n!. - _ Jonathan Sondow _ , Aug 18 2006 •

[A041283] • 1,2,5,17,22,61,83,310,703,1716,41887,85490,212867,724091,936958,2598007,3534965,13202902,29940769,73084440,1783967329,3641019098,9066005525,30839035673,39905041198 ★ Denominators of continued fraction convergents to sqrt(154). • a(n) = 42590 * af(n - 10) - a(n - 20). - _ Vincenzo Libra ndi _ , Dec 14 2013 •

[A042049] • 1,2,5,17,22,127,149,1617,1766,10447,12213,47086,106385,259856,12059761,24379378,60818517,206834929,267653446,1545102159,1812755605,19672658209,21485413814,127099727279,148585141093 ★ Denominators of continued fraction convergents to sqrt(548). • a(n) = 12166146 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 13 2014 •

[A023244] • 2,5,17,23,53,83,137,197,227,257,293,317,347,383,467,593,647,677,683,797,857,953,1163,1193,1217 ★ Numbers n such that n remains prime through 2 iterations of the function f(x) = 2x + 7. • a(n) == 5 mod 6, fo r n > 1. _ John Cerkan _ , Sep 12 2016 •

[A215580] • 2,5,17,45,122,320,842,2205,5777,15125,39602,103680,271442,710645,1860497,4870845,12752042,33385280,87403802,228826125,599074577,1568397605,4106118242,10749957120,28143753122 ★ Partial sums of A215602. • a(2n) = L(4 * n) - 2, a(2 * n + 1) = L(4 * n + 2) - 1, where L() are the Lucas nu mbers A000032. •

[A219554] • 1,2,5,17,46,123,323,809,1966,4660,10792,24447,54344,118681,254991,539852,1127279,2323849,4733680,9535079,19005282,37507802,73333494,142112402,273092320 ★ Number of bipartite partitions of (n,n) into distinct pairs. • a(n) = [x ^ n * y ^ n] 1 / 2 * Product _{ i,j>=0 } (1 + x ^ i * y ^ j). •

[A074494] • 2,5,17,47,119,287,671,1535,3455,7679,16895,36863,79871,172031,368639,786431,1671167,3538943,7471103,15728639,33030143,69206015,144703487,301989887,629145599 ★ Number of 2-input gates used to synthesize parity function in disjunctive normal form (DNF) with n inputs. • a(n) = 3 * n * 2 ^ (n - 2) - 1 for n>1. •

[A133510] • 2,5,17,53,167,515,1577,4793,14507,43775,131837,396533,1191647,3579035,10745297,32252273,96789587,290434295,871433957,2614564013,7844216327,23533697555,70603189817,211813763753,635449679867 ★ Number of primitive H-invariant prime ideals in O_q(M_{2,n}) generic quantum matrices. • a(n) = ((3 ^ (n + 1)) - (2 ^ (n + 1)) + ((- 1) ^ (n + 1)) + 2) / 4. •

[A180148] • 2,5,17,56,185,611,2018,6665,22013,72704,240125,793079,2619362,8651165,28572857,94369736,311682065,1029415931,3399929858,11229205505,37087546373,122491844624,404563080245,1336181085359,4413106336322 ★ a(n) = 3*a(n-1)+a(n-2) with a(0)=2 and a(1)=5. • a(n) = 3 * a(n - 1) + a(n - 2) with a(0)=2 and a(1)=5. • a(n) = ((4 + 7 * A) * A ^ (- n - 1) + (4 + 7 * B) * B ^ (- n - 1)) / 13 with A=(- 3 + sqrt(13)) / 2 and B=(- 3 - sqrt(13)) / 2. •

[A259792] • 1,1,2,5,17,62,258,1050,4365,18012,73945,301073,1214876,4852899,19187598,75070201,290659230,1113785613,4224773811,15866483556,59011553910,217410395916,793635925091,2871246090593,10297627606547 ★ Number of partitions of n^3 into cubes. • a(n) = [x ^ (n ^ 3)] Product _{ j>=1 } 1 / (1 - x ^ (j ^ 3)). - _ Alois P. Heinz _ , Jul 10 2015 •

[A123166] • 1,2,5,17,65,257,1025,4097,16385,65537,262145,1048577,4194305,16777217,67108865,268435457,1073741825,4294967297,17179869185,68719476737,274877906945 ★ Row sums of A123162. • a(n)=1 + sum { k=0..n, C(2n - 1, 2k - 1) } ; - _ Paul Barry _ , May 26 2008 •

[A052539] • 2,5,17,65,257,1025,4097,16385,65537,262145,1048577,4194305,16777217,67108865,268435457,1073741825,4294967297,17179869185,68719476737,274877906945,1099511627777,4398046511105,17592186044417 ★ a(n) = 4^n + 1. • a(n) = 4 ^ n + 1. • a(n) = 4a(n - 1) - 3 = 5a(n - 1) - 4a(n - 2). •

[A051625] • 1,2,5,17,67,362,2039,14170,109694,976412,8921002,101134244,1104940280,13914013024,191754490412,2824047042632,41304021782824,708492417746000,11629404776897384,222093818836736752,4351196253952132832,88481681599705382144 ★ Number of "labeled" cyclic subgroups of symmetric group S_n. • a(n) = Sum _{ pi } n! / (k _ 1! * 1 ^ k _ 1 * k _ 2! * 2 ^ k _ 2 * ... * k _ n! * n ^ k _ n * phi(lcm { i:k _ i != 0 })), where pi runs through all p artitions k _ 1 + 2 * k _ 2 + ... + n * k _ n=n and phi is Euler's function. •

[A239201] • 2,5,17,68,293,1310,5984,27725,129773,612158,2905322,13857035,66361892,318901523,1536964313,7426185908,35960185373,174468439958,847920579938,4127211830363,20116566452918,98172213841553,479635276636543,2345731259059238,11482918774964588 ★ Expansion of -(x * sqrt(5*x^2 -6*x +1) -2*x^3 +3*x^2 -x) / ((3*x^2 -4*x +1) * sqrt(5*x^2 -6*x +1) +5*x^3 - 11*x^2 +7*x -1). • a(n) = [x ^ n] (F(x) ^ n - F(x) ^ (n - 1)), where F(x) = (x ^ 2 - x - 1) / (x - 1). • a(n) = sum(k=1..n, binomial(n - 1,n - k) * sum(i=0..n - k, binomial(k,n - k - i) * binomial(k + i - 1,k - 1) * 2 ^ (- n + 2 * k + i) * (- 1) ^ (n - k - i))), n>0. •

[A049774] • 1,1,2,5,17,70,349,2017,13358,99377,822041,7477162,74207209,797771521,9236662346,114579019469,1516103040833,21314681315998,317288088082405,4985505271920097,82459612672301846,1432064398910663705,26054771465540507273,495583804405888997218 ★ Number of permutations of n elements not containing the consecutive pattern 123. • a(n) = leftmost column term of M ^ n * V, where M = an infinite tridiagonal matrix with (1,2,3,...) in the su per, sub, and main diagonals and the rest zeros. V = the vector [1,0,0,0,...]. - _ Gary W. Adamson _ , Jun 16 2011 •

[A084869] • 1,2,5,17,71,317,1415,6197,26591,112157,466775,1923077,7863311,31972397,129459335,522571157,2104535231,8460991037,33972711095,136277478437,546270602351,2188566048077,8764718254055,35090241492917 ★ Number of 2-multiantichains of an n-set. • a(n) = (1 / 2!) * (4 ^ n - 2 * 3 ^ n + 3 * 2 ^ n). • a(n) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 1,3) + StirlingS2(n + 1,2) + 1. - _ Ross La Haye _ , Jan 11 2008 • a(n) = 9 * a(n - 1) - 26 * a (n - 2) + 24 * a(n - 3). - _ Vaclav Kotesovec _ , Oct 30 2015 •

[A082282] • 2,5,17,71,359,2161,15131,121061,1089551,10895513,119850691,1438208297,18696707863,261753910123,3926308651849,62820938429593,1067955953303143,19223207159456609,365240936029675579 ★ a(1) = 2, a(n) is the smallest prime > n*a(n-1). • a(n) = nextprime(n * a(n - 1)). •

[A104859] • 1,2,5,17,72,345,1773,9525,52788,299463,1730178,10144818,60211926,361042498,2183809018,13308564682,81637319641,503667864976,3123298907641,19456221197941,121696331095636,764008782313381 ★ Partial sums of A001764. • a(n) = sum(binomial(3k, k) / (2k + 1), k=0..n). •

[A108289] • 1,2,5,17,72,357,2022,12900,91448,711180,6004981,54619489,531854438,5515551251,60642234815,704106298738,8603658260904,110306422692488,1479905106340895,20727595895871297,302423908621734606 ★ Antidiagonal sums of table A060543. • a(n)=Sum _{ k=0..n } C(n + (n - k) * k, (n - k) * k + k)). •

[A002135] • 1,1,2,5,17,73,388,2461,18155,152531,1436714,14986879,171453343,2134070335,28708008128,415017867707,6416208498137,105630583492969,1844908072865290,34071573484225549,663368639907213281,13580208904207073801 ★ Number of terms in a symmetrical determinant: a(n) = n*a(n-1) - (n-1)*(n-2)*a(n-3)/2. • a(n + 1) = (n + 1) * a(n) - binomial(n, 2) * a(n - 2) - C omtet. • a(n) = Sum _{ k=0..n } Sum _{ i=0..k } binomial(k,i) * binomial(i - 1 / 2,n - k) * (3 ^ (k - i) * n!) / (4 ^ k * k!) * (- 1) ^ (n - k - i). - _ Emanu ele Munarini _ , Aug 25 2017 •

[A112831] • 1,2,5,17,74,365,1889,9938,52565,278513,1476506,7828925,41513921,220137122,1167334565,6190107857,32824743914,174062236685,923012961569,4894530600818,25954597551605,137631407453873,729828474212666 ★ Number of non-intersecting cycle systems in a particular directed graph. • a(0)=1, a(1)=2, a(n)=7 * a(n - 1) - 9 * a(n - 2). - _ Harvey P. Dale _ , Jun 08 2013 •

[A000774] • 1,2,5,17,74,394,2484,18108,149904,1389456,14257440,160460640,1965444480,26029779840,370643938560,5646837369600,91657072281600,1579093018675200,28779361764249600,553210247226470400,11185850044938240000,237335752951879680000 ★ a(n) = n!*(1 + Sum_{i=1..n} 1/i). • a(n + 1) = (n + 1) * a(n) + n!. - _ Jon Perry _ , Sep 26 2004 • a(n) = Sum _{ k=0..n } (k + 1) * |s(n,k)|, where s(n,k) are Stirling numbers of the first kind (A00827 5). - _ Peter Luschny _ , Oct 16 2012 •

[A260948] • 1,2,5,17,74,395,2526,19087,168603,1723065,20148031,266437102,3938754720,64391209604,1152961464743,22424127879610,470399253269776,10579865622308851,253840801521314095,6468953273455413674,174452533187403980841,4962228907578051232358 ★ Coefficients in asymptotic expansion of sequence A259870. • a(k) ~ 2 * exp(- 1) * (k - 1)! / (log(2)) ^ k. •

[A014288] • 0,1,2,5,17,77,437,2957,23117,204557,2018957,21977357,261478157,3374988557,46964134157,700801318157,11162196262157,189005910310157,3

390192763174157,64212742967590157,1280663747055910157,26826134832910630157,588826498721714470157 ⋆ a(n) = floor(Sum_{k=0..n} k!/2), or floor(A003422(n+1)/2). • a(0)=0, a(1)=1, a(2)=2, a(n) = (n + 1) * a(n - 1) - n * a(n - 2). - _ Benoit Cloitre _ , Sep 07 2002 • a(0) = 0, a(n) = (1 / 2) * floor(1 + 1 * floor(1 + 2 * floor(1 + ... + (n - 1) * floor(1 + n * floor(1))). - Joseph E. Cooper III (easonrevant(AT)gmail.com), Aug 19 2008 •

[A032262] • 1,2,5,17,83,557,4715,47357,545963,7087517,102248075,1622633597,28091569643,526858352477,10641342978635,230283190994237,5315654682014123,130370767029201437,3385534663256976395 ⋆ Number of ways to partition n labeled elements into pie slices allowing the pie to be turned over. • a(n) = 2 ^ (n - 1) + Sum _{ k >= 3 } Stirling _ 2(n,k) * (k - 1)! / 2. - _ N. J. A. Sloane _ , Jan 17 2008 •

[A041455] • 1,1,2,5,17,260,797,1854,2651,4505,137801,142306,280107,702520,2387667,36517525,111940242,260398009,372338251,632736260,19354426051,19987162311,39341588362,98670339035,335352605467 ⋆ Denominators of continued fraction convergents to sqrt(243). • a(n) = 140452 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A117839] • 2,5,17,9255121991,28870447577 ⋆ Primes of the form floor(Pi^k + e^k). • a(n) = { floor(pi ^ k + e ^ k) = p is prime, k an integer } . a(n) = A000040 INTERSECTION A061675. •

[A226141] • 0,2,5,18,30,64,91,156,204,310,385,542,650,868,1015,1304,1496,1866,2109,2570,2870,3432,3795,4468,4900 ⋆ Sum of the squared parts of the partitions of n into exactly two parts. • a(n) = Sum _{ i=1..floor(n / 2) } (i ^ 2 + (n - i) ^ 2). • a(n) = ((n / 2) ^ 2) * (1 - ceiling(n / 2) + floor(n / 2)) + Sum _{ i=1..n - 1 } i ^ 2. • a(n) = n * (8 * n ^ 2 - 9 * n + 4) / 24 + (- 1) ^ n * n ^ 2 / 8. - _ Giovanni Resta _ , May 29 2013 •

[A295905] • 2,5,18,41,74,117,170,233,306,389,482,585,698,821,954,1097,1250,1413,1586,1769,1962,2165,2378,2601,2834 ⋆ Number of (not necessarily maximum) cliques in the n X n knight graph. • a(n) = 5 * n ^ 2 - 12 * n + 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A024025] • 1,2,5,18,65,218,693,2138,6497,19602,58949,177026,531297,1594154,4782773,14348682,43046465,129139874,387420165,1162261106,3486784001,10460352762,31381059125,94143178298,282429535905 ⋆ a(n) = 3^n-n^2. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 10 * a(n - 3) - 3 * a(n - 4) for n>3. - _ Vincenzo Librandi _ , Oct 05 2014 •

[A144721] • 2,5,18,67,250,933,3482,12995,48498,180997,675490,2520963,9408362,35112485,131041578,489053827,1825173730,6811641093,25421390642,94873921475,354074295258,1321423259557,4931618742970,18405051712323,68688588106322 ⋆ a(0) = 2, a(1) = 5, a(n) = 4 * a(n-1) - a(n-2). • a(n) = ((2 - sqrt(3)) ^ n * (- 1 + 2 * sqrt(3)) + (2 + sqrt(3)) ^ n * (1 + 2 * sqrt(3))) / (2 * sqrt(3)). - _ Colin Barker _ , Oct 12 2015 •

[A249062] • 1,2,5,18,69,306,1497,7890,45033,273474,1760301,11961522,85265325,636026418,4947725889,40019230386,335868650577,2918173355010,26199114476373,242657102748114,2314964975130261,22717352863875762,229029972003647145,2369438933865972498 ⋆ A double binomial sum. • a(n) = sum((n! / k!) * sum(bin(k,i) * bin(k - i + 1,n - k - 2 * i) / 3 ^ i,i=0..k),k=0..n). • a(n + 4) + (n + 1) * a(n + 3) - 3 * (n + 3) * a(n + 2) - 3 * (n + 3) * (n + 2) * a(n + 1) - (n + 3) * (n + 2) * (n + 1) * a(n)=0. •

[A103940] • 1,2,5,18,72,368,1982,11514,69270,430384,2736894,17752884,117039548,782480424,5294705752,36206357114,249894328848,1739030128872,12191512867814,86037243899240 ⋆ Number of unrooted bipartite n-edge maps in the plane (planar with a distinguished outside face). • a(n)=(1 / (2n))[2 ^ (n - 1) binomial(2n, n) / (n + 1) + sum _{ 0<k<n, k|n } phi(n / k)d(n / k)2 ^ (k - 1)binomial(2k, k)] + q(n) where phi is the Euler function A000010, d(n)=2, q(n)=0 if n is even and d(n)=1, q(n)=2 ^ ((n - 1) / 2)binomial(n - 1, (n - 1) / 2) / (n + 1) if n is odd. •

[A039744] • 1,1,2,5,18,73,338,1656,8512,45207,246448,1371535,7764392,44585180,259140928,1521967986,9020077206,53885028921,324176252022,1962530559999,11947926290396,73108804084505,449408984811980,2774152288318052,17190155366056138 ⋆ Number of ways n(n-1) can be partitioned into the sum of 2(n-1) integers in the range 0..n. • a(n)=T(n(n + 1),2n - 2,n), where T(k,p,m) is a recursive function that gives the number of partitions of k into p parts of 0..m. It is defined T(k,p,m) = sum _{ i=1..m } T(k - i,p - 1,i), with the boundary conditions T(0,p,m)=1 and T(k,0,m)=0 for all positive k, p and m. - _ T. D. Noe _ , Dec 19 2006 •

[A038720] • 2,5,18,84,480,3240,25200,221760,2177280,23587200,279417600,3592512000,49816166400,741015475200,11769069312000,198766503936000,3556874280960000,67224923910144000,1338096104497152000,27979837309403136000,613091306060513280000 ⋆ Next-to-last diagonal of A038719. • a(n) = (n + 3) * n! / 2. Half A052572. •

[A058798] • 0,1,2,5,18,85,492,3359,26380,234061,2314230,25222469,300355398,3879397705,54011212472,806288789375,12846609417528,217586071308601,3903702674137290,73952764737299909,1475151592071860890 ⋆ a(n) = n*a(n-1) - a(n-2) with a(0) = 0, a(1) = 1. • a(n) = Sum _{ k = 0..floor((n - 1) / 2) } (- 1) ^ k * binomial(n - k - 1,k) * (n - k)! / (k + 1)!. - _ Peter Bala _ , Aug 01 2013 • a(n) = Pi * (BesselY(1, 2) * BesselJ(n + 1, 2) - BesselJ(1,2) * BesselY(n + 1,2)). See the Abramowitz - Stegun reference given under A103921, p. 361 eq. 9.1.27 (first line with Y, J and z=2) and p. 360, eq. 9.1.16 (Wronskian). - _ Wolfdieter Lang _ , Mar 05 2013 • a(n) = n! * hypergeometric([1 / 2 - n / 2, 1 - n / 2], [2, 1 - n, - n], - 4) for n >= 2. - _ Peter Luschny _ , Sep 10 2014 •

[A094294] • 1,2,5,18,87,518,3621,28962,260651,2606502,28671513,344058146,4472755887,62618582406,939278736077,15028459777218,255483816212691,4598708691828422,87375465144740001,1747509302894800002,36697695360790800023,807349297937397600486,18569033852560144811157 ⋆ a(n) = n * a(n-1) - n + 2 for n > 1 and a(1)=1. • a(n + 1) = (n + 1) * a(n) - n + 1, or a(n) = n * a(n - 1) - (n - 2). [Corrected by _ M. F. Hasler _ , Apr 09 2009] • a(n) = 1 + sum(k=2..n, n! / k!) = ceil(n! * (e - 2)) [_ Michel Marcus _ , Sep 19 2012] •

[A173227] • 1,2,5,18,91,592,4643,42276,436629,5033182,63974273,888047414,13358209647,216334610860,3751352135263,69325155322184,1359759739992105,28206375825238458,616839844140642301,14181213537729200474,341879141423814854915,8623032181189674581256 ⋆ Partial sums of A000262. • a(n) = 2 * n * a(n - 1) - (n ^ 2 - n + 1) * a(n - 2) + (n - 2) * (n - 1) * a(n - 3). •

[A217389] • 1,2,5,18,93,634,5317,52610,598445,7685706,109933269,1732565842,29824133437,556682481818,11198025452261,241481216430114,5557135898411469,135927902927547370,3521462566184392693,96323049885512803826 ⋆ Partial sums of the ordered Bell numbers (number of preferential arrangements) A000670. • a(n) = Sum _{ k=0..n } t(k), where t = A000670 (ordered Bell numbers). •

[A255541] • 1,2,5,19,73,309,1229,4959,19821,79597,318453,1274563,5097973,20397515,81591147,326371001,1305482159,5222040189,20888133573,83552798667,334211074959,1336845501841,5347382348679,21389531880435,85558125961121 ⋆ a(n) = 1+Sum_{k=1..2^n-1} A000010(k). • a(n) = A005728 (2 ^ n - 1). - _ Michel Marcus _ , Feb 27 2015 •

[A138911] • 1,2,5,19,81,401,2233,13721,91969,666145,5174001,42827225,375850225,3481908353,33923685097,346468507201,3698848172289,41173895716289,476826776487649,5733422156706473,71449460236945201,921311262658989217 ⋆ The n-th term of n-th inverse binomial transform of this sequence is 1 for n>=0. • a(n) = 1 + Sum _{ k=0..n - 1 } C(n,k) * n * k ^ (n - k - 1) for n>0 with a(0)=1. •

[A107377] • 0,1,1,2,5,19,84,393,1865,8886,42381,202187,964640,4602409,21958729,104768258,499864605,2384926971,11378834836,54290082897,259025915025,1235850473974,5896423120549,28132695944723,134225201438720 ⋆ Expansion of x*(1-4*x-3*x^2)/(1-5*x+5*x^3+x^4). • a(0)=0, a(1)=1, a(2)=1, a(3)=2, a(n)=5 * a(n - 1) - 5 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 24 2015 •

[A052169] • 1,2,5,19,91,531,3641,28673,254871,2523223,27526069,328018989,4239014627,59043418019,881715042417,14052333488521,238063061452591,4271909380510383,80941440893880941,1614781745832924773,33833522293642233339,742799603083145395579 ⋆ Equivalent of the Kurepa hypothesis for left factorial. • a(2) = 1, a(3) = 2, a(n) = (n - 2) * a(n - 1) + (n - 3) * a(n - 2). • a(n) = 2 * floor((n + 1)! * (n + 3) / e + 1 / 2) - 3 * (floor(((n + 1)! + 1) / e) + floor(((n + 2)! + 1) / e)) + (n + 1)! + (n + 2)!, n>1, with offset 0..a(0) = 1. - _ Gary Detlefs _ , Apr 18 2010 • a(n) = 1 / (n + 1) * ((n + 2)! - floor(((n + 2)! + 1) / e)), with offset 0 a(n) = 1 / (n - 1) * (n! - floor((n! + 1) / e)). - _ Gary Detlefs _ , Jul 11 2010 • a(n) = (n - 2)!y(n - 2). •

[A093502] • 2,5,19,103,733,6691,76831,1081429,18242699,361919671,8309068723,217809953467,6445388418589,213232943658197,7821073506524401 ⋆ a(1) = 2; for n > 0, a(n+1) is the a(n)-th prime after a(n). • a(n) = prime(pi(a(n - 1)) + a(n - 1)). - _ Vladeta Jovovic _ , Jun 19 2004 • a(1)=2, a(n) = next a(n - 1)th prime after a(n - 1). - _ Zak Seidov _ , Mar 21 2009 •

[A077138] • 0,1,2,5,20,25,150,157,1256,1265,12660,12661,151932,151945,2127230,2127245,34035920,34035937,612646866,612646885,12252937700,12252937721,269564629862,269564629885,6469551117240 ⋆ a(0) = 0. If n is odd, a(n) = a(n-1) + n, otherwise a(n) = a(n-1) * n. • a(0) = 0, a(2n) = 2n * a(2n - 1) and a(2n + 1) = a(2n) + (2n + 1). •

[A098510] • 1,2,5,20,49,210,429,2860,7293,34034,113373,537472,1359507,6611810,24627135,37917616,177181213,973514514,1647439975,12026570280,17818756259,98555142278,502860886675,4577646742140,6402665244089 ⋆ Row sums of a matrix associated to the inverse of a Catalan scaled binomial matrix. • a(n)=sum { k=0..n, denominator((n + 1)binomial(n, k) / binomial(2n, n)) } •

[A189734] • 2,5,20,65,230,785,2720,9365,32330,111485,384620,1326665,4576430,15786185,54454520,187839965,647952530,2235104885,7709972420,26595469265,91740800630,316458947585,1091621898320,3765538534565,12989186560730 ⋆ a(1)=2, a(2)=5, a(n)=2*a(n-1) + 5*a(n-2). • a(n) = (1 - sqrt(6)) ^ (n - 1) + (1 + sqrt(6)) ^ (n - 1) + 1 / 4 * sqrt(6) * ((1 + sqrt(6)) ^ (n - 1) - (1 - sqrt(6)) ^ (n - 1)). - Paolo P. Lava, May 24 2011 •

[A009737] • 0,1,2,5,20,81,438,2477,16680,120481,973034,8496245,80252732,817734321,8859646110,102873611549,1258403748432,16372688411713,223202277906386,3213260867586149,48295209177888356 ⋆ Expansion of tan(x)*exp(tan(x)). • a(n):=sum(k=1..n, (1 + (- 1) ^ (n - k)) * sum(j=k..n, j! * stirling2(n,j) * 2 ^ (n - j - 1) * (- 1) ^ ((n + k) / 2 + j) * binomial(j - 1,k - 1)) / (k - 1)!). [_ Vladimir Kruchinin _ , Apr 19 2011] •

[A006228] • 1,1,1,2,5,20,85,520,3145,26000,204425,2132000,20646925,260104000,2993804125,44217680000,589779412625,9993195680000,151573309044625,2898026747200000,49261325439503125,1049085682486400000 ⋆ Expansion of exp(arcsin(x)). • a(0)=1, a(1)=1, a(n) = (1 + (n - 2) ^ 2) * a(n - 2) for n>=2. _ Jaume Oliver Lafont _ , Oct 24 2009 • a(n) = (n - 1)! * sum((if n=m then 1 else if oddp(n - m) then 0 else sum((- 1) ^ k * (sum(C(k,j) * 2 ^ (1 - j) * sum((- 1) ^ ((n - m) / 2 - i) * C(j,i) * (j - 2 * i) ^ (n - m + j) / (n - m + j)!, i=0..floor(j / 2)) * (- 1) ^ (k - j), j=1..k)) * C(k + n - 1,n - 1), k=1..n - m)) / (m - 1)!, m=1..n), n>0. - _ Vladimir Kruchinin _ , Sep 12 2010 • a(n) = 2 ^ (n - 2) * (exp(Pi / 2) - (- 1) ^ n * exp(- Pi / 2)) * GAMMA((n - I) / 2) * GAMMA((n + I) / 2) / Pi. - _ Vaclav Kotesovec _ , Nov 06 2014 •

[A259834] • 0,0,1,2,5,20,97,574,3973,31520,281825,2803418,30704101,367114252,4757800705,66432995030,994204132517,15875195019224,269397248811073,4841453414347570,91856764780324165,1834779993945449348,38485629141294 7

91201,845788826477292504302 ★ Number of permutations of [n] with no fixed points where the maximal displacement of an element equals n-1. ● a(n) = ((2 * n ^ 2 - 11 * n + 13) * a(n - 1) + (2 * n - 5) * (n - 3) * a(n - 2)) / (2 * n - 7) for n > 2. ● a(n) = (n - 2)! * [x ^ (n - 2)] exp(- x) * (x + 1) / (x - 1) ^ 2 for n > 1. ● a(n) = y(n,n), n > 1, where y(m + 1,n) = (n - m) * y(m,n) + (n - m) * y(m - 1,n), with y(0,n)=0, y(1,n)=y(2,n)=1 for all n. - _ Benedict W. J. Irwin _ , Nov 03 2016 ● a(n) = (Gamma(n - 1, - 1) + 2 * Gamma(n, - 1)) / e for n >= 2. ●

[A009551] ● 0,1,2,5,20,101,606,4241,33928,305353,3053530,33588829,403065948,5239857325,73358002550,1100370038249,17605920611984,299300650403729,5387411707267122,102360822438075317,2047216448761506340 ★ Expansion of sin(x)/(1-x). ● a(n) = round(n! * sin(1)), n>=1. - _ Vladeta Jovovic _ , Aug 11 2002 ● a(n) = n! * Sum _{ k=0..floor(n / 2) } (- 1) ^ k / (2k - 1)!, n >0. - _ Ralf Stephan _ , Apr 16 2004 ● a(n) = n * a(n - 1) - a(n - 2) + (n - 2) * a(n - 3). - _ Vaclav Kotesovec _ , Oct 07 2012 ● a(n) = Im(i ^ n * hypergeom([1, - n], [], i)). ● a(n) = n! * sin(1) - cos(Pi * n / 2) * hypergeom([1], [n / 2 + 1,(n + 3) / 2], - 1 / 4) / (n + 1) + sin(Pi * n / 2) * hypergeom([1], [n / 2 + 2,(n + 3) / 2], - 1 / 4) / (n ^ 2 + 3 * n + 2). ● a(n) = Im(Gamma(n + 1, i) * exp(i)) = (Gamma(n + 1, i) * exp(i) - Gamma(n + 1, - i) * exp(- i)) / (2 * i), where Gamma(a, x) is the upper incomplete Gamma function, i=sqrt(- 1). ●

[A009599] ● 0,1,2,5,20,117,782,5441,39496,306921,2602682,24116413,241121564,2561633245,28613237382,334511450617,4089814554384,52302564139985,699179303859698,9751200460426357,141494250613386916 ★ Expansion of e.g.f. sinh(sinh(x)*exp(x)). ● a(n) = Sum _{ k=0..n } Stirling2(n, k) * (1 - (- 1) ^ k) / 2 * 2 ^ (n - k). - _ Vladeta Jovovic _ , Sep 26 2003 ●

[A076795] ● 0,1,2,5,20,125,1070,11465,146600,2173625,36633050,691362125,14440672700,330674815925,8236528396550,221694575073425,6411977928702800,198310761891213425,6530970632654064050 ★ Partial sums of (2n-1)!!. ● a(n) = a(n - 1) * (2 * n - 2) - a(n - 2) * (2 * n - 3). ● a(n) = Sum _{ k=0..n - 1 } (2 * k - 1)!!. ● a(n) = sqrt(Pi / 2) * exp(- 1 / 2) * erfi(1 / sqrt(2)) + (2 * n - 1)!! * Im(Gamma(1 / 2 - n, - 1 / 2)) * exp(- 1 / 2) / ((- 2) ^ n * sqrt(2)), where Gamma(a, x) is the upper incomplete Gamma function. ●

[A229662] ● 2,5,20,149,1852,34354,873386,28671789,1166062774,56973937168,3266313635225,215667757729237 ★ The number of subsets of integers of cardinality n, produced as the steps in a computation starting with 1 and using the operations of multiplication, addition, or subtraction. ● a(n) >= a(n - 1) * 2 * (n - 1) and a(2)=5 Hence a(n) >= 5 * 2 ^ (n - 2) * (n - 1)! . ●

[A000131] ● 2,5,21,61,214,669,2240,7330,24695,83257,284928,981079,3410990,11937328,42075242,149171958,531866972,1905842605,6861162880,24805692978,90035940227,327987890608,1198853954688,4395797189206,16165195705544 ★ Number of asymmetrical dissections of n-gon. ● a(n) = (Catalan(n - 2) - (n / 2) * Catalan(n / 2 - 1) - n * Catalan(floor(n / 2) - 1) - (n / 3) * Catalan(n / 3 - 1) + n * Catalan(n / 4 - 1) + n * Catalan(n / 6 - 1)) / (2 * n), where Catalan(x) = 0 for noninteger x (derived from Guy's 1958 paper). - _ Joseph Myers _ , Jun 21 2012 ●

[A042557] ● 1,2,5,22,27,103,439,4054,16655,54019,70674,336715,744104,1824923,102939792,207704507,518348806,2281099731,2799448537,10679445342,45517229905,420334514487,1726855287853,5600900378046,7327755665899 ★ Denominators of continued fraction convergents to sqrt(807). ● a(n) = 103683896 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 25 2014 ●

[A181443] ● 1,2,5,22,34,161,494,2365,3685,17654,54281,260074,405262,1941725,5970362,28605721,44575081,213572042,656685485,3146369182,4902853594,23490982841,72229432934,346072004245,539269320205 ★ Solutions a(n) to (r(n)-5)*(r(n)-6) = 21 *a(n)*(a(n)-1). ● a(4 * n)=(42 + (21 + r) * s ^ n + (21 - r) * t ^ n) / 84. ● a(4 * n + 1)=(42 + (63 + 13 * r) * s ^ n + (63 - 13 * r) * t ^ n) / 84. ● a(4 * n + 2)=(42 + (189 + 41 * r) * s ^ n + (189 - 41 * r) * t ^ n) / 84. ● a(4 * n + 3)=(42 + (903 + 197 * r) * s ^ n + (903 - 197 * r) * t ^ n) / 84. ● a(n)=111 * a(n - 4) - 111 * a(n - 8) + a(n - 12). ● a(n) = + a(n - 1) + 110 * a(n - 4) - 110 * a(n - 5) - a(n - 8) + a(n - 9). - R. J. Mathar, Jan 05 2011 ●

[A041165] ● 1,1,2,5,22,49,71,120,2231,2351,4582,11515,50642,112799,163441,276240,5135761,5412001,10547762,26507525,116577862,259663249,376241111,635904360,11822519591 ★ Denominators of continued fraction convergents to sqrt(92). ● a(n) = 2302 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 12 2013 ●

[A177251] ● 1,1,2,5,22,114,697,4923,39612,357899,3588836,39556420,475392841,6187284605,86701097310,1301467245329,20835850494474,354382860600678,6381494425302865,121290065781743383,2426510081356069016 ★ Number of permutations of [n] having no adjacent 3-cycles, i.e., no cycles of the form (i, i+1, i+2). ● a(n) = Sum _{ j=0..floor(n / 3) } (- 1) ^ j * (n - 2 * j)! / j!. ● a(n) - na(n - 1) = 2a(n - 3) + 3 * (- 1) ^{ n / 3 } if 3 | n; a(n) - na(n - 1) = 2a(n - 3) otherwise. ●

[A041807] ● 1,1,2,5,22,115,137,252,389,3753,4142,7895,12037,68080,284357,636794,921151,1557945,63238951,64796896,128035847,320868590,1411510207,7378419625,8789929832 ★ Denominators of continued fraction convergents to sqrt(424). ● a(n) = 64160102 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Dec 24 2013 ●

[A042933] ● 1,1,2,5,22,181,203,790,993,30580,31573,125299,156872,1380275,5677972,12736219,18414191,31150410,1949739611,1980890021,3930629632,9842149285,43299226772,356235963461,399535190233 ★ Denominators of continued fraction convergents to sqrt(998). ● a(n(= 1968153802 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Feb 01 2014 ●

[A100299] ● 0,2,5,23,98,452,2139,10397,51524,259430,1323361,6824435,35519686,186346760,984400759,5231789177,27954506504,150079713482,809181079293,4379654830223,23787413800490,129607968854732,708230837732435,3880366912218773,21312485647242828 ★ Number of dissections of a convex n-gon by nonintersecting diagonals into an even number of regions. ● a(n) = sum(C(n - 3, 2k - 1) * C(n + 2k - 2, 2k - 1) / (2k), k=1..floor((n - 2) / 2)). ●

[A003501] ● 2,5,23,110,527,2525,12098,57965,277727,1330670,6375623,305474 45,146361602,701260565,3359941223,16098445550,77132286527,369562987085,1770682648898,8483850257405,40648568638127,194758992933230 ★ a(n) = 5*a(n-1) - a(n-2). ● a(n) = ap ^ n + am ^ n, with ap=(5 + sqrt(21)) / 2 and am=(5 - sqrt(21)) / 2. ●

[A226170] ● 0,1,2,5,26,134,894,6474,55152,510768,5334480,60090480,745035840,9881421120,141972324480,2166467990400,35410730342400,611048958105600,11198955424204800,215604729694771200,4379675205233664000,93061582839880704000,2075454840671815680000 ★ The number of cycles over all even permutations of {1,2,...,n}. ● a(n) = Sum _{ k=1..n, 2|(n + k) } k * Stirling1(n,k). ●

[A041571] ● 1,2,5,27,59,145,4989,10123,25235,136298,297831,731960,25184471,51100902,127386275,688032277,1503450829,3694933935,127131204619,257957343173,643045890965,3473186797998,7589419486961,18652025771920,641758295732241 ★ Denominators of continued fraction convergents to sqrt(303). ● a(n) = 5048 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 20 2013 ●

[A042259] ● 1,1,2,5,27,86,199,1678,16979,137510,291999,1013507,5359534,11732575,17092109,28824684,1458326309,1487150993,2945477302,7378105597,39836005287,126886121458,293608248203,2475752107082,25051129319023 ★ Denominators of continued fraction convergents to sqrt(655). ● a(n) = 1475418418 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 19 2014 ●

[A087130] ● 2,5,27,140,727,3775,19602,101785,528527,2744420,14250627,73997555,384238402,1995189565,10360186227,53796120700,279340789727,1450500069335,7531841136402,39109705751345,203080369893127 ★ a(n) = 5*a(n-1)+a(n-2) for n>1, a(0)=2, a(1)=5. ● a(n) = ((5 + sqrt(29)) / 2) ^ n + ((5 - sqrt(29)) / 2) ^ n. ● a(- n) = (- 1) ^ n * a(n). - _ Michael Somos _ , Nov 01 2008 ●

[A286879] ● 2,5,28,66,140,272,489,828,1339,2088,3160,4662,6726,9512,13211,18048,24285,32224,42210,54634,69936,88608,111197,138308,170607 ★ Number of minimal dominating sets in the n-Andrasfai graph. ● a(n) = (3 * n - 1) * (n ^ 4 - 13 * n ^ 3 + 164 * n ^ 2 - 572 * n + 960) / 120 for n > 3. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n > 9. ●

[A009635] ● 0,1,2,5,28,201,1566,14349,154456,1870225,25034650,368887573,5938767924,103580577881,1945112687350,39137964503837,840076566197552,19158967944112929,462642378426338994,11792392190823752229 ★ Expansion of e.g.f. tan(x*exp(x)). ● a(n) = 2 * sum(m=0..floor((n - 1) / 2), binomial(n, 2 * m + 1) * (2 * m + 1) ^ (n - 2 * m - 1) * sum(j=1..2 * m + 1, j! * 2 ^ (2 * m - j) * (- 1) ^ (m + 1 + j) * Stirling2(2 * m + 1, j))). - _ Vladimir Kruchinin _ , Jun 10 2011 ●

[A134449] ● 0,2,5,29,39,129,150,374,410,860,915,1707,1785,3059,3164,5084,5220,7974,8145,11945,12155,17237,17490,24114,24414 ★ Sum of even products minus sum of odd products of different pairs of numbers from 1 to n. ● a(n) = (n ^ 4 + 4 * n ^ 3 - 2 * n ^ 2 - 4 * n) / 16 for n even. ● a(n) = (n ^ 4 - 1) / 16 for n odd. ●

[A042811] ● 1,1,2,5,32,69,101,170,10301,10471,20772,52015,332862,717739,1050601,1768340,107151001,108919341,216070342,541060025,3462430492,7465921009,10928351501,18394272510,1114584702101 ★ Denominators of continued fraction convergents to sqrt(936). ● a(n) = 10402 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 30 2014 ●

[A133473] ● 2,5,35,335,3335,33335,333335,3333335,33333335,333333335,3333333335,33333333335,333333333335,3333333333335,33333333333335,333333333333335,3333333333333335,33333333333333335,333333333333333335 ★ 2 followed by numbers with n-1 3's before 5. ● a(n)=(1 / 3) * (5 + 10 ^ n), with n >=0 - _ Paolo P. Lava _ , Jul 15 2008 ●

[A202637] ● 2,5,37,82,590,1307,9403,20830,149858,331973,2388325,5290738,38063342,84319835,606625147,1343826622,9667939010,21416906117,154080399013,341326671250,2455618445198,5439809833883,39135814724155,86695630670878 ★ x-values in the solution to x^2 - 7*y^2 = -3. ● a(n) = - a(- n + 1) = ((- 2 * (- 1) ^ n + sqrt(7)) * (8 + 3 * sqrt(7)) ^ floor(n / 2) - (2 * (- 1) ^ n + sqrt(7)) * (8 - 3 * sqrt(7)) ^ floor(n / 2)) / 2. ●

[A274074] ● 2,5,37,215,1297,7775,46657,279935,1679617,10077695,60466177,362797055,2176782337,13060694015,78364164097,470184984575,2821109907457,16926659444735,101559956668417,609359740010495,3656158440062977,21936950640377855,131621703842267137 ★ a(n) = 6^n+(-1)^n. ● a(n) = 5 * a(n - 1) + 6 * a(n - 2) for n>1. ●

[A077398] ● 0,2,5,39,87,629,1394,10032,22224,159890,354197,2548215,5644935,40611557,89964770,647236704,1433791392,10315175714,22850697509,164395574727,364177368759,2620014019925,5803987202642,41755828744080,92499617873520 ★ First member of the Diophantine pair (m,k) that satisfies 7*(m^2+m) = k^2+k; a(n)=m. ● a(n) = 16 * a(n - 2) + a(n - 4) + 7, n>=3. ● a(0)=0, a(1)=2; a(n + 2) = (7 + 16 * a(n) + 3 * sqrt((1 + 28 * a(n) + 28 * a(n) ^ 2)) / 2. - _ Herbert Kociemba _ , May 12 2008 ●

[A127974] ● 1,2,5,40,110,308,2618,7480,21505,559130,1621477,4717024,41273960,120646960,353323240,3109244512,9133405754,26862958100,711868389650,2098138411600,6189508314220,54821359354520,161972198092900 ★ Numerators in expansion of (1-x)^(-2/3). ● a(n)=denominator(n! / product { k=0..n

- 1, 2 + 3k }) ● a(n)= - 3 ^ (Floor[n / 3] + Floor[n / 9] + Floor[n / 27]) * Product[3 * k - 1, { k, 0, n }] / n!. [From _ Roger L. Bagula _ , Dec 20 2008] ●

[A041729] ● 1,1,2,5,47,99,146,245,9456,9701,19157,48015,451292,950599,1401891,2352490,90796511,93149001,183945512,461040025,4333305737,9127651499,13460957236,22588608735,871828089166 ★ Denominators of continued fraction convergents to sqrt(384). ● a(n) = 9602 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 23 2013 ●

[A042161] ● 1,1,2,5,57,62,553,615,7318,15251,22569,37820,1837929,1875749,3713678,9303105,106047833,115350938,1028855337,1144206275,13615124362,28374454999,41989579361,70364034360,3419463228641 ★ Denominators of continued fraction convergents to sqrt(605). ● a(n) = 1860498 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 16 2014 ●

[A041069] ● 1,2,5,62,129,320,3969,8258,20485,254078,528641,1311360,16264961,33841282,83947525,1041211582,2166370689,5373952960,66653806209,138681565378,344016936965,4266884808958,8877786554881,22022457918720,273147281579521 ★ Denominators of continued fraction convergents to sqrt(41). ● a(n) = 64 * a(n - 3) + a(n - 6). - _ Vincenzo Librandi _ , Dec 10 2013 ●

[A042693] ● 1,1,2,5,72,149,221,370,21681,22051,43732,109515,1576942,3263399,4840341,8103740,474857261,482961001,957818262,2398597525,34538183612,71474964749,106013148361,177488113110,10400323708741 ★ Denominators of continued fraction convergents to sqrt(876). ● a(n) = 21902 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 21 2013 ●

[A041237] ● 1,2,5,112,229,570,12769,26108,64985,1455778,2976541,7408860,165971461,339351782,844675025,18922202332,38689079689,96300361710,2157297037309,4410894436328,10979085909965,245950784455558,5028806548210 81,1251712094097720 ★ Denominators of continued fraction convergents to sqrt(130). ● a(n) = 114 * a(n - 3) + a(n - 6). - _ Vincenzo Librandi _ , Dec 13 2013 ●

[A214648] ● 2,5,125,51875,8114028125 ★ Sum of next a(n) > 1 triangular numbers is a triangular number. ● a(n) is the smallest integer k > 1 such that (4 * k ^ 3 + 12 * s * k ^ 2 + 4 * (3 * s ^ 2 - 1) * k) / 3 + 1 is a square, where s = a(1) + a(2) + ... + a(n - 1). - _ Max Alekseyev _ , Jan 30 2014 ●

[A041505] ● 1,2,5,162,329,820,26569,53958,134485,4357478,8849441,22056360,714652961,1451362282,3617377525,117207443082,238032263689,593271970460,19222735318409,39038742607278,97300220532965,3152645799662158,6402591819857281,15957829439376720 ★ Denominators of continued fraction convergents to sqrt(269). ● a(n) = 164 * a(n - 3) + a(n - 6) for n>5. - _ Vincenzo Librandi _ , Dec 19 2013 ●

[A041873] ● 1,2,5,212,429,1070,45369,91808,228985,9709178,19647341,49003860,2077809461,4204622782,10487055025,444660933832,899808922689,2244278779210,95159517649509,192563314078228,480286145805965,20364581437928758,41209449021663481 ★ Denominators of continued fraction convergents to sqrt(458). ● a(n) = 214 * a(n - 3) + a(n - 6) for n>5. - _ Vincenzo Librandi _ , Dec 26 2013 ●

[A042909] ● 1,2,5,312,629,1570,97969,197508,492985,30762578,62018141,154798860,9659547461,19473893782,48607335025,3033128665332,6114864665689,15262857996710,952412060461709,1920086978920128,4792586018301965,299060420113641958,602913426245585881 ★ Denominators of continued fraction convergents to sqrt(986). ● a(n) = 314 * a(n - 3) + a(n - 6) for n>5. - _ Vincenzo Librandi _ , Feb 01 2014 ●

[A063210] ● 1,2,6,6,10,10,14,14,18,18,22,22,26,26,30,30,34,34,38,38,42,42,46,46,50 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(42). ● a(n) = (n ^ 2 - n) / floor(n / 2) for n >=2. (Excludes leading 1.) - _ William A. Tedeschi _ , Mar 20 2008 ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 4. ●

[A025552] ● 1,1,2,6,6,30,60,420,420,1260,1260,13860,13860,180180,360360,360360,360360,6126120,6126120,116396280,116396280,116396280,116396280,2677114440,2677114440 ★ LCM of {C(0,0), C(1,0), ..., C(n,[n/2])}. ● a(n) = lcm({ 1,2,...,n }) / b(n). (End) ●

[A047555] ● 0,1,2,6,7,8,9,10,14,15,16,17,18,22,23,24,25,26,30,31,32,33,34,38,39 ★ Numbers that are congruent to {0, 1, 2, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6). ●

[A047279] ● 0,1,2,6,7,8,9,13,14,15,16,20,21,22,23,27,28,29,30,34,35,36,37,41,42 ★ Numbers that are congruent to {0, 1, 2, 6} mod 7. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (14n - 17 + 3 * (i ^ (2n) + (1 + i) * i ^ (- n) + (1 - i) * i ^ n)) / 8 where i = sqrt(- 1). ●

[A260139] ● 0,2,6,7,8,9,18,21,24,27,28,29,30,31,32,33,34,35,54,55,56,63,64,65,72 ★ For any term a(k), there are exactly a(k) terms strictly smaller than 3*a(k); this is the lexicographically first increasing sequence of nonnegative integers with this property. ● a(n) <= 3n, with equality for indices of the form n = a(k) for some k. ●

[A267541] ● 2,6,7,8,10,13,17,18,19,21,24,28,29,30,32,35,39,40,41,43,46,50,51,52,54 ★ Expansion of (2 + 4*x + x^2 + x^3 + 2*x^4 + x^5)/(1 - x - x^5 + x^6). ● a(n) = a(n - 1) + a(n - 5) - a(n - 6). ●

[A047553] ● 0,2,6,7,8,10,14,15,16,18,22,23,24,26,30,31,32,34,38,39,40,42,46,47,48 ★ Numbers that are congruent to {0, 2, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (8 * n - 5 - i ^ (2 * n) + (1 - 2 * i) * i ^ (- n) + (1 + 2 * i) * i ^ n) / 4 where i=sqrt(- 1). ●

[A047240] ● 0,1,2,6,7,8,12,13,14,18,19,20,24,25,26,30,31,32,36,37,38,42,43,44,48 ★ Numbers that are congruent to {0, 1, 2} mod 6. ● a(n) = 2 * n - 3 - cos(2 * n * Pi / 3) + sin(2 * n * Pi / 3) / sqrt(3). (End) ● a(n) = n - 1 + 3 * floor((n - 1) / 3). - _ Philippe Deléham _ , Apr 21 2009 ● a(n) = 6 * floor(n / 3) + (n mod 3). - _ Gary Detlefs _ , Mar 09 2010 ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(3 * k) = 6 * k - 4, a(3 * k - 1) = 6 * k - 5, a(3 * k - 2) = 6 * k - 6. (End) ●

[A080333] ● 1,2,6,7,8,12,13,14,27,28,29,33,34,35,39,40,41,54,55,56,60,61,62,66,67 ★ Partial sums of A080278. ● a(n) = Sum _{ k=0..log _ 3(n) } 3 ^ k * floor(n / 3 ^ k). ● a(3 ^ k) = (k + 1) * 3 ^ k. ● a(n) is conjectured to be asymptotic to n * log(n) / log(3). - _ Klaus Brockhaus _ , Mar 23 2003 ● a(n)=n + 3 * a(floor(n / 3)), a(0)=0. - _ Vladeta Jovovic _ , Aug 06 2003 ●

[A037454] ● 0,1,2,6,7,8,12,13,14,36,37,38,42,43,44,48,49,50,72,73,74,78,79,80,84 ★ a(n) = Sum_{i=0..m} d(i)*6^i, where Sum_{i=0..m} d(i)*3^i is the base 3 representation of n. ● a(n) = n + 1 / 2 * Sum _{ k >= 1 } 6 ^ k * floor(n / 3 ^ k). Cf. A037462, A007091 and A102491. ● a(0) = 0; a(n) = 6 * a(n / 3) if n == 0 (mod 3) else a(n) = a(n - 1) + 1. (End) ●

[A088225] ● 2,6,7,8,13,17,18,19,24,28,29,30,35,39,40,41,46,50,51,52,57,61,62,63,68 ★ Solutions to x^n == 7 mod 11. ● a(n) = - 4 + Sum _ (k=0..n) ((1 / 24) * (11 * (k mod 4) + 29 * ((k + 1) mod 4) + 17 * ((k + 2) mod 4) - 13 * ((k + 3) mod 4))). - _ Paolo P. Lava _ , Feb 29 2008 ● a(1)=2, a(2)=6, a(3)=7, a(4)=8, a(5)=13; for n>5, a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Jan 30 2015 ● a(n) = (- 9 - (- 1) ^ n - (7 - i) * (- i) ^ n - (7 + i) * i ^ n + 22 * n) / 8, where i=sqrt(- 1). ●

[A047554] ● 1,2,6,7,9,10,14,15,17,18,22,23,25,26,30,31,33,34,38,39,41,42,46,47,49 ★ Numbers that are congruent to {1, 2, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = 2 * n + (1 + i) * (2 * i - 2 - (1 - i) * i ^ (2 * n) - i ^ (1 - n) + i ^ n) / 4 where i=sqrt(- 1). ●

[A047277] ● 0,2,6,7,9,13,14,16,20,21,23,27,28,30,34,35,37,41,42,44,48,49,51,55,56 ★ Numbers that are congruent to {0, 2, 6} mod 7. ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = 7 * n / 3 - 2 + cos(2 * n * Pi / 3) + sin(2 * n * Pi / 3) / (3 * sqrt(3)). ● a(3k) = 7k - 1, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 7. (End) ●

[A047552] ● 2,6,7,10,14,15,18,22,23,26,30,31,34,38,39,42,46,47,50,54,55,58,62,63,66 ★ Numbers that are congruent to {2, 6, 7} mod 8. ● a(n) = a(n - 1) + a(n - 3) - a(n - 4). ● a(n) = (24 * n - 3 - 6 * cos(2 * n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 6. (End) ●

[A283766] ● 1,2,6,7,11,12,13,16,17,18,21,22,23,27,28,32,33,34,37,38,39,42,43,44,48 ★ Numbers k such that L(k) is odd, where L = A000201 = lower Wythoff sequence. ● a(n + 1) - a(n) is in { 1,3,4 } for every n. ●

[A047216] ● 1,2,6,7,11,12,16,17,21,22,26,27,31,32,36,37,41,42,46,47,51,52,56,57,61 ★ Numbers that are congruent to {1, 2} mod 5. ● a(n) = 5 * n - a(n - 1) - 7 for n>1, with a(1)=1. - _ Vincenzo Librandi _ , Aug 05 2010 ● a(n) = (10 * n - 3 * (- 1) ^ n - 9) / 4. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 3. ● a(2k) = 5k - 3, a(2k - 1) = 5k - 4. (End) ●

[A088227] ● 2,6,7,11,15,19,20,24,28,32,33,37,41,45,46,50,54,58,59,63,67,71,72,76,80 ★ Solutions x to x^n == 7 mod 13. ● a(n) = - 6 + Sum _{ k=0..n } ((1 / 24) * (- 5 * (k mod 4) + 31 * ((k + 1) mod 4) + 13 * ((k + 2) mod 4) + 13 * ((k + 3) mod 4))), with n>=1. - _ Paolo P. Lava _ , Feb 29 2008 ●

[A078471] ● 1,2,6,7,13,17,25,26,39,45,57,61,75,83,107,108,126,139,159,165,197,209,233,237,268 ★ Sum of all odd divisors of all positive integers <= n. ● a(n) is asymptotic to c * n ^ 2 where c = Pi ^ 2 / 24. ●

[A128918] ● 1,1,2,6,7,15,16,28,29,45,46,66,67,91,92,120,121,153,154,190,191,231,232,276,277 ★ a(n) = n*(n+1)/2 if n is odd, otherwise (n-1)*n/2 + 1. ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5), with a(0)=1, a(1)=1, a(2)=2, a(3)=6, a(4)=7. - _ Harvey P. Dale _ , Mar 31 2012 ● a(n) = (1 / 2) * (- 1) ^ n * (n + (- 1) ^ n * ((n - 2) * n + 2) - 2). - _ Harvey P. Dale _ , Mar 31 2012 ●

[A290379] ● 2,6,7,18,39,75,155,310,638,1295,2624,5339,10853,22069,44836,91134,185259,376542,765331,1555567,3161843,6426646,13062506,26550391,53965428 ★ Number of minimal dominating sets in the n-ladder graph. ● a(n) = a(n - 2) + 3 * a(n - 3) + 4 * a(n - 4) + 4 * a(n - 5) + a(n - 6) + 2 * a(n - 7) + 3 * a(n - 8) + 5 * a(n - 9) + 4 * a(n - 10) + 2 * a(n - 11) for n > 11. ●

[A220946] ● 1,2,6,7,21,22,66,67,201,202,606,607,1821,1822,5466,5467,16401,16402,49206,49207,147621,147622,442866,442867,1328601 ★ Expansion of (1+2*x+2*x^2-x^3)/((1-x)*(1+x)*(1-3x^2)). ● a(n) = a(n - 1) + 1 if n odd, a(n) = a(n - 1) * 3 if n even. ● a(n) = 4 * a(n - 2) - 3 * a(n - 4) with a(0)=1, a(1)=2, a(2)=6, a(3)=7. ●

[A060112] ● 0,1,2,6,7,24,25,26,120,121,122,126,127,720,721,722,726,727,744,745,746,5040,5041,5042,5046 ★ Sums of nonconsecutive factorial numbers. ● a(n) = PermRevLexRank(CampanoPerm(n)) ●

[A047397] ● 0,1,2,6,8,9,10,14,16,17,18,22,24,25,26,30,32,33,34,38,40,41,42,46,48 ★ Numbers that are congruent to {0, 1, 2, 6} mod 8. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (8 * n - 11 + i ^ (2 * n) + (1 + 2 * i) * i ^ (- n) + (1 - 2 * i) * i ^ n) / 4, where i=sqrt(- 1). ●

[A047278] ● 1,2,6,8,9,13,15,16,20,22,23,27,29,30,34,36,37,41,43,44,48,50,51,55,57 ★ Numbers that are congruent to {1, 2, 6} mod 7. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (21 * n - 15 + 6 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3k) = 7k - 1, a(3k - 1) = 7k - 5, a(3k - 2) = 7k - 6. (End) ●

[A141105] ● 2,6,8,10,14,16,18,20,24,26,28,32,34,36,40,42,44,48,50,52,54,58,60,62,66 ★ Upper Even Swappage of Upper Wythoff Sequence. ● a(n) = round(n * tau ^ 2), with tau = (1 + sqrt(5)) / 2 (the golden ratio A001622). ●

[A047395] ● 0,2,6,8,10,14,16,18,22,24,26,30,32,34,38,40,42,46,48,50,54,56,58,62,64 ★ Numbers that are congruent to {0, 2, 6} mod 8. ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. ● a(n) = 2 * (12 * n - 12 + 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. ● a(3k) = 8k - 2, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 8. (End) ●

[A247984] • 2,6,8,10,32,84,128,186,512,1276,2048,3172,8192,19816,32768,52666,131072,310764,524288,863820,2097152,4899736,8388608,14073060,33554432 ⋆ Constant terms of congruences derived from a permutation polynomial motivated by generalized quadrangles. • a(n) = 2 ^ n when n is odd and a(n) = 2 ^ n - (- 1) ^ (n / 2) * binomial(n, n / 2) when n is even. •

[A130205] • 1,2,6,8,11,17,21,26,34,40,47,57,65,74,86,96,107,121,133,146,162,176,191,209,225 ⋆ a(n) = n^2 - a(n-1) - a(n-2), with a(1) = 1 and a(2) = 2. • a(1)=1, a(2)=2; n>2: a(n)=n ^ 2 - a(n - 1) - a(n - 2). • a(n) = floor((n ^ 2 + 2 * n + 1) / 3) + 1 - (n mod 3). - _ Ivan Neretin _ , May 25 2015 •

[A047238] • 0,2,6,8,12,14,18,20,24,26,30,32,36,38,42,44,48,50,54,56,60,62,66,68,72 ⋆ Numbers that are congruent to {0, 2} mod 6. • a(n) = a(n - 1) + a(n - 2) - a(n - 3), a(0)=0, a(1)=2, a(2)=6. • a(n) = (6 * n - (- 1) ^ n - 7) / 2. • a(n)=6 * n - a(n - 1) - 10 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 2 * floor(3 * n / 2). - _ Enrique Pérez Herrero _ , Jul 04 2012 •

[A064796] • 1,2,6,8,12,15,20,24,30,35,42,48,56,63,72,80,90,99,110,120,132,143,156,168,182 ⋆ Largest integer m such that every permutation (p_1, ..., p_n) of (1, ..., n) satisfies p_i * p_{i+1} >= m for some i, 1 <= i <= n, where p_{n+1} = p_1. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>6. G.f.: - x * (x ^ 5 - x ^ 4 - 2 * x ^ 3 + 2 * x ^ 2 + 1) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Aug 28 2013 •

[A247066] • 1,2,6,8,12,16,17,21,24,27,32,33,34,38,40,44,48,49,53,56,59,64,65,66,70 ⋆ Dynamic Betting Game D(n,6,2). • a(n) = a(n - 1) + a(n - 11) - a(n - 12). •

[A283233] • 2,6,8,12,16,18,22,24,28,32,34,38,42,44,48,50,54,58,60,64,66,70,74,76,80 ⋆ 2*A000201. • a(n) = 2 * floor(n * r), where r = (1 + sqrt(5)) / 2. •

[A087327] • 1,2,6,8,13,18,25,32,41,50,61,72,85,98,113,128,145,162,181,200,221,242,265,288,313 ⋆ Independence numbers for KT_2 knight on triangular board. • a(n) = ceiling(n ^ 2 / 2) except for n=3. • a(n) = (2 * n ^ 2 - (- 1) ^ n + 1) / 4 for n>3. • a(n) = n ^ 2 / 2 for even n>3; a(n) = (n ^ 2 + 1) / 2 for odd n>3. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. •

[A022112] • 2,6,8,14,22,36,58,94,152,246,398,644,1042,1686,2728,4414,7142,11556,18698,30254,48952,79206,128158,207364,335522 ⋆ Fibonacci sequence beginning 2, 6. • a(n) = 4 * Fibonacci(n + 2) - 2 * Fibonacci(n + 1). - _ Gary Detlefs _ Dec 21 2010 • a(n) = Fibonacci(n - 2) + Fibonacci(n + 4). - _ Gary Detlefs _ , Mar 31 2012 • a(n) = L(n - 1) + L(n) + L(n + 1), for n > 0, where L(n) is the n - th Lucas number (A000204). - _ Alonso del Arte _ , Sep 25 2013 • a(n) = L(n + 3) - L(n). - _ Bruno Berselli _ , Jun 15 2017 • a(n) = (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (1 + sqrt(5)) ^ n * (5 + sqrt(5)))) / sqrt(5). • a(n) = a(n - 1) + a(n - 2) for > 1. •

[A093005] • 1,2,6,8,15,18,28,32,45,50,66,72,91,98,120,128,153,162,190,200,231,242,276,288,325 ⋆ a(n) = n * ceiling(n/2). • a(2 * n - 1) = n * (2 * n - 1), a(2 * n) = 2 * n ^ 2. • a(n) = n * ceiling(n / 2). - _ Wesley Ivan Hurt _ , Nov 14 2013 •

[A266074] • 0,2,6,8,16,18,30,32,48,50,70,72,96,98,126,128,160,162,198,200,240,242,286,288,336 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 3" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 4 * (2 * n ^ 2 + 2 * (- 1) ^ n * n + 6 * n - (- 1) ^ n + 1). - _ Colin Barker _ , Dec 21 2015 •

[A005823] • 0,2,6,8,18,20,24,26,54,56,60,62,72,74,78,80,162,164,168,170,180,182,186,188,216 ⋆ Numbers whose ternary expansion contains no 1's. • a(2n) = 3 * a(n) + 2, a(2n + 1) = 3 * a(n + 1), a(1) = 0. •

[A093968] • 0,1,2,6,8,20,24,56,64,144,160,352,384,832,896,1920,2048,4352,4608,9728,10240,21504,22528,47104,49152 ⋆ Inverse binomial transform of n*Pell(n). • a(n) = 2 ^ ((n - 4) / 2)n((1 + sqrt(2)) + (1 - sqrt(2))(- 1) ^ n). • a(n) = n * 2 ^ floor(n - 1) / 2. - _ Anton Zakharov _ , Jul 25 2016 •

[A162213] • 1,2,6,8,20,36,70,128,261,520,1034,2052,4108,8204,16395,32768,65552,131076,262162,524300,1048593,2097172,4194326,8388624,16777225 ⋆ a(n) = the smallest positive multiple of n with exactly n digits when written in binary. • a(n) = n * ceiling(2 ^ (n - 1) / n). - _ Alois P. Heinz _ , Jul 11 2009 •

[A134136] • 0,1,1,2,6,8,20,40,72,160,304,608,1248,2432,4928,9856,19584,39424,78592,157184,314880,628736,1258496,2516992,5031936 ⋆ a(n) = 2*a(n-2) + 4*a(n-3), with initial terms 0, 1, 1. • a(n) = (6 * 2 ^ n - (3 + i) * (- 1 + i) ^ n - (3 - i) * (- 1 - i) ^ n) / 20. - _ Ivan Neretin _ , May 27 2015 •

[A045654] • 1,2,6,8,22,32,72,128,278,512,1056,2048,4168,8192,16512,32768,65814,131072,262656,524288,1049632,2097152,4196352,8388608,16781384 ⋆ Number of 2n-bead balanced binary strings, rotationally equivalent to complement. • a(0)=1, a(2n) = a(n) + 2 ^ (2n), a(2n + 1) = 2 ^ (2n + 1). - _ Ralf Stephan _ , Jun 07 2003 •

[A122756] • 1,2,6,8,24,32,96,128,384,512,1536,2048,6144,8192,24576,32768,98304,131072,393216,524288,1572864,2097152,6291456,8388608,25165824 ⋆ Odd indexed terms, a(n) = 2^n. Even indexed terms, a(n) = floor(2^n+2^(n-1)). • a(0)=1, a(1)=2, a(2)=6, a(n)=4 * a(n - 2) for n>=3. G.f.: (1 + 2 * x + 2 * x ^ 2) / (1 - 4 * x ^ 2). - _ Philippe Deléham _ , Dec 14 2007 • a(n) = - sqrt(2) * (1 / 2) ^ ((- 1 / 2) * (- 1) ^ (n - 1)) * (- 2) ^ (n - 1) + 2 * 2 ^ (n - 1) * sqrt(2) * (1 / 2) ^ ((- 1 / 2) * (- 1) ^ (n - 1)) - (1 / 2) * (C(2 * n,n) mod 2). [_ Paolo P. Lava _ , Nov 19 2008] • a(n - 1) = (5 * 2 ^ n - (- 2) ^ n) / 8 for n>1. - _ Ralf Stephan _ , Jul 18 2013 •

[A272614] • 1,2,6,8,28,40,104,144,496,672,1632,2240,7872,11648,27520,33536,120576,175616,445952,629760,2014208,2701312,6453248,8712192,33353728 ⋆ Numbers whose binary digits, except for the first "1" , are given by floor(((k-n)/n) mod 2) with 1<=k<=n. • a(n) = 2 ^ n + Sum _{ k=1..n } [floor(((n - k) / k) mod 2) * 2 ^ (n - k)]. •

[A132269] • 1,2,6,8,30,36,56,64,270,300,396,432,728,784,960,1024,4590,4860,5700,6000,8316,8712,9936,10368,18200 ⋆ Product{k>=0, 1+floor(n/2^k)}. • a(2 ^ m - 1)=2 ^ (m(m + 1) / 2), a(2 ^ m)=2 ^ (m(m + 1) / 2) * product { 0<=k<=m, 1 + 1 / 2 ^ k } , m>=1. •

[A152158] • 0,1,1,2,6,8,38,110,186,846,1776,4314,13194,47706,166452,500394,1998462,3499644,7496568,17995500,77968044,149950044,617758308,917658396,4624208244 ⋆ A sequence set up on the first 1000 base ten Pi digits: a(n)=a(n-1)+a(n-2)*Floor[Mod[N[Pi*10^(n - 2), 1000], 10]]. • a(n) = a(n - 1) + a(n - 2) * floor(Pi * 10 ^ (n - 2) mod 10). •

[A282079] • 1,1,2,6,9,9,12,20,25,25,30,42,49,49,56,72,81,81,90,110,121,121,132,156,169 ⋆ Number of n-element subsets of [n+2] having an even sum. • a(n) = (2 * (1 + n) * (2 + n) - i * (- i) ^ n * ((1 + 2 * i) + (1 + i) * n) + i ^ n * (2 + i) + (1 + i) * n)) / 8 where i=sqrt(- 1). - _ Colin Barker _ , Feb 06 2017 •

[A047396] • 1,2,6,9,10,14,17,18,22,25,26,30,33,34,38,41,42,46,49,50,54,57,58,62,65 ⋆ Numbers that are congruent to {1, 2, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4, with a(1)=1, a(2)=2, a(3)=6, a(4)=9. - _ Harvey P. Dale _ , Sep 30 2012 • a(n) = (24 * n - 21 + 3 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 7. (End) •

[A000134] • 2,6,9,12,15,18,21,24,27,31,34,37,40,43,46,49,53,56,59,62,65,68,71,75,78 ⋆ Positive zeros of Bessel function of order 0 rounded to nearest integer. • a(n) = Pi * n + O(1). Probably a(n + 1) - a(n) is 3 or 4 for all n. - _ Charles R Greathouse IV _ , Oct 04 2016 •

[A120701] • 2,6,9,12,15,18,21,25,28,31,34,37,40,43,47,50,53,56,59,62,65,69,72,75,78 ⋆ Number of unit circles which fit touching a circle of radius n-1, i.e., with their centers on a circle of radius n. • a(n) = floor(Pi / arcsin(1 / n)). •

[A184619] • 2,6,9,12,16,19,23,26,29,33,36,40,43,46,50,53,57,60,64,67,70,74,77,81,84 ⋆ floor((n-h)*s+h), where s=2+sqrt(2) and h=1/3; complement of A184618. • a(n)=floor((n - h) * s + h), where s=2 + sqrt(2) and h=1 / 3. •

[A184119] • 2,6,9,12,16,19,23,26,30,33,36,40,43,47,50,53,57,60,64,67,70,74,77,81,84 ⋆ Upper s(n)-Wythoff sequence, where s(n) = 2n - 1; complement of A136119. • a(n) = floor((2 + sqrt(2)) * n - sqrt(2) / 2). - _ Michel Dekking _ , Jan 31 2017 •

[A184821] • 2,6,9,13,16,20,22,26,29,33,36,40,43,46,50,53,57,60,63,66,70,73,77,81,83 ⋆ a(n) = n + floor(n*t) + floor(n/t), where t is the tribonacci constant. • a(n) = n + floor(n * p / q) + floor(n * r / q), where p=t, q=t ^ 2, r=t ^ 3, and t is the tribonacci constant (see Clark Kimberling's formula in A184812). •

[A047276] • 2,6,9,13,16,20,23,27,30,34,37,41,44,48,51,55,58,62,65,69,72,76,79,83,86 ⋆ Numbers that are congruent to {2, 6} mod 7. • a(n) = 7 * n - a(n - 1) - 6 (with a(1)=2). [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) = 3 * n + floor(n / 2) - 1. - _ Arkadiusz Wesolowski _ , Sep 19 2012 •

[A054770] • 2,6,9,13,17,20,24,27,31,35,38,42,46,49,53,56,60,64,67,71,74,78,82,85,89 ⋆ Numbers that are not the sum of distinct Lucas numbers 1,3,4,7,11 ... (A000204). • a(n) = [((5 + sqrt(5)) / 2)n] - 1 (conjectured by _ David W. Wilson _ ; proved by Ian Agol (iagol(AT)math.ucdavis.edu), Jun 08 2000) •

[A184745] • 2,6,9,13,17,20,24,28,32,35,39,43,46,50,54,58,61,65,69,73,76,80,84,87,91 ⋆ floor(n*(e-1/2)+1/2); complement of A184744. • a(n)=floor(n * (e - 1 / 2) + 1 / 2). •

[A048162] • 1,1,2,6,9,13,20,31,49,78,125,201,324,523,845,1366,2209,3573,5780,9351,15129,24478,39605,64081,103684 ⋆ Expansion of (1 - x + 3*x^3 - 2*x^4 - 3*x^5)/(1 - 2*x + x^3). • a(n) = Fibonacci(n + 1) + Fibonacci(n - 1) + 2, for n>2. - Jessa Lee (jessal(AT)comcast.net), Nov 25 2003 •

[A184824] • 2,6,9,14,17,21,24,29,32,36,39,44,47,50,54,58,61,65,69,73,76,80,84,88,91 ⋆ a(n) = n + floor(n*t) + floor(n/t) + floor(n/t^2), where t is the tetranacci constant. • a(n) = n + floor(n * p / r) + floor(n * q / r) + floor(n * s / r), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, and t is the tetranacci constant. •

[A184836] • 2,6,9,14,17,21,24,30,33,37,40,45,48,52,55,61,64,68,71,76,79,83,87,92,95 ⋆ a(n) = n + floor(n*t) + floor(n/t) + floor(n/t^2) + floor(n/t^3), where t is the pentanacci constant. • a(n) = n + floor(n * p / s) + floor(n * q / s) + floor(n * r / s) + floor(n * u / s), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, u=t ^ 5, and t is the pentanacci constant. •

[A096378] • 0,2,6,9,14,20,26,34,42,51,61,72,84,96,109,124,139,155,172,190,208,228,248,269,291 ⋆ Floor of area of triangle with consecutive integer sides. • a(n) = floor((n + 1) * sqrt(3 * (n + 3) * (n - 1)) / 4). •

[A260699] • 0,1,2,6,9,15,20,28,34,45,53,66,76,91,102,120,133,153,168,190,206,231,249,276,296 ⋆ a(2n+6) = a(2n) + 12*n + 20, a(2n+1) = (n+1)*(2*n+1), with a(0)=0, a(2)=2, a(4)=9. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 6) - a(n - 7) - a(n - 8) + a(n - 9). • a(6 * k) = 2 * k * (9 * k + 1), • a(6 * k + 2) = 2 * (9 * k ^ 2 + 7 * k + 1), • a(6 * k + 4) = 18 * k ^ 2 + 26 * k + 9. • a(n) = n * (n + 1) / 2 - (1 + (- 1) ^ n) * floor(n / 6 + 2 / 3) / 2. [_ Bruno Berselli _ , Nov 18 2015] •

[A084265] • 1,2,6,9,15,20,28,35,45,54,66,77,91,104,120,135,153,170,190,209,231,252,276,299,325 ⋆ a(n) = (n^2 + 3*n + 1 + (-1)^n) / 2. • a(n) = (n ^ 2 + 3 * n + 1) / 2 + (- 1) ^ n / 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = Sum _{ i=0..n + 1 } i - (- 1) ^ i. (End) •

[A103139] • 1,2,6,9,15,22,28,39,49,59,73 ⋆ Woolbright sequence: the maximum number of kings on an n X n chessboard such that every single king is attacking a number of other kings that is smaller or equal to the number of empty spaces around it. • a(n) = n ^ 2 - gamma _{ 1 / 2 } (n) = approx floor(3 * (n ^ 2 + 1) / 5). (I assume this is a lower bound? - _ N. J. A. Sloane _) •

[A257083] • 1,2,6,9,17,22,34,41,57,66,86,97,121,134,162,177,209,226,262,281,321,342,386,409,457 ⋆ Partial sums of A257088. • a(n) = (6 * n * (n + 1) + (2 * n + 1) * (- 1) ^ n + 7) / 8. (End) •

[A054974] • 1,2,6,9,17,23,36,46,65,80,106,127,161,189,232,268,321,366,430,485,561,627,716,794,897 ⋆ Number of nonnegative integer 2 X 2 matrices with no zero rows or columns and with sum of elements equal to n, up to row and column permutation. • a(n) = (6 - 6 * (- 1) ^ n + (9 * (- 1) ^ n - 17) * n + 12 * n ^ 2 + 2 * n ^ 3) / 48. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>7. •

[A072481] • 0,0,0,1,2,6,9,17,25,37,50,72,89,117,148,184,220,271,318,382,443,513,590,688,773 ⋆ a(n) = Sum_{k=1..n} Sum_{d=1..k} (k mod d). • a(n) = Sum _{ k=1..n } Sum _{ d=1..k } (k mod d). •

[A028724] • 0,0,0,0,1,2,6,9,18,24,40,50,75,90,126,147,196,224,288,324,405,450,550,605,726 ⋆ a(n) = (1/2)*floor(n/2)*floor((n-1)/2)*floor((n-2)/2). • a(3 - n) = - a(n). - _ Michael Somos _ , Jan 27 2008 • a(n) = (11 * n - 3 - 9 * n ^ 2 + 2 * n ^ 3 + (- 1) ^ n * (3 - 3 * n + n ^ 2)) / 32. - _ Benedict W. J. Irwin _ , Sep 27 2016 • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i * (floor((n - 1) / 2) mod (n - i - 1)). - _ Wesley Ivan Hurt _ , Nov 17 2017 •

[A082290] • 1,2,6,9,19,26,46,59,94,116,172,206,290,340,460,530,695,790,1010,1135,1421,1582,1946,2149,2604 ⋆ Expansion of (1+x+x^2)/((1+x^2)*(1+x)^4*(1-x)^5). • a(n) = 3 * a(n - 2) - 2 * a(n - 4) - 2 * a(n - 6) + 3 * a(n - 8) - a(n - 10) + 3. • a(n) = a(- 9 - n) for all n in Z. • a(n) = (6 * n ^ 4 + 108 * n ^ 3 + 666 * n ^ 2 + 1620 * n + 1251 + (4 * n ^ 3 + 54 * n ^ 2 + 236 * n + 333) * (- 1) ^ n - 48 * (- 1) ^ ((6 * n - 1 + (- 1) ^ n) / 4)) / 1536. - _ Luce ETIENNE _ , Oct 23 2014 •

[A077237] • 1,2,6,9,23,34,86,127,321,474,1198,1769,4471,6602,16686,24639,62273,91954,232406,343177,867351,1280754,3236998,4779839,12080641 ⋆ Combined Diophantine Chebyshev sequences A054491 and A077234. • a(n) = 4 * a(n - 2) - a(n - 4). - _ Matthew House _ , Feb 11 2017 •

[A180123] • 2,6,10,13,17,21,25,28,32,36,40,43,47,51,54,58,62,66,69,73,77,81,84,88,92 ⋆ Second of three "least, sum, least" self-generating sequences. • a(n) = least positive integer not yet used; •

[A080456] • 2,6,10,14,18,18,22,26,30,30,34,38,42,42,46,50,54,54,58,62,66,66,70,74,78 ⋆ a(1) = a(2) = 2; for n>2, a(n) = a(n-1) if n is already in the sequence, a(n) = a(n-1)+4 otherwise. • a(n) = - 2 + 4 * ((n + 2) mod (n + 1)) + Sum _{ k=0..n }{ (1 / 2) * [(k mod 4) + ((k + 1) mod 4) - ((k + 2) mod 4) + 3 * ((k + 3) mod 4)] } . - _ Paolo P. Lava _ , Aug 29 2007 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 6. •

[A111284] • 1,2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90,94 ⋆ Number of permutations of [n] avoiding the patterns {2143, 2341, 2413, 2431, 3142, 3241, 3412, 3421, 4123, 4213, 4231, 4321, 4132, 4312}; number of strong sorting classes based on 2143. • a(n) = 4 * n - 6, n>=2. • a(n ^ 2 - 2n + 3) / 2 = Sum _{ i=1..n } a(i). - _ Ivan N. Ianakiev _ , Apr 24 2013 • a(n) = 2 * a(n - 1) - a(n - 2), n>3. - _ Rick L. Shepherd _ , Jul 06 2017 •

[A130824] • 0,2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90,94 ⋆ a(n) = 2*A004273(n). • a(n) = 4 * n - 2 * [(n + 2) mod (n + 1)], with n>=0. - _ Paolo P. Lava _ , Aug 29 2007 •

[A016825] • 2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90,94,98 ⋆ Positive integers congruent to 2 mod 4: a(n) = 4n+2, for n >= 0. • a(n) = 4 * n + 2, for n >= 0. • a(n) = a(n - 1) + 4. • a(- 1 - n) = - a(n). (End) • a(n) = 8 * n - a(n - 1) for n>0, a(0)=2. - _ Vincenzo Librandi _ , Nov 20 2010 •

[A132417] • 2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,126,130,134,138,142,146,150,154,158,162 ⋆ a(16j+i):=8(16j+i)+e_i, for j>=0, 0<=i<=15, where e_0, ..., e_15 are 2, -2, -6, -10, -14, -18, -22, -26, -30, -34, -38, -42, -46, -50, -54, 6. • a(n)= + a(n - 1) + a(n - 16) - a(n - 17). - _ R. J. Mathar _ , Jul 21 2013 •

[A185548] • 1,2,6,10,14,19,25,31,38,46,54,62,71,81,91,101,112,123,135,147,159,172,185,199,213 ⋆ a(n) = floor(floor(n^(5/2))^(2/3)). • a(n) = floor(floor(n ^ (5 / 2)) ^ (2 / 3)). •

[A276211] • 2,6,10,15,20,26,32,39,46,53,60,68,76,85,94,103,112,122,132,142,152,163,174,185,196 ⋆ Position of n^s in the joint ranking of {h^r} and {k^s}, where r = sqrt(2), s = sqrt(5), h > 1, k > 1. • a(n) = n + floor(n ^ (s / r)); the complement is given by n + floor(n ^ (r / s)). •

[A133931] • 2,6,10,15,21,29,40,56,80,117,175,267,414,650,1030,1643,2633,4233,6820,11004,17772,28721,46435,75095,121466 ⋆ Expansion of x*(2-4*x^2-x^3)/((1-x)^2*(1-x-x^2)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: x * (2 - 4 * x ^ 2 - x ^ 3) / ((1 - x) ^ 2 * (1 - x - x ^ 2)). [_ Colin Barker _ , Jun 10 2012] •

[A293408] • 0,1,2,6,10,15,22,30,40,50,62,75,89,104,121,139,158,179,200,223,247,273,299,327,356 ⋆ The integer k that minimizes |k/n^2 - 1/tau|, where tau = (1+sqrt(5))/2 (golden ratio). • a(n) = floor(1 / 2 + (n ^ 2) / tau). •

[A183575] • 2,6,10,16,22,30,38,48,58,70,82,96,110,126,142,160,178,198,218,240,262,286,310,336,362 ⋆ a(n) = n - 1 + ceiling((n^2-2)/2); complement of A183574. • a(n) = n - 1 + ceiling(n ^ 2 / 2 - 1). • a(n) = n * (n + 4) / 2 for n even. • a(n) = (n ^ 2 + 4 * n - 1) / 2 for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A030511] • 2,6,10,16,24,32,42,54,66,80,96,112,130,150,170,192,216,240,266,294,322,352,384,416,450 ⋆ Graham-Sloane-type lower bound on the size of a ternary (n,3,3) constant-weight code. • a(n) = 2 * (n - 1) ^ 2 / 3 if n==1 (mod 3), a(n) = 2 * n * (n - 2) / 3 otherwise. • a(n) = floor((2 / 3) * (n - 1) ^ 2). - _ Wesley Ivan Hurt _ , Jun 19 2013 • a(n) = (2 * (n - 2) * n - (- 1) ^ floor(2 * (n - 2) / 3) + 1) / 3. - _ Bruno Berselli _ , Aug 08 2013 • a(n) = a(n - 1) + 2 * floor((n - 1) * 2 / 3). - _ Gionata Neri _ , Apr 26 2015 • a(n) = floor((n - 2) * (n - 1) / 3) + floor((n - 1) * n / 3) = floor((n - 1) * (n + 1) / 3) + floor((n - 1) * (n - 3) / 3). - _ Bruno Berselli _ , Mar 02 2017 •

[A238377] • 1,2,6,10,17,24,34,44,57,70,86,102,121,140,162,184,209,234,262,290,321,352,386,420,457 ⋆ Row sums of triangle in A204028. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4), a(0) = 1, a(1) = 2, a(2) = 6, a(3) = 10. •

[A290220] • 0,2,6,10,18,26,34,42,58,70,78,94,106,114,130,142,150,166,178,186,202,214,222,238,250 ⋆ Narrow cross sequence (see Comments lines for definition). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>6. •

[A084481] • 2,6,10,18,38,84,186,410,904,1994,4398,9700,21394,47186,104072,229538,506262,1116596,2462730,5431722,11980040,26422810,58277342,128534724,283492258 ⋆ Number of fault-free tilings of a 4 X 2n rectangle with L tetrominoes. • a(n) = 2 * a(n - 1) + a(n - 3) for n>6. - _ Colin Barker _ , Mar 28 2017 •

[A005993] • 1,2,6,10,19,28,44,60,85,110,146,182,231,280,344,408,489,570,670,770,891,1012,1156,1300,1469 ⋆ G.f.: (1+x^2)/((1-x)^2*(1-x^2)^2). • a(2n) = (n + 1)(2n ^ 2 + 4n + 3) / 3, a(2n + 1) = (n + 1)(n + 2)(2n + 3) / 3. a(- 4 - n) = - a(n). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). - _ Jaume Oliver Lafont _ , Dec 05 2008 • a(n) = (n ^ 3 + 6 * n ^ 2 + 11 * n + 6) / 12 + ((n + 2) / 4)[n even] (the bracket means that the second term is added if and only if n is even). - _ Benoit Jubin _ , Mar 31 2012 • a(n) = (1 / 12) * n * (n + 1) * (n + 2) + (1 / 4) * (n + 1) * (1 / 2) * (1 - (- 1) ^ n), with offset 1. - _ Yosu Yurramendi _ , Jun 20 2013 • a(n) = Sum _{ i=0..n + 1 } ceiling(i / 2) * round(i / 2) = Sum _{ i=0..n + 2 } floor(i / 2) ^ 2. - _ Bruno Berselli _ , Aug 30 2013 • a(n) = (n + 2) * (3 * (- 1) ^ n + 2 * n ^ 2 + 8 * n + 9) / 24. - _ Ilya Gutkovskiy _ , May 04 2016 •

[A096338] • 0,1,2,6,10,20,30,50,70,105,140,196,252,336,420,540,660,825,990,1210,1430,1716,2002,2366,2730 ⋆ a(n) = (2/(n-1))*a(n-1) + ((n+5)/(n-1))*a(n-2) with a(0)=0 and a(1)=1. • a(n) = sum _{ k=1..floor(n / 2) + 1 } (sum _{ i=1..k } i * (n - 2k + 2)) = - (floor(n / 2) + 1) * (floor(n / 2) + 2) * (floor(n / 2) + 3) * (3 * floor(n / 2) - 2 * n) / 12. - _ Wesley Ivan Hurt _ , Sep 26 2013 •

[A055895] • 1,2,6,10,22,34,78,130,278,522,1062,2050,4190,8194,16518,32810,65814,131074,262734,524290,1049654,2097290,4196358,8388610,16781662 ⋆ Inverse Moebius transform of powers of 2. • a(n) = sum(2 ^ d, d divides n) - _ Olivier Gérard _ , Jan 01, 2012 •

[A258143] • 1,2,6,10,25,41,98,162,381,637,1485,2509,5811,9907,22818,39202,89845,155381,354521,616665,1401291,2449867,5546381,9740685,21977515 ⋆ Row sums of A257241, Stifel's version of the arithmetical triangle. • a(n) = Sum _{ m = 1 .. ceiling(n / 2) } binomial(n, m), n >= 1. •

[A061547] • 0,1,2,6,10,26,42,106,170,426,682,1706,2730,6826,10922,27306,43690,109226,174762,436906,699050,1747626,2796202,6990506,11184810 ⋆ Number of 132 and 213-avoiding derangements of {1,2,...,n}. • a(n) = (3 / 8) * 2 ^ n + (1 / 24) * (- 2) ^ n - 2 / 3. • a(n) = 4 * a(n - 2) + 2, a(1)=0, a(2)=1. • a(n + 1) - 2 * a(n) = A078008 signed. Differences: doubled A000302. - _ Paul Curtz _ , Jun 15 2008 • a(2i + 1) = 2 * Sum _{ j=0..i - 1 } 4 ^ j = string "2" ^ i read in base 4. • a(2i + 2) = 4 ^ i + 2 * Sum _{ j=0..i - 1 } 4 ^ j = string "1" * "2" ^ i read in base 4. •

[A115113] • 2,6,10,54,202,822,3274,13110,52426,209718,838858,3355446,13421770,53687094,214748362,858993462,3435973834,13743895350,54975581386,219902325558,879609302218,3518437208886,14073748835530,56294995342134 ⋆ a(n) = Abs[(2/5)*(-1(-4)^n)-(3/5)*(4+(-4)^n)*UnitStep[-1+n]]. • a(n) = (- 2 * (7 * (- 1) ^ n - 2 ^ (1 + 2 * n))) / 5 for n>0. a(n) = 3 * a(n - 1) + 4 * a(n - 2) for n>2. G.f.: 2 * (8 * x ^ 2 - 1) / ((x + 1) * (4 * x - 1)). [_ Colin Barker _ , Nov 13 2012] •

[A193910] • 2,6,11,15,20,24,29,33,38,42,47,51,56,60,65,69,74,78,83,87,92,96,101,105,110 ⋆ Leap centuries in the revised Julian calendar. • a(n) = a(n - 2) + 9. [_ Charles R Greathouse IV _ , Aug 09 2011] • a(n) = 2 or 6 (mod 9). •

[A046691] • 1,2,6,11,17,24,32,41,51,62,74,87,101,116,132,149,167,186,206,227,249,272,296,321,347 ⋆ a(n) = (n^2+5*n-2)/2. • a(n) = a(n - 1) + n + 2 with a(0) = - 1. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A231559] • 0,0,2,6,11,17,25,35,46,58,72,88,105,123,143,165,188,212,238,266,295,325,357,391,426 ⋆ a(n) = floor(A000326(n)/2). • a(n) = (n * (3 * n - 1) + i ^ (n * (n + 1)) - 1) / 4, where i=sqrt(- 1). •

[A248469] • 0,2,6,11,18,26,36,47,59,73,89,105,124,144,165,188,212,238,265,294,324,356,389,423,459 ⋆ Floor((2*n^2)/e). • a(n) = floor((2 * n ^ 2) / e). •

[A201993] • 1,2,6,11,18,26,37,49,63,79,97,116,138,161,186,213,241,272,304,338,374,412,451,492,535 ⋆ Conjectured lower bound for the number of circles of radius 1 that can be packed into a circle of radius n. • a(n) = Smallest k, such that 1 + (sqrt((4 * Rho - 1) ^ 2 + 16 * Rho * (k - 1)) - 1) / (4 * Rho) >=n with Rho = Pi / (2 * sqrt(3)). •

[A194455] • 2,6,11,18,29,48,83,150,281,540,1055,2082,4133,8232,16427,32814,65585,131124,262199,524346,1048637,2097216,4194371,8388678,16777289 ⋆ a(n) = 2^n + 3n + 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 3 for n>1. • a(n) ^ 2 = 2 ^ (n + 1) * (a(n - 1) + 3) + (3 * n + 1) ^ 2 for n>2. •

[A171516] • 1,2,6,11,20,34,57,94,154,251,408,662,1073,1738,2814,4555,7372,11930,19305,31238,50546,81787,132336,214126,346465 ⋆ a(n) = a(n-1) + a(n-2) + k, n>1; with a(0) = 1, a(1) = 2, k = 3. • a(n) = a(n - 1) + a(n - 2) + 3, n >1; with a(0) = 1, a(1) = 2. •

[A083322] • 1,2,6,11,22,42,85,170,342,683,1366,2730,5461,10922,21846,43691,87382,174762,349525,699050,1398102,2796203,5592406,11184810,22369621 ⋆ a(n) = 2^n - A081374(n). • a(n)= 2 * a(n - 1) - a(n - 3) + 2 * a(n - 4). - _ Paul Curtz _ , May 26 2011 •

[A072986] • 1,2,6,11,24,52,113,248,553,1245,2828,6481,14963,34770,81253,190836,450202,1066269,2534269,6042375,14447465,34632759 ⋆ Least k such that

prod(i = 1, k, prime(i)+1)>= n*prod(i = 1, k, prime(i)). • a(n + 1) / a(n) - >e as n - >infinity - _ Robert Gerbicz _ , May 09 2008 •

[A033304] • 2,6,11,26,57,129,289,650,1460,3281,7372,16565,37221,83635,187926,422266,948823,2131986,4790529,10764221,24186985,54347662,122118088,274396853,616564132 ★ Expansion of (2 + 2*x - 3*x^2) / (1 - 2*x - x^2 + x^3). • a(n) = (1 - 2 * cos(1 / 7 * Pi)) ^ (n + 1) + (1 + 2 * cos(2 / 7 * Pi)) ^ (n + 1) + (1 - 2 * cos(3 / 7 * Pi)) ^ (n + 1). - _ Vladeta Jovovic _ , Jun 27 2001 •

[A184884] • 1,1,2,6,11,27,60,132,301,669,1502,3370,7543,16919,37912,84968,190457,426841,956698,2144238,4805827,10771315,24141588,54108332,121272549 ★ Diagonal sums of number triangle A184883. • a(n)=sum { k=0..floor(n / 2) , sum { j=0..k, C(2n - 4k,j) * C(k,j)2 ^ j }} . •

[A267461] • 0,2,6,12,18,26,34,44,54,66,78,92,106,122,138,156,174,194,214,236,258,282,306,332,358 ★ Total number of OFF (white) cells after n iterations of the "Rule 133" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n ^ 2 + 12 * n - (- 1) ^ n - 7) / 4 for n>0. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A294062] • 0,2,6,12,18,26,36,48,60,72,86,102,118,136,156,178,200,224,248,274,300,328,358,390,422 ★ Sum of the differences of the larger and smaller parts in the partitions of 2n into two parts with the smaller part squarefree. • a(n) = 2 * Sum _{ i=1..n } (n - i) * mu(i) ^ 2. •

[A104969] • 1,2,6,12,18,36,92,184,298,596,1444,2888,4852,9704,22840,45680,78490,156980,362580,725160,1265564,2531128,5767688,11535376,20366596 ★ Sum of squares of terms in rows of triangle A104967. • a(2 * n + 1) = 2 * a(2 * n). G.f.: A(x) = (1 + 2 * x) * G(x ^ 2) where G(x) is the g.f. of A104970 such that G(x) satisfies: 2 * (1 + 12 * x) * G(x) - (1 - 16 * x ^ 2) * deriv(G(x), x) + 4 = 0. •

[A061078] • 2,6,12,20,20,22,26,32,40,40,44,52,64,80,80,86,98,116,140,140,148,164,188,220,220 ★ Sum of the products of the digits of the first n even numbers. • a(5 * 10 ^ n) = 20 * 46 ^ n, so a(n) is roughly kn ^ 1.662... where the exponent is log 46 / log 10. - _ Charles R Greathouse IV _ , Sep 20 2012 •

[A045619] • 0,2,6,12,20,24,30,42,56,60,72,90,110,120,132,156,182,210,240,272,306,336,342,360,380 ★ Numbers that are the products of 2 or more consecutive integers. • a(n) = n ^ 2 - 2n ^ (5 / 3) + O(n ^ (4 / 3)). - _ Charles R Greathouse IV _ , Aug 27 2013 •

[A103505] • 1,1,2,6,12,20,30,42,56,72,90,110,132,156,182,210,240,272,306,342,380,420,462,506,552 ★ Denominator in expansion of (1-x)*log(1-x). • a(n) = 0 ^ n + C(1, n) - C(0, n) + 2 * C(n, 2). •

[A279019] • 0,0,2,6,12,20,30,42,56,72,90,110,132,156,182,210,240,272,306,342,380,420,462,506,552 ★ Least possible number of diagonals of simple convex polyhedron with n faces. • a(n) = n ^ 2 - 9 * n + 20 = (n - 4) * (n - 5). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. - _ Colin Barker _ , Dec 05 2016 •

[A002378] • 0,2,6,12,20,30,42,56,72,90,110,132,156,182,210,240,272,306,342,380,420,462,506,552,600 ★ Oblong (or promic, pronic, or heteromecic) numbers: a(n) = n*(n+1). • a(n) = a(n - 1) + 2 * n, a(0) = 0. • a(n) * a(n + 1) = a(n * (n + 2)); e.g. a(3) * a(4) = 12 * 20 = 240 = a(3 * 5). - _ Charlie Marion _ , Dec 29 2003 • a(0) =0, a(n) = a(n - 1) + 1 + floor(x), where x is the minimal positive solution to fract(sqrt(a(n - 1) + 1 + x)) = 1 / 2. - _ Hieronymus Fischer _ , Dec 31 2008 • a(n) = floor(n ^ 5 / (n ^ 3 + n ^ 2 + 1)) with offset 1...a(1) = 0. - _ Gary Detlefs _ , Feb 11 2010 • a(n) ^ 2 + a(n + 1) ^ 2 = 2 * a((n + 1) ^ 2), for n > 0. - _ Ivan N. Ianakiev _ , Apr 08 2013 • a(n) = floor(n ^ 2 * e ^ (1 / n)) and a(n - 1) = floor(n ^ 2 / e ^ (1 / n)). - _ Richard R. Forberg _ , Jun 22 2013 •

[A214916] • 1,1,2,6,12,20,60,252,672,1440,5400,27720,88704,224640,982800,5821200,21288960,61102080,300736800,1990850400,8089804800,25662873600,138940401600,1007370302400,4465572249600 ★ a(0) = a(1) = 1, a(n) = n! / a(n-2). • a(0) = a(1) = 1, for n>=2, a(n) = n! / a(n - 2). •

[A184637] • 2,6,12,21,33,48,65,85,108,133,161,192,225,261,300,341,385,432,481,533,588,645,705,768,833 ★ Floor(1/{(n^4+3*n)^(1/4)}), where {}=fractional part. • a(n) = n ^ 2 + floor(n ^ 2 / 3) with n>2, a(1)=2, a(2)=6. This confirms the g.f. and the recurrence. [_ Bruno Berselli _ , Aug 08 2013] •

[A011892] • 0,0,0,0,2,6,12,21,33,50,72,99,132,171,218,273,336,408,489,581,684,798,924,1062,1214 ★ [n(n-1)(n-2)/10]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8). G.f.: x ^ 4 * (x ^ 3 + 2) / ((- 1 + x) ^ 4 * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A005819] • 1,2,6,12,22,34,52,74,102,134,176,222,280,344,416,496,592,694,814,942,1082,1232,1404,1584,1784 ★ Number of words of length n in a certain language. • a(n) = - 1 + Sum _{ i=1..n } (n - i + 1) * phi(i) for n>=2, where phi is Euler's totient function (this is conjectured in the Duluck & Gouyou - Beauchamps paper, p. 399). •

[A131520] • 2,6,12,22,40,74,140,270,528,1042,2068,4118,8216,16410,32796,65566,131104,262178,524324,1048614,2097192,4194346,8388652,16777262,33554480 ★ Number of partitions of the graph G_n (defined below) into "strokes". • a(n) = 2 * (n - 1) + 2 ^ n. •

[A084570] • 1,2,6,12,23,38,60,88,125,170,226,292,371,462,568,688,825,978,1150,1340,1551,1782,2036,2312,2613 ★ Partial sums of A084263. • a(n) = (- 1) ^ n / 4 + (2n ^ 3 + 6n ^ 2 + 10n + 9) / 12. • a(n) = Sum _{ j=0..n } (Sum _{ i=0..j } (i + (- 1) ^ i)). • a(n) = ceil((n ^ 3 + 3n ^ 2 + 5n + 3) / 6). •

[A192969] • 1,2,6,12,23,41,71,120,200,330,541,883,1437,2334,3786,6136,9939,16093,26051,42164,68236,110422,178681,289127,467833 ★ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). • a(0) = 1; a(1) = 2; a(n) = 1 + n + a(n - 1) + a(n - 2). - _ Daniel Suteu _ , Jan 12 2016 •

[A291014] • 0,0,2,6,12,23,48,105,228,486,1026,2161,4548,9555,20026,41874,87384,182043,378648,786429,1631120,3378750,6990510,14447045,29826156 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S^3)^2. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 22 * a(n - 3) - 21 * a(n - 4) + 12 * a(n - 5) - 4 * a(n - 6) for n >= 7. •

[A187272] • 0,2,6,12,24,40,72,112,192,288,480,704,1152,1664,2688,3840,6144,8704,13824,19456,30720,43008,67584,94208,147456 ★ a(n) = (n/4)*2^(n/2)*((1+sqrt(2))^ + (-1)^n*(1-sqrt(2))^2). • a(n) / a(n - 2) = 2 * n / (n - 2). (End) • a(2 * n) = 3 * n * 2 ^ n, a(2 * n + 1) = (2 * n + 1) * 2 ^ (n + 1). - _ Andrew Howroyd _ , Mar 28 2016 •

[A029929] • 0,2,6,12,24,40,72,126,240,468,960,2002,4248,9048,19320,41190,87648,185980,393552,830490,1748040,3670464,7690056,16078702,33555024 ★ a(n) = n*(n + ceiling(2^n/12)). • a(n) = n * (6 + 2 * (- 1) ^ n + 2 ^ n + 12 * n) / 12. G.f.: 2 * x * (x ^ 7 - 2 * x ^ 6 - 2 * x ^ 5 + x ^ 4 - 6 * x ^ 3 + 3 * x ^ 2 + 2 * x - 1) / ((x - 1) ^ 3 * (x + 1) ^ 2 * (2 * x - 1) ^ 2). - _ Colin Barker _ , Aug 04 2013 •

[A111286] • 1,2,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824 ★ Number of permutations avoiding the patterns {1342, 1432, 2341, 2431, 3142, 3241, 3412, 3421, 4132, 4231, 4312, 4321}; number of strong sorting class based on 1342. • a(n)=3 * 2 ^ (n - 2), n>=3. • a(n)=2 * a(n - 1) for n=3. G.f.: x * (1 + 2 * x ^ 2) / (1 - 2 * x). [_ Colin Barker _ , Nov 29 2012] •

[A175943] • 1,2,6,12,24,120,240,720,5040,10080,20160,40320,120960,362880,725760,3628800,39916800,79833600,159667200,479001600,6227020800,12454041600,87178291200,261534873600,1307674368000 ★ Partial products of A027746. • a(n) is approximately (n / (e log log n)) ^ (n / log log n). - _ Charles R Greathouse IV _ , Sep 12 2012 •

[A045925] • 0,1,2,6,12,25,48,91,168,306,550,979,1728,3029,5278,9150,15792,27149,46512,79439,135300,229866,389642,659111,1112832 ★ a(n) = n*Fibonacci(n). • a(n) = a(n - 1) + a(n - 2) + L(n - 1). - _ Gary Detlefs _ , Dec 29 2012 • a(n) = F(n + 1) + sum(k=1..n - 2, F(k) * L(n - k)), F = A000045 and L = A000032. - _ Gary Detlefs _ , Dec 29 2012 • a(n) = F(2 * n) / sum(binomial(n - k,k) / (n - k), k=0..floor(n / 2)). - _ Gary Detlefs _ , Jan 19 2013 • a(n) = 2 * n * (F(n - 2) + Floor(F(n - 3) / 2)) + (n ^ 3 mod 3 * n), F = A000045. - _ Gary Detlefs _ , Jun 06 2014 •

[A128020] • 1,2,6,12,25,48,98,200,396,790,1584,3168,6331,12670,25335,50672,101354,202698,405403,810800,1621599,3243196,6486391,12972792,25945575 ★ a(n) = the multiple of n which is > (sum{k=1 to n-1} a(k)) and is <= (n + sum{k=1 to n-1} a(k)). • a(n) = n * (1 + floor(sum { k=1 to n - 1 } a(k) / n)). •

[A140659] • 0,0,1,2,6,12,25,50,102,204,409,818,1638,3276,6553,13106,26214,52428,104857,209714,419430,838860,1677721,3355442,6710886 ★ Floor(A140657(n+1)/10) • a(2n + 1)=2a(2n). •

[A232164] • 0,1,1,2,6,12,25,57,124,268,588,1285,2801,6118,13362,29168,63685,139057,303608,662888,1447352,3160121,6899745,15064810,32892270 ★ Number of Weyl group elements, not containing an s_r factor, which contribute nonzero terms to Kostant's weight multiplicity formula when computing the multiplicity of the zero-weight in the adjoint representation for the Lie algebra of type C and rank n. • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). G.f.: - x / (x ^ 4 + 3 * x ^ 3 + x ^ 2 + x - 1). - _ Colin Barker _ , Dec 31 2013 •

[A136515] • 0,2,6,12,26,38,56,74,96,128,154,188,220,262,304,344,398,452,506,562,616,686,754,824,894 ★ Number of unit square lattice cells inside half-plane (two adjacent quadrants) of origin centered circle of diameter 2n+1. • a(n) = 2 * Sum(floor(sqrt((n + 1 / 2) ^ 2 - k ^ 2))), k = 1 ... n •

[A054454] • 1,2,6,12,26,50,97,180,332,600,1076,1908,3361,5878,10226,17700,30510,52390,89665,153000,260376,442032,748776,1265832,2136001 ★ Third column of triangle A054453. • a(0)=1, a(1)=2, a(2)=6, a(3)=12, a(4)=26, a(5)=50, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) + a(n - 6) [From Harvey P. Dale, May 06 2012] •

[A084170] • 1,2,6,12,26,52,106,212,426,852,1706,3412,6826,13652,27306,54612,109226,218452,436906,873812,1747626,3495252,6990506,13981012,27962026 ★ a(n) = 5*2^n/3 + (-1)^n/3 - 1. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), n>2. • a(n) = a(n - 1) + 2 * a(n - 2) + 2, a(0)=1, a(1)=2. • a(n + 3) = 15 * 2 ^ n - 2 - a(n), n>=0, a(0)=1, a(1)=2, a(2)=6. - _ Yosu Yurramendi _ , Jul 05 2016 •

[A091919] • 1,2,6,12,27,54,112,224,453,906,1818,3636,7279,14558,29124,58248,116505,233010,466030,932060,1864131,3728262,7456536,14913072,29826157 ★ Expansion of 1/((1-2*x)*(1-x^2)^2). • a(n) = 2 ^ (n + 4) / 9 + (3 * n + 8) * (- 1) ^ n / 36 - (n + 4) / 4. •

[A166963] • 1,2,6,12,27,61,138,309,694,1560,3506,7877,17699,39770,89363,200796,451184,1013802,2277993,5118603,11501396,25843403,58069600,130481206,293188608 ★ Number of permutations in S_{2n} avoiding 123 and 1432 whose matrices are 180-degree symmetric. • a(n) = 2a(n - 1) + a(n - 3) + a(n - 4) - a(n - 5). •

[A188476] • 1,1,2,6,12,27,65,150,353,843,2014,4843,11713,28433,69292,169470,415754,1022868,2523120,6238645,15459561,38387191,95497612,237989801,594062697 ★ Diagonal sums of number triangle A188474. • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - 2k + 1, (j / (n - k + 2 - j)) * C(n - k + 2 - j,n - k + 1) * C(n - k + 2 - j,k + 1) * 2 ^ (j - 1) }} . •

[A089820] • 0,2,6,12,28,56,120,240,480,960,1984,3968,8064,16128,32256,64512,130048,260096,522240,1044480,2088960,4177920,8372224,16744448,33488896 ★ Number of subsets of {1,..,n} containing at least one prime. • a(n) = 2 ^ n - 2 ^ (n - pi(n)) = the total number of subsets minus the number of subsets of t

he nonprime elements of { 1,..,n } , where pi = A000720. - _ Greg Martin _ , May 13 2004 •

[**A122746**] • 1,2,6,12,28,56,120,240,496,992,2016,4032,8128,16256,32640,65280,130816,261632,523776,1047552,2096128,4192256,8386560,16773120,33550336 ⋆ G.f.: 1/((1-2*x)*(1-2*x^2)). • a(n) = 2 ^ (n + 1) - 2 ^ (floor[(n + 1) / 2]). - _ Geoffrey Critzer _ , Mar 03 2009 • a(n) = 2 * (a(n - 1) bitwiseOR a(n - 2)), a(0)=1, a(1)=2. - _ Pierre Charland _ , Dec 12 2010 • a(0)=1, a(1)=2, a(2)=6, a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3). - _ Harvey P. Dale _ , Jun 25 2013 •

[**A093387**] • 0,0,1,2,6,12,29,58,130,260,562,1124,2380,4760,9949,19898,41226,82452,169766,339532,695860,1391720,2842226,5684452,11576916 ⋆ a(n) = 2^(n-1) - binomial(n, floor(n/2)). • a(n + 1) = Sum _{ k=2..n } binomial(n, floor((n - k) / 2)). - _ Paul Barry _ , Jan 11 2007 • a(2n) = 2 * a(2n - 1). - _ Emeric Deutsch _ , May 30 2011 •

[**A038199**] • 1,2,6,12,30,54,126,240,504,990,2046,4020,8190,16254,32730,65280,131070,261576,524286,1047540,2097018,4192254,8388606,16772880,33554400 ⋆ Row sums of triangle T(m,n) = number of solutions to 1 <= a(1)<a(2)<...<a(m) <= n, where gcd(a(1), a(2), ...a(m), n)=1, in A020921. • a(n) = Sum _{ d | n } mu(n / d)(2 ^ d - 1). - _ Paul Barry _ , Mar 20 2005 •

[**A162214**] • 1,2,6,12,30,60,126,248,504,1020,2046,4092,8190,16380,32760,65520,131070,262134,524286,1048560,2097144,4194300,8388606,16777200,33554425 ⋆ a(n) = the largest positive multiple of n with exactly n digits when written in binary. • a(n) = n * floor((2 ^ n - 1) / n). - _ Alois P. Heinz _ , Jul 11 2009 •

[**A100071**] • 0,1,2,6,12,30,60,140,280,630,1260,2772,5544,12012,24024,51480,102960,218790,437580,923780,1847560,3879876,7759752,16224936,32449872 ⋆ a(n) = n * binomial(n-1, floor((n-1)/2)) = n * max_{i=0..n} binomial(n-1, i). • a(n) = Sum _{ k = 0..floor(n / 2) } binomial(n,k) * (n - 2 * k). • a(n) = n * C(n - 1,floor((n - 1) / 2)); a(n) = Sum _{ k = 0..n } C(n,k) * 2 ^ (n - k) * C(2 * k - 2,k - 1)(- 1) ^ (k - 1). - _ Paul Barry _ , Jan 11 2007 • a(n) = a(n - 1) * n / floor(n / 2) for n > 0. - _ Reinhard Zumkeller _ , Jan 20 2008 • a(n) = (floor(n / 2) + ceiling(n / 2) + 1)! / (floor(n / 2)! * ceiling(n / 2)!). - _ Stefan Steinerberger _ , Nov 04 2008 • a(n) = n for n < 3, a(n) = 4 * a(n - 2) + 2 * a(n - 1) / (n - 1) for n>=3. - _ Alexander R. Povolotsky _ , Aug 17 2012 • a(n) = (- 1) ^ (n * (n + 1) / 2) * Sum _{ k = 0..n } (- 1) ^ k * k * binomial(n,k) ^ 2. - _ Peter Bala _ , Jul 25 2016 •

[**A073949**] • 0,2,6,12,30,90,252,702,2106,6480,19602,58806,176904,532170,1596510,4785156,14351094,43053282,129146724,387400806,1162202418,3486725352,10460294154,31380882462,94143001680 ⋆ Number of strings over Z_3 of length n with trace 0 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 2, s + 2t + 1) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[**A217447**] • 2,6,12,32,120,580,3392,23244,182776,1622468,16045200,174894172,2082824744,26902998516,374570250688,5591767768460,89095070783832,1509041577895204,27073887615758576,512898265609845948,10230945527263709320,214337863242231108692 ⋆ Number of n x n permutation matrices that disconnect their zeros. • a(n) = 4 Sum _{ i=1..n - 2 } i! - 2(n - 2) Sum _{ i =0..n - 4 } i! + 2 Sum _{ i=1..n - 3 } i! + 2. •

[**A099576**] • 1,2,6,12,35,72,210,440,1287,2730,8008,17136,50388,108528,319770,692208,2042975,4440150,13123110,28614300,84672315,185122080,548354040,1201610592,3562467300 ⋆ Row sums of triangle A099575. • a(n) = Sum _{ k=0..n } Sum _{ j=0..floor(k / 2) } binomial(n + j, j). •

[**A026549**] • 1,2,6,12,36,72,216,432,1296,2592,7776,15552,46656,93312,279936,559872,1679616,3359232,10077696,20155392,60466176,120932352,362797056,725594112,2176782336 ⋆ Ratios of successive terms are 2,3,2,3,2,3,2,3... • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] • a(n) = ((1 / 2) * (3 - (- 1) ^ n) * 6 ^ floor(n / 2)), or a(n) = 6 * a(n - 2). [_ Vincenzo Librandi _ , Jun 08 2011] •

[**A152873**] • 2,6,12,48,144,720,2880,17280,86400,604800,3628800,29030400,203212800,1828915200,14631321600,146313216000,1316818944000,14485008384000,144850083840000,1738201006080000,19120211066880000,248562743869440000 ⋆ Number of permutations of {1,2,...,n} (n>=2) having a single run of even entries. For example, the permutation 513284679 has a single run of even entries: 2846. • a(2n) = (n + 1)(n!) ^ 2; • a(2n + 1) = n!(n + 2)! •

[**A003418**] • 1,1,2,6,12,60,60,420,840,2520,2520,27720,27720,360360,360360,360360,720720,12252240,12252240,232792560,232792560,232792560,232792560,5354228880,5354228880 ⋆ Least common multiple (or LCM) of {1, 2, ..., n} for n >= 1, a(0) = 1. • a(n) = exp(sum _{ k=1..n } sum _{ d|k } moebius(d) * log(k / d)). - _ Peter Luschny _ , Sep 01 2012 •

[**A191836**] • 1,2,6,12,60,120,840,1680,5040,10080,110880,221760,2882880,5765760,11531520,23063040,392071680,784143360,14898723840,29797447680,595954895360,119189790720,2741365186560,5482730373120,27413651865600 ⋆ The slowest growing sequence that satisfies: a(1) = 1, a(n) is a multiple of n and a(n-1), and a(n) > a(n-1). • a(1) = 1; for n > 1, a(n) = a(n - 1) * (if n is a prime power p ^ k then p else 2). - Franklin T. Adams - Watters, Jan 13 2012 •

[**A081125**] • 1,1,2,6,12,60,120,840,1680,15120,30240,332640,665280,8648640,17297280,259459200,518918400,8821612800,17643225600,335221286400,6704425728000,140792940288000,281585880576000,6476475253248000,12952950506496000 ⋆ a(n) = n! / floor(n/2)!. • a(n) = sqrt(n! * n $) where n $ denotes the swinging factorial (A056040). • a(n) = 2 ^ n Gamma((n + 1 + (n mod 2)) / 2) / sqrt(Pi). (End) • a(n) = n! / (n - floor((n + 1) / 2))!. • a(n) = Product _{ i = ceiling(n / 2)..(n - 1) } i. [Note: empty product = 1] • a(n) = P(n, floor((n + 1) / 2)), where P(n,k) are the number of k - permutations of n objects. (End) • a(n) = n $* floor(n / 2)! where n $ denotes the swinging factorial (A056040). - _ Peter Luschny _ , Oct 28 2013 •

[**A258213**] • 1,1,2,6,12,72,144,1440,2880,43200,86400,1814400,3628800,101606400,203212800,7315660800,14631321600,658409472000,1316818944000,72425041920000,144850083840000,9560105533440000,19120211066880000,1491376463216640000,2982752926433280000 ⋆ Number of permutations of {1,2,3,...,n} such that no even numbers are adjacent. • a(n) = factorial(ceiling(n / 2)) * fallfac(ceiling(n / 2) + 1, floor(n / 2)), with fallfac = A008279. •

[**A062349**] • 2,6,12,120,360,5040,13440,181440,1814400,39916800,159667200,6227020800,43589145600,653837184000,5230697472000,355687428096000,2134124568576000,121645100408832000,810967336058880000 ⋆ n! / number of prime divisors of n (with repetition). • a(n) = n! / bigomega(n). •

[**A105122**] • 2,6,12,232,262,280,330,430,508,772,786,852,1012,1522,1566,1626,1810,2346,2556,2676,3658,3888,3910,4018,4048 ⋆ Positive integers n such that n^11 + 1 is semiprime. • a(n) ^ 11 + 1 is semiprime A001538. a(n) + 1 is prime and a(n) ^ 10 - a(n) ^ 9 + a(n) ^ 8 - a(n) ^ 7 + a(n) ^ 6 - a(n) ^ 5 + a(n) ^ 4 - a(n) ^ 3 + a(n) ^ 2 - a(n) + 1 is prime. •

[**A277690**] • 2,6,13,19,26,32,38,44,51,57,63,70,76,82,88,95,101,107,114,120,126,132,139,145,151 ⋆ Smallest possible number of sides of a regular polygon with unit sides and circumradius n. • a(n) = ceiling(Pi / asin(1 / 2n)). •

[**A267874**] • 1,2,6,13,22,33,46,61,78,97,118,141,166,193,222,253,286,321,358,397,438,481,526,573,622 ⋆ Total number of ON (black) cells after n iterations of the "Rule 235" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[**A226292**] • 2,6,13,22,34,48,65,84,106,130,157,186,218,252,289,328,370,414,461,510,562,616,673,732,794 ⋆ (10*n^2+4*n+(1-(-1)^n))/8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4, a(1)=2, a(2)=6, a(3)=13, a(4)=22. • a(n) = 2 * a(n - 2) - a(n - 4) + 10 for n>4, a(1)=2, a(2)=6, a(3)=13, a(4)=22. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + 5 for n>3, a(1)=2, a(2)=6, a(3)=13. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + (- 1) ^ n for n>3, a(1)=2, a(2)=6, a(3)=13. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 + (1 - (- 1) ^ n) / 2 for n>2, a(1)=2, a(2)=6. •

[**A026052**] • 2,6,13,22,35,52,74,100,132,170,215,266,325,392,468,552,646,750,865,990,1127,1276,1438,1612,1800 ⋆ (d(n)-r(n))/2, where d = A008778 and r is the periodic sequence with fundamental period (1,1,0,1). • a(n)=(n + 2) * (n ^ 2 + 10 * n + 15) / 12 - 0.375 + 0.125 * (- 1) ^ n - 0.25 * cos(n * Pi / 2) [From _ Richard Choulet _ , Dec 13 2008] •

[**A293503**] • 0,2,6,13,23,36,51,70,91,115,142,172,204,240,278,319,363,409,459,511,566,624,685,749,815 ⋆ Least integer k such that k/n^2 > sqrt(2). • a(n) = ceiling(r * n ^ 2), where r = sqrt(2). •

[**A143689**] • 1,2,6,13,23,36,52,71,93,118,146,177,211,248,288,331,377,426,478,533,591,652,716,783,853 ⋆ a(n) = (3*n^2-n+2)/2. • a(n) = a(n - 1) + 3 * n - 2 (with a(0)=1) - _ Vincenzo Librandi _ , Nov 25 2010 • a(n) = 2 * a(n - 1) - a(n - 2) + 3. •

[**A184533**] • 2,6,13,24,37,54,73,96,121,150,181,216,253,294,337,384,433,486,541,600,661,726,793,864,937 ⋆ a(n) = floor(1/{(2+n^3)^(1/3)}), where {}=fractional part. • a(n) = floor[1 /{ (2 + n ^ 3) ^ (1 / 3) }], where {} =fractional part. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (6 * n ^ 2 - (1 - (- 1) ^ n)) / 4 for n>1. • a(n + 1) + a(n) = 3 * n ^ 2 + 3 * n + 1. • a(n) = floor(1 / ((n ^ 3 + 2) ^ (1 / 3) - n)). - _ Charles R Greathouse IV _ , Aug 23 2011 •

[**A003600**] • 1,2,6,13,24,40,62,91,128,174,230,297,376,468,574,695,832,986,1158,1349,1560,1792,2046,2323,2624 ⋆ Maximal number of pieces obtained by slicing a torus (or a bagel) with n cuts: (n^3 + 3 n^2 + 8 n)/6 (n>0). • a(n) = binomial(n + 2, n - 1) + binomial(n, n - 1). • a(n) = coefficient of z ^ 3 in the series expansion of G ^ n (n>0), where G=[1 - z + z ^ 2 - sqrt(1 - 2z - z ^ 2 - 2z ^ 3 + z ^ 4)] / (2z ^ 2) is the g.f. of A004148 (secondary structures of RNA molecules). - _ Emeric Deutsch _ , Jan 11 2004 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 29 2012 •

[**A259577**] • 1,2,6,13,26,44,72,108,156,215,290,381,486,610,758,924,1112,1329,1566,1839,2134,2456,2816,3220,3640 ⋆ Sum of numbers in the n-th antidiagonal of the reciprocity array of 1. • a(n) = sum { sum { floor((n * k + x) / m), k=0..m - 1, m=1..n } , where x = 1. • a(n) = n ^ 3 / 4 + O(n ^ 2). - _ Charles R Greathouse IV _ , Mar 22 2017 •

[**A192953**] • 0,1,2,6,13,26,48,85,146,246,409,674,1104,1801,2930,4758,7717,12506,20256,32797,53090,85926,139057,225026,364128 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) =3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[**A275970**] • 2,6,13,26,51,100,197,390,775,1544,3081,6154,12299,24588,49165,98318,196623,393232,786449,1572882,3145747,6291476,12582933,25165846,50331671 ⋆ a(n) = 3*2^n + n - 1. • a(n) = 2 * a(n - 1) - n + 2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 2). (End) •

[**A289764**] • 1,2,6,13,29,58,122,245,501,1002,2026,4053,8149,16298,32682,65365,130901,261802,523946,1047893,2096469,4192938,8387242,16774485,33551701 ⋆ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 597", based on the 5-celled von Neumann neighborhood. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 4 * a(n - 4) - 6 * a(n - 5) + 4 * a(n - 6) for n >5. •

[**A055243**] • 1,2,6,13,29,60,122,241,468,894,1686,3144,5807,10636,19338,34931,62731,112068,199264,352787,622152,1093260,1914780,3343440,5821645 ⋆ First differences of A001628 (Fibonacci convolution). • a(n - 3) = sum { k = 2..floor((n + 1) / 2) } C(k,2)C(n - k,k - 1) = (1 / 2) * G''(n,1), where the polynomial G(n,x) := sum { k = 1..floor((n + 1) / 2) } C(n - k,k - 1) * x ^ k = x ^ ((n + 1) / 2) * F(n, 1 / sqrt(x)) and where F(n,x) denotes the n - th Fibo

nacci polynomial. Since G(n,1) yields the Fibonacci numbers A000045 and G'(n,1) yields the second - order Fibonacci numbers A010049, a(n) may be considered as the sequence of third - order Fibonacci numbers. •

[A173009] • 0,1,2,6,13,29,60,124,251,507,1018,2042,4089,8185,16376,32760,65527,131063,262134,524278,1048565,2097141,4194292,8388596,16777203 ★ The mean value m(n) = sum(k*p(n,k), k = 0 .. 2^n-n-1) of the distribution function p(n,k) := binomial(2^n-n-1, k)/2^(2^n-n-1) is 0., 0.5, 2., 5.5, 13., 28.5, 60., 123.5, 251., 506.5, 1018., 2041.5, 4089., 8184.5... We set A173009(n)=round(m(n)). • a(n)=(1 / 2) * 2 ^ n - (1 / 2) * n - 1 / 2. • a(1)=0, a(2)=1, a(3)=2, a(4)=6, a(n)=3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4) [From Harvey P. Dale , Nov 16 2011] •

[A115217] • 1,2,6,13,30,62,133,270,558,1125,2286,4590,9253,18542,37230,74533,149358,298862,598309,1196910,2394990,4790565,9583470,19168110,38340901 ★ Diagonal sums of "correlation triangle" for 2^n. • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, [j<=k] * 2 ^ (k - j)[j<=n - 2k]2 ^ (n - 2k - j) }} . •

[A219753] • 0,0,0,0,1,2,6,13,31,68,151,327,706,1509,3211,6796,14331,30115,63106,131905,275111,572676,1190031,2469039,5115426 ★ Expansion of x^4*(1-2*x+x^4)/((1+x)*(1-2*x)^2*(1-x-x^2)). • a(n) = (2 ^ (n - 5) * (3 * n + 16) + 4 * (- 1) ^ n) / 9 + ((1 - sqrt(5)) ^ (n - 3) - (1 + sqrt(5)) ^ (n - 3)) / (2 ^ (n - 3) * sqrt(5)) with n>3, a(0)=a(1)=a(2)=a(3)=0. [_ Bruno Berselli _ , Nov 29 2012] •

[A239305] • 1,1,2,6,13,31,69,153,332,712,1509,3169,6603,13669,28142,57674,117741,239587,486193,984353,1989056,4012636,8083717,16266181,32698903 ★ Expansion of (4*x^4-5*x^3-x^2+3*x-1) / (2*x^5+3*x^4-4*x^3-3*x^2+4*x-1). • a(n) = sum(k=0..n, ((k * n - 1) * sum(i=0..n - k, 2 ^ i * binomial(k + 1,n - k - i) * binomial(k + i,k) * (- 1) ^ (n - i + 1))) / (k + 1)). •

[A099232] • 0,1,2,6,13,32,72,169,386,894,2053,4736,10896,25105,57794,133110,306493,705824,1625304,3742777,8618690,19847022,45703093,105244160,242353440 ★ a(n)=2a(n-1)+2a(n-2)-3a(n-3). • a(n + 1)=sum { k=0..n, C(k + 1,n - k + 1)3 ^ (n - k) } ; - _ Paul Barry _ , May 21 2006 • a(n) = a(n - 1) + 3 * a(n - 2) + 1, n>1 [From _ Gary Detlefs _ , Jun 21 2010] •

[A124124] • 1,2,6,13,37,78,218,457,1273,2666,7422,15541,43261,90582,252146,527953,1469617,3077138,8565558,17934877,49923733,104532126,290976842,609257881,1695937321 ★ Nonnegative integers n such that 2n^2 + 2n - 3 is square. • a(n)=a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: - x * (1 + x - 2 * x ^ 2 + x ^ 3 + x ^ 4) / ((x - 1) * (x ^ 2 - 2 * x - 1) * (x ^ 2 + 2 * x - 1)). [_ R. J. Mathar _ , Jul 17 2009] • a(n) = 7 * a(n - 2) - 7 * a(n - 4) + a(n - 6), for n>6. - _ Hermann Stamm - Wilbrandt _ , Aug 27 2014 •

[A238410] • 0,2,6,14,24,38,54,74,96,122,150,182,216,254,294,338,384,434,486,542,600,662,726,794,864 ★ a(n) = floor((3(n-1)^2 + 1)/2). • a(n) = (3 * n) ^ 2 / 6 for n even and a(n) = ((3 * n) ^ 2 + 3) / 6 for n odd. - _ Miquel Cerda _ , Jun 17 2016 • a(n) = (6 * n ^ 2 - 12 * n + 7 + (- 1) ^ n) / 4. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Matthew House _ , Feb 15 2017 •

[A212964] • 0,0,0,2,6,14,26,44,68,100,140,190,250,322,406,504,616,744,888,1050,1230,1430,1650,1892,2156 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x| < |x-y| < |y-w|. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = sum(k=0..n, floor((k - 1) ^ 2 / 2))). - _ Enrique Pérez Herrero _ , Dec 28 2013 • a(n) = sum _{ i=1..n } floor(i ^ 2 / 2) - 2 * floor(i / 2). - _ Wesley Ivan Hurt _ , Jul 23 2014 • a(n) = (2 * n - 1) * (2 * n ^ 2 - 2 * n - 3) / 24 - (- 1) ^ n / 8. - _ Robert Israel _ , Jul 23 2014 •

[A121968] • 1,2,6,14,27,46,72,106,149,202,266,342,431,534,652,786,937,1106,1294,1502,1731,1982,2256,2554,2877 ★ a(n) = 2*a(n-1) - a(n-2) + n + 1. • a(n) = (6 + n(- 1 + n(6 + n))) / 6 = C(n + 1, 3) + n ^ 2 + 1 = C(n + 2, 3) + C(n, 2) + 1. •

[A033547] • 0,2,6,14,28,50,82,126,184,258,350,462,596,754,938,1150,1392,1666,1974,2318,2700,3122,3586,4094,4648 ★ Otto Haxel's guess for magic numbers of nuclear shells. • a(n) = n * (n ^ 2 + 5) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Apr 05 2015 •

[A290699] • 2,6,14,28,52,94,170,312,584,1114,2158,4228,8348,16566,32978,65776,131344,262450,524630,1048956,2097572,4194766,8389114,16777768,33555032 ★ a(n) = 2^n - n + n^2. • a(n) = 2 ^ n - n + n ^ 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). •

[A249665] • 1,1,1,2,6,14,28,56,118,254,541,1140,2401,5074,10738,22711,48001,101447,214446,453355,958395,2025963,4282685,9053286,19138115 ★ The number of permutations p of {1,...,n} such that p(1)=1, p(n)=n, and |p(i)-p(i+1)| is in {1,2,3} for all i from 1 to n-1. • a(n) = a(n - 1) + g(n - 1) + h(n - 1), • a(n) = a(n - 1) * b(1) + a(n - 2) * b(2) + a(n - 3) * b(3) + ... + a(1) * b(n - 1). • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) + a(n - 4) + a(n - 5) - a(n - 7) - a(n - 8). •

[A192966] • 0,1,2,6,14,30,59,110,197,343,585,983,1634,2695,4420,7220,11760,19116,31029,50316,81535,132061,213827,346141,560244 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A095121] • 1,2,6,14,30,62,126,254,510,1022,2046,4094,8190,16382,32766,65534,131070,262142,524286,1048574,2097150,4194302,8388606,16777214,33554430 ★ Expansion of (1-x+2x^2)/((1-x)(1-2x)). • a(n) = 2 * 2 ^ n - 2 + 0 ^ n; a(n) = 3 * a(n - 1) - 2 * a(n - 2). • a(0)=1, a(1)=2, a(n) = 2 * a(n - 1) + 2 for n>1. - _ Philippe Deléham _ , Sep 28 2006 • a(n) = - 2 + 4 * 2 ^ (n - 1) + (binomial(2 * n,n) mod 2). - _ Paolo P. Lava _ , Nov 19 2008 • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>4 [Because x(n)=f * x(n - 1) + g * x(n - 2) => x(n) =(f ^ 2 + 2 * g) * x(n - 2) - g ^ 2 * x(n - 4), here with f=3 and g= - 2]. - _ Hermann Stamm - Wilbrandt _ , Aug 13 2015 •

[A291409] • 2,6,14,31,66,136,272,534,1030,1958,3678,6837,12594,23016,41768,75325,135084,241032,428112,757236,1334292,2342892,4100676,7155937,12453170 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - S^2)(1 - S)^2. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 5 * a(n - 4) - 2 * a(n - 5) + 4 * a(n - 6) + 4 * a(n - 7) + a(n - 8) for n >= 9. •

[A131352] • 1,2,6,14,32,72,160,352,768,1664,3584,7680,16384,34816,73728,155648,327680,688128,1441792,3014656,6291456,13107200,27262976,56623104,117440512 ★ Row sums of triangle A133935. • a(n) = 2 ^ (n - 2) * (n + 4) for n >1. - ___ Colin Barker _ , Jun 05 2012 •

[A257557] • 1,1,2,6,14,33,79,188,448,1068,2545,6065,14454,34446,82090,195633,466223,1111080,2647872,6310280,15038353,35838673,85408986,203542550,485072726 ★ Expansion (x-1)/(x^5+2*x^3+2*x-1). • a(n) = Sum _{ k=0..n } Sum _{ i=0..(n - k) / 2 } C(2 * k,i) * C(n - 2 * i - 1,n - 2 * i - k). •

[A070933] • 1,2,6,14,34,74,166,350,746,1546,3206,6550,13386,27114,54894,110630,222794,447538,898574,1801590,3610930,7231858,14480654,28983246,58003250 ★ Expansion of Product_{k>=1} 1/(1-2*t^k). • a(n) is asymptotic to c * 2 ^ n where c=3.46253527447396564949732... - _ Benoit Cloitre _ , Oct 26 2003. Right value of this constant is c = 1 / A048651 = 3.46274661945506361153795734292443116454075790290443839132935303175891543974042... . - _ Vaclav Kotesovec _ , Sep 09 2014 • a(n) = S(n,1), where S(n,m)= sum(k=m..n / 2, 2 * S(n - k,k)) + 2, S(n,n)=2, S(0,m)=1, S(n,m)=0 for n<m. - _ Vladimir Kruchinin _ Sep 07 2014 • a(n) = sum _{ lambda,mu,nu } (c ^{ lambda }_{ mu,nu }) ^ 2, where lambda ranges over all partitions of n, mu and nu range over all partitions satisfying |mu| + |nu| = n, and c ^{ lambda }_{ mu, nu } denotes a Littlewood - Richardson coefficient. - _ Richard Stanley _ , Nov 16 2014 •

[A059570] • 1,2,6,14,34,78,178,398,882,1934,4210,9102,19570,41870,89202,189326,400498,844686,1776754,3728270,7806066,16311182,34020466,70837134,147266674 ★ Number of fixed points in all 231-avoiding involutions in S_n. • a(n) = (3 * n + 4) * 2 ^ n / 18 - 2 * (- 1) ^ n / 9. • a(n) = Sum _{ j=0..n } Sum _{ k=0..n } binomial(n - k, k + j) * 2 ^ k. - _ Paul Barry _ , Aug 29 2004 • a(n) = 3 * a(n - 1) - 4 * a(n - 3); a(1)=1,a(2)=2,a(3)=6. - _ Philippe Deléham _ , Aug 30 2006 •

[A208902] • 2,6,14,34,78,182,414,942,2110,4702,10366,22718,49406,106878,229886,492286,1049598,2229758,4720638,9964542,20975614,44046334,92282878,192950270,402669566 ★ The sum over all bitstrings b of length n of the number of runs in b not immediately followed by a longer run. • a(n) = 2 ^ n * (2 + (n - 1) / 2 - (1 / 2) ^ (n - 1) - 2 (1 - (1 / 2) ^ Floor[n / 2]) + (1 / 2) ^ (Floor[n / 2] + 1) (1 + (- 1) ^ n)). • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 6 * a(n - 3) + 16 * a(n - 4) - 8 * a(n - 5), a(1) = 2, a(2) = 6, a(3) = 14, a(4) = 34, a(5) = 78. •

[A099425] • 1,2,6,14,34,82,198,478,1154,2786,6726,16238,39202,94642,228486,551614,1331714,3215042,7761798,18738638,45239074,109216786,263672646,636562078,1536796802 ★ Expansion of (1+x^2)/(1-2*x-x^2). • a(n) = (1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n - 0 ^ n. • a(n) = round((1 + sqrt(2)) ^ n). - _ Bruno Berselli _ , Feb 04 2013 •

[A177790] • 1,2,6,14,34,84,208,518,1296,3254,8196,20700,52404,132942,337878,860142,2192902,5598144,14308378,36610970,93770358,240390602,616787116,1583765724,4069672444 ★ Number of paths from (0,0) to (n,n) avoiding 3 or more consecutive east steps and 3 or more consecutive north steps. • a(n) = Sum _{ i=0..floor(n / 2) } 2 * C(n - i,i) ^ 2 + C(n - i,i) * C(n - i - 1,i + 1) + C(n - i,i) * C(n - i + 1,i - 1). • a(n) = [x ^ n y ^ n] (- (1 + x + x ^ 2) * (1 + y + y ^ 2) / (- 1 + x * y + x * y ^ 2 + x ^ 2 * y + x ^ 2 * y ^ 2)). •

[A105635] • 0,1,2,6,14,35,84,204,492,1189,2870,6930,16730,40391,97512,235416,568344,1372105,3312554,7997214,19306982,46611179,112529340,271669860,655869060 ★ Pell(n+2)/2-(1+(-1)^n)/4. • a(n) = term (4,1) in the 4x4 matrix [1,1,0,0; 3,0,1,0; 1,0,0,0; 1,0,0,1] ^ n. - _ Alois P. Heinz _ , Jul 24 2008 •

[A175654] • 1,2,6,14,36,86,210,500,1194,2822,6660,15638,36642,85604,199626,464630,1079892,2506550,5811762,13462484,31159914,72071654,166599972,384912086,888906306 ★ Eight bishops and one elephant on a 3 X 3 chessboard. G.f.: (1-x-x^2)/(1-3*x-x^2+6*x^3). • a(n) = 3 * a(n - 1) + a(n - 2) - 6 * a(n - 3) with a(0)=1, a(1)=2 and a(2)=6. • a(n) = ((6 + 10 * A) * A ^ (- n - 1) + (6 + 10 * B) * B ^ (- n - 1)) / 13 - 2 ^ n with A = (- 1 + sqrt(13)) / 6 and B = (- 1 - sqrt(13)) / 6. •

[A006864] • 0,1,2,6,14,37,92,236,596,1517,3846,9770,24794,62953,159800,405688,1029864,2614457,6637066,16849006,42773094,108584525,275654292,699780452,1776473532 ★ Number of Hamilton cycles in P_4 X P_n. • a(n) = 2a(n - 1) + 2a(n - 2) - 2a(n - 3) + a(n - 4). • a(n)=sum (sum (binomial(k,j) * sum (binomial(j, i - j) * 2 ^ j * binomial(k - j,n - i - 3 * (k - j)) * (- 2) ^ (4 * (k - j) - (n - i)), i,j,n - k + j) , j,0,k) , k,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 04 2010 •

[A100067] • 1,2,6,14,38,92,240,590,1510,3740,9476,23564,59372,147968,371636,927374,2324870,5805740,14538660,36322340,90898228,227153192,568235696,1420236524,3551943388 ★ Sum(k=0..floor(n/2), binomial(n,k)*2^(n-2*k)). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * 2 ^ (n - 2k) } . • a(n) = sum { k=0..n, binomial(n, (n - k) / 2) * (1 + (- 1) ^ (n - k) * 2 ^ k / 2 } . •

[A026597] • 1,2,6,14,38,94,246,622,1606,4094,10518,26894,68966,176542,452406,1158574,2968198,7602494,19475286,49885262,127786406,327327454,838473078,2147782894,5501675206 ★ Expansion of (1+x)/(1-x-4*x^2). • a(n) = T(n,0) + T(n,1) + ... + T(n,2 * n), T given by A026584. • a(n) = Sum _{ k=0..n } binomial(floor((2 * n - k - 1) / 2), n - k) * 2 ^ k. - _ Paul Barry _ , Feb 11 2005 • a(n) = Sum _{ k=0..n } binomial(floor((2 * n - k) / 2),n - k) * 4 ^ floor(k / 2). - _ Paul Barry _ , Feb 02 2007 • a(n) = (1 / 2 + 3 * sqrt(17) / 34) * (1 / 2 + sqrt(17) / 2) ^ n + (1 / 2 - 3 * sqrt(17) / 34) * (1 / 2 - sqrt(17) / 2) ^ n. - _ Antonio Alberto Olivares _ , Jun 07 2011 •

[A190788] • 1,1,2,6,14,38,94,248,628,1638,4190,10872,27940,72316,186260,481488,1241512,3207302,8274646,21369496,55148068,142396436,367537484,948920

560,2449445432 ★ Expansion of ((x-1)*sqrt(1-4*x^2))/((x-1)*sqrt(1-4*x^2)+x). ● a(n)=sum(k=1..n, sum(i=0..(n - k) / 2, binomial((2 * i + k - 2) / 2,i) * 4 ^ i * binomial(n - 2 * i - 1,k - 1))), n>0, a(0)=1. ●

[A127546] ● 2,6,14,38,98,258,674,1766,4622,12102,31682,82946,217154,568518,1488398,3896678,10201634,26708226,69923042,183060902,479259662,1254718086,3284894594,8599965698,22515002498 ★ a(n) = F(n)^2 + F(n+1)^2 + F(n+2)^2, where F(n) denotes the n-th Fibonacci number. ● a(n) = 2 * (F(n) ^ 2 + F(n + 1) ^ 2 + F(n) * F(n + 1)). - _ Emeric Deutsch _ , Apr 04 2007 ●

[A271895] ● 1,2,6,14,40,100,276,712,1928,5048,13536,35696,95248,252064,670944,1778656,4728704,12546368,33335616,88484480,235033216,623990656,1657207296,4400177920,11685241088 ★ Expansion of (1-2*x^2) / (1-2*x-4*x^2+6*x^3). ● a(n) >= 2 ^ n. ●

[A133155] ● 2,6,14,46,110,366,878,2926,19310,52078,314222,1362798,3459950,11848558,78957422,615828334,1689570158,10279504750,44639243118,113358719854,663114533742,2862137789294,20454323833710,301929300544366 ★ Numbers formed by setting bits representing odd primes, where bit_no = (prime - 1)/2. Setting bit number b is the same as OR-ing with 2^b (i.e., bit numbers start at zero). ● a(n) = setbit(a(n - 1),(p - 1) / 2) where p is the n - th odd prime. ●

[A284701] ● 2,6,14,46,137,354,905,2366,6278,16681,44156,116650,308180,814645,2153984,5695102,15056494,39804582,105231559,278204561,735502187,1944477640,5140687360,13590620330,35930023287 ★ Number of maximal matchings in the n-antiprism graph. ● a(n) = 2 * a(n - 1) + a(n - 2) + 3 * a(n - 4) + 5 * a(n - 5) + a(n - 6) - 2 * a(n - 7) - a(n - 8) for n>8. ●

[A293402] ● 0,2,6,15,26,40,58,79,104,131,162,196,233,273,317,364,414,468,524,584,647,714,783,856,932 ★ The integer k that minimizes |k/n^2 - tau|, where tau = (1+sqrt(5))/2 (golden ratio). ● a(n) = floor(1 / 2 + tau * n ^ 2). ●

[A256313] ● 0,0,2,6,15,27,47,72,108,150,206,270,351,441,551,672,816,972,1154,1350,1575,1815,2087,2376,2700 ★ Number of partitions of 3n into exactly 4 parts. ● a(n) = (6 * n ^ 3 + 6 * n ^ 2 - 3 * n - 5 + (3 * n + 1) * (- 1) ^ n + 2 * ((- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) + (- 1) ^ ((2 * n + 1 - (- 1) ^ n) / 4))) / 32. - _ Luce ETIENNE _ , Feb 17 2017 ●

[A056520] ● 1,2,6,15,31,56,92,141,205,286,386,507,651,820,1016,1241,1497,1786,2110,2471,2871,3312,3796,4325,4901 ★ (n+2)*(2*n^2-n+3)/6. ● a(n) = a(n - 1) + n ^ 2. ●

[A192980] ● 0,1,2,6,15,34,70,135,248,440,761,1292,2164,3589,5910,9682,15803,25726,41802,67835,109980,178196,288597,467256,756360 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). ●

[A221719] ● 0,2,6,15,34,74,157,328,678,1391,2838,5766,11677,23588,47554,95719,192426,386450,775485,1555152,3117070,6245087,12507886,25044430,50135229 ★ a(n) = 3*2^n - Fibonacci(n+3) - 1. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 2 * a(n - 4) for n>3. - _ Colin Barker _ , Jun 07 2015 ● a(n) = (- 1 + 3 * 2 ^ n - (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (1 + sqrt(5)) ^ n * (2 + sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Nov 03 2016 ●

[A095380] ● 1,1,2,6,15,34,75,162,337,706,1466,2995,6119,12450,25248,51158,103450,209010,421681,850322,1712673,3447970,6937759,13952296,28049834 ★ Number of integers not exceeding 2^n that are impossible as sum-of-divisors of other numbers. ● a(n) is the number of terms in A007369 not exceeding 2 ^ n. ●

[A136302] ● 2,6,15,35,81,188,437,1016,2362,5491,12765,29675,68986,160373,372822,866706,2014847,4683951,10888865,25313540,58846841,136802308,318026782,739322571,1718716457 ★ Transform of A000027 by the T_{1,1} transformation (see link). ● a(n + 3) = 3 * a(n + 2) - 2 * a(n + 1) + a(n) (n>=0). - _ Richard Choulet _ , Apr 07 2009 ●

[A116404] ● 1,1,2,6,15,35,84,204,493,1189,2870,6930,16731,40391,97512,235416,568345,1372105,3312554,7997214,19306983,46611179,112529340,271669860,655869061 ★ Expansion of (1-x)/((1-x)^2 - x^2(1+x)^2). ● a(n) = 2 * a(n - 1) + 2 * a(n - 3) + a(n - 4). ● a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ j=0..n - k } C(2k,n - 2k - j) * C(n - 2k,j) * 2 ^ (n - 2k - j). ●

[A084860] ● 1,2,6,15,36,84,192,432,960,2112,4608,9984,21504,46080,98304,208896,442368,933888,1966080,4128768,8650752,18087936,37748736,78643200,163577856 ★ Expansion of (1-2x+2x^2-x^3)/(1-2x)^2. ● a(0)=1, a(n + 1)=3 * 2 ^ (n - 2)(n + 3) - 0 ^ n / 4. ●

[A084798] ● 1,2,6,15,36,84,195,451,1041,2402,5539,12772,29447,67893,156531,360889,832045,1918313,4422746,10196812,23509143,54201233,124963024,288107051,664241868 ★ Least integer such that x^(n+1)/(ceil(x^n) + a(n)) monotonically decreases to 1, where x=2.30553839092543... ● a(0)=1, a(n + 1) = ceil(x * a(n) + x * ceil(x ^ n) - ceil(x ^ (n + 1))), where x=2.30553839092543... ●

[A291414] ● 2,6,15,37,89,212,500,1173,2741,6388,14860,34524,80138,185904,431075,999280,2315960,5366755,12435075,28810731,66748062,154635086,358234115,829886167,1922494024 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 2 S + S^3. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) - 3 * a(n - 4) - 3 * a(n - 5) - a(n - 6) for n >= 7. ●

[A098790] ● 1,2,6,15,37,90,218,527,1273,3074,7422,17919,43261,104442,252146,608735,1469617,3547970,8565558,20679087,49923733,120526554,290976842,702480239,1695937321 ★ a(n) = 2*a(n-1) + a(n-2) + 1, a(0) = 1, a(1) = 2. ● a(n) = 2 * a(n - 1) + a(n - 2) + 1, a(0) = 1, a(1) = 2. ● a(n) = (sqrt(2) + 1) ^ n * (3 / 4 + sqrt(2) / 4) + (sqrt(2) - 1) ^ n * (3 / 4 - sqrt(2) / 4) * (- 1) ^ n - 1 / 2; - _ Paul Barry _ , Mar 11 2007 ● a(0)=1, a(1)=2, a(2)=6, a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3). [_ Harvey P. Dale _ , Oct 15 2011] ● a(n) = 7 * a(n - 2) - 7 * a(n - 4) + a(n - 6), for n>5. - _ Hermann Stamm - Wilbrandt _ , Aug 26 2014 ●

[A290762] ● 2,6,15,38,90,200,434,934,1995,4237,8976,19010,40300,85591,182231,389094,833306,1790141,3857190,8334719,18057605,39217422,85357692,186142694,406619110 ★ Number of minimal edge covers in the n-gear graph. ● a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 19 * a(n - 3) - 21 * a(n - 4) + 18 * a(n - 5) - 11 * a(n - 6) + 7 * a(n - 7) - 2 * a(n - 8) + a(n - 9) for n > 9. ●

[A106515] ● 1,2,6,15,38,94,231,564,1372,3329,8064,19512,47177,114010,275430,665247,1606534,3879302,9366735,22615356,54601628,131825377,318263328,768369744,1855031473 ★ A Fibonacci-Pell convolution. ● a(n) = Pell(n) + Pell(n + 1) - Fibonacci(n). - _ Ralf Stephan _ , Jun 02 2007 ●

[A120846] ● 2,6,15,38,101,280,799,2322,6825,20204,60083,179206,535549,1602528,4799367,14381690,43112273,129271252,387682651,1162785774,3487832997,10462450376,31385253935,94151567458,282446313721 ★ a(n) = 3^n + 2^n + n. ● a(0)=2, a(1)=6, a(2)=15, a(3)=38, a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 17 * a(n - 3) - 6 * a(n - 4). [_ Harvey P. Dale _ , Oct 24 2011] ●

[A246563] ● 1,1,2,6,15,39,116,340,1001,3041,9322,28718,89363,279987,881376,2788464,8860677,28256709,90407666,290124182,933482527,3010689527,9731366060,31516942060,102259648701 ★ G.f.: Sum_{n>=0} x^n / (1-x^2)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^(2*k)]^2. ● a(n) = Sum _{ k=0..[n / 2] } Sum _{ j=0..k } C(n - k - j,k) ^ 2 * C(k,j) ^ 2. ●

[A001654] ● 0,1,2,6,15,40,104,273,714,1870,4895,12816,33552,87841,229970,602070,1576239,4126648,10803704,28284465,74049690,193864606,507544127,1328767776,3478759200 ★ Golden rectangle numbers: F(n)*F(n+1), where F(n) = A000045(n) (Fibonacci numbers). ● a(n) = 3a(n - 1) - a(n - 2) - (- 1) ^ n = - a(- 1 - n). ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3), a(1)=1, a(2)=2, a(3)=6. - _ Sture Sjöstedt _ , Feb 06 2010 ● a(n) = 1 / |F(n + 1) / F(n) - F(n) / F(n - 1)| where F(n) = Fibonacci numbers A000045. b(n) = F(n + 1) / F(n) - F(n) / F(n - 1): 1 / 1, - 1 / 2, 1 / 6, - 1 / 15, 1 / 40, - 1 / 104, ...; c(n) = 1 / b(n) = a(n) * (- 1) ^ (n + 1): 1, - 2, 6, - 15, 40, - 104, ... (n=1,2,...). - _ Thomas Ordowski _ , Nov 04 2010 ● a(n) = (Fibonacci(n + 2) ^ 2 - Fibonacci(n - 1) ^ 2) / 4. - _ Gary Detlefs _ , Dec 03 2010 ● a(n) = Sum _{ k=0..n } F(k) ^ 2, n >= 0. See the above statement and proof given by Philippe LALLOUET. ● a(n) * (- 1) ^ n = Sum _{ k=0..n } (- 1) ^ k * F(2 * k), n >= 0. - _ Wolfdieter Lang _ , Aug 11 2012 ●

[A178936] ● 1,2,6,15,42,116,330,951,2778,8180,24234,72087,215034,642644,1923018,5759223,17258010,51734708,155125482,465219159,1395342906,4185399572,12554940426,37662304695,112981880922 ★ Floor((2*3^n+3*2^n)/5). ● a(n) = (8 * 3 ^ n + 12 * 2 ^ n - (1 - (- 1) ^ n) * (5 + i ^ (n + 1))) / 20, where i=sqrt(- 1). - Bruno Berselli, Sep 05 2011 ●

[A001444] ● 1,2,6,15,45,126,378,1107,3321,9882,29646,88695,266085,797526,2392578,7175547,21526641,64573362,193720086,581140575,1743421725,5230206126,15690618378,47071677987,141215033961 ★ Bending a piece of wire of length n+1 (configurations that can only be brought into coincidence by turning the figure over are counted as different). ● a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3). G.f.: x * (1 - x - 3 * x ^ 2) / ((1 - 3 * x) * (1 - 3 * x ^ 2)). [_ Colin Barker _ , Apr 02 2012] ●

[A045628] ● 1,1,1,2,6,15,46,132,432,1384,4735,16158,56766,200473,718012,2587000,9398080,34324173,126067124,465093570,1723171550,6407924165,23910560070,89494164972,335913861648 ★ Number of 2n-bead black-white reversible necklaces with n black beads and fundamental period 2n. ● a(n) = 1 / (4 * n) * Sum _{ d|n } mu(n / d) * (2 * n * binomial(2 * floor(d / 2), floor(d / 2)) + binomial(2 * d, d)) for n > 0. - _ Andrew Howroyd _ , Sep 28 2017 ●

[A186738] ● 0,0,1,2,6,15,46,137,460,1557,5698,21269,83948,339177,1430502,6178981,27636512,126500209,596320914,2873324677,14203422044,71669915585,369941778510,1946679921381 ★ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n-1)*a(n-2) + 1. ● a(n) = 2 * a(n - 1) + (n - 2) * a(n - 2) - (n - 2) * a(n - 3) with a(0)=a(1)=0, a(2)=1. - _ Vincenzo Librandi _ , Dec 24 2012 ●

[A237262] ● 1,2,6,15,47,118,370,929,2913,7314,22934,57583,180559,453350,1421538,3569217,11191745,28100386,88112422,221233871,693707631,1741770582,5461548626,13712930785,42998681377 ★ Values of x in the solutions to x^2 - 8*x*y + y^2 + 11 = 0, where 0 < x < y. ● a(n) = 8 * a(n - 2) - a(n - 4). ● a(n) = (11 * a(n - 1) - 4 * a(n - 2)) / 3 if n is odd; a(n) = (11 * a(n - 1) - 3 * a(n - 2)) / 4 if n is even. - _ R. J. Mathar _ , Jun 18 2014 ●

[A038111] ● 2,6,15,105,385,1001,17017,323323,7436429,19605131,86822723,3212440751,131710070791,5663533044013,266186053068611,613385252723321,2783825377744303,5855632691117327,392327390304860909 ★ (Denominator of) frequency of integers with smallest divisor prime(n). ● a(n) = denominator of phi(e ^ (psi(p _ n - 1))) / e ^ (psi(p _ n)), where psi(.) is the second Chebyshev function and phi(.) is Euler's totient function. - _ Fred Daniel Kline _ , Jul 17 2014 ●

[A085226] ● 2,6,16,19,44,47,53,56,60,128,131,137,140,144,156,159,165,168,172,179,182,186,191,392,395 ★ Row 0 of A085205. ● a(n) = A085205bi(n, 0). ●

[A005996] ● 2,6,16,30,54,84,128,180,250,330,432,546,686,840,1024,1224,1458,1710,2000,2310,2662,3036,3456,3900,4394 ★ G.f.: 2(1-x^3)/((1-x)^5*(1+x)^2). ● a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6), with a(1)=2, a(2)=6, a(3)=16, a(4)=30, a(5)=54, a(6)=84. - _ Harvey P. Dale _ , Apr 08 2013 ●

[A171218] ● 0,2,6,16,32,58,94,144,208,290,390,512,656,826,1022,1248,1504,1794,2118,2480,2880,3322,3806,4336,4912 ★ a(n) = sum(A109613(k)*A005843(n-k): 0<=k<=n). ● a(n) = - a(- n - 1) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). (End) ●

[A032091] ● 2,6,16,32,60,100,160,240,350,490,672,896,1176,1512,1920,2400,2970,3630,4400,5280,6292,7436,8736,10192,11830 ★ Number of reversible strings with n-1 beads of 2 colors. 4 beads are black. String is not palindromic. ● a(n) = [(n - 5)(n - 3)(n - 1) ^ 2 + (6n - 15) X[2Z](n)] / 48, where X[2Z] is the cha

racteristic function of 2Z. • a(n) = (n ^ 4 - 10 * n ^ 3 + 32 * n ^ 2 - 32 * n) / 48 if n is even. • a(n) = (n ^ 4 - 10 * n ^ 3 + 32 * n ^ 2 - 38 * n + 15) / 48 if n is odd. • a(n) = (2 * n ^ 4 - 20 * n ^ 3 + 64 * n ^ 2 + 6 * (- 1) ^ n * n - 70 * n - 15 * (- 1) ^ n + 15) / 96. - _ Ilya Gutkovskiy _ , Jul 08 2016 •

[**A060354**] • 0,1,2,6,16,35,66,112,176,261,370,506,672,871,1106,1380,1696,2057,2466,2926,3440,4011,4642,5336,6096 ⋆ The n-th n-gonal number. • a(n) = (n * (n - 2) ^ 2 + n ^ 2) / 2. • a(n) = sum((binomial(0,0 * j) + binomial(n,2)) ,j=0..n). - _ Zerinvary Lajos _ , Sep 04 2006 •

[**A159938**] • 2,6,16,36,70,122,196,296,426,590,792,1036,1326,1666,2060,2512,3026,3606,4256,4980,5782,6666,7636,8696,9850 ⋆ The number of homogeneous trisubstituted linear alkanes. • a(n) = (1 / 3) * (2 * n ^ 3 - 9 * n ^ 2 + 19 * n - 12), where n is the number of carbons. •

[**A145126**] • 1,2,6,16,36,71,127,211,331,496,716,1002,1366,1821,2381,3061,3877,4846,5986,7316,8856,10627,12651,14951,17551 ⋆ a(n) = 1 + (6 + (11 + (6 + n)*n)*n)*n/24. • a(n) = C(n + 3,4) + 1. - _ Zerinvary Lajos _ , Mar 24 2009 •

[**A005676**] • 1,1,1,1,1,2,6,16,36,71,128,220,376,661,1211,2290,4382,8347,15706,29191,53824,99009,182497,337745,627401 ⋆ Sum C(n-k,4*k), k = 0..n. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, 4k); • a(n) = 4a(n - 1) - 6a(n - 2) + 4a(n - 3) - a(n - 4) + a(n - 5). (End) •

[**A038503**] • 1,1,1,1,2,6,16,36,72,136,256,496,992,2016,4096,8256,16512,32896,65536,130816,261632,523776,1048576,2098176,4196352 ⋆ Sum of every 4th entry of row n in Pascal's triangle, starting at "n choose 0". • a(n) = Sum _{ k=0..floor(n / 4) } binomial(n, 4k); a(n) = 2 ^ (n - 1) + 2 ^ ((n - 2) / 2)(cos(Pi * n / 4) - sin(Pi * n / 4)). (End) • a(n) = Sum _{ k=0..n } binomial(n, 4(n - k)). - _ Paul Barry _ , Aug 30 2004 • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2k)(1 + (- 1) ^ k) / 2. - _ Paul Barry _ , Nov 29 2004 • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the s ubtrace. • a(n + m) = a(n) * a(m) + H _ 4(n) * H _ 2(m) + H _ 3(n) * H _ 3(m) + H _ 2(n) * H _ 4(m), where H _ 2 = A038504, H _ 3 = A038505, H _ 4 = A000749. •

[**A079990**] • 1,1,1,2,6,16,36,73,157,353,797,1776,3916,8636,19145,42504,94286,208948,462907,1025863,2274069,5040891,11173063,24763854,54886846 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={-1,2}. • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3) + a(n - 4) + 4 * a(n - 5) + 7 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) + 7 * a(n - 10) + 3 * a(n - 11) - 7 * a(n - 12) + 2 * a(n - 13) + 3 * a(n - 14) - 3 * a(n - 16) - 2 * a (n - 17) + a(n - 18) - a(n - 19) - a(n - 20). •

[**A127902**] • 1,1,1,1,2,6,16,36,75,163,391,991,2498,6150,15016,37116,93481,238137,607921,1550401,3959335,10155615,26182267,67753907,175713561 ⋆ Series reversion of x/(1+x+x^4). • a(n) = sum { k=0..floor(n / 4), C(n,4k) * C(4k, k) / (3k + 1) } . •

[**A270810**] • 0,1,2,6,16,36,76,156,316,636,1276,2556,5116,10236,20476,40956,81916,163836,327676,655356,1310716,2621436,5242876,10485756,20971516 ⋆ Expansion of (x - x^2 + 2*x^3 + 2*x^4)/(1 - 3*x + 2*x^2). • a(n) = 5 * 2 ^ (n - 2) - 4 for n>2. - _ Bruno Berselli _ , Apr 08 2016 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>4. - _ Colin Barker _ , Apr 12 2016 •

[**A257198**] • 0,0,2,6,16,36,78,162,332,672,1354,2718,5448,10908,21830,43674,87364,174744,349506,699030,1398080,2796180,5592382,11184786,22369596 ⋆ Number of permutations of length n having exactly one descent such that the first element of the permutation is an odd number. • a(n) = 2 * floor((2 * 2 ^ n - 3 * n - 1) / 6). • a(n) = (- 3 - (- 1) ^ n + 2 ^ (2 + n) - 6 * n) / 6. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4). •

[**A265106**] • 0,1,2,6,16,36,80,178,394,870,1920,4236,9344,20610,45458,100262,221136,487732,1075728,2372594,5232922,11541574,25455744,56144412,123830400 ⋆ Expansion of (x^5-x^4-2*x^3+x^2-x)/(-x^4+x^3-2*x^2+3*x-1). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - a(n - 4) for n>5. - _ Colin Barker _ , Apr 12 2016 •

[**A099099**] • 1,1,1,2,6,16,37,80,172,377,839,1874,4175,9274,20577,45665,101393,225193,500162,1110790,2466760,5477917,12164896,27015092,59993817 ⋆ Quadrisection of a generalized Padovan sequence. • a(n) = sum _{ k=0..2n } binomial(k, 4n - 3k). • a(n) = 4a(n - 1) - 6a(n - 2) + 5a(n - 3) - a(n - 4). • a(n) = s um _{ k=0..floor((n + 1) / 2) } binomial(n + k, 4k). - _ Paul Barry _ , May 09 2005 •

[**A074082**] • 0,0,0,0,2,6,16,37,81,169,342,675,1307,2491,4686,8718,16066,29364,53282,96065,172215,307151,545286,963993,1697701 ⋆ Coefficient of q^2 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(1,1). • a(n)=3a(n - 1) - 5a(n - 3) + 3a(n - 5) + a(n - 6) for n>=8. •

[**A212383**] • 1,1,1,1,2,6,16,37,83,199,512,1343,3488,9011,23488,62094,165738,444160,1193146,3216436,8709766,23683846,64611879,176730460,484593740 ⋆ Number of Dyck n-paths all of whose ascents have lengths equal to 1 (mod 3). • a(n) = Sum _{ k=0..n } binomial(2 * k - n - 1,n - k) * binomial(n + 1,3 * k - 2 * n) / (n + 1). - _ Vladimir Kruchinin _ , Mar 05 2016 •

[**A097813**] • 1,2,6,16,38,84,178,368,750,1516,3050,6120,12262,24548,49122,98272,196574,393180,786394,1572824,3145686,6291412,12582866,25165776,50331598 ⋆ a(n) = 3*2^n - 2*n - 2. • a(n) = 2a(n - 1) + 2n - 2, n>0, a(0)=1. • a(n) = 4a(n - 1) - 5a(n - 2) + 2a(n - 3). •

[**A167821**] • 0,0,2,6,16,38,86,188,402,846,1760,3630,7438,15164,30794,62342,125904,253782,510758,1026684,2061730,4136990,8295872,16627166,33311646 ⋆ a(n) is the number of n-tosses having a run of 3 or more heads or a run of 3 or more tails for a fair coin (i.e., probability is a(n)/2^n). • a(n) = 2 ^ n - 2 * Fi bonacci(n + 1). • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3). - _ G. C. Greu bel _ , Jun 27 2016 •

[**A265107**] • 0,1,2,6,16,38,92,222,536,1294,3124,7542,18208,43958,106124,256206,618536,1493278,3605092,8703462,21012016,50727494,122467004,295661502,713790008 ⋆ Expansion of (2*x^4+x^3+x)/(-x^2-2*x+1). • a(n) = ((1 + sq rt(2)) ^ n * (- 5 + 4 * sqrt(2)) + (1 - sqrt(2)) ^ n * (5 + 4 * sqrt(2))) / sqrt(2) for n>2. • a(n) = 2 * a(n - 1) + a(n - 2) for n>4. •

[**A046209**] • 1,1,2,6,16,38,104,270,726,1960,5368,14736,40880,113828,318848,896670,2532160,7174050,20390552,58112088,166037248,475467916,1364393896,3922624800,11297181456 ⋆ Number of ternary Lyndon words whose digits sum to 0 mod 3; also number of trace 0 irreducible polynomials over GF(3). • a(n) = 1 / (3 * n) * sum(d divides n, gcd(d, 3) * mu(d) * 3 ^ (n / d)). •

[**A273348**] • 2,6,16,39,92,211,476,1059,2332,5091,11036,23779,50972,108771,231196,489699,1034012,2177251,4572956,9582819,20039452,41826531,87148316,181287139,376555292 ⋆ The sum of the semiperimeters of the bargraphs of area n (n>=1). • a(n) = (15 * n2 ^ n + 29 * 2 ^ n - 2(- 1) ^ n - 18) / 36. •

[**A198951**] • 1,1,1,2,6,16,39,99,271,763,2146,6062,17359,50337,147057,431874,1275273,3786649,11298031,33846202,101762937,306997821,929038518,2819426688,8578433304 ⋆ G.f. satisfies: A(x) = (1 + x*A(x))*(1 + x^3*A(x)^3). • a (n) = 1 / (n + 1) * Sum _{ k = 0..floor(n / 3) } binomial(n + 1,k) * binomia l(n + 1,n - 3 * k). Applying Maple's sumrecursion command to this formula g ives the above recurrence of Kotesovec. •

[**A057711**] • 0,1,2,6,16,40,96,224,512,1152,2560,5632,12288,26624,57344,122880,262144,557056,1179648,2490368,5242880,11010048,23068672,48234496,100663296 ⋆ a(0)=0, a(1)=1, a(n) = n*2^(n-2) for n>=2. • a(n) = ceiling(n * 2 ^ (n - 2)). • a(0)=0, a(n) = n * (0 ^ (n - 1) + 2 ^ (n - 1)) / 2, n>0. a(n) = Su m _{ k=0..n } C(n, 2k + 1) * (2k + 1). E.g.f.: x * exp(x) * cosh(x). - _ Paul Barry _ , Apr 06 2003 • a(n) = n * 2 ^ (n - 2) - Sum _{ k=0..n } binomial(n, k) * k * (- 1) ^ k. G.f.: x * (1 - 2 * x + 2 * x ^ 2) / (1 - 2 * x) ^ 2. - _ Paul Barry _ , May 07 2004 • a(n + 1) = ceiling(binomial(n + 1,1) * 2 ^ (n - 1)). - _ Zerinvary Lajos _ , Nov 01 2006 • a(0)=0, a(1)=1, a(2)=2, a(3)=6, a(n + 1) = 4 * a(n) - 4 * a(n - 1) for n>=3. - _ Philippe Deléham _ , Feb 20 2013 •

[**A129952**] • 1,1,2,6,16,40,96,224,512,1152,2560,5632,12288,26624,57344,122880,262144,557056,1179648,2490368,5242880,11010048,23068672,48234496,100663296 ⋆ Binomial transform of A124625. • a(0) = 1, a(1) = 1; for n > 1, a(n) = n * 2 ^ (n - 2). •

[**A265278**] • 0,1,2,6,16,40,98,238,576,1392,3362,8118,19600,47320,114242,275806,665856,1607520,3880898,9369318,22619536,54608392,131836322,318281038,768398400 ⋆ Expansion of (x^4+x^3-x^2+x)/(x^3+x^2-3*x+1). • a(n) = (- 2 + (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n) / 2 for n>1. • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3) for n>4. •

[**A293004**] • 0,0,2,6,16,40,98,238,576,1392,3362,8118,19600,47320,114242,275806,665856,1607520,3880898,9369318,22619536,54608392,131836322,318281038,768398400 ⋆ Expansion of 2*x^2 / (x^3 + x^2 - 3x + 1). • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3) for n > 2. • a(n) = (- 2 + (1 - sqrt(2)) ^ n + (1 + sqrt (2)) ^ n) / 2. (End) •

[**A111281**] • 1,2,6,16,40,100,252,636,1604,4044,10196,25708,64820,163436,412084,1039020,2619764,6605420,16654772,41993004,105880308,266964460,673118772,1697188012,4279255412 ⋆ Number of permutations avoiding the patterns {2413,2431,4213,3412,3421,4231,4321,4312}; number of strong sorting class based on 2413. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3). •

[**A215340**] • 1,1,1,2,6,16,40,107,307,893,2597,7646,22878,69162,210402,644098,1984598,6149428,19143220,59840692,187781992,591343894,1868106990,5918537492,18800935948 ⋆ Expansion of series_reversion(x/(1 + sum(k>=1, x^A032766(k)))) / x. • a(n) = 1 / (n + 1) * Sum _{ k = 0..floor(n / 3) } bi nomial(n + 1, n - 3 * k) * binomial(n + k, n). - _ Peter Bala _ , Aug 02 2016 •

[**A102699**] • 1,1,2,6,16,42,104,252,592,1370,3112,6996,15536,34244,74832,162616,351136,754938,1615208,3443940,7314928,15493676,32714992,68918856,144815456 ⋆ Number of strings of length n, using as symbols numbers from the set {1, 2, ..., n}, in which consecutive symbols differ by exactly 1. • a(n) = (n + 1)2 ^ (n - 1) - 4(n - 1)binomial(n - 2,(n - 2) / 2) for n even, a(n) = (n + 1)2 ^ (n - 1) - (2n - 1)binomial(n - 1,(n - 1) / 2) for n odd. - _ Joseph Myers _ , Dec 23 2008 •

[**A156664**] • 1,2,6,16,42,108,274,688,1714,4244,10458,25672,62826,153372,373666,908896,2207842,5357348,12988074,31464568,76179354,184347564,445923058,1078290832,2606699026 ⋆ Binomial transform of A052551. • a(n) = - 2 ^ n + (1 - 1 / sqrt(2)) * (1 - sqrt(2)) ^ n + (1 + 1 / sqrt(2)) * (1 + sqrt(2)) ^ n. - _ Alexander R. Povolotsky _ , Aug 16 2012 • a(n + 3) = - 2 * a(n) - 3 * a(n + 1) + 4 * a(n + 2). - _ Alexander R. Povolotsky _ , Aug 16 2012 •

[**A111282**] • 1,2,6,16,42,110,288,754,1974,5168,13530,35422,92736,242786,635622,1664080,4356618,11405774,29860704,78176338,204668310,535828592,1402817466,3672623806,9615053952 ⋆ Number of permutations avoiding the patterns {1432,2431,3412,3421,4132,4231,4312,4321}; number of strong sorting class based on 1432. • a(n) = 3a(n - 1) - a(n - 2), n > 3. • a(n) = F(2n + 1) + F(2n - 2) + 0 ^ n. (End) •

[**A025169**] • 2,6,16,42,110,288,754,1974,5168,13530,35422,92736,242786,635622,1664080,4356618,11405774,29860704,78176338,204668310,535828592,1402817466,3672623806,9615053952,25172538050 ⋆ a(n) = 2*F(2*n+2), where F(n)=A000045(n) (the Fibonacci sequence). • a(n) = 3 * a(n - 1) - a(n - 2). • a(n) = Fibonacci(2 * n + 1) + Lucas(2 * n + 1). - _ Bruno Berselli _ , Oct 13 2017 •

[**A115730**] • 0,0,1,2,6,16,42,110,289,756,1980,5184,13572,35532,93025,243542,637602,1669264,4370190,11441306,29953729,78419880,205305912,537497856,1407187656 ⋆ a(n) = a(n-3)+A001654(n-1) with a(0)=0, a(1)=0 and a(2)=1.

• a(n) = - Floor[g[b[n + 1]] where b[n]=A000045[n], g[x]=(x ^ 2 - 1) ^ 2 / (- 4 * x ^ 2). •

[A217661] • 1,1,2,6,16,42,114,314,870,2426,6804,19168,54198,153730,437232,1246480,3560838,10190810,29212432,83860176,241051796,693709896,1998535892,5763312876,16635018146 ★ G.f.: Sum_{n>=0} x^n * Sum_{k=0..n} binomial(n,k)^2 * x^k/(1-x)^k. • a(n) = Sum _{ m=0..n } Sum _{ k=0,n - m } C(m,k) ^ 2 * C(n - m - 1,n - m - k). - _ Vladimir Kruchinin _ , Jan 16 2018 •

[A291142] • 0,1,2,6,16,43,114,300,784,2037,5266,13554,34752,88799,226210,574680,1456352,3682409,9292002,23403102,58842416,147713043,370262930,926852868,2317191024 ★ a(n) = (1/4)*A291024(n). • a(n) = 4 * a(n - 1) - 2 a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. • a(n) = ((1 + sqrt(2)) ^ n * (3 * sqrt(2) + 2 * (- 1 + sqrt(2)) * n) - (1 - sqrt(2)) ^ n * (3 * sqrt(2) + 2 * (1 + sqrt(2)) * n)) / 16. - _ Colin Barker _ , Aug 24 2017 •

[A027994] • 1,2,6,16,43,114,301,792,2080,5456,14301,37468,98137,256998,672946,1761984,4613239,12078110,31621701,82787980,216743836,567446112,1485598681,3889356696,10182482353 ★ (F(2n+3)-F(n))/2 where F() = Fibonacci numbers A000045. • a(n) = Sum { T(n, k) * T(n, n + k) } , 0<=k<=n, T given by A027926. • a(n) = (2 / 5) * Sum(k, 1, 4, Sin(2Pi * k / 5)Sin(3Pi * k / 5)(1 + 2Cos(Pi * k / 5)) ^ (n + 1)). - _ Herbert Kociemba _ , Jun 02 2004 •

[A002605] • 0,1,2,6,16,44,120,328,896,2448,6688,18272,49920,136384,372608,1017984,2781184,7598336,20759040,56714752,154947584,423324672,1156544512,3159738368,8632565760 ★ a(n) = 2*(a(n-1) + a(n-2)), a(0)=0, a(1)=1. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k) * 2 ^ (n - k). - _ Paul Barry _ , Jul 13 2004 • a(n) = ((1 + sqrt(3)) ^ n - (1 - sqrt(3)) ^ n) / (2 * sqrt(3)). • a(n) = Sum _{ k=0..n } binomial(n, 2 * k + 1) * 3 ^ k. • a(n) = (1 / 3) * Sum _{ k=1..5 } sin(Pi * k / 2) * sin(2 * Pi * k / 3) * (1 + 2 * cos(Pi * k / 6)) ^ n, n>=1. - _ Herbert Kociemba _ , Jun 02 2004 • a(n + 1) = ((3 + sqrt(3)) * (1 + sqrt(3)) ^ n + (3 - sqrt(3)) * (1 - sqrt(3)) ^ n) / 6. - Al Hakanson (hawkuu(AT)gmail.com), Jun 29 2009 • a(n) = 2 ^ (n - 1) * hypergeom([1 - n / 2, (1 - n) / 2], [1 - n], - 2)) for n>=3. - _ Peter Luschny _ , Dec 16 2015 •

[A105696] • 1,1,2,6,16,44,122,342,966,2746,7846,22514,64836,187288,542438,1574666,4580400,13347324,38956182,113861922,333226560,976353876,2863756158,8407877394,24707200854 ★ Expansion of (1-x)/sqrt((1-3*x)/(1+x)). • a(n) = Sum _{ k=0..floor(n / 2) } (2 * C(n - 2, k) * C(n - k, k)) - C(1, n). •

[A209629] • 2,6,16,44,134,468,1880,8534,42804,232972,1359186,8431288,55297064,381815026,2765949856,20960349828,165729870678,1364153874460,11665484934400,103448317519318,949739634410652,9013431481088948,88304011718557298,891917738606387792 ★ The number of partitions of the set [n] where each element can be colored 1 or 2 avoiding the patterns 1^12^2 and 1^22^1 in the pattern sense. • a(n) = 2 ^ n + 2 * (B(n) - 1), where B(n) is the n - th Bell number. •

[A026163] • 1,2,6,16,45,126,356,1008,2862,8140,23188,66144,188916,540216,1546560,4432512,12717513,36526626,105016686,302228080,870613689,2510249302,7244285436,20924179920,60487084775 ★ Sum{T(k,k-1)}, k = 1,2,...,n, where T is the array in A026148. • a(n) = - 4 * (- 3) ^ (1 / 2) * (- 1) ^ n * ((n ^ 3 + 11 * n ^ 2 + 48 * n + 45) * hypergeom([1 / 2, n + 2],[1],4 / 3) + (3 * n ^ 2 + 11 * n + 15) * hypergeom([1 / 2, n + 3],[1],4 / 3)) / ((n + 3) * (n + 5) * (n + 6) * (7 + n)) •

[A005717] • 1,2,6,16,45,126,357,1016,2907,8350,24068,69576,201643,585690,1704510,4969152,14508939,42422022,124191258,363985680,1067892399,3136046298,9217554129,27114249960,79818194925 ★ Construct triangle in which n-th row is obtained by expanding (1 + x + x^2)^n and take the next-to-central column. • a(n) = Sum _{ k=0..floor((n - 1) / 3) } (- 1) ^ k * binomial(n,k) * binomial(2n - 2 - 3k, n - 1). - _ David Callan _ , Jul 03 2006 • a(n) = Sum _{ k=0..floor((n - 1) / 2) } (2k + 1) * C(n,2k + 1) * C(k). • a(n) = Sum _{ k=0..n - 1 } (Sum _{ j=0..floor(k / 2) } C(k,2j) * C(2j + 1,j)). (End) • a(n) = Sum _{ i=0..floor(n / 2) } C(n + 1,n - i) * C(n - i,i). - _ Shanzhen Gao _ , Apr 20 2010 • a(n) = GegenbauerC(n, - n - 1, - 1 / 2). - _ Peter Luschny _ , May 07 2016 • a(n) = (- 1) ^ (n + 1) * n * hypergeom([3 / 2, 1 - n], [3], 4). - _ Vladimir Reshetnikov _ , Sep 28 2016 •

[A290953] • 1,2,6,16,45,136,434,1436,4869,16804,58795,208022,742911,2674452,9694858,35357684,129644805,477638716,1767263207,6564120438,24466267039,91482563660,343059613671,1289904147346,4861946401475 ★ The number of permutations in S_n for which the number of reduced words is maximized with respect to the numbers of braid and commutation classes: |R(w)| = |B(w)| * |C(w)|. • a(1) = 1 and a(n) = C(n) + n - 2 for n > 1, where C(n) is the n - th Catalan number. •

[A098617] • 1,2,6,16,46,128,364,1024,2902,8192,23188,65536,185420,524288,1483096,4194304,11863910,33554432,94908420,268435456,759257636,2147483648,6074027496,17179869184,48592102396 ★ G.f. A(x) satisfies: A(x*G(x)) = G(x), where G(x) is the g.f. for A098616(n) = Pell(n+1)*Catalan(n). • a(2 * n + 1) = 2 * 8 ^ n. • a(n) = 2 ^ n * sum(j=0..n / 2, binomial((n - 1) / 2,j)). - _ Vladimir Kruchinin _ , May 18 2011 •

[A291036] • 2,6,16,46,132,376,1074,3066,8752,24986,71328,203624,581298,1659462,4737360,13524006,38607732,110215648,314638754,898216794,2564189568,7320134930,20897197344,59656394448,170304435554 ★ p-INVERT of (1,0,0,1,0,1,0,1,0,1,...), where p(S) = 1 - 2 S - 2 S^2. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) for n >= 7. •

[A094039] • 0,1,2,6,16,46,132,386,1136,3366,10012,29866,89256,267086,799892,2396946,7185376,21545206,64613772,193797626,581305496,1743741726,5230875652,15691927906,47074385616 ★ Binomial transform of (Jacobsthal(n) + 2^n*Jacobsthal(-n))/2. • a(n) = 3 ^ n / 6 - (- 1) ^ n / 6 + 2 ^ n / 6 - 0 ^ n / 6. •

[A165431] • 1,2,6,16,46,132,388,1152,3462,10492,32036,98400,303756,941576,2928936,9138176,28584006,89609196,281466916,885620576,2790812196,8806560056,27823745016,88005102336,278637450396 ★ A transform of the central binomial coefficients. • a(n)=sum { k=0..n, C(n - k,k) * 2 ^ (n - 2k) * C(2k,k) } . • a(n) = 2 ^ n * hypergeom([1 / 2, 1 / 2 - n / 2, - n / 2],[1, - n], - 4) for n>=1. - _ Peter Luschny _ , Jul 28 2016 •

[A190729] • 1,1,1,2,6,16,46,176,722,2906,13106,66716,345676,1849992,1080215 6,66543296,418075036,2750329276,19145683612,137410493656,1012831509736,7785886770656,62105849642376,507682088621632,4271236045340056 ★ E.g.f. exp(x+1/6*x^3+1/24*x^4) • a(n)=n! * sum(k=0..n, sum(j=floor((n - k) / 3)..floor((n - k) / 2), binomial(j,n - k - 2 * j) * binomial(k,j) * 2 ^ (- 2 * n + 2 * k + 3 * j) * 3 ^ (- j)) / k!). •

[A151281] • 1,2,6,16,48,136,408,1184,3552,10432,31296,92544,277632,824448,2473344,7365120,22095360,65920000,197760000,590790656,1772371968,5299916800,15899750400,47578857472,142736572416 ★ Number of walks within N^2 (the first quadrant of Z^2) starting at (0,0) and consisting of n steps taken from {(-1, 0), (1, 0), (1, 1)}. • a(n) = sum { k=0..n, ((k + 1) / (n + k + 1)) * C(n,(n - k) / 2) * (1 + (- 1) ^ (n - k)) * 2 ^ ((n - k) / 2) * 2 ^ k } ; •

[A045694] • 1,2,6,16,48,138,414,1226,3678,10986,32958,98736,296208,888210,2664630,7992664,23977992,71930298,215790894,647361696,1942085088,5826222306,17478666918,52435902018,157307706054 ★ Number of ternary words of length n (beginning with 0) with autocorrelation function 2^(n-1). • a(2n) = 3 * a(2n - 1) - a(n) for n >= 1; a(2n + 1) = 3 * a(2n) for n >= 1. •

[A013989] • 1,2,6,16,50,156,532,1856,6876,26200,104456,428352,1821976,7959056,35857200,165592576,785514512,3812387616,18948962656,96194028800,498931946016,2638959243712,14234346694976 ★ a(n) = (n+1)*(a(n-1)/n + a(n-2)), with a(0)=1, a(1)=2. • a(n) = (n + 1) * (- i / sqrt(2)) ^ n * H _ n(i / sqrt(2)), where H _ n(x) is the Hermite polynomial. - _ Vladimir Reshetnikov _ , Nov 12 2016 •

[A214833] • 1,1,2,6,16,52,160,536,1796,6216,21752,77504,278720,1013184,3712128,13701204,50880808,190003808,712975648,2687114976,10167088608,38605365712,147060726688,561853414896,2152382687488 ★ Number of formula representations of n using addition, multiplication and the constant 1. • a(n) = Sum _{ i=1..n - 1 } a(i) * a(n - i) + Sum _{ d|n, 1<d<n } a(d) * a(n / d) for n>1, a(1)=1. [Corrected by _ M. F. Hasler _ , May 04 2017] •

[A068787] • 0,2,6,16,56,192,896,4096,17280,69632,270336,1048576,4130816,16515072,66584576,268435456,1077903360,4311744512,17213423616,68719476736,274609995776,1098437885952,4395899027456,17592186044416,70385915658240 ★ Number of strings over Z_4 of length n with trace 1 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 3, s + 3t + 1) + a(n - 1; t + 2, s + 2t) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A131385] • 1,2,6,16,60,144,672,1536,6480,19200,76032,165888,1048320,2257920,8294400,28311552,126904320,268738560,1470873600,3096576000,16094453760,51385466880,175814737920,366917713920,2717245440000 ★ Product ceiling(n/1)*ceiling(n/2)*ceiling(n/3)*...*ceiling(n/n) (the 'ceiling factorial'). • a(n) = Product _{ k=1..n } ceiling(n / k). • a(n) = Product _{ k=1..n - 1 } floor((n + k - 1) / k) for n>1. • a(n) = Product _{ k=1..n - 1 } ((k + 1) / k) ^ floor((n - 1) / k) for n>1. •

[A204450] • 0,2,6,17,30,177,417,1857,4302,19457,47731,203777,509769,2134017,5462701,22347777,58104062,234029057,616919457,2450784257,6533317815,25664946177,69085604341,268766806017,729558799305 ★ 2*A203579 - A204449. Difference between the exponential convolution of A000032 (Lucas) with itself and the corresponding exponential half-convolution. • a(n) = sum(binomial(n,k) * L(k) * L(n - k),k=floor(n / 2) + 1..n), n>=0, •

[A014833] • 1,1,1,2,6,17,43,100,220,467,969,1982,4018,8101,16279,32648,65400,130919,261973,524098,1048366,2096921,4194051,8388332,16776916 ★ 2^n - n(n+1)/2. • a(0)=1, a(1)=1, a(2)=1, a(3)=2, a(n)=5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) •

[A130104] • 0,1,2,6,17,43,100,220,467,969,1982,4018,8101,16279,32648,65400,130919,261973,524098,1048366,2096921,4194051,8388332,16776916,33554107 ★ Expansion of x(1-3x+5x^2-2x^3)/((1-x)^3*(1-2x)). • a(n)=2 ^ (n + 1) - C(n + 2,2) - 0 ^ n. •

[A020963] • 2,6,17,45,112,276,671,1627,3934,9506,22957,55433,133836,323120,780091,1883319,4546746,10976830,26500425,63977701,154455848,372889420,900234711,2173358867,5246952470 ★ Sum of Floor[2*(1+sqrt(2))^(n-k)] for k from 1 to infinity. • a(n) = 3 * a(n - 1) - 4 * a(n - 3) + a(n - 4) + a(n - 5) for n > 5 (conjectured). •

[A109961] • 1,1,2,6,17,45,117,305,798,2090,5473,14329,37513,98209,257114,673134,1762289,4613733,12078909,31622993,82790070,216747218,567451585,1485607537,3889371025 ★ Expansion of (1-x)^3/(1-4x+5x^2-4x^3+x^4). • a(n)= sum { k=0..floor(n / 2), binomial(n + 2k, 4k) } . • a(0)=1, a(1)=1, a(2)=2, a(3)=6, a(n)=4 * a(n - 1) - 5 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 11 2013 •

[A288029] • 1,2,6,17,45,120,324,873,2349,6322,17018,45809,123305,331904,893400,2404801,6473097,17423890,46900574,126244129,339816309,914696984,2462126012,6627401865,17839239445 ★ Number of minimal edge covers in the Kneser graph P_2 X P_n. • a(n) = 2 * a(n - 1) + a(n - 2) + 2 * a(n - 3) + a(n - 4) - a(n - 6) for n>6. •

[A190050] • 1,2,6,17,46,120,304,752,1824,4352,10240,23808,54784,124928,282624,634880,1417216,3145728,6946816,15269888,33423360,72876032,158334976,342884352,740294656 ★ Expansion of ((1-x)*(3*x^2-3*x+1))/(1-2*x)^3 • a(n) = (n ^ 2 + 5 * n + 10) * 2 ^ (n - 4) for n >=1 with a(0)=1. •

[A005592] • 1,2,6,17,46,122,321,842,2206,5777,15126,39602,103681,271442,710646,1860497,4870846,12752042,33385281,87403802,228826126,599074577,1568397606,4106118242,10749957121 ★ a(n) = F(2n+1) + F(2n-1) - 1. • a(n) = fl

oor(r ^ (2 * n)), where r = golden ratio = (1 + sqrt(5)) / 2. • a(n) = floor(Fibonacci(5 * n) / Fibonacci(3 * n)). - _ Gary Detlefs _ , Mar 11 2011 • a(n) = + 4 * a(n - 1) - 4 * a(n - 2) + 1 * a(n - 3). - _ Joerg Arndt _ , Mar 11 2011 • a(n) = 2 * cosh(2 * n * arcsinh(1 / 2)) - 1. - _ Ilya Gutkovskiy _ , Oct 31 2016 •

[A102403] • 1,1,1,2,6,17,46,128,372,1109,3349,10221,31527,98178,308179,973911,3096044,9894393,31770247,102444145,331594081,1077022622,3509197080,11466710630,37567784437 ★ Number of Dyck paths of semilength n having no ascents of length 2. • a(n) = 1 / n * Sum _{ j=ceiling((n + 2) / 3)..n } binomial(n,j) * binomial(3 * j - n - 2,j - 1) * (- 1) ^ (n - j), n>0. - _ Vladimir Kruchinin _ , Mar 07 2011 • a(n) is the upper left term in M ^ n, M = an infinite square production matrix as follows: •

[A136776] • 1,2,6,17,48,135,379,1063,2980,8352,23405,65584,183769,514919,1442785,4042614,11327182,31738101,88928244,249171491,698163131,1956209807,5481178344,15357920824,43031938457 ★ Number of primitive multiplex juggling sequences of length n, base state <1,1> and hand capacity 2. • a(1)=1, a(2)=2, a(3)=6, a(n) = 4 * a(n - 1) - 3 * a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Sep 17 2013 •

[A077936] • 1,2,6,17,48,136,385,1090,3086,8737,24736,70032,198273,561346,1589270,4499505,12738896,36066072,102109441,289089922,818464798,2317218881,6560457280,18573817120,52585767681 ★ Expansion of 1/(1 - 2*x - 2*x^2 - x^3). • a(n) = Sum _{ k=0..n } Sum _{ j=0..n - k } C(n - j,k) * C(2k,j). - _ Paul Barry _ , Mar 24 2009 • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + a(n - 3) with a(0) = 1, a(1) = 2, a(2) = 6. - _ Taras Goy _ , Aug 04 2017 •

[A052536] • 1,2,6,17,49,141,406,1169,3366,9692,27907,80355,231373,666212,1918281,5523470,15904198,45794313,131859469,379674209,1093228314,3147825473,9063802210,26098178316,75146709475 ★ Number of compositions of n when parts 1 and 2 are of two kinds. • a(n) = Sum(- (1 / 9) * (- 2 + r ^ 2 - r) * r ^ (- 1 - n)), r = RootOf(1 - 3 * x + x ^ 3). • a(0)=1, a(1)=2, a(2)=6, a(n) = 3 * a(n - 1) - a(n - 3) for n >= 3. - _ Emeric Deutsch _ , Apr 10 2005 •

[A026165] • 1,2,6,17,49,141,407,1177,3411,9904,28808,83931,244895,715534,2093262,6130767,17974779,52751358,154950378,455524203,1340182539,3945723033,11624603235,34268836707,101081770181 ★ Number of (s(0), s(1), ..., s(n)) such that every s(i) is a nonnegative integer, s(0) = 2, |s(1) - s(0)| = 1, |s(i) - s(i-1)| <= 1 for i >= 2. Also sum of numbers in row n+1 of the array T in A026148. • a(n) = Sum _{ k=0..n } binomial(n, k) * binomial(k + 1, floor(k / 2)). - _ Vladeta Jovovic _ , Sep 18 2003 •

[A270863] • 0,1,2,6,17,50,147,434,1282,3789,11200,33109,97878,289354,855413,2528850,7476023,22101326,65338038,193158521,571033600,1688143881,4990651642,14753839486,43616704857 ★ Self composition of the Fibonacci sequence. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) for n > 3, a(0)=0, a(1)=1, a(2)=2, a(3)=6. •

[A027914] • 1,2,6,17,50,147,435,1290,3834,11411,34001,101400,302615,903632,2699598,8068257,24121674,72137547,215786649,645629160,1932081885,5782851966,17311097568,51828203475,155188936431 ★ T(n,0) + T(n,1) + ... + T(n,n), T given by A027907. • a(n) = (1 / 2) * (Sum(k=0, n, binomial(n, k) * binomial(n - k, k)) + 3 ^ n); • a(n) = Sum(k=0, n, Sum(i=0, k, binomial(n, i) * binomial(n - i, k))); • a(n) = 3 ^ n / 2 * (1 + c / sqrt(n) + O(n ^- 1 / 2)) where c=0.5... (End) • a(n) = n! * Sum(i + j + k=n, 1 / (i! * j! * k!)) 0<=i <=n, 0<=k<=j<=n. - _ Benoit Cloitre _ , Mar 23 2004 • a(n) = [x ^ n](3 * x - 1 / (1 - x)) ^ n. • a(n) = (3 ^ n + GegenbauerC(n, - n, - 1 / 2)) / 2. - _ Peter Luschny _ , May 12 2016 •

[A098703] • 0,1,2,6,17,50,148,441,1318,3946,11825,35454,106328,318929,956698,2869950,8609617,25828474,77484812,232453449,697358750,2092073666,6276216817,18828643686,56485920112 ★ a(n) = (3^n + phi^(n-1) + (-phi)^(1-n)) / 5, where phi denotes the golden ratio A001622. • a(n) = (((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) / (2 ^ n * sqrt(5))) + ((3 ^ n - (((1 + sqrt(5)) / 2) ^ (n + 1) + ((1 - sqrt(5)) / 2) ^ (n + 1))) / 5); a(n) = (3 ^ n + (((1 + sqrt(5)) / 2) ^ (n - 1) + ((1 - sqrt(5)) / 2) ^ (n - 1))) / 5. • a(n) = 4a(n - 1) - 2a(n - 2) - 3a(n - 3). • a(0) = 0, a(1) = 1, a(n) = a(n - 1) + a(n - 2) + 3 ^ (n - 2) for n > 1. - _ Ross La Haye _ , Aug 20 2005 •

[A153773] • 1,2,6,17,51,152,456,1367,4101,12302,36906,110717,332151,996452,2989356,8968067,26904201,80712602,242137806,726413417,2179240251,6537720752,19613162256,58839486767,176518460301 ★ a(2*n) = 3*a(2*n-1) - 1, a(2*n+1) = 3*a(2*n), with a(1)=1. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). • a(n) = (5 * 3 ^ n + 6 - 3 * (- 1) ^ n) / 24. (End) •

[A059398] • 1,2,6,17,51,154,473,1464,4568,14332,45187,143024,454217,1446604,4618576,14777451,47371177,152110326,489165277,1575211177,5078690936,16392526502,52963765321,171282782902,554393341371 ★ Row sums of triangle in A059397. • a(n) = (1 / 2) * sum(binomial(2 * k,k) * (- 1) ^ (n - k + 1) * sum(binomial(i + k - 1,i) * binomial(i,n - k - i + 1),i=0..n - k + 1),k=0..n + 1). - _ Emanuele Munarini _ , May 05 2011 •

[A186239] • 1,1,2,6,17,51,163,533,1779,6055,20908,73052,257863,918139,3293538,11891778,43183835,157616827,577902846,2127539802,7861397403,29145629141,108385383175,404184619545,1511132059333 ★ G.f. A(x) satisfies A(x) = 1+x*A(x)+x^2*A(x)^2+2*x^3*A(x)^3. • a(n) = 1 / n * sum(j=0..n, C(n,j) * sum(i=j..n + j - 1, C(j,i - j) * C(n - j,3 * j - n - i - 1) * 2 ^ (3 * j - n - i - 1))), n>0. • a(n) is the top left term of M ^ n, M = an infinite matrix with (1,1,1,...) as diagonals starting at positions (1,2), (1,1), and (2,1); with a diagonal of (2,2,2,...) starting at (3,1). - Gary W. Adamson, Nov 25 2011 •

[A097514] • 1,1,1,2,6,17,53,205,871,3876,18820,99585,558847,3313117,20825145,138046940,959298572,6974868139,52972352923,419104459913,3446343893607,29405917751526,259930518212766,2376498296500063,22441988298860757 ★ Number of partitions of an n-set without blocks of size 2. • a(n) = Sum _{ k=0..floor(n / 2) } (- 1) ^ k * binomial(n, 2 * k) * (2 * k - 1)!! * Bell(n - 2 * k). E.g.f.: exp(exp(x) - 1 - x ^ 2 / 2). More generally, e.g.f. for number of partitions of an n - set which contain exactly q blocks of size p is x ^ (p * q) / (q! * p! ^ q) * exp(exp(x) - 1 - x ^ p / p!). •

[A064842] • 0,2,6,18,36,66,106,162,232,322,430,562,716,898,1106,1346,1616,1922,2262,2642,3060,3522,4026,4578,5176 ★ Maximal value of sum([p(i)-p(i+1)]^2,i=1..n), where p(n+1)=p(1), as p ranges over all permutations of {1,2,...,n}. • a(n) = (2 * n ^ 3 - 8 * n + 3 * (- 1) ^ n + 9) / 6. - _ Luce ETIENNE _ , Jul 08 2014 •

[A230137] • 0,2,6,18,44,110,252,588,1304,2934,6380,14036,30120,65260,138712,297240,627248,1332902,2796876,5904516,12333320,25899972,53897096,112693928,233776464 ★ a(n)/2^n is the expected value of the maximum of the number of heads and the number of tails when n fair coins are tossed. • a(2n) = 2 * Sum _{ k=n + 1..2n } binomial(2n,k) * k + binomial(2n,n) * n. • a(2n + 1) = 2 * Sum _{ k=n + 1..2n + 1 } binomial(2n + 1,k) * k. • a(n) = 2 * n / (n - 1) * a(n - 1) + 4 * (n - 3) / (n - 2) * a(n - 2) - 8 * a(n - 3) for n>2, else a(n) = n * (1 + n). - _ Alois P. Heinz _ , Oct 10 2013 •

[A120414] • 0,1,2,6,18,45,102,213,426,821,1538,2820,5075,8996,15743,27247,46709,79405,133996,224640,374400 ★ Conjectured Ramsey number R(n,n). • a(n) = ceil((3 / 2) ^ (n - 3) * n * (n - 1)), for n > 1. •

[A140960] • 0,0,2,6,18,46,114,270,626,1422,3186,7054,15474,33678,72818,156558,334962,713614,1514610,3203982,6757490,14214030,29826162,62448526,130489458 ★ a(n) = (2*(-1)^n-2^(n+1)+3*n*2^n)/9. • a(n) = 3 * a(n - 1) - 4 * a(n - 3), n>2. •

[A062026] • 0,2,6,18,50,120,252,476,828,1350,2090,3102,4446,6188,8400,11160,14552,18666,23598,29450,36330,44352,53636,64308,76500 ★ a(n) = n(n+1)(n^2 -3n +6)/4 • a(0)=0, a(1)=2, a(2)=6, a(3)=18, a(4)=50, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 22 2015 •

[A048495] • 1,2,6,18,50,130,322,770,1794,4098,9218,20482,45058,98306,212994,458754,983042,2097154,4456450,9437186,19922946,41943042,88080386,184549378,385875970 ★ (n-1)*2^n + 2. • a(n) - 1 = sum(i=0..n - 1, (n - i) * 2 ^ (n - i - 1)) = n * 2 ^ (n - 1) + (n - 1) * 2 ^ (n - 2) + (n - 2) * 2 ^ (n - 3) + ... + 1 * (2 ^ 0). - Matthew Erbst (matt(AT)erbst.org), Apr 19 2006 • a(n) = a(n - 1) + (2 ^ n - 2 ^ (n - 1)) * n = a(n - 1) + n * 2 ^ (n - 1). - _ Olivier Gérard _ , Feb 25 2014. •

[A196593] • 1,2,6,18,51,134,328,758,1677,3594,7530,15530,31687,64190,129420,260142,521889,1045730,2093806,4190402,8384091,16772022,33548496,67102118,134210101 ★ Number of fixed tree-like convex polyominoes. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5). • a(n) = 2 ^ (n + 2) - (n ^ 3 - n ^ 2 + 10 * n + 4) / 2. •

[A078484] • 0,1,2,6,18,52,148,420,1192,3384,9608,27280,77456,219920,624416,1772896,5033760,14292288,40579904,115217984,327136896,928835456,2637230208,7487852800,21260161280 ★ G.f.: -x*(1-2*x+2*x^2)/(2*x^3-4*x^2+4*x-1). • a(0)=0, a(1)=1, a(2)=2, a(3)=6, a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Jul 21 2012 •

[A077835] • 1,2,6,18,52,152,444,1296,3784,11048,32256,94176,274960,802784,2343840,6843168,19979584,58333184,170311872,497249280,1451788672,4238699648,12375475200,36131927040,105492203776 ★ Expansion of 1/(1-2*x-2*x^2-2*x^3). • a(n)=sum { k=0..n, T(n - k, k)2 ^ (n - k) } , T(n, k) = trinomial coefficients (A027907). - _ Paul Barry _ , Feb 15 2005 • a(n)=sum { k=0..n, sum { i=0..floor((n - k) / 2), C(n - k - i, i)C(k, n - k - i) }* 2 ^ k } - _ Paul Barry _ , Apr 26 2005 • a(n)= 2 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) [From _ Geoffrey Critzer _ , Feb 07 2009] •

[A160175] • 1,2,6,18,54,160,476,1416,4212,12528,37264,110840,329688,980640,2916864,8676064,25806512,76760160,228319200,679123872,2020019488,6008445440,17871816000,53158809600,158118181056 ★ Expansion of 1/(1-2x-2x^2-2x^3-2x^4) • a(n)=2(a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4)) •

[A025192] • 1,2,6,18,54,162,486,1458,4374,13122,39366,118098,354294,1062882,3188646,9565938,28697814,86093442,258280326,774840978,2324522934,6973568802,20920706406,62762119218,188286357654 ★ a(0)=1 and a(n)=2*3^(n-1) for n >= 1. • a(0) = 1, a(n) = sum _{ k=0..n - 1 } (a(k) + a(n - k - 1)). - _ Benoit Cloitre _ , Jun 24 2003 • a(1) = 2, a(n) = 3 * a(n - 1). - _ Vincenzo Librandi _ , Jan 01 2011 • a(n) = LCM(a(n - 1), sum _{ k=1..n - 1 } a(k) for n >= 3. - _ David W. Wilson _ , Sep 27 2011 • a(n) = ((2 * n - 1) * a(n - 1) + (3 * n - 6) * a(n - 2)) / (n - 1); a(0)=1, a(1)=2. - _ Sergei N. Gladkovskii _ , Jul 16 2012 •

[A008776] • 2,6,18,54,162,486,1458,4374,13122,39366,118098,354294,1062882,3188646,9565938,28697814,86093442,258280326,774840978,2324522934,6973568802,20920706406,62762119218,188286357654,564859072962 ★ Pisot sequences E(2,6), L(2,6), P(2,6), T(2,6). • a(n) = 2 * 3 ^ n; a(n) = 3a(n - 1). • a(n - 1) = phi(3 ^ n). - _ Artur Jasinski _ , Nov 19 2008 •

[A238236] • 1,2,6,18,55,169,520,1601,4930,15182,46754,143983,443409,1365520,4205249,12950466,39882198,122821042,378239143,1164823609,3587185688,11047081345,34020543362,104769516446,322647744322 ★ Expansion of (1-x-x^2)/((x-1)*(x^3+3*x^2+2*x-1)). • a(n) = 3 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4), a(0) = 1, a(1) = 2, a(2) = 6, a(3) = 18. •

[A291730] • 2,6,18,56,168,510,1544,4680,14176,42952,130128,394252,1194456,3618840,10963960,33217424,100638528,304903688,923764032,2798719872,8479257216,25689531840,77831351040,235804967056,714416256800 ★ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = 1 - 2 S - 2 S^2. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) + 4 * a(n - 4) + 2 * a(n - 6) for n >= 7. •

[A291228] • 2,6,18,56,170,522,1594,4880,14922,45654,139642,427176,1306690,3997146,12227058,37402144,114411538,349980390,1070575586,3274847512,10

017625050,30643508586,93737246762,286738430256,877121205338 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - 2 S - 2 S^2. ● a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n >= 5. ●

[A275857] ● 1,2,6,18,56,175,548,1717,5381,16865,52859,165674,519267,1627524,5101104,15988252,50111546,157063265,492279150,1542937247,4835986551,15157302067,47507122597,148900291588,466694163381 ★ a(n) = floor(c*s*a(n-1)) + floor(d*r*a(n-2)), where r = (1+sqrt(5))/2, s = r/(r-1), c = 1, d = 1, a(0) = 1, a(1) = 2. ● a(n) = floor(s * a(n - 1)) + floor(r * a(n - 2)), where r = (1 + sqrt(5)) / 2, s = r / (r - 1). ●

[A111961] ● 1,2,6,18,56,176,558,1778,5686,18230,58558,188366,606588,1955044,6305418,20347342,65689088,212146400,685342218,2214556478,7157409064,23136645472,74801223162,241863933094,782131232390 ★ Expansion of 1/(sqrt(1-2x-3x^2)-x). ● a(n)=sum { k=0..n, sum { j=0..n, C(n, j) * C((j - 1) / 2, (j - k) / 2) * 2 ^ (j - k) * (1 + (- 1) ^ (j - k)) / 2 }} ● a(n)=sum { k=0..n, F(k + 1) * sum { i=0..floor((n - k) / 2), C(n, i)C(n - i, i + k) / (i + k + 1) }} . - _ Paul Barry _ , Sep 23 2005 ●

[A071721] ● 1,2,6,18,56,180,594,2002,6864,23868,83980,298452,1069776,3863080,14040810,51325650,188574240,695987820,2579248980,9593714460,35804293200,134032593240,503154100020,1893689067348,7144084508256 ★ Expansion of (1+x^2*C^2)*C^2, where C = (1-(1-4*x)^(1/2))/(2*x) is g.f. for Catalan numbers, A000108. ● a(n) = 6n * (2n)! / [(n + 2)n!(n + 1)!], n>0. In terms of Catalan numbers (A000108), a(n) = 6n * Cat(n) / (n + 2), n>0. - _ Ralf Stephan _ , Mar 11 2004 ● a(n) = n * (n + 1) * hypergeom([1 - n, 2 - n], [4], 1) for n>=1. - _ Peter Luschny _ , Nov 19 2014 ●

[A125306] ● 1,1,2,6,18,56,182,607,2064,7132,24970,88383,315748,1137014,4122762,15039631,55157790,203255438,752190764,2794352648,10417047964,38956725596,146108755556,549442692378,2071236137154 ★ Number of 123-segmented permutations of length n. ● a(n) = sum(sum((2 * k + i + 1) / (n - k + i + 1) * binomial(k - 1,k - i) * binomial(2 * n - 4 * k + i,n - 3 * k),i=0..k),k=0..floor(n / 3)); generating function = 1 + (C(x) - 1) / (1 - x / (1 + x ^ 2) * (C(x) - 1)) in which C(x) is the ogf for the Catalan numbers. ●

[A104629] ● 1,2,6,18,57,186,622,2120,7338,25724,91144,325878,1174281,4260282,15548694,57048048,210295326,778483932,2892818244,10786724388,40347919626,151355847012,569274150156,2146336125648,8110508473252 ★ Expansion of (1-2x-sqrt(1-4x))/(1+2x+sqrt(1-4x))/x^2. ● a(n)=(1 + sum { k=0..n + 2, C(k)(- 2) ^ k }) / (8(- 2) ^ n). ●

[A125305] ● 1,1,2,6,18,57,190,654,2306,8290,30272,111973,418666,1579803,6008464,23009240,88645034,343334976,1336105472,5221667740,20485272152,80645855014,318489386884,1261428593649,5009356014722 ★ Number of 132-segmented permutations of length n. ● a(n) = sum(binomial(n - 2 * k,k) * catalan(n - 2 * k),k=0..floor(n / 3)); generating function = C(x + x ^ 3), where C(x) is the generating function for the Catalan numbers. ●

[A081057] ● 1,2,6,18,58,186,602,1946,6298,20378,65946,213402,690586,2234778,7231898,23402906,75733402,245078426,793090458,2566494618,8305351066,26876680602,86974765466,281456253338,910811568538 ★ E.g.f.: Sum_{n>=0} a(n)*x^n/n! = {Sum_{n>=0} F(n+1)*x^n/n!}^2, where F(n) is the n-th Fibonacci number. ● a(n) = 2 / 5 + (3 / 10 - 1 / 10 * 5 ^ (1 / 2)) * (1 - 5 ^ (1 / 2)) ^ n + (3 / 10 + 1 / 10 * 5 ^ (1 / 2)) * (1 + 5 ^ (1 / 2)) ^ n. Recurrence: a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3). G.f.: (1 + x) * (1 - 2 * x) / (1 - 2 * x - 4 * x ^ 2) / (1 - x). - _ Vladeta Jovovic _ , Mar 05 2003 ● a(n) = sum { k=0..n } (F(k + 1) * F(n - k + 1) * C(n,k)), where F(k) = Fibonacci A000045. - _ David Scambler _ , Oct 17 2010 ●

[A193777] ● 1,2,6,18,58,190,642,2206,7746 ★ Number of signed permutations of size 2n invariant under D and D'bar and avoiding (-2, 1) and (2, -1). ● a(n) = 2a(n - 1) + n a(n - 2) - \ sum _{ j=1 }^{ k - 3 } j a(j) |S _{ k - j - 3 }^ D|, ●

[A293067] ● 0,0,2,6,18,58,194,658,2242,7650,26114,89154,304386,1039234,3548162,12114178,41360386,141213186,482131970,1646101506,5620142082,19188365314,65513177090,223675977730,763677556738 ★ Sum of values of vertices of type A at level n of the hyperbolic Pascal pyramid PP_(4,5). ● a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 2 * a(n - 3), n >= 3. ● a(n) = (4 + (2 + sqrt(2)) ^ n * (- 4 + 3 * sqrt(2)) - (2 - sqrt(2)) ^ n * (4 + 3 * sqrt(2))) / 2 for n>0. ●

[A085139] ● 1,1,2,6,18,58,194,670,2370,8546,31298,116102,435346,1647418,6283394,24130174,93226242,362098050,1413098370,5538138182,21788069266,86016385274,340655956802,1353023683486,5388230857538 ★ a(0)=1, for n>0: a(n)=(1/2) Sum(Sum(a(j)a(i-j), (j=0..i)) (1+(-1)^(n+1+i)), (i=0..n)). ● a(n)=sum { k=0..floor(n / 2), C(n - k,k)C(n - 2k) }- sum { k=0..,floor((n - 2) / 2), C(n - k - 2,k)C(n - 2k - 2) } ; [From _ Paul Barry _ , Nov 30 2008] ●

[A036675] ● 1,1,2,6,18,59,198,690,2450,8878,32632,121518,457262,1736526,6646340,25613086,99298674,387021728,1515594560,5960406102,23530528512,93216984177,370450977206,1476458287082,5900150928510 ★ G.f. satisfies A(x) = 1 + x*A(x)^2*A(x^2). ● a(n) = T(2 * n + 1,1), where T(n,m) = sum(i=1..n - m, (m * binomial(m + 2 * i - 1,i)) / (m + i) * ((1 + (- 1) ^ (n - m)) / 2) * T((n - m) / 2,i)), n>m, T(n,n)=1. - _ Vladimir Kruchinin _ , Mar 18 2015 ●

[A005566] ● 1,2,6,18,60,200,700,2450,8820,31752,116424,426888,1585584,5889312,22084920,82818450,312869700,1181952200,4491418360,17067389768,65166397296,248817153312,953799087696,3656229836168,14062422446800 ★ Number of walks of length n on square lattice, starting at origin, staying in first quadrant. ● a(n) = binomial(n, floor(n / 2)) * binomial(n + 1, floor((n + 1) / 2)). ●

[A057693] ● 1,1,2,6,18,66,276,1212,5916,31068,171576,1014696,6319512,41143896,281590128,2007755856,14871825936,114577550352,913508184096,7526682826848,64068860545056,561735627038496,5068388485760832,47026385852423616,447837548306401728 ★ Number of permutations on n letters that have only cycles of length 3 or less. ● a(n) = sum(binomial((n, 3 * j) * (3 * j)! * (1 / 3) ^ j / j! * sum(binomial(n - 3 * j, 2 * k) * (2 * k)! * (1 / 2) ^ k / k!, k=0..floor((n - 3 * j) / 2)), j=0..floor(n / 3))) ● a(n) = a(n - 1) + (n - 1) * a(n - 2) + (n - 1)(n - 2) * a(n - 3). Generally, for n - permutations that have only cycles of length k or less the recurrence is: a(n)=Sum _ i=0...k - 1;P(n - 1,i) * a(n - i - 1) where P(x,i) is the falling factorial. - _ Geoffrey Critzer _ , May 23 2009 ●

[A000138] ● 1,1,2,6,18,90,540,3780,31500,283500,2835000,31185000,372972600,4848643800,67881013200,1018215198000,16294848570000,277012425690000,4986223662420000,94738249585980000,1894745192712372000 ★ E.g.f. exp(-x^4/4)/(1-x). ● a(n) = n! * sum i=0 ... [n / 4]((- 1) ^ i / (i! * 4 ^ i)); a(n) / n! ~ sum i >= 0 (- 1) ^ i / (i! * 4 ^ i) = e ^ (- 1 / 4); a(n) ~ e ^ (- 1 / 4) * n!; a(n) ~ e ^ (- 1 / 4) * (n / e) ^ n * sqrt(2 * Pi * n). - Avi Peretz (njk(AT) netvision.net.il), Apr 22 2001 ● a(n,k) = n! * floor(floor(n / k)! * k ^ floor(n / k) / exp(1 / k) + 1 / 2) / (floor(n / k)! * k ^ floor(n / k)), here k=4, n>=0 . _ Simon Plouffe _ , from old notes, 1993 ●

[A213400] ● 0,0,0,2,6,19,29,52,81,116,159,223,282,366,462,568,688,841,987,1170,1371,1586,1821,2101,2372 ★ Number of (w,x,y) with all terms in {0,...,n} and w < R < 2*w, where R = range{w,x,y} = max(w,x,y)-min(w,x,y). ● a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) - a(n - 6) + 2 * a(n - 7) + 2 * a(n - 8) - a(n - 10). ●

[A282080] ● 1,2,6,19,38,60,100,170,255,350,490,693,924,1176,1512,1956,2445,2970,3630,4455,5346,6292,7436,8814,10283 ★ Number of n-element subsets of [n+4] having an even sum. ● a(n) = (2 * (1 + n) * (2 + n) * (3 + n) * (4 + n) + 3 * (- i * (- i) ^ n * ((3 + 8 * i) + (4 + 6 * i) * n + (1 + i) * n ^ 2) + i ^ n * ((8 + 3 * i) + (6 + 4 * i) * n + (1 + i) * n ^ 2))) / 96 where i=sqrt(- 1). - _ Colin Barker _ , Feb 06 2017 ●

[A273180] ● 1,2,6,19,38,102,307,614,1638,4915,9830,26214,78643,157286,419430,1258291,2516582,6710886,20132659,40265318,107374182,322122547,644245094,1717986918,5153960755 ★ Numbers n such that ror(n) + rol(n) is a power of 2, where ror(n)=A038572(n) is n rotated one binary place to the right, rol(n)=A006257(n) is n rotated one binary place to the left. ● a(n) = 17 * a(n - 3) - 16 * a(n - 6) for n>6. ●

[A214948] ● 1,2,6,19,51,148,395,1095,2945,8020,21597,58518,157746,426250,1149832,3104236,8375167,22603530,60988687,164579663,444082316,1198312390,3233419264,8724918311,23542640336 ★ a(n) is the sum over all proper integer partitions of n of the previous terms. ● a(n) = sum(sum(a(i), i in p) , p in P * (n)) where P * (n) is the set of all integer partitions of n excluding { n } , p is a partition of P * (n), i is a part of p. ●

[A077834] ● 1,2,6,19,56,168,505,1514,4542,13627,40880,122640,367921,1103762,3311286,9933859,29801576,89404728,268214185,804642554,2413927662,7241782987,21725348960,65176046880,195528140641 ★ Expansion of 1/(1 - 2*x - 2*x^2 - 3*x^3). ● a(n) = sum _{ k=0..n } (3 ^ k * 2 * sqrt(3) * cos(2 * Pi * (n - k) / 3 + Pi / 6) / 3). ● a(n) = 3 ^ (n + 2) / 13 + 2 * sqrt(3) * cos(2 * Pi * n / 3 + Pi / 6) / 39 + 2 * sqrt(3) * sin(2 * Pi * n / 3 + Pi / 3) / 13. ● a(0) =1, a(1)=2, a(2)=6, a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3). - _ Harvey P. Dale _ , Jan 31 2012 ● a(n) = 1 / 52 * (4 * 3 ^ (n + 2) + (- 1) ^ n * (2 * (- 1) ^ floor(n / 3) + 9 * (- 1) ^ floor((1 + n) / 3) + 6 * (- 1) ^ floor((n + 2) / 3) + (- 1) ^ floor((n + 4) / 3))). - _ John M. Campbell _ , Dec 23 2016 ●

[A111277] ● 1,1,2,6,19,59,180,544,1637,4917,14758,44282,132855,398575,1195736,3587220,10761673,32285033,96855114,290565358,871696091,2615088291,7845264892,23535794696,70607384109 ★ Number of permutations avoiding the patterns {2413,4213,2431,4231,4321}; also number of permutations avoiding the patterns {3142,3412,3421,4312,4321}; number of weak sorting class based on 2413 or 3142. ● a(n) = (3 ^ n - 2 * n + 3) / 4. ● a(n) = + 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). - _ R. J. Mathar _ , Jun 25 2011 ● a(n + 1) = sum of row 1 terms of M ^ n, an infinite bidiagonal matrix with all 1's in the super diagonal and (1,3,0,0,0,...) in the main diagonal, and the rest zeros. Example: a(5) = 59 = (sum of row 1 terms of M ^ 4) = (1 + 40 + 13 + 4 + 1). - _ Gary W. Adamson _ , Jun 23 2011 ●

[A208481] ● 1,2,6,19,60,188,589,1846,5786,18135,56840,178152,558377,1750106,5485310,17192459,53885860,168892996,529356757,1659148590,5200224626,16298923631,51085276240,160115201936,501844754065 ★ Diagonal sums of triangle A185384. ● a(n) = sum(binomial(n - k,k) * F(2n - 3k + 1), k=0..floor(n / 2)), where F(n) are the Fibonacci numbers (A000045). ●

[A204200] ● 1,1,2,6,19,60,189,595,1873,5896,18560,58425,183916,578949,1822473,5736961,18059374,56849086,178955183,563332848,1773314929,5582216355,17572253481,55315679788,174128175064 ★ INVERT transform of [1, 0, 1, 3, 9, 27, 81, ...]. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A052544] ● 1,2,6,19,60,189,595,1873,5896,18560,58425,183916,578949,1822473,5736961,18059374,56849086,178955183,563332848,1773314929,5582216355,17572253481,55315679788,174128175064,548137914373 ★ Expansion of (1-x)^2/(1-4x+3x^2-x^3). ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ● a(n) = Sum _{ k=0..n } binomial(n + 2 * k, 3 * k), - Richard Ollerton (r.ollerton(AT)uws.edu.au), May 12 2004 ● a(n) = hypergeom([(n + 1) / 2, n / 2 + 1, - n], [1 / 3, 2 / 3], - 4 / 27). - _ Peter Luschny _ , Nov 03 2017 ●

[A001169] ● 1,2,6,19,61,196,629,2017,6466,20727,66441,212980,682721,2188509,7015418,22488411,72088165,231083620,740754589,2374540265,7611753682,24400004911,78215909841,250726529556,803721298537 ★ Number of board-pile polyominoes with n cells. ● a(n) = 5a(n - 1) - 7a(n - 2) + 4a(n - 3) for n >= 5. ● a(n) = sum(k=0..n - 1, sum(i=0..k, binomial(k,i) * binomial(n + 2 * i - 1,4 * k - i))). - _ Emanuele Munarini _ , May 19 2011 ●

[A018906] ● 2,6,19,61,196,630,2026,6516,20957,67403,216786,697242,2242518,7212542,23197479,74609345,239963764,771788146,2482278709,7983677414,25

677658524,82586271099,265619708576,854304579262,2747673800490 ★ Define the Shallit sequence S(a_0,a_1) by a_{n+2} is the least integer > a_{n+1}^2/a_n for n >= 0. This is S(2,6). • a(n) = [a(n - 1) ^ 2 / a(n - 2) + 1]. •

[A014010] • 2,6,19,61,196,630,2026,6516,20957,67403,216786,697242,2242518,7212542,23197479,74609345,239963764,771788146,2482278710,7983677420,25677658553,82586271223,265619709074,854304581182,2747673807690 ★ Linear recursion relative of Shallit sequence S(2,6). • a(n) = 3 * a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - 3 * a(n - 5). •

[A138747] • 1,1,1,2,6,19,61,197,637,2060,6662,21545,69677,225337,728745,2356778,7621874,24649315,79716449,257804821,833746693,2696355892,8720076682,28200927617,91202445513 ★ a(n) = 4*a(n-1) - 3*a(n-2) + 2*a(n-3) - 1*a(n-4). • a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 1 * a(n - 4); a>4. Let X = the 4 X 4 matrix [0,1,0,0; 0,0,1,0; 0,0,0,1; - 1,2, - 3,4]. X ^ n * [1,1,1,1] = [a(n), a(n + 1), a(n + 2), a(n + 3)]. •

[A052975] • 1,2,6,19,61,197,638,2069,6714,21794,70755,229725,745889,2421850,7863641,25532994,82904974,269190547,874055885,2838041117,9215060822,29921113293,97153242650,315454594314,1024274628963 ★ Expansion of (1-2x)(1-x)/(1-5x+6x^2-x^3). • a(n) = sum(1 / 7 * (2 - 3 *_ alpha +_ alpha ^ 2) *_ alpha ^ (- 1 - n), _ alpha=RootOf(- 1 + 5 *_ Z - 6 *_ Z ^ 2 +_ Z ^ 3)) • a(n) = (2 / 7) * Sum(r=1..6, sin(r * 3 * Pi / 7) ^ 2 * (2 * cos(r * Pi / 7)) ^ (2 * n)); a(n) = 5 * a(n - 1) - 6 * a(n - 2) + a(n - 3). - _ Herbert Kociemba _ , Jun 11 2004 • a(n) = 2 ^ n * A(n;1 / 2)=(1 / 7) * (s(2) ^ 2 * c(4) ^ (2n) + s(4) ^ 2 * c(1) ^ (2n) + s(1) ^ 2 * c(2) ^ (2n)), where c(j):=2 * cos(2Pi * j / 7) and s(j):=2 * Sin(2Pi * j / 7). Here A(n;d), n \ in N, d \ in C denotes the respective quasi - Fibonacci number - see A121449 and Witula - Slota - Warzynski paper for details (see also A094789, A085810, A077998, A006054, A121442). I note that my and the respective Herbert Kociemba's formulas are "compatible". - _ Roman Witula _ , Aug 09 2012 •

[A035929] • 0,1,1,1,2,6,19,61,200,670,2286,7918,27770,98424,351983,1268541,4602752,16799894,61642078,227239086,841230292,3126039364,11656497518,43601626146,163561902392 ★ Number of Dyck n-paths starting U^mD^m (an m-pyramid), followed by a pyramid-free Dyck path. • a(n), n>0; is the upper left term in M ^ (n - 1), where M is the infinite square production matrix: •

[A071646] • 1,2,6,19,61,201,672,2269,7723,26452,91058,314766,1091884,3798900,13251136,46325285,162268775,569385098,2001012474,7042014879,24813529581,87533417037,309107111536,1092585807044,3865270781236 ★ Number of base 4 n-digit numbers with digit sum n. • a(n)=[x ^ n] (1 + x + x ^ 2 + x ^ 3) ^ n - (1 + x + x ^ 2 + x ^ 3) ^ (n - 1). - _ Michael Somos _ , Jul 19 2002 • a(n) * 790 * (2 * n ^ 2 - n) = a(n - 1) * (- 16328 * n ^ 4 + 137200 * n ^ 3 - 400977 * n ^ 2 + 489925 * n - 207450) + a(n - 2) * (44902 * n ^ 4 - 399751 * n ^ 3 + 1267117 * n ^ 2 - 1672482 * n + 769980) + a(n - 3) * 4 * (n - 3) * (8164 * n ^ 3 - 52272 * n ^ 2 + 115397 * n - 81223) + a(n - 4) * 16 * (n - 4) * (n - 3) * (4082 * n ^ 2 - 11849 * n + 8529), n>2. - _ Michael Somos _ , Jul 19 2002 • a(n) = sum(k=1..n, (sum(j=0..k, binomial(j,n - 3 * k + 2 * j) * binomial(k,j))) * binomial(n - 1,n - k)). [_ Vladimir Kruchinin _ , Nov 07 2013] •

[A094817] • 2,6,19,62,206,692,2340,7944,27032,92112,314128,1071776,3657824,12485696,42623040,145512576,496787840,1696093440,5790732544,19770612224,67500721664,230461137920,786842059776,2686443866112 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 8 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 3, s(2n) = 3. • a(n) = (1 / 4) * sum(r=1..7, sin(3 * r * Pi / 8) ^ 2 * (2 * cos(r * Pi / 8)) ^ (2 * n)). • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3), n>=4. •

[A094831] • 1,2,6,19,62,207,703,2417,8382,29242,102431,359790,1266103,4460939,15730497,55500634,195890270,691566411,2441886670,8623112591,30453261927,107553444913,379864424726,1341658806066,4738726458775 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 3, s(2n) = 3. • a(n) = (2 / 9) * Sum _{ r=1..8 } (sin(r * Pi / 3) ^ 2 * (2 * cos(r * Pi / 9)) ^ (2 * n)). • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + a(n - 3). •

[A033193] • 1,2,6,19,62,207,704,2430,8486,29903,106098,378391,1354700,4863834,17499302,63055947,227465414,821215295,2966571096,10721076118,38757594758,140143505031,506827217210,1833150646599 ★ Binomial transform of A033192. • a(n)=(1 / 5) * Sum(r, 1, 9, Sin(3 * r * Pi / 10) ^ 2(2Cos(r * Pi / 10)) ^ (2n)), n>=1 - _ Herbert Kociemba _ , Jun 16 2004 •

[A026012] • 1,2,6,19,62,207,704,2431,8502,30056,107236,385662,1396652,5088865,18642420,68624295,253706790,941630580,3507232740,13105289370,49114150020,184560753390,695267483664,2625197720454,9933364416572 ★ Second differences of Catalan numbers A000108. • a(n) = 3 * (3 * n ^ 2 + 3 * n + 2) * binomial(2 * n, n) / ((n + 1) * (n + 2) * (n + 3)). - _ Emeric Deutsch _ , Oct 26 2003 • a(n) = binomial(2 * n,n) / (n + 1) * hypergeom([- 2,n + 1 / 2],[n + 2],4). - _ Peter Luschny _ , Aug 15 2012 • a(n) = binomial(2 * n,n) - binomial(2n,n - 3). - _ Mark Spindler _ , Nov 11 2012 •

[A191993] • 2,6,19,62,207,705,2445,8622,30871,112061,411765,1529225,5731741,21652623,82341729,314889102,1209849831,4666707813,18060052389,70085525877,272615721621,1062509835063,4148096423409,16217945020377,63487732755357 ★ 3^(n-1) + C(2*n,n)/2. • a(n)=sum(k=0..floor(n / 3),(- 1) ^ k * C(2 * n,n - 3 * k)) •

[A181734] • 1,1,2,6,19,64,227,832,3126,11980,46646,184003,733783,2953434,11982265,48949631,201182110,831292029,3451336467,14390479996,60232976244,252992172572,1066000599632,4504710385216,19086728370308 ★ G.f. A(x) satisfies: A(x) = (1 + x*A(x)) * (1 + x^2*A(x)^3). • a(n) = Sum _{ k=0..[n / 2] } C(n + k, k) * C(n + k + 1, n - 2k) / (n + 1). •

[A216447] • 1,1,2,6,19,64,228,841,3181,12277,48156,191400,769168,3120044,12758080,52533265,217637308,906511243,3793989118,15947205096,6729048458 1,284934164506,1210374907352,5156562941596,22027291990432 ★ G.f. satisfies: A(x) = (1 + x*(1-x)*A(x)^2) * (1 + x^2*A(x)^2). • a(n) = [x ^ n] ((1 - x ^ 4) / (1 - x - x ^ 3)) ^ (n + 1) / (n + 1). •

[A005654] • 1,2,6,19,66,236,868,3235,12190,46252,176484,676270,2600612,10030008,38781096,150273315,583407990,2268795980,8836340260,34461678394,134564560988,526024917288,2058358034616,8061901596814,31602652961516 ★ Number of bracelets (turn over necklaces) with n red, 1 pink and n-1 blue beads; also reversible strings with n red and n-1 blue beads; also next-to-central column in Losanitsch's triangle A034851. • a(n) = (1 / 2) * (binomial(2 * n - 1, n) + binomial(n - 1, floor(n / 2))). - _ Michael Somos _ •

[A036689] • 2,6,20,42,110,156,272,342,506,812,930,1332,1640,1806,2162,2756,3422,3660,4422,4970,5256,6162,6806,7832,9312 ★ Product of a prime and the previous number. • a(n) = prime(n) * (prime(n) - 1). • a(n) = prime(n) * phi(prime(n)). - _ Artur Jasinski _ , Jan 23 2008 • a(n) = prime(n)! mod (prime(n) ^ 2). - _ J. M. Bergot _ , Apr 10 2014 •

[A060344] • 2,6,20,52,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824,50331648,100663296 ★ For n >= 2 Let N_n denote the set of all unipotent upper-triangular real n X n matrices A such that for every k=1,2,...,n-1 the minor of A with rows 1,2,...,k and columns n-k+1,...,n is nonzero. a(n) is the number of connected components of N_n. • a(2)=2, a(3)=6, a(4)=20, a(5)=52, for n>5 a(n) = 3 * 2 ^ (n - 1). •

[A082045] • 1,2,6,20,59,150,336,680,1269,2218,3674,5820,8879,13118,18852,26448,36329,48978,64942,84836,109347,139238,175352,218616,270045 ★ Diagonal sums of number array A082043. • a(n)=(n ^ 5 + 10n ^ 3 + 19n + 30) / 30. •

[A081251] • 2,6,20,60,182,546,1640,4920,14762,44286,132860,398580,1195742,3587226,10761680,32285040,96855122,290565366,871696100,2615088300,7845264902,23535794706,70607384120,211822152360,635466457082 ★ Numbers n such that A081249(m)/m^2 has a local maximum for m = n. • a(n) = a(n - 2) + 2 * 3 ^ (n) for n > 1. • a(n) = floor(3 ^ (n + 1) / 4). [_ Mircea Merca _ , Dec 26 2010] •

[A134293] • 1,1,2,6,20,60,190,764,2337,9812,49538,330058,2133438,11192143,73469550,462692414,3692965270,32635321384,290171883863,2572828730372 ★ Number of ways to pair up {2..2n+1} so the sum of each pair is prime. • a(n) = permanent(m), where the n X n matrix m is defined by m(i,j) = 1 or 0, depending on whether 2i + 2j + 1 is prime or composite, respectively. •

[A132353] • 1,2,6,20,61,183,547,1640,4920,14762,44287,132861,398581,1195742,3587226,10761680,32285041,96855123,290565367,871696100,2615088300,7845264902,23535794707,70607384121,211822152361 ★ a(n) = 3*a(n-1) - a(n-3) + 3*a(n-4), starting with 1, 2, 6, 20. • a(n) = (1 / 6) * (1 / 2 - (1 / 2) * i * sqrt(3)) ^ n + (3 / 4) * 3 ^ n - (1 / 12) * (- 1) ^ n + (1 / 6) * (1 / 2 + (1 / 2) * i * sqrt(3)) ^ n - (1 / 6) * i * (1 / 2 - (1 / 2) * i * sqrt(3)) ^ n * sqrt(3) + (1 / 6) * i * (1 / 2 + (1 / 2) * i * sqrt(3)) ^ n * sqrt(3), with n>=0 and i=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A260696] • 1,1,2,6,20,62,172,471,1337,3846,11030,31442,89470,254934,727203,2074435,5915652,16866988,48093810,137141828,391072846,1115164897,3179915535,9067592160,25856510664 ★ The number of length-n permutations avoiding the patterns 1234, 1324, 1432 and 3214. • a(n) = 2 * a(n - 1) + a(n - 2) + 2 * a(n - 3) + 4 * a(n - 4) + 8 * a(n - 5) - 15 * a(n - 7) - 14 * a(n - 8) - 7 * a(n - 9) for n>8. - _ Wesley Ivan Hurt _ , Dec 29 2015 •

[A247076] • 1,2,6,20,62,194,612,1922,6038,18980,59646,187442,589076,1851266,5817894,18283700,57459518,180575906,567489348,1783428098,5604714422,17613731780,55354032894,173959101458,546694927604 ★ Number of tilings of a 5 X 2n rectangle using 2n pentominoes of shape P. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 5 * a(n - 3) for n>3, a(0)=1; a(1)=2, a(2)=6, a(3)=20. •

[A177792] • 1,2,6,20,62,194,616,1972,6344,20498,66486,216352,705982,2309246,7569420,24857864,81768144,269369282,888569354,2934666604,9702925752,32113058042,106379839060,352698604852,1170271492014 ★ Number of paths from (0,0) to (n,n) avoiding 4 or more consecutive east steps and 4 or more consecutive north steps. • a(n) = 2 * Sum _{ i=0..floor(n / 3) } Sum _{ j=0..floor((n - 3 * i) / 2) } C(n - 2 * i - j,i) * C(n - 3 * i - j,j) * (Sum _{ s=0..min(floor(n / 3), floor((2 * i + j) / 2)) } C(n - 2 * i - j,s) * C(n - 2 * i - j - s, 2 * i + j - 2 * s) + Sum _{ s=0..min(floor(n / 3), floor((2 * i + j + 1) / 2)) } C(n - 2 * i - j - 1,s) * C(n - 2 * i - j - s - 1, 2 * i + j + 1 - 2 * s)) if n>0; a(0) = 1. • a(n) = [x ^ n y ^ n] (1 + x + x ^ 2 + x ^ 3) * (1 + y + y ^ 2 + y ^ 3) / (1 - x * y - x * y ^ 2 - x * y ^ 3 - x ^ 2 * y - x ^ 2 * y ^ 2 - x ^ 2 * y ^ 3 - x ^ 3 * y - x ^ 3 * y ^ 2 - x ^ 3 * y ^ 3). •

[A053730] • 1,2,6,20,64,192,544,1472,3840,9728,24064,58368,139264,327680,761856,1753088,3997696,9043968,20316160,45350912,100663296,222298112,488636416,1069547520,2332033024 ★ 2^(n-2)*(n^2-n+4). • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). _ Vincenzo Librandi _ , Apr 28 2012 •

[A220874] • 1,2,6,20,64,194,562,1570,4258,11266,29186,74242,185858,458754,1118210,2695170,6430722,15204354,35651586,82968578,191758338,440401922,1005584386,2283798530,5161091074 ★ Number of permutations of [n+1] avoiding 2413, 3142, 1324, 4231. • a(n) = 2 + (n - 1) * (n ^ 2 + n + 42) * 2 ^ (n - 4) / 3 for n>0. - _ R. J. Mathar _ , Jan 30 2013 (see Maple section). •

[A005726] • 1,2,6,20,65,216,728,2472,8451,29050,100298,347568,1208220,4213 12,14712960,51507280,180642391,634551606,2232223626,7862669700,27727507521,97884558992,345891702456,1223358393120,4330360551700 ★ Quadrinomial coefficients. • a(n) = Sum _{ k=0..floor(n / 2) } , C(n,k) C(n,2k + 1). - _ Paul Barry _ , May 15 2003 • a(n) = Sum[(- 1) ^ k binomial[n,k] binomial[2n - 2 - 4k,n - 1], { k,0,Floor[(n - 1) / 4] }]. - _ David Callan _ , Jul 03 2006 •

[A083323] • 1,2,6,20,66,212,666,2060,6306,19172,58026,175100,527346,158613

2,4766586,14316140,42981186,129009092,387158346,1161737180,3485735826,10458256052,31376865306,94134790220,282412759266 ⋆ a(n) = 3^n - 2^n + 1. • a(n) = 2 * StirlingS2(n + 1,3) + StirlingS2(n + 1,2) + 1. - _ Ross La Haye _ , Jan 10 2008 •

[A111285] • 1,2,6,20,66,216,706,2308,7546,24672,80666,263740,862306,2819336,9217906,30138228,98537866,322172592,1053353226,3443970860,11260168946,36815469656,120369313506,393551182948,1286727730586 ⋆ Number of permutations avoiding the patterns {2431, 3421, 4231, 4321, 24513, 42513, 34512, 43512}; number of strong sorting class based on 2431. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3), n>=4. •

[A285197] • 1,1,2,6,20,67,221,717,2294,7258,22760,70863,219353,675769,2073674,6342414,19345052,58867195,178779893,542042565,1641058046,4962262306,14989121072,45235277511,136407241265 ⋆ Expansion of (1-6*x+11*x^2-5*x^3) / ((1-x)*(1-3*x)*(1-3*x+x^2)). • a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 13 * a(n - 3) - 3 * a(n - 4) for n>3. • a(n) = (1 / 2 + 3 ^ n / 2 + (2 ^ (- n) * ((3 - sqrt(5)) ^ n - (3 + sqrt(5)) ^ n)) / sqrt(5)). •

[A291005] • 2,6,20,68,230,774,2600,8732,29330,98526,330980,1111868,3735110,12547374,42150440,141596132,475664450,1597901526,5367837140,18032197268,60575633990,203491974774,683591422280,2296391457932,7714277207570 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 2 S - 2 S^3. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 5 * a(n - 3) for n >= 4. •

[A006012] • 1,2,6,20,68,232,792,2704,9232,31520,107616,367424,1254464,4283008,14623104,49926400,170459392,581984768,1987020288,6784111616,23162405888,79081400320,270000789504,921840357376,3147359850496 ⋆ a(0) = 1, a(1) = 2, a(n) = 4*a(n-1) - 2*a(n-2), n >= 2. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2k) * 2 ^ (n - k) = Sum _{ k=0..n } binomial(n, k) * 2 ^ (n - k / 2)(1 + (- 1) ^ n) / 2. - _ Paul Barry _ , Nov 22 2003 • a(n) = ((2 + sqrt(2)) ^ n + (2 - sqrt(2)) ^ n) / 2. • a(- n) = a(n) / 2 ^ n for all n in Z. - _ Michael Somos _ , Aug 24 2014 •

[A279557] • 1,1,2,6,20,68,233,805,2807,9879,35073,125513,452389,1641029,5986994,21954974,80884424,299233544,1111219334,4140813374,15478839554,58028869154,218123355524,821908275548,3104046382352 ⋆ Number of length n inversion sequences avoiding the patterns 110, 120, and 021. • a(n) = 1 + Sum _{ t=1..n - 1 } Sum _{ k=t + 2..n + 1 } (k - t - 1) * (k - t) / (n - t + 1) * binomial(2n - k - t + 1,n - k + 1). •

[A094854] • 1,2,6,20,69,241,846,2977,10490,36994,130532,460737,1626629,5743674,20283121,71632290,252989326,893528468,3155899165,11146628105,39370204614,139057473905,491159630010,1734810719530,6127485120996 ⋆ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 4, s(2n) = 4. • a(n)=(2 / 9) * Sum(r, 1, 8, Sin(4 * r * Pi / 9) ^ 2(2Cos(r * Pi / 9)) ^ (2n)). • a(n)=7a(n - 1) - 15a(n - 2) + 10a(n - 3) - a(n - 4). •

[A217782] • 1,2,6,20,69,242,857,3054,10930,39236,141153,508598,1834641,6623450,23926334,86468052,312587197,1130277914,4087621545,14784539846,53478888618,193456813508,699850536281,2531866279710,9159810802849 ⋆ Expansion of (1-x)*(1-2x)*(1-3x)/((1-5x+5*x^2)*(1-3x+x^2)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4) for n>=4, a(0) = 1, a(1) = 2, a(2) = 6, a(3) = 20. •

[A026029] • 1,2,6,20,69,242,858,3068,11050,40052,145996,534888,1968685,7276050,26993490,100490220,375287550,1405622460,5278838100,19873977240,74994427170,283595947284,1074568266756,4079184055640,15511924233204 ⋆ Number of (s(0), s(1), ..., s(2n)) such that s(i) is a nonnegative integer and |s(i) - s(i-1)| = 1 for i = 1,2,....,n, s(0) = 3, s(2n) = 3. Also T(2n,n), where T is defined in A026022. • a(n) = C(2n,n) - C(2n,n - 4). [From _ Paul Barry _ , May 11 2009] •

[A078483] • 1,1,2,6,20,69,243,869,3145,11491,42312,156807,584288,2187298,8221257,31009841,117331070,445174418,1693270531,6454992143,24657428519,94363587324,361741068087,1388892123038,5340282880156 ⋆ G.f.: -2*x/(1 - 5*x - sqrt(1-4*x) + x*sqrt(1-4*x) + 2*x^2). • a(n) = the upper left term in M ^ n , where M is the following infinite square production matrix: • a(n) = sum(m =1..n, m * sum(k=1..n - m, ((sum(j=0..m + k, binomial(j, - 2 * m - k + 2 * j) * binomial(m + k,j))) * binomial(n - m - 1,k - 1)) / (m + k))) + 1. [_ Vladimir Kruchinin _ , Oct 11 2011] •

[A275046] • 1,2,6,20,70,245,874,3164,11577,42694,158431,590873,2212797,8315535,31341163,118423810,448455754,1701534151,6467049185,24617030774,93834205107,358116770601,1368283768753,5233261657558,20034371696497 ⋆ Number of binary strings with n zeros and n ones avoiding the substrings 10101101 and 1110101. • a(n) = [x ^ n y ^ n] (1 + x ^ 2 * y ^ 3 + x ^ 2 * y ^ 4 + x ^ 3 * y ^ 4 - x ^ 3 * y ^ 6) / (1 - x - y + x ^ 2 * y ^ 3 - x ^ 3 * y ^ 3 - x ^ 4 * y ^ 4 - x ^ 3 * y ^ 6 + x ^ 4 * y ^ 6). •

[A135413] • 1,2,6,20,70,246,875,3144,11385,41470,151778,557712,2056210,7602700,28180050,104677280,389571983,1452293766,5422187130,20271296100,75878518695,284339792110,1066585128810,4004566131000,15048213795600 ⋆ Number of at most 4-way branching ordered (i.e., plane) trees. • a(n) = [x ^ (n - 1)] (1 + x + x ^ 2 + x ^ 3 + x ^ 4) ^ n. •

[A193653] • 1,2,6,20,70,248,882,3140,11182,39824,141834,505148,1799110,6407624,22821090,81278516,289477726,1030990208,3671926074,13077758636,46577128054,165886901432,590814960402,2104218684068,7494285973006 ⋆ Q-residue of the Delannoy triangle A008288, where Q is the triangular array (t(i,j)) given by t(i,j)=1. • a(n)=4 * a(n - 1) - a(n - 2) - 2 * a(n - 3); a(n - 1) =(1,1) and (2,2) elements of A ^ (n - 1) where A=(2,1,1;1,2,1;1,1,0) and n>1. - _ David Neil McGrath _ , Aug 22 2014 • a(n) = (34 + (17 - 3 * sqrt(17)) * ((3 - sqrt(17)) / 2) ^ n + ((3 + sqrt(17)) / 2) ^ n * (17 + 3 * sqrt(17))) / 68. - _ Colin Barker _ , Sep 02 2016 •

[A147748] • 1,2,6,20,70,250,900,3250,11750,42500,153750,556250,2012500,7281250,26343750,95312500,344843750,1247656250,4514062500,16332031250,59089843750,213789062500,773496093750,2798535156250,10125195312500 ⋆ Row sums of Riordan array ((1-3x+x^2)/(1-4x+3x^2), x(1-2x)/(1-4x+3x^2)). • a(n) = 5 * a(n - 1) - 5 * a(n - 2) for n>2, a(0)=1, a(1)=2, a(2)=6. - _ Philippe Deléham _ , Nov 13 2008 • a(n) = (1 / 5) * Sum _{ k=1..5 } (x _ k) ^ (2 * n), x _ k=2 * cos((2 * k - 1) * Pi / 10). - _ L. Edson Jeffery _ , Apr 19 2011 •

[A224514] • 1,2,6,20,70,251,911,3327,17190,44744,164407,604487,2223504,8181175,30108147,110820165,407946421,1501844193,5529362694,20358557249,74961030414,276017648570,1016360893036,3742540945813,13781324308298 ⋆ Expansion of (1-x)*(1-3*x)*(1-3*x+x^2)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 2, a(2) = 6, a(3) = 20, a(4) = 70. •

[A087944] • 1,2,6,20,70,252,922,3404,12630,46988,175066,652764,2434966,9085052,33901146,126511340,472127830,1761967212,6575675482,24540603644,91586476950,341804779868,1275631593946,4760719498764,17767242206806 ⋆ Expansion of (1-4*x+3*x^2)/((1-2*x)*(1-4*x+x^2)). • a(0)=1, a(2)=2, a(2)=6, a(n)=6 * a(n - 1) - 9 * a(n - 2) + 2 * a(n - 3), n>2 • a(n) = (2 ^ n + (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n) / 3 •

[A000984] • 1,2,6,20,70,252,924,3432,12870,48620,184756,705432,2704156,10400600,40116600,155117520,601080390,2333606220,9075135300,35345263800,137846528820,538257874440,2104098963720,8233430727600,32247603683100 ⋆ Central binomial coefficients: binomial(2*n,n) = (2*n)!/(n!)^2. • a(n) = 2 ^ n / n! * Product _{ k=0..n - 1 } (2 * k + 1). • a(n) = Sum _{ k=0..n } binomial(n, k) ^ 2. - _ Benoit Cloitre _ , Jan 31 2003 • a(n) = 2 * Sum _{ k=0..(n - 1) } a(k) * a(n - k + 1) / (k + 1). - _ Philippe Deléham _ , Jan 01 2004 • a(n + 1) = Sum _{ j=n..n * 2 + 1 } binomial(j, n). E.g., a(4) = C(7,3) + C(6,3) + C(5,3) + C(4,3) + C(3,3) = 35 + 20 + 10 + 4 + 1 = 70. - _ Jon Perry _ , Jan 20 2004 • a(n) = (- 1) ^ (n) * Sum _{ j=0..(2 * n) } (- 1) ^ j * binomial(2 * n, j) ^ 2. - Helena Verrill (verrill(AT)math.lsu.edu), Jul 12 2004 • a(n) = Sum _{ k=0..n } binomial(2n + 1, k) * sin((2n - 2k + 1) * Pi / 2). - _ Paul Barry _ , Nov 02 2004 •

[A087433] • 1,2,6,20,70,252,926,3460,13110,50252,194446,758100,2973350,11716252,46333566,183739940,730176790,2906358252,11582386286,46200404980,184414199430,736494536252,2942491360606,11759505089220,47006639297270 ⋆ Expansion of (1-2*x)*(1-4*x+x^2)/((1-x)*(1-3*x)*(1-4*x)). • a(n)=0 ^ n / 6 + 1 / 3 + 3 ^ n / 3 + 4 ^ n / 6 •

[A095929] • 1,2,6,20,70,254,948,3614,13990,54740,215766,854702,3396916,13530350,53971350,215492564,860941798,3441074654,13757249460,55010542910,219993856006,879848932052,3519064567926,14075391282830,56299295324980 ⋆ Number of closed walks of length 2n at a vertex of the cyclic graph on 10 nodes C_10. • a(n) = 4 ^ n / 10 * Sum _{ r=0..9 } Cos(Pi * r / 5) ^ (2 * n). • a(n) = 7 * a(n - 1) - 13 * a(n - 2) + 4 * a(n - 3). • a(n / 2) = (2 ^ n + 2 * phi ^ n + 2 * (phi - 1) ^ n) * (1 + (- 1) ^ n) / 10, with the golden section phi = A001622. - _ Wolfdieter Lang _ , Nov 08 2011 • a(n) = (2 ^ (- n) * (8 ^ n + 2 * (3 - sqrt(5)) ^ n + 2 * (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Apr 27 2016 •

[A078482] • 0,1,2,6,20,70,254,948,3618,14058,55432,221262,892346,3630680,14885042,61432382,255025212,1064190214,4461325382,18780710508,79357572866,336466650450,1431007889744,6103431668830,26099839562738 ⋆ G.f.: (1-3*x+x^2-sqrt(1-6*x+7*x^2-2*x^3+x^4))/(2*x). • a(n) = Sum _{ m=1..n + 1 } (C(m,n - m + 1) * (sum(i=0..m - 1, C(m,i) * C(2 * m - i - 2,m - 1))) * (- 1) ^ (n - m + 1)) / m), n>0, a(0)=0. - _ Vladimir Kruchinin _ , May 21 2011 •

[A049128] • 1,1,2,6,20,70,255,959,3696,14520,57930,234080,955999,3939949,16364985,68437033,287910048,1217627176,5173854018,22077273858,94564541166,406451008386,1752472631360,7577758539846,32852955892191 ⋆ Revert transform of (x - 1)^2/(1 - x + x^3). • a(n) = 1 / n * (Sum _{ l=1..n } C(n,l) * Sum _{ i=1..n - 1 } C(i - 1,i - 2 * l) * C(n - l,n - i - 1)) + 1. - _ Vladimir Kruchinin _ , Jun 26 2015 •

[A192540] • 1,1,2,6,20,70,255,960,3707,14597,58382,236522,968597,4003061,16674858,69936760,295092057,1251747436,5334958079,22834290248,98108081192,422986894605,1829443421394,7935301625600,34510975557383 ⋆ G.f.: A(x) = Series_Reversion(x*G(x)) where G(x) = Sum_{n>=0} (-x)^(n*(n+1)/2). • a(n) = [x ^ n] (1 / n) * x / [Product _{ k>=1 } (1 - x ^ k) * (1 + x ^ (2 * k))] ^ n for n>=1. •

[A049140] • 1,1,2,6,20,70,256,969,3762,14894,59904,244088,1005452,4180096,17516936,73913705,313774854,1339162028,5742691704,24731501410,106919054880,463844340060,2018673093000,8810852089650,38558866555248 ⋆ Revert transform of 1 - x - x^3. • a(n) = sum(j=0..(n - 1) / 2, binomial(n - 2 * j - 1,j) * binomial(2 * n - 2 * j - 2,n - 1)) / n. - _ Vladimir Kruchinin _ , May 24 2011 •

[A145138] • 0,1,2,6,20,71,259,960,3597,13586,51635,197223,756380,2910707,11233311,43460144,168502849,654547456,2546819347,9924285801,38723794820,151278566731,591628491483,2316065644414,9074988880769 ⋆ Diagonal of square array A145153. • a(n) = [x ^ n] x / ((1 - x - x ^ 4) * (1 - x) ^ (n - 1)). •

[A000707] • 1,1,2,6,20,71,259,961,3606,13640,51909,198497,762007,2934764,11333950,43874857,170193528,661386105,2574320659,10034398370,39163212165,153027659730,598577118991,2343628878849,9184197395425 ⋆ Number of permutations of [1,2,...,n] with n-1 inversions. • a(n) = 2 ^ (2 * n - 2) / sqrt(Pi * n) * Q * (1 + O(n ^ (- 1))), where Q is a digital search tree constant, Q = product(1 - 1 / (2 ^ n),n=1..infinity) = QPochhammer[1 / 2, 1 / 2] = 0.288788095... (see A048651), corrected and extended by _ Vaclav Kotesovec _ , Mar

16 2014 •

[A049124] • 1,1,2,6,20,71,264,1015,4002,16094,65758,272208,1139182,4811807,20487096,87832558,378846620,1642851797,7158220968,31323340342,137595355130,606533278416,2682157911032,11895267124841,52895679368820 ★ Revert transform of (-1 + x + x^2)/((x - 1)*(x + 1)). • a(n) = Sum _{ k=0..floor((n - 1) / 2) } C(n - k - 1, k) * C(2 * n - 2 * k, n) / (n + 1) for n > 0, with a(0) =1. - _ Paul D. Hanna _ , Dec 15 2004 •

[A192658] • 1,2,6,20,72,270,1040,4036,15714,61226,238778,930716,3628520,14143922,55134174,214941488,838158510,3269630046,12761106790,49834920864,194743761948,761543265544,2980128724806,11670402459630,45734346816026 ★ Binomial convolution of the Floor-Sqrt transform of central binomial coefficients. • a(n) = sum(binomial(n,k) * floor(sqrt(binomial(2 * k,k))) * floor(sqrt(binomial(2 * n - 2 * k,n - k))),k=0..n). •

[A063376] • 1,2,6,20,72,272,1056,4160,16512,65792,262656,1049600,4196352,16781312,67117056,268451840,1073774592,4295032832,17180000256,68719738880,274878431232,1099512676352,4398048608256,17592190238720,70368752566272 ★ a(-1) = 1; for n >= 0, a(n) = 2^n + 4^n = 2^n*(1+2^n). • a(n) = sum { k=0..n, if(mod(n - k, 4)=0, binomial(n, 2k), 0) } . - _ Paul Barry _ , Sep 19 2005 • a(n) = ceil(2 ^ n * (2 ^ n + 1)),n>= - 1. - _ Zerinvary Lajos _ , Jan 07 2008 •

[A161168] • 2,6,20,72,272,1056,4160,16512,65792,262656,1049600,4196352,16781312,67117056,268451840,1073774592,4295032832,17180000256,68719738880,274878431232,1099512676352,4398048608256,17592190238720,70368752566272 ★ a(n) = 2^n + 4^n. • a(n) = 6 * a(n - 1) - 8 * a(n - 2); a(0)=2, a(1)=6. - _ Vincenzo Librandi _ , Dec 27 2010 •

[A071356] • 1,2,6,20,72,272,1064,4272,17504,72896,307648,1312896,5655808,24562176,107419264,472675072,2091206144,9296612352,41507566592,186045061120,836830457856,3776131489792,17089399689216,77548125675520,352766964908032 ★ Expansion of (1 - 2*x - sqrt(1 - 4*x - 4*x^2))/(4*x^2). • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k)C(k)2 ^ (n - 2k) * 2 ^ k. - _ Paul Barry _ , May 18 2005 • a(n) = sum of top row terms of M ^ n, M = an infinite square production matrix as follows: •

[A186996] • 1,1,2,6,20,72,273,1073,4333,17869,74937,318601,1370113,5949201,26046727,114857599,509669295,2274146599,10197234215,45925646367,207656685443,942302814363,4289903653615,19588180438263,89685571667763 ★ G.f. satisfies: A(x) = 1 + x*A(x) + x^2*A(x)^4. • a(n) = sum(k=0..n, binomial(3 n - 2k + 1, k) * binomial(k,n - k) * 1 / (3n - 2k + 1)). - _ Michael D. Weiner _ , Apr 23 2015 •

[A104632] • 1,2,6,20,73,281,1125,4635,19525,83710,364070,1602327,7123041,31937010,144255802,655804649,2998354717,13777825186,63596593430,294743653360,1371017707245,6398580086645,29952930770185,140604572777250,661708404611603 ★ 1/n times A104631(n), the coefficient of x^(2n+1) in the expansion of (1+x+x^2+x^3+x^4)^n. • a(n) = Sum _{ i=0..(2 * n + 1) / 5 } ((- 1) ^ i * binomial(n,i) * binomial(3 * n - 5 * i,n - 1)) / n. - _ Vladimir Kruchinin _ , Apr 06 2017 •

[A243255] • 0,1,2,6,20,73,283,1149,4833,20901,92406,415878,1899153,8778193,40988834,193056506,916091727,4375298013,21015823762,101454449878,491976470648,2395332765741,11704830457167 ★ Expansion of 1/2-1/2*(sqrt((2*sqrt(-3*x^2-2*x+1)+3*x-2)/x)). • a(n) = sum(k=0..n - 1, binomial(2 * k,k) * sum(binomial(j, - n - k + 2 * j - 1) * binomial(n,j),j,0,n)) / n, n>0, a(0)=0. •

[A188144] • 1,2,6,20,74,292,1218,5308,24034,112484,542346,2686268,13639226,70863652,376208706,2038335580,11259474754,63353211332,362819139978 ★ Binomial transform A140456(n+1) (indecomposable involutions). • a(n) is the moment of order n for the probability density function: sqrt(2 / Pi ^ 3) * exp((x - 2) ^ 2 / 2) / (1 + (erfi((x - 2) / sqrt(2))) ^ 2) over the interval - infinity..infinity, with erfi the imaginary error function. •

[A052889] • 0,1,2,6,20,75,312,1421,7016,37260,211470,1275725,8142840,54776761,387022118,2863489830,22127336720,178162416499,1491567656472,12959459317021,116654844101140,1086207322942812,10447135955448522,103654461984288429,1059648140522024304 ★ Number of rooted set partitions. • a(n) = n * Bell(n - 1). - _ Vladeta Jovovic _ , Sep 14 2003 •

[A000898] • 1,2,6,20,76,312,1384,6512,32400,168992,921184,5222208,30710464,186753920,1171979904,7573069568,50305536256,342949298688,2396268830080,17138748412928,125336396368896,936222729254912,7136574106003456,55466948299223040,439216305474605056 ★ a(n) = 2*(a(n-1) + (n-1)*a(n-2)), a(0) = 1. • a(n) = Sum _{ k=0..n } binomial(n,2k) * binomial(2k,k) * k! * 2 ^ (n - 2k). - N. Calkin, Apr 22 2010 • a(n) = Sum _{ k=0..n } Stirling1(n, k) * 2 ^ k * Bell(k). - _ Vladeta Jovovic _ , Oct 01 2003 • a(n) = Sum _{ k=0..floor(n / 2) } 2 ^ (n - 2k) * C(n,2k)(2k)! / k!. - _ Paul Barry _ , Feb 11 2008 • a(n) = (2n / e) ^ (n / 2) * exp(sqrt(2n)) / sqrt(2e) * (1 + sqrt(2 / n) / 3 + O(n ^ (- 1)). - _ Yen - chi R. Lin _ , Sep 30 2013 •

[A195254] • 1,2,6,20,76,336,1744,10592,74400,595712,5362432,53626368,589894144,7078737920,92023609344,1288330563584,19324958519296,309199336439808,5256388719738880,94614996955824128,1797684942161707008,35953698843236237312,755027675707965177856 ★ O.g.f.: Sum_{n>=0} 2*(n+2)^(n-1)*x^n/(1+n*x)^n. • a(n) = (n - 1)! * Sum _{ k=1..n } 2 ^ k / (k - 1)! for n >0, with a(0)=1. •

[A098469] • 1,2,6,20,78,332,1516,7240,35734,180620,929940,4858328,25687052,137177016,738819672,4008435984,21886788582,120178329740,663179894788,3675923244856,20456707469540,114254175491304,640223315385576 ★ A sequence related to the even-indexed Catalan numbers. • a(n) = sum { k=0..floor(n / 2), C(n,2k) * C(k) * 2 ^ (n - 2k) } . • a(n) = sum { k=0..n, c(n,k) * 2 ^ (n - k) * C(k) * (1 - (- 1) ^ k) / 2 } . •

[A186365] • 0,1,2,6,20,80,366,1904,11080,71424,505210,3891712,32433180,290787328,2791053734,28556359680,310264194320,3567710830592,43287834157938,552688817143808,7407423764750500,103981459115606016,1525675236649033822,23354749389657604096 ★ Number of fixed points in all cycle-up-down permutations of {1,2,...,n}. • a(n) = n * sum(j=0..(n - 2) / 2, (sum(i=0..(n - 2 * j - 1) / 2, (2 * i + 2 * j - n + 1) ^ (n - 1) * C(n - 2 * j - 1,i) * (- 1) ^ ((n + n - 2 * j - 2) / 2 - i))) / 2 ^ (n - 2 * j - 2)), n>1, a(1)=1, a(0)=0. - _ Vladimir Kruchinin _ , May 28 2011 •

[A245373] • 1,2,6,20,80,368,1904,10880,67904,459008,3336704,25925120,214175744,1873092608,17276401664,167504076800,1702214549504,18084149854208,200388963958784,2311212530401280,27693720143396864,344157474490155008,4428851361694613504,58933575269230837760 ★ G.f.: Sum_{n>=0} x^n / ((1+x)^(n+1) * (1 - 2*(n+1)*x)). • a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ i=0..k } (- 1) ^ i * binomial(k,i) * 2 ^ (n - k) * (k - i + 1) ^ (n - k). •

[A118476] • 1,2,6,20,81,408,2480,17376,139040,1251450,12514816,137663064,1651956992,21475443200,300656206080,4509843098112,72157489576704,1226677322842112,22080191811166208,419523644412176256,8390472888243683328,176199930653117513728 ★ a(0) = 1; a(n) is least k with n prime factors and k > n*a(n-1). • a(0) = 1; a(n) least n - almost prime > n * a(n - 1). •

[A073964] • 0,2,6,20,100,600,3150,15750,78000,390000,1952500,9768750,48831250,244125000,1220625000,6103437500,30517656250,152588281250,762939062500,3814695312500,19073484375000,95367441406250,476837167968750,2384185742187500,11920928710937500 ★ Number of strings of length n over Z_5 with trace 0 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). •

[A073966] • 1,2,6,20,125,625,3150,15500,78000,390625,1955625,9768750,48831250,244125000,1220703125,6103515625,30517656250,152587500000,762939062500,3814697265625,19073494140625,95367441406250,476837167968750,2384185742187500,11920928955078125 ★ Number of strings of length n over Z_5 with trace 1 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). •

[A104861] • 1,2,6,20,210,792,8008,31824,319770,6906900,30045015,600805296,5586853480,25518731280,239877544005,4481381406320,79960182801345,3872216786830 0,6848956078664700,63484158299081520,312049055023946856,5469191608792974920,50825908693881519120 ★ Number of compositions (ordered partitions) of the n-th prime into n positive integers. • a(n) = binomial(prime(n) - 1, n - 1). - _ Vladeta Jovovic _ , Apr 25 2005 •

[A228398] • 1,2,6,21,52,105,186,301,456,657,910,1221,1596,2041,2562,3165,3856,4641,5526,6517,7620,8841,10186,11661,13272 ★ The number of permutations of length n sortable by 3 prefix reversals (in the pancake sorting sense). • a(n) = (n - 1) * (n ^ 2 - 3 * n + 3) for n>2, a(1)=1, a(2)=2. [_ Bruno Berselli _ , Aug 22 2013] •

[A228394] • 1,2,6,21,61,146,302,561,961,1546,2366,3477,4941,6826,9206,12161,15777,20146,25366,31541,38781,47202,56926,68081,80801 ★ The number of permutations of length n sortable by 2 prefix block transpositions. • a(n) = 1 + (n - 1) * n * (3 * n ^ 2 - 11 * n + 16) / 12. [_ Bruno Berselli _ , Aug 22 2013] •

[A294708] • 1,1,2,6,21,69,190,446,927,1745,3036,4960,7701,11467,16490,23026,31355,41781,54632,70260,89041,111375,137686,168422,204055 ★ Number of permutations of n avoiding {4231, 2143, 1234}. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>10. • a(n) = (1 / 6) * (786 - 787 * n + 333 * n ^ 2 - 68 * n ^ 3 + 6 * n ^ 4) for n>5. •

[A294709] • 1,1,2,6,21,69,194,470,1009,1969,3562,6062,9813,15237,22842,33230,47105,65281,88690,118390,155573,201573,257874,326118,408113 ★ Number of permutations of [n] avoiding {2143, 3412, 1234}. • a(n) = (1 / 60) * (60 + 16 * n - 65 * n ^ 2 + 70 * n ^ 3 - 25 * n ^ 4 + 4 * n ^ 5). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. •

[A116774] • 1,2,6,21,69,198,498,1121,2305,4402,7910,13509,22101,34854,53250,79137,114785,162946,226918,310613,418629,556326,729906,946497,1214241 ★ Number of permutations of length n which avoid the patterns 2143, 2341, 4312; or avoid the patterns 1234, 1432, 3412. • a(n) = (n ^ 6 - 3n ^ 5 + 10n ^ 4 - 15n ^ 3 + 79n ^ 2 - 72n + 180) / 180. - Franklin T. Adams - Watters, Sep 16 2006 •

[A116832] • 1,2,6,21,70,203,517,1187,2504,4921,9107,16009,26922,43567,68177,103591,153356,221837,314335,437213,598030,805683,1070557,1404683,1821904 ★ Number of permutations of length n which avoid the patterns 1324, 3421, 4123. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>10. - _ Colin Barker _ , Oct 23 2017 •

[A294718] • 1,1,2,6,21,70,205,536,1264,2722,5424,10122,17871,30102,48703,76108,115394,170386,245770,347214,481497,656646,882081,1168768,1529380 ★ Number of permutations of [n] avoiding {4231, 2134, 1243}. • a(n) = (1 / 360) * (16560 - 13902 * n + 4501 * n ^ 2 - 825 * n ^ 3 + 175 * n ^ 4 - 33 * n ^ 5 + 4 * n ^ 6) for n>2. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>9. •

[A294719] • 1,1,2,6,21,70,212,597,1610,4248,11107,28966,75552,197251,515476,1348060,3527067,9230832,24162270,63251763,165587512,433503706,1134914677,2971229196,7778759206 ★ Number of permutations of [n] avoiding {2341, 2143, 4123}. • a(n) = (1 / 60) * (3 * 2 ^ (1 - n) * (5 * 2 ^ (n + 1) - (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5))) - 190 * n + 115 * n ^ 2 - 50 * n ^ 3 + 5 * n ^ 4) for n > 0. • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 45 * a(n - 3) - 45 * a(n - 4) + 26 * a(n - 5) - 8 * a(n - 6) + a(n - 7) for n > 7. •

[**A116767**] • 1,2,6,21,71,208,526,1174,2370,4416,7714,12783,20277,31004,45946,66280,93400,128940,174798,233161,306531,397752,510038,647002,812686 ⋆ Number of permutations of length n which avoid the patterns 1234, 3142, 3421. • a(1)=1, a(2)=2, a(3)=6, a(4)=21, a(5)=71, a(6)=208, a(7)=526, a(8)=1174, a(9)=2370, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a (n - 7) [From Harvey P. Dale, Aug 31 2011] •

[**A294725**] • 1,1,2,6,21,71,212,554,1289,2725,5326,9758,16941,28107,44864,69266,103889,151913,217210,304438,419141,567855,758220,999098,1300697 ⋆ Number of permutations of [n] avoiding {4231, 3412, 1234}. • a(n) = (1 / 120) * (120 - 40 * n + 44 * n ^ 2 - 15 * n ^ 3 + 15 * n ^ 4 - 5 * n ^ 5 + n ^ 6). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>6. •

[**A116755**] • 1,2,6,21,71,213,561,1317,2809,5536,10220,17865,29823,47867,74271,111897,164289,235774,331570,457901,622119,832833,1100045,1435293,1851801 ⋆ Number of permutations of length n which avoid the patterns 1234, 2431, 3412. • a(n) = (7n ^ 6 - 45n ^ 5 + 175n ^ 4 - 315n ^ 3 + 538n ^ 2 - 360n + 720) / 720. - Franklin T. Adams - Watters, Sep 16 2006 •

[**A116833**] • 1,2,6,21,71,213,564,1340,2909,5860,11090,19911,34179,56447,90144,139782,211193,311798,450910,640073,893439,1228185,1664972,2228448,2947797 ⋆ Number of permutations of length n which avoid the patterns 2134, 3421, 4132. • a(n) = (n ^ 7 + 7 * n ^ 6 - 56 * n ^ 5 + 490 * n ^ 4 - 2051 * n ^ 3 + 5803 * n ^ 2 - 6714 * n + 5040) / 2520. - _ Franklin T. Adams - Watters _ , Sep 16 2006 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n > 8. - _ Wesley Ivan Hurt _ , Oct 09 2017 •

[**A294726**] • 1,1,2,6,21,71,217,599,1514,3550,7801,16193,31956,60282,109214,190816,322679,529823,847060,1321888,2017991,3019425,4435575,6406973,9112072 ⋆ Number of permutations of [n] avoiding {4231, 3142, 1234}. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>8. • a(n) = (40320 - 14640 * n + 15724 * n ^ 2 - 3780 * n ^ 3 + 3885 * n ^ 4 - 1680 * n ^ 5 + 546 * n ^ 6 - 60 * n ^ 7 + 5 * n ^ 8) / 40320. •

[**A294700**] • 1,1,2,6,21,71,218,610,1585,3895,9186,21022,47061,103663,225618,486626,1042305,2220303,4708714,9949294,20956661,44022231,92253162,192912386,402622961 ⋆ Number of permutations of n avoiding {1324, 2143, 3421}. • a(n) = (1 / 12) * (12 + 4 * (3 * 2 ^ n - 4) * n - 5 * n ^ 2 - 2 * n ^ 3 - n ^ 4). • a(n) = 9 * a(n - 1) - 34 * a(n - 2) + 70 * a(n - 3) - 85 * a(n - 4) + 61 * a(n - 5) - 24 * a(n - 6) + 4 * a(n - 7) for n>6. •

[**A294701**] • 1,1,2,6,21,71,218,614,1619,4065,9840,23168,53393,120995,270518,598218,1310943,2851061,6160652,13238564,28311869,60293463,127926642,270533006,570425771 ⋆ Number of permutations of n avoiding {4231, 2143, 1342}. • a(n) = (28 - 32 * 2 ^ n + 22 * n + 7 * 2 ^ n * n + 2 * n ^ 2) / 4 for n>1. - _ Bruno Berselli _ , Nov 07 2017 • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5) for n>4. - _ Colin Barker _ , Nov 10 2017 •

[**A116761**] • 1,2,6,21,71,220,630,1697,4365,10842,26216,62071,144519,331928,753834,1695933,3784913,8388838,18481404,40501523,88342827,191889732,415236446,895484281,1925185941 ⋆ Number of permutations of length n which avoid the patterns 2143, 3124, 3421. • a(n) = (1 / 16) * (80 - 41 * 2 ^ (1 + n) + (56 + 15 * 2 ^ n) * n + (8 + 2 ^ n) * n ^ 2) for n>1. • a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 63 * a(n - 3) - 66 * a(n - 4) + 36 * a(n - 5) - 8 * a(n - 6) for n>7. •

[**A116791**] • 1,2,6,21,72,220,590,1409,3055,6118,11474,20373,34542,56304,88714,135713,202301,294730,420718,589685,813012,1104324,1479798,1958497,2562731 ⋆ Number of permutations of length n which avoid the patterns 1234, 1342, 4312. • a(n) = (n ^ 7 + 35n ^ 6 - 203n ^ 5 + 665n ^ 4 - 686n ^ 3 + 1820n ^ 2 - 1632n + 5040) / 5040. - Franklin T. Adams - Watters, Sep 16 2006 •

[**A116775**] • 1,2,6,21,72,221,605,1517,3574,8065,17671,37953,80424,168885,352481,732581,1518074,3139033,6480187,13360153,27514476,56610861,116377941,239059421,490715582 ⋆ Number of permutations of length n which avoid the patterns 1234, 2341, 4132. • a(n) = (6 * (- 44 + 21 * 2 ^ n) + (- 56 + 9 * 2 ^ n) * n + 12 * n ^ 2 - 28 * n ^ 3) / 24 for n>2. • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 44 * a(n - 3) - 41 * a(n - 4) + 20 * a(n - 5) - 4 * a(n - 6) for n>8. •

[**A116747**] • 1,2,6,21,72,230,689,1970,5460,14833,39790,105890,280367,738978,1948186,5121973,13451620,35299782,92580429,242705586,636062896,1666534337,4365640346,11434584546,29946505947 ⋆ Number of permutations of length n which avoid the patterns 1234, 2413, 3241. • a(0)=1, a(1)=2, a(2)=6, a(3)=21, a(4)=72, a(5)=230, a(6)=689, a(n)= 9 * a(n - 1) - 33 * a(n - 2) + 64 * a(n - 3) - 71 * a(n - 4) + 45 * a(n - 5) - 15 * a(n - 6) + 2 * a(n - 7) [From Harvey P. Dale, May 19 2011] •

[**A116800**] • 1,2,6,21,72,232,712,2116,6155,17629,49893,139851,388899,1074280,2950885,8066698,21960083,59566264,161060160,434269077,1168017399,3134554480,8395344424,22445226508,59911148129 ⋆ Number of permutations of length n which avoid the patterns 1432, 2314, 3241. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 4 * a(n - 3) + 8 * a(n - 4) - 11 * a(n - 5) + 3 * a(n - 6) for n>6. - _ Colin Barker _ , Oct 23 2017 •

[**A116796**] • 1,2,6,21,72,236,745,2286,6866,20285,59156,170712,488401,1387226,3916062,10996581,30737760,85573316,237387961,656451270,1810142186,4978643597,13661617196,37409025456,102238082977 ⋆ Number of permutations of length n which avoid the patterns 2314, 3241, 4132. • a(n) = (1 / 25) * (2 ^ (- n) * (25 * 2 ^ n + sqrt(5) * (3 - sqrt(5)) ^ n - sqrt(5) * (3 + sqrt(5)) ^ n + 10 * ((3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n) * n)). • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 17 * a(n - 3) - 7 * a(n - 4) + a(n - 5) for n>5. • a(n) = 1 + (2 * (n - 1) * Lucas(2 * (n - 1)) - Fibonacci(2 * (n - 1))) / 5. - _ Ehren Metcalfe _ , Oct 22 2017 •

[**A116824**] • 1,2,6,21,73,229,634,1562,3481,7132,13622,24531,42033,69031,109306,167680,250193,364294,519046,725345,996153,1346745,1794970,2361526,3070249 ⋆ Number of permutations of length n which avoid the patterns 1234, 3412, 3421. • a(n) = (7n ^ 6 - 78n ^ 5 + 460n ^ 4 - 1500n ^ 3 + 2953n ^ 2 - 2922n + 1440) / 360. - Franklin T. Adams - Watters, Sep 16 2006 •

[**A116783**] • 1,2,6,21,73,232,654,1639,3705,7678,14798,26841,46257,76324,121318,186699,279313,407610,581878,814493,1120185,1516320,2023198,2664367,3466953 ⋆ Number of permutations of length n which avoid the patterns 1234, 2431, 4231. • a(n) = (4n ^ 6 - 45n ^ 5 + 250n ^ 4 - 735n ^ 3 + 1276n ^ 2 - 1110n + 540) / 180. - Franklin T. Adams - Watters, Sep 16 2006 •

[**A116770**] • 1,2,6,21,73,234,691,1910,5019,12690,31147,74694,175843,407810,934179,2117958,4759915,10617234,23527867,51839462,113639955,247988802,538968691,1167065766,2518680283 ⋆ Number of permutations of length n which avoid the patterns 1243, 1342, 4312. • a(n)=2 ^ n * (- 99 / 16 + 29n / 32 + 3n ^ 2 / 32) + n ^ 2 + 4n + 6, n>1. [From _ R. J. Mathar _ , Aug 05 2008] •

[**A294796**] • 1,1,2,6,21,73,236,700,1919,4927,12006,28090,63705,141109,307088,659576,1402947,2962699,6223018,13018294,27148925,56478465,117258996,243044020,503038535 ⋆ Permutations of [n] avoiding {1234, 1324, 3412}. • a(n) = - 5 + 3 * 2 ^ (1 + n) + (- 169 / 30 + 2 ^ n) * n - (3 * n ^ 2) / 2 - (5 * n ^ 3) / 6 - n ^ 5 / 30. • a(n) = 10 * a(n - 1) - 43 * a(n - 2) + 104 * a(n - 3) - 155 * a(n - 4) + 146 * a(n - 5) - 85 * a(n - 6) + 28 * a(n - 7) - 4 * a(n - 8) for n>7. •

[**A294705**] • 1,1,2,6,21,73,236,720,2119,6067,16886,45570,119145,302189,745488,1794596,4229467,9788759,22308538,50179894,111624605,245967345,537621876,1166947000,2517725615 ⋆ Number of permutations of [n] avoiding {1234, 1324, 3412}. • a(n) = 115 - 57 * 2 ^ (1 + n) + (2051 / 30 + 11 * 2 ^ n) * n + (37 * n ^ 2) / 2 + 5 * n ^ 3 + (2 * n ^ 5) / 15. • a(n) = 10 * a(n - 1) - 43 * a(n - 2) + 104 * a(n - 3) - 155 * a(n - 4) + 146 * a(n - 5) - 85 * a(n - 6) + 28 * a(n - 7) - 4 * a(n - 8) for n>7. •

[**A294762**] • 1,1,2,6,21,73,237,702,1881,4577,10216,21158,41097,75561,132523,223134,362589,571137,875246,1308934,1915277,2748105,3873897,5373886,7346385 ⋆ Number of permutations of [n] avoiding {4231, 1243, 1234}. • a(n) = (25200 - 52056 * n + 48650 * n ^ 2 - 20881 * n ^ 3 + 4340 * n ^ 4 - 154 * n ^ 5 - 70 * n ^ 6 + 11 * n ^ 7) / 5040 for n>0. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[**A294797**] • 1,1,2,6,21,73,237,711,1988,5253,13301,32673,78669,187230,443398,1050209,2497187,5976456,14419577,35101838,86229874,213707024,534022585,1344450284,3407215499 ⋆ Permutations of [n] avoiding {1243,1324,3412}. • a(n) = (1 / 120) * (3 * 2 ^ (2 - n) * (5 * 2 ^ (2 + n) * (- 1 + 2 ^ n) - (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (5 + sqrt(5))) + 4 * (- 73 + 15 * 2 ^ (1 + n)) * n - 120 * n ^ 2 - 65 * n ^ 3 - 3 * n ^ 5). • a(n) = 13 * a(n - 1) - 74 * a(n - 2) + 243 * a(n - 3) - 510 * a(n - 4) + 715 * a(n - 5) - 678 * a(n - 6) + 429 * a(n - 7) - 173 * a(n - 8) + 40 * a(n - 9) - 4 * a(n - 10) for n>9. •

[**A294799**] • 1,1,2,6,21,73,238,721,2046,5501,14158,35172,84895,200133,462714,1052727,2363200,5245849,11535354,25163458,54518249,117424881,251631318,536828413,1140787234 ⋆ Permutations of [n] avoiding {3412,1324,2341}. • a(n) = (1 / 720) * (- 20160 * (2 ^ n - 1) + 36 * (349 + 5 * 2 ^ (4 + n)) * n + 1556 * n ^ 2 + 1095 * n ^ 3 - 115 * n ^ 4 + 21 * n ^ 5 - n ^ 6) for n>0. • a(n) = 11 * a(n - 1) - 53 * a(n - 2) + 147 * a(n - 3) - 259 * a(n - 4) + 301 * a(n - 5) - 231 * a(n - 6) + 113 * a(n - 7) - 32 * a(n - 8) + 4 * a(n - 9) for n > 9. •

[**A294693**] • 1,1,2,6,21,73,238,722,2054,5541,14323,35788,87043,207201,484772,1118334,2550164,5759101,12899521,28689880,63419177,139435017,305102778,664755562,1442788402 ⋆ Permutations of n avoiding {1243, 2314, 3412} • a(n) = - n ^ 5 / 120 + n ^ 4 / 24 - n ^ 3 / 24 + (3 * 2 ^ n + 35) * n ^ 2 / 24 + (35 * 2 ^ n + 142) * n / 40 - (7 * 2 ^ n - 8). - _ Bruno Berselli _ , Nov 07 2017 •

[**A116757**] • 1,2,6,21,73,238,724,2075,5667,14892,37942,94273,229453,548954,1294440,3014775,6946951,15859864,35913898,80740541,180355281,400556262,884998396,1946157331,4261413163 ⋆ Number of permutations of length n which avoid the patterns 1324, 2314, 4312. • a(n) = (1 / 4) * (- 4 + 2 ^ (3 + n) - (2 + 5 * 2 ^ n) * n + (2 + 2 ^ n) * n ^ 2). • a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 63 * a(n - 3) - 66 * a(n - 4) + 36 * a(n - 5) - 8 * a(n - 6) for n>6. •

[**A294800**] • 1,1,2,6,21,73,238,726,2101,5857,15926,42626,112997,297861,782666,2052958,5379953,14091781,36901646,96621062,252971401,662305301,1733959342,4539590666,11884834161 ⋆ Permutations of [n] avoiding {1324,2341,3421}. • a(n) = (1 / 60) * (- 3 * 2 ^ (2 - n) * (15 * 2 ^ n + 2 * (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n - 2 * (3 - sqrt(5)) ^ n * (5 + sqrt(5))) + 80 * n - 85 * n ^ 2 + 10 * n ^ 3 - 5 * n ^ 4). • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 45 * a(n - 3) - 45 * a(n - 4) + 26 * a(n - 5) - 8 * a(n - 6) + a(n - 7) for n>6. •

[**A116754**] • 1,2,6,21,73,239,734,2134,5934,15918,41470,105470,262910,644350,1556478,3713022,8761342,20475902,47448062,109117438,249233406,565772286,1277165566,2868379646,6412042238 ⋆ Number of permutations of length n which avoid the patterns 2134, 2143, 4312. • a(n) = (1 / 128) * (4 * (- 64 + 65 * 2 ^ n) - 107 * 2 ^ n * n + 9 * 2 ^ (1 + n) * n ^ 2 + 2 ^ n * n ^ 3) for n > 2. - _ Colin Barker _ , Nov 02 2017 •

[**A116768**] • 1,2,6,21,73,239,738,2178,6220,17351,47595,128985,346492,924788,2456502,6502017,17164189,45219875,118954134,312559974,820560736,2152792187,5645155791,14797355181,38776269808 ⋆ Number of permutations of length n which avoid the patterns 1342, 3214, 4213. • a(n) = 2 ^ (- 1 - n) * (- 7 * 4 ^ n + 5 * (3 + sqrt(5)) ^ n - sqrt(5) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (5 + sqrt(5)) + 3 * 2 ^ (1 + n) * n). - _ Colin Barker _ , Nov 02 2017 • a(n) = 3 * n + 5 * Fibonacci(2 * n - 1) - 7 * 2 ^ (n - 1). - _ Ehren Metcalfe

_ , Nov 08 2017 •

[A294694] • 1,1,2,6,21,73,239,740,2194,6298,17653,48621,132199,356040,952154,2533014,6712221,17734489,46753127,123048884,323441770,849373210,2228871757,5845630221,15324795631 ★ Permutations of n avoiding {3412, 4132, 1324}. • a(n) = 8 * a(n - 1) - 25 * a(n - 2) + 39 * a(n - 3) - 32 * a(n - 4) + 13 * a(n - 5) - 2 * a(n - 6) for n>7. - _ Colin Barker _ , Nov 07 2017 •

[A294802] • 1,1,2,6,21,73,240,744,2192,6192,16896,44800,115968,294144,733184,1800192,4362240,10448896,24772608,58195968,135593984,313589760,720371712,1644691456,3733979136 ★ Number of permutations of [n] avoiding any of {3412,3421,1324}. • a(n) = 2 ^ (n - 6) * (36 - 8 * n + n ^ 2 + n ^ 3) for n>1. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>5. •

[A294695] • 1,1,2,6,21,73,240,748,2240,6525,18653,52640,147210,408957,1130398,3112172,8540753,23375439,63830072,173949534,473211976,1285299971,3486071977,9442928926,25548319586 ★ Permutations of n avoiding {1243, 2431, 3412}. • a(n) = 12 * a(n - 1) - 61 * a(n - 2) + 172 * a(n - 3) - 296 * a(n - 4) + 322 * a(n - 5) - 221 * a(n - 6) + 92 * a(n - 7) - 21 * a(n - 8) + 2 * a(n - 9) for n>8. - _ Colin Barker _ , Nov 07 2017 •

[A294803] • 1,1,2,6,21,73,241,754,2252,6471,18003,48736,128878,333949,850061,2130078,5263536,12845251,30998743,74055916,175309058,411566361,958923057,2218787146,5101322596 ★ Permutations of [n] avoiding {1324,2413,3421}. • a(n) = (1 / 32) * (256 - 115 * 2 ^ (1 + n) + (80 + 79 * 2 ^ n) * n - 2 * (5 * 2 ^ n - 8) * n ^ 2 + 2 ^ n * n ^ 3) for n>0. • a(n) = 11 * a(n - 1) - 51 * a(n - 2) + 129 * a(n - 3) - 192 * a(n - 4) + 168 * a(n - 5) - 80 * a(n - 6) + 16 * a(n - 7) for n>7. •

[A294804] • 1,1,2,6,21,73,242,762,2290,6610,18434,49922,131842,340738,864258,2156546,5304322,12881922,30932994,73531394,173211650,404684802,938475522,2161639426,4948230146 ★ Number of permutations of [n] avoiding {1324,3142,4231}. • a(n) = (1 / 192) * (384 - 51 * 2 ^ (2 + n) + 17 * 2 ^ (3 + n) * n - 27 * 2 ^ n * n ^ 2 + 5 * 2 ^ n * n ^ 3) for n>1. • a(n) = 9 * a(n - 1) - 32 * a(n - 2) + 56 * a(n - 3) - 48 * a(n - 4) + 16 * a(n - 5) for n>6. •

[A294697] • 1,1,2,6,21,73,244,790,2505,7839,24320,74998,230243,704359,2148620,6538740,19859175,60213343,182304334,551269876,1665215691,5025508101,15154701002,45668771716,137542144181 ★ Permutations of n avoiding {1342, 2143, 3412}. • a(n) = 9 * a(n - 1) - 31 * a(n - 2) + 52 * a(n - 3) - 45 * a(n - 4) + 19 * a(n - 5) - 3 * a(n - 6) for n>5. - _ Colin Barker _ , Nov 07 2017 •

[A294765] • 1,1,2,6,21,74,245,744,2068,5296,12608,28150,59412,119341,229477,424478,758491,1313931,2213350,3635214,5834559,9169668,14136101,21409620,31899782 ★ Number of permutations of [n] avoiding {4231, 1423, 1234}. • a(n) = (3628800 - 1447200 * n + 1660536 * n ^ 2 - 377700 * n ^ 3 + 154790 * n ^ 4 + 9135 * n ^ 5 - 987 * n ^ 6 + 1350 * n ^ 7 + 60 * n ^ 8 + 15 * n ^ 9 + n ^ 10) / 3628800. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>10. •

[A294698] • 1,1,2,6,21,74,248,780,2309,6483,17407,45028,112921,275964,660030,1550320,3586449,8190493,18500893,41399992,91896773,202564062,443789172,967093220,2097536909 ★ Permutations of n avoiding {1423, 1234, 3412}. • a(n) = (1 / 720) * (720 * (41 - 5 * 2 ^ (3 + n)) + 6 * (2812 + 465 * 2 ^ n) * n + 2 * (2627 + 45 * 2 ^ n) * n ^ 2 + 765 * n ^ 3 + 145 * n ^ 4 + 3 * n ^ 5 + n ^ 6). • a(n) = 13 * a(n - 1) - 75 * a(n - 2) + 253 * a(n - 3) - 553 * a(n - 4) + 819 * a(n - 5) - 833 * a(n - 6) + 575 * a(n - 7) - 258 * a(n - 8) + 68 * a(n - 9) - 8 * a(n - 10) for n > 9. (End) •

[A294766] • 1,1,2,6,21,74,248,784,2355,6785,18897,51177,135358,350788,893038,2237998,5530485,13496371,32566359,77785039,184083080,432004206,1006097772,2326777196,5346673751 ★ Permutations of [n] avoiding {4312, 1432, 1234}. • a(n) = (1 / 96) * (- 6 * (- 16 + 2 ^ n) + (- 136 + 123 * 2 ^ n) * n - 4 * (11 + 3 * 2 ^ (1 + n)) * n ^ 2 + (- 8 + 3 * 2 ^ n) * n ^ 3 - 4 * n ^ 4). • a(n) = 13 * a(n - 1) - 74 * a(n - 2) + 242 * a(n - 3) - 501 * a(n - 4) + 681 * a(n - 5) - 608 * a(n - 6) + 344 * a(n - 7) - 112 * a(n - 8) + 16 * a(n - 9) for n>9. •

[A116818] • 1,2,6,21,75,248,735,1952,4697,10378,21320,41163,75363,131808,221561,359742,566561,868514,1299754,1903649,2734539,3859704,5361555,7340060,9915417 ★ Number of permutations of length n which avoid the patterns 1234, 2341, 3421. • a(n) = (12n ^ 7 - 119n ^ 6 + 651n ^ 5 - 1505n ^ 4 + 693n ^ 3 + 6664n ^ 2 - 11436n + 10080) / 5040. - Franklin T. Adams - Watters, Sep 16 2006 •

[A294770] • 1,1,2,6,21,75,253,774,2130,5314,12169,25895,51756,98034,177282,307933,516327,839223,1326868,2046700,3087767,4565949,6630075,9469032,13319968 ★ Number of permutations of [n] avoiding {4231, 4123, 1234}. • a(n) = (40320 - 22704 * n + 33868 * n ^ 2 - 16996 * n ^ 3 + 6405 * n ^ 4 - 616 * n ^ 5 + 42 * n ^ 6 - 4 * n ^ 7 + 5 * n ^ 8) / 40320. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>8. •

[A294806] • 1,1,2,6,21,75,259,852,2669,7997,23043,64190,173677,458255,1183139,2997544,7470237,18349057,44497747,106691218,253229501,595589331,1389361107,3217028796,7398749581 ★ Number of permutations of [n] avoiding {1324,3421,3241}. • a(n) = (1 / 24) * (24 * (2 ^ (2 + n) - 3) + 5 * (2 ^ n - 16) * n - 6 * (2 ^ n + 2) * n ^ 2 + (2 ^ n - 4) * n ^ 3). • a(n) = 12 * a(n - 1) - 62 * a(n - 2) + 180 * a(n - 3) - 321 * a(n - 4) + 360 * a(n - 5) - 248 * a(n - 6) + 96 * a(n - 7) - 16 * a(n - 8) for n>7. •

[A116820] • 1,2,6,21,75,264,914,3127,10621,35932,121324,409301,1380417,4655382,15700590,52954137,178609067,602449564,2032105066,6854506171,23121097405,77990499392,263072412420,887378656761,2993247393297 ★ Number of permutations of length n which avoid the patterns 2341, 3241, 4213. • a(n) = 8 * a(n - 1) - 23 * a(n - 2) + 29 * a(n - 3) - 14 * a(n - 4) + a(n - 5) for n>5. - _ Colin Barker _ , Oct 18 2017 •

[A247416] • 2,6,21,75,273,1008,3762,14158,53635,204270,781378,2999906,11553234,44612760,172671925,669679793,2601913466,10125418060,39459828905,153977743500,601545298200,2352559491900,9209476821105,36084150102001,141499349638556 ★ Number of friezes of type B_n. • a(n) = sum _{ m=1..floor (sqrt(n + 1)) } binomial(2n - m ^ 2 + 1,n). •

[A105872] • 1,2,6,21,75,273,1009,3770,14202,53846,205216,785460,3017106,11624580,44905518,173863965,674506059,2621371005,10203609597,39773263035,155231706951,606554343495,2372544034143,9289131196485,36401388236461 ★ a(n)=sum{k=0..floor(n/2), C(2n-3k, n)}. • a(n)=sum { k=0..floor(n / 2), C (2n - 3k, n) } •

[A294817] • 1,1,2,6,21,76,270,927,3074,9886,30985,95064,286558,851203,2497550,7252494,20874861,59630404,169225518,477513639,1340705306,3747697726,10435070737,28954040496,80087091646 ★ Permutations of [n] avoiding {1324,2431,3241}. • a(n) = (1 / 25) * (2 ^ (- 1 - n) * (- 25 * 2 ^ (1 + n) + 75 * 2 ^ (1 + 2 * n) - 25 * (3 + sqrt(5)) ^ n - 37 * sqrt(5) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (- 25 + 37 * sqrt(5)) + 20 * ((3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n) * n)). • a(n) = 9 * a(n - 1) - 31 * a(n - 2) + 51 * a(n - 3) - 41 * a(n - 4) + 15 * a(n - 5) - 2 * a(n - 6) for n>5. •

[A294772] • 1,1,2,6,21,76,270,930,3114,10196,32820,104283,328048,1023854,3175395,9797833,30104416,92174093,281393563,856933273,2604185761,7899961881,23928712717,72385213846,218724040451 ★ Permutations of [n] avoiding {4132, 4123, 1243}. • a(n) = (35 / 16 + (13 * 3 ^ n) / 16 - ((3 - sqrt(5)) / 2) ^ n - ((3 + sqrt(5)) / 2) ^ n - (7 * n) / 6 + (5 * n ^ 2) / 8 - n ^ 3 / 12). • a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 83 * a(n - 3) - 97 * a(n - 4) + 64 * a(n - 5) - 22 * a(n - 6) + 3 * a(n - 7) for n>6. •

[A112091] • 1,2,6,21,76,276,1001,3626,13126,47501,171876,621876,2250001,8140626,29453126,106562501,385546876,1394921876,5046875001,18259765626,66064453126,239023437501,864794921876,3128857421876,11320312500001 ★ Number of idempotent order-preserving partial transformations (of an n-element chain). • a(n)= ((sqrt(5)) ^ (n - 1)) * (((sqrt(5) + 1) / 2) ^ n - ((sqrt(5) - 1) / 2) ^ n)); a(n)=1 + 5 * (a(n - 1) - a(n - 2)), a(0)=1, a(1)=2 • a(0)=1, a(1)=2, a(2)=6, a(n)=6 * a(n - 1) - 10 * a(n - 2) + 5 * a(n - 3). _ Harvey P. Dale _ , Aug 20 2011 •

[A116798] • 1,2,6,21,76,277,1012,3702,13553,49642,181885,666542,2442922,8954133,32821408,120310377,441018216,1616644946,5926191305,21723934190,79634709513,291922123258,1070118922286,3922810609205,14380129657444 ★ Number of permutations of length n which avoid the patterns 1234, 1342, 1432. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3) - 3 * a(n - 4) for n>4. - _ Colin Barker _ , Oct 23 2017 •

[A279560] • 1,1,2,6,21,76,277,1016,3756,13998,52554,198568,754316,2878552,11027384,42384412,163372325,631290168,2444700421,9485463044,36866810877,143508889270,559399074443,2183269032876,8530724152279 ★ Number of length n inversion sequences avoiding the patterns 100, 210, 201, and 102. • a(n) = binomial(2n - 2,n - 1) + Sum _{ k=2..n - 2 } Sum _{ i=1..k - 1 } Sum _{ u=1..i } Sum _{ d=0..u - 1 } ((i - d + 1) / (i + 1) * binomial(i + d,d)) for n>0, a(0)=1. •

[A131792] • 1,1,2,6,21,76,280,1045,3936,14925,56892,217791,836706,3224157,12456225,48232162,187131664,727309265,2831193004,11036424667,43076087806,168322335246,658416150496,2577945422410,10102468839284 ★ Main diagonal of triangle A131791: a(n) = A131791(n,n) for n>=0. • a(n) = [x ^ n] Product _{ j=0..n - 1 } [(1 - x ^ (2 ^ j + 1)) / (1 - x)] for n>0, with a(0)=1. - _ Max Alekseyev _ , Aug 30 2007. •

[A144904] • 0,1,2,6,21,76,280,1045,3937,14938,56993,218414,840090,3241153,12537263,48604755,188799962,734631798,2862843281,11171582151,43647688211,170720728344,668414462009,2619400928928,10273572796046 ★ Coefficient of x^n in expansion of x/((1-x-x^3)*(1-x)^(n-1)), also diagonal of A144903. • a(n) = [x ^ n] x / ((1 - x - x ^ 3) * (1 - x) ^ (n - 1)). •

[A101879] • 1,1,2,6,21,77,286,1066,3977,14841,55386,206702,771421,2878981,10744502,40099026,149651601,558507377,2084377906,7779004246,29031639077,108347552061,404358569166,1509086724602,5631988329241 ★ a(0) = 1, a(1) = 1, a(2) = 2; for n > 2, a(n) = 5*a(n-1) - 5*a(n-2) + a(n-3). • a(0) = a(1) = 1, for n>1 a(n) = (a(n - 1) + a(n - 1) ^ 2) / a(n - 2). - _ Seiichi Manyama _ , Aug 11 2016 • a(n) = (6 + (3 - sqrt(3)) * (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n * (3 + sqrt(3))) / 12. (End) • a(n) = 4 * a(n - 1) - a(n - 2) - 1. - _ Seiichi Manyama _ , Aug 26 2016 • a(n) = (a(n - 1) + 1) * (a(n - 2) + 1) / a(n - 3). •

[A101265] • 1,2,6,21,77,286,1066,3977,14841,55386,206702,771421,2878981,10744502,40099026,149651601,558507377,2084377906,7779004246,29031639077,108347552061,404358569166,1509086724602,5631988329241,21018866592361 ★ a(1) = 1, a(2) = 2, a(3) = 6; a(n) = 5*a(n-1) - 5*a(n-2) + a(n-3) for n>3. • a(n) = 4a(n - 1) - a(n - 2) - 1. - _ N. Sato _ , Jan 21 2010 • a(n)=(6 + (3 + r) * (2 + r) ^ (n - 1) + (3 - r) * (2 - r) ^ (n - 1)) / 12; r=sqrt(3). - _ Paul Weisenhorn _ , Jul 01 2010 • a(n + 1) = a(n) * (a(n) + 1) / a(n - 1) for n>1 with a(0)=1, a(1)=1. - _ Paul D. Hanna _ , Apr 08 2012 • a(n + 1) = 2 * a(n) + (sqrt(12 * a(n) ^ 2 - 12 * a(n) + 1) - 1) / 2. (End) •

[A279561] • 1,1,2,6,21,77,287,1079,4082,15522,59280,227240,873886,3370030,13027730,50469890,195892565,761615285,2965576715,11563073315,45141073925,176423482325,690215089745,2702831489825,10593202603775 ★ Number of length n inversion sequences avoiding the patterns 101, 102, 201, and 210. • a(n) = 1 + Sum _{ i=1..n - 1 } binomial(2i, i - 1). •

[A063023] • 0,1,1,2,6,21,77,292,1143,4592,18821,78364,330512,1409149,6063526,26298592,114849110,504595293,2228824203,9891723114,44087704836,197255893945,885630834120,3988872011820,18017892014655 ★ Reversion of y - y^2 - y^4 - y^5. • a(n)=sum(k=0..n - 1, (sum(j=floor((n - k - 1) / 3)..floor((n - k - 1) / 2), binomial(j,n - k - 2 * j - 1) * binomial(k,j))) * binomial(n + k - 1,n -

1)) / n, n>0, a(0)=0. [From _ Vladimir Kruchinin _ , May 26 2011] ●

[A124292] ● 1,1,2,6,21,78,297,1143,4419,17118,66366,257391,998406,3873015,15024609,58285737,226111986,877174110,3402893997,13201132950,51212274057,198672129783,770725711035,2989941920334,11599136512038 ⋆ Number of free generators of degree n of symmetric polynomials in 4 noncommuting variables. ● a(n) = 6a(n - 1) - 9a(n - 2) + 3a(n - 3). - _ David Nacin _ , Feb 11 2012 ●

[A129775] ● 1,1,2,6,21,78,298,1157,4539,17936,71251,284188,1137076,4561093,18333337,73816489,297635750,1201551286,4855672249,19640147061,79501958895,322037615290,1305256267511,5293166568270,21475362822956 ⋆ Number of maximally clustered permutations in S_n; the maximally clustered permutations are those that avoid 3421, 4312 and 4321. ● a(n) = sum(m=1..n - 1, sum(k=1..n - m, k * binomial(m + k - 1,m - 1) * binomial(2 * (n - m),n - m - k)) / (n - m)) + 1, a(0)=1. - _ Vladimir Kruchinin _ , Oct 11 2011 ● a(n) is the upper left term in M ^ n, M = an infinite square production matrix with (1, 1, 2, 4, 8, 16, ... powers of 2) as the left border, as follows: ●

[A111279] ● 1,2,6,21,79,309,1237,5026,20626,85242,354080,1476368,6173634,25873744,108628550,456710589,1922354351,8098984433,34147706833,144068881455,608151037123,2568318694867,10850577045131,45856273670841 ⋆ Number of permutations avoiding the patterns {3241,3421,4321}; number of weak sorting class based on 3241. ● a(n) is the sum of top row terms of M ^ (n - 1), M = an infinite square production matrix with powers of 2 as the left border as follows: ●

[A033321] ● 1,1,2,6,21,79,311,1265,5275,22431,96900,424068,1876143,8377299,37704042,170870106,779058843,3571051579,16447100702,76073821946,353224531663,1645807790529,7692793487307,36061795278341,169498231169821 ⋆ Binomial transform of Fine's sequence A000957: 1, 0, 1, 2, 6, 18, 57, 186, ... ● a(n) = ((13 * n - 5) * a(n - 1) - (16 * n - 23) * a(n - 2) + 5 * (n - 2) * a(n - 3)) / (2 * (n + 1)) (n>=3); a(0)=a(1)=1, a(2)=2. - _ Emeric Deutsch _ , Mar 21 2004 ● a(n) = Sum _{ m=1..n - 1 } (Sum _ (k=1..n - m } (binomial(n - m - 1, k - 1) * (m / (k + m)) * binomial(2 * k + m - 1, k + m - 1))) + 1. - _ Vladimir Kruchinin _ , May 12 2011 ● a(n) = upper left term in M ^ n, M = the production matrix: ●

[A112806] ● 1,1,2,6,21,79,312,1277,5369,23049,100612,445214,1992606,9004260,41025315,188259072,869305315,4036286518,18832973733,88259024068,415252542641,1960718710035,9288106921038,44129146527731 ⋆ Expansion of solution of functional equation. ● a(n) = Sum _{ i=0..n / 2 } ((binomial(n + 2 * i + 1,i) * Sum _{ k=0..n - 2 * i } (binomial(k,n - k - 2 * i) * (- 1) ^ (n - k) * binomial(n + k + 2 * i,k))) / (n + 2 * i + 1)). - _ Vladimir Kruchinin _ , Mar 07 2016 ●

[A106228] ● 1,1,2,6,21,80,322,1347,5798,25512,114236,518848,2384538,11068567,51817118,244370806,1159883685,5536508864,26560581688,127993221140,619280193640,3007251366000,14651743202152,71601107803904 ⋆ G.f. satisfies: A(x) = 1 + x*A(x)/(1 - x*A(x)^2). ● a(n + 1) = Sum[binomial(2n - 2k,n - k) * binomial(n + k,n) / (n + 1), { k,0,n }]. - _ David Callan _ , Aug 16 2006 ● a(n) = 1 / (n + 1) * sum(binomial(n + 1,k) * binomial(n + k + 1,n - k),k,0, n); - _ Vladimir Kruchinin _ , Feb 28 2010 ● a(n) = upper left term in M ^ n , M = the production matrix: ● a(n) is the sum of top row terms of Q ^ (n - 1), where Q = the following infinite square production matrix: ● a(n) = 3 _ F _ 2([- n, 1 - n, n + 1], [1, 3 / 2], 1 / 4). - _ Peter Luschny _ , Aug 02 2012 ●

[A129442] ● 1,2,6,21,80,322,1348,5814,25674,115566,528528,2449746,11485068,54377288,259663576,1249249981,6049846848,29469261934,144293491564,709806846980,3506278661820,17385618278700,86500622296800 ⋆ Expansion of c(x)*c(x*c(x)) where c(x) is the g.f. of A000108. ● a(n - 1) = (1 / n) * Sum _{ k=1..n } (binomial(2 * n - k - 1,n - 1) * binomial(2 * k - 2,k - 1)). ●

[A178325] ● 1,1,2,6,21,83,363,1730,8889,48829,284858,1755325,11374092,77208275,547261631,4039201624,30967330941,246084049137,2023030659970,17175765057532,150367445873108,1355528352031358,12566899017130088 ⋆ G.f.: A(x) = Sum_{n>=0} x^n/(1-x)^(n^2). ● a(n) = Sum _{ k=0..n } C((n - k) ^ 2 + k - 1, k). ●

[A090805] ● 1,2,6,21,85,430,2586,18109,144880,1303929,13039300,143432311,1721187744,22375440685,313256169604,4698842544075,75181480705216,1278085171988689,23005533095796420,437105128820131999,8742102576402640000,183584154104455440021,4038851390298019680484 ⋆ A simple recurrence with one error. ● a(0) = 1; a(n) = n * (a(n - 1) + 1) but make an error if n = 4. ●

[A033540] ● 1,2,6,21,88,445,2676,18739,149920,1349289,13492900,148421911,1781062944,23153818285,324153456004,4862301840075,77796829441216,1322546100500689,23805829809012420,452310766371235999 ⋆ a(n+1) = n*(a(n)+1) for n >= 1, a(1) = 1. ● a(n) = n! * (1 + 1 / 0! + 1 / 1! + ... + 1 / (n - 1)!). - Jon Bentley, jlb(AT)research.bell - labs.com ● a(n) = (n + 1) * a(n - 1) - (2 * n - 3) * a(n - 2) + (n - 3) * a(n - 3) for n>=4. - _ Jaume Oliver Lafont _ , Sep 11 2009 ● a(n) = n! + floor(e * n!) - 1, n>0. - _ Gary Detlefs _ , Jun 06 2010 ●

[A228396] ● 1,2,6,22,63,145,288,516,857,1343,2010,2898,4051,5517,7348,9600,12333,15611,19502,24078,29415,35593,42696,50812,60033 ⋆ The number of permutations of length n sortable by 2 reversals. ● a(n) = 8 + n * (n ^ 3 - 2 * n ^ 2 + 2 * n - 19) / 6 for n>2, a(1)=1, a(2)=2. [_ Bruno Berselli _ , Aug 22 2013] ●

[A219766] ● 0,0,0,0,0,0,0,0,2,6,22,67,213,744,2609,9016,31426,110381,390223,1383905,4931307,17633765,63301415,228130900 ⋆ Number of nonsquare simple perfect squared rectangles of order n up to symmetry. ● a(n) = ((n ^ (- 5 / 2)) * (4 ^ n)) / (2 ^ 5 * sqrt(pi)). ●

[A002839] ● 0,0,0,0,0,0,0,0,2,6,22,67,213,744,2609,9016,31426,110381,390223,1383905,4931308,17633773,63301427,228130926 ⋆ Number of simple perfect squared rectangles of order n up to symmetry. ● a(n) = ((n ^ (- 5 / 2)) * (4 ^ n)) / (2 ^ 5 * sqrt(Pi)). ●

[A109194] ● 2,6,22,70,224,700,2174,6702,20572,62920,191932,584220,1775258,5386846,16326734,49435150,149557436,452133880,1366012832,4124825872,12449394278,37558361290,113266431860,341467468420,1029119688014 ⋆ Number of returns to the x-axis (i.e., d or u steps hitting the x-axis) in all Grand Motzkin paths of length n. (A Grand Motzkin path of length n is a path in the half-plane x>=0, starting at (0,0), ending at (n,0) and consisting of steps u=(1,1), d=(1,-1) and h=(1,0).). ● a(n) = 2 * Sum _ (k=1..n } (Sum _{ j=0..n } binomial(j, - n - 2 * k + 2 * j) * binomial(n,j))), n>1. - _ Vladimir Kruchinin _ , Oct 12 2011 ●

[A014334] ● 0,0,2,6,22,70,230,742,2406,7782,25190,81510,263782,853606,2762342,8939110,28927590,93611622,302933606,980313702,3172361830,10265978470,33221404262,107506722406,347899061862 ⋆ Exponential convolution of Fibonacci numbers with themselves. ● a(0)=0, a(1)=0, a(2)=2, a(n) = 3a(n - 1) + 2a(n - 2) - 4a(n - 3). ● a(n) = sum(k=0, n - 1, 2 ^ k * F(k)) for n>0 where F(k) is the k - th Fibonacci number. ● a(n) = - 2 / 5 + ((1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n) / 5. (End) ● a(n) = sum(k=0, n, F(k) * F(n - k) * binomial(n, k)). - _ Benoit Cloitre _ , May 11 2005 ●

[A107239] ● 0,0,1,2,6,22,71,240,816,2752,9313,31514,106590,360606,1219935,4126960,13961456,47231280,159782161,540539330,1828631430,6186215574,20927817799,70798300288,239508933824 ⋆ Sum of squares of tribonacci numbers (A000073). ● a(n) = 1 / 4 - 1 / 11 * sum((3 + 7 *_ R + 5 *_ R ^ 2) / (3 *_ R ^ 2 - 2 *_ R - 1) *_ R ^ (- n), _ R = RootOf(_ Z ^ 3 -_ Z ^ 2 -_ Z - 1)) - 1 / 44 * sum((- 1 - 2 *_ R - 9 *_ R ^ 2) / (3 *_ R ^ 2 + 2 *_ R + 3) *_ R ^ (- n), _ R = RootOf(_ Z ^ 3 +_ Z ^ 2 + 3 *_ Z - 1)). - _ Robert Israel _ , Mar 26 2010 ●

[A217528] ● 1,2,6,22,78,254,766,2174,5886,15358,38910,96254,233470,557054,1310718,3047422,7012350,15990782,36175870,81264638,181403646,402653182,889192446,1954545662,4278190078 ⋆ a(n) = (n-2)*(n-3)*2^(n-2)+2^n-2. ● a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). G.f.: - x * (4 * x ^ 3 - 10 * x ^ 2 + 5 * x - 1) / ((x - 1) * (2 * x - 1) ^ 3). [_ Colin Barker _ , Oct 17 2012] ●

[A106434] ● 0,2,6,22,78,278,990,3526,12558,44726,159294,567334,2020590,7196438,25630494,91284358,325114062,1157910902,4123960830,14687704294,52311034542,186308512214,663547605726,2363259841606,8416874736270 ⋆ The (1,1)-entry of the matrix A^n, where A = [0,1;2,3]. ● a(n)= - (2 / 17) * sqrt(17) * [3 / 2 - (1 / 2) * sqrt(17)] ^ n + (2 / 17) * [3 / 2 + (1 / 2) * sqrt(17)] ^ n * sqrt(17), with n>=0 - _ Paolo P. Lava _ , Jun 12 2008 ●

[A164870] ● 1,2,6,22,84,320,1212,4576,17256,65048,245184,924160,3483408,13129952,49490592,186544480,703140672,2650342784,9989916864,37654917376,141932392320,534984681344,2016513669120,7600829555200,28649748728064 ⋆ The number of permutations of length n that can be sorted by 2 pop stacks in parallel. ● a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 6 * a(n - 3) for n>3. - _ Colin Barker _ , Oct 31 2017 ●

[A121686] ● 2,6,22,84,324,1254,4862,18876,73372,285532,1112412,4338536,16938120,66192390,258909390,1013586540,3971224620,15571021620,61096813140,239888764440,942483155640,3705043827420,14573172387852,57351122857944 ⋆ Number of branches in all binary trees with n edges. A binary tree is a rooted tree in which each vertex has at most two children and each child of a vertex is designated as its left or right child. ● a(n) = 2 * (n ^ 2 + 2) * binomial(2 * n,n) / ((n + 1) * (n + 2)). - _ Vaclav Kotesovec _ , Dec 10 2013 ●

[A105871] ● 1,2,6,22,85,336,1350,5492,22554,93300,388201,1622868,6811056,28680356,121111440,512684484,2174928031,9243973062,39354962345,167799259130,716414975613,3062437147352,13105366936465,56139506687280 ⋆ a(n) = sum{k=0..floor(n/2), C(2*n-3*k, n)*C(n-k, k)} ● a(n) = sum { k=0..floor(n / 2), C(2 * n - 3 * k, n) * C(n - k, k) } ●

[A116705] ● 1,2,6,22,86,321,1085,3266,8797,21478,48206,100728,198046,369617,659505,1131656,1876481,3018946,4728382,7230242,10820046,15879769,22896941,32486742,45417389 ⋆ Number of permutations of length n which avoid the patterns 1234, 4312. ● a(n) = (21 * n ^ 8 - 48 * n ^ 7 - 966 * n ^ 6 + 7728 * n ^ 5 - 8211 * n ^ 4 - 72912 * n ^ 3 + 311556 * n ^ 2 - 418608 * n + 241920) / 60480. - Franklin T. Adams - Watters, Sep 16 2006 ●

[A116706] ● 1,2,6,22,86,330,1206,4174,13726,43134,130302,380414,1078270,2978814,8046590,21311486,55468030,142147582,359268350,896794622,2213543934,5408292862,13091995646,31424774142,74845257726 ⋆ Number of permutations of length n which avoid the patterns 2134, 3421. ● a(n) = (24 * (- 32 + 39 * 2 ^ n) - 263 * 2 ^ (1 + n) * n + 165 * 2 ^ n * n ^ 2 - 13 * 2 ^ (1 + n) * n ^ 3 + 3 * 2 ^ n * n ^ 4) / 384 for n>1. ● a(n) = 11 * a(n - 1) - 50 * a(n - 2) + 120 * a(n - 3) - 160 * a(n - 4) + 112 * a(n - 5) - 32 * a(n - 6) for n>7. ●

[A165524] ● 1,2,6,22,86,332,1217,4140,12934,37088,98115,241269,555881,1208988,2498732,4936275,9367783,17151454,30408684,52373368,87869112,143950884,230755459,362614022,559490596 ⋆ Number of permutations of length n which avoid the patterns 4321 and 1324. ● a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12) for n >12. - _ Colin Barker _ , Oct 31 2017 ●

[A116709] ● 1,2,6,22,86,336,1290,4870,18164,67234,247786,911120,3346618,12286942,45104548,165573482,607817410,2231360192,8191763970,30074097062,110410946820,405353571346,1488185247962,5463619641904,20058759689642 ⋆ Number of permutations of length n which avoid the patterns 2341, 4213. ● a(n) = 8 * a(n - 1) - 22 * a(n - 2) + 25 * a(n - 3) - 10 * a(n - 4) + 2 * a(n - 5) for n>5. - _ Colin Barker _ , Oct 20 2017 ●

[A165530] ● 1,1,2,6,22,86,338,1314,5046,19190,72482,272530,1021734,382362

2,14293234,53394370,199382550,744348822,2778471490,10370520178,38705706374,144456761766,539130777874,2012086272674,7509256255862 ★ Number of permutations of length n which avoid the patterns 4321 and 3142. ● a(n) = (1 / 18) * (2 * (3 * 2 ^ n - (- 3 + sqrt(3)) * (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n * (3 + sqrt(3))) - 3 * 2 ^ n * n). ● a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 4 * a(n - 4) for n>3. ●

[A116707] ● 1,2,6,22,86,338,1318,5106,19718,76066,293398,1131794,4366374,16846018,64995254,250765298,967503814,3732821922,14401956182,55565542354,214382633062,827129764994,3191227078902,12312373271986,47503525349126 ★ Number of permutations of length n which avoid the patterns 1342, 4213. ● a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 16 * a(n - 3) - 4 * a(n - 4) for n>3. - _ Colin Barker _ , Oct 20 2017 ●

[A116704] ● 1,1,2,6,22,86,338,1318,5110,19770,76466,295810,1144530,4428622,17136186,66306722,256565926,992749334,3841316550,14863484902,57512368162,222536820262,861078033110,3331832349354,12892103081874 ★ Number of permutations of length n which avoid the patterns 2341, 4312. ● a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 22 * a(n - 3) - 13 * a(n - 4) + 4 * a(n - 5) for n>6. - _ Colin Barker _ , Oct 25 2017 ●

[A107243] ● 0,0,0,0,1,2,6,22,86,342,1303,5024,19424,75120,290416,1122160,4337009,16762634,64787534,250400910,967783566,3740437902,14456621263,55874162432,215950971648 ★ Sum of squares of pentanacci numbers (A001591). ● a(n)= 3 * a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 7 * a(n - 4) + 14 * a(n - 5) - 32 * a(n - 6) - 2 * a(n - 7) + 6 * a(n - 8) - 4 * a(n - 9) - 6 * a(n - 10) + 10 * a(n - 11) + a(n - 12) - a(n - 13) + a(n - 15) - a(n - 16). [_ R. J. Mathar _ , Aug 11 2009] ●

[A107244] ● 0,0,0,0,0,1,2,6,22,86,342,1366,5335,20960,82464,324528,1277104,5025200,19770800,77789489,306071370,1204272270,4738336974,18643463374,73354544590 ★ Sum of squares of hexanacci numbers (A001592, Fibonacci 6-step numbers). ● a(n)= 3 * a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3) + 6 * a(n - 4) + 14 * a(n - 5) + 28 * a(n - 6) - 67 * a(n - 7) - 9 * a(n - 8) - 8 * a(n - 9) + 28 * a(n - 10) - 8 * a(n - 11) - 12 * a(n - 12) + 20 * a(n - 13) + 5 * a(n - 14) + 5 * a(n - 15) - 10 * a(n - 16) + 2 * a(n - 18) - 2 * a(n - 19) - a(n - 21) + a(n - 22). [From _ R. J. Mathar _ , Aug 11 2009] ●

[A047849] ● 1,2,6,22,86,342,1366,5462,21846,87382,349526,1398102,5592406,22369622,89478486,357913942,1431655766,5726623062,22906492246,91625968982,366503875926,1466015503702,5864062014806,23456248059222,93824992236886 ★ a(n) = (4^n + 2)/3. ● a(n) = T(1,n), array T given by A047848. ●

[A032351] ● 1,1,2,6,22,88,366,1552,6652,28696,124310,540040,2350820,10248248,44725516,195354368,853829272,3733693872,16333556838,71476391800,312865382004,1369760107576,5998008630244,26268304208032,115055864102504 ★ Number of permutations of length n which avoid the patterns 2143, 1324 (smooth permutations); or avoid the patterns 1342, 2431; etc. ● a(n) = upper left term in n - th power of the following infinite square production matrix: ● a(n) = (Sum _{ m=0..n - 2 } (m + 3) * (Sum _{ k=0..m / 2 } Sum _{ j=0..m - 2 * k - 1 } 2 ^ j * binomial(j + k, k) * binomial(m - j, 2 * k + 1)) * binomial(2 * n - m - 2,n) + binomial(2 * n,n)) / (n + 1). - _ Vladimir Kruchinin _ , Sep 19 2014 ●

[A214358] ● 1,1,2,6,22,88,374,1668,7744,37182,183666,929480,4803018,25274088,135132886,732779504,4023875702,22346542912,125368768090,709852110576,4053103780006,23320440656376,135126739754922,788061492048436,4623591001082002 ★ Number of (2-14-3, 3-41-2)-avoiding permutations of size n. ● a(0) = 1, a(1) = 1, a(2) = 2, a(3) = 6, a(4) = 22, a(5) = 88 and ●

[A271388] ● 0,1,2,6,22,89,372,1570,6644,28137,119182,504854,2138586,9059185,38375312,162560418,688616968,2917028273,12356730042,52343948422,221732523710,939274043241,3978828696652,16854588829826,71397184015932 ★ a(n) = 4*a(n-1) + a(n-2) - n for n>1, with a(0)=0, a(1)=1. ● a(n) = 6 * a(n - 1) - 8 * a(n - 2) + 2 * a(n - 3) + a(n - 4). ● a(n) = (1 / 80) * (20 * n - 3 * (5 + 3 * sqrt(5)) * (2 - sqrt(5)) ^ n + 3 * (3 * sqrt(5) - 5) * (2 + sqrt(5)) ^ n + 30). ●

[A165543] ● 1,1,2,6,22,89,380,1678,7584,34875,162560,766124,3644066,17469863,84324840,409471090,1998933556,9804748548,48298256084,238840150970,1185256302910,5900843531665,29464355189120,147522603762870,740471407808372 ★ Number of permutations of length n which avoid the patterns 3241 and 4321. ● a(n) = sum(m=1..n - 1, (m * sum(k=1..n - m, (k * binomial(m + 2 * k - 1,m + k - 1) * binomial(2 * (n - m) - k - 1,n - m - 1)) / (m + k))) / (n - m)) + 1 (End) ● a(n) is the top left term in M ^ n, M = an infinite square production matrix with A000108 as the left column, as follows: ●

[A200753] ● 1,1,2,6,22,89,381,1694,7744,36168,171831,827814,4034589,19857262,98555324,492710856,2478897620,12541604830,63768192378,325674039636,1669922290311,8593644472017,44369362778645,229767801472366,1193126351099007 ★ G.f. satisfies: A(x) = 1 + (x-x^2)*A(x)^3. ● a(n) = Sum _{ k=0..[n / 2] } (- 1) ^ k * C(n - k, k) * C(3 * (n - k), n - k) / (2 * (n - k) + 1). ●

[A155069] ● 1,1,2,6,22,90,394,1806,8558,41586,206098,1037718,5293446,27297738,142078746,745387038,3937603038,20927156706,111818026018,600318853926,3236724317174,17518619320890,95149655201962,518431875418926 ★ Expansion of (3-x-sqrt(1-6*x+x^2))/2. ● a(n) = top left term of M ^ n, where M = the production matrix: ● a(n) = 1 / n * sum(i = 0..n / 2, binomial(n + i - 1,i) * binomial(2 * n, n - 2 * i - 1)), n>0, a(0)=1. - _ Vladimir Kruchinin _ , Nov 13 2014 ● a(n) = Catalan(n) * hypergeometric([1 / 2 - n / 2, 1 - n / 2, n], [n / 2 + 1, n / 2 + 3 / 2], 1). - _ Peter Luschny _ , Nov 14 2014 ●

[A006318] ● 1,2,6,22,90,394,1806,8558,41586,206098,1037718,5293446,27297738,142078746,745387038,3937603038,20927156706,111818026018,600318853926,3236724317174,17518619320890,95149655201962,518431875418926,2832923350929742,15521467648875090 ★ Large Schröder numbers (or large Schroeder numbers, or big Schroeder numbers). ● a(n) = 2 * hypergeom([- n + 1, n + 2], [2], - 1). - _ Vladeta Jovovic _ , Apr 24 2003 ● a(n) = (CentralDelannoy[n + 1] - 3 CentralDelannoy[n]) / (2n) = (- CentralDelannoy[n + 1] + 6 Central Delannoy[n] - CentralDelannoy[n - 1]) / 2 for n>=1 where CentralDelannoy i s A001850. - _ David Callan _ , Aug 16 2006 ● a(n) = the upper left term in M ^ (n + 1), M = the production matrix: ● a(n) is the sum of top row terms i n Q ^ n, Q = an infinite square production matrix as follows: ● a(n - 1) = nu mber of ordered complete binary trees with n leaves having k internal vertices colored black, the remaining n - 1 - k internal vertices colored white, and such that each vertex and its rightmost child have different colors ([Drake, Exampl e 1.6.7]). For a refinement of this sequence see A175124. - _ Peter Bala _ , S ep 29 2011 ● a(n + 1) = a(n) + sum (a(k) * (n - k): k = 0..n). - _ Reinhard Zumkeller _ , Nov 13 2012 ●

[A226435] ● 1,2,6,22,90,422,2226,13102,85170,606542,4697946,39330982,353985450,3408792662,34975509666,380947661662,4390028664930,53368010874782,682564606249386,9162253729773142,128794752680027610,1892150024227428902 ★ Number of permutations of 1..n with fewer than 2 interior elements having values lying between the values of their neighbors. ● a(n) = Sum _{ i =0..(n - 2) / 2 } ((n - 2 * i - 1) * Sum _{ j=0..2 * i } ((- 1) ^ (j + i) * 2 ^ (- n - j + 2 * i + 2) * Stirling2(n,n + j - 2 * i) * binomial(n + j - 2 * i - 1,n - 2 * i - 1) * (n + j - 2 * i)!)), n > 1, a(1)=1. - _ Vladimir Kruchinin _ , Apr 08 2016 ●

[A264868] ● 1,1,2,6,22,92,420,2042,10404,54954,298648,1660714,9410772,54174212,316038060,1864781388,11111804604,66782160002,404392312896,2465100947836,15116060536540,93184874448186,577198134479356,3590697904513792,22425154536754776 ★ Number of rooted tandem duplication trees on n gene segments. ● a(n) = Sum _{ k = 1..floor((n + 1) / 3) } (- 1) ^ (k + 1) * binomial(n + 1 - 2 * k,k) * a(n - k) with a(1) = a(2) = 1 (Yang and Zhang). ●

[A001181] ● 0,1,2,6,22,92,422,2074,10754,58202,326240,1882960,11140560,67329992,414499438,2593341586,16458756586,105791986682,687782586844,4517543071924,29949238543316,200234184620736,1349097425104912,9154276618636016,62522506583844272 ★ Number of Baxter permutations of length n. ● a(n) = Sum _{ k=1..n } C(n + 1,k - 1) * C(n + 1,k) * C(n + 1,k + 1)) / (C(n + 1,1) * C(n + 1,2). ●

[A074664] ● 1,1,2,6,22,92,426,2146,11624,67146,411142,2656052,18035178,128318314,954086192,7396278762,59659032142,499778527628,4341025729290,39035256389026,362878164902216,3482882959111530,34472032118214598 ★ Number of algebraically independent elements of degree n in the algebra of symmetric polynomials in noncommuting variables. ● a(n) = upper left term in M ^ (n - 1), where M is the following infinite square production matrix: ● a(n) = s um of top row terms in M ^ (n - 2). Example: top row of M ^ 4 = (22, 31, 28, 10, 1, 0, 0, 0, ...), where 22 = a(5) and (22 + 31 + 28 + 10 + 1) = 92 = a(6). - _ Gary W. Adamson _ , Jul 11 2011 ●

[A001861] ● 1,2,6,22,94,454,2430,14214,89918,610182,4412798,33827974,273646526,2326980998,20732504062,192982729350,1871953992254,18880288847750,197601208474238,2142184050841734,24016181943732414,278028611833689478 ★ Expansion of e.g.f. exp(2*(exp(x) - 1)). ● a(n) = Sum _{ k=1..n } 2 ^ k * Stirling2(n, k). - _ Emeric Deutsch _ , Oct 20 2001 ● a(n) = exp(- 2) * Sum _{ k>=1 } 2 ^ k * k ^ n / k!. - _ Benoit Cloitre _ , Sep 25 2003 ● a(0) = 1 a nd a(n) = 2 * Sum _{ k=0..n - 1 } binomial(n,k) * a(k) for n > 0. - _ Seiichi Manyama _ , Sep 25 2017 ●

[A193763] ● 1,2,6,22,94,462,2606,16862,124782,1048990,9921550,104447550,1211190638,15329157278,210093682254,3097760346238,48869022535726,821007386273118,14630266558195214,275575669958063678,5469996402416702958,114107289124208861470 ★ Number of signed permutations of length n avoiding (-2, 1) and (2, -1) ● a(0) = 1, and for n > 0, a(n) = n! + sum(j=0..n - 1, (n - j)! * a(j)). ● a(n) is the sum of top row terms of M ^ n, M = an infinite square production matrix as follows: ●

[A180389] ● 1,1,2,6,22,96,492,2952,20588,164990,1497740,15187692,169974040,2078905752,27567259896,393759207372,6025346314756,98317949671110,1703879074519500,31251488731748108,604748393942784976,12312387380060084768,263079571362773145632 ★ Number of permutations of 1..n with number of rises (p(i+1)>p(i)) the same as number of rises in the inverse permutation. ● a(n) = Sum _{ m=0..n + 1 } Sum _{ i=0..m } Sum _{ j=0..m } (- 1) ^{ i + j } binomial(n + 1,i) binomial(n + 1,j) binomial((m - i) * (m - j) + n - 1,n) . - _ Kevin Dilks _ , Jun 09 2015 ●

[A130907] ● 1,2,6,22,98,516,3172,22436,180252,1624888,16258376,178877832,2146674136,27907332272,390705042288,5860585983856,93769421948432,1594080384922656,28693447925921632 ★ E.g.f.: exp(x+x^2/2)/(1-x). ● a(n)=n! + (sum(m=0..n, sum(k=1..m, (binomial(k,m - k) * 2 ^ (k - m)) / k!))) * n!. [From Vladimir Kruchinin, Jul 02 2011] ●

[A052517] ● 0,0,2,6,22,100,548,3528,26136,219168,2053152,21257280,241087680,2972885760,39605518080,566931294720,8678326003200,141468564787200,2446811181158400,44753976117043200,863130293635276800 ★ Number of ordered pairs of cycles over all n-permutations having two cycles. ● a(n) = sum(2 * k * |S1(n - 1,k)|, k=1..n - 1) = 2 * |S1(n,2)|. - _ Olivier Gérard _ , Oct 23 2012 ●

[A103941] ● 1,2,6,22,103,614,3872,26414,186988,1367976,10254326,78461338,610598818,4821248244,38546510368,311560875422,2542507084588,20925300483992,173530381632724,1448900079476152 ★ Number of unrooted loopless n-edge maps in the plane (planar with a distinguished outside face). ● a(n)=(1 / (2n))[binomial(4n, n) / (3n + 1) + sum _{ 0<k<n, k|n } phi(n / k)binomial(4k, k) + q(n)] where phi is the Euler function A000010, q(n)=0 if n is even a nd q(n)=binomial(2n, (n - 1) / 2) if n is odd. ●

[A129535] ● 2,6,22,106,630,4394,35078,315258,3149494,34620010,415222566,5

395737242,75516784982,1132471183626,18115911832390,307919970965434,5541804787940598,105282261866132138,2105441434230129254 ⋆ Number of permutations of 1,...,n with at least one pair of adjacent consecutive entries (i.e., of the form k(k+1) or (k+1)k), n >= 2. • a(n) = n! - Sum _{ k=1..n } ((- 1) ^ (n - k) * k! * Sum _{ i=0..n - k } binomial(i + k - 1, k - 1) * binomial(k, n - i - k)), n > 0. - _ Vladimir Kruchinin _ , Sep 08 2010 •

[A111280] • 1,2,6,22,113,431,1584,5920,22214,83239,311777,1167902,4375090,16389450,61395989,229993639,861572476,3227511492,12090486122,45291815419,169666341761,635582108218,2380935499534,8919152662622,33411776268873 ⋆ Number of permutations avoiding the patterns {4231, 4321, 35142, 45312, 42513, 45132, 35412, 45213, 43512, 456123, 351624, 451623, 356124}; number of strong sorting class based on 4231. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) + 4 * a(n - 3) - a(n - 5). •

[A290954] • 1,2,6,23,65,177,506,1551,5041,17049,59131,208469,743491,2675189,9695778,35358815,129646177,477640361,1767265159,6564122733,24466269715,91482566757,343059617231,1289904151413,4861946406095 ⋆ The number of permutations in S_n for which the number of reduced words is minimized with respect to the numbers of braid and commutation classes: |R(w)| = |B(w)| + |C(w)| - 1. • a(1) = 1, a(2) = 2, and a(n) = C(n) + (n ^ 3 - 3n ^ 2 + 8n - 21) / 3 for n > 2, where C(n) is the n - th Catalan number. •

[A217200] • 2,6,23,78,207,458,891,1578,2603,4062,6063,8726,12183,16578,22067,28818,37011,46838,58503,72222,88223,106746,128043,152378,180027 ⋆ Number of permutations in S_{n+2} containing an increasing subsequence of length n. • a(0) = 2, a(n) = 3 + n + n ^ 2 / 2 + n ^ 3 + n ^ 4 / 2 for n>0. •

[A134064] • 1,2,6,23,96,407,1716,7163,29616,121487,495276,2009603,8124936,32761367,131834436,529712843,2125993056,8525430047,34166159196,136858084883,548012945976,2193794127527,8780404589556,35137304693723,140596281975696 ⋆ Let P(A) be the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are intersecting but for which x is not a subset of y and y is not a subset of x, or 1) x and y are intersecting and for which either x is a proper subset of y or y is a proper subset of x, or 2) x = y. • a(n) = (1 / 2)(4 ^ n - 3 ^ n + 2 ^ n + 1) = 3 * StirlingS2(n + 1,4) + 2 * StirlingS2(n + 1,3) + StirlingS2(n + 1,2) + 1. • a(n) = C(2 ^ n + 1,2) - (1 / 2)(3 ^ n - 1) = StirlingS2(2 ^ n + 1,2 ^ n) - StirlingS2(n + 1,3) - StirlingS2(n + 1,2). - _ Ross La Haye _ , Jan 21 2008 •

[A111283] • 1,2,6,23,96,409,1751,7505,32176,137956,591501,2536132,10873981,46623553,199904321,857114814,3674987126,15756967635,67559972476,289671844661,1242004318751,5325249092137,22832672531956,97897943538708 ⋆ Number of permutations avoiding the patterns {4321, 45132, 45231, 35412, 53412, 45213, 43512, 45312, 456123, 451623, 356124}; number of strong sorting class based on 4321. • a(n)=4a(n - 1) + a(n - 2) + a(n - 3) - 4; n>=4. •

[A242586] • 1,2,6,23,98,437,1995,9242,43258,204053,968441,4619012,22120631,106300508,512321438,2475395303,11986728458,58156146653,282640193313,1375737276788,6705522150973,32724071280518,159878425878848 ⋆ Expansion of 1/(2*sqrt(1-x))*(1/sqrt(1-x)+1/(sqrt(1-5*x))). • a(n) = sum(j=0..n, binomial(2 * j - 1,j) * binomial(n,j)). • a(n) = T(2 * n,n) for n>0, where T(n,k) is triangle of A105477. • a(n) = hypergeom([1 / 2, - n],[1], - 4) / 2 + 1 / 2. - _ Peter Luschny _ , May 18 2014 •

[A233106] • 1,2,6,23,99,452,2136,10313,50469,249062,1235466,6147803,30650439,152986472,764135196,3818284493,19084248009,95399716682,476934013326,2384476356383,11921800651179,59607259863692,298031069141856 ⋆ Number of n X 1 0..5 arrays with no element x(i,j) adjacent to value 5-x(i,j) horizontally or vertically, top left element zero, and 1 appearing before 2 3 and 4, and 2 appearing before 3 in row major order. • a(n) = (75 + 10 * 3 ^ n + 3 * 5 ^ n) / 120. •

[A133656] • 1,2,6,23,99,456,2199,10962,56033,292094,1546885,8299058,45010492,246377362,1359339710,7551689783,42206697209,237156951618,1338917298708,7591380528489,43207023511013,246773061257046,1413889039642479,8124356140582768,46807462792903984 ⋆ Number of below-diagonal paths from (0,0) to (n,n) using steps (1,0), (0,1) and (2k-1,1), k a positive integer. • a(n) = sum(k=0..n, binomial(n + k,n) * sum(j=0..k + n + 1, binomial(j, - n - 3 * k + 2 * j - 2) * (- 1) ^ (n + k - j + 1) * binomial(n + k + 1,j))) / (n + 1). - _ Vladimir Kruchinin _ , Oct 11 2011 •

[A263576] • 0,1,2,6,23,101,490,2597,14926,92335,610503,4288517,31848677,249044068,2043448968,17540957166,157108128963,1464813176354,14187155168782,142469605397465,1480903718595721,15908940627242898,176382950500197589,2015650339677868116 ⋆ Stirling transform of Fibonacci numbers (A000045). • a(n) = (B _ n(phi) - B _ n(1 - phi)) / sqrt(5), where B _ n(x) is n - th Bell polynomial. •

[A098746] • 1,1,2,6,23,102,495,2549,13682,75714,428882,2474573,14492346,85926361,514763279,3111119358,18946375767,116147683902,716179441293,4438862153246,27638747494178,172805469880497,1084462349973559,6828717036765622,43132158190994223 ⋆ Number of permutations of [1..n] which avoid 4231 and 42513. • a(n) is the upper left term in M ^ n, with sum of top row terms = a(n + 1). Example: top row of M ^ 3 = (6, 11, 5, 1), where a(3) = 6 and a(4) = 23 = (6 + 11 + 5 + 1). (End) •

[A022558] • 1,1,2,6,23,103,512,2740,15485,91245,555662,3475090,22214707,144640291,956560748,6411521056,43478151737,297864793993,2059159989914,14350039389022,100726680316559,711630547589023,5057282786190872,36132861123763276,259423620328055093 ⋆ Number of permutations of length n avoiding the pattern 1342. • a(n) = (7n ^ 2 - 3n - 2) / 2 * (- 1) ^{ n - 1 } + 3 sum _{ i=2..n } 2 ^{ i + 1 } * (2i - 4)! /{ i!(i - 2)! } * binomial { n - i + 2, 2 } * (- 1) ^{ n - i } . •

[A005802] • 1,1,2,6,23,103,513,2761,15767,94359,586590,3763290,24792705,167078577,1148208090,8026793118,56963722223,409687815151,2981863943718,21937062144834,162958355218089,1221225517285209,9225729232653663,70209849031116183,537935616492552297 ⋆ Number of permutations in S_n with longest increasing subsequence of length <= 3 (i.e., 1234-avoiding permutations); vexillary permutations (i.e., 2143-avoiding). • a(n) = 2 * Sum _{ k=0..n } binomial(2 * k, k) * (binomial(n, k)) ^ 2 * (3 * k ^ 2 + 2 * k + 1 - n - 2 * k * n) / ((k + 1) ^ 2 * (k + 2) * (n - k + 1)) • a(0) = 1, a(1) = 1, (n ^ 2 + 8 n + 16) a(n + 2) = (10 n ^ 2 + 42 n + 41) a(n + 1) - (9 n ^ 2 + 18 n + 9) a(n). - Alec Mihailovs (alec(AT)mihailovs.com), Aug 14 2005 • a(n) = Sum _{ k=0..n } binomial(2k,k) * binomial(n + 1,k + 1) * binomal(n + 2,k + 1) / (n + 1) ^ 2 / (n + 2). [Conway and Guttmann, Adv. Appl. Math. 64 (2015) 50] •

[A053488] • 0,1,2,6,23,103,535,3153,20676,149148,1172343,9960085,90864801,885278605,9167936406,100508961982,1162366436355,14136151459043,180287711599455,2405321659729837,33495442060505752,485880832780748932 ⋆ E.g.f.: exp(exp(sinh(x))-1)-1. • a(n) = Sum _{ m=1..n } (Sum _{ k } 1 / (2 ^ k * k!) * Sum _{ i=0..k } (- 1) ^ i * binomial(k,i) * (k - 2 * i) ^ n) * stirling2(k,m),k,m,n)), n>0. - _ Vladimir Kruchinin _ , Sep 10 2010 •

[A117106] • 1,2,6,23,104,530,2958,17734,112657,750726,5207910,37387881,276467208,2097763554,16282567502,128951419810,1039752642231,8520041699078,70840843420234,596860116487097,5089815866230374,43886435477701502,382269003235832006,3361054683237796748 ⋆ Number of permutations in S_n avoiding 21{bar 3}54 (i.e., every occurrence of 2154 is contained in an occurrence of a 21354). • a(n) = a(n - 1) * (11 * n ^ 2 + 11 * n - 6) / ((n + 4)(n + 3)) + a(n - 2) * (n - 3) * (n - 2) / ((n + 4) * (n + 3)). • a(n) = 24 / (((n - 1) * n ^ 2 * (n + 1) * (n + 2))) * Sum _{ j=0..n } binomial(n,j + 2) * binomial(n + 2,j) * binomial(n + j + 2,j + 1) •

[A030266] • 0,1,1,2,6,23,104,531,2982,18109,117545,808764,5862253,44553224,353713232,2924697019,25124481690,223768976093,2062614190733,19646231085928,193102738376890,1956191484175505,20401540100814142,218825717967033373,2411606083999341827 ⋆ Shifts left under COMPOSE transform with itself. • a(n) = [x ^ (n - 1)] [1 + A(x)] ^ n / n for n>=1 with a(0)=0; i.e., a(n) equals the coefficient of x ^ (n - 1) in [1 + A(x)] ^ n / n for n>=1. - _ Paul D. Hanna _ , Nov 18 2008 • a(n,m) = Sum _{ k=0..n } m * C(n + m,k) / (n + m) * a(n - k,k). •

[A113227] • 1,1,2,6,23,105,549,3207,20577,143239,1071704,8555388,72442465,647479819,6083742438,59885558106,615718710929,6595077685263,73424063891526,847916751131054,10138485386085013,125310003360265231 ⋆ Number of permutations avoiding the pattern 1-23-4. • a(n) = the upper left term in M ^ n, M = the production matrix: •

[A125273] • 1,1,2,6,23,106,567,3434,23137,171174,1376525,11934581,110817423,1095896195,11487974708,127137087319,1480232557526,18075052037054,230855220112093,3076513227516437,42686898298650967,615457369662333260 ⋆ Eigensequence of triangle A085478: a(n) = Sum_{k=0..n-1} A085478(n-1,k)*a(k) for n>0 with a(0)=1. • a(n) = Sum _{ k=0..n - 1 } C(n + k - 1,n - k - 1) * a(k) for n>0 with a(0)=1. •

[A277176] • 1,2,6,23,106,572,3564,25377,204446,1844876,18465556,203179902,2438366836,31699511768,443795839192,6656947282725,106511191881270,1810690391626380,32592427526913540,619256124778620450,12385122502136529420,260087572569333384840 ⋆ Exponential convolution of Catalan numbers and factorial numbers. • a(n) = Sum _{ i=0..n } binomial(n,i) * C(i) * (n - i)!. •

[A000772] • 1,1,2,6,23,107,583,3633,25444,197620,1684295,15618141,156453857,1683050189,19344093070,236497985706,3063827565763,41916787157011,603799270943519,9132945141812301,144708157060239704,2396568154933265024,41403636316192616995 ⋆ E.g.f. exp(tan(x) + sec(x) - 1). • a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator (1 + x + x ^ 2 / 2!) * d / dx. Cf. A000110 and A094198. See also A185422. - Peter Bala, Nov 25 2011 •

[A007555] • 1,1,2,6,23,107,586,3690,26245,207997,1817090,17345358,179595995,2004596903,23992185226,306497734962,4162467826729,59882101858777,909688617178178,14551535460258966,244477068964113407 ⋆ Number of standard paths of length n in composition poset. • a(n) is asymptotic to n!(c1(n + 1 + c2) + c2) / ((sqrt(2)c2) ^ n * c1 ^ c1 * c2 ^ 2) where c1=1 + sqrt(2), c2=log(c1). •

[A155857] • 1,2,6,23,107,590,3786,27821,230869,2137978,21873854,245151555,2987967551,39358156310,557259550034,8440866957273,136211005966889,2330687104521 46,42276699542130166,808068680469402095 ⋆ Row sums of triangle A155856. • a(n) = sum { k=0..n, C(2n - k,k) * (n - k)! } . • a(n) = sum { k=0..n, C(n + k,2k) * k! } . [_ Paul Barry _ , May 28 2009] •

[A177253] • 1,1,2,6,23,118,714,5016,40201,362163,3623772,39876540,478639079,6223394516,87138394540,1307195547720,20916564680761,355600269756485,6401066270800350,121624180731849810,2432546364331038479,51084540451761077514,1123879093137556106358 ⋆ Number of permutations of [n] having no adjacent 4-cycles, i.e., no cycles of the form (i, i+1, i+2, i+3). • a(n) = Sum _{ j=0..floor(n / 4) } (- 1) ^ j * (n - 3 * j)! / j!. • a(n) - n * a(n - 1) = 3a(n - 4) + 4 * (- 1) ^{ n / 4 } if 4|n; a(n) - n * a(n - 1) = 3a(n - 4) otherwise. •

[A099732] • 1,2,6,24,24,72,144,1152,1296,2304,6912,82944,82944,165888,497664,7962624,15925248,47775744,191102976,191102976,573308928,1146617856,13759414272,13759414272,27518828544 ⋆ Largest order of a solvable subgroup of the symmetric group S_n. • a(n) <= 24 ^ ((n - 1) / 3). Equality holds iff n is a power of 4. •

[A232981] • 1,1,2,6,24,24,144,1008,8064,72576,72576,798336,9580032,124540416,1743565824,1743565824,27897053184,474249904128,8536498274304,162193467211776,162193467211776,3406062811447296,74933381851840512,1723467782592331776,41363226782215962624 ⋆ The Gauss factorial n_5!. • a(n) = a(n - 1) if 5 | n. otherwise n * a(n - 1). • a(n) = n! / (5 ^ floor(n / 5) * floor(n / 5)

!). (End) •

[A257546] • 1,1,2,6,24,40,80,140,280,504,1008,1848,3696,6864,13728,25740,51480,97240,194480,369512,739024,1410864,2821728,5408312,10816624 ⋆ Number of permutations of length n such that numbers at odd positions are monotone and numbers at even positions are also monotone. • a(n) = 4 * binomial (n,floor(n / 2))) for n > 4; a(n) = n! for n=0,1,2,3,4. • a(n + 2) = (4 * (1 + n) * a(n) + 2 * a(n + 1)) / (n + 3) for n >= 4. (End) •

[A004306] • 1,1,2,6,24,44,80,144,264,484,888,1632,3000,5516,10144,18656,34312,63108,116072,213488,392664,722220,1328368,2443248,4493832 ⋆ Rook polynomials. • a(0)=1, a(1)=1, a(2)=2, a(3)=6, a(4)=24, a(5)=44, a(6)=80, a(7)=144, a(n)=2 * a(n - 1) - a(n - 4). - _ Harvey P. Dale _ , Dec 13 2011 •

[A113904] • 1,2,6,24,48,108,162,225,297,459,639,837,1053,1170,1296,1566,1854,2160,2322,2493,2853,3231,3429,3843,4275 ⋆ Starting with 1, each number is the previous number plus the product of the index number and the sum of the digits of the previous number. • a(n) = a(n - 1) + (n - 1) * s(n - 1), where s(n) stands for the sum of the digits of n. •

[A104114] • 1,2,6,24,48,432,1296 ⋆ The order of the smallest solvable group with derived length n. • a(n) >= 2 * a(n - 1). - _ Charles R Greathouse IV _ , May 26 2014 •

[A289161] • 0,0,2,6,24,50,114,196,352,540,850,1210,1752,2366,3234,4200,5504,6936,8802,10830,13400,16170,19602,23276,27744 ⋆ Number of 3-cycles in the n X n black bishop graph. • a(n) = (n - 1) ^ 2 * (2 * n ^ 2 - 4 * n + 3 - 3 * (- 1) ^ n) / 24. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A087645] • 2,6,24,72,172,352,646,1094,1742,2642,3852,5436,7464,10012,13162,17002,21626,27134,33632,41232,50052,60216,71854,85102,100102 ⋆ Third column of A071223. • a(n) = (3 * n ^ 4 - 10 * n ^ 3 + 9 * n ^ 2 - 2 * n + 24) / 12. - _ Vladeta Jovovic _ , Oct 26 2003 •

[A002526] • 1,1,2,6,24,78,230,675,2069,6404,19708,60216,183988,563172,1725349,5284109,16177694,49526506,151635752,464286962,1421566698,4352505527,13326304313,40802053896,124926806216 ⋆ Number of permutations of length n within distance 3 of a fixed permutation. • a(0)=1, a(1)=1, a(2)=2, a(3)=6, a(4)=24, a(5)=78, a(6)=230, a(7)=675, a(8)=2069, a(9)=6404, a(10)=19708, a(11)=60216, a(12)=183988, a(13)=563172, a(n)=2 * a(n - 1) + 2 * a(n - 2) + 10 * a(n - 4) + 8 * a(n - 5) - 2 * a(n - 6) - 16 * a(n - 7) - 10 * a(n - 8) - 2 * a(n - 9) + 4 * a(n - 10) + 2 * a(n - 11) + 2 * a(n - 13) + a(n - 14). - _ Harvey P. Dale _ , Jun 22 2011 •

[A117665] • 0,2,6,24,80,210,462,896,1584,2610,4070,6072,8736,12194,16590,22080,28832,37026,46854,58520,72240,88242,106766,128064,152400 ⋆ n times the n-th n-gonal number. • a(n) = n (n + 1) (n ^ 2 - 3 n + 4) / 2. - corrected by _ Eric Rowland _ , Aug 15 2017 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. •

[A003759] • 0,2,6,24,86,320,1176,4340,15994,58970,217388,801426,2954496,10891960,40153904,148030026,545722366,2011841328,7416784934,27342464080,100799786752,371605023956,1369946288898,5050396829138 ⋆ Number of Hamilton cycles in D_4 X P_n. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) + a(n - 4), n>4. •

[A217527] • 2,6,24,88,288,864,2432,6528,16896,42496,104448,251904,598016,1400832,3244032,7438336,16908288,38141952,85458944,190316544,421527552,929038336,2038431744,4454350848,9697230848 ⋆ a(n) = 2^(n-2)*(n-2)^2+2^(n-1). • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). G.f.: - 2 * x ^ 2 * (6 * x ^ 2 - 3 * x + 1) / (2 * x - 1) ^ 3. [_ Colin Barker _ , Oct 17 2012] •

[A226037] • 1,2,6,24,88,528,1392,11136,41856,192192,516032,6192384,13270272,185783808,511526400,1163742720,4403449344,79262088192,199280729088,3985614581760,8463108648960,19276630732800,54618972549120,1310855341178880,2751134770298880 ⋆ a(n) = Sum_{c in P(n)} LCM(c) where P(n) is the set of all subsets of {1,2,...,n}. • a(n) = Sum _{ k=0..n } Sum _{ c in C(n,k) } lcm(c) where C(n,k) are the combinations of n with size k. •

[A192466] • 2,6,24,90,352,1386,5504,21930,87552,349866,1398784,5593770,22372352,89483946,357924864,1431677610,5726666752,22906579626,91626143744,366504225450,1466016202752,5864063412906,23456250855424,93824997829290 ⋆ Coefficient of x in the reduction by x^2->x+2 of the polynomial p(n,x)=1+x^n+x^(2n). • a(n) = (- 1 - (- 1) ^ n + 2 ^ n + 4 ^ n) / 3. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) + 8 * a(n - 4) for n>4. •

[A115220] • 0,0,0,0,1,2,6,24,95,380,1520,6072,24253,96870,386910,1545368,6172403,24653392,98468904,393297808,1570883385,6274315690,25060445446,100094728568,399791564311 ⋆ Expansion of x^4*(1-2*x-2*x^2)/(1-4*x+x^4-2*x^5-2*x^6). • a(0)=a(1)=a(2)=a(3)=0,a(4)=1,a(5)=2,a(6)=6; for n>6 a(n) = 4 * a(n - 1) - a(n - 4) + 2 * a(n - 5) + 2 * a(n - 6). - _ Zak Seidov _ , Mar 06 2006 •

[A060725] • 1,1,2,6,24,96,576,4032,32256,290304,2975616,32731776,392781312,5106157056,71486198784,1070549415936,17128790654976,291189441134592,5241409940422656,99586788868030464,1991897970827821056,41829857387384242176,920256862522453327872 ⋆ E.g.f.: exp(-(x^5/5))/(1-x). • a(n,k) = n! * floor(floor(n / k)! * k ^ floor(n / k) / exp(1 / k) + 1 / 2) / (floor(n / k)! * k ^ floor(n / k)), k=5, n>=0. - _ Simon Plouffe _ , Feb 18 2011 •

[A094012] • 0,1,2,6,24,100,408,1624,6336,24336,92320,346720,1291392,4776512,17562496,64245120,233969664,848748800,3068269056,11057710592,39740405760,142466343936,509572929536,1818872207360,6480018948096 ⋆ Expansion of x(1-6x+10x^2)/(1-4x+2x^2)^2. • a(n)=n(2 - sqrt(2)) ^ n(3 / 4 + sqrt(2) / 2) + n(2 + sqrt(2)) ^ n(3 / 4 - sqrt(2) / 2). •

[A141253] • 1,2,6,24,100,408,1631,6440,25263,98790,385803,1506156,5881057,22974406,89804910,351279584,1375035208,5386203792,21113167346,82816267480,325055630634,1276635121388,5016837177052,19725798613152,77601159558800 ⋆ Number of permutations that lie in the cyclic closure of Av(132)–i.e., at least one cyclic rotation of the permutation avoids the pattern 132. • a(n) = n(C(n) - C(n - 1) - ... - C(1)), where C(n) denotes the n - th Catalan number. •

[A128652] • 1,2,6,24,104,464,2088,9392,42064,187296,828776,3644912,15937776,69317984,300009744,1292654304,5547021728,23715100480,101046014952,429209373296,1817975905456,7680278380512,32368750662320 ⋆ Number of square permutations of length n. • a(n) = 2 * (n + 2) * 4 ^ (n - 3) - 4 * (2 * n - 5) * C(2 * n - 6,n - 3) for n>=2, a(1)=1. •

[A094433] • 1,2,6,24,108,504,2376,11232,53136,251424,1189728,5629824,26640576,126064512,596543616,2822874624,13357986048,63210668544,299116094976,1415432558592,6697898781696,31694797338624,149981391341568 ⋆ a(n) = left term in M^n * [1 0 0], M = the 3 X 3 matrix [1 -1 0 / -1 3 -2 / 0 -2 2]. • a(n) = (3 + sqrt(3)) ^ (n - 2) + (3 - sqrt(3)) ^ (n - 2) - Tamas Kalmar - Nagy (integers(AT)kalmarnagy.com), Mar 23 2008, corrected _ R. J. Mathar _ , Mar 28 2010, Jun 02 2010. •

[A141254] • 1,2,6,24,110,510,2268,9632,39492,158190,624745,2447808,9552244,37214086,144932760,564676096,2201735552,8592780798,33568042425,131261440720,513747571680,2012524130518,7890178181831,30957296889264 ⋆ Number of permutations that lie in the cyclic closure of Av(123) - i.e., at least one cyclic rotation of the permutation avoids the pattern 123. • a(n) = n * (C(n) - 2 ^ n + binomial(n,2) + 2) for n >= 4. •

[A216879] • 1,2,6,24,110,540,2772,14704,79974,443594,2499640,14269320,82346004,479604748,2815557264,16643093712,98974828886,591742372068,3554708076858,21444913596408,129870710693976,789237890852160,4811481299622276,29417496447990096,180337119342194820 ⋆ G.f. satisfies: A(x) = sqrt(theta_3(x*A(x)) / theta_4(x*A(x))). • a(n) = [x ^ n] (theta _ 3(x) / theta _ 4(x)) ^ ((n + 1) / 2) / (n + 1). •

[A192088] • 2,6,24,114,528,2334,9528,36834,135918,484206,1678152,5694786,19007808,62625054,204215340,660445914,2121665016,6778399914,21557206332,68294432778,215651021484,679023425238,2132750062560,6684084844362,20907052386534 ⋆ Number of permutations of [n] realized by the shift on 3 letters. • a(n)=3 ^ (n - 2) + sum(psi _ 3(t) * 3 ^ (n - t - 1),t=1..n - 1) - (n - 1) * sum (psi _ 2(t) * 2 ^ (n - t - 1),t=0..n - 1), where psi _ N(t) is the number of primitive words of length t over an N - letter alphabet, expressible in terms of the Möbius function. •

[A209625] • 1,2,6,24,114,600,3372,19824,120422,749848,4760228,30688560,200338740,1321408656,8791205496,58912586784,397228820742,2692522813848,18333530047428,125325068538672,859639878194844 ⋆ G.f. A(x) satisfies A(A(x)-2*A(x)^2)=x/(1-2*x) • a(n)=T(n,1), T(n,m)=1 / 2 * (binomial(n - 1,m - 1) * 2 ^ (n - m) - (sum(k=m + 1..n - 1, T(k,m) * sum(i=k..n, T(n,i) * binomial(k,i - k) * (- 2) ^ (i - k))) + sum(i=m + 1,n, T(n,i) * binomial(m,i - m) * (- 2) ^ (i - m)))), T(n,n)=1. •

[A054872] • 1,2,6,24,114,600,3372,19824,120426,749976,4762644,30723792,200778612,1326360048,8842981848,59425117152,402092408346,2737156004376,18732169337604,128806616999184,889479590046108,6165939982059600,42891532191557736 ⋆ Number of (12345, 13245, 21345, 23145, 31245, 32145)-avoiding permutations. • a(n) = 2 ^ (n - 1) * (LegendreP _{ n - 1 } (2) - LegendreP _{ n - 3 } (2)) / (2 * n - 3). •

[A128088] • 1,2,6,24,115,618,3591,22088,141903,943590,6452490,45159480,322305165,2339100078,17223121350,128428689888,968383277791,7374380672718,56655414930642,438741242896680,3422125459579869,26866961380274598 ⋆ a(n) = Sum_{k=0..n} A000108(k)*A001263(n+1,k+1), where A000108 is the Catalan numbers and A001263 is the Narayana triangle. • a(n) = Sum _{ k=0..n } C(2k,k) * C(n,k) * C(n + 1,k) / (k + 1) ^ 2. •

[A228395] • 1,2,6,24,116,521,1877,5531,13939,31156,63416,119802,213006,360179,583871,913061,1384277,2042806,2943994,4154636,5754456,7837677,10514681,13913759,18182951 ⋆ The number of permutations of length n sortable by 3 prefix block transpositions. • a(n) = 1 + (1 / 24) * (3n ^ 6 - 37n ^ 5 + 184n ^ 4 - 441n ^ 3 + 509n ^ 2 - 218n). [_ Ralf Stephan _ , Aug 22 2013] •

[A007405] • 1,2,6,24,116,648,4088,28640,219920,1832224,16430176,157554048,1606879040,17350255744,197553645440,2363935624704,29638547505408,388328781668864,5304452565517824,75381218537805824,1112348880749130752,17014743624340539392,269360902955086379008 ⋆ Dowling numbers: binomial transform of A004211. • a(n) = sum of top row terms of M ^ n, M = an infinite square production matrix in which a diagonal of 1's is appended to the right of Pascal's triangle squared; as follows: •

[A228397] • 1,2,6,24,118,534,1851,5158,12264,25943,50214,90656,154758,252304,395793,600894,886936,1277433,1800644,2490168,3385574,4533066,5986183,7806534,10064568 ⋆ The number of permutations of length n sortable by 3 reversals. • a(n) = n! for 0 < n < 4; for n > 3, a(n) = 318 + n * (7 * n ^ 5 - 21 * n ^ 4 - 125 * n ^ 3 - 819 * n ^ 2 + 12862 * n - 42720) / 144. [_ Bruno Berselli _ , Aug 22 2013] •

[A263777] • 1,1,2,6,24,118,674,4306,29990,223668,1763468,14558588,124938648,1108243002,10115202962,94652608690,905339525594,8829466579404,87618933380020,883153699606024,9028070631668540,93478132393544988,979246950529815364,10368459385853924212 ⋆ Number of inversion sequences avoiding pattern 201 (or 210). • a(n) = Sum _{ k=0..n - 1 } Sum _{ p= - 1,k - 1 } T(n,k,p), where T(n,k,p) = Sum _{ i= - 1..p } T(n - 1,k,i) + Sum _{ j=p + 1..k } T(n - 1,j,p) with initial conditions T(n,k,p) = 0 if k >= n and T(n,k, - 1) = (n - k) / n * binomial(n - 1 + k,k). (eqn. (4) and (5) in Corteel link) - _ Georghe Coserea _ , Sep 21 2017 •

[A047889] • 1,1,2,6,24,119,694,4582,33324,261808,2190688,19318688,178108704,1705985883,16891621166,172188608886,1801013405436,19274897768196,21

0573149141896,2343553478425816,26525044132374656,304856947930144656 ★ Number of permutations in S_n with longest increasing subsequence of length <= 4. ● a(0)=1, a(1)=1, (n ^ 3 + 16 * n ^ 2 + 85 * n + 150) * a(n + 2) = (20 * n ^ 3 + 182 * n ^ 2 + 510 * n + 428) * a(n + 1) - (64 * n ^ 3 + 256 * n ^ 2 + 320 * n + 128) * a(n). - Alec Mihailovs (alec(AT)mihailovs.com), Aug 14 2005 ●

[A094198] ● 1,2,6,24,119,702,4795,37183,322486,3091630,32453172,370104159,4555518746,60182704891,849245520581,12746759647944,202753756944382,3406596290534764,60282041591986049,1120554350714688130 ★ Number of ways that n boxes with distinct sizes can contain each other under the condition that each box may contain at most three (themselves possibly nested) boxes. Each box is assumed to be large enough to contain any three smaller boxes. ● a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator (1 + x + x ^ 2 / 2! + x ^ 3 / 3!) * d / dx. Cf. A000110 and A000772. - Peter Bala, Nov 25 2011 ●

[A177523] ● 1,1,2,6,24,119,709,4928,39144,349776,3472811,37928331,451891992,5832672456,81074690424,1207441809209,19181203110129,323753459184738,5785975294622694,109149016813544376,2167402030585724571,45190632809497874161,987099099863360190632 ★ Number of permutations of 1..n avoiding adjacent step pattern up, up, up, up. ● a(n) / n! ~ c * (1 / r) ^ n, where r = 1.007187547786015395418998654... is the root of the equation Sum _{ n>=0 } (r ^ (5 * n) / (5 * n)! - r ^ (5 * n + 1) / (5 * n + 1)!) = 0, c = 1.02806793756750152.... - _ Vaclav Kotesovec _ , Dec 11 2013 ●

[A005395] ● 0,1,2,6,24,119,711,4981,39903,359537,3598696,39615626,475687487,6187239476,86661001741,1300430722200,20814114415224,353948328666101,6372804626194310,121112786592293964,2422786846761133394,50888617325509644404,1119751494628234263303 ★ Leading term of Stirling's approximation to n!, sqrt(2*Pi)*n^(n+(1/2))/e^n, rounded up. ● a(n) = ceiling(sqrt(2 * Pi) * n ^ (n + (1 / 2)) / e ^ n). - _ Wesley Ivan Hurt _ , Jun 11 2016 ●

[A048631] ● 1,1,2,6,24,120,272,1904,15232,124800,848640,7507200,39738368,433441792,2589116416,30419859456,486717751296,8128101580800,132557598294016,1971862458400768,30421253686034432,512675443057623040 ★ Xfactorials - like factorials but use carryless GF(2)[X] polynomial multiplication. ● a(0) = 1, a(n) = n X a(n - 1) (see the Maple function Xfactorial given below). ●

[A062348] ● 2,6,24,120,360,5040,40320,362880,1814400,39916800,239500800,6227020800,43589145600,653837184000,20922789888000,355687428096000,3201186852864000,121645100408832000,1216451004088320000 ★ n! / number of distinct prime divisors of n. ● a(n) = n! / omega(n). ●

[A258216] ● 1,1,2,6,24,120,480,3600,30240,151200,1693440,20321280,121927680,1828915200,28740096000,201180672000,3793692672000,73977007104000,591816056832000,13463815292928000,314155690168320000 ★ Number of permutations of {1,2,3,...,n} such that no multiples of 3 are adjacent. ● a(n) = factorial(n - floor(n / 3)) * fallfac(n + 1 - floor(n / 3),floor(n / 3)), where fallfac is falling factorial, A008279. ●

[A228401] ● 1,2,6,24,120,540,1996,6196,16732,40459,89519,184185,356721,656475,1156443,1961563,3219019,5130856,7969228,12094622,17977422,26223198,37602126,53082966,73872046 ★ The number of permutations of length n sortable by 2 block interchanges. ● a(n) = 1 + n * (n - 1) * (n + 1) * (n + 2) * (3 * n ^ 4 - 10 * n ^ 3 - 11 * n ^ 2 + 50 * n + 216) / 5760. [_ Bruno Berselli _ , Aug 22 2013] ●

[A228399] ● 1,2,6,24,120,577,2208,6768,17469,39603,81272,154225,274802,464985,753556,1177362,1782687,2626731,3779196,5323979,7360972,10007969,13402680,17704852,23098497 ★ The number of permutations of length n sortable by 2 cut-and-paste moves. ● a(n) = n! for 0 < n < 5; for n > 4, a(n) = - 18 + n * (107 * n ^ 5 - 1077 * n ^ 4 + 2225 * n ^ 3 + 12345 * n ^ 2 - 61732 * n + 80532) / 720. [_ Bruno Berselli _ , Aug 22 2013] ●

[A070946] ● 1,1,2,6,24,120,600,3480,22800,164880,1285920,10516320,92931840,877374720,8762014080,91819440000,1005716908800,11584953158400,139521689740800,1748830512960000,22750446292531200,306931140411955200,4296645083802470400,62213458150660147200 ★ Number of permutations on n letters that have only cycles of length 5 or less. ● a(n) = n! * sum(k=1..n, 1 / k! * sum(r=0..k, binomial(k,r) * sum(m=0..r, 2 ^ (m - r) * binomial(r,m) * sum(j=0..m, binomial(m,j) * binomial(j,n - m - k - j - r) * 3 ^ (j - m) * 4 ^ (n - r - m - k - 2 * j) * 5 ^ (m + k + j + r - n)))). - _ Vladimir Kruchinin _ , Jan 26 2011 ●

[A060726] ● 1,1,2,6,24,120,600,4200,33600,302400,3024000,33264000,405820800,5275670400,73859385600,1107890784000,17726252544000,301346293248000,5419293175296000,102966570330624000,2059331406612480000 ★ For n >= 1 a(n) is the number of permutations in the symmetric group S_n such that their cycle decomposition contains no 6-cycle. ● a(n,k) = n! * floor(floor(n / k)! * k ^ floor(n / k) / exp(1 / k) + 1 / 2) / (floor(n / k)! * k ^ floor(n / k)), k=6, n>=0. - _ Simon Plouffe _ , Feb 18 2011 ●

[A177533] ● 1,2,6,24,120,719,5027,40168,361080,3606480,39623760,474915803,6166512899,86227808578,1291868401830,20645144452320,350547210173280,6302294420371031,119600213982762899,2389140113204434900,50111866901959213980,1101140993932295832120 ★ Number of permutations of 1..n avoiding adjacent step pattern up, up, up, up. ● a(n) / n! ~ 1.005827831279392186... * (1 / r) ^ n, where r = 1.001198827324062303188 7... is the root of the equation Sum _{ n>=0 } (r ^ (6 * n) / (6 * n)! - r ^ (6 * n + 1) / (6 * n + 1)!) = 0. - _ Vaclav Kotesovec _ , Dec 11 2013 ●

[A060727] ● 1,1,2,6,24,120,720,4320,34560,311040,3110400,34214400,410572800,5337446400,75613824000,1134207360000,18147317760000,308504401920000,5553079234560000,105508505456640000,2110170109132800000,44288746761093120000,974352428744048640000 ★ For n >= 1 a(n) is the number of permutations in the symmetric group S_n such that their cycle decomposition contains no 7-cycle. ● a(n,k) = n! * floor(floor(n / k)! * k ^ floor(n / k) / exp(1 / k) + 1 / 2) / (floor(n / k)! * k ^ floor(n / k)), k=7, n>=0. - _ Simon Plouffe _ , Feb 18 2011 ●

[A177553] ● 1,2,6,24,120,720,5039,40305,362682,3626190,39881160,478490760,6219298800,87055051511,1305598835941,20885951018102,354999461960226,6388879812001704,121367620532150280,2426930566055020080,50956684690331669759,1120852238721212726609 ★ Number of permutations of 1..n avoiding adjacent step pattern up, up, up, up, up, up. ● a(n) / n! ~ c * (1 / r) ^ n, where r = 1.000173818153150450451826096271468777578582359301888 6... is the root of the equation Sum _{ n>=0 } (r ^ (7 * n) / (7 * n)! - r ^ (7 * n + 1) / (7 * n + 1)!) = 0, c = 1.001019110425945028245077059407672242472755532278.... - _ Vaclav Kotesovec _ , Aug 29 2014 ●

[A230051] ● 1,1,2,6,24,120,720,5040,40319,362863,3628550,39913170,478947480,6226179960,87164597520,1307440134000,20918580896069,355608034188517,6400803479701178,121612584595293870,2432198062707745560,51075033128533094520,1123625953230764250960 ★ Number of permutations of [n] avoiding adjacent step pattern {up}^7. ● a(n) / n! ~ c / r ^ n, where r = 1.000022049683783699533284147567973895123730881775982184532 2... is the root of the equation exp(- r) + cos(r) - sin(r) + 2 * cos(r / sqrt(2)) * cosh(r / sqrt(2)) - sqrt(2) * cos(r / sqrt(2)) * sinh(r / sqrt(2)) - sqrt(2) * cosh(r / sqrt(2)) * sin(r / sqrt(2)) = 0, c = 2 * sqrt(2) / (r * sqrt(2 + cosh(sqrt(2) * r) - cos(2 * r) + 2 * cosh(r / sqrt(2)) * (2 * sqrt(2) * sin(r) * sin(r / sqrt(2)) - cos(sqrt(2) * r) * cosh(r / sqrt(2))))) = 1.000151614491474683940060792265709477298542079161253 7... . - _ Vaclav Kotesovec _ , Aug 23 2014, updated Feb 01 2015 ●

[A230231] ● 1,1,2,6,24,120,720,5040,40320,362879,3628781,39916492,478996716,6226941864,87176969880,1307651304960,20922368987520,355679390626560,6402213152423659,121641748198554547,2432828930036156696,51089280818439941448,1123961390341566969192 ★ Number of permutations of [n] avoiding adjacent step pattern {up}^8. ● a(n) / n! ~ 1.000019566510089146960643485918995388141791988532066043233168093971 9... * (1 / r) ^ n, where r = 1.000002480213409266822204447585112197216529167837838918373007768095757 1... is the root of the equation Sum _{ n>=0 } (r ^ (9 * n) / (9 * n)! - r ^ (9 * n + 1) / (9 * n + 1)!) = 0. - _ Vaclav Kotesovec _ , Jan 17 2015 ●

[A109834] ● 1,2,6,24,120,720,5040,40320,362880,362880,362880,362880,362880,362880,362880,362880,362880,362880,362880,725760,1451520,2903040,5806080,11612160,23224320 ★ Startorial numbers: product of initial digits of integers 1 through n. ● a(n + 1) = a(n) * InitialDigitOf(n). ● a(n) = Product _{ i = 1..n } floor(i / 10 ^ (floor(log _ 10(i)))) where log _ 10(i) is the logarithm of i in base 10. ●

[A131451] ● 1,2,6,24,120,720,5040,40320,362880,362880,362880,725760,2177280,8709120,43545600,261273600,1828915200,14631321600,131681894400,263363788800,526727577600,2106910310400,12641461862400,101131694899200 ★ Product of the nonzero digital products of all the numbers 1 to n (a 'total digital-product factorial' in base 10). ● a(n)=product { 1<=k<=n, dp _ p(k) } where dp _ p(k) = product of the nonzero digits of k in base p. ● a(n)=(n mod p)! * product { 0<j<=log _ p(n) } (p - 1)! ^ (floor(n / p ^ j) * p ^ (j - 1)) * product { 0<j<=log _ p(n),(floor(n / p ^ j)mod p)>0 } (floor(n / p ^ j) mod p) ^ (1 + (n mod p ^ j)) * ((floor(n / p ^ j)mod p) - 1)! ^ (p ^ j). ● a(n) =n!, for 0<=n<p. ● a(k * p ^ m)=k * (p - 1)! ^ (k * m * p ^ (m - 1)) * (k - 1)! ^ (p ^ m) for 0<=k<p. ● a(n)=(p - 1)! ^ ((m * p ^ (m + 1) - (m + 1) * p ^ m + 1) / (p - 1) ^ 2)=(p - 1)! ^ (1 + 2 * p + 3 * p ^ 2 + ... + m * p ^ (m - 1)) for n=1 + p + p ^ 2 + ... + p ^ m. ● a(n)=(p - 1)! ^ (k * (m * p ^ (m + 1) - (m + 1) * p ^ m + 1) / (p - 1) ^ 2) * (k - 1)! ^ (p * (p ^ m - 1) / (p - 1)) * k ^ (k * (p ^ (m + 1) - (m + 1) * p + m) / (p - 1) ^ 2) * k! * k ^ m, for n= k * (1 + p + p ^ 2 + ... + p ^ m). ●

[A230232] ● 1,1,2,6,24,120,720,5040,40320,362880,3628799,39916779,479001228,6227014404,87178179816,1307672369640,20922752672640,355686706327680,6402359109968640,121644792614741760,2432895242801771955,51090787299486057355,1123997039003038423610 ★ Number of permutations of [n] avoiding adjacent step pattern {up}^9. ● a(n) / n! ~ c * (1 / r) ^ n, where r = 1.000000250521705189094679308103963969300825716918907902833963292381 6... is the root of the equation Sum _{ n>=0 } (r ^ (10 * n) / (10 * n)! - r ^ (10 * n + 1) / (10 * n + 1)!) = 0, c = 1.000002229648140602899529055054469878816530201510267349345270187155... . - _ Vaclav Kotesovec _ , Jan 17 2015 ●

[A230233] ● 1,1,2,6,24,120,720,5040,40320,362880,3628800,39916799,479001577,6227020358,87178283010,1307674215120,20922786961440,355687370176320,6402372516146880,121645075013280000,2432901444395385600,51090929159028595200,1124000415686590747031 ★ Number of permutations of [n] avoiding adjacent step pattern {up}^10. ● a(n) / n! ~ 1.000000227556759905306252970186381144189779110025896440589711080508... * (1 / r) ^ n, where r = 1.000000229644384397324218798407928362385192334921973259264424726205641... is the root of the equation Sum _{ n>=0 } (r ^ (11 * n) / (11 * n)! - r ^ (11 * n + 1) / (11 * n + 1)!) = 0. - _ Vaclav Kotesovec _ , Jan 17 2015 ●

[A254523] ● 1,1,2,6,24,120,720,5040,40320,362880,3628800,39916800,479001599,6227020775,87178290682,1307674357710,20922789683040,355687423926240,6402373618334400,121645098513933120,2432901965590252800,51090941178938707200,1124000703776060323200 ★ Number of permutations of [n] avoiding adjacent step pattern {up}^11. ● a(n) / n! ~ c * (1 / r) ^ n, where r = 1.000000019270853046730165249753673978954992128247736041276... is the root of the equation Sum _{ n>=0 } (r ^ (12 * n) / (12 * n)! - r ^ (12 * n + 1) / (12 * n + 1)!) = 0, equivalently root of the equation exp(- r) + cos(r) + 2 * cos(r / 2) * cosh(sqrt(3) * r / 2) - cosh(sqrt(3) * r / 2) * sin(r / 2) - sin(r) + cosh(r / 2) * (2 * cos(sqrt(3) * r / 2) - sqrt(3) * sin(sqrt(3) * r / 2)) - cos(sqrt(3) * r / 2) * sinh(r / 2) - sqrt(3) * cos(r / 2) * sinh(sqrt(3) * r / 2) = 0, c = 3 /

(r * sqrt((cosh(sqrt(3) * r / 2) * sin(r / 2) + sin(r)) ^ 2 + 2 * sqrt(3) * cosh(r / 2) * (cosh(sqrt(3) * r / 2) * sin(r / 2) + sin(r)) * sin(sqrt(3) * r / 2) + 3 * cosh(r / 2) ^ 2 * sin((sqrt(3) * r) / 2) ^ 2)) = 1.00000002103734835158187128021564967567884045340796891457736119905298189 19... . ●

[**A124355**] ● 0,0,2,6,24,120,720,5040,40320,362880,3628800,39916800,479001600,6227020800,87178291200,1307674368000,20922789888000,355687428096000,6402373705728000,121645100408832000,2432902008176640000 ★ Number of (directed) Hamiltonian cycles on the complete graph K_n. ● a(1) = 0, a(2) = 0, a(n) = (n - 1)! otherwise. ●

[**A159333**] ● 1,1,1,1,2,6,24,120,720,5040,40320,362880,3628800,39916800,479001600,6227020800,87178291200,1307674368000,20922789888000,355687428096000,6402373705728000,121645100408832000,2432902008176640000 ★ Roman factorial of n. ● a(n) = n! = for a nonnegative integer. a(n) = ((- 1) ^ (n + 1)) / (- n - 1)! for negative integer n. There is a gamma function formula for n onintegral n. ●

[**A000142**] ● 1,1,2,6,24,120,720,5040,40320,362880,3628800,39916800,479001600,6227020800,87178291200,1307674368000,20922789888000,355687428096000,6402373705728000,121645100408832000,2432902008176640000,51090942171709440000,1124000727777607680000 ★ Factorial numbers: n! = 1*2*3*4*...*n (order of symmetric group S_n, number of permutations of n letters). ● a(n) = n * a(n - 1), n >= 1. n! ~ sqrt(2 * Pi) * n ^ (n + 1 / 2) / e ^ n (Stirling's approximation). ● a(0) = 1, a(n) = subs(x = 1, (d ^ n / dx ^ n)(1 / (2 - x))), n = 1, 2, ... - _ Karol A. Penson _ , Nov 12 2001 ● a(n) = Sum _{ i=1..n } ((- 1) ^ (i - 1) * sum of 1..n taken n - i at a time) - e.g., 4! = (1 * 2 * 3 + 1 * 2 * 4 + 1 * 3 * 4 + 2 * 3 * 4) - (1 * 2 + 1 * 3 + 1 * 4 + 2 * 3 + 2 * 4 + 3 * 4) + (1 + 2 + 3 + 4) - 1 = (6 + 8 + 12 + 24) - (2 + 3 + 4 + 6 + 8 + 12) + 10 - 1 = 50 - 35 + 10 - 1 = 24. - _ Jon Perry _ , Nov 14 2005 ● a(n) = (n - 1) * (a(n - 1) + a(n - 2)), n >= 2. - Matthew J. White, Feb 21 2006 ● a(n) = Prod _{ p prime } p ^{ Sum _{ k > 0 } [n / p ^ k] } by Legendre's formula for the highest power of a prime dividing n!. - _ Jonathan Sondow _ , Jul 24 2009 ● a(n) = a(n - 1) ^ 2 / a(n - 2) + a(n - 1), n >= 2. - _ Jaume Oliver Lafont _ , Sep 21 2009 ●

[**A216779**] ● 0,0,1,2,6,24,135,930,7420,66752,667485,7342290,88107426,1145396472,16035550531,240533257874,3848532125880,65425046139840,1177650830516985,22375365779822562,447507315596451070,9397653627525472280,206748379805560389951,4755212735527888968642 ★ Number of derangements on n elements with an odd number of cycles. ● a(n + 1) = n * (a(n) + a(n - 1) - n + 2), a(0)=0, a(1)=0. ●

[**A073973**] ● 0,2,6,24,180,1440,9072,50544,286416,1658880,9722592,58335552,356638464,2179768320,13180786560,79012495872,472093588224,2821539889152,16894457846784,101356447675392,608733733690368,3656096522698752,21947538146863104,131685228881178624 ★ Number of strings of length n over Z_6 with trace 0 and subtrace 2. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[**A074351**] ● 1,1,2,6,24,240,720,5040,40320,514080,3628800,80166240,479001600,6797831040,93774320640,1307674368000,20922789888000,523845011289600,6402373705728000,153101623051630080,2471368711740364800,51182316789956352000,1124000727777607680000 ★ Number of elements of S_n having order n. ● a(n) = n! * coefficient of x ^ n in expansion of Sum _{ i divides n } mu(n / i) * exp(Sum _{ j divides i } x ^ j / j). - _ Vladeta Jovovic _ , Sep 29 2002 ●

[**A000805**] ● 1,1,2,6,24,720,1854,4738,12072,30818,79118,204448,528950,1370674,3557408,9244418,24043990,62573616,162925614,424377730,1105703640,2881483458,7510389278,19577689120,51038756326 ★ Permanent of a certain cyclic n X n (0,1) matrix. ● a(n) = 96 + sum(b(i) * a(n - i),i=1..15) where b(i)=[2, 2, 1, 0, - 4, - 18, - 16, - 12, - 10, - 4, 4, 3, 2, 2, 1] for n>=21. - _ Sean A. Irvine _ , Jun 29 2011 ●

[**A229042**] ● 1,2,6,25,114,560,2880,15321,83600,465322,2631668,15079922,87362184,510837760,3010987912,17870854206,106713713826,640659094566,3864643224900,23412690485800,142386465217920,868967571732540,5320093500153120,32666064906596550,201109232686971492 ★ Series reversion of (sqrt(1+4*x) - 1)/2 - x^2. ● a(n) = binomial(2 * (n - 1),(n - 1)) / n - sum(k=1..n - 1, k * (- 1) ^ (k - n) * binomial(n + k - 1,n - 1) * ((sum(l=0..k - 1, (binomial(k - 1,l) * binomial(2 * (n + l - k),n - k - 1)) / (n + l - k))))) / n. - _ Vladimir Kruchinin _ , Feb 08 2015 ●

[**A188687**] ● 1,2,6,25,126,704,4183,25897,165166,1077520,7156352,48222354,328859011,2265428728,15740837575,110187356134,776336572878,5501042194580,39177463572112,280277949384146,2013277273220064,14514764553512488,104993261648226446 ★ Partial binomial sums of binomial(3n,n)/(2n+1) = A001764(n). ● a(n) = sum(binomial(n,k) * binomial(3k,k) / (2k + 1),k=0..n). ●

[**A247499**] ● 1,2,6,25,135,896,7042,63841,654901,7491574,94470926,1301130777,19423173211,312256205652,5376809244458,98700795776641,1923638785344457,39661911384761866,862362968121278038,19717031047061570777,472849461034147171791,11866892471399392308232 ★ a(n) = n!*hypergeom([-n-1], [2], -1) - 1/((n+1)*(n+2)). ● a(n) = sum(k=0..n, (n! / k!) * C(n + 2, k + 1) / (n + 2)). ●

[**A092438**] ● 0,2,6,26,90,302,966,3026,9330,28502,86526,261626,788970,2375102,7141686,21457826,64439010,193448102,580606446,1742343626,5228079450,15686335502,47063200806,141197991026,423610750290 ★ Sequence arising from enumeration of domino tilings of Aztec Pillow-like regions. ● a(n)=(3 ^ (n + 1) + (- 1) ^ (n + 1)) / 2 - 2 ^ (n + 1) + 1 ●

[**A092880**] ● 1,2,6,26,126,602,2766,12266,52926,223802,932526,3844106,15722526,63936602,258902286,1045109546,4209004926,16921851002,67945160046,272554432586,1092540156126,4377129999002,17529432313806,70180474597226 ★ Number of ordered 2-multiantichains on an n-set. ● a(n) = 4 ^ n - 2 * 3 ^ n + 2 * 2 ^ n. ●

[**A192808**] ● 1,2,6,26,126,618,3022,14746,71902,350538,1708910,8331130,40615294,198004778,965298958,4705957722,22942154782,111845982474,545263681710,2658231220538,12959222223038,63177890368490,308000415667278,1501542003033370 ★ Constant term in the reduction of the polynomial (x^2+2)^n by x^3->x^2+2. See Comments. ● a(n)=7 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). ●

[**A034474**] ● 2,6,26,126,626,3126,15626,78126,390626,1953126,9765626,48828126,244140626,1220703126,6103515626,30517578126,152587890626,762939453126,3814697265626,19073486328126,95367431640626,476837158203126 ★ a(n) = 5^n + 1. ● a(n) = 5 * a(n - 1) - 4 = 6 * a(n - 1) - 5 * a(n - 2). ●

[**A230071**] ● 0,0,2,6,26,130,782,5474,43794,394146,3941462,43356082,520272986,6763548818,94689683454,1420345251810,22725524028962,386333908492354,6954010352862374,132126196704385106,2642523934087702122,55493002615841744562,1220846057548518380366 ★ Sum over all permutations without double ascents on n elements and each permutation contributes 2 raised to the power of the number of double descents. ● a(n) = closest integer to (e - 2 + 1 / e) * n! for n > 3. ● a(n) = (2 - n) * a(n - 3) + a(n - 2) + n * a(n - 1) for n > 2. ●

[**A134094**] ● 1,2,6,26,140,887,6405,51564,455712,4370567,45081476,496556194,5806502663,71734434956,932447207866,12707973761320,181033752071568,2688530124711819,41525910256013832,665674913113633582 ★ Binomial convolution of the Stirling numbers of the second kind. ● a(n) = Sum _{ k=0..n } C(n + 1,k) * S2(n,k). From _ Olivier Gérard _ , Oct 23 2012 ●

[**A107404**] ● 1,2,6,26,144,962,7536,67706,685824,7730882,95970816,1300815386,19113775104,302616787202,5135568746496,92996021795066,1789758460329984,36479831022049922,785020114093080576,17785273588395966746 ★ E.g.f. = 1/(1-sinh(x))^2 ● a(n) = D ^ n(1 / (1 - x) ^ 2) evaluated at x = 0, where D is the operator sqrt(1 + x ^ 2) * d / dx. Cf. A006154. - Peter Bala, Dec 06 2011 ●

[**A132609**] ● 1,2,6,26,147,1026,8532,82394,906485,11194402,153347766,2307805402,37851581159,672037936898,12841521329896,262772642843802,5733086299727913,132853067341477538,3258726189638877610 ★ Antidiagonal sum of table A072590(n,k) = n^(k-1)*k^(n-1) for n>=1. ● a(n) = Sum _{ k=1..n } (n - k + 1) ^ (k - 1) * k ^ (n - k) for n>=1. ●

[**A052844**] ● 1,2,6,26,148,1032,8464,79592,842832,9914336,128162464,1804852128,27489582784,450089665664,7880963503872,146913179393408,2904309329449216,60677563647195648,1335634021282590208 ★ A simple grammar. ● a(n) = n! * sum(m=1,n, ((sum(j=0,m, binomial(m,j) * binomial(n - j - 1,m - j - 1)))) / m!) + 1; [_ Vladimir Kruchinin _ , May 02 2012] ●

[**A103937**] ● 2,6,26,150,1032,8074,67086,586752,5317226,49592424,473357994,4606116310,45554761836,456848968518,4637014782748,47563495004742,492422043299964,5140194991046122,54053208147441474,572191817441284272 ★ Number of unrooted n-edge maps in the plane (planar with a distinguished outside face). ● a(n)=(1 / (2n))[3 ^ n * binomial(2n, n) / (n + 1) + sum _{ 0<k<n, k|n } phi(n / k)3 ^ k * binomial(2k, k)] + q(n) where phi is the Euler function A000010, q(n)=0 if n is even and q(n)=3 ^ ((n - 1) / 2)binomial(n - 1, (n - 1) / 2) / (n + 1) if n is odd. ●

[**A032187**] ● 1,1,1,1,2,6,26,151,1093,9489,96084,1111722,14469388,209234595,3328056991,57746229265,1085448899206,21972175778646,476535125344462,11024061833485335,270965694793159153 ★ Shifts left 3 places under "CIJ" (necklace, indistinct, labeled) transform. ● a(n)=sum(k=0..n - 5, binomial(n - 4,k) * a(k + 4) * a(n - k - 4)) + a(n - 3), n>4, a(1)=a(2)=a(3)=a(4)=1. [From _ Vladimir Kruchinin _ , May 10 2011] ●

[**A141761**] ● 1,1,1,2,6,26,154,1188,11474,134432,1863168,29936846,548625820,11315025894,259733293774,6574304470320,182050022755386,5477819548007438,178054691097463354,6220193033111607018 ★ Column 0 of triangle A141760. ● a(n) = 1 - Sum _{ j=0..n - 1 } a(j) * (- 1) ^ (n - j) * C(j(j - 1) / 2 + n - j - 1, n - j) for n>0, with a(0)=1. ●

[**A112934**] ● 1,1,2,6,26,158,1282,13158,163354,2374078,39456386,737125446,15279024026,347786765150,8621313613954,231139787526822,6663177374810266,205503866668090750,6751565903597571842 ★ a(0) = 1; a(n+1) = Sum_{k, 0<=k<=n} a(k)*A001147(n-k), where A001147 = double factorial numbers. ● a(n) = upper left term in M ^ n, M = the production matrix: ● a(n) = (2 * n - 1) * a(n - 1) - Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 ●

[**A032186**] ● 1,1,1,2,6,27,160,1183,10477,108149,1275024,16903440,248915119,4031045212,71202358081,1362297883463,28066342411395,619474462826562,14583353438928682,364748466791800669 ★ Shifts left 2 places under "CIJ" (necklace, indistinct, labeled) transform. ● a(n)=n! * b(n), b(n)=b(n - 2) * (n - 2) + sum(i=0..n - 4, b(i + 3) * (i + 1) * (i + 2) * (i + 3) * b(n - 3 - i))) / (n * (n - 1) * (n - 2)) n>0, b(1)=1, b(2)=1 / 2. [From Vladimir Kruchinin, Nov 18 2011] ●

[**A189238**] ● 1,2,6,28,120,726,4424,31928,249984,2131690,20027392,199240020,2162269824,24676708798,302660939520,3897794538864,53264941301760,763279034957010,11499327153704960,181271619624350860 ★ E.g.f. x/cos(x)*exp(x/cos(x)) ● a(n)=sum(k=1..n - 1, binomial(n,k) * k * (1 + (- 1) ^ (n - k)) * sum(j=1..m, sum(i=0..floor((j - 1) / 2), binomial(m,j) / 2 ^ (j) * sum((- 1) ^ ((n - k) / 2 - j) * binomial(j,i) * (j - 2 * i) ^ (n - k))) * binomial(k + m - 1,k - 1),m,1,n - k)) + n. ●

[A228842] • 2,6,28,144,752,3936,20608,107904,564992,2958336,15490048,81106944,424681472,2223661056,11643240448,60964798464,319215828992,1671435780096,8751751364608,45824765067264,239941584945152,1256350449401856,6578336356630528,34444616342175744 ★ Binomial transform of A014448. • a(n) = (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n. • a(n) = 6 * a(n - 1) - 4 * a(n - 2) for n>1. •

[A152393] • 1,2,6,28,150,930,6286,46120,359946,2973650,25766950,233274228,2195351158,21414166970,215809803270,2242074012816,23959435578514,262910074728546,2957549692243558,34061536200099020,401102135361004182 ★ Column 1 of triangle A152391. • a(n) is divisible by (n + 1) for n>=0. •

[A088501] • 1,2,6,28,172,1328,12272,132480,1633344,22663104,349324608,5923548288,109570736256,2195765044224,47386235513856,1095689316882432,27023900076988416,708173307424456704,19649589144733089792 ★ Expansion of 1/(1-2*log(1+x)). • a(n) = Sum _{ k=0..n } Stirling1(n, k) * k! * 2 ^ k. •

[A140092] • 1,2,6,28,174,1308,11300,108808,1145078,12996332,157580252,2026874424,27507762028,392226116696,5855551243464,91263899531280,1481385005886374,24989341719984972,437270678940944556,7923785627972483672 ★ G.f. satisfies: A(x) = Series_Reversion[x/sqrt(1 + 4*A(x))] with A(0)=0. • a(n)=T(n,1), T(n, m)=m / n * sum(k=1..n - m, sum(i=k..n - m, T(n - m,i) * sum(j=0..i - k, binomial(- k - j + 2 * i - 1,i - 1) * (k + j) * 2 ^ (k + j) * binomial(k + j - 1,k - 1)) / i * (- 1) ^ (i + k)) * binomial(n + k - 1, n - 1)), n>m, T(n,n)=1. [_ Vladimir Kruchinin _ , May 08 2012] •

[A136631] • 1,1,2,6,28,177,1449,14869,185230,2738962,47287352,939759621,21241309681,540698975061,15370957337418,484433735633218,16817886069720724,639545680226171989,26507567678760284105 ★ Antidiagonal sums of triangle A136630, omitting antidiagonals of all zeros. • a(n) = Sum _{ k=0..n } [x ^ (2n - 2k)] Product _{ j=0..[k / 2] } 1 / (1 - (2j + k - 2[k / 2]) ^ 2 * x ^ 2). •

[A084870] • 1,2,6,28,190,1692,16766,166028,1586430,14580412,129654526,1123451628,9544185470,79881877532,661135445886,5425962250828,44250287565310,359161631645052,2904756409742846,23429320590259628,188594431902253950 ★ Number of 3-multiantichains of an n-set. • a(n) = (1 / 3!) * (8 ^ n - 6 * 6 ^ n + 6 * 5 ^ n + 9 * 4 ^ n - 18 * 3 ^ n + 14 * 2 ^ n). •

[A137825] • 2,6,30,60,420,4620,13860,180180,360360,6126120,116396280,2677114440,77636318760,155272637520,776363187600,24067258815600,890488576177200,2671465728531600,109530094869795600,4709794079401210800 ★ Least number having the highest abundance among numbers with exactly n factors (counted with multiplicity). • a(n) = product of the first n terms of A137826. [From _ T. D. Noe _ , Jan 24 2010] •

[A065563] • 2,6,30,120,520,2184,9282,39270,166430,704880,2986128,12649104,53583010,226980390,961505790,4073001576,17253515288,73087057560,309601753890,1311494059590,5555578014142,23533806080736 ★ Product of three consecutive Fibonacci numbers. • a(n) = Fibonacci(n + 1) ^ 3 - (- 1) ^ n * Fibonacci(n + 1). - _ Gary Detlefs _ , Feb 02 2011 • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - a(n - 4). •

[A073969] • 0,2,6,30,125,650,3150,15750,78000,390625,1952500,9768750,48831250,244156250,1220703125,6103593750,30517656250,152588281250,762939062500,3814697265625,19073484375000,95367441406250,476837167968750,2384185839843750,11920928955078125 ★ Number of strings of length n over Z_5 with trace 1 and subtrace 3. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). •

[A287592] • 0,2,6,31,167,806,3588,15233,62973,256504,1036274,4167659,16719843,66985946,268173264,1073184709,4293787577,17177378732,68714233758,274866896783,1099488558975,4397998276462,17592085380956,70368534462281,281474540502837 ★ Number of connected induced subgraphs on the n-crown graph. • a(n) = (- 1 + 2 ^ n) ^ 2 - (n * (- 7 + 2 ^ (1 + n) + n)) / 2. • a(n) = 11 * a(n - 1) - 47 * a(n - 2) + 101 * a(n - 3) - 116 * a(n - 4) + 68 * a(n - 5) - 16 * a(n - 6). •

[A094639] • 1,2,6,31,227,1991,19415,203456,2248356,25887400,307993016,3763786812,47032778956,598933188956,7751562502556,101741582076581,1351906409905481,18159677984049581,246298405721739581 ★ Partial sums of squares of Catalan numbers (A000108). • a(n) = Sum _{ k=0..n } ((2k)! / (k!) ^ 2 / (k + 1)) ^ 2. - _ Alexander Adamchuk _ , Feb 16 2008 •

[A212762] • 0,2,6,32,60,162,252,512,720,1250,1650,2592,3276,4802,5880,8192,9792,13122,15390,20000,23100,29282,33396,41472,46800 ★ Number of (w,x,y,z) with all terms in {0,...,n}, w and x odd, y even. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n) = (n + 1) * (2 * n ^ 3 + 5 * n ^ 2 + 3 * n + 1 - (n ^ 2 + 3 * n + 1) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Sep 19 2015 •

[A011820] • 2,6,32,203,1144,5345,20926,70506,209746,562727,1384758,3167606,6807620,13863904,26941700,50245591,90358146,157312324,266040452,438299013,705186944,1110395771,1714352818,2599444040,3876530866 ★ Number of M-sequences m_0,...,m_4 with m_1 < n. • a(n)= (4 * n ^ 10 + 61 * n ^ 9 + 408 * n ^ 8 + 1722 * n ^ 7 + 6132 * n ^ 6 + 18333 * n ^ 5 + 41072 * n ^ 4 + 88748 * n ^ 3 + 133824 * n ^ 2 + 193536 * n + 241920) / 120960. - _ Frank Ellermann _ •

[A162429] • 1,2,6,33,171,1073,7749,58846,489993,4345078,40693236,403876159,4192624215,45577188311,516108618746,6073914844170,74083651509143,934440647979907,12164742571864976,163157161537315276 ★ Main diagonal of table A162424. • a(n) = Sum _{ m=n(n + 1) / 2..n(n + 1) / 2 + n } [x ^ m] S(x) ^ (n + 1) for n>=0 where S(x) = Sum _{ n>=0 } x ^ ((n + 1)(n + 2) / 2 - 1). •

[A105142] • 2,6,34,46,142,174,204,238,312,466,550,616,690,730,1136,1280,1302,1330,1486,1586,1610,1638,1644,1652,1688 ★ Positive integers n such that n^12 + 1 is semiprime. • a(n) ^ 12 + 1 is semiprime A001538. a(n) ^ 4 + 1 is prime and a(n) ^ 8 - a(n) ^ 4 + 1 is prime. •

[A003499] • 2,6,34,198,1154,6726,39202,228486,1331714,7761798,45239074,263672646,1536796802,8957108166,52205852194,304278004998,1773462177794,10336495061766,60245508192802,351136554095046,2046573816377474,11928306344169798,69523264248641314 ★ a(0) = 2, a(1) = 6; for n >= 2, a(n) = 6*a(n-1) - a(n-2). • a(n + 1)=Trace of n - th power of matrix {{ 6, - 1 } , { 1, 0 }} . - _ Artur Jasinski _ , Apr 22 2008 • a(n)=(1 + sqrt(2)) ^ (2 * n) + (1 + sqrt(2)) ^ (- 2 * n). - _ Gerson Washiski Barbosa _ , Sep 19 2010 •

[A108424] • 2,6,34,238,1858,15510,135490,1223134,11320066,106830502,1024144482,9945711566,97634828354,967298498358,9659274283650,97119828841854,982391779220482,9990160542904134,102074758837531810,1047391288012377774,10788532748880319298 ★ Number of paths from (0,0) to (3n,0) that stay in the first quadrant, consist of steps u=(2,1), U=(1,2), or d=(1,-1) and do not touch the x-axis, except at the endpoints. • a(n) = (n * 2 ^ n * C(2 * n, n) / ((2n - 1)(n + 1))) * sum(j=0..n - 1, (C(n - 1, j)) ^ 2 / (2 ^ j * C(n + j + 1,j))). • a(n) = sum(i=0..n, (2 * n + i - 2)! / ((n - i)! * (n + i - 1)! * i!)), n>0. [_ Vladimir Kruchinin _ , Feb 16 2013] •

[A081003] • 2,6,35,234,1598,10947,75026,514230,3524579,24157818,165580142,1134903171,7778742050,53316291174,365435296163,2504730781962,17167680177566,117669030460995,806515533049394,5527939700884758,37889062373143907,259695496911122586 ★ Fibonacci(4n+1)+1, or Fibonacci(2n+1)*Lucas(2n). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 1 + (1 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n >=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A101609] • 0,2,6,36,180,1320,9240,84000,756000,8285760,91143360,1173553920,15256200960,226040855040,3390612825600,56865153945600,966707617075200,18112111963545600,344130127307366400,7125892746964992000 ★ a(n) = n! * Sum_{k=1..floor(n/2)} 1/k. • a(1) = 0, a(n) = a(n - 1) * n + (1 + (- 1) ^ n) * (n - 1)!. - _ Daniel Suteu _ , Feb 06 2017 •

[A152668] • 2,6,36,192,1440,10800,100800,967680,10886400,127008000,1676505600,22992076800,348713164800,5492232345600,94152554496000,1673823191040000,32011868528640000,633834996867072000,13380961044971520000 ★ Number of runs of even entries in all permutations of {1,2,...,n} (the permutation 274831659 has 3 runs of even entries: 2, 48 and 6). • a(2n) = (n + 1)(2n)! / 2; • a(2n + 1) = n(n + 2)(2n)! •

[A086325] • 0,2,6,36,220,1590,12978,118664,1201464,13349610,161530270,2114578092,29780308116,448995414686,7215997736010,123153028027920,2224451568754288,42395429898611154,850263899633257014,17900292623858042420,394701452356069835340,9096928711444657157382,218739785834282892557026 ★ Let u(1)=0, u(2)=1, u(k)=u(k-1)+u(k-2)/(k-2); then a(n)=n!*u(n). • a(n) = ceiling(n * n! / e) - (1 - (- 1) ^ n) / 2. • a(n) = n * floor((n! + 1) / e). [_ Gary Detlefs _ , Jul 13 2010] •

[A162697] • 1,1,2,6,36,260,2190,23562,294056,4145976,66518010,1187366510,23307288972,500683995396,11669239646246,293211947901810,7905976017270480,227653751742812912,6972326784534024306 ★ E.g.f. satisfies: A(x) = 1+x + x^2*exp(x*A(x)). • a(n) = n! * Sum _{ k=0..n } Sum _{ j=0..k } C(j + 1,n - k) / (j + 1) * C(n - k,k - j) * (k - j) ^ j / j!. • a(n,m) = n! * Sum _{ k=0..n } Sum _{ j=0..k } m * C(j + m,n - k) / (j + m) * C(n - k,k - j) * (k - j) ^ j / j!. •

[A014117] • 1,2,6,42,1806 ★ Numbers n such that m^(n+1) == m (mod n) holds for all m. • a(n) = a(n - 1) ^ 2 + a(n - 1) with a(0) = 1. - _ Raphie Frank _ , Nov 12 2012 [This is wrong, since the sequence has only five terms. - _ N. J. A. Sloane _ , Apr 11 2017] •

[A077259] • 0,2,6,44,116,798,2090,14328,37512,257114,673134,4613732,12078908,82790070,216747218,1485607536,3889371024,26658145586,69791931222,478361013020,1252365390980,8583840088782,22472785106426,154030760585064,403257766524696 ★ First member of the Diophantine pair (m,k) that satisfies 5*(m^2+m)=k^2+k; a(n)=m. • a(0)=0, a(1)=2, a(n + 2)=4 + 9a(n) + 2Sqrt(1 + 20a(n) + 20a(n) ^ 2). - _ Herbert Kociemba _ , May 12 2008 • a(0)=0, a(1)=2, a(2)=6, a(3)=44, a(n)=18a(n - 2) - a(n - 4) + 8. - _ Robert Phillips _ , Sep 01 2008 •

[A052657] • 0,0,2,6,48,240,2160,15120,161280,1451520,18144000,199584000,2874009600,37362124800,610248038400,9153720576000,167382319104000,2845499424768000,57621363351552000,1094805903679488000 ★ E.g.f. x^2/((1-x)^2*(1+x)). • a(0)=0, a(1)=0, a(2)=2, n * a(n + 2) = (n + 2) * a(n + 1) + (n ^ 3 + 4 * n ^ 2 + 5 * n + 2) * a(n). •

[A181509] • 2,6,56,152,296,488,728,1016,1352,1736,2168,2648,3176,3752,4376,5048,5768,6536,7352,8216,9128,10088,11096,12152,13256 ★ a(1) = 2, a(n) = (n-th-even n^3) - (sum of previous terms) • a(n) = 56 - 72 * n + 24 * n ^ 2, n >2. a(n) = (2 * n - 2) ^ 3 - sum _{ i=1..n - 1 } a(i). [From R. J. Mathar, Nov 01 2010] •

[A138286] • 1,1,1,2,6,60,120,640,3780,90720,362880,6652800,39916800,1037836800,10897286400,53109444960,1307674368000,33345696384000,355687428096000,10137091700736000,231704953159680000 ★ a(n)=A058162(n)/A000688(n). • a(n) = A058162[n] / A000688[n] •

[A025540] • 1,2,6,60,420,1260,13860,360360,360360,6126120,116396280,11639628 0,2677114440,13385572200,40156716600,2329089562800,72201776446800,72201776446800,72201776446800,2671465728531600,2671465728531600 ★ Least common multiple of {C(0,0), C(2,1), ..., C(2n,n)}. • a(n) = 2 ^ floor(log(n + 1) / log(2)) * Prod(p ^ floor(log(2n) / log(p))), where the product is taken over all odd primes p below 2n. - _ Max Alekseyev _ , Apr 13 2016 •

[A152885] • 0,0,2,6,72,360,4320,30240,403200,3628800,54432000,598752000,1

0059033600,130767436800,2440992153600,36614882304000,753220435968000,12804747411456000,288106816757760000,5474029518397440000 ★ Number of descents beginning and ending with an odd number in all permutations of {1,2,...,n}. • a(2n) = (2n - 1)! * binomial(n,2); a(2n + 1) = (2n)! * binomial(n + 1,2). •

[A136306] • 1,2,6,78,8112,81160560 ★ a(n)=a(n-1)*(10^K) + n*a(n-1); a(0)=1; K=floor(log_10 n*a(n-1)). • a(n)=a(n - 1) * (10 ^ K) + n + a(n - 1); a(0)=1 ; K=floor(log _ 10 n + a(n - 1)) + 1. •

[A056164] • 1,2,6,109,191177 ★ Number of ordered antichain covers of an unlabeled n-set; labeled T_1-hypergraphs (without empty hyperedges) with n hyperedges. • a(n)=Sum _{ k=1..C(n, floor(n / 2)) } b(k, n) where b(k, n) is the number of k - element ordered antichains covers of an unlabeled n - set. •

[A178773] • 1,2,6,1001,5005,323323 ★ Least palindrome which is the product of n consecutive primes. • a(3) = 1001 = 7 * 11 * 13, • a(4) = 5005 = 5 * 7 * 11 * 13, • a(5) = 323323 = 7 * 11 * 13 * 17 * 19. •

[A267499] • 2,7,7,12,19,29,44,68,109,183 ★ Number of fixed points of autobiographical numbers (A267491 ... A267498) in base n. • a(n)=2 ^ (n - 4) + 1 / 2 * n ^ 2 - 1 / 2 * n for 5<=n<=11, unknown for n>11. •

[A253251] • 1,2,7,8,9,10,11,20,25,29,32,35,37,39,41,43,45,47,49,51,52,53,54,55,56 ★ a(1) = 1, and for n > 0, a(n+1) = a(n) + floor(10^k/a(n)), where k is the least integer such that 10^k >= a(n). • a(n) + 1 <= a(n + 1) <= a(n) + 9, hence n <= a(n) <= 9n. - _ Charles R Greathouse IV _ , Jun 18 2015 •

[A047527] • 0,1,2,7,8,9,10,15,16,17,18,23,24,25,26,31,32,33,34,39,40,41,42,47,48 ★ Numbers that are congruent to {0, 1, 2, 7} mod 8. • a(n) = 3 * n - 4 * floor((n - 2) / 4) - 6 + (- 1) ^ n. - _ Gary Detlefs _ , Mar 27 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Harvey P. Dale _ , Sep 05 2014 • a(n) = (4n - 5 + i ^ (2n) + (1 + i) * i ^ (- n) + (1 - i) * i ^ n) / 2 where i = sqrt(- 1). •

[A287515] • 2,7,8,9,11,12,15,20,21,27,29,30,32,34,38,44,50,52,53,54,55,56,58,59,60 ★ a(n) = position of n-th 0 when sequence is written in base 2. • a(n) = zeropos([sequence],n) •

[A047354] • 0,1,2,7,8,9,14,15,16,21,22,23,28,29,30,35,36,37,42,43,44,49,50,51,56 ★ Numbers that are congruent to {0, 1, 2} mod 7. • a(n) = 7 * floor(n / 3) + (n mod 3), with offset 0 and a(0)=0. - _ Gary Detlefs _ , Mar 09 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = (21 * n - 33 - 12 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 5, a(3k - 1) = 7k - 6, a(3k - 2) = 7k - 7. (End) • a(n) = n + 4 * floor((n - 1) / 3) - 1. - _ Bruno Berselli _ , Feb 06 2017 •

[A047525] • 0,2,7,8,10,15,16,18,23,24,26,31,32,34,39,40,42,47,48,50,55,56,58,63,64 ★ Numbers that are congruent to {0, 2, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n + 2 * sqrt(3) * sin(2 * Pi * n / 3) + 12 * cos(2 * Pi * n / 3) - 21) / 9. - _ Ilya Gutkovskiy _ , May 29 2016 • a(3k) = 8k - 1, a(3k - 1) = 8k - 6, a(3k - 2) = 8k - 8. - _ Wesley Ivan Hurt _ , Jun 10 2016 •

[A047239] • 1,2,7,8,13,14,19,20,25,26,31,32,37,38,43,44,49,50,55,56,61,62,67,68,73 ★ Numbers that are congruent to {1, 2} mod 6. • a(n) = 3 * (n - 1) - (- 1) ^ n. - _ Rolf Pleisch _ , Aug 04 2009 • a(n) = 6 * n - a(n - 1) - 9 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = a(n - 1) + a(n - 2) - a(n - 3) with a(1)=1, a(2)=2, a(3)=7. - _ Harvey P. Dale _ , Nov 23 2011 •

[A080572] • 0,0,1,2,7,8,15,24,37,38,49,62,81,98,121,146,175,176,195,216,247,272,307,344,387 ★ Number of ordered pairs (i,j), 0 <= i,j < n, for which (i & j) is nonzero, where & is the bitwise AND operator. • a(2 ^ n)=4 ^ n - 3 ^ n; a(2 ^ n + 1)=4 ^ n - 3 ^ n + 1; a(2 ^ n - 1)=4 ^ n - 3 ^ n - 2 ^ (n + 1) + 3. • a(0)=a(1)=0, a(2n) = 3a(n) + n ^ 2, a(2n + 1) = a(n) + 2a(n + 1) + n ^ 2 - 1 . This was proved by Jeremy Dover. - _ Ralf Stephan _ , Dec 08 2004 •

[A213037] • 0,1,2,7,8,17,18,31,32,49,50,71,72,97,98,127,128,161,162,199,200,241,242,287,288 ★ n^2-2*[n/2]^2, where [] = floor. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A055247] • 1,2,7,8,19,20,25,26,55,56,61,62,73,74,79,80,163,164,169,170,181,182,187,188,217 ★ Related to A055246 and A005836. Used for boundaries of open intervals which have to be erased in the Cantor middle third set construction. • a(1) = 1, a(n) = 3 ^ ceiling(log _ 2(n)) - a(2 ^ ceiling(log _ 2(n)) + 1 - n). - Juan Jose Alba Gonzalez (jjalba(AT)gmail.com), May 16 2006 •

[A279847] • 0,1,2,7,8,22,23,44,54,84,85,151,152,206,241,326,327,458,459,605,664,790,791,1065,1091 ★ a(n) = Sum_{k=1..n} k^2*(floor(n/k) - 1). • a(p ^ k) = a(p ^ k - 1) + (p ^ (2 * k) - 1) / (p ^ 2 - 1), for p is prime. •

[A236291] • 1,1,2,7,8,26,32,85,128,292,512,1079,2048,4174,8192,16489,32768,65672,131072,262315,524288,1048786,2097152,4194557,8388608 ★ Number of length n binary words that contain an even number of 0's or exactly two 1's. • a(n) = (2 ^ (1 + n)) / 4 for n even; a(n) = (2 ^ (1 + n) - 2 * n + 2 * n ^ 2) / 4 for n odd. - _ Colin Barker _ , Jan 23 2014 •

[A047526] • 1,2,7,9,10,15,17,18,23,25,26,31,33,34,39,41,42,47,49,50,55,57,58,63,65 ★ Numbers that are congruent to {1, 2, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4), for n > 4. • a(n) = 8 * n / 3 - 2 + cos(2 * n * Pi / 3) + 5 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3 * k) = 8 * k - 1, a(3 * k - 1) = 8 * k - 6, a(3 * k - 2) = 8 * k - 7. (End) •

[A077470] • 1,2,7,9,13,15,18,20,22,27,31,37,39,40,49,55,57,66,68,70,71,77,79,81,82 ★ Greedy powers of (3/5): sum_{n=1..inf} (3/5)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(3 / 5) and frac(y) = y - floor(y). • a(n) seems to be asymptotic to c * n with c around 3.7... - _ Benoit Cloitre _ •

[A047352] • 0,2,7,9,14,16,21,23,28,30,35,37,42,44,49,51,56,58,63,65,70,72,77,79,84 ★ Numbers that are congruent to {0, 2} mod 7. • a(n) = 7 * n - a(n - 1) - 12 with a(1)=0. Also: a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = floor((7 / 3) * floor(3 * n / 2)). - _ Clark Kimberling _ , Jul 04 2012 •

[A267212] • 1,2,7,9,16,23,33,38,51,63,76,87,105,120,139,155,176,197,221,240,267,293,320,345,377 ★ Total number of ON (black) cells after n iterations of the "Rule 109" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n>7. •

[A022113] • 2,7,9,16,25,41,66,107,173,280,453,733,1186,1919,3105,5024,8129,13153,21282,34435,55717,90152,145869,236021,381890 ★ Fibonacci sequence beginning 2, 7. • a(n) = a(n - 1) + a(n - 2). (End) • a(n) = ((5 + 6 * sqrt(5)) / 5) * ((1 + sqrt(5)) / 2) ^ n + ((5 - 6 * sqrt(5)) / 5) * ((1 - sqrt(5)) / 2) ^ n starting at n=0. - _ Bogart B. Strauss _ , Oct 27 2013 • a(n) = h * Fibonacci(n + k) + Fibonacci(n + k - h) with h=5, k=1. - _ Bruno Berselli _ , Feb 20 2017 • a(n) = 8 * F(n) + F(n - 3) for F = A000045. - _ J. M. Bergot _ , Jul 14 2017 •

[A041643] • 1,2,7,9,16,25,41,353,394,747,1141,1888,6805,15498,564733,1144964,3999625,5144589,9144214,14288803,23433017,201752939,225185956,426938895,652124851 ★ Denominators of continued fraction convergents to sqrt(340). • a(n) = 571538 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A042345] • 1,2,7,9,16,41,57,1466,1523,4512,6035,10547,37676,85899,4504424,9094747,31788665,40883412,72672077,186227566,258899643,6658718641,6917618284,20493955209,27411573493 ★ Denominators of continued fraction convergents to sqrt(699). • a(n) = 4542100 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 20 2014 •

[A042807] • 1,1,2,7,9,16,57,1726,5235,6961,12196,43549,55745,99294,6013385,6112679,12126064,42490871,54616935,97107806,345940353,10475318396,31771895541,42247213937,74019109478 ★ Denominators of continued fraction convergents to sqrt(934). • a(n) = 6069130 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 30 2014 •

[A079326] • 1,2,7,9,17,20,31,35,49,54,71,77,97,104,127,135,161,170,199,209,241,252,287,299,337 ★ a(n) = the largest number m such that if m monominoes are removed from an n X n square then an L-triomino must remain. • a(n) = (n ^ 2) / 2 - 1 (n even), (n ^ 2 - n) / 2 - 1 (n odd). • a(n) = n * (2 * n + (- 1) ^ n - 1) / 4 - 1. •

[A042929] • 1,1,2,7,9,25,59,84,143,227,1051,1278,2329,3607,9543,22693,32236,119401,151637,271038,16955993,17227031,34183024,119776103,153959127 ★ Denominators of continued fraction convergents to sqrt(996). • a(n) = 17107630 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A041717] • 1,2,7,9,43,52,199,450,17299,35048,122443,157491,752407,909898,3482101,7874100,302697901,613269902,2142507607,2755777509,1316561763,15921395152,60929803099,137781001350,5296607854399 ★ Denominators of continued fraction convergents to sqrt(378). • a(n) = 17498 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041073] • 1,1,2,7,9,52,61,235,296,531,6668,7199,13867,48800,62667,362135,424802,1636541,2061343,3697884,46435951,50133835,96569786,339843193,436412979 ★ Denominators of continued fraction convergents to sqrt(43). • a(n) = 6964 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 10 2013 •

[A041453] • 1,1,2,7,9,133,142,559,701,1260,38501,39761,78262,274547,352809,5213873,5566682,21913919,27480601,49394520,1509316201,1558710721,3068026922,10762791487,13830818409 ★ Denominators of continued fraction convergents to sqrt(242). • a(n) = 39202 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A042157] • 1,1,2,7,9,214,223,883,1106,1989,96578,98567,195145,684002,879147,20904383,21783530,86254973,108038503,194293476,9434125351,9628418827,19062544178,66816051361,85878595539 ★ Denominators of continued fraction convergents to sqrt(603). • a(n) = 97684 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 16 2014 •

[A047524] • 2,7,10,15,18,23,26,31,34,39,42,47,50,55,58,63,66,71,74,79,82,87,90,95,98 ★ Numbers that are congruent to {2, 7} mod 8. • a(n) = 8 * n - a(n - 1) - 7, n > 1. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 4 * n - 3 / 2 + (- 1) ^ n / 2. •

[A105770] • 1,2,7,10,17,28,37,50,67,82,101,124,145,170,199,226,257,292,325,362,403,442,485,532,577 ★ Expansion of (x^2-x+1)(4x^2+x+1)/((1+x+x^2)(1-x)^3). • a(n) = n ^ 2 + 1 + [0,0,2] (3 - periodic). – _ Ralf Stephan _ , Nov 15 2010. •

[A023855] • 1,2,7,10,22,28,50,60,95,110,161,182,252,280,372,408,525,570,715,770,946,1012,1222,1300,1547 ★ a(n) = 1*(n) + 2*(n-1) + 3*(n-2) + ... + (n+1-k)*k, where k = floor((n+1)/2). • a(n) = (n + 1) * (n + 3) * (2 * n + 1) / 24 if n is odd, or n * (n + 1) * (n + 2) / 12 if n is even • a(n) = sum _{ i=1..ceil(n / 2) } i * (n - i + 1) = - ceil(n / 2) * (ceil(n / 2) + 1) * (2 * ceil(n / 2) - 3n - 2) / 6. - _ Wesley Ivan Hurt _ , Sep 19 2013 • a(n)= (4 * n ^ 3 + 15 * n ^ 2 + 14 * n + 3 - 3 * (n + 1) ^ 2 * (- 1) ^ n) / 48. - _ Luce ETIENNE _ , Oct 22 2014 •

[A084184] • 0,1,2,7,10,31,42,127,170,511,682,2047,2730,8191,10922,32767,43690,131071,174762,524287,699050,2097151,2796202,8388607,11184810 ★ Partial sums of a Jacobsthal related sequence. • a(n) = (5 - (- 1) ^ n) * (2 ^ n - 1) / 6. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>3. •

[A113544] • 1,2,7,11,13,14,17,19,23,26,29,31,34,37,38,41,43,46,47,53,58,59,61,62,67 ★ Numbers simultaneously pentagon-free, squarefree and triangle-free. • a(n) has no factor >1 of form a * (a + 1) / 2 nor b ^ 2 nor c * (3 * c - 1) / 2. A005117 INTERSECTION A112886 INTERSECTION A113508. •

[A001960] • 2,7,11,15,20,24,28,32,37,41,45,50,54,58,63,67,71,76,80,84,88,93,97,101,106 ★ Wythoff game. • a(n) = floor((n + 2 / 3) * (5 + sqrt 13) / 2) . - R. J. Mathar, Feb 14 2011 •

[A063289] • 1,2,7,11,16,20,25,29,34,38,43,47,52,56,61,65,70,74,79,83,88,92,97,101,106 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(16). • a(n + 2) = a(n) + 9 (n>2), a(2n + 1) = a(2n) + 4 (n>1), a(2n) = a(2 n - 1) + 5 (n>1). (End) •

[A063097] • 2,7,11,17,21,27,31,37,41,47,51,57,61,67,71,77,81,87,91,97,101,107,111,117,121 ⋆ Dimension of the space of weight 2n cusp forms for Gamma_0(29). • a(n) = 10 * n - a(n - 1) - 12 for n>2, with a(1)=2, a(2)=7. [_ Vincenzo Librandi _ , Aug 07 2010] • a(n) = (- 7 + (- 1) ^ n + 10 * n) / 2. a(n)=a (n - 1) + a(n - 2) - a(n - 3) for n>4. G.f.: x * (x ^ 3 + 2 * x ^ 2 + 5 * x + 2) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Sep 08 2013 •

[A144707] • 1,1,2,7,11,22,35,61,98,163,263,430,695,1129,1826,2959,4787,7750,12539,20293,32834,53131,85967,139102,225071 ⋆ Diagonal sums of Pascal-like triangle A132047. • a(n) = 3 * F(n + 1) - 3 - (- 1) ^ n + 2 * 0 ^ n. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>4. - _ Philippe Deléham _ , Dec 16 2008 • a(n) = (3 * 2 ^ (- n - 1) * ((1 + sqrt(5)) ^ (n + 1) - (1 - sq rt(5)) ^ (n + 1))) / sqrt(5) - 4 for n>0 and even. • a(n) = (3 * 2 ^ (- n - 1) * ((1 + sqrt(5)) ^ (n + 1) - (1 - sqrt(5)) ^ (n + 1))) / sqrt(5) - 2 for n odd. •

[A235355] • 0,1,2,7,11,24,33,58,74,115,140,201,237,322,371,484,548,693,774,955,1055,1276,1397,1662,1806 ⋆ 0 followed by the sum of (1),(2), (3,4),(5,6), (7,8,9),(10,11,12) from the natural numbers. • a(n) = 4 * a(n - 2) - 6 * a(n - 4) + 4 * a(n - 6) - a(n - 8), n>7. • a(n) = (- 1) * ((- 1 + (- 1) ^ n - 2 * n) * (2 + n + n ^ 2)) / 16. a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). G.f.: x * (x ^ 2 + 1) * (x ^ 2 + x + 1) / ((x - 1) ^ 4 * (x + 1) ^ 3). - _ Colin Barker _ , Jan 20 2014 •

[A201630] • 2,7,11,25,47,97,191,385,767,1537,3071,6145,12287,24577,49151,98305,196607,393217,786431,1572865,3145727,6291457,12582911,25165825,50331647 ⋆ a(n) = a(n-1)+2*a(n-2) with n>1, a(0)=2, a(1)=7. • a(n) = 3 * 2 ^ n - (- 1) ^ n. • a(n) = 2 * sum(a(i), i=0..n - 2) + 7 for n>1. •

[A284354] • 1,2,7,11,31,47,127,191,511,767,2047,3071,8191,12287,32767,49151,131071,196607,524287,786431,2097151,3145727,8388607,12582911,33554431 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 899", based on the 5-celled von Neumann neighborhood. • a(n) = (2 ^ (n + 3) - 4) / 4 for n even. • a(n) = (3 * 2 ^ (n + 1) - 4) / 4 for n odd. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) for n>2. •

[A045929] • 1,2,7,12,17,18,23,28,33,38,43,48,49,54,59,64,69,74,79,84,89,94,95,100,105 ⋆ Generalized Connell sequence C_{5,3}. • a(n) = 5 * n - 4 * floor((7 + sqrt(24 * n - 23)) / 6). See general formula in A045928. - _ Michel Marcus _ , Apr 02 2013 •

[A016873] • 2,7,12,17,22,27,32,37,42,47,52,57,62,67,72,77,82,87,92,97,102,107,112,117,122 ⋆ a(n) = 5n + 2. • a(n) = 10 * n - a(n - 1) - 1 (with a(0)=2). - _ Vincenzo Librandi _ , Nov 20 2010 •

[A213041] • 1,2,7,12,21,30,43,56,73,90,111,132,157,182,211,240,273,306,343,380,421,462,507,552,601 ⋆ Number of (w,x,y) with all terms in {0..n} and 2|w-x| = max(w,x,y)-min(w,x,y). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n >3. • a(n) = n * (n + 1) + (1 + (- 1) ^ n) / 2. - _ Wesley Ivan Hurt _ , May 06 2016 •

[A135541] • 0,2,7,12,21,44,91,180,357,716,1435,2868,5733,11468,22939,45876,91749,183500,367003,734004,1468005,2936012,5872027,11744052,23488101 ⋆ a(n) = 2*a(n-1) - a(n-2) + 2*a(n-3), with a(0) = 2, a(1) = 2. • a(n) = (1 / 10) * (7 * 2 ^ (n + 1) - (7 - 4 * I) * I ^ n - (7 + 4 * I) * (- I) ^ n), with n>= 0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A079824] • 1,2,7,12,25,37,62,84,125,160,221,272,357,427,540,632,777,894,1075,1220,1441,1617,1882,2092,2405 ⋆ Sum of numbers in n-th upward diagonal of triangle in A079823. • a(2n) = (n / 6) * (7 * n ^ 2 + 3 * n + 2); a(2n - 1) = (n / 6) * (7 * n ^ 2 - 6 * n + 5) . - _ Philippe Deléham _ , Feb 16 2004 •

[A059329] • 1,2,7,12,25,38,63,88,129,170,231,292,377,462,575,688,833,978,1159,1340,1561,1782,2047,2312,2625 ⋆ Number of 3 X 3 matrices, with elements from {0,...,n}, having the property that the middle element of each of the eight 3-element horizontal, vertical and diagonal lines equals the average of the two end elements. • a(n) = ((1 + n) * (9 + 3 * (- 1) ^ n + 4 * n + 2 * n ^ 2)) / 12. •

[A177747] • 1,2,7,12,27,42,77,112,182,252,378,504,714,924,1254,1584,2079,2574,3289,4004,5005,6006,7371,8736,10556 ⋆ Convolution of A008805 (triangular numbers repeated) with itself. • a(n) = (n + 5) * (2 * n * (n + 10) * (n ^ 2 + 10 * n + 35) + 5 * (2 * n * (n + 10) + 39) * (- 1) ^ n + 573) / 3840. [_ Bruno Berselli _ , Mar 23 2012] •

[A175879] • 0,1,2,7,12,29,58,123,240,501,998,2023,4040,8137,16266,32671,65300,130837,261682,523827,1047592,2096237,4192366,8386671,16773312 ⋆ Numbers arising from certain regular binary expansions. • a(0) = 0; • a(n) = \ sum _{ k=1 }^ n 2 ^{ k - 1 }\ odd(n \ div k) •

[A102371] • 1,2,7,12,29,62,123,248,505,1018,2047,4084,8181,16374,32755,65520,131057,262130,524279,1048572,2097133,4194286,8388587,16777192,33554409 ⋆ Numbers missing from A102370. • a(n) = - n + Sum _{ k >= 1, k == n mod 2 ^ k } 2 ^ k. - _ N. J. A. Sloane _ and _ David Applegate _ , Mar 22 2005. E.g. a(5) = - 5 + 2 ^ 1 + 2 ^ 5 = 29. • a(2 ^ k + k) - a(k) = 2 ^ (2 ^ k + k) - 2 ^ k, with k>= 1. • a(1)=1, for n>1, a(n)= a(n - 1) XOR (a(n - 1) + n), where XOR is the bitwise exclusive - or operator. - _ Alex Ratushnyak _ , Apr 21 2012 •

[A290234] • 1,2,7,12,31,56,127,240,511,992,2047,4032,8191,16256,32767,65280,131071,261632,524287,1047552,2097151,4192256,8388607,16773120,33554431 ⋆ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 773", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (n + 1) - 1 for n even. • a(n) = 2 ^ (n + 1) - 2 ^ ((n + 1) / 2) for n odd. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - 2 * a(n - 4) + 4 * a(n - 5) for n>4. •

[A088662] • 1,2,7,12,34,60,155,280,686,1260,2982,5544,12804,24024,54483,102960,230230,437580,967538,1847560,4047836,7759752,16871582,32449872,70100044 ⋆ Number of peaks at even level in all symmetric Dyck paths of semilength n+2. • a(2n) = (2n)!(2n ^ 2 + 4n + 1) / [n!(n + 1)!], a(2n + 1) = 2(2n + 1)! / (n!) ^ 2. • a(n) = (n! / 4) * ((1 + (- 1) ^ n) * (n ^ 2 + 4 * n + 2) / ((n / 2)! * (n / 2 + 1)!) + 4 * (1 - (- 1) ^ n) / (n / 2 - 1 / 2)! ^ 2). - _ Wesley Ivan Hurt _ , Jun 23 2015 •

[A238366] • 1,2,7,12,37,62,187,312,937,1562,4687,7812,23437,39062,117187,195312,585937,976562,2929687,4882812,14648437,24414062,73242187,122070312,366210937 ⋆ a(n) = 5*a(n-2) + 2, a(0) = 1, a(1) = 2. • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3), a(0) = 1, a(1) = 2, a(2) = 7. •

[A084068] • 1,2,7,12,41,70,239,408,1393,2378,8119,13860,47321,80782,275807,470832,1607521,2744210,9369319,15994428,54608393,93222358,318281039,543339720,1855077841 ⋆ a(1) = 1, a(2) = 2; a(2*k) = 2*a(2*k-1)-a(2*k-2), a(2*k+1) = 4*a(2*k)-a(2*k-1). • a(n) * a(n + 3) = - 2 + a(n + 1) * a(n + 2) . • a(n) = ((sqrt(2) + 1) ^ n - (sqrt(2) - 1) ^ n)((sqrt(2) / 8 - 1 / 4) * (- 1) ^ n + sqrt(2) / 8 + 1 / 4); • a(n + 1) = Sum _{ k=0..floor((n + 1) / 2) } 2 ^ k * (C(n + 1,2k) - C(n,2k + 1) * (1 - (- 1) ^ n) / 2. (End) •

[A063206] • 2,7,13,17,23,27,33,37,43,47,53,57,63,67,73,77,83,87,93,97,103,107,113,117,123 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(31). • a(n) = - 5 / 2 - (- 1) ^ n / 2 + 5 * n for n>1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A001966] • 2,7,13,18,23,28,34,39,44,49,54,60,65,70,75,81,86,91,96,102,107,112,117,123,128 ⋆ Wythoff game. • a(n) = floor((n + 1 / 2) * (3 + sqrt 5)). •

[A168465] • 2,7,13,18,24,29,35,40,46,51,57,62,68,73,79,84,90,95,101,106,112,117,123,128,134 ⋆ Numbers that are congruent to 2 or 7 mod 11. • a(n) = (22 * n - (- 1) ^ n - 3) / 4 - 3. [_ Bruno Berselli _ , Jan 05 2013, modified Jul 08 2015] •

[A271114] • 2,7,13,19,25,31,37,43,49,55,61,67,73,79,85,91,97,103,109,115,121,127,133,139,145 ⋆ Expansion of (1+x)*(2+x)/(1-x)^2. • a(n) = 2 * a(n - 1) - a (n - 2) for n>2. •

[A155212] • 2,7,13,20,28,37,47,58,70,83,97,112,128,145,163,182,202,223,245,268,292,317,343,370,398 ⋆ a(n) = (n^2 + 9*n + 4)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 26 2012 •

[A262523] • 0,2,7,13,21,32,44,58,75,93,113,136,160,186,215,245,277,312,348,386,427,469,513,560,608 ⋆ a(n+3) = a(n) + 6*n + 13, a(0)=0, a(1)=2, a(2)=7. • a(n + 2) - 2 * a(n + 1) + a(n) = period 3: repeat (3, 1, 2). • a(n + 3) = a(n - 3) + 4 * (2 + 3 * n). [Thus, a(n + 3m) = a(n - 3m) + 4m * (2 + 3n), and a(6m + k) = 4m * (9m + 3k + 2) + a(k): explicit formula for a(n) in terms of a(k), 0 <= k <= 5. - _ M. F. Hasler _ , Jun 06 2017] • a(n) = n * (n + 1) + floor((n + 1) / 3). - _ Bruno Berselli _ , Jun 06 2017 •

[A182415] • 1,2,7,13,24,41,69,114,187,305,496,805,1305,2114,3423,5541,8968,14513,23485,38002,61491,99497,160992,260493,421489 ⋆ a(0) = 1, a(1) = 2; for n>1, a(n) = a(n-1) + a(n-2) + 4. • a(n) = 2 * a(n - 1) - a(n - 3). G.f.: (1 + 3 * x ^ 2) / ((1 - x) * (1 - x - x ^ 2)). [_ Colin Barker _ , May 07 2012] •

[A226140] • 0,1,2,7,13,48,95,424,898,4837,10780,68399,158111,1156224,2745145,22744380,55098660,510307001,1255610350,12859037607,32030878113,359498491968,904385401323,11040700820704,28000658588542 ⋆ a(n) = Sum_{i = 1..floor(n/2)} (n-i)^i. • a(n) = Sum _{ i = 1..floor(n / 2) } (n - i) ^ i. •

[A180003] • 1,2,7,13,56,247,475,2108,9361,18019,80030,355453,684229,3039014,13497835,25982665,115402484,512562259,986657023,4382255360,19463867989,37466984191,166410301178,739114421305,1422758742217 ⋆ a(n) blue and b(n)=A180002(n) red balls in an urn; draw 5 balls without replacement; Probability(5 red balls)=Probability(3 red and 2 blue balls); • a(3 * n + 1)=(20 + (10 + r) * (19 + 6 * r) ^ n + (10 - r) * (19 - 6 * r) ^ n) / 40; • a(3 * n + 2)=(20 + (30 + 9 * r) * (19 + 6 * r) ^ n + (30 - 9 * r) * (19 - 6 * r) ^ n) / 40; • a(3 * n + 3)=(20 + (130 + 41 * r) * (19 + 6 * r) ^ n + (130 - 41 * r) * (19 - 6 * r) ^ n) / 40; • a(n + 9)=39 * (a(n + 6) - a(n + 3)) + a(n); r=sqrt(10); •

[A008865] • 1,2,7,14,23,34,47,62,79,98,119,142,167,194,223,254,287,322,359,398,439,482,527,574,623 ⋆ a(n) = n^2 - 2. • a(n) = a(n - 1) + 2 * n - 1 (with a (1) = - 1). - _ Vincenzo Librandi _ , Nov 18 2010 •

[A227582] • 2,7,14,23,35,50,67,86,107,131,158,187,218,251,287,326,367,410,455,503,554,607,662,719,779 ⋆ Exapansion of (2+3*x+2*x^2+2*x^3+3*x^4+x^5-x^6)/(1-2*x+x^2-x^5+2*x^6-x^7). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7). •

[A249852] • 0,2,7,14,23,35,50,67,86,108,133,160,189,221,256,293,332,374,419,466,515,567,622,679,738 ⋆ a(n) is the total number of pentagons on the left or the right of the vertical symmetry axis of a pentagon expansion (vertex to vertex) after n iterations. • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5). •

[A249547] • 0,2,7,14,24,36,51,68,88,110,135,162,192,224,259,296,336,378,423,470,520,572,627,684,744 ⋆ a(n) = (10*n^2+8*n-1+(-1)^n)/8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. •

[A088207] • 0,2,7,14,24,37,52,70,90,113,139,167,198,232,268,307,348,392,439,488,540,594,651,711,773 ⋆ a(n)=sum(k=0,n,floor(k*phi^2)) where phi=(1+sqrt(5))/2. • a(n) = Sum(1, n) floor(n * Phi ^ 2) • a(n) = floor(n * (n + 1) / 2 * phi ^ 2 - n / 2) + 0 or + 1. - Benoit Cloitre, Sep 27 2003 •

[A014112] • 1,2,7,14,27,44,69,100,141,190,251,322,407,504,617,744,889,1050,1231,1430,1651,1892,2157,2444,2757 ⋆ a(n) = n*(n-1)+(n-2)*(n-3)+...+1. • a(n) = a(n - 2) + n * (n - 1). •

[A227016] • 1,2,7,14,27,45,69,101,141,191,252,323,408,506,618,746,890,1052,1233,1432,1653,1895,2159,2447,2759 ⋆ Floor(M(g(n-1)+1,..,g(n))), where M =

harmonic mean and g(n) = n(n + 1)(n + 2)/6. • a(n) + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) - a(n - 11) for n > 1 (conjectured). •

[A210728] • 1,2,7,14,27,48,83,140,233,384,629,1026,1669,2710,4395,7122,11535,18676,30231,48928,79181,128132,207337,335494,542857 ⋆ a(n) = a(n-1) + a(n-2) + n + 2 with n>1, a(0)=1, a(1)=2. • a(n) = ((5 + sqrt(5)) * (1 + sqrt(5)) ^ (n + 1) - (5 - sqrt(5)) * (1 - sqrt(5)) ^ (n + 1)) / (2 ^ (n + 1) * sqrt(5)) - n - 5. - _ Bruno Berselli _ , Jun 27 2012 •

[A122751] • 1,2,7,14,29,49,83,127,192,273,384,519,694,902,1162,1466,1835,2260,2765,3340,4011,4767,5637,6609,7714 ⋆ Number of essentially different semi-magic squares of order 3 with semimagic sum n. • a(n) = 1 / 64 * n ^ 4 - 1 / 32 * n ^ 3 + 1 / 32 * n ^ 2 + d * n + e with: d:= - 1 / 8 if n=0 or n=2 (mod 4) d:=3 / 32 if n=1 or n=3 (mod 4) e:=0 if n=0 (mod 4) e:= - 7 / 64 if n=1 (mod 4) e:=1 / 8 if n=2 (mod 4) e:=1 / 64 if n=3 (mod 4). • a(n) = (2 * n * (n - 1) * (n ^ 2 - n + 1) - 7 * (2 * n - 1) * (- 1) ^ n - 8 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) + 1) / 128. - _ Luce ETIENNE _ , Oct 29 2017 •

[A258321] • 0,2,7,14,31,60,116,216,397,718,1285,2278,4008,7006,12179,21070,36299,62304,106588,181812,309305,524942,888977,1502474,2534736 ⋆ a(n) = Fibonacci(n) + n*Lucas(n). • a(n) = - a(- n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). • a(n) = (n + 1) * Fibonacci(n + 1) + (n - 1) * Fibonacci(n - 1). •

[A140253] • 1,1,2,7,14,31,62,127,254,511,1022,2047,4094,8191,16382,32767,65534,131071,262142,524287,1048574,2097151,4194302,8388607,16777214 ⋆ a(2*n) = 2*(2*4^(n-1)-1) and a(2*n-1) = 2*4^(n-1)-1. • a(n)= a(n - 1) + 2 * a(n - 2) + 3. - _ Gary Detlefs _ , Jun 22 2010 • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2, a(0) = - 1, a(1) = 1, a(2) = 2. - _ Philippe Deléham _ , Feb 25 2012 •

[A290682] • 1,2,7,14,31,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607,16777215,33554431 ⋆ Decimal representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (1 + n) - 1 for n>3. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>5. •

[A060552] • 0,0,0,1,2,7,14,35,70,154,310,650,1300,2666,5332,10788,21588,43428,86856,174244,348488,697992,1396040,2794120,5588240 ⋆ a(n) is the number of distinct (modulo geometric D3-operations) nonsymmetric (no reflective nor rotational symmetry) patterns which can be formed by an equilateral triangular arrangement of closely packed black and white cells satisfying the local matching rule of Pascal's triangle modulo 2, where n is the number of cells in each edge of the arrangement. The matching rule is such that any elementary top-down triangle of three neighboring cells in the arrangement contains either one or three white cells. • a(n) = (2 ^ (n - 1) - 2 ^ (floor(n / 3) + (n mod 3) mod 2 - 1)) / 3 + 2 ^ (floor((n + 3) / 6) + d(n) - 1) - 2 ^ floor((n - 1) / 2), with d(n)=1 if n mod 6=1 else d(n)=0. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 4 * a(n - 4) - 4 * a(n - 5) + 10 * a(n - 6) - 4 * a(n - 7) - 4 * a(n - 8) + 4 * a(n - 9) + 8 * a(n - 10) + 8 * a(n - 11) - 16 * a(n - 12). •

[A173126] • 0,0,0,0,1,2,7,14,36,72,165,330,715,1430,3004,6008,12393,24786,50559,101118,204820,409640,826045,1652090,3321891 ⋆ sum_{k=floor[(n+5)/2] mod 5} C(n,k) • a(n)= 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + 2 * a(n - 5). G.f.: x ^ 4 / ((1 - 2 * x) * (x ^ 2 + x - 1) * (x ^ 2 - x - 1)). [From _ R. J. Mathar _ , Feb 19 2010] •

[A256272] • 2,7,14,36,72,188,410,1021,2392,5818,13862,33678,80784,195440,470916,1137710,2744212,6627675,15994430,38619812,93222780,225072548,543339722,1311772784,3166816034 ⋆ G.f.: Sum_{n>=1} Pell(n+1) * x^n / (1 - x^n), where Pell(n) = A000129(n). • a(2 * n ^ 2) == 1 (mod 2), with a(n) = = 0 (mod 2) elsewhere. •

[A167762] • 0,0,1,2,7,14,37,74,175,350,781,1562,3367,6734,14197,28394,58975,117950,242461,484922,989527,1979054,4017157,8034314,16245775 ⋆ a(n) = 2*a(n-1)+3*a(n-2)-6*a(n-3) starting a(0)=a(1)=0, a(2)=1. • a(n) = - 3 * (- sqrt(3)) ^ n * (- 18 - 12 * sqrt(3)) ^ (- 1) - 12 * 2 ^ n * sqrt(3) * (- 18 - 12 * sqrt(3)) ^ (- 1) + 12 * sqrt(3) * 3 ^ (1 / 2 * n) * (- 18 - 12 * sqrt(3)) ^ (- 1) - 18 * 2 ^ n * (- 18 - 12 * sqrt(3)) ^ (- 1) + 21 * 3 ^ (1 / 2 * n) * (- 18 - 12 * sqrt(3)) ^ (- 1), with n>=0. - _ Paolo P. Lava _ , Nov 16 2009 • a(n) = [- 18 - 12 * sqrt(3)] ^ (- 1) *{ 12 * sqrt(3) * [3 ^ ((1 / 2) * n) - 2 ^ n] + 21 * 3 ^ ((1 / 2) * n) - 3 * (- sqrt(3)) ^ n - 18 * 2 ^ n } , with n>=0. - _ Paolo P. Lava _ , Nov 16 2009 •

[A178748] • 1,2,7,14,37,80,187,410,913,1988,4327,9326,20029,42776,91027,192962 ⋆ Total number of '1' bits in the terms of 'rows' of A178746 • a(n) = (2 ^ n * (3n + 8) + (3n + 1) * (- 1) ^ n) / 9 [From _ David Scambler _ , Jun 10 2010] •

[A176662] • 2,7,14,40,104,256,608,1408,3200,7168,15872,34816,75776,163840,352256,753664,1605632,3407872,7208960,15204352,31981568,67108864,140509184,293601280,612368384 ⋆ a(0)=2, a(1)=7, and a(n) = (3*n+1)*2^(n-1) if n > 1. • a(2n) + a(2n + 1) = 9, 54, 360, 2016, ... • a(n) = 4 * a(n - 1) - 4 * a(n - 2), n > 3. •

[A123752] • 1,2,7,14,49,98,343,686,2401,4802,16807,33614,117649,235298,823543,1647086,5764801,11529602,40353607,80707214,282475249,564950498,1977326743,3954653486,13841287201 ⋆ a(n) = 7a(n-2), a(0) = 1, a(1) = 2. • a(n) = 7 ^ (n / 2) * [7(1 + (- 1) ^ n) + 2sqrt(7) * (1 - (- 1) ^ n)] / 14. • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Reinhard Zumkeller _ , Mar 04 2011 •

[A005449] • 0,2,7,15,26,40,57,77,100,126,155,187,222,260,301,345,392,442,495,551,610,672,737,805,876 ⋆ Second pentagonal numbers: a(n) = n*(3*n + 1)/2. • a(n) = right term of M ^ n * [1 0 0] where M = the 3 X 3 matrix [1 0 0 / 1 1 0 / 2 3 1]. M ^ n * [1 0 0] = [1 n a(n)]. E.g. a(4) = 26 since M ^ 4 * [1 0 0] = [1 4 26] = [1 n a(n)]. - _ Gary W. Adamson _ , Dec 19 2004 • a(n) = Sum _{ j=1..n } n + j. - _ Zerinvary Lajos _ , Sep 12 2006 • a(n) = 2 * C(3 * n,4) / C(3 * n,2), n>=1. - _ Zerinvary Lajos _ , Jan 02 2007 • a(n) = a(n - 1) + 3 * n - 1 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = 12 / (n + 2)! * Sum _{ j=0..n } (- 1) ^ (n - j) * binomial(n,j) * j ^ (n + 2). [_ Vladimir Kruchinin _ , Jun 04 2013] • a(n) = floor(n / (1 - exp(- 2 / (3 * n)))) for n>0. - _ Richard R. Forberg _ , Jun 22 2013 •

[A293401] • 0,2,7,15,26,41,59,80,104,132,162,196,233,274,318,365,415,468,525,585,648,714,784,856,932 ⋆ Least integer k such that k/n^2 > (1 + sqrt(5))/2 (the golden ratio). • a(n) = ceiling(r * n ^ 2), where r = (1 + sqrt(5)) / 2. •

[A113422] • 0,2,7,15,27,42,60,82,107,135,167,202,240,282,327,375,427,482,540,602,667,735,807,882,960 ⋆ a(n) = floor((5*n^2+1)/3). • a(- n) = a(n). • a(3n) = 15n ^ 2, a(3n + 1) = 15n ^ 2 + 10n + 2. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5), a(0)=0, a(1)=2, a(2)=7, a(3)=15, a(4)= 27. - _ Harvey P. Dale _ , Nov 28 2013 • a(n) = Sum _{ j=1..n } Sum _{ i =1..n } ceiling((i + j - n + 3) / 3). - _ Wesley Ivan Hurt _ , Mar 12 2015 •

[A061802] • 2,7,15,27,45,69,99,135,177,229,289,357,435,519,609,709,821,941,1069,1207,1351,1503,1665,1837,2023 ⋆ Sum of n-th row of triangle of primes: 2; 2 3 2; 2 3 5 3 2; 2 3 5 7 5 3 2; ...; where n-th row contains 2n+1 terms. • a(n) = a(n - 1) + p(n) + p(n - 1) where p(n) = n - th prime. •

[A192962] • 1,2,7,15,30,55,97,166,279,463,762,1247,2033,3306,5367,8703,14102,22839,36977,59854,96871,156767,253682,410495,664225 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A295145] • 1,2,7,15,34,70,146,295,597,1198,2404,4813,9635,19277,38564,77136,154283,308575,617162,1234334,2468681,4937373,9874760,19749532,39499079 ⋆ Solution of the complementary equation a(n) = a(n-1) + 2*a(n-2) + b(n-2), where a(0) = 1, a(1) = 2, b(0) = 3, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 2. •

[A200862] • 1,2,7,15,47,106,312,731,2068,4983,13727,33757,91302,227846,608389,1534290,4059911,10315771,27122487,69284630,181339756,465000279,1213137668,3119218927,8119123683 ⋆ G.f.: (1-2*x^2)/(1-2*x-5*x^2+9*x^3). • a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 9 * a(n - 3) for n>2. - _ Vincenzo Librandi _ , Jun 30 2014 •

[A120110] • 1,2,7,15,67,92,461,1065,3016,3956,29478,42231,379107,547556,603421,991923,12709228,18540622,241033695,352271227,389226278,407797820,5532937710,8097345425,30368363481 ⋆ Diagonal sums of number triangle A120108. • a(n)=sum { k=0..floor(n / 2), lcm(1,..,n - k + 1) / lcm(1,..,k + 1) } •

[A041573] • 1,2,7,16,23,39,62,101,163,427,1444,3315,114154,231623,809023,1849669,2658692,4508361,7167053,11675414,18842467,49360348,166923511,383207370,13195974091 ⋆ Denominators of continued fraction convergents to sqrt(304). • a(n) = 115598 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A041341] • 1,1,2,7,16,23,62,85,232,781,1013,1794,47657,49451,97108,340775,778658,1119433,3017524,4136957,11291438,38011271,49302709,87313980,2319466189 ⋆ Denominators of continued fraction convergents to sqrt(184). • a(n) = 48670 * a(n - 12) - a(n - 24). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A070169] • 0,2,7,16,28,43,62,85,111,140,173,210,249,293,339,390,443,501,561,625,693,764,838,916,998 ⋆ Rounded total surface area of a regular tetrahedron with edge length n. • a(n) = round(n ^ 2 * sqrt(3)) •

[A293410] • 0,2,7,16,28,44,63,85,111,141,174,210,250,293,340,390,444,501,562,626,693,764,839,917,998 ⋆ Least integer k such that k/n^2 > sqrt(3). • a(n) = ceiling(r * n ^ 2), where r = sqrt(3). •

[A130883] • 1,2,7,16,29,46,67,92,121,154,191,232,277,326,379,436,497,562,631,704,781,862,947,1036,1129 ⋆ a(n) = 2*n^2 - n + 1. • a(n) = a(n - 1) + 4 * n - 3 for n > 0, a(0)=1. - _ Vincenzo Librandi _ , Nov 23 2010 • a(n) = 2 * a(n - 1) - a(n - 2) + 4. - _ Eric Werley _ , Jun 27 2011 • a(0)=1, a(1)=2, a(2)=7; for n > 2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 20 2011 •

[A005581] • 0,0,2,7,16,30,50,77,112,156,210,275,352,442,546,665,800,952,1122,1311,1520,1750,2002,2277,2576 ⋆ a(n) = (n-1)*n*(n+4)/6. • a(n) = binomial(n + 1, n - 2) + binomial(n, n - 2). • a(n + 2) = 2 * te(n) - te(n - 1), e.g., a(5) = 2 * te(3) - te(2) = 2 * 20 - 10 = 30, where te(n) are the tetrahedral numbers A000292. - _ Jon Perry _ , Jul 23 2003 • a(n) is the coefficient of x ^ 3 in the expansion of (1 + x + x ^ 2) ^ n. For example, a(1)=0 since (1 + x + x ^ 2) ^ 1=1 + x + x ^ 2. - Peter C. Heinig (algorithms(AT)gmx.de), Apr 09 2007 • a(n) = C(4 + n,3) - (n + 4) * (n + 1), since C(4 + n,3) = number of all triangles in (n + 4) - gon, and (n + 4) * (n + 1)=number of triangles with at least one of the edges included. Example: n=0,in a square, all 4 possible triangles include some of the square's edges and C(4 + n,3) - (n + 4) * (n + 1)=4 - 4 * 1=0 = number of other triangles = a(0). - _ Toby Gottfried _ , Nov 12 2011 • a(n) = 2 * binomial(n,2) + binomial(n,3). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(0)=0, a(1)=0, a(2)=2, a(3)=7, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 22 2012 •

[A241526] • 2,7,16,31,53,83,123,174,237,314,406,514,640,785,950,1137,1347,1581,1841,2128,2443,2788,3164,3572,4014 ⋆ Number of different positions in which a square with side length k, 1 <= k <= n - floor(n/3), can be placed within a bi-symmetric triangle of 1 X 1 squares of height n. • a(n) = sum _{ j=0..n - 1 - floor(n / 3) } ((4 * n - 6 * j + 1 - (- 1) ^ j) / 4) * ((4 * n - 6 * j + 3 + (- 1) ^ j) / 4). • a(n) = (4 * n ^ 3 + 15 * n ^ 2 + 17 * n - 6 * floor(n / 3)) / 18. •

[A216499] • 0,0,0,2,7,16,32,55,87,130,184,252,335,433,550,686,842,1022,1224,1451,1706,1987,2299,2642,3015 ⋆ The maximum possible number of rooted triplets consistent with any galled-tree (level-1 phylogenetic network) containing ex-

actly n leaves. • a(0) = 0, • a(n) = max _{ 1<=i<=n } [C(i,3) + 2 * C(i,2) * (n - i) + i * C(n - i,2) + a(n - i)] for n>0. •

[A228189] • 0,2,7,16,32,56,89,134,190,261,348,452,575,718,883,1072,1286,1526,1795,2094,2424,2787,3185,3619,4090 ★ Volume of right circular cone (rounded down) with the diameter of base and height equal to n. • a(n) = floor((Pi * n ^ 3) / 12). •

[A023550] • 2,7,16,32,59,104,178,299,496,816,1335,2176,3538,5743,9312,15088,24435,39560,64034,103635,167712,271392,439151,710592,1149794 ★ Convolution of natural numbers >= 2 and (F(2), F(3), F(4),...). • a(n) = - 5 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 15 + 7 * sqrt(5)) + (1 + sqrt(5)) ^ n * (15 + 7 * sqrt(5)))) / sqrt(5) - 2 * (1 + n). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A212576] • 0,1,2,7,16,33,52,87,126,181,246,331,422,545,674,831,1006,1213,1428,1691,1964,2277,2614,2995,3388 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|=2|x-y|+2|y-z|. • a(n) = a(n - 2) + 2 * a(n - 3) + a(n - 4) - 2 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) + 2 * a(n - 9) + a(n - 10) - a(n - 12). •

[A192952] • 0,1,2,7,16,33,62,111,192,325,542,895,1468,2397,3902,6339,10284,16669,27002,43723,70780,114561,185402,300027,485496 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) =3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A132738] • 1,2,7,16,33,66,131,260,517,1030,2055,4104,8201,16394,32779,65548,131085,262158,524303,1048592,2097169,4194322,8388627,16777236,33554453 ★ Row sums of triangle A132737. • a(n) = 2 ^ (n + 1) + n - 3 for n > 0. [_ Franklin T. Adams - Watters _ , Jul 06 2009] • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>3. G.f.: (4 * x ^ 3 - 4 * x ^ 2 + 2 * x - 1) / ((x - 1) ^ 2 * (2 * x - 1)). - _ Colin Barker _ , Mar 14 2014 •

[A269963] • 1,2,7,16,37,82,187,428,985,2262,5191,11904,27301,62618,143635,329476,755761,1733566,3976447,9121160,20922109,47991138,110082091,252506316,579198985 ★ Start with a square; at each stage add a square at each expandable vertex so that the ratio between the side of the squares at stage n+1 and at stage n is the golden ratio phi=0.618...; a(n) is the number of squares in a portion of the n-th stage (see below). • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5). •

[A176805] • 2,7,16,37,94,259,748,2209,6586,19711,59080,177181,531478,1594363,4783012,14348953,43046770,129140215,387420544,1162261525,3486784462,10460353267,31381059676,94143178897,282429536554 ★ 3^n + 3n + 1. • a(n)= + 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). G.f.: (1 + x) * (5 * x - 2) / ((3 * x - 1) * (x - 1) ^ 2). - _ R. J. Mathar _ , Apr 27 2010 •

[A224227] • 0,0,0,1,2,7,16,38,82,173,352,701,1368,2628,4980,9329,17302,31811,58040,105178,189446,339373,604964,1073593,1897488 ★ a(n) = (1/50)*((15*n^2-20*n+4)*Fibonacci(n)-(5*n^2-6*n)*A000032(n)). • a(n) = Sum _{ k=0..n - 1 } k ^ 2 * binomial(n - k - 1,k). •

[A042243] • 1,2,7,16,39,55,94,431,10869,43907,54776,98683,252142,602967,2061043,4725053,238313693,481352439,1682371010,3846094459,9374559928,13220654387,22595214315,103601511647,2612633005490 ★ Denominators of continued fraction convergents to sqrt(647). • a(n) = 240374736 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 18 2014 •

[A041887] • 1,1,2,7,16,39,94,321,415,736,31327,32063,63390,222233,507856,1237945,2983746,10189183,13172929,23362112,994381633,1017743745,2012125378,7054119879,16120365136 ★ Denominators of continued fraction convergents to sqrt(465). • a(n) = 31742 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A129441] • 1,1,2,7,16,39,100,248,618,1546,3858,9631,24049,60041,149903,374266,934427,2332981,5824753,14542648,36308602,90651625,226329747,565077072,1410826915 ★ G.f. x*(1-x^2-x^3)/ ((1+x+x^2) * (x^4-x^3-x^2-2*x+1)). • a(n) = a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3) + a(n - 4) - a(n - 6). •

[A073371] • 1,2,7,16,41,94,219,492,1101,2426,5311,11528,24881,53398,114083,242724,514581,1087410,2291335,4815680,10097401,21126862,44117867,919639996,191384541 ★ Convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0 with itself. • a(n) = sum((n - k + 1) * binomial(n - k, k) * 2 ^ k, k=0.. floor(n / 2)). • a(n) = ((6n + 4) / 27)2 ^ (n) + ((- 1) ^ (n - 1))(3n + 4) / 27. - _ Artur Jasinski _ , Feb 09 2007 •

[A113224] • 1,2,7,16,41,98,239,576,1393,3362,8119,19600,47321,114242,275807,665856,1607521,3880898,9369319,22619536,54608393,131836322,318281039,768398400,1855077841 ★ a(2n) = A002315(n), a(2n+1) = A082639(n+1). • a(n) = - (u ^ (n + 1) - 1) * (v ^ (n + 1) - 1) / 2 with u = 1 + sqrt(2), v = 1 - sqrt(2). - _ Vladeta Jovovic _ , May 30 2007 • a(n) = n * sum _{ k=1..n } sum _{ i=ceil((n - k) / 2)..n - k } binomial(i,n - k - i) * binomial(k + i - 1,k - 1) * (1 - (- 1) ^ k) / (2 * k). - _ Vladimir Kruchinin _ , Apr 11 2011 • a(n) = floor((1 + sqrt(2)) ^ (n + 1) / 2). - _ Bruno Berselli _ , Feb 06 2013 •

[A178945] • 1,2,7,16,42,96,228,512,1160,2560,5648,12288,26656,57344,122944,262144,557184,1179648,2490624,5242880,11010560,23068672,48235520,100663296,209717248 ★ Expansion of x*(1-x)^2/((1-2*x^2)*(1-2*x)^2). • a(n) = 2 ^ (n - 2) * n + 2 ^ (n / 2 - 5 / 2) * (1 - (- 1) ^ n). • a(n) = + 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 8 * a(n - 4). •

[A286848] • 2,7,16,53,154,436,1268,3660,10610,30744,89079,258251,748420,2169219,6287336,18222901,52817261,153084840,443698814,1286012537,3727362387,10803344089,31312289784,90755170545,263043739916 ★ Number of minimal dominating sets in the grid graph P_3 X P_n. • a(n) = Sum _{ k=1..48 } c(k) * a(n - k), where c = (2, 2, 4, - 8, 2, 2, 23, - 14, - 31, - 31, 45, - 50, - 83, - 122, 141, 54, 105, - 36, 85, 275, 222, - 63, - 90, 140, - 253, - 399, - 234, - 190, 87, - 59, 219, 222, 189, 270, - 152, - 56, - 123, - 158, 41, - 75, 62, 12, - 21, 30, - 7, - 4, 3, - 1) (conjectured). - _ Eric W. Weisstein _ , Aug 02 2017 •

[A239425] • 1,2,7,16,53,156,522,1702,5833,19990,70079,247160,882587,3172196,11492847,41874864,153452521,564975570,2089346157,7756501690,28898156364,108010059036,404890987653,1521877280868,5734545323859 ★ Expansion of -16/(sqrt(12*x+2*sqrt(1-4*x)+2)-sqrt(1-4*x)-1)^2+1/x^2-1. • a(n) = Sum _{ j=0..(n + 2) } C(n + 2 * j - 1,j) * (- 1) ^ (j + n) * C(2 * n + 2,j + n)) / (n + 1) - delta(n,0). •

[A042689] • 1,1,2,7,16,55,71,126,7379,7505,14884,52157,119198,409751,528949,938700,54973549,55912249,110885798,388569643,888025084,3052644895,3940669979,6993314874,409552932671 ★ Denominators of continued fraction convergents to sqrt(874). • a(n) = 7450 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A073998] • 0,2,7,16,60,272,1072,4096,16320,65792,262912,1048576,4193280,16781312,67121152,268435456,1073725440,4295032832,17180065792,68719476736,274877644800,1099512676352,4398049656832,17592186044416,70368739983360 ★ Number of strings of length n over GF(4) with trace 1 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t - 1, s - (t - 1)) + a(n - 1; t - 2, s - 2(t - 2)) + a(n - 1; t - 3, s - 3(t - 3)) where t is the trace and s is the subtrace. Note t hat all operations involving operands t or s are carried out over GF(4). •

[A129444] • 0,1,2,7,16,65,154,639,1520,6321,15042,62567,148896,619345,1473914,6130879,14590240,60689441,144428482,600763527,1429694576,5946945825,14152517274,58868694719,140095478160 ★ Numbers n such that centered triangular number A005448(n) = 3n(n-1)/2 + 1 is a perfect square. • a(1)=0; a(2)=1; a(3)=2; a(4)=7; a(5)=16; a(6)=65; a(n)=11(a(n - 2) - a(n - 4)) + a(n - 6). - _ Zak Seidov _ , Apr 17 2007 • a(n) = 1 - a(- n + 3) for all n in Z. - _ Michael Somos _ , Apr 05 2008 • a(1)=0, a(2)=1, a(3)=2, a(4)=7, a(5)=16 , a(n)=a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Dec 06 2012 •

[A227144] • 1,2,7,17,23,25,26,31,41,47,49,50,55,65,71,73,74,79,89,95,97,98,103,113,119 ★ Numbers that are congruent to {1, 2, 7, 17, 23} modulo 24. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = (120 * n - 110 - 6 * (n m od 5) - 26 * ((n + 1) mod 5) - ((n + 2) mod 5) + 19 * ((n + 3) mod 5) + 14 * ((n + 4) mod 5)) / 25. • a(5k) = 24k - 1, a(5k - 1) = 24k - 7, a(5k - 2) = 24k - 17, a(5k - 3) = 24k - 22, a(5k - 4) = 24k - 23. (End) •

[A220273] • 2,7,17,24,25,38,41,58,59,64,65,73,95,97,103,106,107,108,138,143,143,157,169,169,174 ★ a(n) is the smallest number, such that for all N>=a(n) there are at least n primes between 5*N and 6*N. • a(n)<=ceil(R _ (6 / 5)(n) / 6), where R _ v(n) (v>1) are generalized Ramanujan numbers (see Shevelev's link). In particular, for n>=1, { R _ (6 / 5)(n) } = { 29,59, 137,139,149, 223,241,347,353,383,389,563,569, 593,... } . Moreover, if R _ (6 / 5)(n)==1(mod 6), then a(n)=ceil(R _ (6 / 5)(n) / 6). •

[A166381] • 0,2,7,17,31,52,76,108,146,191,242,301,364,437,518,605,700,804,914,1034,1160,1295,1438,1594,1751 ★ a(n) = Sum_{j>n} floor(n^2/j). • a(n) = Sum _{ i=1..n } floor(n * (n - i) / i). - _ Wesley Ivan Hurt _ , Jan 30 2016 •

[A045947] • 0,0,2,7,17,33,57,90,134,190,260,345,447,567,707,868,1052,1260,1494,1755,2045,2365,2717,3102,3522 ★ Triangles in open triangular matchstick arrangement (triangle minus one side) of side n. • a(n) = (1 / 16) * (2 * n * (2 * n ^ 2 + n - 2) + (- 1) ^ n - 1). - _ Bruno Berselli _ , Aug 29 2011 •

[A145066] • 2,7,17,34,60,97,147,212,294,395,517,662,832,1029,1255,1512,1802,2127,2489,2890,3332,3817,4347,4924,5550 ★ Partial sums of A002522, starting at n=1. • a(1) = 2; a(n) = a(n - 1) + n ^ 2 + 1 for n > 1. • a(n) = Sum _{ k=1..n } (k ^ 2 + 1). • a(n) = n * (n + 1) * (2 * n + 1) / 6 + n. (End) •

[A014148] • 2,7,17,34,62,103,161,238,338,467,627,824,1062,1343,1671,2052,2492,2993,3561,4200,4912,5703,6577,7540,8600 ★ Apply partial sum operator twice to sequence of primes. • a(n) = Sum[Sum[Prime[k], { k,1,m }], { m,1, n }]. •

[A033937] • 2,7,17,35,66,118,204,345,575,949,1556,2540,4134,6715,10893,17655,28598,46306,74960,121325,196347,317737,514152,831960,1346186 ★ Convolution of natural numbers n >= 1 with Fibonacci numbers F(k), k >= 3. • a(n) = F(n + 7) - (11 + 3 * n); G.f.: (2 + x) / ((1 - x - x ^ 2) * (1 - x) ^ 2) •

[A086321] • 2,7,17,37,47,97,107,227,277,577,587,647,1367,1657,1667,3457,3467,3517,3527,3877,10007,20747,20807,21107,21157 ★ Primes produced by repeated application of the formula p -> (6p +/- 5) starting at the prime 2. • a (n) = (6 * a(n - m)) - 5 or (6 * a(n - m)) + 5 •

[A154117] • 1,2,7,17,37,77,157,317,637,1277,2557,5117,10237,20477,40957,81917,163837,327677,655357,1310717,2621437,5242877,10485757,20971517,41943037 ★ Expansion of (1 - x + 3*x^2)/((1-x)*(1-2*x)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>2. • a(n) = 2 * a(n - 1) + 3, n>1. • a(n) = 5 * 2 ^ (n - 1) - 3, n >=1. (End) •

[A209398] • 0,0,0,2,7,17,39,88,192,408,855,1775,3655,7478,15228,30898,62511,126177,254223,511472,1027840,2063600,4140015,8300767,16635087 ★ Number of subsets of {1,...,n} containing two elements whose difference is 2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - a(n - 4) - 2 * a(n - 5), a(0)=0, a(1) =0, a(2)=0, a(3)=2, a(4)=7. • a(n) = 2 ^ n - F(2 + floor(n / 2)) * F(floor(2 + (n + 1) / 2)), where F(n) are the Fibonacci numbers. •

[A175660] • 1,2,7,17,40,89,193,410,859,1781,3664,7493,15253,30938,62575,126281,254392,511745,1028281,2064314,4141171,8302637,16638112,33329357,66744685 ★ Eight bishops and one elephant on a 3 X 3 chessboard. a(n) = 2^(n+2)-3*F(n+2). • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) with a(0)=1, a(1)=2 and a(2)=7. •

[A014742] • 1,2,7,17,46,119,313,818,2143,5609,14686,38447,100657,263522,689911,1806209,4728718,12379943,32411113,84853394,222149071,581593817,1522632382,3986303327,10436277601 ★ Expansion of (1+x^2)/(1-2*x-2*x^2+x^3). • a(n) = (2 * (- 1) ^ n + 3 * (F(2 * n) + F(2 * (n + 1)))) / 5, • a(n) = 3 * F (n) * F(n + 1) + (- 1) ^ n. - _ Bruno Berselli _ , Oct 30 2015 • a(n) = (2 ^

(- 1 - n) * ((- 1) ^ n * 2 ^ (2 + n) - 3 * (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + 3 * (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Sep 29 2016 •

[A180665] • 0,1,2,7,17,47,121,320,835,2190,5730,15006,39282,102847,269252,704917,1845491,4831565,12649195,33116030,86698885,226980636,594243012,1555748412,4073002212 ★ Golden Triangle sums: a(n)=a(n-2)+A001654(n) with a(0)=0 and a(1)=1. • a(n) = ((- 1) ^ (- n - 1) * (15 + 10 * n) - 25 + (16 - 4 * A) * A ^ (- n - 1) + (16 - 4 * B) * B ^ (- n - 1)) / 100 with A=(3 + sqrt(5)) / 2 and B=(3 - sqrt(5)) / 2. •

[A133407] • 1,2,7,17,52,137,397,1082,3067,8477,23812,66197,185257,516242,1442527,4023737,11236372,31355057,87536917,244312202,681996787,1903557797,5313541732,14831330717,41399039377 ★ a(n) = a(n-1) + 5*a(n-2) for n >= 2, a(0)=1, a(1)=2. • a(n) = (1 / 2) * (1 / 2 + (1 / 2) * sqrt(21)) ^ n - (1 / 14) * sqrt(21) * (1 / 2 - (1 / 2) * sqrt(21)) ^ n + (1 / 14) * (1 / 2 + (1 / 2) * sqrt(21)) ^ n * sqrt(21) + (1 / 2) * (1 / 2 - (1 / 2) * sqrt(21)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Nov 18 2008 • a(n) = ((21 - 3 * sqrt(21)) / 42) * (1 / 2 - (1 / 2) * sqrt(21)) ^ n + ((21 + 3 * sqrt(21)) / 42) * (1 / 2 + (1 / 2) * sqrt(21)) ^ n. - _ Richard Choulet _ , Nov 20 2008 •

[A216389] • 1,2,7,17,64,264,1106,5804 ★ Number of values of k for which sigma(k) is a permutation of decimal digits of k, for k < 10^n. • a(n) = # { k in A115920 | k < 10 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A122382] • 2,7,17,103,467,6577,17189,61627,109919,130531,198109,239579,399557,559313,1291909,1807609,2851951,3644479,5189339,5659651,6794993,6905357,7359091,9795109,19405363 ★ Primes of the form Sum[Sum[Prime[k], {k,1,m}], {m,1,n}] = A014148[n]. • a(n) = A014148[A122381[n]]. •

[A283957] • 2,7,17,467,1033,2287,2333,3413,7523,10357,14723,15073,17467,18077,19423,19583,20177,24337,26113,26357,26987,27437,28627,29327,32077 ★ Primes p such that 6p - 1 and 6p + 1 are twin primes and ((6p-1)^2 + (6p+1)^2) / 10 is prime. • a(n) == +- 2 (mod 5). •

[A195605] • 2,7,18,31,50,71,98,127,162,199,242,287,338,391,450,511,578,647,722,799,882,967,1058,1151,1250 ★ a(n) = (4*n*(n+2)+(-1)^n+1)/2 + 1. • a(n) = a(- n - 2) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A141631] • 2,7,18,35,58,87,122,163,210,263,322,387,458,535,618,707,802,903,1010,1123,1242,1367,1498,1635,1778 ★ 3*n^2 - 4*n + 3. • a(n) = 6 * n + a(n - 1) - 7, with n>1, a(1)=2. - _ Vincenzo Librandi _ , Nov 25 2010 •

[A212685] • 0,0,2,7,18,36,64,103,156,224,310,415,542,692,868,1071,1304,1568,1866,2199,2570,2980,3432,3927,4468 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|=w+|y-z|. • a(n)=3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n)=(- 3 + 3 * (- 1) ^ n + 4 * n - 6 * n ^ 2 + 8 * n ^ 3) / 24. [_ Colin Barker _ , Jun 10 2012] •

[A229183] • 0,2,7,18,38,70,117,182,268,378,515,682,882,1118,1393,1710,2072,2482,2943,3458,4030,4662,5357,6118,6948 ★ a(n) = n*(n^2 + 3)/2. • a(n) ^ 2 + 1 = (n ^ 2 + 1) ^ 2 * ((n / 2) ^ 2 + 1). - _ Joerg Arndt _ , Jan 22 2015 •

[A051743] • 2,7,18,39,75,132,217,338,504,725,1012,1377,1833,2394,3075,3892,4862,6003,7334,8875,10647,12672,14973,17574,20500 ★ a(n) = (1/24)*n*(n + 5)*(n^2 + n + 6). • a(n) = binomial(n + 3, n - 1) + binomial(n, n - 1) = binomial(n + 3, 4) + binomial(n, 1), n > 0. • a(1)=2, a(2)=7, a(3)=18, a(4)=39, a(5)=75, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A054111] • 1,2,7,18,39,82,167,338,679,1362,2727,5458,10919,21842,43687,87378,174759,349522,699047,1398098,2796199,5592402,11184807,22369618,44739239 ★ Row sums of array T as in A054110. • a(n + 1) = 2 ^ (n + 4) / 3 - 7 / 2 + (- 1) ^ n / 6, n>0. - _ R. J. Mathar _ , May 20 2013 •

[A192955] • 0,1,2,7,18,41,84,161,294,519,894,1513,2528,4185,6882,11263,18370,29889,48548,78761,127670,206831,334942,542257,877728 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A077802] • 1,2,7,18,41,88,183,374,757,1524,3059,6130,12273,24560,49135,98286,196589,393196,786411,1572842,3145705,6291432,12582887,25165798,50331621 ★ Sum of products of parts increased by 1 in hook partitions of n, where hook partitions are of the form h*1^(n-h). • a(n) = 3 * 2 ^ n - n - 3, n>0. •

[A095151] • 0,2,7,18,41,88,183,374,757,1524,3059,6130,12273,24560,49135,98286,196589,393196,786411,1572842,3145705,6291432,12582887,25165798,50331621 ★ a(n+3) = 3*a(n+2)-2*a(n+1)+1 with a(0)=0, a(1)=2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). G.f.: x * (2 - x) / ((1 - x) ^ 2 * (1 - 2 * x)). - _ Colin Barker _ , Apr 23 2012 •

[A243717] • 2,7,18,43,83,156,257,418,624,925,1292,1797,2393,3178,4083,5236,6542,8163,9974,12175,14607,17512,20693,24438,28508 ★ Number of inequivalent (mod D_4) ways to place 2 nonattacking knights on an n X n board. • a(n) = (n ^ 4 - 2 * n ^ 2 + 20 * n - 16 + IF(MOD(n, 2) = 1) * (2 * n ^ 2 - 4 * n - 1)) / 16. • a(n) = (- 33 + (- 1) ^ n + 4 * (9 + (- 1) ^ n) * n - 2 * (1 + (- 1) ^ n) * n ^ 2 + 2 * n ^ 4) / 32. - _ Colin Barker _ , Jun 10 2014 •

[A174192] • 1,2,7,18,45,110,267,646,1561,3770,9103,21978,53061,128102,309267,746638,1802545,4351730,10506007,25363746,61233501,147830750,356895003,861620758,2080136521 ★ Expansion of (1-x+2x^2)/ ((1-x)*(1-2x-x^2)). • a(n)=2 * a(n - 1) + a(n - 2) + 2, with a(0)=1, a(1)=2. • a(n)= - 1 + [1 + sqrt(2)] ^ n + [1 - sqrt(2)] ^ n + (1 / 4) * sqrt(2) *{ [1 + sqrt(2)] ^ n - [1 - sqrt(2)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Mar 17 2010] •

[A182197] • 0,1,2,7,18,48,131,355,966,2626,7137,19401,52737,143354,389676,1059250,2879341,7826860,21275612,57833109,157206689,427332086,1161609045,3157580760,8583194401 ★ a(n) = round(e^(n+1)/(e^2+1)). • a(n) = round(e ^ (n + 1) / (e ^ 2 + 1)). •

[A192873] • 0,1,2,7,18,49,128,337,882,2311,6050,15841,41472,108577,284258,744199,1948338,5100817,13354112,34961521,91530450,239629831,627359042,1642447297,4299982848 ★ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) given in Comments. • a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). • a(n) = (1 / 10) * (4L(2n) - 3 * (- 1) ^ n - 5), with L(n) the Lucas numbers (A000032). - _ Ralf Stephan _ , Apr 06 2014 • a(- n) = a(n) for all n in Z. - _ Michael Somos _ , Apr 08 2014 •

[A030236] • 1,2,7,18,49,136,377,1044,2891,8006,22171,61398,170029,470860,1303949,3611016,9999959,27692810,76689487,212375610,588130153,1628704336,4510358465,12490501212,34589849507 ★ Cycle-path coverings of a family of digraphs. • a(n + 4) = 3 a(n + 3) - a(n + 2) + a(n + 1), n >= 0. • a(n + 3) = 2 * a(n + 2) + a(n + 1) + 2 * sum(a(i), i = 0..n), n >= 0. • a(n) = sum(binomial(n + k + 1,3 * k + 1) * 2 ^ k,k=0..n) + 2 * sum(binomial(n + k - 1, 3 * k + 1) * 2 ^ k,k=0..n - 1). [_ Emanuele Munarini _ , Dec 03 2012] •

[A074141] • 1,2,7,18,50,118,301,684,1621,3620,8193,17846,39359,84198,181313,383208,811546,1695062,3546634,7341288,15207022,31261006,64255264,131317012,268336125 ★ Sum of products of parts increased by 1 in all partitions of n. • a(n) = S(n,1), where S(n,m) = sum(k=m..n / 2, (k + 1) * S(n - k,k)) + (n + 1), S(n,n)=n + 1, S(0,m)=1, S(n,m)=0 for n<m. - _ Vladimir Kruchinin _ , Sep 07 2014 •

[A122931] • 1,2,7,18,50,132,351,924,2431,6380,16732,43848,114869,300846,787815,2062830,5401054,14140940,37022755,96928920,253766591,664375032,1739365272,4553731728,11921847625 ★ Row sums of triangular array A122930. • a(n)=(F(n + 2) ^ 2 - F(n + 1) ^ 2 - F(n + 2) + F(n + 1)) / 2 where F(n)=Fibonacci(n). - _ Gary Detlefs _ , Mar 10 2011 • a(n) = F(n) * (F(n + 3) - 1) / 2. - _ J. M. Bergot _ , Mar 16 2013 •

[A046672] • 1,2,7,18,53,146,415,1162,3277,9210,25927,72930,205221,577378,1624559,4570810,12860541,36184394,101808791,286449682,805956949,2267645362,6380262207,17951546602,50508589101 ★ Expansion of 1/(1-2*x-3*x^2+2*x^3). • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3), n > 2. - _ Iain Fox _ , Dec 02 2017 •

[A291255] • 2,7,18,55,144,404,1060,2853,7442,19573,50670,131368,337622,866819,2213650,5642899,14332988,36335548,91872760,231875713,584030738,1468631153,3686943130,9242753104,23138167146 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S - 2 S^2)^2. • a(n) = 2 * a(n - 1) + 7 * a(n - 2) - 10 * a(n - 3) - 16 * a(n - 4) + 10 * a(n - 5) + 7 * a(n - 6) - 2 * a(n - 7) - a(n - 8) for n >= 9. •

[A185308] • 0,0,1,2,7,18,61,188,677,2370,9141,35212,144905,602662,2631333,11671264,53772593,252184082,1220090757,6011588316,30413403457,156656758094,825751634149,4428857070312,24246896289889 ★ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + n*a(n-2) + 1. • a(0)=a(1)=0, a(2)=1, a(n) = 2 * a(n - 1) + (n - 1) * a(n - 2) - (n - 1) * a(n - 3). - _ Vincenzo Librandi _ , Dec 24 2012 •

[A100119] • 1,2,7,19,41,76,127,197,289,406,551,727,937,1184,1471,1801,2177,2602,3079,3611,4201,4852,5567,6349,7201 ★ a(n) = n-th centered n-gonal number. • a(n) = 1 + n * (n + n ^ 2) / 2 = 1 + (1 / 2) * n ^ 2 + (1 / 2) * n ^ 3 = 1 + mean(n ^ 2, n ^ 3). - _ Joshua Zucker _ , May 03 2006 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 25 2012 •

[A209400] • 0,0,0,0,2,7,19,46,107,242,535,1162,2490,5281,11108,23206,48206,99663,205218,421115,861585,1758249,3580075,7275377,14759592 ★ Number of subsets of {1,...,n} containing a subset of the form {k,k+1,k+3} for some k. • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) + a(n - 4) - a(n - 5) - 2 * a(n - 6), a(4)=2, a(5)=7, a(i)=0 for i<4. •

[A006589] • 0,2,7,19,47,111,255,575,1279,2815,6143,13311,28671,61439,131071,278527,589823,1245183,2621439,5505023,11534335,24117247,50331647,104857599,218103807 ★ a(n) = (n+3)*2^n-1. • a(n) = Sum _{ k=0..n } Sum _{ i =0..n } C(n,i) + C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A080873] • 1,1,2,7,19,69,188,683,1861,6761,18422,66927,182359,662509,1805168,6558163,17869321,64919121,176888042,642633047,1751011099,6361411349,17333222948,62971480443,171581218381 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 5, given a(0)=a(1)=1, a(2)=2. • a(n + 4)=10 * a(n + 2) - a(n) [From _ Richard Choulet _ , Dec 04 2008] • a(n) = (1 / 24 * (3 + 3 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 6 * 2 ^ (1 / 2) + 2 * 3 ^ (1 / 2)) / (3 ^ (1 / 2) * 2 ^ (1 / 2) + 2)) * (sqrt(3) + sqrt(2)) ^ n + (1 / 16 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 8 * 2 ^ (1 / 2) + 1 / 4 + 1 / 6 * 3 ^ (1 / 2)) * (sqrt(3) - sqrt(2)) ^ n + (1 / 24 * (3 * 3 ^ (1 / 2) * 2 ^ (1 / 2) - 6 * 2 ^ (1 / 2) + 3 - 2 * 3 ^ (1 / 2)) / (3 ^ (1 / 2) * 2 ^ (1 / 2) + 2)) * (- sqrt(3) - sqrt(2)) ^ n + (1 / 16 * 3 ^ (1 / 2) * 2 ^ (1 / 2) - 1 / 8 * 2 ^ (1 / 2) + 1 / 4 - 1 / 6 * 3 ^ (1 / 2)) * (- sqrt(3) + sqrt(2)) ^ n [From _ Richard Choulet _ , Dec 04 2008] •

[A270109] • 2,7,20,47,94,167,272,415,602,839,1132,1487,1910,2407,2984,3647,4402,5255,6212,7279,8462,9767,11200,12767,14474 ★ a(n) = n^3 + (n+1)*(n+2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>3. • a(n + h) - a(n) + a(n - h) = n ^ 3 + n ^ 2 + (6 * h ^ 2 + 3) * n + (2 * h ^ 2 + 2) for any h. This identity becomes a(n) = n ^ 3 + n ^ 2 + 3 * n + 2 if h=0. • a(h * a(n) + n) = (h * a(n)) ^ 3 + (3 * n + 1) * (h * a(n)) ^ 2 + (3 * n ^ 2 + 2 * n + 3) * (h * a(n)) + a(n) for any h, therefore a(h * a(n) + n) is always a multiple of a(n). •

[A123203] • 1,2,7,20,49,110,235,488,997,2018,4063,8156,16345,32726,65491,131024,262093,524234,1048519,2097092,4194241,8388542,16777147,33554360,67108789 ★ A007318 * [1, 1, 4, 4, 4,...]. • a(n) = 2 ^ (1 + n) - 3 * n. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Colin Barker _ , Jul 29 2012 •

[A066373] • 2,7,20,52,128,304,704,1600,3584,7936,17408,37888,81920,176128,376832,802816,1703936,3604480,7602176,15990784,33554432,70254592,146800640,306184192,637534208 ★ (3*n-2)*2^(n-3). • a(n) = 2 * a(n - 1) + 3 * 2 ^ (n - 3). - _ Vincenzo Librandi _ , Mar 20 2011 •

[A096005] • 0,1,2,7,20,52,144,389,1058,2876,7817,21250,57763,157017,426817,1160207,3153770,8572836,23303385,63345169,172190019,468061001,12723217

14,3458528995,9401256521 ⋆ For k >= 1, let b(k) = ceiling(Sum_{i=1..k} 1/i); a(n) = number of b(k) that are equal to n. • a(n + 1) / a(n) approaches e = exp(1) = 2.71828... •

[A035508] • 0,2,7,20,54,143,376,986,2583,6764,17710,46367,121392,317810,832039,2178308,5702886,14930351,39088168,102334154,267914295,701408732,1836311902,4807526975,12586269024 ⋆ a(n) = Fibonacci(2n+2) - 1. • a(n) = Fibonacci(4n + 2) mod Fibonacci(2n + 2). - _ Gary Detlefs _ Nov 22 2010 • a(n + 1) = sum _{ k=0..n } Fibonacci(2 * k + 3). - _ Gary Detlefs _ Dec 24 2010 • a(n) = floor(Fibonacci(2 * n + 2) - Fibonacci(n + 1) ^ 2 / Fibonacci(2 * n + 2)). - _ Gary Detlefs _ , Dec 21 2012 •

[A000149] • 1,2,7,20,54,148,403,1096,2980,8103,22026,59874,162754,442413,1202604,3269017,8886110,24154952,65659969,178482300,485165195,1318815734,3584912846,9744803446,26489122129 ⋆ a(n) = floor(e^n). • a(n) ^ (1 / n) converges to e because |1 - a(n) / e ^ n|=|e ^ n - a(n)| / e ^ n < e ^ (- n) and so a(n) ^ (1 / n)=(e ^ n * (1 + o(1)) ^ (1 / n)=e * (1 + o(1). - _ Hieronymus Fischer _ , Jan 22 2006 •

[A049681] • 0,1,2,7,20,56,152,407,1080,2851,7502,19702,51680,135461,354902,929567,2434320,6374236,16689752,43697227,114405500,299525051,784179002,2053027082,5374926720 ⋆ a(n) = (L(2*n) - L(n))/2, where L=A000032 (the Lucas sequence). • a(n) = Lucas(n) * (Lucas(n) - 1) / 2 - (- 1) ^ n = binomial(Lucas(n), 2) - (- 1) ^ n. - _ Vladimir Reshetnikov _ , Sep 27 2016 •

[A292400] • 2,7,20,57,158,431,1160,3089,8154,21367,55644,144137,371638,954335,2441872,6228129,15839794,40181095,101690404,256812121,647303502,1628647055,4091042328,10260849073,25699419914 ⋆ p-INVERT of (1,2,2,2,2,2,2,...) (A040000), where p(S) = (1 - S)^2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. •

[A116408] • 0,0,1,2,7,20,61,182,546,1632,4875,14542,43340,129064,384111,1142610,3397656,10100448,30020283,89213094,265096455,787695636,2340488535,6954401762,20664628438 ⋆ E.g.f. exp(x)*(Bessel_I(2,2*x) - Bessel_I(3,2*x) + Bessel_I(4,2*x)). • a(n) = Sum { k=0..n } C(n,k) * (- 1) ^ k * (C(k + 1,k / 2 - 1) * (1 + (- 1) ^ k) / 2 + C(k,(k - 1) / 2 - 1) * (1 - (- 1) ^ k) / 2). •

[A015518] • 0,1,2,7,20,61,182,547,1640,4921,14762,44287,132860,398581,1195742,3587227,10761680,32285041,96855122,290565367,871696100,2615088301,7845264902,23535794707,70607384120 ⋆ a(n) = 2*a(n-1) + 3*a(n-2), with a(0)=0, a(1)=1. • a(n) = (3 ^ n - (- 1) ^ n) / 4 = floor(3 ^ n / 4 + 1 / 2). • a(n) = 3 ^ (n - 1) - a(n - 1). - _ Emeric Deutsch _ , Apr 01 2004 • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k + 1) * 2 ^ (2k). - _ Paul Barry _ , May 14 2003 • a(n) = Sum _{ k=1..n } binomial(n, k) * (- 1) ^ (n + k) * 4 ^ (k - 1). - _ Paul Barry _ , Apr 02 2003 • a(n + 1) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k) * 2 ^ (n - 2 * k) * 3 ^ k. - _ Paul Barry _ , Jul 13 2004 • a(n) = U(n - 1, i / sqrt(3))(- i * sqrt(3)) ^ (n - 1), i ^ 2= - 1. - _ Paul Barry _ , Nov 17 2003 •

[A122877] • 0,1,2,7,20,65,206,679,2248,7569,25690,88055,303964,1056497,3693158,12977655,45813008,162400609,577843890,2063053991,7388487460,26535797729,95552015614,344897769991,1247685613272 ⋆ Expansion of (1-2x-3x^2-(1-x)*sqrt(1-2x-7x^2))/(8x^3). • a(n) = (1 / Pi) * Int(x ^ n * sqrt(- x ^ 2 + 2x + 7)(x - 1) / 8,x,1 - 2sqrt(2),1 + 2sqrt(2)). • a(n) = sum(j=0..n + 1, binomial(j,n - j + 3) * 2 ^ (n - j + 2) * binomial(n + 1,j)) / (n + 1). - _ Vladimir Kruchinin _ , May 19 2014 •

[A000150] • 0,0,1,2,7,20,66,212,715,2424,8398,29372,104006,371384,1337220,4847208,17678835,64821680,238819350,883629164,3282060210,12233125112,45741281820,171529777432,644952073662 ⋆ Number of dissections of an n-gon, rooted at an exterior edge, asymmetric with respect to that edge. • a(n) = (2 ^ (n - 3) / sqrt(Pi)) * (4 * 2 ^ n * GAMMA(n + 1 / 2) / GAMMA(n + 2) + ((- 1) ^ n - 1) * GAMMA(n / 2) / GAMMA(n / 2 + 3 / 2)) for n>0. - _ Mark van Hoeij _ , Nov 11 2009 •

[A115117] • 1,2,7,20,68,224,780,2720,9709,34918,127100,465920,1720740,6390930,23860928,89477120,336860180,1272578048,4822419420,18325176316,69810262080,266548209850,1019836872140,3909374443520,15011998757888 ⋆ Number of primitive (aperiodic, or Lyndon) 3-asymmetric rhythm cycles: ones having no nontrivial shift automorphism. 3-Asymmetric rhythm cycles (A115115): binary necklaces of length 3n subject to the restriction that for any k if the k-th bead is of color 1 then the (k+n)-th and (k+2n)-th beads (modulo 3n) are of color 0. • a(n) = (Sum _{ d|n } phi(3d) + Sum _{ d|n, (3,d)=1 } mu(d) 4 ^ (n / d)) / (3n), where mu(n) is the Moebius function A008683. •

[A265500] • 1,2,7,21,52,167,501,1503,4509,13527,40581 ⋆ Balance scale sequence. • a(i + 1)= 1 + 2 * sum(a[1], a[i]) (proved). •

[A005666] • 0,2,7,21,59,163,447,1223,3343,9135,24959,68191,186303,508991,1390591,3799167,10379519,28357375,77473791,211662335,578272255,1579869183,4316282879,11792304127,32211774015 ⋆ Tower of Hanoi with 3 pegs and cyclic moves only (counterclockwise). • a(n) = (1 / (4 * s3)) * ((1 + s3) ^ (n + 2) - (1 - s3) ^ (n + 2)) - 1 where s3 = sqrt(3). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 3 (same recurrence as A005665). • a(n) = 2 * a(n - 1) + c(n - 1) + 2 where c(n) = 2 * a(n - 1) + 1 stands for A005665. •

[A291411] • 2,7,21,63,189,567,1699,5092,15260,45731,137046,410697,1230768,3688339,11053134,33123790,99264648,297474121,891463923,2671519536,8005951162,23992058879,71898875923,215464974683,645700711159 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 2 S - S^2 + S^3. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) + a(n - 3) - 2 * a(n - 4) - 3 * a(n - 5) - a(n - 6) for n >= 7. •

[A052911] • 1,2,7,21,66,205,639,1990,6199,19309,60146,187349,583575,1817782,5662223,17637301,54938562,171128541,533049583,1660400166,5171992999,16110279997,50182032658,156312391973,486898648583 ⋆ Expansion of (1-x)/(1-3x-x^2+2x^3). • a(n) = center term in M ^ n * [1 1 1] where M = Hosoya's triangle considered as an upper triangular 3 X 3 matrix: [2 1 2 / 1 1 0 / 1 0 0]. E.g. a(4) = 66 since M ^ 4 * [1 1 1] = [139 66 45]. The analogous procedure using M ^ n * [1 0 0] generates A100058. - _ Gary W. Adamson _ , Oct 31 2004 •

[A186240] • 1,1,2,7,21,66,228,799,2843,10357,38278,143012,539980,2056848,7892496,30483351,118416903,462348219,1813410078,7141608015 ⋆ G.f. A(x) defined by A(x)=1 +x*A(x) +x^2*A(x)^2 +3*x^3*A(x)^3. • a(n)=1 / n * sum(j=0..n, binomial(n,j) * sum(i=j..n + j - 1, binomial(j,i - j) * binomial(n - j, 3 * j - n - i - 1) * 3 ^ (3 * j - n - i - 1))), n>0 •

[A274203] • 0,1,2,7,21,67,212,673,2136,6781,21527,68341,216960,688777,2186642,6941875,22038189,69964063,222113084,705136609,2238578784,7106757625,22561637903,71625842857,227388693456 ⋆ Expansion of x*(1 - x - x^3)/((1 - x)*(1 - 2*x - 3*x^2 - 2*x^3 - x^4)). • a(n) = 3 * a(n - 1) + a(n - 2) - a(n - 3) - a(n - 4) - a(n - 5). • a(n) = floor((1 + sqrt(2)) * a(n - 1) + (1 + sqrt(2)) * a(n - 2)), a(0)=0, a(1)=1 (empirically). •

[A099132] • 1,1,1,1,1,1,2,7,22,57,127,253,464,804,1354,2289,4005,7372,14198,28033,55523,108699,208982,394555,734561 ⋆ Quintisection of 1/(1-x^5-x^6). • a(n) = Sum _{ k=0..n } binomial(k, 5(n - k)); • a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5) + a(n - 6); • a(n) = Sum _{ k=0..floor(n / 5) } binomial(n - k, 5k). - _ Paul Barry _ , May 09 2005 •

[A139398] • 1,1,1,1,1,2,7,22,57,127,254,474,859,1574,3004,6008,12393,25773,53143,107883,215766,427351,843756,1669801,3321891 ⋆ a(n) = Sum_{k >= 0} binomial(n,5*k). • a(n) = round((2 / 5) * (2 ^ (n - 1) + phi ^ n * cos(Pi * n / 5))), where phi is the golden ratio and round(x) is the integer nearest to x. • a(n + m) = a(n) * a(m) + H _ 2(n) * H _ 5(m) + H _ 3(n) * H _ 4(m) + H _ 4(n) * H _ 3(m) + H _ 5(n) * H _ 2(m), where H _ 2=A133476, H _ 3 =A139714, H _ 4=A139748, H _ 5=A139761. - _ Vladimir Shevelev _ , Jun 17 2017 •

[A099131] • 1,1,1,1,2,7,22,57,128,264,529,1079,2290,5022,11148,24633,53824,116472,250880,540536,1167937,2531061,5494247,11928731,25880583 ⋆ Quintisection and binomial transform of 1/(1-x^4-x^5). • a(n)=sum { k=0..floor((n + 1) / 2), binomial(n + k, 5k) } ; - _ Paul Barry _ , May 09 2005 •

[A212384] • 1,1,1,1,1,2,7,22,57,128,268,573,1343,3434,9038,23374,58649,144400,355992,892336,2280020,5892301,15253305,39347067,101177783 ⋆ Number of Dyck n-paths all of whose ascents have lengths equal to 1 (mod 4). • a(n) = Sum _{ k=0..n } (binomial(3 * k - 2 * n - 1,n - k) * binomial(n + 1,4 * k - 3 * n)) / (n + 1). - _ Vladimir Kruchinin _ , Mar 05 2016 •

[A183156] • 1,2,7,22,59,142,319,686,1435,2950,5999,12118,24379,48926,98047,196318,392891,786070,1572463,3145286,6290971,12582382,25165247,50331022,100662619 ⋆ The number T(n) of isometries of all subspaces of the finite metric space {1,2,...,n} (as a subspace of the reals with the Euclidean metric). • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ Eric W. Weisstein _ , Nov 29 2017 •

[A198888] • 1,1,1,2,7,22,61,172,528,1695,5447,17486,56778,187064,622149,2080325,6990670,23621143,80230388,273687898,937072049,3219316096,11095261035,38351414036,132915860364 ⋆ G.f. satisfies: A(x) = (1 + x*A(x))*(1 + x^3*A(x)^4). • a(n) = Sum _{ k=0..[n / 3] } C(n + k, k) * C(n + k + 1, n - 3 * k) / (n + 1). •

[A084264] • 1,2,7,22,64,176,464,1184,2944,7168,17152,40448,94208,217088,495616,1122304,2523136,5636096,12517376,27656192,60817408,133169152,290455552,631242752,1367343104 ⋆ Binomial transform of A084263. • a(0)=1, a(1)= 2, a(2)=7, a(3)=22, a(n)=6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). - Harvey P. Dale, Mar 25 2012 • a(n) = 2 ^ (n - 3) * (n ^ 2 + 3 * n + 4) for n > 0. - _ Eric W. Weisstein _ , Sep 30 2017 •

[A071684] • 1,1,2,7,22,66,212,715,2438,8398,29372,104006,371516,1337220,4847208,17678835,64823110,238819350,883629164,3282060210,12233141908,45741281820,171529777432,644952073662,2430973304732 ⋆ Number of plane trees with n edges and having an odd number of leaves. • a(2n) = (1 / (4 * n + 2)) * binomial(4 * n, 2 * n), a(2n + 1)= (1 / (4 * n + 4)) * binomial(4 * n + 2, 2 * n + 1) - (- 1) ^ (n + 1) * ((1) / (2 * n + 2)) * binomial(2 * n, n). • a(0) =0, a(n) = sum { k=0..floor(n / 2), (1 / n) * C(n,2k + 1)C(n,2k) } ,n>0. - _ Paul Barry _ , Jan 25 2007 • a(n) = sum { k=1..n, (1 / n) * C(n,k) * C(n,k - 1) * (1 - (- 1) ^ k) / 2 } . [_ Paul Barry _ , Dec 16 2008] •

[A290917] • 2,7,22,67,200,588,1708,4913,14018,39725,111922,313752,875702,2434747,6746350,18636343,51340988,141089508,386857888,1058572325,2891193242,7882921697,21458980582,58330331952,158339542250 ⋆ p-INVERT of the positive integers, where p(S) = (1 - S)^2. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). • a(n) = (((3 - sqrt(5)) / 2) ^ n * (- 3 + sqrt(5)) * (- 5 + 7 * sqrt(5) - 5 * n) + 2 ^ (- n) * (3 + sqrt(5)) ^ (n + 1) * (5 + 7 * sqrt(5) + 5 * n)) / 50. - _ Colin Barker _ , Aug 24 2017 •

[A060816] • 1,2,7,22,67,202,607,1822,5467,16402,49207,147622,442867,1328602,3985807,11957422,35872267,107616802,322850407,968551222,2905653667,8716961002,26150883007,78452649022,235357947067 ⋆ a(n) = 3*a(n-1) + 1; a(0)=1, a(1)=2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>2. G.f.: (1 - 2 * x + 2 * x ^ 2) / ((1 - x) * (1 - 3 * x)). - _ Colin Barker _ , Apr 24 2012 •

[A291012] • 2,7,22,68,208,632,1912,5768,17368,52232,156952,471368,1415128,4247432,12746392,38247368,114758488,344308232,1032990232,3099101768,9297567448,27893226632,83680728472,251044282568,753137042008 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S^2)(1 - 2 S). • a(n) = 5 * a(n - 1) - 6 * a(n - 2) for n >= 4. • a(n) = (16 * 3 ^ n - 3 * 2 ^ n) / 6 for n>0. - _ Colin Barker _ , Aug 23 2017 •

[A292399] • 2,7,22,69,212,644,1936,5772,17088,50288,147232,429136,1245888,3604544,10396160,29900992,85784064,245548800,701402624,1999734016,5691409408,16172221440,45885403136,130011401216,367902195712 ⋆ p-INVERT of

(1,2,3,5,8,...) (distinct Fibonacci numbers), where p(S) = (1 - S)^2. • a(n) = 4 * a(n - 1) - 8 * a(n - 3) - 4 * a(n - 4) for n >= 5. •

[A094618] • 2,7,22,69,216,671,2066,6313,19180,58035,175110,527357,1586144,4766599,14316154,42981201,129009108,387158363,1161737198,3485735845,10458256072,31376865327,94134790242,282412759289,847255055036 ★ a(n) = 3^(n+1) - 2^(n+1) + n + 1. • a(n) = 2 * a(n - 1) + 1 - n + 3 ^ n, a(0) = 2. •

[A291382] • 2,7,22,70,222,705,2238,7105,22556,71608,227332,721705,2291178,7273743,23091762,73308814,232731578,738846865,2345597854,7446508273,23640235416,75050038224,238259397096,756395887969,2401310279090 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 2 S - S^2. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 2 * a(n - 3) + a(n - 4) for n >= 5. •

[A030186] • 1,2,7,22,71,228,733,2356,7573,24342,78243,251498,808395,2598440,8352217,26846696,86293865,277376074,891575391,2865808382,9211624463,29609106380,95173135221,305916887580,983314691581 ★ a(n) = 3*a(n-1) + a(n-2) - a(n-3) for n >= 3, a(0)=1, a(1)=2, a(2)=7. • a(n) = ([Sum _{ k=0..n - 1 } a(k)] ^ 2 + [Sum _{ k=0..n - 1 } a(k) ^ 2]) / a(n - 1) for n>1 with a(0)= 1, a(1)=2 (similar to A088016). - _ Paul D. Hanna _ , Nov 20 2012 •

[A162770] • 2,7,22,72,232,752,2432,7872,25472,82432,266752,863232,2793472,9039872,29253632,94666752,306348032,991363072,3208118272,10381688832,33595850752,108718456832,351820316672,1138514460672,3684310188032 ★ a(n) = ((2+sqrt(5))*(1+sqrt(5))^n + (2-sqrt(5))*(1-sqrt(5))^n)/2. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 2, a(1) = 7. •

[A116387] • 1,2,7,22,72,234,763,2486,8099,26372,85833,279226,907946,2951066,9587981,31140034,101104048,328162170,1064856217,3454513274,11204337056,36332719182,117795920249,381848062066,1237615088203 ★ Expansion of 1/(sqrt(1-2x-3x^2)(2-M(x))), where M(x) is the g.f. of the Motzkin numbers A001006. • a(n)=sum { k=0..n, sum { j=0..n, C(n,j - k)C(j,n - j) }} . •

[A114495] • 0,1,2,7,22,73,246,844,2936,10334,36736,131709,475714,1729345,6322534,23232616,85757008,317839438,1182341740,4412949358,16521076012,62024023306,233451103612,880764587512,3330234867792 ★ Number of returns to the x-axis in all hill-free Dyck paths of semilength n (a Dyck path is said to be hill-free if it has no peaks at level 1). • a(n) = Sum _{ k=1..floor(n / 2) } k ^ 2 * binomial(2 * n - 2 * k, n - 2 * k) / (n - k). •

[A007141] • 1,2,7,22,75,250,886,3150,11525,42698,160636,610694,2345584,9081850,35422281,139022744,548671671,2176051206,8668363781,34667284600,139140831224,560271494924,2262709876353,9163000968906,37198940600718 ★ E-trees with at most 2 colors. • a(n) = E(2, n) where E(c, 1) = 1, E(c, n) = (1 / (n - 1)) * Sum _{ i=1..n - 1 } ((c + 1) * i - n + 1) * S(c, i) * E(c, n - i) and S(c, 0) = 1 and S(c, n) = Sum _{ d | n } E(c, d) [From Gati, Harary, Robinson]. - _ Sean A. Irvine _ , Oct 29 2017 •

[A119975] • 1,2,7,22,77,266,947,3382,12217,44338,161855,593110,2181445,8046650,29759147,110303798,409655281,1524056546,5678827511,21189499030,79164147389,296094973418,1108623865123,4154794910518,15584520425641 ★ E.g.f. exp(x)*(Bessel_I(0,2*sqrt(2)x)+Bessel_I(1,2*sqrt(2)x)/sqrt(2)). • a(n) = Sum { k=0..n } C(n,k) * C(k,floor(k / 2))2 ^ floor(k / 2) } ; • a(n) = Sum { k=0..n } sum { j=0..n, C(n,j - k) * C(k,j - k) * 2 ^ (j - k) }} . • a(n) = (1 / pi) * int(x ^ n * (x + 3) / (4 * sqrt(- x ^ 2 + 2x + 7)), x, 1 - 2 * sqrt(2), 1 + 2 * sqrt(2)). • a(n) = (1 / pi) * int((x + 1) ^ n * (x + 4) / (4 * sqrt(8 - x ^ 2)),x, - 2 * sqrt(2),2 * sqrt(2)). •

[A106188] • 1,2,7,22,77,274,1001,3706,13871,52326,198627,757758,2902783,11158358,43019383,166275878,644099773,2499882098,9719235073,37845145898,147565763893,576103020338,2251664727613,8809533747938,34499268410713 ★ Expansion of 1/((1-x^2)*sqrt(1-4*x)). • a(n)=sum { k=0..floor(n / 2), binomial(2(n - 2k), n - 2k) } . •

[A110137] • 1,2,7,22,79,286,1071,4070,15721,61506,243703,977366,3968169,16313842,67942539,286769518,1227194947,5326324598,23451408843,104753097326,474663076539,2181355670806,10163422480887,47988508807190 ★ Diagonal sums of A110135 when read as a number triangle. • a(n)=sum { j=0..floor((n - 2k) / 2), C(n - 2k, j)C(2(n - 2k - j), n - 2k)k ^ j } •

[A011757] • 2,7,23,53,97,151,227,311,419,541,661,827,1009,1193,1427,1619,1879,2143,2437,2741,3083,3461,3803,4211,4637 ★ a(n) = prime(n^2). • a(n) = n ^ 2 log ^ 2 n + O(n ^ 2 log n log log n). - _ Charles R Greathouse IV _ , Mar 11 2014 •

[A041159] • 1,2,7,23,53,977,2007,6998,23001,53000,977001,2007002,6998007,23001023,53000053,977001977,2007004007,6998013998,23001046001,53000106000,977002954001,2007006014002,6998020996007,23001069002023,53000159000053 ★ Denominators of continued fraction convergents to sqrt(89). • a(n) = 1000 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A281584] • 2,7,23,58,182,457,1433,3598,11282,28327,88823,223018,699302,1755817,5505593,13823518,43345442,108832327,341257943,856835098,2686718102,6745848457,21152486873,53109952558,166533176882 ★ Solutions x to the negative Pell equation x^2 - 15*y^2 = -11 with x, y > 0. • a(n) = 8 * a(n - 2) - a(n - 4) for n>4. • a(n) = (11 * a(n - 1) - 4 * a(n - 2)) / 3 if n is odd, a(n) = (11 * a(n - 1) - 3 * a(n - 2)) / 4 if n is even (see also _ R. J. Mathar _ in A237262). • a(n) * a(n - 3) - a(n - 1) * a(n - 2) = - 15 * (7 - (- 1) ^ n) / 2, with n>3. Example: for n=8, a(8) * a(5) - a(7) * a(6) = 3598 * 182 - 1433 * 457 = - 15 * 3. (End) •

[A048496] • 1,2,7,23,67,179,451,1091,2563,5891,13315,29699,65539,143363,311299,671747,1441795,3080195,6553603,13893635,29360131,61865987,130023427,272629763,570425347 ★ 2^(n-1)*(3*n-4)+3. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). G.f.: (1 - 3 * x + 5 * x ^ 2) / ((1 - x)(1 - 2 * x) ^ 2). - R. J. Mathar, Oct 31 2008 •

[A037488] • 2,7,23,70,212,637,1913,5740,17222,51667,155003,465010,1395032,4185097,12555293,37665880,112997642,338992927,1016978783,3050936350,9152809052,27458427157,82375281473,247125844420,741377533262 ★ Base 3 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). • a(n) = (7 * 3 ^ n - (- 1) ^ n - 6) / 8. - Bruno Berselli, Jan 20 2011 •

[A192906] • 1,1,2,7,23,72,225,705,2210,6927,21711,68048,213281,668481,2095202,6566935,20582567,64511384,202196289,633738369,1986309058,6225634847,19512839199,61158565024 ★ Constant term in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n)=3 * a(n - 1) + a(n - 3) + a(n - 4). •

[A064686] • 0,2,7,23,73,227,697,2123,6433,19427,58537,176123,529393,1590227,4774777,14332523,43013953,129074627,387289417,1161999323,3486260113,10459304627,31378962457,94138984523,282421147873 ★ a(n) = number of n-digit base-3 biquams. • a(1) = 0, a(n) = 3 ^ (n - 1) - 2 ^ (n - 2) for n>=2. - _ Alex Ratushnyak _ , Jul 02 2012 • a(n) = 5 * a(n - 1) - 6 * a(n - 2) for n>3. G.f.: - x ^ 2 * (3 * x - 2) / ((2 * x - 1) * (3 * x - 1)). - _ Colin Barker _ , May 27 2013 •

[A083313] • 1,2,7,23,73,227,697,2123,6433,19427,58537,176123,529393,1590227,4774777,14332523,43013953,129074627,387289417,1161999323,3486260113,10459304627,31378962457,94138984523,282421147873 ★ a(0)=1 and a(n) = 3^n - 2^(n-1) for n>=1. • a(n) = (2 * 3 ^ n - (2 ^ n - 0 ^ n)) / 2. • a(0) = 1, a(n) = 3 ^ n - 2 ^ (n - 1) for n>=1. • a(n) % 100 = 23 for n = 4 * k - 1, k>=1. • a(n) % 100 = 27 for n = 4 * k + 1, k>=1. •

[A291015] • 2,7,23,75,244,793,2576,8366,27167,88215,286439,930072,3019941,9805712,31838986,103380599,335674791,1089929347,3538978588,11490991649,37311016064,121148109014,393365440335,1277249563655,4147203285279 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S^3)^2. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + a(n - 3) n >= 4. •

[A042575] • 1,1,2,7,23,76,99,175,9899,10074,19973,69993,229952,759849,989801,1749650,98970201,100719851,199690052,699790007,2299060073,7596970226,9896030299,17493000525,989504059699 ★ Denominators of continued fraction convergents to sqrt(816). • a(n) = 9998 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 25 2014 •

[A052924] • 1,2,7,23,76,251,829,2738,9043,29867,98644,325799,1076041,3553922,11737807,38767343,128039836,422886851,1396700389,4612988018,15235664443,50319981347,166195608484,548906806799,1812916028881 ★ G.f.: (1-x)/(1-3*x-x^2). • a(n) = 3a(n - 1) + a(n - 2). •

[A130567] • 2,7,23,79,287,1087,4223,16639,66047,263167,1050623,4198399,16785407,67125247,268468223,1073807359,4295098367,17180131327,68720001023,274878955519,1099513724927,4398050705407,17592194433023,70368760954879 ★ Expansion of x*(2 - 7*x + 2*x^2)/((1-x)*(1-4*x)*(1-2*x)). • a(n) = 2 ^ (2 * n - 1) + 2 * a(n - 1) + 1. • a(n) = - 1 + 2 * 2 ^ n + 4 ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 30 2008 •

[A176287] • 1,2,7,23,81,291,1066,3955,14818,55937,212428,810664,3106167,11942261,46047897,178000950,689580319,2676598447,10406929687,40525045518,158022343991,616950024334,2411395005316,9434753907065,36948692202031 ★ Diagonal sums of number triangle A092392. • a(n) = Sum _{ k=0..floor(n / 2) } C(2n - 3k,n - k). •

[A082047] • 1,2,7,24,69,170,371,736,1353,2338,3839,6040,9165,13482,19307,27008,37009,49794,65911,85976,110677,140778,177123,220640,272345 ★ Diagonal sums of number array A082046. • a(n) = (n ^ 5 + 15 * n ^ 3 + 14 * n + 30) / 30 = (n + 1) * (n ^ 4 - n ^ 3 + 16 * n ^ 2 - 16 * n + 30) / 30. •

[A024024] • 1,2,7,24,77,238,723,2180,6553,19674,59039,177136,531429,1594310,4782955,14348892,43046705,129140146,387420471,1162261448,3486784381,10460353182,31381059587,94143178804,282429536457 ★ 3^n-n. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). - _ Vincenzo Librandi _ , Mar 06 2013 •

[A038765] • 1,2,7,24,81,270,891,2916,9477,30618,98415,314928,1003833,3188646,10097379,31886460,100442349,315675954,990074583,3099363912,9685512225,30218798142,94143178827,292889889684,910050728661 ★ Next-to-last diagonal of A024462. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) for n>2. a(n) = 3 ^ (n - 2) * (n + 5) for n>0. [_ Colin Barker _ , Jun 25 2012] •

[A099463] • 0,1,2,7,24,81,274,927,3136,10609,35890,121415,410744,1389537,4700770,15902591,53798080,181997601,615693474,2082876103,7046319384,23837527729,80641778674,272809183135,922906855808 ★ Bisection of tribonacci numbers. • a(n)=3a(n - 1) + a(n - 2) + a(n - 3); a(n)=sum { k=0..n, sum { j=0..n, C(2k,n - k - j) * C(n - k,j) * 2 ^ (n - k - j) }} . - _ Paul Barry _ , Feb 07 2006 • a(n) / a(n - 1) tends to 3.38297576....the square of the tribonacci constant A058265 . - _ Gary W. Adamson _ , Feb 28 2006 •

[A003480] • 1,2,7,24,82,280,956,3264,11144,38048,129904,443520,1514272,5170048,17651648,60266496,205762688,702517760,2398545664,8189147136,27959497216,95459694592,325919783936,1112759746560,3799199418368 ★ a(n) = 4a(n-1) - 2a(n-2) (n >= 3). • a(n) = n * a(1) + (n - 1) * a(2) + ... + 3 * a(n - 2) + 2 * a(n - 1). - _ Amarnath Murthy _ , Aug 17 2002 • a(n + 1) * a(n + 1) - a(n + 2) * a(n) = 2 ^ n, n > 0. - D. G. Rogers, Jul 12 2004 • a(n) = Sum((1 + p _ 1)(1 + p _ 2)...)(1 + p _ m)), summation being over all compositions (p _ 1, p _ 2, ..., p _ m) of n. Example: a(3)=24; indeed, the compositions of 3 are (1,1,1), (1,2),(2,1), (3) and we have 2 * 2 * 2 + 2 * 3 + 3 * 2 + 4 = 24. - _ Emeric Deutsch _ , Oct 17 2010 • a(n) = Sum _{ k>=0 } C(n + 2 * k - 1,n) / 2 ^ (k + 1). - _ Vaclav Kotesovec _ , Dec 31 2013 •

[A088854] • 2,7,24,83,292,1046,3808,14051,52412,197202,747120,2846318,10892936,41844172,161247104,623034403,2412871916,9363311482,36399254864,141721774138,552572485496,2157194452852,8431104269504,32986010380558 ★ a(n) = (2^(n-1))*(integral_{x=0 to 1} (1+x^2)^n dx)/(integral_{x=0 to 1} (1-x^2)^n dx). • a(n) = 2 ^ (n - 1) + Sum _{ k=1..n } 2 ^ (n - k) * C(2 * k - 1,k). - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A000777] • 1,2,7,24,83,293,1055,3860,14299,53481,201551,764217,2912167,11143499,42791039,164812364,636438059,2463251009,9552773999,37112526989,144410649239,562724141459,2195581527359,8576490341249,33537507830423 ⋆ a(n) = (n+2)*Catalan(n)-1. • a(n) = (binomial(2 * n,n) / (n + 1)) * (n + 2) - 1 - _ Zerinvary Lajos _ , Jun 25 2006 •

[A052986] • 1,2,7,24,85,302,1075,3828,13633,48554,172927,615888,2193517,7812326,27824011,99096684,352938073,1257007586,4476898903,15944711880,56787933445,202253224094,720335539171,2565513065700,9137210275441 ⋆ Expansion of (1-2*x) / ((x-1)*(2*x^2+3*x-1)). • a(n) = Sum(- 1 / 136 * (- 13 - 27 * r + 6 * r ^ 2) * r ^ (- 1 - n) where r=RootOf(1 - 4 *_ Z +_ Z ^ 2 + 2 *_ Z ^ 3)). • a(n) = (1 / 4 + (2 ^ (- 3 - n) * ((3 - sqrt(17)) ^ n * (- 5 + 3 * sqrt(17)) + (3 + sqrt(17)) ^ n * (5 + 3 * sqrt(17)))) / sqrt(17)). - _ Colin Barker _ , Sep 02 2016 •

[A141753] • 1,1,2,7,24,86,313,1157,4325,16303,61856,235917,903620,3473381,13391280,51761781,200523644,778342906,3026400508,11785538461,45959004812,179444813270,701422450293,2744562302533,10749124666643 ⋆ Main diagonal of A139755, the table of q-derangement numbers of type A. • a(n) = [q ^ n] { ([n + 1] _ q)! * Sum _{ m=0..n + 1 } (- 1) ^ m * q ^ (m(m - 1) / 2) / ([m] _ q)! } ; here, the q - factorial of n is denoted by ([n] _ q)! = Product _{ j=1..n } (1 - q ^ j) / (1 - q). •

[A014300] • 1,2,7,24,86,314,1163,4352,16414,62292,237590,909960,3497248,13480826,52097267,201780224,783051638,3044061116,11851853042,46208337584,180383564228,704961896036,2757926215742,10799653176704,42326626862636 ⋆ Number of nodes of odd outdegree in all ordered rooted (planar) trees with n edges. • a(n)=sum(binomial(2n - 2j - 2, n - 1), j=0..floor((n - 1) / 2)). • a(n)=(- 1) ^ n * sum(i=0, n, sum(j=n, 2 * n, (- 1) ^ (i + j) * binomial(j, i))) - _ Benoit Cloitre _ , Jun 18 2005 • a(n)=sum { k=0..n, C(2k,n) } [offset 0]. - _ Paul Barry _ , May 13 2006 • a(n)=sum { k=0..n, (- 1) ^ (n - k) * C(n + k - 1,k - 1) } ; - _ Paul Barry _ , Jul 18 2006 • a(n)=sum { k=0..n, C(2n - k, n - k) * (1 + (- 1) ^ k) / 2 } =sum { k=0..n, C(n + k,k)(1 + (- 1) ^ (n - k)) / 2 } . - _ Paul Barry _ , Jul 17 2009 • a(n) is the coefficient of x ^ (n + 1) y ^ (n + 1) in 1 / (1 - x ^ 2 y / ((1 - 2x)(1 - y))). - _ Ira M. Gessel _ , Oct 30 2012 •

[A131824] • 1,1,2,7,24,86,316,1177,4424,16744,63724,243618,934870,3598960,13892776,53756263,208434024,809658440,3150218032,12274694280,47890456576,187068828772,731511810152,2863308366462,11217762520246 ⋆ Main diagonal of triangle A131823: a(n) = A131823(n,n) for n>=0. • a(n) = [x ^ n] Product _{ i=0..n - 1 } (1 + x ^ (2 ^ i)) ^ (n - i) for n>=0. •

[A183876] • 1,1,2,7,24,86,328,1289,5180,21232,88384,372582,1587442,6825092,29573380,129014039,566183860,2497841196,11071594936,49281430216,220193658876,987234942328,4440142628200,20027079949202,90569211556534 ⋆ G.f. satisfies: A(x) = Sum_{n>=0} x^n*[Sum_{k=0..n} C(n,k)^2 *x^k* A(x)^(2k)]. • a(n) = Sum _{ k=0..[n / 2] } C(n + k, 2k) * C(n + 1, n - 2k) / (n + 1). •

[A052705] • 0,0,1,2,7,24,89,342,1355,5492,22669,94962,402703,1725424,7458065,32482798,142414867,628037612,2783922197,12397342698,55436525591,248819728360,1120584933401,5062273384422,22933667676187 ⋆ G.f. 2*x^2/(1 - 2*x - 2*x^2 + sqrt(1 - 4*x - 4*x^2)). • a(n) = Sum _{ j=1..floor(n / 2) } C(2 * n - 2 * j,n) * C(n,j - 1) / (n - j). - _ Vladimir Kruchinin _ , Jan 16 2015 • a(n) = C(2 * n - 2,n) * 3F2((2 - n) / 2,(3 - n) / 2, - n;3 / 2 - n,2 - n; - 1) / (n - 1), n>1. - _ Benedict W. J. Irwin _ , Sep 13 2016 •

[A137952] • 1,1,2,7,24,95,386,1641,7150,31844,144216,662228,3076044,14427582,68235078,325049475,1558212804,7511319253,36387218312,177050945886,864912345340,4240388439744,20857232340528,102896737106415 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^3)^2. • a(n) = Sum _{ k=0..n - 1 } C(2 * (n - k), k) / (n - k) * C(3 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A005754] • 1,1,2,7,24,95,388,1650,7183,31965,144502,662241,3068942,14358678,67729973,321759461,1538076291,7392775328,35707198905,173221206284,843634142771,4123376617009,20218897206392,99436453714990,490355165178472 ⋆ Number of planted identity matched trees with n nodes. • a(n + 1) is Weigh transform of A005753. •

[A145130] • 2,7,25,81,236,622,1498,3334,6931,13586,25312,45124,77403,128351,206551,323647,495160,741457,1088891,1571131,2230702,3120756,4307096,5870476,7909201 ⋆ 2 + (89040 + (71868 + (29932 + (8449 + (1960 + (322 + (28 + n)*n)*n)*n)*n)*n)*n)*n/40320. • a(0)=2, a(1)=7, a(2)=25, a(3)=81, a(4)=236, a(5)=622, a(6)=1498, a(7)=3334, a(8)=6931, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Dec 25 2011 •

[A048506] • 1,2,7,25,81,241,673,1793,4609,11521,28161,67585,159745,373737,860161,1966081,4456449,10027009,22413313,49807361,110100481,242221057,530579457,1157627905,2516582401 ⋆ a(n) = T(0,n), array T given by A048505. • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Nov 26 2014 •

[A169651] • 1,1,2,7,25,85,277,877,2725,8365,25477,77197,233125,702445,2113477,6352717,19082725,57297325,171990277,516167437,1548895525,4647473005,13943991877,41835121357,125511655525 ⋆ a(0)=a(1)=1, a(2)=2; thereafter a(n) = 3*a(n-1)+3*2^(n-3)-2. • a(n) = 4 * 3 ^ (n - 2) - 3 * 2 ^ (n - 1) + 1, n >1. [From _ R. J. Mathar _ , Apr 20 2010] • a(0)=1, a(1)=1, a(2)=2, a(3)=7, a(4)=25, a(n)=6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) [From Harvey P. Dale, Nov 23 2011] •

[A007484] • 2,7,25,89,317,1129,4021,14321,51005,181657,646981,2304257,8206733,29228713,104099605,370756241,1320467933,4702916281,16749684709,59654886689,212464029485,756701861833,2695033644469,9598504657073,34185581260157 ⋆ a(n) = 3*a(n-1) + 2*a(n-2), with a(0)=2, a(1)=7. • a(n) = [3 / 2 + sqrt(17) / 2] ^ n - (4 / 17) * sqrt(17) * [3 / 2 - sqrt(17) / 2] ^ n + (4 / 17) * [3 / 2 + sqrt(17) / 2] ^ n * sqrt(17) + [3 / 2 - sqrt(17) / 2] ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 11 2008 • a(n) = nearest integer to (and converges rapidly to) (1 + 4 / sqrt(17)) * ((3 + sqrt(17)) / 2) ^ n. - _ N. J. A. Sloane _ , Jul 30 2016 •

[A052936] • 1,2,7,25,90,325,1175,4250,15375,55625,201250,728125,2634375,9531250,34484375,124765625,451406250,1633203125,5908984375,21378906250,77349609375,279853515625,1012519531250,3663330078125,13254052734375 ⋆ Expansion of (1-x)(1-2x)/(1-5x+5x^2). • a(0)=1, a(1)=2, a(2)=7, a(n)=5 * a(n - 1) - 5 * a(n - 2) [From Harvey P. Dale, Apr 20 2012] • a(n)=sum { k=0..n, C(n - 1, k)(Fib(2n - 2k) + Fib(2n - 2k - 1)) } - _ Paul Barry _ , Jun 07 2005 •

[A024482] • 2,7,25,91,336,1254,4719,17875,68068,260338,999362,3848222,14858000,57500460,222981435,866262915,3370764540,13135064250,51250632510,200205672810,782920544640,3064665881940,12007086477750,47081501377326 ⋆ (1/2)*(C(2n,n) - C(2n-2,n-1)). • a(n) = A051924 / 2. - _ Zerinvary Lajos _ , Jan 16 2007 •

[A097613] • 1,2,7,25,91,336,1254,4719,17875,68068,260338,999362,3848222,14858000,57500460,222981435,866262915,3370764540,13135064250,51250632510,200205672810,782920544640,3064665881940,12007086477750,47081501377326 ⋆ Binomial(2n-3,n-1) + binomial(2n-2,n-2). • a(n) = ceil(A051924 / 2). - _ Zerinvary Lajos _ , Jan 16 2007 • a(n) = ((2 - 3 * n) / (4 - 8 * n)) * binomial (2 * n,n) for n >= 2. - _ Peter Luschny _ , Sep 06 2014 •

[A074605] • 2,7,25,91,337,1267,4825,18571,72097,281827,1107625,4371451,17308657,68703187,273218425,1088090731,4338014017,17309009347,69106897225,276040168411,1102998412177,4408506864307,17623567104025 ⋆ a(n) = 3^n + 4^n. • a(n) = 3 * a(n - 1) + 4 ^ (n - 1). - _ Bruno Berselli _ , Jul 20 2010 • a(n) = 7 * a(n - 1) - 12 * a(n - 2) with a(0)=2, a(1)=7. - _ Vincenzo Librandi _ , Jul 19 2010 •

[A108081] • 1,2,7,25,92,344,1300,4950,18955,72905,281403,1089343,4227273,16438345,64037453,249855417,976205516,3818779616,14954876080,58623077586,230007291334,903164858092,3549071519462,13955918890440,54912972103772 ⋆ a(n) = Sum_{i=0..n} binomial(2*n-i, n+i). • a(n) = Sum _{ k=0..n } C(n + k - 1,k) * F(n - k + 1). - _ Paul Barry _ , Sep 28 2007 •

[A199247] • 1,1,2,7,25,92,359,1453,6018,25411,109032,473942,2082550,9235675,41284297,185819487,841433773,3830604764,17521832924,80490034307,371169646860,1717567062240,7973153760616,37119622029816,173272771061677 ⋆ G.f. satisfies: A(x) = (1 + x*A(x))*(1 + x^2*A(x)^3 + x^3*A(x)^4). • a(n) = Sum _{ k=0..[n / 2] } C(n + k, k) * C(n + 2 * k + 1, n - 2 * k) / (n + 1). •

[A242728] • 1,2,7,25,93,346,1291,4817,17977,67090,250383,934441,3487381,13015082,48572947,181276705,676533873,2524858786,9422901271,35166746297,131244083917,489809589370,1827994273563,6822167504881,25460675745961 ⋆ Sequence a(n) with all (x,y)=(a(2m),a(2m+-1)) satisfying y|x^2+1 and x|y^2+y+1. • a(n + 1) = 4 * a(n) - a(n - 1) - p _ n (n>0), where p _ n=0 if n is odd and p _ n = 1 if n is even. • a(n) = 4 * a(n - 1) - 4 * a(n - 3) + a(n - 4). - _ Colin Barker _ , May 21 2014 •

[A116396] • 1,2,7,25,93,353,1358,5273,20614,81003,319584,1264924,5019743,19963699,79541181,317406302,1268283199,5073605801,20316709251,81427911966,326612013623,1310968893954,5265285993860,21158914176719,85071253608611 ⋆ Expansion of 2/((2+x)*sqrt(1-4*x)-x). • a(n)=sum { k=0..floor(n / 2), (4 ^ (n - k) / 2 ^ k) * sum { j=0..k, C(k,j)C(n - k + (j - 1) / 2,n - k)(- 1) ^ (k - j) }} . •

[A134063] • 1,1,2,7,26,91,302,967,3026,9331,28502,86527,261626,788971,2375102,7141687,21457826,64439011,193448102,580606447,1742343626,5228079451,15686335502,47063200807,141197991026 ⋆ a(n) = (1/2)*(3^n - 2^(n+1) + 3). • a(n) = 3 * StirlingS2(n,3) + StirlingS2(n,2) + 1. • a(n) = StirlingS2(n + 1,3) + 1. - _ Ross La Haye _ , Jan 21 2008 • a(n) = 6 a(n - 1) - 11 a(n - 2) + 6 a(n - 3) (n >= 3). Also a(n) = 4 a(n - 1) - 3 a(n - 2) + 2 ^{ n - 2 } (n >= 3). - Tian - Xiao He (the(AT)iwu.edu), Jul 02 2009 •

[A001075] • 1,2,7,26,97,362,1351,5042,18817,70226,262087,978122,3650401,13623482,50843527,189750626,708158977,2642885282,9863382151,36810643322,137379191137,512706121226,1913445293767,7141075053842,26650854921601 ⋆ a(0) = 1, a(1) = 2, a(n) = 4*a(n-1) - a(n-2). • a(n) = 4 * a(n - 1) - a(n - 2) = a(- n). • a(n) = ((2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n) / 2; a(n) = ceiling((1 / 2) * (2 + sqrt(3)) ^ (n)). • a(n) = cosh(n * log(2 + sqrt(3))). • a(n) = sum { k=0..floor(n / 2); C(n, 2k)2 ^ (n - 2k)3 ^ k } . - _ Paul Barry _ , May 08 2003 • a(n + 2) = 2 * a(n + 1) + 3 * Sum _{ k>=0 } a(n - k) * 2 ^ k. - _ Philippe Deléham _ , Mar 03 2004 •

[A113436] • 1,2,7,26,98,371,1406,5329,20196,76532,289997,1098826,4163483,15775426,59772826,226477879,858118966,3251390237,12319431012,46677994276,176861668393,670124115506,2539082288671,9620514646154,36451871795186 ⋆ First row of A113435. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3) - a(n - 4). •

[A126223] • 0,1,2,7,26,98,372,1419,5434,20878,80444,310726,1202852,4665412,18126760,70538355,274877370,1072515990,4189573740,16383007410,64126407180,251226790620,985033185240,3865138313790,15176957307876 ⋆ Number of level steps in all 2-Motzkin paths (i.e., Motzkin paths with blue and red level steps) of length n, without red level steps on the x-axis. • a(n) = 2 * (2 * n - 3) * (n ^ 2 - n + 1) * a(n - 1) / ((n + 1) * (n ^ 2 - 3 * n + 3)) for n>1. - _ Alois P. Heinz _ , May 20 2014 • a(n) = 2 * (1 - n + n ^ 2) * C(2 * n - 2, n - 1) / (n * (n + 1)). - _ Vaclav Kotesovec _ , Sep 08 2014 •

[A114121] • 1,2,7,26,99,382,1486,5812,22819,89846,354522,1401292,5546382,2

1977516,87167164,345994216,1374282019,5461770406,21717436834,8639210863
6,343801171354,1368640564996,5450095992964,21708901408216,864925460192
14 ★ Expansion of (sqrt(1-4*x)+(1-2*x))/(2*(1-4*x)). • a(n) = sum(k=0..n, C
(n, k) * 2 ^ (n - k - 2) * (2 ^ k + C(k, k / 2)) * (1 + (- 1) ^ k)). • a(n) = su
m(k=0..n, C(2 * n, n - k) * (1 + (- 1) ^ k) / 2). [From _ Paul Barry _ , Au
g 06 2009] • a(n) = C(2 * n - 1, n - 1) + (4 ^ n + 3 * 0 ^ n) / 4. • a(n) = su
m(k=0..floor(n / 2), C(2 * n, 2 * k + (n mod 2))). [From _ Mircea Merca _
, Jun 21 2011] • a(n) = sum(i=0..n, sum(j=0..n, binomial(n, i + j) * binomial
(n, j - i))). - _ Yalcin Aktar _ , Jan 07 2013. •

[A049775] • 2,7,26,100,392,1552,6176,24640,98432,393472,1573376,6292480,2
5167872,100667392,402661376,1610629120,6442483712,25769869312,103079346
176,412317122560,1649267965952,6597070815232,26388281163776 ★ a(n) is the
sum of all integers from 2^(n-2)+1 to 2^(n-1). • a(n) = 2 ^ (n - 3)[3 * 2 ^ (n -
2) + 1] - _ Carl R. White _ , Aug 19 2003 • a(n)=6 * a(n - 1) - 8 * a(n - 2).
G.f.: - x ^ 2 * (- 2 + 5 * x) / ((4 * x - 1) * (2 * x - 1)). [From _ R. J. Mathe
r _ , Mar 26 2009] •

[A101850] • 1,2,7,26,100,392,1555,6218,25006,100988,409162,1661948,67641
94,27575732,112570675,460058906,1881978694,7704907724,31566153058,1294
00608044,530734613920,2177792579072,8939838222718,36711025334948 ★ A
Catalan transform of Pell(n+1). • a(n) = [x ^ n] (1 - 2 * x) / ((1 - 2 * x - x ^
2)(1 - x) ^ (n + 1)). • a(n) = sum(binomial(2 * n + 1,n + 2 * k + 1) * 2 ^ (k
+ 1) * (2 * k + 1) / (n + 2 * k + 2),k=0..n). • a(n) = the upper left term in
M ^ n, M = an infinite square production matrix as follows: •

[A176280] • 1,2,7,26,101,402,1625,6638,27319,113054,469811,1958706,818706
3,34290934,143864999,604402050,2542083509,10702020746,45090876913,19011
0250998,801997354525,3384971428258,14292950533517,60373808435046,25510
2065046401 ★ Diagonal sums of number triangle A046521. • a(n) = Sum _{ k
=0..floor(n / 2) } C(n - k,k) * C(2n - 2k,n - k) / C(2k,k). •

[A045868] • 1,2,7,26,101,406,1676,7066,30302,131782,579867,2576982,115502
37,52152330,237005385,1083211410,4975796735,22960105510,106377393365,49
4674698190,2308015808015,10801388134690,50691017885290,23850386999192
6,1124828963516896 ★ G.f.: ((1-x-sqrt(1-6*x+5*x^2))/(2*x))^2. • a(n)=(2 / n
) * sum(binomial(n, j) * binomial(2j + 1, j - 1), j=1..n) for n>=1. •

[A198957] • 1,1,2,7,26,102,424,1827,8078,36466,167376,778718,3664164,17407
068,83375616,402198915,1952296598,9528757098,46735576816,230227356906,1
138609205372,5651170500612,28138939936704,140527262919342,703704207921
932 ★ G.f. satisfies: A(x) = (1 + x*A(x))*(1 + x^2*A(x)^4). • a(n) = sum(j
=0..n / 2, binomial(2 * j + n,j) * binomial(2 * j + n + 1,4 * j + 1) / (n + j +
1)). - _ Vladimir Kruchinin _ , May 28 2014 •

[A052706] • 0,0,1,2,7,26,105,444,1944,8734,40040,186550,880750,4204508,202
60498,98419392,481442805,2369551218,11725590555,58303117680,29115152335
5 ★ A simple context-free grammar. • a(n)=2 * sum(binomial(k,n - k - 2) * bi
nomial(n + k - 1,n - 1),k,0,n - 2)) / n, n>1, a(0)=a(1)=0. [_ Vladimir Kruch
inin _ , May 19 2012] •

[A122871] • 1,2,7,26,106,452,1999,9074,42046,198044,945430,4564100,22243
060,109285256,540738943,2692103714,13475973238,67784600108,34243963841
8,1736727343436,8839203054604,45132514680248,231121351433158 ★ Expan-
sion of (1 - 2*x - sqrt(1 - 4*x - 8*x^2))/(6*x^2). • a(n) = Sum _{ k=0..floor(
n / 2) } binomial(n,2 * k) * binomial(k)3 ^ k * 2 ^ (n - 2k). •

[A102319] • 1,2,7,26,107,462,2065,9438,43811,205622,972917,4631838,22157
525,106406978,512629551,2476289106,11989326771,58163714118,28266226971
7,1375801775214,6705710840657,32724623955882,159880046446611 ★ A mean
binomial transform of the central binomial numbers. • a(n) = Sum _{ k=0..fl
oor(n / 2) } binomial(n,2 * k) * binomial(2 * (n - 2 * k), n - 2 * k) } . • a(n)
= Sum _{ k=0..n } binomial(n,k) * binomial(2 * k,k) * (1 + (- 1) ^ (n - k))
/ 2. •

[A006603] • 1,2,7,26,107,468,2141,10124,49101,242934,1221427,6222838,3205
6215,166690696,873798681,4612654808,24499322137,130830894666,7020377716
47,3783431872018,20469182526595,111133368084892,605312629105205,330663
3429423460,18111655081108453 ★ Generalized Fibonacci numbers. • a(n) = s
um(k=1..n / 2 + 1, (k * sum(i=0..n - 2 * k + 2, C(n - k + 2,i) * C(2 * n - 3 *
k - i + 3,n - k + 1))) / (n - k + 2)). - _ Vladimir Kruchinin _ , Oct 23 2011 •

[A202830] • 1,2,7,26,115,542,2809,15374,89737,548450,3519799,23493098,163
139563,1172030654,8706504265,66638295998,525069283921,4248776775746,352
76087031463,299986119953210,2610709200699811,23220585598592222,2109158
50841272537,1954390351189631726 ★ E.g.f: exp(2*x + 3*x^2/2). • a(n) = Su
m _{ k=0..[n / 2] } 2 ^ (n - 3 * k) * 3 ^ k * n! / ((n - 2 * k)! * k!). • a(n) = 2
* a(n - 1) + 3 * (n - 1) * a(n - 2), a(0)=1, a(1)=2. - Sergei N. Gladkovskii, Jul
29 2012 • a(n) = sum(s(n,k) * (- 1) ^ (n - k) * 3 ^ n / 2 ^ (n - k) * B(k,2 / 3)
,k,0,n), where the s(n,k) are the (signless) Stirling numbers of the first kind an
d the B(n,x) = sum(S(n,k) * x ^ k,k=0..n) are the Stirling polynomials (or ex
ponential polynomials), where the S(n,k) are the Stirling numbers of the secon
d kind. - _ Emanuele Munarini _ , May 15 2014 • a(n) = I ^ (1 - n) * 2 ^ ((1
+ n) / 2) * 3 ^ ((n - 1) / 2) * U((1 - n) / 2, 3 / 2, - 2 / 3), U Kummer's hyper
geometric function of the second kind. - _ Peter Luschny _ , May 15 2014 •

[A136412] • 2,7,27,107,427,1707,6827,27307,109227,436907,1747627,699050
7,27962027,111848107,447392427,1789569707,7158278827,28633115307,114532
461227,458129844907,1832519379627,7330077518507,29320310074027 ★ a(n) =
(5*4^n+1)/3. • a(n) = 4 * a(n - 1) - 1. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). -
_ Vincenzo Librandi _ , Nov 04 2011 •

[A127897] • 0,1,2,7,27,114,507,2342,11125,54002,266684,1335610,6767477,346
29709,178701317,928903447,4859345882,25563551782,135153617840,717740916
202,3826894116962,20478451476328,109945087353190,592048943478464,31969
30550222605 ★ Series reversion of x/(1 + 2*x + 3*x^2 + x^3). • a(n) = Sum
_{ k=0..n - 1 } Sum _{ j=0..k } (1 / (2k + j - 1)) * C(n - 1,3k - j) * C(3k - j,
k) * C(k,j) * 2 ^ (n - 3k + j - 1) * 3 ^ j; •

[A180473] • 1,2,7,27,114,509,2365,11318,55411,276231,1397430,7156089,3702
3225,193229466,1016141199,5378940051,28638955098,153267403397,824014568
581,4448456379134 ★ Expansion of o.g.f. x*s(x)/(1-x*s(x)-x^2*s(x)^2), where
s(x) is o.g.f. for little Schroeder number (A001003) • a(n)=sum(k / (2 ^ k * n
) * sum(binomial(n,j) * 2 ^ (n - j) * (- 1) ^ j * binomial(2 * n - k - j - 1,n - 1),
j,0,n - k) * fib(k),k,1,n), n>0. •

[A155581] • 1,1,2,7,28,84,384,1824,6080,30400,304000,1064000,12768000,6748
8000,359936000,1934656000,30954496000,526226432000,2880397312000,158421
85216000,316843704320000,1757042360320000,38654931927040000 ★ a(n)=If[IntegerQ[(
- 4)/(n + 1))*a(n - 1)], ((6*n - 4)/(n + 1))* a(n - 1), If[IntegerQ[((4*n - 2)/(n
+ 1))*a(n - 1)], ((4*n - 2)/(n + 1))*a(n - 1), n*a(n - 1)]] • a(n)=If[IntegerQ[(
(6 * n - 4) / (n + 1)) * a(n - 1)], ((6 * n - 4) / (n + 1)) * a(n - 1), •

[A048504] • 1,2,7,28,101,326,967,2696,7177,18442,46091,112652,270349,638
990,1490959,3440656,7864337,17825810,40108051,89653268,199229461,44040
1942,968884247,2122317848,4630511641 ★ a(n) = T(n,n), array T given by
A048494. • a(n) = n * (n - 1) * 2 ^ (n - 1) + n + 1. - _ Ralf Stephan _ , Jan
15 2004 •

[A012855] • 0,1,1,1,2,7,28,114,465,1897,7739,31572,128801,525456,2143648,8
745217,35676949,145547525,593775046,2422362079,9882257736,40315615410,1
64471408185,670976837021,2737314167775 ★ Take every 5th term of Padovan
sequence A000931. • a(n + 3) = 5 * a(n + 2) - 4 * a(n + 1) + a(n). • a(0)=0
, a(1)=1, a(2)=1, a(n)=5 * a(n - 1) - 4 * a(n - 2) + a(n - 3). - _ Harvey P. D
ale _ , Mar 28 2013 •

[A232970] • 1,2,7,28,117,494,2091,8856,37513,158906,673135,2851444,120789
09,51167078,216747219,918155952,3889371025,16475640050,69791931223,2956
43364940,1252365390981,5305104928862,22472785106427,95196245354568,403
257766524697 ★ G.f.: (1-3*x)/(1-5*x+3*x^2+x^3). • a(n) = 5 * a(n - 1) - 3 *
a(n - 2) - a(n - 3). - _ N. J. A. Sloane _ , Jun 23 2017 •

[A116078] • 1,2,7,28,117,496,2110,8968,38017,160648,676626,2840872,118925
62,49650368,206773372,859186768,3562780057,14746127608,60929182282,2513
58948328,1035479267542,4260071237728,17505144024292 ★ Column 0 of trian-
gle A116077. • a(n) = (n + 3) * C(2 * n - 1,n) - 2 ^ (2 * n - 1). - _ Vaclav K
otesovec _ , Oct 28 2012 •

[A161944] • 2,7,28,119,518,2275,10024,44219,195146,861343,3802036,1678281
5,74082638,327016123,1443518272,6371996771,28127352722,124160138935,548
069364556,2419295214791,10679285736854,47140647917587 ★ a(n) = ((4+sqrt(2))*(3+s
+ (4-sqrt(2))*(3-sqrt(2))^n)/4. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a
(0) = 2; a(1) = 7. •

[A005436] • 1,2,7,28,120,528,2344,10416,46160,203680,894312,3907056,16986
352,73512288,316786960,1365963168,5815457184,24788842304,105340982248,4
46389242480,1886695382192,7955156287456,33468262290096,140516110684832,588832418973280 ★ Number of convex polygons of perimeter 2n on square
lattice. • a(n) = (3 + 2 * n) * 4 ^ n / 256 - (4 * n - 12) * C(2n - 7,n - 4) for n
>= 4. •

[A010683] • 1,2,7,28,121,550,2591,12536,61921,310954,1582791,8147796,4234
4121,221866446,1170747519,6216189936,33186295681,178034219986,959260792
775,5188835909516,28167068630713,153395382655222 ★ Let S(x,y) = number
of lattice paths from (0,0) to (x,y) that use the step set { (0,1), (1,0), (2,0),
(3,0), ...} and never pass below y = x. Sequence gives S(n-1,n) = number of
'Schröder' trees with n+1 leaves and root of degree 2. • a(n) = (2 / n) * sum(
binomial(n, k) * binomial(n + k + 1, k - 1), k=1..n) = 2 * hypergeom([1 - n,
n + 3], [2], - 1), n>=1. a(0)=1. - _ Wolfdieter Lang _ , Sep 12 2005. • a(n)
= ((2 * n + 1) * LegendreP(n + 1,3) - (2 * n + 3) * LegendreP(n,3)) / (4 * n
* (n + 2)) for n>0. - _ Mark van Hoeij _ , Jul 02 2010 • a(n) = upper entry
in the vector (M(T)) ^ n * [1,0,0,0,...]; where T is the transpose operation. - _
Gary W. Adamson _ , Jul 08 2011 • a(n) = (n + 1) * hypergeom([1 - n, - n],
[3], 2). - _ Peter Luschny _ , Nov 19 2014 •

[A143927] • 1,2,7,28,123,572,2769,13806,70414,365636,1926505,10273870,553
49155,300783420,1646828655,9075674700,50304255210,280248358964,1568399
676946,8813424968192,49709017472751,281306750922072,1596802663432503 ★
G.f. satisfies: A(x) = [1 + x*A(x) + x^2*A(x)^2]^2. • a(n) = 1 / (n + 1) * S
um _{ j=0..(2 * n + 2) } (binomial(j,2 * j - 3 * n - 4) * binomial(2 * n + 2 ,j)
). - _ Vladimir Kruchinin _ , Dec 24 2010 • a(n) = GegenbauerPoly(n, - 2n -
2, - 1 / 2) / (n + 1). - _ Emanuele Munarini _ , Oct 20 2016 •

[A227845] • 1,2,7,28,125,590,2891,14536,74497,387450,2038743,10830148,57
986773,312542678,1694166275,9228580464,50486521785,277239830210,15275
33993871,8441627856300,46776754474709,259830443968046,14464687597341
31,8068688342238328,45091854560015025 ★ G.f.: Sum_{n>=0} x^n / (1-
x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2*x^k]^2. • a(n) = Sum _{ k=0..[
n / 2] } Sum _{ j=k..n - k } binomial(n - k,j) ^ 2 * binomial(j,k) ^ 2. •

[A276080] • 0,1,2,7,28,139,822,5677,44888,400021,3966970,43328131,516782
292,6682867087,93130824878,1391321096089,22181459914672,37588080069309
7,6746469047955378,127851581333528191,2551039715319388940,534575199286
92619411,1173770856436282074982,26948387795024752862917,6456947077217
35535710728 ★ a(n) = A276075(A206296(n)). • a(n) = Sum _{ k = 0..floor((
n - 1) / 2) } (n - 2 * k)! * binomial(n - k - 1,k). •

[A182249] • 0,1,2,7,28,141,846,5927,47416,426745,4267450,46941951,563303
420,7322944461,102521222462,1537818336943,24605093391088,418286587648
497,7529158577672946,143054012975785975,2861080259515719516 ★ a(0)=0,
a(n) = (a(n-1) * n) OR n. • a(0)=0, a(n)=(a(n - 1) * n) OR n, where OR is t
he bitwise logical inclusive - OR operator. •

[A274682] • 2,7,29,44,88,113,179,214,302,347,457,512,644,709,863,938,1114,1

199,1397,1492,1712,1817,2059,2174,2438 ⋆ Numbers n such that 8*n-1 is a triangular number. • a(n) = (5 + 3 * (- 1) ^ n - 2 * (8 + 3 * (- 1) ^ n) * n + 16 * n ^ 2) / 4. • a(n) = (8 * n ^ 2 - 11 * n + 4) / 2 for n even. • a(n) = (8 * n ^ 2 - 5 * n + 1) / 2 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A278815] • 1,2,7,29,109,416,1596,6105,23362,89415,342193,1309593,5011920,19180976,73406985,280933906,1075154535,4114694797,15747237101,60265824784,230641706484,882682631025,3378090801226,12928199853783,49477163668857 ⋆ Number of tilings of a 2 X n grid with monomers, dimers, and trimers. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) + 5 * a(n - 3) - 2 * a(n - 4) - a(n - 6). •

[A120757] • 0,2,7,29,117,474,1919,7770,31460,127379,515747,2088217,8455018,34233669,138609296,561217582,2272323599,9200450421,37251863241,150829715006,610697048403,2472661868474,10011603514040,40536155064419 ⋆ Expansion of x^2*(2+x)/(1-3*x-4*x^2-x^3). • a(n)=3a(n - 1) + 4a(n - 2) + a(n - 3) (follows from the minimal polynomial of the matrix M). See also the o.g.f. given in the name. •

[A134169] • 1,2,7,29,121,497,2017,8129,32641,130817,523777,2096129,8386561,33550337,134209537,536854529,2147450881,8589869057,34359607297,137438691329,549755289601,2199022206977,8796090925057,35184367894529 ⋆ a(n) = 2^(n-1)*(2^n - 1) + 1. • a(n) = 2 ^ (n - 1) * (2 ^ n - 1) + 1. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). •

[A052961] • 1,2,7,29,124,533,2293,9866,42451,182657,785932,3381689,14550649,62608178,269388943,1159120181,4987434076,21459809837,92336746957,397304305274,1709511285499,7355643511673,31649683701868,136181487974321,585958388766001 ⋆ Expansion of (1 - 3*x) / (1 - 5*x + 3*x^2). • a(0)=1, a(1)=2, a(n)=5 * a(n - 1) - 3 * a(n - 2). - _ Harvey P. Dale _ , Nov 23 2013 •

[A007852] • 1,2,7,29,131,625,3099,15818,82595,439259,2371632,12967707,71669167,399751019,2247488837,12723799989,72474333715,415046380767,2388355096446,13803034008095,80082677184820,466263828731640,2723428895205210,15954063529603565,93711351580424391 ⋆ Antichains in rooted plane trees on n nodes. • a(1) = 1 and for n > 1 a(n) = sum((a(j) + b(j)) * a(n - j), j=1..n - 1), where b(n) = C(2n - 2, n - 1) / n (Catalan number). • a(n) = sum(i=0..n, binomial(2 * i + 1,i) * binomial(2 * n - 1,n - i - 1)) / ((2 * n - 1)). - _ Vladimir Kruchinin _ , Jun 09 2014 •

[A110576] • 1,1,2,7,29,132,648,3407,19109,113946,719896,4802318,33712717,248285282,1912928549,15379305080,128729241725,1119519156562,10097102345993,94285391374568,910145431036423,9069616636456648,93179779321299479 ⋆ Sequence is {a(0,n)}, where a(m,0)=1, a(m,n) = a(m,n-1) + a(m-1,n), a(0,n+1) = a(n,n). • a(0, n + 1) = Sum _{ k=0..n } binomial(2 * n - k - 1, n - 1) * a(0, k), with a(0,0) =1. •

[A074600] • 2,7,29,133,641,3157,15689,78253,390881,1953637,9766649,48830173,244144721,1220711317,6103532009,30517610893,152587956161,762939584197,3814697527769,19073486852413,95367432689201,476837160300277 ⋆ a(n) = 2^n + 5^n. • a(n) = 5 * a(n - 1) - 3 * 2 ^ (n - 1) = 7 * a(n - 1) - 10 * a(n - 2). [Corrected by _ Zak Seidov _ , Oct 24 2009] •

[A064641] • 1,2,7,29,133,650,3319,17498,94525,520508,2910895,16487795,94393105,545337200,3175320607,18615098837,109783526821,650884962908,3877184797783,23193307022861,139271612505361,839192166392276 ⋆ Unidirectional 'Delannoy' variation of the Boustrophedon transform applied to all 1's sequence: construct an array in which the first element of each row is 1 and subsequent entries are given by T(n,k) = T(n,k-1) + T(n-1,k-1) + T(n-1,k) + T(n-2,k-1). The last number in row n gives a(n). • a(n) = sum(i=0..n, binomial(n + i,n) * sum(j=0..n + 1, binomial(j, - n + 2 * j - i - 2) * binomial(n + 1,j))) / (n + 1); - _ Vladimir Kruchinin _ , May 12 2011 •

[A183608] • 1,1,2,7,29,133,658,3471,19400,114417,709815,4619048,31446579,223419752,1652599036,12698380493,101151995810,833740791381,7098646227614,62335051895044,563749889969108,5244173616702347,50117689766439784 ⋆ G.f.: A(x) = Sum_{n>=0} x^n * C(x)^(n^2), where C(x) = 1 + x*C(x)^2 is the g.f. of the Catalan numbers (A000108). • a(n) = Sum _{ k=0..n - 1 } binomial((n - k) ^ 2 + 2k, k) * (n - k) ^ 2 / ((n - k) ^ 2 + 2k) for n>0 with a(0) =1. •

[A190736] • 1,2,7,29,139,731,4096,24005,145420,903503,5726290,36878978,240663403,1587928511,10575884599,71005972250,480071241463,3265685620913,22335284505529,153496543690226,1059443187603955,7340794592800628,5104291385649028 ⋆ Diagonal sums of the Riordan matrix A121576. • a(n) = [x ^ n](1 - 2 * x - 2 * x ^ 2) * (1 + 2 * x) ^ (n + 1) / ((1 + 2 * x - x ^ 2 + x ^ 3)(1 - x) ^ (n + 1)). •

[A185109] • 2,7,29,146,877,6140,49121,442090,4420901,48629912,583558945,7586266286,106207728005,1593115920076,25489854721217,433327530260690,7799895544692421,148198015349156000,2963960306983120001,62243166446645520022 ⋆ a(0)=2; for n > 0, a(n) = (n+2)*a(n-1) + 1. • a(n) = e * Gamma(n + 3,1) - (3 / 2) * (n + 2)!, where Gamma(a,x) is the incomplete gamma function. [_ Bruno Berselli _ , Dec 24 2012] • a(n) = (n + 3) * a(n - 1) - (n + 1) * a(n - 2). - _ Vaclav Kotesovec _ , Aug 13 2013 •

[A121638] • 1,1,2,7,29,147,889,6252,50163,452356,4529812,49878095,598989496,7791393260,109129383735,1637539745521,26208427321596,445652393850867,80233806290611127,1524704403794830 09,3049854459983511047 ⋆ Number of deco polyominoes of height n, having no 2-cell columns. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(n)=(n - 1)a(n - 1) + a(n - 3) for n>=3; a(1)=1, a(2)=1, a(3)=2. •

[A042913] • 1,2,7,30,37,770,4657,5427,80635,86062,597007,12026202,12623209,62519038,200180323,462879684,28898720731,58260321146,203679684169,872979057822,1076658741991,22406153897642,135513582127843,157919736025485,2346389886484633 ⋆ Denominators of continued fraction convergents to sqrt(988). • a(n) = 29098901054 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A041805] • 1,1,2,7,30,97,127,224,9087,9311,18398,64505,276418,893759,1170177,2063936,83727617,85791553,169519170,594349063,2546915422,8235095329,10782010751,19017106080,771466253951 ⋆ Denominators of continued fraction convergents to sqrt(423). • a(n) = 9214 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A097924] • 2,7,30,127,538,2279,9654,40895,173234,733831,3108558,13168063,55780810,236291303,1000946022,4240075391,17961247586,76085065735,322301510526,1365291107839,5783465941882,24499154875367,103780085443350,439619496648767,1862258072038418 ⋆ a(n) = 4*a(n-1) + a(n-2), n>=2, a(0) = 2, a(1) = 7. • a(n) = ((2 * sqrt(5) + 3) * (2 + sqrt(5)) ^ n + (2 * sqrt(5) - 3) * (2 - sqrt(5)) ^ n) / (2 * sqrt(5)). • a(n) = 4 * a(n - 1) + a(n - 2) for n>=2, a(0)=2, a(1)=7. G.f.: (2 - x) / (1 - 4 * x - x ^ 2). - _ Philippe Deléham _ , Nov 20 2008 •

[A116363] • 1,2,7,30,141,698,3571,18686,99385,535122,2908863,15932766,87809541,486421770,2706138987,15110359038,84637982961,475381503266,2676447372535,15100548901790,85357620588541,483304834607322 ⋆ a(n) = dot product of row n in Catalan triangle A033184 with row n in Pascal's triangle. • a(n) = Sum _{ k=0..n } C(n,k) * C(2 * n - k + 1,n - k) * (k + 1) / (2 * n - k + 1). •

[A186858] • 1,2,7,30,141,703,3653,19567,107270,598955,3394374,19474061,112884523,660133281,3889762894,23071999207,137648379106,825454689096,4972910455246,30082871471563,182660631479932,1112852638627219,6800915421684405,41679320208737561,256093061045766088 ⋆ G.f. A(x) satisfies A(x) = x*(A(x)^5+3*A(x)^4+4*A(x)^3+3*A(x)^2+2*A(x)+1). • a(n)=sum(k=0..n - 1, binomial(k + n,n - k - 1) * sum(j=0..n, binomial(n,j) * binomial(j,k - 2 * n + 2 * j))) / n, n>0. •

[A260771] • 1,2,7,30,142,716,3771,20502,114194,648276,3737270,21819980,128757020,766680856,4600866643,27797553638,168949310378,1032267189636,6336728149794,39062959379620,241720286906116,1500910751651752,9348824475860702,58398701313158780 ⋆ Certain directed lattice paths. • a(n) = Sum _{ l=0..n + 1 } ((- 1) ^ (n - l + 1) * binomial(n + 1,l) * Sum _{ i=l..n + l } (binomial(i - 1,i - l) * Sum _{ j=0..n - l + 1 } (binomial(j,n + l - j - i) * 2 ^ (- n + l + 2 * j + i) * 3 ^ (n - l - j + 1) * binomial(n - l + 1,j)))) / (n + 1). - _ Vladimir Kruchinin _ , Feb 28 2016 •

[A174796] • 1,2,7,30,143,728,3148,15986,86009,478907,2731365,13131703,72135374,412835191,2416852480,14369476066,72067537808,409636973141,2412844770335,14479410843183,87964452906330,451313038006432 ⋆ Number of admissible sequences of order j; related to 7x+1 problem • a(1)=1 and a(k + 1)=Sum _{ m=1..k } (- 1) ^ (m - 1) * binomial(floor((k - m + 1) * (log(7) / log(2))) + m - 1,m) * a(k - m + 1)) for k >= 1. - _ Vladimir M. Zarubin _ , Sep 25 2015 •

[A006013] • 1,2,7,30,143,728,3876,21318,120175,690690,4032015,23841480,142498692,859515920,5225264024,31983672534,196947587823,1219199353190,7583142491925,47365474641870,296983176369495,1868545312633440,11793499763070480 ⋆ a(n) = binomial(3*n+1,n)/(n+1). • a(n) is the top left term in M ^ n, where M is the infinite square production matrix: • a(n) is the sum of top row terms in Q ^ n, where Q is the infinite square production matrix as follows : •

[A243632] • 0,1,2,7,30,144,744,4047,22858,132830,789124,4771086,29259992,181569062,1137891460,7191411375,45780189690,293282202470,1889328747180,12231207808050,79532035376500,519196901292440 ⋆ Expansion of ((1-sqrt(1-4*x))/2-sqrt(((-sqrt(1-4*x)-11)*(1-sqrt(1-4*x)))/4+1)+1)/4. • a(n) = (1 / n) * Sum _{ k=0..n } binomial(n + k - 1,k) * binomial(3 * n - 2,n - 4 * k - 1), n >1, a(0)=0. •

[A193464] • 0,2,7,30,146,852,5823,45740,405844,4012710,43733975,520795002,6726601062,93651619880,1398047697151,22275111534552,377278848390248,6768744159489930,128228860181918439,2557808459478878870,53585748788874537850,1176328664895760953852 ⋆ Row sums of triangle A076731. • a(n) = sum((1 / (n - k)!) * sum((((- 1) ^ j) * binomial(k,j) * (n - j)!, j=0..k), k=1..n). •

[A136574] • 1,1,2,7,30,149,868,5907,46226,409105,4037904,43954703,522956302,6749977101,93928268300,1401602636299,22324392524298,378011820620297,6780385526348296,128425485935180295,2561327494111820294 ⋆ Row sums of triangle A136573. • a(n) = n! * (n + 1) + the sum of the first (n + 1) terms of A033312: (0, 0, 1, 5, 23, 119, 719, ...), where A033312 = (k! - 1, k=0,1,2,...). • a(n) = a(n - 1) + n! - 1. - _ David Eppstein _ , Dec 21 2017 •

[A209801] • 1,2,7,30,152,878,5653,39952,306419,2527984,22277080,208483014,2062199125,21472152822,234526948183,2678973711602,31919113081724,395750219427590,5095324584255641,67996852799627404,938939425151949211,13395286474394627364,197162835188949226772 ⋆ The number of partitions of the set [n] where each element can be colored 1 or 2 avoiding the patterns 1^11^2 in the equality sense. • a(n) = sum(sum(binomial(n, i) * binomial(n - i, j) * add(binomial(n - i - j, p) * S(p, j) * j! * B(n - i - j - p), p = j .. n - i - j), j = 0 .. floor((n - i) / 2))), i = 0 .. n), where B(n) is the n - th Bell number and S(n,k) is the Stirling number of the second kind. •

[A144495] • 2,7,30,155,946,6687,53822,486355,4877250,53759351,646098622,8409146187,117836551730,1768850337295,28318532194206,481652022466307,8673291031865602,164849403644999655,3297954931572397790,69274457019123638011,1524368720086682440242 ⋆ Row 2 of array in A144502. • a(n) = (1 / 2) * (floor((n + 1) * (n + 1)! * e) + floor(n * n! * e)). [_ Gary Detlefs _ , Jun 06 2010] • a(n) = ((4 + 3 * n) * a(n - 1) - (n + 3) * (n - 1) * a(n - 2) + (n -

1) * (n - 2) * a(n - 3)) / 2. - _ Robert Israel _ , Oct 02 2016 •

[A114198] • 1,2,7,31,142,659,3113,14918,72199,351983,1726022,8504509,42070429,208812722,1039387519,5186451311,25935769702,129942777227,652133298421,3277734587302,16496741964221,83129076840317,419362231888882 ★ a(n) = Sum_{k=0..n} binomial(n,k)^2*F(k+1). • a(n) = (phi ^ (n - 1) * P _ n(sqrt(5) - 2) - (1 - phi) ^ (n - 1) * P _ n(- sqrt(5) - 2)) / sqrt(5), where phi = (1 + sqrt(5)) / 2, P _ n(x) is the Legendre polynomial. •

[A055836] • 2,7,31,145,701,3458,17298,87417,445225,2281565,11750245,60763950,315315014,1641046720,8562466432,44775095601,234594444741,1231249999640,6472043549400,34067089542255,179543120927115 ★ T(2n+2,n), where T is the array in A055830. • a(n) = binomial(2 * n + 1,n) + sum(i=ceiling(n / 2)..n, binomial(i + 1,n - i + 1) * binomial(n + i,n)). - _ Vladimir Kruchinin _ , Nov 26 2014 • a(n) = C(c + 1,n - c + 1) * C(n + c,n) * hypergeom([1,c + 2, - n + c - 1,n + c + 1],[c + 1, - n / 2 + c + 1 / 2, - n / 2 + c + 1], - 1 / 4) where c=ceil(n / 2). - _ Peter Luschny _ , Nov 28 2014 •

[A007863] • 1,2,7,31,154,820,4575,26398,156233,943174,5785416,35955297,225914342,1432705496,9158708775,58954911423,381806076426,2485972170888,16263884777805,106858957537838,704810376478024,4664987368511948,30974829705533240,206266525653071416 ★ Number of hybrid binary trees with n internal nodes. • a(n) = 3F2({- n, n + 1, n + 2 } ; { 1, 3 / 2 })(- (1 / 4)). - _ Olivier Gérard _ , Apr 23 2009 • a(n) = 1 / (n + 1) * sum(k=0..n, binomial(n + k,n) * binomial(n + k + 1,n - k)). - _ Vladimir Kruchinin _ , Dec 24 2010 •

[A125275] • 1,1,2,7,31,162,968,6481,47893,386098,3364562,31460324,313743665,3320211313,37124987124,436985496790,5397178181290,69748452377058,940762812167126,13213888481979449,192891251215160017 ★ Eigensequence of triangle A039599: a(n) = Sum_{k=0..n-1} A039599(n-1,k)*a(k) for n>0 with a(0)=1. • a(n) = Sum _{ k=0..n - 1 } a(k) * C(2 * n - 1,n - k - 1) * (2 * k + 1) / (2 * n - 1) for n>0 with a(0)=1. •

[A260532] • 1,2,7,31,165,1025,7310,59284,543702,5618267,65200918,846462826,12229783811,195394019337,3427472046792,65526442181293,1355785469986828,30166624979467869,717769036033944699,18174105506247664633,487655384740384445407,13816406622559942660420 ★ Coefficients in asymptotic expansion of sequence A051295. • a(k) ^ 2 * (k - 1)! / (log(2)) ^ k. •

[A193657] • 1,2,7,31,165,1031,7423,60621,554249,5611771,62353011,754471433,9876716941,139097096919,2097156230471,33704296561141,575219994643473,10389911153247731,198019483156015579 ★ First difference of A002627. • a(n) = 1 - n * Gamma(n + 1) + e * n * Gamma(n + 1,1). - _ Peter Luschny _ , May 30 2014 • a(n) + (- n - 2) * a(n - 1) + (n - 1) * a(n - 2)=0. - _ R. J. Mathar _ , May 30 2014 •

[A245313] • 1,1,2,7,31,176,1158,8919,76751,742597,7865088,91553100,1150905332,15665172108,227991734414,3554320236911,58795765799791,1033303679424539,19151079894682674,374662948814998855,7691131223011551255,165785969673935575904,3734170668741419488552 ★ G.f. satisfies: A(x) = 1 + x*A(x) + x^2*A(x)^2 + 3*x^3*A(x)*A'(x) + x^4*A(x)*A"(x). • a(n) = [x ^ n] G(x) ^ (n + 1) / (n + 1) for n>=0 where G(x) is the g.f. of A245312. • a(n) = [x ^ (n + 2)] G(x) ^ (n + 1) / (n + 1) ^ 3 for n>=0 where G(x) is the g.f. of A245312. •

[A047850] • 1,2,7,32,157,782,3907,19532,97657,488282,2441407,12207032,61035157,305175782,1525878907,7629394532,38146972657,190734863282,953674316407,4768371582032,23841857910157,119209289550782,596046447753907 ★ a(n) = (5^n + 3)/4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2) for n > 1. • a(n) = 5 * a(n - 1) - 3 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A226994] • 1,2,7,32,161,842,4495,24320,132865,731282,4048727,22523360,125797985,704966810,3961924127,22321190912,126027618305,712917362210,4039658528935,22924714957472,130271906898721,741188107113962,4221707080583087,24070622500965632 ★ Number of lattice paths from (0,0) to (n,n) consisting of steps U=(1,1), H=(1,0) and S=(0,1) such that the first step leaving the diagonal (if any) is an H step. • a(n) = 1 / 2 + LegendreP(n, 3) / 2. - _ Benedict W. J. Irwin _ , Oct 06 2016 •

[A108524] • 1,2,7,32,166,926,5419,32816,203902,1292612,8327254,54358280,358769152,2390130038,16051344307,108548774240,738563388214,5052324028508,34727816264050,239733805643552,1661351898336676,11553558997057772,80603609263563262,563972937201926432 ★ Number of ordered rooted trees with n generators. • a(n) = sum(i=1..n + 1, (i * C(n + 1,i) * sum(j=0..n - i, (- 1) ^ j * 2 ^ (n - j) * C(n,j) * C(2 * n - j - i - 1,n - 1))) / 2 ^ i) / (n * (n + 1)). - _ Vladimir Kruchinin _ , May 10 2011 • a(n) = upper left term in the following infinite square production matrix: •

[A125277] • 1,1,2,7,32,169,981,6113,40386,280871,2047316,15595317,123876270,1024188790,8799533250,78443220865,724472766347,6922133112818,68331103658847,695983854400857,7305630631254242,78941171881894716 ★ Eigensequence of triangle A110616: a(n) = Sum_{k=0..n-1} A110616(n-1,k)*a(k) for n>0 with a(0)=1. • a(n) = Sum _{ k=0..n - 1 } a(k) * C(3 * n - 2 * k - 2,n - k - 1) * (k + 1) / (3 * n - 2 * k - 2) for n>0 with a(0)=1. •

[A179488] • 1,1,2,7,32,172,1052,7177,53792,437992,3841772,36060262,360234512,3812425912,42576007352,500022862357,6157034292032,79278216024592,1064888929532492,14890014669234922,216315676347260912 ★ G.f.: A(x) satisfies A(x) = x/(1 - (1-2x)*A(x/(1-2x))). • a(n) = upper left term of M ^ (n - 1), M = an infinite square production matrix as follows (with the odd integers as the main diagonal): •

[A005362] • 1,2,7,32,177,1122,7898,60398,494078,4274228,38763298,366039104,3579512809,36091415154,373853631974,3966563630394,42997859838010,475191259977060 ★ Hoggatt sequence. • a(n) = S(4,n) where S(d,n) is defined in A005364. - _ Sean A. Irvine _ , May 29 2016 •

[A190123] • 1,1,2,7,32,177,1184,9175,81280,810081,8967168,109200551,1450641408,20876239633,323542851584,5372445971063,95157141241856,1790769169786049,35682993123753984,750523142329023815,16616642326426025984,386288476226459349361,9407703499451286945792 ★ E.g.f.: 1/(1-tan(sin(x))). • a(n) = Sum _{ m=1..n } Sum _{ k=m..n } ((((- 1) ^ (k - m) + 1) * (Sum _{ j=m..k } binomial(j - 1,m - 1) * j! * 2 ^ (k - j - 1) * stirling2(k,j) * (- 1) ^ ((m + k) / 2 + j),j,m,k)) * ((- 1) ^ (n - k) + 1) * Sum _{ i=0..k / 2 } (2 * i - k) ^ n * binomial(k,i) * (- 1) ^ ((n + k) / 2 - i))) / (2 ^ k * k!))), n>0, a(0)=1. •

[A121555] • 1,2,7,32,178,1164,8748,74304,704016,7362720,84255840,1047358080,14054739840,202514376960,3118666924800,51119166873600,888640952371200,16330301780889600,316322420114534400,6441691128993792000 ★ Number of 1-cell columns in all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=1, a(n)=n * a(n - 1) + (n - 2)! * (n - 2) for n>=2. • a(n)= n! * (h(n) - (n - 1) / n), where h(n)=sum(1 / k,k=1..n) [From _ Gary Detlefs _ , Aug 13 2010] •

[A265165] • 0,1,2,7,32,179,1182,8993,77440,744425,7901410,91774375,1157782560,15764338315,230416499390,3598316747905,59792454064640,1053360827319185,19610513077334850,384703418451703175,7931544941793536800,171459202078545968675,3877969156687438765150 ★ a(n) = sum of the n-th column of the array A265163(n,k). See Comments for more details. • a(n + 2) = 2n * a(n + 1) - (n ^ 2 - n - 1) * a(n) if n>0. •

[A097900] • 1,2,7,32,180,1200,9240,80640,786240,8467200,99792000,1277337600,17643225600,261534873600,4140968832000,69742632960000,1244905998336000,23475370254336000,466306218233856000,9731608032706560000 ★ Number of runs of length 1 in all permutations of [n]. (The permutation 3574162 has two runs of length 1: 357/4/16/2.) • a(n) = n! * (n + 4) / 6 for n >= 2. •

[A000153] • 0,1,2,7,32,181,1214,9403,82508,808393,8743994,103459471,1328953592,18414450877,273749755382,4345634192131,73362643649444,1312349454922513,24796092486996338,493435697986613143,10315043624498196944 ★ a(n) = n*a(n-1) + (n-2)*a(n-2), with a(0) = 0, a(1) = 1. • a(n) = round(1 / 2 * (n ^ 2 + 3 * n + 1) * n! / exp(1)) / n , n>=1. - _ Simon Plouffe _ , March 1993 • a(n) = hypergeom([3, - n + 1], [], 1)) * (- 1) ^ (n + 1) for n>=1. - _ Peter Luschny _ , Sep 20 2014 •

[A006154] • 1,1,2,7,32,181,1232,9787,88832,907081,10291712,128445967,1748805632,25794366781,409725396992,6973071372547,126585529106432,2441591202059281,49863806091395072,1074927056650469527 ★ Number of labeled ordered partitions of an n-set into odd parts. • a(0) = a(1) = 1, a(n) = sum(k=1..ceil(n / 2), C(n,2 * k - 1) * a(n - 2 * k + 1)). - _ Ralf Stephan _ , Apr 29 2004 • a(n) = Sum _{ k=1..n } Sum _{ i=0..k } (- 1) ^ i * (k - 2 * i) ^ n * binomial(k,i) / 2 ^ k, n > 0, a(0)=1. - _ Vladimir Kruchinin _ , May 28 2011 • a(n) = D ^ n(1 / (1 - x)) evaluated at x = 0, where D is the operator sqrt(1 + x ^ 2) * d / dx. Cf. A003724 and A000111. - _ Peter Bala _ , Dec 06 2011 •

[A189780] • 1,1,2,7,32,189,1328,11019,104064,1111641,13166592,172006671,2448559104,37814647701,628513744896,11201565483219,212867324706816,4299987047933745 ★ E.g.f.: 1/(1-arcsin(x)). • a(n)= (n - 1)! * sum(m=1..n - 1, m * (1 + (- 1) ^ (n - m)) / 2 * sum(k=1..n - m (sum(j=1..k, binomial(k,j) * 2 ^ (1 - j) * sum(i=0..floor(j / 2), (- 1) ^ ((n - m) / 2 - i - j) * binomial(j,i) * (j - 2 * i) ^ (n - m + j) / (n - m + j)!))) * binomial(k + n - 1,n - 1))) + n!, n>0, a(0)=1. •

[A270229] • 1,2,7,32,193,1382,11719,112604,1221889,14639786,192949639,2760749048,42732172993,709490574158,12596398359367,237750425419508,4757710386662401,100516614496518866,2236829315345704711,52262526676903613264,1279512810244450887361 ★ Number of matchings (i.e., Hosoya index) in P_{2} X K_{n}. • a(n) = (n + 1) * a(n - 1) + (n - 1) ^ 2 * a(n - 2) - (n - 2) * (n - 1) ^ 2 * a(n - 3) + (n - 3) * (n - 2) * (n - 1) * a(n - 4). •

[A162257] • 2,7,33,82,160,273,427,628,882,1195,1573,2022,2548,3157,3855,4648,5542,6543,7657,8890,10248,11737,13363,15132,17050 ★ a(n) = (2*n^3+5*n^2-11*n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Mar 04 2012 •

[A054727] • 1,2,7,33,181,1083,6854,45111,305629,2117283,14929212,106790500,773035602,5652275723,41683912721,309691336359,2315772552485,17415395593371,131632335068744,999423449413828,7618960581522348,58295017292748756,447517868947619432,3445923223190363608 ★ Number of forests of rooted trees with n nodes on a circle without crossing edges. • a(n) = Sum _{ j=1..n } binomial(n, j - 1) * binomial(3 * n - 2 * j - 1, n - j) / (2 * n - j). •

[A086618] • 1,2,7,33,183,1118,7281,49626,349999,2535078,18758265,141254655,1079364105,8350678170,65298467487,515349097713,4100346740511,32858696386766,265001681344569 ★ a(n) = Sum{k=0..n} binomial(n,k)^2*C(k), where C() = A000108() are the Catalan numbers. • a(n) = hypergeom([1 / 2, - n, - n], [1,2], 4). - _ Vladimir Reshetnikov _ , Oct 03 2016 •

[A162661] • 1,1,2,7,33,189,1249,9237,74972,659042,6215154,62435805,6644590917458334388,87979090059,1087309348481,14041705640439,189050930463638,2648140182064473,38521885088392896,580970615943277573 ★ G.f. satisfies: A(x) = 1 + x*A(x) * A(x*A(x)^2). • a(n,m) = Sum _{ k=0..n } m * C(2n - k + m,k) / (2n - k + m) * a(n - k,k). •

[A104981] • 0,1,2,7,33,191,1297,10063,87669,847015,8989301,103996703,1303132269,17589153719,2545092275413931158238735,64573130459613,1124144767682215,20677664894412965,400760695386194687,8163539437728923181 ★ Column 1 of triangle A104980; also equals column 0 of triangle A104986, which equals the matrix logarithm of A104980. • a(n) = sum of top row terms of M ^ (n - 1). Example: top row of M ^ 4 = (71, 71, 38, 10, 1), sum = 191 = a(5). (End) •

[A058797] • 0,1,1,1,2,7,33,191,1304,10241,90865,898409,9791634,116601199,1506023953,20967734143,313009988192,4987192076929,84469255319601,1515459403675889,28709259414522290,572669728886769911,11997355047207645841 ★ a(-1) = 0, a(0) = 1; thereafter a(n) = n*a(n-1) - a(n-2). • a(n) is asymptotic to c * n! with c = BesselJ(0, 2) = Sum (- 1) ^ k / (k!) ^ 2 = 0.223890779... (A091681). - _ Franklin T. Adams - Watters _ and Alec Mihailovs (alec(AT) mihailovs.com), Aug 17 2005 • a(n) = Pi * (BesselJ[n + 1, 2] * BesselY[0, 2] - BesselJ[0, 2] * BesselY[n + 1, 2]). - _ Roger L. Bagula _ , Sep 03 2006. [Offs et adapted. - _ Wolfdieter Lang _ , Mar 08 2013] • a(n + 2) * (a(n) + a(n + 1) + a(n + 2)) = a(n + 1) * (a(n + 1) + a(n + 3)) for all integer n. - _ Mich ael Somos _ , Mar 07 2011 • a(- 2 - n) = - (- 1) ^ n * a(n). - _ Michael Som os _ , Mar 07 2011 •

[A121965] • 0,1,1,1,2,7,33,191,1304,10241,90865,898409,9791634,116601199,1506023953,20967734143,313009988192,4987192076929,84469255319601,1515459403675889,28709259414522290,572669728886769911,11997355047207645841,26336914130968143859 1 ★ a(n) = (n-1)*a(n-1)-a(n-2), a(0)=0, a(1)=1. • a(n) = (J _ n(2) * Y _ 0(2) - J _ 0(2) * Y _ n(2)) / (J _ 1(2) * Y _ 0(2) - J _ 0(2) * Y _ 1(2)) where J and Y are Bessel functions. • a(- n) = (- 1) ^ n * a(n). - _ Michael Somos _ , Jan 28 2014 • a(n + 1) = Sum _{ k=0..n / 2 } (- 1) ^ k * (n - k)! / k! * binomial(n - k, k) if n>= - 1. - _ Michael Somos _ , Jan 28 2014 •

[A006595] • 1,2,7,33,192,1320,10440,93240,927360,10160640,121564800,1576713600,22034073600,330032102400,5274286617600,89575694208000,1611054821376000,30589118816256000,611426688897024000,12833558093131776000,282216632948490240000 ★ a(n) = (n+2)!/4 + n!/2. • a(n) + (- n - 2) * a(n - 1) + 2 * a(n - 2) + 2 * (- n + 2) * a(n - 3)=0. - _ R. J. Mathar _ , May 30 2014 •

[A059099] • 1,2,7,33,198,1453,12669,128320,1482721,19260421,277913552,4410640919,76360030701,1432144732762,28926138244883,625974400305541,14449445989893990,354384475357492593,9202837263156670345 ★ Expansion of exp(exp(x)-1)/(2-exp(x)). • a(n) = Sum _{ m=0..n } Sum _{ i=0..n } stirlin g2(n, i) * Product _{ j=1..m } (i - j + 1). •

[A206240] • 1,1,2,7,34,192,1206,8033,55974,403016,2977866,22464381,1723880261341929845,10573800028,84192383755,676491536028,5479185281572,44692412971566,366844007355202,3028143252035976,25123376972033392,209401287807587273,1752674793617241002 ★ Number of partitions of n^2-n into parts not greater than n. • a(n) = [x ^ (n ^ 2 - n)] Product _{ k=1..n } 1 / (1 - x ^ k). •

[A237645] • 1,1,2,7,34,201,1357,10109,81397,698948,6341597,60391832,600661215,6215862360,66726103981,741259084280,8504902411004,100618874020119,1225724374602147,15356200178917791,197646961110310062,2610956607315266757,35370366025297098315 ★ G.f. satisfies: A(x) = G(x*A(x)) where G(x) = -1+x + A(x) + 1/A(x). • a(n) = [x ^ n] (- 1 + x + A(x) + 1 / A(x)) ^ (n + 1) / (n + 1). •

[A145345] • 1,1,2,7,34,203,1398,10706,89120,794347,7502170,74511150,773864654,8368430208,93905460014,1090519614152,13077315637592,161643281777801,2056306418177832,26887064722265250,360939404438509866 ★ G.f. satisfies: A(x/A(x)) = 1 + x*A(x). • a(n) = [x ^ (n - 1)] (2 / (n + 1)) * A(x) ^ (n + 1) for n>=1 with a(0)=1; i.e., a(n) equals 2 / (n + 1) times the coefficient of x ^ (n - 1) in A(x) ^ (n + 1) for n>=1. - _ Paul D. Hanna _ , Nov 15 2008 •

[A056543] • 1,1,2,7,34,203,1420,11359,102230,1022299,11245288,134943455,1754264914,24559708795,368395631924,5894330110783,100203611883310,1803665013899579,34269635264092000,685392705281839999 ★ a(n) = n*a(n-1) - 1 with a(1)=1. • a(n) = n! * (2 - Sum _{ k=1..n }{ k! ^ (- 1) }), with n>=1. - _ Paolo P. Lava _ , Jun 25 2010 •

[A075834] • 1,1,1,2,7,34,206,1476,12123,111866,1143554,12816572,156217782,2057246164,29111150620,440565923336,7101696260883,121489909224618,2198572792193786,41966290373704332,842706170872913634 ★ Coefficients of power series A(x) such that n-th term of A(x)^n = n! x^(n-1) for n > 0. • a(0)=a(1)=1, a(n) = (n - 1) * a(n - 1) + Sum _{ j=2..n - 2 } (j - 1) * a(j) * a(n - j), n >= 2. - _ David Callan _ •

[A011800] • 1,1,2,7,34,206,1486,12412,117692,1248004,14625856,187638716,2614602112,39310384192,634148436104,10923398137576,200069534481616,3882002527006352,79535575126745632,1715658099715217584 ★ Number of labeled forests of n nodes each component of which is a path. • a(n) = n! * Sum(k=1 ..n, Sum(i..0,n - k, binomial(k,n - k - i) * binomial(k + i - 1,k - 1) * 2 ^ (- n + k + i) * (- 1) ^ (n - k - i)) / (k!)), n>0, a(0)=1. - _ Vladimir Kruchinin _ , Nov 25 2012 •

[A145845] • 1,2,7,34,208,1504,12283,109778,1050820,10614856,111978128,1224261856,13792583296,159411938560,1883550536707,22687603653106,277940485660012,3456490397570392,43565433620294908,555752354850506312,7167182317486700416,93348781597357983232,1226830676118851157712 ★ Number of permutations of length 2n+1 which are invariant under the reverse-complement map and have no decreasing subsequences of length 5. • a(n) = sum(j=0, n, C (n,j) ^ 2 * (1 / ((j + 1) ^ 2 (j + 2))) * sum(i=0, j, C(2 * i,i) * C(j + 1,i + i) * C(j + 2,i + 1))) where C(n,j) = n! / (j!(n - j)!). •

[A002720] • 1,2,7,34,209,1546,13327,130922,1441729,17572114,234662231,3405357682,53334454417,896324308634,16083557845279,306827170866106,6199668952527617,132240988644215842,2968971263911288999,69974827707903049154,1727194482044146637521,44552237162692939114282 ★ Number of partial permutations of an n-set; number of n X n binary matrices with at most one 1 in each row and column. • a(n) = Sum(k=0..n, k! * C(n, k) ^ 2). • a(n) = 2 * n * a(n - 1) - (n - 1) ^ 2 * a(n - 2). • a(n) = sum(k>=0, (k + n)! / ((k!) ^ 2 * exp(1))). - _ Robert G. Wilson v _ , May 02 2002 [corrected by _ Vacla v Kotesovec _ , Aug 28 2012] • a(n) = sum { k=0..n, C(n, k)n! / k! } . - _ Paul Barry _ , May 07 2004 • a(n) = Sum(P(n, k)C(n, k) { k=0...n }); a(n) = Sum(n! ^ 2 / k!(n - k)! ^ 2 { k=0...n }). - _ Ross La Haye _ , Sep 20 2004 • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * Stirling1(n, k) * Bell(k + 1). - _ Vladeta Jovovic _ , Mar 18 2005 •

[A074059] • 1,1,2,7,34,213,1630,14747,153946,1821473,24087590,352080111,5636451794,98081813581,1843315388078,37209072076483,802906142007946,18443166021077145,449326835001457846 ★ Dimension of the cohomology ring of the moduli space of n-pointed curves of genus 0 satisfying the associativity equations of physics (also known as the WDVV equations). • a(n) = D ^ n(ex p(x)) evaluated at x = 0, where D is the operator 1 / (1 - x) * exp(- x) * d / dx. Cf. A061356. - Peter Bala, Dec 08 2011 •

[A171792] • 1,1,2,7,34,214,1652,15121,160110,1925442,25924260,386354366,6314171932,112286067892,2158562109096,44605949528355,986049177712850,23218586050641090,580198948211652348,15334750335623526670 ★ G.f. A(x) satisfies: A(x) = (x + A(x+x^2))/2 with A(0)=0. • a(k) is odd iff k is a powe r of 2: a(2 ^ n) == 1 (mod 2) for n>=0. •

[A110313] • 1,2,7,34,221,1786,17347,196442,2542969,37030546,599172671,10664259442,207061905877,4355429249354,98661276360571,2394559287772906,61991654930903537,1705178260099590562,49662655090649112439 ★ E.g.f. exp(x)/(1-x-x^2). • a(n) = sum { k=0..n, binomial(n, k) * k! * F(k + 1) } . • a(n) = sum { k=0..n, n! * F(n - k + 1) / k! } . •

[A287327] • 2,7,35,196,1127,6517,37730,218491,1265327,7327852,42437675,245768761,1423317602,8242841887,47736669995,276456796756,1601040887327,9272088633997,53697334226690,310976719148851,1800955694455127,10429852827143932,60402279928821635 ★ Number of independent vertex sets (and vertex covers) in the 2n-crossed prism graph. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) for n > 1. •

[A024719] • 1,2,7,35,200,1201,7389,46149,291306,1853581,11868586,76380826,493606726,3201081874,20821158234,135776966762,887393271311,5811082966886,38119865826421,250447855600321,1647729357535486,10854207824989831,71581930485576631,472560922429972951,3122648143126315651 ★ a(n) = (1/3)*(2 + Sum_{k=0..n} C(3k,k)). • a(n) = Sum _{ k=0..n } C(k - n,2n - 2k). - _ Paul Barry _ , Mar 15 2010 •

[A172511] • 1,1,2,7,35,210,1365,9165,62322,425867,2915551,19974626,136884937,938162617,6430103330,44072167855,302074043195,2070443441970,14191023001437,97266699113157,666675822475026,4569463931720051 ★ a(n) = a(n-1) * (11*a(n-1) - a(n-2)) / (a(n-1) + 4*a(n-2)), with a(0) = a(1) = 1. • a(0)=1, a(1)=1, a(2)=2, a(3)=7, a(4)=35, a(n)=11 * a(n - 1) - 33 * a(n - 2) + 33 * a(n - 3) - 11 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Nov 18 2013 • a(n) = a(1 - n) for all n in Z. - _ Michael Somos _ , Sep 22 2014 • a(n) = b(n + 1) * b(n) * b(n - 1) * b(n - 2) / 6 for all n in Z where b = A005247. - _ Michael S omos _ , Sep 22 2014 •

[A130458] • 1,1,2,7,35,212,1428,10267,77135,598181,4751615,38461850,316092109,2630445194,22120687226,187690113725,1604795498322,13813404577299,119599962452008,1040921980534597,9101592487671717,79913794344218953 ★ Final term in the rows of triangle A130457: a(n) = A130457(n, 3n), for n>=0. • a(n) = Sum _{ k=1..n } ((k * binomial(4 * n - 3 * k - 1,n - k)) / (3 * n - 2 * k)), n>0, a(0)=1. - _ Vladimir Kruchinin _ , Jun 27 2016 •

[A014307] • 1,1,2,7,35,226,1787,16717,180560,2211181,30273047,458186752,7596317885,136907048461,2665084902482,55726440112987,1245661569161135,29642264728189066,748158516941653967,19962900431638852297 ★ Expansion of sqrt(exp(x) / (2 - exp(x))). • a(n + 1) = 1 + Sum _{ j=1..n } (- 1 + bin omial(n + 1,j)) * a(j). - _ Jon Perry _ , Apr 25 2005, corrected by _ Vaclav Kotesovec _ , Jan 07 2014 • a(n) = Sum _{ m=1..n } (Sum _{ k=m..n } Sti rling2(n,k) * k! * binomial(k - 1,m - 1)) * (1 / m) * binomial(2 * m - 2,m - 1) * (- 1) ^ (m - 1) / 2 ^ (m - 1)). •

[A192816] • 0,1,2,7,36,173,806,3763,17608,82393,385482,1803487,8437740,39476613,184694254,864105611,4042781584,18914450865,88492648850,414019362743,1937020023220,9062490569821,42399528318646,198369310046307,928085399264344 ★ A192815/2. • a(n)=5 * a(n - 1) - 3 * a(n - 2) + 7 * a(n - 3). •

[A249691] • 2,7,36,204,1210,7371,45696,286824,1817046,11593725,74397180,479634480,3104160696,20155648324,131239189440,856606186128,5602957906638,36716657444145,241006055925180,1584293462159100,10428491209564890 ★ a(n) = binomial(3*n,n)*(5*n+2)/(2*n+1). • a(n) = Sum _{ k=0..n } binomial(n,k) * Sum _{ j=0..(k + 1) } (- 1) ^ (j - k - 1) * binomial(k + 1,j) * binomial(n + 2 * j,n + 1))). • a(n) = sum(k=0..n, binomial(n,k) * (binomial(2 * n + 2,k + 1) - binomial(2 * n,k + 1))). - _ Vladimir Kruchinin _ , Nov 26 2014 •

[A129261] • 1,2,7,36,204,1222,7513,46950,296691,1890232,12118424,78080402,505134625,3279051382,21347213562,139319046744,911204289149,5970941722698,39192011365250,257632856738690,1695850232984011 ★ a(n) = coefficient of x^n in Product_{k=0..n} (1 + 2x + 3x^2 +...+ (k+1)*x^k). • a(n) = [x ^ n] Product _{ k=1..n + 1 } { (1 - (k + 1) * x ^ k + k * x ^ (k + 1)) / (1 - x) ^ 2 } for n>0, with a(0)=1. •

[A088313] • 0,1,2,7,36,241,1950,18271,193256,2270017,29272410,410815351,6231230412,101560835377,1769925341366,32838929702671,646218442877520,13441862819232001,294656673023216946,6788407001443004647,163962850573039534580,4142654439686285737291 ★ Number of "sets of lists" (cf. A000262) with an odd number of lists. • a(n) = Sum _{ k=1.. floor((n + 1) / 2) } n! / (2 * k - 1)! * binomial(n - 1, 2 * k - 2). •

[A029768] • 0,1,1,2,7,36,245,2076,21059,248836,3356609,50896380,856958911,15864014388,320245960333,7001257954796,164792092647355,4154906594518116,111719929072986521,3191216673497748444 ★ Number of increasing mobiles with n elements. • a(n) = e ^ (1 - n) * limit(w - > 1, (d ^ (n - 2) / dw ^ (n - 2))(((w - 1) / (Ei(1,1) - Ei(1,w))) ^ (n - 1))) for n >= 2. (End) • a(n) = sum(

i=1..n - 2,binomial(n - 2,i) * a(i) * a(n - i)) + a(n - 1), a(0)=0, a(1)=1. - _ Vladimir Kruchinin _ , Jan 24 2011 •

[A259793] • 1,1,2,7,36,253,1886,14800,118238,955639,7750456,62777522,506272363,4056634991,32252971687,254209569990,1985108901344,1535296831093 0,117579612410477,891596419221856,6694250497509934,49768995849050468,3 66423320400440927,2671969175372760210 ⋆ Number of partitions of n^4 into fourth powers. • a(n) = [x ^ (n ^ 4)] Product _{ j>=1 } 1 / (1 - x ^ (j ^ 4)). - _ Alois P. Heinz _ , Jul 10 2015 •

[A042465] • 1,1,2,7,37,44,257,815,1072,1887,102970,104857,207827,728338,3 849517,4577855,26738792,84794231,111533023,196327254,10713204739,109095 31993,21622736732,75777742189,400511447677 ⋆ Denominators of continued fraction convergents to sqrt(760). • a(n) = 104042 * a(n - 10) - a(n - 20) for n >19. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A135164] • 2,7,37,253,1873,13957,102817,747733,5380993,38420677,2727696 97,1928677813,13597682113,95669909797,672124356577,4717058313493,330803 85791233,231867703805317,1624599288327457,11379822861830773,7969690235 3804353,558069037387531237,3907436894177226337 ⋆ a(n) = 7^n - 5^n + 3^n + 2^n. • a(n) = 7 ^ n - 5 ^ n + 3 ^ n + 2 ^ n. • a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4) for n>3. (End) •

[A072597] • 1,2,7,37,261,2301,24343,300455,4238153,67255273,1185860331,2 3000296155,486655768525,11155073325917,275364320099807,728292985448643 1,205462851526617489,6158705454187353297 ⋆ Expansion of 1/(exp(-x)-x) as exponential generating function. • a(n) = n! * Sum _{ k=0..n } (n - k + 1) ^ k / k!. - _ Vladeta Jovovic _ , Aug 31 2003 •

[A001515] • 1,2,7,37,266,2431,27007,353522,5329837,90960751,1733584106,3 6496226977,841146804577,21065166341402,569600638022431,16539483668991 901,513293594376771362,16955228098102446847 ⋆ Bessel polynomial y_n(x) evaluated at x=1. • a(0) = 1, a(1) = 2; thereafter a(n) = (2 * n - 1) * a(n - 1) + a(n - 2). • a(n) = Sum _{ k = 0..n } binomial(n + k,2 * k) * (2 * k)! / (k! * 2 ^ k). • a(- 1 - n) = a(n) and (a(n + 1) + a(n + 2)) ^ 2 = a(n) * a(n + 2) + a(n + 1) * a(n + 3) for all integer n. - _ Michael Somos _ , Apr 08 2012 • a(n) = (2 * BesselI(1 / 2, 1) + BesselI(3 / 2, 1)) * BesselK(n + 1 / 2, 1). - _ Jean - François Alcover _ , Feb 03 2014 • a(n) = exp(1) * sqrt(2 / Pi) * B esselK(1 / 2 + n,1). - _ Gerry Martens _ , Jul 22 2015 • a(n) = (1 / n!) * In tegral _{ x = 0..inf } exp(- x) * x ^ n * (1 + x / 2) ^ n dx. •

[A112944] • 1,2,7,39,308,3013,33300,394340,4878109,62232321,812825244,108 18489817,146250545528,2003199281223,27747288947266,388087900316025,547 4206895126243,7779597245284 1542,111294704120386 6164,16016508647052018 408,231727628211887783830,3368855109532696440867 ⋆ Number of unrooted regular odd-valent planar maps with 2 vertices; maps are considered up to orientation-preserving homeomorphisms and the vertices are of valency 2n+1. • a(n) = (1 / 2)binomial(2n, n) + (1 / (4n + 2))sum _{ k|(2n + 1) } phi(k) * binomial(2 * floor(n / k), floor(n / k)) ^ 2, where phi(k) is the Euler function A000010. •

[A162653] • 1,1,2,7,40,321,3216,38263,530048,8423425,151248640,302667959 1,66766414848,1609663922881,42114534017024,1188556743874711,3599230610 3517184,1164129150556067841,40053439019074387968 ⋆ E.g.f. satisfies: A(x) = 1 + sinh(x*A(x)). • a(n) = Sum _{ k=0..n } C(n + 1,k) / (n + 1) * Sum _{ j=0..k } (- 1) ^ (k - j) * C(k,j) * (2j - k) ^ n / 2 ^ k. • a(n,m) = Sum _{ k=0..n } m * C(n + m,k) / (n + m) * Sum _{ j=0..k } (- 1) ^ (k - j) * C(k,j) * (2j - k) ^ n / 2 ^ k. •

[A084871] • 1,2,7,41,398,6177,128232,2881531,62769238,1288737197,250126 85732,463681018671,8294783320578,144410750517217,2462999084589232,4135 9616334934211,686406989350511918,11290725888842193237 ⋆ Number of 4-multiantichains of an n-set. • a(n) = (16 ^ n - 12 * 12 ^ n + 24 * 10 ^ n + 4 * 9 ^ n - 6 * 8 ^ n + 6 * 7 ^ n - 108 * 6 ^ n + 108 * 5 ^ n + 83 * 4 ^ n - 166 * 3 ^ n + 90 * 2 ^ n) / 4!. • a(n) = 82 * a(n - 1) - 2970 * a(n - 2) + 62700 * a(n - 3) - 856713 * a(n - 4) + 7947786 * a(n - 5) - 51019100 * a(n - 6) + 226259000 * a(n - 7) - 678011136 * a(n - 8) + 1304341632 * a(n - 9) - 1445575680 * a(n - 10) + 696729600 * a(n - 11). (End) •

[A041507] • 1,2,7,44,139,322,10443,21208,74067,465610,1470897,3407404,110 507825,224423054,783776987,4927084976,15565031915,36057148806,116939379 3707,2374844736220,8293928002367,52138412750422,164709166253633,381556 745257688 ⋆ Denominators of continued fraction convergents to sqrt(270). • a (n) = 10582 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A056854] • 2,7,47,322,2207,15127,103682,710647,4870847,33385282,2288261 27,1568397607,10749957122,73681302247,505019158607,3461452808002,237251 50497407,162614600673847,1114577054219522,7639424778862807,52361396397 820127,358890350005878082,2459871053643326447 ⋆ a(n) = Lucas(4*n). • a(n) = 7 * a(n - 1) - a(n - 2) with a(0)=2, a(1)=7. • a(n) = ((7 + sqrt(45)) / 2) ^ n + ((7 - sqrt(45)) / 2) ^ n. • a(n) = Fibonacci(8 * n) / Fibonacci(4 * n), n >0. - _ Gary Detlefs _ Dec 26 2010 • a(n) = Fibonacci(4 * n + 2) - Fibonac ci(4 * n - 2), where Fibonacci(- 2) = - 1. _ Bruno Berselli _ , May 25 2015 •

[A086902] • 2,7,51,364,2599,18557,132498,946043,6754799,48229636,3443622 51,2458765393,17555720002,125348805407,894997357851,6390330310364,45627 309530399,325781497023157,2326097788692498,16608466017870643 ⋆ a(n) = 7*a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 7. • a(n) = ((7 + sqrt(5 3)) / 2) ^ n + ((7 - sqrt(53)) / 2) ^ n. •

[A048898] • 0,2,7,57,182,2057,14557,45807,280182,280182,6139557,2567080 7,123327057,123327057,5006139557,11109655182,102662389557,40783817080 7,3459595983307,3459595983307,79753541295807,365855836217682,22732044 69030182,2273204469030182,49956920289342682 ⋆ One of the two successive approximations up to 5^n for the 5-adic integer sqrt(-1). Here the 2 (mod 5) numbers (except for n=0). • a(n) == 2 ^ (5 ^ (n - 1)) (mod 5 ^ n), n>=1. • a(n) * a(n - 1) + 1 == 0 (mod 5 ^ (n - 1)), n>=1. •

[A178769] • 2,7,57,557,5557,55557,555557,5555557,55555557,555555557,5555 555557,55555555557,555555555557,5555555555557,55555555555557,555555555 555557,5555555555555557,55555555555555557,555555555555555557 ⋆ a(n) = (5*10^n+13)/9. • a(n) - 11 * a(n - 1) + 10 * a(n - 2) = 0 (n>1). • a(n) = a(n - 1) + 5 * 10 ^ (n - 1) = 10 * a(n - 1) - 13 (n>0). •

[A102896] • 1,2,7,61,2480,1385552,75973751474,14087648235707352472 ⋆ Num- ber of ACI algebras (or semilattices) on n generators with no annihilator. • a(n) = sum(C(n, k) * A102894, k=0..n), where C(n, k) is the binomial coefficie nt •

[A042791] • 1,2,7,79,86,681,767,2982,6731,36637,43368,80005,123373,57349 7,17328283,69886629,87214912,157101541,244316453,1378683806,3001684065,1 0383736001,13385420066,104081676463,117467096529 ⋆ Denominators of con- tinued fraction convergents to sqrt(926). • a(n) = 609120594284670 * a(n - 28) - a(n - 56) for n>55. - _ Vincenzo Librandi _ , Jan 29 2014 •

[A041291] • 1,1,2,7,86,265,351,616,15135,15751,30886,108409,1331794,41037 91,5435585,9539376,234380609,243919985,478300594,1678821767,2062416179 8,63551307161,84175468959,147726776120,3629618095839 ⋆ Denominators of continued fraction convergents to sqrt(158). • a(n) = 15486 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A056161] • 2,7,94,263,3218,8959,109342,304367,3714434,10339543,12618143 8,351240119,4286454482,11931824527,145613270974,405330793823,4946564758 658,13769315165479,168037588523422,467751384832487,5708331445037714,15 889777769139103,193915231542758878 ⋆ Solutions (value of x) of Diophantine equation 2*x^2 + 3*x + 2 = r^2. • a(n) = a(n - 1) + 34 * a(n - 2) - 34 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , May 17 2015 •

[A101429] • 2,7,115,1366,13561,135178,1351546,13546438,135481777,1354575 715 ⋆ Sum of digits of (2^(10^n)). • a(n)= sum _{ m=0..floor(log(2 ^ (10 ^ n))) } floor(10 * ((2 ^ (10 ^ n)) / (10 ^ (((floor(log(2 ^ (10 ^ n))) + 1)) - m)) - floor ((2 ^ (10 ^ n)) / (10 ^ (((floor(log(2 ^ (10 ^ n))) + 1)) - m)))))) •

[A041727] • 1,1,2,7,135,412,547,959,36989,37948,74937,262759,5067358,1546 4833,20532191,35997024,1388419103,1424416127,2812835230,9862921817,1902 08349753,580487971076,770696320829,1351184291905,52115699413219 ⋆ De- nominators of continued fraction convergents to sqrt(383). • a(n) = 37536 * a (n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A073860] • 2,7,503,1889,30367 ⋆ Smallest primes such that every partial sum is an n-th power. • a(n) = x ^ n - sum(a(i), i=1..n - 1), for some integer x an d a(n) prime for all n. - Francois Jooste (pin(AT)myway.com), Mar 09 2003 •

[A082891] • 2,7,1129,1327,19609,31397,155921,370261,1357201,2010881,2083 1323,20831323 ⋆ Smallest prime p[j] such that quotient q[j], obtained when consecutive prime differences are divided by logarithm of smaller prime,p[j], is larger than n. • a(n)=Min { p[x]; (p[x + 1] - p[x]) / log(p[x])>n } •

[A290378] • 2,8,8,16,37,80,156,304,602,1173,2290,4456,8686,16892,32833,637 76,123864,240524,467060,907061,1761894,3423164,6652706,12933280,25151787 ⋆ Number of minimal dominating sets in the n-gear graph. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 4 * a(n - 3) + 4 * a(n - 4) - a(n - 5) + a(n - 6) + 3 * a(n - 7) - 3 * a(n - 8) + 2 * a(n - 10) + 3 * a(n - 11) - a(n - 13) for n > 13. •

[A116471] • 0,2,8,8,18,18,32,32,50,50,72,72,98,98,128,128,162,162,200,200,24 2,242,288,288,338 ⋆ Values 2*(n -/+ 1)^2 sorted. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , Oct 06 2014 • a(n) = (2 * n ^ 2 + 2 * n - (2 * n + 1) * (- 1) ^ n + 1) / 4, with n>1 and a(1)=0. [_ Bruno Berselli _ , Oct 07 2014] •

[A237415] • 0,1,2,8,9,10,11,12,18,19,20,21,22,28,29,30,31,32,38,39,40,41,42,4 8,49 ⋆ For k in {2,3,...,9} define a sequence as follows: a(0)=0; for n>=0, a(n+1)=a(n)+1, unless a(n) ends in k, in which case a(n+1) is obtained by replacing the last digit of a(n) with the digit(s) of k^3. This is k(2). • a(n) = a(n - 1) + a(n - 5) - a(n - 6). - _ Vincenzo Librandi _ , Feb 12 2014 •

[A047469] • 0,1,2,8,9,10,16,17,18,24,25,26,32,33,34,40,41,42,48,49,50,56,57,5 8,64 ⋆ Numbers that are congruent to {0, 1, 2} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 39 - 15 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 6, a(3k - 1) = 8k - 7, a(3k - 2) = 8k - 8. (End) • a(n) = n + 5 * floor((n - 1) / 3) - 1. - _ Bruno Berselli _ , Feb 06 2017 •

[A283774] • 1,2,8,9,10,16,17,18,24,25,26,32,33,34,40,41,48,49,55,56,57,63,64,6 5,71 ⋆ Numbers k such that U(k) == 2 mod 3, where U = A001950 = upper Wythoff sequence. • a(n + 1) - a(n) is in { 1,6,7 } for every n. •

[A047353] • 1,2,8,9,15,16,22,23,29,30,36,37,43,44,50,51,57,58,64,65,71,72,78,7 9,85 ⋆ Numbers that are congruent to {1, 2} mod 7. • a(n) = 7 * n - a(n - 1) - 11 (with a(1)=1). Also: a(n) = a(n - 1) + a(n - 2) - a(n - 3). [_ Vincenzo Li brandi _ , Aug 05 2010] • a(n) = 7 * n / 2 - 15 / 4 - 5 * (- 1) ^ n / 4. G.f.: x * (1 + x + 5 * x ^ 2) / ((1 + x) * (x - 1) ^ 2). - R. J. Mathar, Oct 08 2011 •

[A221049] • 1,2,8,9,36,37,148,149,596,597,2388,2389,9556,9557,38228,38229,1 52916,152917,611668,611669,2446676,2446677,9786708,9786709,39146836 ⋆ Ex- pansion of (1+2*x+3*x^2-x^3)/((1-x)*(1+x)*(1-2*x)*(1+2*x)). • a(n) = a(n - 1) * 4 if n even, a(n) = a(n - 1) + 1 if n odd. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) with a(0)=1, a(1)=2, a(2)=8, a(3)=9. •

[A079930] • 1,2,8,10,16,18,19,26,30,36,38,41,43,45,50,51,59,65,68,70,74,75,82,8 4,87 ⋆ Greedy powers of (1/sqrt(e)): sum_{n=1..inf} (1/sqrt(e))^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(1 / sqrt(e)) and frac(y) = y - floor(y). •

[A047467] • 0,2,8,10,16,18,24,26,32,34,40,42,48,50,56,58,64,66,72,74,80,82,88,9 0,96 ⋆ Numbers that are congruent to {0, 2} mod 8. • a(n) = 8 * n - a(n - 1)

- 14 with a(1)=0. - _ Vincenzo Librandi _ , Aug 06 2010 ● a(n) = floor((8 / 3) * floor(3 * n / 2)). - _ Clark Kimberling _ , Jul 04 2012 ●

[A294157] ● 2,8,10,18,28,46,74,120,194,314,508,822,1330,2152,3482,5634,9116,14750,23866,38616,62482,101098,163580,264678,428258 ★ Fibonacci sequence beginning 2, 8. ● a(n) = a(n - 1) + a(n - 2). ● a(n) = Lucas(n) + g(0,7;n), see A022090; ● a(n) = Fibonacci(n) + g(2,7;n), see A022113; ● a(n) = 2 * g(1,8;n) - g(0,8;n); ● a(n) = g(1,k;n) + g(1,8 - k;n) for all k in Z. ● a(h + k) = a(h) * Fibonacci(k - 1) + a(h + 1) * Fibonacci(k) for all h, k in Z (see S. Vajda in References section). For h=0 and k=n: ●

[A220269] ● 2,8,11,17,26,38,40,41,48,57,68,68,70,87,96,100,108,109,110,115,136,149,151,161,161 ★ a(n) is the smallest number, such that for all N >= a(n) there are at least n primes between 3*N and 4*N. ● a(n)<=ceil(R _ (4 / 3)(n) / 4), where R _ v(n) (v>1) are generalized Ramanujan numbers (see Shevelev's link). In particular, for n>=1, { R _ (4 / 3)(n) } = { 11, 29, 59, 67, 101, 149, 157, 163, 191, 227, 269, 271, 307, 379,... } . Moreover, if R _ (4 / 3)(n)==1(mod 4), then a(n)=ceil(R _ (4 / 3)(n) / 4). ●

[A080058] ● 1,2,8,12,14,16,25,39,42,44,46,49,51,53,59,70,73,78,81,83,85,86,101,103,105 ★ Greedy powers of (1/zeta(2)): sum_{n=1..inf} (1/zeta(2))^a(n) = 1, where 1/zeta(2) = 6/Pi^2 = .607927101854... ● a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(1 / zeta(2)) and frac(y) = y - floor(y). See A077468 for mathematica program by _ Robert G. Wilson v _ . ●

[A005796] ● 2,8,12,14,18,20,24,30 ★ Degrees of fundamental invariants of Weyl group W(E_8). ● a(n) = Prime(n + 2) + 1, for n = 2, 3, ..., 8. [_ Jonathan Sondow _ , Apr 16 2009] ●

[A277568] ● 2,8,12,14,20,26,32,38,44,48,50,56,62,68,72,74,80,84,86,92,98,104,110,116,120 ★ Numbers n such that n/6^m == 2 mod 6, where 6^m is the greatest power of 6 that divides n. ● a(n) = 5n + O(log n). - _ Charles R Greathouse IV _ , Nov 03 2016 ●

[A290608] ● 2,8,12,16,30,48,74,124,200,320,522,844,1362,2208,3572,5776,9350,15128,24474,39604,64080,103680,167762,271444,439202 ★ Number of maximal independent vertex sets (and minimal vertex covers) in the n-Moebius ladder graph. ● a(n) = Lucas(n) - 2 * cos(2 * n * Pi / 3). ● a(n) = a(n - 2) + 2 * a(n - 3) + a(n - 4). ●

[A090772] ● 2,8,12,18,22,28,32,38,42,48,52,58,62,68,72,78,82,88,92,98,102,108,112,118,122 ★ Numbers that are congruent to {2, 8} mod 10. ● a(n) = 10 * n - a(n - 1) - 10 (with a(1)=2). - _ Vincenzo Librandi _ , Nov 16 2010 ●

[A013654] ● 2,8,12,24,30,48,56,80,90,120,132,168,182,224,240,288,306,360,380,440,462,528,552,624,650 ★ Each term of the period of continued fraction for sqrt(n) divides n. ● a(2n)= 2 * (n + 1) * (2n), a(2n + 1)= 2 * (n + 1) * (2n + 1). - _ Frank Ellermann _ , Feb 22 2002 ● a(n) = n * (n + 1 + (1 + (- 1) ^ n) / 2). - _ Wesley Ivan Hurt _ , Nov 19 2013 ●

[A107755] ● 2,8,12,26,30,36,38,80,84,90,92,108,110,116,120,242,246,252,254,270,272,278,282,324,326 ★ Numbers n such that Sum_{k=1..n} Catalan(k) == 0 mod 3. ● a(2 ^ j) = 2 * a(2 ^ j - 1) + 2 (resp. + 4) if j is even (resp. odd). - _ M. F. Hasler _ , Feb 25 2008 ●

[A115102] ● 2,8,12,28,52,108,212,428,852,1708,3412,6828,13652,27308,54612,109228,218452,436908,873812,1747628,3495252,6990508,13981012,27962028,55924052 ★ a(0)=2, a(1)=8, a(n)=a(n-1)+2*a(n-2). ● a(n)=(4 * (- 1) ^ n + 5 * 2 ^ n) / 3. - _ Harvey P. Dale _ , Sep 02 2016 ●

[A176961] ● 1,2,8,12,36,52,148,212,596,852,2388,3412,9556,13652,38228,54612,152916,218452,611668,873812,2446676,3495252,9786708,13981012,39146836 ★ (3*2^(n+1)-8-(-2)^n)/6. ● a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3). G.f.: x * (1 + x + 2 * x ^ 2) / ((x - 1) * (2 * x + 1) * (2 * x - 1)). - R. J. Mathar, Apr 30 2010 ●

[A176968] ● 1,2,8,12,60,84,444,612,3276,4500,24156,33156,178092,244404,1312956,1801764,9679500,13283028,71360028,97926084,526086252,721938420,3878455932,5322332772,28593068364 ★ Expansion of x*(1+2*x-x^2-6*x^3) / (1-9*x^2+12*x^4). ● a(n) = a(n - 1) + 6 * a(n - 2) if n is odd. a(n) = a(n - 1) + 2 * a(n - 2) if n is even. - _ R. J. Mathar _ , Jun 18 2014 ●

[A077241] ● 1,2,8,13,47,76,274,443,1597,2582,9308,15049,54251,87712,316198,511223,1842937,2979626,10741424,17366533,62605607,101219572,364892218,589950899,2126747701 ★ Combined Diophantine Chebyshev sequences A054488 and A077413. ● a(n) = (- 1) ^ n * ((4 - 5 * sqrt(2)) * (1 - (- 1) ^ n * sqrt(2)) ^ (2 * floor((n + 1) / 2)) + (4 + 5 * sqrt(2)) * (1 + (- 1) ^ n * sqrt(2)) ^ (2 * floor((n + 1) / 2))) / 8. [_ Bruno Berselli _ , Mar 10 2013] ●

[A228469] ● 2,8,13,49,80,302,493,1861,3038,11468,18721,70669,115364,435482,710905,2683561,4380794,16536848,26995669,101904649,166354808,627964742,1025124517,3869693101,6317101910 ★ a(n) = 6*a(n-2) + a(n-4), where a(0) = 2, a(1) = 8, a(2) = 13, a(3) = 49. ● a(n) = (3 + sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) * (5 / 2 + sqrt(10) * (4 / 5 - 9 / 20 * (- 1) ^ n) - 3 / 2 * (- 1) ^ n) + (3 - sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) * (5 / 2 - sqrt(10) * (4 / 5 - 9 / 20 * (- 1) ^ n) - 3 / 2 * (- 1) ^ n). - _ Paolo P. Lava _ , Sep 12 2013 ●

[A002248] ● 2,8,14,16,22,56,142,288,518,968,1982,4144,8374,16472,32494,65088,131174,263144,525086,1047376,2094358,4193912,8393806,16783200,33550022 ★ Number of points on y^2+xy=x^3+x^2+x over GF(2^n). ● a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 18 2012 ●

[A016933] ● 2,8,14,20,26,32,38,44,50,56,62,68,74,80,86,92,98,104,110,116,122,128,134,140,146 ★ a(n) = 6n + 2. ● a(n) = 2 * (6 * n - 1) - a(n - 1) (with a(0)=2). - _ Vincenzo Librandi _ , Nov 20 2010 ●

[A064148] ● 2,8,14,21,24,27,29,30,33,34,38,41,42,44,48,49,57,63,66,70,75,78,80,85,86 ★ Numbers n such that mu(n) = mu(n+1). ● a(n) seems to be asymptotic to c * n with c=3.7.... Using heuristic arguments (cf. A074820) : c may be = 1 / (3A / 2 + 1 - 12 / pi ^ 2) ~ 3.729994018, where A ~ 0.3226340989 is the product over all primes p of 1 - 2 / p ^ 2 (cf. A065474) - _ Benoit Cloitre _ , Sep 08 2002 ●

[A120413] ● 0,2,8,14,24,34,48,62,80,98,120,142,168,194,224,254,288,322,360,398,440,482,528,574,624 ★ Largest even number strictly less than n^2. ● a(n) = (- 1 + (- 1) ^ n + 4 * n + 2 * n ^ 2) / 2. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: 2 * x * (1 + 2 * x - x ^ 2) / ((1 - x) ^ 3 * (1 + x)). - _ Colin Barker _ , Jul 29 2012 ● a(n) = n ^ 2 - 2 for even n; a(n) = n ^ 2 - 1 for odd n. -_ Dennis P. Walsh _ , Apr 15 2016 ●

[A053697] ● 1,2,8,14,27,94,137,284,947,1384,2847,9484,13847,28484,94847,138484,284847,948484,1384847,2848484,9484847,13848484,28484847,94848484,138484847 ★ a(n+1)=a(n)+a^(n), where the addition is in base 11 and where a^(n) is obtained from a(n) by replacing each digit with its multiplicative inverse modulo 11. Zero digits, if any, are deleted. ● a(n) = a(n - 2) + 10 * a(n - 3) - 10 * a(n - 5) for n>7. ● a(6 * k - 4) = 2 * 10 ^ (2 * k - 2) + 84 * (10 ^ (2 * k - 2) - 1) / 99. ● a(6 * k - 3) = 94 * 10 ^ (2 * k - 3) + 84 * (10 ^ (2 * k - 3) - 10) / 99 + 7. ● a(6 * k - 2) = 13 * 10 ^ (2 * k - 2) + 84 * (10 ^ (2 * k - 2) - 1) / 99. ● a(6 * k - 1) = 2 * 10 ^ (2 * k - 1) + 84 * (10 ^ (2 * k - 1) - 10) / 99 + 7. ● a(6 * k) = 94 * 10 ^ (2 * k - 2) + 84 * (10 ^ (2 * k - 2) - 1) / 99. ●

[A162484] ● 2,8,14,36,82,200,478,1156,2786,6728,16238,39204,94642,228488,551614,1331716,3215042,7761800,18738638,45239076,109216786,263672648,636562078,1536796804,3710155682 ★ a(1) = 2, a(2) = 8; a(n) = 2 a(n - 1) + a(n - 2) - 4*(n mod 2). ● a(n) = 1 + (- 1) ^ n + (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n. - _ Colin Barker _ , Dec 16 2017 ●

[A080095] ● 2,8,16,16,64,128,128,512,1024,1024,4096,8192,8192,32768,65536,65536,262144,524288,524288,2097152,4194304,4194304,16777216,33554432,33554432 ★ Let sum(k>=0, k^n/(2*k+1)!) = (x(n)*e + y(n)/e)/z(n), where x(n) and z(n) are >0, then a(n)=z(n). ● a(n) = 2 ^ b(n) and { b(n) } = { 1, 3, 4, 4, 6, 7, 7, 9, 10, 10, 12, 13, 13, 15, .. } where b(3n - 2)=3n - 2, b(3n - 1)=3n, b(3n)=b(3n + 1)=3n + 1, for n>0. ●

[A136514] ● 0,2,8,16,30,44,60,82,108,138,166,196,238,278,324,366,416,468,526,588,644,714,780,848,930 ★ Number of unit square lattice cells inside half-plane (two adjacent quadrants) of origin centered circle of radius n. ● a(n) = 2 * Sum(floor(sqrt(n ^ 2 - k ^ 2))), k = 1 ... n - 1 ●

[A077071] ● 0,2,8,16,30,46,66,88,118,150,186,224,268,314,364,416,478,542,610,680,756,834,916,1000,1092 ★ Row sums of A077070. ● a(n) is asymptotic to 2 * n ^ 2 and it seems that a(n) = 2 * n ^ 2 + O(n ^ (3 / 2)) (where O(n ^ (3 / 2)) / n ^ (3 / 2) is bounded and O(n ^ (3 / 2)) <0) - _ Benoit Cloitre _ , Oct 30 2002 ●

[A210729] ● 1,2,8,16,31,55,95,160,266,438,717,1169,1901,3086,5004,8108,13131,21259,34411,55692,90126,145842,235993,381861,617881 ★ a(n) = a(n-1)+a(n-2)+n+3 with n>1, a(0)=1, a(1)=2. ● a(n) = 3 * Fibonacci(n + 1) + 2 * Fibonacci(n + 3) - n - 6. - _ Vaclav Kotesovec _ , May 13 2012 ●

[A096227] ● 2,8,16,44,96,268,648,1832,4784,13456,36832,102944,289216,804928,2292608,6365312,18257664,50626816,145731072,403833344 ★ Number of different triangles created when a square sheet of paper is folded n times, the first time by one of the diagonal of the square sheet and the by the median of the square triangle. ● a(1)=2, a(2)=8, a(3)=16, a(4)=44, a(5)=96 are easily counted. Now if n even > 4 define X(4)=10 and X(n)=2 * (X(n - 2) - 1), then a(n)=3 * 2 ^ (3 * (n / 2) - 1) + 2 ^ ((n / 2) - 1) * (2 * X(n - 2) - 1); if n odd > 5 define X(5)=8 and Y(5)=2, X(n)=4 * X(n - 2) - 5 * (2 * Y(n - 2) - 1) and Y(n)=2 * Y(n - 2) - 1 then a(n)=2 ^ (3 * (((n + 1) / 2) - 1)) + 2 ^ (((n + 1) / 2) - 1) * (4 * X(n - 2) - 5 * (2 * (Y(n - 2) - 1) ●

[A191309] ● 0,0,0,0,1,2,8,16,47,94,244,488,1186,2372,5536,11072,25147,50294,112028,224056,491870,983740,2135440,4270880,9188406 ★ Number of peaks at height >= 2 in all dispersed Dyck paths of length n (i.e., Motzkin paths of length n with no (1,0) steps at positive heights). ● a(2 * n + 1) = 2 * a(2 * n) . ●

[A134353] ● 1,2,8,16,48,96,256,512,1280,2560,6144,12288,28672,57344,131072,262144,589824,1179648,2621440,5242880,11534336,23068672,50331648,100663296,218103808 ★ Row sums of triangle A134352. ● a(n) = 2 ^ (n - 2) * (2 * n + 3 + (- 1) ^ n). ●

[A099888] ● 1,2,8,16,80,160,640,2784,6560,21824,65280,131072,524800,1056192,4201728,8408000,43046720,86135424,361186816,1467183104,3443838080,11367226112,32550397696,70111011712,282403304960 ★ XOR BINOMIAL transform of the powers of 3. ● a(n) = SumXOR _{ k=0..n } (C(n, k) mod 2) * 3 ^ k, where SumXOR is summation under XOR. ●

[A046161] ● 1,2,8,16,128,256,1024,2048,32768,65536,262144,524288,4194304,8388608,33554432,67108864,2147483648,4294967296,17179869184,34359738368,274877906944,549755813888,2199023255552,4398046511104,70368744177664 ★ a(n) = denominator of binomial(2n,n)/4^n. ● a(n) = denominator(binomial(- 1 / 2,n)). - _ Peter Luschny _ , Nov 21 2012 ●

[A191999] ● 1,2,8,16,160,640,2048,12288,24576,32768,327680,786432,10485760,62914560,125829120,167772160,9730785280,583847116800,3503082700800,245215789056000 ★ Denominators of partial products of a Hardy-Littlewood constant. ● a(n) = denominator(r(n)) with ●

[A034972] ● 2,8,17,29,44,63,85,110,138,170,205,243,284,329,376,427,482,539,600,664,731,802,876,953,1033 ★ a(n) = floor[T_(n+1)/T_(n)] where T_n is n-th tangential or "Zag" number (see A000182). ● a(n) = floor(T(n + 1) / T(n)) where T(n) is n - th coefficient in expansion of tan(x). ●

[A295147] ● 1,2,8,17,39,80,167,337,682,1368,2745,5495,11000,22006,44024,88055,176123,352254,704522,1409053,2818121,5636252,11272520,22545051,45090119 ★ Solution of the complementary equation a(n) = a(n-1) + 2*a(n-2) +

b(n-1), where a(0) = 1, a(1) = 2, b(0) = 3, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 2. •

[A117612] • 2,8,18,20,34,40,58,68,92,132,138 ⋆ An old nuclear shell closure sequence for 2 nucleon states (related to A007290 and A018226) in a square potential well. • a(n) = 2 * (2 * l + 1) for quantum number l. •

[A268810] • 0,2,8,18,30,44,62,84,108,134,164,198,234,272,314,360,408,458,512,570,630,692,758,828,900 ⋆ a(n) = 2*floor(3*n*(n+1)/4). • a(n) = (3 * n ^ 2 - 3 * n + cos(n * Pi / 2) + sin(n * Pi / 2) - 1) / 2. • a(n) = (1 / 4 + i / 4) * ((i - 1) + (- i) ^ n - i * i ^ n - (- 3 * i + 3) * n + (- 3 * i + 3) * n ^ 2), where i is the imaginary unit. • a(n) = (3 * n ^ 2 - 3 * n + (- 1) ^ binomial(n + 1,2) - 1) / 2. •

[A293296] • 0,2,8,18,31,49,71,97,126,160,198,240,285,335,389,447,508,574,644,718,795,877,963,1053,1146 ⋆ a(n) = 2*n^2 - floor(n/4). • a(n) = [x ^ n] (- x * (2 + 4 * x + 4 * x ^ 2 + 3 * x ^ 3 + 3 * x ^ 4) / ((x + 1) * (x ^ 2 + 1) * (x - 1) ^ 3)). • a(n) = n! [x ^ n] (3 * exp(x) - exp(- x) + 14 * exp(x) * x + 16 * exp(x) * x ^ 2 - 2 * cos(x) - 2 * sin(x)) / 8. • a(n) = a(n - 6) - 2 * a(n - 5) + a(n - 4) - a(n - 2) + 2 * a(n - 1) for n >= 6. •

[A001105] • 0,2,8,18,32,50,72,98,128,162,200,242,288,338,392,450,512,578,648,722,800,882,968,1058,1152 ⋆ a(n) = 2*n^2. • a(n) = 4 * n + a(n - 1) - 2, n > 0. - _ Vincenzo Librandi _ • a(n) = 3 * a(n - 1) - 3 * a(n - 1) + a(n - 2). - _ Artur Jasinski _ , Nov 24 2011 • a(n) = floor(1 / (1 - cos(1 / n))), n > 0. - _ Clark Kimberling _ , Oct 08 2014 • a(n) = Sum _{ j=1..n } Sum _{ i=1..n } ceiling((i + j - n + 4) / 3). - _ Wesley Ivan Hurt _ , Mar 12 2015 •

[A190787] • 2,8,18,32,72,128,288,512,1152,2048,4608,8192,18432,32768,73728,131072,294912,524288,1179648,2097152,4718592,8388608,18874368,33554432,75497472 ⋆ Odd powers of 2 and 9 times odd powers of 2, sorted. • a(n) = 2 ^ (n - 3) * (17 - (- 1) ^ n), for n>1. (End) •

[A292764] • 2,8,18,36,66,120,210,360,618,1052,1790,3040,5162,8756,14854,25192,42722,72444,122846,208304,353210 ⋆ Minimal number of moves for the cyclic variant of Hanoi's tower for 4 pegs and n disks, with the final peg two steps away. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - 2 * a(n - 5) for n>7. •

[A212518] • 0,0,0,0,2,8,18,45,84,144,240,375,540,792,1092,1470,1960,2560,3240,4131,5130,6300,7700,9317,11088 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w>2x and y>3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A102713] • 1,2,8,18,48,110,260,586,1320,2918,6412,13954,30192,64926,138964,296122,628664,1330134,2805916,5903090,12388736,25942542,54215268,113090858,235502408 ⋆ Total sum of odd parts in all compositions of n. • a(n) = ((15 * n + 4) * 2 ^ (n - 1) - 2 * (3 * n + 1) * (- 1) ^ n) / 27. •

[A114723] • 0,1,1,2,8,18,49,129,338,890,2340,6153,16181,42550,111892,294238,773745,2034685,5350526,14070054,36999432,97295857,255854841,672810762,1769262288 ⋆ G.f.: x*(1 - 2*x^2)/(1 - x - 3*x^2 - 3*x^3 - x^4). • a(n) = a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3) + a(n - 4). G.f.: x * (2 * x ^ 2 - 1) / (x ^ 4 + 3 * x ^ 3 + 3 * x ^ 2 + x - 1). [_ Colin Barker _ , Oct 11 2012] •

[A153335] • 0,1,2,8,18,52,116,296,650,1556,3372,7768,16660,37416,79592,175568,371034,807604,1697660,3657464,7654460,16357496,34106712,72407728,150499908 ⋆ Number of zig-zag paths from top to bottom of an n X n square whose color is not that of the top right corner. • a(n) = (n + 1)2 ^ (n - 2) - 2(n - 1) binomial(n - 2,(n - 2) / 2) for n even, a(n) = (n + 1)2 ^ (n - 2) - (n)binomial(n - 1,(n - 1) / 2) for n odd. •

[A136201] • 0,0,0,1,2,8,18,53,124,328,780,1969,4718,11648,28014,68405,164824,400240,965304,2337409,5640122,13637336,32914794,79525973,191966740 ⋆ a(n) = 2*a(n-1) + 4*a(n-2) - 6*a(n-3) - 3*a(n-4). • a(n) = (1 / 8) * [1 + sqrt(2)] ^ n + (1 / 8) * [1 - sqrt(2)] ^ n + (1 / 24) * 3 ^ (n / 2) * [- 3 - sqrt(3) - 3 (- 1) ^ n + (- 1) ^ n * sqrt(3)]. - _ Emeric Deutsch _ , Mar 31 2008 •

[A236327] • 2,8,19,30,32,38,49,60,62,68,79,90,92,98,109,120,122,128,139,150,152,158,169,180,182 ⋆ a(n)*Pi is the total length of irregular spiral (center points: 1, 2, 3, 4, 5; pattern 2) after n rotations. • a(n) = a(n - 1) + a(n - 4) - a(n - 5). •

[A256321] • 0,2,8,19,33,52,75,102,133,169,208,252,300,352,408,469,533,602,675,752,833,919,1008,1102,1200 ⋆ Number of partitions of 5n into exactly 3 parts. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) for n>5. •

[A192136] • 1,2,8,19,35,56,82,113,149,190,236,287,343,404,470,541,617,698,784,875,971,1072,1178,1289,1405 ⋆ a(n) = (5*n^2-3*n+2)/2 • a(n) = (5 * n ^ 2 - 3 * n + 2) / 2 • a(n) = 2 * a(n - 1) - a(n - 2) + 5 • a(n) = a(n - 1) + 5 * n - 4 • a(n) = 5 * C(n + 2, 2) - 9 * n - 4 •

[A030504] • 2,8,19,38,66,107,160,230,317,424,553,705,883,1088,1324,1591,1891,2227,2601,3015,3470,3969,4514,5106,5748 ⋆ Graham-Sloane-type lower bound on the size of a ternary (n,3,4) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[A101427] • 1,2,8,19,42,78,139,224,350,517,744,1032,1405,1862,2432,3115,3942,4914,6067,7400,8954,10729,12768,15072,17689 ⋆ Number of different cuboids with volume (pq)^n, where p,q are distinct prime numbers. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8) + 12, n>=8. • a(n) = 4 * a(n - 6) - 6 * a(n - 12) + 4 * a(n - 18) - a(n - 24) + 1296, n>=24. (End) •

[A129445] • 1,2,8,19,79,188,782,1861,7741,18422,76628,182359,758539,1805168,7508762,17869321,74329081,176888042,735782048,1751011099,7283491399,17333222948,72099131942,171581218381,713707828021 ⋆ Numbers k > 0 such that k^2 is a centered triangular number. • a(n) = 10 * a(n - 2) - a(n - 4), a(1..4) = 1, 2, 8, 19. - _ Zak Seidov _ , Jun 11 2013 •

[A077588] • 1,2,8,20,38,62,92,128,170,218,272,332,398,470,548,632,722,818,920,1028,1142,1262,1388,1520,1658 ⋆ Maximum number of regions into which the plane is divided by n triangles. • a(n) = 3n ^ 2 - 3n + 2 for n > 0. • a(n) is the nearest integer to (Sum _{ k>=n } 1 / k ^ 2) / (Sum _{ k>=n } 1 / k ^ 4). - _ Benoit Cloitre _ , Jun 12 2003 • a(n) = a(n - 1) + 6 * n - 6 (with a(1) = 2). - _ Vincenzo Librandi _ , Dec 07 2010 •

[A007290] • 0,0,0,2,8,20,40,70,112,168,240,330,440,572,728,910,1120,1360,1632,1938,2280,2660,3080,3542,4048 ⋆ a(n) = 2*binomial(n,3). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 19 2012 • a(n) = (2 * n - 3 * n ^ 2 + n ^ 3) / 3. - _ T. D. Noe _ , May 20 2013 • a(n + 2) = delta(- n) = - delta(n) for n >= 0, where delta is the p - derivation over the integers with respect to prime p = 3. - _ Danny Rorabaugh _ , Nov 10 2017 •

[A049031] • 0,0,2,8,20,40,80,140,224,336,504,720,990,1320,1760,2288,2912,3640,4550,5600,6800,8160,9792,11628,13680 ⋆ Maximization of sums of cubes of integer differences (b_[i]-i)^3 over permutations {b_[i], for i-1,2,...,n} on first n integers. • a(n) = r * (n - r + 1) * (n - r) * (n - r - 1) / 3, where r = floor((n + 1) / 4). - _ Vladeta Jovovic _ , Dec 22 2004 •

[A057566] • 0,1,2,8,20,43,78,130,200,293,410,556,732,943,1190,1478,1808,2185,2610,3088,3620,4211,4862,5578,6360 ⋆ Number of collinear triples in a 3 X n rectangular grid. • a(n) = a(n - 1) + b(n), with a(0)= - 2, b(0)=8 and being b(n) = b(n - 1) - 7 + Sum _{ k=0..n } (5 * (k mod 2) + ((k + 1) mod 2)). - _ Paolo P. Lava _ , Aug 24 2007 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) = n ^ 3 / 2 - n ^ 2 + n + (1 - (- 1) ^ n) / 4. •

[A131128] • 1,2,8,20,44,92,188,380,764,1532,3068,6140,12284,24572,49148,98300,196604,393212,786428,1572860,3145724,6291452,12582908,25165820,50331644 ⋆ Binomial transform of [1, 1, 5, 1, 5, 1, 5,...]. • a(n) = 3 * 2 ^ n - 4 for n >=1; a(0)=1. Formula follows by replacing [1,1,5,1,5,1,...] by [1,3 - 2,3 + 2,3 - 2,3 + 2,3 - 2,...]. - _ Emeric Deutsch _ , Jun 19 2007 • a(n) = 2 * a(n - 1) + 4 for n>=2, a(0)=1, a(1)=2. - _ Philippe Deléham _ , Sep 23 2009 •

[A285185] • 0,2,8,20,52,128,320,792,1968,4880,12112,30048,74560,184992,459008,1138880,2825792,7011328,17396480,43164032,107098368,265731840,659332352,1635931648,4059064320 ⋆ Expansion of (2*x+4*x^2) / (1-2*x-2*x^2+2*x^3). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) for n>2. - _ Colin Barker _ , Apr 23 2017 •

[A024997] • 2,8,20,58,162,462,1318,3782,10886,31436,91016,264134,768094,2237640,6529284,19079574,55826166,163538472,479588844,1407813438,4136307798,12163015662,35793391662,105407889930,310620540202 ⋆ a(n) = number of (s(0), s(1), ..., s(n)) such that every s(i) is an integer, s(0) = 0 = s(n), |s(i) - s(i-1)| = 1 for i = 1,2; |s(i) - s(i-1)| <= 1 for i >= 3. Also a(n) = T(n,n), where T is the array defined in A024996. • a(n) = 2 * Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * binomial(2 * k + 1, k + 1), for n>=1. •

[A099177] • 0,1,2,8,20,60,160,448,1216,3344,9120,24960,68160,186304,508928,1390592,3799040,10379520,28357120,77473792,211661824,578272256,1579868160,4316282880,11792302080 ⋆ a(n)=2a(n-1)+4a(n-2)-4a(n-3)-4a(n-4). • a(n) =sum { k=0..floor((n + 1) / 2), binomial(n - k + 1, k - 1)2 ^ (n - k) } - _ Paul Barry _ , Oct 23 2004 •

[A100097] • 0,1,2,8,20,64,172,512,1416,4096,11468,32768,92248,262144,739832,2097152,5925520,16777216,47429900,134217728,379536440,1073741824,3036661032,8589934592,24294699120 ⋆ An inverse Chebyshev transform of the Pell numbers. • a(2 * n) = 8 ^ n / (2 * sqrt(2)) - 2 ^ n * (2 * n - 1)!! * hypergeom([1, n + 1 / 2], [n + 1], 1 / 2) / (4 * n!), a(2 * n + 1) = 8 ^ n. - _ Vladimir Reshetnikov _ , Oct 13 2016 •

[A133467] • 1,2,8,20,68,188,596,1724,5300,15644,47444,141308,425972,1273820,3829652,11472572,34450484,103285916,309988820,929704316,2789637236,8367863132,25105686548,75312865340,225946984628 ⋆ a(n) = a(n-1) + 6*a(n-2) for n>=2, a(0)=1, a(1)=2 . • a(n) = (4 / 5) * 3 ^ n + (1 / 5) * (- 2) ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 18 2008 •

[A005559] • 1,2,8,20,75,210,784,2352,8820,27720,104544,339768,1288287,4294290,16359200,55621280,212751396,734959368,2821056160,9873696560,38013731756,134510127752,519227905728,1854385377600,7174705330000 ⋆ Number of walks on square lattice. • a(n) = C(n + 1,ceil((n - 1) / 2)) * C(n,floor((n - 1) / 2)) - C(n + 1,ceil((n - 2) / 2)) * C(n,floor((n - 2) / 2)). - _ Paul D. Hanna _ , Apr 16 2004 •

[A212981] • 0,2,8,21,43,77,125,190,274,380,510,667,853,1071,1323,1612,1940,2310,2724,3185,3695,4257,4873,5546,6278 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w <= x + y and x < y. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (20 * n ^ 3 + 42 * n ^ 2 + 28 * n + 3 * (1 - (- 1) ^ n)) / 48. - _ Luce ETIENNE _ , Feb 17 2015 •

[A051744] • 2,8,21,45,85,147,238,366,540,770,1067,1443,1911,2485,3180,4012,4998,6156,7505,9065,10857,12903,15226,17850,20800 ⋆ a(n) = n*(n+1)*(n^2+5*n+18 • a(n) = binomial(n + 3, n - 1) + binomial(n + 1, n - 1). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 27 2012 • a(n) = sum _{ k=1..n } sum { j=1..k } sum { i=1..j } (i + binomial(j,k)). - _ Wesley Ivan Hurt _ , Nov 01 2014 •

[A141582] • 0,0,2,8,21,48,93,168,278,440,660,960,1347,1848,2471,3248,4188,5328,6678,8280,10145,12320,14817,17688,20946 ⋆ a(n) = number of ways to dispose two pawns on a chessboard of size n X n (two dispositions are equivalent if one can be rotated or reflected to give the other one). • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7) for n >6. - _ Colin Barker _ , Feb 21 2015 •

[A014409] • 0,2,8,21,49,93,171,278,446,660,970,1347,1863,2471,3269,4188,5356,6678,8316,10145,12365,14817,17743,20946,24714 ⋆ Number of inequivalent ways (mod D_4) a pair of checkers can be placed on an n X n board. • a(2 * n) = n / 2 * (2 * n ^ 3 + 3 * n - 1); a(2 * n + 1) = n / 2 * (2 * n ^ 3 + 4 * n ^ 2 + 7 * n + 3). • a(0)=0, a(1)=2, a(2)=8, a(3)=21, a(4)=49, a(5)=93, a(6)

=171, a(7)=278, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 0 * a(n - 4) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , May 06 2012 ●

[A237268] ● 1,2,8,21,55,144,377,987,2584,6765,17711,46368,121393,317811,832040,2178309,5702887,14930352,39088169,102334155,267914296,701408733,1836311903,4807526976,12586269025 ⋆ a(1)=1; for n>1, a(n) is the smallest F(m)>F(n) such that F(n) divides F(m), where F(k) denotes the k-th Fibonacci number. ● a(n) = 3 * a(n - 1) - a(n - 2) for n>4. ●

[A143212] ● 1,2,8,21,60,160,429,1134,2992,7865,20648,54144,141897,371722,973560,2549421,6675460,17478176,45761045,119808150,313668576,821205937,2149962768,5628704256,14736185425 ⋆ a(n) = F(n) * (F(n+2)-1) = A000045(n) * A000071(n+2) = row sums of triangle A143211. ● a(n) = F(n) * sum { k=0..n } F(k). - _ Paul Barry _ , Jan 05 2009 ●

[A107361] ● 1,2,8,21,68,196,601,1782,5380,16085,48344,144888,434897,1304314,3913552,11739669,35220604,105659228,316981865,950938830,2852827436,8558464597,25675422448,77026220976,231078737953 ⋆ G.f. 1/((3*x-1)*(x^2-x-1)). ● a(0)=1, a(1)=2, a(2)=8, a(n)=2 * a(n - 1) + 4 * a(n - 2) - 3 * a(n - 3). - _ Harvey P. Dale _ , Jan 24 2015 ●

[A185309] ● 0,0,1,2,8,21,78,247,950,3421,13872,54925,235262,1004213,4533144,20600553,97664002,468473957,2324089996,11693569137,60499459054,317757980069,1709245538312,9335437059969,52066575517770 ⋆ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n+1)*a(n-2) + 1. ● a(n) = 2 * a(n - 1) + n * a(n - 2) - n * a(n - 3). - _ Vincenzo Librandi _ , Dec 24 2012 ●

[A212970] ● 0,2,8,22,44,80,128,196,280,390,520,682,868,1092,1344,1640,1968,2346,2760,3230,3740,4312,4928,5612,6344 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w!=x and x>range{w,x,y}. ● a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). ●

[A212683] ● 0,0,2,8,22,46,84,138,212,308,430,580,762,978,1232,1526,1864,2248,2682,3168,3710,4310,4972,5698,6492 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and |x-y|=w+|y-z|. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). ●

[A094533] ● 0,0,2,8,22,48,98,178,316,524,856,1334,2066,3084,4578,6626,9530,13434,18854,26022,35764,48520,65526,87550,116536 ⋆ Number of one-element transitions among partitions of the integer n for labeled parts. ● a(n) = Sum _ p=1 ^ P(n) Sum _ i=1 ^ D(p) Sum _ j=i ^ D(p) 1 [subject to: d(i, p) <= d(j, p)]; P(n) = number of partitions of n, D(p) = number of digits in partiti on p, d(i, p) and d(j, p) = digits number i and j in partition p of integer n. ● a(n) = Sum _ i=1 ^ P(n) p(i, n) ^ 2 - p(i, n), where P(n) is the number of int eger partitions of n and p(i, n) is the number of parts of the i - th partition of n. ●

[A145654] ● 0,2,8,22,52,114,240,494,1004,2026,4072,8166,16356,32738,65504,131038,262108,524250,1048536,2097110,4194260,8388562,16777168,33554382,67108812 ⋆ Partial sums of A000918, starting from index 1. ● a(n) = 2 * (- 1 + 2 ^ n - n). G.f.: 2 * x ^ 2 / ((1 - x) ^ 2 * (1 - 2 * x)). - _ Colin Barker _ , Jan 11 2012 ● a(n) = sum((n - i) * 2 ^ i, i=1..n - 1), with a(1)=0. - _ Bruno Berselli _ , Feb 10 2014 ●

[A221880] ● 1,2,8,22,57,136,315,710,1577,3460,7527,16258,34917,74624,158819,336766,711777,1500028,3152991,6611834,13835357,28894072,60234843,125363062,260512857 ⋆ Number of order-preserving or order-reversing full contraction mappings (of an n-chain) with exactly 1 fixed point. ● a(n) = - n + (2 ^ (n - 1) * (21 * n + 34) - 8 * (- 1) ^ n) / 36 for n>1, a(1)=1. [_ Bruno Berselli _ , Mar 01 2013] ●

[A295141] ● 1,2,8,22,57,142,348,847,2052,4962,11988,28951,69904,168774,407468,983727,2374940,5733626,13842212,33418071,80678377,194774849,470228100 ⋆ Solution of the complementary equation a(n) = 2*a(n-1) + a(n-2) + b(n-2), where a(0) = 1, a(1) = 2, b(0) = 3, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. ● a(n + 1) / a(n) - > 1 + sqrt(2). ●

[A074352] ● 0,0,0,2,8,22,60,146,352,814,1860,4170,9256,20326,44300,95874,206320,441758,941780,2000058,4233144,8932310,18796700,39457522,82643328 ⋆ Coefficient of q^1 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(1,2). ● a(0) = 0 for n>0, a(n) = (1 / 27) * (2 ^ n * (6 * n - 11) + (- 1) ^ n * (6 * n - 16)). ● a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - 4 * a(n - 4) for n>4. ●

[A045695] ● 0,1,2,8,22,70,202,622,1844,5576,16658,50114,150140,450824,1351850,4056794,12168538,36509302,109522330,328578142,985717768,2957186620,8871509746,26614629466,79843738258 ⋆ Number of ternary words of length n (beginning 0) with autocorrelation function 2^(n-1)+1. ● a(2n) = 3 * a(2n - 1) + 2 * a(n) for n >= 2; a(2n - 1) = 3 * a(2n - 2) - a(n) for n >= 2 ●

[A065694] ● 2,8,23,47,80,365,3089,19916,96287,369983,1188008,3489557,11440865,49588820,250207799,1210364111,5215038272,20004134333,70879879793,248964475292,941859229775,3946659132575,17384730325784,75199501505381 ⋆ Braided power sequence: A065692 is b(n+1)=3b(n)+2d(n)-c(n), A065693 is c(n+1)=3c(n)+2b(n)-d(n) and this is d(n+1)=3d(n)+2c(n)-b(n), starting with b(0)=0, c(0)=1 and d(0)=2. ● a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 52 * a(n - 3) for n>2. ●

[A203298] ● 2,8,23,47,91,151,246,366,540,750,1037,1373,1813,2317,2956,3676,4566,5556,6755,8075,9647,11363,13378,15562,18096 ⋆ Second elementary symmetric function of the first n terms of (1,2,2,3,3,4,4,5,5...). ● a(n) = (6 * n ^ 4 + 40 * n ^ 3 + 48 * n ^ 2 - 112 * n) / 192 for n even. ● a(n) = (6 * n ^ 4 + 40 * n ^ 3 + 36 * n ^ 2 - 136 * n + 54) / 192 for n odd. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>9. ●

[A154144] ● 2,8,23,53,138,312,807,1821,4706,10616,27431,61877,159882,360648,931863,2102013,5431298,12251432,31655927,71406581,184504266,416188056,1075369671,2425721757,6267713762 ⋆ Indices k such that 13 plus the k-th triangular number is a perfect square. ● a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). ● a(1..4) = (2,8,23,53); a(n) = 6 * a(n - 2) - a(n - 4) + 2, for n>2. - _ Ctibor O. Zizka _ , Nov 10 2009 ●

[A180664] ● 0,2,8,23,63,167,440,1154,3024,7919,20735,54287,142128,372098,974168,2550407,6677055,17480759,45765224,119814914,313679520,821223647,2149991423,5628750623,14736260448 ⋆ Golden Triangle sums: a(n)=a(n-1)+A001654(n+1) with a(0)=0. ● a(n) = (- 15 + (- 1) ^ (- n) + (6 - 2 * A) * A ^ (- n - 1) + (6 - 2 * B) * B ^ (- n - 1)) / 10 with A=(3 + sqrt(9 - 4)) / 2 and B=(3 - sqrt(9 - 4)) / 2. ●

[A290926] ● 0,2,8,23,64,182,520,1475,4152,11624,32408,90028,249272,688140,1894600,5203665,14260968,39004962,106486512,290226621,789776888,2146082610,5823823120,15784464728,42731452816 ⋆ p-INVERT of the positive integers, where p(S) = (1 - S^2)^2. ● a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 48 * a(n - 3) - 59 * a(n - 4) + 48 * a(n - 5) - 26 * a(n - 6) + 8 * a(n - 7) - a(n - 8). ●

[A084744] ● 1,2,8,24,48,384,1152,2304,9216,46080,414720,829440,13271040,79626240,318504960,637009920,1911029760,15288238080,107017666560,535088332800,1070176665600,9631589990400,38526359961600,77052719923200 ⋆ Product of all composite numbers from 1 to the n-th nonprime number divided by product of all the prime divisors of each of those composite numbers which exceed the previously stated value. ● a(1)=1, a(n) = a(n - 1) * n / (n's prime factors). ●

[A152132] ● 2,8,24,54,104,174,270,396,558,756,996,1282,1620,2010,2458,2968,3546,4192,4912,5710,6592,7558,8614,9764,11014 ⋆ Maximal length of rook tour on an n X n+1 board. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7). ●

[A051745] ● 2,8,24,60,131,258,469,800,1296,2012,3014,4380,6201,8582,11643,15520,20366,26352,33668,42524,53151,65802,80753,98304,118780 ⋆ a(n) = n*(n^4 + 10*n^3 + 35*n^2 + 50*n + 144)/120. ● a(n) = binomial(n + 4, n - 1) + binomial(n, n - 1). ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(1)=2, a(2)=8, a(3)=24, a(4)= 60, a(5)=131, a(6)=258. - _ Harvey P. Dale _ , Apr 07 2013 ●

[A131064] ● 1,2,8,24,60,136,292,608,1244,2520,5076,10192,20428,40904,81860,163776,327612,655288,1310644,2621360,5242796,10485672,20971428,41942944,83885980 ⋆ Binomial transform of [1, 1, 5, 5, 5,...]. ● a(n)=5 * 2 ^ n - 4n - 4. G.f.=(1 - 2x + 5x ^ 2) / [(1 - 2x)(1 - x) ^ 2]. - _ Emeric Deutsch _ , Jun 20 2007 ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2012 ●

[A234933] ● 0,0,0,0,2,8,24,62,148,336,738,1584,3344,6974,14412,29576,60370,122712,248616,502398,1013156,2039840,4101570,8238560,16534432 ⋆ The number of binary sequences that contain at least two consecutive 1's and contain at least two consecutive 0's. ● a(n) = 2 ^ (- n) * (5 * 2 ^ n * (2 + 2 ^ n) + (1 - sqrt(5)) ^ n * (- 5 + 3 * sqrt(5)) - (1 + sqrt(5)) ^ n * (5 + 3 * sqrt(5))) / 5 for n>0. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 2 * a(n - 4) for n>4. ●

[A134401] ● 1,2,8,24,64,160,384,896,2048,4608,10240,22528,49152,106496,229376,491520,1048576,2228224,4718592,9961472,20971520,44040192,92274688,192937984,402653184 ⋆ Row sums of triangle A134400. ● a(n) = n * 2 ^ n, n>1. - Eugeny Yakimovitch (Eugeny.Yakimovitch(AT)gmail.com), Jan 08 2008 ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>2. G.f.: (1 - 2 * x + 4 * x ^ 2) / (1 - 2 * x) ^ 2. [_ Colin Barker _ , Jul 29 2012] ●

[A293006] ● 0,0,2,8,24,68,188,516,1412,3860,10548,28820,78740,215124,587732,1605716,4386900,11985236,32744276,89459028,244406612,667731284,1824275796,4984014164,13616579924 ⋆ Expansion of 2*x^2*(x+1) / (2*x^3-3*x+1). ● a(n) = (- 8 + (1 - sqrt(3)) ^ (1 + n) + (1 + sqrt(3)) ^ (1 + n)) / 6 for n>0. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>3. ●

[A131569] ● 1,2,8,24,71,198,541,1452,3862,10208,26885,70644,185369,485982,1273420,3335640,8735707,22875050,59895221,156819960,410579786,1074943872,2814291433,7367994504,19289795761 ⋆ a(n) = (1/2)*(F(n+2)-1)*(F(n+2)-2) + F(n), where F() are the Fibonacci numbers. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 6 * a(n - 3) + 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6). ●

[A290904] ● 0,2,8,24,72,222,688,2128,6576,20322,62808,194120,599960,1854270,5730912,17712288,54742624,169190722,522910632,1616137848,4994929128,15437616926,47712391952,147462678768,455756685840 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 2*S^2. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A228404] ● 1,2,8,24,76,249,836,2860,9932,34918,124032,444448,1604664,5831765,21316860,78319140,289064460,1071275370,3984871440,14872552560,55578270440,209027020410,786750047304,2968257334104,11223268563896 ⋆ The number of complete binary trees with bicolored twigs. A twig is a vertex with one child on the boundary and the other child having no descendants. ● a(n - 4) + (- 5 * n ^ 2 + 130153 * n - 508806) * a(n - 5) + 13650 * (2 * n - 11) * (n - 7) * a(n - 6)=0. - _ R. J. Mathar _ , Aug 08 2015 ●

[A085449] ● 0,1,2,8,24,80,256,832,2688,8704,28160,91136,294912,954368,3088384,9994240,32342016,104660992,338690048,1096024064,3546808320,11477712896,37142659072,120196169728,388962975744 ⋆ Horadam sequence (0,1,4,2). ● a(n) = s * a(n - 1) + r * a(n - 2); for n > 1, where a(0) = 0, a(1) = 1, s = 2, r = 4 ● a(n) = 2 ^ (n - 1) * Fib(n). - _ Paul Barry _ , Mar 22 2004 ●

[A063727] ● 1,2,8,24,80,256,832,2688,8704,28160,91136,294912,954368,3088384,9994240,32342016,104660992,338690048,1096024064,3546808320,11477712896,37142659072,120196169728,388962975744,1258710630400 ⋆ a(n) = 2*a(n-1) + 4*a(n-2), a(0)=1, a(1)=2. ● a(n) = sqrt(5) / 10 * ((1 + sqrt(5)) ^ (n + 1) - (1 - sqrt(5)) ^ (n + 1)). ● a(2 * n) = 4 * a(n - 1) ^ 2 + a(n) ^ 2. ● a(n) = 2 ^ n * Fibonacci(n + 1). - _ Vladeta Jovovic _ , Oct 25 2003 ● a(n) = sum { k =0..floor(n / 2), C(n, 2 * k + 1) * 5 ^ k } . - _ Paul Barry _ , Nov 15 2003 ●

a(n) = U(n, i / sqrt(4))(- i * sqrt(4)) ^ n, i ^ 2= - 1. - _ Paul Barry _ , Nov 17 2003 ● a(n) = first binomial transform of 1,1,5,5,25,25. - Al Hakanson (hawkuu(AT)gmail.com), Jul 20 2009 ●

[A094038] ● 0,1,2,8,24,84,280,960,3264,11152,38048,129920,443520,1514304,5170048,17651712,60266496,205762816,702517760,2398545920,8189147136,27959497728,95459694592,325919784960,1112759746560 ★ Binomial transform of (Pell(-n)+Pell(n))/2. ● a(n)=(sqrt(2) / 8)((2 + sqrt(2)) ^ n - (2 - sqrt(2)) ^ n + (sqrt(2)) ^ n - (- sqrt(2)) ^ n). ●

[A106189] ● 1,2,8,24,86,300,1096,4032,15062,56684,214880,818800,3133916,12038200,46384432,179193920,693849254,2691994060,10462833808,40729251920,158772196436,619716378280,2421643356592,9472863484160,37090890396284 ★ Expansion of 1/((1-2x^2)sqrt(1-4x)). ● a(n)=sum { k=0..floor(n / 2), binomial(2(n - 2k), n - 2k) * 2 ^ k } . ●

[A106183] ● 1,2,8,24,88,304,1120,4096,15328,57536,218112,830208,3176704,12196352,46982144,181452800,702465536,2724948992,10589474816,41217216512,160657903616,627019489280,2449986043904,9583049572352,37519931654144 ★ Expansion of 1/sqrt(1-4x-4x^2+16x^3). ● a(n)=sum { k=0..floor(n / 2), C(2k, k)C(2(n - 2k), n - 2k) } . ●

[A060899] ● 1,2,8,24,96,320,1280,4480,17920,64512,258048,946176,3784704,14057472,56229888,210862080,843448320,3186360320,12745441280,48432676864,193730707456,739699064832,2958796259328,11342052327424 ★ Number of walks of length n on square lattice, starting at origin, staying on points with x+y >= 0. ● a(n) = 2 ^ n * binomial(n, [n / 2]); ● a(n) = (- 4) ^ n * hypergeom([3 / 2, - n],[2],2). - _ Peter Luschny _ , Apr 26 2016 ●

[A066374] ● 2,8,25,67,165,387,881,1967,4333,9451,20457,44007,94181,200675,425953,901087,1900509,3997659,8388569,17563607,36700117,76546003,159383505,331349967,687865805 ★ (3*n+4)*2^(n-3)-(2*n-1). ● a(2)=2, a(3)=8, a(4)=25, a(5)=67, a(n)=6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). - _ Harvey P. Dale _ , Oct 23 2013 ●

[A115256] ● 1,2,8,25,90,312,1145,4186,15640,58681,222298,845848,3235385,12418650,47827992,184688185,714884186,2772776984,10774163001,41932100698,163430680600,637793652281,2491918144602,9746480252952,38157725306425 ★ Diagonal sums of correlation triangle of central binomial coefficients. ● a(n) = Sum _{ k=0..floor(n / 2) } (Sum _{ j=0..n - k } [j<=k] * C(2k - 2j, k - j)[j<=n - 2k] * C(2n - 4k - 2j, n - 2k - j) }). (End) ●

[A212691] ● 0,0,2,8,26,50,100,154,252,348,510,660,902,1118,1456,1750,2200,2584,3162,3648,4370,4970,5852,6578,7636 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+|x-y|<=|x-z|+|y-z|. ● a(n)=a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). ● a(n) = n * (n - 1) * (14 * n - 7 + 3 * (- 1) ^ n) / 24. - _ R. J. Mathar _ , Jul 01 2013 ●

[A227015] ● 2,8,26,60,117,203,324,487,696,958,1279,1666,2123,2657,3274,3981,4782,5684,6693,7816,9057,10423,11920,13555,15332 ★ Floor(M(g(n-1)+1,..,g(n))), where M = harmonic mean and g(n) = n^3 + n^2 + n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7) for n > 2 (conjectured). ●

[A100504] ● 2,8,26,64,130,232,378,576,834,1160,1562,2048,2626,3304,4090,4992,6018,7176,8474,9920,11522,13288,15226,17344,19650 ★ (4n^3 + 6n^2 + 8n + 6)/3. ● a(n) = a(n - 1) + (2 * n) ^ 2 + 2. - _ Philippe Deléham _ , Jan 18 2012 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 26 2012 ●

[A167826] ● 0,0,0,0,0,2,8,26,74,194,482,1152,2674,6068,13524,29704,64460,138482,294988,623834,1311086,2740666,5702270,11815752,24395678 ★ a(n) is the number of n-tosses having a run of 3 or more heads and a run of 3 or more tails for a fair coin. ● a(n) = 2 ^ n - 2 * (tribonacci(n + 3) - Fibonacci(n + 1)), where tribonacci = A000073. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 3 * a(n - 3) + 3 * a(n - 5) + 2 * a(n - 6). ●

[A224289] ● 0,0,0,2,8,26,79,232,664,1856,5072,13568,35584,91648,232192,579584,1427456,3473408,8359936,19922944,47054848,110231552,256311296,591921152,1358430208 ★ Number of permutations of length n containing exactly 1 occurrence of 123 and 2 occurrences of 132. ● a(n) = 2 ^ (- 8 + n) * (- 136 + 70 * n - 11 * n ^ 2 + n ^ 3) for n>3. G.f.: - x ^ 4 * (x ^ 3 - 10 * x ^ 2 + 8 * x - 2) / (2 * x - 1) ^ 4. - _ Colin Barker _ , Apr 14 2013 ●

[A024023] ● 0,2,8,26,80,242,728,2186,6560,19682,59048,177146,531440,1594322,4782968,14348906,43046720,129140162,387420488,1162261466,3486784400,10460353202,31381059608,94143178826,282429536480 ★ a(n) = 3^n - 1. ● a(n) = Sum _{ k=1..n } Sum _{ m=1..k } binomial(k - 1,m - 1) * 2 ^ m, n>=1. a(0)=0. From the sequence combinatorics mentioned above. Twice partial sums of powers of 3. ● a(n) = 3 * a(n - 1) + 2 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 19 2010 ●

[A103453] ● 1,2,8,26,80,242,728,2186,6560,19682,59048,177146,531440,1594322,4782968,14348906,43046720,129140162,387420488,1162261466,3486784400,10460353202,31381059608,94143178826,282429536480 ★ a(n) = 0^n + 3^n - 1. ● a(n) = Sum _{ k=0..n } (2 * 0 ^ (n - k) - 1) * 0 ^ (k(n - k))3 ^ k. ●

[A129368] ● 1,2,8,26,96,342,1266,4678,17548,66098,250854,956034,3660190,14059866,54176466,209290554,810370944,3143964294,12219099594,47564314774,185410843594,723668533278,2827767496998,11061197519166 ★ a(n)=sum{k=floor(n/2),C(2n-2k,n-k)*C(2k,k)}. ● a(n)=sum { k=0..floor(n / 2), C(2n - 2k,n - k) } ; - _ Paul Barry _ , Oct 09 2007 ●

[A295934] ● 2,8,26,106,442,1849,7723,32176,133706,554269,2292655,9464547,39002251,160466401,659249461,2704861756,11084629546,45375676501,185562634951,758155908511,3094982778031,12624593782321,51458942047501,209609423940151,853271593454827 ★ Number of (not necessarily maximum) cliques in the n-odd graph. ● a(n) = binomial(2 * n - 1, n) + n * binomial(2 * n, n) / 4 + 1 for n > 2. ●

[A184628] ● 2,8,27,64,125,216,343,512,729,1000,1331,1728,2197,2744,3375,4096,4913,5832,6859,8000,9261,10648,12167,13824,15625 ★ Floor(1/frac((4+n^4)^(1/4))), where frac(x) is the fractional part of x. ● a(n) = floor(1 /{ (4 + n ^ 4) ^ (1 / 4) }), where {} =fractional part. ●

[A289864] ● 2,8,27,72,169,367,764,1553,3120,6234,12433,24790,49451,98705,197130,393879,787258,1573876,3146951,6292916,12584637,25167843,50333992,100665997,201329684 ★ Number of cliques in the n-triangular honeycomb queen graph. ● a(n) = (4 * n ^ 3 - 18 * n ^ 2 - 68 * n - 79 - (- 1) ^ n + 3 * 2 ^ (n + 5)) / 16. ● a(n) = 5 * a(n - 10 - 8 * a(n - 2) + 2 * a(n - 3) + 7 * a(n - 4) - 7 * a(n - 5) + 2 * a(n - 6). ●

[A290056] ● 1,2,8,27,76,192,456,1045,2344,5186,11364,24719,53444,114948,246096,524713,1114640,2359942,4981516,10486691,22021196,46138632,96470488,201328317,419432376 ★ Number of cliques in the n-triangular graph. ● a(n) = 1 + binomial(n,2) + (2 ^ (n - 1) - n) * n + binomial(n,3). ● a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 44 * a(n - 3) - 41 * a(n - 4) + 20 * a(n - 5) - 4 * a(n - 6). - _ Eric W. Weisstein _ , Jul 29 2017 ● a(n) = (6 + (- 1 + 3 * 2 ^ n) * n - 6 * n ^ 2 + n ^ 3) / 6. ●

[A054109] ● 1,2,8,27,99,363,1353,5082,19228,73150,279566,1072512,4127788,15930512,61628248,238911947,927891163,3609676487,14062955413,54860308997,214268628223,837780853637,3278934510163,12844867331387 ★ a(n) = T(2n+1, n), array T as in A054106. ● a(n - 1) = (1 / 2) * (- 1) ^ n * Sum _{ k=1..n } (- 1) ^ k * binomial(2k, k). - _ Benoit Cloitre _ , Nov 07 2002 ●

[A276940] ● 2,8,27,128,750,5184,41160,368640,3674160,40320000,482993280,6270566400,87697209600,1314380390400,21016195200000,357082280755200,6424604169984000,122021710626816000,2439660069310464000,51218989645824000000,1126555274886193152000,25905540583064862720000,621623493403188756480000,15538186060797648568320000 ★ a(1) = 2; for n > 1, a(n) = (n-2)! * n^3. ● a(1) = 2; for n > 1, a(n) = (n - 2)! * n ^ 3. ●

[A082107] ● 1,2,8,28,79,190,406,792,1437,2458,4004,6260,9451,13846,19762,27568,37689,50610,66880,87116,112007,142318,178894,222664,274645 ★ Diagonal sums of number array A082105. ● a(n)=(n ^ 5 + 20n ^ 3 + 9n + 30) / 30 ●

[A135263] ● 2,8,28,82,244,728,2186,6560,19684,59050,177148,531440,1594322,4782968,14348908,43046722,129140164,387420488,1162261466,3486784400,10460353204,31381059610,94143178828,282429536480,847288609442 ★ a(n) = 2*A132357(n). ● a(n) = 3 * a(n - 1) - a(n - 3) + a(n - 4). ●

[A048497] ● 1,2,8,28,84,228,580,1412,3332,7684,17412,38916,86020,188420,409604,884740,1900548,4063236,8650756,18350084,38797316,81788932,171966468,360710148,754974724 ★ 2^(n-1)*(4*n-6)+4. ● a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). G.f.: (1 - 3 * x + 6 * x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). [_ Colin Barker _ , Oct 07 2012] ●

[A178222] ● 0,2,8,28,88,270,816,2456,7376,22138,66424,199284,597864,1793606,5380832,16142512,48427552,145282674,435848040,1307544140,3922632440,11767897342,35303692048,105911076168,317733228528 ★ Partial sums of floor(3^n/4). ● a(n) = round((3 * 3 ^ n - 4 * n - 4) / 8). ● a(n) = floor((3 * 3 ^ n - 4 * n - 3) / 8). ● a(n) = ceil((3 * 3 ^ n - 4 * n - 5) / 8). ● a(n) = round((3 * 3 ^ n - 4 * n - 3) / 8). ● a(n) = a(n - 2) + 3 ^ (n - 1) - 1 , n>2. ● a(n) = (3 * 3 ^ n - 4 * n - 4 + (- 1) ^ n) / 8. G.f.: 2 * x ^ 2 / ((1 + x) * (1 - 3 * x) * (1 - x) ^ 2). - _ Bruno Berselli _ , Jan 14 2011 ●

[A279193] ● 1,2,8,28,88,288,888,2888,8888,28888,88888,288888,888888,2888888,8888888,28888888,88888888,288888888,888888888,2888888888,8888888888,28888888888,88888888888,288888888888,888888888888 ★ Least positive integer whose decimal digits divide the plane into n regions (version for people who write 2 with a curlicue). ● a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) for n >4. ● a(n) = ((26 - (13 - 4 * sqrt(10)) * (1 - (- 1) ^ n)) * sqrt(10 ^ n) - 80) / 90 for n>1, a(1)=1. - _ Bruno Berselli _ , Dec 15 2016 ●

[A060995] ● 0,2,8,28,96,328,1120,3824,13056,44576,152192,519616,1774080,6057088,20680192,70606592,241065984,823050752,2810071040,9594182656,32756588544,111837988864,381838778368,1303679135744 ★ Number of routes of length 2n on the sides of an octagon from a point to opposite point. ● a(n) = (2 + sqrt(2)) ^ (n - 1) / sqrt(2) - (2 - sqrt(2)) ^ (n - 1) / sqrt(2). ● a(n) = 4 * a(n - 1) - 2 * a(n - 2). ●

[A291383] ● 2,8,28,98,344,1208,4240,14884,52248,183408,643824,2260040,7933504,27849280,97760384,343171984,1204649632,4228727296,14844261824,52108375328,182918006400,642104016000,2254002082560,7912309005376,27774878417792 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 2 S - 2 S^2. ● a(n) = 2 * a(n - 1) + 4 * a(n - 2) + 4 * a(n - 3) + 2 * a(n - 4) for n >= 5. ●

[A066796] ● 2,8,28,98,350,1274,4706,17576,66196,250952,956384,3660540,14061140,54177740,209295260,810375650,3143981870,12219117170,47564380970,185410909790,723668784230,2827767747950,11061198475550,43308802158650 ★ a(n) = Sum_{i=1..n} binomial(2*i,i). ● a(n) = Sum _{ k=1..n } (2k)! / (k!) ^ 2. - _ Alexander Adamchuk _ , Jul 02 2006 ● a(n) = Sum _{ k=1..n } binomial(2k,k). - _ Alexander Adamchuk _ , Jan 04 2007 ●

[A104934] ● 1,2,8,28,100,356,1268,4516,16084,57284,204020,726628,2587924,9217028,32826932,116914852,416398420,1483024964,5281871732,18811665124,66998738820,238619546756,849856117940,3026807447332 ★ G.f.: (1-x)/(1-3*x-2*x^2). ● a(0)=1, a(1)=2, a(n)=3 * a(n - 1) + 2 * a(n - 2) for n>1 . - _ Philippe Deléham _ , Sep 19 2006 ● a(n) = (1 / 2) * [(3 / 2) + (1 / 2) * sqrt(17)] ^ n - (1 / 34) * sqrt(17) * [(3 / 2) - (1 / 2) * sqrt(17)] ^ n + (1 / 34) * [(3 / 2) + (1 / 2) * sqrt(17)] ^ n * sqrt(17) + (1 / 2) * [(3 / 2) - (1 / 2) * sqrt(17)] ^ n, with n>=0 - _ Paolo P. Lava _ , Nov 19 2008 ● a(n) = ((17 + sqrt(17)) / 34) * (0.5 * sqrt(17) + 1.5) ^ n + ((17 - sqrt(17)) / 34) * (- 0.5 * sqrt(17) + 1.5) ^ n - _ Richard Choulet _ , Nov 19 2008 ● a(n) = 2 * a(n - 1) + 4 * sum(k=0..n - 2, a(k)) for n>0. [From Vania Mascioni (vmascioni(AT)bsu.edu),

Mar 09 2009] •

[A114590] • 1,2,8,28,103,382,1432,5408,20546,78436,300636,1156188,4459267,17241526,66807856,259361920,1008598126,3928120924,15319329472,59817190552,233826979750,914962032172,3583556424208,14047386554368,55108441878868 ★ Number of peaks at even levels in all hill-free Dyck paths of semilength n+2 (a hill in a Dyck path is a peak at level 1). • a(n)=sum { k=0..n, sum { j=0..n - k, C(n - j,k - j) * C(n - j,k) * (j + 1) }} ; - _ Paul Barry _ , Nov 03 2006 •

[A133592] • 1,2,8,28,104,376,1376,5008,18272,66592,242816,885184,32272641765632,42894848,156383488,570136064,2078573056,7577962496,27627363328,100722501632,367209183232,1338753376256,4880761851904,17794043961344 ★ a(n)=2*a(n-1)+6*a(n-2) for n>=3, a(0)=1, a(1)=2, a(2)=8 . • a(n)=[1 + sqrt(7)] ^ (n - 1) + [1 - sqrt(7)] ^ (n - 1) - (3 / 7) * [1 - sqrt(7)] ^ (n - 1) * sqrt(7) + (3 / 7) * [1 + sqrt(7)] ^ (n - 1) * sqrt(7) + (1 / 3) * [C(2 * n,n) mod 2] , with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] •

[A293169] • 1,1,1,1,1,1,1,2,8,29,85,211,463,925,1718,3017,5097,8464,14197,24753,45697,89150,180254,368734,748924 ★ a(n) = Sum_{k=0..n} binomial(k, 6*(n-k)). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + a(n - 7) for n>6. •

[A212385] • 1,1,1,1,1,1,2,8,29,85,211,464,943,1873,3914,9101,23298,61915,162283,409888,996456,2360486,5555333,13244114,32357022 ★ Number of Dyck n-paths all of whose ascents have lengths equal to 1 (mod 5). • a(n) = Sum _{ k=0..n } (binomial(4 * k - 3 * n - 1,n - k) * binomial(n + 1,5 * k - 4 * n)) / (n + 1). - _ Vladimir Kruchinin _ , Mar 05 2016 •

[A100477] • 0,1,2,8,29,105,381,1382,5013,18184,65960,239261,867887,3148143,11419464,41422565,150254766,545028892,1977018773,7171368869,26013173045,94359275646,342275541897,1241558350028,4503585409524 ★ a(n) = 3*a(n-1)+2*a(n-2)+a(n-3) if n>=3 else a(n) = n. • a(0)=0, a(1)=1, a(2)=2, a(n)=3 * a(n - 1) + 2 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 19 2015 •

[A287045] • 0,1,2,8,29,140,661,3622,19993,120909,744890,4887401,32795272,230728608,1661537689,12426619200,95087157771,750968991327,6062088334528,50288003979444,425889463252945,3694698371069796,32683415513480237,295430131502604353,2719833636188015674 ★ a(n) is the number of size n affine closed terms of variable size 0. • a(n) = (3 * a(n - 1) + (6 * n - 10) * a(n - 2) - a(n - 3) + 2 * b(n - 1) - b(n - 2) - b(n - 3)) / 2, where b(n) = Sum _{ k=1.. n - 1 } a(k) * a(n - k). •

[A000162] • 1,1,2,8,29,166,1023,6922,48311,346543,2522522,18598427,138462649,1039496297,7859514470,59795121480 ★ Number of 3-dimensional polyominoes (or polycubes) with n cells. • a(n) = A066273 + A066281 + A066283 + A066287 + A066288 + A066453 + A066545. • a(n) = 2 * A038119 - A007743 . • a(n) = A000105 + A006759. •

[A168605] • 1,2,8,30,104,342,1088,3390,10424,31782,96368,291150,877544,2640822,7938848,23849310,71613464,214971462,645176528,1936053870,5809210184,17429727702,52293377408,156888520830,470682339704 ★ Number of ways of partitioning the multiset {1,1,1,2,3,...,n-2} into exactly three nonempty parts. • a(3)=1 and, for n>=4, a(n)=(5 * 3 ^ (n - 3) - 3 * 2 ^ (n - 2) + 3) / 3. •

[A127865] • 2,8,30,108,354,1152,3614,11204,34170,103176,308598,916236,2702834,7929872,23155182,67333140,195082218,563367960,1622185958,4658753564,13347741666,38160007200,108881256414,310108078116,881761288154 ★ Number of square tiles in all tilings of a 2xn board with 1x1 and L-shaped tiles (where the L-shaped tiles cover 3 squares). • a(n) = (2 * n - 12) * (- 1) ^ n + (2 / 3) * ((9 - 5 * sqrt(3)) * (1 + sqrt(3)) ^ n + (9 + 5 * Sqrt(3)) * (1 - Sqrt(3)) ^ n) + (n / sqrt(3)) * ((sqrt(3) - 1) * (1 + sqrt(3)) ^ n + (sqrt(3) + 1) * (1 - Sqrt(3)) ^ n). •

[A199923] • 1,2,8,30,108,378,1296,4374,14580,48114,157464,511758,1653372,5314410,17006112,54206982,172186884,545258466,1721868840,5423886846,17046501516 ★ Sum_{0<=k<=3^(n-1)} gcd(k,3^(n-1)) for n > 0 and a(0) = 1. • a(n) are the row sums of A199922. •

[A230269] • 0,0,2,8,30,108,386,1376,4902,17460,62186,221480,788814,2809404,10005842,35636336,126920694,452034756,1609945658,5733906488,20421610782,72732645324,259041157538,922588763264,3285848604870 ★ Number of n X 2 0..2 arrays x(i,j) with each element horizontally or vertically next to at least one element with value (x(i,j)+1) mod 3, and upper left element zero. • a(n) = - 1 / 2 + (2 ^ (- 2 - n) * (- (- 5 + sqrt(17)) * (3 + sqrt(17)) ^ n - (3 - sqrt(17)) ^ n * (5 + sqrt(17)))) / sqrt(17). •

[A077839] • 1,2,8,30,110,406,1498,5526,20386,75206,277442,1023510,3775826,13929382,51386818,189570870,699345010,2579950406,9517682978,35111639766,129530186066,477849203686,1762831262722,6503252567670,23991118635826 ★ Expansion of (1-x)/(1-3*x-2*x^2-2*x^3). • a(0)=1, a(1)=2, a(3)=8, a(n)=3a(n - 1) + 2a(n - 2) + 2a(n - 3) [From Harvey P. Dale, Apr 29 2011] •

[A052530] • 0,2,8,30,112,418,1560,5822,21728,81090,302632,1129438,4215120,15731042,58709048,219105150,817711552,3051741058,11389252680,42505269662,158631825968,592022034210,2209456310872,8245803209278,30773756526240 ★ a(0)=0, a(1)=2; for n >= 2, a(n) = 4*a(n-1) - a(n-2). • a(n) = sum(- (1 / 3) * (- 1 + 2 *_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(1 - 4 *_ Z +_ Z ^ 2)), i.e.: a(n) = (((2 + sqrt(3)) ^ (n + 1) - (2 - sqrt(3)) ^ (n + 1)) - ((2 + sqrt(3)) ^ (n) - (2 - sqrt(3)) ^ (n)) + ((2 + sqrt(3)) ^ (n - 1) - (2 - sqrt(3)) ^ (n - 1))) / (3 * sqrt(3)). - _ Gregory V. Richardson _ , Oct 06 2002 • a(n) = (2 * sinh(2n * arcsinh(1 / sqrt(2)))) / sqrt(3). - _ Herbert Kociemba _ , Apr 24 2008 • a(n) = ((3 - 2 * sqrt(3)) / 3) * (2 - sqrt(3)) ^ (n - 1) + ((3 + 2 * sqrt(3)) / 3) * (2 + sqrt(3)) ^ (n - 1). - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = floor((2 + sqrt(3)) ^ n / sqrt(3)). - _ Zak Seidov _ , Mar 31 2011 • a(n) = ((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) / sqrt(3). (See Horadam for construction.) - _ Johannes Boot _ , Jan 08 2012 •

[A073663] • 1,2,8,30,113,428,1629,6226,23881,91884,354484,1370812,5312058,20622904,80196055,312319530,1217938665,4755296460,18586968840,72723903780,284804791230,1116315593640,4378929921210,17189573707956 ★ Total number of branches of length k (k=1,2,3,...) in all ordered trees with n+k edges (it is independent of k). • a(n) = binom(2n + 2, n) - 2 * binom(2n, n - 1) + binom(2n - 2, n - 2) (n>0). • a(n) = 3(3n ^ 3 + 2n ^ 2 + n - 2) * binomial(2n, n) / [2(n + 1)(n + 2)(2n - 1)] (n>0). •

[A155116] • 1,2,8,30,114,432,1638,6210,23544,89262,338418,1283040,4864374,18442242,69919848,265086270,1005018354,3810313872,14445996678,54768931650,207644784984,787241149902,2984657804658,11315696863680,42901064005014 ★ a(n)=3*a(n-1)+3*a(n-2), n>2 ; a(0)=1, a(1)=2, a(2)=8. • a(n)=(2 + 4 * A) * A ^ (- n - 1) / 21 + (2 + 4 * B) * B ^ (- n - 1) / 21 with A=(- 3 + sqrt(21)) / 6 and B=(- 3 - sqrt(21)) / 6 for n>=1 with a(0)=1. •

[A007468] • 2,8,31,88,199,384,659,1056,1601,2310,3185,4364,5693,7360,9287,11494,14189,17258,20517,24526,28967,33736,38917,45230,51797 ★ Sum of next n primes. • a(n) = prime(1 + n(n - 1) / 2) + ... + prime(n + n(n - 1) / 2), where prime(i) is i - th prime. •

[A018916] • 2,8,31,120,464,1794,6936,26816,103676,400832,1549696,5991432,23164064,89556864,346244592,1338650240,5175487232,20009459744,77360538496,299091179520,1156345798592,4470662117376,17284466110464,66825172844672 ★ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(2,8). • a(n) = 4 * a(n - 1) - 2 * a(n - 3) with a(0)=2, a(1)=8 and a(2)=31. • a(n) = (119 - 24 * z1 - 64 * z1 ^ 2) * z1 ^ (- n - 1) / 202 + (119 - 24 * z2 - 64 * z2 ^ 2) * z2 ^ (- n - 1) / 202 + (119 - 24 * z3 - 64 * z3 ^ 2) * z3 ^ (- n - 1) / 202 with alpha= 2 * arctan(sqrt(303) / 9), p=(sqrt(6) / 3) * sin((alpha + Pi) / 6), q=sqrt(2) * cos((alpha + Pi) / 6), z1:=2 * p, z2=(- q - p) and z3=(q - p). •

[A129427] • 1,2,8,31,140,722,4439,32654,289519,3054067,37584620,527968288308434931,144345554051,2738280739075,56245013793246,1242596591479816,293665324947969003903383214958890413726887762569763453 ★ Number of isomorphism classes of 3-regular multigraphs of order 2n, loops allowed. • a(n)=N \{ S _{ 2n } [S _ 3] * S _{ 3n } [S _ 2] \} . - _ Jason Kimberley _ , Sep 17 2009 •

[A052481] • 1,2,8,32,112,352,1024,2816,7424,18944,47104,114688,274432,647168,1507328,3473408,7929856,17956864,40370176,90177536,200278016,442499072,973078528,2130706432,4647288832 ★ a(n) = 2^n*(binomial(n,2) + 1). • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). •

[A081294] • 1,2,8,32,128,512,2048,8192,32768,131072,524288,2097152,8388608,33554432,134217728,536870912,2147483648,8589934592,34359738368,137438953472,549755813888,2199023255552,8796093022208,35184372088832 ★ Expansion of (1-2*x)/(1-4*x). • a(n) = 4 * a(n - 1) n>1, with a(0)=1, a(1)=2. • a(n) = (4 ^ n + 0 ^ n) / 2 (i.e., 1 followed by 4 ^ n / 2, n>0). • a(n) = Sum _{ k=0..n } C(2 * n, 2 * k). - _ Paul Barry _ , May 20 2003 • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C(2 * (n - k), j) * C(2 * k, j). - _ Paul Barry _ , Jun 04 2005 • a(n) = int(p(n,x) ^ 2 / (Pi * sqrt(x(4 - x))),x,0,4) where p(n,x) is the sequence of orthogonal polynomials defined by C(2 * n,n): p(n,x)=(2 * x - 4) * p(n - 1,x) - 4 * p(n - 2,x), with p(0,x)=1, p(1,x)= - 2 + x. - _ Paul Barry _ , Mar 01 2007 • a(n) = ((2 + sqrt(4)) ^ n + (2 - sqrt(4)) ^ n) / 2. [Al Hakanson (hawkuu(AT)gmail.com), Nov 22 2008] •

[A004171] • 2,8,32,128,512,2048,8192,32768,131072,524288,2097152,8388608,33554432,134217728,536870912,2147483648,8589934592,34359738368,137438953472,549755813888,2199023255552,8796093022208,35184372088832,140737488355328,562949953421312 ★ a(n) = 2^(2n+1). • a(n) = 2 * 4 ^ n. • a(n) = 4 * a(n - 1). •

[A006139] • 1,2,8,32,136,592,2624,11776,53344,243392,1116928,5149696,23835904,110690816,515483648,2406449152,11258054144,52767312896,247736643584,1164829376512,5484233814016,25852072517632,121997903495168 ★ n*a(n) = 2*(2*n-1)*a(n-1) + 4*(n-1)*a(n-2). • a(n) = Sum _{ k=0..n } C(2 * k, k) * C(k, n - k). - Detlef Pauly (dettodet(AT)yahoo.de), Nov 08 2001 • a(n) = sum { k=0..floor(n / 2) } C(n,2k) * C(2k,k) * 2 ^ (n - k). - _ Paul Barry _ , Sep 19 2006 • a(n) = 2 ^ n * hypergeom([- n / 2, 1 / 2 - n / 2], [1], 2). - _ Peter Luschny _ , Sep 18 2014 • a(n) = [x ^ n] (1 + 2 * x + 2 * x ^ 2) ^ n. - _ Emanuele Munarini _ , Aug 04 2017 •

[A105483] • 1,2,8,32,141,672,3451,18962,110882,686866,4489422,30853656,222276063,1674067342,13149209956,107481488424,912490408782,8031867965568,73181346933680,689194657064660,6699707386510583,67143409071264516 ★ Number of partitions of {1...n} containing one string of 3 consecutive integers, counted within a block. • a(n)=Sum(c(n, k, 1), k=1...n), where c(n, k, 1) is the case r =1 of c(n, k, r) given by c(n, k, r)=c(n - 1, k - 1, r) + (k - 1)c(n - 1, k, r) + c(n - 2, k - 1, r) + (k - 1)c(n - 2, k, r) + c(n - 1, k, r - 1) - c(n - 2, k - 1, r - 1) - (k - 1)c(n - 2, k, r - 1), r=0, 1, .., n - k - 1, k=1, 2, .., n - 2r, c(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j= 0..floor(n / 2)). •

[A084137] • 1,2,8,32,144,672,3200,15360,73984,356864,1722368,8314880,40144896,193830912,935886848,4518838272,21818834944,105350561792,508677324800,2456111022080,11859152338944,57261051346944,276480810549248 ★ Binomial transform of A084136. • a(n) = (2 + sqrt(8)) ^ n / 4 + (2 - sqrt(8)) ^ n / 4 + 2 ^ n / 2. •

[A129400] • 1,2,8,32,144,672,3264,16256,82688,427520,2240512,11874304,63533056,342712320,1861779456,10176823296,55932813312,308907737088,1713473323008,9541666209792,53322206674944,298943898451968 ★ Number of walks of length n on one 60-degree wedge of the equilateral triangular lattice. The walk can go along the walls of the wedge, but cannot cross the walls. • a(n) = 2 ^ n * GegenbauerC(n, - n - 1, - 1 / 2) / (n + 1). - _ Peter Luschny _ , May 09 2016 •

[A202814] • 1,2,8,32,148,712,3584,18496,97444,521096,2820448,15414016,84917584,470982176,2627289344,14728751872,82928400164,468699173576,2657978454944,15118824666496,86230489902928,493021885470496,2825114755879424,16221295513400576,93312601350167824 ★ Moments of the quadratic coefficient of the characteristic polynomial of a random matrix in U(1) X U(1) (embedded in USp(4)). • a(n) is the constant term of (2 + x + y + 1 / x + 1 / y) ^ n. •

[A054116] • 1,2,8,32,152,872,5912,46232,409112,4037912,43954712,522956312,6749977112,93928268312,1401602636312,22324392524312,378011820620312,6780385526348312,128425485935180312,2561327494111820312 ★ T(n,n-1), array T as in A054115. • a(1)=1 and, for n>=2, a(n) = sum(k=2..n, k!). - _ Robert G. Wilson v _ , Nov 12 2004 •

[A193778] • 1,2,8,32,160,832 ★ Number of signed permutations of length n invariant under D and D'bar. • a(n) = 2a(n - 2) + 2(n - 2)a(n - 4) •

[A277432] • 0,1,2,8,32,164,984,6896,55168,496528,4965280,54618112,655417344,8520425536,119285957504,1789289362688,28628629803008,486686706651392,8760360719725056,166446853674776576,3328937073495531520,69907678543406162944,1537968927954935584768 ★ E.g.f.: sinh(sqrt(2)*x)/(sqrt(2)*(1-x)). • a(n) = (Gamma(n + 1, sqrt(2)) * exp(sqrt(2)) - Gamma(n + 1, - sqrt(2)) / exp(sqrt(2))) / (2 * sqrt(2)). •

[A051636] • 1,1,2,8,32,167,947,6974,53426,454682,4303532,50366912,553031624,6760260236,90333982832,1369522152392,20986020606632,350528387240264,5751957395258096,111685506968916032,2139383543480892032 ★ Number of "labeled" cyclic subgroups of alternating group A_n. • a(n) = 1 / 2 * Sum _{ pi } (1 + (- 1) ^ (k _ 2 + k _ 4 + ...)) * n! / (k _ 1! * 1 ^ k _ 1 * k _ 2! * 2 ^ k _ 2 * ... * k _ n! * n ^ k _ n * phi(lcm { i:k _ i != 0 })), where pi runs through all partitions k _ 1 + 2 * k _ 2 + ... + n * k _ n=n and phi is Euler's function. •

[A081358] • 0,1,2,8,32,184,1104,8448,67584,648576,6485760,74972160,899665920,12174658560,170445219840,2643856588800,42301705420800,740051782041600,13320932076748800,259500083163955200,5190001663279104000,111422936937037824000,2451304612614832128000 ★ E.g.f.: log((1+x) / (1-x)) / (2*(1-x)). • a(n) = n! * sum[k=0..n, k odd] 1 / k. • a(n) = n! / 2 * (Psi(ceil(n / 2) + 1 / 2) + gamma + 2 * log(2)). - _ Vladeta Jovovic _ , Oct 20 2003 • a(n) = n! * Sum _{ k=1..n } (- 1) ^ (k + 1) * 2 ^ (k - 1) * binomial(n, k) / k. - _ Vladeta Jovovic _ , Aug 12 2005 • a(n) = n * a(n - 1) + ((- 1) ^ (n + 1) + 1) / 2 * (n - 1)!. - _ Gary Detlefs _ , Aug 06 2010 •

[A206303] • 1,1,2,8,32,184,1264,9568,79232,816128,8769536,101867776,1322831872,18122579968,268425347072,4436611211264,73309336469504,1303024044310528,25235367455752192,497968598916333568,10431118327503650816,234674470003955204096,5359992446798535852032 ★ E.g.f.: Product_{n>=1} (1 - x^(2*n-1))^(-1/(2*n-1)). • a(n) / n! is the Euler transform of [1, 0, 1 / 3, 0, 1 / 5, 0, 1 / 7, 0, ...]. •

[A262480] • 1,1,1,2,8,32,192,1272,10176,90816,908160,9980160,119761920,1556766720,21794734080,326918753280,5230700052480,88921859604480,1600593472880640,30411275148656640,608225502973132800,12772735543856332800,281000181964839321600,6463004184741681561600,155112100433800357478400 ★ Number of trivial c-Wilf equivalence classes in the symmetric group S_n. • a(0) = a(1) = 1, a(2 * n) = ((2 * n)! + (2 * n)!!) / 4, a(2 * n + 1) = ((2 * n + 1)! + (2 * n)!!) / 4, for n >= 1. •

[A037513] • 2,8,33,134,536,2145,8582,34328,137313,549254,2197016,8788065,35152262,140609048,562436193,2249744774,8998979096,35995916385,143983665542,575934662168,2303738648673,9214954594694,36859818378776 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,0,1. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 22 2012 •

[A099015] • 1,2,8,33,140,592,2509,10626,45016,190685,807764,3421728,14494697,61400482,260096680,1101787113,4667245276,19770767984,83750317589,354772037730,1502838469496,6366125914117,26967342128548 ★ a(n) = Fib(n+1)*(2*Fib(n) + Fib(n)*Fib(n-1) + Fib(n-1)^2). • a(n) = (3 * Fib(3 * n + 1) + (- 1) ^ n * Fib(n - 3)) / 5. • a(n) = (2 + sqrt(5)) ^ n * (3 / 10 + 3 * sqrt(5) / 50) + (2 - sqrt(5)) ^ n * (3 / 10 - 3 * sqrt(5) / 50) + (- 1) ^ n * ((1 / 2 - sqrt(5) / 2) ^ n * (1 / 5 + 2 * sqrt(5) / 25) + (1 / 5 - 2 * sqrt(5) / 25) * (1 / 2 + sqrt(5) / 2) ^ n). •

[A053817] • 1,2,8,33,148,765,4626,32431,259512,2335689,23356990,256927011,3083124276,40080615757,561128620794,8416929312135,134670868994416,2289404772905361,41209285912296822,782976432333639979 ★ a(0)=1, a(n) = n*(a(n-1) + n). • a(n)= n! + floor(2 * e * n! - n) - 2, n>1. - _ Gary Detlefs _ , Jun 22 2010 •

[A204090] • 1,2,8,34,134,498,1786,6274,21778,75074,257762,882946,3020354,10323714,35270530,120467458,411394306,1404773378,4796567042,16377245698,55916897282,190915194882,651831179266,2225502715906,7598365282306 ★ The number of 1 X n Haunted Mirror Maze puzzles with a unique solution where mirror orientation is fixed. • a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 14 * a(n - 3) - 4 * a(n - 4), a(0)=1, a(1)=2, a(2)=8, a(3)=34. • a(n) = 2 - 2 ^ (1 + n) + ((2 + sqrt(2)) ^ (1 + n) - (2 - sqrt(2)) ^ (1 + n)) / (2 * sqrt(2)). - _ Colin Barker _ , Nov 26 2016 •

[A117616] • 0,2,8,34,136,546,2184,8738,34952,139810,559240,2236962,8947848,35791394,143165576,572662306,2290649224,9162596898,36650387592,146601550370,586406201480,2345624805922,9382499223688,37529996894754 ★ a(0)=0, a(n)=4a(n-1)+2 for n odd, a(n)=4a(n-1) for n even. • a(n) = (- 5 - 3 * (- 1) ^ n + 2 ^ (3 + 2 * n)) / 15. a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). G.f.: 2 * x / ((x - 1) * (x + 1) * (4 * x - 1)). [_ Colin Barker _ , Feb 17 2013] •

[A014445] • 0,2,8,34,144,610,2584,10946,46368,196418,832040,3524578,14930352,63245986,267914296,1134903170,4807526976,20365011074,86267571272,365435296162,1548008755920,6557470319842,27777890035288,117669030460994 ★ Even Fibonacci numbers; or, Fibonacci(3n). • a(n) = sum(k=0, n, binomial (n, k) * F(k) * 2 ^ k). - _ Benoit Cloitre _ , Oct 25 2003 • a(n) = Sum(C(n, 2k + 1)5 ^ k 2 ^ (n - 2k), k=0, .., Floor[(n - 1) / 2]). - Mario Catalani (mario.catalani(AT)unito.it), Jul 22 2004 • a(n) = sum(k=0, n, F(n + k) * binomial (n, k)). - _ Benoit Cloitre _ , May 15 2005 • a(n) = second binomial transform of (2,4,10,20,50,100,250). This is 2 * (1,2,5,10,25,50,125) or 5 ^ n (offset 0) * 2 for the odd numbers or * 4 for the even. The sequences are interpolated. Also a(n)=2 * ((2 + sqrt5) ^ n - (2 - sqrt5) ^ n) / sqrt20. [Al Hakanson (hawkuu(AT)gmail.com), May 02 2009] • a(n) = (- 1) ^ n * 3 * F(n) + 5 * F(n) ^ 3, n>=0. See the D. Jennings formula given in a comment on A111125, where also the reference is given. - _ Wolfdieter Lang _ , Aug 31 2012 • a(n) = sqrt (Fibonacci(2 * n) * Fibonacci(4 * n) + Fibonacci(n) ^ 2). - _ Gary Detlefs _ , Dec 28 2012 •

[A113440] • 1,2,8,34,146,627,2689,11521,49337,211233,904306,3871305,16572812,70947073,303719624,1300203634,5566087073,23828058969,102006385362,436682772844,1869410868456,8002827727921,34259590954322 ★ First row of A113439. • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 38 * a(n - 3) - 20 * a(n - 4) + a(n - 5). •

[A034999] • 1,2,8,34,148,650,2864,12634,55756,246098,1086296,4795090,21166468,93433178,412433792,1820570506,8036386492,35474325410,156591247016,691227204226,3051224496244,13468756547882,59453967813584,262442511046330,1158477291582892 ★ Number of ways to cut a 2 X n rectangle into rectangles with integer sides. • a(n) = 1 + 3 ^ (n - 1) + Sum _{ i=1..n - 1 } (1 + 3 ^ (i - 1)) a(n - i). • a(n) = 6a(n - 1) - 7a(n - 2), a(n) = ((4 + sqrt(2)) (3 + sqrt(2)) ^ n + (4 - sqrt(2)) (3 - sqrt(2)) ^ n) / 14. - _ N. Sato _ , May 10 2006 •

[A085362] • 1,2,8,34,150,678,3116,14494,68032,321590,1528776,7301142,35003238,168359754,812041860,3926147730,19022666310,92338836390,448968093320,2186194166950,10659569748370,52037098259090,254308709196660 ★ a(0)=1; for n>0, a(n) = 2*5^(n-1) - (1/2)*Sum_{i=1..n-1} a(i)*a(n-i). • a(n) = (2 * (3 * n - 2) * a(n - 1) - 5 * (n - 2) * a(n - 2)])n; a(0)=1, a(1)=2. - _ Emeric Deutsch _ , Jan 28 2004 • a(n) = Sum _{ k=0..n } binomial(2 * k,k) * binomial (n - 1,n - k). - _ Vladimir Kruchinin _ , May 30 2016 • a(n) = 2 * hypergeom([3 / 2, 1 - n], [2], - 4) for n>0. - _ Peter Luschny _ , Jan 30 2017 •

[A074606] • 2,8,34,152,706,3368,16354,80312,397186,1972808,9824674,49005272,244672066,1222297448,6108298594,30531927032,152630937346,763068593288,3815084686114,19074648589592,95370918425026,476847618556328 ★ a(n) = 3^n + 5^n. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) with a(0)=2, a(1)=8. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A046649] • 2,8,34,160,806,4256,23256,130416,746350,4341480,25594530,152585472,918324904,5572034240,34048494608,209347674768,1294227005694,8040125464280,50165404177350,314229490307040,1975283452131990 ★ Number of certain rooted planar maps. • a(n) = 4(7n - 11)(3n - 5)! / [(n - 2)!(2n - 1)!]. - _ Emeric Deutsch _ , Mar 03 2004 •

[A184786] • 1,1,2,8,35,147,654,3009,14219,68605,336623,1674517,8425573,42806200,219285459,1131431170,5874504011,30670279153,160916320637,847994498527,4486473924741,23821682237692,126897559943046,677992017255423 ★ Let A(x) satisfy: A(x) = 1 + x*A(x)^(phi^2) where phi = (sqrt(5)+1)/2, then this sequence equals the integer part of the coefficients of A(x). • a(n) = floor(binomial(phi ^ 2 * n, n) / (phi * n + 1)) where phi = (sqrt(5) + 1) / 2. •

[A082759] • 1,2,8,35,160,752,3599,17446,85376,420884,2087008,10398016,52010479,261021854,1313707256,6628095035,33512880640,169768235840,861450392708,4377796514152,22277498220160,113502759811000,578931209245760,2955873376166144,15105883318474991 ★ a(n) = Sum_{k = 0..n} binomial(n,k)*trinomial(n, where trinomial(n,k) = trinomial coefficients. • a(n) = Sum _{ k = 0..n } C(n + k, n - k) * C(n, k)). - _ Benoit Cloitre _ , Jun 20 2003 • a(n) = Sum _{ k = 0..n } C(2 * n - k, k) * C(n, k)). - _ Paul Barry _ , Jan 20 2005 • a(n) = Sum _{ k = 0..n } (- 1) ^ k * C(n, k) * C(3 * n - 2 * k, n - k). - _ Peter Bala _ , Jul 13 2016 •

[A243204] • 1,2,8,35,160,752,3605,17544,86400,429605,2153008,10860720,55086421,280692440,1435868960,7369703660,37934443008,195748568256,1012292239955,5244933087000,27220980100160,141486701601630 ★ Expansion of 2*x/((1-sqrt(1-2*(1-sqrt(1-4*x))))*sqrt(1-2*(1-sqrt(1-4*x))) * sqrt(1-4*x)). • a(n) = Sum _{ k=0..n } binomial(2 * k - 1,k) * binomial(2 * n - k - 1,n - k)). •

[A137265] • 1,1,2,8,35,163,796,4024,20885,110654,596064,3254752,17974893,100227022,563482140,3190633232,18179765509,104158703503,599698459613,3467978715612,20134256546896,117313279477959,685756774642494,4020515276730588,23636036336651811 ★ G.f. y(x) is solution of x y^3 - (1 + x^2) y + 1 = 0 with y(0) = 1. • a(0) = 1, a(1) = 1, a(n) = - a(n - 2) + sum _{ i=0 }^{ n - 1 } sum _{ j=0 }^{ n - 1 - i } a(i) a(j) a(n - 1 - i - j). •

[A123290] • 2,8,36,156,652,2668,10796,43436,174252,698028,2794156,11180716,44731052,178940588,715795116,2863245996,11453115052,45812722348,183251413676,733006703276,2932028910252,11728119835308,46912487729836 ★ Number of distinct binomial(n,2)-tuples of zeros and ones that are obtained as the collection of all 2 X 2 minor determinants of a 2 X n matrix over GF(2). • a(n) = (2 ^ (2n - 1) - 2 ^ n - 2 ^ (n - 1) + 4) / 3 = 1 + (2 ^ n - 1) * (2 ^ (n - 1) - 1) / 3 • a(2)=2, a(3)=8, a(4)=36, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Oct 03 2011 • a(2)=2, a(n) = 4 * (a(n - 1) - 1) + 2 ^ (n - 1). - _ Vincenzo Librandi _ , Oct 04 2011 •

[A147722] • 1,2,8,36,164,748,3412,15564,70996,323852,1477268,6738636,30738644,140215948,639602452,2917580364,13308696916,60708323852,276924225542

8,1263204479436,5762173946324,26284460772748,119897955971092,546920858309964,2494808379607636 ★ Row sums of Riordan array ((1-3x)/(1-4x+x^2), x(1-x)/(1-4x+x^2)). ● a(n) = 5 * a(n - 1) - 2 * a(n - 2), a(0)=1, a(1)=2. [_ Philippe Deléham _ , Nov 13 2008] ● a(n) = (1 / 2) * [(5 / 2) + (1 / 2) * sqrt (17)] ^ n + (1 / 2) * [(5 / 2) - (1 / 2) * sqrt(17)] ^ n - (1 / 34) * [(5 / 2) + (1 / 2) * sqrt(17)] ^ n * sqrt(17) + (1 / 34) * sqrt(17) * [(5 / 2) - (1 / 2) * sqrt(17)] ^ n, with n>=0. [_ Paolo P. Lava _ , Nov 18 2008] ●

[A206902] ● 1,2,8,36,166,768,3554,16446,76102,352152,1629536,7540458,34892452,161460114,747134894,3457265922,15998031616,74028732924,342557973998,1585140808368,7335025230994,33941839649382,157061283704438,726779900373936,3363075935260696 ★ Number of nonisomorphic graded posets with 0 and uniform hasse graph of rank n with no 3-element antichain. ● a(n) = 6 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3), a(1)=2, a(2)=8, a(3)=36. ●

[A109980] ● 1,2,8,36,172,852,4324,22332,116876,618084,3296308,17702412,95627580,519170004,2830862532,15494401116,85091200620,468692890308,2588521289812,14330490031020,79509491551772,442019710668852 ★ Number of Delannoy paths of length n with no (1,1)-steps on the line y=x (a Delannoy path of length n is a path from (0,0) to (n,n), consisting of steps E=(1,0), N=(0,1) and D=(1,1)). ● a(n) is the upper left term in M ^ n, M = an infinite square production matrix as follows: ●

[A110837] ● 1,2,8,36,176,864,4304,21448,107168,535488,2677088,13383712,66916832,334575552,1672869152,8364302864,41821471424,209107142784,1045535499584,5227676426944,26138381063744,130691899964544,653459494468544 ★ Number of ways to fold a strip of n stamps taking account of order and direction of folds. ● a(n) =2 * sum _ k { 0<k<n } max { a(k), a(n - k) } starting with a(1)=1. a(n) about 0.054816154756... * 5 ^ n. ●

[A243948] ● 1,2,8,36,182,964,5296,29832,171238,997244,5874992,34937400,209392796,1263258760,7664233696,46726270992,286089651718,1758215706476,10841476837424,67049791851672,415784950498964,2584585251386296,16101542183281312,100511325748165488,628579719997550044 ★ G.f.: Sum_{n>=0} x^n / (1-x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k] * [Sum_{k=0..n} C(n,k)^2 * 2^k * x^k]. ● a(n) = Sum _{ k=0..[n / 2] } Sum _{ j=0..n - 2 * k } C(n - k , k + j) ^ 2 * C(k + j, k) ^ 2 * 2 ^ k. ●

[A001540] ● 0,2,8,36,184,1110,7776,62216,559952,5599530,61594840,739138092,9608795208,134523132926,2017846993904,32285551902480,548854382342176,98793788821591 86,1877081987610245 52,37541639752204910 60 ★ Number of transpositions needed to generate permutations of length n. ● a(n) = - 1 + n! * sum { k=0, [n / 2], 1 / (2k)! } = - 1 + round(n! * cosh(1)). ●

[A052582] ● 0,2,8,36,192,1200,8640,70560,645120,6531840,72576000,878169600,11496038400,161902540800,2440992153600,39230231040000,669529276416000,12093372555264000,230485453406208000 ★ a(n) = 2*n*n!. ● a(n) = (a(n - 1) ^ 2 - 2 * a(n - 2) ^ 2 + a(n - 2) * a(n - 3) - 4 * a(n - 1) * a(n - 3)) / (a(n - 2) - a(n - 3)) if n>2. - _ Michael Somos _ , Oct 20 2011 ● a(n)=2 * n * n!. - _ Gary Detlefs _ , Sep 16 2010 ● a(n + 1) = a(n) * (n + 1) ^ 2 / n. - _ Reinhard Zumkeller _ , Nov 12 2011 ●

[A233744] ● 1,2,8,36,200,1300,9720,82180,775520,8082180,92205800,1143084580,15302486160,220019440420,3381685263320,55333244924100,960361672886720,17622501030879940,340893902373527880,6933456765092580580,147919915357498809200,3030311756746128625380 ★ Numbers p = a(n) such that p divided by (n-1)! is equal to the average number of elements of partition sets of n elements excluding sets with a singleton. ● a(n) = (n - 1)! * S(n), with S(n) = 1 + 1 / (n - 1) * sum of previous S(i) with i in (2, n - 2). ●

[A052618] ● 1,2,8,36,216,1440,11520,100800,1008000,10886400,130636800,1676505600,23471078400,348713164800,5579410636800,94152554496000,1694745980928000,32011868528640000,640237370572800000,13380961044971520000,294381142989373440000 ★ E.g.f. 1/((1-x)^2*(1-x^2)). ● a(n) = (1 / 8 * (- 1) ^ (- n) + 1 / 4 * n ^ 2 + n + 7 / 8) * n! for n>0. ● a(n) = n! * floor((n + 2) / 2) * ceil((n + 2) / 2). - _ Emeric Deutsch _ , Dec 14 2008 ●

[A155609] ● 1,2,8,38,176,782,3368,14198,58976,242462,989528,4017158,16245776,65514542,263652488,1059392918,4251920576,17050729022,68332056248,273715645478,1096024843376,4387586157902,17560804984808,70274600998838 ★ a(n) = 4^n - 3^n + 1. ● a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 6 with a(0)=1, a(1)=2. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A199213] ● 2,8,38,188,938,4688,23438,117188,585938,2929688,14648438,73242188,366210938,1831054688,9155273438,45776367188,228881835938,1144409179688,5722045898438,28610229492188,143051147460938,715255737304688 ★ (3*5^n+1)/2. ● a(n) = 5 * a(n - 1) - 2. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2). ●

[A123164] ● 1,2,8,38,192,1002,5336,28814,157184,864146,4780008,26572086,148321344,830764794,4666890936,26283115038,148348809216,838944980514,4752575891144,26964373486406,153196621856192 ★ Row sums of A123160. ● a(n)=sum { k=0..n, C(n,k)C(n + k - 1,k) } . - _ Paul Barry _ , Aug 22 2007 ● a(n)=Jacobi _ P(n,0, - 1,3). - _ Paul Barry _ , Sep 27 2009 ● a(n + 1) - a(n) = (2n + 1)A006318 (n>=0); ● a(n) = Hyper2F1([- n, n], [1], - 1). - _ Peter Luschny _ , Aug 02 2014 ●

[A002003] ● 0,2,8,38,192,1002,5336,28814,157184,864146,4780008,26572086,148321344,830764794,4666890936,26283115038,148348809216,838944980514,4752575891144,26964373486406,153196621856192,871460014012682,4962895187697048,28292329581548718 ★ 2*Sum_{k=0..n-1} C(n-1,k)*C(n+k,k). ● a(n) = T(n, n - 1), array T as in A064861. ● a(n) = T(n, n - 2), array T as in A049600. ● a(n) = 2 * JacobiP(n - 1, 0, 1, 3) = ((7 * n + 3) * LegendreP(n,3) - (n + 1) * LegendreP(n + 1,3)) / (2 * n) for n>0. - _ Mark van Hoeij _ , Jul 12 2010 ● a(n) = Hyper2F1([- n, n], [1], - 1) for n>0. - _ Peter Luschny _ , Aug 02 2014 ●

[A266797] ● 2,8,38,200,1112,6368,37088,218240,1292672,7689728,45874688,274196480,1640978432,9829081088,58907353088,353175633920,2117979963392,12703584616448,76204327436288,457157244354560,2742668586647552,16454912005111808,98725073977868288 ★ a(n) = (6^n + 4^n + 3*2^n)/8. ● a(n) = 2 ^ (n - 3) * (2 ^ n + 3 ^ n + 3). ● a(n) = 12 * a(n - 1) - 44 * a(n - 2) + 48 * a(n - 3) for n>3. ●

[A275707] ● 1,2,8,38,216,1402,10156,80838,698704,6498674,64579284,6816422387605025720,89318058858,1100376445564,14176837311158,190498308591264,2663482511782114,38667106019619748,581765160424218606,9055862445043643656,145619330650420134362 ★ Number of partial functions f:{1,2,...,n}->{1,2,...,n} such that every element in the domain of definition of f is mapped to a fixed point or to an element that is undefined by f. ● a(0) = 1; a(n) = Sum _{ k=1..n } 2 * k * binomial(n - 1,k - 1) * a(n - k). - _ Ilya Gutkovskiy _ , Nov 24 2017 ●

[A096654] ● 1,2,8,38,222,1522,11986,106542,1054766,11506538,137119578,1772006854,24681524038,368577425634,5874202721042,99515904921182,1785757627196766,33835407673201882,675016383080377546,14143200407398386678 ★ Denominators of self-convergents to 1/(e-2). ● a(n) = (n + 1) * a(n - 1) + n * a(n - 2), with a(0)=1, a(1)=2. - _ Alex Ratushnyak _ , Aug 05 2012 ● a(n) = (n + 1)! - 2 * floor(((n + 1)! + 1) / e) + (n + 2)! - 2 * floor(((n + 2)! + 1) / e). (End) ● a(n) = (n + 3)! - 2 * floor(((n + 3)! + 1) / e). - _ Gary Detlefs _ , Jul 11 2010 ●

[A206901] ● 1,2,8,39,199,1027,5316,27539,142694,739416,3831589,19855045,102887673,533158028,2762794601,14316644946,74188042696,384438233215,1992137140383,10323141778619,53493935746148,277202543857995,1436447874880342,7443591492820888 ★ Number of nonisomorphic graded posets with 0 of rank n with no 3-element antichain. ● a(n + 3) = 7a(n + 2) - 10a(n + 1) + 3a(n), a(0)=1, a(1)=2, a(2)=8. ●

[A074092] ● 1,2,8,40,144,448,1280,3456,8960,22528,55296,133120,315392,737280,1703936,3899392,8847360,19922944,44564480,99090432,219152384,482344960,1056964608,2306867200,5016387584 ★ Number of plane binary trees of size n+3 and contracted height n. ● a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3) for n>4. G.f.: (1 - 4 * x + 8 * x ^ 2 + 8 * x ^ 3 - 16 * x ^ 4) / (1 - 2 * x) ^ 3. [_ Colin Barker _ , Mar 21 2012] ●

[A186947] ● 1,2,8,40,192,864,3712,15488,63488,257536,1038336,4171776,16728064,67002368,268206080,1073250304,4293918720,17177640960,68714758144,274867945472,1099490656256,4398002470912,17592093769728,70368551239680,281474574057472 ★ 4^n-n*2^n. ● a(n) = 4 * a(n - 1) + 2 ^ n * (n - 2), n>=1. - Vincenzo Librandi, Mar 13 2011 ●

[A187071] ● 1,2,8,40,206,1084,5802,31440,171946,947132,5247010,29203928,163176586,914744612,5142354178,28978786976,163652047834,925925993132,5247514156418,29783577676840,169270380108906,963186164033652 ★ Expansion of d/dx arctan(x*A001003(x)). ● a(n) = Sum _{ k=0..n } (Sum _{ j=0..n - k } (- 1) ^ j * 2 ^ (- j) * binomial(n + 1, j) * binomial(2 * n - k - j, n))) * (2 ^ (n - k - 1)) * (1 - (- 1) ^ (k + 1)) * (- 1) ^ (k / 2). ●

[A154626] ● 1,2,8,40,208,1088,5696,29824,156160,817664,4281344,22417408,117379072,614604800,3218112512,16850255872,88229085184,461973487616,2418924584960,12665653559296,66318223015936,347246723858432,1818207451086848,9520257811087360 ★ a(n) = 2^n*A001519(n). ● a(n) = (((3 - sqrt(5)) ^ n * (1 + sqrt(5)) + (- 1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / (2 * sqrt(5)). ● a(n) = 6 * a(n - 1) - 4 * a(n - 2) for n>1. ●

[A113449] ● 2,8,40,216,1218,7000,40560,235824,1373090,7999592,46616920,271683720,1583441442,9228858808,53789455200,313507253856,1827252574658,10650004589000,62072766255880,361786571934264,2108646614622210 ★ Sum of the square root of n-th square triangular number and n-th Pell (or lambda) number (A000129). ● a(n) = sqrt(((17 + 12 * sqrt(2)) ^ n + (17 - 12 * sqrt(2)) ^ n - 2) / 32) + ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) / (2 * sqrt(2)). - _ Stefan Steinerberger _ , Jun 17 2007 ● a(n) = sqrt((Q _{ 4 * n } - 2) / 32) + P _{ n } , where P _{ n } and the Pell numbers and Q _{ n } are the Pell - Lucas numbers. ● a(n) = 8 * a(n - 1) - 12 * a(n - 2) - 4 * a(n - 3) + a(n - 4). ●

[A143388] ● 1,2,8,40,221,1288,7752,47652,297275,1874730,11920740,76292736,490828828,3171317360,20563942288,133749903324,872196460359,5700580759510,37332393806400,244914161562840,1609234420792845 ★ a(n) = Sum_{k=0..n} A033184(n,k)*A033184(n,n-k), where Catalan triangle entry A033184(n,k) = C(2*n-k,n-k)*(k+1)/(n+1). ● a(n) = (n ^ 2 + 3 * n + 6) * (3 * n + 1)! / (n! * (2 * n + 3)!) . ●

[A092807] ● 1,2,8,40,224,1312,7808,46720,280064,1679872,10078208,60467200,362799104,2176786432,13060702208,78364180480,470185017344,2821109972992,16926659575808,101559956930560,609359740534784 ★ Expansion of (1-6x+4x^2)/((1-2x)(1-6x)). ● a(n)=6 ^ n / 6 + 2 ^ n / 2 + 0 ^ n / 3 ● a(0)=1, a(1)=2, a(2)=8, a(n)=8 * a(n - 1) - 12 * a(n - 2). [Harvey P. Dale, Aug 23 2011] ●

[A074601] ● 2,8,40,224,1312,7808,46720,280064,1679872,10078208,60467200,362799104,2176786432,13060702208,78364180480,470185017344,2821109972992,16926659575808,101559956930560,609359740534784,3656158441111552 ★ 2^n + 6^n. ● a(n) = 6 * a(n - 1) - 2 ^ n = 8 * a(n - 1) - 12 * a(n - 2). ●

[A052701] ● 0,1,2,8,40,224,1344,8448,54912,366080,2489344,17199104,120393728,852017152,6085836800,43818024960,317680680960,2317200261120,16992801914880,125210119372800,926554883358720,6882979133521920 ★ a(0) = 0; for n >= 1, a(n) = 2^(n-1)*C(n-1), where C(n) = A000108(n) Catalan numbers, n>0. ● a(n) = 8 ^ (n - 1) * GAMMA(n - 1 / 2) / GAMMA(n + 1) / Pi ^ (1 / 2), n>0. ● a(0)=0, a(1)=1; a(n) = 2 * Sum _{ i=1..n - 1 } a(i) * a(n - i). - _ Benoit Cloitre _ , Mar 16 2004 ●

[A151374] ● 1,2,8,40,224,1344,8448,54912,366080,2489344,17199104,120393728,852017152,6085836800,43818024960,317680680960,2317200261120,16992801914880,125210119372800,926554883358720,6882979133521920 ★ a(0) = 0; for n >= 1, a(n) = 2^(n-1)*C(n-1), where C(n) = A000108(n) Catalan numbers, n>0. ● a(n) = 8 ^ (n - 1) * GAMMA(n - 1 / 2) / GAMMA(n + 1) / Pi ^ (1 / 2), n>0. ● a(0)=0, a(1)=1; a(n) = 2 * Sum _{ i=1..n - 1 } a(i) * a(n - i). - _ Benoit Cloitre _ , Mar 16 2004 ●

14880,125210119372800,926554883358720,6882979133521920,513094808135270
40,383705682605506560,2877792619541299200 ⋆ Number of walks within N^2
(the first quadrant of Z^2) starting at (0,0), ending on the vertical axis and
consisting of 2 n steps taken from {(-1, -1), (-1, 0), (1, 1)}. • a(n) = the top l
eft term in M ^ n, M = the following infinite square production matrix: • a(n
) = 4 ^ n * 2F1((1 - n) / 2, - n / 2;1;1) / (n + 1). - _ Benedict W. J. Irwin _
, Jul 12 2016 •

[A055882] • 1,2,8,40,240,1664,12992,112256,1059840,10827264,118758400,138
9711360,17258893312,226463227904,3127694491648,45316785602560,68682659
5745792,10861264214949888,178802342273744896 ⋆ a(n) = 2^n*Bell(n). E.g.f.:
exp(exp(2x)-1). • a(n) = exp(- 1) * 2 ^ n * sum(k=>0, k ^ n / k!). - _ Beno
it Cloitre _ , May 20 2002 •

[A000828] • 1,1,2,8,40,256,1952,17408,177280,2031616,25866752,362283008,5
535262720,91620376576,1633165156352,31191159799808,635421069967360,137
53735117275136,315212388819402752,7625476699018231808 ⋆ E.g.f. cos(x)/(cos(x)
- sin(x)). • a(n) = sum(evenp(n + k), k=1..n, (- 1) ^ ((n + k) / 2) * sum(j=
k..n, j! / n! * stirling2(n,j) * 2 ^ (n - j) * (- 1) ^ (n + j - k) * binomial(j - 1,k
- 1)), n>0. - _ Vladimir Kruchinin _ , Aug 18 2010 • a(n) = (- 1) ^ ((n ^ 2 -
n) / 2) * 4 ^ n * (E _{ n } (1 / 2) + E _{ n } (1)) / 2 for n >= 0, where E
_{ n } (x) is an Euler polynomial. - _ Peter Luschny _ , Nov 25 2010 • a(n)
= (2 * i) ^ (n - 1) * Sum _{ k = 1..n } (- 1) ^ (n - k) * k! * Stirling2(n,k) * (
(1 - i) / 2) ^ (k - 1), where i = sqrt(- 1). •

[A254399] • 0,2,8,41,179,794,3422,14706,62754,267179,1135079,4817276,204
29252,86600786,367005092,1555075557,6588493275,27912159494,11824526587
4,500914535330,2121959178350,8988897300407,38077930682063,161301621015
576,683287035188904 ⋆ A Fibonacci sum: a(n) = Sum_{j=0..n-1} F(j)^2*F(2*n-
j), in which the F's are the Fibonacci numbers. • a(n) = (1 / 2) * (F(2 * n) +
F(n) ^ 2 * F(n + 1) - F(n) * F(n + 1) ^ 2 + F(n + 1) ^ 3 - F(2 * n + 1)). • a
(n) = 3 * (- 1) ^ n * F(n - 1) / 10 + (- 1) ^ n * F(n) / 10 - F(2 * n - 1) / 2
+ F(3 * n + 1) / 5. - _ Ehren Metcalfe _ , Mar 25 2016 •

[A093935] • 1,2,8,41,249,1754,14084,127057,1272625,14015014,168323364,218
9619553,30670104577,460235322854,7366138539416,125257398648401,2255126
454472401,42855262052316218,857238357862313360 ⋆ a(1) = 1, a(n+1) = a(n)
+ n*(a(1) + a(2) + ... + a(n)). • a(1)=1, a(2)=2, a(n + 1) = ((n ^ 2 + n - 1
)a(n) - na(n - 1)) / (n - 1) (n >= 2). - _ Emeric Deutsch _ , Apr 18 2005 •

[A099240] • 1,2,8,41,250,1757,13917,122166,1173662,12222605,136927351,16
39768418,20880556880,281460326864,4000651782511,59761935358025,935445
106491702,15303039199768237,261030618751031385,4632889302298054713 ⋆
Main diagonal of A099239. • a(n)=sum { j=0..n, binomial(n ^ 2 - (n - 1)(j - 1
), j) } ; a(n)=sum { j=0..n, binomial(n + (n - 1)(j + 1), n(j + 1) - 1 } . •

[A136281] • 1,2,8,41,253,1858,15796,152219,1638323,19467494,252998224,356
8259503,54263159347,884834059454,15397757661092,284767413357977,557669
6746139689,115269732256964626,2507575465491619672,5726248122595707172
1,136946173945344089326 1 ⋆ Number of graphs on n labeled nodes with degree
at most 2. • a(n) = (2 * n - 1) * a(n - 1) - (n - 1) ^ 2 * a(n - 2) + (n - 2) * (n
- 1) * a(n - 3) - (n - 3) * (n - 2) * (n - 1) / 2 * a(n - 4). - _ Vaclav Kotesovec
_ , Aug 10 2013 •

[A129277] • 1,2,8,42,241,1444,8867,55320,349009,2220242,14215521,914878
34,591285123,3834960060,24947236547,162704291214,1063516446543,6965286
759424,45696734431169,300262228345720,1975679169075314 ⋆ Column 1 of
triangle A129276; a(n) is the coefficient of q^n in the squared q-factorial of
n+1. • a(n) = [q ^ n] Product _{ i=1..n + 1 } { (1 - q ^ i) / (1 - q) }^ 2. •

[A133417] • 2,8,42,248,1442,8408,49002,285608,1664642,9702248,56548842,32
9590808,1920996002,11196385208,65257315242,380347506248,2216827722242,1
2920618827208,75306885241002,438920692618808,2558217270471842,14910382
930212248,86904080310801642,506514098934597608 ⋆ a(n) = sqrt(2*(P(n)^4+16*P(n)^2+4)), 6,9,1,80,3,9,1,2,1,2,2,7,7,5,2,5,7,6,
where P() = Pell numbers A000129. • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n
- 3). G.f.: 2 * x ^- 1 * (1 - x - 4 * x ^ 2) / ((1 + x) * (1 - 6 * x + x ^ 2)). - _
Colin Barker _ , May 11 2012 • a(n) = (2 * (- 1) ^ n + 5 * (3 - 2 * sqrt(2)) ^
(1 + n) + 5 * (3 + 2 * sqrt(2)) ^ (1 + n)) / 4 for n>=0. - _ Colin Barker _ ,
Nov 04 2016 •

[A100327] • 1,2,8,42,252,1636,11188,79386,579020,4314300,32697920,251284
292,1953579240,15336931928,121416356108,968187827834,7769449728780,6269
6580696172,508451657412496,4141712433518956,33872033298518728,27801485
3384816184,2289376313410678312 ⋆ Row sums of triangle A100326, in which
row n equals the inverse binomial of column n of square array A100324. • a(n
) = Sum _{ k=1..n } 2 * binomial(n, k) * binomial(2n + k, k - 1) / n for n>0
with a(0)=1. • a(n) = 2 ^ n * binomial(3 * n,2 * n) * hypergeom([- 1 - 2 * n,
- n], [- 3 * n],1 / 2) / (n + 1 / 2)). - _ Peter Luschny _ , Jun 10 2017 •

[A018934] • 0,0,0,2,8,42,256,1810,14568,131642,1320128,14551074,17487988
0,2276108362,31894886208,478775722802,7664993150696,130369025763930,23
47604596782208,44619881467365442,892659329531868168,1875055652349129
9434,41260174497927877760,949163016380072699 2722 ⋆ From the game of
Mousetrap. • a(n) = floor((n! + 1) / e) - floor(((n - 2)! + 1) / e), n>2. [_ G
ary Detlefs _ , Mar 27 2011] •

[A013999] • 1,1,2,8,42,258,1824,14664,132360,1326120,14606640,175448160,2
282469840,31972303440,479793807360,7679384173440,130586660507520,2351
111258805120,44679858911251200,893744703503769600 ⋆ From applying the
"rational mean" to the number e. • a(n) = sum(binomial(n - k + 1,k) * (- 1)
^ k * (n - k + 1)!, k=0..floor((n + 1) / 2)). - _ Emanuele Munarini _ , Jul 01
2013 •

[A188912] • 1,2,8,42,260,1816,13962,116094,1029124,9609144,93569808,94264
2696,9763181946,103455616400,1117379189926,12264816349938,136501928050
116,1537591374945704,17503603786398576,201128739609458904,233048052126
5639136 ⋆ Binomial convolution of the binomial coefficients bin(3n,n)/(2n+1)
(A001764). • a(n) = sum(binomial(n, k) * binomial(3 * k, k) / (2 * k + 1) *
binomial(3 * n - 3 * k, n - k) / (2 * n - 2 * k + 1), k=0..n) •

[A121635] • 1,2,8,42,264,1920,15840,146160,1491840,16692480,203212800,267
4425600,37841126400,572885913600,9240898867200,158228598528000,2866422
214656000,54775863926784000,1101208277385216000,2323421417808691 2000,5
1334232372527104000 ⋆ Number of deco polyominoes of height n, having no 2-
cell columns starting at level 0. A deco polyomino is a directed column-convex
polyomino in which the height, measured along the diagonal, is attained only
in the last column. • a(1)=1, a(2)=1, a(n) = (n - 2) * [(n - 2)! + a(n - 1)] for
n>=3. •

[A276497] • 1,2,8,43,339,3243,42325,646022,12283523,300369787,802864300
0,25948875073,9414916809083,362597750396727,15397728527812844,74223817
9058722876,40068968501510691878 ⋆ Maximum number of different possible
residues of the division of prime(k) by primorial(n), with k such that prime(k)
> primorial(n). • a(n) = pi(primorial(n)) - n + 1, n > 0. •

[A128656] • 2,8,44,240,1248,6224,30052,141536,653744,2973072,13351192,593
33408,261378944,1142885664,4965331028,21452209600,92230169232,394819386
896,1683663903016,7155148746912,30313584232640,128067598573408 ⋆ Num-
ber of polygons on n vertices with four faces such that the source of the polygon
lies on exactly two faces. • a(n) = 2(n + 2) * 4 ^ (n - 3) - 2 * (n + 1) * C(2 *
n - 4,n - 3). •

[A047851] • 1,2,8,44,260,1556,9332,55988,335924,2015540,12093236,7255941
2,435356468,2612138804,15672832820,94036996916,564221981492,33853318889
48,203119913336 84,121871948002100,731231688012596 ⋆ a(n) = T(3,n), array
T given by A047848. • a(n) = (6 ^ n + 4) / 5. - _ Ralf Stephan _ , Feb 14 2
004 • a(0) = 1, a(1) = 2, a(n) = 7 * a(n - 1) - 6 * a(n - 2) for n > 1. • a(n) =
6 * a(n - 1) - 4 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A261266] • 1,2,8,44,264,1632,10256,65200,418144,2700224,17534208,114380
928,748988928,4920379648,32413343488,214038123264,1416349369856,938975
6730368,62352450867200,414660440811520,2761261291024384 ⋆ Expansion of
((x-1/2)*(1/sqrt(8*x^2-8*x+1)+1)-x)/(x-1). • a(n) = Sum _{ l=0..n } (C(n,l
) * Sum _{ i=l..n } (C(i + l - 1,i) * C(n - l,n - i))). •

[A141147] • 2,8,44,268,1732,11624,80096,562748,4013396,28964128,21105412
0,1550226880,11463513440,85257846080,637243586944,4783617720892,3604641
6801268,272543202174704,2066898899119448,15717398604230888 ⋆ Number of
linear arrangements of n blue, n red and n green items such that the first item
is blue and there are no adjacent items of the same color (first and last elements
considered as adjacent). • a(n) = Sum[k=0..[n / 2]] binomial(n,2k) * binomial
(2k,k) * binomial(n - 1 + k,k) * 2 ^ (n - 2k) • a(n) = 2 ^ n * Hypergeometric(
[n,(1 - n) / 2, - n / 2],[1, 1],1). - Peter Luschny, Jan 15 2012 •

[A179489] • 1,1,2,8,44,288,2172,18516,175352,1819868,20491844,248417128,3
221797252,44464876996,650076797232,10028658649668,162695157490644,2767
333692834768,49221196196394252,913310582666986596 ⋆ G.f.: A(x) = x/(1 -
(1-3x)*A(x/(1-3x))). • a(n) = the upper left term in M ^ (n - 1), M = an infi
nite square production matrix with the series 3 * n - 2 as the main diagonal: •

[A240165] • 1,2,8,44,288,2192,18976,182912,1934848,22231808,275203584,36
45178880,51370694656,766634946560,12066538676224,199607631945728,3459
736006950912,62662715180515328,1183139425871331328,2323768944440351 12
96,4738525251317829468 16,10014501808427774246912 ⋆ E.g.f.: exp(x*(1 +
exp(2*x))). • a(n) = Sum _{ k=0..n } binomial(n,k) * (2 * k + 1) ^ (n - k) f
or n>=0. •

[A111537] • 1,2,8,44,296,2312,20384,199376,2138336,24936416,314142848,42
52773824,61594847360,950757812864,15586971531776,270569513970944,49590
71121374720,95721139472072192,1941212789888952320,4127130440357122764
8,91180304112122977575576,2132505472004261356544 0 ⋆ Column 1 of triangle
A111536. • a(n + 1) = (n + 3)! - 2 * (n + 2)! - sum((n - k + 1)! * a(k + 1),
k=0..n - 1) • a(n + 1) is the moment of order n for the measure of density x *
exp(- x) / ((x * exp(- x) * Ei(x) - 1) ^ 2 + (Pi * x * exp(- x)) ^ 2) on the in
terval 0..infinity •

[A052897] • 1,2,8,44,304,2512,24064,261536,3173888,42483968,621159424,984
1950208,167879268352,3065723549696,59651093528576,1231571119812608,268
83546193002496,618463501807058944 ⋆ E.g.f.: exp(2*x/(1-x)). • a(n)=n! * L
(n, - 1, - 2) - _ Karol A. Penson _ , Oct 16 2006 [Here L(n,a,x) is the n - th g
eneralized Laguerre polynomial with parameter a, evaluated at x. L(n,a,x) is
1 if n=0, a + 1 - x if n=1 and otherwise (2 * n + a - 1 - x) / n * L(n - 1,a,x) -
(n + a - 1) / n * L(n - 2,a,x). - _ Peter Luschny _ , Nov 20 2011] •

[A172109] • 0,2,8,44,308,2612,25988,296564,3816548,54667412,862440068,1
4857100084,277474957988,5584100659412,120462266974148,277296893647960
4,6784321085558628,175795271514299 0612,4809356099129262 8228 ⋆ T_2(n)
gives the number of ordered partitions of {1,1,2,3,...,n-1}. • a(n) = Sum _{ k
=1..n - 1 } stirling2(n - 1,k) * (k + 1)!. - _ Karol A. Penson _ , Sep 04 2015 •

[A005363] • 1,2,8,44,310,2606,25202,272582,3233738,41454272,567709144,823
0728508,125413517530,1996446632130,33039704641922,566087847780250,1000
6446665899330,181938461947322284,3393890553702212368,6480788524752451
2668,1264344439859632559216 ⋆ Hoggatt sequence. • a(n) = S(5,n) where S(
d,n) is defined in A005364. - _ Sean A. Irvine _ , May 29 2016 •

[A266507] • 2,8,46,268,1562,9104,53062,309268,1802546,10506008,61233502,3
56895004,2080136522,12123924128,70663408246,411856525348,240047574384
2,13990997937704,81545511882382,475282073356588,2770146928257146,16145
599496186288,94103450048860582 ⋆ a(n) = 6*a(n - 1) - a(n - 2) with a(0) = 2,
a(1) = 8. • a(n) = (- sqrt(2) * (1 + sqrt(2)) ^ (2 * n + 1) - 3 * (1 - sqrt(2))
^ (2 * n + 1) - sqrt(2) * (1 - sqrt(2)) ^ (2 * n + 1) + 3 * (1 + sqrt(2)) ^ (2 *
n + 1)) / sqrt(8). •

[A005840] • 1,1,2,8,46,332,2874,29024,334982,4349492,62749906,995818760,17239953438,323335939292,6530652186218,141326092842416,3262247252671414,80009274870905732,2077721713464798210,56952857434896699992,1643312099715631960910 ★ Expansion of (1-x)*e^x/(2-e^x). • a(n + 1) = n * (a(n) - a(n - 1)) + Sum _{ k=0..n } binomial(n, k) * a(k) * a(n - k). - _ Michael Somos _ , Aug 01 2016 • a(n) = (1 - n) + Sum _{ k=0..n - 1 } binomial(n, k) * a(k). - _ Michael Somos _ , Aug 01 2016 •

[A052801] • 1,2,8,46,342,3108,33324,411360,5741856,89379120,1534623936,28804923024,586686138384,12885385945248,303537419684064,7633673997722496,204125888803996800,5782960189212871680 ★ A simple grammar: labeled pairs of sequences of cycles. • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * Stirling1(n, k) * (k + 1)!. - _ Vladeta Jovovic _ , Sep 21 2003 • a(n) = D ^ n(1 / (1 - x) ^ 2) evaluated at x = 0, where D is the operator exp(x) * d / dx. Cf. A052811. - _ Peter Bala _ , Nov 25 2011 • a(n) = Sum _{ k=2..n + 1 } k! * s(n,k) where s(n,k) is the unsigned Stirling number of the first kind, (A132393). (End) •

[A007289] • 1,2,8,46,352,3362,38528,515086,7869952,135274562,2583554048,54276473326,1243925143552,30884386347362,825787662368768,23657073914466766,722906928498737152,23471059057478981762 ★ E.g.f.: (sin 2x + cos x) / cos 3x. • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } (- 1) ^ j * binomial(k,j) * (k - 2 * j) ^ n * I ^ (n - k). - _ Peter Luschny _ , Jul 31 2011 • a(n) = Im(2 * ((1 - I) / (1 + I)) ^ n * (1 + sum _{ j=0..n } (binomial(n,j) * Li _{- j } (I) * 3 ^ j))). - _ Peter Luschny _ , Apr 28 2013 •

[A099765] • 1,1,2,8,46,352,3364,38656,519446,7996928,138826588,2683604992,57176039628,1331300646912,33636118326984,916559498182656,26795449170328038,836606220759859200,27784046218331805100 ★ a(n) = (1/Pi)*(2^n/n)*(n-1)!*Integral_{t>=0} (sin(t)/t)^n dt. • a(n) = (1 / n) * sum(k=0, floor(n / 2), (- 1) ^ k * binomial(n, k) * (n - 2 * k) ^ (n - 1)) •

[A254747] • 1,2,8,47,312,2162,15311,109965,797824,5833298,42910998,317224800,2354712927,17538747124,131017428431,981194304302,7364370502896,55380344444150,417176211054422,3147365470080480,23777750075552262 ★ a(n) = (1 + Sum_{j=0..n} (C(n,j)*C(3*j-1,j))) / 2. • a(n) = (hypergeom([1 / 3,2 / 3, - n],[1 / 2,1], - 27 / 4) + 2) / 3. - _ Peter Luschny _ , Feb 07 2015 •

[A292277] • 0,2,8,48,240,1280,6656,34944,182784,957440,5012480,26247168,137428992,719593472,3767828480,19728629760,103300399104,540888006656,2832126181376,14829205585920,77646727741440,406563546202112,2128794362052608,11146511995895808 ★ a(n) = 2^n*F(n)*F(n+1), where F = A000045. • a(n) = 4 * a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3). •

[A104190] • 2,8,48,270,1392,6862,32440,149114,674344,3003292,13234674,57809228,250594424,1079480960,4624303560,19720668918,83744226026,354354250476,1494620712320,6286217598392 ★ Sums of primes between successive powers of two. • a(n) = Sum[Prime[i], { i, 2 ^ n, 2 ^ (n + 1) - 1 }] •

[A152661] • 0,2,8,48,288,2160,17280,161280,1612800,18144000,217728000,2874009600,40236134400,610248038400,9763968614400,167382319104000,3012881743872000,57621363351552000,1152427267031040000,24329020081766400000,535238441798860800000 ★ Number of permutations of [n] for which the first two entries have the same parity (n>=2). • a(2n) = 2 * (n!) ^ 2 * binomial(2 * n - 2,n); • a(2n + 1) = n! * (n + 1)! * binomial(2n,n - 1). •

[A228568] • 2,8,48,320,2176,14848,101376,692224,4726784,32276480,220397568,1504968704,10276569088,70172803072,479169871872,3271976550400,22342453428224,152563815022592,1041770892754944,7113656621858816,48575085832830976,331691433687777280 ★ a(n) = 2^n*A056236(n). • a(n) = ((4 - 2 * sqrt(2)) ^ n + (2 * (2 + sqrt(2))) ^ n). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n>1. •

[A054726] • 1,1,2,8,48,352,2880,25216,231168,2190848,21292032,211044352,2125246464,21681954816,223623069696,2327818174464,24424842461184,258054752698368,2742964283768832,29312424612462592,314739971287154688,3393951437605044224,36739207546043105280 ★ Number of graphs with n nodes on a circle without crossing edges. • a(n) = ((12 * n - 30) * a(n - 1) - (4 * n - 16) * a(n - 2)) / (n - 1) for n>1. (End) •

[A058864] • 1,2,8,49,402,4144,51515,750348,12537204,236424087,4967735896,115102258660,2915655255385,80164472149454,2377679022913612,75674858155603353,2572626389524849478,93040490884813025684 ★ Number of labeled chordal graphs (connected or not) on n nodes with no induced path P_4. • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * Stirling2(n, k) * (k + 1) ^ (k - 1). - _ Vladeta Jovovic _ , Nov 12 2003 •

[A114619] • 0,2,8,50,288,1682,9800,57122,332928,1940450,11309768,65918162,384199200,2239277042,13051463048,76069501250,443365544448,2584123765442,15061377048200,87784138523762,511643454094368 ★ 2*A079291 (twice squares of Pell numbers). • a(n) = (((1 - Sqrt[2]) ^ n + (1 + Sqrt[2]) ^ n) / 2) ^ 2 + (- 1) ^ (n + 1). The formula (1 - Sqrt[2]) ^ n + (1 + Sqrt[2]) ^ n) / 2) is the that given by Reinhard Zumkeller in A001333. Furthermore, (((A001333) _ (n)) ^ 2 + ((A114619) _ (n)) ^ 2 - 1) ^ (1 / 2) = A001542 _ (n) and (2 * A001542 _ (n) + 1) ^ (1 / 2) = A001333 _ (2n) - Antonio Pane (apane1(AT)spc.edu), Dec 15 2007 •

[A034491] • 2,8,50,344,2402,16808,117650,823544,5764802,40353608,282475250,1977326744,13841287202,96889010408,678223072850,4747561509944,33232930569602,232630513987208,1628413597910450,11398895185373144 ★ 7^n + 1. • a(n) = 7a(n - 1) - 6 = 8a(n - 1) - 7a(n - 2). •

[A186182] • 1,1,2,8,50,388,3363,31132,301156,3007000,30753169,320492869,3391067666,36331532588,393353506931,4296895624750,47300050998991,524168531729460,5842914510975105,65470405191871331,737008925038212059,8331166456981245521 ★ Expansion of 1/(1-x*A002294(x)). • a(n) = sum _{ k=1..n } k / (4 * n - 3 * k) * binomial(5 * n - 4 * k - 1,n - k), n>0; a(0) = 1. •

[A121677] • 1,1,2,8,50,402,3932,45075,588450,8580542,137799497,2410575026,45531000715,921946835474,19895218322982,455271977561120,11000793881924130,279648297003419318,7454931579222301709 ★ a(n) = A121676(n)/(n+1) = [x^n] (1 + x*(1+x)^(n-1))^(n+1) / (n+1). • a(n) = Sum _{ k=0..n + 1 } C(n + 1,k) * C((n - 1) * k,n - k) / (n + 1). •

[A030518] • 0,2,8,52,248,1302,6448,32552,162448,813802,4067448,20345052,101717448,508626302,2543092448,12715657552,63578092448,317891438802,1589456217448,7947285970052,39736424967448,198682149251302,993410721842448,4967053731282552 ★ Number of walks of length n between two vertices on a icosahedron at distance 2. • a(n) = 5 ^ n / 12 - (- 1) ^ n / 12 - (sqrt(5)) ^ (n + 1) / 20 - (- sqrt(5)) ^ (n + 1) / 20. • a(n) = 4 * a(n - 1) + 10 * a(n - 2) - 20 * a(n - 3) - 25 * a(n - 4). (End) • a(n) = (5 ^ n - 1) / 12 for n even. • a(n) = (- 6 * 5 ^ ((n - 1) / 2) + 5 ^ n + 1) / 12 for n odd. (End) •

[A079503] • 0,2,8,54,320,1250,3672,8918,18944,36450,65000,109142,174528,268034,397880,573750,806912,1110338,1498824,1989110,2600000,3352482,4269848,5377814,6704640 ★ (n-1)^3*((n-2)^2-2*(n-3)). • a(1)=0, a(2)=2, a(3)=8, a(4)=54, a(5)=320, a(6)=1250, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Dec 30 2012 •

[A113248] • 0,0,2,8,56,336,2496,19968,181248,1812480,19956480,239477760,3113487360,43588823040,653836861440,10461389783040,177843708887040,3201186759966720,60822550111518720,1216451002230374400 ★ Number of permutations pi in S_n such that maj pi and maj pi^(-1) have opposite parity where maj is the major index. Equivalently, the number of pi such that maj pi and inv pi have opposite parity where inv is the inversion number. • a(2n) = 2 n ^ 2 a(2n - 2) + 2 n (n - 1) b(2n - 2) and a(2n + 1) = 2 n (n + 1) a(2n - 1) + 2 n ^ 2 b(2n - 1) where b(n) is sequence A113247 •

[A124212] • 1,2,8,56,560,7232,114368,2139776,46223360,1132124672,30999600128,938366468096,31114518056960,1121542540992512,43664751042265088,1826043989622358016,81635676596544143360 ★ E.g.f.: exp(x)/sqrt(2-exp(2*x)). • a(n) = 1 / sqrt(2) * Sum _{ k >= 0 } (1 / 8) ^ k * binomial(2 * k,k) * (2 * k + 1) ^ n = 1 / sqrt(2) * Sum _{ k >= 0 } (- 1 / 2) ^ k * binomial(- 1 / 2, k) * (2 * k + 1) ^ n. Cf. A176785, A124214 and A229558. • a(n) = Sum _{ k = 0..n } (Sum _{ i = 0..k } (- 1) ^ (k - i) / 4 ^ k * binomial(2 * k,k) * binomial(k,i) * (2 * i + 1) ^ n). (End) •

[A214872] • 1,2,8,59,663,10609,225219,6057298,199290037,7805646133,356263294786,18626811747385 ★ The number of subsets of positive integers of cardinality n, produced as the steps in a computation starting with 1 and using the operations of multiplication, addition, or subtraction. • a(n) >= a(n - 1) * 2 * (n - 1) and a(2)=2 Hence a(n) >= 2 ^ (n - 1) * (n - 1)! . •

[A052707] • 0,2,8,64,640,7168,86016,1081344,14057472,187432960,2549088256,35223764992,493132709888,6979724509184,99710350131200,1435829041889280,20819521107394560,303720072625520640,4454561065174302720 ★ Odd powers of 2 multiplied by Catalan numbers. • a(n) = 16 ^ n * (GAMMA(n - 1 / 2) / (8 * GAMMA(n + 1) * Pi ^ (1 / 2))), n>0. •

[A086594] • 2,8,66,536,4354,35368,287298,2333752,18957314,153992264,1250895426,10161155672,82540140802,670482282088,5446398397506,44241669462136,359379754094594,2919279702218888,23713617371845698,192628218676984472,1564739366787721474 ★ a(n) = 8*a(n-1) + a(n-2), starting with a(0)=2 and a(1)=8. • a(n) = (4 + sqrt(17)) ^ n + (4 - sqrt(17)) ^ n. •

[A026739] • 1,1,2,8,72,384,3840,80640,645120,10321920,309657600,3715891200,102187008000,3310859059200,51011754393600,1428329123020800,68559797904998400,1942527607308288000 ★ Number of subgroups L of Z^n with the property that for every a in Z^n there exists precisely one b in L with d(a,b) <= 1. Here d denotes Euclidean distance. • a(n) = 2 ^ n * n! * sum(1 / |Aut(G)|), where the sum is over all isomorphism classes of Abelian groups of order 2 * n + 1. •

[A060635] • 2,8,72,450,3200,21632,149058,1019592,6993800,47922050,328499712,2251473408,15432082562,105772401800,724976569800,4969058770242,34058447431808,233440040239232,1600021920672450,10966713178192200 ★ a(n) is the number of 2 X 1 domino tilings of the set S in the plane R^2 consisting of the union of the following two rectangles: rectangle1: |x| <= n, |y| <= 1, rectangle2: |x| <= 1, |y| <= n. • a(n) = 2 * F(n) ^ 2 * F(n + 1) ^ 2 where F(n) is the n - th Fibonacci number - sequence A000045. •

[A038533] • 2,8,128,512,32768,131072,2097152,8388608,2147483648,8589934592,137438953472,549755813888,35184372088832,140737488355328,2251799813685248,9007199254740992,922337203685477580 8 ★ Denominator of coefficients of both EllipticK/Pi and EllipticE/Pi. • a(n) = 2 ^ (1 + 4n - 2 w[n]) with w[n] = A000120 = number of 1's in binary expansion of n •

[A120378] • 2,8,248,2474,2900,6600,24746,105704 ★ Integers n such that 2*11^n-1 is prime. • a(n) = n - th integer k such that 2 * 11 ^ k - 1 is prime. •

[A281899] • 0,1,2,9,10,11,18,19,20,27,28,29,36,37,38,45,46,47,54,55,56,63,64,65,72 ★ a(n) = n + 6*floor(n/3). • a(n) = a(n - 1) + a(n - 3) - a(n - 4). • a(n) = 3 * n - 2 * (n mod 3). In general, n + 3 * h * floor(n / 3) = (h + 1) * n - h * (n mod 3). • a(n) + a(n + s) = a(2 * n + s - 1) + 1, where s is nonnegative and not divisible by 3. Example: for s=14, a(n) + a(n + 14) = a(2 * n + 13) + 1; for n=3, a(3) + a(17) = a(19) + 1 = 9 + 47 = 55 + 1 = 56. • a(6 * k + r) = 18 * k + a(r), where 0 <= r <= 5. •

[A031443] • 2,9,10,12,35,37,38,41,42,44,49,50,52,56,135,139,141,142,147,149,150,153,154,156,163 ★ Digitally balanced numbers: numbers that in base 2 have the same number of 0's as 1's. • a(n + 1) = a(n) + 2 ^ k + 2 ^ (m - 1) - 1 + int((2 ^ (k + m) - 2 ^ k) / a(n)) * (2 ^ (2 * m) + 2 ^ (m - 1)) where k is the largest integer such that 2 ^ k divides a(n) and m is the largest integer such that 2 ^ m divides a(n) / 2 ^ k + 1. - Ulrich Schimke (UlrSchimke(AT)aol.com) •

[A047468] • 1,2,9,10,17,18,25,26,33,34,41,42,49,50,57,58,65,66,73,74,81,82,89,9

0,97 ⋆ Numbers that are congruent to {1, 2} mod 8. • a(n) = 8 * n - a(n - 1) - 13 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 1 + 8 * floor((n - 1) / 2) + ((n - 1) mod 2). - _ Alois P. Heinz _ , May 13 2012 • a(n) = (- 3 * (3 + (- 1) ^ n) + 8 * n) / 2. - _ Colin Barker _ , May 14 2012 • a(1)=1, a(2)=2, a(3)=9, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Mar 26 2013 •

[A081346] • 1,2,9,10,25,26,49,50,81,82,121,122,169,170,225,226,289,290,361,362,441,442,529,530,625 ⋆ First column in maze arrangement of natural numbers A081344. • a(n)=n ^ 2 + n + 1 + n * (- 1) ^ n. •

[A179888] • 2,9,10,37,38,41,42,149,150,153,154,165,166,169,170,597,598,601,602,613,614,617,618,661,662 ⋆ Starting with a(1)=2: if m is a term then also 4*m+1 and 4*m+2. • a(n) = 4 * a(floor(n / 2)) + n mod 2 + 1 for n>1; • a(n)=SUM((bit(k) + 1) * 4 ^ k: 0<=k<=L), where bit() and L such that n=SUM(bit(k) * 2 ^ k: 0<=k<=L). •

[A072065] • 0,2,9,11,12,14,21,23,24,26,33,35,36,38,45,47,48,50,57,59,60,62,69,71,72 ⋆ Define a "piece" to consist of 3 mutually touching pennies welded together to form a triangle; sequence gives side lengths of triangles that can be made from such pieces. • a(1)=0, a(2)=2, a(3)=9, a(4)=11, a(5)=12, a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Jan 30 2015 • a(n) = (3 / 4 + (3 * i) / 4) * (i ^ n - i * (- i) ^ n) - (- 1) ^ n / 2 + 3 * (n + 1) - 5 where i = sqrt(- 1). •

[A043307] • 1,2,9,11,18,19,82,83,99,100,163,164,171,173,738,740,747,748,892,893,900,902,1467,1469,1476 ⋆ a(n) = A033001(n)/4. • a(4k + 5) = 9 * a(2k + 2). •

[A022114] • 2,9,11,20,31,51,82,133,215,348,563,911,1474,2385,3859,6244,10103,16347,26450,42797,69247,112044,181291,293335,474626 ⋆ Fibonacci sequence beginning 2 9. • a(n) = 10 * F(n) + F(n - 3). - _ J. M. Bergot _ , Jul 17 2017 •

[A041099] • 1,1,2,9,11,20,291,311,602,2719,3321,6040,87881,93921,181802,821129,1002931,1824060,26539771,28363831,54903602,247978239,302881841,550860080,8014922961 ⋆ Denominators of continued fraction convergents to sqrt(57). • a(n) = 302 * a(n - 6) - a(n - 12). G.f.: - (x ^ 4 - x ^ 3 + 2 * x ^ 2 + x + 1) * (x ^ 6 - 10 * x ^ 3 - 1) / (x ^ 12 - 302 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2012] •

[A041581] • 1,1,2,9,11,20,691,711,1402,6319,7721,14040,485081,499121,984202,4435929,5420131,9856060,340526171,350382231,690908402,3114015839,3804924241,6918940080,239048886961 ⋆ Denominators of continued fraction convergents to sqrt(308). • a(n) = 702 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A041651] • 1,1,2,9,11,42,53,254,307,561,20503,21064,41567,187332,228899,874029,1102928,5285741,6388669,11674410,426667429,438341839,865009268,3898378911,4763388179 ⋆ Denominators of continued fraction convergents to sqrt(344). • a(n) = 20810 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A042687] • 1,1,2,9,11,75,86,161,569,3575,11294,14869,26163,171847,198010,963887,1161897,2125784,124457369,126583153,251040522,1130745241,1381785763,9421459819,10803245582 ⋆ Denominators of continued fraction convergents to sqrt(873). • a(n) = 125619266 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A041335] • 1,2,9,11,97,593,690,1283,1973,3256,8485,20226,28711,48937,77648,126585,837158,6823849,7661007,37467877,82596761,2184983663,4452564087,19995240011,24447804098 ⋆ Denominators of continued fraction convergents to sqrt(181). • a(n) = 2222451540 * a(n - 21) + a(n - 42) for n>41. [_ Bruno Berselli _ , Dec 16 2013] •

[A178312] • 0,1,2,9,12,30,36,70,80,135,150,231,252,364,392,540,576,765,810,1045,1100,1386,1452,1794,1872 ⋆ n * T(ceiling(n/2)), where T are the triangular numbers, A000217. • a(n) = (n, n, n, n, n,...) * (1, 0, 2, 0, 3,...) using length n vectors. • a(n) = n * A000217 (A110654 (n)). • a(n) = n * (2 * n * (n + 3) - (2 * n + 3) * (- 1) ^ n + 3) / 16. - _ Bruno Berselli _ , Feb 14 2011 •

[A253608] • 2,9,12,35,42,49,56,135,150,165,180,195,210,225,240,527,558,589,620,651,682,713,744,775,806 ⋆ The binary representation of a(n) is the concatenation of n and the binary complement of n, A035327(n). • a(n) = (n + 1) * (2 ^ BL(n) - 1), where BL(n) is the binary length of n. •

[A129345] • 2,9,12,53,70,309,408,1801,2378,10497,13860,61181,80782,356589,470832,2078353,2744210,12113529,15994428,70602821,93222358,411503397,543339720,2398417561,3166815962 ⋆ a(2n) = A001542(n+1), a(2n+1) = A038761(n+1), a Pellian-related sequence. • a(n) = ((- 1 - sqrt(2)) ^ (1 + n) - (- 1 + sqrt(2)) ^ (1 + n) + (1 - sqrt(2)) ^ n * (- 4 + 3 * sqrt(2)) + (1 + sqrt(2)) ^ n * (4 + 3 * sqrt(2))) / (2 * sqrt(2)). • a(n) = 6 * a(n - 2) - a(n - 4) for n>3. •

[A144472] • 1,2,9,13,31,57,119,233,471,937,1879,3753,7511,15017,30039,60073,120151,240297,480599,961193,1922391,3844777,7689559,15379113,30758231 ⋆ Negative values along the main diagonal of the array defined by A020806 and its differences. • a(n) = 11 * 2 ^ (n - 2) / 3 - 5 * (- 1) ^ n / 3, n>1. - _ R. J. Mathar _ , Oct 24 2008 • a(n) = (11 * 2 ^ n - 20) / 12 for n>1 and even. • a(n) = (11 * 2 ^ n + 20) / 12 for n>1 and odd. • a(n) = a(n - 1) + 2 * a(n - 2) for n>3. •

[A131189] • 2,9,16,23,30,37,51,58,65,72,79,86,100,107,114,121,128,135,149,156,163,170,177,184,198 ⋆ Numbers n>=0 such that d(n) = (n^1 + 1) (n^2 + 2) ... (n^14 + 14) / 14!, e(n) = (n^1 + 1) (n^2 + 2) ... (n^15 + 15) / 15!, and f(n) = (n^1 + 1) (n^2 + 2) ... (n^16 + 16) / 16! take nonintegral values. • a(n) = 7 * [(7n + 1) / 6] - 5, if n mod 6 = 5; a(n) = 7 * [(7n + 1) / 6] + 2, otherwise. For e(n) and g(n), proof is similar; see also the comments. - _ Max Alekseyev _ •

[A085960] • 1,2,9,16,25,34,49,64,81,100,121,144,169,196,225,256,289,324,361,400,441,484,529,576,625 ⋆ Size of the largest code of length 4 and minimum distance 3 over an alphabet of size n. This is usually denoted by A_{n}(4,3). • a(n) = 2 if n = 2, a(n) = 34 if n = 6, otherwise a(n) = n ^ 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>9. •

[A213389] • 0,1,2,9,16,35,54,91,128,189,250,341,432,559,686,855,1024,1241,1458,1729,2000,2331,2662,3059,3456 ⋆ Number of (w,x,y) with all terms in {0,...,n} and max(w,x,y) < 2*min(w,x,y). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = n * ceiling(n ^ 2 / 4). - _ Wesley Ivan Hurt _ , Jun 15 2013 • a(n) = n * (2 * n ^ 2 + 3 * (1 - (- 1) ^ n)) / 8. - _ Luce ETIENNE _ , Jul 17 2016 •

[A078707] • 1,1,2,9,16,125,216,2401,4096,59049,100000,1771561,2985984,62748517,105413504,2562890625,4294967296,118587876497,198359290368,6131066257801,10240000000000,350277500542221,584318301411328,2191462443202032 1,36520347436056576 ⋆ Number of vectors of length n that are symmetric about the middle, where each element is drawn from a set of n distinct elements. • a(n) = n ^ (floor((n + 1) / 2)) = n ^ ceiling(n / 2). •

[A083707] • 0,1,2,9,17,37,63,108,165,252,358,506,684,917,1192,1539,1941,2433,2997,3670,4433,5328,6332,7492,8784 ⋆ G.f.: (x+4*x^3+x^5)/((1-x)^2*(1-x^2)^2*(1-x^3)). • a(0)=0, a(1)=1, a(2)=2, a(3)=9, a(4)=17, a(5)=37, a(6)=63, a(7)=108, a(8)=165, a(n)=2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) + a(n - 5) + 3 * a(n - 6) - a(n - 7) - 2 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , May 01 2015 •

[A028881] • 2,9,18,29,42,57,74,93,114,137,162,189,218,249,282,317,354,393,434,477,522,569,618,669,722 ⋆ a(n) = n^2 - 7. • a(n) = a(n - 1) + 2 * n - 1, with a(3)=2. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A083423] • 1,2,9,18,81,162,729,1458,6561,13122,59049,118098,531441,1062882,4782969,9565938,43046721,86093442,387420489,774840978,3486784401,6973568802,31381059609,62762119218,282429536481 ⋆ (5*3^n+(-3)^n)/6. • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] • a(n) = 9 * a(n - 2). - Vincenzo Librandi, Mar 20 2011 •

[A047883] • 0,2,9,20,27,32,39,46,53,60,67,74,81,88,95,102,109,116,123,130,137,144,151,158,165 ⋆ Squares on unbounded chessboard for which the least number of knight's moves from corner (0,0) is n. • a(n)=7 + a(n - 1) for n >= 6. •

[A041285] • 1,2,9,20,489,998,4481,9960,243521,497002,2231529,4960060,121272969,247505998,1111296961,2470099920,60393695041,123257490002,553423655049,1230104800100,30075938857449,61381982514998,275603868917441,612589720349880,14977757157314561 ⋆ Denominators of continued fraction convergents to sqrt(155). • a(n) = 498 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A005476] • 0,2,9,21,38,60,87,119,156,198,245,297,354,416,483,555,632,714,801,893,990,1092,1199,1311,1428 ⋆ a(n) = n*(5*n - 1)/2. • a(n) = C(5 * n,2) / 5 for n>=0. - _ Zerinvary Lajos _ , Jan 02 2007 • a(n) = a(n - 1) + 5 * n - 3 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A131476] • 0,0,2,9,21,41,72,114,170,243,333,443,576,732,914,1125,1365,1637,1944,2286,2666,3087,3549,4055,4608 ⋆ a(n) = floor(n^3/3). • a(n) = (3 * n ^ 3 + 3 * cos(2 * Pi * n / 3) + sqrt(3) * sin(2 * Pi * n / 3) - 3) / 9. - _ Vladimir Reshetnikov _ , Oct 09 2016 • a(n) = (n - 1) * n * (n + 1) / 3 + floor(n / 3). - _ Bruno Berselli _ , Jun 08 2017 •

[A192971] • 1,2,9,21,44,83,149,258,437,729,1204,1975,3225,5250,8529,13837,22428,36331,58829,95234,154141,249457,403684,653231,1057009 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A056105] • 1,2,9,22,41,66,97,134,177,226,281,342,409,482,561,646,737,834,937,1046,1161,1282,1409,1542,1681 ⋆ First spoke of a hexagonal spiral. • a(n) = 6 * n + a(n - 1) - 5 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 07 2010 •

[A212069] • 0,1,2,9,22,41,72,115,170,243,334,443,576,733,914,1125,1366,1637,1944,2287,2666,3087,3550,4055,4608 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 3*w = x+y+z. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A106058] • 0,0,0,2,9,22,42,70,107,154,212,282,365,462,574,702,847,1010,1192,1394,1617,1862,2130,2422,2739 ⋆ 4th diagonal of triangle in A059317. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: - x ^ 3 * (- 2 - x + 2 * x ^ 2) / (x - 1) ^ 4. [From _ R. J. Mathar _ , Feb 06 2010] •

[A166754] • 1,2,9,22,53,114,241,494,1005,2026,4073,8166,16357,32738,65505,131038,262109,524250,1048537,2097110,4194261,8388562,16777169,33554382,67108813 ⋆ a(n) = 4*A061547(n+1) - 3*A166753(n). • a(n) = (2 ^ (n + 3) + (- 1) ^ n - (4 * n + 7)) / 2. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4). •

[A091002] • 0,0,1,2,9,22,77,210,673,1934,5973,17578,53417,158886,479389,1432706,4309041,12905278,38759525,116191194,348748345,1045895510,3138385581,9413758642,28244072129 ⋆ Number of walks of length n between non-adjacent nodes on the Petersen graph. • a(n)=sum(binomial(n - k, k) * 6 ^ (k - 1), k=1..n). - _ Zerinvary Lajos _ , Sep 30 2006 •

[A254710] • 1,2,9,22,119,300,1651,4172,22989,58102,320189,809250,4459651,11271392,62114919,156990232,865149209,2186591850,12049974001,30455295662,167834486799,424187547412,2337632841179,5908170368100,32559025289701 ⋆ Indices of centered square numbers (A001844) which are also pentagonal numbers (A000326). • a(n) = a(n - 1) + 14 * a(n - 2) - 14 * a(n - 3) - a(n - 4) + a(n - 5). •

[A209294] • 2,9,23,44,72,107,149,198,254,317,387,464,548,639,737,842,954,1073,1199,1332,1472,1619,1773,1934,2102 ⋆ a(n) = (7*n^2 - 7*n + 4)/2. • a(n)

= (7 * n ^ 2 - 7 * n + 4) = 7 * T(n) + 2 with T = A000217. • a(n) = a(- n + 1) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Bruno Berselli _ , Jan 18 2013 •

[A101986] • 0,2,9,23,46,80,127,189,268,366,485,627,794,988,1211,1465,1752,2074,2433,2831,3270,3752,4279,4853,5476 ⋆ a(n) is the maximum sum of products of successive pairs in a permutation of order n. • a(n) = n * (2 * n ^ 2 + 9 * n + 1) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n> 3, a(0)=0, a(1)=2, a(2)=9, a(3)=23. - _ L. Edson Jeffery _ , Jan 17 2012 •

[A154118] • 1,2,9,23,51,107,219,443,891,1787,3579,7163,14331,28667,57339,114683,229371,458747,917499,1835003,3670011,7340027,14680059,29360123,58720251 ⋆ Expansion of (1 - x + 5x^2)/((1-x)*(1-2x)). • a(n) = 7 * 2 ^ (n - 1) - 5, n>=1, with a(0)=1. • a(n) = 2 * a(n - 1) + 5, n>1, with a(0)=1, a(1)=2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>2, with a(0)=1, a(1)=2, a(2)=9. •

[A133469] • 1,2,9,23,86,247,849,2578,8521,26567,86214,272183,875681,2780962,8910729,28377463,90752566,289394807,924662769,2950426418,9423065801,30076050727,96037511334,306569866423,978832445761 ⋆ a(n) = a(n-1) + 7*a(n-2) for n >= 2, a(0)=1, a(1)=2. • a(n) = ((29 + 3 * sqrt(29)) / 58) * (0.5 + 0.5 * sqrt(29)) ^ n + ((29 - 3 * sqrt(29)) / 58) * (0.5 - 0.5 * sqrt(29)) ^ n. - _ Richard Choulet _ , Nov 20 2008 •

[A204556] • 1,2,9,24,45,90,133,224,297,450,561,792,949,1274,1485,1920,2193,2754,3097,3800,4221,5082,5589,6624,7225 ⋆ Left edge of the triangle A045975. • a(n) = n * (2 * n ^ 2 - 3 * n + (- 1) ^ n * (n - 3) + 3) / 4. • a(n) = (n ^ 3 - n ^ 2) / 2 for n even. • a(n) = (n ^ 3 - 2 * n ^ 2 + 3 * n) / 2 for n odd. •

[A185669] • 2,9,24,47,78,117,164,219,282,353,432,519,614,717,828,947,1074,1209,1352,1503,1662,1829,2004,2187,2378 ⋆ a(n) = 4*n^2 + 3*n + 2. • a(n) = a(n - 1) + 8 * n - 1. • a(n) = 2 * a(n - 1) - a(n - 2) + 8. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A006002] • 0,2,9,24,50,90,147,224,324,450,605,792,1014,1274,1575,1920,2312,2754,3249,3800,4410,5082,5819,6624,7500 ⋆ a(n) = n*(n+1)^2/2. • a(n) = (n + 1) * C(n + 1,2), n>0. - _ Zerinvary Lajos _ , Jan 10 2006 • a(n) = 2 * C(n + 1,2) + 3 * C(n + 1,3). - _ Gary Detlefs _ , Jun 06 2010 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 14 2012 • a(n) = Sum _{ j=1..n } (Sum _{ i=1..j } (2 * j - i + 1)). - _ Wesley Ivan Hurt _ , Nov 17 2014 • a(n) = Sum _{ i=0..n } n * (n - i) + i. - _ Bruno Berselli _ , Jan 13 2016 •

[A122006] • 0,1,2,9,24,81,234,729,2160,6561,19602,59049,176904,531441,1593594,4782969,14346720,43046721,129133602,387420489,1162241784,3486784401,10460294154,31381059609,94143001680 ⋆ Expansion of x^2*(1-x)/((1-3*x)*(1-3*x^2)). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3). - _ Philippe Deléham _ , Mar 09 2009 • a(n) = 3 ^ (n - 2) for n even. • a(n) = 3 ^ (n - 2) - 3 ^ ((n - 3) / 2) for n odd. (End) •

[A213720] • 0,0,1,2,9,24,97,314,1285,4740,20161,81782,364037,1590768,7415361,34458418,167934917,822644860,4181343201,21456885262,113446435685,606954796712,3329669253153,18503539170954,105074939752933 ⋆ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n+2)*a(n-2) + 1. • a(n) = 2 * a(n - 1) + (n + 1) * a(n - 2) - (n + 1) * a(n - 3) with a(0)=a(1)=0, a(2)=1. - _ Vincenzo Librandi _ , Dec 24 2012 •

[A073981] • 0,2,9,24,126,972,7056,46656,297432,1806624,10478160,60466176,356638464,2142770112,12958657344,78328332288,471877757568,2832129868032,16960580969472,101559956668416,608764662139392,3652649829734400,21926486787222528,131621703842267136 ⋆ Number of strings of length n over Z_6 with trace 1 and subtrace 4. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A005582] • 0,2,9,25,55,105,182,294,450,660,935,1287,1729,2275,2940,3740,4692,5814,7125,8645,10395,12397,14674,17250,20150 ⋆ a(n) = n*(n+1)*(n+2)*(n+7)/24. • a(n) = binomial(n + 3, n - 1) + binomial(n + 2, n - 1). • a(n) = binomial(n,4) + 2 * binomial(n,3), n>=2. - _ Zerinvary Lajos _ , Jul 26 2006 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = Sum _{ k=1..n } (Sum _{ i=1..k } i(n - k + 2)). - _ Wesley Ivan Hurt _ , Sep 26 2013 •

[A116454] • 0,2,9,25,59,129,271,557,1131,2281,4583,9189,18403,36833,73695,147421,294875,589785,1179607,2359253,4718547,9437137,18874319,37748685,75497419 ⋆ Smallest m such that A116452(m) = n. • a(n + 1) = (a(n) + n) * 2 + 1 for n>1. • a(0)=0, a(1)=2, a(2)=9, a(3)=25, a(n)=4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) [From Harvey P. Dale, Jul 18 2011] •

[A295143] • 1,2,9,25,65,162,397,966,2340,5658,13669,33010,79704,192434,464589,1121630,2707868,6537386,15782661,38102730,91988144,222079042 ⋆ Solution of the complementary equation a(n) = 2*a(n-1) + a(n-2) + b(n-1), where a(0) = 1, a(1) = 2, b(0) = 3, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 1 + sqrt(2). •

[A093122] • 0,1,2,9,25,88,273,903,2890,9405,30349,98352,318045,1029587,3331210,10781001,34886465,112897544,365339961,1182271695,3825900650,12380892261,40065380357,129654340704,419570185125 ⋆ Jacobsthal(n)*Fibonacci(n+1). • a(n)=(2 ^ n / 3 - (- 1) ^ n / 3)(((1 + sqrt(5)) / 2) ^ (n + 1) / sqrt(5) - ((1 - sqrt(5)) / 2) ^ (n + 1) / sqrt(5)). •

[A082289] • 2,9,26,59,116,206,340,530,790,1135,1582,2149,2856,3724,4776,6036,7530,9285,11330,13695,16412,19514,23036,27014,31486 ⋆ Expansion of x^4*(2+x)/((1-x)*(1-x)^5). • a(4)=2, a(5)=9, a(6)=26, a(7)=59, a(8)=116, a(9)=206, a(n)=4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). - _ Harvey P. Dale _ , Aug 26 2013 •

[A213387] • 0,2,9,26,63,140,297,614,1251,2528,5085,10202,20439,40916,81873,163790,327627,655304,1310661,2621378,5242815,10485692,20971449,41942966,83886003 ⋆ a(n) = 5*2^(n-1)-2-3*n. • a(1)=0, a(2)=2, a(3)=9, a(n)=4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Sep 28 2012 •

[A153977] • 2,9,27,65,135,252,434,702,1080,1595,2277,3159,4277,5670,7380,9452,11934,14877,18335,22365,27027,32384,38502,45450,53300 ⋆ One-fourth of partial sums of A153976. • a(0)=2, a(1)=9, a(2)=27, a(3)=65, a(4)=135; for n>4, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 02 2011 •

[A051746] • 2,9,27,66,141,273,490,828,1332,2057,3069,4446,6279,8673,11748,15640,20502,26505,33839,42714,53361,66033,81006,98580,119080 ⋆ a(n) = n(n+7)(n+1)(n^2+2n+12)/120. • a(n) = binomial(n + 4, n - 1) + binomial(n + 1, n - 1). •

[A256233] • 1,2,9,27,74,197,519,1362,3569,9347,24474,64077,167759,439202,1149849,3010347,7881194,20633237,54018519,141422322,370248449,969323027,2537720634,6643838877,17393795999 ⋆ a(n) = L(2*n+1) - 2, where L is A000032. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = (- 2 + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Nov 03 2016 •

[A248658] • 1,1,1,2,9,28,66,153,433,1345,3952,10991,30954,90988,271845,804153,2361457,6979690,20842285,62493914,187274712,561448399,1688263179,5093148285,15393417178 ⋆ G.f.: Sum_{n>=0} x^n * Sum_{k=0..n} binomial(n,k)^3 * x^(2*k). • a(n) = Sum _{ k=0..[n / 3] } C(n - 2 * k,k) ^ 3 . •

[A121643] • 1,1,1,2,9,28,66,153,433,1352,4104,12188,37506,124155,422307,1437135,5058945,18255295,65336580,232233723,832793160,3003712770,10788778026,38582183151,137946936834 ⋆ a(n) = sum of cubes of the coefficients of x^n in x^(n-3k)*A(x^3)^(n-3k+1), as k varies from 0 to floor(n/3) for n>0, with a(0)=1. • a(n) = Sum _{ k=0..[n / 3] } { [x ^ n] x ^ (n - 3k) * A(x ^ 3) ^ (n - 3k + 1) }^ 3 for n>0, with a(0)=1. •

[A131066] • 1,2,9,28,71,162,349,728,1491,3022,6089,12228,24511,49082,98229,196528,393131,786342,1572769,3145628,6291351,12582802,25165709,50331528,100663171 ⋆ Binomial transform of [1, 1, 6, 6, 6,...]. • a(n)=6 * 2 ^ n - 5n - 5. G.f.=(1 - 2x + 6x ^ 2) / [(1 - 2x)(1 - x) ^ 2]. - _ Emeric Deutsch _ , Jun 20 2007 •

[A058877] • 0,2,9,28,75,186,441,1016,2295,5110,11253,24564,53235,114674,245745,524272,1114095,2359278,4980717,10485740,22020075,46137322,96468969,201326568,419430375 ⋆ Number of labeled acyclic digraphs with n nodes containing exactly n-1 points of in-degree zero. • a(n) = Sum _{ 0<k<n } binomial(n, k) * (n - k). - _ Michael Somos _ , Mar 29 2012 •

[A109188] • 1,2,9,28,95,306,987,3144,9963,31390,98483,307836,959257,2981174,9243405,28601712,88342659,272428758,838903371,2579937060,7924966749,24317716038,74546117121,228317474952,698708409525 ⋆ Number of (1,0) steps in all Grand Motzkin paths of length n. • a(n) = n * hypergeom([1 - n / 2, 1 / 2 - n / 2], [1], 4). - _ Peter Luschny _ , Sep 18 2014 •

[A002532] • 0,1,2,9,28,101,342,1189,4088,14121,48682,167969,579348,1998541,6893822,23780349,82029808,282961361,976071762,3366950329,11614259468,40063270581,138197838502,476712029909,1644413252328 ⋆ a(n) = 2*a(n-1) + 5*a(n-2), a(0) = 0, a(1) = 1. • a(2 * n + 1) = 5 * a(n) ^ 2 + a(n + 1) ^ 2. • a(n) = ((1 + sqrt(6)) ^ n - (1 - sqrt(6)) ^ n) / (2 * sqrt(6)). (end) • a(n) = Sum _{ k=0..n } binomial(n, 2 * k + 1) * 6 ^ k. - _ Paul Barry _ , Sep 29 2004 •

[A098518] • 0,1,2,9,28,105,366,1337,4824,17649,64570,237545,875700,3238105,11998182,44550105,165701168,617297761,2302877682,8602038473,32168532940,120425227209,451253210078,1692411415161,6352491269640 ⋆ E.g.f. exp(x)*BesselI(1 • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(n - k, k + 1) * 2 ^ k } . •

[A086511] • 2,9,28,121,336,1081,3060,8409,23527,64541,175198,480865,1304499,3523885,9557956,25874753,70115413,189961183,514272412,1394193581,3779849620,10246935645,27788566030,75370121161,204475052376 ⋆ a(n) is the smallest integer k > 1 such that k > n * pi(k), where pi() denotes the prime counting function. • a(n) >= exp(n / 2 + sqrt(n ^ 2 + 4n) / 2), n >= 6. •

[A041877] • 1,2,9,29,38,105,1088,2281,3369,12388,52921,118230,5018581,10155392,45640149,147075839,192715988,532507815,5517794138,11568096091,17085890229,62825766778,268388957341,599603681460,25451743578661 ⋆ Denominators of continued fraction convergents to sqrt(460). • a(n) = 5071502 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A181545] • 1,1,2,9,29,92,343,1281,4720,17899,68933,266364,1037423,4072439,16065148,63658521,253356763,1012049086,4055596343,16299779331,65683233938,265310551667,1073968967929,4355988107100,17699727361051 ⋆ G.f.: A(x) = Sum_{n>=0} (3n)!/(n!)^3 * x^(3n)/(1-x-x^2)^(3n+1). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k,k) ^ 3. •

[A069006] • 1,2,9,29,105,365,1287,4516,15873,55759,195910,688286,2418195,8495917,29849041,104869718,368442700,1294463368,4547886208,15978257251,56137003923,197228218022,692929213991,2434493909304,8553197751125 ⋆ Let M denote the 5 X 5 matrix with rows /1,1,1,1,1/1,1,1,1,0/1,1,1,0,0/1,1,0,0,0/1,0,0,0,0/ and A(n) = vector (x(n),y(n),z(n),t(n),u(n)) = M^n*A where A is the vector (1,1,1,1,1); then a(n) = t(n). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - a(n - 4) + a(n - 5), n >= 0, with a(- 5)=0, a(- 4)= - 1, a(- 3)=a(- 2)=a(- 1)=0. • (Wolfdieter Lang _ , Nov 04 2013 •

[A268586] • 0,0,0,2,9,30,88,240,624,1568,3840,9216,21760,50688,116736,266240,602112,1351680,3014656,6684672,14745600,32374784,70778880,154140672,334495744 ⋆ Expansion of (x^3*(3*x - 2))/(2*x - 1)^3. • a(n) = 2 ^ (n - 5) * (n - 2) * (n + 5) for n>1. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A273652] • 2,9,30,90,255,693,1820,4644,11565,28215,67650,159822,372827,860265,1966200,4456584,10027161,22413483,49807550,110100690,242221287,530579709,1157628180,2516582700,5452595525 ⋆ Number of forests of labeled rooted trees of height at most 1, with n labels, two of which are used for root nodes and any root may contain >= 1 labels. • a(n) = C(n,2) * Sum _{ j=0..2 } Stirling2(2,j) * j ^ (n - 2). •

[A165653] • 0,0,0,0,1,2,9,31,147,809,5855,54477,633057,8724874,137047391,2391169355,45626910415,942659626031,20937539944549,497209670658529,12566853576025106,336749273734805530,9534909974420181226 ⋆ Number of disconnected 3-regular (cubic) graphs on 2n vertices. • a(n)=D(2n, 3) in the triangle A068933. •

[A082114] • 1,2,9,32,89,210,441,848,1521,2578,4169,6480,9737,14210,20217,28128,38369,51426,67849,88256,113337,143858,180665,224688,276945 ⋆ Diagonal sums of number array A082110. • a(n)=(n + 1) * (n ^ 4 - n ^ 3 + 26 * n ^ 2 - 26 * n + 30) / 30. •

[A074084] • 0,0,0,2,9,32,102,306,883,2480,6828,18514,49597,131568,346194,904738,2350695,6076960,15641304,40103778,102473969,261046144,663180222,1680628946,4249496795 ⋆ Coefficient of q^1 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(2,1). • a(n) = 4a(n - 1) - 2a(n - 2) - 4a(n - 3) - a(n - 4) for n>=5. •

[A053152] • 0,2,9,32,105,332,1029,3152,9585,29012,87549,263672,793065,2383292,7158069,21490592,64504545,193579172,580868589,1742867912,5229128025,15688432652,47067395109,141206379632,423627527505 ⋆ Number of 2-element intersecting families whose union is an n-element set. • a(n) = 1 / 2! * (3 ^ n - 2 ^ n - 1). • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). • a(n) = floor((3 ^ n - 2 ^ n) / 2). - _ Wesley Ivan Hurt _ , Mar 16 2015 •

[A077644] • 1,2,9,32,107,347,1108,3515,11132,35219,111391,352269,1113996,3522791,11140072,35228031,111400846,352280442,1114008610,3522804578,11140086260 ⋆ Number of decimal digits of A070177(n). • a(n) = (Pi * sqrt(2 / 3) * sqrt(10) ^ n - log(48) / 2 - n * log(10)) / log(10) + O(1). - _ Charles R Greathouse IV _ , Jul 10 2012 •

[A292482] • 2,9,32,112,384,1296,4320,14256,46656,151632,489888,1574640,5038848,16061328,51018336,161558064,510183360,1607077584,5050815264,15841193328,49589822592,154968195600,483500770272,1506290861232,4686238234944 ⋆ p-INVERT of the odd positive integers, where p(S) = (1 - S)^2. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) for n >= 3. • a(n) = 16 * 3 ^ (n - 3) * (4 + n) for n >1. - _ Colin Barker _ , Oct 03 2017 •

[A053369] • 2,9,32,115,420,1554,5808,21879,82940,316030,1209312,4644094,17889032,69089700,267444000,1037348415,4030774380,15687019590,61137753600,238580530650,932105099640 ⋆ Linear recursion with Catalan numbers. • a(n) = (7n + 2) * C(n) where C(n)=Catalan numbers (A000108). •

[A006253] • 1,2,9,32,121,450,1681,6272,23409,87362,326041,1216800,4541161,16947842,63250209,236052992,880961761,3287794050,12270214441,45793063712,170902040409,637815097922,2380358351281,8883618307200,33154114877521 ⋆ Number of perfect matchings (or domino tilings) in C_4 X P_n. • a(n) = |U(n,i / sqrt(2))| ^ 2 where U(n,x) denotes the Chebyshev polynomial of the second kind. • a(n - 1) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 2; 1, 1] and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = (2 * (- 1) ^ n + (2 - sqrt(3)) ^ (1 + n) + (2 + sqrt(3)) ^ (1 + n)) / 6. - _ Colin Barker _ , Dec 16 2017 •

[A075364] • 1,2,9,32,125,529,2401,11585,59049,316227,1771561,10343751,62748517,394421215,2562890625,17179869184,118587876497,841567195983,6131066257801,45794672179195,350277500542221,2740695769692949 ⋆ a(n) = floor(geometric mean of n-th row of A075363). • a(n) = floor(n ^ ((n + 1) / 2)). •

[A048498] • 1,2,9,33,101,277,709,1733,4101,9477,21509,48133,106501,233477,507909,1097733,2359301,5046277,10747909,22806533,48234501,101711877,213909509,448790533,939524101 ⋆ 2^(n-1)*(5n-8)+5. • a(0)=1, a(1)=2, a(2)=9, a(n)=5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Jun 14 2011 •

[A202206] • 1,2,9,33,126,477,1809,6858,26001,98577,373734,1416933,5372001,20366802,77216409,292749633,1109898126,4207943277,15953524209,60484402458,229313780001,869394547377,3296124982134 ⋆ a(n) = 3*a(n-1)+3*a(n-2) with a(0)=1 and a(1)=2. • a(n) = 1 / 2 * ((3 / 2 + 1 / 2 * sqrt(21)) ^ n + (3 / 2 - 1 / 2 * sqrt(21)) ^ n) + 1 / 42 * sqrt(21) * ((3 / 2 + 1 / 2 * sqrt(21)) ^ n - (3 / 2 - 1 / 2 * sqrt(21)) ^ n). - Paolo P. Lava, Jan 31 2012. •

[A263685] • 1,1,2,9,33,192,1272,10182,90822,908160,9980160,119761980,1556766780,21794734080,326918753280,5230700053320,88921859605320,1600593472880640,30411275148656640,608225502973147920,12772735543856347920,281000181964839321600,6463004184741681561600 ⋆ Number of inequivalent placements of n nonattacking rooks on n X n board up to rotations of the board. • a(n) = (P(n) + G(n) + 2 * R(n)) / 4, where P,G,R are defined in Robinson (1976). See also Maple code in A000903. •

[A288958] • 2,9,34,105,286,721,1730,4017,9118,20361,44914,98137,212798,458529,982786,2096865,4456126,9436825,19922546,41942601,88079902,184548849,385875394,805305745,1677720926 ⋆ Number of cliques in the n X n rook graph. • a(n) = 1 + 2 * n * (2 ^ n - 1) - n ^ 2. • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5). •

[A120989] • 2,9,34,123,440,1573,5642,20332,73644,268090,980628,3603065,13293540,49234605,182991450,682341000,2551955340,9570762990,35985909180,135628219350,512302356384,1939078493154,7353556121924,27936898370248,106313496846200 ⋆ Level of the first leaf (in preorder traversal) of a binary tree, summed over all binary trees with n edges. A binary tree is a rooted tree in which each vertex has at most two children and each child of a vertex is designated as its left or right child. • a(n) = 2n(7n + 13)binomial(2n + 1,n) / [(n + 2)(n + 3)(n + 4)]. •

[A010763] • 0,2,9,34,125,461,1715,6434,24309,92377,352715,1352077,5200299,20058299,77558759,300540194,1166803109,4537567649,17672631899,68923264409,269128937219,1052049481859,4116715363799,16123801841549,63205303218875 ⋆ a(n) = C(2n+1,n+1) - 1. • a(n) = (n / (2n + 2)) * sum(k = 1, n + 1, C(2n + 2, k) / C(n + 1, k)). - _ Benoit Cloitre _ , Aug 20 2002 • a(n) = sum(i = 1, n, C(n + i, n)). - _ Benoit Cloitre _ , Oct 15 2002 • a(n + 1) = C(2n - 1, n - 1) - 1. - _ Alonso del Arte _ , Dec 15 2012 •

[A077234] • 2,9,34,127,474,1769,6602,24639,91954,343177,1280754,4779839,17838602,66574569,248459674,927264127,3460596834,12915123209,48199896002,179884460799,671337947194,2505467327977,9350531364714,34896658130879,130236101158802 ⋆ Bisection (odd part) of Chebyshev sequence with Diophantine property. • a(n) = 4 * a(n - 1) - a(n - 2) with a(0)=2 and a(1)=9. - _ Philippe Deléham _ , Nov 16 2008 • a(n) = - (5 / 6) * sqrt(3) * [2 - sqrt(3)] ^ n + (5 / 6) * sqrt(3) * [2 + sqrt(3)] ^ n + [2 - sqrt(3)] ^ n + [2 + sqrt(3)] ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •

[A083141] • 2,9,35,91,209,377,629,817,1219,1769,2201,2923,3649,4343,5029,5903,7229,8177,9179,10117,11573,12629,14299,16019,17711,21631 ⋆ Main diagonal of array in A083140. • a(n) = prime(n) * prime(2 * n - 2). •

[A001571] • 0,2,9,35,132,494,1845,6887,25704,95930,358017,1336139,4986540,18610022,69453549,259204175,967363152,3610248434,13473630585,50284273907,187663465044,700369586270,2613814880037,9754889933879,36405744855480 ⋆ a(0) = 0, a(1) = 2, a(n) = 4a(n-1) - a(n-2) + 1. • a(n) = - (1 / 2) - (1 / 4) * sqrt(3) * [2 - sqrt(3)] ^ n + (1 / 4) * sqrt(3) * [2 + sqrt(3)] ^ n + (1 / 4) * [2 - sqrt(3)] ^ n + (1 / 4) * [2 + sqrt(3)] ^ n, with n>=0. [_ Paolo P. Lava _ , Jul 31 2008] • a(n) = sqrt((- 2 + (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n) * (2 + (2 - sqrt(3)) ^ (1 + n) + (2 + sqrt(3)) ^ (1 + n))) / (2 * sqrt(2)). - _ Gerry Martens _ , Jun 05 2015 •

[A092431] • 2,9,35,135,527,2079,8255,32895,131327,524799,2098175,8390655,33558527,134225919,536887295,2147516415,8590000127,34359869439,137439215615,549756338175,2199024304127,8796095119359,35184376283135,140737496743935,562949970198527 ⋆ Numbers having in binary representation a leading 1 followed by n zeros and n-1 ones. • a(n) = 2 ^ (2 * n - 1) + 2 ^ (n - 1) - 1. •

[A289782] • 2,9,35,146,593,2428,9911,40495,165399,675637,2759792,11273144,46048100,188095781,768327108,3138436438,12819777601,52365789305,213901984464,873739509697,3569021260182,14578615958179,59550231769665,243248749683441,993614171826023 ⋆ p-INVERT of the Lucas numbers (A000032), where p(S) = 1 - S - S^2. • a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 7 * a(n - 3) + a(n - 4). •

[A073989] • 1,2,9,36,126,756,6300,46656,297432,1784592,10478160,60963840,358108128,2142770112,12958657344,78364164096,471877757568,2831266545408,16957996040448,101559956668416,608764662139392,3652587972836352,21926486787222528,131623189859008512 ⋆ Number of strings of length n over Z_6 with trace 3 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A007946] • 2,9,36,140,540,2079,8008,30888,119340,461890,1790712,6953544,27041560,105306075,410605200,1602881040,6263890380,24502865310,95937144600,375945078600,1474358525640,5786272150230,22724268808176 ⋆ a(n) = 6*(2*n+1)! / ((n!)^2*(n+3)). • a(n) = C(2n + 2, n) + C(2n + 3, n). - _ Emeric Deutsch _ , May 16 2003 • a(n) = ((6 * (2 * n + 1)) / (n + 3)) * binomial(2 * n,n). • a(x) ~ exp(x * log(4) - (log(Pi) + cos(2 * Pi * x) * (log(x) + 1 / (4 * x))) / 2 + log((12 * x + 6) / (3 + x))). For example, this formula gives a(100) = 0.10602088... * 10 ^ 61. • a(n) = 12 * 4 ^ n * GAMMA(3 / 2 + n) / (sqrt(Pi) * (3 + n) * GAMMA(1 + n)). # _ Peter Luschny _ , Dec 14 2015 • a(n) = 2 * Sum _{ i=0..n } (1 / (i + 1) * binomial(2 * i + 3,i + 3) * binomial(2 * (n - i),n - i)). - _ Vladimir Kruchinin _ , Apr 20 2016 •

[A077836] • 1,2,9,36,141,558,2205,8712,34425,136026,537489,2123820,8392005,33159942,131027301,517737744,2045774961,8083620018,31941398169,126212379444,498712192893,1970597911518,7786567451565,30767632667928,121574394093033 ⋆ Expansion of (1-x)/(1-3*x-3*x^2-3*x^3). • a(0)=1, a(1)=2, a(2)=9, a(n)=3 * a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3). - _ Harvey P. Dale _ , Dec 15 2013 •

[A003125] • 2,9,36,142,558,2189,8594,33796,133097,524743,2070466,8177715,32332378,127948218,506708043,2007924808,7960694208,31576775077,125313590701,497543433995,1976277486929,7852859853208,31214015140480,124106224171554 ⋆ Value of an urn with n balls of type -1 and n+2 balls of type +1. • a(n) = B(n, n + 2). - _ Sean A. Irvine _ , Feb 02 2015 •

[A055841] • 1,2,9,36,144,576,2304,9216,36864,147456,589824,2359296,9437184,37748736,150994944,603979776,2415919104,9663676416,38654705664,154618822656,618475290624,2473901162496,9895604649984,39582418599936,158329674399744 ⋆ Number of compositions of n into 3*j-1 kinds of j's for all j >= 1. • a(n) = 9 * 4 ^ (n - 2), a(0)=1, a(1)=2. • a(0)=1, a(1)=2, a(3)=9, a(n + 1)=4 * a(n) for n >= 3. • a(n) = 4 * a(n - 1) + (- 1) ^ n * C(2,2 - n). •

[A037521] • 2,9,36,146,585,2340,9362,37449,149796,599186,2396745,9586980,38347922,153391689,613566756,2454267026,9817068105,39268272420,157073089682,628292358729,2513169434916,10052677739666,40210710958665 ⋆ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 2, 1, 0. • a(n) = floor(4 ^ (n + 1) / 7). - _ Mircea Merca _ , Dec 26 2010 • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). •

[A289805] • 2,9,36,153,624,2584,10632,43865,180774,745347,3072528,1266685

4,52218790,215273737,887468000,3658604277,15082652352,62178493132,256331858332,1056732372729,4356396740786,17959318086575,74037587378784,305221185520298,1258279413185322 ★ p-INVERT of A103889, where p(S) = 1 - S - S^2. ● a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 8 * a(n - 3) + 8 * a(n - 4) - 2 * a(n - 5) + a(n - 6). ●

[A137955] ● 1,1,2,9,36,172,842,4310,22676,121896,666884,3699973,20771096,117765084,673367034,3878539830,22483446152,131070712924,767929882240,4519387797894,26704456819984,158367557278412,942285096541344,5623496055739052,33653373190735484 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^4)^2. ● a(n) = Sum _{ k=0..n - 1 } C(2 * (n - k),k) / (n - k) * C(4 * k,n - k - 1) for n >0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 ●

[A111601] ● 1,2,9,36,225,1350,11025,88200,893025,8930250,108056025,1296672300,18261468225,255660555150,4108830350625,65741285610000,1187451971330625,21374135483951250,428670161650355625,8573403233007112500 ★ Exponential (binomial) convolution of A001818 (with interspersed zeros) and A000142 (factorials). ● a(n) = n! * sum(binomial(2 * k, k) / (4 ^ k), k= 0..floor((n - 1) / 2)). ● a(n) = (n + 1) / (n ^ 2) * a(n - 1) + (n + 1) / (n - 1) * a(n - 2); a(0)=1, a(1)=2. - Sergei N. Gladkovskii, Jul 27 2012 ●

[A212386] ● 1,1,1,1,1,1,1,2,9,37,121,331,793,1718,3454,6646,12841,26589,61813,158918,426401,1134431,2914055,7171539,16967745 ★ Number of Dyck n-paths all of whose ascents have lengths equal to 1 (mod 6). ● a(n) = Sum _{ k=0..n } (binomial(5 * k - 4 * n - 1,n - k) * binomial(n + 1,6 * k - 5 * n)) / (n + 1) . - _ Vladimir Kruchinin _ , Mar 05 2016 ●

[A206374] ● 2,9,37,149,597,2389,9557,38229,152917,611669,2446677,9786709,39146837,156587349,626349397,2505397589,10021590357,40086361429,160345445717,641381782869,2565527131477,10262108525909,41048434103637,164193736414549,656774945658197 ★ a(n) = (7*4^n - 1)/3. ● a(n) = 4 * a(n - 1) + 1 for n>0, a(0)=2. - _ Bruno Berselli _ , Oct 22 2015 ●

[A178875] ● 0,0,2,9,37,151,606,2426,9708,38835,155343,621377,2485512,9942052,39768214,159072861,636291449,2545165803,10180663218,40722652878,162890611520,651562446087,2606249784355,10424999137429,41699996549724 ★ Partial sums of round(4^n/9). ● a(n)=round((4 * 4 ^ n - 3 * n - 4) / 27) = round((8 * 4 ^ n - 6 * n - 17) / 54). ● a(n)=floor((4 * 4 ^ n - 3 * n - 4) / 27). ● a(n)=ceil((4 * 4 ^ n - 3 * n - 13) / 27). ● a(n)=a(n - 3) + (7 * 4 ^ (n - 2) - 1) / 3, n>2. ● a(n)=5 * a(n - 1) - 4 * a(n - 2) + a(n - 3) - 5 * a(n - 4) + 4 * a(n - 5), n>4. ●

[A012493] ● 0,2,9,37,151,616,2513,10252,41824,170625,696081,2839729,11584946,47261895,192809420,786584466,3208946545,13091204281,53406819691,217878227876,888855064897,3626169232672,14793304131648 ★ Take every 5th term of Padovan sequence A000931, beginning with the fifth term. ● a(n + 3) = 5 * a(n + 2) - 4 * a(n + 1) + a(n). ●

[A106851] ● 0,2,9,37,152,626,2585,10701,44400,184610,769065,3209461,13415048,56153618,235357241,987609501,4148575200,17443003202,73402179657,309116995525,1302649664888,5492768393906,23173154692697,97810060234605 ★ Let M = {{0, 0, 0, 1}, {1, 4, 0, 0}, {0, 1, 0, 0}, {0, 0, 1, 4}}, v[1] = {0, 1, 1, 2}', v[n]=M.v[n-1]; then a(n) = v[n][[1]] ● a(0)=0, a(1)=2, a(2)=9, a(3)=37, a(n)=8 * a(n - 1) - 16 * a(n - 2) + a(n - 4) [From Harvey P. Dale, Aug 05 2011] ●

[A041515] ● 1,1,2,9,38,47,85,2767,2852,5619,25328,106931,132259,239190,7786339,8025529,15811868,71273001,300903872,372176873,673080745,21910760713,22583841458,44494602171,200562250142 ★ Denominators of continued fraction convergents to sqrt(274). ● a(n) = 2814 * a(n - 7) + a(n - 14) for n>13. - _ Vincenzo Librandi _ , Dec 19 2013 ●

[A291265] ● 2,9,38,153,596,2268,8480,31275,114086,412443,1479926,5276664,18711758,66041901,232129190,812934621,2837740232,9877082004,34288573484,118752490863,410394698534,1415492232255,4873386985130,16750755602928,57487476629594 ★ a(n) = (1/3)*A291232(n). ● a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) - a(n - 4) for n >= 5. ● a(n) = (((3 - sqrt(13)) / 2) ^ n * (- 3 + sqrt(13)) * (- 39 + 17 * sqrt(13) - 39 * n) + 2 ^ (- n) * (3 + sqrt(13)) ^ (1 + n) * (39 + 17 * sqrt(13) + 39 * n)) / 338. - _ Colin Barker _ , Aug 26 2017 ●

[A037489] ● 2,9,38,153,614,2457,9830,39321,157286,629145,2516582,10066329,40265318,161061273,644245094,2576980377,10307921510,41231686041,164926744166,659706976665,2638827906662,10555311626649,42221246506598 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. ● a(n) = 4a(n - 1) + a(n - 2) - 4a(n - 3). ●

[A037569] ● 2,9,38,154,617,2470,9882,39529,158118,632474,2529897,10119590,40478362,161913449,647653798,2590615194,10362460777,41449843110,165799372442,663197489769,2652789959078,10611159836314,42444639345257 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,1,2. ● a(n) = 4 * (n - 1) + a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 17 2012 ●

[A291462] ● 2,9,38,161,680,2872,12128,51214,216264,913228,3856328,16284284,68764352,290374208,1226175744,5177825416,21864627616,92328709904,389880441696,1646365025296,6952176889728,29357258422912,123968166486528,523485745182432,2210545926231680 ★ a(n) = (1/2)*A291417(n).. ● a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) - 2 * a(n - 4) for n >= 5. ●

[A001077] ● 1,2,9,38,161,682,2889,12238,51841,219602,930249,3940598,16692641,70711162,299537289,1268860318,5374978561,22768774562,96450076809,408569081798,1730726404001,7331474697802,31056625195209 ★ Numerators of continued fraction convergents to sqrt(5). ● a(n) = 4 * a(n - 1) + a(n - 2), a(0)=1, a(1)=2. ● a(n) = ((2 + sqrt(5)) ^ n + (2 - sqrt(5)) ^ n) / 2. ● a(n) = ((- i) ^ n) * T(n, 2 * i), with T(n, x) Chebyshev's polynomials of the first kind A053120 and i ^ 2 = - 1. ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2k) * 5 ^ k * 2 ^ (n - 2k). - _ Paul Barry _ , Nov 15 2003 ● a(n) = 4 * a(n - 1) + a(n - 2) when n > 2; a(1) = 1, a(2) = 2. - Alex Vinokur (alexvn(AT)barak - online.net), Oct 25 2004 ● a(n) = F(3 * n) / 2 + F(3 * n - 1) where F() = Fibonacci numbers A000045. - _ Gerald McGarvey _ , Apr 28 2007 ●

[A105484] ● 1,2,9,38,177,882,4711,26795,161583,1028992,6896067,48487476,356703531,2738868784,21901044795,182022288438,1569519971934,14017732109520,129480496353104,1235228480628932,12154988981496309,123229919746398894 ★ Number of partitions of {1...n} containing 2 strings of 3 consecutive integers, where each string is counted within a block and a string of more than 3 consecutive integers are counted three at a time. ● a(n)=Sum(c(n, k, 2), k= 1...n), where c(n, k, 2) is the case r =2 of c(n, k, r) given by c(n, k, r)=c(n - 1 , k - 1, r) + (k - 1)c(n - 1, k, r) + c(n - 2, k - 1, r) + (k - 1)c(n - 2, k, r) + c(n - 1, k, r - 1) - c(n - 2, k - 1, r - 1) - (k - 1)c(n - 2, k, r - 1), r=0, 1, .., n - k - 1, k=1, 2, .., n - 2r, c(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j= 0..floor(n / 2)). ●

[A249925] ● 1,2,9,38,186,932,4889,26238,143966,802652,4536874,25932348,149650516,870675912,5101656889,30078478318,178309845686,1062198928812,6355149937934,38172142221748,230094601968876,1391444403490552,8439240940653834,51323083138005388,312896262064813036 ★ G.f. satisfies: A(x) = 1 + 2*x*A(x) + 5*x^2*A(x)^2. ● a(n) = Sum _{ k=0..n } Fibonacci(n - k + 1) * Fibonacci(k + 1) * C(2 * (n - k),n - k) * C(2 * k,k) / ((n - k + 1) * (k + 1)). ● a(n) == 1 (mod 2) iff n = 2 * (2 ^ k - 1) for k>=0. ●

[A202832] ● 1,2,9,38,211,1182,7639,50738,368841,2767202,22132249,182624598,1582522891,14122521662,131109031239,1250794578818,12334766500561,124733099306562,1297921351160809,13821821639912198,150946171640101251,1684074507271422302,19217497036753475959 ★ E.g.f: exp(2*x + 5*x^2/2). ● a(n) = Sum _{ k=0..[n / 2] } 2 ^ (n - 3 * k) * 5 ^ k * n! / ((n - 2 * k)! * k!). ●

[A037737] ● 2,9,39,156,626,2505,10023,40092,160370,641481,2565927,10263708,41054834,164219337,656877351,2627509404,10510037618,42040150473,168160601895,672642407580,2690569630322,10762278521289,43049114085159 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,1,3,0. ● a(n) = 4 * a(n - 1) + a(n - 4) - 4 * a(n - 5). _ Vincenzo Librandi _ , Jun 17 2012 ●

[A037632] ● 2,9,39,158,633,2535,10142,40569,162279,649118,2596473,10385895,41543582,166174329,664697319,2658789278,10635157113,42540628455,170162513822,680650055289,2722600221159,10890400884638,43561603538553 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,1,3. ● a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 17 2012 ●

[A097070] ● 1,2,9,40,175,756,3234,13728,57915,243100,1016158,4232592,17577014,72804200,300874500,1240940160,5109183315,21002455980,86213785350,353452638000,1447388552610,5920836618840,24197138082780,98801168731200,403095046038750 ★ Consider all compositions (ordered partitions) of n into n parts, allowing zeros. E.g., for n = 3 we get 300, 030, 003, 210, 120, 201, 102, 021, 012, 111. Then a(n) is the total number of 1's. ● a(n) = n * binomial(2 * n - 3, n - 1). ● a(n) = Sum _{ k=0..n } k * binomial(n, k) * binomial(n - 2, k - 2). G.f.: x * (1 - 2 * x + (1 - 4 * x) ^ (3 / 2)) / (2 * (1 - 4 * x) ^ (3 / 2)). E.g.f.: (x / 2) * (exp(2 * x) * BesselI(0, 2 * x) + 1). - _ Vladeta Jovovic _ , Sep 17 2004 ●

[A164033] ● 2,9,40,177,782,3453,15244,67293,297050,1311249,5788144,25550121,112783718,497851461,2197622740,9700776213,42821298098,189022355097,834385043896,3683153777697,16258227358910,71767287709581 ★ a(n) = ((4+3*sqrt(2))*(3+sqrt(2))^n + (4-3*sqrt(2))*(3-sqrt(2))^n)/4. ● a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 2, a(1) = 9. ●

[A107979] ● 2,9,40,178,792,3524,15680,69768,310432,1381264,6145920,27346208,121676672,541399104,2408949760,10718597248,47692288512,212206348544,944209971200,4201252581888,18693430269952,83176226243584 ★ a(n) = 4*a(n-1) + 2*a(n-2) for n>1, with a(0)=2, a(1)=9. ● a(n) = 1 / 12 * ((sqrt(6) - 3)(- (2 - sqrt(6)) ^ n) + (3 + sqrt(6))(2 + sqrt(6)) ^ n). - _ Harvey P. Dale _ , Jun 21 2011 ●

[A038112] ● 1,2,9,40,190,924,4578,22968,116325,593450,3045185,15699840,81260816,421993040,2197653240,11472991008,60023749566,314621200260,1651883008050,8685998428800,45734484854520,241098942106440,1272406536645660 ★ a(n) = T(2n,n), where T(n,k) is in A037027. ● a(n) = Sum _{ k=0..n } C(n + k,k) * C(k,n - k). - _ Paul Barry _ , May 13 2006 ● a(n) = Sum _{ j=0..n } binomial(2 * j, n) * binomial(n + j, 2 * j). - _ Zerinvary Lajos _ , Aug 22 2006 ● a(n) = [x ^ n] (1 / (1 - x - x ^ 2)) ^ (n + 1). - _ Paul Barry _ , Mar 23 2011 ●

[A052512] ● 0,1,2,9,40,205,1176,7399,50576,372537,2936080,24617131,218521128,2045278261,20112821288,207162957135,2228888801056,24989309310961,291322555295904,3524580202643155,44176839081266360,572725044269255661,7668896804574138232,105920137923940473079 ★ Number of rooted labeled trees of height at most 2. ● a(n) = Sum _{ k=0..n - 1 } n * C(n - 1,k) * (n - k - 1) ^ k. - _ Alois P. Heinz _ , Mar 15 2013 ●

[A038156] ● 0,0,2,9,40,205,1236,8659,69280,623529,6235300,68588311,823059744,10699776685,149796873604,2246953104075,35951249665216,611171244308689,11001082397556420,209020565553571999,4180411311071440000,87788637532500240021 ★ a(n) = n! * Sum_{k=1..n-1} 1/k!. ● a(n) = floor((e - 1) * n!) - 1. ● a(0) = a(1) = 0, a(n) = n * (a(n - 1) + 1) for n>1. - _ Philippe Deléham _ , Oct 16 2009 ●

[A020698] ● 2,9,41,187,853,3891,17749,80963,369317,1684659,7684661,35053987,159900613,729395091,3327174229,15177080963,69231056357,315801119859,1440543486581,6571115193187,29974488992773,136730214577491,623702094901909,2845050045354563 ★ a(n) = 5*a(n-1) - 2*a(n-2), with a(0)=2, a(1)=9.

• a(k - 1) = [M ^ k] _ 1,3, where M is the 3 X 3 matrix [2,1,2; 1,1,1; 2,1,2]. - _ Simone Severini _ , Jun 12 2006 • a(n) = ((17 + 4 * sqrt(17)) * (5 + sqrt(17)) ^ n + (17 - 4 * sqrt(17)) * (5 - sqrt(17)) ^ n) / (17 * 2 ^ n). •

[A074611] • 2,9,41,189,881,4149,19721,94509,456161,2215269,10814201,53022429,260917841,1287811989,6371951081,31591319949,156882857921,780119322309,3883416742361,19348364235069,96466943268401,481235204714229 ★ 4^n + 5^n. • a(n) = 9 * a(n - 1) - 20 * a(n - 2) with n>1, a(0)=2, a(1)=9. [_ Vincenzo Librandi _ , Jul 21 2010] •

[A192661] • 1,1,2,9,41,206,1150,7023,46279,325845,2432608,19138508,157893016,1360356046,12197663221,113489506443,1092914231524,10869407462093,111421588497433,1175241503062627,12735340966302227,141585732942425447,1612917155538690101 ★ Floor-Sqrt transform of central Stirling numbers of the second kind (A007820). • a(n) = floor(sqrt(stirling2(2 * n,n))). •

[A162273] • 2,9,42,198,936,4428,20952,99144,469152,2220048,10505376,4971196 8,235239552,1113165504,5267555712,24926341248,117952713216,558158231808,2641233111552,12498449278464,59143297001472,279869086338048 ★ a(n) = ((2+sqrt(3))*(3+sqrt(3))^n + (2-sqrt(3))*(3-sqrt(3))^n)/2. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) for n > 1; a(0) = 2, a(1) = 9. •

[A276508] • 0,2,9,42,208,1041,5208,26042,130209,651042,3255208,16276041,81380208,406901042,2034505209,10172526042,50862630208,254313151041,1271565755208,6357828776042,31789143880209,158945719401042,794728590700528,3973642985026041,19868214925130208 ★ a(n) = (2*5^n + 3*(-1)^(floor((n-1)/3)) + (-1)^n)/6. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3). • a(n) = (5 ^ n + sqrt(3) * sin(Pi * n / 3) - cos(Pi * n / 3)) / 3. •

[A121365] • 1,1,1,2,9,43,185,732,2737,9845,34449,118102,398585,1328607,4384393,14348912,46633953,150663529,484275617,1549681962,4939611241,15690529811,49686677721,156905298052,494251688849 ★ a(n) = 6*a(n-1) - 9*a(n-2) + n + 1. • a(n) = (36 + (n - 4) * 3 ^ n + 9 * n) / 36. •

[A002310] • 1,2,9,43,206,987,4729,22658,108561,520147,2492174,11940723,57211441,274116482,1313370969,6292738363,30150320846,144458865867,692144008489,3316261176578,15889161874401,76129548195427,364758579102734,1747663347318243 ★ a(n) = 5*a(n-1) - a(n-2). • a(n) = (1 / 42) * sqrt(21) * [(5 / 2) - (1 / 2) * sqrt(21)] ^ n - 1 / 42 * (5 / 2 + 1 / 2 * sqrt(21)) ^ n * sqrt(21) + (1 / 2) * [(5 / 2) + (1 / 2) * sqrt(21)] ^ n + (1 / 2) * [(5 / 2) - (1 / 2) * sqrt(21)] ^ n, with n>=0. [_ Paolo P. Lava _ , Nov 21 2008] •

[A294270] • 0,2,9,44,100,252,441,848,1296,2150,3025,4572,6084,8624,11025,14912,18496,24138,29241,37100,44100,54692,64009,77904,90000 ★ Sum of the cubes of the parts in the partitions of n into two parts. • a(n) = Sum _{ i=1..floor(n / 2) } i ^ 3 + (n - i) ^ 3. • a(n) = n ^ 2 * (4 * n ^ 2 - 7 * n + 4 + n * (- 1) ^ n) / 16. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n>9. (End) •

[A199308] • 2,9,44,219,1094,5469,27344,136719,683594,3417969,17089844,85449219,427246094,2136230469,10681152344,53405761719,267028808594,1335144042969,6675720214844,33378601074219,166893005371094,834465026855469 ★ (7*5^n+1)/4. • a(n) = 5 * a(n - 1) - 1. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A176479] • 1,2,9,44,225,1182,6321,34232,187137,1030490,5707449,31760676,177435297,994551222,5590402785,31500824304,177880832001,1006362234162,5703029112297,32367243171740,183945502869345,1046646207221582,5961966567317649,33995080211156904 ★ a(n) = (n+1)*A001003(n). • a(n) = Sum _{ k=0..n } binomial(n - 1,n - k) * binomial(n + k,n). - _ Nikos Apostolakis _ , Dec 31 2016 • a(n) = (n + 1) * hypergeom([1 - n, - n], [2], 2). - _ Peter Luschny _ , Jan 02 2017 •

[A162356] • 2,9,44,226,1192,6372,34288,185096,1000736,5414544,29306048,158644768,858873472,4649961024,25175459584,136304222336,737977344512,3995559643392,21632794323968,117124519584256,634137036138496 ★ a(n) = 8*a(n-1)-14*a(n-2) for n>1; a(0) = 2; a(1) = 9. • a(n) = ((4 + sqrt(2)) ^ (n + 1) + (4 - sqrt(2)) ^ (n + 1)) / 4. •

[A026302] • 1,2,9,44,230,1242,6853,38376,217242,1239980,7123765,41141916,238637282,1389206210,8112107475,47495492400,278722764954,1638970147188,9654874654438,56965811111240,336590781348276,1991357644501170 ★ a(n) = number of (s(0), s(1), ..., s(n)) such that s(i) is a nonnegative integer and |s(i) - s(i-1)| <= 1 for i = 1,2,...,n, s(0) = 0, s(2n) = n. Also a(n) = T(2n,n), where T is the array in A026300. • a(n) = binomial(2 * n,n) * hypergeom([- n / 2, 1 / 2 - n / 2],[n + 2],4). - _ Mark van Hoeij _ , Jun 02 2010 • a(n) = [x ^ n] ((1 - x - sqrt(1 - 2 * x - 3 * x ^ 2)) / (2 * x ^ 2)) ^ (n + 1). • a(n) = [x ^ n] (1 / (1 - x - x ^ 2 / (1 - x - x ^ 2 / (1 - x - x ^ 2 / (1 - x - x ^ 2 / (1 - x - x ^ 2 / (1 - ...))))))) ^ (n + 1), a continued fraction. (End) •

[A246812] • 1,2,9,44,241,1374,8145,49512,306729,1927802,12256753,78661620,508786129,3312561638,21688815729,142699137072,942873631497,6253352120322,41611854129585,277723513754364,1858529465302329,12467403845702526,83817799189753785,564633483609422808,3810607016379076521 ★ G.f.: Sum_{n>=0} x^n / (1-x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k] * [Sum_{k=0..n} C(n,k)^2 * 3^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 3 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2. •

[A052881] • 0,0,2,9,44,250,1644,12348,104544,986256,10265760,116915040,1446526080,19323757440,277238626560,4251984710400,69426608025600,1202482800691200,22021300630425600,425162773111910400 ★ E.g.f.: log(1/(1-x))*x/(1-x). • a(n) = 2 * (n - 1) * (n - 1)! * hypergeom([1,1,2 - n], [2,n + 1], - 1)) for n >=2. - _ Peter Luschny _ , Jun 11 2016 •

[A074607] • 2,9,45,243,1377,8019,47385,282123,1686177,10097379,60525225,362974203,2177313777,13062288339,78368947065,470199333483,2821152954177,16926788584899,101560344088905,609360902271963,3656161926847377 ★ a(n) = 3^n + 6^n. • a(n) = 9 * a(n - 1) - 18 * a(n - 2) with a(0)=2, a(1)=9. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A162725] • 1,1,2,9,46,221,1002,4369,18566,77541,320002,1309529,5326686,21572461,87087002,350739489,1410132406,5662052981,22712782002,91044838249,364760483726,1460785327101,5848371485002,23409176469809,936837774686 46 ★ a(n) = 8 a(n-1) - 19 a(n-2) + 12 a(n-3) (n >= 3) with a(0) = a(1) = 1, a(2) = 2. • a(n)= 4 ^ n / 3 - 3 ^ n / 2 + 7 / 6. [From _ Emeric Deutsch _ , Jul 19 2009] •

[A270386] • 1,2,9,46,256,1510,9283,58848,381963,2525916,16958498,115288674,792042589,5490312864,38352695246,269719400974,1908059370583,13568804436340,96942782340802,695513575242284,5008808999633736,36195063931874308,262372258663337954 ★ Expansion of (4/(3*x/(1-x))) * sin((1/3)*arcsin(sqrt(27*x/4/(1-x))))^2. • a(n) = Sum _{ k=0..n } (binomial(n - 1,n - k) * ((binomial(3 * k + 1,k + 1)) / (2 * k + 1))). • a(n) = 2 * hypergeometric([5 / 3, 7 / 3, 1 - n],[5 / 2, 3], - 27 / 4)) for n>0. - _ Peter Luschny _ , Mar 16 2016 •

[A218045] • 0,0,1,2,9,46,262,1588,10053,65686,439658,2999116,20774154,145726348,1033125004,7390626280,53281906861,386732675046,2823690230850,20725376703324,152833785130398,1131770853856100,8412813651862868 ★ Number of truth tables of bracketed formulas (case 3). • a(n + 1) = (Sum _{ k = 0..n } (Sum _{ i=0..n - k } (binomial(k, 2 * k + i + 1 - n) * binomial(k + i - 1, i)) * binomial(2 * n,k)) / n. - _ Vladimir Kruchinin _ , Nov 19 2014 •

[A161798] • 1,2,9,46,262,1590,10081,65986,442518,3024772,20996141,147603198,1048747751,7519252606,54332565330,395264527626,2892666314150,21281120904168,157299607827727,1167582500757800,8699515577902203 ★ G.f. satisfies: A(x) = 1/(1 - x/(1 - x*A(x))^3)^2. • a(n) = Sum _{ k=0..n } C(2 * n - k + 1,k) / (n - k + 1) * C(n + 2 * k - 1,n - k). • a(n,m) = Sum _{ k=0..n } C(2 * n - k + m,k) * m / (n - k + m) * C(n + 2 * k - 1,n - k). •

[A134091] • 1,2,9,46,285,2021,16023,139812,1326111,13544857,147880458,1715413558,21036674321,271585117428,3677831536291,52081368845176,769123715337395,11816582501728389,188470925178659344,3114771205613655362 ★ Column 1 of triangle A134090. • a(n) = [x ^ n] Sum _{ k=0..n + 1 } C(n + 1,k) * x ^ k / (1 - k * x) / [Product _{ i=1..k } (1 - i * x)]. •

[A219614] • 1,1,2,9,46,335,2786,28357,325382,4280859,62437882,1010306825,17852477006,343275422503,7120802805650,158697470231757,3778977532041430,95794295907958547,2574920565897373610,73164585387874543057,2191028450841437523230,68974613397532849153311 ★ Number of ways to put n labeled objects into n labeled boxes so that no two nonempty boxes are adjacent. • a(n) = Sum _{ k>=0 } binomial(n - k + 1,k) * Stirling2(n,k) * k!. •

[A042793] • 1,2,9,47,150,797,3338,7473,451718,910909,4095354,21387679,68258391,362679634,1518976927,3400633488,205556986207,414514605902,1863615409815,9732591654977,31061390374746,165039543528707,691219564489574,1547478672507855,93539939914960874 ★ Denominators of continued fraction convergents to sqrt(927). • a(n) = 455056 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 29 2014 •

[A228341] • 1,2,9,47,291,2084,16963,154751,1564473,17363954,209931921,2746478927,38660636899,582656032412,9361157155491,159722327675759,2884363055319153,54962620378739666,1102136770630112473,23199834803611101599 ★ Third diagonal (T(n,2)) of triangle in A228340. • a(2) = 1, a(3) = 2; thereafter, a(n) = n * a(n - 1) + a(n - 2). •

[A190315] • 1,2,9,48,265,1500,8638,50360,296325,1756160,10467556,62683896,376838098,2272896626,13747543035,83354081728,506467851061,3083121435312,18799746616104,114804614071760,702016963933404,4297947201746176,26342178216979384 ★ Central coefficients of the Riordan matrix ((1-x-x^2)/(1-2x-x^2),(x-x^2-x^3)/(1-2x-x^2)) (A190215). • a(n) = sum(i=0..n,binomial(n + i,n) * sum(j=0..n - i,binomial(i + j - 1,j) * binomial(j,n - i - j))) •

[A174687] • 1,2,9,48,275,1638,9996,62016,389367,2466750,15737865,100975680,650872404,4211628008,27341497800,177996090624,1161588834303,7596549816030,49772989810635,326658445806000,2147042307851595,14130873926790390,93115841412899760 ★ Central coefficients T(2n,n) of the Catalan triangle A033184. • a(n) = [x ^ n] ((1 - sqrt(1 - 4 * x)) / (2 * x)) ^ (n + 1). - _ Ilya Gutkovskiy _ , Nov 01 2017 •

[A153297] • 1,2,9,48,276,1656,10212,64190,409218,2637282,17143506,112224228,738926064,4889332266,32488240779,216664589058,1449568426292,9725637277248,65417353098837,441013558347228,2979206654245122 ★ G.f.: A(x) = F(x*G(x)^2)^2 where F(x) = G(x/F(x)) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)) = 1 + x*G(x)^3 is the g.f. of A001764. • a(n) = Sum _{ k=0..n } C(2k + 2,k) / (k + 1) * C(3n - k,n - k) * 2k / (3n - k) for n>0 with a(0)=1. •

[A153390] • 1,2,9,48,278,1696,10736,69886,465019,3149476,21643433,150554144,1058101315,7502183626,53599160532,385494328218,2788827078507,20280590381098,148167425970522,1087007419753186,8004683588800899 ★ G.f.: A(x) = F(x*G(x))^2 where F(x) = G(x*F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x/G(x)) = 1 + x*G(x)^2 is the g.f. of A000108 (Catalan). • a(n) = Sum _{ k=0..n } C(3k + 2,k) * 2 / (3k + 2) * C(2n - k,n - k) * k / (2n - k) for n>0 with a(0)=1. •

[A074143] • 1,2,9,48,300,2160,17640,161280,1632960,18144000,219542400,2874009600,40475635200,610248038400,9807557760000,167382319104000,3023343138816000,57621363351552000,1155628453883904000 ★ a(1) = 1; a(n) = n * sum {a(k) | k < n}. • a(n) = n ^ 2 * a(n - 1) / (n - 1) for n > 2. • a(n) = ((n + 1)! - n!) / 2 for n > 1. - _ Vladimir Joseph Stephan Orlovsky _ , Apr 03 2011 • a(n) = sum(j = 0..n, (- 1) ^ (n - j) * binomial(n, j) * (j) ^ (n + 1)) / (n + 1), n > 1, a(1) = 1. - _ Vladimir Kruchinin _ , Jun 01 2013 • a(n) = numerator(n! / 2 * n). - _ Vincenzo Librandi _ , Apr 15 2014 • a(n) is F(n;p) = n ^ 2(n - 1)! / 2 if p = n - 1 in A ^ c _ n. For instance for n=4 and p=n - 1: F(4; 4 - 1)= 4 ^ 2(4 - 1)! / 2 = 16 * 6 / 2 = 48. - _ Bakare Gatta Naimat _ , Nov 18 2015 •

[A20557] • 1,1,2,9,48,305,2400,22057,230272,2708001,35412480,509177801,7986468864,135718942801,2483729876992,48699677975145,1018542257111040,22634000289407297,532557637644976128,13226748101381102473,345792863300174479360,9492229607399841038961 ⋆ E.g.f.: 1/(1 - x*cosh(x)). • a(2 * n - 1) == 1 (mod 4), a(2 * n + 2) == 0 (mod 4), for n>=1. •

[A191005] • 1,1,2,9,48,325,2640,24997,270592,3295017,44582400,663532001,10773295104,189494874413,3589475821568,72849709631805,1577078610001920,36275031333172945,883457851718762496,22711455593084360761,614582936996534026240 ⋆ E.g.f. cos(x)/(cos(x)-x) • a(n)=n! * (2 * sum(m..1,(n - 1) / 2, (sum(j=0..m, binomial(n / 2 - m + j - 1,j) * 4 ^ (m - j) * sum(i=0..j, (i - j) ^ (2 * m) * binomial(2 * j,i) * (- 1) ^ (m + j - i)))) / (2 * m)!) + 1), n>0, a(0) =1. •

[A055997] • 1,2,9,50,289,1682,9801,57122,332929,1940450,11309769,65918162,384199201,2239277042,13051463049,76069501250,443365544449,2584123765442,15061377048201,87784138523762,511643454094369,2982076586042450,17380816062160329,101302819786919522 ⋆ Numbers n such that n(n-1)/2 is a square. • a(n) = 6 * a(n - 1) - a(n - 2) - 2; n >= 3, a(1) = 1, a(2) = 2. • a(n) = (1 / 2) + (1 / 4)(3 + 2 * sqrt(2)) ^ n + (1 / 4)(3 - 2 * sqrt(2)) ^ n. - _ Antonio Alberto Olivares _ , Feb 21 2006 • a(n) = + 7 * a(n - 1) - 7 * a(n - 2) + 1 * a(n - 3). - _ Joerg Arndt _ , Mar 06 2013 •

[A115599] • 2,9,50,289,1682,9801,57122,332929,1940450,11309769,65918162,384199201,2239277042,13051463049,76069501250,443365544449,2584123765442,15061377048201,87784138523762,511643454094369,2982076586042450,17380816062160329,101302819786919522 ⋆ Consider all Pythagorean triples (X,X+1,Z) ordered by increasing Z; sequence gives Z-X values. • a(n) = (2 + (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n) / 4. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). •

[A225006] • 1,1,2,9,50,311,2072,14460,104346,772255,5829538,44710705,34742437 6,2729299748,21640457360,172957598120,1391926695402,11270059892943,91740990170150,750364940281275,6163650579487170,50824871829196575 ⋆ G.f. satisfies: A(x) = 1 + x*Sum_{n>=0} (A(x)^2 - 1)^n. • a(n) = (1 / n) * Sum _{ k=0..n - 1 } binomial(n + k - 1, n - 1) * Sum _{ i=ceiling((n - k - 1) / 2)..n - k - 1 } binomial(i, n - k - i - 1) * binomial(n + k + i - 1, n + k - 1), n > 0, a(0)=1. - _ Vladimir Kruchinin _ , Oct 11 2011 •

[A026945] • 1,2,9,51,323,2188,15511,113634,853467,6536382,50852019,400763223,3192727797,25669818476,208023278209,1697385471211,13933569346707,114988706524270,953467954114363,7939655757745265,66368199913921497 ⋆ A bisection of the Motzkin numbers A001006. • a(n) = (2 / Pi) * integral(x= -1..1, (1 + 2 * x) ^ (2 * n) * sqrt(1 - x ^ 2)). - _ Peter Luschny _ , Sep 11 2011 • a(n) = ((9 - 9 * n) * (2 * n - 3) * (4 * n + 1) * a(n - 2) + ((8 * n - 2)) * (10 * n ^ 2 - 5 * n - 3) * a(n - 1)) / ((1 + 2 * n) * (4 * n - 3) * (n + 1)) for n>=2. • a(n) = hypergeom([1 / 2 - n, - n], [2], 4). (End) •

[A193465] • 0,2,9,52,335,2466,20447,189064,1930959,21603430,262869959,3457226268,48880169351,739429561066,11918051268255,203914545928336,3691384616598047,70491995143458894,1416242276574905879,29862732908481855460,659413025994777460119 ⋆ Row sums of triangle A061312. • a(n) = ((n - n ^ 3) * a(n - 3) + (2 * n + n ^ 2 - n ^ 3) * a(n - 2) - (1 - n - 2 * n ^ 2) * a(n - 1)) / n with a(0) = 0, a(1) = 2 and a(2) = 9. •

[A069271] • 1,2,9,52,340,2394,17710,135720,1068012,8579560,70068713,580034052,4855986044,41043559340,349756577100,3001701610320,25921837477692,225083787458904,1963988670706228,17211860478150800,151433425446423120 ⋆ a(n) = binomial(4*n+1,n)*2/(3*n+2). • a(n) is the sum of top row terms in M ^ n, where M is the infinite square production matrix with the triangular series in each column as follows, with the rest zeros: • a(n) = 2 * binomial(4n + 1,n - 1) / n for n>0, a(0)=1. - _ Bruno Berselli _ , Jan 19 2014 •

[A006152] • 1,2,9,52,365,3006,28357,301064,3549177,45965530,648352001,9888877692,162112109029,2841669616982,53025262866045,1049180850990736,21937381717388657,483239096122434354,11184035897992673017 ⋆ Exponential generating function x*exp(x/(1-x)). • a(n) = 2 * (n - 1) * a(n - 1) - (n ^ 2 - 5 * n + 5) * a(n - 2) - (n - 4) * (n - 2) * a(n - 3). - _ Vaclav Kotesovec _ , Oct 05 2012 •

[A052882] • 0,1,2,9,52,375,3246,32781,378344,4912515,70872610,1124723193,19471590876,365190378735,7376016877334,159620144556645,3684531055645648,90366129593683035,2346673806524446218 ⋆ A simple grammar: rooted ordered set partitions. • a(0) = 0, a(1) = 1; a(n) = n! * [x ^ n] exp(x) * Sum _{ k=1..n - 1 } a(k) * x ^ k / k!. - _ Ilya Gutkovskiy _ , Oct 17 2017 •

[A161631] • 1,1,2,9,52,425,4206,50827,713000,11500785,208833850,4226139731,94226705772,2296472176297,60727113115046,1732020500240955,52998549321251536,1731977581804704737,60205422811336194546 ⋆ E.g.f. satisfies: A(x) = 1 + x*exp(x*A(x)). • a(n) = n! * Sum _{ k=0..n } C(n - k + 1,k) / (n - k + 1) * k ^ (n - k) / (n - k)!. • a(n,m) = n! * Sum _{ k=0..n } m * C(n - k + m,k) / (n - k + m) * k ^ (n - k) / (n - k)!. •

[A121678] • 1,2,9,52,425,4236,49294,655096,9731313,159114880,2832245911,54400757016,1119436524947,24532373640334,569732648555295,13962373137304496,359767723241891425,9715902692094061488 ⋆ a(n) = [x^n] (1 + x*(1+x)^n)^(n+1). • a(n) = Sum _{ k=0..n + 1 } C(n + 1,k) * C(n * k,n - k). •

[A074602] • 2,9,53,351,2417,16839,117713,823671,5765057,40354119,282476273,1977328791,13841291297,96889018599,678223089233,4747561542711,33232930635137,232630514118279,1628413598172593,11398895185897431 ⋆ 2^n + 7^n. • a(n) = 7a(n - 1) - 2 ^ n = 9a(n - 1) - 14a(n - 2). •

[A073986] • 0,2,9,54,300,1296,6300,39312,262440,1679616,10349856,62355744,369476640,2179768320,12958657344,77751944064,468419708160,2821109907456,16957996040448,101753146100736,609954817881600,3656158440062976,21926115464435712,131557435432187904 ⋆ Number of strings of length n over Z_6 with trace 2 and subtrace 3. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A089436] • 1,2,9,54,374,2820,22485,186494,1592778,13914108,123750874,1116809628,10201516332,94140605832,876332565837,8219124900558,77594375595266,736785675010380,7031930543228910,67420537625021460,649070964647075700 ⋆ Number of non-crossing connected graphs on n nodes on a circle in which a fixed (distinguished) node has degree one. • a(n) = Sum _{ k=2..2 * n - 4 } 2 * binomial(k - 2, n - 3) * binomial(3 * n - 5, 2 * n - k - 4) / (n - 2) for n > 2. - _ Andrew Howroyd _ , Nov 12 2017 •

[A036074] • 1,2,9,55,412,3619,36333,408888,5080907,68914023,1011165446,15935379409,268125052373,4792458452162,90605469012877,1805135197261131,37775862401203916,827992670793489263 ⋆ E.g.f.: exp((exp(p*x)-p-1)/p+exp(x)) for p=4. • a(n)=sum(sum(binomial(m,i) * sum(binomial(i,j) * (1 / 4) ^ j * (3 * j + i) ^ n,j,0,i) * (- 5 / 4) ^ (m - i),i,0,m) / m!,m,1,n), n>0. [From _ Vladimir Kruchinin _ , Sep 14 2010] •

[A081004] • 2,9,56,378,2585,17712,121394,832041,5702888,39088170,267914297,1836311904,12586269026,86267571273,591286729880,4052739537882,27777890035289,190392490709136,1304969544928658,8944394323791465,61305790721611592,420196140727489674 ⋆ Fibonacci(4n+2)+1, or Fibonacci(2n+2)*Lucas(2n). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 1 + (1 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (3 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n >=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A198953] • 1,2,9,56,400,3095,25240,213633,1859006,16527544,149472480,1370794835,12718060947,119158146283,1125816405458,10714275588727,102615375322564,988302823695146,9565859385140272,93000625498797314,907782305262566776,8892941663606408172 ⋆ G.f. satisfies: A(x) = (1 + x*A(x))*(1 + x*A(x)^3). • a(n) = Sum _{ j=0..n } ((Sum _{ k=0..j } ((binomial(2 * n + 2 * k + 2,j - k) * binomial(n + 2 * k,k)) / (k + n + 1))) * (- 1) ^ (n - j) * binomial(2 * n - j,n - j)). - _ Vladimir Kruchinin _ , Mar 13 2016 •

[A186262] • 1,2,9,56,420,3564,33033,327184,3413124,37119160,417733316,4837527072,57397642640,695394516600,8579210711625,107541060458400,1367139314643300,17599273282621800,229116465142280100,3013124257920348000,39991185556010816400 ⋆ Expansion of 3F2((2, 1/2, 3/2); (3, 4))(16 x). • a(n) = C(2 * n,n) * C(2 * n + 2,n) / C(n + 3,3). - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A047852] • 1,2,9,58,401,2802,19609,137258,960801,6725602,47079209,329554458,2306881201,16148168402,113037178809,791260251658,5538821761601,38771752331202,271402266318409,1899815864228858 ⋆ a(n) = T(4,n), array T given by A047848. • a(n) = (7 ^ n + 5) / 6. - _ Ralf Stephan _ , Feb 14 2004 • a(0) = 1, a(1) = 2, a(n) = 8 * a(n - 1) - 7 * a(n - 2) for n > 1. • a(n) = 7 * a(n - 1) - 5 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A080834] • 1,2,9,58,485,4986,60517,846434,13384233,235915570,4583337761,97257637962,2237249019469,55438067438378,1471848284860605,41673308546595826,1253228243522934737,39886741017817705314 ⋆ E.g.f. exp(x/(1 - x - x^2)) / (1 - x - x^2). • a(n) = 2 * n * a(n - 1) + (n - 1) ^ 2 * a(n - 2) - 2 * (n - 2) ^ 2 * (n - 1) * a(n - 3) - (n - 3) * (n - 2) ^ 2 * (n - 1) * a(n - 4). - _ Vaclav Kotesovec _ , Sep 29 2013 •

[A116364] • 1,2,9,60,490,4534,45689,489920,5508000,64276492,773029466,9531003552,119990158054,1537695160070,20009930706137,263883333450760,3521003563829212,47470845904561648,645960472314074400 ⋆ Row squared sums of Catalan triangle A033184. • a(n) = Sum _{ k=0..n } [C(2 * n - k + 1,n - k) * (k + 1) / (2 * n - k + 1)] ^ 2. •

[A120970] • 1,1,2,9,60,504,4946,54430,655362,8496454,117311198,1711459903,26228829200,420370445830,7021029571856,121859518887327,2192820745899978,40831103986939664,785429260324068156,15585831041632684997,318649154587152781210 ⋆ G.f. satisfies: A(x/A(x)^2) = 1 + x ; thus A(x) = 1 + Series_Reversion(x/A(x)^2). • a(n) = [x ^ (n - 1)] (1 / n) * A(x) ^ (2n) for n >=1 with a(0)=1; i.e., a(n) equals 1 / n times the coefficient of x ^ (n - 1) in A(x) ^ (2n) for n>=1. [_ Paul D. Hanna _ , Nov 16 2008] •

[A074181] • 1,2,9,64,125,1296,16807,262144,531441,10000000,214358881,5159780352,10604499373,289254654976,8649755859375,281474976710656,5826222372229761,20822964865671168,799006685782884121 ⋆ Smallest power of n >= n!. • a(n) = n ^ ceiling(log _ n(n!)) for n>1. •

[A067297] • 1,2,9,64,584,6144,70576,859520,10909440,142773760,1913027840,26115182592,361936623616,5079287545856,72033971859456,1030768222437376,14864066521333760,215791593346695168 ⋆ Convolution of C(2,2; n) := A064340(n) (generalized Catalan numbers) with itself. • a(n)=sum(C(2, 2; k) C(2, 2; n - k), k=0..n). •

[A186183] • 1,1,2,9,68,646,6857,77695,919642,11233858,140544189,1791614714,23187320736,303861373679,4023883823059,53762917329659,723854999871943,9811154512175468,133762940465746744,1833187046654598058,25239961633188882896 ⋆ Expansion of 1/(1-x*A002295(x)). • a(n) = sum(k=1..n, k / (5 * n - 4 * k) * binomial(6 * n - 5 * k - 1,n - k)) if n>0; a(0)=1. •

[A056918] • 2,9,79,702,6239,55449,492802,4379769,38925119,345946302,3074

591599,27325378089,242853811202,2158358922729,19182376493359,170483029517502,1515164889164159,13466000972959929,119678843867475202 ★ a(n) = 9*a(n-1)-a(n-2); a(0)=2, a(1)=9. ● a(n) = { 9 * [((9 + sqrt(77)) / 2) ^ n - ((9 - sqrt(77)) / 2) ^ n] - 2 * [((9 + sqrt(77)) / 2) ^ (n - 1) - ((9 - sqrt(77)) / 2) ^ (n - 1)] }/ sqrt(77). ● a(n) = ap ^ n + am ^ n, with ap := (9 + sqrt(77)) / 2 and am := (9 - sqrt(77)) / 2. ●

[A087798] ● 2,9,83,756,6887,62739,571538,5206581,47430767,432083484,3936182123,35857722591,326655685442,2975758891569,27108485709563,246952130277636,2249677658208287,20494051054152219,186696137145578258 ★ a(n) = 9*a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 9. ● a(n) = ((9 + sqrt(85)) / 2) ^ n + ((9 - sqrt(85)) / 2) ^ n. ●

[A291622] ● 2,9,94,777,3286,10771,29366,69873,149950,297111,553114,980953,1677014,2793771,4584286,7492065,12335422,20688751,35673698,63602601,117391702,223644675,437338630,872239057,1763820926 ★ Number of irredundant sets in the n X n rook complement graph. ● a(n) = 2 * n * (2 ^ n) + (5 * n ^ 6 - 21 * n ^ 5 + 47 * n ^ 4 - 51 * n ^ 3 + 8 * n ^ 2 - 24 * n + 12) / 12 for n > 3. ● a(n) = 11 * a(n - 1) - 53 * a(n - 2) + 147 * a(n - 3) - 259 * a(n - 4) + 301 * a(n - 5) - 231 * a(n - 6) + 113 * a(n - 7) - 32 * a(n - 8) + 4 * a(n - 9) for n > 12. ●

[A041239] ● 1,2,9,101,413,927,20807,42541,190971,2143222,8763859,19670940,441524539,902720018,4052404611,45479170739,185969087567,41741734587,9369150696773,19155718739419,85992025654449 ★ Denominators of continued fraction convergents to sqrt(131). ● a(n) = 21220 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - 2 * x ^ 9 + 9 * x ^ 8 - 101 * x ^ 7 + 413 * x ^ 6 - 927 * x ^ 5 - 413 * x ^ 4 - 101 * x ^ 3 - 9 * x ^ 2 - 2 * x - 1) / (x ^ 12 - 21220 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] ●

[A098610] ● 2,9,101,999,10001,99999,1000001,9999999,100000001,999999999,1000000000,99999999999,1000000000000,9999999999999,10000000000000,999999999999999,100000000000000001,9999999999999999999,10000000000000000001 ★ a(n) = 10^n + (-1)^n. ● a(n) = 9 * a(n - 1) + 10 * a(n - 2) for n > 1. ●

[A295331] ● 1,2,9,128,521,649,1819,2468,11691,166142,676259,842401,2361061,3203462,15174909,215652188,877783661,1093435849,3064655359,4158091208,19697020191,279916373882,1139362515719,1419278889601,3977920294921 ★ Numerators of continued fraction convergents to sqrt(13)/2 = A295330. ● a(n) = 1298 * a(n - 6) - a(n - 12), n >= 12, with inputs a(0)..a(11). ●

[A041795] ● 1,2,9,182,737,1656,66977,135610,609417,12323950,49905217,112134384,4535280577,9182695538,41266062729,834503950118,3379281863201,7593067676520,307101988924001,621797045524522,2794290171022089,56507600465966302 ★ Denominators of continued fraction convergents to sqrt(418). ● a(n) = 67714 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 24 2013 ●

[A042675] ● 1,2,9,263,1061,2385,139391,281167,1264059,36938878,149019571,334978020,19577744731,39490467482,177539614659,5188139292593,20930096785031,47048332862655,2749733402819021,5546515138500697,24935793956821809,728684539886333158 ★ Denominators of continued fraction convergents to sqrt(867). ● a(n) = 140452 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 20 2013 ●

[A007089] ● 0,1,2,10,11,12,20,21,22,100,101,102,110,111,112,120,121,122,200,201,202,210,211,212,220 ★ Numbers in base 3. ● a(0)=0, a(n) = 10 * a(n / 3) if n==0 (mod 3), a(n) = a(n - 1) + 1 otherwise. - _ Benoit Cloitre _ , Dec 22 2002 ●

[A104459] ● 1,2,10,11,100,110,1000,1100,10000,11000,100000,110000,1000000,1100000,10000000,11000000,100000000,110000000,1000000000,1100000000,10000000000,11000000000,100000000000,110000000000,1000000000000 ★ Possible differences between adjacent palindromes. ● a(n) = 2 if n = 2; 11 * 10 ^ ((n - 4) / 2) if n even >= 4; 10 ^ ((n - 1) / 2) if n odd. ● a(n) = 10 * a(n - 2), starting 1,2,10,11. ●

[A104238] ● 2,10,12,16,22,126,136,180,256,268,276,366,388,396,438,462,606,642,652,658,676,738,760,768,982 ★ Positive integers n such that n^5 + 1 is semiprime. ● a(n) ^ 5 + 1 is semiprime. a(n) + 1 is prime and a(n) ^ 4 - a(n) ^ 3 + a(n) ^ 2 - a(n) + 1 is prime. ●

[A022367] ● 2,10,12,22,34,56,90,146,236,382,618,1000,1618,2618,4236,6854,11090,17944,29034,46978,76012,122990,199002,321992,520994 ★ Fibonacci sequence beginning 2, 10. ● a(n) = 11 * F(n) + F(n - 3). - _ J. M. Bergot _ , Jul 19 2017 ●

[A061855] ● 0,2,10,12,42,52,56,170,178,204,212,232,240,682,722,738,812,852,868,920,936,976,992,2730,2762 ★ Symmetric totally balanced binary sequences: those terms of A014486 which are equal to their reversed complement. ● a(0) = 0 and the rest with the Maple function map(op, [seq(PalTotBalBinSequences(j), j=1..10)]); ●

[A062317] ● 1,2,10,13,29,34,58,65,97,106,146,157,205,218,274,289,353,370,442,461,541,562,650,673,769 ★ Numbers n such that 5*n-1 is a perfect square. ● a(n) = ((2 + 5n) ^ 2 + 1) / 5 if n is odd; a(n) = ((3 + 5n) ^ 2 + 1) / 5 if n is even. ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A091999] ● 2,10,14,22,26,34,38,46,50,58,62,70,74,82,86,94,98,106,110,118,122,130,134,142,146 ★ Numbers that are congruent to {2, 10} mod 12. ● a(n) = 12 * (n - 1) - a(n - 1), with a(1)=2. [_ Vincenzo Librandi _ , Nov 16 2010] ● a(1)=2, a(2)=10, a(3)=14, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Jun 24 2013 ● a(n) = 6 * n - 3 + (- 1) ^ n. - _ Wesley Ivan Hurt _ , Apr 23 2015 ●

[A212160] ● 2,10,15,23,28,36,41,49,54,62,67,75,80,88,93,101,106,114,119,127,132,140,145,153,158 ★ Numbers congruent to 2 or 10 modulo 13. ● a(n) = 1 / 4 * (26 * n - 3 * (- 1) ^ n + 11). - _ Paolo P. Lava _ , May 16 2012 ●

[A134861] ● 2,10,15,23,31,36,44,49,57,65,70,78,86,91,99,104,112,120,125,133,138,146,154,159,167 ★ Wythoff BAA numbers. ● a(n) = B(A(A(n))), n>=1, with A=A000201, the lower Wythoff sequence and B=A001950, the upper Wythoff sequence. ●

[A181474] ● 1,2,10,15,42,56,120,150,275,330,546,637,980,1120,1632,1836,2565,2850,3850,4235,5566,6072,7800,8450,10647 ★ Sequence related to the Hankel transform of A105523(n+5). ● a(n)=2 ^ n * (n + 2)(n + 3) * Gamma(floor(n / 2) + 3) * Gamma(floor((n + 1) / 2) + 1 / 2) / (12n! * sqrt(pi)) (suggested by WolframAlpha). ● a(n)= + a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). a(n) = (n + 3) * (n + 2) * (2 * n ^ 2 + 2 * (- 1) ^ n * n + 10 * n + 5 * (- 1) ^ n + 11) / 96. [From _ R. J. Mathar _ , Oct 23 2010] ●

[A105041] ● 2,10,16,18,46,52,66,72,78,106,136,148,226,228,240,262,282,330,442,508,616,630,732,750,756 ★ Positive integers k such that k^7 + 1 is semiprime. ● a(n) ^ 7 + 1 is semiprime. a(n) + 1 is prime and a(n) ^ 6 - a(n) ^ 5 + a(n) ^ 4 - a(n) ^ 3 + a(n) ^ 2 - a(n) + 1 is prime. ●

[A017089] ● 2,10,18,26,34,42,50,58,66,74,82,90,98,106,114,122,130,138,146,154,162,170,178,186,194 ★ a(n) = 8*n+2. ● a(n) = 8 * n + 2; a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 28 2011 ●

[A018227] ● 2,10,18,36,54,86,118,168,218,290,362,460,558,686,814,976,1138,1338,1538,1780,2022,2310,2598,2936,3274 ★ Magic numbers: atoms with full shells containing any of these numbers of electrons are considered electronically stable. ● a(n) = a(n - 1) + ((2 * n + 3 + (- 1) ^ n) ^ 2) / 8; a(n) = (2 * n ^ 3 + 12 * n ^ 2 + 25 * n - 6 + (- 1) ^ n * (3 * n + 6)) / 12 - _ Warut Roongu thai _ , Jun 20 2005 ● a(n) = n * ((n + 3) ^ 2 + 2) / 6 + (n + 2) * (1 + (- 1) ^ n) / 4 - 1, n >= 1. ● a(n) = (n + 1) * (n + 2) * (n + 3) / 6 + (n + 2) * (1 + (- 1) ^ n) / 4 - 2, n >= 1. ● a(n) = T _{ n + 1 } + (n + 2) * (1 + (- 1) ^ n) / 4 - 2, n >= 1, ●

[A139592] ● 0,2,10,20,36,54,78,104,136,170,210,252,300,350,406,464,528,594,666,740,820,902,990,1080,1176 ★ A033585(n) followed by A139271(n+1). ● a(n) = 2 * floor((n + 1 / 4) ^ 2). [From _ Reinhard Zumkeller _ , Feb 07 2010] ●

[A080881] ● 1,2,10,21,106,223,1126,2369,11962,25167,127078,267361,1350010,2840303,14341798,30173889,152359738,320551567,1618589926,3405371681,17195050234,36176882223,182671192870,384324217729,1940602920634 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=2, a(2)=10. ● a(n + 4) = 11 * a(n + 2) - 4 * a(n) [From _ Richard Choulet _ , Dec 06 2008] ● a(n) = (3 / 140 * 15 ^ (1 / 2) * 7 ^ (1 / 2) + 1 / 4 + 3 / 56 * 7 ^ (1 / 2) + 1 / 24 * 15 ^ (1 / 2)) * sqrt((11 + sqrt(105)) / 2) ^ n + (- 3 / 140 * 15 ^ (1 / 2) * 7 ^ (1 / 2) + 1 / 4 - 3 / 56 * 7 ^ (1 / 2) + 1 / 24 * 15 ^ (1 / 2)) * sqrt((11 - sqrt(105)) / 2) ^ n + (3 / 140 * 15 ^ (1 / 2) * 7 ^ (1 / 2) - 1 / 24 * 15 ^ (1 / 2) - 3 / 56 * 7 ^ (1 / 2) + 1 / 4) * (- sqrt((11 + sqrt(105)) / 2)) ^ n + (1 / 4 + 3 / 56 * 7 ^ (1 / 2) - 1 / 24 * 15 ^ (1 / 2) - 3 / 140 * 15 ^ (1 / 2) * 7 ^ (1 / 2)) * (- sqrt((11 - sqrt(105)) / 2)) ^ n [From _ Richard Choulet _ , Dec 07 2008] ●

[A090288] ● 2,10,22,38,58,82,110,142,178,218,262,310,362,418,478,542,610,682,758,838,922,1010,1102,1198,1298 ★ a(n) = 2*n^2 + 6*n + 2. ● a(n) = 4 * (n + 1) + a(n - 1), with n>0, a(0)=2. - _ Vincenzo Librandi _ , Nov 16 2010 ●

[A032526] ● 0,2,10,22,40,62,90,122,160,202,250,302,360,422,490,562,640,722,810,902,1000,1102,1210,1322,1440 ★ a(n) = floor(5*n^2/2). ● a(n) = 2n ^ 2 + floor(n ^ 2 / 2). [_ Wesley Ivan Hurt _ , Jun 14 2013] ●

[A255606] ● 2,10,23,41,64,93,127,166,210,259,314,374,439,509,584,665,750,841,937,1039,1145,1257,1374,1496,1623 ★ Integer part of the area of a hexagon with side length n. ● a(n) = floor(6 * n ^ 2 / (4 * tan(Pi / 6))), n >= 1. ●

[A293403] ● 0,2,10,23,41,65,94,128,167,212,261,316,376,442,513,589,670,756,848,945,1047,1154,1267,1384,1507 ★ Greatest integer k such that k/n^2 < (3 + sqrt(5))/2. ● a(n) = floor(r * n ^ 2), where r = (3 + sqrt(5)) / 2. ●

[A120845] ● 2,10,23,50,117,300,823,2350,6857,20240,60123,179250,535597,1602580,4799423,14381750,43112337,129271320,387682723,1162785850,3487833077,10462450460,31385254023,94151567550,282446313817 ★ 2^n+3^n+5*n. ● a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 17 * a(n - 3) - 6 * a(n - 4). - _ Vincenzo Librandi _ , Feb 26 2013 ●

[A293412] ● 0,2,10,24,43,67,97,133,173,220,271,328,391,459,532,611,695,785,880,981,1087,1198,1315,1437,1565 ★ Greatest integer k such that k/n^2 < e. ● a(n) = floor(e * n ^ 2). ●

[A224837] ● 2,10,24,43,68,98,133,174,221,273,330,393,461,535,614,699,789,885,986,1092,1204,1322,1445,1573,1707 ★ Surface area of Johnson square pyramid (rounded down) with all the edge-lengths equal to n. ● a(n) = floor((1 + sqrt(3)) * n ^ 2). ●

[A049450] ● 0,2,10,24,44,70,102,140,184,234,290,352,420,494,574,660,752,850,954,1064,1180,1302,1430,1564,1704 ★ Pentagonal numbers multiplied by 2: a(n) = n*(3*n-1). ● a(n) = 6 * n + a(n - 1) - 4 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 06 2010 ●

[A270822] ● 1,2,10,24,86,224,708,1920,5734,15872,46124,129024,369916,1040384,2962760,8355840,23714950,66977792,189768220,536346624,1518330516,4292870144,12147349560,34351349760,97181500636 ★ Expansion of 1/((1-4*x^2)^(3/2)-2*x*(1-4*x^2)). ● a(n) = (n + 1) * 2 ^ n * Sum _{ i=0..n / 2 } (binomial((n - 1) / 2,i) / (n - 2 * i + 1)). ●

[A254709] ● 1,2,10,25,137,346,1906,4817,26545,67090,369722,934441,5149561,13015082,71724130,181276705,998988257,2524858786,13914111466,35166746297,193798572265,489809589370,2699265900242,6822167504881,37595924031121 ★ Indices of pentagonal numbers (A000326) which are also centered square numbers (A001844). ● a(n) = a(n - 1) + 14 * a(n - 2) - 14 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A069894] ● 2,10,26,50,82,122,170,226,290,362,442,530,626,730,842,962,1090,1226,1370,1522,1682,1850,2026,2210,2402 ★ Centered square numbers: 4*n^2 +

4*n + 2. • a(n) = (2 * n + 1) ^ 2 + 1. [_ Vladimir Joseph Stephan Orlovsky _ , Nov 10 2008, corrected _ R. J. Mathar _ , Sep 16 2009] • a(n) = 8 * n + a(n - 1) (with a(0) = 2). [_ Vincenzo Librandi _ , Aug 08 2010] • a(n + 1) = a(n) + 4 + 4 * sqrt(a(n) - 1); • a(n - 1) * a(n + 1) = (a(n) - 4) ^ 2 + 16; • a(n + 1) = 2 * a(n) - a(n - 1) + 8, n >2, a(0)=2, a(1)=10, a(2)=26; • a(n + 1) = 3 * a(n) - 3 * a(n - 1) + a(n - 2),n>3, a(0)=2, a(1)=10, a(2)=26, a(3)=50; •

[A212969] • 0,0,2,10,26,56,100,166,252,368,510,690,902,1160,1456,1806,2200,2656,3162,3738,4370,5080,5852,6710,7636 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w!=x and x>range{w,x,y}. • a(n) = (n - 1) * (2 * n * (7 * n - 2) - 3 * (- 1) ^ n + 3) / 24. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A131130] • 1,2,10,26,58,122,250,506,1018,2042,4090,8186,16378,32762,65530,131066,262138,524282,1048570,2097146,4194298,8388602,16777210,33554426,67108858 ⋆ Binomial transform of [1,1,7,1,7,1,7,1,...]. • a(n) = 4 * 2 ^ n - 6 for n>=1; a(0)=1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>2 ; a(0)=1, a(1)=2, a(2)=10 . G.f.: (1 - x + 6x ^ 2) / (1 - 3x + 2x ^ 2). - _ Philippe Deléham _ , Jan 04 2009 • a(n) = 2 * a(n - 1) + 6 for n>1, a(0)=1, a(1)=2. - _ Philippe Deléham _ , Sep 25 2009 •

[A241688] • 0,0,0,0,0,0,2,10,26,60,110,190,304,466,676,958,1312,1762,2310,2984,3786,4750,5874,7196,8720 ⋆ Number of Sidon subsets of {1,...,n} of size 4. • a(n) = a(n - 11) + a(n - 8) - a(n - 3) + 2 * (a(n - 6) + a(n - 1) - a(n - 10) - a(n - 5)). - _ Fung Lam _ , May 02 2014 •

[A084182] • 1,2,10,26,82,242,730,2186,6562,19682,59050,177146,531442,1594322,4782970,14348906,43046722,129140162,387420490,1162261466,3486784402,10460353202,31381059610,94143178826,282429536482 ⋆ 3^n+(-1)^n-[1/(n+1)], where [] represents the floor function. • a(n) = 3 ^ n + (- 1) ^ n - 0 ^ n. •

[A099583] • 0,0,1,2,10,26,91,260,820,2420,7381,22022,66430,198926,597871,1792520,5380840,16139240,48427561,145272842,435848050,1307514626,3922632451,11767808780,35303692060 ⋆ a(n) = Sum_{k=0..floor(n/2)} binomial(n-k, k-1)*2^(n-k-1)*(3/2)^(k-1). • a(n) = 2 * a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - 9 * a(n - 4). • a(0)=0, a(1)=0; a(2)=1; a(n) = 2 * a(n - 1) + 3 * a(n - 2) if n is odd; a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 3 ^ m (m=1,2,3...) if n is even. - _ Vincenzo Librandi _ , Jun 26 2010 •

[A133479] • 1,2,10,26,106,314,1162,3674,12970,42362,146122,485018,1653994,5534138,18766090,63039194,213167914,717481466,2422824778,8162676506,27545274730,92846686778,313208884618,1055982378842,3561653455786 ⋆ a(n)=a(n-1)+8*a(n-2) for n>=2, a(0)=1, a(1)=2 . • a(n) = - (1 / 22) * [(1 / 2) - (1 / 2) * sqrt(33)] ^ n * sqrt(33) + (1 / 2) * [(1 / 2) - (1 / 2) * sqrt(33)] ^ n + (1 / 22) * sqrt(33) * [(1 / 2) + (1 / 2) * sqrt(33)] ^ n + (1 / 2) * [(1 / 2) + (1 / 2) * sqrt(33)] ^ n, with n>=0. [_ Paolo P. Lava _ , Nov 18 2008] • a(n) = ((11 + sqrt(33)) / 22) * (0.5 + 0.5 * sqrt(33)) ^ n + ((11 - sqrt(33)) / 22) * (0.5 - 0.5 * sqrt(33)) ^ n. [_ Richard Choulet _ , Nov 20 2008] •

[A220700] • 0,0,1,2,10,27,118,389,1688,6357,28302,117301,541832,2418649,11629794,55165477,276131564,1379441105,7178203950,37525908261,202624599112,1103246397377,6168861375178,34853267706981,201412524836788 ⋆ a(0)=0, a(1)=0; for n>1, a(n) = a(n-1) + (n+3)*a(n-2) + 1 • a(0)=a(1)=0, a(2)=1, a(n) = 2 * a(n - 1) + (n + 2) * a(n - 2) - (n + 2) * a(n - 3). •

[A006331] • 0,2,10,28,60,110,182,280,408,570,770,1012,1300,1638,2030,2480,2992,3570,4218,4940,5740,6622,7590,8648,9800 ⋆ a(n) = n*(n+1)*(2n+1)/3. • a(n) = 2 * binomial(n + 1,3) + 2 * binomial(n + 2,3). • a(n) = sum(a * b), where the summing is over all unordered partitions 2 * n + 1=a + b. - _ Vladimir Shevelev _ , May 11 2012 • a(n) = binomial(2n + 2, 3) / 2. - _ Ronan Flatley _ , Dec 13 2012 • a(0)=0, a(1)=2, a(2)=10, a(3)=28, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Apr 12 2013 •

[A291053] • 2,10,28,88,217,493,989,1794,3016,4785,7256,10612,15067,20869,28303,37694,49410,63865,81522,102896,128557,159133,195313,237850,287564 ⋆ Number of maximal irredundant sets in the n-Andrasfai graph. • a(n) = (- 3120 + 10932 * n - 4970 * n ^ 2 + 765 * n ^ 3 - 10 * n ^ 4 + 3 * n ^ 5) / 120 for n > 3. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n > 9. •

[A104657] • 2,10,28,106,190,292,556,756,858,906,1012,1030,1032,1060,1372,1450,1488,1720,1722,1758,1782,1822,1972,2356,2436 ⋆ Positive integers n such that n^19 + 1 is semiprime (A001358). • a(n) ^ 19 + 1 is semiprime (A001358). •

[A106184] • 1,2,10,28,118,380,1508,5240,20326,73836,284396,1061128,4085820,15500120,59820040,229366768,887943046,3428967500,13315684764,51678099304,201246353492,783890932488,3060144292600,11953056489104 ⋆ Expansion of 1/sqrt(1-4*x-8*x^2+32*x^3). • a(n) = Sum _{ k=0..floor(n / 2) } C(2 * k , k) * C(2(n - 2 * k), n - 2 * k) * 2 ^ k. • a(n) = C(2 * n,n) * hypergeom([1 / 2, - n / 2, - n / 2 + 1 / 2],[- n / 2 + 3 / 4, - n / 2 + 1 / 4],1 / 2). - _ Peter Luschny _ , Feb 23 2016 •

[A203551] • 0,2,10,29,64,120,202,315,464,654,890,1177,1520,1924,2394,2935,3552,4250,5034,5909,6880,7952,9130,10419,11824 ⋆ n*(5n^2 + 3n + 4) / 6. • a(n) = sum _{ k = 1..n } A(- k, k - n - 1) where A(i, j) = i ^ 2 + i * j + j ^ 2 + i + j + 1. •

[A192976] • 0,1,2,10,29,70,148,289,534,950,1645,2794,4680,7761,12778,20930,34157,55598,90332,146577,237630,385006,623517,1009490,1634064 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A101561] • 1,2,10,29,82,236,730,2216,6571,19604,59050,177410,531442,1593596,4783060,14351123,43046722,129133838,387420490,1162281098,3486785140,10460294156,31381059610,94143358424,282429536563 ⋆ a(n)=(-1)^n*coefficient of x^n in sum{k>=1,x^(k-1)/(1+3x^k)}. • a(n)=sum { k=0..n, (- 1) ^ (n - k) * if(mod(n + 1, k + 1)=0, 1, 0) * 3 ^ k } •

[A034262] • 0,2,10,30,68,130,222,350,520,738,1010,1342,1740,2210,2758,3390,4112,4930,5850,6878,8020,9282,10670,12190,13848 ⋆ a(n) = n^3 + n. • a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Jul 11 2017 •

[A034827] • 0,0,0,0,2,10,30,70,140,252,420,660,990,1430,2002,2730,3640,4760,6120,7752,9690,11970,14630,17710,21252 ⋆ a(n) = 2*binomial(n,4). • a(n) = Sum _{ k=1..n - 3 } (Sum _{ i=1..k } i * (2 * k - n + 4)). - _ Wesley Ivan Hurt _ , Sep 26 2013 •

[A051667] • 0,2,10,30,74,166,354,734,1498,3030,6098,12238,24522,49094,98242,196542,393146,786358,1572786,3145646,6291370,12582822,25165730,50331550,100663194 ⋆ a(n) = 6*2^n - 4*n - 6. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A058966] • 1,2,10,30,78,190,446,1022,2302,5118,11262,24574,53246,114686,245758,524286,1114110,2359294,4980734,10485758,22020094,46137342,96468990,201326590,419430398 ⋆ a(3) = 1, otherwise a(n) = n*2^(n-3) - 2^(n-2) - 2. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>6. •

[A285956] • 0,0,0,0,2,10,30,102,204,444,740,1300,1950,3030,4242,6090,8120,11032,14184,18504,23130,29250,35750,44110,52932 ⋆ Number of orthogonal rectangles with vertices on an n X n square grid of points but with no vertices on the grid's diagonals. • a(n) = (n ^ 4 - 10 * n ^ 3 + 33 * n ^ 2 - 34 * n) / 4 for n even. • a(n) = (n ^ 4 - 10 * n ^ 3 + 37 * n ^ 2 - 58 * n + 30) / 4 for n odd. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>7. •

[A219667] • 1,2,10,30,111,296,711,1625,3583,7088,13377,24143,41376,68551,111068,174887,269592,410043,612350,900484,1310108,1879862,2664399,3740002,5188376 ⋆ Number of happy numbers without zeros and with digits in non-decreasing order <= 10^n. • a(n) is the sum of all h(d,0 <= x <= 81 * d, 1), where x is a happy number. •

[A162249] • 1,1,2,10,30,131,582,3196,13986,70100,336416,1723518,8487202,44468780,228236112,1241788448,6421700878,34682391148,182473774272,993091141104,5264377375260,28721435063423,153844326005054,843854383167940 ⋆ a(n) = sum of the squares of the coefficients of x^(2k) in A(x^2)^{2*(n-2k)+1}, as k varies from 0 to floor(n/2), with a(0)=1. • a(n) = Sum _{ k=0..n \ 2 } ([x ^ (2 * k)] A(x ^ 2) ^{ 2 * (n - 2 * k) + 1 }) ^ 2 for n>0 with a(0)=1. •

[A090809] • 0,0,2,10,31,75,155,287,490,786,1200,1760,2497,3445,4641,6125,7940,10132,12750,15846,19475,23695,28567,34155,40526 ⋆ Coefficient of the irreducible character of S_m indexed by (m-2n+2,2n-2) in the n-th Kronecker power of the representation indexed by (m-2,2). • a(n) = 2 * binomial(n, 2) + 4 * binomial(n, 3) + 3 * binomial(n, 4) = (n - 1) * n * (3 * n ^ 2 + n + 10) / 24. •

[A051747] • 2,10,31,76,161,308,546,912,1452,2222,3289,4732,6643,9128,12308,16320,21318,27474,34979,44044,54901,67804,83030,100880,121680 ⋆ a(n) = n*(n+1)*(n+2)*(n^2+7*n+32)/120. • a(n) = binomial(n + 4, n - 1) + binomial(n + 2, n - 1). • a(1)=2, a(2)=10, a(3)=31, a(4)=76, a(5)=161, a(6)=308, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Oct 03 2012 •

[A193008] • 1,2,10,31,78,170,339,636,1144,1997,3412,5740,9549,15758,25854,42243,68818,111878,181615,294520,477276,773057,1251720,2026296,3279673 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A011921] • 0,0,0,0,2,10,32,76,152,274,458,720,1080,1560,2184,2978,3970,5192,6676,8456,10570,13058,15960,19320,23184 ⋆ [n(n-1)(n-2)(n-3)/11]. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 11) - 4 * a(n - 12) + 6 * a(n - 13) - 4 * a(n - 14) + a(n - 15). G.f.: 2 * x ^ 4 * (1 + x + 2 * x ^ 2 + x ^ 4 + 2 * x ^ 5 + x ^ 6 + 2 * x ^ 8 + x ^ 9 + x ^ 10) / ((1 - x) ^ 5 * (1 + x + x ^ 2 + x ^ 3 + x ^ 4 + x ^ 5 + x ^ 6 + x ^ 7 + x ^ 8 + x ^ 9 + x ^ 10)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A212714] • 0,0,2,10,32,78,162,300,512,820,1250,1830,2592,3570,4802,6328,8192,10440,13122,16290,20000,24310,29282,34980,41472 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x| >= w + |y-z|. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). • a(n) = floor(n ^ 4 / 8). - _ Wesley Ivan Hurt _ , Jul 14 2013 •

[A131068] • 1,2,10,32,82,188,406,848,1738,3524,7102,14264,28594,57260,114598,229280,458650,917396,1834894,3669896,7339906,14679932,29359990,58720112,117440362 ⋆ Binomial transform of [1, 1, 7, 7, 7,...]. • a(n) = 7 * 2 ^ n - 6 * n - 6. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A084154] • 0,1,2,10,32,116,392,1352,4608,15760,53792,183712,627200,2141504,7311488,24963200,85229568,290992384,993509888,3392055808,11581202432,39540700160,135000393728,460920178688,1573679923200 ⋆ Binomial transform of sinh(x)cosh(sqrt(2)x). • a(n)=4a(n - 1) - 8a(n - 3) + 4a(n - 4), a(0)=0, a(1)=1, a(2)=2, a(3)=10; a(n)=((2 + sqrt(2)) ^ n + (2 - sqrt(2)) ^ n - sqrt(2) ^ n - (- sqrt(2)) ^ n) / 4; •

[A083099] • 0,1,2,10,32,124,440,1624,5888,21520,78368,285856,1041920,3798976,13849472,50492800,184082432,671121664,2446737920,8920205824,32520839168,118562913280,432250861568,1575879202816,5745263575040 ⋆ a(n) = 2*a(n-1) + 6*a(n-2), a(0) = 0, a(1) = 1. • a(n - 1) = Sum _{ k=0..n } binomial(n, 2k + 1)7 ^ k. (End) • a(n) = - (1 / 14) * (1 - sqrt(7)) ^ n * sqrt(7) + (1 / 14) * (1 + sqrt(7)) ^ n * sqrt(7). - _ Paolo P. Lava _ , Jun 10 2008 • a(n) = Sum _{ k=1,3,5,...<=n } binomial(n,k) * 7 ^ ((k - 1) / 2). - _ Vladimir Shevelev _ , Feb 06 2014 •

[**A264960**] • 1,2,10,32,146,512,2248,8192,35218,131072,556040,2097152,8815496,33554432,140107040,536870912,2230302098,8589934592,35541690568,137438953472,566823203656,2199023255552,9044910175520,35184372088832,144393718191496 ★ Half-convolution of the central binomial coefficients A000984 with itself. • a(n) = Sum _{ k = 0..floor(n / 2) } binomial(2 * k,k) * binomial(2 * n - 2 * k, n - k). •

[**A236921**] • 0,0,1,2,10,32,232,992,10096,53408,727360,4569536,79501696,5781701376,12337163008,101945840384,2582987522560,23913303638528,701604503968768,7194776722623488,239847438803052544,2698941227297687552,100744097104231198720,1234263151585971974144,5099332469081694008934 4 ★ Number of n-permutations which fix at least one odd prefix. • a(0)=a(1)=0; a(n) = Sum _ (k=1,3,5,..., whichever is odd among { n - 1, n - 2 }) (k! - a(k)) * (n - k)!. •

[**A059924**] • 0,2,10,34,80,158,274,438,656,938,1290,1722,2240,2854,3570,4398,5344,6418,7626,8978,10480,12142,13970,15974,18160 ★ Write the numbers from 1 to n^2 in a spiraling square; a(n) is the total of the sums of the two diagonals. • a(n) = 3a(n - 1) - 2a(n - 2) - 2a(n - 3) + 3a(n - 4) - a(n - 5), a(0) = 0, a(1) = 2, a(2) = 10, a(3) = 34, a(4) = 80. • a(n) = (16 * n ^ 3 - 6 * n ^ 2 + 8 * n + 3 - 3 * (- 1) ^ n) / 12. - _ Frank Ellermann _ , Mar 16 2002 •

[**A036799**] • 0,2,10,34,98,258,642,1538,3586,8194,18434,40962,90114,196610,425986,917506,1966082,4194306,8912898,18874370,39845890,83886082,176160770,369098754,771751938 ★ a(n) = 2 + 2^(n+1)*(n-1). • a(n) = Sum _{ k=1..n } k * 2 ^ k. - _ Benoit Cloitre _ , Oct 25 2002 • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>2. - _ Wesley Ivan Hurt _ , Nov 12 2015 • a(n) = Sum _{ k=0..n } Sum _{ i=0..n } k * C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[**A108924**] • 1,2,10,34,146,562,2290,9074,36466,145522,582770,2329714,9321586,37280882,149134450,596515954,2386107506,9544342642,38177545330,152709831794,610840026226,2443358706802,9773437623410,39093744901234 ★ J(n)^2+J(n+1)^2, with J(n) the Jacobsthal number A001045(n). • a(0)=1, a(1)=2, a(2)=10, a(n)=3 * a(n - 1) + 6 * a(n - 2) - 8 * a(n - 3). - _ Harvey P. Dale _ , Apr 11 2013 •

[**A236377**] • 1,1,2,10,35,59,84,132,213,293,374,494,663,831,1000,1224,1513,1801,2090,2450,2891,3331,3772,4300,4925 ★ Real part of Sum_{k=0..n} (k + i^k)^2, where i=sqrt(-1). • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 2 * a(n - 4) - 2 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) + 3 * a(n - 8) - a(n - 9). •

[**A100230**] • 1,2,10,35,118,392,1297,4286,14158,46763,154450,510116,1684801,5564522,18378370,60699635,200477278,662131472,2186871697,7222746566,23855111398,78788080763,260219353690,859446141836,2838557779201 ★ Main diagonal of triangle A100229. • a(n) = 3 * a(n - 1) + a(n - 2) + 3 for n>1, with a(0)=1, a(1)=2. • a(0)=1, a(1)=2, a(2)=10, a(n)=4 * a(n - 1) - 2 * a(n - 2) - a(n - 3) [From Harvey P. Dale, May 06 2012] •

[**A146983**] • 1,2,10,35,133,494,1846,6887,25705,95930,358018,1336139,4986541,18610022,69453550,259204175,967363153,3610248434,13473630586,50284273907,187663465045,700369586270,2613814880038,9754889933879,36405744855481 ★ a(n) = A002531(n)*A002531(n+1). • a(n) = (- 1) ^ n + 3 * sum { k = 1..n } (- 1) ^ (n - k) * 6 ^ (k - 1) * binomial(n + k,2 * k). • a(n) = (- 1) ^ n * R(n, - 3), where R(n,x) is the n - th row polynomial of A211955. • a(n) = (- 1) ^ n * 1 / u * T(n,u)T(n + 1,u) with u = sqrt(- 1 / 2) and T(n,x) denotes the Chebyshev polynomial of the first kind Cf. A182432. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3). G.f.: (x ^ 2 - x + 1) / ((x + 1) * (x ^ 2 - 4 * x + 1)). - _ Colin Barker _ , Jul 29 2013 •

[**A212573**] • 0,0,2,10,36,92,202,386,680,1112,1730,2570,3692,5140,6986,9282,12112,15536,19650,24522,30260,36940,44682,53570,63736 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|>|x-y|+|y-z|. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). • a(n) = (2 * (n - 3) * n * (5 * n ^ 2 - 15 * n + 31) - 3 * (2 * n - 3) * (- 1) ^ n + 87) / 48. [_ Bruno Berselli _ , Jun 14 2012] •

[**A192858**] • 2,10,36,120,382,1178,3550,10514,30720,88788,254342,723190,2043386,5742490,16062492,44744688,124192270,343594514,947857750,2608015778,7159034232,19609583820,53608363286,146290947310,398552156402 ★ Hosoya indices of the 2n-wheel graphs W_{2n} • a(n) = + 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - 1 * a(n - 4). • a(n) = ((3 + r) ^ n * ((5 - r) * n + 3 * r - 5) + (3 - r) ^ n * ((5 + r) * n - 3 * r - 5)) / (5 * 2 ^ n) with r=sqrt(5). - Bruno Berselli, Aug 31 2011 •

[**A001582**] • 1,2,10,36,145,560,2197,8568,33490,130790,510949,1995840,7796413,30454814,118965250,464711184,1815292333,7091038640,27699580729,108202305420,422668460890,1651061182538,6449506621417,25193576136960 ★ Product of Fibonacci and Pell numbers. • a(n)=11a(n - 2) + 16a(n - 3) + 3a(n - 4) - 2a(n - 5). a(n)=2a(n - 1) + 7a(n - 2) + 2a(n - 3) - a(n - 4). - _ Kieren MacMillan _ , Sep 29 2008 • a(n)=((10 + 5 * sqrt(2) + 2 * sqrt(5) + sqrt(10)) * ((1 + sqrt(2) + sqrt(5) + sqrt(10)) / 2) ^ n + (10 - 5 * sqrt(2) - 2 * sqrt(5) + sqrt(10)) * ((1 - sqrt(2) - sqrt(5) + sqrt(10)) / 2) ^ n + (10 + 5 * sqrt(2) - 2 * sqrt(5) - sqrt(10)) * ((1 + sqrt(2) - sqrt(5) - sqrt(10)) / 2) ^ n + (10 - 5 * sqrt(2) + 2 * sqrt(5) - sqrt(10)) * ((1 - sqrt(2) + sqrt(5) - sqrt(10)) / 2) ^ n) / 40. - _ Tim Monahan _ , Aug 03 2011 •

[**A144895**] • 1,2,10,36,204,1104,7776,57600,505440,4803840,51442560,597784320,7609593600,104364288000,1541746483200,24329797632000,409042632499200,7290954768384000,137384159367168000,2727604332085248000,56913717580296192000,1244955414746824704000 ★ Second column of triangle A134134 (S2'(2) = S1hat(2)). • a(n) = Sum _{ i=1..floor(n / 2) + 1 } i! * (n - i + 2)!. - _ Wesley Ivan Hurt _ , Mar 18 2016 •

[**A154323**] • 1,2,10,37,101,226,442,785,1297,2026,3026,4357,6085,8282,11026,14401,18497,23410,29242,36101,44101,53362,64010,76177,90001 ★ Central coefficients of number triangle A113582. • a(n) = (n ^ 4 + 2 * n ^ 3 + n ^ 2 + 4) / 4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[**A191349**] • 1,1,1,2,10,37,102,251,667,2011,6246,18686,54183,157438,466579,1400509,4202829,12556360,37480728,112227269,337221408,1014992763,3055963443,9203918219,27745375212 ★ Binomial sums a(n) = sum(binomial(n-k,2*k)^2,k=0..floor(n/3)). • a(n) = sum(binomial(2 * k,k) * sum(binomial(n + k - i,2 * k) * binomial(n - k - i,2 * i) * (- 1) ^ (n - k - i),i=0..floor((n - k) / 3)),k=0..n). •

[**A005968**] • 0,1,2,10,37,162,674,2871,12132,51436,217811,922780,3908764,16558101,70140734,297121734,1258626537,5331629710,22585142414,95672204155,405273951280,1716768021816,7272346018247,30806152127640,130496954475672 ★ Sum of cubes of first n Fibonacci numbers. • a(n) = (1 / 2) * (F(n) * F(n + 1) ^ 2 + (- 1) ^ (n - 1) * F(n - 1) + 1). - _ Benoit Cloitre _ , Aug 06 2004 • a(n) = (1 / 10) * (F(3 * n + 2) - (- 1) ^ (n) * 6 * F(n - 1) + 5). - Art Benjamin and Timothy A. Carnes • a(n + 5) = 4 * a(n + 4) + 3 * a(n + 3) - 9 * a(n + 2) + 2 * a(n + 1) + a(n). - _ Benoit Cloitre _ , Sep 12 2004 •

[**A048499**] • 1,2,10,38,118,326,838,2054,4870,11270,25606,57350,126982,278534,606214,1310726,2818054,6029318,12845062,27262982,57671686,121634822,255852550,536870918,1124073478 ★ 2^(n-1)*(6*n-10)+6. • a(n) = T(5, n), array T given by A048494. • a(0)=1, a(1)=2, a(2)=10, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ and _ Vincenzo Librandi _ , Sep 23 2011 •

[**A119358**] • 1,1,2,10,38,126,452,1716,6470,24310,92252,352716,1352540,5200300,20056584,77558760,300546630,1166803110,4537543340,17672631900,68923356788,269128937220,1052049129144,4116715363800,16123803193628 ★ Number of n-element subsets of [2n] having an even sum. • a(n) = Sum _{ k=0..floor(n / 2) } C(n,2k) ^ 2. • a(n) = C(2n,n) / 2 + sin(Pi * (n + 1) / 2) * C(n,n / 2) / 2. • a(n) = hypergeom([(1 - n) / 2, (1 - n) / 2, - n / 2, - n / 2], [1 / 2, 1 / 2, 1], 1). - _ Vladimir Reshetnikov _ , Oct 04 2016 •

[**A056182**] • 0,2,10,38,130,422,1330,4118,12610,38342,116050,350198,1054690,3172262,9533170,28632278,85962370,258018182,774316690,2323474358,6971471650,20916512102,62753730610,188269580438,564825518530 ★ First differences of A003063. • a(n) = 2 * (3 ^ n - 2 ^ n). • a(n) = 5 * a(n - 1) - 6 * a(n - 2). G.f.: 2 * x / ((2 * x - 1) * (3 * x - 1)). [_ Colin Barker _ , Dec 10 2012] • a(n) = sum _{ i=1..n } binomial(n, i) * 2 ^ (n - i + 1). - _ Wesley Ivan Hurt _ , Feb 10 2014 •

[**A120278**] • 2,10,38,136,486,1760,6466,24042,90238,341190,1297574,4958114,19019254,73196994,282492254,1092867904,4236849774,16455966944,64020347914,249431257704,973100041934,3800867789884,14862066265434,58170868424084 ★ Sum[Sum[C(2k,k),{k,1,m}],{m,1,n}], where C(2k,k)=(2k)!/(k!)^2=A000984[k]. • a(n) = Sum[Sum[(2k)! / (k!) ^ 2, { k,1,m }], { m,1,n }]. • a(n) = 2 * Sum[A079309[k], { k,1,n }] = Sum[A066796[k], { k,1,n }]. - _ Alexander Adamchuk _ , Sep 01 2006 •

[**A143960**] • 2,10,38,142,542,2110,8318,33022,131582,525310,2099198,8392702,33562622,134234110,536903678,2147549182,8590065662,34360000510,137439477758,549756862462,2199025352702,8796097216510,35184380477438 ★ a(n) = the n-th positive integer with exactly n zeros and n ones in its binary representation. • a(n) = 2 ^ (2n - 1) + 2 ^ n - 2. •

[**A122117**] • 1,2,10,38,154,614,2458,9830,39322,157286,629146,2516582,10066330,40265318,161061274,644245094,2576980378,10307921510,41231686042,164926744166,659706976666,2638827906662,10555311626650,42221246506598 ★ a(0)=1, a(1)=2, a(n)=3*a(n-1)+4*a(n-2) for n>1. • a(n)=(2 / 5) * (- 1) ^ n + (3 / 5) * 4 ^ n, with n>=0. - _ Paolo P. Lava _ , Jul 31 2008 • a(n) = 3 * a(n - 1) + 4 * a(n - 2). - _ Vincenzo Librandi _ , Jul 06 2012 •

[**A174395**] • 0,2,10,40,140,462,1470,4580,14080,42922,130130,393120,1184820,3565382,10717990,32197660,96680360,290215842,870997050,2613690200,7842468700,23530202302,70596199310,211799782740,635421717840 ★ The number of different 4-colorings for the vertices of all triangulated planar polygons on a base with n vertices if the colors of two adjacent boundary vertices are fixed. • a(n) = (3 ^ n - 2 ^ (n + 2) + 6 + (- 1) ^ n) / 12. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 5 * a(n - 3) + 6 * a(n - 4). G.f.: - 2 * x ^ 4 / ((x - 1) * (x + 1) * (2 * x - 1) * (3 * x - 1)). - _ Colin Barker _ , Sep 22 2013 •

[**A193519**] • 0,0,2,10,40,144,490,1610,5168,16320,50930,157546,484120,1480080,4507162,13683050,41439200,125259264,378051170,1139641930,3432176008,10328516880,31062778570,93374780426,280574458640 ★ a(n) = (2/3)*Sum_{i=1..n-1} A000129(i)*3^(n-i). • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 3 * a(n - 3), a(0) = a(1) = 0, a(2) = 2. - _ Philippe Deléham _ , Apr 27 2012 •

[**A268329**] • 2,10,40,150,550,2002,7280,26520,96900,355300,1307504,4828850,17895150,66533250,248124000,927983760,3479939100,13082337900,49295766000,186156379500,704415740028,2670587146260,10142836030240,38586876202000,147029304149000 ★ Expansion of (1 - sqrt(1 - 4*x))^5/16. • a(n) = 10 * binomial(2n - 6,n - 5) / n. •

[**A052978**] • 1,2,10,40,172,728,3096,13152,55888,237472,1009056,4287616,18218688,77413760,328941952,1397720576,5939111168,25236118016,107231812096,455643039744,1936091311104,8226724075520,34956506765312,148535109967872,631146557100032 ★ Expansion of (1-2*x)/(1-4*x-2*x^2+4*x^3). • a(n) = Sum(- 1 / 158 * (- 11 - 42 * r + 24 * r ^ 2) * r ^ (- 1 - n) where r=RootOf(1 - 4 *_ Z - 2 *_ Z ^ 2 + 4 *_ Z ^ 3)) •

[**A281433**] • 1,1,2,10,40,296,1576,15352,104000,1276480,10556416,156843776,1533722752,26777626240,302395339520,6068829396736,77740741758976,1763457842941952,25267740818452480,639308368122204160,10131932297407840256,282891828731667890176 ★ Number of maximal matchings in the 2 X n rook graph. • a(n) = Sum _{ k=0..n / 2 } (2 * k - 1)!! ^ 2 * binomial(n,2 * k) * (1

+ 2 * k * (n - 2 * k)). •

[A277379] • 1,1,2,10,40,296,1936,17872,164480,1820800,21442816,279255296,3967316992,59837670400,988024924160,17009993230336,318566665977856,6177885274406912,129053377688043520,2786107670662021120,64136976817284448256,1525720008470138454016 ★ E.g.f.: exp(x/(1-x^2))/sqrt(1-x^2). • a(n) = |H _ n((1 + i) / 2)| ^ 2 / 2 ^ n = H _ n((1 + i) / 2) * H _ n((1 - i) / 2) / 2 ^ n, where H _ n(x) is n - th Hermite polynomial, i = sqrt(- 1). •

[A135512] • 2,10,41,166,670,2700,10869,43718,175730,705988,2835002,11380060,45666236,183199832,734768013,2946348102,11812385898,47350033812,189775422798,760507313652,3047308092708,12209106348072,48911419819458 ★ Number A(Bn,K) of all D-invariant ideals of the algebra NBn(K) of classical type over a field K if 2K=0. • a(n) = 3 * 4 ^ (n - 1) - 2 * binomial(2 * (n - 1), n - 1) * (n * (n - 1) + 1) / (n * (n + 1)). •

[A020988] • 0,2,10,42,170,682,2730,10922,43690,174762,699050,2796202,11184810,44739242,178956970,715827882,2863311530,11453246122,45812984490,183251937962,733007751850,2932031007402,11728124029610,46912496118442 ★ a(n) = (2/3)*(4^n-1). • a(n) = 4 * a(n - 1) + 2, a(0)=0. • a(n) = a(n - 1) + 2 ^ (2n - 1), a(0) = 0. - _ Washington Bomfim _ , Jan 22 2011 • a(n) = 5 * a(n - 1) - 4 * a(n - 2) (n>1), a(0)=0, a(1)=2. - _ L. Edson Jeffery _ , Mar 02 2012 •

[A084480] • 1,2,10,42,182,790,3432,14914,64814,281680,1224182,5320310,23122148,100489226,436727814,1898026232,8248853134,35849651070,155803171860,677123141810,2942788286798,12789406189672,55582969192486,241564496305670,1049843265359928 ★ Number of tilings of a 4 X 2n rectangle with L tetrominoes. • a(n) = 4 * a(n - 1) + 2 * a(n - 2) - a(n - 3) - 4 * a(n - 4) - 4 * a(n - 5) - 2 * a(n - 6) for n>5. - _ Colin Barker _ , Mar 28 2017 •

[A068551] • 0,2,10,44,186,772,3172,12952,52666,213524,863820,3488872,14073060,56708264,228318856,918624304,3693886906,14846262964,59644341436,239532643144,961665098956,3859788636664,15488087080696,62135313450064 ★ a(n) = 4^n - binomial(2*n,n). • a(n) = sum(k>=1, binomial(2 * m - 2 * k, m - k) * binomial(2 * k, k)). • a(n + 1) = 4 * a(n) + 2 * C(n) where C(n) = C atalan numbers. •

[A099919] • 0,2,10,44,188,798,3382,14328,60696,257114,1089154,4613732,19544084,82790070,350704366,1485607536,6293134512,26658145586,112925716858,478361013020,2026369768940,8583840088782,36361730124070 ★ F(3) + F(6) + F(9) + ... + F(3n), F(n) = Fibonacci numbers A000045. • a(n) = Sum _{ 0<=j<=i<=n } binomial(i, j) * F(i + j). - _ Benoit Cloitre _ , May 21 2005 • a(n) = 4 * a(n - 1) + a(n - 2) + 2, n > 1. - _ Gary Detlefs _ , Dec 08 2010 • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - a(n - 3), n > 2. - _ Gary Detlefs _ , Dec 08 2010 • a(n) = (Fibonacci(3 * n + 3) + Fibonacci(3 * n) - 2) / 4. - _ Gary Detlefs _ , Dec 08 2010 • a(n) = (- 10 + (5 - 3 * sqrt(5)) * (2 - sqrt(5)) ^ n + (2 + sqrt(5)) ^ n * (5 + 3 * sqrt(5))) / 20. - _ Colin Barker _ , Nov 26 2016 •

[A084059] • 1,2,10,44,196,872,3880,17264,76816,341792,1520800,6766784,30108736,133968512,596091520,2652303104,11801395456,52510188032,233643543040,1039594548224,4625665278976,20581850212352,91578731407360 ★ a(n) = 4*a(n-1)+2*a(n-2) for n>1, a(0)=1, a(1)=2. • a(n) = ((2 + sqrt(6)) ^ n + (2 - sqrt(6)) ^ n) / 2. - _ Paul Barry _ , May 13 2003 • a(n) = sum(k=0..floor(n / 2), C(n,2k) * 2 ^ (n - k) * 3 ^ k). - _ Paul Barry _ , Jan 15 2007 •

[A084609] • 1,2,10,44,214,1052,5284,26840,137638,710828,3692140,19266920,100932220,530479640,2795917960,14771797424,78210099718,414862155980,2204273582236,11729283976136,62496686731924,333400654676168 ★ Coefficients of 1/(1-4x-8x^2)^(1/2); also, a(n) is the central coefficient of (1+2x+3x^2)^n. • a(n) = sum { k=0..floor(n / 2), C(n,k) * C(2 * (n - k),n) * 2 ^ k } - _ Paul Barry _ , Sep 08 2004 • a(n) = sum { k=0..floor(n / 2), C(n,2 * k) * C(2 * k, k) * 3 ^ k * 2 ^ (n - 2 * k) } ; a(n) = sum { k=0..floor(n / 2), C(n,k) * C(n - k,k) * 3 ^ k * 2 ^ (n - 2k) } . - _ Paul Barry _ , Sep 19 2006 • a(n) = (2 * (2 * n - 1) * a(n - 1) + 8 * (n - 1) * a(n - 2)) / n, a(0)=1, a(1)=2. - _ Sergei N. Gladkovskii _ , Jul 20 2012 • a(n) = 2 ^ n * hypergeom([(1 - n) / 2, - n / 2], [1], 3) = binomial(2 * n, n) * hypergeom([(1 - n) / 2, - n / 2], [1 / 2 - n], - 2). - _ Vladimir Reshetnikov _ , Oct 10 2016 •

[A105485] • 1,2,10,44,215,1112,6141,35968,222659,1451770,9939702,71265036,533744979,4166533826,33831424388,285213338300,2492259168784,22538314947452,210639529104328,2031804667766532,20203377516199587 ★ Number of partitions of {1...n} containing 3 strings of 3 consecutive integers, where each string is counted within a block and a string of more than 3 consecutive integers are counted three at a time. • a(n)=Sum(c(n, k, 3), k=1...n), where c(n, k, 3) is the case r=3 of c(n, k, r) given by c(n, k, r)=c(n - 1, k - 1, r) + (k - 1)c(n - 1, k, r) + c(n - 2, k - 1, r) + (k - 1)c(n - 2, k, r) + c(n - 1, k, r - 1) - c(n - 2, k - 1, r - 1) - (k - 1)c(n - 2, k, r - 1), r=0, 1, .., n - k - 1, k=1, 2, .., n - 2r, c(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j= 0..floor(n / 2)). •

[A142983] • 1,2,10,44,288,1896,15888,137952,1419840,15255360,186693120,2387093760,33898314240,502247692800,8123141376000,136785729024000,2483065912320000,46822564905984000,942853671825408000,19678282007924736000,435355106182520832000 ★ a(1) = 1, a(2) = 2, a(n+2) = 2*a(n+1) + (n+1)*(n+2)*a(n). • a(n) = n! * p(n + 1) * sum { k = 1..n } (- 1) ^ (k + 1) / (p(k) * p(k + 1)), where p(n) = n. Recurrence: a(1) = 1, a(2) = 2, a (n + 2) = 2 * a(n + 1) + (n + 1) * (n + 2) * a(n). The sequence b(n):= n! * p(n + 1) satisfies the same recurrence with b(1) = 2, b(2) = 6. Hence we obt ain the finite continued fraction expansion a(n) / b(n) = 1 / (2 + 1 * 2 / (2 + 2 * 3 / (2 + 3 * 4 / (2 + ... + (n - 1) * n / 2)))), for n >=2. The behavior of a(n) for large n is given by lim n - > infinity a(n) / b(n) = 1 / (2 + 1 * 2 / (2 + 2 * 3 / (2 + 3 * 4 / (2 + ... + n * (n + 1) / (2 + ...))))) = sum { k = 1..in f } (- 1) ^ (k + 1) / (k * (k + 1)) = 2 * log(2) - 1; •

[A212387] • 1,1,1,1,1,1,1,1,2,10,46,166,496,1288,3004,6437,12895,24583,45799,87211,180235,420547,1087220,2941931,7927664 ★ Number of Dyck n-paths all of whose ascents have lengths equal to 1 (mod 7). • a(n) = Sum _{ k=0..n } (binomial(6 * k - 5 * n - 1,n - k) * binomial(n + 1,7 * k - 6 * n)) / (n + 1) . - _ Vladimir Kruchinin _ , Mar 05 2016 •

[A290923] • 2,10,46,208,938,4230,19078,86048,388106,1750490,7895302,35610480,160615298,724429270,3267420814,14737172032,66469626002,299800475370,1352201455582,6098885514512,27508034668634,124070532153830,559600027205398,2523985228499040 ★ p-INVERT of the positive integers, where p(S) = 1 - 2*S - 2*S^2. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) + 6 * a(n - 3) - a(n - 4). •

[A204091] • 1,2,10,46,210,958,4370,19934,90930,414782,1892050,8630686,39369330,179585278,819187730,3736768094,17045465010,77753788862,354678014290,1617882493726,7380056440050,33664517212798,153562473183890,700483331493854,3195291711101490 ★ The number of 1 X n Haunted Mirror Maze puzzles with a unique solution ending with a mirror. • a(n) = 5 * a(n - 1) - 2 * a(n - 2) with a(1) = 2, a(2) = 10. • a(n) = 2 * sum _{ i=0 }^{ i=n - 1 } a(n)(2 ^ (n - i) - 1), a(0) = 1. • a(n) = (2 ^ (1 - n) * ((5 + sqrt(17)) ^ n - (5 - sqrt(17)) ^ n)) / sqrt(17) for n>0. - _ Colin Barker _ , Nov 26 2016 •

[A181296] • 0,2,10,48,208,864,3472,13640,52664,200616,755992,2823688,10468856,38570504,141341944,515532424,1872673144,6777925768,24453094264,87966879368,315629269368,1129834372744,4035747287416,14387491636872 ★ The number of odd entries in all the 2-compositions of n. • a(0)=0, a(1)=2, a(2)=10, a(3)=48, a(4)=208, a(n)=7 * a(n - 1) - 12 * a(n - 2) - 4 * a(n - 3) + 12 * a(n - 4) - 4 * a(n - 5) [From _ Harvey P. Dale _ , Nov 11 2011] •

[A239073] • 1,2,10,48,208,874,3600,14622,58976,236824,949094,3800126,15207812,60846154,243414326,973716670,3894985588,15580180122,62321195992,249285735518,997144844044,3988583179554,15954340324098,63817376508852,255269536476262 ★ Given a circle of radius R into which small circles of radius R/2^n are packed in a "hexagonal pattern" (see Comments), a(n) is the maximum number of small circles. • a(n) = 2 ^ n + 2 * Sum _{ i odd, <= iMax } (2 * floor(sqrt(x - 3 * i ^ 2) / 2) + 1) + 2 * Sum _{ i even, 0 < i <= iMax } 2 * floor(sqrt(x - 3 * i ^ 2) / 2 + 1 / 2) where x = (2 ^ n - 1) ^ 2 and iMax = floor(sqrt(x / 3)). - _ Jon E. Schoenfield _ , Mar 17, Mar 23 2014 •

[A114693] • 2,10,48,232,1138,5666,28592,145984,752978,3918282,20547456,108482952,576187554,3076640898,16506527392,88938911296,481067145826,2611212958154,14218923060752,77653486423528,425227486222482 ★ Number of returns to the x-axis in all hill-free Schroeder paths of length 2n+4. A Schroeder path of length 2n is a lattice path from (0,0) to (2n,0) consisting of U=(1,1), D=(1,-1) and H=(2,0) steps and never going below the x-axis. A hill is a peak at height 1. • a(n) = Sum _{ k=0..n + 1 } ((k ^ 3 + 8 * k ^ 2 + 15 * k + 8) * Sum _{ j=0..n - k } ((- 1) ^ j * 2 ^ (n + 1 - j) * binomial(n + 1,j) * binomial(2 * n - k - j,n))) / (8 * (n + 1)). - _ Vladimir Kruchinin _ , Feb 27 2016. •

[A037256] • 0,1,2,10,48,296,2080,16752,151424,1519744,16766208,201685762627316736,36847260672,553551644672,8868624615424,150943592939520,2719816264613888,51724646086475776,1035359388788391936,21759010038674358272,479027478333199482880 ★ a(n) = n!*Sum_{i=0..n-1} (n-i)*(-2)^i/(i+1)!. • a(n) = 2 * (n - 1) * a(n - 1) - (n - 4) * (n - 1) * a(n - 2) - 2 * (n - 2) * (n - 1) * a(n - 3). - _ Vaclav Kotesovec _ , Oct 08 2012 •

[A020699] • 1,2,10,50,250,1250,6250,31250,156250,781250,3906250,19531250,97656250,488281250,2441406250,12207031250,61035156250,305175781250,1525878906250,7629394531250,38146972656250,190734863281250,953674316406250 ★ Expansion of (1-3*x)/(1-5*x). • a(n) = 2 * 5 ^ (n - 1) for n>0. • a(0)=1 , a(1)=2, a(n) = 5 * a(n - 1) for n>=2. [_ Vincenzo Librandi _ , Jan 01 2011] •

[A020729] • 2,10,50,250,1250,6250,31250,156250,781250,3906250,19531250,97656250,488281250,2441406250,12207031250,61035156250,305175781250,1525878906250,7629394531250,38146972656250,190734863281250,953674316406250,4768371582031250,23841857910156250 ★ Pisot sequences E(2,10), L(2,10), P(2,10), T(2,10). • a(n) = 2 * 5 ^ n. a(n) = 5 * a(n - 1). •

[A110170] • 1,2,10,50,258,1362,7306,39650,217090,1196834,6634890,36949266,206549250,1158337650,6513914634,36718533570,207412854786,1173779487810,6653482333450,37770112857074,214694383882498,1221832400430482,6961037946938250,39697830840765090,226596964146630658 ★ First differences of the central Delannoy numbers (A001850). • a(n) = P _ n(3) - P _{ n - 1 } (3) (n >= 1), where P _ j is j - th Legendre polynomial. • a(n) = sum { k = 0..n, (0 ^ (n + k) + C(n + k - 1, 2k - 1)) * C(2k, k) } = 0 ^ n + sum { k = 0..n, C(n + k - 1, 2k - 1) * C(2k, k) } . (End) • a(n) = 2 * hypergeom([1 - n, - n], [1], 2) for n>0. - _ Peter Luschny _ , May 22 2017 •

[A027908] • 1,2,10,50,266,1452,8074,45474,258570,1481108,8533660,49402850,287134346,1674425300,9792273690,57407789550,337281021450,1985342102964,11706001102180,69124774458092,408737856117916,2419833655003752,14341910428953018,85087759173024870 ★ T(2n,n), T given by A027907. • a(n) = GegenbauerC(n, - 2 * n, - 1 / 2). - _ Peter Luschny _ , May 09 2016 •

[A037514] • 2,10,51,257,1285,6426,32132,160660,803301,4016507,20082535,100412676,502063382,2510316910,12551584551,62757922757,313789613785,1568948068926,7844740344632,39223701723160,196118508615801,980592543079007 ★ Base 5 digits are, in order, the first n terms of the periodic sequence with initial period 2,0,1. • a(n) = 5 * a(n - 1) + a(n - 3) - 5 * a(n - 4). - _ Vincenzo Librandi _ , May 31 2013 •

[A075436] • 2,10,52,274,1452,7716,41064,218722,1165564,6213100,33125336,176629268,941884088,5022886536,26786945232,142857244674,761881733148,4063282813596,21670523246712,115574945807004,616395334890408,3287425475237496,17532874879557552 ★ Right- or upward-moving paths connecting opposite corners of an n X n chessboard, visiting the diagonal in 0 up to (n-2) intermediate points between start and finish. Equivalently, subdivide the chessboard

into 1 up to (n-1) blocks along the diagonal in all possible ways and sum the path-count over all sub-blocks. • a(n) = 2 ^ (4 * n - 7) / 3 ^ (n - 2) * (1 - Sum _{ k=2..n - 1 } C(2 * k - 1,k) * 3 ^ (k - 2) / ((2 * k - 1) * 2 ^ (4 * k - 4))), for n>2. - _ Vaclav Kotesovec _ , Oct 28 2012 •

[**A074612**] • 2,10,52,280,1552,8800,50752,296320,1745152,10339840,61514752,366991360,2193559552,13127802880,78632599552,471258726400,2825404874752,16943839313920,101628676145152,609634617917440 ⋆ a(n) = 4^n + 6^n. • a(n) = 10 * a(n - 1) - 24 * a(n - 2) with a(0)=2, a(1)=10. [_ Vincenzo Librandi _ , Jul 21 2010] •

[**A238796**] • 1,1,2,10,52,326,2256,17102,139448,1210582,11116360,107154092,1080800788,11345351096,123697222208,1395340522214,16260899226608,195214269203174,2411419562368344,30583990129966436,397876675010548832,5300483255653341714 ⋆ Symmetric (0,1)-matrices of order n where the numbers of 1's is equal to the order n. • a(n) = [x ^ n](1 + x) ^ n * (1 + x ^ 2) ^ binomial(n, 2). • a(n) = sum(binomial(n, 2k) * binomial(binomial(n, 2), k), k=0..n / 2). • a(n) = sum(binomial(n ^ 2 - 2k, n - k) * binomial(binomial(n, 2), k) * (- 2) ^ k, k=0..n). •

[**A247102**] • 2,10,53,298,1727,10207,61154,370090,2256983,13848085,85387040,528646015,3284180720,20462505850,127816245053,800143927210,5018683475087,31532297088781,198419993271440,1250291989478773,7888160383113014 ⋆ G.f.: (6*x+2)/(sqrt(-3*x^2-6*x+1)*(4*x^2+4*x))-(2*x+1)/(2*x^2+2*x). • a(n) = sum(i=0..n + 1, binomial(2 * n - i + 1,n - i + 1) * sum(j=0..n + 1, binomial(j, - j + i) * binomial(n + 1,j)). •

[**A202365**] • 1,1,2,10,54,336,2400,19440,176400,1774080,19595520,235872000,3073593600,43110144000,647610163200,10374216652800,176536039680000,3180264062976000,60466862776320000,1210048630382592000,25423825985445888000,559567461880627200000,12874917427270778880000 ⋆ G.f.: Sum_{n>=0} (n-x)^n * x^n / (1 + n*x - x^2)^n. • a(n) = (n - 1) * (n + 2) / 2 * (n - 1)!, for n>1 with a(0)=a(1)=1. •

[**A108490**] • 1,2,10,56,268,1448,7864,42752,236368,1313696,7339552,41217920,232321984,1313731712,7449834880,42347380736,241225384192,1376662561280,7869527190016,45051709749248,258256281078784,1482218578159616 ⋆ Expansion of 1/sqrt(1-4x-8x^2-24x^3+36x^4). • a(n)=sum { k=0..n, C(n - k, k) ^ 2 * 3 ^ k * 2 ^ (n - k) } . •

[**A165817**] • 1,2,10,56,330,2002,12376,77520,490314,3124550,20030010,129024480,834451800,5414950296,35240152720,229911617056,1503232609098,9847379391150,64617565719070,424655979547800,2794563003870330,18412956934908690,121455445321173600 ⋆ Number of compositions (= ordered integer partitions) of n into 2n parts. • a(n) = 9 * sqrt(3) * GAMMA(n + 5 / 3) * GAMMA(n + 4 / 3) * 27 ^ n / (Pi * GAMMA(2 * n + 3)). • a(n) = binomial(3 * n - 1, n); • a(n) = Sum _{ i=1..P(n) } (2 * n)! / ((2 * n - p(i))! * (Prod _{ j =1..d(i) } m(i,j)!)). • a(n) = rf(2 * n,n) / ff(n,n), where rf is the rising factorial and ff the falling factorial. - _ Peter Luschny _ , Nov 21 2012 • a(n) = Sum _{ k=0..n } (binomial(n - 1,n - k) * binomial(2 * n,k)). - _ Vladimir Kruchinin _ , Oct 06 2015 • a(n) = [x ^ n] 1 / (1 - x) ^ (2 * n). - _ Ilya Gutkovskiy _ , Oct 03 2017 •

[**A243644**] • 1,2,10,56,334,2072,13192,85500,561190,3717740,24802540,166376256,1120966084,7579795628,51408124372,349559178116,2382166791750,16265392884140,111249729804220,762067793838960,5227330405163524 ⋆ Expansion of x*log'(((1-sqrt(1-4*x))/2-sqrt(((-sqrt(1-4*x)-11)*(1-sqrt(1-4*x)))/4+1)+1)/4). • a(n) = Sum _{ k=0..n } binomial(n + (k) - 1,(k)) * binomial(3 * n - 1,n - 4 * k). • a(n) = [x ^ n] ((1 - x) ^ 2 / ((1 - x) ^ 4 - x ^ 4)) ^ n. O.g.f. A(x) is essentially obtained by logarithmically differentiating the o.g.f of A243632. - _ Peter Bala _ , Oct 02 2015 •

[**A000172**] • 1,2,10,56,346,2252,15184,104960,739162,5280932,38165260,278415920,2046924400,15148345760,112738423360,843126957056,6332299624282,47737325577620,361077477684436,2739270870994736,20836827035351596 ⋆ Franel number a(n) = Sum_{k = 0..n} C(n,k)^3. • a(n) = (n!) ^ 3 * [x ^ n] hypergeom([], [1, 1], x) ^ 2. - _ Peter Luschny _ , May 31 2017 •

[**A191277**] • 1,1,2,10,56,376,3152,30640,338816,4226176,58564352,892337920,14834994176,267186021376,5182147684352,107689460377600,2387077442011136,56219583797886976,1401949974947889152,36902741817196871680,1022494706646806429696 ⋆ E.g.f. 1/(1-sinh(x)*cosh(x)) • a(n)=sum(k=1..n, sum(i=0..k, (- 1) ^ i * (k - 2 * i) ^ n * binomial(k,i))), n>0, a(0)=1. •

[**A265954**] • 1,1,2,10,56,394,3332,32782,368072,4651666,65440748,1015205974,17225810768,317432262298,6313880504564,134828046043486,3076458785723864,74696205255843490,1922729345267645180,52297599798809376358,1498690940537194229600 ⋆ Coefficients in asymptotic expansion of sequence A265950. • a(k) ~ k! / (4 * (log(2)) ^ (k + 1)). •

[**A075870**] • 2,10,58,338,1970,11482,66922,390050,2273378,13250218,77227930,450117362,2623476242,15290740090,89120964298,519435045698,3027489309890,17645500813642,102845515571962,599427592618130,3493720040136818,20362892648202778,118683635849079850 ⋆ 2*k^2 - 4 is a square. • a(n) = 1 / sqrt(2) * ((1 + sqrt(2)) ^ (2 * n - 1) - (1 - sqrt(2)) ^ (2 * n - 1)) = 6 * a(n - 1) - a(n - 2). •

[**A074608**] • 2,10,58,370,2482,17050,118378,825730,5771362,40373290,282534298,1977503890,13841818642,96890604730,678227855818,4747575858850,33232973616322,232630643127370,1628413985330938,11398896347634610 ⋆ a(n) = 3^n + 7^n. • a(n) = 10 * a(n - 1) - 21 * a(n - 2) with a(0)=2, a(1)=10. - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A108450**] • 2,10,58,402,3122,26010,227050,2049186,18964194,178976426,1715905050,16665027378,163611970066,1621103006010,16189480081354,162791835045698,1646810150270914,16748008972020554,171135004105459194 ⋆ Number of pyramids in all paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1), U=(1,2), or d=(1,-1) (a pyramid is a sequence u^pd^p or U^pd^(2p) for some positive integer p, starting at the x-axis). • a(n) = 2 * Sum _{ k=0..n - 1 } (Sum _{ i =0..k } (binomial(2 * k + 2,k - i) * binomial(2 * k + i + 1,2 * k + 1)) / (k + 1)). - _ Vladimir Kruchinin _ , Feb 29 2016 •

[**A262910**] • 1,2,10,59,366,2337,15205,100235,667222,4474733,30188335,204646532,1392850785,9511878729,65144238981,447263887479,3077459618886,21215286546705,146500755609415,1013180180867125,7016536189029551,48650933146617728 ⋆ a(n) = Sum_{k=0..n} binomial(k+n-1,k)*binomial(k+n,2*k). • a(n) = hypergeom([- n, n, n + 1], [1 / 2, 1], - 1 / 4). - _ Peter Luschny _ , Oct 08 2015 •

[**A202482**] • 1,2,10,59,385,2672,19336,144218,1100530,8549888,67386652,537437222,4328934754,35162809688,287688325672,2368563539171,19608128003473,163116600371846,1362822870625762,11430476370562259 ⋆ Expansion of (1-(1-9*x)^(1/3))/(4-(1-9*x)^(1/3)). • a(n):=1 / n * sum(i=1..n, i * sum(k=0..n - i, binomial(k,n - k - i) * 3 ^ (k) * (- 1) ^ (n - k + 1) * binomial(n + k - 1,n - 1))). •

[**A114620**] • 0,2,10,60,348,2030,11830,68952,401880,2342330,13652098,79570260,463769460,2703046502,15754509550,91824010800,535189555248,3119313320690,18180690368890,105964828892652,617608282987020 ⋆ 2*A084158 (twice Pell triangles). • a(n) = ((sqrt(2) + 1) ^ (2 * n + 1) - (sqrt(2) - 1) ^ (2 * n + 1) - 2 * (- 1) ^ n) / 8. - corrected by _ Ilya Gutkovskiy _ , Jul 18 2016 • a(n + 1) = 6 * a(n) - a(n - 1) + 2 * (- 1) ^ n : a(n + 1) = 5 * a(n) + 5 * a(n - 1) - a(n - 2). •

[**A004981**] • 1,2,10,60,390,2652,18564,132600,961350,7049900,52169260,388898120,2916735900,21987701400,166478310600,1265235160560,9647418099270,73774373700300,565603531702300,4346216612028200,33465867912617140 ⋆ a(n) = (2^n/n!) * Product_{k=0..n-1} (4*k + 1). • a(n) = (Sum _{ m=1..n } m * Sum _{ k=m..n } binomial(- m + 2 * k - 1,k - 1) * 2 ^ (n + m - k) * binomial(2 * n - k - 1,n - 1)) / n, n>0, a(0)=1. - _ Vladimir Kruchinin _ , Dec 26 2011 • a(n) = (- 8) ^ n * binomial(- 1 / 4,n). •

[**A262001**] • 1,2,10,60,400,2900,22700,191600,1746400,17230000,184348000,2140118000,26925784000,366118706000,5359236310000,84077608400000,1407341155720000,25027454132360000,471046698018440000,9351091483806800000,195213433887227200000,4274234604872786800000,97924306054031604400000 ⋆ G.f.: 1/(1 - x*F'(x)/F(x)) where F(x) = Sum_{n>=0} x^n/n!*Product_{k=1..n} (k^2 + 1). • a(n) == 0 (mod 10) for n>1. •

[**A098616**] • 1,2,10,60,406,2940,22308,175032,1408550,11561836,96425836,814773960,6960289532,60012947800,521582661000,4564643261040,40190674554630,355772529165900,3164408450118300,28266363849505320,253466716153665300 ⋆ Product of Pell and Catalan numbers: a(n) = A000129(n+1)*A000108(n). • a(n) == 0 (mod 10) for n = (5 ^ k + (- 1) ^ k) / 2 through n = 5 ^ k - 1 when k>=1. •

[**A052600**] • 1,2,10,60,504,5040,61200,856800,13749120,247484160,4953312000,108972864000,2615827737600,68011521177600,1904409771264000,57132293137920000,1828254303203328000,62160646308913152000 ⋆ E.g.f. 1/((1-2*x)*(1-x^2)). • a(n) = (4 / 3 * 2 ^ n + Sum(- 1 / 6 * (2 +_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(- 1 +_ Z ^ 2))) * n! • a(n) = (4 * 2 ^ n - 1) / 3 * n! if n is even, a(n) = (4 * 2 ^ n - 2) / 3 * n! otherwise. •

[**A155626**] • 1,2,10,62,370,2102,11530,61742,325090,1690982,8717050,44633822,227363410,1153594262,5835080170,29443836302,148292923330,7457595839342,37459777888890,187986084211182,942679200128 50,4724391116920 22 ⋆ 5^n-4^n+1. • a(n)=9 * a(n - 1) - 20 * a(n - 2) + 12 with a(0)=1, a(1)=2 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A092165**] • 2,10,62,370,2222,13330,79982,479890,2879342,17276050,103656302,621937810,3731626862,22389761170,134338567022,806031402130,4836188412782,29017130476690,174102782860142,1044616697160850,6267700182965102,37606201097790610,225637206586743662 ⋆ Let M = 2 X 2 matrix [1 2 / 5 4]; a(n) = (1,2) entry of M^n. • a(n) = (2 * 6 ^ n - 2 * (- 1) ^ n) / 7. •

[**A243034**] • 1,2,10,62,422,2992,21736,160442,1197798,9018656,68355820,520851212,3986036204,30615867128,235879185188,1822138940482,14108173076358,109454660444336,850687921793836,6622072711690452 ⋆ Expansion of A(x) = x*F'(x)/(F(x) - F(x)^2), where F(x) = (-1 - sqrt(1-8*x) + sqrt(2 + 2*sqrt(1-8*x) + 8*x))/4. • a(n) = 1 + n * Sum _{ m=0..n } (Sum _{ k=1..(n - m) } (binomial(k, n - m - k) * binomial(n + 2 * k - 1, n + k - 1)) / (n + k))). •

[**A107841**] • 1,2,10,62,430,3194,24850,199910,1649350,13879538,118669210,1027945934,9002083870,79568077034,708911026210,6359857112438,57403123415350,520895417047010,4749381474135850,43489017531266654,399755692955359630,3687437532852484442,34121911117572911410 ⋆ Series reversion of x(1-3x)/(1-x). • a(n) = (1 / (n + 1))sum { k=0..n, C(n + 1, k)C(2n - k, n)(- 1) ^ k * 3 ^ (n - k) } . • a(n) = (1 / (n + 1))sum { k=0..n, C(n + 1, k + 1)C(n + k, k)(- 1) ^ (n - k) * 3 ^ k } . • a(n) = sum { k=0..n, (1 / (k + 1)) * C(n, k)C(n + k, k)(- 1) ^ (n - k) * 3 ^ k } . • a(n + 1) is the coefficient of x ^ (n + 1) in 2 * sum { j,1,n } ((sum { k,1,n } a(k)x ^ k) ^ (j + 1)), a(1)=1 with offset by 1. - _ Fung Lam _ , Dec 31 2013 •

[**A245519**] • 0,0,0,2,10,64,336,1872,11104,71944,508032,3511232,27192704,223750464,1947253504,17899536448,173156535168,1760383827776,18752453106176,209034916385472,2432351796434560,29509268795249700 ⋆ Number of alpha-labeled graphs with n edges and at most n vertices. • a(n) = sum _{ L=1..n - 2 } sum _{ i=1..n - 1 } prod _{ k=1..n } d(L,k,i), where •

[**A078531**] • 1,2,10,64,462,3584,29172,245760,2124694,18743296,168043980,1526726656,14025209100,130056978432,1215785268840,11445014102016,108401560073190,1032295389593600,9877854438949980,94927710773575680 ⋆ Coefficients of power series that satisfies A(x)^2 - 4*x*A(x)^3 = 1, A(0)=1. • a(n)

= 2 * (sum _{ i=0..n - 2 } binomial(3n - 3, i) * binomial(2n - 2 - i, n)) / (n - 1) for n>1. - _ Emeric Deutsch _ , Nov 29 2002 ● a(n) = 2 ^ (2n) * binomial (3n / 2 - 1 / 2, n) / (n + 1). - _ Emeric Deutsch _ , Dec 10 2002 ●

[A027307] ● 1,2,10,66,498,4066,34970,312066,2862562,26824386,255680170,2471150402,24161357010,238552980386,2375085745978,23818652359682,240382621607874,2439561132029314,24881261270812490,254892699352950850 ★ Number of paths from (0,0) to (3n,0) that stay in first quadrant (but may touch horizontal axis) and where each step is (2,1), (1,2) or (1,-1). ● a(n) = Sum _{ k=0..n } C(2 * n + k, n + 2 * k) * C(n + 2 * k, k) / (n + k + 1). - _ Paul D . Hanna _ , Mar 30 2005 ●

[A152621] ● 1,2,10,68,484,3464,24808,177680,1272592,9114656,65281696,467565632,3348834880,23985285248,171789272704,1230402470144,8812484124928,63117458178560,452064760678912,3237813336359936,23190118126806016 ★ a(n)=8*a(n-1)-6*a(n-2), n>1 ; a(0)=1, a(1)=2. ● a(n)=(1 / 2) *{ [4 - sqrt(10)] ^ n + [4 + sqrt(10)] ^ n }+ (1 / 10) * sqrt(10) *{ [4 - sqrt(10)] ^ n - [4 + sqrt(10)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Dec 12 2008] ●

[A147725] ● 1,2,10,68,502,3770,28408,214202,1615330,12181748,91867102,692804690,5224704088,39401485202,297141621850,2240858259428,16899166494502,127443057596810,961096686931768,7247996548821002,54659905383139570 ★ Row sums of triangle in A147724. ● a(n)=9 * a(n - 1) - 11 * a(n - 2) for n>2, a(0)=1, a(1)=2, a(2)=10. G.f.: (1 - 7x + 3x ^ 2) / (1 - 9x + 11x ^ 2). ● a(n) =[(9 / 2) + (1 / 2) * sqrt(37)] ^ (n - 1) - (1 / 37) * sqrt(37) * [(9 / 2) - (1 / 2) * sqrt(37)] ^ (n - 1) + (1 / 37) * [(9 / 2) + (1 / 2) * sqrt(37)] ^ (n - 1) * sqrt(37) + [(9 / 2) - (1 / 2) * sqrt(37)] ^ (n - 1) + (3 / 11) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] ●

[A074603] ● 2,10,68,520,4112,32800,262208,2097280,16777472,134218240,1073742848,8589936640,68719480832,549755822080,4398046527488,35184372121600,281474976776192,2251799813816320,18014398509744128,144115188076380160 ★ 2^n + 8^n. ● a(n) = 8 * a(n - 1) - 2 ^ n = 10 * a(n - 1) - 16 * a(n - 2). ●

[A110520] ● 1,2,10,68,538,4652,42628,406856,4001914,40285724,413049580,4298523704,45288486436,482122686008,5178044596168,56038403289488,610508962548538,6690154684006268,73693477140179548,815508203755227608 ★ Expansion of 1/(1-2*x*c(3*x)), c(x) the g.f. of A000108. ● a(0)=1, a(n)=sum { k=0..n, sum { j=0..n, j * C(2n - j - 1, n - j) * C(j, k)3 ^ (n - j) / n }} , n>0 ● a (n) = the top left term in M ^ n, M = the infinite square production matrix: ●

[A121201] ● 2,10,70,462,3018,19922,133262,901654,6155410,42306714,292240854,2026154846,14085427802,98109713506,684326588446,4778079088038,33385518460194,233393453440298,1632228295176038,11417968671701230 ★ 7^n+5^n-2n. ● a(n) = 14 * a(n - 1) - 60 * a(n - 2) + 82 * a(n - 3) - 35 * a(n - 4). - _ Vincenzo Librandi _ , Feb 26 2013 ●

[A051405] ● 2,10,70,574,5002,44530,399310,3589414,32291602,290585050,2615147350,23535971854,211822683802,1906400965570,17157599124190,154418363419894,1389765184685602,12507886403890090,112570976860169830,1013138789417005534 ★ (3^n+1)*(3^(n+1)+1)/4. ● a(0)=2, a(1)=10, a(2)=70, a(n)=13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3) From _ Harvey P. Dale _ , Jul 13 2012 ●

[A005568] ● 1,2,10,70,588,5544,56628,613470,6952660,81662152,987369656,12228193432,154532114800,1986841476000,25928281261800,342787130211150,4583937702039300,61923368957373000,844113292629453000,11600528393993339800,160599522947154548400,2238236829690383152800 ★ Product of two successive Catalan numbers C(n)*C(n+1). ● a(n) = binomial(2 * n,n) * binomial (2 * n + 2,n + 1) / ((n + 1)(n + 2)). ● a(n) = 2 * (2 * n + 1) * binomial(2 * n,n) ^ 2 / ((n + 2)(n + 1) ^ 2). ●

[A047853] ● 1,2,10,74,586,4682,37450,299594,2396746,19173962,153391690,1227133514,9817068106,78536544842,628292358730,5026338869834,40210710958666,321685687669322,2573485501354570,20587884010836554,164703072086692426 ★ a(n)=T(5,n), array T given by A047848. ● a(n) = (8 ^ n + 6) / 7. - _ Ralf Stephan _ , Feb 14 2004 ● a(0)= 1, a(1)= 2, a(n)= 9 * a(n - 1) - 8 * a(n - 2) for n>1. G.f.: (1 - 7x) / (1 - 9x + 8x ^ 2). [_ Philippe Deléham _ , Oct 05 2009] ● a(n) = 8 * a(n - 1) - 6 (with a(0)=1). [_ Vincenzo Librandi _ , Aug 06 2010] ●

[A092881] ● 1,2,10,74,730,8282,92170,959114,9359290,86810042,775127530,6729173354,57217937050,479099439002,3966035935690,32552638110794,265489098246010,2154919024055162,17428334622452650,140575105877211434 ★ Number of ordered 3-multiantichains on an n-set. ● a(n) = 8 ^ n - 6 * 6 ^ n + 6 * 5 ^ n + 6 * 4 ^ n - 12 * 3 ^ n + 6 * 2 ^ n. ●

[A240599] ● 2,10,78,694,6570,64450,646870,6596334,68050578,708277498,7423267742,78238452390,828411940538,8805333110194,93899794491046,1004158446353374,10764586985847330,115642794779838442 ★ Expansion of A(x) = x*B'(x)*(B(x)-x)/B(x)^2 where B(x)/x is g.f. of A027307. ● a(n) = sum(k=1..n, 2 ^ k * binomial(n - 1,n - k) * sum(i=0..k, i * (- 1) ^ (i - k) * binomial(k,i) * sum(j=0..n, ((- 1) ^ j * 2 ^ (n - j) * (2 * n - j + i - 1)!) / (j! * (n - j)! * (n - j + i)!)))). ●

[A100248] ● 1,2,10,79,777,8606,102512,1282129,16605538,220781427,2995985345,41325515589,577713950666,8166924383923,116550061698966,1676836298476274,24295472856858786,354190017808427947,5191706917095917442,76469028773023897070,1131207622704483680933,16799374652884761512521 ★ Row sums of the slanted Catalan convolution table A100247. ● a(n) = Sum _{ k=0..2n } C(n + 2 * k - [k / 2], k) * (n - [k / 2]) / (n + 2 * k - [k / 2]). ●

[A152600] ● 1,2,10,80,790,8720,103060,1275680,16326190,214280720,2868504460,39014154080,537592643740,7488960021920,105295566289960,1492291482505280,21296015905884190,305755507155234320 ★ a(n)=0^n+sum{k=0..n-1, C(n+k-1,2k)*A000108(k)*3^k*2^(n-k)} ● a(n) = 2 ^ n * (4 * (n + 1) * LegendreP(n + 1,4) - (31 * n + 16) * LegendreP(n,4)) / (3 * n * (n - 1)) for n>1 - _ Mark van Hoeij _ , May 27 2010 ●

[A132397] ● 2,10,86,682,5462,43690,349526,2796202,22369622,178956970,1431655766,11453246122,91625968982,733007751850,5864062014806,46912496118442,375299968947542,3002399751580330,24019198012642646,192153584101141162 ★ Second trisection of A024494. ● a(0)=2, a(1)=10, a(n)=7 * a(n - 1) + 8 * a(n - 2). - _ Harvey P. Dale _ , Oct 14 2015 ●

[A186184] ● 1,1,2,10,89,1002,12592,168805,2363241,34138860,505042286,7612594936,116492572621,1804984878387,28260999959595,446441276449715,7106718529937710,113886198966545724 ★ Expansion of 1/(1-x*A002296(x)) ● a(n) =sum _{ k=1..n } (k / (6 * n - 5 * k)) * binomial(7 * n - 6 * k - 1,n - k), n>0 . ●

[A087799] ● 2,10,98,970,9602,95050,940898,9313930,92198402,912670090,9034502498,89432354890,885289046402,8763458109130,86749292044898,858729462339850,8500545331353602,84146723851196170,832966693180608098,824552020795488481 0 ★ a(n) = 10*a(n-1) - a(n-2), starting with a(0) = 2 and a(1) = 10, a(n) = (5+sqrt(24))^n + (5-sqrt(24))^n. ● a(- n) = a(n). - _ Michael Somos _ , Feb 25 2014 ●

[A086927] ● 2,10,102,1030,10402,105050,1060902,10714070,108201602,1092730090,11035502502,111447755110,1125513053602,11366578291130,114791295964902,1159279537940150,11707586675366402,118235146291604170 ★ a(n) = 10*a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 10. ● a(n) = (5 + sqrt(26)) ^ n + (5 - sqrt(26)) ^ n. ●

[A003222] ● 2,10,108,982,8120,65426,524132,4194094,33554160,268435114,2147483228,17179868678,137438952872,1099511627074,8796093021396,70368744176734,562949953420256,4503599627369306,36028797018962636 ★ 2^(3*n+1)-2*n*(2*n+1). ● a(n)= + 11 * a(n - 1) - 27 * a(n - 2) + 25 * a(n - 3) - 8 * a(n - 4) G.f.: 2 * (1 - 6 * x + 26 * x ^ 2 + 7 * x ^ 3) / ((8 * x - 1) * (x - 1) ^ 3) [From _ R. J. Mathar _ , May 05 2010] ●

[A252707] ● 2,10,1000000000 ★ "Smallest interesting" sequence such that each term has as many digits as the previous term's value. ● a(1) = 2, a(n) = 10 ^ (a(n - 1) - 1). ●

[A007931] ● 1,2,11,12,21,22,111,112,121,122,211,212,221,222,1111,1112,1121,1122,1211,1212,1221,1222,2111,2112,2121 ★ Numbers that contain only 1's and 2's. Nonempty binary strings of length n in lexicographic order. ● a(n) = sum _{ j=0..m - 1 } (1 + b(j) mod 2) * 10 ^ j, where m = floor(log _ 2(n + 1)), b (j) = floor((n + 1 - 2 ^ m) / (2 ^ j)). ● a(k * (2 ^ n - 1)) = k * (10 ^ n - 1) / 9, k= 1,2. ● a(3 * 2 ^ n - 2) = (11 * 10 ^ n - 2) / 9 = 10 ^ n + 2 * (10 ^ n - 1) / 9. ● a(2 ^ n - 2) = 2 * (10 ^ (n - 1) - 1) / 9, n>1. ● a(n) <= (10 ^ log _ 2 (n + 1) - 1) / 9, equality holds for n=2 ^ k - 1, k>0. ● a(n) > (2 / 10) * (10 ^ log _ 2(n + 1) - 1) / 9. ●

[A140148] ● 1,2,11,12,37,38,87,88,169,170,291,292,461,462,687,688,977,978,1339,1340,1781,1782,2311,2312,2937 ★ a(1)=1, a(n)=a(n-1)+n^2 if n odd, a(n)=a(n-1)+ n^0 if n is even. ● a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 2 +{ [1 + (- 1) ^ n] / 2 } , with a(1)=1 a(n)=(- 1 / 4) - (1 / 4) * (- 1) ^ n * n + (1 / 4) * (- 1) ^ n + (1 / 6) * n ^ 3 - (1 / 4) * (- 1) ^ n * n ^ 2 + (1 / 4) * n ^ 2 + (7 / 12) * n, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 ● a(n)=a(n - 1) + 3a(n - 2) - 3a(n - 3) - 3a(n - 4) + 3a(n - 5) + a(n - 6) - a(n - 7). G.f.: x * (1 + x + 6 * x ^ 2 - 2 * x ^ 3 + x ^ 4 + x ^ 5) / ((1 + x) ^ 3 * (x - 1) ^ 4). [From _ R. J. Mathar _ , Feb 22 2009] ●

[A113626] ● 1,2,11,13,17,19,23,26,29,31,37,38,41,43,46,47,53,58,59,61,62,67,71,73,74 ★ Numbers simultaneously heptagon-free, pentagon-free, squarefree and triangle-free. ● a(n) has no factor >1 of form b * (b + 1) / 2, c ^ 2, d * (3 * d - 1) / 2, nor e * (5 * e - 3) / 2. ●

[A022115] ● 2,11,13,24,37,61,98,159,257,416,673,1089,1762,2851,4613,7464,12077,19541,31618,51159,82777,133936,216713,350649,567362 ★ Fibonacci sequence beginning 2, 11. ● a(n) = 12 * F(n) + F(n - 3). - _ J. M. Bergot _ , Jul 20 2017 ●

[A041885] ● 1,1,2,11,13,24,37,209,246,455,19356,19811,39167,215646,254813,470459,725272,4096819,4822091,8918910,379416311,388335221,767751532,4227092881,4994844413 ★ Denominators of continued fraction convergents to sqrt(464). ● a(n) = 19602 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 ●

[A242776] ● 2,11,13,29,31,47,67,83,101,103,137,139,157,173,191,193,211,227,229,263,281,283,317,337,353 ★ Primes n such that 2^n + n^2 is not squarefree. ● a(n) < (4 + o(1))n log n. - _ Charles R Greathouse IV _ , May 27 2014 ●

[A041447] ● 1,2,11,13,37,161,2452,9969,22390,32359,184185,400729,12206055,24812839,136270250,161083089,458436428,1994828801,30380868443,123518302573,277417473589,400935776162,2282096354399,4965128484960,151235950903199 ★ Denominators of continued fraction convergents to sqrt(239). ● a(n) = 12390240 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 18 2013 ●

[A041163] ● 1,1,2,11,13,76,89,165,3059,3224,6283,34639,40922,239249,280171,519420,9629731,10149151,19778882,109043561,128822443,753155776,881978219,1635133995,30314390129 ★ Denominators of continued fraction convergents to sqrt(91). ● a(n) = 3148 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 12 2013 ●

[A041971] ● 1,1,2,11,13,193,978,1171,2149,7618,32621,40239,113099,153338,266437,419775,4464187,4883962,9348149,14232111,37812371,52044482,245990299,790015379,1036005678 ★ Denominators of continued fraction convergents to sqrt(508). ● a(n) = 89515213717502 * a(n - 32) - a(n - 64) for n>63. - _ Vincenzo Librandi _ , Dec 28 2013 ●

[A077475] ● 1,2,11,14,25,28,30,37,39,41,43,46,48,51,54,57,60,64,66,71,76,78,80,82,84 ★ Greedy powers of (8/13): sum_{n=1..inf} (8/13)^a(n) = 1. ● a(n)= sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac

(g _ n) - x) (n>0) at x=(8 / 13) and frac(y) = y - floor(y). • a(n) seems to be asymptotic to c * n with c around 3.7... - _ Benoit Cloitre _ •

[A087379] • 2,11,17,29,37,41,59,73,83,103,127,149,179,211,227,263,307,347,373,401,439,487,521,563,613 ⋆ Beginning with 2, primes such that the difference between two successive terms is a distinct composite number. • a(n) = n - th partial sum of A068632. - _ David Wasserman _ , May 24 2005 •

[A104272] • 2,11,17,29,41,47,59,67,71,97,101,107,127,149,151,167,179,181,227,229,233,239,241,263,269 ⋆ Ramanujan primes R_n: a(n) is the smallest number such that if x >= a(n), then pi(x) - pi(x/2) >= n, where pi(x) is the number of primes <= x. • a(n) = 1 + max { k: pi(k) - pi(k / 2) = n - 1 } . • a(n) = max { prime p: pi(p) - pi(p / 2) = n } (see Shevelev 2012). - _ Jonathan Sondow _ , Mar 23 2016 •

[A105076] • 0,1,2,11,19,90,153,712,1208,5609,9514,44163,74907,347698,589745,2737424,4643056,21551697,36554706,169676155,287794595,1335857546,2265802057,10517184216,17838621864 ⋆ Sequence a(n) such that 60*(a(n)^2)+60*a(n)+1 = j^2 = a square. • a(n) = a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: x ^ 2 * (1 + x + x ^ 2) / ((1 - x) * (x ^ 4 - 8 * x ^ 2 + 1)). [From _ R. J. Mathar _ , Nov 13 2009] •

[A103200] • 1,2,11,19,90,153,712,1208,5609,9514,44163,74907,347698,589745,2737424,4643056,21551697,36554706,169676155,287794595,1335857546,2265802057,10517184216,17838621864,82801616185 ⋆ a(1)=1, a(2)=2, a(3)=11, a(4)=19; a(n) = a(n-4) + sqrt(60*a(n-2)^2 + 60*a(n-2) + 1) for n >= 5. • a(1)=1, a(2)=2, a(3)=11, a(4)=19, a(5)=90, a(n) = a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Sep 27 2011 •

[A094629] • 2,11,20,110,200,1100,2000,11000,20000,110000,200000,1100000,2000000,11000000,20000000,110000000,200000000,1100000000,2000000000,11000000000,20000000000,110000000000,200000000000,1100000000000 ⋆ Numbers n with sum of digits(n) = 2. • a(n) = (sqrt(10)) ^ n * (1 + 11 * sqrt(10) / 20) + (- sqrt(10)) ^ n * (1 - 11 * sqrt(10) / 20). •

[A056637] • 2,11,23,47,283,719,1439,2879,34549,138197,1266767,14920303,36449279,377982107,1432349099,22111003847,110874748763 ⋆ a(n) is the least prime of class n-, according to the Erdős-Selfridge classification of primes. • a(n + 1) >= 2 * a(n) + 1, since a(n + 1) - 1 is even and must have a factor of class n - which is odd (n>1) and >= a(n). a(n + 1) <= min { p = 2 * k * a(n) + 1 | k=1,2,3... such that p is prime } , since a(n) is a prime of class n - . - _ M. F. Hasler _ , Apr 05 2007 •

[A042347] • 1,2,11,24,35,59,94,153,1930,2083,4013,6096,10109,26314,141679,309672,16244623,32798918,180239213,393277344,573516557,966793901,1540310458,2507104359,31625562766 ⋆ Denominators of continued fraction convergents to sqrt(700). • a(n) = 16386302 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 20 2014 •

[A041803] • 1,1,2,11,24,35,129,2615,7974,10589,29152,156349,185501,341850,13859501,14201351,28060852,154505611,337072074,491577685,1811805129,36727680265,111994845924,148722526189,409439898302 ⋆ Denominators of continued fraction convergents to sqrt(422). • a(n) = 14045002 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A220281] • 2,11,24,37,38,39,50,96,96,96,96,97,97,125,125,132,178,178,178,179,179,180,213,221,222 ⋆ a(n) is the smallest number, such that for all N>=a(n) there are at least n primes between 14*N and 15*N. • a(n)<=ceil(R _ (15 / 14)(n) / 15), where R _ v(n) (v>1) are generalized Ramanujan numbers (see Shevelev's link). In particular, for n>=1, { R _ (15 / 14)(n) } = { 127, 307, 347, 563, 569, 733, 1423, 1427, 1429, 1433, 1439, 1447,... } . Moreover, if R _ (15 / 14)(n)==1 or 2(mod 10),then a(n)=ceil(R _ (15 / 14)(n) / 15). •

[A080663] • 2,11,26,47,74,107,146,191,242,299,362,431,506,587,674,767,866,971,1082,1199,1322,1451,1586,1727,1874 ⋆ Numbers of the form 3*n^2 - 1. • a(n) = 3 * n ^ 2 - 1. - _ Stephen Crowley _ , Jul 06 2009 • a(n) = a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3). - _ Johannes W. Meijer _ , Oct 16 2009 • a(n) = 6 * n + a(n - 1) - 3 for n > 1. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A218471] • 0,2,11,27,50,80,117,161,212,270,335,407,486,572,665,765,872,986,1107,1235,1370,1512,1661,1817,1980 ⋆ a(n) = n*(7*n-3)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0)=0, a(1)=2, a(2)=11. •

[A054552] • 1,2,11,28,53,86,127,176,233,298,371,452,541,638,743,856,977,1106,1243,1388,1541,1702,1871,2048,2233 ⋆ a(n) = 4*n^2 - 3*n + 1. • a(n) = 8 * n + a(n - 1) - 7 (with a(0)=1). [_ Vincenzo Librandi _ , Aug 07 2010] • a(0)=1, a(1)=2, a(2)=11, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). [_ Harvey P. Dale _ , Oct 10 2011] •

[A254627] • 1,2,11,28,189,494,3383,8856,60697,158906,1089155,2851444,19544085,51167078,350704367,918155952,6293134513,16475640050,112925716859,295643364940,2026369768941,5305104928862,36361730124071,951962453545 68,6524847724643 29 ⋆ Indices of centered pentagonal numbers (A005891) that are also triangular numbers (A000217). • a(n) = a(n - 1) + 18 * a(n - 2) - 18 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (10 - sqrt(5) * (2 - sqrt(5)) ^ n - 5 * (- 2 + sqrt(5)) ^ n - 2 * sqrt(5) * (- 2 + sqrt(5)) ^ n + sqrt(5) * (2 + sqrt(5)) ^ n + (- 2 - sqrt(5)) ^ n * (- 5 + 2 * sqrt(5))) / 20. - _ Colin Barker _ , Jun 06 2016 •

[A062123] • 2,11,29,56,92,137,191,254,326,407,497,596,704,821,947,1082,1226,1379,1541,1712,1892,2081,2279,2486,2702 ⋆ 2 + (n + n^2)*9/2. • a(n) = 9 * n + a(n - 1), with n>0, a(0)=2. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A117560] • 2,11,29,59,104,167,251,359,494,659,857,1091,1364,1679,2039,2447,2906,3419,3989,4619,5312,6071,6899,7799,8774 ⋆ n*(n^2-1)/2 - 1. • a(n) = n * (n ^ 2 - 1) / 2 - 1. •

[A154251] • 1,2,11,29,65,137,281,569,1145,2297,4601,9209,18425,36857,73721,147449,294905,589817,1179641,2359289,4718585,9437177,18874361,37748729,75497465 ⋆ Expansion of (1-x+7x^2)/((1-x)(1-2x)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>2, with a(0)=1, a(1)=2, a(2)=11. • a(n) = 9 * 2 ^ (n - 1) - 7, n>0, with a(0)=1. • a(n) = 2 * a(n - 1) + 7, n>1, with a(0)=1, a(1)=2. • a(n) = 9 * 2 ^ (n - 1) - 7 for n >= 1. •

[A133558] • 1,2,11,29,128,389,1541,5042,18911,64289,234488,813089,2923481,10241282,36552611,128724149,457697648,1616214989,5735493821,20281428722,71900873111,254433731609,901541589608,3191445174089,11305319480561 ⋆ a(n) = a(n-1)+9*a(n-2) for n>=2, a(0)=1, a(1)=2 . • a(n) = (1 / 2) * [(1 / 2) - (1 / 2) * sqrt(37)] ^ n + (1 / 2) * [(1 / 2) + (1 / 2) * sqrt(37)] ^ n + (3 / 74) * [(1 / 2) + (1 / 2) * sqrt(37)] ^ n * sqrt(37) - (3 / 74) * [(1 / 2) - (1 / 2) * sqrt(37)] ^ n * sqrt(37), with n>=0. [_ Paolo P. Lava _ , Nov 18 2008] •

[A162260] • 2,11,30,62,110,177,266,380,522,695,902,1146,1430,1757,2130,2552,3026,3555,4142,4790,5502,6281,7130,8052,9050 ⋆ (n^3+4*n^2-n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 05 2012 •

[A190154] • 1,1,2,11,30,91,303,936,2936,9300,29209,91917,289547,911218,2868341,9029949,28424456,89477119,281667368,886657081,2791106585,8786130132,27657838272,87064082194,274068969337 ⋆ Diagonal sums of the triangle A190152. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(3 * n - 4 * k,3 * n - 6 * k). •

[A121346] • 2,11,31,68,124,205,316,460,642,866,1138,1461,1839,2278,2781,3354,4000,4724,5531,6424,7409,8490,9671,10956,12351 ⋆ Conjectured lower bound for the number of spheres of radius 1 that can be packed in a sphere of radius n. • a(n) = floor(K * (1 - 2 * d) / d ^ 3 + 1 / (2 * d ^ 2)), where d=1 / n and K = Pi / (3 * sqrt(2)). •

[A033994] • 2,11,32,70,130,217,336,492,690,935,1232,1586,2002,2485,3040,3672,4386,5187,6080,7070,8162,9361,10672,12100,13650 ⋆ a(n) = n*(n+1)*(5*n+1)/6. • a(n) = sum(i=1..n, sum(j=1..n, i + min(i,j))). - _ Enrique Pérez Herrero _ , Jan 15 2013 • a(n) = sum(i=1..n, i * (n + i)). - _ Charlie Marion _ , Apr 10 2013 •

[A094792] • 2,11,32,71,134,227,356,527,746,1019,1352,1751,2222,2771,3404,4127,4946,5867,6896,8039,9302,10691,12212,13871,15674 ⋆ a(n) = (1/n!)*A001565(n). • a(n) = n ^ 3 + 3 * n ^ 2 + 5 * n + 2. • a(n) = sum((- 1) ^ i * binomial(3,i) * (n - i)! / (n - 3)!,i=0..3). - Fiona T. Brunk (fbrunk(AT)mcs.st - and.ac.uk), May 23 2006 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Fung Lam _ , Apr 17 2014 •

[A173707] • 0,0,2,11,32,73,145,259,429,672,1005,1448,2024,2756,3670,4795,6160,7797,9741,12027,14693,17780,21329,25384,29992 ⋆ Partial sums of floor(n^3/3). • a(n) = Sum _{ k=0,..,n } (floor(k ^ 3 / 3)). • a(n) = round((n ^ 4 + 2 * n ^ 3 + n ^ 2 - 4 * n) / 12). • a(n) = round((n ^ 4 + 2 * n ^ 3 + n ^ 2 - 4 * n - 2) / 12) • a(n) = floor((n ^ 4 + 2 * n ^ 3 + n ^ 2 - 4 * n) / 12). • a(n) = ceil((n + 1) * (n ^ 3 + n ^ 2 - 4) / 12). • a(n) = a(n - 3) + n ^ 3 - 3 * n ^ 2 + 5 * n - 4 , n>2. •

[A085786] • 2,11,33,74,140,237,371,548,774,1055,1397,1806,2288,2849,3495,4232,5066,6003,7049,8210,9492,10901,12443,14124,15950 ⋆ a(n) = A000217(n) + n^3. • a(n) = n * (2 * n ^ 2 + n + 1) / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A041389] • 1,2,11,35,81,278,1471,3220,91631,186482,1024041,3258605,7541251,25882358,136953041,299788440,8531029361,17361847162,95340265171,303382642675,702105550521,2409699294238,12750602021711,27910903337660,794255895476191 ⋆ Denominators of continued fraction convergents to sqrt(209). • a(n) = 93102 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A000914] • 0,2,11,35,85,175,322,546,870,1320,1925,2717,3731,5005,6580,8500,10812,13566,16815,20615,25025,30107,35926,42550,50050 ⋆ Stirling numbers of the first kind: s(n+2, n). • a(n) = binomial(n + 2, 3) * (3 * n + 5) / 4 = (n + 1) * n * (n + 2) * (3 * n + 5) / 24. • a(n) = Sum _{ i=1..n } i * (i + 1) ^ 2 / 2. - _ Jon Perry _ , Jul 31 2003 • a(n) = a(n - 1) + (n + 1) * binomial(n + 1,2) for n >= 1. - _ Dennis P. Walsh _ , Sep 21 2015 •

[A242300] • 0,2,11,35,105,292,796,2130,5655,14927,39281,103160,270600,709282,1858291,4867275,12746265,33375932,87388676,228801650,599034975,1568333527,4106014561,10749789360,28143481680 ⋆ a(n) = Sum_{0<=i<j<=n}L(i)*L(j), where L(k)=A000032(k) is the k-th Lucas number. • a(n) = (L(n + 1) - 1) ^ 2 + L(n - 1) + (5 * (- 1) ^ n - 3) / 2. - _ Colin Barker _ , May 13 2014 •

[A154416] • 1,1,1,2,11,35,274,1624,13068,118124,1026576,12753576,120543840,1931559552,20313753096,392156797824,5056995703824,102992244837120,1583313975727488,34012249593822720,610116075740491776,138037597536407040 00,284093315901811468800 ⋆ Maximal Stirling numbers of the first kind. • a(n) = max _{ m=0..n } StirlingS1(n,m). •

[A184538] • 2,11,36,85,166,288,457,682,972,1333,1774,2304,2929,3658,4500,5461,6550,7776,9145,10666,12348,14197,16222,18432,20833 ⋆ Floor[1/{(3+n^4)^(1/4)}], where {}=fractional part. • a(n)=floor[1 /{ (3 + n ^ 4) ^ (1 / 4) }], where {}=fractional part. •

[A238706] • 0,2,11,36,89,183,335,565,894,1347,1952,2738,3738,4988,6525,8390,10627,13281,16401,20039,24248,29085,34610,40884,47972 ⋆ Sum of the smallest parts of the partitions of 4n into 4 parts with smallest part greater than 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) - 4 * a(n - 6) + a(n - 7) for n > 7. - _ Wesley Ivan Hurt _ , Oct 07 2017 •

[A071244] • 0,0,2,11,36,90,190,357,616,996,1530,2255,3212,4446,6006,7945,10320,13192,16626,20691,25460,31010,37422,44781,53176 ⋆ n*(n-1)*(n^2+2)/6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n > 4, a(0)=0, a(1)=0, a(2)=2, a(3)=11, a(4)=36. [_ Yosu Yurramendi _ , Sep 03 2013] •

[A005583] • 2,11,36,91,196,378,672,1122,1782,2717,4004,5733,8008,10948,14688,19380,25194,32319,40964,51359,63756,78430,95680,115830,139230 ⋆ Coeffi-

cients of Chebyshev polynomials. • a(n) = binomial(n + 4, n - 1) + binomial(n + 3, n - 1) = (1 / 120) * n * (n + 9) * (n + 3) * (n + 2) * (n + 1). •

[**A176916**] • 2,11,36,141,646,3151,15656,78161,390666,1953171,9765676,48828181,244140686,1220703191,6103515696,30517578201,152587890706,762939453211,3814697265716,19073486328221,95367431640726,476837158203231 ★ 5^n + 5n + 1. • a(n)= + 7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3). G.f.: (- 2 + 3 * x + 19 * x ^ 2) / ((5 * x - 1) * (x - 1) ^ 2). [From _ R. J. Mathar _ , Apr 29 2010] •

[**A015519**] • 0,1,2,11,36,149,550,2143,8136,31273,119498,457907,1752300,6709949,25685998,98341639,376485264,1441362001,5518120850,21125775707,80878397364,309637224677,1185423230902,4538307034543,17374576685400 ★ a(n) = 2*a(n-1) + 7*a(n-2). • a(n) = sum(k=0..floor((n - 1) / 2), comb(n - k - 1, k) * (7 / 2) ^ k * 2 ^ (n - k - 1)). - _ Paul Barry _ , Jul 17 2004 • a(n) = sum { k=0..n, binomial(n, 2 * k + 1) * 8 ^ k } . - _ Paul Barry _ , Sep 29 2004 •

[**A096977**] • 0,1,2,11,36,157,598,2447,9672,38913,155194,621683,2484908,9943269,39765790,159077719,636281744,2545185225,10180624386,40722730555,162890456180,651562756781,2606249162982,10425000380191,41699994064216 ★ a(n) = 4*a(n-1)+3*a(n-2)-14*a(n-3)+8*a(n-4). • a(n) = 4 * 4 ^ n / 27 - 4 * (- 2) ^ n / 27 + n / 9. • a(n) = 4 * a(n - 1) + 3 * a(n - 2) - 14 * a(n - 3) + 8 * a(n - 4). •

[**A084098**] • 0,1,2,11,36,341,1702,23071,154056,2691241,22470602,479886131,4808343276,121361260541,1418683841902,41316096677191,551971861815696,18218322689532241,273815850521907602,10100775754144668251 ★ Expansion of e.g.f. exp(x)*tan(2*x)/2. • a(n) = i * ((4i) ^ n * EulerE(n, - i / 4) - 1) / 2. - _ Benedict W. J. Irwin _ , May 26 2016 •

[**A079009**] • 1,2,11,37,149,1359,14130,175327,1218073,108387730,14305141265 ★ a(n) = smallest number such that the 2^n successive values of Phi[n+j] (j=0,..2^n-1) are all distinct. • a(n)=A079008[2 ^ n] •

[**A059673**] • 0,2,11,38,109,284,699,1658,3833,8696,19447,42998,94197,204788,442355,950258,2031601,4325360,9175023,19398638,40894445,85983212,180355051,377487338,788529129 ★ Sum of binary numbers with n 1's and one (non-leading) 0. • a(n) = (2n - 1) * 2 ^ n + 1 - n. • a(0)=0, a(1)=2, a(2)=11, a(3)=38, a(n)=6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). - _ Harvey P. Dale _ , May 17 2015. [This is equivalent to the g.f. - x * (2 * x ^ 2 + x - 2) / ((x - 1) ^ 2 * (2 * x - 1) ^ 2) given by _ Colin Barker _ . - _ N. J. A. Sloane _ , May 17 2015] •

[**A294152**] • 0,2,11,38,112,309,828,2190,5759,15106,39580,103657,271416,710618,1860467,4870814,12752008,33385245,87403764,228826086,599074535,1568397562,4106118196,10749957073,28143753072 ★ Chromatic invariant of the n-antiprism graph. • a(n) = lucasl(2 * n) - 2 * n - 1. • a(n) = phi ^ (2 * n) + phi ^ (- 2 * n) - 2 * n - 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - a(n - 4). • a(n) = - 1 + ((3 - sqrt(5)) / 2) ^ n + ((3 + sqrt(5)) / 2) ^ n - 2 * n. - _ Colin Barker _ , Nov 16 2017 •

[**A276659**] • 0,2,11,39,114,300,741,1757,4052,9162,20415,44979,98214,212888,458633,982905,2097000,4456278,9436995,19922735,41942810,88080132,184549101,385875669,805306044 ★ Accumulation of the upper left triangle used in binomial transform of nonnegative integers. • a(n) = n * (2 ^ (n + 2) - n - 3) / 2. • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5) for n > 4. • a(n) = Sum _{ k=2..n + 3 } Sum _{ i=2..n + 3 } k * C(n - i + 3,k). - _ Wesley Ivan Hurt _ , Sep 20 2017 •

[**A193005**] • 0,1,2,11,40,115,280,611,1234,2357,4320,7677,13328,22733,38258,63735,105368,173199,283480,462511,752850,1223361,1985472,3219481,5217120 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - 3 * a(n - 5) + a(n - 6). •

[**A152895**] • 0,2,11,40,123,349,951,2539,6710,17645,46290,121302,317706,831920,2178173,5702734,14930181,39087979,102333945,267914065,701408480,1836311627,4807526676,12586268700,32951279748 ★ Partial sums of A152891. • a(1)=0, a(2)=2, a(3)=11, a(4)=40, a(5)=123, a(n)=6 * a(n - 1) - 13 * a(n - 2) + 13 * a(n - 3) - 6 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Mar 26 2015 •

[**A144841**] • 1,1,2,11,41,121,316,757,1961,6281,22166,74031,221937,596961,1460096,3294761,6945521,13818417,26161386,47446611 ★ Conjectured values for maximal number of regions obtained by joining each triple of n points on a 3 dimensional sphere by a plane. • a(n) = 280 * C(n,9) + 10 * C(n,6) + 6 * C(n,4) + C(n,3) + 1. •

[**A203574**] • 2,11,41,137,435,1338,4024,11899,34723,100255,286947,815316,2302286,6466667,18079805,50343893,139683219,386328654,1065440068,2930780635,8043131767,22026515371,60203886531,164259660072,447431169050 ★ Bisection of A099924 (Lucas convolution); one half of the members with odd arguments. • a(0)=2, a(1)=11, a(2)=41, a(3)=137, a(n)=6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 12 2015 •

[**A070778**] • 1,2,11,41,176,721,3003,12439,51623,214103,888173,3684174,15282475,63393324,262962987,1090800411,4524765831,18769248040,77856998326,322959774150,1339674254489,5557122741105,23051583675890,95620617831960,396645310086831 ★ Let M denote the 6 X 6 matrix = row by row /1,1,1,1,1,1/1,1,1,1,1,0/1,1,1,1,0,0/1,1,1,0,0,0/1,1,0,0,0,0/1,0,0,0,0,0/ and A(n) the vector (x(n),y(n),z(n),t(n),u(n),v(n)) = M^n*A where A is the vector (1,1,1,1,1,1); then a(n) = u(n). • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 4 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + a(n - 6). - _ Wesley Ivan Hurt _ , Oct 09 2017 •

[**A089658**] • 0,2,11,42,136,400,1104,2912,7424,18432,44800,107008,251904,585728,1347584,3072000,6946816,15597568,34799616,77201408,170393600,374341632,818937856,1784676352,3875536896 ★ Let S1 := (n,t)->add(k^t * add(binomial(n,j), j=0..k), k=0..n); a(n) = S1(n,1). • a(n) = n(3n + 5) * 2 ^ (n - 3). • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3) for n > 2. •

[**A140322**] • 1,2,11,42,171,682,2731,10922,43691,174762,699051,2796202,11184811,44739242,178956971,715827882,2863311531,11453246122,45812984491,183251937962,733007751851,2932031007402,11728124029611,46912496118442,187649984473771 ★ -1/6 +(-1)^n/2 +2*4^n/3. • a(n)=4a(n - 1) + a(n - 2) - 4a(n - 3). •

[**A048500**] • 1,2,11,43,135,375,967,2375,5639,13063,29703,66567,147463,323591,704519,1523719,3276807,7012359,14942215,31719431,67108871,141557767,297795591,624951303,1308622855 ★ a(n) = 2^(n-1)*(7*n-12)+7. • a(n) = T(6, n), array T given by A048494. • a(0)=1, a(1)=2, a(2)=11, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ and _ Vincenzo Librandi _ , Sep 23 2011 •

[**A197189**] • 1,2,11,43,184,767,3221,13498,56599,237287,994856,4171003,17487289,73316882,307387091,1288745683,5403172504,22653245927,94975600301,398193030538,1669457093119,6999336432047,29345294761736,123032566445443,515824173145009 ★ a(n) = 3*a(n-1) + 5*a(n-2), with a(0)=1, a(1)=2. • a(n) = ((29 + sqrt(29)) * (3 + sqrt(29)) ^ n + (29 - sqrt(29)) * (3 - sqrt(29)) ^ n) / (58 * 2 ^ n). •

[**A050620**] • 2,11,43,209,1042,6771,26823,130599,651237,3255306,21158903,83821639,408121757,2035115566,13224589033,52388661704,331370112102,1691563962301,6567827879588,41430886596044,211450306579272,1059399469695886,5298071316879193,20530429091056784 ★ Quotients arising from sequence A035014. • a(n) = a(n - 1) / 2 + 5 ^ (n - 1) * (4 - [a(n - 1) mod 2]) / 2. - Antonio G. Astudillo (afg _ astudillo(AT)hotmail.com), Jun 17 2001 •

[**A037744**] • 2,11,44,177,710,2843,11372,45489,181958,727835,2911340,11645361,46581446,186325787,745303148,2981212593,11924850374,47699401499,190797605996,763190423985,3052761695942,12211046783771,48844187135084 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,3,0,1. • a(1)=2, a(2)=11, a(3)=44, a(4)=177, a(5)=710, a(n)= 4 * a(n - 1) + a(n - 4) - 4 * a(n - 5). - _ Harvey P. Dale _ , Apr 29 2015 •

[**A110679**] • 1,2,11,44,189,798,3383,14328,60697,257114,1089155,4613732,19544085,82790070,350704367,1485607536,6293134513,26658145586,112925716859,478361013020,2026369768941,8583840088782,36361730124071,154030760585064,652484772464329 ★ a(n+3) = 3*a(n+2) + 5*a(n+1) + a(n), a(0) = 1, a(1) = 2, a(2) = 11. • a(n) = (- 1) ^ n * sum((- 1) ^ k * Fibonacci(3 * k + 1), k=0..n). - _ Gary Detlefs _ , Jan 22 2013 • a(n) = (Fibonacci(3 * n + 2) + (- 1) ^ n) / 2. - _ Roberto Tauraso _ , Mar 21 2017 • a(n) = 3 * a(n - 1) + 5 * a(n - 2) + a(n - 3) for n>2. •

[**A120279**] • 2,11,45,170,631,2346,8780,33089,125466,478181,1830258,7030557,27088856,104647615,405187809,1571990918,6109558567,23782190466,92705454875,361834392094,1413883873953,5530599237752,21654401079301,84859704298176 ★ a(n) = Sum[Sum[(i+j)!/i!/j!,{i,1,j}],{j,1,n}]. • a(n) = Sum _{ k=1..n } Sum _{ i=1..k } C(k + i,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[**A037639**] • 2,11,45,182,731,2925,11702,46811,187245,748982,2995931,11983725,47934902,191739611,766958445,3067833782,12271335131,49085340525,196341362102,785365448411,3141461793645,12565847174582,50263388698331 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 2,3,1. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 17 2012 •

[**A042927**] • 1,1,2,11,46,149,1834,5651,24438,127841,152279,280120,17519719,17799839,35319558,194397629,812910074,2633127851,32410444286,99864460709,431868287122,2259205896319,2691074183441,4950280079760,30960843912 8561 ★ Denominators of continued fraction convergents to sqrt(995). • a(n) = 17671998 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Feb 01 2014 •

[**A292533**] • 2,11,46,187,748,2948,11480,44273,169374,643601,2431526,9140616,34212350,127563959,474022478,1756118055,6488228880,23912815820,87935847700,322713694333,1182114988606,4322734288413,15782353895178,57537481431056,209479529802682 ★ p-INVERT of the squares (A000290), where p(S) = (1 - S)^2. • a(n) = 8 * a(n - 1) - 20 * a(n - 2) + 18 * a(n - 3) - 12 * a(n - 4) + 4 * a(n - 5) - a(n - 6) for n >= 7. •

[**A198693**] • 2,11,47,191,767,3071,12287,49151,196607,786431,3145727,12582911,50331647,201326591,805306367,3221225471,12884901887,51539607551,206158430207,824633720831,3298534883327,13194139533311,52776558133247 ★ 3*4^n-1 • a(n) = 4 * a(n - 1) + 3. a(n) = 5 * a(n - 1) - 4 * a(n - 2), n>1. •

[**A178710**] • 0,2,11,47,193,778,3118,12480,49929,199725,798911,3195656,12782636,51130558,204522247,818089003,3272356029,13089424134,52357696554,209430786236,837723144965,3350892579881,13403570319547,53614281278212,214457125112872 ★ Partial sums of floor(4^n/7). • a(n) = round((8 * 4 ^ n - 14 * n - 13) / 42). • a(n) = floor((8 * 4 ^ n - 14 * n - 8) / 42). • a(n) = ceil((8 * 4 ^ n - 14 * n - 18) / 42). • a(n) = round((8 * 4 ^ n - 14 * n - 8) / 42). • a(n) = a(n - 3) + 3 * 4 ^ (n - 2) - 1 , n>3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + a(n - 3) - 5 * a(n - 4) + 4 * a(n - 5), n>5. •

[**A054894**] • 1,2,11,48,227,1054,4921,22944,107017,499106,2327795,10856592,50634107,236152510,1101392305,5136786240,23957470033,111735303362,521122556315,2430464772336,11335450631123,52867436085214,246568565219689,1149971737922784,5363356017597913 ★ a(n+1) = 4*a(n) + 4*a(n-1) - 4*a(n-2) - a(n-3) with a(1)=1, a(2)=2, a(3)=11, a(4)=48. • a(n) = sum(k=1..n, Fibonacci(k) ^ 3 * a(n - k)) with a(0)=1. - _ Vladeta Jovovic _ , Apr 23 2003 •

[**A108851**] • 1,2,11,50,233,1082,5027,23354,108497,504050,2341691,10878914,50540729,234799658,1090820819,5067682250,23543191457,109375812578,508132824683,2360658736466,10967033419913,50950109889050 ★ a(n) = 4*a(n-1) + 3*a(n-2), a(0) = 1, a(1) = 2. • a(n) = ((2 + sqrt(7)) ^ n + (2 - sqrt(7)) ^ n) / 2. • a(n + 1) / a(n) converges to 2 + sqrt(7) = 4.645751311064... •

[**A105486**] • 1,2,11,50,255,1362,7746,46556,294965,1963865,13703812,999748

51,760824922,6027441398,49616033975,423649629415,3746306203604,34259548971914,323564415957687,3152120868598090,31638011553779137 ★ Number of partitions of {1...n} containing 4 strings of 3 consecutive integers, where each string is counted within a block and a string of more than 3 consecutive integers are counted three at a time. ● a(n)=Sum(c(n, k, 4), k=1...n), where c(n, k, 4) is the case r=4 of c(n, k, r) given by c(n, k, r)=c(n - 1, k - 1, r) + (k - 1)c(n - 1, k, r) + c(n - 2, k - 1, r) + (k - 1)c(n - 2, k, r) + c(n - 1, k, r - 1) - c(n - 2, k - 1, r - 1) - (k - 1)c(n - 2, k, r - 1), r=0, 1, .., n - k - 1, k=1, 2, .., n - 2r, c(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j= 0..floor(n / 2)). ●

[A137960] ● 1,1,2,11,50,275,1560,9212,56082,348675,2207120,14171155,92075064,604266000,3999688050,26670727220,178997024610,1208160130227,8195828345756,55849242272130,382119958804520,2624041637846210 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^5)^2. ● a(n) = Sum _{ k=0..n - 1 } C(2 * (n - k), k) / (n - k) * C(5 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 ●

[A119366] ● 0,1,1,1,2,11,51,177,519,1513,5042,18866,71270,257974,905425,3193737,11578842,42930441,159998493,593445318,2194106568,8138471667,30399156174,114219616809,430344635913 ★ Number of rooted planar n-trees whose number of leaves is equal to 1 modulo 3. ● a(n)=sum { k=0..n, if(mod(n - k,3)=1, (1 / n) * C(n,k) * C(n,k + 1), 0) } ● a(0)=0, a(n)=sum { k=0..floor(n / 3), (1 / n) * C(n,3k + 1)C(n,3k) } ,n>0; - _ Paul Barry _ , Jan 25 2007 ●

[A291386] ● 2,11,54,252,1134,4977,21438,91017,381996,1588248,6552252,26853687,109438938,443837799,1792373346,7211142612,28915704810,115603540605,460942202070,1833459620517,7276826042712,28823185892016,113957884236024,449793742386627 ★ a(n) = (1/3)*A099432(n+1). ● a(n) = 6 * a(n - 1) - 3 * a(n - 2) - 18 * a(n - 3) - 9 * a(n - 4) for n >= 5. ●

[A115205] ● 1,1,1,1,1,1,1,1,2,11,56,221,716,2003,5006,11441,24311,48621,92379,167961,293931,497421,817191,1307505 ★ a(n) = binomial(n, 9) + 1. ● a(n) = (1 / 9!) * (n + 1) * (n ^ 8 - 37 * n ^ 7 + 583 * n ^ 6 - 5119 * n ^ 5 + 27568 * n ^ 4 - 94852 * n ^ 3 + 212976 * n ^ 2 - 322560 * n + 9!) = binomial(n,9) + 1. - _ G. C. Greubel _ , Feb 05 2016 ●

[A198769] ● 2,11,56,281,1406,7031,35156,175781,878906,4394531,21972656,109863281,549316406,2746582031,13732910156,68664550781,343322753906,1716613769531,8583068847656,42915344238281,214576721191406,1072883605957031 ★ (9*5^n-1)/4. ● a(n) = 5 * a(n - 1) + 1. a(n) = 6 * a(n - 1) - 5 * a(n - 2), n >1. ●

[A041129] ● 1,1,2,11,57,68,125,2068,2193,4261,23498,121751,145249,267000,4417249,4684249,9101498,50191739,260060193,310251932,570312125,9435245932,10005558057,19440803989,107209578002 ★ Denominators of continued fraction convergents to sqrt(73). ● a(n) = 2136 * a(n - 7) + a(n - 14). - _ Vincenzo Librandi _ , Dec 11 2013 ●

[A037490] ● 2,11,57,286,1432,7161,35807,179036,895182,4475911,22379557,111897786,559488932,2797444661,13987223307,69936116536,349680582682,1748402913411,8742014567057,43710072835286,218550364176432,1092751820882161 ★ Base 5 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. ● a(n) = 5a(n - 1) + a(n - 2) - 5a(n - 3). ●

[A120464] ● 0,2,11,57,292,1495,7653,39176,200543,1026585,5255116,26901079,137707341,704927552,3608542943,18472227585,94559825764,484054270519,247788672318 9,126843682349 36,649316193568 31,3323866915727 13 ★ a(n) = 5*a(n-1)+a(n-2)-2*a(n-3). ● a(n) = 5 * a(n - 1) + a(n - 2) - 2 * a(n - 3). G.f.: x * (2 + x) / (1 - 5 * x - x ^ 2 + 2 * x ^ 3). [_ Colin Barker _ , May 02 2012] ●

[A164581] ● 1,2,11,57,296,1537,7981,41442,215191,1117397,5802176,30128277,156443561,812346082,4218173971,21903215937,113734253656,590574484217,3066606674741,15923607857922,82684645964351,429346837679677,2229418834362736,11576441009493357 ★ a(n) = 5*a(n - 1) + a(n - 2), with a(0)=1, a(1)=2. ● a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(29)) ^ n * (1 + sqrt(29)) + (- 1 + sqrt(29)) * (5 + sqrt(29)) ^ n)) / sqrt(29). - _ Colin Barker _ , Oct 13 2015 ●

[A162771] ● 2,11,58,304,1592,8336,43648,228544,1196672,6265856,32808448,171787264,899489792,4709789696,24660779008,129125515264,676109975552,3540157792256,18536506851328,97058409938944,508204432228352 ★ a(n) = ((2+sqrt(5))*(3+sqrt(5))^n + (2-sqrt(5))*(3-sqrt(5))^n)/2. ● a(n) = 6 * a(n - 1) - 4 * a(n - 2) for n > 1; a(0) = 2, a(1) = 11. ●

[A139172] ● 0,2,11,59,359,2519,20159,181439,1814399,19958399,239500799,3113510399,43589145599,653837183999,10461394943999,177843714047999,3201186852863999,60822550204415999,1216451004088319999 ★ Natural numbers of the form (n!-2)/2. ● a(n) = Sum _{ k=1..floor(n / 2) } s(n,n - 2 * k), where s(n,k) are Stirling numbers of the first kind, A048994. - _ Mircea Merca _ , Apr 07 2012 ● a(n) = n * (a(n - 1) + 1) - 1. - _ Bob Selcoe _ , Mar 28 2015 ●

[A164034] ● 2,11,60,326,1768,9580,51888,280984,1521440,8237744,44601792,241485920,1307462272,7078895296,38326690560,207508990336,1123498254848,6082860174080,32933905824768,178311204161024,965414951741440 ★ a(n) = ((4+3*sqrt(2))*(4+sqrt(2))^n + (4-3*sqrt(2))*(4-sqrt(2))^n)/4. ● a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 2, a(1) = 11. ●

[A074615] ● 2,11,61,341,1921,10901,62281,358061,2070241,12030821,70231801,411625181,2420922961,14281397141,84467679721,500702562701,2973697798081,17689598897861,105374653934041,628433226338621 ★ a(n) = 5^n + 6^n. ● a(n) = 11 * a(n - 1) - 30 * a(n - 2) with a(0)=2, a(1)=11. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A162274] ● 2,11,62,353,2018,11555,66206,379433,2174786,12465659,71453054,409570865,2347677218,13456996499,77136168158,442148390777,2534416940162,14527406441195,83271831307454,477318366724097 ★ a(n) = ((2+sqrt(3))*(4+sqrt(3))^n + (2-sqrt(3))*(4-sqrt(3))^n)/2. ● a(n) = 8 * a(n - 1) - 13 * a(n - 2) for n > 1; a(0) = 2, a(1) = 11. ●

[A183160] ● 1,2,11,62,367,2232,13820,86662,548591,3498146,2243625114458396,935394436,6071718512,39523955552,257913792342,1686627623151,11050540084902,72522925038257,476669316338542,3137209052543927,20672732229560032,136374124374593072,900541325129687272 ★ a(n) = Sum_{k=0..n} C(n+k,n-k)*C(2*n-k,k). ● a(n) = sum(k=0..n, binomial(2 * n + k,k) * cos((n + k) * Pi)). [Arkadiusz Wesolowski, Apr 02 2012] ● a(n) = C(3 * n + 1,n) * Hyper2F1([1, - n],[2 * n + 2],2). - _ Peter Luschny _ , May 19 2015 ● a(n) = [x ^ n] 1 / ((1 - x ^ 2) * (1 - x) ^ (2 * n)). - _ Ilya Gutkovskiy _ , Oct 25 2017 ●

[A065928] ● 2,11,63,366,2132,12425,72417,422076,2460038,14338151,83568867,487075050,2838881432,16546213541,96438399813,562084185336,3276066712202,19094316087875,111289829815047,648644662802406,3780578146999388,22034824219193921,128428367168164137 ★ (x,y) = (a(n),a(n+1)) are the solutions of (t(x)+t(y))/(1+xy)) = t(2) = 3, where t(n) denotes the n-th triangular number t(n) = n(n+1)/2. ● a(n) = 2 * t(m) * a(n - 1) - a(n - 2) - 1, a(0) = m, a(1) = m ^ 3 + m ^ 2 - 1 with m = 2. ● a(0)=2, a(1)=11, a(2)=63, a(n)=7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 06 2011 ● a(n) = (4 + (14 - 11 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n * (14 + 11 * sqrt(2))) / 16. - _ Colin Barker _ , Mar 05 2016 ●

[A080049] ● 0,2,11,63,388,2734,21893,197069,1970726,21678036,260136487,3381774403,47344841720,710172625898,11362762014473,193166954246169,3477005176431178,66063098352192544,1321261967043851051 ★ Operation count to create all permutations of n distinct elements using Algorithm L (lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of interchange operations in step L4. ● a(2)=0, a(n)=n * a(n - 1) + (n - 1) * floor[(n - 1) / 2] c = limit n ->infinity a(n) / n! = 0.5430806.. = (e + 1 / e) / 2 - 1 a(n) = floor [c * n! - (n - 1) / 2] for n>=2 ●

[A038725] ● 1,2,11,64,373,2174,12671,73852,430441,2508794,14622323,8522514449672854 1,2895146102,16874148071,98349742324,573224305873,3340996092914,19472752251611,113495517416752,661500352248901 ★ a(n) = 6a(n-1) - a(n-2), n >= 2, a(0)=1, a(1)=2. ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3); a(n) = ((4 - sqrt(2)) / 8) * (3 + 2 * sqrt(2)) ^ (n - 1) + ((4 + sqrt(2)) / 8) * (3 - 2 * sqrt(2)) ^ (n - 1). - _ Antonio Alberto Olivares _ , Mar 29 2008 ● a(n) = 6 * a(n - 1) - a(n - 2), n >= 1, a(- 1) = 4, a(0) = 1. (See the name.) (End) ●

[A161947] ● 2,11,64,387,2398,15079,95636,609543,3895802,24938531,159781864,1024232427,6567341398,42116068159,270111829436,1732448726703,11111915190002,71278311858 51,457154262488464,2932267507610067 ★ a(n) = ((4+sqrt(2))*(5+sqrt(2))^n+(4-sqrt(2))*(5-sqrt(2))^n)/4. ● a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n>1; a(0) = 2; a(1) = 11. ●

[A199412] ● 2,11,65,389,2333,13997,83981,503885,3023309,18139853,108839117,653034701,3918208205,23509249229,141055495373,846332972237,5077997833421,30467987000525,182807922003149,1096847532018893,6581085192113357,39486511152680141 ★ (9*6^n+1)/5. ● a(n) = 6 * a(n - 1) - 1. ● a(n) = 7 * a(n - 1) - 6 * a(n - 2). ●

[A074613] ● 2,11,65,407,2657,17831,121745,839927,5830337,40615751,283523825,1981521047,13858064417,96956119271,678491508305,4748635251767,33237225536897,232647693856391,1628482317387185,11399170063280087 ★ a(n) = 4^n + 7^n. ● a(n) = 11 * a(n - 1) - 28 * a(n - 2) with a(0)=2, a(1)=11. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A153298] ● 1,2,11,68,443,2974,20361,141356,991738,7015814,4996789 2,357896120,2575844046,18616823352,135051785186,982949932092,7175591019313,52524480778590,385429134781530,2834791998208500,20893844524709649 ★ G.f.: A(x) = F(x*G(x)^3)^2 = F(G(x)-1)^2 where F(x) = G(x/F(x)) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)) = 1 + x*G(x)^3 is the g.f. of A001764. ● a(n) = Sum _{ k=0..n } C(2k + 2,k) / (k + 1) * C(3n,n - k) * k / n for n>0 with a(0)=1. ●

[A153393] ● 1,2,11,68,449,3102,22167,162626,1218411,9285888,71778489,561453704,4436120129,35354290118,283876985742,2294347190142,18650560232199,152386763938940,1250801705584643,10308949444236522,85281112255921359 ★ G.f.: A(x) = F(x*G(x)^2)^2 where F(x) = G(x*F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x/G(x)) = 1 + x*G(x)^2 is the g.f. of A000108 (Catalan). ● a(n) = Sum _{ k=0..n } C(3k + 2,k) * 2 / (3k + 2) * C(2n,n - k) * k / n for n>0 with a(0)=1. ●

[A135166] ● 2,11,69,449,2961,19721,132609,899609,6149121,42287561,292182849,2025979769,14084900481,98108127401,684321821889,4778064771929,33385475479041,233393324431241,1632227908017729,11417967509964089,79887630243516801,559022690783231081,3912205202997138369 ★ a(n) = 7^n + 5^n - 3^n + 2^n. ● a(n) = 7 ^ n + 5 ^ n - 3 ^ n + 2 ^ n. ● a(0)=2, a(1)=11, a(2)=69, a(3)=449, a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4). - _ Harvey P. Dale _ , Feb 01 2013 ●

[A074609] ● 2,11,73,539,4177,33011,262873,2099339,16783777,134237411,1073800873,8590111739,68720008177,549757408211,4398051294073,35184386437739,281475019757377,2251799942825411,18014398896902473,144115189238117339 ★ a(n) = 3^n + 8^n. ● a(n) = 11 * a(n - 1) - 24 * a(n - 2) with a(0)=2, a(1)=11. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A199417] ● 2,11,74,515,3602,25211,176474,1235315,8647202,60530411,423712874,2965990115,20761930802,145333515611,1017334609274,7121342264915,49849395854402,348945770980811,2442620396865674,17098342778059715 ★ (3*7^n+1)/2. ● a(n) = 7 * a(n - 1) - 3. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). ●

[A091569] ● 2,11,78,532,3649,25008,171410,1174859,8052606,55193380,378301057,2592914016,17772097058,121811765387,834910260654,5722560059188,39223010153665,268838511016464,1842646566961586,12629687457714635,865651

65637040862,593326472001571396 ⋆ Associated with alternating row sums of array in A094568. • a(n) = F(4n + 3) - a(n - 1) for n >= 1, where a(0) = 2. • a(n) = (Fib(4n + 5) + (- 1) ^ n) / 3. - _ Ralf Stephan _ , Dec 04 2004 • a(n) = (- 1) ^ n * sum((- 1) ^ k * Fibonacci(4 * k + 3), k=0..n). - _ Gary D etlefs _ , Jan 22 2013 • a(n) = 6 * a(n - 1) + 6 * a(n - 2) - a(n - 3). - _ Colin Barker _ , Nov 19 2014 •

[A118969] • 1,2,11,80,665,5980,56637,556512,5620485,57985070,608462470,6474009360,69682358811,757366074080,8300675584120,91634565938880,1018002755977245,11372548404732930,127677890035721025,1439777493407492640 ⋆ 2*binomial(5*n+1,n)/(4*n+2). • a(n) is sum of top row terms in M ^ n, wher e M is an infinite square production matrix with the tetrahedral series in each column, as follows: • a(n) = 2 * binomial(5n + 1,n - 1) / n for n>0, a(0)=1. [_ Bruno Berselli _ , Jan 19 2014] •

[A215654] • 1,2,11,81,684,6257,60325,603641,6210059,65272503,697898849,7566847547,82999675563,919376968734,10269588489433,115548651723889,1308374198000780,14897993185500455,170482798370871370,1959574731164246402,22614008012647634411,261915716386286916342 ⋆ G.f. satisfies: A(x) = (1 + x*A(x)^2) * (1 + x*A(x)^3). • a(n) = [x ^ n] ((1 + x) / (1 - x - x ^ 2)) ^ (2 * n + 1) / (2 * n + 1). •

[A074604] • 2,11,85,737,6577,59081,531505,4783097,43046977,387421001,3486785425,31381061657,282429540577,2541865836521,22876792471345,205891132127417,1853020188917377,16677181699797641,150094635297261265 ⋆ 2^n + 9^n. • a(n) = 9 * a(n - 1) - 2 ^ n = 11 * a(n - 1) - 18 * a(n - 2). •

[A135404] • 1,2,11,85,782,8004,88044,1020162,12294260,152787976,1946310467,25302036071,334560525538,4488007049900,60955295750460,836838395382645,11597595644244186,162074575606984788,2281839419729917410,32340239369121304038,461109219391987625316,6610306991283738684600 ⋆ Gessel sequence: the number of paths of length 2m in the plane, starting and ending at (0,1), with unit steps in the four directions (north, east, south, west) and staying in the region y > 0, x > -y. • a(n) = (2 ^ (2 / 3 + 4 * n) * Gamma(4 / 3) * Gamma(1 / 2 + n) * Gamma(5 / 6 + n)) / (Pi * Gamma(5 / 3 + n) * Gamma(2 + n)). - _ Benedict W. J. Irwin _ , Aug 10 2016 •

[A047854] • 1,2,11,92,821,7382,66431,597872,5380841,48427562,435848051,3922632452,35303692061,317733228542,2859599056871,25736391511832,231627523606481,2084647712458322 ⋆ a(n) = T(6,n), array T given by A047848. • a(n) = (9 ^ n + 7) / 8. - _ Ralf Stephan _ , Feb 14 2004 • a(0) = 1, a(1) = 2, a(n) = 10 * a(n - 1) - 9 * a(n - 2) for n > 1. • a(n) = 9 * a(n - 1) - 7 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A057076] • 2,11,119,1298,14159,154451,1684802,18378371,200477279,2186871698,23855111399,260219353691,2838557779202,30963916217531,337764520613639,3684445810532498,40191139395243839,438418087537149731 ⋆ A Chebyshev or generalized Fibonacci sequence. • a(n) = a(- n). - _ Michael Somos _ , Apr 25 2003 • a(n) = ap ^ n + am ^ n, with ap := (11 + sqrt(117)) / 2 a nd am := (11 - sqrt(117)) / 2. •

[A001946] • 2,11,123,1364,15127,167761,1860498,20633239,228826127,2537720636,28143753123,312119004989,3461452808002,38388099893011,425730551631123,4721424167835364,52361396397820127,580696784543856761,6440026026380244498,71420983074726546239 ⋆ a(n) = 11*a(n-1) + a(n-2). • a(n) = Luca s(5n) = Fibonacci(5n - 1) + Fibonacci(5n + 1). - _ Alexander Adamchuk _ , Oct 25 2006 • a(n) = ((11 + 5 * sqrt(5)) / 2) ^ n + ((11 - 5 * sqrt(5)) / 2) ^ n. - _ Tanya Khovanova _ , Feb 06 2007 • a(n) = Fibonacci(10 * n) / Fibon acci(5 * n) for n >= 1. • a(n) = (Fibonacci(5 * n + 2 * k) - F(5 * n - 2 * k)) / Fibonacci(2 * k) for nonzero integer k. • a(n) = (Fibonacci(5 * n + 2 * k + 1) + F(5 * n - 2 * k - 1)) / Fibonacci(2 * k + 1) for arbitrary integer k. • a(n) = Sum _{ k = 0..2 * n } binomial(2 * n,k) * Lucas(n + k). (End) •

[A041725] • 1,1,2,11,134,145,859,1004,1863,4730,16053,20783,390147,410930,1622937,3656804,5279741,8936545,49962466,58899011,756750598,3842652001,4599402599,8442054600,325397477399 ⋆ Denominators of continued fraction convergents to sqrt(382). • a(n) = 329996879998 * a(n - 24) - a(n - 48) for n> 47. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A168457] • 2,12,12,22,22,32,32,42,42,52,52,62,62,72,72,82,82,92,92,102,102,112,112,122,122 ⋆ a(n) = (10*n + 5*(-1)^n - 1)/2. • a(n) = 10 * n - a(n - 1) - 6 for n>1, a(1)=2. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). (End) • a(n) = 2 + 10 * Floor(n / 2). - _ Vincenzo Librandi _ , Sep 19 2013 •

[A143795] • 1,2,12,13,23,24,34,35,45,46,56,57,67,68,78,79,89,90,100,101,111,112,122,123,133 ⋆ Start with 1; then repeatedly add 1, then add 10. • a(n)= (2 2 * n - 27 - 9 * (- 1) ^ n) / 4. G.f.: x(1 + x + 9x ^ 2) / ((1 + x)(1 - x) ^ 2). a(n)=a(n - 2) + 11. [From _ R. J. Mathar _ , Sep 04 2008] • a(n)=11 * n - a (n - 1) - 19 (with a(1)=1) [From Vincenzo Librandi, Nov 25 2010] •

[A022368] • 2,12,14,26,40,66,106,172,278,450,728,1178,1906,3084,4990,8074,13064,21138,34202,55340,89542,144882,234424,379306,613730 ⋆ Fibonacci sequence beginning 2, 12. • a(n) = 2 * (Fibonacci(n + 2) + 4 * Fibonacci(n)). - _ G. C. Greubel _ , Aug 27 2017 •

[A036499] • 1,2,12,15,35,40,70,77,117,126,176,187,247,260,330,345,425,442,532,551,651,672,782,805,925 ⋆ Numbers of the form n*(n+1)/6 for n = 2 or 3 modulo 6. • a(n) = (3 * n * n - 5 * n + 2) / 2 + (2 * n - 1) * (n mod 2). - _ Frank Ellermann _ , Mar 16 2002 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. - _ Wesley Ivan Hurt _ , Jan 18 2016 •

[A113802] • 2,12,16,26,30,40,44,54,58,68,72,82,86,96,100,110,114,124,128,138,142,152,156,166,170 ⋆ Numbers that are congruent to {2, 12} mod 14. • a(n)=14 * n - a(n - 1) - 14 (with a(1)=2) [From _ Vincenzo Librandi _ , Nov 13 2010] • a(n) = 7 * n - (7 - 3 * (- 1) ^ n) / 2. •

[A120350] • 2,12,18,24,36,72,80,180,240,252,360,396,450,468,480,504,560,612,684,720,792,828,880,882,896 ⋆ Refactorable numbers such that the number of odd divisors r and the number of even divisors s are both divisors of n. • a(n) = n is even, r = number of odd divisors of n, s = number of even divisors of n and t = r + s = number of divisors of n, are all divisors of n. •

[A115109] • 1,2,12,18,62,420,682,5828,16852,61952,201184,669920,2184064,7126784,23147776,75118592,243460096,788658176,2553683968,8267055104,26758955008,86606348288,280288952320,907084169216,2935485890560 ⋆ Expansion of (1 -2*x +4*x^2 -22*x^3 +6*x^4 +268*x^5 -854*x^6 +3596*x^7 -3100*x^8)/((1 -2*x)/(1 -2*x -4*x^2)). • a(n) = + 4 * a(n - 1) - 8 * a(n - 3). - _ Colin Barke r _ , Mar 15 2013 •

[A291698] • 1,1,2,12,20,55,294,497,1224,2520,14410,21912,54300,104286,220710,1105215,1697552,3839382,7356762,14873580,26275620,132112596,188666126,423247104,772560600 ⋆ a(n) = [x^n] Product_{k>=1} (1 + n*x^k). • a(n) = 0 (mod n); a(n) = n (mod n ^ 2). - _ Peter Bala _ , Aug 31 2017 •

[A094626] • 0,1,2,12,22,122,222,1222,2222,12222,22222,122222,222222,1222222,2222222,12222222,22222222,122222222,222222222,1222222222,2222222222,12222222222,22222222222,122222222222,222222222222 ⋆ Sequence whose n-th term digits sum to n. • a(n) = 10 ^ (n / 2) * (11 * sqrt(10) / 180 + 1 / 9 - (1 1 * sqrt(10) / 180 - 1 / 9) * (- 1) ^ n) - 2 / 9. • a(n) = 2 * (10 ^ (n / 2) - 1) / 9 for n even. • a(n) = (11 * 10 ^ ((n - 1) / 2) - 2) / 9 for n odd. •

[A052565] • 1,1,2,12,24,120,720,5040,40320,362880,3628800,39916800,479001600,6227020800,87178291200,1307674368000,20922789888000,355687428096000,6402373705728000,121645100408832000,2432902008176640000,51090942171709440000,1124000727777607680000 ⋆ E.g.f. (1+x^3-x^4)/(1-x). • a(n) = n! fo r n>3. •

[A176710] • 1,2,12,24,144,288,1728,3456,20736,41472,248832,497664,2985984,5971968,35831808,71663616,429981696,859963392,5159780352,10319560704,61917364224 ⋆ Mix A001021, 2*A001021. • a(n)= + 12 * a(n - 2). G.f.: (- 1 - 2 * x) / (- 1 + 12 * x ^ 2). [From _ R. J. Mathar _ , Apr 26 2010] • a(n)= (1 / 12) * [3 - 1 * (- 1) ^ n] *{ 12 ^ (1 / 2) * n * 12 ^ [(1 / 4) * (- 1) ^ n] * 1 08 ^ (1 / 4) } , with n>=0 [From _ Paolo P. Lava _ , May 21 2010] •

[A211374] • 1,1,2,12,24,360,720,20160,40320,1814400,3628800,239500800,479001600,43589145600,87178291200,10461394944000,20922789888000,3201186852864000,6402373705728000,1216451004088320000,2432902008176640000,562000363888803840000 ⋆ Product of all the parts in the partitions of n into exactly 2 parts. • a(n) = ((n - 1)! * floor(n / 2)!) / (n - 1 - floor(n / 2))!. • a(n) = P(n - 1, floor(n / 2)) * floor(n / 2)!, where P(n,k) are the k - permutations of n objects. - _ Wesley Ivan Hurt _ , Jun 07 2013 • a(n) = Product _{ i=1. .floor(n / 2) } i * (n - i). - _ Wesley Ivan Hurt _ , Nov 14 2017 •

[A091137] • 1,2,12,24,720,1440,60480,120960,3628800,7257600,479001600,958003200,2615348736000,5230697472000,31384184832000,62768369664000,320118685528640000,640237370572800000,5109094217170944000 0 ⋆ Largest number m such that number of times m divides k! is almost k/n for large k, i.e., largest m with A090624(m)=n. • a(n) = Product _ p { p prime } p ^ floor(n / (p - 1)). • a(2n + 1) = 2 * a(2n). •

[A152811] • 2,12,26,44,66,92,122,156,194,236,282,332,386,444,506,572,642,716,794,876,962,1052,1146,1244,1346 ⋆ a(n) = 2*(n^2 + 2*n - 2). • a(n) = a(n - 1) + 4 * n + 2 for n>1, a(1)=2. •

[A166151] • 2,12,27,47,72,102,137,177,222,272,327,387,452,522,597,677,762,852,947,1047,1152,1262,1377,1497,1622 ⋆ (5n^2 + 5n - 6)/2. • a(n) = 5 * n * (n + 1) / 2 - 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A154149] • 2,12,27,77,162,452,947,2637,5522,15372,32187,89597,187602,522212,1093427,3043677,6372962,17739852,37144347,103395437,216493122,602632772,1261814387,3512401197,7354393202 ⋆ Indices k such that 22 plus the k-th triangular number is a perfect square. • a(n)= + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A211623] • 0,2,12,28,54,86,128,176,234,298,372,452,542,638,744,856,978,1101,1244,1388,1542,1702,1872,2048,2234 ⋆ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and -1<=w+2x+3y<=1. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. • a(n) = 4 * n ^ 2 - 3 * n + 2 for n>0 and even . • a(n) = 4 * n ^ 2 - 3 * n + 1 for n odd. •

[A002939] • 0,2,12,30,56,90,132,182,240,306,380,462,552,650,756,870,992,1122,1260,1406,1560,1722,1892,2070,2256 ⋆ a(n) = 2*n*(2*n-1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) = a(n - 1) + 8 * n - 6 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 12 2010 •

[A118239] • 1,2,12,30,56,90,132,182,240,306,380,462,552,650,756,870,992,1122,1260,1406,1560,1722,1892,2070,2256 ⋆ Engel expansion of cosh(1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A117625] • 1,2,12,31,59,96,142,197,261,334,416,507,607,716,834,961,1097,1242,1396,1559,1731,1912,2102,2301,2509 ⋆ Maximum number of regions defined by n zigzag-lines in the plane when a zigzag-line is defined as consisting of two parallel infinite half-lines joined by a straight line segment. • a(n) = (9 * n ^ 2 - 7 * n + 2) / 2 = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Libran di _ , Jul 08 2012 •

[A254962] • 1,2,12,31,211,552,3782,9901,67861,177662,1217712,3188011,21850951,57206532,392099402,1026529561,7035938281,18420325562,126254789652,330539330551,2265550275451,5931287624352,40653650168462,106432637907781,729500152756861 ⋆ Indices of hexagonal numbers (A000384) that are also centered pentagonal numbers (A005891). • a(n) = a(n - 1) + 18 * a(n - 2) - 18 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (2 + (2 - r) ^ n - (- 2 - r) ^ n * (- 2 + r) + 2 * (- 2 + r) ^ n + r * (- 2 + r) ^ n + (2 + r) ^ n) / 8 where r = sq rt(5). - _ Colin Barker _ , Nov 25 2016 •

[A225525] • 2,12,32,56,132,288,464,752,1976,2952,4776,10304,14588,26976,65472,70624,128556,300456,373960,726096,1566464,1900944,3075792,6635648,10401182 ⋆ a(n) = (sigma(2*n) - sigma(n))*Lucas(n) where Lucas(n) = A000204(n)

and sigma(n) = A000203(n) is the sum of divisors of n. • a(n) == 0 (mod 2); a(n) == 2 (mod 4) iff n is congruent to 1 or 5 mod 6 (A007310). •

[A154252] • 1,2,12,32,72,152,312,632,1272,2552,5112,10232,20472,40952,81912,163832,327672,655352,1310712,2621432,5242872,10485752,20971512,41943032,83886072 ★ Expansion of (1-x+8x^2)/((1-x)(1-2x)) . • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>2, with a(0)=1, a(1)=2, a(2)=12. • a(n) = 2 * a(n - 1) + 8, n >1, with a(0)=1, a(1)=2. • a(n) = 10 * 2 ^ (n - 1) - 8, n>=1, with a(0)=1. • a(n) = - 8 + 5 * 2 ^ (n - 1) + 4 *{ C[2 * (n - 1),n - 1] mod 2 } , with n>=1. - _ Paolo P. Lava _ , Jan 14 2009 •

[A212761] • 0,2,12,32,90,162,336,512,900,1250,1980,2592,3822,4802,6720,8192,11016,13122,17100,20000,25410,29282,36432,41472,50700 ★ Number of (w,x,y,z) with all terms in {0,...,n}, w odd, x and y even. • a(n)=a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n) = (n + 1) * (2 * n ^ 3 + 7 * n ^ 2 + 7 * n + 1 + (n ^ 2 + n - 1) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Oct 10 2015 •

[A102080] • 2,12,32,108,342,1104,3544,11396,36626,117732,378424,1216380,3909830,12567448,40395792,129844996,417363330,1341539196,4312135920,13860583628,44552347606,143205490528,460308235560,1479577849604,4755836293842 ★ Number of matchings in the C_n X P_2 (n-prism) graph. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - a(n - 4) for n>4. •

[A133577] • 1,2,12,32,152,472,1992,6712,26632,93752,360072,1297592,4898312,17874232,66857352,245599672,914173192,3370169912,12511901832,46213600952,171332619272,633468628792,2346794821512,8681481109432 ★ a(n) = a(n-1) + 10*a(n-2) for n >= 2, a(0)=1, a(1)=2. • a(n) = (1 / 2) * ((1 / 2) - (1 / 2) * sqrt(41)) ^ n + (3 / 82) * sqrt(41) * ((1 / 2) + (1 / 2) * sqrt(41)) ^ n - (3 / 82) * sqrt(41) * ((1 / 2) - (1 / 2) * sqrt(41)) ^ n + (1 / 2) * ((1 / 2) + (1 / 2) * sqrt(41)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Nov 18 2008 •

[A106185] • 1,2,12,32,160,480,2208,7104,31104,104960,444928,1554432,6444544,23112704,94341120,345243648,1393754112,5181456384,20755267584,78122680320,311231840256,1183024939008,4695356866560,17987367075840 ★ Expansion of 1/sqrt(1-4*x-12*x^2+48*x^3). • a(n) = Sum _{ k=0..floor(n / 2) } C(2 * k,k) * C(2 * (n - 2 * k), n - 2 * k) * 3 ^ k. •

[A242709] • 0,2,12,33,85,165,315,518,846,1260,1870,2607,3627,4823,6405,8220,10540,13158,16416,20045,24465,29337,35167,41538,49050 ★ Nonequivalent ways to place two different markers (e.g., a pair of Go stones, black and white) on an n X n grid. • a(n) = n * (n ^ 3 + n * 3 ^ (n mod 2) - 2 * 2 ^ (n mod 2)) / 8. - _ Wesley Ivan Hurt _ , May 21 2014 •

[A011379] • 0,2,12,36,80,150,252,392,576,810,1100,1452,1872,2366,2940,3600,4352,5202,6156,7220,8400,9702,11132,12696,14400 ★ a(n) = n^2*(n+1). • a(n) = sum(sum((i + j), i=1..n), j=1..n), row sums of A126890 skipping numbers in the first column. - _ Alexander Adamchuk _ , Oct 12 2004 •

[A169630] • 0,1,2,12,36,125,384,1183,3528,10404,30250,87131,248832,705757,1989806,5581500,15586704,43356953,120187008,332134459,915304500,2516113236,6900949462,18888143927,51599794176 ★ a(n) = n times the square of Fibonacci(n). • a(n) = 4 * a(n - 1) - 10 * a(n - 3) + 4 * a(n - 5) - a(n - 6). •

[A185788] • 0,2,12,37,84,160,272,427,632,894,1220,1617,2092,2652,3304,4055,4912,5882,6972,8189,9540,11032,12672,14467,16424 ★ Sum of the first k-1 numbers in the k-th column of the natural number array A000027, by antidiagonals. • a(n) = (n - 1) * (7 * n ^ 2 - 11 * n + 6) / 6. - Corrected by _ Manfred Arens _ , Mar 11 2016 •

[A035597] • 0,2,12,38,88,170,292,462,688,978,1340,1782,2312,2938,3668,4510,5472,6562,7788,9158,10680,12362,14212,16238,18448 ★ Number of points of L1 norm 3 in cubic lattice Z^n. • a(n) = (4 * n ^ 3 + 2 * n) / 3. • a(0)=0, a(1)=2, a(2)=12, a(3)=38, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: (2 * x * (x + 1) ^ 2) / (x - 1) ^ 4. - _ Harvey P. Dale _ , Sep 18 2011 •

[A000913] • 0,1,2,12,38,143,490,1768,6268,22610,81620,297160,1086172,3991995,14731290,54587280,202992808,757398510,2834493948,10637507400,40023577524,150946230006,570534370692,2160865067312,8199710635816 ★ Number of bond-rooted polyenoids with n edges. • a(n) = (1 / 4)c(n + 2) - (1 / 2)c(n + 1) - (3 / 4)c((n + 1) / 2) + (1 / 2)c((n - 1) / 4), where c(n) = binomial(2n, n) / (n + 1) are the Catalan numbers for n a nonnegative integer and 0 otherwise. •

[A086602] • 0,0,2,12,39,95,195,357,602,954,1440,2090,2937,4017,5369,7035,9060,11492,14382,17784,21755,26355,31647,37697,44574 ★ a(n) = A000217(A000217(n)) n^2. • a(n) = 3 * C(n + 4,4) - C(n + 2,2), n>= - 2 . - _ Zerinvary Lajos _ , May 02 2007 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) = n * (n - 1) * (n ^ 2 + 3 * n - 2) / 8. [_ R. J. Mathar _ , Oct 30 2009] •

[A008911] • 0,0,2,12,40,100,210,392,672,1080,1650,2420,3432,4732,6370,8400,10880,13872,17442,21660,26600,32340,38962,46552,55200 ★ a(n) = n^2*(n^2-1)/6. • a(n) = n * binomial(n + 1,3). - _ Martin Renner _ , Apr 03 2011 •

[A005719] • 2,12,40,101,216,413,728,1206,1902,2882,4224,6019,8372,11403,15248,20060,26010,33288,42104,52689,65296,80201,97704,118130,141830 ★ Quadrinomial coefficients. • a(n)= binomial(n, 2) * (n ^ 3 + 11 * n ^ 2 + 46 * n - 24) / 60, n >= 2. • a(n) = 2 * binomial(n,2) + 6 * binomial(n,3) + 4 * binomial(n,4) + binomial(n,5) (see comment in A071675). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A003683] • 0,1,2,12,40,176,672,2752,10880,43776,174592,699392,2795520,11186176,44736512,178962432,715816960,2863333376,11453202432,45813071872,183251763200,733008101376,2932030308352,11728125427712 ★ 2^(n-1)*(2^n - (-1)^n)/3. • a(1) = 1, a(2) = 2; a(n) = 2a(n - 1) + 8a(n - 2). - _ Barry E. Williams _ , Jan 04 2000 • a(n) = ((1 + 3) ^ n - (1 - 3) ^ n) / 6. - _ Paul Barry _ , May 14 2003 • a(n) = sum { k=0..floor(n / 2), C(n, 2 * k + 1) * 9 ^ k } . - _ Paul Barry _ , May 20 2003 •

[A098519] • 0,1,2,12,40,185,726,3157,13112,56331,239230,1028522,4414224,19045039,82237442,356104140,1544056864,6707220443,29172892518,127058629852,554006070200,2418204764451,10565384173762,46202462762837,202207635999240 ★ E.g.f. exp(x)*BesselI(1,2*sqrt(3)*x)/sqrt(3). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(n - k, k + 1) * 3 ^ k } . •

[A277935] • 0,2,12,42,112,252,504,924,1584,2574,4004,6006,8736,12376,17136,23256,31008,40698,52668,67298,85008,106260,131560,161460,196560 ★ Number of ways 2*n-1 people can vote on three candidates so that the Condorcet paradox arises. • a(n) = (2 / 5!) * n * (n - 1) * (n + 3) * (n + 2) * (n + 1). •

[A290928] • 0,0,2,12,42,115,288,738,2020,5751,16362,45697,125538,342318,933050,2547630,6960042,18990309,51699042,140439411,380871538,1031705466,2792009100,7548723827,20389716864 ★ p-INVERT of the positive integers, where p(S) = (1 - S^3)^2. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 222 * a(n - 3) - 507 * a(n - 4) + 822 * a(n - 5) - 965 * a(n - 6) + 822 * a(n - 7) - 507 * a(n - 8) + 222 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12). •

[A066258] • 0,1,2,12,45,200,832,3549,14994,63580,269225,1140624,4831488,20466953,86698690,367262700,1555747893,6590256856,27916771136,118257348165,500946152850,2122041977276,8989114033297,38078498156832 ★ a(n) = Fibonacci(n)^2 * Fibonacci(n+1). • a(n) = (1 / 5) * (F(3n + 1) - (- 1) ^ n * F(n + 2)). - _ Ralf Stephan _ , Jul 26 2005 • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - a(n - 4). E.g., a(6)=832=3 * 200 + 6 * 45 - 3 * 12 - 2. - _ Zak Seidov _ , May 07 2015 •

[A003993] • 2,12,46,152,474,1444,4358,13104,39346,118076,354270,1062856,3188618,9565908,28697782,86093408,258280290,774840940,2324522894,6973568760,20920706362,62762119172,188286357606 ★ Sequence b_3 (n) arising from homology of partitions with even number of blocks. • a(n) = 2 * 3 ^ (n - 1) - 2 * n. - _ Vaclav Kotesovec _ , Nov 19 2012 •

[A001815] • 0,0,2,12,48,160,480,1344,3584,9216,23040,56320,135168,319488,745472,1720320,3932160,8912896,20054016,44826624,99614720,220200960,484442112,1061158912,2315255808 ★ a(n) = C(n,2) * 2^(n-1). • a(n) = Sum _{ i=0..n } i * (n - i) * binomial(n, i). - _ Benoit Cloitre _ , Nov 11 2004 • a(n) = Sum _{ k=0..n } k * 2 ^ (k - 1). - _ Zerinvary Lajos _ , Oct 09 2006 • a(n) = Sum _{ j=0..n } binomial(n - 1,j) * n * j. - _ Zerinvary Lajos _ , Oct 19 2006 • a(n) = 2 ^ (n - 2) * n * (n - 1). [Tobias Friedrich (tfried(AT)mpi - inf.mpg.de), Jun 18 2009] • a(n) = 2 * a(n - 1) + n * 2 ^ n. • a(n) = a(1 - n) * 2 ^ (2 * n - 1) for all n in Z. - _ Michael Somos _ , Oct 25 2016 •

[A052591] • 0,1,2,12,48,360,2160,20160,161280,1814400,18144000,239500800,2874009600,43589145600,610248038400,10461394944000,167382319104000,3201186852864000,57621363351552000,1216451004088320000 ★ E.g.f. x/((1-x)(1-x^2)). • a(n) = ((1 / 4) * (- 1) ^ (1 - n) + (1 / 2) * n + 1 / 4) * n!. • a(n) = (n + 1)! / 2 if n is odd; a(n) = n!n / 2 if n is even. - _ Emeric Deutsch _ , Jul 18 2009 •

[A129743] • 2,12,50,192,722,2700,10082,37632,140450,524172,1956242,7300800,27246962,101687052,379501250,1416317952,5285770562,19726764300,73621286642,274758382272,1025412242450,3826890587532,14282150107682 ★ a(n) = -(u^n-1)*(v^n-1) with u = 2+sqrt(3), v = 2-sqrt(3). • a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3). - _ Eric W. Weisstein _ , Jul 15 2011 •

[A115243] • 0,2,12,50,204,818,3276,13106,52428,209714,838860,3355442,13421772,53687090,214748364,858993458,3435973836,13743895346,54975581388,219902325554,879609302220,3518437208882,14073748835532,56294995342130 ★ G.f.: (4*x^2 + 2*x)/(4*x^3 - x^2 - 4*x + 1). • a(n) = InverseZTransform[(1 + 2 * x) / (1 - x - 16 * x ^ 2 + 16 * x ^ 3), x, n] * 2 ^ (2 * n). • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + 2 * (- 1) ^ n. • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). - _ Gary Detlefs _ Dec 17 2010 • a(n) = (4 ^ (n + 1) + (- 1) ^ n) / 5 - 1. - _ Robert Israel _ , Mar 09 2016 •

[A241683] • 0,0,0,2,12,50,220,882,3612,14450,58140,232562,931612,3726450,14911260,59645042,238602012,954408050,3817719580,15270878322,61083862812,244335451250,977343203100,3909372812402 ★ Total number of 2 X 2 squares appearing in the Thue-Morse sequence logical matrices after n stages. • a(n) = (1 / 18) * (4 ^ n - 3 * 2 ^ n - 6 * (- 1) ^ n + (- 2) ^ n - 2), n>0 (from g.f.). - _ Ralf Stephan _ , Apr 27 2014 •

[A057547] • 2,12,52,56,212,216,228,232,240,852,856,868,872,880,916,920,932,944,964,968,976,992,3412,3416 ★ A014486-encodings of Catalan mountain ranges with no sea-level valleys, i.e., the rooted plane general trees with root degree = 1. • a(n) = alltrees2singletrunked(A014486[n]) (see Maple code below and in A057501). •

[A179259] • 2,12,52,140,294,532,872,1332,1930,2684,3612,4732,6062,7620,9424,11492,13842,16492,19460,22764,26422,30452,34872,39700,44954 ★ Arises in covering a graph by forests and a matching. • a(n) = (n + 2) * (3 * n ^ 2 + 1). •

[A080675] • 2,12,52,212,852,3412,13652,54612,218452,873812,3495252,13981012,55924052,223696212,894784852,3579139412,14316557652,57266230612,229064922452,916259689812,3665038759252,14660155037012,58640620148052,234562480592212,938249922368852 ★ (5*4^n-8)/6. • a(1)=2, a(2)=12, a(n)=5 * a(n - 1) - 4 * a(n - 2). - _ Harvey P. Dale _ , Oct 16 2012 •

[A212697] • 2,12,54,216,810,2916,10206,34992,118098,393660,1299078,4251528,13817466,44641044,143489070,459165024,1463588514,4649045868,14721978582,46490458680,146444944842,460255540932,1443528742014,4518872583696,14121476824050 ★ a(n) = 2*n*3^(n-1). • a(n) = n * (b - 1) * b ^ (n - 1). For this sequence, set b=3. • a(n) = Sum _{ i=1..n } binomial(n,i) * i * 2 ^ i. - _ Geoffrey Critzer _ , Mar 01 2015 •

[**A145766**] • 0,2,12,54,224,906,3636,14558,58248,233010,932060,3728262,14913072,59652314,238609284,954437166,3817748696,15270994818,61083979308,244335917270,977343669120,3909374676522,15637498706132,62549994824574 ★ Partial sums of A020988. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3), for n>2, with { a(k) } = { 0,2,12 } , k=0,1,2. - L. Edson Jeffery, Mar 01 2012 •

[**A127214**] • 2,12,56,176,672,2496,9088,33536,123392,453632,1669120,6139904,22585344,83083264,305627136,1124270080,4135714816,15213527040,55964073984,205867974656,757300461568,2785785413632,10247716470784,37696978288640,138671105769472 ★ a(n) = 2^n*tribonacci(n) or (2^n)*A001644(n+1). • a(n) = Trace of matrix [({ 2,2,2 } , { 2,0,0 } m { 0,2,0) ^ n]. • a(n) = 2 ^ n * Trace of matrix [({ 1,1,1 } , { 1,0,0 } ,0,1,0) ^ n]. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) + 8 * a(n - 3). •

[**A127216**] • 2,12,56,240,832,3264,12672,48896,187904,724992,2795520,10776576,41541632,160153600,617414656,2380201984,9175957504,35374497792,136373075968,525735034880,2026773676032,7813464064000,30121872326656,116123550875648,447670682386432 ★ a(n) = 2^n*tetranacci(n) or (2^n)*A001648(n). • a(n) = Trace of matrix [({{ 2,2,2,2 } , { 2,0,0,0 } , { 0,2,0,0), { 0,0,2,0 }}) ^ n] a(n) = 2 ^ n Trace of matrix [({{ 1,1,1,1 } , { 1,0,0,0 } , { 0,1,0,0 } , { 0,0,1,0 }) ^ n]. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) + 8 * a(n - 3) + 16 * a(n - 4). •

[**A006659**] • 2,12,56,240,990,4004,16016,63648,251940,994840,3922512,15452320,60843510,239519700,942871200,3711935040,14615744220,57562286760,226760523600,893550621600,3522078700140,13887053160552 ★ Closed meander systems of order n+1 with n components. • a(n) = 2 * binom(2n + 2,n - 1). - _ Emeric Deutsch _ , Oct 09 2008 • a(n) = { (- 56 - 30 * n - 4 * n ^ 2) * a(n + 1) + (8 * n + 12 + n ^ 2) * a(n + 2),a(0)=2,a(1)=12 } . - _ Simon Plouffe _ (master's thesis, 1992) •

[**A127221**] • 2,12,56,240,992,3648,14464,57088,224768,883712,3471360,13651968,53682176,211075072,829915136,3263102976,12830244864,50447253504,198353354752,779904614400,3066503888896,12057176965120,47407572189184,186401664532480,732912043425792 ★ a(n) = 2^n*pentanacci(n) or (2^n)*A023424(n-1). • a(n) = Trace of matrix [({{ 2,2,2,2,0 } , { 2,0,0,0,0 } , { 0,2,0,0,0), { 0,0,2,0,0 } , { 0,0,0,2,0 }) ^ n]. • a(n) = 2 ^ n * Trace of matrix [({{ 1,1,1,1,1 } , { 1,0,0,0,0 } , { 0,1,0,0,0 } , { 0,0,1,0,0 } , { 0,0,0,1,0) ^ n]. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) + 8 * a(n - 3) + 16 * a(n - 4) + 32 * a(n - 5). - _ Colin Barker _ , Sep 02 2013 •

[**A084128**] • 1,2,12,56,272,1312,6336,30592,147712,713216,3443712,16627712,80285696,387653632,1871757312,9037643776,43637604352,210700992512,1017354387456,4912221519872,23718303629312,114522100596736,552961616904192,2669934870003712 ★ a(n) = 4*a(n-1) + 4*a(n-2), a(0)=1, a(1)=2. • a(n) = 4 * a(n - 1) + 4 * a(n - 2), a(0)=1, a(1)=2. • a(n) = (2 + 2 * sqrt(2)) ^ n / 2 + (2 - 2 * sqrt(2)) ^ n / 2. •

[**A105487**] • 1,2,12,56,297,1632,9531,58634,379371,2574254,18276457,135463074,1046041114,8399533370,70013963418,604840440328,5407301690915,49958478263502,476403955991034,4683463406478004,47414166201239781 ★ Number of partitions of {1...n} containing 5 strings of 3 consecutive integers, where each string is counted within a block and a string of more than 3 consecutive integers are counted three at a time. • a(n)=Sum(c(n, k, 5), k=1...n), where c(n, k, 5) is the case r=5 of c(n, k, r) given by c(n, k, r)=c(n - 1, k - 1, r) + (k - 1)c(n - 1, k, r) + c(n - 2, k - 1, r) + (k - 1)c(n - 2, k, r) + c(n - 1, k, r - 1) - c(n - 2, k - 1, r - 1) - (k - 1)c(n - 2, k, r - 1), r=0, 1, .., n - k - 1, k=1, 2, .., n - 2r, c(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j= 0..floor(n / 2)). •

[**A098453**] • 1,2,12,56,304,1632,9024,50304,283392,1607168,9167872,52537344,302239744,1744412672,10096263168,58576306176,340566147072,1983765676032,11574393962496,67631502065664,395710949228544 ★ Expansion of 1/sqrt(1-4*x-12*x^2). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, k) * binomial(2 * (n - k), n) * 3 ^ k. • a(n + 2) = ((4 * n + 6) * a(n + 1) + 12 * (n + 1) * a(n)) / (n + 2); a(0)=1, a(1)=2. - _ Sergei N. Gladkovskii _ , Jul 30 2012 • a(n) = (- 2) ^ n * hypergeom([- n,1 / 2], [1], 4). - _ Peter Luschny _ , Apr 26 2016 • a(n) = 2 ^ n * GegenbauerC(n, - n, - 1 / 2)). - _ Peter Luschny _ , May 08 2016 •

[**A100103**] • 1,2,12,58,248,1014,4084,16370,65520,262126,1048556,4194282,16777192,67108838,268435428,1073741794,4294967264,17179869150,68719476700,274877906906,1099511627736,4398046511062,17592186044372,70368744177618 ★ 2^(2*n)-(2*n). • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). G.f.: (1 - 4 * x + 9 * x ^ 2) / ((1 - x) ^ 2 * (1 - 4 * x)). [_ Colin Barker _ , May 29 2012] •

[**A005430**] • 0,2,12,60,280,1260,5544,24024,102960,437580,1847560,7759752,32449872,135207800,561632400,2326762800,9617286240,39671305740,163352435400,671560012200,2756930576400,11303415363240,46290177201840 ★ Apéry numbers: n*C(2n,n). • a(n - 1) = Sum _{ k=0..floor(n / 2) } k * C(n,k) * C(n - k,k) * 2 ^ (n - 2 * k). - _ Robert FERREOL _ , Aug 29 2015 •

[**A094434**] • 0,2,12,60,288,1368,6480,30672,145152,686880,3250368,15380928,72783360,344414592,1629787392,7712236800,36494696448,172694757888,817200368640,3867033664512,18298999775232,86591796664320,409756781334528 ★ a(n) = rightmost term of M^n * [1 0 0], with M = the 3 X 3 matrix [1 -1 0 / -1 3 -2 / 0 -2 2]. • a(n) = 6 * a(n - 1) - 6 * a(n - 2). G.f.: 2 * x ^ 2 / (1 - 6 * x + 6 * x ^ 2). [_ Colin Barker _ , Sep 05 2012] •

[**A038154**] • 0,0,2,12,60,320,1950,13692,109592,986400,9864090,108505100,1302061332,16926797472,236975164790,3554627472060,56874039553200,966858672404672,17403456103284402,330665665962403980,6613313319248079980,138879579704209680000 ★ a(n) = n! * Sum_{k=0..n-2} 1/k!. • a(n) = floor(n! * exp(1)) - n - 1, n>0. - _ Vladeta Jovovic _ , Aug 25 2001 • a(n) = n * a(n - 1) + n * (n - 1), for n>=3, a(2)=2 and a(3) = 12. - _ Ian Myers _ , Jul 19 2012 •

[**A121177**] • 0,2,12,62,312 ★ Catapolyoctagons (see Cyvin et al. for precise definition). • a(n)=(5 ^ n - 5) / 10. - Conjectured by _ Philipp Emanuel Weidmann _ , cf. link. •

[**A125831**] • 0,2,12,62,312,1562,7812,39062,195312,976562,4882812,24414062,122070312,610351562,3051757812,15258789062,76293945312,381469726562,1907348632812,9536743164062,47683715820312,238418579101562,1192092895507812,5960464477539062 ★ a(n) = (5^n-1)/2. • a(n) = 5 * a(n - 1) + 2 with n >0, a(0)=0. - _ Vincenzo Librandi _ , Sep 30 2010 • a(n) = 6 * a(n - 1) - 5 * a(n - 2). G.f.: 2 * x / ((1 - x) * (1 - 5 * x)). - _ Colin Barker _ , May 16 2013 •

[**A289787**] • 2,12,62,312,1570,7908,39838,200688,1010978,5092860,25655582,129241512,651061762,3279762132,16521995710,83230530528,419278719938,2112141348588,10640036959358,53599815453720,270012240337762,1360202629711812,6852101192007262 ★ p-INVERT of the even positive integers (A005843), where p(S) = 1 - S - S^2. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) + 6 * a(n - 3) - a(n - 4). •

[**A006646**] • 0,0,2,12,64,320,1568,7616,36864,178176,860672,4156416,20070400,96911360,467935232,2259402752,10909384704,52675215360,254338531328,1228055248896,5929575645184,28630524624896 ★ Exponential self-convolution of Pell numbers. • a(n) = ((2 + sqrt(8)) ^ n + (2 - sqrt(8)) ^ n - 2 ^ (n + 1)) / 8; E.g.f.: exp(2x)(sinh(sqrt(2) * x)) ^ 2 / 2 = (exp(x) * sinh(sqrt(2) * x) / sqrt(2)) ^ 2. - _ Paul Barry _ , May 16 2003 •

[**A087635**] • 0,2,12,64,336,1760,9216,48256,252672,1323008,6927360,36272128,189923328,994451456,5207015424,27264286720,142757658624,747488804864,3913902194688,20493457948672,107305138913280,561857001684992 ★ a(n)=S(n,3) where S(n,m)=sum(k=0,n,binomial(n,k)*fibonacci(m*k)). • a(n) = sum _{ 0 <=j<=i<=n } binomial(i, j) * binomial(n, i) * F(i + j) - _ Benoit Cloitre _ , May 21 2005 • a(n) = 2 ^ n * F(2n). - _ Benoit Cloitre _ , Sep 13 2005 • a(n) = Sum[C(n,k)Fibonacci(k)Lucas(n - k), { k,0,n }]. - _ Ross La Haye _ , Aug 14 2006 • a(n) = - (1 / 5) * (3 - sqrt(5)) ^ n * sqrt(5) + (1 / 5) * sqrt(5) * (3 + sqrt(5)) ^ n. - _ Paolo P. Lava _ , Jun 25 2008 •

[**A180038**] • 1,2,12,64,344,1848,9928,53336,286536,1539352,8269832,44427864,238678984,1282250648,6888611208,37007557336,198815009096,1068090160152,5738080818952,30826584415064,165609083713224,889698587396248 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1-3*x)/(1-5*x-2*x^2). • a(n) = 5 * a(n - 1) + 2 * a(n - 2) with a(0) = 1 and a(1) = 2. • a(n) = ((19 * A - 1) * A ^ (- n - 1) + (19 * B - 1) * B ^ (- n - 1)) / 33 with A = (- 5 + sqrt(33)) / 4 and B = (- 5 - sqrt(33)) / 4. •

[**A190155**] • 1,2,12,64,385,2346,14672,92936,595179,3841970,24959726,162988464,1068860884,7034520304,46437268905,307351081056,2038878634695,13552394472612,90242046694715,601847594327000,4019556724362165,26879647264387170 ★ Central coefficients of the Riordan matrix (g(x),x*g(x)), where g(x) = (1-x-x^2-sqrt(1-2*x-5*x^2+2*x^3+x^4))/(2*x^2) (A132276). • a(n) = Sum _{ i=0..(n / 2) } (binomial(n + 2 * i,i) * ((n + 1) / (i + n + 1)) * Sum _{ j =0..(n - 2 * i) } (binomial(2 * n - j,n + 2 * i) * binomial(n - 2 * i - j,j)). •

[**A190153**] • 1,2,12,65,351,1897,10252,55405,299426,1618192,8745217,47261895,255418101,1380359512,7459895657,40315615410,217878227876,1177482265857,6363483400447,34390259761825,185855747875876,1004422742303477,5428215467030962 ★ Row sums of the triangle A190152. • a(n) = Sum _{ k=0..n } binomial(3 * n - k,3 * n - 3 * k). • a(n) = 5 * a(n - 1) + 2 * a(n - 2) + a(n - 3). •

[**A026306**] • 0,2,12,69,392,2235,12804,73710,426192,2473704,14405800,84137130,492652824,2891110235,16999928820,100136858625,590778928800,3490370847876,20647839813048,122287764072938,725023671281520,4302720916638417 ★ a(n) = T(2n,n+1), where T is the array in A026300. • a(n) = n * (Sum _{ j =0..2 * n + 1 } binomial(j, - 3 * n + 2 * j - 1) * binomial(2 * n + 1,j))) / (2 * n + 1) - _ Vladimir Kruchinin _ , May 15 2014 •

[**A001542**] • 0,2,12,70,408,2378,13860,80782,470832,2744210,15994428,93222358,543339720,3166815962,18457556052,107578520350,627013566048,3654502875938,21300003689580,124145519261542,723573111879672 ★ a(n) = 6*a(n-1) - a(n-2) for n>1, a(0)=0 and a(1)=2. • a(n) = ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n) / (2 * sqrt(2)). • a(n) = (C ^ (2n) - C ^ (- 2n)) / sqrt(8) where C = sqrt(2) + 1. - _ Gary W. Adamson _ , May 11 2003 • a(n) = ((1 + sqrt(2)) ^ (2 * n) - (1 - sqrt(2)) ^ (2 * n)) / (2 * sqrt(2)). - _ Antonio Alberto Olivares _ , Dec 24 2003 • a(n) = sinh(2 * n * arcsinh(1)) / sqrt(2). - _ Herbert Kociemba _ , Apr 24 2008 • a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Jan 20 2017 •

[**A119921**] • 2,12,72,336,1632,6720,29568,120576,499200,2012160,8214528,32894976,132882432,532070400,2136637440,8551464960,34282536960,137135652864,549148164096,2196721631232,8791208755200,35166005231616 ★ Number of rationals in [0, 1) having at most n preperiodic bits, then at most n periodic bits. • a(n) = 2 ^ n * sum _{ j=1..n } sum _{ d|j } (2 ^ d - 1) * mu(j / d) •

[**A167747**] • 1,2,12,72,432,2592,15552,93312,559872,3359232,20155392,120932352,725594112,4353564672,26121388032,156728328192,940369969152,5642219814912,33853318889472,203119913336832,1218719480020992 ★ a(n) = phi(6^n). • a(n + 1) = 2 * 6 ^ n. - _ Charles R Greathouse IV _ , Nov 12 2009 • a(n) = ((8 * n - 4) * a(n - 1) - 12 * (n - 2) * a(n - 2)) / n, a(0)=1, a(1)=2. - _ Sergei N. Gladkovskii _ , Jul 19 2012 •

[**A062119**] • 0,2,12,72,480,3600,30240,282240,2903040,32659200,399168000,5269017600,74724249600,1133317785600,18307441152000,313841848320000,5690998849536000,108840352997376000,2189611807358976000 ★ a(n) = n! * (n-1). • a(n) = n! * (n - 1). •

[**A144086**] • 0,1,2,12,72,540,4680,46200,510720,6244560,83613600,121613184

0,19084222080,321271030080,5773503415680,110288062684800,2231100039168000,47640952315756800,1070630750168179200,25255541547460224000,623884298434645248000,16104652019138319436800 ⋆ Number of partial bijections (or subpermutations) of an n-element set with exactly 1 fixed point. • a(n) = n! * sum(m=0..n - 1,(- 1 ^ m / m!) * sum(j=0..n - m,C(n - m) / j!)) •

[A078469] • 1,2,12,74,456,2810,17316,106706,657552,4052018,24969660,153869978,948189528,5843007146,36006232404,221880401570,1367288641824,8425612252514,51920962156908,319951385193962,1971629273320680 ⋆ Number of different compositions of the ladder graph L_n. • a(n) = 6 * a(n - 1) + a(n - 2). G.f.: 1 + 2 * x / (1 - 6 * x - x ^ 2). • a(n) = ((3 + s) ^ n - (3 - s) ^ n) / s, where s = sqrt(10) (assumes a(0) = 0). •

[A074616] • 2,12,74,468,3026,19932,133274,901668,6155426,42306732,292240874,2026154868,14085427826,98109713532,684326588474,4778079088068,33385518460226,233393453440332,1632228295176074,11417968671701268 ⋆ a(n) = 5^n + 7^n. • a(n) = 12 * a(n - 1) - 35 * a(n - 2) with a(0)=2, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A198474] • 2,12,76,492,3212,21036,137932,904812,5936396,38950572,255572812,1676946156,11003350412,72199015212,473737530316,3108453529452,20396281280012,133831275048876,878140974959692,5761968373855212 ⋆ Number of 2n X 2 0..2 arrays with values 0..2 introduced in row major order and each element equal to an odd number of horizontal and vertical neighbors. • a(n) = (2 ^ (- 4 - n) * ((9 - sqrt(17)) ^ n * (- 5 + 3 * sqrt(17)) + (9 + sqrt(17)) ^ n * (5 + 3 * sqrt(17)))) / sqrt(17). •

[A121680] • 1,2,12,76,655,6816,81690,1109816,16782399,278438740,5016899833,97368894756,2021749249403,44658312247290,1044437050070340,25757381769393392,667470006331599523,18119105978249333988 ⋆ a(n) = [x^n] (1 + x*(1+x)^(n+1))^(n+1). • a(n) = Sum _{ k=0..n + 1 } C(n + 1,k) * C((n + 1) * k,n - k). •

[A081014] • 2,12,77,522,3572,24477,167762,1149852,7881197,54018522,370248452,2537720637,17393796002,119218851372,817138163597,5600748293802,38388099893012,263115950957277,1803423556807922,12360848946698172 ⋆ Lucas(4*n+1) + 1, or Lucas(2*n)*Lucas(2*n+1). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 1 + (1 / 2) * (((7 / 2) - (3 / 2) * sqrt(5)) ^ n + ((7 / 2) + (3 / 2) * sqrt(5)) ^ n + (1 / 2) * sqrt(5) * (((7 / 2) + (3 / 2) * sqrt(5)) ^ n - ((7 / 2) - (3 / 2) * sqrt(5)) ^ n), with n >= 0. - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = 7 * a(n - 1) - a(n - 2) - 5, n >= 2. - _ R. J. Mathar _ , Nov 07 2015 •

[A270775] • 2,12,80,252,1100,1872,4352,6156,11132,22736,27900,47952,65600,75852,99452,143312,198476,219600,291852,347900,378432,480636,558092,689216,893952 ⋆ a(n) is the number of invertible 2 X 2 upper triangular matrices over Z_p where p = prime(n). • a(n) = p * (p - 1) ^ 2 where p = prime(n). •

[A240836] • 2,12,80,546,3740,25632,175682,1204140,8253296,56568930,387729212,2657535552,18215019650,124847601996,855718194320,5865179758242,40200540113372,275538601035360,1888569667134146,12944449068903660,88722573815191472,608113567637436642 ⋆ Numbers n such that n^3 = x*y*z where 2 <= x <= y <= z , n^3+1 = (x-1)*(y+1)*(z+1). • a(n) = 2 * F(2n) * F(2n - 1) where F(n) are the Fibonacci numbers (A000045). •

[A270919] • 1,2,12,80,552,3912,28224,206208,1520784,11297546,84413912,633713808,4776117216,36115518376,273868321536,2081866609920,15859616674336,121046064563376,925411686479820,7085465166635440,54323193841192752,416993869451825424,3204447137019290944 ⋆ Coefficient of x^n in Product_{k>=1} ((1 + x^k) / (1 - x^k))^n. • a(n) = [x ^ n] 1 / theta _ 4(x) ^ n, where theta _ 4() is the Jacobi theta function. - _ Ilya Gutkovskiy _ , Nov 03 2017 •

[A069723] • 1,2,12,80,560,4032,29568,219648,1647360,12446720,94595072,722362368,5538111488,42600857600,328635187200,2541445447680,19696202219520,152935217233920,1189496134041600,9265548833587200,72271280901980160 ⋆ a(n) = 2^(n-1)*binomial(2*n-3, n-1). • a(n) = Sum _{ k=0..n } binomial(n + k - 1,k) * binomial(2 * n - 1, n - k). - _ Vladimir Kruchinin _ , Nov 11 2016 •

[A063481] • 2,12,80,576,4352,33792,266240,2113536,16842752,134479872,1074790400,8594128896,68736253952,549822922752,4398314946560,35185445830656,281479271677952,2251816993554432,18014467228958720,144115462953762816 ⋆ a(n) = 4^n + 8^n. • a(n)=12 * a(n - 1) - 32 * a(n - 2) with a(0)=2, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A274782] • 1,2,12,80,580,4452,35364,288024,2389860,20117240,171297412,1472316144,12753610324,111204119600,975106366680,8592062844480,76030953610980,675323181536760,6018366674614800,53794511697141600,482124714647540580,4331431183551057960,38999393295271719960 ⋆ Diagonal of the rational function 1/(1 - x - x y - x z - y z). • a(n) = Sum _{ k = 0..n } C(n,k) * C(n + k,k) * C(k,n - k) (apply Eger, Theorem 3 to the set of column vectors S = { [1,0,0], [1,1,0], [1,0,1], [0,1,1] }). - _ Peter Bala _ , Jan 26 2018 •

[A199420] • 2,12,82,572,4002,28012,196082,1372572,9608002,67256012,470792082,3295544572,23068812002,161481684012,1130371788082,7912602516572,55388217616002,387717523312012,2714022663184082,18998158642288572 ⋆ a(n) = (5*7^n+1)/3. • a(n) = 7 * a(n - 1) - 2. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A105927] • 0,0,2,12,84,640,5430,50988,526568,5940576,72755370,961839340,13656650172,207316760352,3351430059614,57487448630220,1042952206111440,19954639072648768,401578933206288978,8480263630552747596,187505565234912994340,4332318322289242716480 ⋆ Let d(n) = A000166(n); then a(n) = ((n^2+n-1)*d(n) + (-1)^(n-1)*(n-1))/2. • a(n) = n * (n - 1) * (a(n - 1) + a(n - 2)) / (n - 2) for n >= 3, a(n) = n * (n - 1) for n < 3. - _ Alois P. Heinz _ , Jun 03 2014 • a(n) = (n ^ 2 + n + 1) * n! / e + O(1). - _ Charles R Greathouse IV _ , Apr 07 2017 •

[A052867] • 0,0,2,12,84,720,7440,90720,1280160,20563200,370863360,7424524800,163419379200,3923023104000,102011054745600,2856483889459200,85697132032512000,2742350070620160000,93240613775941632000 ⋆ E.g.f.: log(-(-1+x)^2/(-1+2*x)). • a(n) = - 2 * GAMMA(n + 1) + 2 ^ (n + 1) * GAMMA(n + 1). •

[A290568] • 0,2,12,87,212,212,9587,56462,212712,603337,4509587,4509587,4509587,2445915837,20756462712,142826775212,600590447087,2889408806462,18148197868962,94442143181462,94442143181462,1524953617790837,6293325199822087,6293325199822087 ⋆ The successive approximations up to 5^n for 5-adic integer 3^(1/3). • a(0) = 0 and a(1) = 2, a(n) = a(n - 1) + 2 * (a(n - 1) ^ 3 - 3) mod 5 ^ n for n > 1. •

[A059435] • 1,2,12,88,720,6304,57792,547712,5323008,52761088,531311616,5420488704,55905767424,581954543616,6106210615296,64513688174592,685741070942208,7328106153115648,78684992821788672,848487859401261056 ⋆ Number of lattice paths in plane starting at (0,0) and ending at (n,n) with steps from {(i,j):i+j>0,i,j >= 0} that never go below the line y=x. • a(n) = sum { k=0..n, C(n + 1, k)C(2n - k, n)(- 1) ^ k * 4 ^ (n - k) * 2 ^ k }/ (n + 1); • a(n) = sum { k=0..n, (1 / n) * C(n, k) * C(n, k + 1) * 4 ^ k * 2 ^ (n - k) } ; • a(n) = sum { k=1..n, N(n, k) * 2 ^ (n + k - 1) } , for n>=1, where N(n, k) are the Narayana numbers (A001263). - corrected by _ Alejandro H. Morales _ , May 14 2015 •

[A074610] • 2,12,90,756,6642,59292,532170,4785156,43053282,387440172,3486843450,31381236756,282430067922,2541867422652,22876797237930,205891146443556,1853020231898562,16677181828806732,150094635684419610 ⋆ a(n) = 3^n + 9^n. • a(n) = 12 * a(n - 1) - 27 * a(n - 2) with a(0)=2, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A155639] • 1,2,12,92,672,4652,31032,201812,1288992,8124572,50700552,313968932,1932641712,11839990892,72260648472,439667406452,2668522016832,16163719991612,97745259402792,590286253682372,3560791008422352 ⋆ 6^n-5^n+1^n. • a(n) = 11 * a(n - 1) - 30 * a(n - 2) + 20 with a(0)=1, a(1)=2. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A003123] • 2,12,92,800,7554,75664,792448,8595120,95895816,1095130728,12753454896,151017596448,1814135701956,22067487234504,271407264938656,3370796862212944,42230992336570032,533252038221313888,6781213722509638192,86790636905453265216 ⋆ Number of Hamiltonian rooted triangulations with n internal nodes and 4 external nodes. • a(n) = f(n, 4) where f(n, k) is defined in A003122. - _ Sean A. Irvine _ , Feb 02 2015 •

[A213422] • 0,1,2,12,96,880,8720,90752,975936,10737152,120093056,1360051456,15556087296,179424700416,2084953411584,24393551634432,287204585508864,3400978267127808,40480500900446208,484006813958356992,5810240353159839744,70001749695581061120 ⋆ G.f. satisfies: A(A(x) - 4*A(x)^2) = x. • a(n) = T(n,1), T(n,m) = 1 / 2 * (4 ^ (n - m) * m / n * C(2 * n - m - 1,n - 1) - sum(i=m + 1..n - 1, T(n,i) * T(i,m))), n>m, T(n,n)=1. [_ Dmitry Kruchinin _ , Dec 02 2012] •

[A000888] • 1,2,12,100,980,10584,121968,1472328,18404100,236390440,3103161776,41469525552,562496897872,7726605740000,107289439704000,1503840313184400,21252802073091300,302539888334593800,4334635827016110000,62464383654579522000,904841214653480504400 ⋆ a(n) = (2*n)!^2 / ((n+1)!*n!^3). • a(n) = binomial(2 * n,n) ^ 2 / (n + 1). - _ Zerinvary Lajos _ , May 27 2006 •

[A137483] • 2,12,102,912,8202,73812,664302,5978712,53808402,484275612,4358480502,39226324512,353036920602,3177332285412,28595990568702,257363915118312,2316275236064802,20846477124583212,187618294121248902,1688564647091240112,15197081823821161002 ⋆ a(n+1) = 9*a(n) - 6, a(0) = 2. • a(n) = (3 + 5 * 9 ^ n) / 4. • a(n) = 10 * a(n - 1) - 9 * a(n - 2) for n>1. •

[A050621] • 2,12,104,1008,10016,100032,1000064,10000128,100000256,1000000512,10000001024,100000002048,1000000004096,10000000008192,1000000000016384,1000000000032768,10000000000065536,100000000000131072 ⋆ Smallest n-digit number divisible by 2^n. • a(n) = 10 ^ (n - 1) + 2 ^ (n - 1). • a(n) = 12 * a(n - 1) - 20 * a(n - 2) for n>1. - _ Vincenzo Librandi _ , Sep 12 2014 •

[A157328] • 1,2,12,104,1072,12192,147648,1867392,24380160,326105600,4445965312,61555599360,863154221056,12233140576256,174954419109888,2521749245558784,36595543723671552,534249057803698176 ⋆ Expansion of 1/(1-2x*c(4x)) with c(x) g.f. of Catalan numbers A000108. • a(n) = upper left term in M ^ n, M = an infinite square production matrix as follows: •

[A047855] • 1,2,12,112,1112,11112,111112,1111112,11111112,111111112,1111111112,11111111112,111111111112,1111111111112,11111111111112,111111111111112,1111111111111112,11111111111111112,111111111111111112,1111111111111111112,11111111111111111112 ⋆ a(n) = T(7,n), array T given by A047848. • a(n) = (10 ^ n + 8) / 9. - _ Ralf Stephan _ , Feb 14 2004 • a(0)=1, a(1)=2, a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. - Lambert Klasen (lambert.klasen(AT)gmx.net), Jan 28 2005 • a(n) = 10 * a(n - 1) - 8 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A053312] • 2,12,112,2112,22112,122112,2122112,12122112,212122112,1212122112,11212122112,111212122112,1111212122112,11111212122112,211111212122112,1211111212122112,11211111212122112,111211111212122112,1211211111212122112 ⋆ a(n) contains n digits (either '1' or '2') and is divisible by 2^n. • a(n) = a(n - 1) + 10 ^ (n - 1) * (2 - [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 2, if not then n - th term begins with a 1. •

[A087800] • 2,12,142,1692,20162,240252,2862862,34114092,406506242,4843960812,57721023502,687808321212,8195978831042,97663937651292,1163771272984462,13867591338162252,165247324784962562,1969100306081388492 ⋆ a(n)

= 12a(n-1) - a(n-2), with a(0) = 2 and a(1) = 12. ● a(- n) = a(n). - _ Michael Somos _ , May 28 2014 ●

[A007986] ● 2,12,242,2772,29282,320892,3543122,38987652,428717762,4715748972,51874849202,570624951732,6276856753442,69045406572252,759499667166482,8354496533703012,91899459727144322,1010894054854998732,11119834626984462962 ★ Co-growth function of a certain group. ● a(n) = 2 * 11 ^ (n - 1) + (- 1) ^ (n / 2) * 5 * 11 ^ (n / 2 - 1) * (cos(Pi * n) + 1) [from Humphries]. _ Sean A. Irvine _ , Feb 26 2018 ●

[A192892] ● 1,2,12,343,34997,12515441,15749457081,72424550598849,1282759836215548737 ★ Number of n X n binary matrices whose determinants equals their permanents. ● a(n) <= 2 ^ (n ^ 2), with equality for n<=1. ●

[A069714] ● 2,12,1320,851760 ★ Least integer such that quotient q=[sigma(n)-n]/[n-phi(n)] defining A068418 equals n. ● a(n)=Min { x; A001065[x] / A051953[x]=n }) ●

[A041201] ● 1,1,2,13,15,28,575,603,1178,7671,8849,16520,339249,355769,695018,4525877,5220895,9746772,200156335,209903107,410059442,2670259759,3080319201,5750578960,118091898401 ★ Denominators of continued fraction convergents to sqrt(111). ● a(n) = 590 * a(n - 6) - a(n - 12). G.f.: - (x ^ 2 - 2 * x - 1) * (x ^ 4 - x ^ 3 + 2 * x ^ 2 + x + 1) * (x ^ 4 + 2 * x ^ 3 + 5 * x ^ 2 - 2 * x + 1) / (x ^ 12 - 590 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] ●

[A295336] ● 1,2,13,15,43,58,391,449,1289,1738,11717,13455,38627,52082,351119,403201,1157521,1560722,10521853,12082575,34687003,46769578,315304471,362074049,1039452569 ★ Numerators of the convergents to sqrt(14)/2 = A294969. ● a(n) = 30 * a(n - 4) - a(n - 8), n >= 8, with inputs a(0)..a(7). ●

[A177964] ● 2,13,17,28,32,43,47,58,62,73,77,88,92,103,107,118,122,133,137,148,152,163,167,178,182 ★ Indices m for which A177961(m) = 4. ● a(n + 2) = a(n) + 15. ● a(n) == (- 1) ^ n (mod 3). ● a(n) = 15 * (n / 2 - 1 / 4) + 7 * (- 1) ^ n / 4. - _ R. J. Mathar _ , Oct 25 2010 ●

[A168672] ● 2,13,19,30,36,47,53,64,70,81,87,98,104,115,121,132,138,149,155,166,172,183,189,200,206 ★ Numbers that are congruent to {2,13} mod 17. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Jul 11 2012 ● a(n) = (34 * n + 5 * (- 1) ^ n - 21) / 4. - _ Vincenzo Librandi _ , Jan 06 2013 , modified Jul 07 2015 ●

[A263537] ● 1,2,13,25,31,43,55,61,73,85,91,103,115,121,133,145,151,163,175,181,193,205,211,223,235 ★ Integers k such that A098531(k) is divisible by A000071(k+2) ● a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>6. ●

[A117983] ● 1,2,13,26,52,338,757,1514,9841,19682,39364,255866,511732,1023464,6652516,14899274,29798548,193690562,387440173,774880346,5036722249,10073444498,20146888996,130954778474,293292210961 ★ A modified Legendre-binomial transform of 2^n for p=3. ● a(n)=sum { k=0..n, (- 1) ^ (n - k) * L(C(n,k) / 3) * 3 ^ k } where L(j / p) is the Legendre symbol of j and p. ●

[A294556] ● 1,2,13,28,57,104,183,312,523,866,1423,2327,3792,6164,10004,16219,26277,42553,68890,111506,180462,292037,472571,764683,1237332 ★ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) - b(n-2) + n + 1, where a(0) = 1, a(1) = 2, b(0) = 3, and (a(n)) and (b(n)) are increasing complementary sequences. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) + 2 * a(n - 7) - 2 * a(n - 8) + 2 * a(n - 9) - 2 * a(n - 10) + 2 * a(n - 11) - 2 * a(n - 12) + 2 * a(n - 13) - a(n - 14) - a(n - 15) + a(n - 16) for n>15. ●

[A041575] ● 1,2,13,28,965,1958,12713,27384,943769,1914922,12433301,26781524,923005117,1872791758,12159755665,26192303088,902698060657,1831588424402,11892228607069,25616045638540,882837780317429,1791291606273398,11630587417957817,25052466442189032 ★ Denominators of continued fraction convergents to sqrt(305). ● a(n) = 978 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 20 2013 ●

[A042917] ● 1,2,13,28,1749,3526,22905,49336,3081737,6212810,40358597,86930004,5430018845,10946967694,71111825009,153170617712,9567690123153,19288550864018,125298995307261,269886541478540,16858264566976741,33986415675432022,220776758619568873 ★ Denominators of continued fraction convergents to sqrt(990). ● a(n) = 1762 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Feb 01 2014 ●

[A030452] ● 1,2,13,29,194,433,2897,6466,43261,96557,646018,1441889,9647009,21531778,144059117,321534781,2151239746,4801489937,32124537073,71700814274,479716816349,1070710724173,7163627708162,15988960048321 ★ Markov numbers satisfying region 5 (x=5) of the equation x^2 + y^2 + z^2 = 3xyz. ● a(n) = 15 * a(n - 2) - a(n - 4). ●

[A185950] ● 1,2,13,32,59,94,137,188,247,314,389,472,563,662,769,884,1007,1138,1277,1424,1579,1742,1913,2092,2279 ★ a(n) = 4*n^2 - n - 1. ● a(n) = a(n - 1) + 8 * n - 5. ● a(n) = 2 * a(n - 1) - a(n - 2) + 8. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A062708] ● 0,2,13,33,62,100,147,203,268,342,425,517,618,728,847,975,1112,1258,1413,1577,1750,1932,2123,2323,2532 ★ Write 0,1,2,3,4,... in a triangular spiral, then a(n) is the sequence found by reading the line from 0 in the direction 0,2,... ● a(n) = n * (9n - 5) / 2. ● a(n) = 9 * n + a(n - 1) - 7 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A190816] ● 1,2,13,34,65,106,157,218,289,370,461,562,673,794,925,1066,1217,1378,1549,1730,1921,2122,2333,2554,2785 ★ 5*n^2 - 4*n + 1. ● a(0)=1, a(1)=2, a(2)=13, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, May 24 2011] ●

[A254965] ● 1,2,13,34,275,736,6027,16148,132309,354510,2904761,7783062,63772423,170872844,1400088535,3751419496,30738175337,82360356058,674839768869,1808176413770,14815736739771,39697520746872,325271368506083,871537280017404,7141154370394045 ★ Indices of centered hexagonal numbers (A003215) that are also heptagonal numbers (A000566). ● a(n) = a(n - 1) + 22 * a(n - 2) - 22 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A011919] ● 0,0,0,0,2,13,40,93,186,336,560,880,1320,1906,2669,3640,4853,6346,8160,10336,12920,15960,19506,23613,28336 ★ [n(n-1)(n-2)(n-3)/9]. ● a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 9) - 4 * a(n - 10) + 6 * a(n - 11) - 4 * a(n - 12) + a(n - 13). G.f.: x ^ 4 * (2 + 5 * x + 3 * x ^ 3 + 4 * x ^ 4 + 3 * x ^ 5 + 5 * x ^ 7 + 2 * x ^ 8) / ((1 - x) ^ 5 * (1 + x + x ^ 2) * (x ^ 6 + x ^ 3 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] ●

[A263979] ● 2,13,41,41,61,113,113,181,181,269,313,313,421,421,613,613,613,761,761,929,1013,1013,1201,1201,1301 ★ Least prime p of the form p = a^2 + b^2 with a > n and b > n. ● a(n) == 1 or 2 mod 4. ●

[A042795] ● 1,2,13,41,54,95,149,1287,19454,156919,176373,333292,509665,1862287,11683387,25229061,1525427047,3076083155,19981925977,63021861086,83003787063,146025648149,229029435212,1978261129845,29902946382887 ★ Denominators of continued fraction convergents to sqrt(928). ● a(n) = 15371104 34 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 29 2014 ●

[A263980] ● 2,13,41,61,113,181,269,313,421,613,761,929,1013,1201,1301,1637,1741,1861,2113,2381,2521,2969,3121,3449,3613 ★ Least prime of the form a^2 + b^2 with a > k and b > k, for some number k. ● a(n) == 1 or 2 mod 4. ●

[A084156] ● 0,1,2,13,44,181,662,2521,9368,35113,130922,489061,1824836,6811741,25420670,94875313,354076208,1321442641,4931681234,18405321661,68689566044,256353060613,956722558310,3570537526921,13325427195080 ★ Binomial transform of sinh(x)*cosh(sqrt(3)*x). ● a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 12 * a(n - 3) + 3 * a(n - 4), a(0)=0, a(1)=1. ● a(n) = ((2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n - (sqrt(3)) ^ n - (- sqrt(3)) ^ n) / 4. ●

[A002534] ● 0,1,2,13,44,205,806,3457,14168,59449,246410,1027861,4273412,17797573,74055854,308289865,1283082416,5340773617,22229288978,92525540509,385114681820,1602959228221,6671950592822,27770534239633,115588623814664 ★ a(n) = 2*a(n-1) + 9*a(n-2). ● a(n) = Sum _{ k=0..n } binomial(n, 2 * k + 1) * 10 ^ k. (End) ● a(n) = ((1 + sqrt(10)) ^ n - (1 - sqrt(10)) ^ n) / (2 * sqrt(10)). - _ Artur Jasinski _ , Dec 10 2006 ●

[A212501] ● 0,0,2,13,45,115,245,462,798,1290,1980,2915,4147,5733,7735,10220,13260,16932,21318,26505,32585,39655,47817,57178,67850 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w > x < y >= z. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. ● a(n) = (n - 1) * n * (n + 1) * (5 * n - 2) / 24. - _ Bruno Berselli _ , May 31 2012 ●

[A117717] ● 0,2,13,45,116,250,477,833,1360,2106,3125,4477,6228,8450,11221,14625,18752,23698,29565,36461,44500,53802,64493,76705,90576 ★ Maximal number of regions obtained by a straight line drawing of the complete bipartite graph K_{n,n}. ● a(n) = n ^ 2 - 2n + C(n,2) ^ 2 + 1 ● a(n) = (n - 1) ^ 2 * (n ^ 2 + 4) / 4. - _ Vincenzo Librandi _ , Sep 09 2011 ● a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n>5. - _ Harvey P. Dale _ , Oct 16 2012 ●

[A176060] ● 0,2,13,46,120,260,497,868,1416,2190,3245,4642,6448,8736,11585,15080,19312,24378,30381,37430,45640,55132,66033,78476,92600 ★ a(n) = n*(n+1)*(3*n^2 ● a(n) = sum(k * (k * (k - 1) + n + 1), k=1..n) with n>0 (summation proposed in the Problem 923, see References). ● a(0)=0, a(1)=2, a(2)=13, a(3)=46, a(4)=120, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jul 14 2011 ●

[A005584] ● 2,13,49,140,336,714,1386,2508,4290,7007,11011,16744,24752,35700,50388,69768,94962,127281,168245,219604,283360,361790,457470,573300,712530 ★ Coefficients of Chebyshev polynomials. ● a(n) = binomial(n + 5, n - 1) + binomial(n + 4, n - 1) = 1 / 720 * n * (n + 11) * (n + 4) * (n + 3) * (n + 2) * (n + 1). ●

[A072416] ● 2,13,49,149,373,835,1727,3383,6341,11419,19966,34067,56967,93578,151313,241281,379934,591413,910879,1389289,2099905,3147743,4682362,6914234,10141072 ★ a(1) = 2; a(n) = half of the a(n-1)-th even nontotient number. ● a(5) = 373 = 746 / 2, where 746 is the a(4) = 149th term in A005277. ●

[A030517] ● 1,2,13,52,273,1302,6573,32552,163073,813802,4070573,20345052,101733073,508626302,2543170573,12715657552,63578483073,317891438802,1589458170573,7947285970052,39736434733073,198682149251302,993410770670573,4967053731282552 ★ Number of walks of length n between two vertices on a icosahedron at distance 1. ● a(n) = 5 ^ n / 12 - (- 1) ^ n / 12 + (sqrt(5)) ^ (n + 1) / 20 + (- sqrt(5)) ^ (n + 1) / 20. ● a(n) = 4 * a(n - 1) + 10 * a(n - 2) - 20 * a(n - 3) - 25 * a(n - 4) for n>=5. (End) ● a(n) = (5 ^ n - 1) / 12 for n even. ● a(n) = (6 * 5 ^ ((n - 1) / 2) + 5 ^ n + 1) / 12 for n odd. (End) ●

[A048502] ● 1,2,13,53,169,473,1225,3017,7177,16649,37897,85001,188425,413705,901129,1949705,4194313,8978441,19136521,40632329,85983241,181403657,381681673,801112073,1677721609 ★ a(n) = 2^(n-1)*(9*n-16)+9. ● a(n) = T(8, n), array T given by A048494. ●

[A187560] ● 2,13,59,247,1007,4063,16319,65407,261887,1048063,4193279,16775167,67104767,268427263,1073725439,4294934527,17179803647,68719345663,274877644799,1099511103487,4398045462527,17592183947263,70368739983359,281474968322047,1125899890065407 ★ a(n) = 4^(n+1)-2^n-1. ● a(0)=2, a(1)=13, a(2)=59, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Feb 25 2013 ●

[A290721] ● 2,13,60,251,1018,4089,16376,65527,262134,1048565,4194292,16777203,67108850,268435441,1073741808,4294967279,17179869166,68719476717,274877906924,1099511627755,4398046511082,17592186044393,70368744177740,281474976710631,1125899906842598 ★ a(n) = 4^n - n - 1. ● a(n) = 4 ^ n - n - 1. ● a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). ●

[A081340] ● 1,2,13,62,313,1562,7813,39062,195313,976562,4882813,24414062,122070313,610351562,3051757813,15258789062,76293945313,381469726562,1907348632813,9536743164062,47683715820313,238418579101562 ★ (5^n+(-1)^n)/2.

• a(n) = 4 * a(n - 1) + 5 * a(n - 2), a(0)=1, a(1)=2. • a(n) = ((2 + sqrt(9)) ^ n + (2 - sqrt(9)) ^ n) / 2. - Al Hakanson (hawkuu(AT)gmail.com), Dec 08 2008 •

[A127531] • 0,0,2,13,64,285,1210,5005,20384,82212,329460,1314610,5230016,20764055,82317690,326012925,1290244800,5103910680,20183646780,79802261190,315492902400,1247247742650,4930910180196,19495286167698,770855538298 24 ⋆ Number of jumps in all binary trees with n edges. • a(n) = binomial(2 * n, n - 2) - binomial(2 * n - 2, n - 2). • a(n) = 4 ^ (n - 1) * (n - 1) * (3 * n ^ 2 - 5 * n - 2) * Gamma(n - 1 / 2) / (sqrt(Pi) * Gamma(n + 3)). •

[A137967] • 1,1,2,13,66,406,2602,17271,118444,829514,5914980,42791085,313277294,2316793170,17281455882,129867946828,982293317064,7472406051744,57132051350160,438797394096378,3383870656327576,26191385476141936 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^6)^2. • a(n) = Sum _{ k=0..n - 1 } C(2 * (n - k),k) / (n - k) * C(6 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A136780] • 1,2,13,68,358,1871,9757,50825,264622,1377455,7169434,37314044,194200651,1010706167,5260139653,27375923678,142475405353,741499470476,3859061584762,20084107492055,104525763472957,543994053280925,2831163512738434,14734511818610939 ⋆ Number of primitive multiplex juggling sequences of length n, base state <1,1,1> and hand capacity 2. • a(n) = 7 * a(n - 1) - 8 * a(n - 2) - 7 * a(n - 3) for n>3. - _ Colin Barker _ , Aug 31 2016 •

[A188676] • 1,2,13,71,424,2579,15985,100295,635176,4051649,25993366,167543354,1084134346,7038291098,45821937982,299045487602,1955803426045,12815265660680,84111082917925,552872886403775,3638971619401720 ⋆ Alternate partial sums of the binomial coefficients binomial(3*n,n). • a(n) = sum(k=0..n, (- 1) ^ (n - k) * binomial(3 * k,k)). •

[A289790] • 2,13,72,385,2056,11000,58872,315065,1686086,9023167,48287964,258415702,1382925814,7400803253,39605804028,211952630117,1134276112400,6070140759292,32484690838716,173843602765153,930333564584074,4978731041147699,26643951936925764 ⋆ p-INVERT of A016789, where p(S) = 1 - S - S^2. • a(n) = 6 * a(n - 1) - 5 * a(n - 2) + 8 * a(n - 3) + a(n - 4). •

[A109112] • 2,13,72,393,2142,11673,63612,346653,1889082,10294533,56099952,305716113,1665996822,9078832593,49475005092,269613532773,1469256181362,8006696489853,43632410395032,237774372900633,1295749006218702 ⋆ a(n) = 6a(n-1) - 3a(n-2), a(0)=2, a(1)=13. • a(n) = (1 / 2sqrt(6))((2sqrt(6) + 7)(3 + sqrt(6)) ^ n + (2sqrt(6) - 7)(3 - sqrt(6)) ^ n). •

[A154357] • 2,13,74,185,346,557,818,1129,1490,1901,2362,2873,3434,4045,4706,5417,6178,6989,7850,8761,9722,10733,11794,12905,14066 ⋆ a(n) = 25*n^2 - 14*n + 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 08 2012 •

[A077413] • 2,13,76,443,2582,15049,87712,511223,2979626,17366533,101219572,589950899,3438485822,20040964033,116807298376,680802826223,3968009658962,23127255127549,134795521106332,785645871510443,4579079707956326,26688832376227513,155553914549408752 ⋆ Bisection (odd part) of Chebyshev sequence with Diophantine property. • a(n) = 6 * a(n - 1) - a(n - 2), a(- 1)= - 1, a(0)=2. • a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 7 + 4 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (7 + 4 * sqrt(2)))) / (4 * sqrt(2)). - _ Colin Barker _ , Oct 12 2015 •

[A198849] • 2,13,79,475,2851,17107,102643,615859,3695155,22170931,133025587,798153523,4788921139,28733526835,172401161011,1034406966067,6206441796403,37238650778419,223431904670515,1340591428023091,8043548568138547 ⋆ (11*6^n-1)/5. • a(n) = 6 * a(n - 1) + 1. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A135167] • 2,13,79,487,3091,20143,133939,903727,6161731,42325903,292298899,2026329967,14085955171,98111299663,684331355059,4778093404207,33385561441411,233393582449423,1632228682334419,11417969833438447,79887637214988451,559022711699743183,3912205265750868979 ⋆ a(n) = 7^n + 5^n + 3^n - 2^n. Constants are the prime numbers in decreasing order. • a(n) = 7 ^ n + 5 ^ n + 3 ^ n - 2 ^ n. • a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4). •

[A037491] • 2,13,80,481,2888,17329,103976,623857,3743144,22458865,134753192,808519153,4851114920,29106689521,174640137128,1047840822769,6287044936616,37722269619697,226333617718184,1358001706309105 ⋆ Base 6 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. • a(n) = 6a(n - 1) + a(n - 2) - 6a(n - 3). •

[A179237] • 1,2,13,80,493,3038,18721,115364,710905,4380794,26995669,166354808,1025124517,6317101910,38927735977,239883517772,1478228842609,9109256573426,56133768283165,345911866272416,2131604965917661,13135541661778382,80944854936587953 ⋆ a(0) = 1, a(1) = 2; a(n+1) = 6*a(n) + a(n-1) for n>1. • a(n) = ((3 - sqrt(10)) ^ n * (1 + sqrt(10)) + (- 1 + sqrt(10)) * (3 + sqrt(10)) ^ n) / (2 * sqrt(10)). - _ Colin Barker _ , Oct 13 2015 •

[A074581] • 0,2,13,81,504,3136,19513,121415,755476,4700770,29249425,181997601,1132436852,7046319384,43844049029,272809183135,1697490356184,10562230626642,65720971788709,408933139743937,2544489349890656 ⋆ a(n)=T(3n+1), where T(n) are tribonacci numbers A000073. • a(n)=7a(n - 1) - 5a(n - 2) + a(n - 3), a(0)=0, a(1)=2, a(2)=13. G.f.: (2x - x ^ 2) / (1 - 7x + 5x ^ 2 - x ^ 3). •

[A162772] • 2,13,82,513,3202,19973,124562,776793,4844162,30208573,188382802,1174768113,7325934082,45685023413,284894912402,1776624041673,11079148296962,69090321917293,430851944071762,2686822011483873 ⋆ a(n) = ((2+sqrt(5))*(4+sqrt(5))^n + (2-sqrt(5))*(4-sqrt(5))^n)/2. • a(n) = 8 * a(n - 1) - 11 * a(n - 1) for n > 1; a(0) = 2, a(1) = 13. •

[A079752] • 0,2,13,82,579,4638,41749,417498,4592487,55109854,716428113,10029993594,150449903923,2407198462782,40922373867309,736602729611578,13995451862619999,279909037252399998,5878089782300399977 ⋆ Operation count to create all permutations of n distinct elements using the "streamlined" version of Algorithm L lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of times the search for an element exchangeable with a_j has to be started. • a(3)=0, a(n) = n * a(n - 1) + n - 2 for n>=4 •

[A164035] • 2,13,84,541,3478,22337,143376,920009,5902442,37864213,242885964,1557982741,9993450238,64100899337,411159637896,2637275694209,16916085270482,108503511738013,695965156159044,4464070791616141 ⋆ a(n) = ((4+3*sqrt(2))*(5+sqrt(2))^n + (4-3*sqrt(2))*(5-sqrt(2))^n)/4. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 2, a(1) = 13. •

[A074619] • 2,13,85,559,3697,24583,164305,1103479,7444417,50431303,342941425,2340123799,16018069537,109949704423,756587236945,5217746494519,36054040477057,249557173431943,1729973554578865,12008254925383639 ⋆ 6^n + 7^n. • a(n)=13 * a(n - 1) - 42 * a(n - 2) with a(0)=2, a(1)=13. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A162275] • 2,13,86,574,3848,25852,173864,1169896,7873952,53001808,356791136,2401871584,16169310848,108851933632,732794497664,4933202436736,33210545418752,223575000579328,1505118006580736,10132530053062144,68212704385845248,459211382691085312 ⋆ a(n) = 10*a(n-1) - 22*a(n-2) for n > 1; a(0) = 2, a(1) = 13. • a(n) = 10 * a(n - 1) - 22 * a(n - 2) for n > 1; a(0) = 2, a(1) = 13. • a(n) = ((2 + sqrt(3)) * (5 + sqrt(3)) ^ n + (2 - sqrt(3)) * (5 - sqrt(3)) ^ n) / 2. •

[A033891] • 2,13,89,610,4181,28657,196418,1346269,9227465,63245986,433494437,2971215073,20365011074,139583862445,956722026041,6557470319842,44945570212853,308061521170129,2111485077978050 ⋆ a(n) = Fibonacci(4*n+3). • a(n) = 7 * a(n - 1) - a(n - 2). - _ Floor van Lamoen _ , Dec 10 2001 • a(n) = (7 / 2 - (3 / 2) * sqrt(5)) ^ n - (2 / 5) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n * sqrt(5) + (2 / 5) * sqrt(5) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n + (7 / 2 + (3 / 2) * sqrt(5)) ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 • a(n) = Fibonacci(2 * n + 2) ^ 2 + Fibonacci(2 * n + 1) ^ 2. - _ Gary Detlefs _ , Oct 12 2011 •

[A172968] • 1,2,13,89,610,4181,28657,196418,1346269,9227465,63245986,433494437,2971215073,20365011074,139583862445,956722026041,6557470319842,44945570212853,308061521170129,2111485077978050,14472334024676221 ⋆ a(n) = 7*a(n-1) - a(n-2) for n>1, a(0)=1, a(1)=2. • a(n) = (1 / 10) * ((5 + sqrt(5)) * ((7 - 3 * sqrt(5)) / 2) ^ n + ((5 - sqrt(5)) * ((7 + 3 * sqrt(5)) / 2) ^ n)). • a(n) = sqrt(1 - 2 * F(2n + 1) * F(2n + 2) + 5 * (F(2n + 1) * F(2n + 2)) ^ 2), where F = A000045. • a(n) = 1 / 2 * (Lucas(4 * n) - Fibonacci(4 * n)), where Lucas = A000032. - _ Gary Detlefs _ , Nov 28 2010 •

[A074617] • 2,13,89,637,4721,35893,277769,2175277,17167841,136170853,1083507449,8638762717,68963617361,550976517013,4404150026729,35214889666957,281627564601281,2252562753138373,18018213206747609,144134261562183997 ⋆ a(n) = 5^n + 8^n. • a(n) = 13 * a(n - 1) - 40 * a(n - 2) with a(0)=2, a(1)=13. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A199489] • 2,13,90,629,4402,30813,215690,1509829,10568802,73981613,517871290,3625099029,25375693202,177629852413,1243408966890,8703862768229,60927039377602,426489275643213,2985424929502490,20897974506517429 ⋆ (11*7^n+1)/6. • a(n) = 7 * a(n - 1) - 1. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A074614] • 2,13,97,793,6817,60073,535537,4799353,43112257,387682633,3487832977,31385253913,282446313697,2541932937193,22877060890417,205892205836473,1853024483819137,16677198879535753,150094704016475857 ⋆ a(n) = 4^n + 9^n. • a(n) = 2 ^ (2 * n) + 3 ^ (2 * n). • a(n) = 13 * a(n - 1) - 36 * a(n - 2) with a(0)=2, a(1)=13. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A077246] • 2,13,102,803,6322,49773,391862,3085123,24289122,191227853,1505533702,11853041763,93318800402,734697361453,5784260091222,45539383368323,358530806855362,2822707071474573,22223125764941222 ⋆ Bisection (even part) of Chebyshev sequence with Diophantine property. • a(n)= 8 * a(n - 1) - a(n - 2), a(- 1) := 3, a(0)=2. • a(n)=[4 - sqrt(15)] ^ n - (1 / 6) * [4 - sqrt(15)] ^ n * sqrt(15) + [4 + sqrt(15)] ^ n + (1 / 6) * sqrt(15) * [4 + sqrt(15)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 08 2008 •

[A245806] • 2,13,109,1027,10081,100243,1000729,10002187,100006561,1000019683,10000059049,100000177147,1000000531441,10000001594323,100000004782969,1000000014348907,10000000043046721,100000000129140163,1000000000387420489,10000000001162261467 ⋆ 3^n + 10^n. • a(n) = 13 * a(n - 1) - 30 * a(n - 2) for n>1. •

[A212071] • 1,2,13,114,1150,12586,145299,1741844,21475146,270570300,3468352701,45089941936,593082894768,7878407177270,105542811922950,1424267372100456,19343105144742098,264182048662182420,3626176386241346070,49995713597946235350,692084935397470961346 ⋆ G.f. satisfies: A(x) = (1 + x*A(x)^3)^2. • a(n) = 2 * binomial(6 * n + 2,n) / (6 * n + 2). • a(n) = 2 * binomial(6n + 1, n - 1) / n for n>0, a(0)=1. [_ Bruno Berselli _ , Jan 19 2014] •

[A047856] • 1,2,13,134,1465,16106,177157,1948718,21435889,235794770,2593742461,28531167062,313842837673,3452271214394,37974983358325,417724816941566,4594972986357217 ⋆ a(n) = T(8,n), array T given by A047848. • a(n) = (11 ^ n + 9) / 10. - _ Ralf Stephan _ , Feb 14 2004 • a(0) = 1, a(1) = 2, a(n) = 12 * a(n - 1) - 11 * a(n - 2) for n > 1. • a(n) = 11 * a(n - 1) - 9 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A088316] • 2,13,171,2236,29239,382343,4999698,65378417,854919119,11179326964,146186169651,1911599532427,24996980091202,326872340718053,4274337409425891,55893258663254636,730886700031736159 ⋆ a(n) = 13*a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 13. • a(n) = ((13 + sqrt(173)) / 2) ^ n + ((13 - sqrt(173)) / 2) ^ n. •

[A042677] • 1,2,13,249,511,9958,60259,130476,7627867,15386210,99945127,1

914343623,3928632373,76558358710,463278784633,1003115927976,58644002607241,118291121142458,768390729461989,1471771498092024 9,30203820691302487,588590308115667502 ⋆ Denominators of continued fraction convergents to sqrt(868). • a(n) = 7688126 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A147832] • 0,2,14,16,28,30,42,44,56,58,70,72,84,86,98,100,112,114,126,128,140,142,154,156,168 ⋆ Numbers congruent (0,2) mod 14 • a(n)=14 * n - a(n - 1) - 26 (with a(1)=0). [From Vincenzo Librandi, Dec 17 2010] •

[A022369] • 2,14,16,30,46,76,122,198,320,518,838,1356,2194,3550,5744,9294,15038,24332,39370,63702,103072,166774,269846,436620,706466 ⋆ Fibonacci sequence beginning 2, 14. • a(n) = 2 * (Fibonacci(n + 2) + 5 * Fibonacci(n)). - _ G. C. Greubel _ , Aug 27 2017 •

[A247035] • 2,14,22,58,266,398,1042,4774,7142,18698,85666,128158,335522,1537214,2299702,6020698,27584186,41266478,108037042,494978134,740496902,1938646058,8882022226,13287677758,34787592002 ⋆ Expansion of 2*(x+1)*(x^4+6*x^2+4*x+1)/(1-18*x^3+1). • a(n) = (7 / 2) * (3 * F(2n) + F(2n - 1)) if n==1 (mod 3); otherwise a(n) = 2 * (3 * F(2n) + F(2n - 1)), where F = A000045. [_ Robert Israel _ , see Link section] •

[A220274] • 2,14,23,23,34,36,57,58,60,60,77,86,100,100,102,123,149,149,149,149,187,187,200,200,200 ⋆ a(n) is the smallest number, such that for all N>=a(n) there are at least n primes between 9*N and 10*N. • a(n) <= ceil(R _ (10 / 9)(n) / 10), where R _ v(n) (v>1) are generalized Ramanujan numbers (see Shevelev's link). In particular, for n>=1, { R _ (10 / 9) (n) } = { 127, 223, 227, 269, 349, 359, 569, 587, 593, 739, 809, 857, 991, 1009, ... } . Moreover, if R _ (10 / 9)(n) == 1(mod 10), then a(n) = ceil(R _ (10 / 9)(n) / 10). •

[A017545] • 2,14,26,38,50,62,74,86,98,110,122,134,146,158,170,182,194,206,218,230,242,254,266,278,290 ⋆ a(n) = 12n + 2. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jun 07 2011 •

[A202638] • 1,2,14,31,223,494,3554,7873,56641,125474,902702,1999711,14386591,31869902,229282754,507918721,3654137473,8094829634,58236916814,129009355423,928136531551,2056054857134,14791947588002,32767868358721 ⋆ y-values in the solution to x^2 - 7*y^2 = -3. • a(n) = a(- n + 1) = ((7 + 2 * sqrt(7) * (- 1) ^ n) * (8 - 3 * sqrt(7)) ^ floor(n / 2) + (7 - 2 * sqrt(7) * (- 1) ^ n) * (8 + 3 * sqrt(7)) ^ floor(n / 2)) / 14. •

[A083015] • 1,2,14,32,206,512,3128,8192,48238,131072,750584,2097152,11746424,33554432,184558304,536870912,2908113518,8589934592,45923227448,137438953472,726419131576,2199023255552,11506072128224,35184372088832 ⋆ a(n) = the number of ordered pairs of n-bit bit strings, such that both bit strings have at least n/2 one-bits, or both have at most n/2 one-bits. • a(n) = 4 ^ n / 2 + 2 ^ n * c - c ^ 2 / 2; where c is (n choose n / 2) for even n, 0 for odd n. •

[A060626] • 2,14,34,62,98,142,194,254,322,398,482,574,674,782,898,1022,1154,1294,1442,1598,1762,1934,2114,2302,2498 ⋆ Number of right triangles of a given area required to form successively larger squares. • a(n) = 4 * n ^ 2 + 8 * n + 2. • a(n) = 8 * n + a(n - 1) + 4 with n>0, a(0)=2. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A145910] • 2,14,35,65,104,152,209,275,350,434,527,629,740,860,989,1127,1274,1430,1595,1769,1952,2144,2345,2555,2774 ⋆ a(n) = (1 + 3*n)*(4 + 3*n)/2. • a(n) = 2 + 9 / 2 * n ^ 2 + 15 / 2 * n. - _ Paolo P. Lava _ , Oct 28 2008 • a(n) = 2 * a(n - 1) - a(n - 2) + 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A135706] • 0,2,14,36,68,110,162,224,296,378,470,572,684,806,938,1080,1232,1394,1566,1748,1940,2142,2354,2576,2808 ⋆ a(n) = n*(5*n-3). • a(n) = a(n - 1) + 10 * n - 8 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A091520] • 1,2,14,36,214,604,3340,9928,52582,161708,831588,2620920,13187836,42350744,209519576,682960784,3332923526,10998087884,53067486836,176924683544,845545262996,2843923177544,13479791673896,45685735967984 ⋆ Expansion of 1 / ((1 - 4*x) * sqrt(1 + 4*x)) in powers of x. • a(n) = 4 ^ n * (Sum _{ k=0, n } binomial(2 * k, k) / (- 4) ^ k). • a(n) = 2 ^ (n - 1) * (sqrt(2) * 2 ^ n + (- 1) ^ n * (2n + 1)!! * hypergeom([1,n + 3 / 2], [n + 2], - 1) / (n + 1)!. • a(n) = 2 ^ n * (2 * n + 1)!! * hypergeom([- n,1 / 2], [3 / 2], 2) / n!. (End) • a(n + 1) = 4 * a(n) - (- 1) ^ (n) * binom(2n + 2,n + 1). - _ G. C. Greubel _ , Nov 02 2015 •

[A254964] • 1,2,14,37,301,806,6602,17689,144937,388346,3182006,8525917,69859189,187181822,1533720146,4109474161,33671984017,90221249714,739249928222,1980758019541,16229826436861,43486455180182,356316931682714,954721255944457,7822742670582841 ⋆ Indices of heptagonal numbers (A000566) that are also centered hexagonal numbers (A003215). • a(n) = a(n - 1) + 22 * a(n - 2) - 22 * a(n - 3) - a(n - 4) + a(n - 5). •

[A290124] • 1,2,14,38,206,662,3134,11078,48686,181622,765854,2945318,12135566,47479382,193106174,762858758,3080132846,12234437942,49196032094,196009287398,786361672526,3138473121302,12574813191614,50236490647238,201134248946606 ⋆ a(n) = a(n-1) + 12*a(n-2) with a(1) = 1 and a(2) = 2. • a(n) = (5 / 28) * 4 ^ n - (2 / 21) * (- 3) ^ n. •

[A108478] • 1,1,2,14,43,127,468,1596,5253,17917,60918,205194,694287,2351611,7951336,26894840,91004105,307854073,1041410602,3523170438,11918842803,40320750711,136404504124,461454010164,1561085306061 ⋆ Diagonal sums of number triangle A108477. • a(n) = sum _{ k=0..floor(n / 2) } (sum _{ j=0..n - k } C(2(n - 2k), j) * C(2k, j) * 2 ^ j). •

[A268684] • 0,2,14,44,100,190,322,504,744,1050,1430,1892,2444,3094,3850,4720,5712,6834,8094,9500,11060,12782,14674,16744,19000 ⋆ a(n) = n*(n + 1)*(4*n - 1)/3. • a(n) = Sum _{ k = 0..n } 2 * k * (2 * k - 1). • a(n) mod 2 = 0. •

[A212902] • 0,0,2,14,44,110,228,426,726,1168,1780,2612,3700,5104,6866,9058,11728,14958,18804,23358,28682,34880,42020,50216,59544 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and |w-x|<|x-y|<|y-z|. • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) + a(n - 5) + 3 * a(n - 6) - a(n - 7) - 2 * a(n - 8) + a(n - 9). •

[A036659] • 2,14,45,104,200,342,539,800,1134,1550,2057,2664,3380,4214,5175,6272,7514,8910,10469,12200,14112,16214,18515,21024,23750 ⋆ Product of n with sum of next n consecutive integers. • a(n) = 2 + (3 * n * n + 10 * n + 11) * n / 2. - _ Frank Ellermann _ , Mar 16 2002 • a(n) = n ^ 2(3n + 1) / 2. - Ronnie B Kon (ronniekon(AT)yahoo.com), Jun 09 2006 •

[A083102] • 1,2,14,48,236,952,4264,18048,78736,337952,1463264,6306048,27244736,117549952,507547264,2190594048,9456660736,40819261952,176205131264,760602882048,3283257076736,14172542973952,61177656715264 ⋆ a(n) = 2*a(n-1) + 10*a(n-2). • a(n) = Sum _{ k=0..n } binomial(n,2 * k + 1) * 11 ^ k. (Formula) • a(n) = ((1 + sqrt(11)) ^ n - (1 - sqrt(11)) ^ n) / (2 * sqrt(11)). - _ Rolf Pleisch _ , Jul 06 2009 •

[A153978] • 0,2,14,50,130,280,532,924,1500,2310,3410,4862,6734,9100,12040,15640,19992,25194,31350,38570,46970,56672,67804,80500,94900 ⋆ a(n) = n*(n-1)*(n+1)*(3*n-2)/12. • a(n) = Sum _{ i=1..n - 1 } binomial(i + 1,i) * i ^ 2. - _ Enrique Pérez Herrero _ , Jun 28 2014 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4, - _ Vincenzo Librandi _ , Jun 30 2014 • a(n) = Sum _{ k=1...n - 1 } k * ((n - 1) * n / 2 + k) for n>1. - _ J. M. Bergot _ , Feb 16 2018 •

[A067056] • 1,2,14,54,154,364,756,1428,2508,4158,6578,10010,14742,21112,29512,40392,54264,71706,93366,119966,152306,191268,237820,293020,358020 ⋆ a(n) = (1)*(2+3+4+...+ n) + (1+2)*(3+4+5+...+n) + (1+2+3)*(4+5+6...+ n)+ ...+ Sum(n) or a(n) = Sum { Sum(1 to r) * Sum(r+1 to n)}, r = 1 to n. • a(n) = Sum { t(r) *{ t(n) - t(r) }} , (r = 1 to n - 1) where t(r) is the r - th triangular number. • a(n) = n * (2 * n ^ 4 + 5 * n ^ 3 - 5 * n - 2) / 60 = (n - 1) * n * (n + 1) * (n + 2) * (2 * n + 1) / 60, n>1. - _ Ralf Stephan _ , Apr 30 2004 •

[A208428] • 2,14,54,216,864,3456,13824,55296,221184,884736,3538944,14155776,56623104,226492416,905969664,3623878656,14495514624,57982058496,231928233984,927712935936,3710851743744,14843406974976,59373627899904 ⋆ Number of n X 2 0..2 arrays with new values 0..2 introduced in row major order and no element equal to any knight-move neighbor (colorings ignoring permutations of colors). • a(n) = 27 * 2 ^ (2 * n - 5) for n>2. •

[A203576] • 1,2,14,56,446,2152,18248,97120,848254,4796552,42454664,250140640,2226532712,13516860320,120553738144,748819997056,6679690686334,42254745008840,376638926040392,2418457241945056,21530200591563496,139992790135717792,1244418656720926624,8178446389043428736 ⋆ Exponential (or binomial) half-convolution of A000984 (central binomial) with itself. • a(n) = sum(binomial(n,k) * cbi(k) * cbi(n - k),k=0..floor(n / 2), n>=0. •

[A212895] • 0,0,2,14,58,168,376,716,1224,1936,2888,4116,5656,7544,9816,12508,15656,19296,23464,28196,33528,39496,46136,53484,61576 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and (least gapsize)=2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>=9. •

[A096367] • 2,14,58,194,578,1602,4226,10754,26626,64514,153602,360450,835586,1916930,4358146,9830402,22020098,49020930,108527618,239075330,524288002,1145044994,2491416578,5402263554,11676942338 ⋆ Number of winning paths of length n+1 across an n X n Hex board. • a(n) = (n - 2) * (n + 1) * 2 ^ (n - 3) - 2 ^ (n - 1) + 2. •

[A167555] • 2,14,63,209,559,1281,2618,4902,8568,14168,22385,34047,50141,71827,100452,137564,184926,244530,318611,409661,520443,654005,813694,1003170,1226420 ⋆ The third left hand column of triangle A167552. • a(n) = (14 * n ^ 5 - 115 * n ^ 4 + 400 * n ^ 3 - 665 * n ^ 2 + 486 * n - 120) / 5!. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) - 5 * a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) + 5 * a(n - 4) - a(n - 5) = 2 * 7. •

[A222715] • 2,14,66,198,508,1092,2156,3876,6606,10626,16478,24570,35672,50344,69624,94248,125562,164502,212762,271502,342804,428076,529828,649740,790790 ⋆ The number of binary pattern classes in the (2,n)-rectangular grid with 5 '1's and (2n-5) '0's: two patterns are in same class if one of them can be obtained by a reflection or 180-degree rotation of the other. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) - 4 * (2 * n ^ 2 - 22 * n + 63) * (- 1) ^ n, with n>8, a(3)=2, a(4)=14, a(5)=66, a(6)=198, a(7)=508, a(8)=1092. • a(n) = 3 * a(n - 1) - 8 * a(n - 3) + 6 * a(n - 4) + 6 * a(n - 5) - 8 * a(n - 6) + 3 * a(n - 8) - a(n - 9), with n>11. • a(n) = (n - 2) * (n - 1) * (8 * n ^ 3 - 16 * n ^ 2 + 6 * n - 15 * (- 1) ^ n + 15) / 120. (End) • a(n) = (1 / 4) * (binomial(2 * n,5) + 2 * binomial(n - 1,2) * (1 / 2) * (1 - (- 1) ^ n)). [_ Yosu Yurramendi _ and María Merino, Aug 21 2013] •

[A084132] • 1,2,14,68,356,1832,9464,48848,252176,1301792,6720224,34691648,179087936,924501632,4772534144,24637146368,127183790336,656558039552,3389334900224,17496687838208,90322760754176,466271170045952 ⋆ a(n)=4a(n-1)+6a(n-2), a(0)=1,a(1)=2. • a(n)=(2 + sqrt(10)) ^ n / 2 + (2 - sqrt(10)) ^ n / 2; G.f.: (1 - 2x) / (1 - 4x - 6x ^ 2); E.g.f. : exp(2x)cosh(sqrt(10)x). •

[A084770] • 1,2,14,68,406,2332,13964,83848,509926,3118892,19194724,118654648,736365436,4584612632,28623792344,179142212368,1123532958086,7059622447052,44431918660724,280059644507608,1767597777222676 ⋆ Coefficients of 1/(1-4x-16x^2)^(1/2); also, a(n) is the central coefficient of (1+2x+5x^2)^n. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, k) * binomial(2(n - k), n) * 4 ^ k. - _ Paul Barry _ , Sep 08 2004 • a(n) = 2 ^ n * hypergeom([(1 - n) / 2, - n / 2], [1], 5). - _ Vladimir Reshetnikov _ , Oct 10 2016 • a(n) = (4 / i) ^ (2 * n + 1) * a(- 1 - n), and 0 = a(n) * (+ 256 * a(n + 1) + 96 * a(n + 2) - 3

2 * a(n + 3)) + a(n + 1) * (+ 32 * a(n + 1) + 16 * a(n + 2) - 6 * a(n + 3)) + a(n + 2) * (- 2 * a(n + 2) + a(n + 3)) for all n in Z. - _ Michael Somos _ , Sep 30 2017 ●

[**A206947**] ● 0,0,0,2,14,70,306,1248,4888,18666,70110,260414,959882,3519232,12854064,46824210,170243566,618125238,2242100898,8126927456,29442587720,106626616954,386046638142,1397431266222,5057790129274 ★ Number of nonisomorphic graded posets with 0 and non-uniform Hasse graph of rank n, with exactly 2 elements of each rank above 0. ● a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4), a(1)=0, a(2)=0, a(3)=2, a(4)=14. ●

[**A203241**] ● 2,14,70,310,1302,5334,21590,86870,348502,1396054,5588310,22361430,89462102,357881174,1431590230,5726491990,22906230102,91625444694,366502827350,1466013406550,5864057820502,23456239670614,93824975459670 ★ Second elementary symmetric function of the first n terms of (1,2,4,8,...). ● a(n) = (2 - 3 * 2 ^ n + 4 ^ n) / 3. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). ●

[**A095933**] ● 2,14,72,330,1430,6008,24786,101118,409640,1652090,6643782,26667864,106914242,428292590,1714834440,6863694378,27466183286,109894593848,439656551730,1758830875230,7035859329512,28144840135514 ★ Number of walks of length 2n+1 between two nodes at distance 5 in the cycle graph C_10. ● a(n)= 4 ^ n / 5 * Sum _{ r=0..9 } (- 1) ^ r * Cos(Pi * r / 5) ^ (2n + 1). ● a(n)= 7a(n - 1) - 13a(n - 2) + 4a(n - 3); G.f.: - 2x ^ 2 / ((- 1 + 4x)(1 - 3x + x ^ 2)). ●

[**A290698**] ● 2,14,74,286,1157,4778,19623,80478,330293,1355629,5563527,22832914,93707772,384582275,1578347684,6477630782,26584574434,109104640685,447771795953,1837681518261,7541951930181,30952609765223,127031312347552,521343900861138 ★ Number of minimal edge covers in the n-antiprism graph. ● a(n) = 2 * a(n - 1) + 5 * a(n - 2) + 12 * a(n - 3) + 11 * a(n - 4) + 5 * a(n - 5) - 3 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). ●

[**A138156**] ● 0,2,14,74,352,1588,6946,29786,126008,527900,2195580,9080772,37392864,153434536,627778954,2562441466,10438340104,42449348236,172376641924,699100282156,2832205421824,11462854280536,46354571222164 ★ Sum of the path lengths of all binary trees with n edges. ● a(n) = 4 ^ (n + 1) - (3 * n + 4) * C(2 * n + 2,n + 1) / (n + 2). ●

[**A192809**] ● 0,0,2,14,74,366,1786,8702,42410,206734,1007834,4913310,23953034,116774190,569289402,2775359806,13530239338,65961672910,321571716762,1567703857118,7642759781962,37259445922414,181644634930298,885541171698814 ★ Coefficient of x in the reduction of the polynomial (x^2+2)^n by x^3->x^2+2. ● a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). ●

[**A198762**] ● 2,14,74,374,1874,9374,46874,234374,1171874,5859374,29296874,146484374,732421874,3662109374,18310546874,91552734374,457763671874,2288818359374,11444091796874,57220458984374,286102294921874,1430511474609374 ★ 3*5^n-1= 2*A057651(n). ● a(n) = 5 * a(n - 1) + 4. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. ●

[**A119913**] ● 0,0,2,14,74,394,2344,16036,125628,1112028,10976118,119481218,1421542550,18348340022,255323504812,3809950976872,60683990530072,1027542662934744,18430998766219146,349096664728623126,6962409983976703106,145841989688186383106 ★ Number of directed simple cycles in the complete graph K_n. ● a(n) = Sum _{ k=3..n } C(n,k) * (k - 1)!. ● a(n) = Sum _{ i =2..n - 1 } (floor(e * i!)) - (n + 3)(n - 2) / 2. ●

[**A172060**] ● 0,2,14,76,374,1748,7916,35096,153254,661636,2831300,12030632,50826684,213707336,894945944,3734901296,15540685574,64496348516,267060529364,1103587381256,4552196053844,18747042089816,77092267322984,316602500019536,1298657603761244 ★ The number of returns to the origin in all possible one-dimensional walks of length 2n. ● a(n) = (2n + 1)! / (n!) ^ 2 - 4 ^ n. ● a(n) = 4 * a(n - 1) + binomial(2n,n). ●

[**A185055**] ● 0,0,2,14,76,388,1950,9762,48824,244136,1220698,6103510,30517572,152587884,762939446,3814697258,19073486320,95367431632,476837158194,2384185791006,11920928955068,59604644775380,298023223876942,1490116119384754,7450580596923816 ★ Number of representations of 5^(2n) as a sum a^2 + b^2 + c^2 with 0 < a <= b <= c. ● a(n) = (5 ^ n - 4n - 1) / 8. ●

[**A278417**] ● 0,2,14,78,388,1810,8106,35294,150536,632034,2620870,10759342,43804812,177105266,711809378,2846259390,11330543632,44929049794,177540878718,699402223118,2747583822740,10766828545746,42095796462874,164244726238366,639620518118424 ★ a(n) = n*((2+sqrt(3))^n + (2-sqrt(3))^n)/2. ● a(n) = 7 * a(n - 1) - 10 * a(n - 2) - 10 * a(n - 3) + 7 * a(n - 4) - a(n - 5) for n >6. ●

[**A133224**] ● 0,2,14,78,400,1960,9312,43232,197120,885888,3934720,17307136,75509760,327182336,1409343488,6039920640,25770065920,109522223104,463857647616,1958507577344,8246342451200 ★ Let P(A) be the power set of an n-element set A and let B be the Cartesian product of P(A) with itself. Remove (y,x) from B when (x,y) is in B and x <> y and let R35 denote the reduced set B. Then a(n) = the sum of the sizes of the union of x and y for every (x,y) in R35. ● a(n) = n * (2 ^ (n - 2) + 3 * 2 ^ (2 * n - 3)). ●

[**A077444**] ● 2,14,82,478,2786,16238,94642,551614,3215042,18738638,109216786,636562078,3710155682,21624372014,126036076402,734592086398,4281516441986,24954506565518,145445522951122,847718631141214 ★ Numbers n such that (n^2 + 4)/2 is a square. ● a(n) = [[(3 + 2 * Sqrt(2)) ^ n - (3 - 2 * Sqrt(2)) ^ n] + [(3 + 2 * Sqrt(2)) ^ (n - 1) - 3 - 2 * Sqrt(2)) ^ (n - 1)]] / (2 * Sqrt(2)). ● a(n) = (1 + sqrt(2)) ^ (2 * n - 1) - (1 + sqrt(2)) ^ (1 - 2 * n). - _ Gerson Washiski Barbosa _ , Sep 19 2010 ● a(n) = floor((1 + sqrt(2)) ^ (2 * n - 1)). - _ Thomas Ordowski _ , Jun 07 2013 ●

[**A053141**] ● 0,2,14,84,492,2870,16730,97512,568344,3312554,19306982,112529340,655869060,3822685022,22280241074,129858761424,756872327472,4411375203410,25711378892990,149856898154532,873430010034204 ★ a(0)=0, a(1)=2 then a(n) = a(n-2) + 2*sqrt(8*a(n-1)^2 + 8*a(n-1) + 1). ● a(n) = 6 * a(n - 1) - a(n - 2) + 2, a(0) = 0, a(1) = 2; g.f.: 2 * x / ((1 - x) * (1 - 6 * x + x ^ 2)). ● a(n) = 7a(n - 1) - 7a(n - 2) + a(n - 3); a(n) = - (1 / 2) - (1 - sqrt(2)) / (4 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (1 + sqrt(2)) / (4 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n. - _ Antonio Alberto Olivares _ , Jan 13 2004 ● a(n) = sqrt(2) * cosh ((2 * n + 1) * log(1 + sqrt(2))) / 4 - 1 / 2 = (sqrt(1 + 4 * A029549) - 1) / 2. - _ Bill Gosper _ , Feb 07 2010 [corrected a typo by _ Vaclav Kotesovec _ , Feb 05 2016] ●

[**A109113**] ● 2,14,90,582,3762,24318,157194,1016118,6568290,42458094,274453434,1774094886,11467929618,74129862366,479182963050,3097487365398,20022473081538,129427300585422,836631222757146,5408069238299142 ★ a(n) = 6a(n-1) + 3a(n-2), a(0)=2, a(1)=14. ● a(n) = ((3 + 2sqrt(3)) ^ (n + 1) + (3 - 2sqrt(3)) ^ (n + 1)) / 3. ●

[**A288470**] ● 1,2,14,92,646,4652,34124,253528,1901638,14368844,109208164,833981128,6394017436,49185717752,379438594136,2934361958192,22741538394694,176582855512588,1373431963785332,10698376362421096,83447762846703796,651690159076273192,5095051571420324264,39874449115469939152,312350761370734541596 ★ a(n) = Sum_{k=0..n} binomial(n,k)*binomial(2*n,2*k). ● a(n) = hypergeom([- n, - n,1 / 2 - n],[1 / 2,1], - 1). ●

[**A141146**] ● 0,2,14,96,664,4660,33144,238448,1732112,12685428,93552700,694072720,5176136640,38777105120,291661779920,2201518518240,16670124621472,126586920736564,963723103197516,7354034055776864,56236603567496720 ★ Number of linear arrangements of n blue, n red and n green items such that first and last elements are blue but there are no adjacent items of the same color. ● a(n) = Sum[k=0..[n / 2]] binomial(n - 1,2k) * binomial(2k,k) * binomial(n - 1 + k,k + 1) * 2 ^ (n - 1 - 2k) ●

[**A286445**] ● 0,2,14,97,398,1290,3366,7731,15888,30248,53850,91147,147496,230290,348148,512457,736204,1035986,1430420,1942691,2598470,3429064,4468784,5758755,7343670 ★ Number of non-equivalent ways to tile an n X n X n triangular area with three 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-12) of 1 X 1 X 1 tiles. ● a(n) = (n ^ 6 - 9 * n ^ 5 + 6 * n ^ 4 + 165 * n ^ 3 - 447 * n ^ 2 - 372 * n + 1736) / 36 + IF(MOD(n, 2) = 1, - n ^ 2 + 6 * n - 9) / 2 + IF(MOD(n, 3) = 0, - 2) / 9 for n >= 4. ●

[**A109808**] ● 2,14,98,686,4802,33614,235298,1647086,11529602,80707214,564950498,3954653486,27682574402,193778020814,1356446145698,9495123019886,66465861139202,465261027974414,3256827195820898,22797790370746286,159584532595224002,1117091728166568014 ★ a(n) = 2*7^(n-1). ● a(n) = 2 * 7 ^ (n - 1); a(n) = 7 * a(n - 1) where a(1)=2. ●

[**A037719**] ● 2,14,99,696,4874,34118,238827,1671792,11702546,81917822,573424755,4013973288,28097813018,196684691126,1376792837883,9637549865184,67462849056290,472239943394030,3305679603758211,23139757226307480,161978300584152362,1133848104089066534 ★ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 2,0,1,3. ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4). ● a(n) = 1 / 100 * (- (2 - 11 * i) * (- i) ^ n - (2 + 11 * i) * i ^ n + 29 * 7 ^ n - 25) where i=sqrt(- 1). ●

[**A074620**] ● 2,14,100,728,5392,40544,308800,2377088,18456832,144295424,1134208000,8952731648,70896259072,562816507904,4476410675200,35654557073408,284296086618112,2268726473129984,18115958466150400,144724547815866368 ★ a(n) = 6^n + 8^n. ● a(n) = 14 * a(n - 1) - 48 * a(n - 2) with a(0)=2, a(1)=14. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[**A037726**] ● 2,14,101,708,4958,34706,242945,1700616,11904314,83330198,583311389,4083179724,28582258070,200075806490,1400530645433,9803714518032,68626001626226,480382011383582,3362674079685077,23538718557795540,164771029904568782,1153397209331981474 ★ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 2,0,3,1. ● a(n) = 7 * a(n - 1) + a(n - 4) - 7 * a(n - 5). ● a(n) = 1 / 200 * (- 25 * (- 1) ^ n + (8 + 6 * i) * (- i) ^ n + (8 - 6 * i) * i ^ n + 59 * 7 ^ n - 50) where i=sqrt(- 1). ●

[**A051708**] ● 1,2,14,106,838,6802,56190,470010,3968310,33747490,288654574,2480593546,21400729382,185239360178,1607913963614,13991107041306,122002082809110,1065855419418690,9327252391907790,81744134786314410,717367363052796678,6303080714967178962 ★ Number of ways to move a chess rook from the lower left corner to square (n,n), with the rook moving only up or right. ● a(1)=1; a(2)=2; a(n)=((10 * n - 16) * a(n - 1) - (9 * n - 27) * a(n - 2)) / (n - 1), for n >= 3. - Martin J. Erickson (erickson(AT)truman.edu), Nov 12 2007 ● a(n) is asymptotic to (sqrt(2) / 27) * 9 ^ n / (sqrt(Pi * n)). - Martin J. Erickson, Nov 09 2007 ● a(n + 1) = Sum _{ i=0..n } (C(n - 1,n - i) * Sum _{ k= 0..n } (C(k + i,i) * C(n - 1,n - k))). - _ Vladimir Kruchinin _ , Apr 20 2015 ● a(n) = Sum _{ k=0..n } (k + 1) * C(n - 2,k - 1) * hypergeom([2 + k,2 - n],[2], - 1) for n>=2. - _ Peter Luschny _ , Apr 20 2015 ●

[**A074618**] ● 2,14,106,854,7186,62174,547066,4861094,43437346,389373614,3496550026,31429887734,282673677106,2543086531454,22882895970586,205921649672774,1853172776742466,16677944639119694,150098449994264746 ★ a(n) = 5^n + 9^n. ● a(n) = 14 * a(n - 1) - 45 * a(n - 2) with a(0)=2, a(1)=14. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[**A108436**] ● 2,14,106,862,7378,65550,599002,5594942,53181730,512784142,5003410762,49312114334,490192537586,4909102791694,49482525122490,501626536004734,5111038278845506,52312236295906830,537605889306476074 ★ Number of returns to the x-axis in all paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1), U=(1,2), or d=(1,-1). ● a(n) = 2 + (1 / n) * Sum _{ j=0..n - 2 } (3n - j) * 2 ^ (n - j) * binomial(n, j) * binomial(2n, n - j - 1) / (n + j + 2). ●

[**A111713**] ● 0,1,2,14,108,930,8700,86598,904176,9804516,109624536,1257136130,14726063264,175650153588,2128038439176,26133761328150,324786698542440,4079191750094776,51716838331485472,661227615895716180,8518677674587

163584 ⋆ Number of reduced tree pairs of n-carets. • a(n) = Sum _{ k=1..n } (- 1) ^ (k + n) * binomial(k + 1,n - k) * (binomial(2 * k,k) / (k + 1)) ^ 2. •

[A199560] • 2,14,122,1094,9842,88574,797162,7174454,64570082,581130734,5230176602,47071589414,423644304722,3812798742494,34315188682442,308836698141974,2779530283277762,25015772549499854,225141952945498682 ⋆ (3*9^n+1)/2. • a(n) = 9 * a(n - 1) - 4. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A060468] • 1,2,14,124,1314,15272,187692,2399784,31592878,425363952,5830034720,81072032060,1140994231458,16221323177468,232615054822964,3360682669655028,48870013251334676,714733339229024336 ⋆ Number of fair distributions (equal sum) of the integers {1,..,4n} between A and B = number of solutions to the equation {+-1 +-2 +- 3 ... +-4*n = 0}. • a(n) = coefficient of q ^ 0 in Product _{ k=1..4 * n } (q ^ (- k) + q ^ k). •

[A155650] • 1,2,14,128,1106,9032,70994,543608,4085186,30275912,222009074,1614529688,11664504866,83828316392,599858908754,4277376525368,30411820662146,215703854542472,1526853641242034,10789535445362648 ⋆ 7^n - 6^n + 1. • a(n)=13 * a(n - 1) - 42 * a(n - 2) + 30 with a(0)=1, a(1)=2 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[A073553] • 2,14,134,1334,13334,133334,1333334,13333334,133333334,1333333334,13333333334,133333333334,1333333333334,13333333333334,133333333333334,1333333333333334,13333333333333334,133333333333333334,1333333333333333334,13333333333333333334,133333333333333333334,1333333333333333333334,13333333333333333333334,133333333333333333333334 ⋆ Number of Fibonacci numbers F(k), k <= 10^n, which end in 5. • a(n)=(2 * 10 ^ n + 10) / 15. - _ Robert Gerbicz _ , Sep 06 2002 •

[A196791] • 1,2,14,158,1886,22622,271454,3257438,39089246,469070942,5628851294,67546215518,810554586206,9726655034462,116719860413534,1400638324962398,16807659899548766,201691918794585182,2420303025535022174 ⋆ T(9, n), array T given by A047848. • a(n) = (12 ^ n + 10) / 11; a(0)=1, a(n) = 12 * a(n - 1) - 10. •

[A141012] • 0,2,14,170,2198,28562,371294,4826810,62748518,815730722,10604499374,137858491850,1792160394038,23298085122482,302875106592254,3937376385699290,51185893014090758 ⋆ a(0) = 0, a(n) = 13^(n-1) + 1. • a(n) = 13 * a(n - 1) - 12, n>1. - Vincenzo Librandi, Sep 17 2011 •

[A090300] • 2,14,198,2786,39202,551614,7761798,109216786,1536796802,21624372014,304278004998,4281516441986,60245508192802,847718631141214,11928306344169798,167844007449518386,2361744410637427202 ⋆ a(n) = 14a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 14. • a(n) =14a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 14. a(n) = (7 + sqrt(50)) ^ n + (7 - sqrt(50)) ^ n. (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n=2, 4, 6. ... •

[A242876] • 2,14,384,52362,25309575,49866168063 ⋆ Number of n X n nonograms (hanjie) which can be solved uniquely. • a(n) >= F(n) ^ 2 * a(n - 1), since there are F(n) ways to fill the last row (resp., column) such that the first and last squares are filled and no consecutive squares are unfilled. These configurations can be solved without looking at the other rows or columns and so allow expanding an (n - 1) X (n - 1) configuration to an n X n configuration. Thus a(n) >> phi ^ (n * (n + 1)). (F(n) is the n - th Fibonacci number, A00045.) - _ Charles R Greathouse IV _ , Sep 02 2014 •

[A267711] • 0,1,2,15,16,17,30,31,32,45,46,47,60,61,62,75,76,77,90,91,92,105,106,107,120 ⋆ Numbers n such that n (mod 3) = n (mod 5). • a(n) = 1 / 3 * (15 * n - 12 * cos((2 * pi * n) / 3) + 4 * sqrt(3) * sin((2 * pi * n) / 3) - 27). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Colin Barker _ , Jan 28 2016 •

[A041797] • 1,2,15,17,49,164,213,590,803,15847,16650,49147,65797,246538,558873,805411,6196750,13198911,534153190,1081505291,8104690227,9186195518,26477081263,88617439307,115094520570 ⋆ Denominators of continued fraction convergents to sqrt(419). • a(n) = 540349940 * a(n - 18) - a(n - 36) for n >35. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A041289] • 1,1,2,15,17,100,217,317,534,851,1385,3621,19490,23111,181267,204378,385645,9459858,9845503,19305361,144983030,164288391,966424985,2097138361,3063563346 ⋆ Denominators of continued fraction convergents to sqrt(157). • a(n) = 9664236 * a(n - 17) + a(n - 34) for n>33. [_ Bruno Berselli _ , Dec 14 2013] •

[A042685] • 1,1,2,15,17,236,253,2007,2260,4267,249746,254013,503759,3780326,4284085,59473431,63757516,505776043,569533559,1075309602,62937490475,64012800077,126950290552,952664833941,1079615124493 ⋆ Denominators of continued fraction convergents to sqrt(872). • a(n) = 252006 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A169597] • 2,15,21,34,40,53,59,72,78,91,97,110,116,129,135,148,154,167,173,186,192,205,211,224,230 ⋆ Numbers that are congruent to {2, 15} mod 19. • a(n) = (38 * n + 7 * (- 1) ^ n - 23) / 4. - _ Vincenzo Librandi _ , Jan 06 2013 , modified Jul 07 2015 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Jan 06 2013 •

[A175828] • 1,2,15,26,53,74,115,146,201,242,311,362,445,506,603,674,785,866,991,1082,1221,1322,1475,1586,1753 ⋆ a(n) = (n*(6*n+1)+(n+2)*(-1)^n)/2. • a(n) - a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) + a(n - 4) - a(n - 5) = 0 for n>4. •

[A153080] • 2,15,28,41,54,67,80,93,106,119,132,145,158,171,184,197,210,223,236,249,262,275,288,301,314 ⋆ a(n) = 13*n + 2. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 25 2012 •

[A212975] • 1,2,15,28,65,102,175,248,369,490,671,852,1105,1358,1695,2032,2465,2898,3439,3980,4641,5302,6095,6888,7825 ⋆ Number of (w,x,y) with all terms in {0,...,n} and even range. • a(n) = (n + 1) * (2 * n * (n + 2) + 3 * (- 1) ^ n + 1) / 4. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A128828] • 1,2,15,28,65,120 ⋆ The number of regular hexagons found by constructing n equally-spaced points on each side of the hexagon and drawing lines parallel to the hexagon side. • a(n) = (11 * n ^ 4 + 78 * n ^ 3 + 1413 * n ^ 2 - 2322 * n + 324) / 324 when n = 3k, •

[A243469] • 1,2,15,32,239,510,3809,8128,60705,129538,967471,2064480,15418831,32902142,245733825,524369792,3916322369,8357014530,62415424079,133187862688,994730462895,2122648788478,15853271982241,33829192752960,252657621252961 ⋆ Denominators of the rational convergents to the periodic continued fraction 1/(2 + 1/(7 + 1/(2 + 1/(7 + ...)))). • a(2 * n + 1) = product { k = 1..n } (14 + 4 * cos ^ 2(k * Pi / (2 * n + 1)); • a(2 * n) = 2 * product { k = 1..n - 1 } (14 + 4 * cos ^ 2(k * Pi / (2 * n)). •

[A295367] • 1,2,15,37,82,161,299,532,921,1563,2616,4335,7133,11692,19097,31095,50534,82009,132963,215434,348903,564889,914392,1479931,2395025 ⋆ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1)*b(n-2), where a(0) = 1, a(1) = 2, b(0) = 3, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[A180223] • 0,2,15,39,74,120,177,245,324,414,515,627,750,884,1029,1185,1352,1530,1719,1919,2130,2352,2585,2829,3084 ⋆ a(n) = (11*n^2 - 7*n)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with n>2. - _ Bruno Berselli _ , Aug 19 2010 •

[A033568] • 1,2,15,40,77,126,187,260,345,442,551,672,805,950,1107,1276,1457,1650,1855,2072,2301,2542,2795,3060,3337 ⋆ Second pentagonal numbers with odd index: (2*n-1)*(3*n-1). • a(n) = a(n - 1) + 12 * n - 11 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 17 2010 •

[A249997] • 1,2,15,40,221,702,3355,11780,52041,193402,817895,3138720,12953461,50618102,206059635,813476860,3286192481,13047914802,52482224575,209057202200,838843897101,3347530323502,13413657088715,53584020970740,214547906035321 ⋆ Expansion of 1/((1-x)*(1+3*x)*(1-4*x)). • a(n) = (- 1) ^ n * 3 ^ (n + 2) / 28 + 4 ^ (n + 2) / 21 - 1 / 12. - _ R. J. Mathar _ , Jan 09 2015 •

[A254856] • 1,2,15,40,377,1026,9775,26624,253761,691186,6587999,17944200,171034201,465858002,4440301215,12094363840,115276797377,313987601826,2992756430575,8151583283624,77696390397561,211627177772386,2017113393905999,5494155038798400 ⋆ Indices of centered heptagonal numbers (A069099) that are also octagonal numbers (A000567). • a(n) = a(n - 1) + 26 * a(n - 2) - 26 * a(n - 3) - a(n - 4) + a(n - 5). •

[A162256] • 2,15,45,98,180,297,455,660,918,1235,1617,2070,2600,3213,3915,4712,5610,6615,7733,8970,10332,11825,13455,15228,17150 ⋆ (2n^3 + 5n^2 - 3n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 04 2012 •

[A256328] • 0,2,15,47,108,206,351,551,816,1154,1575,2087,2700,3422,4263,5231,6336,7586,8991,10559,12300,14222,16335,18647,21168 ⋆ Number of partitions of 6n into exactly 4 parts. • a(n) = (- 1 + (- 1) ^ n + 6 * n ^ 2 + 12 * n ^ 3) / 8. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. •

[A041719] • 1,2,15,47,109,265,1699,20653,22352,110061,132413,242474,374887,1367135,5843427,112392248,455412419,1478629505,1934041924,3412671429,5346713353,24799524841,30146238194,386554383169,2349472537208 ⋆ Denominators of continued fraction convergents to sqrt(379). • a(n) = 25882394441081380 * a(n - 30) - a(n - 60) for n>59. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A290631] • 2,15,50,119,234,407,650,975,1394,1919,2562,3335,4250,5319,6554,7967,9570,11375,13394,15639,18122,20855,23850,27119,30674 ⋆ a(n) = (n^2 + 1) * (2n - 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 4. •

[A007972] • 2,15,52,129,266,487,820,1297,1954,2831,3972,5425,7242,9479,12196,15457,19330,23887,29204,35361,42442,50535,59732,70129,81826 ⋆ Number of permutations that are 2 "block reversals" away from 12...n. • a(n) = (n ^ 4 + 6 * n ^ 3 + 11 * n ^ 2 - 12 * n + 6) / 6 (conjectured). - _ Giovanni Resta _ , Jun 08 2015 •

[A015520] • 0,1,2,15,52,269,1110,5179,22568,102105,452458,2028071,9033180,40375141,180115262,804357075,3589982032,16027891889,71545586130,319397983039,1425797413508,6364972640445,28413716829478 ⋆ a(n) = 2*a(n-1) + 11*a(n-2), a(0) = 0, a(1) = 1. • a(n) = 2 * a(n - 1) + 11 * a(n - 2). • a(n) = Sum _{ k=0..n } binomial(n, 2 * k + 1) * 12 ^ k. - _ Paul Barry _ , Sep 29 2004 • a(n) = 11 ^ n * (A ^ n - B ^ n) / (4 * sqrt(3)) where A = 1 / (2 * sqrt(3) - 1) and B = - 1 / (2 * sqrt(3) + 1). (End) • a(n) = (Ap ^ n - Am ^ n) / (Ap - Am), where Ap = 1 + 2 * sqrt(3) and Am = 1 - 2 * sqrt(3). (Binet - de Moivre type formula.) This coincides with the preceding formula. - _ Wolfdieter Lang _ , Feb 17 2018 •

[A098520] • 0,1,2,15,52,285,1206,6027,27560,134073,633130,3062279,14676828,71045845,343195230,1665555075,8084777040,39343835505,191627687250,934855945215,4565076327300,22318461756045,109211684822790,534907610833275,2621997452787192 ⋆ E.g.f. exp(x)*BesselI(1,4*x)/2. • a(n)=sum { k=0..floor(n / 2), binomial(n, k)binomial(n - k, k + 1)4 ^ k } . • a(n) = 2 ^ (n - 1) * GegenbauerC(n - 1, - n, - 1 / 4). - _ Peter Luschny _ , May 08 2016 •

[A056078] • 0,0,2,15,54,141,306,588,1036,1710,2682,4037,5874,8307,11466,15498,20568,26860,34578,43947,55214,68649,84546,103224,125028 ⋆ Number of proper T_1-hypergraphs with 3 labeled nodes and n hyperedges. • a(n) = C(n + 5,5) - 6 * C(n + 3,3) + 6 * C(n + 2,2) + 3 * C(n + 1,1) - 6 * C(n,0). • a(n + 1) = (n ^ 4 + 20 * n ^ 3 + 35 * n ^ 2 - 140 * n + 84) * n / 120. • a(n) = (- 240 + 394 * n - 135 * n ^ 2 - 35 * n ^ 3 + 15 * n ^ 4 + n ^ 5) / 120. •

[A126019] • 1,2,15,58,239,954,3823,15290,61167,244666,978671,3914682,15658735,62634938,250539759,1002159034,4008636143,16034544570,64138178287,256552713146,1026210852591,4104843410362,16419373641455,65677494565818 ★ a(0)=1, a(1)=2; for n>1, a(n)=3*a(n-1)+4*a(n-2)+5. • a(n)=(28 * 4 ^ n + 27(- 1) ^ n - 25) / 30, n=0,1,.. . G.f. = (1 - 2 * x + 6 * x ^ 2) / (1 - 4 * x - x ^ 2 + 4 * x ^ 3). •

[A071237] • 0,2,15,60,170,390,777,1400,2340,3690,5555,8052,11310,15470,20685,27120,34952,44370,55575,68780,84210,102102,122705,146280,173100 ★ n*(n+1)*(2*n+9)/6. • a(0) = 0, a(1) = 2; for n >= 2, a(n) = ceiling(n ^ 5 / (2 * n - 2)) - 1. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4, a(0)=0, a(1)=2, a(2)=15, a(3)=60, a(4)=170. [_ Yosu Yurramendi _ , Sep 03 2013] •

[A006470] • 2,15,60,175,420,882,1680,2970,4950,7865,12012,17745,25480,35700,48960,65892,87210,113715,146300,185955,233772,290950,358800,438750,532350 ★ Number of rooted planar maps. • a(n) = (n + 1) * binomial(n + 3, 4). • a(n) = C(n + 2, 2) * C(n + 4, 3) / 2; G.f.: x * (2 + 3 * x) / (1 - x) ^ 6. - _ Zerinvary Lajos _ , Dec 14 2005 • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = n * (n + 1) ^ 2 * (n + 2) * (n + 3) / 24. (End) •

[A084169] • 0,1,2,15,60,319,1470,7267,34680,168435,810898,3921103,18918900,91381991,441150502,2130258075,10285325040,49663079099,239791814010,1157823924167,5590452446700,26993130847215,130334271942158 ★ A Pell Jacobsthal product. • a(n) = ((sqrt(2) + 1) ^ n * (2 ^ n - (- 1) ^ n) - (sqrt(2) - 1) ^ n * ((- 2) ^ n - 1)) * sqrt(2) / 12. •

[A267596] • 1,2,15,63,255,1023,4095,16383,65535,262143,1048575,4194303,16777215,67108863,268435455,1073741823,4294967295,17179869183,68719476735,274877906943,1099511627775,4398046511103,17592186044415,70368744177663,281474976710655 ★ Decimal representation of the n-th iteration of the "Rule 173" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. • a(n) = 4 ^ n - 1 for n>1. - _ Colin Barker _ , Nov 25 2016 •

[A176972] • 2,15,64,365,2430,16843,117692,823593,5764858,40353671,282475320,1977326821,13841287286,96889010499,678223072948,4747561510049,33232930569714,232630513987327,1628413597910576,11398895185373277 ★ 7^n + 7n + 1. • a(n) = 7 * a(n - 1) - 42 * (n - 1) + 1, with n>0. For n=5, a(5)=7 * 2430 - 42 * 4 + 1=16843. [From _ Bruno Berselli _ , May 18 2010] • a(n) = + 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). G.f.: (- 2 + 3 * x + 41 * x ^ 2) / ((7 * x - 1) * (x - 1) ^ 2). [From _ R. J. Mathar _ , May 22 2010] •

[A091135] • 2,15,69,252,804,2349,6455,16962,43086,106587,258153,614520,1441928,3342489,7667883,17432766,39321810,88080615,196083965,434110740,956301612,2097152325,4580180319,9965666682,21609054614 ★ Number of Dyck paths of semilength n+4, having exactly two long ascents (i.e., ascents of length at least two). • a(n) = (n ^ 2 + 9n + 20) / 2 + 2 ^ (n + 1) * (n ^ 2 + 3n - 4) . •

[A099743] • 0,0,2,15,75,313,1179,4161,14051,45993,147195,463345,1440723,4438905,13582955,41350977,125404611,379228489,1144370139,3447856017,10375942835,31198607385,93749962827,281584384225,845476670115 ★ Number of permutations with exactly 1 valley which avoid the pattern 1324. • a(n) = - 7 * 2 ^ (n - 3) + 3 ^ n - 9 * 2 ^ (n - 4) * n - 2 ^ (n - 4) * n ^ 2. • a(n) = 9 * a(n - 1) - 30 * a(n - 2) + 44 * a(n - 3) - 24 * a(n - 4) for n>4. •

[A283842] • 0,0,0,2,15,75,319,1256,4754,17624,64613,235465,855293,3101198,11233632,40670374,147200107,532681447,1927472251,6974085108,25233326446,91296730996,330318071345,1195108798917,4323957832185 ★ Expansion of x^3*(2-3*x)/((1-x)^2*(1-2*x)*(1-5*x+5*x^2)). • a(n) = 2 - 2 ^ n + (2 ^ (- 1 - n) * (- (5 - sqrt(5)) ^ n * (3 + sqrt(5)) - (- 3 + sqrt(5)) * (5 + sqrt(5)) ^ n)) / sqrt(5) + n. - _ Colin Barker _ , Mar 29 2017 •

[A102289] • 0,1,2,15,76,665,5286,56287,597080,7601841,99702730,1484554511,23049638052,393702612745,7036703742446,135702811542495,2737989749177776,58848546456947297,1321063959370833810,31310238786268648591,773291778432688011260,20031956775840631151481 ★ Total number of odd lists in all sets of lists, cf. A000262. • a(n) = n * a(n - 1) + n ^ 2 * a(n - 2) - (n - 2) ^ 2 * n * a(n - 3). - _ Vaclav Kotesovec _ , Sep 29 2013 •

[A036239] • 0,2,15,80,375,1652,7035,29360,120975,494252,2007555,8120840,32753175,131818052,529680075,2125927520,8525298975,34165897052,136857560595,548011897400,2193792030375,8780400395252,35137296305115,140596265198480 ★ Number of 2-element intersecting families of an n-element set; number of 2-way interactions when 2 subsets of power set on {1..n} are chosen at random. • a(n) = 1 / 2 * (4 ^ n - 3 ^ n - 2 ^ n + 1). • a(n) = 3 * StirlingS2(n + 1,4) + 2 * StirlingS2(n + 1,3). - _ Ross La Haye _ , Jan 10 2008 • a(0)=0, a(1)=2, a(2)=15, a(3)=80, a(n)=10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). •

[A002740] • 0,0,0,2,15,84,420,1980,9009,40040,175032,755820,3233230,13728792,57946200,243374040,1017958725,4242920400,17631691440,73078721100,302202005490,1247182879800,5137916074200,21132472200840,86794082253450 ★ Number of tree-rooted bridgeless planar maps with two vertices and n faces. • a(n + 3) = (2 * (n + 2))! / (2 * n! * (n + 3)!). - _ Wolfdieter Lang _ • a(n + 2) = Sum _{ k=0..n } k * binomial(k + n, k). - _ Benoit Cloitre _ , Oct 25 2003 • a(n) = Sum _{ k=2..n } Sum _{ j=1..n } binomial(2 * n,n) / (2 * (n + 1)), n >= 0. - _ Zerinvary Lajos _ , May 09 2007 • a(n) = (n - 2) * binomial(2n - 2, n - 2) / 2 + 0 ^ n. - _ Wesley Ivan Hurt _ , Sep 24 2014 •

[A178750] • 0,0,2,15,84,431,2167,10847,54249,271262,1356331,6781678,33908414,169542094,847710496,4238552509,21192762578,105963812925,529819064661,2649095323341,13245476616743,66227383083756,331136915418825,1655684577094172,8278422885470908 ★ Partial sums of floor(5^n/9). • a(n) = round((5 * 5 ^ n - 18 * n - 18) / 36). • a(n) = floor((5 * 5 ^ n - 18 * n - 5) / 36). • a(n) = ceil((5 * 5 ^ n - 18 * n - 31) / 36). • a(n) = a(n - 6) + 434 * 5 ^ (n - 5) - 3 , n>6. • a(n) = 7 * a(n - 1) - 11 * a(n - 2) + 4 * a(n - 3) + 7 * a(n - 4) - 11 * a(n - 5) + 5 * a(n - 6), n>5. •

[A108475] • 1,2,15,84,493,2870,16731,97512,568345,3312554,19306983,112529340,655869061,3822685022,22280241075,129858761424,756872327473,4411375203410,25711378892991,149856898154532,873430010034205,5090723162050694,29679098262269963 ★ Expansion of (1-3*x) / (1-5*x-5*x^2+x^3). • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3). • a(n) = sum { k=0..n, sum { j=0..n, C(2(n - k), j)C(2 * k, j)2 ^ j }} . • a(n) = (4 * (- 1) ^ n - (3 - 2 * sqrt(2)) ^ n * (- 2 + sqrt(2)) + (2 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 8. - _ Colin Barker _ , Nov 04 2016 •

[A153445] • 2,15,86,634,3956,18549,69065 ★ Take n points in general position in space; draw all planes through all triples of these points; sequence gives number of connected regions formed. • a(n)=1 + (n ^ 9 - 9n ^ 8 + 6n ^ 7 + 180n ^ 6 - 663n ^ 5 + 369n ^ 4 + 3536n ^ 3 - 8964n ^ 2 + 2952n) / 1296 •

[A275794] • 2,15,88,513,2990,17427,101572,592005,3450458,20110743,117214000,683173257,3981825542,23207779995,135264854428,788381346573,4595023225010,26781758003487,156095524795912,909791390771985,5302652819835998,30906125528244003 ★ One half of the y members of the positive proper solutions (x = x1(n), y = y1(n)) of the first class for the Pell equation x^2 - 2*y^2 = +7^2. • a(n) = 6 * a(n - 1) - a(n - 2) for n >= 1, with a(- 1) = - 3 and a(0) = 2. • a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 9 + 4 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (9 + 4 * sqrt(2)))) / (4 * sqrt(2)). - _ Colin Barker _ , Sep 28 2016 •

[A258390] • 2,15,98,630,4092,27027,181610,1239810,8582756,60138078,425800564,3042175500,21906338040,158830645635,1158564772890,8496271312650,62604582047700,463275674416170,3441483002640540,25654715940496500,191852749820189640,1438895966711035950 ★ Number of 2n-length strings of balanced parentheses of exactly 2 different types that are introduced in ascending order. • a(n) = (2 * n - 1) * (6 * n * a(n - 1) - 8 * (2 * n - 3) * a(n - 2)) / (n * (n + 1)) for n>2, a(2)=2, a(n)=0 for n<2. •

[A081018] • 0,2,15,104,714,4895,33552,229970,1576239,10803704,74049690,507544127,3478759200,23843770274,163427632719,1120149658760,7677619978602,52623190191455,360684711361584,2472169789339634,16944503814015855,116139356908771352,796030994547383610 ★ (Lucas(4n+1)-1)/5, or Fibonacci(2n)*Fibona or A081017/5. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = F(3) + F(7) + F(11) + ... + F(4n + 3). • a(n) = - (1 / 5) + (1 / 10) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n - (1 / 10) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n * sqrt(5) + (1 / 10) * sqrt(5) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n + (1 / 10) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Oct 06 2008 •

[A006675] • 0,0,2,15,104,770,6264,56196,554112,5973264,69998400,886897440,12089295360,176484597120,2748022986240,45472329504000,796983880089600,14751208762214400,287543058350284800 ★ Number of paths through an array. • a(n) = n * n! * (H[n] - 1), H[n] = sum[k=1..n] k ^- 1. •

[A037733] • 2,15,105,738,5168,36177,253239,1772676,12408734,86861139,608027973,4256195814,29793370700,208553594901,1459875164307,10219126150152,71533883051066,500737181357463,3505160269502241 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 2,1,0,3. • a(n) = 7a(n - 1) + a(n - 4) - 7a(n - 5). •

[A037492] • 2,15,107,750,5252,36765,257357,1801500,12610502,88273515,617914607,4325402250,30277815752,211944710265,1483612971857,10385290803000,72697035621002,508879249347015,3562154745429107 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. • a(n) = 7a(n - 1) + a(n - 2) - 7a(n - 3). •

[A037740] • 2,15,108,756,5294,37059,259416,1815912,12711386,88979703,622857924,4360005468,30520038278,213640267947,1495481875632,10468373129424,73278611905970,512950283341791,3590651983392540 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 2,1,3,0. • a(n) = 7 * a(n - 1) + a(n - 4) - 7 * a(n - 5). - _ Charles R Greathouse IV _ , Jan 16 2011 • a(n) = (63 * 7 ^ n + (7 - (- 1) ^ n) * (25 + 2 * i ^ (n * (n + 1))) - 225) / 200, where i=sqrt(- 1). - Bruno Berselli, Sep 19 2011 •

[A154635] • 1,2,15,108,774,5544,39708,284400,2036952,14589216,104492016,748400832,5360254560,38391631488,274971524544,1969422407424,14105550112128,101027866452480,723589630947072,5182549848861696,37118861005211136,265855588948518912 ★ Ratio of the sum of the bends of the 5-dimensional spheres added in the n-th generation of Apollonian packing to the sum of the bends of the initial configuration of seven mutually tangent spheres. • a(n) = (((4 - sqrt(10)) ^ n * (- 8 + sqrt(10)) + (4 + sqrt(10)) ^ n * (8 + sqrt(10)))) / (12 * sqrt(10)) for n>0. • a(n) = 8 * a(n - 1) - 6 * a(n - 2) for n>2. •

[A162773] • 2,15,110,800,5800,42000,304000,2200000,15920000,115200000,833600000,6032000000,43648000000,315840000000,2285440000000,16537600000000,119667200000000,865920000000000,6265856000000000,45340160000000000 ★ a(n) = ((2+sqrt(5))*(5+sqrt(5))^n + (2-sqrt(5))*(5-sqrt(5))^n)/2. • a(n) = 10 * a(n - 1) - 20 * a(n - 2) for n > 1; a(0) = 2, a(1) = 15. •

[A022026] • 2,15,112,836,6240,46576,347648,2594880,19368448,144568064,1079070720,8054293504,60118065152,448727347200,3349346516992,24999862747136,186601515909120,1392812676284416,10396095346638848,77597512067973120,579195715157229568 ★ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(2,15). • a(n) = sum of the entries in the 2X2 matrix A ^ n where A is the 2X2 matrix [4, 4; 3, 4]. a(n) = (1 + 7 * sqrt(3) / 12) * (4 + 2 * sqrt(3)) ^ n + (1 - 7 * sqrt(3) / 12) * (4 - 2 * sqrt(3)) ^ n. See Desjarlais and Molina. - _ Peter Bala _ , May 03 2014 • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for all n

> 0. - _ M. F. Hasler _ , Feb 10 2016 •

[A074622] • 2,15,113,855,6497,49575,379793,2920695,22542017,174571335,1356217073,10567261335,82560763937,646644824295,5076269583953,39931933598775,314707907280257,2484430327672455,19642812107392433,155514083261229015 ★ a(n) = 7^n + 8^n. • a(n) = 15 * a(n - 1) - 56 * a(n - 2) with a(0)=2, a(1)=15. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A246570] • 1,2,15,116,1001,9322,89363,881376,8860677,90407666,933482527,9731366060,102259648701,1081810639970,11510355762339,123077391281248,1321739147949829,14248409211657754,154118033900091139,1672053762899099700,18189628173538580233,198362957005290443978 ★ G.f.: Sum_{n>=0} x^n / (1-x)^(4*n+1) * [Sum_{k=0..2*n} C(2*n,k)^2 * x^k]^2. • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } C(2 * n - k - j,k) ^ 2 * C(k,j) ^ 2. •

[A074621] • 2,15,117,945,7857,66825,578097,5062905,44726337,397498185,3547250577,31743856665,284606318817,2554926522345,22955156619057,206361317079225,1855841298759297,16694108359111305,150196195253667537 ★ a(n) = 6^n + 9^n. • a(n) = 15 * a(n - 1) - 54 * a(n - 2) with a(0)=2, a(1)=15. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A085228] • 2,15,124,153,1237,1328,1537,1628,1794,13793,14091,14797,15095,15668,17234,17532,18238,18536,19109,20244,20542,21115,22117,164867,165869 ★ Diagonal of array A085205. • a(n) = A085205bi(n, n). •

[A051407] • 2,15,126,1107,9882,88695,797526,7175547,64573362,581140575,5230206126,47071677987,423644570442,3812799539655,34315191073926,308836705316427,2779530304801122,25015772614069935,225141953139208926,2026277577090618867,18236498190328785402 ★ a(n) = 3^n*(3^(n+1)+1)/2. • a(n) = 12 * a(n - 1) - 27 * a(n - 2) for n>1. •

[A196792] • 1,2,15,184,2381,30942,402235,5229044,67977561,883708282,11488207655,149346699504,1941507093541,25239592216022,328114698808275,4265491084507564,55451384098598321,720867993281778162,9371283912663116095 ★ a(n)=T(10,n), array T given by A047848. • a(n) = (13 ^ n + 11) / 12; a(0) =1, a(n) = 13 * a(n - 1) - 11. •

[A078365] • 2,15,223,3330,49727,742575,11088898,165590895,2472774527,36926027010,551417630623,8234338432335,122963658854402,1836220544383695,27420344506901023,409468947059131650 ★ A Chebyshev T-sequence with Diophantine property. • a(n)=15 * a(n - 1) - a(n - 2), n >= 1; a(- 1)=15, a(0)=2. • a(n) = ap ^ n + am ^ n, with ap := (15 + sqrt(221)) / 2 and am := (15 - sqrt(221)) / 2. • a(n)=(15 / 2) * [15 / 2 + (1 / 2) * sqrt(221)] ^ n - (1 / 2) * [15 / 2 + (1 / 2) * sqrt(221)] ^ n * sqrt(221) + (1 / 2) * sqrt(221) * [15 / 2 - (1 / 2) * sqrt(221)] ^ n + (15 / 2) * [15 / 2 - (1 / 2) * sqrt(221)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 19 2008 •

[A090301] • 2,15,227,3420,51527,776325,11696402,176222355,2655031727,40001698260,602680505627,9080209282665,136805819745602,2061167505466695,31054318401746027,467875943531657100,7049193471376602527 ★ a(n) = 15a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 15. • a(n) =15a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 15. a(n) = ((15 + sqrt(229)) / 2) ^ n + ((15 - sqrt(229)) / 2) ^ n, (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2 n) + 2 if n=2, 4, 6.... •

[A217307] • 1,2,16,17,115,121,509,821,3251,4721,5749,22760,25301,41673,142950,173819,291714,920561,1222716,2041709,4450031,8559017,9350687,14295199,31150219 ★ Minimal natural number (in decimal representation) with n prime substrings in base-7 representation (substrings with leading zeros are considered to be nonprime). • a(n) > 7 ^ floor(sqrt(8 * n - 7) - 1) / 2), for n>0. • a(n) <= (7 ^ n - 1) / 3, n>0. • a(n + 1) <= 7 * a(n) + 2. •

[A022370] • 2,16,18,34,52,86,138,224,362,586,948,1534,2482,4016,6498,10514,17012,27526,44538,72064,116602,188666,305268,493934,799202 ★ Fibonacci sequence beginning 2, 16. • a(n) = 2 * (Fibonacci(n + 2) + 6 * Fibonacci(n)) . - _ G. C. Greubel _ , Aug 27 2017 •

[A228158] • 2,16,22,176,222,1776,2222,17776,22222,177776,222222,1777776,2222222,17777776,22222222,177777776,222222222,1777777776,2222222222,17777777776,22222222222,177777777776,222222222222,1777777777776,2222222222222 ★ Numbers n such that the cardinality of (natural numbers <=n with a first digit of 1) = n/2 • a(n) for odd values of n is simply "2" repeated (n + 1) / 2 times (sum as i=1 - >(n / 2) of 10 ^ (i - 1)) For even values of n, it's a(n - 1) * 8 •

[A212765] • 0,1,2,16,24,81,108,256,320,625,750,1296,1512,2401,2744,4096,4608,6561,7290,10000,11000,14641,15972,20736,22464 ★ Number of (w,x,y,z) with all terms in {0,...,n}, w even and x, y, and z odd. • a(n)=a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n)=((2 * n ^ 4 + 6 * n ^ 3 + 6 * n ^ 2 + 4 * n + 1) - (2 * n ^ 3 + 6 * n ^ 2 + 4 * n + 1) * (- 1) ^ n) / 32. - _ Luce ETIENNE _ , Apr 05 2014 •

[A120069] • 1,2,16,32,128,256,4096,8192,32768,65536,524288,1048576,4194304,8388608,268435456,536870912,2147483648,4294967296,34359738368,68719476736,274877906944,549755813888,8796093022208 ★ Denominators of partial sums of a convergent series involving scaled Catalan numbers A000108. • a(n) =denominator(r(n)) with the rationals r(n) defined above. •

[A166154] • 2,16,37,65,100,142,191,247,310,380,457,541,632,730,835,947,1066,1192,1325,1465,1612,1766,1927,2095,2270 ★ 7*n*(n+1)/2 - 5. • a(n) = a(n - 1) + 7 * n = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A211620] • 0,2,16,38,76,122,184,254,340,434,544,662,796,938,1096,1262,1444,1634,1840,2054,2284,2522,2776,3038,3316 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and -1<=2w+x+y<=1. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. • a(n) = 6 * n ^ 2 - 6 * n + 4 for n>0 and even. • a(n) = 6 * n ^ 2 - 6 * n + 2 for n odd. •

[A139267] • 0,2,16,42,80,130,192,266,352,450,560,682,816,962,1120,1290,1472,1666,1872,2090,2320,2562,2816,3082,3360 ★ Twice octagonal numbers: 2*n*(3*n-2). • a(n) = 12 * n + a(n - 1) - 10, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 •

[A254855] • 1,2,16,43,407,1108,10558,28757,274093,746566,7115852,19381951,184738051,503184152,4796073466,13063405993,124513172057,339145371658,3232546400008,8804716257107,83921693228143,228583477313116,2178731477531702,5934365693883901 ★ Indices of octagonal numbers (A000567) that are also centered heptagonal numbers (A069099). • a(n) = a(n - 1) + 26 * a(n - 2) - 26 * a(n - 3) - a(n - 4) + a(n - 5). •

[A220250] • 2,16,48,256,928,4096,15872,65536,259584,1048576,4182016,16777216,67051520,268435456,1073479680,4294967296,17178689536,68719476736,274872664064,1099511627776,4398023442432,17592186044416,70368643514368 ★ Sum of neighbor maps: number of nX2 binary arrays indicating the locations of corresponding elements equal to the sum mod 3 of their king-move neighbors in a random 0..2 nX2 array • a(n) = 4 ^ n - 2 ^ (n - 2) * (n + 1) * (1 - (- 1) ^ n). - _ Vaclav Kotesovec _ , Jul 06 2013 •

[A295906] • 2,16,50,104,178,272,386,520,674,848,1042,1256,1490,1744,2018,2312,2626,2960,3314,3688,4082,4496,4930,5384,5858 ★ Number of (not necessarily maximum) cliques in the n X n king graph. • a(n) = 2 * (5 * n ^ 2 - 8 * n + 4). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A090453] • 2,16,51,118,230,402,651,996,1458,2060,2827,3786,4966,6398,8115,10152,12546,15336,18563,22270,26502,31306,36731,42828,49650 ★ Third column (m=4) of array A090452. • a(n)= (n + 1) * (n ^ 3 + 15 * n ^ 2 + 56 * n + 24) / 12. •

[A033431] • 0,2,16,54,128,250,432,686,1024,1458,2000,2662,3456,4394,5488,6750,8192,9826,11664,13718,16000,18522,21296,24334,27648 ★ a(n) = 2*n^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Aug 25 2014 •

[A107610] • 2,16,56,190,556,1821,4928,14136,39017,107405,291330,791513,2148323,5797898,15726486,42605113,115371428,312629484,847000031,2295700537,6223257066,16874397811,45764114391,124142354193,336811260666 ★ Least number n such that n divided by Pi(n) rounded is greater than any previous n. • a(n) = round(n / Pi(n)). •

[A091914] • 1,2,16,56,304,1280,6208,27776,130048,593408,2747392,12615680,58200064,267788288,1233977344,5681414144,26170556416,120518082560,555082842112,2556382674944,11773759455232,54224111009792,249733335482368 ★ a(n) = 2*a(n-1) + 12*a(n-2). • a(n) = ((1 + sqrt(13)) * (1 + sqrt(13)) ^ n - (1 - sqrt(13)) * (1 - sqrt(13)) ^ n) / (2 * sqrt(13)). • a(n) = Sum _{ k=0..floor(n / 2) } C(n + 1,2 * k + 1) * 13 ^ k. - _ Paul Barry _ , Jan 15 2007 •

[A152665] • 0,1,2,16,60,540,3024,32256,241920,3024000,28512000,410572800,4670265600,76281004800,1017080064000,18598035456000,284549942476800,5762136335155200,99527809425408000,2211729098342400000 ★ Number of leading even entries in all permutations of {1,2,...,n} (see example). • a(2n + 1) = n(2n + 1)! / (n + 2); • a(2n) = n(2n)! / (n + 1). •

[A212899] • 0,0,0,2,16,62,186,456,962,1818,3162,5156,7986,11862,17018,23712,32226,42866,55962,71868,90962,113646,140346,171512,207618 ★ Number of (w,x,y,z) with all terms in {0,...,n} and (least gapsize)>2. • a(n)=5 * a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) + 5 * a(n - 4) - a(n - 5) for n>=9. •

[A076616] • 0,0,0,2,16,64,208,608,1664,4352,11008,27136,65536,155648,364544,843776,1933312,4390912,9895936,22151168,49283072,109051904,240123904,526385152,1149239296 ★ Number of permutations of {1,2,...,n} that result in a binary search tree (when elements of the permutation are inserted in that order) of height n-1 (i.e., the second largest possible height). • a(n) = 2 ^ (n - 3) * (n ^ 2 - n - 4) for n>2. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3) for n>5. •

[A035598] • 0,2,16,66,192,450,912,1666,2816,4482,6800,9922,14016,19266,25872,34050,44032,56066,70416,87362,107200,130242,156816,187266,221952 ★ Number of points of L1 norm 4 in cubic lattice Z^n. • a(n) = 2 * n ^ 2 * (n ^ 2 + 2) / 3. - _ Frank Ellermann _ , Mar 16 2002 •

[A167566] • 2,16,67,202,497,1064,2058,3684,6204,9944,15301,22750,32851,46256,63716,86088,114342,149568,192983,245938,309925,386584,477710,585260,711360 ★ The third left hand column of triangle A167565. • a(n) = (7 * n ^ 5 - 30 * n ^ 4 + 45 * n ^ 3 - 30 * n ^ 2 + 8 * n) / 5!. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) - 5 * a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) + 5 * a(n - 4) - a(n - 5) = 7. (End) •

[A007758] • 0,2,16,72,256,800,2304,6272,16384,41472,102400,247808,589824,1384448,3211264,7372800,16777216,37879808,84934656,189267968,419430400,924844032,2030043136,4437573632,9663676416 ★ 2^n*n^2. • a(n) = sum(k * 2 ^ k, k = 1..n). - _ Zerinvary Lajos _ , Oct 09 2006 •

[A212897] • 0,0,2,16,74,230,562,1172,2186,3754,6050,9272,13642,19406,26834,36220,47882,62162,79426,100064,124490,153142,186482,224996,269194 ★ Number of (w,x,y,z) with all terms in {0,...,n} and (least gapsize)>1. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>=7. • a(n) = n ^ 4 - 5 * n ^ 3 + 12 * n ^ 2 - 16 * n + 10 with n>1, a(0)=a(1)=0. [_ Bruno Berselli _ , Jun 12 2012] •

[A289837] • 1,1,2,16,76,261,757,2003,5035,12286,29426,69554,162670,376923,865971,1973941,4466853,10040524,22430584,49829116,110127536,242254321,530619937,1157676711,2516640751 ★ Number of cliques in the n-tetrahedral graph. • a(n) = 1 + binomial(n,3) + (2 ^ (n - 2) - n + 1) * binomial(n,2) + 5 * binomial(n,4). - _ Andrew Howroyd _ , Jul 18 2017 • a(n) = 11 * a(n - 1) - 52 * a(n - 2) + 138 * a(n - 3) - 225 * a(n - 4) + 231 * a(n - 5) - 146 * a(n - 6) + 52 * a(n - 7) - 8 * a(n - 8). - _ Eric W. Weisstein _ , Jul 21 2017 • a(n)

= (24 - (34 + 3 * 2 ^ n) * n + (67 + 3 * 2 ^ n) * n ^ 2 - 38 * n ^ 3 + 5 * n ^ 4) / 24. •

[A000431] • 0,0,0,2,16,88,416,1824,7680,31616,128512,518656,2084864,8361984,33497088,134094848,536608768,2146926592,8588754944,34357248000,137433710592,549744803840,2199000186880,8796044787712,35184271425536 ★ Expansion of 2*x^3/((1-2*x)^2*(1-4*x)). • a(n) = (4 ^ n - n 2 ^ (n + 1)) / 8 for n >= 1. • a(n) = 2 ^ (n - 2) * (2 ^ (n - 1) - n), n >= 1. - _ Daniel Forgues _ , Feb 24 2015 •

[A253487] • 2,16,90,448,2100,9504,42042,183040,787644,3359200,14226212,59907456,251100200,1048380480,4362680250,18103127040,74934688620,309509877600,1275964023180,5251296336000,21579247511640,88555121603520,362957071241700,1485969577717248 ★ Number of lattice paths of 2*n+2 steps in the first quadrant from (0,0) to (n,n). • a(n) = (4 * n + 4) * (2 * n + 1) * binomial(2 * n, n) / (n + 2). • a(n) = 2 * (n + 5) * (n + 1) * a(n - 1) / (n * (n + 2)) + (8 * n - 4) * a(n - 2) / (n + 2). •

[A214824] • 2,16,91,456,2145,9724,43043,187408,806208,3436720,14545982,61214960,256411935,1069854660,4449173475,18450500640,76326664260,315077780160,1298203997610,5340028714800,21932944632690,89963953083576,368565304248846,1508283816983776 ★ Number of solid standard Young tableaux of shape [[(2^n],[2]]. • a(n) = 2 * (2 * n + 1) * (n ^ 2 + 5 * n + 2) * n / ((n - 1) * (n + 3) * (n ^ 2 + 3 * n - 2)) * a(n - 1); a(1) = 2. •

[A295903] • 2,16,94,293,742,1642,3458,7087,14506,29804,61750,128761,269822,566830,1191898,2505443,5261218,11032048,23094830,48265261,100699222,209756786,436255474,906024343,1879110362 ★ Number of (not necessarily maximum) cliques in the n X n queen graph. • a(n) = 3 * 2 ^ (n + 1) + n * ((- 1) ^ (n + 1) + 2 ^ (n + 2) + n * (9 * n - 26) - 2) / 2 - 5. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 21 * a(n - 4) - 18 * a(n - 5) - 5 * a(n - 6) + 12 * a(n - 7) - 4 * a(n - 8). •

[A002699] • 0,2,16,96,512,2560,12288,57344,262144,1179648,5242880,23068672,100663296,436207616,1879048192,8053063680,34359738368,146028888064,618475290624,2611340115968,10995116277760,46179488366592,193514046488576 ★ a(n) = n*2^(2*n-1). • a(n) = 8 * a(n - 1) - 16 * a(n - 2) with n>1, a(0)=0, a(1)=2. - _ Vincenzo Librandi _ , Mar 20 2013 •

[A005058] • 0,2,16,98,544,2882,14896,75938,384064,1933442,9706576,48650978,243609184,1219108802,6098732656,30503229218,152544843904,762810312962,3814309845136,19072324066658,95363944856224 ★ 5^n - 3^n. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) for n>1, a(0)=0, a(1)=2, . [_ Vincenzo Librandi _ , Jan 24 2011] •

[A082639] • 0,2,16,98,576,3362,19600,114242,665856,3880898,22619536,131836322,768398400,4478554082,26102926096,152139002498,886731088896,5168247530882,30122754096400,175568277047522,1023286908188736 ★ Numbers n such that 2*n*(n+2) is a square. • a(n) = (1 / 2) * (s ^ n + t ^ n) - 1, where s = 3 + 2 * sqrt(2), t = 3 - 2 * sqrt(2). Note: s=1 / t. a(n) = 6 * a(n - 1) - a(n - 2) + 4, a(0)=0, a(1)=2. •

[A032260] • 2,16,102,528,2470,11016,47950,205792,874998,3694920,15519262,64899456,270415262,1123264408,4653525150,19234571968,79342610902,326704870152,1343120023678,5513861152000,22606830725598,92580354402712,378737813468542,1547884976787648 ★ Number of n X n (0,1) matrices such that each row and each column is nondecreasing or nonincreasing. • a(n) = 2 * n * (binomial(2 * n, n) - n). G.f.: 4 * x / (1 - 4 * x) ^ (3 / 2) - 2 * x * (1 + x) / (1 - x) ^ 3. - _ Vladimir Baltic _ and _ Vladeta Jovovic _ , Jul 10 2003 •

[A125725] • 0,2,16,114,800,5602,39216,274514,1921600,13451202,94158416,659108914,4613762400,32296336802,226074357616,1582520503314,11077643523200,77543504662402,542804532636816,3799631728457714,26597422099204000 ★ Numbers whose base 7 representation is 222....2. • a(n)=7 * a(n - 1) + 2 (with a(1)=0) [From _ Vincenzo Librandi _ , Sep 30 2010] •

[A162723] • 1,1,2,16,116,676,3452,16276,72956,316276,1340252,5590036,23054396,94314676,383578652,1553331796,6270493436,25253701876,101530450652,407669649556,1635323974076,6555235693876,26262769508252 ★ a(n) = 9 a(n-1)-26 a(n-2) +24 a(n-3) (n >= 3) with a(0) =a(1)=1, a(2)=2. • a(n)=7 * 2 ^ (n - 1) + 3 * 2 ^ (2 * n - 1) - 4 * 3 ^ n. G.f.: - (1 - 8 * x + 19 * x ^ 2) / ((3 * x - 1) * (2 * x - 1) * (4 * x - 1)) [From _ R. J. Mathar _ , Jul 13 2009] •

[A288964] • 0,0,2,16,116,888,7416,67968,682272,7467840,88678080,1136712960,15655438080,230672171520,3621985113600,60392753971200,1065907048550400,19855856150323200,389354639411404800,8017578241634304000,172991656889856000000,3903132531903897600000 ★ Number of key comparisons to sort all n! permutations of n elements by quicksort. • a(n) / n! = 2 * (n + 1) * H(n) - 4 * n. • a(n) = ((2 * n ^ 2 - 3 * n - 1) * a(n - 1) - (n - 1) ^ 2 * n * a(n - 2)) / (n - 2) for n >= 3, a(n) = n * (n - 1) for n<3. - _ Alois P. Heinz _ , Jun 21 2017 •

[A159324] • 0,0,2,16,118,926,7956,75132,777456,8771184,107307360,1416252960,20068629120,304002322560,4903642679040,83928856838400,1519397749094400,29010025797580800,582647327132774400,12280347845905305600,271030782903552000000,6251213902855219200000 ★ n! times the average number of comparisons required by an insertion sort of n (distinct) elements. • a(n) = a(n - 1) * (n) + n! * (n + 1) / 2 - (n - 1)!. • a(n) = n! / 4 * (n ^ 2 + 3 * n - 4 * H(n)), where H(n) = Sum _{ k=1..n } 1 / k. - _ Gary Detlefs _ , Sep 02 2010 • a(n) = ((2 * n ^ 3 - n ^ 2 - 5 * n + 2) * a(n - 1) - (n + 2) * (n - 1) ^ 3 * a(n - 2)) / ((n - 2) * (n + 1)) for n>2. - _ Alois P. Heinz _ , Dec 16 2016 •

[A136782] • 1,2,16,119,934,7463,60145,486605,3943960,31992446,259613953,2107099586,17103200263,138830852135,1126943433241,9147906485462,74257943539984,602788362550355,4893134369283898,39720031331092499,322427514601782961,2617306853237874173 ★ Number of primitive multiplex juggling sequences of length n, base state <2,2> and hand capacity 2. • a(n) = 13 * a(n - 1) - 43 * a(n - 2) + 24 * a(n - 3) + 27 * a(n - 4) for n>4. - _ Colin Barker _ , Aug 31 2016 •

[A022027] • 2,16,127,1008,8000,63492,503904,3999232,31739888,251903488,1999230976,15866888256,125927492096,999423012864,7931916549888,62951622430720,499615287394304,3965194632954880,31469750573916160,249759543441752064,1982215569002196992,15731845549721911296 ★ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(2,16). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for n>0. - _ M. F. Hasler _ , Feb 11 2016 •

[A013730] • 2,16,128,1024,8192,65536,524288,4194304,33554432,268435456,2147483648,17179869184,137438953472,1099511627776,8796093022208,70368744177664,562949953421312,4503599627370496,36028797018963968,288230376151711744 ★ a(n) = 2^(3n+1). • a(n)=8 * a(n - 1), n>0 ; a(0)=2 . G.f.: 2 / (1 - 8x). [From _ Philippe Deléham _ , Nov 23 2008] •

[A037517] • 2,16,129,1034,8272,66177,529418,4235344,33882753,271062026,2168496208,17347969665,138783757322,1110270058576,8882160468609,71057283748874,568458269990992,4547666159927937 ★ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 2,0,1. • a(1)=2, a(2)=16, a(3)=129, a(4)=1034, a(n)=8 * a(n - 1) + a(n - 3) - 8 * a(n - 4). - _ Harvey P. Dale _ , May 09 2015 •

[A022018] • 2,16,129,1040,8385,67604,545057,4394520,35430801,285660700,2303138321,18569044064,149712848033,1207059275044,9731910872129,78463494859944,632611632651505,5100428912583468,41122188953879473,331547494013013232,2673100425407651457 ★ Define the sequence UD(a(0),a(1)) by a(n) is the least integer such that a(n)/a(n-1) > a(n-1)/a(n-2)+1 for even n >= 2 and such that a(n)/a(n-1) > a(n-1)/a(n-2) for odd n>=2. This is UD(2,16). • a(n) = 8 * a(n - 1) + a(n - 2) - 4 * a(n - 3) for n>2. - _ Colin Barker _ , Aug 09 2016 •

[A074623] • 2,16,130,1072,8962,75856,649090,5606512,48811522,427774096,3769259650,33358386352,296270823682,2638754838736,23555015527810,210638693604592,1886253119421442,16909812213653776,151723048894909570 ★ a(n) = 7^n + 9^n. • a(n) = 16 * a(n - 1) - 63 * a(n - 2) with a(0)=2, a(1)=16. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A275636] • 0,2,16,130,1120,9922,88816,797890,7176640,64576642,581150416,5230235650,47071766560,423644836162,3812800336816,34315193465410,308836712490880,2779530326324482,25015772678640016,225141953332919170,2026277577671749600 ★ a(n) = (3^n-1)*(3^n+3)/3!. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3) for n > 2. • a(n) = (2 * 3 ^ n + 9 ^ n - 3) / 6. - _ Colin Barker _ , Aug 10 2016 •

[A199565] • 2,16,142,1276,11482,103336,930022,8370196,75331762,677985856,6101872702,54916854316,494251688842,4448265199576,40034386796182,360309481165636,3242785330490722,29185067974416496,262665611769748462 ★ (7*9^n+1)/4. • a(n) = 9 * a(n - 1) - 2. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A003768] • 2,16,144,1216,10004,82608,682636,5639688,46590712,384898384,3179752720,26268806752,217013752672,1792809557568,14810886647616,122356756509056,1010822390349184,8350678243197184,68987220485229824,569922160991852032 ★ Number of spanning trees with degrees 1 and 3 in W_4 X P_n. • a(1) = 2, a(2) = 16, a(3) = 144, a(4) = 1216, a(5) = 10004, a(6) = 8268, a(7) = 682636, a(8) = 5639688, a(9) = 46590712, a(10) = 384898384, a(11) = 3179752720 and • a(n) = 14 * a(n - 1) - 62 * a(n - 2) + 148 * a(n - 3) - 264 * a(n - 4) + 336 * a(n - 5) - 256 * a(n - 6) + 128 * a(n - 7) - 64 * a(n - 8). •

[A103885] • 2,16,146,1408,14002,142000,1459810,15158272,158611106,1669752016,17664712562,187641279616,2000029880786,21380213588848,229129634462146,2460955893981184,26482855453375042 ★ a(n) = Sum_{i=1..2n} 2^i * C(n,i) * C(2n-1,i-1). • a(n) = [x ^ n] - 1 + (1 / (1 - x - x / (1 - x - x / (1 - x - x / (1 - x - x / (1 - ...)))))) ^ n, a continued fraction. - _ Ilya Gutkovskiy _ , Sep 29 2017 •

[A155659] • 1,2,16,170,1696,15962,144496,1273610,11012416,93864122,791266576,6612607850,54878189536,452866803482,3719823438256,30436810578890,248242046141056,2019169299698042,16385984911571536,132716292890482730 ★ 8^n-7^n+1. • a(n)=15 * a(n - 1) - 56 * a(n - 2) + 42 with a(0)=1, a(1)=2 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A108999] • 1,2,16,170,1856,20082,214864,2282394,24165120,255708578,2708805776,28752157898,305908697152,3262741154194,34882914424528,373781033269306,4013444615232512,43174945822078530,465247083731404048 ★ Main diagonal of square array A108998, in which row n equals the coordination sequence of B_n lattice. • a(n) = Sum _{ j=0..n } C(2 * n - j - 1, n - j) * (C(2 * n + 1, 2 * j) - 2 * n * C(n - 1, j - 1)). •

[A090305] • 2,16,258,4144,66562,1069136,17172738,275832944,4430499842,71163830416,1143051786498,18359992414384,294902930416642,4736806879080656,76083812995707138,1222077814810394864,19629328849962024962 ★ a(n) = 16a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 16. • a(n) =16a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 16. a(n) = (8 + sqrt(65)) ^ n + (8 - sqrt(65)) ^ n. (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n =2, 4, 6.... •

[A119480] • 1,2,17,19,31,38,47,59,61,62,71,94,101,103,107,109,118,122,137,149,151,157,167,181,197 ★ Numbers n such that the Bernoulli number B_{4n} has denominator 30. • a(n) = A051225[n] / 2. •

[A041339] • 1,1,2,17,19,36,955,991,1946,16559,18505,35064,930169,965233,1895402,16128449,18023851,34152300,905983651,940135951,1846119602,15709092767,17555212369,33264305136,882427145905 ★ Denominators of continued fraction convergents to sqrt(183). • a(n) = 974 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 16 2013 •

[**A042925**] • 1,1,2,17,19,36,2251,2287,4538,38591,43129,81720,5109769,5191489,10301258,87601553,97902811,185504364,11599173379,11784677743,23383851122,198855486719,222239337841,421094824560,26330118460561 ★ Denominators of continued fraction convergents to sqrt(994). • a(n) = 2270 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Feb 01 2014 •

[**A086322**] • 2,17,23,167,173,227,233,1667,1733,2267,2273,2333,16673,17327,17333,22727,23327,23333,173267,173273,227267,233267,233327,1732727,2272667 ★ Primes produced by repeated application of the formula p -> (10p +/- 3) starting at the prime 2. • a(n) = (10 * a(n - m)) - 3 or (10 * a(n - m)) + 3 •

[**A267540**] • 2,17,31,47,61,107,137,151,167,181,197,211,227,241,257,271,317,331,347,421,467,541,557,571,587 ★ Primes p such that p (mod 3) = p (mod 5). • a(n) = 1 / 2 * ((- 1) ^ n * (3 * (- 1) ^ n * (10n + 81) - 1)) with (1<n<10) for a(7)...a(16). •

[**A212740**] • 0,1,2,17,32,97,162,337,512,881,1250,1921,2592,3697,4802,6497,8192,10657,13122,16561,20000,24641,29282,35377,41472 ★ Number of (w,x,y,z) with all terms in {0,...,n} and max{w,x,y,z}<2*min{w,x,y,z}. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). • a(n) = 3 * n ^ 2 / 8 + 1 / 16 + n ^ 4 / 8 - (- 1) ^ n / 16 - 3 * (- 1) ^ n * n ^ 2 / 8. - _ R. J. Mathar _ , Jul 01 2013 •

[**A212742**] • 1,2,17,32,97,162,337,512,881,1250,1921,2592,3697,4802,6497,8192,10657,13122,16561,20000,24641,29282,35377,41472,49297 ★ Number of (w,x,y,z) with all terms in {0,...,n} and max{w,x,y,z}<=2*min{w,x,y,z}. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[**A226488**] • 0,2,17,45,86,140,207,287,380,486,605,737,882,1040,1211,1395,1592,1802,2025,2261,2510,2772,3047,3335,3636 ★ a(n) = n*(13*n-9)/2. • a(0)=0, a(1)=2, a(2)=17; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 19 2013 •

[**A023256**] • 2,17,47,61,101,131,151,331,367,461,607,751,937,971,1151,1321,1327,1361,1481,1511,1607,1811,1847,1907,2081 ★ Numbers n such that n remains prime through 2 iterations of function f(x) = 6x + 1. • a(n) == 1 or 7 (mod 10) for n > 1. - _ John Cerkan _ , Sep 14 2016 •

[**A125200**] • 2,17,57,134,260,447,707,1052,1494,2045,2717,3522,4472,5579,6855,8312,9962,11817,13889,16190,18732,21527,24587,27924,31550 ★ n*(4*n^2 + n -1)/2. • a(n)= 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [_ R. J. Mathar _ , Feb 12 2010] •

[**A071402**] • 0,2,17,59,140,273,471,748,1117,1590,2182,2904,3770,4793,5987,7363,8936,10719,12724,14964,17454,20205,23231,26545,30160 ★ Rounded volume of a regular icosahedron with edge length n. • a(n) = round(n ^ 3 * (3 + sqrt (5)) * 5 / 12) •

[**A228641**] • 2,17,59,140,274,473,752,1122,1598,2193,2919,3789,4818,6018,7402,8983,10775,12791,15043,17545,20311,23353,26685,30319,34269 ★ Volume of torus (rounded down) with major radius = n and minor radius = n/3. • a(n) = floor(2 / 9 * Pi ^ 2 * n ^ 3). •

[**A034721**] • 1,2,17,66,169,346,617,1002,1521,2194,3041,4082,5337,6826,8569,10586,12897,15522,18481,21794,25481,29562,34057,38986,44369 ★ (10*n^3 - 9*n^2 + 2*n)/3 + 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 21 2012 •

[**A056074**] • 2,17,71,212,518,1106,2142,3852,6534,10571,16445,24752,36218,51716,72284,99144,133722,177669,232883,301532,386078,489302,614330,764660,944190 ★ Number of 3-element ordered antichain covers of an unlabeled n-element set. • a(n) = C(n + 6, 6) - 6 * C(n + 4, 4) + 6 * C(n + 3, 3) + 3 * C(n + 2, 2) - 6 * C(n + 1, 1) + 2 * C(n, 0). • a(0)=2, a(1)=17, a(2)=71, a(3)=212, a(4)=518, a(5)=1106, a(6)=2142, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jul 12 2011 • a(n) = n * (n ^ 5 + 21 * n ^ 4 - 5 * n ^ 3 - 345 * n ^ 2 + 724 * n - 396) / 720. - _ Charles R Greathouse IV _ , Feb 19 2017 •

[**A060352**] • 2,17,80,323,1214,4373,15308,52487,177146,590489,1948616,6377291,20726198,66961565,215233604,688747535,2195382770,6973568801,22082967872,69735688019,219667417262,690383311397,2165293113020 ★ n*3^n-1. • a(1)=2, a(2)=17, a(3)=80, a(n)=7 * a(n - 1) - 15 * a(n - 2) + 9 * a(n - 3). - _ Harvey P. Dale _ , Dec 14 2012 •

[**A109724**] • 2,17,100,381,1060,2427,4888,8893,15116,24133,36888,54169,77136,106733,144526,191755,249748,320705,406048,507825,627294,768373,931686,1119887,1336090 ★ Sum of the first n^2 primes. • a(n) = n ^ 4 log n. - _ Charles R Greathouse IV _ , Sep 15 2015 •

[**A127533**] • 0,0,0,2,17,100,506,2366,10556,45696,193800,810084,3350479,13748020,56071470,227613750,920540040,3711935040,14932102320,59951235420,240316859250,962056169256,3847193657076,15370712686252,61364157982952 ★ Sum of jump-lengths of all binary trees with n edges. • a(n) = binomial(2 * n + 1,n - 3) + binomial(2 * n,n - 3). •

[**A198796**] • 2,17,107,647,3887,23327,139967,839807,5038847,30233087,181398527,1088391167,6530347007,39182082047,235092492287,1410554953727,8463329722367,50779978334207,304679870005247,1828079220031487 ★ 3*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[**A213785**] • 0,0,2,17,113,693,4123,24234,141738,827298,4824716,28127435,163955435,955642695,5569991317,32464523892,189217679988,1102842830628,6427842380918,37464218883749,218357488856453,1272680757553593,7417727160997231,43233682460792670 ★ a(n) = Sum(P(i)*P(j), 1<=i<j<=n), where P(k) is the k-th Pell number A000129(k). • a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 8 * a(n - 3) + 5 * a(n - 4) - a(n - 5). - _ Vincenzo Librandi _ , Jun 20 2012 •

[**A294271**] • 0,2,17,114,354,1060,2275,4932,8772,15958,25333,41270,60710,91672,127687,182408,243848,333930,432345,572666,722666,931788,1151403,1451980,1763020 ★ Sum of the fourth powers of the parts in the partitions of n into two parts. • a(n) = Sum _{ i=1..floor(n / 2) } i ^ 4 + (n - i) ^ 4. • a(n) = (1 / 480) * (n * (- 16 + 160 * n ^ 2 + 15 * (- 15 + (- 1) ^ n) * n ^ 3 + 96 * n ^ 4)). • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) - 10 * a(n - 4) + 10 * a(n - 5) + 10 * a(n - 6) - 10 * a(n - 7) - 5 * a(n - 8) + 5 * a(n - 9) + a(n - 10) - a(n - 11) for n>11. •

[**A037747**] • 2,17,119,834,5840,40883,286181,2003268,14022878,98160149,687121043,4809847302,33668931116,235682517815,1649777624705,11548443372936,80839103610554,565873725273881,3961116076917167 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 2,3,0,1. • a(n) = 7a(n - 1) + a(n - 4) - 7a(n - 5). •

[**A037754**] • 2,17,120,840,5882,41177,288240,2017680,14123762,98866337,692064360,4844450520,33911153642,237378075497,1661646528480,11631525699360,81420679895522,569944759268657,3989613314880600,27927293204164200 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 2,3,1,0. • a(n) = (1 / 2) * floor(7 ^ (n + 1) / 10). - _ Mircea Merca _ , Dec 27 2010 • a(n) = + 8 * a(n - 1) - 8 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) for n > 4. - _ R. J. Mathar _ , Jan 03 2011 •

[**A291390**] • 2,17,130,940,6550,44475,296250,1944375,12612500,81035000,516537500,3270615625,20591031250,128998328125,804673593750,5000444062500,30969644531250,191231146484375,1177627753906250,7234317013671875,44342955390625000,271252632343750000 ★ a(n) = (1/5)*A291389(n). • a(n) = 10 * a(n - 1) - 15 * a(n - 2) - 50 * a(n - 3) - 25 * a(n - 4) for n >= 5. •

[**A261120**] • 2,17,134,989,7082,50057,351854,2467349,17284562,121031297,847337174,5931714509,41523064442,290664639737,2034662044094,14242663006469,99698727138722,697891348251377,4885240212600614,34196683812727229,239376793662659402,1675637576559322217 ★ The number of distinct triple points in the set of function values FLSN(m/6/7^n), m in 0, 1, 2... 6*7^n, where FLSN:[0,1] is the "flowsnake" plane filling curve. • a(n)= 2 t(n - 1) + 1 / 2 v(n - 1). • a(n) = (7 - 7 * 3 ^ n + 6 * 7 ^ n) / 14. • a(n) = 11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3) for n>3. •

[**A077243**] • 2,17,134,1055,8306,65393,514838,4053311,31911650,251239889,1978007462,15572819807,122604550994,965263588145,7599504154166,59830769645183,471046653007298,3708542454413201,29197292982298310 ★ Bisection (odd part) of Chebyshev sequence with Diophantine property. • a(n)= 8 * a(n - 1) - a(n - 2), a(- 1)= - 1, a(0)=2. • a(n)=[4 - sqrt(15)] ^ n - (3 / 10) * [4 - sqrt(15)] ^ n * sqrt(15) + [4 + sqrt(15)] ^ n + (3 / 10) * sqrt(15) * [4 + sqrt(15)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 08 2008 •

[**A132433**] • 2,17,137,1097,8777,70217,561737,4493897,35951177,287609417,2300875337,18407002697,147256021577,1178048172617,9424385380937,75395083047497,603160664379977,4825285315039817,38602282520318537,308818260162548297,2470546081300386377 ★ a(1) = 2; for n>=2, a(n) = 8*a(n-1) + 1. • a(n) = - 1 / 7 + (15 / 7) * 8 ^ n. - _ Paolo P. Lava _ , Jul 08 2008 • a(n) = 9 * a(n - 1) - 8 * a(n - 2) for n>2. •

[**A037493**] • 2,17,138,1105,8842,70737,565898,4527185,36217482,289739857,2317918858,18543350865,148346806922,1186774455377,9494195643018,75953565144145,607628521153162,4861028169225297 ★ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. • a(n) = 8a(n - 1) + a(n - 2) - 8a(n - 3). •

[**A163066**] • 2,17,142,1177,9722,80177,660742,5443417,44838002,369310097,3041743102,25052304217,206333614442,1699381942577,13996241263222,115274054938777,949405180105442,7819366458163217,64400836914689902,530409682773219097 ★ a(n) = 12*a(n-1) - 31*a(n-2) for n > 1; a(0) = 2, a(1) = 17. • a(n) = ((2 + sqrt(5)) * (6 + sqrt(5)) ^ n + (2 - sqrt(5)) * (6 - sqrt(5)) ^ n) / 2. •

[**A074624**] • 2,17,145,1241,10657,91817,793585,6880121,59823937,521638217,4560526225,39970994201,351149013217,3091621642217,27274838966065,241075504183481,2134495165562497,18928981513351817,168109033806481105 ★ a(n) = 8^n + 9^n. • a(n) = 17 * a(n - 1) - 72 * a(n - 2) with a(0)=2, a(1)=17. - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A245807**] • 2,17,149,1343,12401,116807,1117649,10823543,105764801,1040353607,10282475249,101977326743,1013841287201,10096889010407,100678223072849,1004747561509943,10033232930569601,100232630513987207,1001628413597910449,10011398895185373143 ★ 7^n + 10^n. • a(n) = 17 * a(n - 1) - 70 * a(n - 2). •

[**A126109**] • 2,17,167,1667,16667,166667,1666667,16666667,166666667,1666666667,16666666667,166666666667,1666666666667,16666666666667,166666666666667,1666666666666667,16666666666666667 ★ a(n) = (5*10^n+1)/3. • a(n) = 10 * a(n - 1) - 3. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[**A041879**] • 1,2,17,172,189,361,550,911,1461,2372,3833,6205,65883,533269,1132421,48094951,97322323,826673535,8364057673,9190731208,17554788881,26745520089,44300308970,71045829059,115346138029 ★ Denominators of continued fraction convergents to sqrt(461). • a(n) = 48628220 * a(n - 15) + a(n - 30) for n>29. - _ Vincenzo Librandi _ , Dec 26 2013 •

[**A199751**] • 2,17,182,1997,21962,241577,2657342,29230757,321538322,3536921537,38906136902,427967505917,4707642565082,51784068215897,569624750374862,6265872254123477,68924594795358242,758170542748940657,8339875970238347222 ★ (3*11^n+1)/2. • a(n) = 11 * a(n - 1) - 5. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[**A198287**] • 2,17,272,4667,80702,1397477,24207692,419373647,7265397242,125869473977,2180631250952,37778460128867,654494991508022,11338834542738317,196440265628093252,3403240245856247927,58959623892961901042 ★ Number of 2n X 2 0..3 arrays with values 0..3 introduced in row major order and each element equal to exactly one horizontal and vertical neighbor. • a(n

) = (216 - (11 - 2 * sqrt(10)) ^ n * (- 8 + sqrt(10)) + (8 + sqrt(10)) * (11 + 2 * sqrt(10)) ^ n) / 216. ●

[A078367] ● 2,17,287,4862,82367,1395377,23639042,400468337,6784322687,114933017342,1947076972127,32985375508817,558804306677762,9466687838013137,1603748889395455 67,2716906424134261502 ★ A Chebyshev T-sequence with Diophantine property. ● a(n)=17 * a(n - 1) - a(n - 2), n >= 1; a(- 1)=17, a(0)=2. ● a(n) = ap ^ n + am ^ n, with ap := (17 + sqrt(285)) / 2 and am := (17 - sqrt(285)) / 2. ●

[A090306] ● 2,17,291,4964,84679,1444507,24641298,420346573,7170533039,122319408236,2086600473051,35594527450103,607193567124802,10357885168571737,176691241432844331,3014108989526925364,51416544063390575519 ★ a(n) = 17a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 17. ● a(n) =17a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 17. a(n) = ((17 + sqrt(293)) / 2) ^ n + ((17 - sqrt(293)) / 2) ^ n, (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n=2, 4, 6.... ●

[A122207] ● 2,17,8893,24133,768373,1583293,2180741,3875933,6426919,173472547,289093219,741938801,2738357903,2895147163,3058653607 ★ Primes of the form A109724[n] = A007504[n^2] or the sum of the first n^2 primes. ● a(n) = A109724[A122208[n]] = A007504[A122208[n] ^ 2]. ●

[A231864] ● 0,1,2,18,19,44,45,189,225,274,275,531,532,613,677,1701,1702,2143,2144,2720,2820,2989,2990,4926,5026 ★ Partial sums of the second power of arithmetic derivative function A003415. ● a(n) = sum((i') ^ 2, i=1..n) where i'=A003415. ●

[A022371] ● 2,18,20,38,58,96,154,250,404,654,1058,1712,2770,4482,7252,11734,18986,30720,49706,80426,130132,210558,340690,551248,891938 ★ Fibonacci sequence beginning 2, 18. ● a(n) = 2 * (Fibonacci(n + 2) + 7 * Fibonacci(n)). - _ G. C. Greubel _ , Aug 27 2017 ●

[A266956] ● 1,2,18,21,53,58,106,113,177,186,266,277,373,386,498,513,641,658,802,821,981,1002,1178,1201,1393 ★ Numbers m such that 9*m+7 is a square. ● a(n) = a(- n + 1) = (18 * (n - 1) * n - 7 * (2 * n - 1) * (- 1) ^ n + 1) / 8. ●

[A191461] ● 1,1,1,2,18,24,480,720,23520,100800,1874880,3628800,341953920,479001600,36739422720,468583315200,8960682931200,20922789888000,4289844445286400,6402373705728000,1012647189038284800,18895538930171904000,35037843754423910400 0 ★ E.g.f.: A(x) = Sum_{n>=0} binomial(x^n + n-1, n). ● a(p) = (p - 1)! for prime p. ●

[A139268] ● 0,2,18,48,92,150,222,308,408,522,650,792,948,1118,1302,1500,1712,1938,2178,2432,2700,2982,3278,3588,3912 ★ Twice nonagonal numbers (or twice 9-gonal numbers): a(n) = n(7n-5). ● a(n) = 14 * n + a(n - 1) - 12 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ●

[A048910] ● 1,2,18,49,529,1458,15842,43681,474721,1308962,14225778,39225169,426298609,1175446098,12774732482,35224157761,382815675841,1055549286722,11471695542738,31631254443889,343768050606289,947882084029938,10301569822645922,28404831266454241 ★ Indices of 9-gonal numbers that are also square. ● a(n) = 30 * a(n - 2) - a(n - 4) - 10. ● a(n) = a(n - 1) + 30 * a(n - 2) - 30 * a(n - 3) - a(n - 4) + a(n - 5). ● a(n) = 1 / 56 * ((p - q * (- 1) ^ n) * (2 * sqrt(2) + sqrt(7)) ^ (n - 1) + (p + q * (- 1) ^ n) * (2 * sqrt(2) - sqrt(7)) ^ n + 20). ● a(n) = ceiling (1 / 56 * (p - q * (- 1) ^ n) * (2 * sqrt(2) + sqrt(7)) ^ (n - 1)). ●

[A077591] ● 1,2,18,50,98,162,242,338,450,578,722,882,1058,1250,1458,1682,1922,2178,2450,2738,3042,3362,3698,4050,4418 ★ Maximum number of regions into which the plane can be divided using n (concave) quadrilaterals. ● a(n) = 8 * n ^ 2 - 8 * n + 2 = 2 * (2 * n - 1) ^ 2, n>0, a(0)=1. [It would be nice to have a proof, or even a reference to a proof. - _ N. J. A. Sloane _ , Nov 30 2017] ●

[A058794] ● 2,18,52,110,198,322,488,702,970,1298,1692,2158,2702,3330,4048,4862,5778,6802,7940,9198,10582,12098,13752,15550,17498 ★ Row 3 of A007754. ● a(n) = n ^ 3 + 6 * n ^ 2 + 9 * n + 2. ●

[A085293] ● 2,18,56,238,902,3564,13862,54238,211736,827298,3231362,12623044,49308482,192613698,752401496,2939092798,11480914982,44847668844,175187526662,684331472398,2673190054136,10442227799538,40790261396162,159338166024964,622419427368002 ★ Product of Lucas (A000204) and a Pell Companion series (A002203). ● a(n) = (((1 + sqrt(5)) / 2) ^ n + ((1 - sqrt(5)) / 2) ^ n) * ((1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n). ● a(n) = 2 * a(n - 1) + 7 * a(n - 2) + 2 * a(n - 3) - a(n - 4). G.f.: - 2 * x * (2 * x ^ 3 - 3 * x ^ 2 - 7 * x - 1) / (x ^ 4 - 2 * x ^ 3 - 7 * x ^ 2 - 2 * x + 1). - _ Colin Barker _ , Oct 15 2013 ●

[A213820] ● 2,18,60,140,270,462,728,1080,1530,2090,2772,3588,4550,5670,6960,8432,10098,11970,14060,16380,18942,21758,24840,28200,31850 ★ Principal diagonal of the convolution array A213819. ● a(n) = - n + n ^ 2 + 2 * n ^ 3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A078837] ● 0,2,18,60,270,462,1080,1530,2772,5670,6960,11970,16380,18942,24840,35802,49590,54870,72930,86940,94572,120120,139482,172260,223440 ★ a(n)=sum(floor(k^3/p(n)), k=1, floor(k^3/p(n))) where p(n) denotes the n-th prime. ● a(n)= (1 / 4) * (prime(n) - 2) * (prime(n) - 1) * (prime(n) + 1) ●

[A073976] ● 0,2,18,72,300,1440,7056,39312,252720,1658880,10349856,62099136,367960320,2179768320,12976433280,77787495936,468419708160,2821539889152,16960580969472,101753146100736,609923828966400,3656096522698752,21926115464435712,131556692786614272 ★ Number of strings of length n over Z_6 with trace 0 and subtrace 5. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A152887] ● 0,1,2,18,72,720,4320,50400,403200,5443200,54432000,838252800,10059033600,174356582400,2440992153600,47076277248000,753220435968000,16005934264320000,288106816757760000,6690480522485760000 ★ Number of descents beginning with an even number and ending with an odd number in all permutations of {1,2,...,n}. ● a(2n) = (2n - 1)! * C(n + 1,2); a(2n + 1) = (2n)! * C(n + 1,2). ● a(n) = (n - 1)! * (2 * n * (n + 1) + (2 * n + 1) * (- 1) ^ n - 1) / 16. - Bruno Berselli, Nov 07 2011 ●

[A213830] ● 2,18,78,230,540,1092,1988,3348,5310,8030,11682,16458,22568,30240,39720,51272,65178,81738,101270,124110,150612,181148,216108,255900,300950 ★ Antidiagonal sums of the convolution array A213828. ● a(n) = (2 * n + n ^ 2 + 2 * n ^ 3 + 3 * n ^ 4) / 4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ●

[A064057] ● 2,18,80,255,666,1520,3144,6030,10890,18722,30888,49205,76050,114480,168368,242556,343026,477090,653600,883179,1178474,1554432,2028600,2621450,3356730 ★ Eighth column of quintinomial coefficients. ● a(n) = 2 * C(n + 2,2) + 12 * C(n + 2,3) + 20 * C(n + 2,4) + 15 * C(n + 2,5) + 6 * C(n + 2,6) + C(n + 2,7) (see comment in A213887). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 ●

[A091940] ● 0,2,18,84,260,630,1302,2408,4104,6570,10010,14652,20748,28574,38430,50640,65552,83538,104994,130340,160020,194502,234278,279864,331800 ★ Given n colors, sequence gives number of ways to color the vertices of a square such that no edge has the same color on both of its vertices. ● a(n) = 2 * C(n,2) + 12 * C(n,3) + 24 * C(n,4) = n * (n - 1) * (n ^ 2 - 3 * n + 3). ● a(n) = (n - 1) + (n - 1) ^ 4. - _ Rainer Rosenthal _ , Dec 03 2006 ●

[A068605] ● 2,18,84,300,930,2646,7112,18360,45990,112530,270204,638820,1490762,3440430,7864080,17825520,40107726,89652906,199229060,440401500,968883762,2122317318,4630511064,10066329000,21810380150 ★ Number of functions from [1,2,...,n] to [1,2,...,n] such that the image contains exactly two elements. ● a(n) = C(n, 2) * (2 ^ n - 2) ●

[A172529] ● 0,2,18,88,200,486,980,1760,2916,4550,6776,9720,13520,18326,24300,31616,40460,51030,63536,78200,95256,114950,137540,163296,192500 ★ Number of ways to place 2 nonattacking knights on an n X n toroidal board. ● a(n) = n ^ 2 * (n + 3) * (n - 3) / 2, n>=5. ●

[A201236] ● 0,2,18,88,250,558,1078,1888,3078,4750,7018,10008,13858,18718,24750,32128,41038,51678,64258,79000,96138,115918,138598,164448,193750 ★ Number of ways to place 2 non-attacking wazirs on an n X n toroidal board. ● a(n) = n ^ 2 * (n ^ 2 - 5) / 2, n>=3. ●

[A036800] ● 0,2,18,90,346,1146,3450,9722,26106,67578,169978,417786,1007610,2392058,5603322,12976122,29753338,67633146,152567802,341835770,761266170,1686110202,3716153338,8153726970,17817403386 ★ a(n) = -6 + 2^(n+1)*(3 - 2*n + n^2). ● a(n) = Sum _{ k=0..n } 2 ^ k * k ^ 2. - _ Benoit Cloitre _ , Jun 11 2003 ● a(0)=0, a(1)=2, a(2)=18, a(3)=90, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Harvey P. Dale _ , Jun 13 2015 ● a(n) = Sum _{ k=0..n } Sum _{ i=0..n } k ^ 2 * C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 ●

[A157052] ● 2,18,92,340,1010,2562,5768,11832,22530,40370,68772,112268,176722,269570,400080,579632,822018,1143762,1564460,2107140,2798642,3670018,4756952,6100200,7746050 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 6. ● a(n) = T(n,3); T(n,k) = sum { i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k). ● a(n) = n(n + 1)(n ^ 4 + 2n ^ 3 + 11n ^ 2 + 10n + 12) / 36. - Bruno Berselli, Mar 17 2012 ●

[A087291] ● 0,2,18,98,450,1922,7938,32258,130050,522242,2093058,8380418,33538050,134184962,536805378,2147352578,8589672450,34359214082,137437904898,549753716738,2199019061250 ★ Number of pairs of polynomials (f,g) in GF(2)[x] satisfying 1<=deg(f) <=n, 1<=deg(g) <= n and gcd(f,g) = 1. ● a(n) = 2 * (2 ^ n - 1) ^ 2. ●

[A267691] ● 1,1,2,18,99,355,980,2276,4677,8773,15334,25334,39975,60711,89272,127688,178313,243849,327370,432346,562667,722667,917148,1151404,1431245 ★ a(n) = (n + 1)*(6*n^4 - 21*n^3 + 31*n^2 - 31*n + 30)/30. ● a(n + 1) = a(n) + n ^ 4. ●

[A219758] ● 0,0,0,0,2,18,99,432,1641,5674,18315,56076,164621,466958,1287183,3463184,9125905,23617554,60162067,151126036,374931477,919863318,2234253335,5377622040,12836667417 ★ Expansion of x^4*(2-6*x+5*x^2+2*x^3-4*x^4)/((1-x)^2*(1-2*x)^5). ● a(n) = 2 ^ (n - 7) * (n ^ 4 - 2 * n ^ 3 - 25 * n ^ 2 + 194 * n - 576) / 3 + n + 1 with n>1, a(0)=a(1)=0. [_ Bruno Berselli _ , Nov 29 2012] ●

[A006043] ● 2,18,108,540,2430,10206,40824,157464,590490,2165130,7794468,27634932,96722262,334807830,1147912560,3902902704,13172296626,44165935746,147219785820,488149816140,1610894393262,5292938720718 ★ A traffic light problem: expansion of 2/(1 - 3*x)^3. ● a(n) = (n + 2) * (n + 1) * 3 ^ n. - _ Zerinvary Lajos _ , Apr 25 2007, corrected by _ R. J. Mathar _ , Mar 14 2011 ●

[A038721] ● 0,2,18,110,570,2702,12138,52670,223290,931502,3842058,15718430,63928410,258885902,1045076778,4208939390,16921719930,67944897902,272553908298,1092539107550,4377127901850,17529428119502,70180466208618 ★ k=2 column of A038719. ● a(1)=2, a(2)=18, a(3)=110, a(n)=9 * a(n - 1) - 26 * a(n - 2) + 24 * a(n - 3). - _ Harvey P. Dale _ , Aug 16 2012 ●

[A064837] ● 0,2,18,114,420,1170,2710,5538,10312,17890,29338,45970,69356,101362,144158,200258,272528,364226,479010,620978,794676,1005138,1257894,1559010,1915096 ★ a(n) = (6*n^4 + 30*n^3 - 20*n^2 + 14)*n/30 + (n mod 2). ● a(0)=0, a(1)=2, a(2)=18, a(3)=114, a(4)=420, a(5)=1170, a(6)=2710, a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - a(n - 7). - _ Harvey P. Dale _ , Sep 15 2014 ●

[A224902] ● 1,2,18,114,450,2298,10466,43314,184402,749490,2942274,11437026,43364818,161089130,589901682,2123791130,7531395154,26360805018,910

57065522,310718196626,1048405959266,3499152601394,11559430074418,37818135048962,122582070331106 ★ O.g.f.: exp(Sum_{n>=1} (sigma(2*n^4) - sigma(n^4)) * x^n/n). ● a(n) == 2 (mod 4) for n>0 (conjecture). ●

[**A153338**] ● 0,2,18,116,650,3372,16660,79592,371034,1697660,7654460,34106712,150499908,658707896,2863150440,12371226064,53178791162,227561427612,969890051884,4119092850680,17438036501676,73611934643368,309935825654168,1301878616066736 ★ Number of zig-zag paths from top to bottom of a 2n-1 by 2n-1 square whose color is not that of the top right corner. ● a(n) = n * 2 ^ (2 * n - 2) - (2 * n - 1) * binomial(2 * n - 2,n - 1). ●

[**A007798**] ● 0,0,2,18,116,660,3542,18438,94376,478440,2411882,12118458,60769436,304378620,1523487422,7622220078,38125449296,190670293200,953480606162,4767790451298,23840114517956,119204059374180,596030757224102,2980185167180118,14901019979079416 ★ Expected number of random moves in Tower of Hanoi problem with n disks starting with a randomly chosen position and ending at a position with all disks on the same peg. ● a(n) = (5 ^ n - 2 * 3 ^ n + 1) / 4. - Conjectured by _ Henry Bottomley _ , Jun 06 2000, proved by _ Max Alekseyev _ , Feb 04 2008 ● a(n) = 9 * a(n - 1) - 23 * a(n - 2) + 15 * a(n - 3). G.f.: - 2 * x ^ 2 / ((x - 1) * (3 * x - 1) * (5 * x - 1)). - _ Colin Barker _ , Sep 17 2014 ●

[**A119578**] ● 0,2,18,120,700,3780,19404,96096,463320,2187900,10161580,46558512,210924168,946454600,4212243000,18614102400,81746933040,357041751660,1551848136300,6715600122000,28947771052200,124337568995640 ★ a(n) = (n + n^2)*binomial(2*n,n)/2. ● a(n) = (n + 1) * Gamma(2 * n) / Gamma(n) ^ 2 for n > 0. - _ Shanzhen Gao _ , Apr 26 2011 ●

[**A154636**] ● 1,2,18,138,1050,7986,60738,461946,3513354,26720994,203227890,1545660138,11755597434,89407799058,679995600162,5171741404122,39333944432490,299156331247554,2275248816682962,17304521539721034,131610425867719386,1000969842322591986 ★ a(n) is the ratio of the sum of the bends of the circles that are drawn in the n-th generation of Apollonian packing to the sum of the bends of the circles in the initial configuration of 3 circles. ● a(n) = ((- (- 7 + sqrt(13)) * (4 + sqrt(13)) ^ n - (4 - sqrt(13)) ^ n * (7 + sqrt(13))) / (3 * sqrt(13)) for n>0. ● a(n) = 8 * a(n - 1) - 3 * a(n - 2) for n>2. ●

[**A216584**] ● 1,2,18,140,1330,12852,130284,1348776,14247090,152618180,1654120468,18096447096,199536967084,2214714164600,24720932068200,277289164574640,3123590583844530,35318969120870820,400692715550057700,4559427798654821400,52020436064931914580 ★ a(n) = A002426(n)*A000984(n); product of central trinomial coefficients and central binomial coefficients. ● a(n) = binomial(2 * n, n) * Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * binomial(2 * k, k). ●

[**A226733**] ● 1,2,18,142,1186,10152,88414,779508,6936066,62159224,560238728,5072970366,46114086446,420558296888,3846232573236,35261290343112,323956856354,2981787128165592,27491128592627800,253835886034173848,2346892194318851016,21724880414632781472 ★ G.f.: 1 / (1 + 8*x*G(x)^2 - 10*x*G(x)^3) where G(x) = 1 + x*G(x)^4 is the g.f. of A002293. ● a(n) = Sum _{ k=0..n } C(2 * k, n - k) * C(4 * n - 2 * k, k). ● a(n) = Sum _{ k=0..n } C(n + 2 * k, n - k) * C(3 * n - 2 * k, k). ● a(n) = Sum _{ k=0..n } C(2 * n + 2 * k, n - k) * C(2 * n - 2 * k, k). ● a(n) = Sum _{ k=0..n } C(3 * n + 2 * k, n - k) * C(n - 2 * k, k). ● a(n) = Sum _{ k=0..n } C(4 * n + 2 * k, n - k) * C(- 2 * k, k). ●

[**A125835**] ● 0,2,18,146,1170,9362,74898,599186,4793490,38347922,306783378,2454267026,19634136210,157073089682,1256584717458,10052677739666,80421421917330,643371375338642,5146971002709138,41175768021673106 ★ Numbers whose base 8 or octal representation is 22222222.....2. ● a(n) = 2 * (8 ^ (n - 1) - 1) / 7. ● a(n) = 8 * a(n - 1) + 2 (with a(1)=0). - _ Vincenzo Librandi _ , Sep 30 2010 ●

[**A270369**] ● 1,2,18,162,1458,13122,118098,1062882,9565938,86093442,774840978,6973568802,62762119218,564859072962,5083731656658,45753584909922,411782264189298,3706040377703682,33354363399333138,300189270593998242,2701703435345984178 ★ Expansion of (1-7*x)/(1-9*x). ● a(n) = 9 * a(n - 1) for n>1. ● a(n) = 2 * 9 ^ (n - 1) for n>0. ●

[**A005260**] ● 1,2,18,164,1810,21252,263844,3395016,44916498,607041380,8345319268,116335834056,1640651321764,23365271704712,335556407724360,4854133484555664,70666388112940818,1034529673001901732 ★ a(n) = Sum_{k = 0..n} binomial(n,k)^4. ● a(n) = hypergeom([- n, - n, - n, - n],[1, 1, 1],1). - _ Peter Luschny _ , Jul 27 2016 ●

[**A132306**] ● 1,2,18,179,1874,20202,221943,2470827,27777618,314642708,3585365618,41054041602,471980219543,5444542749674,62987391100239,730515277512729,8490829425196626,98878672140171984,1153433769999190212 ★ a(n) = Sum_{k=0..2n-1} C(2n-1,k)*trinomial(n,k) for n>0 with a(0)=1. ● a(n) = Sum _{ k=0..2n } C(2n,k) * trinomial(n,k) / 2 for n>0 with a(0)=1. ● a(n) = Sum _{ k=0..2n } C(- 2n - 1,k) * trinomial(n,k) / 2 for n>0 with a(0)=1. ● a(n) = Sum _{ k=0..2n } C(- 2n,k) * trinomial(n,k). ●

[**A157765**] ● 2,18,194,2066,22018,234642,2500546,26647954,283983362,3026369298,32251576514,343700350226,3662764537858,39033547830162,415974830066626,4432983135477394,47241655165240322,503447433600744978,5365165922164132034,57175791256846535186 ★ Expansion of (2 - 2*x) / (1 - 10*x - 7*x^2). ● a(n) = ((5 - 4 * sqrt(2)) ^ n * (- 1 + sqrt(2)) + (1 + sqrt(2)) * (5 + 4 * sqrt(2)) ^ n) / sqrt(2). ● a(n) = 10 * a(n - 1) + 7 * a(n - 2) for n > 1. ●

[**A156341**] ● 2,18,194,2130,23426,257682,2834498,31179474,342974210,3772716306,41499879362,456498672978,5021485402754,55236339430290,607599733733186,6683597071065042,73519567781715458,808715245598870034,8895867701587570370,97854544717463274066 ★ Expansion of (2-6*x)/(1-12*x+11*x^2). ● a(n) = 12 * a(n - 1) - 11 * a(n - 2) for n>=2, a(0)=2, a(1)=18. ● a(n) = a(n - 1) + 16 * 11 ^ (n - 1) for n >=1, a(0)=2. ● a(n) = 10 * a(n - 1) + 11 * a(n - 2) - 8 for n>=2, a(0)=2, a(1)=18. ● a(n) = (8 / 5) * 11 ^ n + 2 / 5. (End) ●

[**A155666**] ● 1,2,18,218,2466,26282,269298,2685818,26269506,253202762,2413042578,22791125018,213710059746,1992110014442,18478745943858,170706760005818,1571545212141186,14425381885981322,132080236787517138 ★ 9^n-8^n+1. ● a(n)=17 * a(n - 1) - 72 * a(n - 2) + 56 with a(0)=1, a(1)=2 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[**A090307**] ● 2,18,326,5886,106274,1918818,34644998,625528782,11294163074,203920464114,3681862517126,66477445772382,1200275886420002,21671443401332418,391286257110403526,7064824071388595886 ★ a(n) = 18a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 18. ● a(n) =18a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 18. a(n) = (9 + sqrt(82)) ^ n + (9 - sqrt(82)) ^ n. (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n=2, 4, 6.... ●

[**A041451**] ● 1,1,2,19,21,124,393,1303,1696,2999,10693,35078,186083,221161,2176532,2397693,4574225,139624443,144198668,283823111,2698606667,2982429778,17610755557,55814696449,185054844904 ★ Denominators of continued fraction convergents to sqrt(241). ● a(n) = 142022136 * a(n - 17) + a(n - 34) for n>33. - _ Vincenzo Librandi _ , Dec 18 2013 ●

[**A268492**] ● 2,19,21,209,2089,2321,23209,77363,773629,2578763,25787629,28652921,286529209,955097363,9550973629,10612192921,35373976403,353739764029,1179132546763,1310147274181,4367157580603,4852397311781,48523973117809,161746577059363 ★ Orbit of 2 under the map A268488: n -> least number k of the form k = n*(last digit of k) + (k without its last digit). ● a(n) = 10 * a(n - 1) - 1 unless divisible by 3 or 9, then a(n) = (10 * a(n - 1) - 1) /{ 3,9 } , respectively. - _ Bob Selcoe _ , Feb 17 2016 ●

[**A125201**] ● 2,19,52,101,166,247,344,457,586,731,892,1069,1262,1471,1696,1937,2194,2467,2756,3061,3382,3719,4072,4441,4826 ★ a(n) = 8*n^2 - 7*n + 1. ● a(1) = 2, a(n) = a(n - 1) + 16 * n - 15. ● a(n) = 2 * a(n - 1) - a(n - 2) + 16 with a(1) = 2 and a(2) = 19. ●

[**A079773**] ● 0,1,2,19,68,421,1862,10039,48008,246601,1213322,6125659,30451148,152787181,762341582,3816490879,19068105488,95383574161,476788730642,2384331073699,11920493107028,59605952319541,298019301244502 ★ a(n) = 2*a(n-1)+15*a(n-2) with n>0, a(0)=0, a(1)=1. ● a(n) = (5 ^ n - (- 3) ^ n) / 8. ● a(n) = sum(k=1..n, binomial(n, 2 * k - 1) * 4 ^ (2 * (k - 1))). ●

[**A056005**] ● 0,0,0,2,19,90,302,820,1926,4068,7920,14454,25025,41470,66222,102440,154156,226440,325584,459306,636975,869858,1171390,1557468,2046770 ★ Number of 3-element ordered antichains on an unlabeled n-element set; T_1-hypergraphs with 3 labeled nodes and n hyperedges. ● a(n) = C(n + 7, 7) - 6 * C(n + 5, 5) + 6 * C(n + 4, 4) + 3 * C(n + 3, 3) - 6 * C(n + 2, 2) + 2 * C(n + 1, 1). ● a(n) = n * (n - 2) * (n - 1) * (n + 1) * (n ^ 3 + 30 * n ^ 2 + 131 * n - 270) / 5040. ●

[**A193047**] ● 0,1,2,19,102,377,1104,2777,6282,13155,25998,49153,89792,159681,278034,476131,804790,1346457,2234768,3686201,6051290,9897491,16143262,26275009,42698112 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. ● a(n)=6 * a(n - 1) - 14 * a(n - 2) + 15 * a(n - 3) - 5 * a(n - 4) - 4 * a(n - 5) + 4 * a(n - 6) - a(n - 7). ●

[**A089659**] ● 0,2,19,104,440,1600,5264,16128,46848,130560,352000,923648,2369536,5963776,14766080,36044800,86900736,207224832,489357312,1145569280,2660761600,6136266752,14060355584,32027705344,72561459200 ★ Let S1 := (n,t)->add(k^t * add(binomial(n,j), j=0..k), k=0..n); a(n) = S1(n,2). ● a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n > 3. ● a(n) = 2 ^ (n - 3) * n * (7 * n ^ 2 + 12 * n + 5) / 3. ●

[**A082291**] ● 2,19,118,695,4058,23659,137902,803759,4684658,27304195,159140518,927538919,5406093002,31509019099,183648021598,1070379110495,6238626641378,36361380737779,211929657785302,1235216565974039 ★ Expansion of x(2 + 5x - x^2)/((1 - x)(1 - 6x + x^2)). ● a(n) = 6a(n - 1) - a(n - 2) + 6. ● a(n - 1 - n) = - 3 - a(n). ● a(n) = round(((3 + sqrt(8)) ^ n * (1 + sqrt(2)) - 6) / 4); ● a(n + 3) = 7 * (a(n + 2) - a(n + 1)) + a(n); ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) with a(1)=2, a(2)=19, and a(3)=118. - _ Harvey P. Dale _ , Jul 19 2012 ●

[**A055518**] ● 1,2,19,118,875,6180,44389,317236,2270893,16247718,116267271,831957002,5953209015,42598982984,304823192665,2181205436792,15607926184313,111684733527034,799175992102923,5718617425358462,40920380028968819 ★ a_{k+1} = 6*a_k + 11*a_{k-1} - 19*a_{k-2} - 4*a_{k-3} + a_{k-4}, a_1=1, a_2=2, a_3=19, a_4=118, a_5=875. ● a(n) = Sum _{ k=1..n } Fibonacci(k) ^ 4 * a(n - k), a(0)=1. - _ Vladeta Jovovic _ , Apr 23 2003 ●

[**A289230**] ● 0,2,19,127,536,1688,4357,9789,19844,37172,65397,109335,175214,270934,406329,593463,846934,1184212,1625979,2196509,2924050,3841240,4985531,6399647,8132044 ★ Number of nonequivalent ways to select 3 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. ● a(n) = (n ^ 6 - 6 * n ^ 5 - 24 * n ^ 4 + 220 * n ^ 3 - 153 * n ^ 2 - 1488 * n + 2592) / 36 + IF(MOD(n, 2) = 1, - 1) / 2 + IF(MOD(n, 3) = 1, - 2) / 9. ●

[**A206948**] ● 0,0,0,2,19,131,791,4446,23913,124892,638878,3218559,16027375,79093773,387540260,1887974063,9154751912,44221373872,212931964415,1022594028515,4900116587043,23437066655010,111923110602497 ★ Number of nonisomorphic graded posets with 0 and non-uniform Hasse graph of rank n, with exactly 2 elements of each rank level above 0. ● a(n) = 11a(n - 1) - 40a(n - 2) + 55a(n - 3) - 30a(n - 4) + 6a(n - 5), a(1)=0, a(2)=0, a(3)=2, a(4)=19, a(5)=131. ●

[**A178829**] ● 0,2,19,139,979,6861,48038,336278,2353958,16477720,115344057,807408417,5651858937,39563012579,276941088076,1938587616556,13570113315916,94990793211438,664935552480095,4654548867360695 ★ Partial sums of 1/2*floor(7^n/10) ● a(n) = 1 / 2 * round((7 * 7 ^ n - 30 * n - 25) / 60). ● a(n) = 1 / 2 * floor((7 * 7 ^ n - 30 * n - 7) / 60). ● a(n) = 1 / 2 * ceil((7 * 7 ^ n

- 30 * n - 43) / 60). ● a(n) = a(n - 4) + 20 * 7 ^ (n - 3) - 1 , n>4. ● a(n) = (7 ^ (n + 1) - 30 * n + 6 * (2 + (- 1) ^ n) * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) - 25) / 120. G.f.: x ^ 2 * (2 + x) / ((1 - 7 * x) * (1 + x ^ 2) * (1 - x) ^ 2). - _ Bruno Berselli _ , Dec 27 2010 ●

[A037494] ● 2,19,173,1558,14024,126217,1135955,10223596,92012366,828111295,7453001657,67077014914,603693134228,5433238208053,48899143872479,440092294852312,3960830653670810 ★ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 2,1. ● a(n) = 9 * a(n - 1) + a(n - 2) - 9 * a(n - 3). ●

[A163067] ● 2,19,178,1656,15352,142064,1313408,12136896,112126592,1035748864,9566914048,88363846656,816149635072,7538085638144,69622614990848,643040841793536,5939176725512192,54854677118255104,506641703733035008 ★ a(n) = 14*a(n-1) - 44*a(n-2) for n > 1; a(0) = 2, a(1) = 19. ● a(n) = ((2 + sqrt(5)) * (7 + sqrt(5)) ^ n + (2 - sqrt(5)) * (7 - sqrt(5)) ^ n) / 2. ●

[A221904] ● 2,19,181,1729,16561,159049,1531441,14782969,143046721,1387420489,13486784401,131381059609,1282429536481,12541865828329,122876792454961,1205891132094649,11853020188851841 ★ 9^n + 10^n. ● a(n) = 19 * a(n - 1) - 90 * a(n - 2), a(1)=2, a(2)=19. ●

[A140781] ● 1,2,19,188,1861,18422,182359,1805168,17869321,176888042,1751011099,17333222948,171581218381 ★ a(n) = 10*a(n-1) - a(n-2). ● a(n) = 10 * a(n - 1) - a(n - 2); n>1; given a(0) = 1, a(1) = 2. a(n) = term (1,1) in X ^ n, where X = the 2x2 matrix [2,3; 5,8]. ● a(n) = (- 1 / 8) * [5 + 2 * sqrt(6)] ^ n * sqrt(6) + (1 / 8) * sqrt(6) * [5 - 2 * sqrt(6)] ^ n + (1 / 2) * [5 + 2 * sqrt(6)] ^ n + (1 / 2) * [5 - 2 * sqrt(6)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 06 2008 ●

[A124125] ● 2,19,245,3631,58121,973843,16773677,293759095,5196109073,92455824667,1650850175669,29537478199039,529130102195225,9485447592486691,17011094975714301,305148566437091290 3,5474588698217493865 7 ★ a(n)=(1/(4*n+1))*sum(k=0..n,binomial(2n,2k)*binomial(2n,2k)) where F=Fibonacci numbers and B=Bernoulli numbers. ● a(n)=(1 / 4) * (F(6n - 3) + 4 ^ n * F(2n - 1) + 2 * 5 ^ (n - 1)) ●

[A078369] ● 2,19,359,6802,128879,2441899,46267202,876634939,16609796639,314709501202,5962870726199,112979834296579,2140653980908802,40559445802970659,768488816275533719,14560728063432170002 ★ A Chebyshev T-sequence with Diophantine property. ● a(n)=19 * a(n - 1) - a(n - 2), n >= 1; a(- 1)=19, a(0)=2. ● a(n) = ap ^ n + am ^ n, with ap := (19 + sqrt(357)) / 2 and am := (19 - sqrt(357)) / 2. ●

[A090308] ● 2,19,363,6916,131767,2510489,47831058,911300591,17362542287,330799604044,6302555019123,120079344967381,2287810109399362,43588471423555259,830468767156949283,15822495047405591636 ★ a(n) = 19a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 19. ● a(n) =19a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 19. a(n) = ((19 + sqrt(365)) / 2) ^ n + ((19 - sqrt(365)) / 2) ^ n, (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n=2, 4, 6.... ●

[A022372] ● 2,20,22,42,64,106,170,276,446,722,1168,1890,3058,4948,8006,12954,20960,33914,54874,88788,143662,232450,376112,608562,984674 ★ Fibonacci sequence beginning 2, 20. ● a(n) = 2 * (Fibonacci(n + 2) + 8 * Fibonacci(n)) . - _ G. C. Greubel _ , Aug 27 2017 ●

[A268742] ● 0,1,2,20,30,31,44,98,120,121,146,236,270,271,308,434,480,481,530,692,750,751,812,1010,1080 ★ Expansion of x*(1 + x + 18*x^2 + 10*x^3 - x^4 + 11*x^5 + 18*x^6 + 2*x^7) / (1 - x - 2*x^4 + 2*x^5 + x^8 - x^9). ● a(n) = (30 * (n - 1) * n + 2 * (18 * n - 3 * (- 1) ^ n - 11) * (- 1) ^ (n * (n + 1) / 2) - (6 * n + 1) * (- 1) ^ n + 13) / 16 + 1. Therefore: ● a(4 * k) = 30 * k ^ 2; ● a(4 * k + 1) = 30 * k ^ 2 + 1; ● a(4 * k + 2) = 30 * k ^ 2 + 12 * k + 2; ● a(4 * k + 3) = 30 * k ^ 2 + 48 * k + 20. ●

[A050684] ● 1,2,20,38,290,542,3710,6878,44390,81902,509510,937118,5685590,10434062,62170310,113906558,669532790,1225159022,7125795110,13026431198,75132155990,137237880782,786189403910,1435140927038 ★ Number of nonzero palindromes < 10^n and containing at least one digit '1'. ● a(2n) = 2 * (10 ^ n - 9 ^ n); a(2n + 1) = 2 * (10 ^ n - 9 ^ n) + 9 * 10 ^ n - 8 * 9 ^ n. - _ David Wasserman _ , Feb 14 2002 ●

[A266842] ● 1,2,20,43,336,687,5440,10943,87296,174847,1397760,2796543,22368256,44740607,357908480,715833343,5726601216,11453267967,91625881600,183252025343,1466015154176,2932031356927,23456246661120,469124975165 43,375299963355136 ★ Decimal representation of the n-th iteration of the "Rule 69" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 21 * a(n - 2) - 84 * a(n - 4) + 64 * a(n - 6) for n>5. ●

[A139271] ● 0,2,20,54,104,170,252,350,464,594,740,902,1080,1274,1484,1710,1952,2210,2484,2774,3080,3402,3740,4094,4464 ★ a(n) = 2*n*(4*n-3). ● a(n) = 8 * n ^ 2 - 6 * n. ● a(n) = 16 * n + a(n - 1) - 14 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ●

[A001504] ● 2,20,56,110,182,272,380,506,650,812,992,1190,1406,1640,1892,2162,2450,2756,3080,3422,3782,4160,4556,4970,5402 ★ a(n) = (3n+1)(3n+2). ● a(n) = 18 * n + a(n - 1) with a(0) = 2. - _ Vincenzo Librandi _ , Nov 12 2010 ●

[A287485] ● 2,20,68,304,1232,5168,21408,89088,370112,1538560,6394368,26577664,110464512,459127808,1908282368,7931445248,32965660672,137016012800,569483091968,2366956929024,9837842644992,40889273090048,169949115056128,706363785412608,2935877583634432 ★ Number of independent vertex sets and vertex covers in the n-web graph. ● a(n) = 2 * a(n - 1) + 8 * a(n - 2) + 4 * a(n - 3). ●

[A259110] ● 0,2,20,70,168,330,572,910,1360,1938,2660,3542,4600,5850,7308,8990,10912,13090,15540,18278,21320,24682,28380,32430,36848 ★ 2*A000447(n). ● a(n) = (2 * n * (4 * n ^ 2 - 1)) / 3. - _ Colin Barker _ , Jun 28 2015 ●

[A161007] ● 0,1,2,20,72,464,2080,11584,56448,298240,1499648,7771136,39536640,203411456,1039409152,5333401600,27297349632,139929124864,716615843840,3672097685504,18810048872448,96373660712960,493708103385088,2529394778177536,12958119210516480 ★ a(n+1) = 2*a(n) + 16*a(n-1), a(0)=0, a(1)=1. ● a(n) = ((1 + sqrt(17)) ^ n - (1 - sqrt(17)) ^ n) / (2 * sqrt(17)). ●

[A098077] ● 2,20,84,240,550,1092,1960,3264,5130,7700,11132,15600,21294,28420,37200,47872,60690,75924,93860,114800,139062,166980,198904,235200,276250 ★ a(n) = n^2*(n+1)*(2*n+1)/3. ● a(n) = Sum[Sum[(i ^ 2 + j ^ 2), { i, 1, n }], { j, 1, n }]. ●

[A071253] ● 0,2,20,90,272,650,1332,2450,4160,6642,10100,14762,20880,28730,38612,50850,65792,83810,105300,130682,160400,194922,234740,280370,332352 ★ n^2*(n^2+1). ● a(n) = (1 / 4) * sinh(2 * arcsinh(n)) ^ 2. - _ Artur Jasinski _ , Feb 10 2010 ●

[A035599] ● 0,2,20,102,360,1002,2364,4942,9424,16722,28004,44726,68664,101946,147084,207006,285088,385186,511668,669446,864008,1101450,1388508,1732590,2141808 ★ Number of points of L1 norm 5 in cubic lattice Z^n. ● a(n) = (4 * n ^ 4 + 20 * n ^ 2 + 6) * n / 15. - _ Frank Ellermann _ , Mar 16 2002 ●

[A267678] ● 1,2,20,104,468,1960,8020,32424,130388,522920,2094420,8383144,33543508,134195880,536827220,2147396264,8589759828,34359388840,137438254420,549754415784,2199020459348,8796087429800,35184360904020,140737465985704,562949908682068 ★ Decimal representation of the n-th iteration of the "Rule 197" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) + 8 * a(n - 4) for n>5. ● a(n) = 2 * (- 3 + (- 1) ^ n - 2 ^ (2 + n) + 3 * 4 ^ n) / 3 for n>1. - _ Colin Barker _ , Feb 14 2017 ●

[A282818] ● 0,0,0,2,20,110,460,1540,4312,10500,22920,45870,85580,150722,252980,407680,634480,958120,1409232,2025210,2851140,3940790,5357660,7176092,9448440 ★ Number of equivalent ways to color the edges of a tetrahedron using at most n colors so that no two adjacent edges have the same color. ● a(n) = n * (n - 1) * (n - 2) * (n ^ 3 - 9 * n ^ 2 + 32 * n - 38) / 12. ●

[A219837] ● 0,0,0,0,2,20,120,567,2320,8596,29578,96058,297776,888460,2567534,7221974,19849284,53473464,141559090,369018290,948897336,2410350276,6055659350,15063123950,37130340492 ★ Expansion of x^4*(2-10*x+18*x^2-7*x^3-21*x^4+25*x^5-x^6)/((1-x)^3*(1-2*x)^6). ● a(n) = 2 ^ (n - 10) * (n ^ 5 - 16 * n ^ 4 + 547 * n ^ 3 - 7976 * n ^ 2 + 55660 * n - 158832) / 3 + (3 * n + 17) * n + 52 with n>1, a(0)=a(1)=0. ●

[A279112] ● 0,0,2,20,138,505,1547,3759,8313,16350,30344,52470,87212,138255,212953,317065,461827,655724,915038,1251720,1688414,2241365,2941047,3808915,4884893 ★ Number of non-equivalent ways to place 3 non-attacking kings on an n X n board. ● a(n) = (n ^ 6 - 27 * n ^ 4 + 44 * n ^ 3 + 146 * n ^ 2 - 404 * n + 240 + IF(MOD(n, 2) = 1, 8 * n ^ 3 - 21 * n ^ 2 + 16 * n - 51)) / 48 for n >=2. ● a(n) = 3 * a(n - 1) + a(n - 2) - 11 * a(n - 3) + 6 * a(n - 4) + 14 * a(n - 5) - 14 * a(n - 6) - 6 * a(n - 7) + 11 * a(n - 8) - a(n - 9) - 3 * a(n - 10) + a(n - 11). ● a(n) = (n ^ 6 - 27 * n ^ 4 + 44 * n ^ 3 + 146 * n ^ 2 - 404 * n + 240) / 48 for n>1. ● a(n) = (n ^ 6 - 27 * n ^ 4 + 52 * n ^ 3 + 125 * n ^ 2 - 388 * n + 189) / 48 for n>1. ●

[A081006] ● 2,20,143,986,6764,46367,317810,2178308,14930351,102334154,701408732,4807526975,32951280098,225851433716,1548008755919,10610209857722,72723460248140,498454011879263,3416454622906706,23416728348467684,160500643816367087 ★ Fibonacci(4n)-1, or Fibonacci(2n+1)*Lucas(2n-1). ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). ● a(n) = - 1 + (3 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (7 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n >=0. - _ Paolo P. Lava _ , Dec 01 2008 ●

[A000183] ● 0,0,0,1,2,20,144,1265,12072,126565,1445100,17875140,238282730,3407118041,52034548064,845569542593,14570246018686,2653972144358600,50958530231094 84,1028772340504936 09,2178674876680100744,48296053720501168037,1118480911876659396600 ★ Number of discordant permutations of length n. ● a(n) = (- 1) ^ n * (4 * n + f(n)) + (n / (n - 1)) * ((n + 1) * a(n - 1) + 2 * (- 1) ^ n * f(n - 1)) - ((2 * n) / (n - 2)) * ((n - 3) * a(n - 2) + (- 1) ^ n * f(n - 2)) + (n / (n - 3)) * ((n - 5) * a(n - 3) + 2 * (- 1) ^ (n - 1) * f(n - 3)) + (n / (n - 4)) * (a(n - 4) + (- 1) ^ (n - 1) * f(n - 4)). ●

[A198647] ● 2,20,146,1028,7202,50420,352946,2470628,17294402,121060820,847425746,5931980228,41523861602,290667031220,2034669218546,14242684529828,99698791708802,697891541961620,4885240793731346,34196685556119428 ★ 3*7^n-1 ● a(n) = 7 * a(n - 1) + 6, a(0)=2. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). - _ Harvey P. Dale _ , Jan 27 2012 ●

[A105489] ● 2,20,150,1040,7105,49112,347760,2537640,19135875,149285400,1205088742,10062575068,86859191510,774456785200,7126496659960,67617733760064,660932425168071,6649326113764980,68793130453044760,731299516881396540 ★ Number of partitions of {1...n} containing 3 detached pairs of consecutive integers, i.e., partitions in which only 1- or 2-strings of consecutive integers can appear in a block and there are exactly three 2-strings. ● a(n) = binomial(n - 3, 3) * Bell(n - 4), which is the case r=3 in the general case of r pairs, d(n,r) = binomial(n - r, r) * Bell(n - r - 1), which is the case t=2 of the general formula d(n,r,t) = binomial(n - r * (t - 1), r) * Bell(n - r * (t - 1) - 1). ●

[A248337] ● 0,2,20,152,1040,6752,42560,263552,1614080,9815552,59417600,358602752,2160005120,12993585152,78095728640,469111242752,2816814940160,16909479575552,101491237191680,609084862103552,3655058928435200,21932552593866752 ★ 6^n - 4^n. ● a(n) = 10 * a(n - 1) - 24 * a(n - 2). ●

[A270444] ● 2,20,152,1136,8480,63296,472448,3526400,26321408,196465664,1466439680,10945654784,81699479552,609813217280,4551707820032,33974409691136,253588446248960,1892809931227136,14128125664821248,105453765593661440 ★ Expansion of 2*(1+2*x) / (1-8*x+4*x^2). ● a(n) = (1 + sqrt(3)) ^ (

2 * n - 1) + (1 - sqrt(3)) ^ (2 * n - 1). •

[A093130] • 0,2,20,160,1200,8800,64000,464000,3360000,24320000,176000000,1273600000,9216000000,66688000000,482560000000,3491840000000,25267200000000,182835200000000,1323008000000000,9573376000000000 ★ Third binomial transform of Fibonacci(3n). • a(n)=((5 + sqrt(5)) ^ n - (5 - sqrt(5)) ^ n) / sqrt(5); • a(0)=0, a(1)=2, a(n)=10 * a(n - 1) - 20 * a(n - 2). - _ Harvey P. Dale _ , Jun 24 2015 •

[A115489] • 2,20,168,1360,10912,87360,699008,5592320,44739072,357913600,2863310848,22906490880,183251935232,1466015498240,11728124018688,93824992215040,750599937851392,6004799503073280,48038396025110528 ★ Number of monic irreducible polynomials of degree 3 in GF(2^n)[x]. • a(0)=0, a(1)=2, a(n)=10a(n - 1) - 16a(n - 2). - _ T. D. Noe _ , Nov 30 2006 • a(n) = - (1 / 3) * 2 ^ n + (1 / 3) * 8 ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 12 2008 •

[A105493] • 2,20,170,1340,10375,80652,636990,5143740,42613980,362863600,3178544754,28650249848 ★ Number of partitions of {1,...,n} containing 3 strings of 3 consecutive integers such that only v-strings of consecutive integers can appear in a block, where v = 1,2,3. • a(n)=Sum(w(n, k, 3), k=1...n), where w(n, k, 3) is the case r=3 of w(n, k, r) given by w(m, k, r)=w(m - 1, k - 1, r) + (k - 1)w(m - 1, k, r) + w(m - 2, k - 1, r) + (k - 1)w(m - 2, k, r) + w(m - 3, k - 1, r - 1) + (k - 1)w(m - 3, k, r - 1) r=0, 1, ..., floor(n / 3), k=1, 2, ..., n - 2r, w(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j=0..floor(n / 2)). •

[A125857] • 0,2,20,182,1640,14762,132860,1195742,10761680,96855122,871696100,7845264902,70607384120,635466457082,5719198113740,51472783023662,463255047212960,4169295424916642,37523658824249780,337712929418248022 ★ Numbers whose base-9 representation is 22222222.....2. • a(n) = (9 ^ (n - 1) - 1) * 2 / 8. • a(n) = 9 * a(n - 1) + 2 (with a(1)=0). - _ Vincenzo Librandi _ , Sep 30 2010 • a(n) = 10 * a(n - 1) - 9 * a(n - 2). • a(n) = - 9 ^ (n - 1) * a(2 - n) for all n in Z. - _ Michael Somos _ , Jul 02 2017 •

[A001078] • 0,2,20,198,1960,19402,192060,1901198,18819920,186298002,1844160100,18255302998,180708869880,1788833395802,17707625088140,175287417485598,1735166549767840,17176378080192802,170028614252160180,1683109764441408998 ★ a(n) = 10*a(n-1)-a(n-2) with a(0) = 0, a(1) = 2. • a(n) = ((5 + 2sqrt(6)) ^ n - (5 - 2sqrt(6)) ^ n) / (2sqrt(6)). • a(- n) = - a(n). • a(n) = 9 * (a(n - 1) + a(n - 2)) - a(n - 3). • a(n) = 11 * (a(n - 1) - a(n - 2)) + a(n - 3). (End) • a(n) = sinh(2n * arcsinh(sqrt(2))) / sqrt(6). - _ Herbert Kociemba _ , Apr 24 2008 •

[A093136] • 1,2,20,200,2000,20000,200000,2000000,20000000,200000000,2000000000,20000000000,200000000000,2000000000000,20000000000000,200000000000000,2000000000000000,20000000000000000 ★ Expansion of (1-8x)/(1-10x). • a(n) = (2 * 10 ^ n + 8 * 0 ^ n) / 10. • a(n) = 2 * 10 ^ (n - 1), n > 0. - _ Vincenzo Librandi _ , Aug 02 2010 •

[A037519] • 2,20,201,2012,20120,201201,2012012,20120120,201201201,2012012012,20120120120,201201201201,2012012012012,20120120120120,2012012012012012012012012012012012012012012012012012012012012012 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,0,1. • a(n) = 10 * a(n - 1) + ((n + 1) mod 3), with a(0)=0. - Paolo P. Lava, Jul 30 2009 •

[A037722] • 2,20,201,2013,20132,201320,2013201,20132013,201320132,2013201320,201320132013,2013201320132,20132013201320,201320132013201,2013201320132013 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,0,1,3. • a(n)=10 * a(n - 1) + (1 / 4) *{- (n mod 4) + 3 * [(n + 2) mod 4] + 2 * [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037729] • 2,20,203,2031,20312,203120,2031203,20312031,203120312,2031203120,20312031203,203120312031,2031203120312,20312031203120,2031203120312031,2031203120312031203,203120312031203120312031 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,0,3,1. • a(n)=10 * a(n - 1) + (1 / 4) *{ 3 * (n mod 4) - 2 * [(n + 1) mod 4] + 3 * [(n + 2) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037624] • 2,20,203,2032,20320,203203,2032032,20320320,203203203,2032032032,203203203203,2032032032032,20320320320320,203203203203203,2032032032032032,203203203203203203 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,0,3. • a(n) = 10 * a(n - 1) + (1 / 9) * (- 4 * (n mod 3) + 11 * ((n + 1) mod 3) + 8 * ((n + 2) mod 3)) for n > 0. - _ Paolo P. Lava _ , Jul 30 2009 •

[A067636] • 2,20,210,2352,27720,339768,4294290,55621280,734959368,9873696560,134510127752,1854385377600,25828939188000,362995937665200,5141806953167250,73343003232628800,1052697272275341000 ★ Row 1 of table in A067640. • a(n) = (2 * n)! * (2 * n + 2)! / ((n - 1)! * ((n + 1)!) ^ 2 * (n + 2)!). •

[A199761] • 2,20,218,2396,26354,289892,3188810,35076908,385845986,4244305844,46687364282,513561007100,5649171078098,62140881859076,683549700449834,7519046704948172,82709513754429890,909804651298728788,10007851164286016666 ★ (9*11^n+1)/5. • a(n) = 11 * a(n - 1) - 2. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A099976] • 2,20,252,3432,48620,705432,10400600,155117520,2333606220,35345263800,538257874440,8233430727600,126410606437752,1946939425648112,30067266499541040,465428353255261088,7219428434016265740 ★ Bisection of A000984. • a(n) = binomial(4n + 2, 2n + 1). - _ Emeric Deutsch _ , Dec 20 2004 •

[A155671] • 1,2,20,272,3440,40952,468560,5217032,56953280,612579512,6513215600,68618940392,717570463520,7458134171672,77123207545040,794108867905352,8146979811148160,83322818300333432,849905364703000880 ★ 10^n-9^n+1^n • a(n)=19 * a(n - 1) - 90 * a(n - 2) + 72 with a(0)=1, a(1)=2 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A090309] • 2,20,402,8060,161602,3240100,64963602,1302512140,26115206402,523606640180,10498248010002,210488566840220,4220269584814402,84615880263128260,1696537874847379602,34015373377210720300 ★ a(n) = 20a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 20. • a(n) =20a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 20. a(n) = (10 + sqrt(101)) ^ n + (10 - sqrt(101)) ^ n. (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n=2, 4, 6.... •

[A294116] • 2,21,23,44,67,111,178,289,467,756,1223,1979,3202,5181,8383,13564,21947,35511,57458,92969,150427,243396,393823,637219,1031042 ★ Fibonacci sequence beginning 2, 21. • a(n) = a(n - 1) + a(n - 2). • a(n) = Lucas(n) + g(0,20;n), see A022354; • a(n) = Fibonacci(n) + g(2,20;n), see A022372; • a(n) = 2 * g(1,21;n) - g(0,21;n); • a(n) = g(1,k;n) + g(1,21 - k;n) for all k in Z. • a(h + k) = a(h) * Fibonacci(k - 1) + a(h + 1) * Fibonacci(k) for all h, k in Z (see S. Vajda in References section). For h=0 and k=n: •

[A041513] • 1,1,2,21,23,44,1431,1475,2906,30535,33441,63976,2080673,2144649,4225322,44397869,48623191,93021060,3025297111,3118318171,6143615282,64554470991,70698086273,135252557264,4398779918721 ★ Denominators of continued fraction convergents to sqrt(273). • a(n) = 1454 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A042565] • 1,2,21,23,205,228,433,1094,1527,2621,4148,15065,94538,1716749,1811287,8961897,10773184,30508265,41281449,1145107388,1186388837,3517885062,4704273899,22334980658,27039254557 ★ Denominators of continued fraction convergents to sqrt(811). • a(n) = 2764144327157232820 * a(n - 38) - a(n - 76) for n>75. - _ Vincenzo Librandi _ , Jan 25 2014 •

[A266873] • 1,2,21,42,341,682,5461,10922,87381,174762,1398101,2796202,22369621,44739242,357913941,715827882,5726623061,11453246122,91625968981,183251937962,1466015503701,2932031007402,23456248059221,469124961184842,375299968947541 ★ Decimal representation of the n-th iteration of the "Rule 77" elementary cellular automaton starting with a single ON (black) cell. • a(n) = ((- 1) ^ n + 3 * 2 ^ (2 * n + 1) + (- 1) ^ n * 2 ^ (2 * n + 1) - 3) / 6. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>3. •

[A231807] • 1,1,2,21,52,305,7836,24703,155688,1034433,67124260,235173191,1728147312,11309344813,106962615592,1405561387294 5,55558358852176,450373499691137,3156524223157332,28327606849223119,307533111218771040,8178248681347764 3501 ★ Number of endofunctions on [n] with distinct cardinalities of the nonempty preimages. • a(n) = n! * Sum _{ lambda } multinomial(n;lambda) / (n - |lambda|)!, where lambda ranges over all partitions of n into distinct parts (A118457). •

[A075681] • 0,0,2,21,60,121,207,321,466,645,861,1117,1416,1761,2155,2601,3102,3661,4281,4965,5716,6537,7431,8401,9450 ★ Difference between (n-1)*(n-2)^3 and A003878(n). • a(n) = 1 / 2 * n ^ 3 + 7 / 2 * n ^ 2 - 23n + 25, for n>3. G.f.: (x ^ 7 - x ^ 6 - 12x ^ 5 + 13x ^ 4 + 2x ^ 3) / (1 - x) ^ 4. - _ Ralf Stephan _ , Mar 13 2003 •

[A212257] • 1,2,21,64,157,322,601,1024,1641,2498,3661,5184,7141,9602,12657,16384,20881,26242,32581,40000,48621,58562,69961,82944,97657 ★ Number of (v,w,x,y,z) with all terms in {0,1,...,n} and v=average(w,x,y,z). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 4 * a(n - 5) + 6 * a(n - 6) - 4 * a(n - 7) + a(n - 8). • a(n) = (1 + 7 * (- 1) ^ n) / 8 + n + 3 * n ^ 2 / 2 + n ^ 3 + n ^ 4 / 4 - sin(n * Pi / 2). •

[A213827] • 2,21,90,260,600,1197,2156,3600,5670,8525,12342,17316,23660,31605,41400,53312,67626,84645,104690,128100,155232,186461,222180,262800,308750 ★ Antidiagonal sums of the convolution array A213825. • a(n) = (1 / 4) * (n + 1) * (3 * n + 1) * n ^ 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = sum(i * (n ^ 2 + i ^ 2), i=1..n). [_ Bruno Berselli _ , Aug 25 2014] •

[A188530] • 2,21,107,471,1967,8031,32447,130431,523007,2094591,8383487,33544191,134197247,536829951,2147401727,8589770751,34359410687,137438298111,549754503167,2199020634111 ★ 2^(2n+1)-5*2^(n-1)-1. • a(n)=2 ^ (2n + 1) - 2 ^ (n + 1) - 2 ^ (n - 1) - 1. • a(n)= + 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f. (x * (- 2 - 7 * x + 12 * x ^ 2)) / ((x - 1) * (2 * x - 1) * (4 * x - 1)). - R. J. Mathar, Apr 04 2011 •

[A095262] • 2,21,137,735,3557,16191,70877,302295,1266437,5239311,21481517,87506055,354778517,1433405631,5776554557,23235129015,93327477797,374471255151,1501369969997,6015936563175,24095119972277,96474608387871 ★ A sequence derived from a truncated Pascal's Triangle matrix. • a(n) = (7 * 2 ^ n - 2 * 3 ^ (2 + n) + 11 * 4 ^ n) / 2. •

[A077249] • 2,21,208,2059,20382,201761,1997228,19770519,195707962,1937309101,19177383048,189836521379,1879187830742,18602041786041,184141230029668,1822810258510639,18043961355076722,178616803292256581,1768124071567489088,17502623912382634299 ★ Bisection (odd part) of Chebyshev sequence with Diophantine property. • a(n) = 10 * a(n - 1) - a(n - 2), a(- 1) := - 1, a(0)=2. •

[A037527] • 2,21,210,2102,21021,210210,2102102,21021021,210210210,2102102,21021021021,210210210210,2102102102102,21021021021021,210210210210210,2102102102102102,21021021021021021,2102102102102102102,21021021021021021021 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1,0. • a(n)=10 * a(n - 1) + (1 / 3) *{ 2 * (n mod 3) + 2 * [(n + 1) mod 3] - [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] • a(1)=2, a(2)=21, a(3)=210, a(4)=2102, a(n)=10 * a(n - 1) + a(n - 3) - 10 * a(n - 4). - _ Harvey P. Dale _ , Jan 02 2013 •

[A037736] • 2,21,210,2103,21032,210321,2103210,21032103,210321032,21032

10321,21032103210,210321032103,2103210321032,21032103210321,2103210321 03210,2103210321032103 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1,0,3. ● a(n)=10 * a(n - 1) + (1 / 2) *{- (n mod 4) + [(n + 1) mod 4] + [(n + 2) mod 4] + [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ● a(n)= 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5). G.f: x * (2 + x + 3 * x ^ 3) / ((x - 1) * (10 * x - 1) * (1 + x) * (1 + x ^ 2)). [From R. J. Mathar, Oct 05 2009] ●

[A037559] ● 2,21,211,2112,21121,211211,2112112,21121121,211211211,211212112,21121121121,211211211211,2112112112112,21121121121121,2112112112 11211,2112112112112112 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1,1. ● a(n)=10 * a(n - 1) + (1 / 9) *{ 4 * (n mod 3) + 7 * [(n + 1) mod 3] + [(n + 2) mod 3] } , with a (0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[A037495] ● 2,21,212,2121,21212,212121,2121212,21212121,212121212,212121212121,21212121212,212121212121,2121212121212,21212121212121,212121212121212,2121212121212121 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1. ● a(n) = 10 * a(n - 1) + (1 / 2) * (3 - (- 1) ^ n), with a(0)=0. Closed form: a(n)= - (1 / 6) - (1 / 22) * (- 1) ^ n + (7 / 33) * 10 ^ n, with n>0. - Paolo P. Lava, Jul 30 2009 ●

[A037575] ● 2,21,212,2122,21221,212212,2122122,21221221,212212212,2122122212,21221221221,212212212212,2122122122122,21221221221221,2122122122 12212,2122122122122122 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1,2. ● a(n)=10 * a(n - 1) + (1 / 9) *{ 2 * (n mod 3) + 8 * [(n + 1) mod 3] + 5 * [(n + 2) mod 3] } , wi th a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[A037743] ● 2,21,213,2130,21302,213021,2130213,21302130,213021302,2130213021,21302130213,213021302130,2130213021302,21302130213021,213021302130213,2130213021302130,21302130213021302,213021302130213021,2130213021302130213,21302130213021302130 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1,3,0. ● a(n)=10 * a (n - 1) + (1 / 4) *{ 4 * [n mod 4] - [(n + 1) mod 4] + 2 * [(n + 2) mod 4] - [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ● a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5). G.f.: x * (2 + x + 3 * x ^ 2) / ((x - 1) * (10 * x - 1) * (1 + x) * (x ^ 2 + 1)). [From _ R. J. Mathar _ , Oct 05 2 009] ●

[A037638] ● 2,21,213,2132,21321,213213,2132132,21321321,213213213,213213213213,21321321321,213213213213,2132132132132,213213213213213,21321321321321,2132132132 13213,2132132132132132 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,1,3. ● a(n)=10 * a(n - 1) + [(n + 1) mod 3] + [(n + 2) mod 3], with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[A163068] ● 2,21,218,2249,23122,237261,2431978,24913249,255125282,2612122821,26741573498,273749929529,2802246036082,28684690735101,293622535632778,3005563816753489,30765291465721922,314916398263094901 ⋆ a(n) = 16*a(n-1) - 59*a(n-2) for n > 1; a(0) = 2, a(1) = 21. ● a(n) = ((2 + sqrt(5)) * (8 + sqrt(5)) ^ n + (2 - sqrt(5)) * (8 - sqrt(5)) ^ n) / 2. ●

[A134490] ● 2,21,233,2584,28657,317811,3524578,39088169,433494437,4807526976,53316291173,591286729879,6557470319842,72723460248141,806515533049393,8944394323791464,99194853094755497,1100087778366101931 ⋆ Fibonacci(5n+3). ● a(n) = 11a(n - 1) + a(n - 2). - _ Paul Curtz _ , May 07 2008 ● a(n) = - (2 / 5) * [11 / 2 - (5 / 2) * sqrt(5)] ^ n * sqrt(5) + [11 / 2 - (5 / 2) * sqrt(5)] ^ n + (2 / 5) * sqrt(5) * [11 / 2 + (5 / 2) * sqrt(5)] ^ n + [11 / 2 + (5 / 2) * sqrt(5)] ^ n. - _ Paolo P. Lava _ , Oct 03 2008 ●

[A094797] ● 1,2,21,301,4001,50001,600001,7000001,80000001,900000001,10000000001,110000000001,1200000000001,13000000000001,140000000000001,1500000000000001,16000000000000001,170000000000000001,1800000000000000001,19000000000000000001 ⋆ Number of times 1 is used in writing out all numbers 1 through 10^n. ● a(n) = n * 10 ^ (n - 1) + 1. ● a(n) = 21 * a(n - 1) - 120 * a(n - 2) + 100 * a(n - 3). - _ Colin Barker _ , May 23 2014 ●

[A090729] ● 2,21,439,9198,192719,4037901,84603202,1772629341,37140612959,778180242798,16304644485799,341619353958981,7157701788652802,149970118207749861,3142214780574094279,65836540273848229998 ⋆ a(n) = 21a(n-1) - a(n-2), starting with a(0) = 2 and a(1) = 21. ● a(n) = ap ^ n + am ^ n, with ap := (21 + sqrt(437)) / 2 and am := (21 - sqrt(437)) / 2. ●

[A090310] ● 2,21,443,9324,196247,4130511,86936978,1829807049,38512885007,810600392196,17061121121123,359094143935779,7558038143772482,159077895163157901,3348193836570088403,70471148463135014364 ⋆ a(n) = 21a(n-1) + a(n-2), starting with a(0) = 2 and a(1) = 21. ● a(n) =21a(n - 1) + a(n - 2), starting with a(0) = 2 and a(1) = 21. a(n) = ((21 + sqrt(445)) / 2) ^ n + ((21 - sqrt(445)) / 2) ^ n, (a(n)) ^ 2 =a(2n) - 2 if n=1, 3, 5..., (a(n)) ^ 2 =a(2n) + 2 if n=2, 4, 6.... ●

[A221762] ● 1,2,22,41,439,818,8758,16319,174721,325562,3485662,6494921,69538519,129572858,1387284718,2584962239,27676155841,51569671922,552135832102,1028808476201,11015040486199,20524599852098,219748673891878,409463188565759 ⋆ Numbers m such that 11*m^2 + 5 is a square. ● a(n) = - a(1 - n) = ((- 11 * (- 1) ^ n + 4 * t) * (10 + 3 * t) ^ floor(n / 2) - (11 * (- 1) ^ n + 4 * t) * (10 - 3 * t) ^ floor(n / 2)) / 22, where t=sqrt(11). ● a(n) = 20 * a(n - 2) - a(n - 4) for n>4, a(1)=1, a(2)=2, a(3)=22, a(4)=41. ● a(n) * a(n - 3) - a(n - 1) * a(n - 2) = - (3 / 2) * (9 - 7 * (- 1) ^ n). ●

[A152995] ● 0,2,22,60,116,190,282,392,520,666,830,1012,1212,1430,1666,1920,2192,2482,2790,3116,3460,3822,4202,4600,5016 ⋆ Twice 11-gonal numbers: a(n) = n*(9*n-7). ● a(n) = a(n - 1) + 18 * n - 16 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 27 2010 ● a(0)=0, a(1)=2, a(2)=22, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 02 2011 ●

[A273366] ● 2,22,62,122,202,302,422,562,722,902,1102,1322,1562,1822,2102,2402,2722,3062,3422,3802,4202,4622,5062,5522,6002 ⋆ a(n) = 10*n^2 + 10*n + 2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) ●

[A291915] ● 0,0,0,2,22,82,268,742,1902,4562,10452,23068,49432,103364,211764,426354,845626,1655454,3203876,6137946,11652946,21944034,41021256,76174360,140595760 ⋆ Number of 6-cycles in the n-Fibonacci cube graph. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 5 * a(n - 4) + 8 * a(n - 5) - 2 * a(n - 6) - 4 * a(n - 7) - a(n - 8). ●

[A172229] ● 0,2,22,84,215,442,792,1292,1969,2850,3962,5332,6987,8954,11260,13932,16997,20482,24414,28820,33727,39162,45152,51724,58905 ⋆ Number of ways to place 3 nonattacking wazirs on a 3 X n board. ● a(n) = (3 * n - 5) * (3 * n ^ 2 - 8 * n + 8) / 2, n>=2. ●

[A212894] ● 0,2,22,92,246,520,950,1572,2422,3536,4950,6700,8822,11352,14326,17780,21750,26272,31382,37116,43510,50600,58422,67012,76406 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and (least gapsize)=1. ● a(n) = 2 * (n - 1) * (3 * n ^ 2 - 3 * n + 5) with n>1, a(0)=0, a(1)=2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>=6. ●

[A281647] ● 2,22,98,838,3722,31822,141338,1208398,5367122,45887302,203809298,1742509078,7739386202,66169457662,293892866378,2512696882078,11160189536162,95416312061302,423793309507778,3623307161447398,16092985571759402,137590255822939822 ⋆ Solutions x to the negative Pell equation x^2 - 10*y^2 = -6 with x > y > 0. ● a(n) = 38 * a(n - 2) - a(n - 4) for n>4. ● a(n) = ((3 - r) ^ n + (- 3 - r) ^ n * (- 3 + r) - 3 * (- 3 + r) ^ n - r * (- 3 + r) ^ n + (3 + r) ^ n) / 2, where r=sqrt(10). ●

[A286778] ● 0,2,22,142,734,3390,14718,61694,253438,1029118,4151294,16683006,66904062,267993086,1072791550,4292935678,17175543806,68710301694,274858508286,1099470733310,4397960527870,17592005689342,70368366690302,281474188181502,1125898262675454 ⋆ Sum of the common path length over all 2-tuples of nodes in a complete binary tree of height n. ● a(n) = Sum _ (d=1 ..n } 2 ^ d * (2 ^ (n + 1 - d) - 1) ^ 2. ● a(n) = 4 * 2 ^ (2 * n) - (4 * n + 2) * 2 ^ n - 2. ● a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 36 * a(n - 3) - 16 * a(n - 4) fo r n>3. - _ Colin Barker _ , Jul 05 2017 ●

[A282819] ● 0,0,2,22,152,680,2270,6202,14672,31152,60810,110990,191752,316472,502502,771890,1152160,1677152,2387922,3333702,4572920,6174280,8217902,10796522,14016752 ⋆ Number of inequivalent ways to color the edges of a tetrahedron using at most n colors so that no two opposite edges have the same color. ● a(n) = n * (n - 1) * (n ^ 4 - 2 * n ^ 3 + n ^ 2 + 8) / 12. ●

[A000184] ● 2,22,164,1030,5868,31388,160648,795846,3845020,18211380,84876152,390331292,1775032504,7995075960,35715205136,158401506118,698102372988,3059470021316,13341467466520,57918065919924,250419305769512,1078769490401032,4631680461623664,19825379450255900,84622558822506328 ⋆ Number of genus 0 rooted maps with 3 faces with n vertices. ● a(n) = 4 ^ n * GAMMA(n + 3 / 2) / (3 * sqrt(Pi) * GAMMA(n)) - n * 4 ^ (n - 1). - _ Mark van Hoeij _ , Jul 06 2010 ●

[A007613] ● 1,2,22,170,1366,10922,87382,699050,5592406,44739242,357913942,2863311530,22906492246,183251937962,1466015503702,11728124029610,93824992236886,750599937895082,6004799503160662,48038396025285290,384307168202282326,3074457345618258602 ⋆ (8^n + 2(-1)^n)/3. ● a(n) = sum(k=0..n , binomial(3 * n, 3 * k)). - _ Paul Barry _ , Jan 13 2005 ● a(n) = 8 * a(n - 1) + 6 * (- 1) ^ n. - _ Paul Curtz _ , Nov 19 2007 ● a(n) = 7 * a(n - 1) + 8 * a(n - 2). G.f.: (5 * x - 1) / ((x + 1) * (8 * x - 1)). - _ Colin Barker _ , Sep 2 9 2014 ●

[A037567] ● 2,22,221,2212,22122,221221,2212212,22122122,221221221,2212212212,22122122122,221221221221,2212212212212,221221221221221,2212212212212212 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,2,1. ● a(n) = 10 * a(n - 1) + (1 / 9) *{ 8 * (n mod 3) + 5 * [(n + 1) mod 3] + 2 * [(n + 2) mod 3] } , wi th a(0)=0. [_ Paolo P. Lava _ , Jul 30 2009] ● a(n) = floor(221 / 999 * 10 ^ n). ● a(n) = 10 * a(n - 1) + 1 + (n ^ 2 mod 3). ●

[A002276] ● 0,2,22,222,2222,22222,222222,2222222,22222222,222222222,2222222222,22222222222,222222222222,2222222222222,22222222222222,222222222222222,2222222222222222,22222222222222222,222222222222222222,2222222222222222222 ⋆ a(n) = 2*(10^n - 1)/9. ● a(n)=10 * a(n - 1) + 2, with a(0)=0. [_ Paolo P. Lava _ , Jan 23 2009] ● a(n)=a(n - 1) + 2 * 10 ^ (n - 1) with a(0) =0; Also: a(n)=11 * a(n - 1) - 10 * a(n - 2) with a(0)=0, a(1)=2. [_ Vincenzo Librandi _ , Jul 22 2010] ●

[A089182] ● 2,22,232,2332,23532,235532,2357532,23577532,235817532,2358217532,23582417532,235824417532,2358248417532,23582488417532,235824908417532,2358249108417532,23582491508417532,235824915508417532 ⋆ Prime digit palindromes 2,...,23577532 continued by adding 10^(n-k) and 10^(k-1) times prime(k). ● a(n)=sum(k=1...[n / 2], prime(k) * (10 ^ (n - k) + 10 ^ (k - 1)) + (n % 2) * prime((n + 1) / 2) * 10 ^ [n / 2], where [x]=floor(x) and n % 2=0 for n even, 1 for n odd. - M. F. Hasler, Apr 06 2009 ●

[A155674] ● 1,2,22,332,4642,61052,771562,9487172,114358882,1357947692,15937424602,185311670612,2138428376722,24522712143932,279749833583242,3177248169415652,35949729863572162,405447028499293772 ⋆ 11^n-10^n+1^n ● a(n)=21 * a(n - 1) - 110 * a(n - 2) + 90 with a(0)=1, a(1)=2 [From _ Vincenzo Librandi _ , Jul 21 2010] ●

[A097232] ● 2,23,83,157,181,211,223,227,229,233,239,251,283,311,331,347,353,359,367,421,431,433,439,443,461 ⋆ Starting primes for which there are no solutions in A097231. ● a(n) = the n - th starting prime for which there are n o solutions in A097231. ●

[A099134] ● 0,1,2,23,84,605,2806,17107,87528,500089,2663210,14828111,80257212,442248533,2409384094,13221490315,72221278416,395650872817,21635060

35538,11844378654599,64795371984420,354633938406221 ★ Expansion of x/(1-2x-19x^2). ● a(n) = 2a(n - 1) + 19a(n - 2). ● a(n) = sum { k=0..n, (- 1) ^ (n - k)binomial(n, k)4 ^ (k - 1) * Fib(k) } . ● a(n) = sum { k=0..n, binomial(n, 2k + 1)20 ^ k } . ● a(n) = - (1 / 20) * [1 - 2 * sqrt(5)] ^ n * sqrt(5) + (1 / 20) * [1 + 2 * sqrt(5)] ^ n * sqrt(5), with n>=0 - _ Paolo P. Lava _ , Jun 10 2 008 ●

[A131464] ● 2,23,86,215,434,767,1238,1871,2690,3719,4982,6503,8306,10415,12854,15647,18818,22391,26390,30839,35762,41183,47126,53615,60674 ★ a(n) = 4*n^3 - 3*n^2 + 2*n - 1. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a (n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 ●

[A270868] ● 2,23,92,263,614,1247,2288,3887,6218,9479,13892,19703,27182,36623,48344,62687,80018,100727,125228,153959,187382,225983,270272,320783,378074 ★ a(n) = n^4 + 3*n^3 + 8*n^2 + 9*n + 2. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ● a(2 * m) == 0 (mod 2). ● a(4 * m + 2) == 0 (mod 4). ●

[A041579] ● 1,1,2,23,117,140,537,9269,28344,37613,216409,2418112,2634521,5052633,174424043,179476676,353900719,4072384585,20715823644,24788208229,95080448331,1641155829856,5018547937899,6659703767755,38317066776674 ★ Denominators of continued fraction convergents to sqrt(307). ● a(n) = 177058564 * a(n - 14) - a(n - 28) for n>27. [_ Bruno Berselli _ , Dec 20 2013] ●

[A198851] ● 2,23,191,1535,12287,98303,786431,6291455,50331647,402653183,3221225471,25769803775,206158430207,1649267441663,13194139533311,105553116266495,844424930131967,6755399441055743,54043195528445951 ★ 3*8^n-1. ● a(n) = 8 * a(n - 1) + 7. a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. ●

[A037750] ● 2,23,230,2301,23012,230123,2301230,23012301,230123012,2301230123,23012301230,230123012301,2301230123012,23012301230123,2301230123012301,2301230123012301 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,3,0,1. ● a(n)=10 * a(n - 1) + [(n + 1) mod 4], with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[A037631] ● 2,23,230,2302,23023,230230,2302302,23023023,230230230,2302302302,23023023023,230230230230,2302302302302,230230230230230 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,3,0. ● a(n)=10 * a(n - 1) + (1 / 9) *{ 14 * (n mod 3) + 2 * [(n + 1) mod 3] - [(n + 2) mod 3] } , with a (0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[A037757] ● 2,23,231,2310,23102,231023,2310231,23102310,231023102,2310231023,23102310231,231023102310,2310231023102,23102310231023,231023102310,2310231023102310 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,3,1,0. ● a(n) = 10 * a(n - 1) + (1 / 4) * (2 * (n mod 4) + 3 * ((n + 1) mod 4) - ((n + 3) mod 4)) f or n > 0. - _ Paolo P. Lava _ , Jul 30 2009 ●

[A037645] ● 2,23,231,2312,23123,231231,2312312,23123123,231231231,2312312312,23123123123,231231231231,2312312312312,23123123123123,2312312312312312,231231231231231,2312312312312312 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 2,3,1. ● a(n)=10 * a(n - 1) + (n mod 3) + 1, with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[A198972] ● 2,23,233,2333,23333,233333,2333333,23333333,233333333,2333333333,23333333333,233333333333,2333333333333,23333333333333,233333333333333,2333333333333333,23333333333333333,233333333333333333 ★ (7*10^n-1)/3. ● a(n) = 10 * a(n - 1) + 3. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2), n > 1. ●

[A277830] ● 1,1,2,23,344,4665,58986,713307,8367628,96021949,1083676270,12071330591,133058984912,1454046639233,15775034293554,170096021947875,1824417009602196,19478737997256517,207133058984910838,2194787379972565159,23182441700960219480 ★ Number of digits '0' in the set of all numbers from 0 to A014824(n) = Sum_{i=1..n} i*10^(n-i) = (0, 1, 12, 123, 1234, 12345, ...). ● a(n) = 22 * a(n - 1) - 141 * a(n - 2) + 220 * a(n - 3) - 100 * a(n - 4) for n> 3. ●

[A212759] ● 1,2,24,32,135,162,448,512,1125,1250,2376,2592,4459,4802,7680,8192,12393,13122,19000,20000,27951,29282,39744,41472,54925 ★ Number of (w,x,y,z) with all terms in {0,...,n} and w, x, and y even. ● a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). ● a(n) = (n + 1) * (2 * n ^ 3 + 9 * n ^ 2 + 15 * n + 9 + (3 * n ^ 2 + 9 * n + 7) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Sep 23 2015 ●

[A152965] ● 0,2,24,66,128,210,312,434,576,738,920,1122,1344,1586,1848,2130,2432,2754,3096,3458,3840,4242,4664,5106,5568 ★ Twice 12-gonal numbers: a(n) = 2*n*(5*n-4). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 10 2012 ●

[A172225] ● 0,2,24,96,260,570,1092,1904,3096,4770,7040,10032,13884,18746,24780,32160,41072,51714,64296,79040,96180,115962,138644,164496,193800 ★ Number of ways to place 2 nonattacking wazirs on an n X n board. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Li brandi _ , Apr 30 2013 ●

[A145889] ● 0,1,2,24,96,1080,6480,80640,645120,9072000,90720000,1437004800,17244057600,305124019200,4271736268800,83691159552000,1339058552832000,28810681675776000,518592270163968000,12164510040883200000 ★ Number of even entries that are followed by a smaller entry in all permutations of {1,2,...,n}. ● a(2n) = n(2n)! / 2; a(2n + 1) = n ^ 2 * (2n)!. ●

[A212568] ● 0,0,2,24,98,272,608,1184,2092,3440,5350,7960,11422,15904,21588,28672,37368,47904,60522,75480,93050,113520,137192,164384,195428 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<|x-y|+|y-z|. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). ●

[A179824] ● 2,24,108,320,750,1512,2744,4608,7290,11000,15972,22464,30758,41160,54000,69632,88434,110808,137180,168000,203742,244904,292008,345600,406250 ★ Number of colorings with n colors of the 4-vertex undirected graph defined by [(a,x),(b,x),(c,x)] with no same color adjacencies. ● a(n) = n * (n - 1) ^ 3. - Jaime Soffer (jaime.soffer(AT)gmail.com), Jul 30 2010 ● a(n) = 5 * a (n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Li brandi _ , Mar 12 2014 ●

[A098455] ● 1,2,24,128,1096,7632,60864,461568,3648096,28551872,226695424,1799989248,14380907776,115126211072,924791445504,7444100947968,60057602459136,485388465196032,3929580292706304,31858982479331328 ★ Expansion of 1/sqrt(1-4x-36x^2). ● a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(2(n - k), n) * 9 ^ k } . ●

[A290775] ● 0,0,2,24,138,532,1596,4032,8988,18216,34254,60632,102102,164892,256984,388416,571608,821712,1156986,1599192,2174018,2911524,3846612,5019520,6476340 ★ Number of 5-cycles in the n-triangular honeycomb bishop graph. ● a(n) = 2 / 5 * binomial(n + 1, 4) * (8 - 7 * n + 2 * n ^ 2). ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ●

[A035600] ● 0,2,24,146,608,1970,5336,12642,27008,53154,97880,170610,284000,454610,703640,1057730,1549824,2220098,3116952,4298066,5831520,7796978,10286936,13408034,17282432 ★ Number of points of L1 norm 6 in cubic lattice Z^n. ● a(n)= (4 * n ^ 6 + 40 * n ^ 4 + 46 * n ^ 2) / 45. - _ Frank Ellermann _ , Mar 16 2002 ●

[A288443] ● 2,24,160,896,4608,22528,106496,491520,2228224,9961472,44040192,192937984,838860800,3623878656,15569256448,66571993088,283467841536,1202590842880,5085241278464,21440476741632,90159953477632,378231999954944,1583296743997440,6614661952700416,27584547717644288 ★ a(n) = (2n + 1)*2^(2n + 1); numbers k such that v(k)*2^v(k) = k, where v(n) = A007814(n) is 2-adic valuation of n. ● a(n) = (2n + 1) * 2 ^ (2n + 1). ●

[A108476] ● 1,2,24,160,1232,9120,68224,508928,3799296,28357120,211662848,1579868160,11792306176,88018952192,656982441984,4903783628800,36602339459072,273203580764160,2039219289063424,15220939987877888 ★ Expansion of (1-4x)/(1-6x-12x^2+8x^3). ● a(0)=1, a(1)=2, a(2)=24, a(n)=6 * a(n - 1) + 12 * a(n - 2) - 8 * a(n - 3) [From Harvey P. Dale, Feb 21 2012] ●

[A157053] ● 2,24,162,780,2970,9492,26474,66222,151560,322190,643632,1219374,2206932,3838590,6447660,10501172,16639974,25727292,38906870,57671880,83945862,120177024,169447302,235597650,323371100 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 8. ● a(n) = T(n,4); T(n,k) = sum { i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k). ● a(n) = n(n + 1)(n ^ 2 + n + 6)(n ^ 4 + 2n ^ 3 + 23n ^ 2 + 22n + 24) / 576. - Bruno Berselli, Mar 17 2012 ●

[A059387] ● 0,2,24,182,1200,7502,45864,277622,1672800,10057502,60406104,362617862,2176246800,13059091502,78359364744,470170602902,2821066795200,16926530173502,101559568985784,609358577224742,3656154952230000 ★ Jordan function J_n(6) (see A059379). ● a(n - 1) = (limit of (Sum _{ k>=0 } (1 / (6 * k + 1) ^ s - 1 / (6 * k + 2) ^ s - 2 / (6 * k + 3) ^ s - 1 / (6 * k + 4) ^ s + 1 / (6 * k + 5) ^ s + 2 / (6 * k + 6) ^ s) as s - > n)) / zeta(n) * 6 ^ (n - 1). - _ Mats Granvik _ , Nov 14 2013 ●

[A052780] ● 0,0,2,24,192,1280,7680,43008,229376,1179648,5898240,28835840,138412032,654311424,3053453312,14092861440,64424509440,292057776128,1314259992576,5875515260928,26113401159680 ★ A simple grammar. ● a(n)=n * (n - 1) * 4 ^ (n - 2), n>=0 . - _ Zerinvary Lajos _ , Apr 25 2007 ●

[A245019] ● 0,2,24,194,1320,8162,47544,266114,1448520,7727522,40616664,211117634,1088079720,5571427682,28384443384,144041002754,728708854920,3677645732642,18524892775704,93171895169474,468051525534120,2349032799986402 ★ Number of ordered n-tuples of positive integers, whose minimum is 0 and maximum is 4. ● a(n) = 5 ^ n - 2 * 4 ^ n + 3 ^ n. ● a(n) = 12 * a(n - 1) - 47 * a(n - 2) + 60 * a(n - 3). G.f.: - 2 * x ^ 2 / ((3 * x - 1) * (4 * x - 1) * (5 * x - 1)). - _ Colin Barker _ , Sep 17 2014 ●

[A189769] ● 2,24,200,1400,8820,51744,288288,1544400,8022300,40646320,201753552,984312784,4732273000,22465296000,105479913600,490481598240,2261264427180,10345654242000,47009200854000,212283654382800,953254695633240,4258696302569280,18936890673480000 ★ Number of one-sided prudent walks from (0,0) to (n,n), with 3+n east steps, 3 west steps and n north steps. ● a(n) = (n + 1) * (2 + n) * Gamma(2 * n) / (3 * (Gamma(n) ^ 2). ●

[A121213] ● 0,2,24,218,1776,13682,102024,745418,5374176,38400482,272709624,1928498618,13597146576,95668307282,672119557224,4717043931818,33080342678976,231867574534082,1624598900644824,11379821699045018 ★ 7^n-5^n. ● a(n)=12 * a(n - 1) - 35 * a(n - 2) with a(0)=0, a(1)=2 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A147538] ● 2,24,224,1920,15872,129024,1040384,8355840,66977792,536346624,4292870144,34351349760,274844352512,2198889037824,17591649173504,140735340871680,1125891316908032,9007164895002624,72057456598974464 ★ Numbers whose binary representation is the concatenation of n 1's and 2n-1 digits 0. ● a(n) = 12 * a(n - 1) - 32 * a(n - 2). ●

[A219205] ● 0,2,24,234,2160,19602,176904,1593594,14346720,129133602,1162241784,10460294154,94143001680,847288078002,7625595890664,68630372581914,617673381935040,5559060523508802,50031544969859544,450283905503576874 ★ 3^(n-1)*(3^n - 1), n >= 0. ● a(n) = 12 * a(n - 1) - 27 * a(n - 2). G.f.: 2 * x / ((3 * x - 1) * (9 * x - 1)). [_ Colin Barker _ , Nov 23 2012] ●

[A132596] ● 0,2,24,242,2400,23762,235224,2328482,23049600,228167522,2258625624,22358088722,221322261600,2190864527282,21687323011224,214682365584962,2125136332838400,21036680962799042,208241673295152024 ★ Sequence allows us to find X values of the equation: X(X + 1) - 6*Y^2 = 0. ● a

(0)=0, a(1)=2 and a(n)=10 * a(n - 1) - a(n - 2) + 4. • a(n)= - 1 / 2 + (1 / 4) * [5 + 2 * sqrt(6)] ^ n + (1 / 4) * [5 - 2 * sqrt(6)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 15 2008 •

[A099669] • 2,24,246,2468,24690,246912,2469134,24691356,246913578,2469135800,24691358022,246913580244,2469135802466,24691358024688,246913580246910,2469135802469132,24691358024691354,246913580246913576,2469135802469135798,24691358024691358020 ★ Partial sums of repdigits of A002276. • a(n) = (2 / 81) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). - _ Matthew House _ , Jun 30 2016 •

[A173228] • 2,24,249,2499,24999,249998,2499999,24999999,249999998,2499999997,24999999997,249999999997,2499999999997,24999999999998,249999999999997,2499999999999996,24999999999999995,249999999999999995,2499999999999999995,24999999999999999996 ★ The number of trailing zeros in (10^n)! • a(n) = Sum _{ k>=1 } floor(10 ^ n / 5 ^ k). - _ Stephen G Cappella _ , Dec 13 2017 •

[A135389] • 2,24,300,3920,52920,731808,10306296,147232800,2127513960,31031617760,456164781072,6749962774464,100445874620000,1502052155856000,22557604697766000,340044833169460800,5143178101688094600 ★ Number of walks from origin to (1,1) in a square lattice. • a(n) = binomial(2n + 2,n) * binomial(2n + 2,n + 1). •

[A041723] • 1,1,2,25,27,52,2003,2055,4058,50751,54809,105560,4066089,4171649,8237738,103024505,111262243,214286748,8254158667,8468445415,16722604082,209139694399,225862298481,435001992880,16755938027921 ★ Denominators of continued fraction convergents to sqrt(381). • a(n) = 2030 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041071] • 1,2,25,52,649,1350,16849,35048,437425,909898,11356201,23622300,294823801,613269902,7654062625,15921395152,198710804449,413343004050,5158826853049,10730996710148,133930787374825,278592571459798,3477041644892401,7232675861244600 ★ Denominators of continued fraction convergents to sqrt(42). • a(n) = 26 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 10 2013 •

[A123012] • 1,2,25,92,709,3350,21589,113528,680425,3744938,21778801,122201300,701757421,3969742142,22676390125,128717365232,733638923089,4170342516050,23747102416969,135071397670988,768831946098325,4374163243287398,24893797354639621,141645022818314600 ★ Expansion of 1/(1 - 2*x - 21*x^2). • a(0)=1, a(1)=2, a(n) = 2 * a(n - 1) + 21 * a(n - 2) for n>1. - _ Philippe Deléham _ , Sep 19 2009 • a(n) = (1 / 2 + sqrt(22) / 44) * (1 + sqrt(22)) ^ n + (1 / 2 - sqrt(22) / 44) * (1 - sqrt(22)) ^ n. - _ Antonio Alberto Olivares _ , Jun 08 2011 •

[A063264] • 2,25,140,540,1666,4417,10480,22825,46420,89232,163592,288015,489580,806990,1294448,2026502,3104030,4661555,6876100,9977814,14262622,20107175,27986400,38493975,52366080 ★ Tenth column (k=9) of sextinomial array A063260. • a(n) = 2 * C(n + 2,2) + 19 * C(n + 2,3) + 52 * C(n + 2,4) + 70 * C(n + 2,5) + 56 * C(n + 2,6) + 28 * C(n + 2,7) + 8 * C(n + 2,8) + C(n + 2,9) (see comment in A213888). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A215298] • 2,25,174,962,4804,22689,103510,461318,2021916,8752042,37520972,159633060,674969224,2839400945,11893509990,49637986590,206519808300,856904298030,3547095101220,14652264350940,60412895258040,248675669666650,1022088942267900,4195255959533052 ★ Number of solid standard Young tableaux of shape [[n,n-2],[2]]. • a(n) = 12 * (1 - 4 * n + 10 * n ^ 2 - 8 * n ^ 3 + 2 * n ^ 4) * (2 * n - 4)! / ((n - 2)! * (n + 1)!). - _ Vaclav Kotesovec _ , Sep 02 2014 •

[A094218] • 0,0,0,2,25,198,1274,7280,38556,193800,937992,4412826,20309575,91861770,409704750,1806342720,7887861960,34166674800,146977222320,628521016500,2673950235138,11324837666604,47773836727540,200828153398752 ★ Number of permutations of length n with exactly 2 occurrences of the pattern 2-13. • a(n) = n * binomial(2 * n,n - 4) / 2. •

[A152997] • 0,2,26,72,140,230,342,476,632,810,1010,1232,1476,1742,2030,2340,2672,3026,3402,3800,4220,4662,5126,5612,6120 ★ Twice 13-gonal numbers: a(n) = n*(11*n - 9). • a(n) = a(n - 1) + 22 * n - 20 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 27 2010 •

[A072415] • 2,26,182,878,3626,13508,46922,155156,494468,1529590,4615074,13633310,39548078,112918434,317920082,883996002 ★ a(1) = 2; a(n) = a(n-1)-th even nontotient number. • a(3)=182 is the 26th = a(2) - th term in A005277. •

[A198960] • 2,26,242,2186,19682,177146,1594322,14348906,129140162,1162261466,10460353202,94143178826,847288609442,7625597484986,68630377364882,617673396283946,5559060566555522,50031545098999706,450283905890997362 ★ 3*9^n-1. • a(n) = 9 * a(n - 1) + 8, n>0. • a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A280089] • 1,2,27,100,245,486,847,1352,2025,2890,3971,5292,6877,8750,10935,13456,16337,19602,23275,27380,31941,36982,42527,48600,55225 ★ a(n) = 4 * n^3 - 3 * n + 1. • a(n) = (2n - 1) ^ 2 * (n + 1). •

[A041801] • 1,1,2,27,137,164,629,793,2215,3008,5223,8231,21685,203396,225081,1778963,5561970,18464873,42491716,103448305,352836631,1161958198,8486544017,9648502215,95323063952 ★ Denominators of continued fraction convergents to sqrt(421). • a(n) = 88084891393642836 * a(n - 37) + a(n - 74) for n>73. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A166942] • 2,27,148,509,1350,3031,6056,11097,19018,30899,48060,72085,104846,148527,205648,279089,372114,488395,632036,807597,1020118,1275143,1578744,1937545,2358746 ★ One fifth of product plus sum of five consecutive nonnegative numbers. • a(n) = (n ^ 5 + 10n ^ 4 + 35n ^ 3 + 50n ^ 2 + 29n + 10) / 5. - _ Charles R Greathouse IV _ , Nov 02 2009 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + 24 for n > 4; a(0)=2, a(1)=27, a(2)=148, a(3)=509, a(4)=1350. - _ Klaus Brockhaus _ , Nov 14 2009 •

[A011543] • 2,27,271,2718,27182,271828,2718281,27182818,271828182,2718281828,27182818284,271828182845,2718281828459,27182818284590,271828182845904,2718281828459045,27182818284590452,271828182845904523,2718281828459045235,27182818284590452353,271828182845904523536 ★ Decimal expansion of e truncated to n places. • a(n) = floor(e * 10 ^ n). •

[A199021] • 2,27,302,3327,36602,402627,4428902,48717927,535897202,5894869227,64843561502,713279176527,7846070941802,86306780359827,949374583958102,10443120423539127,114874324658930402,1263617571248234427 ★ (5*11^n-1)/2. • a(n) = 11 * a(n - 1) + 5. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[A051958] • 0,1,2,28,104,880,4256,29632,161408,1033984,5941760,36699136,216000512,1312780288,7809572864,47125872640,281681494016,1694383931392,10149123719168,60963461791744,365505892843520,2194134868688896 ★ a(n) = 2 a(n-1) + 24 a(n-2), a(0)=0, a(1)=1. • a(n) = (6 ^ n - (- 4) ^ n) / 10. •

[A213829] • 2,28,114,296,610,1092,1778,2704,3906,5420,7282,9528,12194,15316,18930,23072,27778,33084,39026,45640,52962,61028,69874,79536,90050 ★ Principal diagonal of the convolution array A213828. • a(n) = 2 * (n - 3 * n ^ 2 + 3 * n ^ 3). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A006332] • 0,2,28,168,660,2002,5096,11424,23256,43890,77924,131560,212940,332514,503440,742016,1068144,1505826,2083692,2835560,3801028,5026098,6563832,8475040,10829000 ★ From the enumeration of corners. • a(n) = (n * (1 + n) ^ 2 * (2 + n) * (1 + 2 * n) * (3 + 2 * n)) / 90. •

[A065340] • 2,28,182,864,3474,12660,43358,142552,455930,1430796,4431078,13595664,41441570,125732836,380212142,1147057800,3454803594,10393245180,31240551350,93849578560,281817169202,846013542228,2539215029502,7620094559544,22865383949594 ★ Third diagonal of triangle in A046740. • a(n) = 3 ^ n - (3 * n + 1) * 2 ^ (n - 1) + 2 * n ^ 2 - 2 * n + 1. - _ Vladeta Jovovic _ , Jan 04 2003 •

[A035601] • 0,2,28,198,952,3530,10836,28814,68464,148626,299660,568150,1022760,1761370,2919620,4680990,7288544,11058466,16395516,23810534,33940120,47568618,65652532,89347502,120037968 ★ Number of points of L1 norm 7 in cubic lattice Z^n. • a(n)= (8 * n ^ 6 + 4 * 5 * 7 * n ^ 4 + 8 * 7 * 7 * n ^ 2 + 2 * 5 * 9) * n / (5 * 7 * 9). - _ Frank Ellermann _ , Mar 16 2002 •

[A147537] • 2,28,248,2032,16352,131008,1048448,8388352,67108352,536869888,4294965248,34359734272,274877898752,2199023239168,17592186011648,140737488289792,1125899906711552,9007199254478848,72057594037403648 ★ Numbers whose binary representation is the concatenation of 2n-1 digits 1 and n digits 0. • a(n) = 2 ^ (n - 1) * (4 ^ n - 2). a(n) = 10 * a(n - 1) - 16 * a(n - 2). G.f.: 2 * x * (4 * x + 1) / ((2 * x - 1) * (8 * x - 1)). [_ Colin Barker _ , Nov 04 2012] •

[A097353] • 1,2,28,284,2849,28500,285008,2850083,28500834,285008350,28500835049,285008350498,2850083504986,28500835049863,285008350498633,2850083504986335,28500835049863359,285008350498633597,2850083504986335973 ★ Number of digits of the (10^n)-th tetranacci number (A000078(10^n)). • a(n) = floor(log10(r) + (10 ^ n - 2) * log10(x)) + 1 for n>=1, where x is the positive real root of the tetranacci limit equation x ^ 4 - x ^ 3 - x ^ 2 - x - 1=0, x = 1.92756... and r is the positive real root of the tetranacci auxiliary equation 563r ^ 4 - 20r ^ 2 - 5r - 1=0, r = 0.293813... - Herman Jamke (hermanjamke(AT)fastmail.fm), May 01 2007 •

[A011944] • 0,2,28,390,5432,75658,1053780,14677262,204427888,2847313170,39657956492,552364077718,7693439131560,107155783764122,1492487533566148,20787669686161950,289534888072701152 ★ a(n) = 14*a(n-1)-a(n-2) with a(0) = 0, a(1) = 2. • a(n) = [(7 + 2 * Sqrt(12)) ^ (n - 1) - (7 - 2 * Sqrt(12)) ^ (n - 1)] / (2 * Sqrt(12)) - _ Gregory V. Richardson _ , Oct 13 2002 • a(n) = 13 * (a(n - 1) + a(n - 2)) - a(n - 3). a(n) = 15 * (a(n - 1) - a(n - 2)) + a(n - 3). - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Sep 20 2006 • a(n) = Sinh[2n * ArcSinh[Sqrt[3]]] / Sqrt[12] - _ Herbert Kociemba _ , Apr 24 2008 •

[A140152] • 1,2,29,30,155,156,499,500,1229,1230,2561,2562,4759,4760,8135,8136,13049,13050,19909,19910,29171,29172,41339,41340,56965 ★ a(1)=1, a(n)=a(n-1)+n^3 if n odd, a(n)=a(n-1)+ n^0 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 3 +{ [1 + (- 1) ^ n] / 2 } , with a(1)=1 a(n)= (- 5 / 16) + (5 / 16) * (- 1) ^ n - (1 / 4) * (- 1) ^ n * n ^ 3 + (1 / 4) * n ^ 3 - (3 / 8) * (- 1) ^ n * n ^ 2 + (1 / 8) * n ^ 2 + (1 / 2) * n + (1 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 • a(n)=a(n - 1) + 4a(n - 2) - 4a(n - 3) - 6a(n - 4) + 6a(n - 5) + 4a(n - 6) - 4a(n - 7) - a(n - 8) + a(n - 9). G.f.: x * (- 1 - x - 23 * x ^ 2 + 3 * x ^ 3 - 23 * x ^ 4 - 3 * x ^ 5 - x ^ 6 + x ^ 7) / ((1 + x) ^ 4 * (x - 1) ^ 5). [From _ R. J. Mathar _ , Feb 22 2009] •

[A041969] • 1,1,2,29,31,60,2671,2731,5402,78359,83761,162120,7217041,7379161,14596202,211725989,226322191,438048180,19500442111,19938490291,394389324 02,572083543919,611522476321,1183606020240,52690187366881 ★ Denominators of continued fraction convergents to sqrt(507). • a(n) = 2702 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 28 2013 •

[A041097] • 1,2,29,60,869,1798,26041,53880,780361,1614602,23384789,48384180,700763309,1449910798,20999514481,43448939760,629284671121,1302018282002,18857540619149,39017099520300,565096933903349,1169210967326998,16934050476481321,35037311920289640 ★ Denominators of continued fraction convergents to sqrt(56). • a(n) = 30 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A253305] • 2,29,100,1777,6178,110125,382916,6825953,23734594,42309894

1,1471161892,26225308369,91188302690,1625546019917,5652203604868,100757627926465,350345435199106,6245347385420893,21715764778739684,387110780268168881,1346027070846661282 ⋆ Numbers n such that the octagonal number O(n) is equal to the sum of the heptagonal numbers H(m) and H(m+1) for some m. ● a(n) = a(n - 1) + 62 * a(n - 2) - 62 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A123004] ● 0,1,2,29,108,941,4582,32689,179928,1177081,6852362,43131749,257572548,1593438821,9626191342,59088353209,358831489968,2194871810161,13360530869522,81592856993069,497198985724188,3034219396275101 ⋆ G.f. x^2/(1 - 2*x - 25*x^2). ● a(n) = 2 * a(n - 1) + 25 * a(n - 2). ● a(n) = ((1 + sqrt(26) ^ n - (1 - sqrt(26)) ^ n) / (2 * sqrt(26)). - _ Rolf Pleisch _ , Jul 06 2009 ●

[A198698] ● 2,29,299,2999,29999,299999,2999999,29999999,299999999,2999999999,29999999999,299999999999,2999999999999,29999999999999,299999999999999,2999999999999999,29999999999999999 ⋆ 3*10^n-1. ● a(n) = 10 * a(n - 1) + 9, a(0)=2. a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. ●

[A157870] ● 2,30,90,182,306,462,650,870,1122,1406,1722,2070,2450,2862,3306,3782,4290,4830,5402,6006,6642,7310,8010,8742,9506 ⋆ a(n) = (4n+1)(4n+2) = (4n+2)!/(4n)!. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 10 2012 ●

[A078838] ● 0,2,30,120,630,1122,2760,3978,7392,15498,19140,33390,46020,53382,70380,102102,142158,157530,210210,251160,273492,348348,405162,501468,652080 ⋆ a(n)=sum(k=1,(p(n)-1)*(p(n)-2),floor((k*p(n))^(1/3))) where p(n) denotes the n-th prime. ● a(n)=(1 / 4) * (3 * prime(n) - 5) * (prime(n) - 2) * (prime(n) - 1) ●

[A267851] ● 1,2,30,126,510,2046,8190,32766,131070,524286,2097150,8388606,33554430,134217726,536870910,2147483646,8589934590,34359738366,137438953470,549755813886,2199023255550,8796093022206,35184372088830,140737488355326,562949953421310 ⋆ Decimal representation of the n-th iteration of the "Rule 229" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. ● a(n) = 2 * (4 ^ n - 1) for n >1. - _ Colin Barker _ , Nov 26 2016 ●

[A154413] ● 0,0,0,2,30,202,2016,14394,151290,1294478,15660744,162298842,2274318228,27968231436,447527038848,6382757516250,114890215021650,1865385066804550,37307710791708600,679562209260462054 ⋆ a(n) = A006551(n) - A018224(n). ● a(n) = Eulerian[n,Floor[n / 2]] - Binomial[n,Floor[n / 2]] ^ 2. ●

[A157054] ● 2,30,252,1500,7002,27174,91112,271224,731502,1815506,4197468,9129276,18827718,37060506,70006512,127485584,224676522,384468534,640622012,1041949020,1657762722,2584888350,3956576472,5953712520,8818775030 ⋆ Number of integer sequences of length n+1 with sum zero and sum of absolute values 10. ● a(n)=T(n,5); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)). ●

[A189770] ● 2,30,300,2450,17640,116424,720720,4247100,24066900,132100540,706137432,3691172940,18929092000,95477508000,474659611200,2329787591640,11306322135900,54314684770500,258550604697000,1220631012701100,5719528173799440,26616851891058000 ⋆ Number of one-sided prudent walks from (0,0) to (n,n), with 4+n east steps, 4 west steps and n north steps. ● a(n) = (n + 1)(2 + n)(n + 3) Gamma(1 + 2n) / (24n(Gamma(n)) ^ 2). ●

[A245020] ● 0,0,2,30,302,2550,19502,140070,963902,6433590,41983502,269335110,1705278302,10686396630,66425568302,410223570150,2520229093502,15417960407670,93999281613902,571487645261190,3466523088409502,20987674370482710,126870924446280302 ⋆ Number of ordered n-tuples of positive integers, whose minimum is 0 and maximum is 5. ● a(n) = 6 ^ n - 2 * 5 ^ n + 4 ^ n. ● a(n) = 15 * a(n - 1) - 74 * a(n - 2) + 120 * a(n - 3) for n>3. G.f.: - 2 * x ^ 2 / ((4 * x - 1) * (5 * x - 1) * (6 * x - 1)). - _ Colin Barker _ , Sep 18 2014 ●

[A277660] ● 0,0,2,30,310,2730,21980,167076,1220100,8650620,59958030,408172050,2738441706,18151701750,119100934680,774719545320,5001728701800,32081745977496,204596905143930,1298154208907430,8199305968563710,51576591659861730,323239814342259892,2019025558874685900 ⋆ 2nd-order coefficients of the 1/N-expansion of traces of negative powers of complex Wishart matrices with parameter c=2. ● a(n) = 2 * C _ (n - 2) ^ (5 / 2)(3) for n>=2, where C _ n ^ (m)(x) is the Gegenbauer polynomial. - _ Andrey Zabolotskiy _ , Oct 26 2016 ●

[A089433] ● 2,30,315,2856,23940,191268,1480050,11196900,83304936,611931320,4450217772,32104210320,230080173960,1639890119016,11634355574100,82216112723640,579022013389050,4065827626164150,28475852003986695 ⋆ Number of noncrossing connected graphs on n nodes having exactly two interior faces. ● a(n) = n * binomial(3n - 3, n - 4) / 2. ●

[A216119] ● 0,0,0,2,30,360,4200,50400,635040,8467200,119750400,1796256000,28540512000,479480601600,8499883392000,158664489984000,3112264995840000,64023737057280000,1378644471300096000,31019500604252160000,725045925946859520000,17796678189812121600000 ⋆ Number of stretching pairs in all permutations in S_n. ● a(n) = n! (n - 2)(n - 3) / 24. ●

[A083446] ● 2,30,382,4550,52062,579670,6328142,68064390,723690622,7624326710,79730051502,828681574630,8569245282782,88234318656150,905219979016462,9258090922259270,94433929411444542,961016475814111990 ⋆ a(n) = ((10^n - 1) - 9^n)/9. ● a(n) = 20 * a(n - 1) - 109 * a(n - 2) + 90 * a(n - 3). - _ Matthew House _ , Jan 16 2017 ●

[A091345] ● 0,0,2,30,398,5430,79022,1238790,20944478,381167670,7443745742,155454939750,3459933837758,81801569650710,2048133412585262,54153668865539910,1508122968767710238,44130728380569410550 ⋆ Exponential convolution of A069321(n) with itself, where we set A069321(0)=0. ● a(n)=Sum(C(n, k)Sum(i!i Stirling2(k, i), i=1, .., k)Sum(i!i Stirling2(n - k, i), i=1, .., n - k), k=0, .., n) ●

[A247099] ● 0,1,2,31,32,33,64,211,242,243,244,275,486,781,992,1023,1024,1025,1056,1267,2048,2101,2882,3093,3124 ⋆ Numbers which are the sum or difference of two fifth powers. ● a(n) << n ^ (5 / 2). Can this be improved? ●

[A104095] ● 0,1,1,2,31,80,690,2522,16463,71361,410068,1933079,10454444,51354986,269730280,1351952533,7000832157,35436588070,182241654663,926897102096,4750855253550,24219753328074,123937215821147,632547978692149 ⋆ Let v[0]={0,1,1,2}, v[n]=M.v[n-1], where M={{0, 1, 0, 0}, {0, 0, 1, 0}, {0, 0, 0, 1}, {1, 10, 19, 1}}; then a(n) =v[n][[1]] (the first term). ● a(0)=0, a(1)=a(2)=1, a(3)=2, a(n)=a(n - 1) + 19a(n - 2) + 10a(n - 3) + a(n - 4) [From Harvey P. Dale, Apr 26 2011] ●

[A212569] ● 0,1,2,31,96,321,690,1471,2576,4465,6930,10671,15312,21841,29666,40111,52320,68001,85986,108415,133760,164641,199122,240351,285936 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} such that range{w,x,y,z} is not one of the numbers w,x,y,z. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). ● a(n) = ((n - 1) * n * (2 * n * (2 * n - 5) - 3 * (- 1) ^ n + 11) - 2 * (- 1) ^ n + 2) / 4. - _ Todd Silvestri _ , Nov 16 2014 ●

[A267888] ● 1,2,31,127,511,2047,8191,32767,131071,524287,2097151,8388607,33554431,134217727,536870911,2147483647,8589934591,34359738367,137438953471,549755813887,2199023255551,8796093022207,35184372088831,140737488355327,562949953421311 ⋆ Decimal representation of the n-th iteration of the "Rule 237" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. ● a(n) = 2 ^ (2 * n + 1) - 1 for n>1. - _ Colin Barker _ , Nov 25 2016 ●

[A188225] ● 2,31,256,1496,6936,27132,93024,286824,810084,2124694,5230016,12183560,27041560,57500460,117675360,232676280,445962870,830905245,1508593920,2674776720,4639918800,7887861960,13160496960,21578373360,34810394760 ⋆ Number of ways to select 15 knights from n knights sitting at a round table if no adjacent knights are chosen. ● a(n) = C(n - 15, 15) + C(n - 16, 14) ●

[A004842] ● 0,1,2,32,33,64,243,244,275,486,1024,1025,1056,1267,2048,3125,3126,3157,3368,4149,6250,7776,7777,7808,8019 ⋆ Numbers that are the sum of at most 2 positive 5th powers. ● a(n) << n ^ (5 / 2). - _ Charles R Greathouse IV _ , Nov 30 2014 ●

[A274654] ● 1,2,32,128,4096,16384,131072,524288,33554432,134217728,1073741824,4294967296,68719476736,274877906944,2199023255552,8796093022208,1125899906842624,4503599627370496,36028797018963968,144115188075855872,2305843009213693952 ⋆ Denominators of coefficients of z^n/n! for the expansion of Fricke's hypergeometric function F_1(1/2,1/2;z). ● a(n) = denominator(r(n)), with the rationals (in lowest terms) defined by the recurrence ●

[A244730] ● 0,2,32,162,512,1250,2592,4802,8192,13122,20000,29282,41472,57122,76832,101250,131072,167042,209952,260642,320000,388962,468512,559682,663552 ⋆ a(n) = 2*n^4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. ●

[A169833] ● 2,32,170,596,1690,4232,9802,21580,45946,95680,196362,399172,806490,1623096,3258570,6532092,13082042,26185200,52395146,104819060,209671322,419380712,838804810,1677658796,3355373050 ⋆ a(n) = 25*2^(n+3) - (198+392*n/3+36*n^2+10*n^3/3). ● a(n) - 6 * a(n - 1) + 14 * a(n - 2) - 16 * a(n - 3) + 9 * a(n - 4) - 2 * a(n - 5) = 0, with n>4. (End) ●

[A228582] ● 0,0,0,0,2,32,198,868,2860,7984,19380,42696,86526,164560,296010,509132,841464,1345184,2086920,3155472,4660890,6745152,9580142,13381940,18407268 ⋆ The number of binary pattern classes in the (2,n)-rectangular grid with 7 '1's and (2n-7) '0's: two patterns are in same class if one of them can be obtained by a reflection or 180-degree rotation of the other. ● a(n) = (1 / 4) * (binomial(2 * n, 7) + 2 * binomial(n - 1, 3) * (1 / 2) * (1 - (- 1) ^ n)) = (n - 3) * (n - 2) * (n - 1)(2 * n * (2n - 5) * (2 * n - 3) * (2 * n - 1) - 105 * (- 1) ^ n + 105) / 2520. ●

[A128789] ● 0,2,32,216,1024,4000,13824,43904,131072,373248,1024000,2725888,7077888,17997824,44957696,110592000,268435456,643956736,1528823808,3596091392,8388608000,19421724672,44660948992,102064193536,231928233984 ⋆ n^3*2^n. ● a(0)=0, a(1)=2, a(2)=32, a(3)=216, a(n)=8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). - _ Harvey P. Dale _ , Jun 14 2013 ●

[A053316] ● 2,32,232,3232,23232,223232,2223232,32223232,232223232,3232223232,23232223232,323232223232,3323232223232,23323232223232,323323232223232,3323323232223232,33323323232223232,333323323232223232 ⋆ a(n) contains n digits (either '2' or '3') and is divisible by 2^n. ● a(n)=a(n - 1) + 10 ^ (n - 1) * (2 + [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with ●

[A008512] ● 2,32,242,992,2882,6752,13682,24992,42242,67232,102002,148832,210242,288992,388082,510752,660482,840992,1056242,1310432,1608002,1953632,2352242,2808992,3329282 ⋆ Number of points on surface of 5-dimensional cube. ● a(n) = (n + 1) ^ 5 - (n - 1) ^ 5. ●

[A035602] ● 0,2,32,258,1408,5890,20256,59906,157184,374274,822560,1690370,3281280,6065410,10746400,18347010,30316544,48663554,76117536,116323586,174074240,255582978,368804128,523804162,733189632 ⋆ Number of points of L1 norm 8 in cubic lattice Z^n. ● a(n)= (2 * n ^ 8 + 8 * 7 * n ^ 6 + 4 * 7 * 11 * n ^ 4 + 8 * 3 * 11 * n ^ 2) / (5 * 7 * 9). - _ Frank Ellermann _ , Mar 16 2002 ●

[A060868] ● 2,32,338,3200,29282,264992,2389298,21516800,193690562,1743333152,15690352658,141214236800,1270931319842,11438391444512,102945551698418,926510051379200,8338590720693122,75047317261079072,675425857674234578 ⋆ Number of n X n matrices over GF(3) with rank 1. ● a(n) = 1 / 2 * (3 ^ n - 1) ^ 2. ●

[**A270445**] ● 2,32,352,3712,38912,407552,4268032,44695552,468058112,4901568512,51329892352,537533612032,5629125066752,58948963008512,617321555034112,6464675252273152,67698958146732032,708952693724413952,7424248994345254912 ★ Expansion of 2*x*(1+4*x) / (1-12*x+16*x^2). ● a(n) = 12 * a(n - 1) - 16 * a(n - 2) for n>2. G.f.: 2 * x * (1 + 4 * x) / (1 - 12 * x + 16 * x ^ 2). - _ Colin Barker _ , Mar 17 2016 ● a(n) = (1 + sqrt(5)) ^ (2 * n - 1) + (1 - sqrt(5)) ^ (2 * n - 1). ●

[**A199019**] ● 2,32,362,3992,43922,483152,5314682,58461512,643076642,7073843072,77812273802,855935011832,9415285130162,103568136431792,1139249500749722,12531744508246952,137849189590716482,1516341085497881312 ★ 3*11^n-1. ● a(n) = 11 * a(n - 1) + 10. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. ●

[**A191467**] ● 0,2,32,386,4160,42242,413792,3959426,37281920,347066882,3204309152,29403732866,268588249280,2444976817922,22198569382112,201143570584706,1819787258282240,16444551185679362,148466221699088672,1339452822487618946 ★ 9^n - 7^n. ● a(n) = 16 * a(n - 1) - 63 * a(n - 2). ●

[**A294328**] ● 0,2,32,432,5432,65432,765432,8765432,98765432,1098765432,12098765432,132098765432,1432098765432,15432098765432,165432098765432,1765432098765432,18765432098765432,198765432098765432,2098765432098765432,22098765432098765432 ★ a(n) = ((9*n + 8)*10^n - 8)/81. ● a(n) = 21 * a(n - 1) - 120 * a(n - 2) + 100 * a(n - 3) for n>2. ●

[**A013776**] ● 2,32,512,8192,131072,2097152,33554432,536870912,8589934592,137438953472,2199023255552,35184372088832,562949953421312,9007199254740992,144115188075855872,2305843009213693952 ★ a(n) = 2^(4n+1). ● a(n) = 16 * a(n - 1), n > 0; a(0) = 2. G.f.: 2 / (1 - 16 * x). - _ Philippe Deléham _ , Nov 23 2008 ● a(n) = Sum _{ k = 0..n } binomial(2 * k,k) * binomial(4 * n + 2 - 2 * k, 2 * n + 1 - k). Bisection of A264960. - _ Peter Bala _ , Nov 29 2015 ●

[**A068183**] ● 2,32,3222,53222,5332222,75332222,75332222222,7533332222222,7553333222222 ★ Largest number without decimal digits equal to 1 whose product of digits gives n!. ● a(n)=Max { x; f[x]=n! } , where x has no digit= 1 and f[x _] := Apply[Times, IntegerDigits[x]]. ●

[**A041127**] ● 1,2,33,68,1121,2310,38081,78472,1293633,2665738,43945441,90556620,1492851361,3076259342,50713000833,104502261008,1722749176961,3550000614930,58522759015841,120595518646612,1988051057361633,4096697633369878,67535213191279681 ★ Denominators of continued fraction convergents to sqrt(72). ● a(n) = 34 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 11 2013 ●

[**A002561**] ● 0,1,2,33,244,1025,3126,7777,16808,32769,59050,100001,161052,248833,371294,537825,759376,1048577,1419858,1889569,2476100,3200001,4084102,5153633,6436344 ★ a(n) = n^5 + 1. ● a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), n>4. - _ Harvey P. Dale _ , Aug 13 2013 ●

[**A294272**] ● 0,2,33,308,1300,4668,12201,30032,61776,123950,220825,389652,630708,1018808,1539825,2331968,3347776,4826682,6657201,9233300,12333300,16578452,21571033,28256208,35970000 ★ Sum of the fifth powers of the parts in the partitions of n into two parts. ● a(n) = Sum _{ i=1..floor(n / 2) } i ^ 5 + (n - i) ^ 5. ● a(n) = (1 / 192) * (n ^ 2 * (- 16 + 80 * n ^ 2 + 3 * (- 31 + (- 1) ^ n) * n ^ 3 + 32 * n ^ 4)). ● a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - 15 * a(n - 4) + 15 * a(n - 5) + 20 * a(n - 6) - 20 * a(n - 7) - 15 * a(n - 8) + 15 * a(n - 9) + 6 * a(n - 10) - 6 * a(n - 11) - a(n - 12) + a(n - 13) for n>13. ●

[**A263226**] ● 0,2,34,96,188,310,462,644,856,1098,1370,1672,2004,2366,2758,3180,3632,4114,4626,5168,5740,6342,6974,7636,8328 ★ a(n) = 15*n^2 - 13*n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Oct 13 2015 ●

[**A213826**] ● 2,34,132,332,670,1182,1904,2872,4122,5690,7612,9924,12662,15862,19560,23792,28594,34002,40052,46780,54222,62414,71392,81192,91850 ★ Principal diagonal of the convolution array A213825. ● a(n) = - n - 3 * n ^ 2 + 6 * n * 3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[**A259108**] ● 0,2,34,196,708,1958,4550,9352,17544,30666,50666,79948,121420,178542,255374,356624,487696,654738,864690,1125332,1445332,1834294,2302806,2862488,3526040 ★ a(n) = 2 * A000538(n). ● a(n) = - n / 15 + (2 * n ^ 3) / 3 + n ^ 4 + (2 * n ^ 5) / 5. - _ Colin Barker _ , Jun 28 2015 ●

[**A036827**] ● 0,2,34,250,1274,5274,19098,63002,194074,567322,1591322,4317210,11395098,29392922,74350618,184942618,453378074,1097334810,2626158618,6222250010,14610858010,34032582682,78693531674,180757725210,412685959194 ★ a(n) = 26+2^(n+1)*(-13+9*n-3*n^2+n^3). ● a(n) = Sum _{ k=0..n } 2 ^ k * k ^ 3. - _ Benoit Cloitre _ , Jun 11 2003 ● a(n) = 9 * a(n - 1) - 32 * a(n - 2) + 56 * a(n - 3) - 48 * a(n - 4) + 16 * a(n - 5) for n>4 with a(0)=0, a(1)=2, a(2)=34, a(3)=250, a(4)=1274. - _ Harvey P. Dale _ , Dec 15 2011 ● a(n) = Sum _{ k=0..n } Sum _{ i=0..n } k ^ 3 * C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 ●

[**A136362**] ● 1,2,34,254,898,2302,4898,9214,15874,25598,39202,57598,81794,112894,152098,200702,260098,331774,417314,518398,636802,774398,933154,1115134,1322498 ★ Numbers n such that P+n is not irreducible, where P = x^8 - 8*x^6 + 20*x^4 - 16*x^2 + 2. ● a(1) = 1; a(2) = 2; for n > 2, a(n) = 4 * n ^ 2 * (n - 2) ^ 2 - 2. ●

[**A263689**] ● 1,1,2,34,277,1301,4426,12202,29009,61777,120826,220826,381877,630709,1002002,1539826,2299201,3347777,4767634,6657202,9133301,12333301,16417402,21571034,28007377 ★ a(n) = (2*n^6 - 6*n^5 + 5*n^4 - n^2 + 12)/12. ● a(n + 1) = a(n) + n ^ 5, a(0) = 1. ●

[**A098531**] ● 0,1,2,34,277,3402,36170,407463,4491564,49926988,553211363,6137270812,68054635036,754774491429,8370420537086,92830050637086,1029498223070793,11417322172518550,126619992693837974,1404237451180502875,15573231068749231000 ★ Sum of fifth powers of first n Fibonacci numbers. ● a(n) = - 7 / 22 + 2 * F(n + 2) / 5 + (F(5 * (n + 1)) + F(5 * n)) / (5 * 55) - (- 1) ^ n * (F(3 * (n + 1)) - F(3 * n)) / (2 * 10), where F=A000045. One may use F(5 * (n + 1)) + F(5 * n) = F(5 * n + 1) + 4 * F(5 * n + 2) (due to the Binet - de Moivre formula). ●

[**A042459**] ● 1,1,2,35,37,220,1137,1357,24206,25563,49769,2713089,2762858,5475947,95853957,101329904,602503477,3113847289,3716350766,66291810311,70008161077,136299971388,7430206616029,7566506587417,149967132034 46 ★ Denominators of continued fraction convergents to sqrt(757). ● a(n) = 2738652 * a(n - 11) + a(n - 22) for n>21. - _ Vincenzo Librandi _ , Jan 22 2014 ●

[**A257601**] ● 2,35,100,210,380,627,970,1430,2030,2795,3752,4930,6360,8075,10110,12502,15290,18515,22220,26450,31252,36675,42770,49590,57190 ★ a(n) = n^4/12+5*n^3/3+125*n^2/12+125*n/6+2. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Jun 08 2015 ●

[**A193576**] ● 2,35,243,1064,3500,9477,22295,47168,91854,167375,288827,476280,755768,1160369,1731375,2519552,3586490,5006043,6865859,9269000,12335652,16204925,21036743,27013824,34343750 ★ T(n)^3+n^3 where T(n) is a triangular number. ● a(n) = (n ^ 3 * (n ^ 3 + 3 * n ^ 2 + 3 * n + 9) / 8) = (1 / 8) * (n + 3) * (n ^ 2 + 3) * n ^ 3 ●

[**A089660**] ● 0,2,35,276,1522,6820,26664,94640,312512,975744,2913280,8386048,23416320,63724544,169637888,443043840,1137934336,2879979520,7194083328,17761304576,43390730240,104997322752,251881062400,599482433536,1416470986752 ★ Let S1 := (n,t)->add(k^t * add(binomial(n,j), j=0..k), k=0..n); a(n) = S1(n,3). ● a(n) = n * (15 * n ^ 3 + 30 * n ^ 2 + 21 * n - 2) * 2 ^ (n - 6). [_ R. J. Mathar _ , Sep 16 2009] ● a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 80 * a(n - 3) - 80 * a(n - 4) + 32 * a(n - 5) for n > 4. - _ Chai Wah Wu _ , Jun 21 2016 ●

[**A055519**] ● 1,2,35,312,3779,41590,474169,5342808,60450145,682988978,7720432691,87256315920,986227664411,11146765278382,125986353493225,1423957841588232,16094263592763889,181905138292910570 ★ a_{k+1} = 9*a_k + 33*a_{k-1} - 76*a_{k-2} - 33*a_{k-3} + 9*a_{k-4} + a_{k-5}, a_1=1, a_2=2, a_3=35, a_4=312, a_5=3779, a_6=41590. ● a(n) = Sum _{ k=1..n } Fibonacci(k) ^ 5 * a(n - k), a(0)=1. - _ Vladeta Jovovic _ , Apr 23 2003 ●

[**A199032**] ● 2,35,431,5183,62207,746495,8957951,107495423,1289945087,15479341055,185752092671,2229025112063,26748301344767,320979616137215,3851755393646591,46221064723759103,554652776685109247,6655833320221310975 ★ 3*12^n-1. ● a(n) = 12 * a(n - 1) + 11. ● a(n) = 13 * a(n - 1) - 12 * a(n - 2) . ●

[**A278930**] ● 2,36,100,2081,8257,32897,131329,524801,2098177,8390657,33558529,134225921,536887297,2147516417,8590000129,34359869441,137439215617,549756338177,2199024304129,8796095119361,35184376283137,140737496743937,562949970198529,2251799847239681 ★ a(n) is the least positive integer that differs (in absolute value) by an (n+1)-st power from the reverse of its binary representation. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>6. ●

[**A099903**] ● 2,36,216,800,2250,5292,10976,20736,36450,60500,95832,146016,215306,308700,432000,591872,795906,1052676,1371800,1764000,2241162,2816396,3504096,4320000,5281250 ★ Sum of all matrix elements of n X n matrix M(i,j) = i^3+j^3, (i,j = 1..n). a(n) = n^3*(n+1)^2/2. ● a(n) = Sum[Sum[(i ^ 3 + j ^ 3), { i, 1, n }], { j, 1, n }]. ● a(n) = 2 * n * sum(k ^ 3, k=1..n). - _ Gary Detlefs _ , Oct 26 2011 ● a(n) = (n ^ 5 + 2 * n ^ 4 + n ^ 3) / 2. - _ Charles R Greathouse IV _ , Oct 27 2011 ●

[**A273325**] ● 1,2,36,300,1960,11340,60984,312312,1544400,7438860,35103640,162954792,746347056,3380195000,15164074800,67476121200,298135873440,1309153089420,5717335239000,24847720451400,107520292479600,463440029892840,1990477619679120,8521600803066000 ★ Number of endofunctions on [2n] such that the minimal cardinality of the nonempty preimages equals n. ● a(n) = C(2 * n,n) * C(2 * n,2) for n>0, a(0)=1. ● a(n) = 2 * C(2 * (n - 1),n - 1) * (2 * n - 1) ^ 2, a(0)=1. ● a(n) = 2 * (2 * n - 1) ^ 2 * a(n - 1) / ((n - 1) * (2 * n - 3)) for n>1, a(n) = 2 ^ n for n=0..1. ●

[**A035603**] ● 0,2,36,326,1992,9290,35436,115598,332688,864146,2060980,4573910,9545560,18892250,35704060,64797470,113461024,192441122,317222212,509663334,800061160,1229718378,1854105484,2746713774,4003707568 ★ Number of points of L1 norm 9 in cubic lattice Z^n. ● a(n)= (4 * n ^ 9 + 168 * n ^ 7 + 1596 * n ^ 5 + 3272 * n ^ 3 + 630 * n) / (5 * 7 * 9 * 9). - _ Frank Ellermann _ , Mar 16 2002 ●

[**A157055**] ● 2,36,362,2570,14240,65226,256508,889716,2777370,7925720,20934474,51697802,120353324,265953170,561075720,1135620536,2214405618,4175000796,7634582090,13577591370,23539760552,39868752506,66087441092,107392877100,171332460650 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 12 ● a(n)=T(n,6); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) ●

[**A193127**] ● 2,36,384,3528,30250,248832,1989806,15586704,120187008,915304500,6900949462,51599794176,383142771674,2828107288188,20768716848000,151840963183392,1105779284582146,8024954790380544,58059628319357318,418891171182561000 ★ Numbers of spanning trees of the antiprism graphs. ● a(n) = 2 / 5 * n * (phi ^ (4 * n) + phi ^ (- 4 * n) - 2), where phi is the golden ratio. ● a(n) = + 16 * a(n - 1) - 80 * a(n - 2) + 130 * a(n - 3) - 80 * a(n - 4) + 16 * a(n - 5) - a(n - 6). ●

[**A248343**] ● 0,2,36,488,5904,67232,737856,7902848,83222784,865782272,8926258176,91410065408,931280523264,9450244186112,95601953488896,964815627911168,9718525023289344,97748200186314752,981985601490518016,9855884811924144128 ★ 10^n - 8^n. ● a(n) = 18 * a(n - 1) - 80 * a(n - 2). ●

[**A025608**] ● 0,0,2,36,560,8160,116192,1638336,23006720,322513920,45177144

32,63263118336,885774356480,12401385185280,173622657769472,24307367998
09536,3403043274358784 0,476426763687690240,6669978923292557312,9337973
0316084903936,1307316376765123788800 ⋆ Number of n-move rook paths on 8
X 8 board from given corner to opposite corner. • a(0)=0, a(1)=0, a(2)=2, a(
n)=18 * a(n - 1) - 44 * a(n - 2) - 168 * a(n - 3). - _ Harvey P. Dale _ , Mar 0
9 2013 •

[A207832] • 0,2,36,646,11592,208010,3732588,66978574,1201881744,21566892
818,387002188980,6944472508822,124613502969816,2236098580947866,401251
60954091772,720016798592704030 ⋆ 20*x^2+1 is a perfect square. • a(n) = 1
8 * a(n - 1) - a(n - 2). •

[A290803] • 0,2,37,37,2095,14100,47714,165363,988906,29812911,271934553,1
401835549,9311142521,36993716923,133882727330,2846775018726,1234189803
8612,145273620317016,1308426190253051,1308426190253051,355051117463724
80,354674176936820484 ⋆ One of the two successive approximations up to 7^n
for the 7-adic integer sqrt(-3). These are the numbers congruent to 2 mod 7
(except for the initial 0). • a(0) = 0 and a(1) = 2, a(n) = a(n - 1) + 5 * (a(n
- 1) ^ 2 + 3) mod 7 ^ n for n > 1. •

[A041161] • 1,2,37,76,1405,2886,53353,109592,2026009,4161610,76934989,158
031588,2921503573,6001038734,110940200785,227881440304,4212806126257,86
53493692818,159975692596981,328604878886780 ⋆ Denominators of continued
fraction convergents to sqrt(90). • a(n) = 38 * a(n - 2) - a(n - 4), - _ Vincenz
o Librandi _ , Dec 12 2013 •

[A134596] • 2,37,137,1379,13679,123479,1234679,12345679,102345679,112345
6789,10123456789 ⋆ The largest n-digit primeval number A072857. • a(n) =
max { m in A072857, m < 10 ^ n } . - _ M. F. Hasler _ , Mar 12 2014 •

[A098456] • 1,2,38,212,2566,20092,210524,1884136,18854854,178415852,1764
019828,17115907096,169100140444,1661540282456,16458178007288,162887627
833552,1618680238292294,16095872154638156,160435286115927044 ⋆ Expan-
sion of 1/sqrt(1-4x-64x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) *
binomial(2(n - k), n) * 16 ^ k } . •

[A075796] • 2,38,682,12238,219602,3940598,70711162,1268860318,22768774
562,408569081798,7331474697802,131557975478638,2360712083917682,423612
59535039638,760141959546795802,13640194012307284798 ⋆ Numbers k such
that 5*k^2 + 5 is a square. • a(n) = (((9 + 4 * sqrt(5)) ^ n - (9 - 4 * sqrt(5))
^ n) + ((9 + 4 * sqrt(5)) ^ (n - 1) - (9 - 4 * sqrt(5)) ^ (n - 1))) / (4 * sqrt(5))
. • a(n + 1) = 9 * a(n) + 4 * sqrt(5) * sqrt((a(n) ^ 2 + 1)). - _ Richard Cho
ulet _ , Aug 30 2007 • a(n) = 1 / 2 * Lucas(6 * n - 3). Sum _{ n >= 1 } 1 /
(a(n) + 5 / a(n)) = 1 / 4. Compare with A002878, A005248, A023039. - _
Peter Bala _ , Nov 29 2013 •

[A080920] • 0,1,2,39,148,1661,8502,75139,447848,3525561,22725802,16884623
9,1133095548,8175809461,56009963102,398173257339,2756695223248,19449454
453361,135383241720402,951497389308439,6641408238830948 ⋆ a(n) = 2a(n-1)
+ 35a(n-2), a(0)=0, a(1)=1. • a(n) = 7 ^ n / 12 - (- 5) ^ n / 12. • a(n) = Su
m { k=1..n, binomial(n, 2k - 1) * 6 ^ (2(k - 1)) } . •

[A042683] • 1,1,2,39,197,236,1377,1613,4603,6216,10819,17035,27854,44889,7
2743,117632,308007,425639,2436202,2861841,16745407,321024574,337769981,6
58794555,38547854171 ⋆ Denominators of continued fraction convergents to
sqrt(871). • a(n) = 38885624152 * a(n - 24) - a(n - 48) for n>47. - _ Vincenz
o Librandi _ , Jan 26 2014 •

[A003760] • 2,40,240,1558,8300,43438,212700,1014700,4691580,21257258,945
20524,414149254,1791339472,7664373014,32481662616,136520499746,56959912
5312,2361080470268,9730117780704,39888323454064 ⋆ Number of Hamiltonian
paths in D_4 X P_n. • a(1) = 2, • a(2) = 40, • a(3) = 240, • a(4) = 1558, •
a(5) = 8300, • a(6) = 43438, •

[A139747] • 0,2,40,602,8080,102002,1240120,14704202,171312160,197052720
2,22450640200,253930611002,2855998840240,31980846315602,35687304112828
0,397135703732100 2,44096709674720320,488769846799627202,54098226781952
32360,5980823873074155420 2 ⋆ 11^n-9^n. • a(n) = 20 * a(n - 1) - 99 * a(n - 2
); [From Vincenzo Librandi, Jun 02 2011] •

[A042923] • 1,1,2,41,43,84,5251,5335,10586,217055,227641,444696,27798793,2
8243489,56042282,1149089129,1205131411,2354220540,147166804891,14952102
5431,296687830322,6083277631871,6379965462193,12463243094064,779101037
294161 ⋆ Denominators of continued fraction convergents to sqrt(993). • a(n)
= 5294 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Feb 01 2014
•

[A007533] • 2,41,130,269,458,697,986,1325,1714,2153,2642,3181,3770,4409,5
098,5837,6626,7465,8354,9293,10282,11321,12410,13549,14738 ⋆ (5n+1)^2 +
4n+1. • a(n) = 25n ^ 2 + 14n + 2. G.f.: (2 + 35 * x + 13 * x ^ 2) / (1 - x) ^
3. - _ Bruno Berselli _ , Dec 11 2011 •

[A287335] • 2,41,170,443,914,1637,2666,4055,5858,8129,10922,14291,18290,2
2973,28394,34607,41666,49625,58538,68459,79442,91541,104810,119303,135074
⋆ Nonnegative numbers k such that 3*k + 2 is a cube. • a(n) = 9 * n ^ 3 - 9
* n ^ 2 + 3 * n - 1. •

[A157056] • 2,42,492,4060,26070,137886,623576,2476296,8809110,28512110,8
5014204,235895244,614266354,1511679210,3536846160,7907476016,1696792674
6,35078339106,70098276620,135798494460,255689552382,468969729382,839584
669992,1469778991800,2520031983950 ⋆ Number of integer sequences of length
n+1 with sum zero and sum of absolute values 14. • a(n)=T(n,7); T(n,k)=su
m({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k))
•

[A137415] • 1,2,43,61,83,103,109,113,151,167,179,181,197,199,233,239,251,26
3,271,281,283 ⋆ n for the first time IntegerPart[Sqrt[Prime[n]]] - PrimePi[n]
== 1 - m for the first 20 m's, starting at m=0: n such that A000006[n]-
A000720[n]=1-m. • a(m)=If[IntegerPart[Sqrt[Prime[n]]] - PrimePi[n] == 1 -
m,n] •

[A242856] • 2,44,224,686,1622,3272,5924,9914,15626,23492,33992,47654,6505
4,86816,113612,146162,185234,231644,286256,349982,423782,508664,605684,71
5946,840602 ⋆ Number of 2-matchings of the n X n grid graph. • a(n) = 2 * n
^ 4 - 4 * n ^ 3 - 5 * n ^ 2 + 13 * n - 4. •

[A035605] • 0,2,44,486,3608,20330,93060,361550,1229360,3742290,10377180,2
6572086,63521352,143027898,305568564,623207070,1219605600,2300164770,41
96289420,7428962950,12798246520,21507034122 ⋆ Number of points of L1 norm
11 in cubic lattice Z^n. • a(n) = (2 * n * (14175 + 83754 * n ^ 2 + 50270 * n
^ 4 + 7392 * n ^ 6 + 330 * n ^ 8 + 4 * n ^ 10)) / 155925. G.f.: 2 * x * (1 + x
) ^ 10 / (1 - x) ^ 12. [_ Colin Barker _ , Apr 15 2012] •

[A041241] • 1,2,45,92,2069,4230,95129,194488,4373865,8942218,201102661,4
11147540,9246348541,18903844622,425130930225,869165705072,19546776441
809,39962718588690,898726585392989,1837415889374668,4132187615163568
5,84481168192646038 ⋆ Denominators of continued fraction convergents to
sqrt(132). • a(n) = 46 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , D
ec 13 2013 •

[A019579] • 2,45,160,375,756,1372,2304,3645,5500,7986,11232,15379,20580,27
000,34816,44217,55404,68590,84000,101871,122452,146004,172800,203125,2372
76 ⋆ Place n distinguishable balls in n boxes (in n^n ways); let f(n,k) = number
of ways that max in any box is k, for 1<=k<=n; sequence gives f(n,n-2)/n. •
a(n) = n(n - 1) ^ 3 / 2, n >= 5. •

[A174592] • 2,46,658,9182,127906,1781518,24813362,345605566,4813664578,6
7045698542,933826115026,13006519911838,181157452650722,252319781719828
6,35143611988125298,489487370016555902,6817679568243657346 ⋆ Numbers n
such that n^2+2*(n+2)^2 is square. • a(n) = 15 * a(n - 1) - 15 * a(n - 2) + a
(n - 3). • a(n) = - 4 / 3 + ((sqrt(3) + 1) ^ (4n - 1) - (sqrt(3) - 1) ^ (4n - 1)) /
(3 * 2 ^ (2n - 1)). (End) •

[A128822] • 2,47,206,551,1154,2087,3422,5231,7586,10559,14222,18647,2390
6,30071,37214,45407,54722,65231,77006,90119,104642,120647,138206,157391,1
78274 ⋆ Number of solutions to x/3 + y/4 + z/6 < n with x,y,z>=1 . • a(n)
=12 * n ^ 3 - 15 * n ^ 2 + 6 * n - 1 . •

[A276509] • 2,47,497,4997,49997,499997,4999997,49999997,499999997,499999
9997,49999999997,499999999997,4999999999997,49999999999997,499999999999
9997,4999999999999997,49999999999999997,499999999999999997,4999999999
99999997,49999999999999999997,499999999999999999997 ⋆ Numbers n in base
10 such that the digits of 2 + n are the digits of 2n written in reverse order. •
a(n) = 5 * 10 ^ (n - 1) - 3. - _ Peter Bala _ , Sep 06 2016 •

[A101362] • 0,2,48,324,1280,3750,9072,19208,36864,65610,110000,175692,26
9568,399854,576240,810000,1114112,1503378,1994544,2606420,3360000,427858
2,5387888,6716184,8294400 ⋆ a(n) = (n+1)*n^4. • a(n) + 6 * sum(i=1..n, i ^
3) + 4 * sum(i=1..n, i ^ 2) + sum(i=1..n, i) = 5 * sum(i=1..n, i ^ 4). •

[A231654] • 0,0,2,48,526,3450,16536,63104,204202,580669,1491096,3520768,7
754502,16098425,31770760,59998736,109022244,191454654,326158974,540703
008,874630262,1383621756,2144889472,3263884272,4882793214 ⋆ Number of
non-equivalent ways to choose 5 points in an equilateral triangle grid of side n.
• a(n) = (n ^ 10 + 5 * n ^ 9 - 10 * n ^ 8 - 70 * n ^ 7 + 25 * n ^ 6 + 584 * n ^
5 - 420 * n ^ 4 - 480 * n ^ 3 - 1216 * n ^ 2 + 1536 * n + B) / 23040 where B
= 375 * n ^ 4 - 1170 * n ^ 3 + 210 * n ^ 2 - 405 * n + 1035 if n odd, and B =
0 if n even. •

[A035606] • 0,2,48,578,4672,28610,142000,596610,2187520,7159170,2127864
0,58227906,148321344,354870594,803467056,1732242690,3575055360,70948257
30,13591279920,25216532290,45443741760,79749022402 ⋆ Number of points of
L1 norm 12 in cubic lattice Z^n. • a(n) = 2 * n ^ 2 * (146430 + 239327 * n ^
2 + 74800 * n ^ 4 + 6996 * n ^ 6 + 220 * n ^ 8 + 2 * n ^ 10) / 467775. G.f.:
2 * x * (1 + x) ^ 11 / (1 - x) ^ 13. - _ Colin Barker _ , Apr 15 2012 •

[A157057] • 2,48,642,6040,44130,264936,1356194,6077196,24314490,8820614
0,293744154,907129236,2619716554,7125357540,18363363690,45076309166,10
5864434424,238815143406,519252051080,1091481669390,2224042468032,4403
475647758,8489857618992,15969368635950 ⋆ Number of integer sequences of
length n+1 with sum zero and sum of absolute values 16 • a(n)=T(n,8); T(n,
k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i +
k,k)) •

[A041287] • 1,2,49,100,2449,4998,122401,249800,6117601,12485002,30575764
9,624000300,15281764849,31187529998,763782484801,1558752499600,38173842
475201,77906437450002,1907928341275249,3893763120000500,95358243221287
249,194610249562574998 ⋆ Denominators of continued fraction convergents to
sqrt(156). • a(n) = 50 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 14
2013 •

[A243720] • 2,49,1244,12329,81900,398907,1562362,5153001,14907120,387533
58,92417760,204977323,427812496,847346181,1604300270 ⋆ Number of inequiv-
alent (mod D_8) ways to place 5 nonattacking knights on an n X n board. •
a(n) = (n ^ 10 - 90 * n ^ 8 + 240 * n ^ 7 + 3235 * n ^ 6) / 960 + O(n ^ 5) for
n >= 8. •

[A089304] • 0,2,51,975,14699,196923,2469147,29691371,346913595,396913581
9,44691358043,496913580267,5469135802491,59691358024715,64691358024693
9,696913580246963,7469135802469387,79691358024691 1,84691358024691
35835,896913580246913 58059 ⋆ Sum of all digits in all even numbers from 0 to
222...2 (with n 2's). • a(n) = (2880 * n + 10 ^ n (81 * n - 167) - 2020) / 1620.
• a(n) = 22 * a(n - 1) - 141 * a(n - 2) + 220 * a(n - 2) - 100 * a(n - 4). •

[A080921] • 0,1,2,52,200,2896,15392,169792,1078400,10306816,72376832,639
480832,4753049600,40201179136,308548739072,2546754076672,1990384762880
0,162051890937856,1279488468058112,10337467701133312,82090381869056000

⋆ a(n) = 2*a(n-1) + 48*a(n-2), a(0)=0, a(1)=1. ● a(n) = (8 ^ n - (- 6) ^ n) / 14. ● a(n) = Sum { k=1..n, binomial(n, 2k - 1) * 7 ^ (2(k - 1)) } ●

[A053455] ● 0,1,2,52,200,2896,15392,169792,1078400,10306816,72376832,639480832,4753049600,40201179136,308548739072,2546754076672,19903847628800,162051890937856,1279488468058112,10337467701133312,82090381869056000,660379213925109 76,5261096756499709952,42220395755839946752 ⋆ a(n) = ((8^n) - (-6)^n)/14. ● a(n) = 2 * a(n - 1) + 48 * a(n - 2), n>=2; a(0)=0, a(1)=1. ●

[A053317] ● 2,52,552,5552,55552,255552,5255552,55255552,255255552,2255255552,22255255552,222255255552,5222255255552,55222255255552,255222255255552,2255222255255552,22255222255255552,222255222255255552 ⋆ a(n) contains n digits (either '2' or '5') and is divisible by 2^n. ● a(n)=a(n - 1) + 10 ^ (n - 1) * (2 + 3 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends ●

[A212889] ● 1,2,53,104,349,594,1273,1952,3401,4850,7501,10152,14533,18914,25649,32384,42193,52002,65701,79400,97901,116402,140713,165024,196249 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and even range. ● a(n)=2a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). ●

[A041337] ● 1,2,53,108,2861,5830,154441,314712,8336953,16988618,450041021,917070660,24293878181,49504827022,1311419380753,2672343588528,70792352682481,144257048953490,3821475625473221,7787208299899932,206288891422871453,420364991145642838 ⋆ Denominators of continued fraction convergents to sqrt(182). ● a(n) = 54 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 15 2013 ●

[A212242] ● 1,2,53,204,625,1556,3357,6558,11809,20000,32211,49762,74263,107564,151875,209716,283967,377918,495219,640000,816821,1030722,1287273,1592524,1953125 ⋆ Number of (u,v,w,x,y,z) with all terms in {0,1,...,n} and 5u=v+w+x+y+z. ● a(n)=5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + 2a(n - 5) - 5a(n - 6) + 10a(n - 7) - 10a(n - 8) + 5a(n - 9) - a(n - 10). ●

[A123005] ● 0,1,2,53,204,3005,16006,179257,1142808,11069209,78136010,698663261,5225991012,44686481813,345446523214,2880530655265,22687940948016,186521884004017,1484752874460818,12109078065118469,96971046978817020 ⋆ G.f. x^2/(1-2*x-49*x^2). ● a(n)= 2 * a(n - 1) + 49 * a(n - 2). ●

[A157058] ● 2,54,812,8580,70310,472626,2703512,13507416,60110030,241925530,891454124,3037849828,9654482474,28818500830,81289041680,217815522736,556959705302,1364497268946,3214138597460,7302195414780,16045139112002,34183012888134,70764981877592 ⋆ Number of integer sequences of length n+1 with sum zero and sum of absolute values 18. ● a(n)=T(n,9); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) ●

[A157262] ● 2,55,180,377,646,987,1400,1885,2442,3071,3772,4545,5390,6307,7296,8357,9490,10695,11972,13321,14742,16235,17800,19437,21146 ⋆ a(n) = 36*n^2 - 55*n + 21. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 27 2012 ●

[A045819] ● 2,56,252,688,1514,2664,4396,7056,9828,13720,19264,24336,31502,40880,48780,59584,74592,86688,101308,123088,137844,159016,190764,207648,235986 ⋆ Theta series of E_8 lattice with respect to midpoint of edge. ● a(n) = 2 * sigma _ 3(2n - 1). - _ Benoit Cloitre _ , Apr 12 2003 ●

[A287988] ● 2,56,396,2040,9130,37944,151172,586608,2235618,8407640,31292844,115494312,423283562,1542120664,5589611460,20170172896,72499928322,259692909048,927342338956,3302291258200,11730149911914,41572470711288,147031327493572,519029653663056 ⋆ Number of (undirected) paths in the n-antiprism graph. ● a(n) = 10 * a(n - 1) - 37 * a(n - 2) + 64 * a(n - 3) - 58 * a(n - 4) + 36 * a(n - 5) - 26 * a(n - 6) + 16 * a(n - 7) - 5 * a(n - 8) + 2 * a(n - 9) - a(n - 10) for n>10. ●

[A056046] ● 0,0,0,2,56,790,8380,76482,638736,5043950,38390660,285007162,2079779416,14995363110,107204473740,761823557042,5390550296096,38026057186270,267656481977620,1881017836414122,13204444871932776,92618543463601430,649270263511862300 ⋆ Number of 3-antichain covers of a labeled n-set. ● a(n) = (1 / 6) * (7 ^ n - 6 * 5 ^ n + 6 * 4 ^ n + 3 * 3 ^ n - 6 * 2 ^ n + 2). ●

[A041391] ● 1,2,57,116,3305,6726,191633,389992,11111409,22612810,644270089,1311152988,37356553753,76024260494,2166035847585,4408095955664,125592722606177,255593541168018,7282211875310681,14820017291789380,422242696045413321 ⋆ Denominators of continued fraction convergents to sqrt(210). ● a(n) = 58 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 17 2013 ●

[A245783] ● 1,2,57,166,5561,16242,544897,1591526,53394321,155953282,5232098537,15281830086,512692262281,1497463395122,50238609604977,146736130891846,4922871049025441,14378643364005762,482391124194888217,1408960313541672806,47269407300050019801 ⋆ Numbers n such that the hexagonal number H(n) is equal to the sum of the pentagonal numbers P(m) and P(m+1) for some m. ● a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A104494] ● 2,58,66,166,268,270,408,600,672,808,822,970,1050,1090,1150,1200,1212,1380,1578,1752,1912,1950,1986,2016,2038 ⋆ Positive integers n such that n^17 + 1 is semiprime (A001358). ● a(n) ^ 17 + 1 is semiprime (A001358). ●

[A006333] ● 0,2,60,660,4290,20020,74256,232560,639540,1586310,3617900,7696260,15438150,29451240,53796160,94607040,160908264,265670730,427156860,670609940,1030350090,1552346268,2297341200,3344614000,4796473500 ⋆ From the enumeration of corners. ● a(n) = (n * (1 + n) ^ 2 * (2 + n) ^ 2 * (3 + n) * (1 + 2 * n) * (3 + 2 * n) * (5 + 2 * n)) / 7560. ●

[A157059] ● 2,60,1002,11750,106752,794598,5025692,27717948,135916002,601585512,2432878866,9079799742,31534801116,102644594262,315029394792,916470530808,2538818182782,6724224543708,17088309885542,41800229045610,98698280879352,225524301678170 ⋆ Number of integer sequences of length n+1 with sum zero and sum of absolute values 20. ● a(n)=T(n,10); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) ●

[A041449] ● 1,2,61,124,3781,7686,234361,476408,14526601,29529610,900414901,1830359412,55811197261,113452753934,3459393815281,7032240384496,214426605350161,435885451084818,13290990137894701,27017865726874220,823826961944121301,1674671789615116822 ⋆ Denominators of continued fraction convergents to sqrt(240). ● a(n) = 62 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 18 2013 ●

[A172230] ● 0,2,61,405,1502,4072,9091,17791,31660,52442,82137,123001,177546,248540,339007,452227,591736,761326,965045,1207197,1492342,1825296,2211131,2655175,3163012 ⋆ Number of ways to place 4 nonattacking wazirs on a 4 X n board. ● a(n) = (64 * n ^ 4 - 432 * n ^ 3 + 1235 * n ^ 2 - 1797 * n + 112 2) / 6, n>=3. ●

[A047707] ● 0,0,0,2,64,1090,14000,153762,1533504,14356610,128722000,1119607522,9528462944,79817940930,660876543600,5424917141282,44246078560384,359144709794050,2904688464582800,23429048035827042,188593339362097824 ⋆ Number of monotone Boolean functions of n variables with 3 mincuts. Also Sperner systems with 3 blocks. ● a(n) = (2 ^ n) * (2 ^ n - 1) * (2 ^ n - 2) / 6 - (6 ^ n - 5 ^ n - 4 ^ n + 3 ^ n). ● a(n) = Binomial(2 ^ n,3) - (6 ^ n - 5 ^ n - 4 ^ n + 3 ^ n). - _ Ross La Haye _ , Jan 26 2016 ●

[A041511] ● 1,2,65,132,4289,8710,283009,574728,18674305,37923338,1232221121,2502365580,81307919681,165118204942,5365090477825,10895299160592,354014663616769,718924626394130,23359602708228929,47438130042851988,1541379764079492545,3130197658201837078 ⋆ Denominators of continued fraction convergents to sqrt(272). ● a(n) = 66 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 19 2013 ●

[A294273] ● 0,2,65,858,4890,21244,67171,188916,446964,994030,1978405,3796622,6735950,11680408,19092295,30745064,47260136,71929146,105409929,153455810,216455810,303993492,415601835,566623708,754740700 ⋆ Sum of the sixth powers of the parts in the partitions of n into two parts. ● a(n) = Sum _{ i=1..floor(n / 2) } i ^ 6 + (n - i) ^ 6. ● a(n) = (n / 42 - n ^ 3 / 6 + n ^ 5 / 2 + 1 / 128 * (- 63 + (- 1) ^ n) * n ^ 6 + n ^ 7 / 7). ● a(n) = a(n - 1) + 7 * a(n - 2) - 7 * a(n - 3) - 21 * a(n - 4) + 21 * a(n - 5) + 35 * a(n - 6) - 35 * a(n - 7) - 35 * a(n - 8) + 35 * a(n - 9) + 21 * a(n - 10) - 21 * a(n - 11) - 7 * a(n - 12) + 7 * a(n - 13) + a(n - 14) - a(n - 15) for n>15. ●

[A231946] ● 0,1,2,66,67,192,193,1921,2137,2480,2481,6577,6578,7307,7819,40587,40588,49849,49850,63674,64674,66871,66872,152056,153056 ⋆ Partial sums of the third power of arithmetic derivative function A003415. ● a(n)=sum((i') ^ 3,i=1..n), where i'=A003415. ●

[A131472] ● 0,2,66,732,4100,15630,46662,117656,262152,531450,1000010,1772572,2985996,4826822,7529550,11390640,16777232,24137586,34012242,47045900,64000020,85766142,113379926,148035912,191103000 ⋆ a(n)=n^6+n. ● a(0)=0, a(1)=2, a(2)=66, a(3)=732, a(4)=4100, a(5)=15630, a(6)=46662, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, May 03 2012] ●

[A098532] ● 0,1,2,66,795,16420,278564,5105373,90871494,1635675910,29316316535,526297607496,9442398055752,169448124595321,3040546683808010,54560921044808010,979052407236876819,17568407254504944748 ⋆ Sum of sixth powers of first n Fibonacci numbers. ● a(n)= (F(n) ^ 5 * F(n + 3) + F(2 * n)) / 4. - _ Gary Detlefs _ , Jan 05 2013 ●

[A157060] ● 2,66,1212,15620,155850,1272810,8823080,53265960,285510150,1379301990,6078578508,24680519604,93093230958,328512273390,1091144804400,3429182092560,10244035242630,29206656395910,79759293448100 ⋆ Number of integer sequences of length n+1 with sum zero and sum of absolute values 22 ● a(n)=T(n,11); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) ●

[A160958] ● 1,2,67,260,4741,25862,350407,2330120,26735881,200269322,2084899147,16786765580,164922177421,1387410586382,13164918350287,113736703642640,1056863263353361,9279138856193042,85140663303647827,754867074547457300 ⋆ a(n) = (9^n - (-7)^n)/(9 - (-7)). ● a(n) = 2a(n - 1) + 63a(n - 2), a(1)=1 a(2)=2. ●

[A089661] ● 0,2,67,764,5492,30304,140672,577920,2167680,7577088,25037056,79016960,240028672,705961984,2019713024,5641535488,15431565312,41438281728,109462880256,284942925824,732004876288,1858158460928,4665915736064,11600782163968,28582042664960 ⋆ Let S1 := (n,t)->add(k^t * add(binomial(n,j), j=0..k), k=0..n); a(n) = S1(n,4). ● a(n) = 12 * a(n - 1) - 60 * a(n - 2) + 160 * a(n - 3) - 240 * a(n - 4) + 192 * a(n - 5) - 64 * a(n - 6) for n > 5. ● a(n) = 2 ^ (n - 5) * n * (93 * n ^ 4 + 225 * n ^ 3 + 185 * n ^ 2 + 15 * n - 38) / 15. - _ Ilya Gutkovskiy _ , Jun 21 2016 ●

[A251793] ● 0,2,68,286,6760,28122,662508,2755766,64919120,270037042,6361411348,26460874446,623353393080,2592895658762,61082271110588,254077313684326,5985439215444640,24896983845405282,586511960842464228,2439650339536033406 ⋆ Numbers n such that the sum of the triangular numbers T(n) and T(n+1) is equal to the sum of the octagonal numbers N(m) and N(m+1) for some m. ● a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A041577] ● 1,2,69,140,4829,9798,337961,685720,23652441,47990602,1655332909,3358656420,115849651189,235057958798,8107820250321,16450698459440,567431567871281,1151313834202002,39712101930739349,80575517695680700,2779279703583883149 ⋆ Denominators of continued fraction convergents to sqrt(306). ● a(n) = 70 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 20 2013 ●

[A259317] ● 0,2,70,588,2772,9438,26026,61880,131784,257754,471086,81466

0,1345500,2137590,3284946,4904944,7141904,10170930,14202006,19484348,26311012,35023758,46018170,59749032,76735960 ★ a(n) = 2*(2*n+1)*A000538(n) - 4*A000330(n)^2. • a(n) = (n * (1 + 2 * n) ^ 2 * (- 3 + n + 8 * n ^ 2 + 4 * n ^ 3)) / 45. - _ Colin Barker _ , Jun 28 2015 •

[A157368] • 2,71,238,503,866,1327,1886,2543,3298,4151,5102,6151,7298,8543,9886,11327,12866,14503,16238,18071,20002,22031,24158,26383,28706 ★ a(n) = 49*n^2 - 78*n + 31. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A053318] • 2,72,272,2272,22272,222272,7222272,27222272,727222272,2727222272,72727222272,772727222272,7772727222272,77772727222272,277772727222272,2277772727222272,72277772727222272,272277772727222272 ★ a(n) contains n digits (either '2' or '7') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (2 + 5 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends •

[A163274] • 0,2,72,648,3200,11250,31752,76832,165888,328050,605000,1054152,1752192,2798978,4321800,6480000,9469952,13530402,18948168,26064200,35280000,47064402,61960712,80594208,103680000 ★ a(n) = n^4*(n+1)^2/2. • a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). G.f.: - 2 * x * (1 + 29 * x + 93 * x ^ 2 + 53 * x ^ 3 + 4 * x ^ 4) / (x - 1) ^ 7 . - _ R. J. Mathar _ , Jul 29 2009 •

[A157061] • 2,72,1442,20260,220250,1958460,14768810,96900810,563873400,2953859370,14097919968,61908797418,252208679268,959882556570,3433533723900,11603837100660,37221177046410,113779617228060,332648955112250,933146517188760,2518877938240202 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 24 • a(n)=T(n,12); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A041647] • 1,2,73,148,5401,10950,399601,810152,29565073,59940298,2187415801,4434771900,161839204201,328113180302,11973913695073,24275940570448,885907774231201,1796091489032850,65545201379413801,132886494247860452,4849458994302390073 ★ Denominators of continued fraction convergents to sqrt(342). • a(n) = 74 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A041721] • 1,2,77,156,6005,12166,468313,948792,36522409,73993610,2848279589,5770552788,222129285533,450029123854,17323235991985,35096501107824,1350990278089297,2737077057286418,105359918454973181,213456913967232780,8216722649209818821 ★ Denominators of continued fraction convergents to sqrt(380). • a(n) = 78 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A157062] • 2,78,1692,25740,302850,2912910,23744840,168278760,1056789450,5968878630,30684132468,144977296932,634756203018,2593322651430,9946019437200,35995371261360,123490242018990,403237594259010,1257743358034100,3759426449644740,10799525727846702 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 26 • a(n)=T(n,13); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A041799] • 1,2,81,164,6641,13446,544481,1102408,44640801,90384010,3660001201,7410386412,300075457681,607561301774,24602527528641,49812616359056,2017107181890881,4084026980140818,165378186387523601,334840399755188020,13558994176595044401 ★ Denominators of continued fraction convergents to sqrt(420). • a(n) = 82 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A061994] • 0,0,0,0,2,82,982,7002,34568,131248,412596,1123832,2739386,6106214,12654614,24675650,45704724,80999104,138170148,227938788,365106738,569681574,868289594,1295775946,1897176508 ★ Number of ways to place 4 nonattacking queens on an n X n board. • a(n) = n ^ 8 / 24 - 5n ^ 7 / 6 + 65 n ^ 6 / 9 - 1051n ^ 5 / 30 + 817n ^ 4 / 8 - 19103n ^ 3 / 108 + 3989n ^ 2 / 24 - 18131n / 270 + 253 / 54 + (n ^ 3 / 4 - 21n ^ 2 / 8 + 7n - 7 / 2) * (- 1) ^ n + 32 * (n - 1) / 27 * cos(2 * Pi * n / 3) + 40 / 81 * sqrt(3) * sin(2 * Pi * n / 3). - _ Vaclav Kotesovec _ , Feb 11 2010 •

[A140157] • 1,2,83,84,709,710,3111,3112,9673,9674,24315,24316,52877,52878,103503,103504,187025,187026,317347,317348,511829,511830,791671,791672,1182297 ★ a(1)=1, a(n)=a(n-1)+n^4 if n odd, a(n)=a(n-1)+ n^0 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 4 +{ [1 + (- 1) ^ n] / 2 } , with a(1)=1 a(n)= (- 1 / 4) + (1 / 4) * (- 1) ^ n * n + (1 / 4) * (- 1) ^ n - (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 6) * n ^ 3 + (29 / 60) * n + (1 / 10) * n ^ 5 - (1 / 4) * (- 1) ^ n * n ^ 4 + (1 / 4) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A157063] • 2,84,1962,32130,406800,4208610,36881420,280819260,1893408750,11472968760,63221641758,319917948246,1498750896708,6545498596110,26808012135000,103501142484360,378407481456870,1315394383751460,4363052456797550,13853429338548630 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 28. • a(n)=T(n,14); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A041881] • 1,2,85,172,7309,14790,628489,1271768,54042745,109357258,4647047581,9403452420,399592049221,808587550862,34360269185425,69529125921712,2954583557897329,5978696241716370,254059825709984869,514098347661686108,21846190427500801405 ★ Denominators of continued fraction convergents to sqrt(462). • a(n) = 86 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A249305] • 2,89,149,151,383,409 ★ Primes n such that 2^n - n^2 is not squarefree. • a(n) < (21 + e)n log n for any e > 0 and all large enough n. - _ Charles R Greathouse IV _ , Oct 28 2014 •

[A041967] • 1,2,89,180,8009,16198,720721,1457640,64856881,131171402,5836398569,11803968540,525211014329,1062225997198,47263154891041,95588535779280,4253158729179361,8601905994138002,382737022471251449,774075950936640900,34442078863683451049 ★ Denominators of continued fraction convergents to sqrt(506). • a(n) = 90 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 28 2013 •

[A157064] • 2,90,2252,39500,535502,5930022,55599992,452715672,3262336002,21114177018,124188986196,670283877588,3346707628446,15564971674518,67830161708592,278406848295312,1081149205136382,3988232552194662,14025412751733092,47171740235162340 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 30. • a(n)=T(n,15); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A053313] • 2,92,992,2992,92992,292992,2292992,22292992,222292992,2222292992,22222292992,922222292992,9922222292992,29922222292992,929922222292992,9929922222292992,99929922222292992,999299922222292992 ★ a(n) contains n digits (either '2' or '9') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (2 + 7 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 2, if not then n - th term begins with a 7. •

[A069121] • 0,2,96,1620,17920,157500,1197504,8240232,52715520,318995820,1847560000,10328229912,56073378816,297051536600,1541119305600,7852824450000,39392404439040,194905125100620,952671403252800 ★ a(n) = n^4*binomial(2n,n • a(n) = a(n - 1) * (4 * n - 2) * n ^ 3 / (n - 1) ^ 4, n>1. - _ Michael Somos _ , Apr 18 2003 •

[A157065] • 2,96,2562,47920,692610,8174544,81659522,708113304,5431848930,37403270520,233931828834,1341750437352,7114703302434,35117045235720,162298598439330,705951252118284,2903050518427962,11331495633292524,42132555868774010,149703679118108220 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 32. • a(n)=T(n,16); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A042151] • 1,2,97,196,9505,19206,931393,1881992,91267009,184416010,8943235489,18070886988,876345810913,1770762508814,85872946233985,173516654976784,8414672385119617,17002861425216018,824552020795488481,1666106903016192980,80797683365572751521 ★ Denominators of continued fraction convergents to sqrt(600). • a(n) = 98 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A278684] • 0,0,2,99,2102,19987,124676,571418,2122841,6704061,18711691,47235845,109938296,238950999,490309398,957267228,1790325363,3224010105,5615368229,9493358359,15627413290,25112609019,39484650296,60859027054,92114682749 ★ Number of non-equivalent ways to place 5 non-attacking ferses on an n X n board. • a(n) = (n ^ 10 - 50 * n ^ 8 + 80 * n ^ 7 + 955 * n ^ 6 - 2828 * n ^ 5 - 7090 * n ^ 4 + 36860 * n ^ 3 - 10856 * n ^ 2 - 133712 * n + 161280 + ((1 - (- 1) ^ n) / 2) * (52 * n ^ 5 - 145 * n ^ 4 - 580 * n ^ 3 + 2320 * n ^ 2 - 1152 * n - 15)) / 960 for n >= 4. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 20 * a(n - 3) + 40 * a(n - 4) + 16 * a(n - 5) - 100 * a(n - 6) + 44 * a(n - 7) + 110 * a(n - 8) - 110 * a(n - 9) - 44 * a(n - 10) + 100 * a(n - 11) - 16 * a(n - 12) - 40 * a(n - 13) + 20 * a(n - 14) + 4 * a(n - 15) - 5 * a(n - 16) + a(n - 17) for n >= 21. •

[A042249] • 1,2,101,204,10301,20806,1050601,2122008,107151001,216424010,10928351501,22073127012,1114584702101,2251242531214,113676711262801,229604665056816,11593909964103601,23417424593264018,1182465139627304501,2388347703847873020 ★ Denominators of continued fraction convergents to sqrt(650). • a(n) = 102 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 18 2014 •

[A125819] • 0,1,2,101,396,10589,59590,1146313,8072856,127338073,1037743178,14427279437,129515647140,1658477399669,15879972571918,192632252911729,1925621845299504,22536572223036721,231858463440125330,2649764432514812597,27789799818721782204 ★ a(n) = ((1 + 7*sqrt(2))^n - (1 - 7*sqrt(2))^n)/(14*sqrt(• a(0)=0, a(1)=1, a(n) = 2 * a(n - 1) + 97 * a(n - 2) for n>=2. •

[A157066] • 2,102,2892,57460,882030,11053434,117206264,1078467624,8774904690,64062783510,424600608564,2579499722124,14479567043214,75613799423610,369504358622640,1698353774374704,7375213677918294,30379740299612514,119122913376492980,446056011713374860 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 34. • a(n)=T(n,17); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A042351] • 1,2,105,212,11129,22470,1179569,2381608,125023185,252427978,13251278041,26754984060,1404510449161,2835775882382,148864856333025,300565488548432,15778270260851489,31857106010251410,1672347782793924809,3376552671598101028 ★ Denominators of continued fraction convergents to sqrt(702). • a(n) = 106 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 20 2014 •

[A157067] • 2,108,3242,68190,1107920,14692734,164826956,1604095524,13799638910,106481351240,745616925614,4783532975546,28342922553764,156153427053890,804648531335960,3897769097766104,17828728267167326,77310179609631564,318931533062574470 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 36. • a(n)=T(n,18); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A006334] • 0,2,110,2002,20020,136136,705432,2984520,10786908,34370050,98768670,260390130,638110200,1468635168,3200871520,6650874912,13248113736,25415833170,47143878782,84832157410,148507792972,253549890440,423093671000,691331713800,1107985378500 ★ From the enumeration of corners. • a(n) = (n * (1 + n) ^ 2 * (2 + n) ^ 2 * (3 + n) ^ 2 * (4 + n) * (1 + 2 * n) * (3 + 2 * n) * (5 + 2 * n) * (7 + 2 * n)) / 1360800. •

[A173214] • 0,0,0,0,2,112,1754,13074,63400,234014,712248,1882132,4457246,9679760,19584514,37367934,67849336,118085614,198107620,321870956,508359070,782972820,1179105738,1740089734,2521359260 ★ Number of ways to place

4 nonattacking amazons (superqueens) on an n X n board. • a(n) = n ^ 8 / 24 - 5n ^ 7 / 6 + 47n ^ 6 / 9 + 43n ^ 5 / 10 - 5053n ^ 4 / 24 + 112585n ^ 3 / 108 - 15433n ^ 2 / 8 + 55669n / 270 + 119917 / 54 + (n ^ 3 / 4 - 21n ^ 2 / 8 + 7n - 3 / 2) * (- 1) ^ n + 32 / 27 * (n - 1) * cos(2 * Pi * n / 3) + 40 * sqrt(3) * sin(2 * Pi * n / 3) / 81, n>=6. •

[A140986] • 0,0,2,114,2652,29660,198030,932862,3440024,10599192,28478970,68716010,152040372,313269684,608134982,1122341430,1983307440,3375066032,5556852594,8885943522,13845350540,21077015820,31421193342,45962742254 ★ Number of n-colorings of the cubical graph. • a(n) = n ^ 8 - 12 * n ^ 7 + 66 * n ^ 6 - 214 * n ^ 5 + 441 * n ^ 4 - 572 * n ^ 3 + 423 * n ^ 2 - 133 * n. •

[A157068] • 2,114,3612,80180,1374690,19234194,227605448,2335932504,21186110970,172295622730,1271112537684,8588601364668,53573492643034,310601807143530,1683493452034320,8573748834211984,41210997268585158,187693442844729174,812839595630249540 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 38. • a(n)=T(n,19); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A157069] • 2,120,4002,93500,1687002,24836196,309182762,3337508646,31830097752,272125000774,2109875558208,14977318285254,98118326104708,597217934730774,3397036441760412,18148572883826236,91470993083858322,436643312483178036,1981038544180652162 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 40. • a(n)=T(n,20); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A042799] • 1,2,121,244,14761,29766,1800721,3631208,219673201,442977610,26798329801,54039637212,3269176562521,6592392762254,398812742297761,804217877357776,48651885383764321,98107988644886418,593513120407694941,1196837039679878522 0 ★ Denominators of continued fraction convergents to sqrt(930). • a(n) = 122 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 29 2014 •

[A042921] • 1,2,125,252,15749,31750,1984249,4000248,249999625,503999498,31497968501,63499936500,3968494031501,8000487999502,499998750000625,1007997988000752,62995874006047249,126999746000095250,7936980126011952749,16000959998024000748 ★ Denominators of continued fraction convergents to sqrt(992). • a(n) = 126 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A157070] • 2,126,4412,108220,2049770,31674678,413820584,4687156248,46894786710,420487598410,3418440803052,25437258929836,174630760523102,1113521228343010,6633053884912560,37097838553993648,195668363575483134,977073310632294978,4635352353992402420 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 42. • a(n)=T(n,21); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A258806] • 1,2,129,2188,16385,78126,279937,823544,2097153,4782970,10000001,19487172,35831809,62748518,105413505,170859376,268435457,410338674,612220033,893871740,1280000001,1801088542,2494357889,3404825448,4586471425 ★ a(n) = n^7 + 1. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). • a(n) = (n + 1) * (n ^ 6 - n ^ 5 + n ^ 4 - n ^ 3 + n ^ 2 - n + 1). •

[A294274] • 0,2,129,2444,18700,99012,376761,1216688,3297456,8158550,18080425,37847532,73399404,136971464,241561425,414517952,680856256,1095977898,1703414961,2607286700,3877286700,5697862412,8172733129,11613390384,16164030000 ★ Sum of the seventh powers of the parts in the partitions of n into two parts. • a(n) = Sum _{ i=1..floor(n / 2) } i ^ 7 + (n - i) ^ 7. • a(n) = a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) - 28 * a(n - 4) + 28 * a(n - 5) + 56 * a(n - 6) - 56 * a(n - 7) - 70 * a(n - 8) + 70 * a(n - 9) + 56 * a(n - 10) - 56 * a(n - 11) - 28 * a(n - 12) + 28 * a(n - 13) + 8 * a(n - 14) - 8 * a(n - 15) - a(n - 16) + a(n - 17) for n>17. •

[A259109] • 0,2,130,1588,9780,41030,134342,369640,893928,1956810,3956810,7499932,13471900,23125518,38184590,60965840,94520272,142795410,210819858,304911620,432911620,604443862,831203670,1127275448,1509481400 ★ 2*A000540. • a(n) = n / 21 - n ^ 3 / 3 + n ^ 5 + n ^ 6 + (2 * n ^ 7) / 7. - _ Colin Barker _ , Jun 28 2015 •

[A089662] • 0,2,131,2172,20386,138580,763824,3631712,15470144,60527232,221297920,765580288,2529498624,8039103488,24713744384,73818562560,215011065856,612515381248,1710842904576,4695105732608,12682107944960,33768108982272,88748191645696 ★ Let S1 := (n,t)->add(k^t * add(binomial(n,j), j=0..k), k=0..n); a(n) = S1(n,5). • a(n) = 14 * a(n - 1) - 84 * a(n - 2) + 280 * a(n - 3) - 560 * a(n - 4) + 672 * a(n - 5) - 448 * a(n - 6) + 128 * a(n - 7) for n > 6. • a(n) = 2 ^ (n - 7) * n * (21 * n ^ 5 + 61 * n ^ 4 + 55 * n ^ 3 + 15 * n ^ 2 - 28 * n + 4). - _ Ilya Gutkovskiy _ , Jun 21 2016 •

[A157071] • 2,132,4842,124410,2468160,39944058,546468188,6480461988,67871267730,636929126680,5418075931842,42175511270802,302809501559292,2018756213756730,12569156781338280,73453463921029288,404681030359774038,2110083485993094708,10449172010467254110 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 44. • a(n)=T(n,22); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A157072] • 2,138,5292,142140,2947590,49858158,712832792,8832976488,96648771870,947399938870,8416542780492,68407265558268,512700872216442,3567168162771570,23172711963346320,141251698411654288,811481822951916942,4410812923746903558,22762369531189431140 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 46. • a(n)=T(n,23); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A140898] • 0,1,2,140,552,20144,115360,2970304,21629568,447220480,3836062208,68494109696,658692679680,10632584278016,110847372992512,1667726207795200,18410695142572032,263632154545291264,3031118848480378880,41916210715120369664,496064584823572267008 ★ Expansion of -x^2/(136*x^2+2*x-1). • a(n)= ((1 + sqrt(137)) ^ n - (1 - sqrt(137)) ^ n) / (2 * sqrt(137)). •

[A120814] • 0,0,0,0,0,2,140,3262,47802,535990,5038418,41781432,315447990,2214289350,14664659100,92612930280,562220244768,3301016862024,18836205435208,104862661271840,571336322754792,3054404571541092,16056744308319000 ★ Number of permutations of length n with exactly 6 occurrences of the pattern 2-13. • a(n) = (20160 + 44448n + 548n ^ 2 - 4196n ^ 3 - 565n ^ 4 + 67n ^ 5 + 17n ^ 6 + n ^ 7) / (720(n + 7)(n + 6))binomial[2n, n - 6]; generating function = x ^ 6 C ^ 13 (- 42 + 4054C - 18354C ^ 2 + 36038C ^ 3 - 40660C ^ 4 + 30080C ^ 5 - 16090C ^ 6 + 6914C ^ 7 - 2604C ^ 8 + 840C ^ 9 - 202C ^ 10 + 30C ^ 11 - 2C ^ 12) / (2 - C) ^ 11, where C=(1 - Sqrt[1 - 4x]) / (2x) is the Catalan function. •

[A163275] • 0,2,144,1944,12800,56250,190512,537824,1327104,2952450,6050000,11595672,21026304,36386714,60505200,97200000,151519232,230016834,341067024,495219800,705600000,988352442,1363135664,1853666784 ★ a(n) = n^5*(n+1)^2/2. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A157073] • 2,144,5762,161480,3493730,61651128,919453346,11883194148,135595653690,1385919151540,12835654787802,108738668285884,849286949294602,6156408373152940,41657479594194090,264432781857156298,1581589562174104296,8947669593793415178 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 48. • a(n)=T(n,24); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A157074] • 2,150,6252,182500,4112502,75578370,1173777752,15795816120,187652162502,1996568642530,19245807386652,169668375420180,1378768046330402,10396793993805030,73166155146412752,482928212647720720,3002693915693248002,17655197338344400470 ★ Number of integer sequences of length n+1 with sum zero and sum of absolute values 50. • a(n)=T(n,25); T(n,k)=sum({ i=1..n } binomial(n + 1,i) * binomial(k - 1,i - 1) * binomial(n - i + k,k)) •

[A202107] • 2,162,2592,20000,101250,388962,1229312,3359232,8201250,18301250,37949472,74030112,137149922,243101250,414720000,684204032,1095962562,1710072162,2606420000,3889620000,5694792642,8194304162,11605565952,16200000000,22313281250 ★ n^4*(n+1)^4/8. • a(n) = 2 * sum(k, k=1..n) ^ 4 = sum(k ^ 5 + k ^ 7, k=1..n). •

[A259319] • 2,164,1414,6216,19338,48620,105742,206992,374034,634676,1023638,1583320,2364570,3427452,4842014,6689056,9060898,12062148,15810470,20437352,26088874,32926476,41127726,50887088,62416690 ★ a(n) = 2*A002309(n). • a(n) = (2 * n * (7 - 40 * n ^ 2 + 48 * n ^ 4)) / 15. - _ Colin Barker _ , Jun 29 2015 •

[A172231] • 0,2,174,1998,10741,38438,107004,251354,522528,990816,1748883,2914894,4635639,7089658,10490366,15089178,21178634,29095524,39224013,51998766 ★ Number of ways to place 5 nonattacking wazirs on a 5 X n board. • a(n) = (625 * n ^ 5 - 5750 * n ^ 4 + 23535 * n ^ 3 - 54202 * n ^ 2 + 70640 * n - 41616) / 24, n>=4. •

[A140162] • 1,2,245,246,3371,3372,20179,20180,79229,79230,240281,240282,611575,611576,1370951,1370952,2790809,2790810,5266909,5266910,9351011,9351012,15787355,15787356,25552981 ★ a(1)=1, a(n)=a(n-1)+n^5 if n odd, a(n)=a(n-1)+ n^0 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 5 +{ [1 + (- 1) ^ n] / 2 } , with a(1)=1 a(n)= (- 1 / 8) + (1 / 8) * (- 1) ^ n + (5 / 8) * (- 1) ^ n * n ^ 2 - (1 / 24) * n ^ 2 + (1 / 2) * n + (1 / 12) * n ^ 6 - (1 / 4) * (- 1) ^ n * n ^ 5 + (1 / 4) * n ^ 5 - (5 / 8) * (- 1) ^ n * n ^ 4 + (5 / 24) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A060890] • 1,2,257,6562,65537,390626,1679617,5764802,16777217,43046722,100000001,214358882,429981697,815730722,1475789057,2562890626,4294967297,6975757442,11019960577,16983563042,25600000001,37822859362,54875873537 ★ n^8 + 1. • a(0)=1, a(1)=2, a(2)=257, a(3)=6562, a(4)=65537, a(5)=390626, a(6)=1679617, a(7)=5764802, a(8)=16777217, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Mar 12 2013 •

[A294275] • 0,2,257,7074,72354,469540,2142595,7972932,24684612,68121958,167731333,383769830,812071910,1633567432,3103591687,5683259528,9961449608,16980253770,27957167625,45040730666,70540730666,108577948908,163239463563,241980430540,351625763020 ★ Sum of the eighth powers of the parts in the partitions of n into two parts. • a(n) = Sum _{ i=1..floor(n / 2) } i ^ 8 + (n - i) ^ 8. • a(n) = a(n - 1) + 9 * a(n - 2) - 9 * a(n - 3) - 36 * a(n - 4) + 36 * a(n - 5) + 84 * a(n - 6) - 84 * a(n - 7) - 126 * a(n - 8) + 126 * a(n - 9) + 126 * a(n - 10) - 126 * a(n - 11) - 84 * a(n - 12) + 84 * a(n - 13) + 36 * a(n - 14) - 36 * a(n - 15) - 9 * a(n - 16) + 9 * a(n - 17) + a(n - 18) - a(n - 19) for n>19. •

[A089663] • 0,2,259,6284,77180,646960,4235864,23313408,112793088,493969920,1998346240,7577934848,27232132096,93517705216,308908943360,986642513920,3059995508736,9247515082752,27310549696512,79012328898560,224396746424320,626707269681152 ★ Let S1 := (n,t)->add(k^t * add(binomial(n,j), j=0..k), k=0..n); a(n) = S1(n,6). • a(n) = 16 * a(n - 1) - 112 * a(n - 2) + 448 * a(n - 3) - 1120 * a(n - 4) + 1792 * a(n - 5) - 1792 * a(n - 6) + 1024 * a(n - 7) - 256 * a(n - 8) for n > 7. • a(n) = 2 ^ (n - 7) * n * (381 * n ^ 6 + 1302 * n ^ 5 + 1302 * n ^ 4 + 420 * n ^ 3 - 707 * n ^ 2 - 378 * n + 368) / 21. - _ Ilya Gutkovskiy _ , Jun 21 2016 •

[A279450] • 0,0,2,285,9110,126396,1055025,6266614,29198740,113262680,380775248,1140764611,3108667306,7824370092,18407341855,40855872764,86201399496,173952773328,337453762782,631982899545,1146743732126,20222127012

12,3474824082125,5831439251154,9576836632860 ★ Number of nonequivalent ways to place 6 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 12 - 55 * n ^ 10 + 210 * n ^ 9 + 93 * n ^ 8 - 2220 * n ^ 7 + 6052 * n ^ 6 - 8040 * n ^ 5 + 4236 * n ^ 4 + 3240 * n ^ 3 - 5872 * n ^ 2 + 2400 * n) / 5760 + IF(MOD(n, 2) = 1, 2 * n ^ 6 - 18 * n ^ 5 + 53 * n ^ 4 - 64 * n ^ 3 + 33 * n ^ 2 - 12 * n + 5) / 128. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 22 * a(n - 3) + 69 * a(n - 4) - 8 * a(n - 5) - 176 * a(n - 6) + 168 * a(n - 7) + 182 * a(n - 8) - 364 * a(n - 9) + 364 * a(n - 11) - 182 * a(n - 12) - 168 * a(n - 13) + 176 * a(n - 14) + 8 * a(n - 15) - 69 * a(n - 16) + 22 * a(n - 17) + 8 * a(n - 18) - 6 * a(n - 19) + * a(n - 20). •

[A172232] • 0,2,504,10010,78052,368868,1280832,3612344,8774380,19049692,37898664,70311824,123209012,205885204,330502992,512631720,771833276,1132294540,1623506488,2280989952,3147068036,4271685188,5713272928,7539662232,9829042572 ★ Number of ways to place 6 nonattacking wazirs on a 6 X n board. • a(n) = 2 * (486 * n ^ 6 - 5670 * n ^ 5 + 30240 * n ^ 4 - 95230 * n ^ 3 + 187899 * n ^ 2 - 220775 * n + 120540) / 15, n>=5. •

[A294276] • 0,2,513,20708,282340,2255148,12313161,52928912,186884496,576258110,1574304985,3942330372,9092033028,19736886008,40357579185,78935156288,147520415296,266495712282,464467582161,788155279940,1299155279940,2095793274212,3300704544313 ★ Sum of the ninth powers of the parts in the partitions of n into two parts. • a(n) = Sum _{ i=1..floor(n / 2) } i ^ 9 + (n - i) ^ 9. • a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - 45 * a(n - 4) + 45 * a(n - 5) + 120 * a(n - 6) - 120 * a(n - 7) - 210 * a(n - 8) + 210 * a(n - 9) + 252 * a(n - 10) - 252 * a(n - 11) - 210 * a(n - 12) + 210 * a(n - 13) + 120 * a(n - 14) - 120 * a(n - 15) - 45 * a(n - 16) + 45 * a(n - 17) + 10 * a(n - 18) - 10 * a(n - 19) - a(n - 20) + a(n - 21) for n>21. •

[A201247] • 0,0,2,552,29412,527654,5196928,34528698,173951172,714042302,2503447216,7744201834,21635290132,55540293510,132752090192,2984918791 78,636559136340,1296099575166,2533344878048,4774975629082,8712057571140,15436347060646,26634487077600 ★ Number of ways to place 6 non-attacking ferses on an n X n board. • a(n) = n ^ 12 / 720 - 5n ^ 10 / 48 + n ^ 9 / 6 + 461n ^ 8 / 144 - 29n ^ 7 / 3 - 2147n ^ 6 / 48 + 1289n ^ 5 / 6 + 65807n ^ 4 / 360 - 6356n ^ 3 / 3 + 9185n ^ 2 / 6 + 22834n / 3 - 11478, n>=5. •

[A190579] • 0,0,2,998,51618,873852,8039322,50272978,240764814,947860554,3210392210,9649651136,26316155354,66191981440,155482089002,3444110863 74,725043524246,1459722296638,2825136685698,5278863810724,9557560367842 ★ Number of ways to place 6 nonattacking grasshoppers on an n x n chessboard. • a(n) = n ^ 12 / 720 - n ^ 10 / 48 - 5n ^ 9 / 9 + 509n ^ 8 / 144 - 187n ^ 7 / 90 + 701n ^ 6 / 48 - 14467n ^ 5 / 36 + 666917n ^ 4 / 360 - 471121n ^ 3 / 180 - 59875n ^ 2 / 24 + 57101n / 6 - 11339 / 2 - (9n ^ 2 / 8 - n - 7 / 2) * (- 1) ^ n, n>5. •

[A294279] • 0,2,1025,61098,1108650,10933324,71340451,354864276,1427557524,4924107550,14914341925,40912232702,102769130750,240910097848,529882277575,1107606410024,2206044295976,4225524980826,7792505423049,13933571680850,24163571680850,40869390083652 ★ Sum of the tenth powers of the parts in the partitions of n into two parts. • a(n) = Sum _{ i=1..floor(n / 2) } i ^ 10 + (n - i) ^ 10. • a(2 * k) = (6144 * k ^ 10 - 16863 * k ^ 9 + 14080 * k ^ 8 - 4224 * k ^ 6 + 1056 * k ^ 4 - 132 * k ^ 2 + 5) * k / 33. • a(2 * k + 1) = (6144 * k ^ 10 + 16896 * k ^ 9 + 14080 * k ^ 8 - 4224 * k ^ 6 + 1056 * k ^ 4 - 132 * k ^ 2 + 5) * k / 33. •

[A247821] • 2,1334,1969,28669,86006,126961,338603654,536801281 ★ Numbers n such that sigma(sigma(2n-1)) is a prime p. • a(n) - 1 = numbers n such that sigma(sigma(2n + 1)) is a prime p: 1, 1333, 1968, 28668, 86005, 126960, ... •

[A259323] • 2,1460,32710,268008,1330890,4874012,14527630,37308880,85584018,179675780,351208022,647279800,1135561050,1910402028,3100048670,4875056032,7457991970,11134523220,16265976038,23303463560,32803672042,45446398140,62053929390,83612360048,111294934450 ★ 2*A259322(n). • a(n) = 2 * (n * (- 31 + 196 * n ^ 2 - 336 * n ^ 4 + 192 * n ^ 6)) / 21. - _ Colin Barker _ , Jun 29 2015 •

[A172234] • 0,2,1478,50726,573797,3581924,15516804,52550366,149162199,370817854,831571604,1717417198,3316210152,6054985120,10545491888,17638773534,28489610297,44631652698,68064067456,101350519742,147731315314,211249526076,296891922604,410745537182 ★ Number of ways to place 7 nonattacking wazirs on a 7 X n board. • a(n) = (117649 * n ^ 7 - 1663893 * n ^ 6 + 10942729 * n ^ 5 - 43685355 * n ^ 4 + 114945646 * n ^ 3 - 199980312 * n ^ 2 + 213228096 * n - 107390880) / 720, n>=6. •

[A023291] • 2,1487,2207,2927,8807,11117,16187,17657,26357,44927,45377,48497,91757,110237,117167,122327,125387,126107,145007,170927,174527,190787,193847,203897,230567 ★ Numbers n such that n remains prime through 3 iterations of function f(x) = 8x + 1. • a(n) = 17 (mod 30) for n > 1. - _ John Cerkan _ , Sep 23 2016 •

[A201242] • 0,0,0,2,1550,546516,28482279,585632520,6829066665,54504255500,331490619174,1642426038486,6930083422496,25686190415144,85541928717375,260349711114720,733731834393719,1934755847570808,4813391235753128,11375736647373750,25684539545337246 ★ Number of ways to place 8 nonattacking wazirs on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 14 - 140n ^ 12 + 8722n ^ 10 - 313880n ^ 8 + 7061089n ^ 6 - 99573740n ^ 4 + 817978188n ^ 2 - 3033601200) / 40320, n>=9. •

[A158348] • 0,0,2,2970,1321860,187430900,10199069190,269591166222,4221404762120,44876701584360,355148098691850,2230178955481730,11630998385335692,52097117078470620,205557074788375310,728566149746575350,2355657801908655120,7034253747275048912 ★ Number of n-colorings of the Hypercube Graph Q4. • a(n) = n ^ 16 - 32 * n ^ 15 + ... (see Maple program). •

[A243649] • 0,0,0,0,0,2,3161,147502,2251309,19028431,111126797,503008566,1888247929,6139119795,17805426945,47050056470,115056780421,263499318031,570427305781,1175960541134,2322552621393,4416363482851,8118552261033,14478163221342,25121835774173 ★ Number of ways six L-tiles can be placed on an n X n square. • a(n) = (n ^ 12 - 12 * n ^ 11 - 39 * n ^ 10 + 950 * n ^ 9 - 815 * n ^ 8 - 29672 * n ^ 7 + 69499 * n ^ 6 + 452518 * n ^ 5 - 1454446 * n ^ 4 - 3319216 * n ^ 3 + 12944320 * n ^ 2 + 9142512 * n - 41687280) / 720 for n >=6, a(5) = 2, a(n) = 0 for n<5. •

[A178410] • 0,2,4374,259289,4255370,35093344,189681689,771464278,2559099153,7285273805,18416621598,42342480425,90097012004,179755977430,339666241815,612682858064,1061605357051,1776021648675,2880784715492 ★ Number of ways to place 8 nonattacking wazirs on an 8 X n board. • a(n) = (1048576 * n ^ 8 - 17432576 * n ^ 7 + 136349696 * n ^ 6 - 658958720 * n ^ 5 + 2161896569 * n ^ 4 - 4945969574 * n ^ 3 + 7719028159 * n ^ 2 - 7516702410 * n + 3494080800) / 2520, n >= 7. •

[A213619] • 1,2,65536 ★ Let m be the n-th hyperoperation applied to n (see A189896). a(n) is the m-th hyperoperation applied to n and m. • a(n) = H _ H _ n(n,n)(n,H(n,n)). •

[A098528] • 1,1,1,3,3,3,3,7,11,15,27,39,51,63,91,135,195,303,459,663,915,1279,1819,2599,3811 ★ Expansion of (1+2*x^3)/(1-x-4*x^7). • a(n)=a(n - 1) + 4a(n - 7); a(n)=sum { k=0..floor(n / 3), binomial(n - 3k, floor(k / 2))2 ^ k } . •

[A098524] • 1,1,3,3,3,7,11,23,35,47,75,119,211,351,539,839,1315,2159,3563,5719,9075,14335,22971,37223,60099 ★ Expansion of (1+2x^2)/(1-x-4x^5). • a(n) =a(n - 1) + 4a(n - 5); a(n)=sum { k=0..floor(n / 2), binomial(n - 2k, floor(k / 2))2 ^ k } . •

[A291407] • 0,0,1,3,3,3,12,30,43,57,120,259,438,708,1360,2703,4827,8276,15114,28488,51769,92031,167334,309341,564237 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S^3 - S^6. • a(n) = a(n - 3) + 3 * a(n - 4) + 3 * a(n - 5) + 2 * a(n - 6) + 6 * a(n - 7) + 15 * a(n - 8) + 20 * a(n - 9) + 15 * a(n - 10) + 6 * a(n - 11) + a(n - 12) for n >= 13. •

[A073748] • 3,3,3,21,77,231,819,2769,9301,31571,106763,361045,1221685,4132743,13980747,47297217,160004685,541291715,1831178355,6194830005,20956959933,70896891079,239842458947,811381229009,2744883043045 ★ a(n) = S(n)*S(n-1), where S(n) are the generalized tribonacci numbers A001644. • a(n) = S(2 * n - 1) + C(n - 1) - C(n - 2), where S(n) is A001644, C(n) is A073145 • a(0)= - 3, a(1)=3, a(2)=3, a(3)=21, a(4)=77, a(5)=231, a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 6 * a(n - 3) - a(n - 4) - a(n - 6). - _ Harvey P. Dale _ , Nov 18 2013 •

[A007768] • 3,3,4,4,6,17,36,44,49,74,122,126,744,7814,9238,9432,52114,3324110085747623,353210861,355051655,1950030118,32235431345,5059014381758937626393 ★ From Engel product expansion of 4/7. • a(n) = 1 + floor(1 / ((1 - A(n)) * b(n - 1))), A(n) = A(n - 1) * b(n - 1) / (b(n - 1) - 1), b(n) = Product _{ k=1..n } a(n), b(0) = 1, A(1) = 4 / 7. - _ Sean A. Irvine _ , Jan 23 2018 •

[A063197] • 0,1,1,3,3,4,5,6,6,8,8,9,10,11,11,13,13,14,15,16,16,18,18,19,20 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(9). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). G.f.: x ^ 2 * (1 + x + 2 * x ^ 2 + x ^ 3) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A130481] • 0,1,3,3,4,6,6,7,9,9,10,12,12,13,15,15,16,18,18,19,21,21,22,24,24 ★ a(n) = Sum_{k=0..n} (k mod 3) (i.e., partial sums of A010872). • a(n) = n + 1 - (Fibonacci(n + 1) mod 2). - _ Gary Detlefs _ , Mar 13 2011 • a(n) = [(n + 1) / 3] + [2(n + 1) / 3], where []=floor. - _ Clark Kimberling _ , May 28 2010 • a(n) = n when n + 1 is not a multiple of 3, and a(n) = n + 1 when n + 1 is a multiple of 3. - _ Dennis P. Walsh _ , Aug 06 2012 • a(n) = n + 1 - sign((n + 1) mod 3). - _ Wesley Ivan Hurt _ , Sep 25 2017 • a(n) = n + (1 - cos(2 * (n + 2) * Pi / 3)) / 3 + sin(2 * (n + 2) * Pi / 3) / sqrt(3). - _ Wesley Ivan Hurt _ , Sep 27 2017 •

[A092200] • 1,3,3,4,6,6,7,9,9,10,12,12,13,15,15,16,18,18,19,21,21,22,24,24,25 ★ Expansion of (1+2x)/((1-x)(1-x^3)). • a(0)=1, a(1)=3, a(2)=3, a(3)=4, a(n) =a(n - 1) + a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 15 2011 • a(n)=n + 1 when n + 2 is not a multiple of 3, and a(n)=n + 2 when n + 2 is a multiple of 3. - _ Dennis P. Walsh _ , Aug 06 2012 •

[A152949] • 3,3,4,6,9,13,18,24,31,39,48,58,69,81,94,108,123,139,156,174,193,213,234,256,279 ★ 3 + binomial(n-1,2). • a(n) = a(n - 1) + n - 2 (with a(1)=3). [_ Vincenzo Librandi _ , Nov 27 2010] •

[A051263] • 1,1,1,3,3,4,7,7,9,13,14,17,22,24,28,35,38,43,52,56,63,74,79,88,101 ★ Expansion of 1/((1-x)*(1-x^3)^2*(1-x^5)). • a(- 12 - n) = - a(n). a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) + a(n - 5) - 2 * a(n - 6) + a(n - 7) - 2 * a(n - 8) + 2 * a(n - 9) + a(n - 11) - a(n - 12). - _ Michael Somos _ , Mar 21 2003 •

[A049854] • 1,3,3,4,8,15,26,45,79,139,244,428,751,1318,2313,4059,7123,12500,21936,38495,67554,118549,208039,365083,640676 ★ a(n)=Sum{a(k): k=0,1,2,...,n-3,n-1}; a(n-2) is not a summand; 2 initial terms required. • a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3); 3 initial terms required. •

[A065678] • 0,1,1,1,1,3,3,4,9,11,13,31,37,44,105,125,149,355,423,504,1201,1431,1705,4063,4841 ★ Minimum value t such that all quadruples of Diffy_length >= n have a maximal value >= t. • a(n) = 3 * a(n - 3) + a(n - 6) + a(n - 9). •

[A045794] • 1,1,1,3,3,4,9,11,13,31,37,44,105,125,149,355,423,504,1201,1431,1705,4063,4841,5768,13745 ★ Consider all quadruples {a,b,c,d} which reach {k,k,k,k} in n steps under map {a,b,c,d}->{|a-b|,|b-c|,|c-d|,|d-a|}; look at max{a,b,c,d}; sequence gives minimal value of this. • a(n) = 3 * a(n - 3) + a(n - 6) + a(n - 9). •

[A130626] • 3,3,4,9,21,44,87,171,340,681,1365,2732,5463,10923,21844,43689,87381,174764,349527,699051,1398100,2796201,5592405,11184812,22369623 ★ Sec-

ond differences of A130624. • a(n)=3a(n - 1) - 3a(n - 2) + 2a(n - 3). - _ Paul Curtz _ , Apr 24 2008 • a(n)=(5 / 6) * [1 / 2 - (1 / 2) * I * sqrt(3)] ^ n + (5 / 6) * [1 / 2 + (1 / 2) * I * sqrt(3)] ^ n + (4 / 3) * 2 ^ n - (1 / 6) * I * [1 / 2 - (1 / 2) * I * sqrt(3)] ^ n * sqrt(3) + (1 / 6) * I * [1 / 2 + (1 / 2) * I * sqrt(3)] ^ n * sqrt(3), with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 12 2008 •

[A175796] • 3,3,4,9,256 ⋆ H_n(n, 2) where H_c(a, b) is the hyperoperation function with operator c. • a(n) = H _ n(n, 2) •

[A063196] • 0,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15,17,17,19,19,21,21,23,23,25 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(7). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 4. •

[A237718] • 1,1,1,1,1,1,1,1,1,3,3,5,5,7,7,9,9,11,15,17,25,27,39,41,57 ⋆ 9-distance Pell numbers. • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1, a(7)=1, a(8)=1; a(n) = 2 * a(n - 9) + a(n - 2) for n>=9. • a(2 * n) = Sum _{ j=0..n / 9 } Binomial[n - 7j, 2j] * 2 ^{ 2j } + Sum _{ j=0..(n - 5) / 9 } Binomial[n - 4 - 7j, 2j + 1] * 2 ^{ 2j + 1 } . • a(2 * n + 1) = Sum _{ j=0..n / 9 } Binomial[n - 7j, 2j] * 2 ^{ 2j } + Sum _{ j=0..(n - 4) / 9 } Binomial[n - 3 - 7j, 2j + 1] * 2 ^{ 2j + 1 } . •

[A237716] • 1,1,1,1,1,1,1,3,3,5,5,7,7,9,13,15,23,25,37,39,55,65,85,111,135 ⋆ 7-distance Pell sequence. • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=1; a(n) = 2 * a(n - 7) + a(n - 2) for n>=7. • a(2 * n) = Sum _{ j=0..n / 7 } Binomial[n - 5j, 2j] * 2 ^{ 2j } + Sum _{ j=0..(n - 4) / 7 } Binomial[n - 3 - 5j,2j + 1 }* 2 ^{ 2j + 1 } . • a(2 * n + 1) = Sum _{ j=0..n / 7 } Binomial[n - 5j, 2j] * 2 ^{ 2j } + Sum _{ j=0..(n - 3) / 7 } Binomial[n - 2 - 5j,2j + 1 }* 2 ^{ 2j + 1 }). •

[A237714] • 1,1,1,1,1,3,3,5,5,7,11,13,21,23,35,45,61,87,107,157,197,279,371,493,685 ⋆ Expansion of (1 + x)/(1 - x^2 - 2*x^5). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(n) = 2 * a(n - 5) + a(n - 2) for n>=5. • a(2n) = sum _{ j=0 }^{ n / 5 } C(n - 3j,2j) * 2 ^ (2j) + sum _{ j=0 }^{ (n - 3) / 5 } C(n - 2 - 3j,2j + 1) * 2 ^ (2j + 1). • a(2n + 1) = sum _{ j=0 }^{ n / 5 } C(n - 3j,2j) * 2 ^ (2j) + sum _{ j=0 }^{ (n - 2) / 5 } C(n - 1 - 3j,2j + 1) * 2 ^ (2j + 1). •

[A131209] • 0,1,3,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ Maximal distance between two signed permutations of n elements. • a(n) = n + 1 except for n=0,1,3. •

[A265430] • 0,1,3,3,5,6,8,8,10,11,13,13,15,16,18,18,20,21,23,23,25,26,28,28,30 ⋆ Number of OFF (white) cells in the n-th iteration of the "Rule 188" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 8 * (10 * n + 3 * (- 1) ^ n - (1 - i) * (- i) ^ n - (1 + i) * i ^ n - 1) where i = sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>4. •

[A222657] • 1,3,3,5,7,7,9,11,11,13,15,15,17,19,19,21,23,23,25,27,27,29,31,31,33 ⋆ a(n) = 2 * floor((2*n + 1) / 3) + 1. • a(n + 3) = a(n) + 4. • a(n) = (12 * n + 9 + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. - _ Wesley Ivan Hurt _ , Sep 29 2017 •

[A086341] • 1,3,3,5,7,9,15,17,31,33,63,65,127,129,255,257,511,513,1023,1025,2047,2049,4095,4097,8191 ⋆ a(n) = 2*2^[n/2] - (-1)^n. • a(n) = (1 + 1 / sqrt(2)) * sqrt(2) ^ n + (1 - 1 / sqrt(2)) * (- sqrt(2)) ^ n - (- 1) ^ n. • a(0)=1, a(1)=3, a(2)=3, a(n)=a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Mar 10 2013 •

[A001588] • 1,3,3,5,7,11,17,27,43,69,111,179,289,467,755,1221,1975,3195,5169,8363,13531,21893,35423,57315,92737 ⋆ a(n) = a(n-1) + a(n-2) - 1. • a(n) = F(n) + F(n + 3) + 1, n >= - 2 (where F(n) is the n - th Fibonacci number). - _ Zerinvary Lajos _ , Feb 01 2008 • a(n) = 1 + (2 / 5) * ((1 / 2) + (1 / 2) * sqrt(5)) ^ n * sqrt(5) - (2 / 5) * sqrt(5) * ((1 / 2) - (1 / 2) * sqrt(5)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Nov 21 2008 •

[A107029] • 1,1,3,3,5,7,11,19,35,69,151,339,829,2111,5607,15737,45289,136477,423279,1353671,4471673,15114479,52605755,187162155,681817179 ⋆ Diagonal sums of number triangle A107027. • a(n)=sum { k=0..floor(n / 2), (n - 2 k - 1)C((n - 2k) * k, k) - (n - 2k - 2) * sum { j=0..k, C((n - 2k) * k, j) }} •

[A193744] • 3,3,5,8,10,15,20,27,37,49,66,88,117,156,207,275,365,484,642,851,1128,1495,1981,2625,3478 ⋆ Partial sum of Perrin numbers. • a(n)=Perrin(n + 5) - 2 • a(n)=r1 ^ (n + 5) + r2 ^ (n + 5) + r3 ^ (n + 5) - 2, where r1, r2, r3 are three roots of x ^ 3 - x - 1=0. •

[A293676] • 0,3,3,5,8,14,22,35,57,92,150,242,391,633,1025,1658,2683,4341,7024,11365,18389,29754,48143,77898,126041 ⋆ a(n) is the integer k that minimizes |e - k/Fibonacci(n)|. • a(n) = floor(1 / 2 + e * Fibonacci(n)). •

[A287195] • 1,3,3,5,9,9,12,18,18,22,30,30,35,45,45,51,63,63,70,84,84,92,108,108,117 ⋆ Independence number of the n-triangular honeycomb acute knight graph. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7) for n >7. •

[A159284] • 0,1,1,1,3,3,5,9,11,19,29,41,67,99,149,233,347,531,813,1225,1875,2851,4325,6601,10027 ⋆ Expansion of x*(1+x)/(1-x^2-2*x^3) • a(n) = a(n - 2) + 2 * a(n - 3), a(0)=0, a(1) = a(2) =1. - _ G. C. Greubel _ , Apr 30 2017 •

[A000198] • 1,1,3,3,5,9,21,21,81,81,81,243,243,441,1215,1701,1701,6561,6561,6561,45927,45927,45927,137781,137781 ⋆ Largest order of automorphism group of a tournament with n nodes. • a(3 ^ k) = 3 ^ ((3 ^ k - 1) / 2), a(5 * 3 ^ k) = 5 * 3 ^ ((5 * 3 ^ k - 5) / 2), a(7 * 3 ^ k) = 7 * 3 ^ ((7 * 3 ^ k - 5) / 2), and, for all other n, a(n) = max (a(i)a(n - i)) where the max is taken over 1 <= i <= n - 1 (from Alspach and Berggren (1973) Theorem 4). • a(3r) = (3 ^ r)a(r), a(n) = a(n - 1) for n = 1, 2 or 4 mod 9, a(9k + 8) = max(a(9k + 7), a(5)a(9k + 3)), a(9k + 5) = max(a(2)a(9k + 3), a(5)a(9k), a(7)a(9k - 2)), a(9k + 7) = a(7)a(9k) (from Alspach and Berggren (1973) Theorem 5). •

[A100886] • 0,1,3,3,5,10,14,23,39,61,99,162,260,421,683,1103,1785,2890,4674,7563,12239,19801,32039,51842,83880 ⋆ Expansion of x*(1+3*x+2*x^2)/((1+x+x^2)*(1-x-x^2)). • a(n) = a(n - 2) + 2a(n - 3) + a(n - 4), a(0) = 0, a(1) = 1, a(2) = 3, a(3) = 3. • a(n) = n * sum(j=1,floor(n / 2), binomial(2 * j,n - 2 * j) / (2 * j)). - _ Vladimir Kruchinin _ , Apr 09 2011 •

[A133190] • 1,3,3,5,13,27,51,101,205,411,819,1637,3277,6555,13107,26213,52429,104859,209715,419429,838861,1677723,3355443,6710885,13421773 ⋆ a(n) = 2a(n-1) - a(n-2) + 2a(n-3). • a(n)=[1 / 10 - (7 / 10) * I] * I ^ n + (4 / 5) * 2 ^ n + [1 / 10 + (7 / 10) * I] * (- I) ^ n, with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Jun 09 2008 •

[A052898] • 3,3,5,13,49,241,1441,10081,80641,725761,7257601,79833601,958003201,12454041601,174356582401,2615348736001,41845579776001,711374856192001,12804747411456001,243290200817664001 ⋆ 2*n! + 1. • a(0)=3; for n>0, a(n) = n * a(n - 1) - n + 1. •

[A056508] • 0,1,1,3,3,6,7,13,15,25,31,50,63,99,127,197,255,391,511,777,1023,1551,2047,3090,4095 ⋆ Number of periodic palindromic structures of length n using exactly two different symbols. • a(2n + 1) = 2 ^ n - 1. - _ Andrew Howroyd _ , Apr 07 2017 •

[A078477] • 1,1,1,3,3,6,7,15,15,30,31,63,63,126,127,255,255,510,511,1023,1023,2046,2047,4095,4095 ⋆ Number of knots with n crossings and rational unknotting number = 1 (chiral pairs counted only once). • a(n) = 2 * a(n - 2) + a(n - 4) - 2 * a(n - 6) for n>9. - _ Colin Barker _ , Dec 26 2015 •

[A097307] • 1,1,3,3,6,8,13,15,26,31,46,56,81,95,140,160,221,261,351,406,548,626,820,945,1221 ⋆ Row sums of array A097306. • a(n)=sum(A097306, m=1..ceiling(n / 2)). •

[A289143] • 0,0,3,3,6,9,12,18,21,27,33,39,45,51,60,67,75,84,94,105,114,126,138,150,162 ⋆ Matching number of the n-triangular honeycomb acute knight graph. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) - a(n - 6) + 3 * a(n - 7) - 3 * a(n - 8) + a(n - 9) for n>9. •

[A293675] • 0,3,3,6,9,14,22,36,58,93,150,242,392,634,1025,1659,2683,4342,7025,11366,18390,29755,48144,77898,126042 ⋆ a(n) is the least integer k such that k/Fibonacci(n) > e. • a(n) = ceiling(e * Fibonacci(n)). •

[A022086] • 0,3,3,6,9,15,24,39,63,102,165,267,432,699,1131,1830,2961,4791,7752,12543,20295,32838,53133,85971,139104 ⋆ Fibonacci sequence beginning 0, 3. • a(n) = round(((6 * phi - 3) / 5) * phi ^ n) for n>2. - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = 3 * F(n). Also, a(n) = F(n - 2) + F(n + 2) for n>1, with F=A000045. • a(n) = F(n + 4) + F(n - 4) - 4 * F(n). - _ Bruno Berselli _ , Dec 29 2016 •

[A097135] • 1,3,3,6,9,15,24,39,63,102,165,267,432,699,1131,1830,2961,4791,7752,12543,20295,32838,53133,85971,139104 ⋆ a(0) = 1; for n>0, a(n) = 3*Fibonacci(n). • a(n) = a(n - 1) + a(n - 2) for n>2. • a(n) = L(n + 1) - F(n - 1) for n>=1, where L=A000032 and F=A000045. - _ Paolo P. Lava _ , Sep 17 2015 •

[A293677] • 0,3,3,6,9,15,25,40,65,106,172,279,452,731,1184,1916,3100,5017,8117,13134,21252,34387,55640,90028,145669 ⋆ a(n) is the greatest integer k such that k/Fibonacci(n) < Pi. • a(n) = floor(Pi * Fibonacci(n)). •

[A293679] • 0,3,3,6,9,16,25,41,66,107,173,280,452,732,1184,1916,3101,5017,8118,13135,21253,34388,55641,90029,145669 ⋆ a(n) is the integer k that minimizes |k/Fibonacci(n) - Pi|. • a(n) = floor(1 / 2 + Pi * Fibonacci(n)). •

[A049871] • 1,3,3,6,10,20,37,70,130,243,453,846,1579,2948,5503,10273,19177,35799,66828,124752,232882,434735,811546,1514962,2828071 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A284710] • 3,3,6,23,43,102,213,447,978,2083,4491,9650,20699,44495,95536,205215,440813,946758,2033611,4367943,9381882,20151431,43283105,92967858,199685543 ⋆ Number of maximal matchings in the n-Moebius ladder. • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - a(n - 4) + 2 * a(n - 5) + a(n - 6) - a(n - 7) - a(n - 8). •

[A063212] • 1,3,3,7,7,9,11,13,13,17,17,19,21,23,23,27,27,29,31,33,33,37,37,39,41 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(44). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). G.f.: x * (1 + 3 * x + 2 * x ^ 2 + 3 * x ^ 3 + x ^ 4) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A182559] • 0,1,1,3,3,7,8,16,20,36,46,78,100,166,212,346,442,713,910,1456,1858,2955,3770,5971,7617 ⋆ a(n) = a(n-2)*2 + floor(sqrt(a(n-1))). • a(0)=0, a(1)=1, a(n) = a(n - 2) * 2 + floor(sqrt(a(n - 1))). •

[A285187] • 1,3,3,7,9,15,22,33,48,71,101,147,208,297,419,591,829,1161,1619,2255,3130,4339,6000,8285,11419 ⋆ a(n) = Sum(psi(k-1)*psi(n-k-1),k=0..n)+(1-(-1)^n)/2, where psi(k) = A000931(k+6). • a(n) = 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) + a(n - 8) for n>7. •

[A258289] • 1,1,1,3,3,7,9,17,21,43,57,109,157,301,447,895,1307,2663,4207,8463,13283,28489,45151,95485,157767 ⋆ Number of partitions of 1, 2, 3, or more copies of n into distinct parts. • a(n) = Sum _{ k=1..max(1,ceiling(n / 2)) } 1 / k! * [Product _{ i=1..k } x _ i ^ n] Product _{ j>0 } (1 + Sum _{ i=1..k } x _ i ^ j). •

[A066983] • 1,1,1,3,3,7,9,17,25,43,67,111,177,289,465,755,1219,1975,3193,5169,8361,13531,21891,35423,57313 ⋆ a(1)=a(2)=1; for n >= 1, a(n+2)=a(n+1)+a(n)+(-1)^n. • a(n) = 2 * Fibonacci(n - 2) + (- 1) ^ n. - _ Vladeta Jovovic _ , Mar 19 2003 • a(n) = floor(PHI ^ (n - 1)) - floor(PHI ^ (n - 1) / sqrt(5)). [_ Federico Provvedi _ , Mar 26 2013] •

[A122012] • 0,3,3,7,9,18,24,47,63,123,165,322,432,843,1131,2207,2961,5778,7752,15127,20295,39603,53133,103682,139104 ⋆ G.f.: x^2*(3+3*x-2*x^2)/ ((x^2-x-1) * (x^2+x-1)). • a(n)= 3 * a(n - 2) - a(n - 4). •

[A013915] • 3,3,7,10,16,24,37,57,89,140,222,354,567,911,1467,2366,3820,6177,16133,26093,42208,68282,110470,178731 ⋆ a(n) = F(n)+L(n)+n, where F(n) (A000045) and L(n) (A000204) are Fibonacci and Lucas numbers respectively. • a(n) = a(n - 1) + a(n - 2) - n + 3. •

[A136445] • 3,3,7,10,17,25,40,57,85,121,172,240,335,459,630,856,1160,1564,2105,2821,3777,5044,6728,8961,11926 ⋆ Size of the BDD for the hidden weighted bit function, with the variables in their natural ordering. • a(n) = (56 * P(n + 2) + 77 * P(n + 1) + 47 * P(n)) / 23 - floor(n ^ 2 / 4) - floor((7 * n + 1) / 3) + (n mod 2) - 10, where P = A001608. - _ Don Knuth _ , Dec 09 2008 •

[A022403] • 3,3,7,11,19,31,51,83,135,219,355,575,931,1507,2439,3947,6387,10335,16723,27059,43783,70843,114627,185471,300099 ⋆ a(0)=a(1)=3; thereafter a(n) = a(n-1) + a(n-2) + 1. • a(n) = 4 * Fibonacci(n + 1) - 1. - _ G. C. Greubel _ , Mar 01 2018 • a(n) = (- 1 + (2 ^ (1 - n) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n))) / sqrt(5)). - _ Colin Barker _ , Mar 02 2018 •

[A277955] • 1,3,3,7,11,23,43,87,171,343,683,1367,2731,5463,10923,21847,43691,87383,174763,349527,699051,1398103,2796203,5592407,11184811 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 14", based on the 5-celled von Neumann neighborhood. • a(n) = (3 - 2 * (- 1) ^ n + 2 ^ (1 + n)) / 3. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2. (End) •

[A088859] • 3,3,7,12,23,43,82,157,303,588,1147,2247,4418,8713,17227,34132,67743,134643,267922,533637,1063703,2121628,4233907,8452687,16880898 ⋆ L(n) + 2^n where L(n) = A000032(n) (the Lucas numbers). • a(0)=3, a(1)=3, a(2)=7 and a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) for n>=3. •

[A173321] • 3,3,7,23,95,479,2879,20159,161279,1451519,14515199,159667199,1916006399,24908083199,348713164799,5230697471999,83691159551999,1422749712383999,25609494822911999,486580401635327999 ⋆ 4*n! - 1. • a(0)=3, a(n) = n * a(n - 1) + n - 1. - _ Vincenzo Librandi _ , Sep 30 2013 •

[A113166] • 0,1,1,3,3,8,8,17,23,41,55,102,144,247,387,631,987,1636,2584,4233,6787,11011,17711,28794,46380 ⋆ Total number of white pearls remaining in the chest - see Comments. • a(n) = sum _{ k=1...[n / 2] } k / (n - k) sum _{ j=1...gcd(n,k) } { (n - k) * gcd(n,k,j) / gcd(n,k) choose k * gcd(n,k,j) / gcd(n,k) } (Alekseyev). • a(p) = Fib(p - 1) for all primes, where Fib = A000045 (_ Creighton Dement _ and _ Antti Karttunen _ , proved by _ Max Alekseyev _). •

[A279910] • 0,0,3,3,8,11,18,18,21,26,37,40,53,60,68,68,85,88,107,112,122,133,156,159,164 ⋆ a(n) = Sum_{k=1..n} prime(k+1)*floor(n/prime(k+1)). • a(n) = - 2 * floor(n / 2) + Sum _{ k=1..n } prime(k) * floor(n / prime(k)) . •

[A105039] • 1,1,3,3,8,11,20,34,59,96,167,282,475,800,1352,2275,3828,6426,10785,18085,30297,50698,84770,141623,236425 ⋆ Number of compositions of n with unique smallest part. • a(n) = 1 + sum(k=2..[(n + 3) / 2], k * sum(s=1..[(n - 1) / k], binomial(n - k * s - 1, k - 2))). - _ Max Alekseyev _ , Apr 15 2005 •

[A213030] • 0,0,1,3,3,8,12,12,21,27,27,40,48,48,65,75,75,96,108,108,133,147,147,176,192 ⋆ [2n/3]^2 -[n/3]^2, where []=floor. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7). •

[A090597] • 0,1,1,3,3,8,12,27,45,96,176,363,693,1408,2752,5547,10965,22016,43776,87723,174933,350208,699392,1399467,2796885 ⋆ a(n) = - a(n-1) + 5(a(n-2) + a(n-3)) - 2(a(n-4) + a(n-5)) - 8(a(n-6) + a(n-7)). • a(n) = + a(n - 1) + 3 * a(n - 2) - a(n - 3) - 2 * a(n - 5) - 4 * a(n - 6). - _ R. J. Mathar _ , Nov 23 2011 • a(n) = (J(n - 3) + J((n - 3) / 2)) / 2 if n is odd; (J(n - 3) + J(n / 2)) / 2 if n is even, where J is the Jacobsthal number A001045. - _ David Scambler _ , Dec 12 2011 •

[A027376] • 1,3,3,8,18,48,116,312,810,2184,5880,16104,44220,122640,341484,956576,2690010,7596480,21522228,61171656,174336264,498111952,1426403748,4093181688,11767874940 ⋆ Number of ternary irreducible monic polynomials of degree n; dimensions of free Lie algebras. • a(n) = (1 / n) * Sum _{ d|n } mu(d) * 3 ^ (n / d). •

[A124281] • 1,1,3,3,9,11,29,39,93,135,301,463,981,1575,3213,5327,10565,17943,34845,60255,115189,201895,381453,675375,1264869 ⋆ Expansion of 1/(1-x-2*x^2+2*x^3-2*x^4). • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - 2k, C(j, n - 2k - j)C(k,n - 2k - j) * 2 ^ k }} •

[A215885] • 3,3,9,24,69,198,570,1641,4725,13605,39174,112797,324786,935184,2692755,7753479,22325253,64283004,185095533,532961346,1534601034,4418707569,12723161361,36634883049,105485941578 ⋆ a(n) = 3*a(n-1) - a(n-3), with a(0)=3, a(1)=3, and a(2)=9. • a(n) = c(1) ^ (- n) + c(2) ^ (- n) + c(4) ^ (- n) = (- c(1) * c(2)) ^ n + (- c(1) * c(4)) ^ n + (- c(2) * c(4)) ^ n, where c(j) := 2 * cos(2 * Pi * j / 9). •

[A117976] • 1,3,3,9,27,27,57,171,171,513,1539,1539,4617,13851,13851,29241,87723,87723,261633,784899,784899,2354697,7064091,7064091,14913081 ⋆ Legendre-binomial transform of 2^n for p=3. • a(n)=sum { k=0..n, L(C(n,k) / 3) * 2 ^ k } where L(j / p) is the Legendre symbol of j and p. •

[A032086] • 3,3,9,36,108,351,1053,3240,9720,29403,88209,265356,796068,2390391,7171173,21520080,64560240,193700403,581101209,1743362676,5230088028,15690441231,47071323693,141214502520,423643507560 ⋆ Number of reversible strings with n beads of 3 colors. If more than 1 bead, not palindromic. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3) for n > 4. • a(n) = (2 * 3 ^ n - 2 * 3 ^ (n / 2)) / 4 for n > 2 and even. • a(n) = (2 * 3 ^ n - 2 * 3 ^ ((n + 1) / 2)) / 4 for n > 2 and odd. •

[A245023] • 3,3,9,39,153,543,1809,5799,18153,55983,171009,519159,1569753,4733823,14250609,42850119,128746953,386634063,1160688609,3483638679,10454061753,31368476703,94118013009,282379204839,847187946153 ⋆ Number of cases of tie (no winner) in the n-person rock-paper-scissors game. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 5 * a(n - 3) + 6 * a(n - 4). - _ Colin Barker _ , Jul 26 2014 •

[A236170] • 0,0,0,1,3,3,10,13,20,29,49,54,93,116,151,206,287,342,479,579,752,968,1242,1489,1923 ⋆ Number of partitions of n which have nonconstant reversal sums, as defined in Comments. • a(n) = p(n) - sum of C(floor(n / d) + floor(d / 2) - 1,floor(d / 2)) where C(n,k) denotes the binomial coefficient and d ranges among the divisors of 2 * n. - _ Giovanni Resta _ , Jan 24 2014 •

[A121446] • 3,3,10,42,198,1001,5304,29070,163438,937365,5462730,32256120,192565800,1160346492,7048030544,43108428198,265276342782,1641229898525,10202773534590,63698396932170,399223286267190,2510857763851185,15842014607109600,100244747986099080 ⋆ Number of ternary trees with n edges and such that the first leaf in the preorder traversal is at level 1. A ternary tree is a rooted tree in which each vertex has at most three children and each child of a vertex is designated as its left or middle or right child. • a(1)=3; a(n)=(2 / n)binomial(3n - 3,n - 1) for n>=2. G.f.=(h - 1 - z) / (h - 1), where h =1 + zh ^ 3=2sin(arcsin(sqrt(27z / 4)) / 3) / sqrt(3z). •

[A032308] • 1,3,3,12,12,21,48,57,84,120,228,264,399,516,732,1119,1416,1884,2532,3324,4296,6168,7545,9984,12684 ⋆ Expansion of Product_{k>=1} (1 + 3*x^k). • a(n) = (1 / 4) * [x ^ n] QPochammer(- 3, x). - _ Vladimir Reshetnikov _ , Nov 20 2015 •

[A049606] • 1,1,1,3,3,15,45,315,315,2835,14175,155925,467775,6081075,42567525,638512875,638512875,10854718875,97692469875,1856156927625,9280784638125,194896477400625,2143861251406875,49308808782358125,147926426347074375 ⋆ Largest odd divisor of n!, • a(n) = numerator(2 * sum _{ i=1..infinity } (- 1) ^ i * (1 - zeta(n + i + 1)) * (product _{ j=1..n } i + j)). - _ Gerry Martens _ , Mar 10 2011 • a(n) = denominator([t ^ n] 1 / (tanh(t) - 1)). - _ Peter Luschny _ , Aug 04 2011 •

[A189737] • 3,3,18,63,243,918,3483,13203,50058,189783,719523,2727918,10342323,39210723,148659138,563609583,2136806163,8101247238,30714160203,116446222323,441481147578,1673782109703,6345789771843,24058715644638,91213516249443 ⋆ a(1)=3, a(2)=3, a(n)=3*a(n-1) + 3*a(n-2) • a(n)=3 / 2 * ((3 / 2 + 1 / 2 * sqrt(21)) ^ (n - 1) + (3 / 2 - 1 / 2 * sqrt(21)) ^ (n - 1) + 1 / 14 * sqrt(21) * ((3 / 2 - 1 / 2 * sqrt(21)) ^ (n - 1) - (3 / 2 + 1 / 2 * sqrt(21)) ^ (n - 1)). - Paolo P. Lava, May 24 2011 •

[A214778] • 3,3,21,84,381,1668,7374,32511,143445,632775,2791506,12314613,54325650,239656134,1057236915,4663973199,20574997221,90766067772,400412159841,1766407883376,7792462676946,34376247490935,151649926417857,668999726876127,2951274986626458 ⋆ a(n) = 3*a(n-1) + 6*a(n-2) + a(n-3), with a(0) = 3, a(1) = 3, and a(2) = 21. • a(n) = (c(1) / c(2)) ^ n + (c(2) / c(4)) ^ n + (c(4) / c(1)) ^ n, where c(j) := Cos(2 * Pi * j / 9). •

[A096351] • 1,1,3,3,30,90,315,315,11340,113400,1247400,3742200,48648600,170270100,638512875,638512875,86837751000,3126159036000,118794043368000,1187940433680000,49893498214560000,548828480360160000 ⋆ Number of meaningfully different ways to design a neutral single elimination tournament with n teams. • a(n) = 1 if n = 1. a(n) = ((n! / ((n / 2)! * (n / 2)!)) * (a(n / 2)) ^ 2) / 2 if n is even. a(n) = ((n! / ((((n - 1) / 2)! * (n + 1) / 2)!)) * a((n + 1) / 2) * a((n - 1) / 2)) if n is odd and > 1. •

[A290567] • 0,3,3,53,303,2178,5303,67803,67803,849053,6708428,6708428,6708428,983270928,983270928,25397333428,147467645928,605231317803,1368170770928,5182868036553,43329840692803,43329840692803,43329840692803,4811701422724053,52495417243036553 ⋆ The successive approximations up to 5^n for 5-adic integer 2^(1/3). • a(0) = 0 and a(1) = 3, a(n) = a(n - 1) + 2 * (a(n - 1) ^ 3 - 2) mod 5 ^ n for n > 1. •

[A215560] • 3,3,101,444,5981,38468,390974,2948431,26868565,216624495,1888775906,15657923053,134074085330,1124375492334,9556192325235,80523923708399,682280993578341,5760499663646612,48746948619251921,411906111379078256,3483838470286469746,29447943482916260935 ⋆ a(n) = 3*a(n-1) + 46*a(n-2) + a(n-3) with a(0)=a(1)=3, a(2)=101. • a(n) = (c(1) ^ 4 / c(2)) ^ n + (c(2) ^ 4 / c(4)) ^ n + (c(4) ^ 4 / c(1)) ^ n, where c(j) = 2 * cos(2 * Pi * j / 7). •

[A121500] • 3,4,4,5,6,6,7,7,8,9,9,10,11,12,12,13,14,14,15,16,16,17,18,19,19 ⋆ Minimal polygon values for a certain polygon problem leading to an approximation of Pi. • a(n) = min(abs(E(n,m)),m >= 3), n>=3 (checked for m=3..3 + 500), with E(n,m):= ((Fin(n) + Fout(m)) / 2 - Pi) / Pi), where Fin(n):=(n / 2) * sin(2 * Pi / n) and Fout(m):= m * tan(Pi / m). Fin(n) is the area of the regular n - gon inscribed in the unit circle. Fout(n) is the area of a regular n - gon circumscribing the unit circle. •

[A157726] • 3,4,4,5,6,8,11,16,24,37,58,92,147,236,380,613,990,1600,2587,4184,6768,10949,17714,28660,46371 ⋆ a(n) = Fibonacci(n) + 3. • a(0) = 3, a(1) = 4, a(n) = a(n - 2) + a(n - 1) - 3. - _ Reinhard Zumkeller _ , Jul 30 2013 •

[A098181] • 1,3,4,4,5,7,8,8,9,11,12,12,13,15,16,16,17,19,20,20,21,23,24,24,25 ⋆ Odd numbers with two times the positive even numbers repeated in order between them. • a(n) = (2n + 3) / 2 - cos(Pi * n / 2) / 2 + sin(Pi * n / 2) / 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). • a(n) = floor(C(n + 3, 2) / 2) - floor(C(n + 1, 2) / 2). - _ Paul Barry _ , Jan 01 2005 • a(4n) = 4n + 1, a(4n + 1) = 4n + 3, a(4n + 2) = 4n + 4, a(4n + 3) = 4n + 4. - _ Philippe Deléham _ , Apr 06 2007 • a(- 3 - n) = - a(n) for all n in Z. - _ Michael Somos _ , Sep 11 2014 • a(n) = (2 * n + 3 - (- 1) ^ ceiling(n / 2)) / 2. - _ Wesley Ivan Hurt _ , Sep 29 2017 •

[A014683] • 1,3,4,4,6,6,8,8,9,10,12,12,14,14,15,16,18,18,20,20,21,22,24,24,25 ⋆ In the sequence of positive integers add 1 to each prime number. • a(n) = n + pi(n) - pi(n - 1). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A213222] • 3,4,4,6,6,8,8,10,10,12,12,14,14,16,16,18,18,20,20,22,22,24,24,26,26 ⋆ Minimum number of distinct slopes formed by n noncollinear points in the plane. • a(n) = 2 * floor(n / 2) for n > 3. •

[A117571] • 1,1,3,4,4,6,7,7,9,10,10,12,13,13,15,16,16,18,19,19,21,22,22,24,25 ⋆ Expansion of (1+2*x^2)/((1-x)*(1-x^3)). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>3. • a(n) = cos(2 * Pi * n / 3 + Pi / 6) / sqrt(3) - sin(2 * Pi * n / 3 + Pi / 6) / 3 + (3n + 2) / 3. • a(n) = 1 + floor((n + 1) / 3) + floor(2 * n /

3). - _ Wesley Ivan Hurt _ , Jul 25 2016 • a(n) = n + sign((n - 1) mod 3). - _ Wesley Ivan Hurt _ , Sep 25 2017 •

[A100478] • 1,1,1,1,1,3,4,4,6,7,9,10,11,14,15,17,19,21,23,24,27,30,30,32,34 ★ Pentanacci pi function: a(1)=a(2)=a(3)=a(4)=a(5)=1; for n>5, a(n)=pi(a(n-1)+a(n-2)+a(n-3)+a(n-4)+a(n-5)) where pi = A000720. • a(1)=a(2)=a(3)=a(4)=a(5)=1; a(n) = pi(a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5)). •

[A047877] • 0,3,4,4,6,9,11,14,18,21,26,32,34,41,49,52,59,69,73,82,92,97,108,120,124 ★ a(n) = (1/2)*Sum_{i=0..n} T(i,n-i), array T as in A049604. • a(n) = 2 * a(n - 3) + a(n - 4) - a(n - 6) - 2 * a(n - 7) + a(n - 10) for n > 14 (conjectured). •

[A089640] • 1,1,1,1,3,4,4,6,11,15,18,27,43,59,78,115,172,239,330,480,698,980,1379,1988,2856 ★ Enumeration of partial sums of 1+[1,2]+[2,3]+[1,2]+[2,3]+... • a(n)=Sum { C(k, n - [(3n + 2) / 2]), k=0...n } , where C(n, k) is the usual binomial coefficient and [...] denotes the floor function. - _ John W. Layman _ , Jan 06 2004 •

[A121924] • 0,1,1,3,4,4,7,9,10,10,14,17,19,20,20,25,29,32,34,35,35,41,46,50,53 ★ Number of splitting steps that one can take with a sequence of n 2's. • a(n) = binomial(b(n),3) + (n - binomial(b(n),2)) * (b(n) ^ 2 + 3b(n) - 2(n + 1)) / 4, where b(n) = floor(sqrt(2n + 1 / 4) + 1 / 2) - Stephan Wagner (swagner(AT)sun.ac.za), Jul 18 2007 •

[A087328] • 1,3,4,4,9,12,15,16,22,27,31,36,43,51,58,64,75,83,93,100,112,123,133,144,157 ★ Independence numbers for KT_3 knight on hexagonal board. • a(n) = ceiling(n ^ 2 / 4) if n == 0, 1, 4, 8, 11 (mod 12), ceiling(n ^ 2 / 4) + 1 if n == 3, 9 (mod 12) and ceiling(n ^ 2 / 4) + 2 if n == 2, 5, 6, 7, 10 (mod 12) and n != 6. •

[A181132] • 0,0,1,1,3,4,5,5,8,10,12,13,15,16,17,17,21,24,27,29,32,34,36,37,40 ★ a(0)=0; thereafter a(n) = total number of 0's in binary expansions of 1, ..., n. • a(0)=0; thereafter a(2n)=a(n) + a(n - 1) + n, a(2n + 1)=2a(n) + n. G.f.: (1 / (1 - x) ^ 2) * Sum _{ k >= 0 } x ^ (2 ^ (k + 1)) / (1 + x ^ (2 ^ k)). - _ N. J. A. Sloane _ , Mar 10 2016 •

[A184985] • 0,1,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ★ Nonnegative integers excluding 2. • a(n) = n - floor(1 / (n - 1)!). • a(n) = n - floor(1 / max(1, 2n - 4)). • a(n) = max(sqrt(n - 1), min(n,3n - 6)). • a(n) = n - (1 / 2) * (1 - (- 1) ^ (n - 1)!). • a(n) = min(n, max(n - 1,2n - 3)). • a(n) = n - 1 + sign(n ^ 2 - 3n + 2). •

[A065475] • 1,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26 ★ Natural numbers excluding 2. • a(n) = n + 1 for n>1, a(n) = a(n - 1) + 1 for n>2. - _ Wesley Ivan Hurt _ , Mar 13 2016 •

[A009056] • 3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27 ★ Numbers >= 3. • a(n) = n + 2. •

[A052404] • 0,1,3,4,5,6,7,8,9,10,11,13,14,15,16,17,18,19,30,31,33,34,35,36,37 ★ Numbers without 2 as a digit. • a(n) = replace digits d > 1 by d + 1 in base - 9 representation of n - 1. - _ Reinhard Zumkeller _ , Oct 07 2014 •

[A047565] • 0,1,3,4,5,6,7,8,9,11,12,13,14,15,16,17,19,20,21,22,23,24,25,27,28 ★ Numbers that are congruent to {0, 1, 3, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. (End) • a(n) = a(n - 7) + 8 for n>7. • a(n) = (56 * n - 42 + (n mod 7) + ((n + 1) mod 7) + ((n + 2) mod 7) + ((n + 3) mod 7) - 6 * ((n + 4) mod 7) + ((n + 5) mod 7) + ((n + 6) mod 7)) / 49. • a(7 * k) = 8 * k - 1, a(7 * k - 1) = 8 * k - 2, a(7 * k - 2) = 8 * k - 3, a(7 * k - 3) = 8 * k - 4, a(7 * k - 4) = 8 * k - 5, a(7 * k - 5) = 8 * k - 7, a(7 * k - 6) = 8 * k - 8. (End) •

[A047310] • 0,1,3,4,5,6,7,8,10,11,12,13,14,15,17,18,19,20,21,22,24,25,26,27,28 ★ Numbers that are congruent to {0, 1, 3, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = n + floor((n - 3) / 6). (End) • a(n) = (42 * n - 33 - 3 * cos(n * Pi) + 4 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) - 12 * sin((1 + 2 * n) * Pi / 6)) / 36. • a(6k) = 7k - 1, a(6k - 1) = 7k - 2, a(6k - 2) = 7k - 3, a(6k - 3) = 7k - 4, a(6k - 4) = 7k - 6, a(6k - 5) = 7k - 7. (End) •

[A073071] • 3,4,5,6,7,8,10,11,12,14,15,16,17,19,20,21,23,24,25,27,28,29,31,32,33 ★ Least k such that k! > prime(1)*prime(2)*...*prime(n) where prime(n) is the n-th prime. • a(n) should be asymptotic to C * n (where 1<C<3 / 2). •

[A047563] • 0,3,4,5,6,7,8,11,12,13,14,15,16,19,20,21,22,23,24,27,28,29,30,31,32 ★ Numbers that are congruent to {0, 3, 4, 5, 6, 7} mod 8. • a(n) = (1 / 9) *{ 13 * (n mod 6) + [(n + 1) mod 6] + [(n + 2) mod 6] + [(n + 3) mod 6] + [(n + 4) mod 6] - 2 * [(n + 5) mod 6] } + 8 * A054895, with n>=0. - _ Paolo P. Lava _ , Nov 05 2007 • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 9 + 3 * cos(n * Pi) - 12 * cos(n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 4, a(6k - 4) = 8k - 5, a(6k - 5) = 8k - 8. (End) •

[A047252] • 0,1,3,4,5,6,7,9,10,11,12,13,15,16,17,18,19,21,22,23,24,25,27,28,29 ★ Numbers that are congruent to {0, 1, 3, 4, 5} mod 6. • a(n) = floor(6n - 3) / 5). - _ Gary Detlefs _ , Mar 07 2010 •

[A047564] • 1,3,4,5,6,7,9,11,12,13,14,15,17,19,20,21,22,23,25,27,28,29,30,31,33 ★ Numbers that are congruent to {1, 3, 4, 5, 6, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (12 * n - 3 - sqrt(3) * (cos((1 - 4 * n) * Pi / 6) + 3 * cos((1 + 2 * n) * Pi / 6))) / 9. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 4, a(6k - 4) = 8k - 5, a(6k - 5) = 8k - 7. (End) •

[A047562] • 3,4,5,6,7,11,12,13,14,15,19,20,21,22,23,27,28,29,30,31,35,36,37,38,39 ★ Numbers that are congruent to {3, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. • a(n) = a(n - 5) + 8 for n > 5. • a(n) = n + 2 + 3 * floor((n - 1) / 5). • a(n) = (8 * n + 7 - 3 * ((n + 4) mod 5)) / 5. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 3, a(5k - 3) = 8k - 4, a(5k - 4) = 8k - 5. (End) •

[A003619] • 1,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,21,22,23,24,25,26,27,28 ★ Not of form [e^m], m >= 1. • a(n) = n + [log (n + 1 + [log (n + 1)])]. •

[A001965] • 0,1,3,4,5,6,8,9,10,11,12,14,15,16,17,19,20,21,22,24,25,26,27,29,30 ★ Wythoff game. • a(n) = floor((n + 1 / 2) * (sqrt(5) - 1)). - R. J. Mathar, Feb 14 2011 •

[A047207] • 0,1,3,4,5,6,8,9,10,11,13,14,15,16,18,19,20,21,23,24,25,26,28,29,30 ★ Numbers that are congruent to {0, 1, 3, 4} mod 5. • a(n) = floor((5 * n - 3) / 4). - _ Gary Detlefs _ , Mar 06 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (10 * n - 9 - i ^ (2 * n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n) / 8, where i=sqrt(- 1). •

[A001957] • 0,1,3,4,5,6,8,9,10,12,13,14,16,17,18,19,21,22,23,25,26,27,29,30,31 ★ Wythoff game. • a(n) = floor((n + 1 / 3) * (sqrt(13) - 1) / 2). - R. J. Mathar, Feb 14 2011 •

[A047428] • 0,1,3,4,5,6,8,9,11,12,13,14,16,17,19,20,21,22,24,25,27,28,29,30,32 ★ Numbers that are congruent to {0, 1, 3, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 27 - 3 * cos(n * Pi) - 6 * cos(n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 18. • a(6k) = 8k - 2, a(6k - 1) = 8k - 3, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A100585] • 3,4,5,6,8,10,13,17,22,29,38,50,66,88,117,156,208,277,369,492,656,874,1165,1553,2070 ★ a(n+1) = a(n)+floor(a(n)/3), a(1) = 3. • a(1)=3, a(n + 1) = a(n) + floor(a(n) / 3). - _ Ben Paul Thurston _ , Jan 09 2008 •

[A047426] • 0,3,4,5,6,8,11,12,13,14,16,19,20,21,22,24,27,28,29,30,32,35,36,37,38 ★ Numbers that are congruent to {0, 3, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 30 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 7 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 5, a(5k - 4) = 8k - 8. (End) •

[A047250] • 0,3,4,5,6,9,10,11,12,15,16,17,18,21,22,23,24,27,28,29,30,33,34,35,36 ★ Numbers that are congruent to {0, 3, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (6 * n - 3 + i ^ (2 * n) - (1 + i) * i ^ (- n) - (1 - i) * i ^ n) / 4 where i=sqrt(- 1). •

[A047427] • 1,3,4,5,6,9,11,12,13,14,17,19,20,21,22,25,27,28,29,30,33,35,36,37,38 ★ Numbers that are congruent to {1, 3, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 25 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) - 7 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 5, a(5k - 4) = 8k - 7. (End) •

[A047307] • 3,4,5,6,10,11,12,13,17,18,19,20,24,25,26,27,31,32,33,34,38,39,40,41,45 ★ Numbers that are congruent to {3, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n + 1 - 3 * i ^ (2 * n) - (3 - 3 * i) * i ^ (- n) - (3 + 3 * i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047425] • 3,4,5,6,11,12,13,14,19,20,21,22,27,28,29,30,35,36,37,38,43,44,45,46,51 ★ Numbers that are congruent to {3, 4, 5, 6} mod 8. • a(n) = 8 * floor((n - 1) / 4) + ((n - 1) mod 4) + 3. • a(n) = OR(n - 1, 1) + OR(n - 1, 2). - _ Gary Detlefs _ , Oct 20 2013 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (4 * n - 1 - i ^ (2 * n) - (1 - i) * i ^ (- n) - (1 + i) * i ^ n) / 2 where i=sqrt(- 1). •

[A078358] • 1,3,4,5,7,8,9,10,11,13,14,15,16,17,18,19,21,22,23,24,25,26,27,28,29 ★ Non-oblong numbers: Complement of A002378. • a(n) = ceiling(sqrt(n)) + n - 1. - _ Leroy Quet _ , Jul 06 2007 •

[A183574] • 3,4,5,7,8,9,11,12,13,14,15,17,18,19,20,21,23,24,25,26,27,28,29,31,32 ★ n+Floor[sqrt(2n+2)]. • a(n)=n + Floor[sqrt(2n + 2)]. •

[A276212] • 1,3,4,5,7,8,9,11,12,13,14,16,17,18,19,21,22,23,24,25,27,28,29,30,31 ★ Position of n^r in the joint ranking of {h^r} and {k^s}, where r = sqrt(2), s = sqrt(5), h > 1, k > 1. • a(n) = n + floor(n ^ (r / s)); the complement is given by n + floor(n ^ (s / r)). •

[A042965] • 0,1,3,4,5,7,8,9,11,12,13,15,16,17,19,20,21,23,24,25,27,28,29,31,32 ★ Nonnegative integers not congruent to 2 mod 4. • a(n) = n - 1 + (3n - 3 - sqrt(3) * (1 - 2 * cos(2 * Pi * (n - 1) / 3)) * sin(2 * Pi * (n - 1) / 3)) / 9. Partial sums of the period - 3 sequence 0, 1, 1, 2, 1, 1, 2, 1, 1, 2, ... (A101825). - _ Ralf Stephan _ , May 19 2013 • a(n) = floor((4 * n - 3) / 3). - _ Gary Detlefs _ , May 14 2011 • a(2 - n) = - a(n). (End) • a(n) = (12 * n - 12 + 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 4k - 1, a(3k - 1) = 4k - 3, a(3k - 2) = 4k - 4. (End) • a(n) = round((4 * n - 4) / 3). - _ Mats Granvik _ , Sep 24 2016 •

[A184744] • 1,3,4,5,7,8,10,11,12,14,15,16,18,19,21,22,23,25,26,27,29,30,31,33,34 ★ floor(nr+h), where r=1+1/e, h=1/2; complement of A184745. • a(n)=floor(nr + h), where r=1 + 1 / e, h=1 / 2. •

[A184620] • 1,3,4,5,7,8,10,11,12,14,15,17,18,20,21,22,24,25,27,28,29,31,32,34,35 ★ floor(nr+h), where r=sqrt(2), h=1/4; complement of A184621. • a(n)=floor(nr + h), where r=sqrt(2), h=1 / 4. •

[A136119] • 1,3,4,5,7,8,10,11,13,14,15,17,18,20,21,22,24,25,27,28,29,31,32,34,35 ★ Limiting sequence when we start with the positive integers (A000027) and delete in step n >= 1 the term at position n + a(n). • a(n) = ceil((n - 1 / 2) * sqrt(2)). This can be proved in the same way as the formula given for A099267. There are some generalizations. For instance, it is possible to consider "a(n) + K * n" instead of "a(n) + n" for deleting terms where K=0,1,2,...is fixed. The constant involved in the Beatty sequence for the sequence of deleted terms then depends on K and equals (K + 1 + sqrt((K + 1) ^ 2 + 4)) / 2. K=0 is related to A099267. 1 + A001954 is the complement sequence of this sequence A136119. - _ Benoit Cloitre _ , Apr 18 2008 •

[A184618] • 1,3,4,5,7,8,10,11,13,14,15,17,18,20,21,22,24,25,27,28,30,31,32,34,35 ⋆ Floor(n*r+h), where r=sqrt(2) and h=1/3; complement of A184619. • a(n)=floor(nr + h), where r=sqrt(2), h=1 / 3. •

[A047500] • 0,3,4,5,7,8,11,12,13,15,16,19,20,21,23,24,27,28,29,31,32,35,36,37,39 ⋆ Numbers that are congruent to {0, 3, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 25 - 2 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 7 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 5, a(5k - 4) = 8k - 8. (End) •

[A154571] • 0,3,4,5,7,8,12,15,16,17,19,20,24,27,28,29,31,32,36,39,40,41,43,44,48 ⋆ Numbers that are congruent to {0, 3, 4, 5, 7, 8} mod 12. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (12 * n - 15 - cos(n * Pi) - 5 * cos(n * Pi / 3) - sqrt(3) * (2 * cos((1 - 4 * n) * Pi / 6) - 3 * sin(n * Pi / 3))) / 6. • a(6k) = 12k - 4, a(6k - 1) = 12k - 5, a(6k - 2) = 12k - 7, a(6k - 3) = 12k - 8, a(6k - 4) = 12k - 9, a(6k - 5) = 12k - 12. (End) •

[A047251] • 1,3,4,5,7,9,10,11,13,15,16,17,19,21,22,23,25,27,28,29,31,33,34,35,37 ⋆ Numbers that are congruent to {1, 3, 4, 5} mod 6. • a(n) = 3 * n / 2 - 1 / 2 - cos(Pi * n / 2) / 2. • a(n) = (- 2 - (- i) ^ n - i ^ n + 6n) / 4, with i=sqrt(- 1). - _ Colin Barker _ , Oct 19 2015 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. •

[A003159] • 1,3,4,5,7,9,11,12,13,15,16,17,19,20,21,23,25,27,28,29,31,33,35,36,37 ⋆ Numbers n whose binary representation ends in an even number of zeros. • a(0)=1; for n>=0, a(n + 1) = a(n) + 1 if (a(n) + 1) / 2 is not already in the sequence, = a(n) + 2 otherwise. • a(1)=1, a(2)=3 and for n>=2 we get a(n + 1)=4 + a(n) + a(n - 1) - a(a(n) - n + 1) - a(a(n - 1) - n + 2) - _ Benoit Cloitre _ , Apr 08 2010 •

[A141259] • 1,3,4,5,7,9,11,12,13,15,16,17,19,21,23,24,25,27,28,29,31,33,35,36,37 ⋆ a(n) == {0,1,3,4,5,7,9,11} mod 12; n>0. • a(n) = { 0,1,3,4,5,7,9,11 } mod 12; n>0. • a(n) = (1 / 56) * Sum { k=0..n - 1 }{ 3 * (k mod 8) + 10 * [(k + 1) mod 8] + 3 * [(k + 2) mod 8] + 3 * [(k + 3) mod 8] - 4 * [(k + 4) mod 8] + 3 * [(k + 5) mod 8] + 10 * [(k + 6) mod 8] - 4 * [(k + 7) mod 8] } , with n >=1 [_ Paolo P. Lava _ , Feb 11 2009] •

[A190941] • 0,1,3,4,5,7,9,11,13,14,15,17,18,19,21,23,25,27,29,31,33,35,37,39,41 ⋆ Partial sums of A190592. • a(n) = sum[i=0..n] Maximal digit in base - 3 expansion of i. • a(n) = 3n + O(n ^ 0.631). - _ Charles R Greathouse IV _ , Aug 21 2011 •

[A128201] • 1,3,4,5,7,9,11,13,15,16,17,19,21,23,25,27,29,31,33,35,36,37,39,41,43 ⋆ Union of positive squares and the odd numbers. • a(n) = f(n,1,1,2) where f(n,i,m,x) = if i=n then m else if m + 1=x ^ 2 then f(n,i + 1,m + 1,x) else if m + 1>x ^ 2 then f(n,i + 1,m + 1,x + 2) else f(n,i + 1,m + 2,x). •

[A000702] • 1,3,4,5,7,9,14,18,24,31,43,55,72,94,123,156,200,254,324,408,513,641,804,997,1236 ⋆ a(n) = number of conjugacy classes in the alternating group A_n. • a(n) = (p(n) + 3Q(n)) / 2 where p(n) denotes the number of unrestricted partitions of n (A000041) and Q(n) the number of partitions of n into distinct odd parts (A000700). [Denes - Erdős - Turan] • a(n) = 2p(n) + 3 * Sum _{ r>=1 } (- 1) ^ r * p(n - 2r ^ 2). [Girse] •

[A047365] • 0,3,4,5,7,10,11,12,14,17,18,19,21,24,25,26,28,31,32,33,35,38,39,40,42 ⋆ Numbers that are congruent to {0, 3, 4, 5} mod 7. • a(1)=0, a(2)=3, a(3)=4, a(4)=5, a(5)=7, a(n)=a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Harvey P. Dale _ , May 26 2012 • a(n) = (14 * n - 11 + i ^ (2 * n) - (3 + i) * i ^ (- n) - (3 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047499] • 3,4,5,7,11,12,13,15,19,20,21,23,27,28,29,31,35,36,37,39,43,44,45,47,51 ⋆ Numbers that are congruent to {3, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 1 - i ^ (2 * n) - (1 - 2 * i) * i ^ (- n) - (1 + 2 * i) * i ^ n) / 4 where i=sqrt(- 1). •

[A112594] • 0,3,4,5,8,9,10,11,12,15,16,17,18,19,20,21,24,25,26,27,28,29,30,31,32 ⋆ Natural function used for generating x^2 and sqrt(x) only using iteration and Q(x) (the characteristic function of sqrt). • a(n) = n + 2 * floor(sqrt(n)) •

[A127427] • 0,1,3,4,5,8,9,10,12,13,14,16,17,18,22,23,24,26,27,28,30,31,32,35,36 ⋆ v_3((6n)!) - v_3((3n)!), where v_3(N) is the 3-adic valuation A007949(N). • a(n) - n = a([(n + 1) / 3]). •

[A047205] • 0,3,4,5,8,9,10,13,14,15,18,19,20,23,24,25,28,29,30,33,34,35,38,39,40 ⋆ Numbers that are congruent to {0, 3, 4} mod 5. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (15 * n - 9 - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 1, a(3k - 1) = 5k - 2, a(3k - 2) = 5k - 5. (End) •

[A283765] • 3,4,5,8,9,10,14,15,19,20,24,25,26,29,30,31,35,36,40,41,45,46,47,50,51 ⋆ Numbers k such that L(k) is even, where L = A000201 = lower Wythoff sequence. • a(n + 1) - a(n) is in { 1,3,4 } for every n. •

[A047601] • 0,1,3,4,5,8,9,11,12,13,16,17,19,20,21,24,25,27,28,29,32,33,35,36,37 ⋆ Numbers that are congruent to {0, 1, 3, 4, 5} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[A047366] • 1,3,4,5,8,10,11,12,15,17,18,19,22,24,25,26,29,31,32,33,36,38,39,40,43 ⋆ Numbers that are congruent to {1, 3, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 9 - i ^ (2n) - (3 - i) * i ^ (- n) - (3 + i) * i ^ n) / 8 where i=sqrt(- 1). •

[A117483] • 0,1,3,4,5,8,10,11,17,20,22,30,31,41,50,59,67,75,83,109,127,157,174,179,191 ⋆ Numbers n for which pi(phi(n))equals phi(pi(n)). • a(n)=pi(phi(n))= phi(pi(n)) •

[A211533] • 0,0,1,1,3,4,5,8,10,13,16,19,23,27,32,36,41,47,52,59,65,71,79,86,94 ⋆ Number of ordered triples (w,x,y) with all terms in {1,...,n} and w=3x-5y. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 6) - a(n - 8) + a(n - 9). •

[A228305] • 3,4,5,8,10,16,20,32,40,64,80,128,160,256,320,512,640,1024,1280,2048,2560,4096,5120,8192,10240 ⋆ a(1) = 3; for n >= 1, a(2*n) = 2^(n+1), a(2*n+1) = 5*2^(n-1). • a(n) = ceiling((9 - (- 1) ^ n) * 2 ^ (floor(n / 2) - 2)) . • a(n) = n + 2 for n <= 3; a(n) = 2 * a(n - 2) for n > 3. • a(n) = (16 - (8 - 5 * r) * (1 - (- 1) ^ n)) * r ^ (n - 6) for n>1, r=sqrt(2). (End) •

[A080726] • 0,3,4,5,8,11,12,13,14,15,16,17,20,23,26,29,32,35,36,37,38,39,40,41,42 ⋆ a(0) = 0; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 2 mod 3". • a(a(n)) = 3 * n + 2, n >= 1. •

[A047599] • 0,3,4,5,8,11,12,13,16,19,20,21,24,27,28,29,32,35,36,37,40,43,44,45,48 ⋆ Numbers that are congruent to {0, 3, 4, 5} mod 8. • a(n) = 2 * n - 2 - cos(n * Pi / 2). (End) • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = 2n - 2 - (i ^ (- n) + i ^ n) / 2 where i = sqrt(- 1). •

[A215082] • 0,1,1,3,4,5,8,12,17,23,35,43,66,81,124,148,229,266,414,476,742,842,1318,1478,2320 ⋆ Related to Fibonacci numbers, see the Formula section. • a(0) = 0, a(1) = 1, a(2) = 1, a(2n) + a(2n + 1) = (n + 1) * Fibonacci(n + 2) , a(2n) = a(2n - 1) + a(2n - 3). •

[A047249] • 3,4,5,9,10,11,15,16,17,21,22,23,27,28,29,33,34,35,39,40,41,45,46,47,51 ⋆ Numbers that are congruent to {3, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * n - cos(2 * n * Pi / 3) + sin(2 * n * Pi / 3) / sqrt(3). • a(3k) = 6k - 1, a(3k - 1) = 6k - 2, a(3k - 2) = 6k - 3. (End) •

[A295718] • 1,3,4,5,9,10,19,21,40,45,85,98,183,217,400,489,889,1122,2011,2621,4632,6229,10861,15042,25903 ⋆ a(n) = a(n-1) + 3*a(n-2) -2*a(n-3) - 2*a(n-4), where a(0) = 1, a(1) = 3, a(2) = 4, a(3) = 5. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 1, a(1) = 3, a(2) = 4, a(3) = 5. •

[A047600] • 1,3,4,5,9,11,12,13,17,19,20,21,25,27,28,29,33,35,36,37,41,43,44,45,49 ⋆ Numbers that are congruent to {1, 3, 4, 5} mod 8. • a(n) = 2 * n - 1 - (3 + (- 1) ^ n) * (1 + i ^ (n * (n + 1))) / 4, where i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A267755] • 1,3,4,5,9,12,14,15,16,20,23,25,26,27,31,34,36,37,38,42,45,47,48,49,53 ⋆ Expansion of (1 + 2*x + x^2 + x^3 + 4*x^4 + 2*x^5)/(1 - x - x^5 + x^6). • a(n) = a(n - 1) + a(n - 5) - a(n - 6). •

[A237132] • 3,4,5,9,12,23,31,60,81,157,212,411,555,1076,1453,2817,3804,7375,9959,19308,26073,50549,68260,132339,178707 ⋆ Values of x in the solutions to x^2 - 3xy + y^2 + 11 = 0, where 0 < x < y. • a(n) = 3 * a(n - 2) - a(n - 4). • a(n) = F(n + 2) + (- 1) ^ n * F(n - 3), n>1, with F the Fibonacci numbers (A000045). - _ Ralf Stephan _ , Feb 05 2014 •

[A099560] • 0,0,0,1,1,1,3,4,5,9,13,18,28,41,59,88,129,188,277,406,594,872,1278,1872,2745 ⋆ a(n) = Sum_{k=0..floor(n/3)} C(n-2k,k-1). • a(n) = a(n - 1) + 2 * a(n - 3) - a(n - 4) - a(n - 6). •

[A000692] • 1,3,4,5,9,15,27,50,92,171,322,610,1161,2220,4260,8201,15828,30622,59362,115287,224260,436871,852161,1664196,3253531 ⋆ An approximation to population of x^2 + y^2. • a(n)=(b * 2 ^ n / sqrt(n * log(2))) * (1 + c / (n * log(2))) where b=0.764223654... is the Landau - Ramanujan constant (A064533) and c=0.5819486593... is the second - order Landau - Ramanujan constant (A227158) given by c=(1 / 2) * (1 - log(Pi * e ^ gamma / (2 * L))) - (1 / 4)deriv(log(prod(1 / (1 - p ^ (- 2 * s)),p prime = 3(mod 4)),s=1) where L is the Lemniscate constant (A064853). - _ Sean A. Irvine _ , Feb 25 2011 •

[A047364] • 3,4,5,10,11,12,17,18,19,24,25,26,31,32,33,38,39,40,45,46,47,52,53,54,59 ⋆ Numbers that are congruent to {3, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 6 - 12 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 4. (End) •

[A079351] • 3,4,5,10,15,16,17,18,19,20,21,22,23,24,25,30,35,40,45,50,55,60,65,70,75 ⋆ a(1)=3; for n > 1, a(n) is the smallest integer greater than a(n-1) consistent with the condition "n is in the sequence if and only if a(n) is congruent to 0 (mod 5)". • a(3 * 5 ^ k + j) = 5 ^ (k + 1) + 3j + 2|j|, k >= 0, - 2 * 5 ^ k <= j < 2 * 5 ^ k. •

[A170926] • 0,0,1,3,4,5,10,17,20,21,25,30,33,40,58,77,84,85,89,94,97,104,121,138,145 ⋆ Total number of squares and rectangles at the n-th stage in the corner toothpick structure (see A152890, A153006). • a(2 ^ k) = (4 ^ k - 4) / 3 for k >= 2. - _ N. J. A. Sloane _ , Feb 13 2010. •

[A047598] • 3,4,5,11,12,13,19,20,21,27,28,29,35,36,37,43,44,45,51,52,53,59,60,61,67 ⋆ Numbers that are congruent to {3, 4, 5} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 12 - 15 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 5. (End) •

[A283773] • 3,4,5,11,12,13,19,20,27,28,35,36,42,43,44,50,51,52,58,59,60,66,67,68,74 ⋆ Numbers k such that U(k) = 1 mod 3, where U = A001950 = upper Wythoff sequence. • a(n + 1) - a(n) is in { 1,6,7 } for every n. •

[A052276] • 3,4,5,11,24,30,61,67,122,128,213,219,340,346,509,515,726,732,997,1003,1328,1334,1725,1731,2194 ⋆ Nonnegative numbers of form n^3 (+/-) 3, n >= 0. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>8. - _ Colin Barker _ , Jul 09 2015 • a(n) = ((2 * n + 1) * (n ^ 2 + n + 1) - (- 1) ^ n * (3 * n ^ 2 + 3 * n - 47)) / 16 for n >= 2. - _ Robert Israel _ , Jul 09 2015 •

[A049929] • 1,3,4,5,12,20,41,83,168,254,550,1121,2250,4507,9015,18031,36064,54098,117212,238932,480121,961371,1923313,3846922,7693930 ⋆ a(n) = a(1) + a(2) + ... + a(n-1) - a(m), where m = 2^(p+1) + 2 - n and 2^p < n-1 <= 2^(p+1). • a(n) = (Sum _{ i=1..n - 1 } a(i)) - a(2 ^ ceiling(log2(n - 1)) + 2 - n), n > 3. - _ Iain Fox _ , Dec 06 2017 •

[A289121] • 3,4,5,12,37,98,219,430,767,1272,1993,2984,4305,6022,8207,10938,14299,18380,23277,29092,35933,43914,53155,63782,75927 ⋆ a(n) = (8 - 2*n + 11*n^2 - 6*n^3 + n^4)/4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A221173] • 3,4,5,14,33,80,193,466,1125,2716,6557,15830,38217,92264,222745,537754,1298253,3134260,7566773,18267806,44102385,106472576,257047537,620567650,1498182837 ⋆ a(0)=-3, a(1)=4; thereafter a(n) = 2*a(n-1) + a(n-2). • a(n) = (1 / 4) * (7 * sqrt(2) * ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) - 6 * ((1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n)). - _ Paolo P. Lava _ , Jan 04 2013 •

[A254865] • 1,1,3,4,5,30,42,56,504,720,990,11880,17160,24024,360360,524160,742560,13366080,19535040,27907200,586051200,859541760,1235591280,29654190720,43609104000 ⋆ a(n) = Product_{k = 1+n-floor(n/3) .. n} k. • a(n) = Product _{ k = 1 + n - floor(n / 3) .. n } k. •

[A265283] • 1,3,4,6,6,8,8,10,10,12,12,14,14,16,16,18,18,20,20,22,22,24,24,26,26 ⋆ Number of ON (black) cells in the n-th iteration of the "Rule 94" elementary cellular automaton starting with a single ON (black) cell. • a(n) = n + 2 for n>1 and even. • a(n) = n + 3 for n>1 and odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. •

[A080804] • 1,3,4,6,7,8,9,11,12,13,14,15,16,17,18,20,21,22,23,24,25,26,27,28,29 ⋆ Least number of connected subgraphs of the binary cube GF(2)^n such that every vertex of GF(2)^n lies in at least one of the subgraphs and no two vertices lie in the same set of subgraphs (such a collection is called an identifying set). • a(n) = n + floor(log _ 2 n). •

[A164386] • 1,3,4,6,7,8,9,11,12,13,14,15,16,18,19,20,21,22,23,24,25,27,28,29,30 ⋆ Numbers which are not 1 larger than a nonzero square. • a(n) = n + floor(sqrt(n - 1) + 1 / 2). •

[A111909] • 1,3,4,6,7,8,9,11,12,13,14,15,16,18,19,21,22,23,24,27,28,29,30,31,33 ⋆ Numbers that cannot be represented as a^4 + b^2 with a, b > 0. • a(n) = n + O(n ^ (3 / 4)). - _ Charles R Greathouse IV _ , Sep 01 2015 •

[A184010] • 1,3,4,6,7,8,9,11,12,13,14,15,17,18,19,20,21,22,23,25,26,27,28,29,30 ⋆ n + floor(sqrt(-1+4n/3)); complement of A001859 (except for initial zero). • a(n) = n + floor(sqrt(- 1 + 4n / 3)) •

[A182835] • 3,4,6,7,8,9,11,12,13,14,16,17,18,19,20,21,23,24,25,26,27,28,30,31,32 ⋆ n+floor(sqrt(2n+3)), complement of A179207. • a(n)=n + floor(sqrt(2n + 3)). •

[A047517] • 0,1,3,4,6,7,8,9,11,12,14,15,16,17,19,20,22,23,24,25,27,28,30,31,32 ⋆ Numbers that are congruent to {0, 1, 3, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7), for n > 7. • a(n) = (24 * n - 21 - 3 * cos(n * Pi) + 2 * sqrt(3) * cos((1 + 4 * n) * Pi / 6) + 6 * sin((1 - 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 4, a(6k - 3) = 8k - 5, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A007401] • 1,3,4,6,7,8,10,11,12,13,15,16,17,18,19,21,22,23,24,25,26,28,29,30,31 ⋆ Add n-1 to n-th term of 'n appears n times' sequence (A002024). • a(n) = ((t + 2) ^ 2 + i - j) / 2 - 1, where •

[A276218] • 1,3,4,6,7,8,10,11,13,14,15,17,18,19,21,22,23,25,26,27,28,30,31,32,34 ⋆ Position of n^r in the joint ranking of {h^r} and {k^s}, where r = sqrt(3), s = sqrt(6), h > 1, k > 1. • a(n) = n + floor(n ^ (r / s)); the complement is given by n + floor(n ^ (s / r)). •

[A047299] • 0,1,3,4,6,7,8,10,11,13,14,15,17,18,20,21,22,24,25,27,28,29,31,32,34 ⋆ Numbers that are congruent to {0, 1, 3, 4, 6} mod 7. • a(n) = floor((7n + 2) / 5). - _ Lorenz H. Menke, Jr. _ , Jun 19 2013 •

[A184578] • 1,3,4,6,7,8,10,11,13,14,16,17,18,20,21,23,24,25,27,28,30,31,32,34,35 ⋆ floor[(n+1/3)sqrt(2)]; complement of A184579. • a(n)=floor[(n + 1 / 3)sqrt(2)]. •

[A022846] • 0,1,3,4,6,7,8,10,11,13,14,16,17,18,20,21,23,24,25,27,28,30,31,33,34 ⋆ Nearest integer to n*sqrt(2). • a(n + 1) - a(n) = 1 or 2. - _ Philippe Deléham _ , Mar 08 2013 •

[A007378] • 3,4,6,7,8,10,12,13,14,15,16,18,20,22,24,25,26,27,28,29,30,31,32,34,36 ⋆ a(n), n>=2, is smallest positive integer which is consistent with sequence being monotonically increasing and satisfying a(a(n)) = 2n. • a(2 ^ i + j) = 3 * 2 ^ (i - 1) + j, 0<=j<2 ^ (i - 1); a(3 * 2 ^ (i - 1) + j) = 2 ^ (i + 1) + 2 * j, 0<=j<2 ^ (i - 1). • a(3 * 2 ^ k + j) = 4 * 2 ^ k + 3j / 2 + |j| / 2, k>=0, - 2 ^ k <= j < 2 ^ k. - _ N. J. A. Sloane _ , Feb 23 2003 •

[A183860] • 3,4,6,7,9,10,11,13,14,15,16,18,19,20,21,23,24,25,26,27,29,30,31,32,33 ⋆ n+floor(sqrt(3n+1)); complement of A183861. • a(n)=n + floor(sqrt(3n + 1)). •

[A184746] • 1,3,4,6,7,9,10,12,13,14,16,17,19,20,22,23,25,26,27,29,30,32,33,35,36 ⋆ floor(nr+h), where r=1+1/sqrt(5), h=1/2; complement of A184747. • a(n)=floor(nr + h), where r=1 + 1 / sqrt(5), h=1 / 2. •

[A258048] • 1,3,4,6,7,9,10,12,13,14,16,17,19,20,22,23,25,26,28,29,31,32,34,35,36 ⋆ Nonhomogeneous Beatty sequence: ceiling((n + 1/2)*Pi/(Pi- 1)) • a(n) = ceiling((n + 1 / 2) * Pi / (Pi - 1)). •

[A032766] • 0,1,3,4,6,7,9,10,12,13,15,16,18,19,21,22,24,25,27,28,30,31,33,34,36 ⋆ Numbers that are congruent to 0 or 1 mod 3. • a(n) = (6n - 1 + (- 1) ^ n) / 4. • a(n) = sqrt(2) * sqrt((6n - 1) (- 1) ^ n + 18n ^ 2 - 6n + 1) / 4. • a(n) = Sum _{ k=0..n } 3 / 2 - 2 * 0 ^ k + (- 1) ^ k / 2. (End) • a(n) = 1 + ceiling(3 * (n - 1) / 2). - Fung Cheok Yin (cheokyin _ restart(AT)yahoo.com.hk), Sep 22 2006 • a(n) = (cos(Pi * n) - 1) / 4 + 3 * n / 2. - Bart Snapp (snapp(AT)coastal.edu), Sep 18 2008 • a(n) = floor(n / 2) + n. - _ Gary Detlefs _ , Mar 19 2010 •

[A059559] • 1,3,4,6,7,9,10,12,13,15,17,18,20,21,23,24,26,27,29,30,32,34,35,37,38 ⋆ Beatty sequence for 1 + log(1/gamma), (gamma is the Euler-Mascheroni constant A001620). • a(n) = floor(n * (1 + log(1 / Euler))). - _ Michel Marcus _ , Jan 05 2015 •

[A093610] • 1,3,4,6,7,9,10,12,14,15,17,18,20,21,23,24,26,28,29,31,32,34,35,37,39 ⋆ Lower Beatty sequence for e^G, G = Euler's gamma constant. • a(n) = floor(n * (k + 1) / k)). Lower Beatty pair terms are the set of natural numbers not in the set of upper Beatty pair terms (the latter in A093609). •

[A187342] • 1,3,4,6,7,9,10,12,14,15,17,18,20,21,23,25,26,28,29,31,32,34,36,37,39 ⋆ Floor(((15+sqrt(5))/11)n); complement of A187341. • a(n)=floor(((15 + sqrt(5)) / 11)n). •

[A243989] • 1,3,4,6,7,9,11,12,14,15,17,18,20,21,23,25,26,28,29,31,32,34,36,37,39 ⋆ Rounded down ratio of a lune area and a unit circle one, the lune is bounded by two unit circles whose centers are separated by a distance 1/n. • a(n) = floor(Pi / area) where area = 2 * d + k1 - k2, d = (1 / 4) * (c ^ 2 * (2 + c) * (2 - c)) ^ (1 / 2), k1 = acos(- c ^ 2 / (2 * c)), k2 = acos(c ^ 2 / (2 * c)). •

[A182770] • 1,3,4,6,7,9,11,12,14,15,17,19,20,22,23,25,26,28,30,31,33,34,36,38,39 ⋆ Beatty sequence for 3-sqrt(2). • a(n)=floor(n * (3 - sqrt(2))). •

[A047516] • 1,3,4,6,7,9,11,12,14,15,17,19,20,22,23,25,27,28,30,31,33,35,36,38,39 ⋆ Numbers that are congruent to {1, 3, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. •

[A060832] • 0,1,3,4,6,7,10,11,13,14,16,17,20,21,23,24,26,27,30,31,33,34,36,37,41 ⋆ Sum [n/k!], k>0. • a(n) = (e - 1) * n + f(n) where f(n) < 0. - _ Benoit Cloitre _ , Jun 19 2002. Comment from Franklin T. Adams - Watters, Nov 03 2005: f is unbounded in the negative direction. The assertion that f(n) < 0 is correct, since (e - 1) * n = sum _{ k=1 }^{ infinity } n / k! is term for term >= this sequence. •

[A047297] • 0,3,4,6,7,10,11,13,14,17,18,20,21,24,25,27,28,31,32,34,35,38,39,41,42 ⋆ Numbers that are congruent to {0, 3, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 9 + 3 * i ^ (2 * n) - (1 + i) * i ^ (- n) - (1 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A239438] • 1,1,3,4,6,7,10,12,15,19,22,26,31,35,40,46,51,57,64,70,77,85,92,100,109 ⋆ Maximal number of points that can be placed on a triangular grid of side n so that there is no pair of adjacent points. • a(n) = ceiling(n(n + 1) / 6) for n > 5, see Geramita, Gregory, & Roberts theorem 5.4. - _ Charles R Greathouse IV _ , Dec 04 2014 •

[A047514] • 3,4,6,7,11,12,14,15,19,20,22,23,27,28,30,31,35,36,38,39,43,44,46,47,51 ⋆ Numbers that are congruent to {3, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (1 + i) * (4 * n - 4 * n * i + (i - 1) * i ^ (2 * n) + i ^ (1 - n) - i ^ n) / 4 where i=sqrt(- 1). • a(n) = a(n - 4) + 8 for n > 4. • a(4 * k) = 8 * k - 1, a(4 * k - 1) = 8 * k - 2, a(4 * k - 2) = 8 * k - 4, a(4 * k - 3) = 8 * k - 5. (End) •

[A199015] • 1,3,4,6,8,8,11,13,13,15,17,19,20,22,22,24,28,28,30,30,31,35,37,37,39 ⋆ G.f.: 1/(1-x) * Product_{n>=1} (1 - x^(2*n))^2/(1 - x^(2*n-1))^2. • a(n) = Sum _{ k=0..n } Sum _{ d|4 * k + 1 } (- 1) ^ (d \ 2). [Michael Somos; see A008441] •

[A276214] • 1,3,4,6,8,9,11,12,13,15,16,18,19,21,22,23,25,26,28,29,30,32,33,35,36 ⋆ Position of n^r in the joint ranking of {h^r} and {k^s}, where r = sqrt(3), s = sqrt(5), h > 1, k > 1. • a(n) = n + floor(n ^ (r / s)); the complement is given by n + floor(n ^ (s / r)). •

[A066096] • 0,1,3,4,6,8,9,11,12,14,16,17,19,21,22,24,25,27,29,30,32,33,35,37,38 ⋆ Duplicate values in A060143. • a(n) = floor(n * phi), where phi = (1 + sqrt(5)) / 2. - _ Peter Munn _ , Jan 12 2018 •

[A000201] • 1,3,4,6,8,9,11,12,14,16,17,19,21,22,24,25,27,29,30,32,33,35,37,38,40 ⋆ Lower Wythoff sequence (a Beatty sequence): a(n) = floor(n*phi), where phi = (1+sqrt(5))/2 = A001622. • a(1) = 1; for n>0, a(n + 1) = a(n) + 1 if n is not in sequence, a(n + 1) = a(n) + 2 if n is in sequence. • a(0) = 0; a(n) = n + max { k : a(k) < n } . - _ Vladeta Jovovic _ , Jun 11 2004 • a(Fib(r - 1) + j) = Fib(r) + a(j) for 0<j<=Fib(r - 2); 2<r. - _ Paul Weisenhorn _ , Aug 18 2012 •

[A182774] • 1,3,4,6,8,9,11,13,14,16,17,19,21,22,24,26,27,29,30,32,34,35,37,39,40 ⋆ Beatty sequence for 1+2^(-2/3). • a(n)=floor(n * (1 + 2 ^ (- 2 / 3))). •

[A182772] • 1,3,4,6,8,9,11,13,14,16,17,19,21,22,24,26,27,29,31,32,34,35,37,39,40 ⋆ Beatty sequence for (5-sqrt(3))/2. • a(n)=floor(n * (5 - sqrt(3)) / 2). •

[A047206] • 1,3,4,6,8,9,11,13,14,16,18,19,21,23,24,26,28,29,31,33,34,36,38,39,41 ⋆ Numbers that are congruent to {1, 3, 4} mod 5. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n)= 1 + (5 * n) / 3 - (i * sqrt(3) * (- 1 / 2 + (i * sqrt(3)) / 2) ^ n) / 9 + (i * sqrt(3) * (- 1 / 2 - (i * sqrt(3)) / 2) ^ n) / 9. - _ Stephen Crowley _ , Feb 11 2007 • a(n) = floor((5 * n - 1) / 3). - _ Gary Detlefs _ , May 14 2011 • a(n) = (15 * n - 6 - 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 1, a(3k - 1) = 5k - 2, a(3k - 2) = 5k - 4. (End) •

[A081031] • 1,3,4,6,8,9,11,13,15,16,18,20,21,23,25,27,28,30,32,33,35,37,39,40,42 ⋆ Positions of white keys on piano keyboard. • a(n) = [(12n - 3) / 7] •

[A184006] • 1,3,4,6,8,10,11,13,15,16,18,20,22,23,25,27,29,30,32,34,36,37,39,41,42 ⋆ floor(nr+h), where r=sqrt(3), h=-1/3; complement of A184007. • a(n)=floor(nr + h), where r=sqrt(3), h= - 1 / 3 •

[A047298] • 1,3,4,6,8,10,11,13,15,17,18,20,22,24,25,27,29,31,32,34,36,38,39,41,43 ⋆ Numbers that are congruent to {1, 3, 4, 6} mod 7. • a(n) = ceiling(ceiling((7n + 2) / 2) / 2). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = i ^ (- n) * (i - 1 - 7 * i ^ n + 14 * n * i ^ n - (1 + i) * i ^ (2n) + i ^ (- n)) / 8 where i=sqrt(- 1). •

[A184748] • 1,3,4,6,8,10,11,13,15,17,18,20,22,24,25,27,29,31,33,34,36,38,40,41,43 ⋆ floor(nr+h), where r=4-5^(1/2), h=-1/2; complement of A184749. • a(n)=floor(nr + h), where r=4 - 5 ^ (1 / 2), h= - 1 / 2. •

[A184736] • 1,3,4,6,8,10,12,14,15,17,19,21,23,25,26,28,30,32,34,36,37,39,41,43,45 ⋆ floor(nr+h), where r=-1+2^(3/2), h=-1/2; complement of A184735. • a(n)=floor(nr + h), where r= - 1 + 2 ^ (3 / 2), h= - 1 / 2. •

[A058992] • 0,1,3,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46 ⋆ Gossip Problem: there are n people and each of them knows some item of gossip not known to the others. They communicate by telephone and whenever one person calls another, they tell each other all that they know at that time.

How many calls are required before each gossip knows everything? • a(n) = 2 n - 4 for n >= 4. •

[A051755] • 3,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50 ⋆ Consider problem of placing N queens on an n X n board so that each queen attacks precisely 2 others. Sequence gives maximal number of queens. • a(2) = 3, a(n) = 2n - 2 for n >= 3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. - _ Colin Barker _ , Nov 08 2014 •

[A092137] • 1,3,4,6,8,10,12,15,17,20,23,26,29,32,36,39,43,46,50,54,58,62,66,70,75 ⋆ Lower bound for A005842[n]. • a(n) = ceil(sqrt(sum _{ k=1 }^ n k ^ 2)) •

[A080728] • 3,4,6,8,11,12,14,15,17,18,19,20,23,24,26,29,30,32,35,38,41,42,43,44,47 ⋆ a(0) = 3; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 2 mod 3". • a(a(n)) = 3 * n + 8, n >= 0. •

[A047414] • 0,3,4,6,8,11,12,14,16,19,20,22,24,27,28,30,32,35,36,38,40,43,44,46,48 ⋆ Numbers that are congruent to {0, 3, 4, 6} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 7 + i ^ (2 * n) - i ^ (- n) - i ^ n) / 4 where i=sqrt(- 1). •

[A060903] • 0,0,1,3,4,6,8,11,13,16,19,22,25,28,31,35,38,42,46,50,54,58,62,67,71 ⋆ Floor(6*n*sqrt(n)/Pi^2). • a(n) = floor(6 * n ^ (3 / 2) / Pi ^ 2). •

[A156040] • 1,1,3,4,6,8,11,13,17,20,24,28,33,37,43,48,54,60,67,73,81,88,96,104,113 ⋆ Number of compositions (ordered partitions) of n into 3 parts (some of which may be zero), where the first is at least as great as each of the others. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6), with a(0) = 1, a(1) = 1, a(2) = 3, a(3) = 4, a(4) = 6, a(5) = 8. - _ Harvey P. Dale _ , May 28 2015 • a(n) = (n ^ 2 + 4 * n + 3) / 6 + IF(MOD(n, 2) = 0, 1 / 2) + IF(MOD(n, 3) = 1, - 1 / 3). - _ Heinrich Ludwig _ , Mar 21 2017 • a(n) = 1 + floor((n ^ 2 + 4 * n) / 6). - _ Giovanni Resta _ , Mar 21 2017 • a(n) = a(- 4 - n) for all n in Z. - _ Michael Somos _ , Mar 26 2017 •

[A063759] • 1,3,4,6,8,12,16,24,32,48,64,96,128,192,256,384,512,768,1024,1536,2048,3072,4096,6144,8192 ⋆ Spherical growth series for modular group. • a(n) = 2 * a(n - 2), n>2. - _ Harvey P. Dale _ , Oct 22 2011 •

[A163978] • 3,4,6,8,12,16,24,32,48,64,96,128,192,256,384,512,768,1024,1536,2048,3072,4096,6144,8192,12288 ⋆ a(n) = 2*a(n-2) for n > 2; a(1) = 3, a(2) = 4. • a(n) = (1 / 2) * (5 - (- 1) ^ n) * 2 ^ ((2 * n - 1 + (- 1) ^ n) / 4). •

[A136483] • 0,0,1,1,3,4,6,8,13,15,19,22,28,30,37,41,48,54,64,69,77,83,94,98,110 ⋆ Number of unit square lattice cells inside quadrant of origin-centered circle of diameter n. • a(n) = Sum(floor(sqrt((n / 2) ^ 2 - k ^ 2))), k = 1 ... floor(n / 2). •

[A080710] • 1,3,4,6,9,10,12,13,14,15,18,19,21,24,27,30,31,32,33,36,37,39,40,41,42 ⋆ a(0) = 1; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is a multiple of 3". • a(a(n)) = 3 * (n + 1). •

[A047231] • 0,3,4,6,9,10,12,15,16,18,21,22,24,27,28,30,33,34,36,39,40,42,45,46,48 ⋆ Numbers that are congruent to {0, 3, 4} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 5 - cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 2, a(3k - 1) = 6k - 3, a(3k - 2) = 6k - 6. (End) •

[A047415] • 1,3,4,6,9,11,12,14,17,19,20,22,25,27,28,30,33,35,36,38,41,43,44,46,49 ⋆ Numbers that are congruent to {1, 3, 4, 6} mod 8. • a(n) = 2 * (n - 1) - (i ^ (n * (n + 1)) - 1) / 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Dec 06 2011 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (1 + i) * (4 * n - 4 * n * i + 3 * i - 3 + i ^ (1 - n) - i ^ n) / 4 where i=sqrt(- 1). •

[A087805] • 0,1,3,4,6,9,11,12,14,17,19,22,26,29,31,32,34,37,39,42,46,49,51,54,58 ⋆ Partial sums of b(k) where {b(k)}_{k>=0} = limit n ->infty {A080578(k)-2k : k=2^n,2^n+1,2^n+2,.....}. • a(n) seems to be asymptotic to c * n * log(n). Is c=log(2) ? •

[A289233] • 0,1,1,3,4,6,9,11,15,18,22,26,30,35,39,45,50,56,63,69,77,84,92,100,108 ⋆ Largest number of disjoint point triples that can be chosen from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = floor(n * (n + 1) / 6) except when n mod 12 is 3, 5, 6, or 8; in those cases, a(n) = floor(n * (n + 1) / 6) - 1. - _ Jon E. Schoenfield _ , Dec 25 2017 •

[A283777] • 1,3,4,6,9,12,14,15,17,18,20,23,26,28,29,31,32,34,37,39,40,42,43,45,48 ⋆ Numbers k such that floor(k*e) is even. • a(n + 1) - a(n) is in { 1,2,3 } for every n. •

[A182531] • 0,1,3,4,6,9,12,16,20,25,30,36,42,49,56,64,72,81,90,100,110,121,132 ⋆ Extremal graph numbers for a triangle with an edge off it. • a(n) = (- 1 + (- 1) ^ n + 2 * n ^ 2) / 8 for n>3. • a(n) = n ^ 2 / 4 for n>3 and even. • a(n) = (n ^ 2 - 1) / 4 for n>3 and odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A097922] • 1,1,3,4,6,9,12,16,21,26,32,39,46,54,63,72,82,93,104,116,129,142,156,171,186 ⋆ G.f.: (1-x^4)*(1-x^10)/((1-x)*(1-x^2)^2*(1-x^3)*(1-x^5)). • a(n) = 2 + ceiling((n ^ 2 - n) / 3) for n >= 2. - _ Robert Israel _ , May 20 2014 •

[A152950] • 3,4,6,9,13,18,24,31,39,48,58,69,81,94,108,123,139,156,174,193,213,234,256,279,303 ⋆ a(n) = 3 + n*(n-1)/2. • a(n) = 3 + C(n,2), n>=1. - _ Zerinvary Lajos _ , Mar 12 2009 • a(n) = a(n - 1) + n - 1 (with a(1)=3). - _ Vincenzo Librandi _ , Nov 27 2010 •

[A048577] • 3,4,6,9,14,22,35,56,90,145,234,378,611,988,1598,2585,4182,6766,10947,17712,28658,46369,75026,121394,196419 ⋆ Pisot sequence L(3,4). • a(n) = Fib(n + 3) + 1. a(n) = 2a(n - 1) - a(n - 3). • a(n) = 1 + [1 / 2 + (1 / 2) * sqrt(5)] ^ n + (2 / 5) * [1 / 2 + (1 / 2) * sqrt(5)] ^ n * sqrt(5) - (2 / 5) * sqrt(5) * [1 / 2 - (1 / 2) * sqrt(5)] ^ n + [1 / 2 - (1 / 2) * sqrt(5)] ^ n, with n>0= 0 - _ Paolo P. Lava _ , Jun 10 2008 •

[A047296] • 3,4,6,10,11,13,17,18,20,24,25,27,31,32,34,38,39,41,45,46,48,52,53,55,59 ⋆ Numbers that are congruent to {3, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 3 - 6 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 4. (End) •

[A004793] • 1,3,4,6,10,12,13,15,28,30,31,33,37,39,40,42,82,84,85,87,91,93,94,96,109 ⋆ a(1)=1, a(2)=3; a(n) is least k such that no three terms of a(1), a(2), ..., a(n-1), k form an arithmetic progression. • a(n) = b(n - 1), with b(0)=1, b(2n)=3b(n) - 2 - 3[n odd], b(2n + 1)=3b(n) - 3[n odd]. •

[A068922] • 3,4,6,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314,92736,150050,242786 ⋆ Number of ways to tile a 3 X 2n room with 1 X 2 Tatami mats. At most 3 Tatami mats may meet at a point. • a(n) = (2 ^ (- n) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n))) / sqrt(5) for n>1. • a(n) = a(n - 1) + a(n - 2) for n>3. •

[A052548] • 3,4,6,10,18,34,66,130,258,514,1026,2050,4098,8194,16386,32770,65538,131074,262146,524290,1048578,2097154,4194306,8388610,16777218 ⋆ a(n) = 2^n + 2. • a(0)=3, a(1)=4, a(n) = 3 * a(n - 1) - 2 * a(n - 2). • a(0)=3, a(n) = 2 * a(n - 1) - 2. - _ Vincenzo Librandi _ , Aug 06 2010 •

[A047413] • 3,4,6,11,12,14,19,20,22,27,28,30,35,36,38,43,44,46,51,52,54,59,60,62,67 ⋆ Numbers that are congruent to {3, 4, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 9 - 9 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 5. (End) •

[A093040] • 1,1,1,3,4,6,11,17,27,45,72,116,189,305,493,799,1292,2090,3383,5473,8855,14329,23184,37512,60697 ⋆ Expansion of (1+x)/((1+x+x^2)(1-x-x^2)). • a(n) = a(n - 2) + 2a(n - 3) + a(n - 5); • a(n - 1) = sum { k=0..floor(n / 2), if(mod(n - k, 2)=1, binomial(n - k, k), 0) } ; • a(n) = sum { k=0..floor(n / 2), C(2k + 1,n - 2k) } . - _ Paul Barry _ , May 31 2006 • a(n) = floor(Fibonacci(n + 3) / 2) - floor(Fibonacci(n + 1) / 2). - _ Gary Detlefs _ , Mar 13 2011 •

[A192813] • 0,1,1,3,4,6,11,18,31,53,91,158,274,477,832,1453,2541,4447,7788,13646,23919,41938,73547,129001,226295 ⋆ Coefficient of x in the reduction of the polynomial x^(2n)+x^n+1 by x^3->x+1. • a(n)=2 * a(n - 1) - a(n - 4) - a(n - 6). •

[A294144] • 1,3,4,6,12,14,15,17,28,41,44,48,64,67,68,70,89,93,116,122,149,157,163,169,199 ⋆ Sum of the smaller parts of the partitions of 2n into two parts with larger part squarefree. • a(n) = Sum _{ i=1..n } i * mu(2n - i) ^ 2. •

[A097044] • 1,3,4,7,8,9,10,11,13,14,15,16,17,18,19,23,24,25,26,27,28,29,30,31,33 ⋆ a(n) = n + a(floor(sqrt(n))) for n > 1; a(1) = 1. • a(1)=1; a(n) = n + a(floor(sqrt(n))) for n > 1. •

[A080722] • 0,1,3,4,7,8,9,10,13,16,19,20,21,22,23,24,25,26,27,28,31,34,37,40,43 ⋆ a(0) = 0; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 1 mod 3". • a(a(n)) = 3 * n - 2, n >= 2. •

[A092754] • 1,3,4,7,8,9,10,15,16,17,18,19,20,21,22,31,32,33,34,35,36,37,38,39,40 ⋆ a(1)=1, a(2n)=2a(n)+1, a(2n+1)=2a(n)+2. • a(n)=2 ^ floor(log(n) / log(2)) + n - 1 •

[A047545] • 0,1,3,4,7,8,9,11,12,15,16,17,19,20,23,24,25,27,28,31,32,33,35,36,39 ⋆ Numbers that are congruent to {0, 1, 3, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 45 - 7 * (n mod 5) + 3 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 4, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A004201] • 1,3,4,7,8,9,13,14,15,16,21,22,23,24,25,31,32,33,34,35,36,43,44,45,46 ⋆ Accept one, reject one, accept two, reject two, ... • a(n) = n + t(t + 1) / 2, where t = floor((- 1 + sqrt(8 * n - 7)) / 2). - _ Boris Putievskiy _ , Dec 13 2012 •

[A047344] • 0,1,3,4,7,8,10,11,14,15,17,18,21,22,24,25,28,29,31,32,35,36,38,39,42 ⋆ Numbers that are congruent to {0, 1, 3, 4} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 19 - 3 * i ^ (2n) - (1 - i) * i ^ (- n) - (1 + i) * i ^ n) / 8 where i=sqrt(- 1). •

[A005187] • 0,1,3,4,7,8,10,11,15,16,18,19,22,23,25,26,31,32,34,35,38,39,41,42,46 ⋆ a(n) = a(floor(n/2)) + n; also denominators in expansion of 1/sqrt(1-x) are 2^a(n); also 2n - number of 1's in binary expansion of 2n. • a(n) <= 2n - 1; equality holds for powers of 2. • a(n) >= 2n - 1 - floor(log _ 2(n)); equality holds for n = 2 ^ m - 1, m > 0. • a(n) = log _ 2(denominator(binomial(- 1 / 2, n))). - _ Peter Luschny _ , Nov 25 2011 • a(2n + 1) = a(2n) + 1. - _ M. F. Hasler _ , Jan 24 2015 •

[A184835] • 1,3,4,7,8,10,11,15,16,18,19,22,23,25,27,31,32,34,35,38,39,41,43,46,47 ⋆ a(n) = n + floor(n/t) + floor(n/t^2) + floor(n/t^3) + floor(n/t^4), where t is the pentanacci constant. • a(n) = n + floor(n * p / u) + floor(n * q / u) + floor(n * r / u) + floor(n * s / u), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, u=t ^ 5, and t is the pentanacci constant. •

[A184823] • 1,3,4,7,8,10,11,15,16,18,19,22,23,25,28,30,31,33,35,37,38,41,43,45,46 ⋆ a(n) = n + floor(n/t) + floor(n/t^2) + floor(n/t^3), where t is the tetranacci constant. • a(n) = n + floor(n * p / s) + floor(n * q / s) + floor(n * r / s), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, and t is the tetranacci constant. •

[A184820] • 1,3,4,7,8,10,12,14,15,17,19,21,23,25,27,28,31,32,34,35,38,39,41,44,45 ⋆ a(n) = n + floor(n/t) + floor(n/t^2), where t is the tribonacci constant. • a(n) = n + floor(n * p / r) + floor(n * q / r), where p=t, q=t ^ 2, r=t ^ 3, and t is the tribonacci constant (see Clark Kimberling's formula in A184812). •

[A014601] • 0,3,4,7,8,11,12,15,16,19,20,23,24,27,28,31,32,35,36,39,40,43,44,47,48 ★ Congruent to 0 or 3 mod 4. • a(n) = (n + 1) * 2 + 1 - n mod 2. - _ Reinhard Zumkeller _ , Apr 21 2003 • a(n) = Sum _{ k=1..n } 2 - (- 1) ^ k. - _ William A. Tedeschi _ , Mar 20 2008 • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 2. G.f.: x * (3 + x) / ((1 + x) * (x - 1) ^ 2). - _ R. J. Mathar _ , Sep 25 2009 • a(n) = 2 * n + (n mod 2). - Paolo Valzasina (p.valzasina(AT)gmail.com), Nov 24 2009 • a(n) = (4 * n - (- 1) ^ n + 1) / 2. - _ Bruno Berselli _ , Oct 06 2010 • a(n) = 4 * n - a(n - 1) - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 24 2010 •

[A154708] • 3,4,7,8,11,12,15,16,19,20,23,24,27,28,31,32,35,36,39,40,43,44,47,48,51 ★ Numbers a such that b and c exist with b <= a < c and a*(a+1)+b^2=c^2. • a(1)=4; thereafter a(2 * n)=a(2 * n - 1) + 3, a(2 * n + 1)=a(2 * n) + 1. • a(n)=4 * n - a(n - 1) - 1 (with a(1)=3) [From Vincenzo Librandi, Nov 26 2010] • a(n)=(1 - (- 1) ^ n + 4 * n) / 2. a(n)=a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (x + 3) / ((x - 1) ^ 2 * (x + 1)). [_ Colin Barker _ , Mar 06 2013] •

[A051201] • 1,3,4,7,8,12,13,15,19,21,22,28,29,31,33,39,40,43,44,51,53,55,56,60,66 ★ Sum of elements of the set { [n/k] : 1 <= k <= n }. • a(n) = m * (m + 1) / 2 + sum _{ k=1..floor(n / (m + 1)) } floor(n / k), where m is the largest number such that m * (m + 1) <= n, i.e., m=floor((sqrt(4 * n + 1) - 1) / 2). [From _ Max Alekseyev _ , Feb 12 2012] •

[A165157] • 0,1,3,4,7,8,12,13,18,19,25,26,33,34,42,43,52,53,63,64,75,76,88,89,102 ★ Zero followed by partial sums of A133622. • a(0) = 0, a(2 * n) = a(2 * n - 1) + n + 1, a(2 * n + 1) = a(2 * n) + 1. • a(n) = (n ^ 2 + 10 * n) / 8 if n is even, a(n) = (n ^ 2 + 8 * n - 1) / 8 if n is odd. • a(n) = 2 * a(n - 2) - a(n - 4) + 1 for n > 3; a(0)=0, a(1)=1, a(2)=3, a(3)=4. - _ Klaus Brockhaus _ , Sep 06 2009 • a(n) = (2 * n * (n + 9) - 1 + (2 * n + 1) * (- 1) ^ n) / 16. - _ Klaus Brockhaus _ , Sep 06 2009 • a(n) = n + binomial(1 + floor(n / 2),2). - _ Mircea Merca _ , Feb 18 2012 •

[A129819] • 0,0,1,1,3,4,7,8,12,14,19,21,27,30,37,40,48,52,61,65,75,80,91,96,108 ★ Antidiagonal sums of triangular array T: T(j,k) = (k+1)/2 for odd k, T(j,k) = 0 for k = 0, T(j,k) = j+1-k/2 for even k > 0; 0 <= k <= j. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n > 6, with a(0) = 0, a(1) = 0, a(2) = 1, a(3) = 1, a(4) = 3, a(5) = 4, a(6) = 7. • a(n) = (3 / 16) * (n + 2) * (n + 1) - (5 / 8) * (n + 1) + 7 / 32 + (3 / 32) * (- 1) ^ n + (1 / 16) * (n + 1) * (- 1) ^ n - (1 / 8) * cos(n * Pi / 2) + (1 / 8) * sin(n * Pi / 2). - _ Richard Choulet _ , Nov 27 2008 •

[A023054] • 1,1,3,4,7,8,13,14,20,22,29,31,40,42,52,55,66,69,82,85,99,103,118,122,139 ★ Simon Plouffe's conjectured extension of sequence A008368. • a(- 3 - n) = a(n). - _ Michael Somos _ , May 22 2014 •

[A214096] • 3,4,7,8,18,19,27,28,36,39,50,50,53,70,71,72,77,85,105,105,106,108,110,111,114 ★ Smallest m such that prime(i) + prime(i-1) < prime(2*i-n) for all i>=m. • a(n) is minimal such that prime(i) + prime(i - 1) < prime(2 * i - n) for i >= a(n). •

[A029739] • 1,3,4,7,9,10,13,15,16,19,21,22,25,27,28,31,33,34,37,39,40,43,45,46,49 ★ Numbers that are congruent to {1, 3, 4} mod 6. • a(n) = - 2 + Sum _{ k=1..n } ((k mod 3) + ((k + 1) mod 3)), with n >= 1. - _ Paolo P. Lava _ , Sep 03 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n > 4. • a(n) = 2 * (3 * n - 2 - cos(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 2, a(3k - 1) = 6k - 3, a(3k - 2) = 6k - 5. (End) •

[A047544] • 1,3,4,7,9,11,12,15,17,19,20,23,25,27,28,31,33,35,36,39,41,43,44,47,49 ★ Numbers that are congruent to {1, 3, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 5 + i ^ (2 * n) + i ^ (1 - n) - i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A245239] • 0,3,4,7,9,11,13,16,17,19,21,24,25,28,29,32,33,36,37,40,42,45,46,48,50 ★ Maximum frustration of complete bipartite graph K(n,6). • a(n) = floor(66 / 32 * n) - 1 if n=6 or n == 5 mod 8 or n == 2,4,7,9 or 11 mod 16 or n == 10,15,16 or 24 mod 32; a(n) = floor(66 / 32 * n) - 2 if n == 1, 3, 17 or 19 mod 32, and floor(66 / 32 * n) otherwise. • a(n + 32) = a(n) + 66 except for n = 5. •

[A070992] • 1,3,4,7,9,12,13,17,20,25,27,32,35,39,40,45,49,56,59,67,72,79,81,88,93 ★ Partial sums of A002487. • a(2n) = a(n - 2) + 2a(n - 1) + 2, a(2n + 1) = 2a(n - 1) + a(n) + 2. - _ Ralf Stephan _ , Oct 08 2003 •

[A072441] • 1,3,4,7,9,13,16,20,25,30,36,42,49,56,64,72,81,90,100,110,120,132,143,155,168 ★ Least k such that Sum(Sin(1/Sqrt(i)) i=1..k) > n. • a(n) is asymptotic to n ^ 2 / 4. Does lim n - > infinity ABS(4 * a(n) - (n + 1) ^ 2) / n exist? - _ Benoit Cloitre _ , Aug 16 2002 •

[A004652] • 0,1,1,3,4,7,9,13,16,21,25,31,36,43,49,57,64,73,81,91,100,111,121,133,144 ★ Expansion of x*(1+x^2+x^4)/((1-x)*(1-x^2)*(1-x^3)). • a(n) = ceiling(n ^ 2 / 4). • a(- n) = a(n). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + 1. a(2 * n) = n ^ 2, a(2 * n - 1) = n ^ 2 - n + 1. - _ Michael Somos _ , Apr 21, 2000. • a(n) = a(n - 2) + n - 1. - _ Paul Barry _ , Jul 14 2004 • a(n) = (3 / 8) * (- 1) ^ (n + 1) + (5 / 8) - (3 / 4) * (n + 1) + (1 / 4) * (n + 2) * (n + 1). [_ Richard Choulet _ , Nov 27 2008] • a(n) = n ^ 2 / 4 - 3 * ((- 1) ^ n - 1) / 8. - _ Omar E. Pol _ , Sep 28 2011 •

[A146994] • 1,3,4,7,9,13,16,22,25,32,36,44,49,59,64,75,81,93,100,114,121,136,144,160,169 ★ a(n) = (n+1)^2/4 + (floor((n+5)/6) - 1/4) * ((n+1) mod 2). • a(2 * n - 1) = n ^ 2 for n >= 1. • a(2 * n) = n * (n + 1) + floor((2 * n + 5) / 6) for n >= 0. •

[A008763] • 0,0,0,0,1,1,3,4,7,9,14,17,24,29,38,45,57,66,81,93,111,126,148,166,192 ★ G.f.: x^4/((1-x)*(1-x^2)^2*(1-x^3)). • a(n) = (1 / 72) * (n + 3) * (n + 2) * (n + 1) - (1 / 12) * (n + 2) * (n + 1) + (5 / 144) * (n + 1) + (1 / 16) * (n + 1) * (- 1) ^ n + (1 / 16) * (- 1) ^ (n + 1) + (7 / 144) + (2 * sqrt(3) / 27) * sin(2 * Pi * n / 3). - _ Richard Choulet _ , Nov 27 2008 • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8), n>7. [_ Harvey P. Dale _ , Mar 04 2012] • a(n) = floor((9 * (n + 1) * (- 1) ^ n + 2 * n ^ 3 - 9 * n + 65) / 144). - Tani Akinari, Nov 06 2012 • a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Jan 21 2015 •

[A266769] • 1,1,3,4,7,9,14,17,24,29,38,45,57,66,81,93,111,126,148,166,192,214,244,270,305 ★ Expansion of 1/((1-x)*(1-x^2)^2*(1-x^3)). • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 11 2016 • a(n) = - a(- 8 - n) for all n in Z. - _ Michael Somos _ , Jun 26 2017 •

[A108796] • 0,0,1,1,3,4,7,9,16,21,33,46,68,95,140,187,266,372,507,683,948,1256,1692,2263,3003 ★ Number of pairs of partitions of n (into different parts) with empty intersection. • a(n) = 1 / 2 * [(x * y) ^ n] Product _{ j>0 } (1 + x ^ j + y ^ j). - _ Alois P. Heinz _ , Mar 31 2017 •

[A047342] • 0,3,4,7,10,11,14,17,18,21,24,25,28,31,32,35,38,39,42,45,46,49,52,53,56 ★ Numbers that are congruent to {0, 3, 4} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4), n>4. - _ Vincenzo Librandi _ , Mar 24 2011 • a(n) = (21 * n - 21 - 6 * cos(2 * n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 3, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 7. (End) •

[A108579] • 0,0,0,0,1,3,4,7,10,13,17,22,26,32,38,44,51,59,66,75,84,93,103,114,124 ★ Number of symmetry classes of 3 X 3 magic squares (with distinct positive entries) having magic sum 3n. • a(n)= floor((1 / 4) * (n - 2) ^ 2) - floor((1 / 3) * (n - 1)). - _ Mircea Merca _ , Oct 08 2013 •

[A105343] • 1,3,4,7,10,15,20,27,34,43,52,63,74,87,100,115,130,147,164,183,202,223,244,267,290 ★ Elements of even index in the sequence gives A005893, points on surface of tetrahedron: 2n^2 + 2 for n > 1. • a(n) = (1 / 4) * (2 * n ^ 2 + 9 - (- 1) ^ n), n>1. - _ Ralf Stephan _ , Jun 01 2007 •

[A134591] • 3,4,7,10,17,20,27,30,37,48,51,62,69,72,79,90,101,104,115,122,125,136,143,154,169 ★ a(n) is n reflected in n-th prime: distance between a(n) and p(n) equals distance between p(n) and n. • a(n) - p(n) = p(n) - n => a(n) = 2 p(n) - n •

[A143607] • 1,3,4,7,10,17,24,41,58,99,140,239,338,577,816,1393,1970,3363,4756,8119,11482,19601,27720,47321,66922 ★ Numerators of principal and intermediate convergents to 2^(1/2). • a(n) = 2 * a(n - 2) - a(n - 4) for n>5. •

[A080591] • 1,3,4,7,11,12,13,15,16,17,18,19,23,27,28,31,35,39,43,47,48,49,50,51,52 ★ a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is congruent to 3 mod 4". • a(a(n)) = 4n + 3. a(2 ^ k - 1) = 2 ^ (k + 1) - 1. •

[A047543] • 3,4,7,11,12,15,19,20,23,27,28,31,35,36,39,43,44,47,51,52,55,59,60,63,67 ★ Numbers that are congruent to {3, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 6 - 3 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 5. (End) •

[A060962] • 1,1,3,4,7,11,17,25,36,50,69,93,125,163,213,272,346,435,543,671,825,1005,1218,1466,1756 ★ Expansion of (1+x^2)*(1+x^5)/(1-x)/(1-x^2)/(1-x^3)/(1-x^4)/(1-x^5)/(1-x^6)/(1-x^7). • a(n) = 1 - 263117 * n / 1814400 + 109537 * n ^ 2 / 907200 + 97 * n ^ 3 / 4320 + 127 * n ^ 4 / 72576 + n ^ 5 / 14400 + n ^ 6 / 907200 + 4 / 7 * floor(n / 7) + 1 / 3 * floor(n / 6) + 2 / 25 * floor(n / 5) - 11 / 162 * floor(n / 3) + (73 / 192 + 5 * n / 96) * floor(n / 2) + 1 / 7 * floor((1 + n) / 7) - 1 / 6 * floor((1 + n) / 6) + 4 / 25 * floor((1 + n) / 5) + (53 / 162 + n / 54) * floor((1 + n) / 3) + 3 / 7 * floor((2 + n) / 7) - 4 / 25 * floor((2 + n) / 5) + 2 / 7 * floor((3 + n) / 7) + 8 / 25 * floor((3 + n) / 5) + 1 / 7 * floor((4 + n) / 7) + 3 / 7 * floor((5 + n) / 7). - _ Vaclav Kotesovec _ , Sep 29 2012 •

[A000204] • 1,3,4,7,11,18,29,47,76,123,199,322,521,843,1364,2207,3571,5778,9349,15127,24476,39603,64079,103682,167761 ★ Lucas numbers (beginning with 1): L(n) = L(n-1) + L(n-2) with L(1) = 1, L(2) = 3. • a(n) = sum { k=0..floor((n + 1) / 2), (n + 1) * binomial(n - k + 1, k) / (n - k + 1) } . - _ Paul Barry _ , Jan 30 2005 • a(n) = 2 * fibonacci(n - 1) + fibonacci(n), n>=1. - _ Zerinvary Lajos _ , Oct 05 2007 • a(n) = phi ^ n + (1 - phi) ^ n = phi ^ n + (- phi) ^ (- n) = ((1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n) / (2 ^ n) where phi is the Golden ratio = A001622. - _ Artur Jasinski _ , Oct 05 2008 • a(n) = ((1 + sqrt5) ^ n - (1 - sqrt5) ^ n) / (2 ^ n * sqrt5) + ((1 + sqrt5) ^ (n - 1) - (1 - sqrt5) ^ (n - 1)) / (2 ^ (n - 2) * sqrt5). - Al Hakanson (hawkuu(AT)gmail.com), Jan 12 2009, Jan 14 2009 •

[A041209] • 1,1,3,4,7,11,18,29,76,105,2176,2281,6738,9019,15757,24776,40533,65309,171151,236460,4900351,5136811,15173973,20310784,35484757 ★ Denominators of continued fraction convergents to sqrt(115). • a(n) = 2252 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A293420] • 0,1,1,3,4,7,11,18,30,48,78,126,204,330,533,863,1396,2258,3654,5913,9567,15480,25047,40527,65574 ★ a(n) is the integer k that minimizes |k/Fibonacci(n) - sqrt(2)|. • a(n) = floor(1 / 2 + Fibonacci(n) * sqrt(2)). •

[A042593] • 1,1,3,4,7,11,18,83,101,184,285,469,1223,1692,95975,97667,291309,388976,680285,1069261,1749546,8067445,9816991,17884436,27701427 ★ Denominators of continued fraction convergents to sqrt(825). • a(n) = 97198 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 25 2014 •

[A072255] • 1,1,3,4,7,11,19,29,47,76,125,200,322,519,845,1366,2211,3573,5778,9342,15122,24481,39639,64094,103684 ★ Number of ways to partition {1,2,...,n} into arithmetic progressions, where in each partition all the progressions have the same common difference and have lengths >= 2. • a(n) = sum _{ d=1 }^{ floor { n / 2 }} {{ F _ k }^ r }*{ F _{ k - 1 }}^{ d - r } , where d is the common difference of the arithmetic progressions, k = Floor { n / d } , r = n mod d and F _ k is the k - th Fibonacci number (A000045). - Marty Getz (ffmpg1(AT)uaf.edu) and Dixon Jones (fndjj(AT)uaf.edu), May 21 2005 •

[**A049863**] • 0,3,4,7,11,21,39,74,138,258,481,898,1676,3129,5841,10904,20355,37998,70933,132415,247187,461439,861396,1608020,3001788 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[**A042827**] • 1,1,3,4,7,11,29,69,236,541,1318,1859,3177,5036,13249,18285,1110349,1128634,3367617,4496251,7863868,12360119,32584106,77528331,265169099 ⋆ Denominators of continued fraction convergents to sqrt(944). • a(n) = 1123598 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 30 2014 •

[**A042655**] • 1,3,4,7,11,40,51,346,397,743,4855,5598,21649,27247,48896,76143,277325,16160993,48760304,64921297,113681601,178602898,649490295,828093193,5618049453 ⋆ Denominators of continued fraction convergents to sqrt(857). • a(n) = 16237136 * a(n - 17) + a(n - 34) for n>33. - _ Vincenzo Librandi _ , Jan 26 2014 •

[**A041901**] • 1,1,3,4,7,11,51,266,1115,1381,2496,3877,10250,14127,603584,617711,1839006,2456717,4295723,6752440,31305483,163279855,684424903,847704758,1532129661 ⋆ Denominators of continued fraction convergents to sqrt(472). • a(n) = 613834 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 26 2013 •

[**A041153**] • 1,3,4,7,11,95,106,201,307,1122,20503,62631,83134,145765,228899,1976957,2205856,4182813,6388669,23348820,426667429,1303351107,1730018536,3033369643,4763388179 ⋆ Denominators of continued fraction convergents to sqrt(86). • a(n) = 20810 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 12 2013 •

[**A041781**] • 1,3,4,7,11,216,227,443,670,2453,98790,298823,397613,696436,1094049,21483367,22577416,44060783,66638199,243975380,9825653399,29720935577,39546588976,69267524553,108814113529 ⋆ Denominators of continued fraction convergents to sqrt(411). • a(n) = 99460 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 24 2013 •

[**A042893**] • 1,3,4,7,11,337,348,685,1033,3784,235641,710707,946348,1657055,2603403,79759145,82362548,162121693,244484241,895574416,55770098033,168205868515,223975966548,392181835063,616157801611 ⋆ Denominators of continued fraction convergents to sqrt(978). • a(n) = 236674 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Feb 01 2014 •

[**A117950**] • 3,4,7,12,19,28,39,52,67,84,103,124,147,172,199,228,259,292,327,364,403,444,487,532,579 ⋆ a(n) = n^2 + 3. • a(n) = ((n - 3) ^ 2 + 3 * (n + 1) ^ 2) / 4. - _ Reinhard Zumkeller _ , Feb 13 2009 • a(n) = ceiling((n + 1 / n) ^ 2), n>0. - _ Vincenzo Librandi _ , Oct 19 2011 • a(n) = 2 * n + a(n - 1) - 1 (with a(0)=3). - _ Vincenzo Librandi _ , Nov 13 2010 •

[**A293642**] • 0,0,0,1,1,3,4,7,12,20,33,53,86,139,226,366,592,958,1550,2508,4059,6567,10626,17194,27820 ⋆ a(n) is the greatest integer k such that k/Fibonacci(n) < 3/5. • a(n) = a(n - 1) + 2 a(n - 2) - a(n - 3) - 2 a(n - 4) + 2 a(n - 5) + a(n - 6) - 3 a(n - 7) - a(n - 8) + 3 a(n - 9) - 2 a(n - 11) + a(n - 12) + 2 a(n - 13) - a(n - 14) - a(n - 15) for n >= 16. • a(n) = floor(3 * Fibonacci(n) / 5). •

[**A049859**] • 0,1,3,4,7,12,23,43,81,151,282,526,982,1833,3422,6388,11925,22261,41556,77575,144814,270333,504647,942055,1758591 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[**A116201**] • 0,1,1,1,3,4,7,13,21,37,64,109,189,325,559,964,1659,2857,4921,8473,14592,25129,43273,74521,128331 ⋆ a(n) = a(n-1) + a(n-2) + a(n-3) - a(n-4). • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = (1 + sqrt(13)) / 4 and beta = (1 - sqrt(13)) / 4 and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = the bottom left entry of the 2X2 matrix T(n, M), where M is the 2X2 matrix [0, 3 / 4; 1, 1 / 2]. • a(n) = U(n - 1,(sqrt(3) + i) / 4) * U(n - 1,(sqrt(3) - i) / 4), where U(n,x) denotes the Chebyshev polynomial of the second kind. •

[**A254310**] • 3,4,7,13,85 ⋆ a(n) = 3[0]3[1]3...3[n-1]3[n]3 where [n] is the n-th hyperoperator. • a(- 1) = 3, a(n) = 3[0]3[1]3...3[n - 1]3[n]3. •

[**A073728**] • 3,4,7,14,25,46,85,156,287,528,971,1786,3285,6042,11113,20440,37595,69148,127183,233926,430257,791366,1455549,2677172,4924087 ⋆ a(n) = Sum_{k=0..n} S(k), where S(n) are the tribonacci generalized numbers A001644. • a(n) = a(n - 1) + a(n - 2) + a(n - 3), a(0)=3, a(1)=4, a(2)=7. • a(n) = 3 * T(n + 1) + T(n), where T(n) are the tribonacci numbers A000073. •

[**A132753**] • 3,4,7,14,29,60,123,250,505,1016,2039,4086,8181,16372,32755,65522,131057,262128,524271,1048558,2097133,4194284,8388587,16777194,33554409 ⋆ 2^(n+1) - n + 1. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). G.f.: - (6 * x ^ 2 - 8 * x + 3) / ((x - 1) ^ 2 * (2 * x - 1)). - _ Colin Barker _ , Mar 14 2014 •

[**A130755**] • 3,4,7,15,32,65,129,256,511,1023,2048,4097,8193,16384,32767,65535,131072,262145,524289,1048576,2097151,4194303,8388608,16777217,33554433 ⋆ Binomial transform of periodic sequence (3, 1, 2). • a(0) = 3; a(1) = 4; a(2) = 7; for n > 2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3). •

[**A100455**] • 1,3,4,7,16,33,64,127,256,513,1024,2047,4096,8193,16384,32767,65536,131073,262144,524287,1048576,2097153,4194304,8388607,16777216 ⋆ a(n) = 2^n + sin(n*Pi/2). • a(0)=1, a(1)=3, a(2)=4, a(n)=2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) [From Harvey P. Dale, Jan 17 2012] •

[**A291773**] • 1,1,3,4,7,16,43,124,367,1096,3283,9844,29527,88576,265723,797164,2391487,7174456,21523363,64570084,193710247,581130736,1743392203,5230176604,15690529807 ⋆ Domination number of the n-Apollonian network. • a(n) = (3 ^ (n - 3) + 5) / 2 for n > 2. - _ Andrew Howroyd _ , Sep 01 2017 • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>4. •

[**A041593**] • 1,1,3,4,7,18,25,868,893,2654,3547,6201,15949,22150,769049,791199,2351447,3142646,5494093,14130832,19624925,681378282,701003207,2083384696,2784387903 ⋆ Denominators of continued fraction convergents to sqrt(314). • a(n) = 886 * a(n - 7) + a(n - 14) for n>13. - _ Vincenzo Librandi _ , Dec 21 2013 •

[**A041497**] • 1,3,4,7,18,43,61,104,373,12040,36493,48533,85026,218585,522196,740781,1262977,4529712,146213761,443170995,589384756,1032555751,2654496258,6341548267,8996044525 ⋆ Denominators of continued fraction convergents to sqrt(265). • a(n) = 12144 * a(n - 9) + a(n - 18) for n>17, - _ Vincenzo Librandi _ , Dec 19 2013 •

[**A042173**] • 1,1,3,4,7,32,71,103,277,1211,1488,2699,6886,9585,466966,476551,1420068,1896619,3316687,15163367,33643421,48806788,131256997,573834776,705091773 ⋆ Denominators of continued fraction convergents to sqrt(611). • a(n) = 473852 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 16 2014 •

[**A041135**] • 1,1,3,4,7,39,163,854,1017,1871,4759,6630,110839,117469,345777,463246,809023,4508361,18842467,98720696,117563163,216283859,550130881,766414740,12812766721 ⋆ Denominators of continued fraction convergents to sqrt(76). • a(n) = 115598 * a(n - 12) - a(n - 24). G.f.: - (x ^ 22 - x ^ 21 + 3 * x ^ 20 - 4 * x ^ 19 + 7 * x ^ 18 - 39 * x ^ 17 + 163 * x ^ 16 - 854 * x ^ 15 + 1017 * x ^ 14 - 1871 * x ^ 13 + 4759 * x ^ 12 - 6630 * x ^ 11 - 4759 * x ^ 10 - 1871 * x ^ 9 - 1017 * x ^ 8 - 854 * x ^ 7 - 163 * x ^ 6 - 39 * x ^ 5 - 7 * x ^ 4 - 4 * x ^ 3 - 3 * x ^ 2 - x - 1) / ((x ^ 12 - 340 * x ^ 6 + 1) * (x ^ 12 + 340 * x ^ 6 + 1)). [_ Colin Barker _ , Jul 19 2012] •

[**A041379**] • 1,3,4,7,46,53,99,350,9899,30047,39946,69993,459904,529897,989801,3499300,98970201,300409903,399380104,699790007,4598120146,5297910153,9896030299,34986001050,989504059699 ⋆ Denominators of continued fraction convergents to sqrt(204). • a(n) = 9998 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 16 2013 •

[**A041463**] • 1,1,3,4,7,67,74,733,807,1540,3887,5427,166697,172124,510945,683069,1194014,11429195,12623209,125038076,137661285,262699361,663060007,925759368,28435841047 ⋆ Denominators of continued fraction convergents to sqrt(247). • a(n) = 170584 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 18 2013 •

[**A041863**] • 1,3,4,7,74,1043,10504,11547,22051,77700,3285451,9934053,13219504,23153557,244755074,3449724593,34742001004,38191725597,72933726601,256992905400,10866635753401,32856900165603,43723535919004,76580436084607,809527896765074 ⋆ Denominators of continued fraction convergents to sqrt(453). • a(n) = 3307502 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 •

[**A042543**] • 1,3,4,7,95,102,197,693,39005,117708,156713,274421,3724186,3998607,7722793,27166986,1529074009,4614389013,6143463022,10757852035,145995539477,156753391512,302748930989,1065000184479,59942759261813 ⋆ Denominators of continued fraction convergents to sqrt(800). • a(n) = 39202 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 23 2014 •

[**A057549**] • 0,1,3,4,8,9,11,12,13,22,23,25,26,27,31,32,34,35,36,38,39,40,41,64,65 ⋆ The local ranks of each term of A057547. • a(n) = CatalanRank(floor(binwidth(A057547[n]) / 2), A057547[n]) •

[**A047460**] • 0,1,3,4,8,9,11,12,16,17,19,20,24,25,27,28,32,33,35,36,40,41,43,44,48 ⋆ Numbers that are congruent to {0, 1, 3, 4} mod 8. • a(n) = (- 1 / 4 + i / 4) * ((6 + 6 * i) + (1 + i) * (- 1) ^ n + (- i) ^ n + i * i ^ n) + 2 * n where i =sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 16 2012 •

[**A006520**] • 1,3,4,8,9,11,12,20,21,23,24,28,29,31,32,48,49,51,52,56,57,59,60,68,69 ⋆ Partial sums of A006519. • a(n) / (n * log(n)) is bounded. - _ Benoit Cloitre _ , Dec 17 2002 • a(n) = b(n + 1), with b(2n) = 2b(n) + n, b(2n + 1) = 2b(n) + n + 1. - _ Ralf Stephan _ , Sep 07 2003 •

[**A047204**] • 3,4,8,9,13,14,18,19,23,24,28,29,33,34,38,39,43,44,48,49,53,54,58,59,63 ⋆ Numbers that are congruent to {3, 4} mod 5. • a(n) = 5 * n - a(n - 1) - 3 for n>1, a(1)=3. - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = floor(5 * n / 2) - (- 1) ^ n. - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[**A285440**] • 3,4,8,9,15,16,20,21,27,28,32,33,39,40,44,45,51,52,56,57,63,64,68,69,75 ⋆ Consider the sums of the numbers < n that share the same greatest common divisor with n. Sequence lists numbers that have only one of those sums equal to n. • a(n) = 1 / 4 * Sum _{ k=0..n - 1 } (- 3 * (k mod 4) + 5 * ((k + 1) mod 4) - ((k + 2) mod 4) + 7 * ((k + 3) mod 4)) - 3. •

[**A135276**] • 0,1,3,4,8,9,15,16,24,25,35,36,48,49,63,64,80,81,99,100,120,121,143,144,168 ⋆ a(0)=0, a(1)=1; for n>1, a(n) = a(n-1) + n^0 if n odd, a(n) = a(n-1) + n^1 if n is even. • a(n) = (n / 2 + 1) ^ 2 - 1 if n is even, ((n + 1) / 2) ^ 2 if n is odd. - _ M. F. Hasler _ , May 17 2008 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). (End) • a(n) = (2 * n ^ 2 + 6 * n + 1 + (2 * n - 1) * (- 1) ^ n) / 8. - _ Luce ETIENNE _ , Jul 08 2014 • a(n) = (floor(n / 2) + 1) ^ 2 + (n mod 2) - 1. - _ Wesley Ivan Hurt _ , Mar 22 2016 •

[**A254877**] • 1,1,3,4,8,9,16,18,28,31,45,49,68,73,97,104,134,142,179,189,233,245,297,311,372 ⋆ Expansion of (1 - x^5) / ((1 - x) * (1 - x^2)^2 * (1 - x^3) * (1 - x^4)) in powers of x. • a(n) = - a(- 7 - n) for all n in Z. •

[**A047343**] • 1,3,4,8,10,11,15,17,18,22,24,25,29,31,32,36,38,39,43,45,46,50,52,53,57 ⋆ Numbers that are congruent to {1, 3, 4} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 18 - 9 * cos(2 * n * Pi / 3) + sqrt (3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 3, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 6. (End) •

[**A268514**] • 0,1,3,4,8,10,12,13,21,25,29,31,35,37,39,40,56,64,72,76,84,88,92,94,102 ⋆ a(0)=0; thereafter a(2n+1)=3*a(n)+1, a(2n)=2*a(n)+a(n-1)+1. • a(n) = Sum { i=1..n } 2 ^{ number of 0's in binary expansion of i } . •

[**A080085**] • 1,1,3,4,8,10,15,16,19,25,26,34,38,39,42,49,54,56,64,67,70,74,79,85,94 ⋆ Number of factors of 2 in the factorial of the n-th prime, counted with

multiplicity. • a(n) = sum _{ k=1..L } floor(p _ n / 2 ^ k), where L = log(p _ n) / log(2), where p _ n is the n - th prime. •

[A265611] • 1,3,4,8,10,15,18,24,28,35,40,48,54,63,70,80,88,99,108,120,130,143,154,168,180 ⋆ a(n) = a(n-1) + floor((n-1)/2) - (-1)^n + 2 for n>=2, a(0)=1, a(1)=3. • a(n + 1) - a(n) = floor(n / 2) + 2 + (- 1) ^ n - 0 ^ n. • a(n) = a(- n - 6) = (2 * n * (n + 6) - 5 * (- 1) ^ n + 5) / 8 for n>0, a(0)=1. [_ Bruno Berselli _ , Dec 18 2015] • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>5. - _ R. H. Hardin _ , Dec 21 2015, proven by _ Susanne Wienand _ for the algorithm sent to the seqfan mailing list and used in the Sage script below. • a(n) = (floor((n + 3) / 2) - 1) * (ceiling((n + 3) / 2) + 1) for n>0. - _ Wesley Ivan Hurt _ , Mar 30 2017 •

[A131355] • 1,1,1,3,4,8,10,16,19,27,31,41,46,58,64,78,85,101,109,127,136,156,166,188,199 ⋆ Partial sums of A065423 plus one. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5), n>5. (End) • a(n) = (6 * n ^ 2 - 10 * n + 17 - (1 + 2n) * (- 1) ^ n) / 16. - _ Wesley Ivan Hurt _ , Jul 28 2015 •

[A092534] • 1,1,3,4,8,10,16,20,28,34,44,52,64,74,88,100,116,130,148,164,184,202,224,244,268 ⋆ Expansion of (1-x+x^2)*(1+x^4)/((1-x)^2*(1-x^2)). • a(n) = (13 + 3 * (- 1) ^ n - 4 * n + 2 * n ^ 2) / 4 for n>2. • a(n) = (n ^ 2 - 2 * n + 8) / 2 for n>2 and even. • a(n) = (n ^ 2 - 2 * n + 5) / 2 for n>2 and odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) for n>6. •

[A005232] • 1,1,3,4,8,10,16,20,29,35,47,56,72,84,104,120,145,165,195,220,256,286,328,364,413 ⋆ Expansion of (1-x+x^2)/((1-x)^2*(1-x^2)*(1-x^4)). • a(n) = - a(- 6 - n) for all n in Z. - _ Michael Somos _ , Feb 05 2011 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + 2 * a(n - 4) - 2 * a(n - 5) + 2 * a(n - 7) - a(n - 8) with a(0)=1, a(1)=1, a(2)=3, a(3)=4, a(4)=8, a(5)=10, a(6)=16, a(7)=20. - _ Harvey P. Dale _ , Oct 24 2012 • a(n) = ((n + 3) * (2 * n ^ 2 + 12 * n + 19 + 9 * (- 1) ^ n) + 6 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) * (1 + (- 1) ^ n)) / 96. - _ Luce ETIENNE _ , Mar 16 2015 •

[A115264] • 1,1,3,4,8,10,17,21,32,39,55,66,89,105,136,159,200,231,284,325,392,445,528,595,697 ⋆ Diagonal sums of correlation triangle for floor((n+2)/2). • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, [j<=k] * floor((k - j + 2) / 2) * [j<=n - 2k] * floor((n - 2k - j + 2) / 2) }} . •

[A047458] • 0,3,4,8,11,12,16,19,20,24,27,28,32,35,36,40,43,44,48,51,52,56,59,60,64 ⋆ Numbers that are congruent to {0, 3, 4} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 8 * n / 3 - 3 - cos(2 * n * Pi / 3) - sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 8k - 4, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 8. (End) •

[A236453] • 1,3,4,8,11,17,22,30,37,47,56,68,79,93,106,122,137,155,172,192,211,233,254,278,301 ⋆ Number of length n strings on the alphabet {0,1,2} of the form 0^i 1^j 2^k such that i,j,k>=0 and if i=1 then j=k. • a(n) = (n ^ 2 + n + 3 - (- 1) ^ n) / 2. - _ Giovanni Resta _ , Jan 26 2014 •

[A271723] • 3,4,8,11,19,24,36,43,59,68,88,99,123,136,164,179,211,228,264,283,323,344,388,411,459 ⋆ Numbers k such that 3*k - 8 is a square. • a(n) = (6 * (n - 1) * n - (2 * n - 1) * (- 1) ^ n + 23) / 8. (End) •

[A024786] • 0,1,1,3,4,8,11,19,26,41,56,83,112,160,213,295,389,526,686,911,1176,1538,1968,2540,3223 ⋆ Number of 2's in all partitions of n. • a(n) = Sum _{ k<n, k = n (mod 2) } P(k), P(k) = number of partitions of k as in A000041, P(0) = 1. - Jose Luis Arregui (arregui(AT)posta.unizar.es), Apr 05 2002 •

[A109794] • 1,1,3,4,8,11,21,29,55,76,144,199,377,521,987,1364,2584,3571,6765,9349,17711,24476,46368,64079,121393 ⋆ a(2n) = A001906(n+1), a(2n+1) = A002878(n). • a(n) = (3 / 20 * sqrt(5) + 3 / 4) * (1 / 2 + 1 / 2 * sqrt(5)) ^ n + (- 3 / 20 * sqrt(5) + 3 / 4) * (1 / 2 - 1 / 2 * sqrt(5)) ^ n + (- 3 / 20 * sqrt(5) - 1 / 4) * (- 1 / 2 + 1 / 2 * sqrt(5)) ^ n + (3 / 20 * sqrt(5) - 1 / 4) * (- 1 / 2 - 1 / 2 * sqrt(5)) ^ n. • a(n) = 3 * a(n - 2) - a(n - 4), n >= 4; a(0) = 1, a(1) = 1, a(2) = 3, a(3) = 4. - _ Daniel Forgues _ , May 07 2011 •

[A063227] • 3,4,8,12,16,16,24,24,28,32,36,36,44,44,48,52,56,56,64,64,68,72,76,76,84 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(66). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) for n>6. G.f.: - x * (x ^ 5 - 4 * x ^ 4 - 5 * x ^ 3 - 5 * x ^ 2 - 4 * x - 3) / ((x - 1) ^ 2 * (x + 1) * (x ^ 2 + x + 1)). [_ Colin Barker _ , Sep 27 2012] •

[A173534] • 1,1,3,4,8,12,21,32,52,80,128,198,313,487,766,1194,1874,2926,4585,7165,11219,17540,27453,42933,67182 ⋆ a(n)=a(n-1)+2*a(n-2)-[a(n-1)/2]-[a(n-4)/2]-[a(n-5)/2]. • a(n)=a(n - 1) + 2 * a(n - 2) - Floor[a(n - 1) / 2] - Floor[a(n - 4) / 2] - Floor[a(n - 5) / 2] •

[A074331] • 0,1,1,3,4,8,12,21,33,55,88,144,232,377,609,987,1596,2584,4180,6765,10945,17711,28656,46368,75024 ⋆ a(n) = Fibonacci(n+1) - (1 + (-1)^n)/2. • a(n) = Sum _{ i=0..floor(n / 2) } Fibonacci(2i + e), where e = 2 * (n / 2 - floor(n / 2)). • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n > 3, a(0)=0, a(1)=1, a(2)=1, a(3)=3. • a(2n + 1) = Fibonacci(2n + 2), a(2n) = Fibonacci(2n + 1) - 1. • a(n - 1) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k - 1). - _ Paul Barry _ , Jul 07 2004 • a(n) = Sum _{ k=0..floor((n - 1) / 2) } Fibonacci(n - 2k). - _ Paul Barry _ , Apr 16 2005 • a(n) = Sum _{ k=0..n } Fibonacci(k) * (1 - (- 1) ^ floor((n + k - 1) / 2)). - _ Paul Barry _ , Apr 16 2005 •

[A052952] • 1,1,3,4,8,12,21,33,55,88,144,232,377,609,987,1596,2584,4180,6765,10945,17711,28656,46368,75024,121393 ⋆ a(n) = Fibonacci(n+2) - (1-(-1)^n)/2. • a(2 * k) = Sum _{ j=0..k } F(2 * j + 1) = F(2 * (k + 1)) for k >= 0; a(2 * k - 1) = Sum _{ j=0..k } F(2 * j) = F(2 * k + 1) - 1 for k >= 1 (F = A000045, Fibonacci numbers). • a(n) = a(n - 1) + a(n - 2) + (1 + (- 1) ^ n) / 2. • a(n) = Sum _{ k=0..floor(n / 2)) binomial(n - k + 1, k). - _ Paul Barry _ , Oct 23 2004 • a(n) = floor(phi ^ (n + 2) / sqrt(5)), where phi is the golden ratio: phi = (1 + sqrt(5)) / 2. - _ Reinhard Zumkeller _ , Apr 19 2005 • a(n) = Fibonacci(n + 1) + a(n - 2) with n>1, a(0)=a(1)=1. - _ Zerinvary Lajos _ , Mar 17 2008 • a(n) = floor(Fibonacci(n + 3) ^ 2 / Fibonacci(n + 4)). - _ Gary Detlefs _ Nov 29 2010 •

[A153339] • 3,4,8,12,24,36,72,108,216,324,648,972,1944,2916,5832,8748,17496,26244,52488,78732,157464,236196,472392,708588,1417176 ⋆ Number of zig-zag paths from top to bottom of a rectangle of width 5 with n rows whose color is that of the top right corner • a(2n) = 4 * 3 ^ (n - 1), a(2n + 1) = 8 * 3 ^ (n - 1) for n>0, a(1)=3. • a(n) = 3 * a(n - 2) for n>3. G.f.: x * (3 + 4 * x - x ^ 2) / (1 - 3 * x ^ 2). [_ Colin Barker _ , May 10 2012] •

[A022308] • 0,3,4,8,13,22,36,59,96,156,253,410,664,1075,1740,2816,4557,7374,11932,19307,31240,50548,81789,132338,214128 ⋆ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=0, a(1)=3. • a(n) = 2 * a(n - 1) - a(n - 3) for n>=3. - _ Ron Knott _ , Aug 25 2006 • a(n) = 4 * F(n) + F(n - 1) - 1, where F = A000045. - _ Bruno Berselli _ , Feb 20 2017 • a(n) = (- 10 + (5 - 7 * sqrt(5)) * ((1 - sqrt(5)) / 2) ^ n + ((1 + sqrt(5)) / 2) ^ n * (5 + 7 * sqrt(5))) / 10. - _ Colin Barker _ , Feb 20 2017 •

[A278137] • 1,3,4,8,13,22,37,61,101,166,272,445,726,1183,1925,3129,5082,8248,13379,21692,35157,56963,92271,149434,241970 ⋆ Maximum number of disjoint subgraphs of the Fibonacci cube Gamma(n) that are isomorphic to the hypercube of dimension k, summed over all k. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 4) - a(n - 5) for n>4. •

[A049866] • 1,1,3,4,8,14,27,50,94,175,327,610,1139,2126,3969,7409,13831,25819,48198,89974,167960,313541,585306,1092626,2039671 ⋆ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A007486] • 1,3,4,8,15,27,50,92,169,311,572,1052,1935,3559,6546,12040,22145,40731,74916,137792,253439,466147,857378,1576964,2900489 ⋆ a(n) = a(n-1) + a(n-2) + a(n-3). • a(n) = 2 * a(n - 1) - a(n - 4), n>4. - _ Vincenzo Librandi _ , Jun 08 2011 •

[A227615] • 3,4,8,16,31,61,122,244,487,973,1946,3892,7783,15565,31130,62259,124517,249033,498066,996131,1992262,3984524,7969047,15938093,31876185 ⋆ Number of bits necessary to represent u(n) in binary, where u is the Lucas-Lehmer sequence: u(0) = 100 (in binary); for n>0, u(n) = u(n-1)^2 - 2. • a(n) = E(log2(u(n))) + 1, where log2 is the logarithm in base 2, E(x) is the integer part of x and u is defined by: u(0) = 4 (or 100 in binary) and for n>0, u(n) = u(n - 1) ^ 2 - 2. •

[A198633] • 3,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432 ⋆ Total number of round trips, each of length 2*n on the graph P_3 (o-o-o). • a(n) = w(3,2 * n), n>=0, with w(3,l) the total number of closed walks on the graph P _ 3 (the simple path with 3 points (vertices) and 2 lines (or edges)). •

[A153057] • 3,4,8,17,33,58,94,143,207,288,388,509,653,822,1018,1243,1499,1788,2112,2473,2873,3314,3798,4327,4903 ⋆ a(0)=3; a(n) = n^2 + a(n-1) for n>0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , May 09 2017 •

[A254715] • 3,4,8,18,55,137,415,941,2854,7743,21959,61545,175817,496688 ⋆ Number of n-digit semiprimes with semiprime digits (4, 6, 9). • a(n) = number of n - digit terms in A107342. •

[A065034] • 3,4,8,19,48,124,323,844,2208,5779,15128,39604,103683,271444,710648,1860499,4870848,12752044,33385283,87403804,228826128,599074579,1568397608,4106118244,10749957123 ⋆ a(n) = Lucas(2*n) + 1. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = 1 + ((3 - sqrt(5)) / 2) ^ n + ((3 + sqrt(5)) / 2) ^ n. - _ Colin Barker _ , Nov 01 2016 •

[A073313] • 3,4,8,22,64,184,524,1488,4224,11992,34048,96672,274480,779328,2212736,6282592,17838080,50647424,143802560,408296704,1159271424,3291504000,9345523712,26534621696,75339399936 ⋆ Binomial transform of generalized Lucas numbers S(n) = S(n-1) + S(n-2) + S(n-3), S(0)=3, S(1)=1, S(2)=3. • a(n) is the trace of the n - th power of 3 X 3 matrix: first row (2, 1, 0), second row (1, 1, 1), third row (1, 0, 1). It satisfies recurrence a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 3), a(0)=3, a(1)=4, a(2)=8. •

[A155701] • 3,4,8,24,88,344,1368,5464,21848,87384,349528,1398104,5592408,22369624,89478488,357913944,1431655768,5726623064,22906492248,91625968984,366503875928,1466015503704,5864062014808,23456248059224,93824992236888 ⋆ a(n)=(4^n+8)/3. • a(n)= 5 * a(n - 1) - 4 * a(n - 2) = 4 * a(n - 1) - 8. •

[A001695] • 1,3,4,8,65536 ⋆ a(n) = H_n(2,n) where H_n is the n-th hyperoperator. • a(n)= f(n,n); •

[A134025] • 0,1,3,4,9,10,11,12,13,27,28,29,30,31,32,33,34,35,36,37,38,39,40,81,82 ⋆ Numbers for which the balanced ternary representation is the same length as the ternary representation. • a(n) = f(n,0,0) with f(n,m,k) = if n=0 then k else if k<(3 ^ (m + 1) - 1) / 2 then f(n - 1,m,k + 1) else f(n - 1,m + 1, 3 ^ (m + 1)). •

[A005836] • 0,1,3,4,9,10,12,13,27,28,30,31,36,37,39,40,81,82,84,85,90,91,93,94,108 ⋆ Numbers n whose base 3 representation contains no 2. • a(n + 1) = sum(b(k) * 3 ^ k) for k = 0..m and n = sum(b(k) * 2 ^ k). • a(2n + 1) = 3 a(n + 1), a(2n + 2) = a(2n + 1) + 1, a(0) = 0. • a(n + 1) = 3 * a(floor(n / 2)) + n - 2 * floor(n / 2). - _ Ralf Stephan _ , Apr 27 2003 •

[A047230] • 3,4,9,10,15,16,21,22,27,28,33,34,39,40,45,46,51,52,57,58,63,64,69,70,75 ⋆ Numbers that are congruent to {3, 4} mod 6. • a(n) = 6 * n - a(n - 1) - 5 (with a(1)=3). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3 * n - 1 - (- 1) ^ n. •

[A047459] • 1,3,4,9,11,12,17,19,20,25,27,28,33,35,36,41,43,44,49,51,52,57,59,60,65 ⋆ Numbers that are congruent to {1, 3, 4} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * (12 * n - 12 - 6 * cos(2 * n * Pi / 3) + s

qrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3 * k) = 8 * k - 4, a(3 * k - 1) = 8 * k - 5 , a(3 * k - 2) = 8 * k - 7. (End) •

[A091380] • 1,1,3,4,9,11,14,17,18,27,28,35,38,41,42,51,57,59,65,76,81,86,92,99,100 ⋆ Largest quadratic "mixed" residue modulo the n-th prime (LQxR(p_n)). • a(1)=1; a(n>1)=max { r<p _ n | - (r / p _ n)=|p _ n| _ 4 } , where (r / p _ n) is the Legendre symbol and |x| _ m is the least absolute residue of x modulo m. •

[A062798] • 1,3,4,9,11,26,36,79,130,265,463,956,1717,3470,6449,12949,24311,48772,92379,185027,352755,705897,1352079,2705182,5200311 ⋆ Inverse Moebius transform of central binomial coefficients f[x]=C(c,[x/2])=A001405[x]. • a(n) =Sum { C(d, [d / 2]) } , d|n and C(d, [d / 2])=A001405[d]. •

[A104479] • 3,4,9,12,14,16,18,20,26,29,40,41,48,58,70,73,81,87,92,96,104,111,113,114,118 ⋆ Positive integers n such that n^16 + 1 is semiprime (A001358). • a(n) ^ 16 + 1 is semiprime (A001358). •

[A026476] • 1,3,4,9,12,23,26,37,40,51,54,65,68,79,82,93,96,107,110,121,124,135,138,149,152 ⋆ For n>3, a(n) = 7*n - 21 + 2*(-1)^n. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>6. G.f.: x * (1 + 2 * x + 3 * x ^ 3 + 2 * x ^ 4 + 6 * x ^ 5) / ((1 - x) ^ 2 * (1 + x)). - _ Colin Barker _ , May 02 2012 •

[A002513] • 1,1,3,4,9,12,23,31,54,73,118,159,246,329,489,651,940,1242,1751,2298,3177,4142,5630,7293,9776 ⋆ Expansion of Product_{k>0} 1/((1-x^(2k))^2*(1-x^(2k-1))) in powers of x. • a(3n + 2) = 0 (mod 3). • a(25n + 22) = 0 (mod 5) (see Xiong). • a(49n + 15) = a(49n + 29) = a(49n + 36) = a(49n + 43) = 0 (mod 7) (see Chen & Lin). • a(297n + 62) = a(297n + 161) = 0 (mod 11) (see Chern & Dastidar). •

[A131326] • 1,3,4,9,13,24,37,63,100,165,265,432,697,1131,1828,2961,4789,7752,12541,20295,32836,53133,85969,139104,225073 ⋆ Row sums of A131325. • a(n) = 3 * Fibonacci(n + 1) - 2 if n even, a(n) = 3 * Fibonacci(n + 1) if n odd. - _ R. J. Mathar _ , Aug 12 2012 • a(n) = (3 * 2 ^ (- n - 1) * ((1 + sqrt(5)) ^ (n + 1) - (1 - sqrt(5)) ^ (n + 1))) / sqrt(5) - 2 for n even. • a(n) = (3 * 2 ^ (- n - 1) * ((1 + sqrt(5)) ^ (n + 1) - (1 - sqrt(5)) ^ (n + 1))) / sqrt(5) for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>3. •

[A250111] • 1,1,1,3,4,9,13,25,38,68,106,182,288,483,771,1275,2046,3355,5401,8811,14212,23112,37324,60580,97904 ⋆ Number of orbits of size 2 in vertices of Fibonacci cube Gamma_n under the action of its automorphism group. • a(n) = (1 / 2) * (F(n + 2) - F(floor((n - (- 1) ^ n) / 2) + 2)) for n >= 2, a(1)=1 . - _ Joerg Arndt _ , Nov 22 2014 • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 5) - a(n - 6) for n>7. - _ Colin Barker _ , Dec 01 2014 •

[A079284] • 1,1,3,4,9,13,26,39,73,112,201,313,546,859,1469,2328,3925,6253,10434,16687,27633,44320,72977,117297,192322 ⋆ Diagonal sums of triangle A008949. • a(n) = Sum _{ j=0..floor(n / 2) } Sum _{ i=0..j } binomial(n - j, i). • a(n) = Fibonacci(n + 3) - 2 ^ floor((n + 1) / 2). - _ Vladeta Jovovic _ , Feb 12 2003 •

[A232801] • 0,1,1,3,4,9,13,27,40,81,121,243,364,729,1093,2187,3280,6561,9841,19683,29524,59049,88573,177147,265720 ⋆ a(2n) = (3^n - 1)/2, a(2n+1) = 3^n. • a(n) = 4 * a(n - 2) - 3 * a(n - 4) for n>3, a(0)=0, a(1)=1, a(2)=1, a(3) =3. - _ Philippe Deléham _ , Dec 12 2013 • a(n) = (1 + (- 1) ^ n) * (3 ^ (n / 2) - 1) / 4 + (1 - (- 1) ^ n) * 3 ^ (n / 2 - 1 / 2) / 2. - _ Wesley Ivan Hurt _ , Aug 29 2015 •

[A006053] • 0,0,1,1,3,4,9,14,28,47,89,155,286,507,924,1652,2993,5373,9707,17460,31501,56714,102256,184183,331981 ⋆ a(n) = a(n-1) + 2*a(n-2) - a(n-3). • a(n + 1) * (- 1) ^ n * 49 ^ (1 / 3) = (c(1) / c(4)) ^ (1 / 3) * (2 * c(1)) ^ n + (c(2) / c(1)) ^ (1 / 3) * (2 * c(2)) ^ n + (c(4) / c(2)) ^ (1 / 3) * (2c(4)) ^ n = (c(2) / c(1)) ^ (1 / 3) * (2 * c(1)) ^ (n + 1) + (c(4) / c(2)) ^ (1 / 3) * (c(2)) ^ (n + 1) + (c(1) / c(4)) ^ (1 / 3) * (2 * c(4)) ^ (n + 1), where c(j) := cos(2Pi * j / 7); for the proof, see Witula et al.'s papers. - _ Roman Witula _ , Jul 21 2012 •

[A174783] • 0,1,1,3,4,9,14,29,49,99,175,351,637,1275,2353,4707,8788,17577,33098,66197,125476,250953,478192,956385,1830270 ⋆ Expansion of (1+2x-sqrt(1-4x^2))/(2(1-x^2)*sqrt(1-4x^2)). • a(n) = Sum _{ i=1..(n + 1) / 2 } ((binomial(n - 2 * i + 1,floor((n - 2 * i + 1) / 2)))). - _ Vladimir Kruchinin _ , Mar 15 2016 •

[A253197] • 0,1,3,4,9,15,24,41,67,108,177,287,464,753,1219,1972,3193,5167,8360,13529,21891,35420,57313,92735,150048 ⋆ a(n) = a(n-1) + a(n-2) + (1 - (-1)^(a(n-1) + a(n-2))) with a(0) = 0, a(1) = 1. • a(n) = a(n - 1) + a(n - 2) + (1 - (- 1) ^ (a(n - 1) + a(n - 2))), a(0) = 0, a(1) = 1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) for n > 4. - _ Colin Barker _ , Mar 28 2015 •

[A271785] • 0,3,4,9,16,30,54,97,172,303,530,922,1596,2751,4724,8085,13796,23478,39858,67517,114140,192603,324454,545714,916536 ⋆ a(n) = Sum_{k=0..(n-1)/2} (n+2-k)*binomial(n-1-k,k). • a(n) = (2 ^ (- 1 - n) * (- 24 * sqrt(5) * ((1 - sqrt(5)) ^ n - (1 + sqrt(5)) ^ n) + 5 * ((1 - sqrt(5)) ^ (1 + n) + (1 + sqrt (5)) ^ (1 + n)) * n)) / 25. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>3. (End) •

[A038629] • 3,4,9,24,70,216,693,2288,7722,26520,92378,325584,1158924,4160240,15043725,54747360,200360130,736928280,2722540590,10098646800,37594507860,140415097680,526024740930,1976023374624,7441754696100 ⋆ Convolution of Catalan numbers A000108 with Catalan numbers but C(0)=1 replaced by 3. • a(n) = 6 * binomial(2 * n, n) / (n + 2) = C(n + 1) + 2 * C(n) where C(n) are Catalan numbers. G.f.: c(x) * (c(x) + 2), c(x): G.f. for Catalan numbers. •

[A292564] • 0,3,4,10,11,12,21,22,23,24,36,37,38,39,40,55,56,57,58,59,60,78,79,80,81 ⋆ Take 1, skip 3 * 1 - 1, take 2, skip 3 * 2 - 1, take 3, skip 3 * 3 - 1, ... • a(n) = n + floor((sqrt(8 * n + 1) - 1) / 2) * (3 * floor((sqrt(8 * n + 1) - 1) / 2) + 1) / 2. - _ Robert Israel _ , Sep 20 2017 •

[A047341] • 3,4,10,11,17,18,24,25,31,32,38,39,45,46,52,53,59,60,66,67,73,74,80,81,87 ⋆ Numbers that are congruent to {3, 4} mod 7. • a(n) = (7 + 5 * (- 1) ^ n + 14 * n) / 4. - _ Paolo P. Lava _ , Feb 10 2009 • a(n) = 7 * n - a(n - 1) - 7 for n>1, a(1)=3. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A131179] • 0,1,3,4,10,11,21,22,36,37,55,56,78,79,105,106,136,137,171,172,210,211,253,254,300 ⋆ a(n) = if n mod 2 == 0 then n*(n+1)/2, otherwise (n-1)*n/2 + 1. • a(n) = (n ^ 2 + 1 + (n - 1) * (- 1) ^ n) / 2. - _ Luce ETIENNE _ , Aug 19 2014 •

[A050187] • 0,0,0,3,4,10,12,21,24,36,40,55,60,78,84,105,112,136,144,171,180,210,220,253,264 ⋆ a(n) = n * floor((n-1)/2). • a(n) = n * floor((n - 1) / 2). • a (n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = binomial(n,2) - (n / 2) * ((n + 1) mod 2). - _ Wesley Ivan Hurt _ , Nov 23 2013 •

[A239632] • 0,1,3,4,10,12,28,32,72,80,176,192,416,448,960,1024,2176,2304,4864,5120,10752,11264,23552,24576,51200 ⋆ Number of parts in all palindromic compositions of n. • a(n) = 4 * a(n - 2) - 4 * a(n - 4) for n > 3. - _ Giovanni Resta _ , Mar 23 2014 •

[A121720] • 0,1,1,3,4,10,14,34,48,116,164,396,560,1352,1912,4616,6528,15760,22288,53808,76096,183712,259808,627232,887040 ⋆ a(n)= 4*a(n-2) -2*a(n-4). • a(n)=(1 / 4) * (2 - sqrt(2)) ^ (1 / 2 * n) * (2 - sqrt(2)) ^ (1 / 4 * (- 1) ^ n) * (2 - sqrt(2)) ^ (- 1 / 4) * (1 - sqrt(2) - (- 1) ^ n) + (1 / 4) * (2 + sqrt(2)) ^ (- 1 / 4) * (2 + sqrt(2)) ^ (1 / 2 * n) * (2 + sqrt(2)) ^ (1 / 4 * (- 1) ^ n) * (1 + sqrt(2) - (- 1) ^ n), with n>=0 [From _ Paolo P. Lava _ , Nov 02 2009] •

[A007068] • 1,3,4,10,14,34,48,116,164,396,560,1352,1912,4616,6528,15760,22288,53808,76096,183712,259808,627232,887040,2141504,3028544 ⋆ a(n) = a(n-1) + (3+(-1)^n)*a(n-2)/2. • a(2n + 1)=a(2n) + a(2n - 1); a(2n)=a(2n - 1) + 2 * a(2n - 2); same recurrence (mod parity) as A001882) - _ Len Smiley _ , Feb 05 2001. • a(n)=sum { k=0..n, sum { j=0..n, C(floor(n / 2), n - j) * C(floor (j / 2), j - k) }} - _ Paul Barry _ , Feb 14 2005 • a(n)=(1 - 1 / 2 * (- 1) ^ n) * ((2 - sqrt(2)) ^ (1 / 4 * (2 * n + (- 1) ^ n - 1)) + (2 + sqrt(2)) ^ (1 / 4 * (2 * n + (- 1) ^ n - 1))) + (1 / 4 * sqrt(2) * (- 1) ^ n - 3 / 4 * sqrt(2)) * ((2 - sqrt(2)) ^ (1 / 4 * (2 * n + (- 1) ^ n - 1)) - (2 + sqrt(2)) ^ (1 / 4 * (2 * n + (- 1) ^ n - 1))). - Paolo P. Lava, Feb 13 2012 •

[A188022] • 0,1,1,3,4,10,15,34,55,117,199,406,714,1417,2548,4965,9061,17443,32148,61390,113887,216318,403051,762841,1425471 ⋆ Expansion of x*(1+x) / (1-3*x^2-x^3). • a(n)=3 * a(n - 2) + a(n - 3). •

[A051437] • 1,3,4,10,16,36,64,136,256,528,1024,2080,4096,8256,16384,32896,65536,131328,262144,524800,1048576,2098176,4194304,8390656,16777216 ⋆ Number of undirected walks of length n+1 on an oriented triangle, visiting n+2 vertices, with n "corners"; the symmetry group is C3. Walks are not self-avoiding. • a(0)=1, a(1)=3, a(2)=4, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3). - _ Harvey P. Dale _ , Jun 06 2011 •

[A172416] • 1,1,3,4,10,17,37,70,144,283,571,1136,2278,4549,9105,18202,36412,72815,145639,291268,582546,1165081,2330173,4660334,9320680 ⋆ 5*2^n/9 +1/4 +(-1)^n*(n/6+7/36). • a(n)=a(n - 1) + 3a(n - 2) - a(n - 3) - 2a(n - 4). •

[A171160] • 3,4,10,18,38,74,150,298,598,1194,2390,4778,9558,19114,38230,76458,152918,305834,611670,1223338,2446678,4893354,9786710,19573418,39146838 ⋆ a(n) = a(n-1) + 2a(n-2) with a(0)=3, a(1)=4. • a(n) = (1 / 3) * (2 * (- 1) ^ n + 7 * 2 ^ n), with n>=0. - _ Paolo P. Lava _ , Dec 14 2009 •

[A047457] • 3,4,11,12,19,20,27,28,35,36,43,44,51,52,59,60,67,68,75,76,83,84,91,92,99 ⋆ Numbers that are congruent to {3, 4} mod 8. • a(n) = 8 * n - a(n - 1) - 9 (with a(1) = 3). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = (- 5 - 3 * (- 1) ^ n + 8 * n) / 2. - _ Colin Barker _ , May 14 2012 •

[A041405] • 1,1,3,4,11,15,26,249,1022,9447,10469,19916,50301,70217,190735,260952,7497391,7758343,23014077,30772420,84558917,115331337,199890254,1914343623,7857264746 ⋆ Denominators of continued fraction convergents to sqrt(217). • a(n) = 7688126 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 18 2013] •

[A042483] • 1,1,3,4,11,15,26,457,483,5287,32205,37492,219665,696487,2309126,5314739,7623865,12938604,20562469,33501073,54063542,87564615,229192772,775142931,2554621565 ⋆ Denominators of continued fraction convergents to sqrt(769). • a(n) = 32734748155099080 * a(n - 37) + a(n - 74) for n>73. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A002530] • 0,1,1,3,4,11,15,41,56,153,209,571,780,2131,2911,7953,10864,29681,40545,110771,151316,413403,564719,1542841,2107560 ⋆ Denominators of continued fraction convergents to sqrt(3). • a(n) = 4 * a(n - 2) - a(n - 4). [Corrected by László Szalay, Feb 21 2014] • a(n) = - (- 1) ^ n * a(- n). • a(2 * n) = a(2 * n - 1) + a(2 * n - 2), a(2 * n + 1) = 2 * a(2 * n) + a(2 * n - 1). • a(n + 1) = sum { k=0..floor(n / 2) } binomial(n - k,k) * 2 ^ floor((n - 2k) / 2). - _ Paul Barry _ , Jul 13 2004 • a(n) = sum _{ k=0..floor(n / 2) } binomial(floor(n / 2) + k, floor((n - 1) / 2 - k)) * 2 ^ k). - _ Paul Barry _ , Jun 22 2005 • a(n) = (alpha ^ n - beta ^ n) / (alpha - beta) for n odd, and a(n) = (alpha ^ n - beta ^ n) / (alpha ^ 2 - beta ^ 2) for n even, where alpha = 1 / 2 * (sqrt (2) + sqrt(6)) and beta = 1 / 2 * (sqrt(2) - sqrt(6)). Cf. A108412. - _ Peter Bala _ , Apr 18 2014 •

[A041527] • 1,1,3,4,11,15,491,506,1503,2009,5521,7530,246481,254011,754503,1008514,2771531,3780045,123732971,127513016,378759003,506272019,1391303041,1897575060,62113704961 ⋆ Denominators of continued fraction convergents to sqrt(280). • a(0)=1, a(1)=1, a(2)=3, a(3)=4, a(4)=11, a(5)=15, a(6) =491, a(7)=506, a(8)=1503, a(9)=2009, a(10)=5521, a(11)=7530, a(n)=502 * a(n - 6) - a(n - 12). - _ Harvey P. Dale _ , Aug 13 2012 •

[A290493] • 1,3,4,11,16,24,43,75,130,218,375,644,1106,1893,3244,5563,9538,16350,28026,48046,82366,141199,242053,414948,711341 ⋆ Number of irredundant sets in the n-cycle graph. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6). •

[A248825] • 0,3,4,11,16,27,36,51,64,83,100,123,144,171,196,227,256,291,324,363,400,443,484,531,576 ⋆ n^2 + 1 - (-1)^n. • a(n) = a(- n) = 2 * a(n - 1) - 2 * (n - 3) + a(n - 4). • a(n + 2) = a(n) + 4 * n. •

[A001641] • 1,3,4,11,16,30,50,91,157,278,485,854,1496,2628,4609,8091,14196,24915,43720,76726,134642,236283,414645,727654,1276941 ⋆ A Fielder sequence: a(n) = a(n-1) + a(n-2) + a(n-4). • a(n) = n * Sum _{ k=1..n } Sum _{ j=floor((4 * k - n) / 3)..floor((4 * k - n) / 2) } binomial(j,n - 4 * k + 3 * j) * binomial(k,j)) / k. - _ Vladimir Kruchinin _ , May 25 2011 •

[A007382] • 0,0,3,4,11,16,32,49,87,137,231,369,608,978,1595,2574,4179,6754,10944,17699,28655,46355,75023,121379,196416 ⋆ Number of strict (-1)st-order maximal independent sets in path graph. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } C(n - i + 1, i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[A027306] • 1,1,3,4,11,16,42,64,163,256,638,1024,2510,4096,9908,16384,39203,65536,155382,262144,616666,1048576,2449868,4194304,9740686 ⋆ a(n) = 2^(n-1) + (1 + (-1)^n)/4*binomial(n, n/2). • a(n) = Sum _{ k=0..[n / 2] } C(n,k) . • a(n) = [x ^ n](2 * x - 1 / (1 - x)) ^ n. • a(n) = Sum _{ k=1..floor((n + 1) / 2) } binomial(n - 1,(2n + 1 - (- 1) ^ n) / 4 - k). - _ Anthony Browne _ , Jun 18 2016 •

[A247171] • 1,1,3,4,11,21,48,106,235,535,1203,2751,6272,14392,33078,76224,176043,407253,943833,2190397,5090371,11843689,27586793,64320191,150102784 ⋆ G.f.: (2*x^2+4*x+3)/((2*x+2)*sqrt(-4*x^3-4*x^2+1))-1/(2*x+2). • a(n) = n * sum(k=1..n, (binomial(2 * k,n - k) * binomial(n - k - 1,k - 1)) / k, n>0, a(0)=1. •

[A208176] • 1,3,4,11,25,66,169,443,1156,3027,7921,20738,54289,142131,372100,974171,2550409,6677058,17480761,45765227,119814916,313679523,821223649,2149991426,5628750625 ⋆ a(n) = F(n+1)^2, if n>=0 is even (F=A000045) and a(n) = (L(2n+2)+8)/5, if n is odd (L=A000204). • a(n) = F(n) ^ 2 + F(n) * F(n + 1) + 1. - _ Gary Detlefs _ , Apr 18 2012 •

[A042129] • 1,3,4,11,26,401,427,1682,15565,32812,146813,179625,2122688,6547689,41408822,47956511,89365333,137321844,226687177,817383375,1861453927,6401745156,8263199083,14664944239,22928143322 ⋆ Denominators of continued fraction convergents to sqrt(589). • a(n) = 82846332134072437502 * a(n - 40) - a(n - 80) for n>79. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A084378] • 3,4,11,30,67,128,219,346,515,732,1003,1334,1731,2200,2747,3378,4099,4916,5835,6862,8003,9264,10651,12170,13827 ⋆ a(n) = n^3 + 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jun 10 2016 •

[A179167] • 3,4,11,37,134,496,1847,6889,25706,95932,358019,1336141,4986542,18610024,69453551,259204177,967363154,3610248436,13473630587,50284273909,187663465046,700369586272,2613814880039,9754889933881 ⋆ a(n) red and b(n) blue balls in an urn; draw 3 balls without replacement; Probability(3 red balls)=Probability(1 red and 2 blue balls); binomial(a(n),3)=binomial(a(n),1)*binomial(b(n),2) • a(n + 2)=4 * a(n + 1) - a(n) - 3; a(n + 3)=5 * (a(n + 2) - a(n + 1)) + a(n); r=sqrt(3); • a(n)=(6 + (1 + r) * (2 + r) ^ (n - 1) + (1 - r) * (2 - r) ^ (n - 1)) / 4; • a(n):=ceil((6 + (1 + r) * (2 + r) ^ (n - 1)) / 4); • a(n)=5 * a(n - 1) - 5 * a(n - 2) + a(n - 3) for n>4. G.f.: x * (x ^ 3 - 6 * x ^ 2 + 11 * x - 3) / ((x - 1) * (x ^ 2 - 4 * x + 1)). [_ Colin Barker _ , Dec 11 2012] •

[A041947] • 1,3,4,11,48,59,107,273,653,1579,2232,3811,17476,38763,56239,207480,9185359,27763557,36948916,101661389,443594472,545255861,988850333,2522956527,6034763387 ⋆ Denominators of continued fraction convergents to sqrt(496). • a(n) = 9241598 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A042079] • 1,1,3,4,11,257,525,782,2089,2871,134155,137026,408207,545233,1498673,35014712,71528097,106542809,284613715,391156524,18277813819,18668970343,55615754505,74284724848,204185204201 ⋆ Denominators of continued fraction convergents to sqrt(563). • a(n) = 136244 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A094025] • 1,3,4,12,13,39,40,120,121,363,364,1092,1093,3279,3280,9840,9841,29523,29524,88572,88573,265719,265720,797160,797161 ⋆ Expansion of (1+3x)/((1-x^2)(1-3x^2)). • a(n)=4a(n - 2) - 3a(n - 4); a(n)=3 * 3 ^ (n / 2)(1 / 4 + sqrt(3) / 4 + (1 / 4 - sqrt(3) / 4)(- 1) ^ n) + (- 1) ^ n / 2 - 1. • a(n) = a(n - 1) * 3 if n odd; a(n) = a(n - 1) + 1 if n even. - _ Philippe Deléham _ , Apr 22 2013 •

[A084221] • 1,3,4,12,16,48,64,192,256,768,1024,3072,4096,12288,16384,49152,65536,196608,262144,786432,1048576,3145728,4194304,12582912,16777216 ⋆ a(n+2) = 4*a(n), with a(0)=1, a(1)=3. • a(n) = (5 * 2 ^ n - (- 2) ^ n) / 4. • a(n + 1) - 2a(n) = A000079 signed. a(n) + a(n + 2)=5 * a(n). First differences give A135520. - _ Paul Curtz _ , Apr 22 2008 • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Reinhard Zumkeller _ , Mar 04 2011 •

[A124817] • 1,1,3,4,12,18,55,88,273,455,1428,2448,7752,13566,43263,76912,246675,444015,1430715,2601300,8414640,15426840,50067108,92431584,300830572 ⋆ Interpolation of A001764(n+1) and A006629(n). • a(n)=(1 / (2(n + 3))) * C(3n / 2 + 3,n / 2 + 1)(1 + (- 1) ^ n) + (2 / (n + 3)) * C(3(n + 1) / 2,(n - 1) / 2)(1 - (- 1) ^ n) •

[A005221] • 0,0,1,1,3,4,12,22,61,128,335,756,1936,4580,11652,28402,72209,179460,457274,1151725,2945129,7489680,19228598,49256157,126958030 ⋆ Number of Dyck paths of knight moves. • a(n) = Sum _{ m=2..n } (m * Sum _{ i=0..n - m } ((Sum _{ j=0..i + m } (binomial(i + m,j) * binomial(j,i - j))) * Sum _{ k=0..n - i - m } ((binomial(2 * k + i + m - 1,k) * Sum _{ l=0..k } (binomial(k,l) * binomial(k - l,n - 3 * l - k - i - m) * (- 1) ^ (n - l - k - m))) / (k + i + m)))). - _ Vladimir Kruchinin _ , Mar 06 2016 •

[A291023] • 0,3,4,12,24,56,120,264,568,1224,2616,5576,11832,25032,52792,111048,233016,487880,1019448,2126280,4427320,9204168,19107384,39612872,82021944 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 3 S^2 + 2 S^3. • a(n) = 3 * a(n - 1) - 4 * a(n - 3) for n >= 4. • a(n) = (16 * ((- 1) ^ (1 + n) + 2 ^ n) + 3 * 2 ^ n * n) / 18. - _ Colin Barker _ , Aug 24 2017 •

[A287594] • 3,4,12,28,72,184,480,1264,3360,8992,24192,65344,177024,480640,1307136,3559168,9699840,26452480,72173568,196989952,537802752,1468536832,4010582016,10954043392,29920862208 ⋆ Number of independent vertex sets in the n-helm graph. • a(n) = 2 ^ n + (1 - sqrt(3)) ^ n + (1 + sqrt(3)) ^ n. • a(n) = 2 ^ n + 2 ^ (n / 2) * LucasL(n,sqrt(2)). • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3). •

[A109474] • 1,3,4,13,14,23,24,33,34,43,44,53,54,63,64,73,74,83,84,93,94,103,104,113,114 ⋆ a(1)=1, a(2)=3; thereafter, a(n) = least positive integer > a(n-1) and not equal to a(i)+a(j)+a(k) for 1<=i<=j<=k<=n-1. • a(n) = max { 1, 5 * n - 9 + 2 * (- 1) ^ n } . • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. G.f.: x * (1 + 2 * x + 7 * x ^ 3) / ((1 - x) ^ 2 * (1 + x)). [_ Colin Barker _ , Jul 22 2012] •

[A057570] • 0,3,4,13,15,30,33,54,58,85,90,123,129,168,175,220,228,279,288,345,355,418,429,498,510 ⋆ Numbers of the form n*(7n+-1)/2. • a(n) = + 1 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 1 * a(n - 4) + 1 * a(n - 5). - _ Joerg Arndt _ , Jan 25 2011 • a(n) = (14 * n * (n - 1) + 5 * (2 * n - 1) * (- 1) ^ n + 5) / 16. - _ Bruno Berselli _ , Jan 25 2011 •

[A023857] • 3,4,13,16,34,40,70,80,125,140,203,224,308,336,444,480,615,660,825,880,1078,1144,1378,1456,1729 ⋆ a(n) = s(1)t(n)+s(2)t(n-1)+...+s(k)t(n+1-k), where k=floor((n+1)/2), s = (natural numbers), t = (natural numbers >= 3). • a(n) = sum _{ i=1..ceil(n / 2) } i * (n - i + 3) = - ceil(n / 2) * (ceil(n / 2) + 1) * (2 * ceil(n / 2) - 3n - 8) / 6. - _ Wesley Ivan Hurt _ , Sep 20 2013 • a(n) = (4 * n ^ 3 + 27 * n ^ 2 + 50 * n + 21 - 3 * (n ^ 2 + 6 * n + 7) * (- 1) ^ n) / 48. - _ Luce ETIENNE _ , Nov 21 2014 •

[A291250] • 1,3,4,13,17,52,69,203,272,781,1053,2976,4029,11267,15296,42469,57765,159596,217361,598499,815860,2241165,3057025,8383872,11440897 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - 2 S^2 + 2 S^3. • a(n) = a(n - 1) + 5 * a(n - 2) - 4 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + a(n - 6) for n >= 7 . •

[A182691] • 3,4,13,18,61,86,293,414,1413,1998,6821,9646,32933,46574,159013,224878,767781,1085806,3707173,5242734,17899813,25314158,86427941,122227566,417311013 ⋆ Composite Beatty sequence of sqrt(2). • a(n)=floor(s * a(n - 1)) if n odd, a(n)=floor(r * a(n - 1)) if n even, where r=sqrt(2), s=2 + r, a(1)=floor(s). •

[A243764] • 1,1,3,4,13,36,122,408,1453,5236,19374,72616,276194,1061416,4119060,16112944,63485565,251700308,1003515878,4020985608,16184539030,65409684984,265338949740,1080038134352,4409974794962 ⋆ Expansion of -((2*sqrt(1-4*x)-2)*x)/(sqrt(8*x+4*sqrt(1-4*x)-3)-1). • a(n) = Sum _{ k=0..(n / 2) } 2 ^ k * binomial(2 * k - 1,k) * binomial(2 * n - 2 * k - 2,n - 2)) / (n - 1). • a(0)= - 1, a(1)=1. •

[A280608] • 1,3,4,14,17,57,65,225,257,897,1025,3585,4097,14337,16385,57345,65537,229377,262145,917505,1048577,3670017,4194305,14680065,16777217 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 294", based on the 5-celled von Neumann neighborhood. • a(n) = (8 - 3 * (- 2) ^ n + 11 * 2 ^ n) / 8 for n>3. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) for n>4. •

[A281216] • 1,3,4,14,17,59,68,238,273,955,1092,3822,4369,15291,17476,61166,69905,244667,279620,978670,1118481,3914683,4473924,15658734,17895697 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 342", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * a(n - 2) + a(n - 4) - 4 * a(n - 6) for n>5. •

[A080878] • 1,1,3,4,14,20,72,104,376,544,1968,2848,10304,14912,53952,78080,282496,408832,1479168,2140672,7745024,11208704,40553472,58689536,212340736 ⋆ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=1, a(2)=3. • a(n) = (1 / 20 * 10 ^ (1 / 2) + 1 / 4) * (sqrt(3 + sqrt(5))) ^ n + (1 / 20 * 10 ^ (1 / 2) + 1 / 4) * (sqrt(3 - sqrt(5))) ^ n + (- 1 / 20 * 10 ^ (1 / 2) + 1 / 4) * (- (sqrt(3 + sqrt(5)))) ^ n + (- 1 / 20 * 10 ^ (1 / 2) + 1 / 4) * (- (sqrt(3 - sqrt(5)))) ^ n. - _ Richard Choulet _ , Dec 07 2008 •

[A081714] • 0,3,4,14,33,90,232,611,1596,4182,10945,28658,75024,196419,514228,1346270,3524577,9227466,24157816,63245987,165580140,433494438,1134903169,2971215074,7778742048 ⋆ a(n) = F(n)*L(n+1) where F=Fibonacci and L=Lucas numbers. • a(n) = (- (- 1) ^ n + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5)). - _ Colin Barker _ , Sep 28 2016 •

[A248152] • 3,4,14,72,462,3432,28314,252824,2401828,23984688,249554968,2687515040,29802622140,338931781200,3940081956450,46695460462200,562939717794300,6890720756158800,85507580292334200,1074244300649863200,13647785546892580200,175166360584464768480 ⋆ 48 * 4^n * (2*n-1)!! * (2*n+3)!! / ((n+2)! * (n+4)!). • a(n) = C(n) * C(n + 3) - C(n + 1) * C(n + 2) for n>=0 where C() is the Catalan numbers A000108. • a(n) = 24 * (2 * n)! * (2 * n + 3)! / (n! * (n + 1)! * (n + 2)! * (n + 4)!) for n>=0. •

[A173735] • 3,4,14,114,1114,11114,111114,1111114,11111114,111111114,1111111114,11111111114,111111111114,1111111111114,11111111111114,111111111111114 ⋆ a(n) = (10^n + 26)/9. • a(n) = a(n - 1) + 10 ^ (n - 1) = 10 * a(n - 1) - 26, a(0)=3. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A285475] • 1,3,4,15,16,63,64,255,256,1023,1024,4095,4096,16383,16384,65535,65536,262143,262144,1048575,1048576,4194303,4194304,16777215,16777216 ⋆ Decimal representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule

3", based on the 5-celled von Neumann neighborhood. • a(n) = (- 1 - (- 2) ^ n + (- 1) ^ n + 3 * 2 ^ n) / 2. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>3. •

[A041435] • 1,3,4,15,19,34,53,87,314,401,1517,45911,139250,185161,694733,879894,1574627,2454521,4029148,14541965,18571113,70255304,2126230233,6448946003,8575176236 ⋆ Denominators of continued fraction convergents to sqrt(233). • a(n) = 46312 * a(n - 11) + a(n - 22) for n>21. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A136210] • 1,3,4,15,19,72,91,345,436,1653,2089,7920,10009,37947,47956,181815,229771,871128,1100899,4173825,5274724,19997997,25272721,95816160,121088881 ⋆ Numerators in continued fraction [0; 1, 3, 1, 3, 1, 3,...]. • a(0) = 0, a(1) = 1, a(2n) = 3 * a(2n - 1) + a(2n - 2); a(2n - 1) = a(2n - 2) + a(2n - 3). Given the 2 X 2 matrix [1, 3; 1, 4] = T, [a(2n - 1), a(2n)] = top row of T ^ n. • a(n + 1) - a(n - 1) = a(n) * (2 - (- 1) ^ n) for all n in Z. - _ Michael Somos _ , May 15 2014 •

[A041819] • 1,1,3,4,15,19,129,1051,6435,7486,28893,36379,101651,138030,5622851,5760881,17144613,22905494,85861095,108766589,738460629,6016451621,36837170355,42853621976,165398036283 ⋆ Denominators of continued fraction convergents to sqrt(430). • a(n) = 5724502 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A272514] • 3,4,15,21,63,92,255,385,1023,1585,4095,6475,16383,26332,65535,106761,262143,431909,1048575,1744435,4194303,7036529,16777215,28354131,67108863 ⋆ Number of set partitions of [n] into two blocks with distinct sizes. • a(n) = n! * [x ^ n * y ^ 2] Product _{ n>=1 } (1 + y * x ^ n / n!). • a(n) = Sum _{ i=1..floor((n - 1) / 2) } binomial(n,i). - _ Wesley Ivan Hurt _ , Nov 15 2017 •

[A065942] • 1,1,3,4,15,21,84,120,495,715,3003,4368,18564,27132,116280,170544,735471,1081575,4686825,6906900,30045015,44352165,193536720,286097760,1251677700 ⋆ Central column of triangle A065941. • a(n) = binomial(n - floor((n / 2 + 1) / 2), floor(n / 4)). • a(n) = sum(k=0, ceil(n / 2), binomial(n + k, k)) - _ Benoit Cloitre _ , Mar 06 2004 • a(n) = binomial(n + floor(n / 2), n). - _ Paul Barry _ , May 18 2004 • a(n) = sum { k=0..floor(n / 2), binomial(n - 1 + k, k) } . - _ Paul Barry _ , Jul 06 2004 • a(2n - 1) = binomial(3n - 3,n - 1); a(2n) = binomial(3n - 2,n - 1). - _ John Molokach _ , Jul 08 2013 •

[A081405] • 1,1,3,4,15,24,105,192,945,1920,10395,23040,135135,322560,2027025,5160960,34459425,92897280,654729075,1857945600,13749310575,40874803200,316234143225,980995276800,7905853580625 ⋆ a(n) = (n+1)*a(n-2) with a(0) = a(1) = 1. • a(n) = (n - 1) - st term of column 1 of the array at A249159, for n >= 0. - _ Clark Kimberling _ , Oct 23 2014 •

[A293047] • 0,0,0,3,4,15,26,63,120,255,502,1023,2036,4095,8178,16383,32752,65535,131054,262143,524268,1048575,2097130,4194303,8388584 ⋆ Number of odd permutations on {1,2,...,n} with exactly 2 weak excedances. • a(n) = 2 ^ (n - 1) - 1 for odd n. •

[A041665] • 1,1,3,4,15,34,83,200,683,883,2449,3332,122401,125733,373867,499600,1872667,4244934,10362535,24970004,85272547,110242551,305757649,416000200,15281764849 ⋆ Denominators of continued fraction convergents to sqrt(351). • a(n) = 124850 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A042771] • 1,3,4,15,49,64,113,1646,1759,3405,11974,39327,51301,193230,11645101,35128533,46773634,175449435,573121939,748571374,1321693313,19252277756,20573971069,39826248825,140052717544 ⋆ Denominators of continued fraction convergents to sqrt(916). • a(n) = 11696402 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 28 2014 •

[A115752] • 0,0,3,4,15,81,168,540,2271,5365,16698,63229,159250,489048,1749933,4576140,13955895,48211389,129211818,392441049,1323741156,3609608838,10933915743,36252591813,100126350090 ⋆ Number of words of length n+1 created with the letters a,b,c with more c's than b's and more b's than a's. • a(n) = sum(sum(n! / (i!j!(n - i - j)!), j=i + 1..floor((n - i) / 2)), j=0..floor((n - 2) / 3)). - _ Dennis P. Walsh _ , Jun 19 2013 •

[A041325] • 1,3,4,15,394,1197,1591,5970,156811,476403,633214,2376045,62410384,189607197,252017581,945659940,24839176021,75463188003,100302364024,376370280075,9885929645974,30034159217997,39920088863971,149794425809910,3934575159921631 ⋆ Denominators of continued fraction convergents to sqrt(176). • a(n) = 398 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A032829] • 3,4,18,19,23,24,93,94,98,99,118,119,123,124,468,469,473,474,493,494,498,499,593,594,598 ⋆ Numbers whose set of base 5 digits is {3,4}. • a(1)= 3, a(2)=4; a(n) = 5 * a(floor(n / 2)) + 3 for n odd, otherwise a(n) = 5 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 30 2012 •

[A041703] • 1,3,4,19,23,88,3367,10189,13556,64413,77969,298320,11414129,34540707,45954836,218360051,264314887,1011304712,38693893943,11709298654,1,155786880484,740240508477,896027388961,3428322675360,131172289052641 ⋆ Denominators of continued fraction convergents to sqrt(371). • a(n) = 3390 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041989] • 1,1,3,4,19,61,202,465,4852,5317,79290,322477,4593968,4916445,53758418,112433281,391058261,1285608064,5533490517,6819098581,19171687679,25990786260,1162766283119,1188757069379,3540280421877 ⋆ Denominators of continued fraction convergents to sqrt(517). • a(n) = 1181937970798 * a(n - 22) - a(n - 44) for n>43. [_ Bruno Berselli _ , Jan 11 2014] •

[A262033] • 1,1,1,3,4,20,30,210,336,3024,5040,55440,95040,1235520,2162160,32432400,57657600,980179200,1764322560,33522128640,60949324800,1279935820800,2346549004800,53970627110400,99638080819200 ⋆ Number of permutations of [n] beginning with at least floor(n/2) ascents. • a(n) = 2 * n * (n * (n - 1) * a(n - 2) - a(n - 1)) / ((n + 2) * (n - 1)) for n>1, a(0)=a(1)=1. • a(n) = n! / ceiling((n + 1) / 2)!. •

[A062870] • 1,1,1,3,4,20,36,252,576,5184,14400,158400,518400,6739200,25401600,381024000,1625702400,27636940800,131681894400,2501955993600,13168189440000,276531978240000,1593350922240000,36647071211520000,229442532802560000 ⋆ Number of permutations of degree n with greatest sum of distances. • a(n) = (n / 2)! ^ 2 if n is even else n * ((n - 1) / 2)! ^ 2, cf. A092186. - Conjectured by _ Vladeta Jovovic _ , Aug 21 2007; proved (see the link) by _ Max Alekseyev _ , Aug 21 2007 •

[A081698] • 1,3,4,21,56,282,984,4813,19280,93150,403672,1945954,8845360,42766292,200419504,974134461,4659558048,22785183670,110564976792,543935554390,2667398588272,13196971915628,65238895435792,324431740601618,1614044041864800 ⋆ Expansion of (1 - sqrt(1 - 4*x*sqrt(1 + 4*x)))/(2*x). • a(n) = sum(k=0..n, (binomial((k + 1) / 2,n - k) * binomial(2 * k,k) * 4 ^ (n - k)) / (k + 1)). [_ Vladimir Kruchinin _ , Mar 13 2013] •

[A042035] • 1,3,4,23,27,239,505,2259,2764,7787,26125,33912,60037,694319,10474822,21643963,53762748,75406711,129169459,204576170,333745629,538321799,872067428,2282456655,5436980738 ⋆ Denominators of continued fraction convergents to sqrt(541). • a(n) = 2723032632938454900 * a(n - 39) + a(n - 78) for n>77. - _ Vincenzo Librandi _ , Jan 12 2014 •

[A041861] • 1,3,4,23,73,753,2332,12413,14745,56648,2393961,7238531,9632492,55400991,175835465,1813755641,5617102388,29899267581,35516369969,136448377488,5766348224465,17435493050883,23201841275348,133444699427623,423535939558217 ⋆ Denominators of continued fraction convergents to sqrt(452). • a(n) = 2408706 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A189738] • 3,4,24,88,360,1432,5736,22936,91752,367000,1468008,5872024,23488104,93952408,375809640,1503238552,6012954216,24051816856,96207267432,384829069720,1539316278888,6157265115544,24629060462184,98516241848728,394064967394920 ⋆ a(1)=3, a(2)=4, a(n)=3a(n-1) + 4a(n-2) • a(n) = 8 / 5 * (- 1) ^ (n - 1) + 7 / 5 * 4 ^ (n - 1). - Paolo P. Lava, May 24 2011 •

[A157163] • 1,3,4,27,48,156,576,2955,7168,27792,95232,352188,1290240,5105856,17743872,77010795,252641280,1000224768,3616800768,14484040464,52102692864,208963943424,764877471744,3025006038012,11258183024640 ⋆ Product(1 + 2*a(n)*x^n, n=1..infinity) = sum(binomial(2*k,k)*x^k, k=0..infinity) = 1/sqrt(1-4*x), with the central binomial numbers A000984(n). • a(n) = ((- 2 * a(1)) ^ n + sum(d * (- 2 * a(d)) ^ (n / d),d|n with 1<d<n) + B(n)) / (2 * n), with the o.g.f. x * (log(1 / sqrt(1 - 4 * x)))' = 2 * x / (1 - 4 * x) for the sequence B(n); hence B(n)=(1 / 2) * 4 ^ n. •

[A042653] • 1,3,4,31,35,66,101,167,769,2474,3243,8960,57003,407981,2504889,5417759,7922648,29185703,124665460,153851163,278516623,432367786,710884409,5408558649,6119443058 ⋆ Denominators of continued fraction convergents to sqrt(856). • a(n) = 1390718379850 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A032834] • 3,4,33,34,43,44,333,334,343,344,433,434,443,444,3333,3334,3343,3344,3433,3434,3443,3444,4333,4334,4343 ⋆ Numbers with digits 3 and 4 only. • a(2 * n + 1) = 10 * a(n) + 3. • a(2 * n + 2) = 10 * a(n) + 4. •

[A042891] • 1,3,4,35,179,214,393,1393,10144,11537,21681,163304,511593,674897,1186490,6607347,54045266,60652613,236003105,14692845123,44314538474,59007383597,516373607250,2640875419847,3157249027097 ⋆ Denominators of continued fraction convergents to sqrt(977). • a(n) = 14753497736 * a(n - 19) - a(n - 38) for n>37. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A041055] • 1,1,3,4,43,47,137,184,1977,2161,6299,8460,90899,99359,289617,388976,4179377,4568353,13316083,17884436,192160443,210044879,612250201,822295080,8835201001 ⋆ Denominators of continued fraction convergents to sqrt(33). • a(n) = 46 * a(n - 4) - a(n - 8). G.f.: - (x ^ 2 - x - 1) * (x ^ 4 + 4 * x ^ 2 + 1) / (x ^ 8 - 46 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A041105] • 1,1,3,4,59,63,185,248,3657,3905,11467,15372,226675,242047,710769,952816,14050193,15003009,44056211,59059220,870885291,929944511,2730774313,3660718824,53980837849 ⋆ Denominators of continued fraction convergents to sqrt(60). • a(n) = 62 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A274699] • 1,1,3,4,65,126,637,21344,57465,330850,2023901,156312432,502733101,3464645380,21505493115,194182086016,2882863410419 3,10822818652237 8,842870098110349,5690185704481040,49492420589959221,5219396483304275 80,15181467597962034707 9,6422546236401911555 52,5633344428589261601425 ⋆ Number of varied unrooted labeled trees on n nodes, i.e., trees with unique vertex degree except for the leaves. • a(n) = (n - 2)! Sum _{ k=1..n - 2 } C(n,k) k! [u ^ k][z ^{ n - 2 }] Product _{ q=1..n - 2 } (1 + u z ^ q / q!). •

[A041171] • 1,1,3,4,75,79,233,312,5849,6161,18171,24332,456147,480479,1417105,1897584,35573617,37471201,110516019,147987220,2774285979,2922273199,8618832377,11541105576,216358732745 ⋆ Denominators of continued fraction convergents to sqrt(95). • a(n) = 78 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041253] • 1,1,3,4,91,95,281,376,8553,8929,26411,35340,803891,839231,2482353,3321584,75557201,78878785,233314771,312193556,7101573003,7413766559,21929106121,29342872680,667472305081 ⋆ Denominators of continued fraction convergents to sqrt(138). • a(n) = 94 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A041351] • 1,1,3,4,107,111,329,440,11769,12209,36187,48396,1294483,1342879,3980241,5323120,142381361,147704481,437790323,585494804,15660655227,16246150031,48152955289,64399105320,1722529693609 ⋆ Denominators of continued fraction convergents to sqrt(189). • a(n) = 110 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A041465] • 1,1,3,4,123,127,377,504,15497,16001,47499,63500,1952499,2015999,5984497,8000496,245999377,253999873,753999123,1007998996,30993969003,32001967999,94997905001,126999873000,3904994095001 ⋆ Denominators of continued fraction convergents to sqrt(248). • a(n) = 126 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A041595] • 1,1,3,4,139,143,425,568,19737,20305,60347,80652,2802515,2883167,8568849,11452016,397937393,409389409,1216716211,1626105620,56504307291,58130412911,172765133113,230895546024,8023213697929 ⋆ Denominators of continued fraction convergents to sqrt(315). • a(n) = 142 * a(n - 4) - a(n - 8) for n>7, - _ Vincenzo Librandi _ , Dec 21 2013 •

[A041741] • 1,1,3,4,155,159,473,632,24489,25121,74731,99852,3869107,3968959,11807025,15775984,611294417,627070401,1865435219,2492505620,96580648779,99073154399,294726957577,393800111976,15259131212665 ⋆ Denominators of continued fraction convergents to sqrt(390). • a(n) = 158 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041903] • 1,1,3,4,171,175,521,696,29753,30449,90651,121100,5176851,5297951,15772753,21070704,900742321,921813025,2744368371,3666181396,156723987003,160390168399,477504323801,637894492200,27269072996201 ⋆ Denominators of continued fraction convergents to sqrt(473). • a(n) = 174 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A042081] • 1,1,3,4,187,191,569,760,35529,36289,108107,144396,6750323,6894719,20539761,27434480,1282525841,1309960321,3902446483,5212406804,243673159467,248885566271,741444292009,990329858280,46296617772889 ⋆ Denominators of continued fraction convergents to sqrt(564). • a(n) = 190 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A042275] • 1,1,3,4,203,207,617,824,41817,42641,127099,169740,8614099,8783839,26181777,34965616,1774462577,1809428193,5393318963,7202747156,365530676763,372733423919,1110997524601,1483730948520,75297544950601 ⋆ Denominators of continued fraction convergents to sqrt(663). • a(n) = 206 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A042485] • 1,1,3,4,219,223,665,888,48617,49505,147627,197132,10792755,10989887,32772529,43762416,2395942993,2439705409,7275353811,9715059220,531888551691,541603610911,1615095773513,2156699384424,118076862532409 ⋆ Denominators of continued fraction convergents to sqrt(770). • a(n) = 222 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A042711] • 1,1,3,4,235,239,713,952,55929,56881,169691,226572,13310867,13537439,40385745,53923184,3167930417,3221853601,9611637619,12833491220,753954128379,766787619599,2287529367577,3054316987176,179437914623785 ⋆ Denominators of continued fraction convergents to sqrt(885). • a(n) = 238 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A168056] • 1,1,3,5,5,7,9,9,11,13,13,15,17,17,19,21,21,23,25,25,27,29,29,31,33 ⋆ Expansion of (1+2*x^2+x^3)/((1-x)^2*(1+x+x^2)). • a(n) = (12 * n + 3 + 6 * cos(2 * n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. - _ Wesley Ivan Hurt _ , Sep 30 2017 •

[A266505] • 1,1,3,5,5,11,13,27,31,65,75,157,181,379,437,915,1055,2209,2547,5333,6149,12875,14845,31083,35839 ⋆ a(n) = 2*a(n - 2) + a(n - 4) with a(0) = -1, a(1) = 1, a(2) = 3, a(3) = 5. • a(n) = (- (1 + sqrt(2)) ^ floor(n / 2) * (- 1) ^ n - sqrt(8) * (1 - sqrt(2)) ^ floor(n / 2) - (1 - sqrt(2)) ^ floor(n / 2) * (- 1) ^ n + sqrt(8) * (1 + sqrt(2)) ^ floor(n / 2)) / 2. • a(n) = 3 * (((1 + sqrt(2)) ^ floor(n / 2) - (1 - sqrt(2)) ^ floor(n / 2)) / sqrt(8)) - (- 1) ^ n * (((1 + sqrt(2)) ^ (floor(n / 2) - (- 1) ^ n) - (1 - sqrt(2)) ^ (floor(n / 2) - (- 1) ^ n)) / sqrt(8)). •

[A077859] • 1,3,5,6,6,6,7,9,11,12,12,12,13,15,17,18,18,18,19,21,23,24,24,24,25 ⋆ Expansion of (1-x)^(-1)/(1-2*x+2*x^2-x^3). • a(n) = sum { k=0..n, (k + 1) * 2sin(pi(n - k) / 3 + pi / 3) / sqrt(3). - _ Paul Barry _ , May 18 2004 • a(n) = sum { k=0..n, binomial(n - 2k, n - k - 1) } ; - _ Paul Barry _ , Jan 15 2005 • a(n) = n + 2 + (- 1 + n - 3 * floor(n / 3)) * (- 1) ^ floor(n / 3). - _ Tani Akinari _ , Jun 27 2013 • a(n) = n + 1 + a(n - 1) - a(n - 2), with a(- 1) = a(- 2) = 0. - _ Richard R. Forberg _ , Jul 11 2013 • a(n) = + 3 * a(n - 1) - 4 * a(n - 2) + 3 * a(n - 3) - 1 * a(n - 4). [_ Joerg Arndt _ , Jul 12 2013] •

[A244953] • 0,3,5,6,6,9,11,12,12,15,17,18,18,21,23,24,24,27,29,30,30,33,35,36,36 ⋆ a(n) = Sum_{i=0..n} (-i mod 4). • a(n) = 1 + n + (2 * (1 + n) - (1 + (- 1) ^ n) * (1 + 2 * i ^ (n * (n + 1)))) / 4, where i = sqrt(- 1). • a(n) = 6 + Sum _{ i=1..3 } ((4 - i) * floor((n - i) / 4)). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ Robert Israel _ , Jul 09 2014 •

[A047585] • 0,1,3,5,6,7,8,9,11,13,14,15,16,17,19,21,22,23,24,25,27,29,30,31,32 ⋆ Numbers that are congruent to {0, 1, 3, 5, 6, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (12 * n - 3 * sqrt(3) * sin(Pi * n / 3) + sqrt(3) * sin(2 * Pi * n / 3) - 9) / 9. - _ Ilya Gutkovskiy _ , Jun 11 2016 • a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 3, a(3k - 3) = 8k - 5, a(3k - 4) = 8k - 7, a(3k - 5) = 8k - 8. - _ Wesley Ivan Hurt _ , Jun 16 2016 •

[A079253] • 0,3,5,6,7,8,10,12,14,15,16,17,18,19,20,22,24,26,28,30,32,33,34,35,36 ⋆ a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is even". • a(a(n)) = 2n + 4 for n >= 1. •

[A076054] • 1,3,5,6,7,8,10,12,14,16,17,19,21,22,23,24,26,27,28,29,30,32,34,35,36 ⋆ Sum(k=1,n, A006513(k)). • a(n) seems to be asymptotic to 3 / 2 * n •

[A159559] • 3,5,6,7,8,11,12,14,15,17,18,19,20,21,22,23,24,29,30,32,33,37,38,39,40 ⋆ Lexicographically first strictly increasing sequence starting a(2) = 3 with the property that a(n) is prime if and only if n is prime. • a(n + 1) = min { m>a(n), m is prime } , if n + 1 is prime; otherwise, a(n + 1) = min { m> a(n), m is composite } . •

[A047583] • 0,3,5,6,7,8,11,13,14,15,16,19,21,22,23,24,27,29,30,31,32,35,37,38,39 ⋆ Numbers that are congruent to {0, 3, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[A229858] • 3,5,6,7,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29 ⋆ Consider all 120-degree triangles with sides A < B < C. The sequence gives the values of A. • a(n) = n + 4 for n>4. • a(n) = 2 * a(n - 1) - a(n - 2) for n>6. •

[A057716] • 0,3,5,6,7,9,10,11,12,13,14,15,17,18,19,20,21,22,23,24,25,26,27,28,29 ⋆ The non-powers of 2. • a(n) = n + [log _ 2(n + [log _ 2(n)])] gives this sequence with the exception of a(1) = 1. - _ David W. Wilson _ , Mar 29 2005 • a(i - m) = i for 2 ^ m < i < 2 ^ (m + 1). •

[A182834] • 1,3,5,6,7,9,10,11,13,14,15,16,17,19,20,21,22,23,25,26,27,28,29,30,31 ⋆ Complement of A007590, except for initial zeros. • a(n) = n + floor(sqrt(2n - 2)). •

[A186145] • 1,3,5,6,7,9,10,11,13,14,15,17,18,19,21,22,23,24,26,27,28,29,31,32,33 ⋆ Rank of n^2 when {i^2: i>=1} and {j^3>: j>=1} are jointly ranked with i^2 before j^3 when i^2=j^3. Complement of A186146. • a(n)=n + floor((n ^ 2 - 1 / 2) ^ (1 / 3)) (A186145). •

[A079905] • 1,3,5,6,7,9,11,12,13,14,15,17,19,21,23,24,25,26,27,28,29,30,31,33,35 ⋆ a(1)=1; then a(n) is smallest positive integer which is consistent with sequence being monotonically increasing and satisfying a(a(n)) = 2n+1 for n>1. • a(1)=1, a(2)=3, then a(3 * 2 ^ k - 1 + j) = 4 * 2 ^ k - 1 + 3j / 2 + |j| / 2 for k >= 1, - 2 ^ k <= j < 2 ^ k. •

[A047273] • 0,1,3,5,6,7,9,11,12,13,15,17,18,19,21,23,24,25,27,29,30,31,33,35,36 ⋆ Numbers that are congruent to {0, 1, 3, 5} mod 6. • a(n) = 2 * (n - floor(n / 4)) - (3 - I ^ n - (- I) ^ n - (- 1) ^ n) / 4, with offset 0..a(0)=0. - _ Gary Detlefs _ , Mar 19 2010 • a(n) = (3 * n - 3 + cos(Pi * n / 2)) / 2. - _ R. J. Mathar _ , Oct 08 2010 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 6 + (- 1) ^ (n / 2) + (- 1) ^ (- n / 2)) / 4. (End) •

[A047584] • 1,3,5,6,7,9,11,13,14,15,17,19,21,22,23,25,27,29,30,31,33,35,37,38,39 ⋆ Numbers that are congruent to {1, 3, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = (40n - 10 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) - 2 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. (End) •

[A028983] • 3,5,6,7,10,11,12,13,14,15,17,19,20,21,22,23,24,26,27,28,29,30,31,33,34 ⋆ Numbers n such that the sum of the divisors of n is even. • a(n) = n + (1 + sqrt(2) / 2) * sqrt(n) + O(1). - _ Charles R Greathouse IV _ , Sep 01 2015 •

[A136806] • 3,5,6,7,10,11,12,14,20,22,23,24,27,28,29,31,39,40,41,43,44,45,46,47,48 ⋆ Nonsquares mod 65537. • a(n) + a(32769 - n) = 65537. •

[A047328] • 0,3,5,6,7,10,12,13,14,17,19,20,21,24,26,27,28,31,33,34,35,38,40,41,42 ⋆ Numbers that are congruent to {0, 3, 5, 6} mod 7. • a(n) = (1 / 8) * (14 * n - 5 - (2 - (- 1) ^ n) * (1 + 2 * (- 1) ^ floor(n / 2))). - _ Bruno Berselli _ , Aug 01 2011 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 7 + i ^ (2 * n) - (1 + 3 * i) * i ^ (- n) - (1 - 3 * i) * i ^ n) / 8 where i=sqrt(- 1). •

[A136804] • 3,5,6,7,10,12,14,19,20,24,27,28,33,37,38,39,40,41,43,45,47,48,51,53,54 ⋆ Nonsquares mod 257. • a(n) + a(129 - n) = 257. •

[A047582] • 3,5,6,7,11,13,14,15,19,21,22,23,27,29,30,31,35,37,38,39,43,45,46,47,51 ⋆ Numbers that are congruent to {3, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n + 1 - i ^ (2 * n) - (2 - i) * i ^ (- n) - (2 + i) * i ^ n) / 4 where i=sqrt(- 1). •

[A227026] • 3,5,6,7,11,14,15,58,85,493,638,2871,16731,97513,568345,3312555,19306983,112529341,655869061,3822685023,22280241075,129858761425,756872327473,4411375203411,25711378892991 ⋆ Numbers n such that n!/m! is a triangular number for some m < n-1. • a(n) = 7a(n - 1) - 7a(n - 2) + a(n - 3) for n > 14. - _ Charles R Greathouse IV _ , Jun 28 2013 •

[A227722] • 0,1,3,5,6,7,15,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,51,53,54 ⋆ Smallest Boolean functions from small equivalence classes (counted by A000231). • a(A000231 - 1) = a(2,6,45,4335...) = 3,15,255,65535... = A051179 • a(A000231) = a(3,7,46,4336...) = 5,17,257,65537... = A000215 •

[A072134] • 3,5,6,7,17,19,53,55,161,163,485,487,1457,1459,4373,4375,13121,13123,39365,39367,118097,118099,354293,354295,1062881 ⋆ Second generation sequence in which each number is skipped that can be written as sum of distinct previous entries. To make the first generation we start with all natural numbers: this gives the powers of 2 (A000079). For the second generation we start with the natural numbers from which are removed the numbers of the first generation. • a(n) = - (- 1) ^ n + 3 ^ ((n - 1) / 2) * (1 - (- 1) ^ n + sqrt(3) + (- 1) ^ n * sqrt(3)) for n>2. • a(n) = - a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3) for n>5. •

[A133043] • 3,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29 ⋆ Number of segments needed to draw the spiral of equilateral triangles with side lengths which follow the Padovan sequence. • a(1)=3: a(2)=5: a(3)=6; for n>3, a(n)=n + 4. •

[A026430] • 0,1,3,5,6,8,9,10,12,14,15,16,18,19,21,23,24,26,27,28,30,31,33,35,36 ⋆ a(n) = sum of first n terms of A001285 (Thue-Morse sequence). • a(0)=0, a(1)=1, a(2n) = 3n, a(2n + 1) = - a(n) + a(n + 1) + 3n. - _ Ralf Stephan _ , Oct 08 2003 •

[A095117] • 0,1,3,5,6,8,9,11,12,13,14,16,17,19,20,21,22,24,25,27,28,29,30,32,33 ⋆ a(n) = pi(n) + n, where pi(n) = A000720(n) is the number of primes <= n. • a(0) = 0, a(1) = 1, a(2) = 3; for n>2 a(n) = a(n - 1) + (if n is prime then 1 , else 2). - _ Robert G. Wilson v _ , Apr 22 2007; corrected by Philippe Lallouet (philip.lallouet(AT)orange.fr), Aug 04 2008 •

[A184675] • 3,5,6,8,9,11,12,13,15,16,17,19,20,21,22,24,25,26,27,29,30,31,32,33,35 ⋆ n + floor(sqrt(n) + sqrt(n+1)); complement of A184674. • a(n) = n + floor(sqrt(n) + sqrt(n + 1)). • a(n) = n + floor(sqrt(4 * n + 1)). [_ Mircea Merca _ , Feb 05 2012] •

[A121506] • 3,5,6,8,9,11,12,14,15,17,18,20,21,22,24,25,27,28,30,31,32,34,35,37,38 ⋆ Minimal polygon values appearing in a certain polygon problem leading to an approximation of Pi. • a(m)=min(abs(F(n,m)),n=3..infinity), m>=3 (checked for n=3..3 + 500), with F(nm):= ((Fin(n) + Fout(m)) / 2 - Pi) / Pi), where Fin(n):=(n / 2) * sin(2 * Pi / n) and Fout(m):= m * tan(Pi / m). Fin(n) is the area of the regular n - gon inscribed in the unit circle. Fout(n) is the area of an regular n - gon circumscribing the unit circle. E(n,m) = (F(n,m) - pi) / pi is the relative error. •

[A114119] • 1,3,5,6,8,9,11,12,14,15,17,18,20,21,23,24,26,27,29,30,32,33,35,36,38 ⋆ Row sums of triangle A114118. • a(n)=3 * floor((n + 1) / 2) + 2 * mod(n + 1, 2) - 0 ^ n; a(n)=sum { k=0..n, sum { j=0..n, C(floor((n + k + j) / 3), k)C(k, floor((n + k + j) / 3)) }} . •

[A276210] • 1,3,5,6,8,9,11,13,14,16,17,19,20,22,23,25,26,28,29,31,32,33,35,36,38 ⋆ Position of n^r in the joint ranking of {h^r} and {k^s}, where r = sqrt(2), s = sqrt(3), h > 1, k > 1. • a(n) = n + floor(n ^ (r / s)); the complement is given by n + floor(n ^ (s / r)). •

[A047446] • 0,1,3,5,6,8,9,11,13,14,16,17,19,21,22,24,25,27,29,30,32,33,35,37,38 ⋆ Numbers that are congruent to {0, 1, 3, 5, 6} mod 8. • a(n) = floor((8n - 7) / 5). [_ Gary Detlefs _ , Mar 07 2010] • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 45 + 3 * (n mod 5) - 2 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A058065] • 0,1,3,5,6,8,9,11,13,14,16,18,19,21,22,24,26,27,29,30,32,34,35,37,39 ⋆ Complement of A057843. • a(n) = floor(tau * n + sqrt(5)) - 2 where tau is the Golden ratio = (1 + sqrt(5)) / 2. - _ Benoit Cloitre _ , Apr 14 2003 •

[A184582] • 1,3,5,6,8,10,11,13,14,16,18,19,21,22,24,26,27,29,31,32,34,35,37,39,40 ⋆ floor[(n+1/5)r] where r=(1+sqrt(5))/2; complement of A184583. • a(n)=floor[(n + 1 / 5)r] where r=(1 + sqrt(5)) / 2. •

[A244644] • 0,1,3,5,6,8,10,11,13,15,16,18,20,21,23,25,26,28,29,31,33,34,36,38,39 ⋆ Consider the method used by Archimedes to determine the value of Pi (A000796). This sequence denotes the number of iterations of his algorithm which would result in a difference of less than 1/10^n from that of Pi. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>3. •

[A047220] • 0,1,3,5,6,8,10,11,13,15,16,18,20,21,23,25,26,28,30,31,33,35,36,38,40 ⋆ Numbers that are congruent to {0, 1, 3} mod 5. • a(n) = floor(5 * (n - 1) / 3). - _ Gary Detlefs _ , Feb 20 2010 • a(n) = 2 * n - floor(n / 3) - (n ^ 2 mod 3), with offset 0. - _ Gary Detlefs _ , Mar 19 2010 • a(n) = n + floor(2 * (n - 1) / 3) - 1. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 5 * n / 3 - 2 + 2 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3 * k) = 5 * k - 2, a(3 * k - 1) = 5 * k - 4, a(3 * k - 2) = 5 * k - 5. (End) •

[A059541] • 1,3,5,6,8,10,11,13,15,16,18,20,22,23,25,27,28,30,32,33,35,37,38,40,42 ⋆ Beatty sequence for 1 + log(2). • a(n) = floor(n * (1 + log(2))). •

[A082977] • 0,1,3,5,6,8,10,12,13,15,17,18,20,22,24,25,27,29,30,32,34,36,37,39,41 ⋆ Numbers that are congruent to {0, 1, 3, 5, 6, 8, 10} mod 12. • a(n) = a(n - 1) + a(n + 7) - a(n - 8) for n>7. • a(n) = (84 * n - 105 - 2 * (n mod 7) - 2 * ((n + 1) mod 7) + 5 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) + 5 * ((n + 5) mod 7) - 2 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 2, a(7k - 1) = 12k - 4, a(7k - 2) = 12k - 6, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 11, a(7k - 6) = 12k - 12. (End) •

[A182760] • 1,3,5,6,8,10,12,13,15,17,18,20,22,24,25,27,29,31,32,34,36,37,39,41,43 ⋆ Beatty sequence for (3 + 5^(-1/2))/2. • a(n) = floor(r * n), where r = (3 + 5 ^ (- 1 / 2)) / 2. •

[A022838] • 1,3,5,6,8,10,12,13,15,17,19,20,22,24,25,27,29,31,32,34,36,38,39,41,43 ⋆ Beatty sequence for sqrt(3); complement of A054406. • a(n) = floor(n * sqrt(3)). - _ Reinhard Zumkeller _ , Jan 20 2010 • a(n) = 2 * floor(n * (sqrt(3) - 1)) + floor(n * (2 - sqrt(3))) + 1. - _ Miko Labalan _ , Dec 03 2016 •

[A047329] • 1,3,5,6,8,10,12,13,15,17,19,20,22,24,26,27,29,31,33,34,36,38,40,41,43 ⋆ Numbers that are congruent to {1, 3, 5, 6} mod 7. • a(n) = floor((7n - 1) / 4). - _ Gary Detlefs _ , Mar 07 2010 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 5 - i ^ (2n) - (1 + i) * i ^ (- n) - (1 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047444] • 0,3,5,6,8,11,13,14,16,19,21,22,24,27,29,30,32,35,37,38,40,43,45,46,48 ⋆ Numbers that are congruent to {0, 3, 5, 6} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (1 + i) * (4 * n - 4 * n * i + 3 * i - 3 - i ^ (- n) + i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A001969] • 0,3,5,6,9,10,12,15,17,18,20,23,24,27,29,30,33,34,36,39,40,43,45,46,48 ⋆ Evil numbers: numbers with an even number of 1's in their binary expansion. • a(1) = 0; for n > 1: a(n) = 3 * n - 3 - a(n / 2) if n even, a(n) = a((n + 1) / 2) + n - 1 if n odd. •

[A281746] • 0,3,5,6,9,10,12,15,18,20,21,24,25,27,30,33,35,36,39,40,42,45,48,50,51 ⋆ Nonnegative numbers n such that n == 0 mod 3 or n == 0 mod 5. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. - _ Colin Barker _ , Feb 07 2017 •

[A018900] • 3,5,6,9,10,12,17,18,20,24,33,34,36,40,48,65,66,68,72,80,96,129,130,132,136 ⋆ Sum of two distinct powers of 2. • a(n) = b ^ i + b ^ j, where i = floor((sqrt(8n - 1) + 1) / 2), j = n - 1 - i * (i - 1) / 2 [for a Smalltalk implementation see Prog section, method distinctPowersOf: b (2 versions)]. • a(n + 1 + floor((sqrt(8n - 1) + 1) / 2)) = b * a(n). • a(n + 1 + floor(log _ b(a(n)))) = b * a(n). • a(n + 1) = b ^ 2 / (b + 1) * a(n) + 1, if n is a triangular number (s. A000217). • a(n + 1) = b * a(n) + (1 - b) * b ^ floor((sqrt(8n - 1) + 1) / 2), if n is not a triangular number. • a(n + 1) = b * m + (1 - b) * b ^ i, if floor(log _ b(m / (b + 1))) + 1 < i, •

[A126590] • 3,5,6,9,10,12,18,20,21,24,25,27,33,35,36,39,40,42,48,50,51,54,55,57,63 ⋆ Multiples of 3 or 5 but not both. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) . - _ Charles R Greathouse IV _ , Oct 11 2013 •

[A122194] • 3,5,6,9,10,15,17,25,28,41,46,67,75,109,122,177,198,287,321,465,520,753,842,1219,1363 ⋆ Numbers that are the sum of exactly two sets of Fibonacci numbers. • a(1)=3, a(2)=5, a(3)=6, a(4)=9, a(n) = a(n - 2) + a(n - 4) + 1, n > 4. •

[A047271] • 0,3,5,6,9,11,12,15,17,18,21,23,24,27,29,30,33,35,36,39,41,42,45,47,48 ⋆ Numbers that are congruent to {0, 3, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = (6 * n - 4 + cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * Pi * n / 3)) / 3. • a(3k) = 6k - 1, a(3k - 1) = 6k - 3, a(3k - 2) = 6k - 6. (End) •

[A047445] • 1,3,5,6,9,11,13,14,17,19,21,22,25,27,29,30,33,35,37,38,41,43,45,46,49 ⋆ Numbers that are congruent to {1, 3, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 5 - i ^ (2 * n) - i ^ (- n) - i ^ n) / 4 where i=sqrt(- 1). •

[A236343] • 1,1,3,5,6,9,12,14,18,22,25,30,35,39,45,51,56,63,70,76,84,92,99,108,117 ⋆ Expansion of (1 - x + 2*x^2 - x^3) / ((1 - x)^2 * (1 - x^3)) in powers of x. • a(n) = 2 * a(n - 3) + a(n - 6) + 3 = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). •

[A047327] • 3,5,6,10,12,13,17,19,20,24,26,27,31,33,34,38,40,41,45,47,48,52,54,55,59 ⋆ Numbers that are congruent to {3, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 9 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 2, a(3k - 2) = 7k - 4 . (End) •

[A028927] • 0,3,5,6,10,12,13,19,20,21,24,26,27,35,38,40,42,45,48,52,54,59,61,69,70 ⋆ Numbers represented by quadratic form with Gram matrix [3, 1; 1, 5]. • a(x _ i, x _ j) = 3 * x _ i ^ 2 + 2 * x _ i * x _ j + 5 * x _ j ^ 2, for all x _ i >= 0, x _ j any integer. •

[A047443] • 3,5,6,11,13,14,19,21,22,27,29,30,35,37,38,43,45,46,51,53,54,59,61,62,67 ⋆ Numbers that are congruent to {3, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * (12 * n - 3 - 6 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * Pi * n / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 5. (End) •

[A173593] • 3,5,6,11,13,22,27,45,54,91,109,182,219,365,438,731,877,1462,1755,2925,3510,5851,7021,11702,14043 ⋆ Numbers having in binary representation exactly two ones in three consecutive digits. • a(n) = 2 * a(n - 2) + a(n - 3) - 2 * a(n - 5). •

[A276704] • 3,5,6,21,45,77,117,165,221,285,357,437,525,621,725,837,957,1085,1221,1365,1517,1677,1845,2021,2205 ⋆ Records in A249859. • a(n) = 4 * n ^ 2 - 12 * n + 5 for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. •

[A086674] • 0,1,3,5,7,8,9,9,9,9,9,9,10,11,12,14,16,18,20,22,24,26,27,28,29 ⋆ Sum of signed indices from Euler's Pentagonal Theorem (see A000041). • a(n)=sum { k _ i is a generalized pentagonal, (- 1) ^ (floor((i + 1) / 2)) * (n - k) } •

[A167707] • 0,1,3,5,7,8,9,10,11,13,14,15,16,17,19,20,21,22,24,25,26,27,28,29,31 ⋆ The non-single or nonisolated numbers. The union of non-single (or nonisolated or twin) primes and non-single (or nonisolated) nonprimes. • a(n) = n + n / log n + O(n / (log n) ^ 2) by Brun's theorem. [_ Charles R Greathouse IV _ , Mar 15 2011] •

[A131903] • 3,5,7,8,9,10,11,13,14,15,17,18,19,20,21,22,23,25,26,27,28,29,30,31,32 ⋆ Integers x such that d(k)=d(x) for some 0<k<x, where d=A000005 is the number of divisors. • a(n) = n - th element of the set { x>0 : there exists a k with 0<k<x and d(k)=d(x) } , where d=A000005 is the number of divisors. •

[A024352] • 3,5,7,8,9,11,12,13,15,16,17,19,20,21,23,24,25,27,28,29,31,32,33,35,36 ⋆ Numbers which are the difference of two positive squares, c^2 - b^2 with 1 <= b < c. • a(n) = a(n - 3) + 4, n>4. • a(n) = a(n - 1) + a(n - 3) - a(n - 4), for n>5. - _ Ant King _ , Oct 03 2011 • a(n) = 4 + floor((4 * n - 3) / 3), n>1. - _ Gary Detlefs _ , Jul 15 2014 •

[A047486] • 0,1,3,5,7,8,9,11,13,15,16,17,19,21,23,24,25,27,29,31,32,33,35,37,39 ⋆ Numbers that are congruent to {0, 1, 3, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = (40 * n - 40 - 2 * (n mod 5) - 2 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. (End) •

[A276224] • 1,3,5,7,8,10,12,13,15,16,18,20,21,23,25,26,28,29,31,32,34,36,37,39,40 ⋆ Position of n^e in the joint ranking of {h^e} and {k^Pi}, h > 1, k > 1. • a(n) = n + floor(n ^ (e / Pi)); the complement is given by n + floor(n ^ (Pi / e)). •

[A083034] • 0,1,3,5,7,8,10,12,13,15,17,19,20,22,24,25,27,29,31,32,34,36,37,39,41 ⋆ Numbers that are congruent to {0, 1, 3, 5, 7, 8, 10} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = (84 * n - 98 - 2 * (n mod 7) + 5 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) + 5 * ((n + 5) mod 7) - 2 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 2, a(7k - 1) = 12k - 4, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 11, a(7k - 6) = 12k - 12. (End) •

[A186219] • 1,3,5,7,8,10,12,13,15,17,19,20,22,24,25,27,29,31,32,34,36,37,39,41,43 ⋆ Adjusted joint rank sequence of (f(i)) and (g(j)) with f(i) before g(j) when f(i)=g(j), where f and g are the triangular numbers and squares. Complement of A186220. • a(n)=n + floor(sqrt((n ^ 2 + n)2 - 1 / 4)), A186219. •

[A184626] • 1,3,5,7,8,10,12,14,15,17,19,21,22,24,26,27,29,31,33,34,36,38,40,41,43 ★ floor(nr+h), where r=sqrt(3), h=1/4; complement of A184627. • a(n)= floor(nr + h), where r=sqrt(3), h=1 / 4. •

[A047392] • 0,1,3,5,7,8,10,12,14,15,17,19,21,22,24,26,28,29,31,33,35,36,38,40,42 ★ Numbers that are congruent to {0, 1, 3, 5} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 17 - i ^ (2 * n) + (1 + i) * i ^ (-n) + (1 - i) * i ^ n) / 8. • a(n) = n + floor(3 * n / 4 - 3 / 4) - 1. - _ Bruno Berselli _ , Jun 15 2016 •

[A187330] • 0,1,3,5,7,8,10,12,14,15,17,19,21,22,24,26,28,29,31,33,35,37,38,40,42 ★ Floor((4-sqrt(5))n); complement of A187339. • a(n)=floor((4 - sqrt(5))n). •

[A059546] • 1,3,5,7,8,10,12,14,15,17,19,21,22,24,26,28,30,31,33,35,37,38,40,42,44 ★ Beatty sequence for log(10)/(log(10)-1). • a(n) = floor(n * log(10) / (log(10) - 1)). - _ Michel Marcus _ , Jan 04 2015 •

[A037086] • 0,1,3,5,7,8,10,12,14,15,17,19,21,23,24,26,28,30,31,33,35,37,38,40,42 ★ Beatty sequence for sqrt(Pi). • a(n) = floor(n * sqrt(Pi)). •

[A253301] • 1,3,5,7,8,10,12,14,16,17,19,21,23,25,26,28,30,32,34,35,37,39,41,43,44 ★ Complement of the Beatty sequence for sqrt(Pi*phi), where phi is the golden ratio. • a(n) = floor(n * sqrt(Pi * phi) / (sqrt(Pi * phi) - 1)), where phi is the golden ratio. •

[A190719] • 0,1,3,5,7,8,11,12,13,15,17,19,20,23,24,25,27,29,31,32,35,36,37,39,41 ★ Numbers that are congruent to {0, 1, 3, 5, 7, 8, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = floor(12 * n / 7) - floor((n mod 7) / 6) - floor(((n + 3) mod 7) / 5). - _ Rolf Pleisch _ , Jun 12 2011 • a(n) = a(n - 7) + 12 for n>7. • a(n) = (84 * n - 91 - 9 * (n mod 7) + 5 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) + 5 * ((n + 5) mod 7) + 5 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 1, a(7k - 1) = 12k - 4, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 11, a(7k - 6) = 12k - 12. (End) •

[A106252] • 1,3,5,7,8,11,12,14,16,18,19,22,23,25,27,29,30,33,34,36,38,40,41,44,45 ★ Number of positive integer triples (x,y,z), with x<=y<=z<=n, such that each of x,y and z divides the sum of the other two. • a(n) = n + floor(n / 2) + floor(n / 3). [_ Clark Kimberling _ , Apr 20 2012] •

[A047485] • 0,3,5,7,8,11,13,15,16,19,21,23,24,27,29,31,32,35,37,39,40,43,45,47,48 ★ Numbers that are congruent to {0, 3, 5, 7} mod 8. • a(n) = (- 5 + (- 1) ^ n - i * (- i) ^ n + i * i ^ n + 8 * n) / 4 where i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A007957] • 1,3,5,7,9,10,11,12,13,14,15,16,17,18,19,21,23,25,27,29,30,31,32,33,34 ★ Numbers that contain an odd digit. • a(n) = n + O(n ^ 0.69897...) where the constant is A153268. - _ Charles R Greathouse IV _ , Jul 25 2012 •

[A187318] • 0,1,3,5,7,9,10,12,14,16,18,19,21,23,25,27,28,30,32,34,36,37,39,41,43 ★ a(n) = floor(9*n/5). • a(n) = n + floor(4 * n / 5). • a(n) = 2 * n - 1 - floor((n - 1) / 5). - _ Wesley Ivan Hurt _ , Jan 02 2017 •

[A184808] • 1,3,5,7,9,10,12,14,16,18,19,21,23,25,27,29,30,32,34,36,38,39,41,43,45 ★ n + floor(r*n), where r = sqrt(2/3); complement of A184809. • a(n) = n + floor(r * n), where r = sqrt(2 / 3). •

[A214315] • 0,1,3,5,7,9,10,12,14,16,18,20,21,23,25,27,29,31,32,34,36,38,40,42,43 ★ Floor of the real part of the zeros of the complex Fibonacci function on the right half plane. • a(n) = floor(alpha * n), n>=0, with alpha = x _ 0(1) given in the comment section. •

[A054684] • 1,3,5,7,9,10,12,14,16,18,21,23,25,27,29,30,32,34,36,38,41,43,45,47,49 ★ Sum of digits is odd. • a(n) = n * 2 - 1 for the first 5 numbers; a(n) = n * 2 for the second 5 numbers. • a(n) = 2 * n - 2 if floor((n - 1) / 5) is in the sequence, 2 * n - 1 if not. •

[A191275] • 0,1,3,5,7,9,11,12,13,15,17,19,21,23,24,25,27,29,31,33,35,36,37,39,41 ★ Numbers that are congruent to {0, 1, 3, 5, 7, 9, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. • a(n) = a(n - 7) + 12 for n>7. • a(n) = (84 * n - 84 - 2 * (n mod 7) - 2 * ((n + 1) mod 7) - 2 * ((n + 2) mod 7) - 2 * ((n + 3) mod 7) - 2 * ((n + 4) mod 7) + 5 * ((n + 5) mod 7) + 5 * ((n + 6) mod 7)) / 49. • a(7k) = 12k - 1, a(7k - 1) = 12k - 3, a(7k - 2) = 12k - 5, a(7k - 3) = 12k - 7, a(7k - 4) = 12k - 9, a(7k - 5) = 12k - 11, a(7k - 6) = 12k - 12. (End) •

[A158919] • 0,1,3,5,7,9,11,12,14,16,18,20,22,23,25,27,29,31,33,34,36,38,40,42,44 ★ Beatty sequence for the tribonacci constant tau (A058265): a(n) = floor(n*tau) • a(n) = floor(n * A058265). •

[A182765] • 1,3,5,7,9,11,12,14,16,18,20,22,24,25,27,29,31,33,35,37,38,40,42,44,46 ★ Beatty sequence for (6 + sqrt(2))/4. • a(n) = floor(r * n), where r = (6 + sqrt(2)) / 4. • a(n) = 2 * n - 1 - floor(n / 7) for n < 41, but this fails for a(41) = 75 onwards. - _ M. F. Hasler _ , Jun 23 2016 •

[A038124] • 1,3,5,7,9,11,13,15,17,19,20,22,24,26,28,30,32,34,36,38,39,41,43,45,47 ★ Beatty sequence for Brun's constant. • a(n)=floor(n * A065421). •

[A214657] • 0,1,3,5,7,9,11,13,15,17,19,21,22,24,26,28,30,32,34,36,38,40,42,43,45 ★ Floor of the moduli of the zeros of the complex Fibonacci function. • a(n) = floor(tau * n), n>=0, with tau = |z _ 0(1)|given in the comment section. •

[A004273] • 0,1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47 ★ 0 together with odd numbers. • a(n) = 2 * n - [(n + 2) mod (n + 1)], with n>=0. - _ Paolo P. Lava _ , Aug 29 2007 • a(n) = (4 * n - 1 - (- 1) ^ (2 ^ n)) / 2. - _ Luce ETIENNE _ , Jul 11 2015 •

[A060747] • 1,1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47 ★ a(n) = 2n - 1. • a(n) = 2 * a(n - 1) - a(n - 2); a(0)= - 1, a(1)=1. - _ Philippe Deléham _ , Nov 03 2008 • a(n) = 4 * n - a(n - 1) - 4 (with a(0)= - 1). - _ Vincenzo Librandi _ , Aug 07 2010 •

[A005408] • 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49 ★ The odd numbers: a(n) = 2*n + 1. • a(n) = 2 * n + 1. a(- 1 - n) = - a(n). a(n + 1) = a(n) + 2. • a(n) = b(2 * n + 1) where b(n) = n if n is odd is multiplicative. [This seems to say that A000027 is multiplicative? - _ R. J. Mathar _ , Sep 23 2011] • a(n) = (n + 1) ^ 2 - n ^ 2. • a(0) = 1, a(1) = 3, a(n) = 2 * a(n - 1) - a(n - 2). - _ Jaume Oliver Lafont _ , May 07 2008 • a(n) = (n - 1) + n (sum of two sequential integers). - _ Dominick Cancilla _ , Aug 09 2010 • a(n) = Product _{ k=1..2 * n } 2 * sin(Pi * k / (2 * n + 1)) = Product _{ k=1..n } (2 * sin(Pi * k / (2 * n + 1))) ^ 2, n >= 0 (undefined product = 1). See an Oct 09 2013 formula contribution in A000027 with a reference. - _ Wolfdieter Lang _ , Oct 10 2013 •

[A143452] • 1,3,5,7,9,11,13,15,17,19,21,27,37,51,69,91,117,147,181,219,261,315,389,491,629 ★ Expansion of 1/(x^k*(1-x-2*x^(k+1))) for k=9. • a(n) = 2n + 1 if n<=10, else a(n) = a(n - 1) + 2a(n - 10). - _ Milan Janjic _ , Mar 09 2015 •

[A074775] • 1,3,5,7,9,11,13,15,17,19,23,25,27,29,31,35,37,39,41,43,47,49,51,53,55 ★ Numbers n such that tau(n) < tau(n+1) where tau(x)=A000005(x). • a(n) seems to be asymptotic to c * n with c=2.23... •

[A143451] • 1,3,5,7,9,11,13,15,17,19,25,35,49,67,89,115,145,179,217,267,337,435,569,747,977 ★ Expansion of 1/(x^k*(1-x-2*x^(k+1))) for k=8. • a(n) = 2n + 1 if n<=9, else a(n) = a(n - 1) + 2a(n - 9). - _ Milan Janjic _ , Mar 09 2015 •

[A014261] • 1,3,5,7,9,11,13,15,17,19,31,33,35,37,39,51,53,55,57,59,71,73,75,77,79 ★ Numbers that contain odd digits only. • a(n + 1) = h(a(n)) with h(x) = 1 + (if x mod 10 < 9 then x + x mod 2 else 10 * h(floor(x / 10))); • a(n) = f(n, 1) where f(n, x) = if n = 1 then x else f(n - 1, h(x)). (End) • a(n) = sum _{ j = 0..m - 1 } ((2 * b _ j(n) + 1) mod 10) * 10 ^ j, where b _ j(n)) = floor((4 * n + 1 - 5 ^ m) / (4 * 5 ^ j)), m = floor(log _ 5(4 * n + 1)). • a(1 * (5 ^ n - 1) / 4) = 1 * (10 ^ n - 1) / 9. • a(2 * (5 ^ n - 1) / 4) = 1 * (10 ^ n - 1) / 3. • a(3 * (5 ^ n - 1) / 4) = 5 * (10 ^ n - 1) / 9. •

[A143450] • 1,3,5,7,9,11,13,15,17,23,33,47,65,87,113,143,177,223,289,383,513,687,913,1199,1553 ★ Expansion of 1/(x^k*(1-x-2*x^(k+1))) for k=7. • a(n) = 2n + 1 if n<=8, else a(n) = a(n - 1) + 2a(n - 8). - _ Milan Janjic _ , Mar 09 2015 •

[A204458] • 1,3,5,7,9,11,13,15,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,53 ★ Odd numbers not divisible by 17. • a(n) = 2 * n - 1 + 2 * floor((n + 7) / 16) = 2 * n + 1 + 2 * floor((n - 9) / 16), n>=1. Note that for n=0 this is - 1, but for the o.g.f. with start x ^ 0 one uses a(0)=0. •

[A143449] • 1,3,5,7,9,11,13,15,21,31,45,63,85,111,141,183,245,335,461,631,853,1135,1501,1991,2661 ★ Expansion of 1/(x^k*(1-x-2*x^(k+1))) for k=6. • a(n) = 2n + 1 if n<=7, else a(n) = a(n - 1) + 2a(n - 7). - _ Milan Janjic _ , Mar 09 2015 •

[A184591] • 1,3,5,7,9,11,13,16,18,20,22,24,26,28,31,33,35,37,39,41,43,46,48,50,52 ★ floor[(n*(pi-1)-1]; complement of A184592. • a(n)=floor[(n * (pi - 1) - 1]. •

[A143448] • 1,3,5,7,9,11,13,19,29,43,61,83,109,147,205,291,413,579,797,1091,1501,2083,2909,4067,5661 ★ Expansion of 1/(x^k*(1-x-2*x^(k+1))) for k=5. • a(n) = 2n + 1 if n<=6, else a(n) = a(n - 1) + 2a(n - 6). - _ Milan Janjic _ , Mar 09 2015 •

[A204457] • 1,3,5,7,9,11,15,17,19,21,23,25,27,29,31,33,35,37,41,43,45,47,49,51,53 ★ Odd numbers not divisible by 13. • a(n) = 2 * n - 1 + 2 * floor((n + 5) / 12) = 2 * n + 1 + 2 * floor((n - 7) / 12), n>=1. Note that this is - 1 for n=0, but the o.g.f. starting with x ^ 0 has a(0)=0. •

[A173601] • 0,1,3,5,7,9,11,15,17,19,23,27,31,33,35,39,43,47,51,55,59,63,65,67,71 ★ Greatest inverse of A071542, i.e., a(n) = maximal i such that A071542(i) = n. • a(n) / log _ 2(a(n)) < n < a(n) for n > 1. •

[A143447] • 1,3,5,7,9,11,17,27,41,59,81,115,169,251,369,531,761,1099,1601,2339,3401,4923,7121,10323,15001 ★ Expansion of 1/(x^k*(1-x-2*x^(k+1))) for k=4. • a(n) = 2n + 1 if n<=5, else a(n) = a(n - 1) + 2a(n - 5). - _ Milan Janjic _ , Mar 09 2015 •

[A061512] • 1,3,5,7,9,11,33,55,77,99,1111,3333,5555,7777,9999,11111111,33333333,55555555,77777777,99999999,1111111111111111,3333333333333333,5555555555555555,7777777777777777,9999999999999999 ★ a(0) = 1; a(n) is obtained by incrementing each digit of a(n-1) by 2. • a(n) = (10 ^ 2 ^ floor(n / 5) - 1) / 9 * (n % 5 * 2 + 1), where n % 5 means the remainder (in { 0..4 }) of n divided by 5. - _ M. F. Hasler _ , Jun 24 2016 •

[A082767] • 1,3,5,7,9,12,14,16,18,21,23,26,28,31,34,36,38,41,43,46,49,52,54,57,59 ★ Number of edges in the prime graph. • a(n) = a(n - 1) + 1 + omega(n) if n > 1, with a(1) = 1, where omega(n) is the number of distinct prime factors of n. • a(n) = sum INT[n / p], p is 1 or a prime, p < or = n. a(12) = [12 / 1] + [12 / 2] + [12 / 3] + [12 / 5] + [12 / 7] + [12 / 11] = 12 + 6 + 4 + 2 + 1 + 1 = 26. - _ Amarnath Murthy _ , Jul 06 2005 •

[A047932] • 0,1,3,5,7,9,12,14,16,19,21,24,26,29,31,34,36,39,42,44,47,49,52,55,57 ★ a(n) = floor(3*n-sqrt(12*n-3)). • a(n) = floor(3 * n - sqrt(12 * n - 3)). •

[A219087] • 0,1,3,5,7,9,12,14,17,20,22,25,29,32,35,38,42,45,48,52,56,59,63,67,71 ★ Floor((n + 1/2)^(4/3)]). • a(n) = [(n + 1 / 2) ^ (4 / 3)]. •

[A258782] • 0,0,1,3,5,7,9,12,15,18,22,25,29,33,36,40,44,48,53,57,61,65,70,74,79 ★ Nearest integer to log_2(n!). • a(n) = round(log _ 2(n!)). • a(n) = round(Sum _{ k=1..n } log _ 2(k)). - _ Tom Edgar _ , Jun 10 2015 • a(n) is within n 1 of n * (log(n) - 1) / log(2) + log(n) / (2 * log(2)) + log(sqrt(2 * Pi)) / log(2) for n >= 1. - _ Robert Israel _ , Jun 10 2015 •

[A118015] • 0,0,0,1,3,5,7,9,12,16,20,24,28,33,39,45,51,57,64,72,80,88,96,105,115 ★ a(n) = floor(n^2/5). • a(5 * m + r) = m * (5 * m + 2 * r) + a(r), with m >= 0 and 0 <= r < 5. Example: for m=4 and r=3, a(5 * 4 + 3) = a(23) = 4 * (5 * 4 + 2 * 3) + a(3) = 104 + 1 = 105. - _ Bruno Berselli _ , Dec 12 2016 •

[A096231] • 1,3,5,7,9,12,16,21,28,37,49,65,86,114,151,200,265,351,465,616,816,1081,1432,1897,2513 ⋆ Number of n-th generation triangles in the tiling of the hyperbolic plane by triangles with angles {pi/2, pi/3, 0}. • a(n) = a(n - 1) + a(n - 5) = a(n - 2) + a(n - 3), for n > 6. •

[A204454] • 1,3,5,7,9,13,15,17,19,21,23,25,27,29,31,35,37,39,41,43,45,47,49,51,53 ⋆ Odd numbers not divisible by 11. • a(n) = 2 * n + 1 + 2 * floor((n - 6) / 10), n>=1. Note that this is - 1 for n=0, but the following o.g.f. uses a(0)=0. • a(n) = n + sum(floor((n + 9 - k) / 10),k=1..4) + 3 * floor((n + 4) / 10) + sum(floor((n + 4 - k) / 10),k=1..5) = n + (n - 1) + 2 * floor((n + 4) / 10), n>=1. See the line m=5, p=11 of the array A204456, and the general formula given in a comment above. - From _ Wolfdieter Lang _ , Jan 26 2012 •

[A064608] • 1,3,5,7,9,13,15,17,19,23,25,29,31,35,39,41,43,47,49,53,57,61,63,67,69 ⋆ Partial sums of A034444: sum of number of unitary divisors from 1 to n. • a(n) = n * log(n) / zeta(2) + O(n) where zeta(2) = Pi ^ 2 / 6. - _ Benoit Cloitre _ , Apr 16 2002 • a(n) = Sum _{ k=1..n } mu(k) ^ 2 * floor(n / k). - _ Benoit Cloitre _ , Apr 16 2002 •

[A200975] • 1,3,5,7,9,13,17,21,25,31,37,43,49,57,65,73,81,91,101,111,121,133,145,157,169 ⋆ Numbers on the diagonals in Ulam's spiral. • a(4n) = 4n ^ 2 + 2n + 1; a(4n + 1) = 4n ^ 2 + 4n + 1; a(4n + 2) = 4n ^ 2 + 6n + 3; a(4n + 3) = 4n ^ 2 + 8n + 5. • a(n) = floor _ (n * (n + 2) / 4) + floor _ (n(mod 4) / 3) + 1. - _ Bob Selcoe _ , Oct 27 2014 •

[A262602] • 1,1,3,5,7,9,13,19,27,39,57,83,119,171,247,357,515,743,1073,1549,2235,3225,4655,6719,9697 ⋆ a(n) = a(n-7) + a(n-4) + a(n-1) for n>1 and a(n)=1 for n<=1. • a(n) = a(n - 7) + a(n - 4) + a(n - 1) for n>1 and a(n)=1 for n<=1. •

[A238257] • 1,3,5,7,9,15,17,19,35,37,39,55,57,59,75,77,79,95,97,99,155,157,159,175,177 ⋆ Numbers n such that n and 2n+1 use only odd decimal digits. • a(5(3 ^ k - 1) / 2) = 10 ^ k - 1. - _ Giovanni Resta _ , Feb 22 2014 •

[A006995] • 0,1,3,5,7,9,15,17,21,27,31,33,45,51,63,65,73,85,93,99,107,119,127,129,153 ⋆ Binary palindromes: numbers whose binary expansion is palindromic. • a(1000) = 249903, • a(10 ^ 4) = 24183069, • a(10 ^ 5) = 2258634081, • a(10 ^ 6) = 249410097687, • a(10 ^ 7) = 24350854001805, • a(10 ^ 8) = 2229543293296319, •

[A052942] • 1,1,1,1,3,5,7,9,15,25,39,57,87,137,215,329,503,777,1207,1865,2871,4425,6839,10569,16311 ⋆ Expansion of 1/((1+x)*(1-2*x+2*x^2-2*x^3)). • a(n) = hypergeom([(1 - n) / 4,(2 - n) / 4,(3 - n) / 4, - n / 4],[(1 - n) / 3,(2 - n) / 3, - n / 3], - 512 / 27)) for n>=9. - _ Peter Luschny _ , Mar 09 2015 •

[A146556] • 3,5,7,9,17,19,21,43,45,111,193,195,477,927,1777,1779,2973,4963,6397,6399,12961,14983,14985,40191,66993 ⋆ Natural growth of an aliquot sequence driven by a perfect number 2^(p-1)*((2^p) - 1). • a(n) = a(n - 1) + 2 * (sigma(a(n - 1)) - a(n - 1)). - _ Roderick MacPhee _ , Aug 21 2012 •

[A220221] • 1,3,5,7,9,17,23,33,65,129,257,513,1025,2049,4097,8193,16385,32769,65537,131073,262145,524289,1048577,2097153,4194305 ⋆ Odd positive integers k such that k^2 has at most three nonzero binary digits. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>9. - _ Colin Barker _ , Nov 06 2014 •

[A225240] • 1,3,5,7,10,12,14,16,17,19,21,23,26,28,30,32,33,35,37,39,42,44,46,48,49 ⋆ The squares on a chessboard that are white, counting from top left corner and down. • a(1) = 1, a(n) = a(n - 1) + 2 + (mod(a(n - 1) + 1, 8) == 0) - (mod(a(n - 1), 8) == 0). •

[A184586] • 1,3,5,7,10,12,14,16,19,21,23,25,27,30,32,34,36,39,41,43,45,48,50,52,54 ⋆ a(n) = floor((n-1/2)*r), where r=sqrt(5); complement of A184587. • a(n)=floor[(n - 1 / 2)r], where r=sqrt(5). •

[A047390] • 0,3,5,7,10,12,14,17,19,21,24,26,28,31,33,35,38,40,42,45,47,49,52,54,56 ⋆ Numbers that are congruent to {0, 3, 5} mod 7. • a(n) = 2 * n + floor(n / 3) + (n ^ 2 mod 3), with offset 0, a(0)=0. - _ Gary Detlefs _ , Mar 19 2010 • a(n) = n + ceiling(4 * (n - 1) / 3) - 1. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = 2 * (n - 1) + ceiling((n - 1) / 3). - _ Karl V. Keller, Jr. _ , Nov 01 2014 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 7 * n / 3 - 2 - 2 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3 * k) = 7 * k - 2, a(3 * k - 1) = 7 * k - 4, a(3 * k - 2) = 7 * k - 7. (End) •

[A184741] • 3,5,7,10,12,15,17,19,22,24,27,29,31,34,36,38,41,43,46,48,50,53,55,58,60 ⋆ floor(n*s+h-h*s), where s=(e-1)/(e-2) and h=-1/2; complement of A184740. • a(n)=floor(n * s + h - h * s), where s=(e - 1) / (e - 2) and h= - 1 / 2. •

[A175312] • 1,3,5,7,10,12,15,17,20,22,25,28,31,33,36,39,42,44,47,50,53,55,58,61,64 ⋆ Maximum value on Lower Shuffle Part of Kimberling's Expulsion Array (A035486). • a(n) = 1 + 3(n - lambda(n)) - floor((n + 2) / 2 ^ lambda(n)), lambda(n) = floor(log _ 2((n + 2) / 3)). •

[A276498] • 1,3,5,7,10,13,16,19,22,25,29,32,36,39,43,47,51,54,58,62,66,71,75,79,83 ⋆ Number of trials T of an event that occurs with probability 1-1/n that must be repeated consecutively so that the probability that the event occurs on all T trials (i.e., (1-1/n)^T) is minimally higher than 1/n. • a(n) = round(log(1 / n) / log(1 - 1 / n)). • a(n) = n log n - (log n) / 2 + O(1). - _ Charles R Greathouse IV _ , Sep 06 2016 •

[A186148] • 1,3,5,7,10,13,16,19,22,25,29,32,36,40,44,47,52,56,60,64,69,73,78,82,87 ⋆ Rank of (1/4)n^3 when {(1/4)i^3: i>=1} and {j^2>: j>=1} are jointly ranked with (1/4)i^3 before j^2 when (1/4)i^3=j^2. Complement of A186149. • a(n)=n + floor(((1 / 4)n ^ 3 - 1 / 8)) ^ (1 / 2)), A186148 . •

[A001768] • 0,1,3,5,7,10,13,16,19,22,26,30,34,38,42,46,50,54,58,62,66,71,76,81,86 ⋆ Sorting numbers: number of comparisons for merge insertion sort of n elements. • a(n) = Sum _{ k=1..n } ceiling(log _ 2 (3k / 4)). See also Problem 5.3.1 - 14 of Knuth. • a(n) = n(z - 1) - [(2 ^ (z + 2) - 3z) / 6] where z = [log _ 2(3n + 3)]. - _ David W. Wilson _ , Feb 26 2006 •

[A184013] • 1,3,5,7,10,13,17,21,25,30,35,41,47,53,60,67,75,83,91,100,109,119,129,139,150 ⋆ n - 1 + ceiling((4+n^2)/5); complement of A184012. • a(n) = n - 1 + ceiling((4 + n ^ 2) / 5). • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 5) - 2 a(n - 6) + a(n - 7). - R. J. Mathar, Mar 11 2012 •

[A057672] • 0,0,1,3,5,7,10,13,17,21,25,30,36,42,48,54,62,69,77,85,94,103,113,123,134 ⋆ a(n) equals floor(As(n) - Ac(n)), where As(n) is the area of the square with side length n and Ac(n) is the area of the circle of diameter n. • a(n) = floor(n ^ 2 * (1 - Pi / 4)). •

[A212986] • 1,1,3,5,7,10,14,17,22,27,32,38,45,51,59,67,75,84,94,103,114,125,136,148,161 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 2w = 3x+y. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). •

[A011848] • 0,0,0,1,3,5,7,10,14,18,22,27,33,39,45,52,60,68,76,85,95,105,115,126,138 ⋆ a(n) = floor(binomial(n,2)/2). • a(n) = + 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5). - _ R. J. Mathar _ , Apr 15 2010 • a(n) = floor((n / (1 + e ^ (1 / n))) ^ 2). - _ Richard R. Forberg _ , Jun 19 2013 • a(n) = floor(n * (n - 1) / 4). - _ T. D. Noe _ , Jun 20 2013 • a(n) = (1 / 4) * (n ^ 2 - n - 1 + (- 1) ^ floor(n / 2)). - _ Ralf Stephan _ , Aug 11 2013 •

[A131673] • 1,3,5,7,10,14,19,25,31,38,46,55,65,76,88,101,115,129,144,160,177,195,214,234,255 ⋆ Size of the largest BDD of symmetric Boolean functions of n variables when the sink nodes are counted. • a(0) = 1; for n>0, a(n) = 2 + sum _{ k=1..n } min(k,2 ^{ n + 2 - k }- 2). •

[A056911] • 1,3,5,7,11,13,15,17,19,21,23,29,31,33,35,37,39,41,43,47,51,53,55,57,59 ⋆ Odd squarefree numbers. • a(n) = n * (3 / 2) * zeta(2) + O(n ^ (1 / 2)) = n * (Pi ^ 2 / 4) + O(n ^ (1 / 2)). - _ Daniel Forgues _ , May 27 2009 •

[A047484] • 3,5,7,11,13,15,19,21,23,27,29,31,35,37,39,43,45,47,51,53,55,59,61,63,67 ⋆ Numbers that are congruent to {3, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , May 17 2012 • a(n) = (24 * n - 3 - 6 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 5. (End) • a(n) = 3 * n - floor((n - 1) / 3) - ((n - 1) mod 3). - _ Wesley Ivan Hurt _ , Sep 26 2017 •

[A160656] • 0,3,5,7,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97 ⋆ The odd prime numbers together with 0: p - (-1)^p - 1 where p = n-th prime. • a(n) = p - (- 1) ^ p - 1 where p is the n - th prime. • a(n) = p mod n ^ 2, where p is the n - th prime. [From Gary Detlefs, Jan 14 2012] •

[A264754] • 1,3,5,7,11,13,19,21,29,31,41,43,55,57,71,73,89,91,109,111,131,133,155,157,181 ⋆ Expansion of (1 + 2*x - 2*x^3 + x^4)/((1 - x)^3*(1 + x)^2). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n > 4. • a(n) = (2 * n * (n + (- 1) ^ n + 5) - 3 * (- 1) ^ n + 11) / 8. •

[A192869] • 3,5,7,11,13,19,23,31,37,43,47,61,67,73,79,103,127,151,157,163,191,193,211,223,271 ⋆ Thin primes: odd primes p such that p+1 is a prime (or 1) times a power of two. • a(n) >> n (log n) ^ 2. •

[A169969] • 1,3,5,7,11,13,21,27,43,53,85,107,171,213,341,427,683,853,1365,1707,2731,3413,5461,6827,10923 ⋆ Locations of row maxima in "crushed" version of Stern's diatomic array. • a(2n + 1) + a(2n + 2) = 3 * 2 ^ (n + 1), n>0 . - _ Yosu Yurramendi _ , Jun 29 2016 • a(2n + 3) = 3 * 2 ^ (n + 1) - a(n); a(2n + 4) = 3 * 2 ^ (n + 1) + a(n), n>=0, a(0)=0 (new term), a(1)=1, a(2)=3 . - _ Yosu Yurramendi _ , Jun 29 2016 • a(2n) = a(2n - 7) + 3 * 2 ^ (n - 1); a(2n - 1) = a(2n - 7) - 3 * 2 ^ (n - 1), n>=5 . - _ Yosu Yurramendi _ , Jul 06 2016 •

[A238738] • 1,3,5,7,11,15,18,24,30,34,42,50,55,65,75,81,93,105,112,126,140,148,164,180,189 ⋆ Expansion of (1 + 2*x + 2*x^2)/(1 - x - 2*x^3 + 2*x^4 + x^6 - x^7). • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7), with n>6. • a(3k) = k * (5 * k + 7) / 2 + 1 (A000566); • a(3k + 1) = k * (5 * k + 11) / 2 + 3 (A005475); • a(3k + 2) = k * (5 * k + 15) / 2 + 5 (A028895). • a(n) = (floor(n / 3) + 1) * (4 * n - 7 * floor(n / 3) + 2) / 2. [_ Luce ETIENNE _ , Jun 14 2014] •

[A194602] • 0,1,3,5,7,11,15,21,23,27,31,43,47,55,63,85,87,91,95,111,119,127,171,175,183 ⋆ Integer partitions interpreted as binary numbers. • a(A249543) = A249544. - _ Tilman Piesk _ , Oct 31 2014 •

[A126116] • 1,1,1,1,3,5,7,11,19,31,49,79,129,209,337,545,883,1429,2311,3739,6051,9791,15841,25631,41473 ⋆ a(0)=a(1)=a(2)=a(3)=1; a(n+4) = a(n+3) + a(n+1) + a(n). • a(n) = 1 / 5 * ((sqrt(5) - 1) * (1 / 2 * (1 + sqrt(5))) ^ n - (1 + sqrt(5)) * (1 / 2 * (1 - sqrt(5))) ^ n + sin((Pi * n) / 2) - 3 * cos((Pi * n) / 2)). - _ Harvey P. Dale _ , Nov 08 2011 •

[A063241] • 3,5,7,13,15,17,23,25,27,33,35,37,43,45,47,53,55,57,63,65,67,73,75,77,83 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(90). • a(n) = 2 * n + 4 * floor(n / 3 - 1 / 3) + 1. This formula follows from Mathar's generating function. - _ Bruno Berselli _ , Feb 16 2016 •

[A032911] • 1,3,5,7,13,15,21,23,29,31,53,55,61,63,85,87,93,95,117,119,125,127,213,215,221 ⋆ Numbers whose set of base 4 digits is {1,3}. • a(2n) = 4a(n) + 1, a(2n + 1) = 4a(n) + 3. - _ Ralf Stephan _ , Nov 01 2003 •

[A247018] • 3,5,7,13,17,27,33,47,55,73,83,105,117,143,157,187,203,237,255,293,313,355,377,423,447 ⋆ a(n) = 3*n^2 + n + 3. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. (End) •

[A077133] • 1,3,5,7,13,19,21,27,29,33,39,45,49,53,57,61,63,65,71,77,79,81,83,95,97 ⋆ Difference between the sum of odd indexed primes and even indexed primes. • a(n) = Sum _{ i=0..n - 1 } (p(2i + 2) - p(2i + 1)). •

[A100859] • 3,5,7,13,19,29,31,37,43,53,59,61,67,73,79,89,103,109,127,137,139,149,151,157,163 ⋆ Beginning with 3, increasing primes such that no two adjacent terms are congruent mod 4. • a(2n - 1)==3 (mod 4) and a(2n)==1 (mod 4). •

[A077949] • 1,1,1,3,5,7,13,23,37,63,109,183,309,527,893,1511,2565,4351,7373,12503,21205,35951,60957,103367,175269 ⋆ Expansion of 1/(1-x-2*x^3). • a(n) = Sum _{ k=0..floor(n / 2) } C(n - 2k, k) * 2 ^ k. - _ Paul Barry _ , Nov 18 2003 • a(n) = Sum _{ k=0..n } C(k, floor((n - k) / 2))2 ^ ((n - k) / 2)(1 + (

- 1) ^ (n - k)) / 2. - _ Paul Barry _ , Jan 12 2006 • a(n) = term (1,1) in the 3x3 matrix [1,1,0; 0,0,1; 2,0,0] ^ n. - _ Alois P. Heinz _ , Aug 16 2008 •

[A003229] • 1,1,3,5,7,13,23,37,63,109,183,309,527,893,1511,2565,4351,7373,12503,21205,35951,60957,103367,175269,297183 ⋆ a(n) = a(n-1) + 2*a(n-3) with a(0)=a(1)=1, a(2)=3. • a(n) = hypergeom([- n / 3, - (1 + n) / 3,(1 - n) / 3], [- n / 2, - (1 + n) / 2], - 27 / 2)) for n>=3. - _ Peter Luschny _ , Mar 09 2015 •

[A275175] • 1,1,1,1,1,1,3,5,7,13,23,83,147,215,423,771,2801,4971,7281,14351,26181,95133,168845,247317,487493 ⋆ a(n) = (2 * a(n-3) + a(n-1) * a(n-5)) / a(n-6), a(0) = a(1) = ... = a(5) = 1. • a(n) = 35 * a(n - 5) - 35 * a(n - 10) + a(n - 15). - _ G. C. Greubel _ , Jul 20 2016 •

[A064268] • 1,1,1,1,1,1,3,5,7,13,43,113,521,1241,3681,23657,177721,679505,4674203,27273277,275517767,3496390229,37043734803,226196947873 ⋆ a(n) = (a(n-1) * a(n-6) + 2 * a(n-3) * a(n-4)) / a(n-7). a(1) = ... = a(7) = 1. Somos-7 variation. • a(8 - n) = a(n). •

[A295717] • 1,3,5,7,14,19,37,52,97,141,254,379,665,1012,1741,2689,4558,7119,11933,18796,31241,49525,81790,130291,214129 ⋆ a(n) = a(n-1) + 3*a(n-2) -2*a(n-3) - 2*a(n-4), where a(0) = 1, a(1) = 3, a(2) = 5, a(3) = 7. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 1, a(1) = 3, a(2) = 5, a(3) = 7. •

[A163979] • 1,3,5,7,15,23,31,45,59,73,93,113,133,159,185,211,243,275,307,345,383,421,465,509,553 ⋆ a(n) = n*(n-1) + A144437(n+2). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). •

[A291736] • 0,1,1,3,5,7,16,22,47,73,137,235,410,734,1258,2255,3895,6904,12056,21184,37210,65172,114612,200765,352779 ⋆ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = 1 - S^2 - S^3. • a(n) = a(n - 2) + a(n - 3) + 2 * a(n - 4) + 3 * a(n - 5) + a(n - 6) + 3 * a(n - 7) + a(n - 9) for n >= 10. •

[A291107] • 3,5,7,16,26,42,72,125,216,367,629,1079,1852,3173,5438,9323,15984,27401,46971,80522,138039,236639,405665,695425,1192158 ⋆ Number of irredundant sets in the n-pan graph. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6). •

[A112986] • 0,0,0,3,5,7,18,22,26,45,51,57,84,92,100,135,145,155,198,210,222,273,287,301,360 ⋆ Crossing number of K_{4,n} on the real projective plane. • a(n) = floor(n / 3) * (2 * n - 3(1 + floor(n / 3))). •

[A137864] • 1,3,5,7,33,131,373,855,1697,3043,5061,7943,11905,17187,24053,32791,43713,57155,73477,93063,116321,143683,175605,212567,255073 ⋆ a(n) = n^4 - 10n^3 + 35n^2 - 48n + 23. • a(0)=1, a(1)=3, a(2)=5, a(3)=7, a(4)=33, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 18 2011 •

[A106115] • 3,5,7,37,43,47,53,59,67,73,79,83,89,97,337,347,349,353,359,367,373,379,383,389,397 ⋆ Primes with minimal digit > 2. • a(n) >> n ^ k with k = log 10 / log 7 = 1.183.... - _ Charles R Greathouse IV _ , Jan 02 2013 •

[A047624] • 0,1,3,5,8,9,11,13,16,17,19,21,24,25,27,29,32,33,35,37,40,41,43,45,48 ⋆ Numbers that are congruent to {0, 1, 3, 5} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 11 - i ^ (2 * n) + i ^ (1 - n) - i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A211703] • 1,3,5,8,9,12,13,16,18,20,21,25,26,28,30,33,34,37,38,41,43,45,46,50,51 ⋆ a(n) = n + [n/2] + [n/3] + [n/4], where [] = floor. • a(n) = a(n - 3) + a(n - 4) - a(n - 7) for n>=8. •

[A185456] • 1,3,5,8,9,14,15,16,17,26,27,28,29,30,31,32,33,50,51,52,53,54,55,56,57 ⋆ Pay phone packing sequence • a(n) is the index of the n - th record in A166079, which is given by the recurrence y(n) = y(m) + y(n - m + 1) - 1, with y(1) = y(2) = 1 and y(3) = 2, where m = ceiling(n / 2). [From _ John W. Layman _ , Feb 05 2011] • a(n) = a(n - 1) + n - 1 if n = 2 ^ k + 2 for some natural number k, a(n) = a(n - 1) + 1 otherwise, for n >= 3. • a(n) = n + 2 ^ (1 + floor(lg(n - 2))) for n >= 3. (End) •

[A282897] • 1,3,5,8,10,11,14,16,17,18,20,21,23,25,28,29,32,33,35,36,37,40,41,44,46 ⋆ Indices n such that sign(Im(zetazero(n)) - 2*Pi*e*exp(LambertW((n - 11/8)/e))) = -1. • a(n) = positions where A288640 = 0. •

[A184584] • 1,3,5,8,10,12,14,17,19,21,23,26,28,30,32,35,37,39,41,43,46,48,50,52,55 ⋆ floor[(n-1/3)r], where r=sqrt(5); complement of A184585. • a(n)=floor[(n - 1 / 3)r], where r=sqrt(5). •

[A047391] • 1,3,5,8,10,12,15,17,19,22,24,26,29,31,33,36,38,40,43,45,47,50,52,54,57 ⋆ Numbers that are congruent to {1, 3, 5} mod 7. • a(n) = 7 * floor((n - 1) / 3) + 2 * (n - 1 mod 3) + 1. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 15 - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * Pi * n / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 6. (End) • a(n) = n - 1 + floor((4n - 1) / 3). - _ Wesley Ivan Hurt _ , Dec 27 2016 •

[A184655] • 3,5,8,10,12,15,17,19,22,24,26,29,31,34,36,38,41,43,45,48,50,52,55,57,60 ⋆ floor(n*s+h-h*s), where s=(3+sqrt(3))/2, h=-2/3; complement of A184654. • a(n)=floor(n * s + h - h * s), where s=(3 + sqrt(3)) / 2, h= - 2 / 3. •

[A211704] • 1,3,5,8,10,13,14,17,19,22,23,27,28,30,33,36,37,40,41,45,47,49,50,54,56 ⋆ a(n) = n + [n/2] + [n/3] + [n/4] + [n/5], where []=floor. • a(n) = - a(n - 1) - a(n - 2) + a(n - 4) + 2 * a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 9) - a(n - 10) - a(n - 11) for n>=12. •

[A080754] • 3,5,8,10,13,15,17,20,22,25,27,29,32,34,37,39,42,44,46,49,51,54,56,58,61 ⋆ a(n) = ceiling(n*(1+sqrt(2))). • a(1) = 3; for n>1, a(n) = a(n - 1) + 3 if n is in sequence, a(n) = a(n - 1) + 2 if not. •

[A047218] • 0,3,5,8,10,13,15,18,20,23,25,28,30,33,35,38,40,43,45,48,50,53,55,58,60 ⋆ Numbers that are congruent to {0, 3} mod 5. • a(n) = 2 * n - 5 + ceiling(n / 2). - Jesus De Loera (deloera(AT)math.ucdavis.edu) • a(n) = 5 * n - a(n - 1) - 7 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (10 * n + (- 1) ^ n - 9) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). (End) • a(n) = n + ceiling(3 * (n - 1) / 2) - 1. - _ Arkadiusz Wesolowski _ , Sep 18 2012 • a(n) = floor(5 * n / 2) - 2 = 3 * n - 3 - floor((n - 1) / 2). - _ Wesley Ivan Hurt _ , Oct 14 2013 •

[A029919] • 0,3,5,8,10,13,15,18,20,23,25,28,30,33,36,38,41,43,46,48,51,53,56,58,61 ⋆ Convert n from inches (") to centimeters (cm). • a(n)=round(2.54n). •

[A085225] • 1,3,5,8,10,13,15,18,22,24,27,29,32,36,38,41,43,46,50,52,55,59,64,66,69 ⋆ Row 1 of A085203. • a(n) = A085203bi(n, 1). •

[A077472] • 1,3,5,8,10,13,15,23,26,30,33,36,38,46,48,51,53,57,61,64,66,69,72,76,78 ⋆ Greedy powers of (5/8): sum_{n=1..inf} (5/8)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(5 / 8) and frac(y) = y - floor(y). • a(n) seems to be asymptotic to c * n with c around 3.4... - _ Benoit Cloitre _ •

[A184733] • 3,5,8,10,13,16,18,21,23,26,29,31,34,37,39,42,44,47,50,52,55,58,60,63,65 ⋆ floor(n*s+h-h*s), where s=(3+sqrt(5))/2, h=-1/4; complement of A184732. • a(n)=floor(n * s + h - h * s), where s=(3 + sqrt(5)) / 2, h= - 1 / 4. •

[A245314] • 0,3,5,8,10,13,16,19,20,22,25,28,30,32,35,38,39,42,44,47,49,52,54,57,59 ⋆ Maximum frustration of complete bipartite graph K(n,7). • a(n) = floor(154 / 64 * n) - 1 if n = 2, 14, 17, 18, 36 or 49. • a(n) = floor(154 / 64 * n) - 2 if n = 1, 3, 5, 10 or 26. • a(n + 64) = a(n) + 154 except for n = 1,2,3,5,10, 14,17,18,26,36,49. •

[A050504] • 0,1,3,5,8,10,13,16,19,23,26,29,33,36,40,44,48,52,55,59,63,68,72,76,80 ⋆ Integer part of n*log(n). • a(n)=floor(n * log(n)). [_ Enrique Pérez Herrero _ , Jul 29 2009] •

[A006218] • 0,1,3,5,8,10,14,16,20,23,27,29,35,37,41,45,50,52,58,60,66,70,74,76,84 ⋆ a(n) = Sum_{k=1..n} floor(n/k); also Sum_{k=1..n} d(k), where d = number of divisors (A000005); also number of solutions to x*y = z with 1 <= x,y,z <= n. • a(n) = n * (log(n) + 2 * gamma - 1) + O(sqrt(n)), where gamma is the Euler - Mascheroni number ~ 0.57721... (see A001620), Dirichlet, 1849. Again, a(n) = n * (log(n) + 2 * gamma - 1) + O(log(n) * n ^ (1 / 3)). The determination of the precise size of the error term is an unsolved problem (the so - called Dirichlet divisor problem) - see references, especially Huxley (2003). • a(n) = 2 * (Sum _{ i=1..floor(sqrt(n)) } floor(n / i)) - floor(sqrt(n)) ^ 2. - _ Benoit Cloitre _ , May 12 2002 •

[A295362] • 1,3,5,8,10,14,19,25,34,49,71,106,162,253,398,632,1010,1621,2610,4208,6793,10975,17741,28688,46400 ⋆ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) - b(n-2) - b(n-3), where a(0) = 1, a(1) = 3, a(2) = 5, b(0) = 2, b(1) = 4, b(2) = 6, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[A212987] • 1,1,3,5,8,10,16,18,25,29,37,41,52,56,68,74,87,93,109,115,132,140,158,166,187 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 3*w = 2*x+2*y. • a(n) = 2 * a(n - 2) + a(n - 3) - a(n - 4) - 2 * a(n - 5) + a(n - 7). •

[A184659] • 3,5,8,11,13,16,18,21,24,26,29,31,34,37,39,42,45,47,50,52,55,58,60,63,65 ⋆ floor(n*s+h-h*s), where s=(3+sqrt(5))/2, h=-1/3; complement of A184658. • a(n)=floor(n * s + h - h * s), where s=(3 + sqrt(5)) / 2, h= - 1 / 3. •

[A026274] • 3,5,8,11,13,16,18,21,24,26,29,32,34,37,39,42,45,47,50,52,55,58,60,63,66 ⋆ Greatest k such that s(k) = n, where s = A026272. • a(n) = floor(r * r * (n + 2r - 3)), where r = (1 + sqrt(5)) / 2 = A001622. [Corrected by _ Tom Edgar _ , Jan 30 2015] • a(n) = 3 * n - floor[(n + 1) / (1 + phi)], phi = (1 + sqrt(5)) / 2. - Joshua Tobin (tobinrj(AT)tcd.ie), May 31 2008 •

[A008576] • 1,3,5,8,11,13,16,19,21,24,27,29,32,35,37,40,43,45,48,51,53,56,59,61,64 ⋆ Coordination sequence for planar net 4.8.8. • a(0)=1, a(1)=3, a(2)=5, a(3)=8, a(4)=11, a(n) = a(n - 1) + a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Nov 24 2011 • a(0)=1; thereafter a(3k)=8k, a(3k + 1)=8k + 3, a(3k + 2)=8k + 5. - _ N. J. A. Sloane _ , Dec 22 2015 •

[A047622] • 0,3,5,8,11,13,16,19,21,24,27,29,32,35,37,40,43,45,48,51,53,56,59,61,64 ⋆ Numbers that are congruent to {0, 3, 5} mod 8. • a(n) = floor((8n - 7) / 3). - _ Gary Detlefs _ , Mar 07 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 24 - 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 8. (End) •

[A180124] • 3,5,8,11,14,16,19,22,24,27,30,33,35,38,41,44,46,49,52,55,57,60,63,65,68 ⋆ Third of three "least, sum, least" self-generating sequences. • a(n) = least positive integer not yet used; •

[A076829] • 0,1,3,5,8,11,14,17,20,23,27,30,34,37,41,45,49,53,57,61,65,69,73,77,81 ⋆ a(n) = floor(log(log(n^n^n)) (or 0 if not finite). • a(n) = floor(n * log(n) + log(log(n))). •

[A001855] • 0,1,3,5,8,11,14,17,21,25,29,33,37,41,45,49,54,59,64,69,74,79,84,89,94 ⋆ Sorting numbers: maximal number of comparisons for sorting n elements by binary insertion. • a(n) = Sum _{ k=1..n } ceiling(log _ 2 k) = n * ceiling(log _ 2 n) - 2 ^ ceiling(log _ 2(n)) + 1. • a(n) = a(floor(n / 2)) + a(ceiling(n / 2)) + n - 1. • a(1)=0, for n>1, a(n) = ceiling(n * a(n - 1) / (n - 1) + 1). - _ Benoit Cloitre _ , Apr 26 2003 • a(n) = n - 1 + min { a(k) + a(n - k) : 1 <= k <= n - 1 } , cf. A003314. - _ Vladeta Jovovic _ , Aug 15 2004 •

[A060432] • 1,3,5,8,11,14,18,22,26,30,35,40,45,50,55,61,67,73,79,85,91,98,105,112,119 ⋆ Partial sums of A002024. • a(n) is asymptotic to c * n ^ (3 / 2) with c=0.9428.... - _ Benoit Cloitre _ , Dec 18 2002 • a(n) is asymptotic to c * n ^{ 3 / 2 } with c = (2 / 3) * sqrt(2) = .942809.... - _ Franklin T. Adams - Watters _ , Sep 07 2006 •

[A081401] • 0,1,3,5,8,11,15,18,22,26,31,35,41,46,51,55,62,67,75,80,86,92,101,106,112 ⋆ Pseudologarithm (A056239) of n!: a(n) = A056239(A000142(n)). • a(n) = Sum(k * e(k)) where k runs through indices of prime factors of n!, while e(k) is the exponent of the corresponding prime factor. •

[A046992] • 0,1,3,5,8,11,15,19,23,27,32,37,43,49,55,61,68,75,83,91,99,107,116,125,134 ⋆ a(n) = Sum_{k=1..n} pi(k) (cf. A000720). • a(n) = sum _{ p<=n,

p is prime } (n - p + 1). • a(n) = (n + 1) * pi(n) - Sum _ pi(n), where pi(n) = number of primes <=n and Sum _ pi(n) = sum of primes <=n. •

[A001463] • 1,3,5,8,11,15,19,23,28,33,38,44,50,56,62,69,76,83,90,98,106,114,122,131,140 ★ Partial sums of A001462; also a(n) is the last occurrence of n in A001462. • a(n) is asymptotic to tau ^ (1 - tau) * n ^ tau where tau is the golden ratio, tau=(1 + sqrt(5)) / 2. More precisely, a(n)= tau ^ (1 - tau) * n ^ tau + c * n ^ (1 / tau) + 0(n ^ (1 / tau)) where c is a constant around 0.6. Is there any known value for c? - _ Benoit Cloitre _ , Oct 29 2002 •

[A024206] • 0,1,3,5,8,11,15,19,24,29,35,41,48,55,63,71,80,89,99,109,120,131,143,155,168 ★ Expansion of x^2*(1+x-x^2)/((1-x^2)*(1-x)^2). • a(0)=0, a(n) = floor(a(n - 1) + sqrt(a(n - 1)) + 1) for n > 0. - _ Gerald McGarvey _ , Jul 30 2004 • a(n) = floor((n + 1) ^ 2 / 4) - 1. - _ Franz Vrabec _ , Feb 22 2008 • a(n) = a(n - 1) + [side length of the least square > a(n - 1)], that is a(n)= a(n - 1) + ceiling(sqrt(a(n - 1) + 1)). - _ Ctibor O. Zizka _ , Oct 06 2009 • a(1)=0, a(2)=1, a(3)=3, a(4)=5, a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Jun 14 2013 • a(n) = floor((n - 1)(n + 3) / 4). - _ Wesley Ivan Hurt _ , Jun 23 2013 • a(n) = (2 * n ^ 2 + 4 * n - 7 - (- 1) ^ n) / 8. - _ Wesley Ivan Hurt _ , Jul 22 2014 •

[A014688] • 3,5,8,11,16,19,24,27,32,39,42,49,54,57,62,69,76,79,86,91,94,101,106,113,122 ★ a(n) = n-th prime + n. • a(n) = 2 * OR(p,n) - XOR(p,n), for n - th prime p. - _ Gary Detlefs _ , Oct 26 2013 •

[A281333] • 1,1,3,5,8,11,16,20,26,32,39,46,55,63,73,83,94,105,118,130,144,158,173,188,205 ★ a(n) = 1 + floor(n/2) + floor(n^2/3). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). • a(n) = 1 + floor(n / 2 + n ^ 2 / 3). • a(n) = (12 * n ^ 2 + 18 * n + 4 * (- 1) ^ (2 * n / 3) + 4 * (- 1) ^ (- 2 * n / 3) + 9 * (- 1) ^ n + 19) / 36. • a(n) - n = a(- n). • a(6 * k + r) = 12 * k ^ 2 + (4 * r + 3) * k + a(r), where 0 <= r <= 5. Particular cases: •

[A236203] • 0,0,3,5,8,12,15,21,24,32,35,45,48,60,63,77,80,96,99,117,120,140,143,165,168 ★ Interleave A005563(n), A028347(n). • a(n) = 3 * a(n - 4) - 3 * a(n - 8) + a(n - 12). • a(n + 4) - a(n - 4) = 0, 8, 8,... = A168397. • a(n) = (n ^ 2 - 4) / 4 for n even, a(n) = (n ^ 2 + 2 * n - 15) / 4 for n odd. G.f.: x ^ 4 * (3 * x ^ 2 - 2 * x - 3) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Jan 26 2014 • a(n) = (2 * n ^ 2 + 2 * n - 19 - (2 * n - 11) * (- 1) ^ n) / 8. - _ Luce ETIENNE _ , Jul 26 2014 •

[A000212] • 0,0,1,3,5,8,12,16,21,27,33,40,48,56,65,75,85,96,108,120,133,147,161,176,192 ★ a(n) = floor(n^2/3). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + 2 for n >= 4. - _ Alexander Burstein _ , Nov 20 2011 • a(n) = (n - 1) ^ 2 - a(n - 1) - a(n - 2) for n >= 2. - _ Richard R. Forberg _ , Jun 05 2013 • a(n) = Sum _{ k = 1..n } k ^ 2 * b(n + 2 - k), where b(n) = A049347. - _ Mircea Merca _ , Feb 04 2014 • a(n) = Sum _{ i = 1..n + 1 } (ceiling(i / 3) + floor(i / 3) - 1). - _ Wesley Ivan Hurt _ , Jun 06 2014 • a(n) = Sum _{ j = 1..n } Sum _{ i=1..n } ceiling((i + j - n - 1) / 3). - _ Wesley Ivan Hurt _ , Mar 12 2015 • a(n) = Sum _{ i = 1..n } floor(2 * i / 3). - _ Wesley Ivan Hurt _ , May 22 2017 •

[A282513] • 0,1,3,5,8,12,17,22,28,35,43,51,60,70,81,92,104,117,131,145,160,176,193,210,228 ★ a(n) = floor((3*n + 2)^2/24 + 1/3). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) for n>5. • a(n) = floor((3 * n + 2) ^ 2 / 24 + 2 / 3). • a(n) = (6 * n ^ 2 + 8 * n + 3 + (- 1) ^ n - 2 * ((- 1) ^ (2 * n - 1 + (- 1) ^ n) / 4) + (- 1) ^ ((2 * n + 1 - (- 1) ^ n) / 4))) / 16. Therefore: • a(2 * k) = (6 * k ^ 2 + 4 * k + 1 - (- 1) ^ k) / 4, • a(2 * k + 1) = (k + 1) * (3 * k + 2) / 2. • a(n) = (6 * n ^ 2 + 8 * n + 3 + cos(n * Pi) - 4 * cos(n * Pi / 2)) / 16. •

[A131674] • 0,1,3,5,8,12,17,23,29,36,44,53,63,74,86,99,113,127,142,158,175,193,212,232,253 ★ Size of the largest BDD of symmetric Boolean functions of n variables when the sink nodes are not counted. • a(n) = sum _{ k=1..n } min(k,2 ^{ n + 2 - k }- 2). •

[A238531] • 1,1,3,5,8,12,17,23,30,38,47,57,68,80,93,107,122,138,155,173,192,212,233,255,278 ★ Expansion of (1 - x + x^2)^2 / (1 - x)^3 in powers of x. • a(n) = p(- 1) where p(x) is the unique degree - n polynomial such that p(k) = a(k) for k = 0, 1, ..., n. • a(1 - n) = a(n) for all n in Z. •

[A133263] • 1,3,5,8,12,17,23,30,38,47,57,68,80,93,107,122,138,155,173,192,212,233,255,278,302 ★ Binomial transform of (1, 2, 0, 1, -1, 1, -1, 1,...). • a(n) = (n ^ 2 + n + 4) / 2. G.f.: (1 - x ^ 2 + x ^ 3) / (1 - x) ^ 3. - _ Emeric Deutsch _ , Nov 12 2007 • a(1)=1, a(2)=3; for n>=3, a(n)=a(n - 1) + n - 1. - Philippe Lallouet (philip.lallouet(AT)orange.fr), May 27 2008 • a(0)=1, a(1)=3, a(2)=5, a(3)=8, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 13 2012 •

[A167385] • 1,3,5,8,12,17,24,33,45,61,82,110,147,196,261,347,461,612,812,1077,1428,1893,2509,3325,4406 ★ a(n)= sum_{i=7..n+6} A000931(i). • a(n + 1) / a(n) - > A060005 as n - >infinity. •

[A001973] • 1,1,3,5,8,12,18,24,33,43,55,69,86,104,126,150,177,207,241,277,318,362,410,462,519 ★ Expansion of (1+x^3)/((1-x)*(1-x^2)^2*(1-x^3)). • a(n) is the coefficient of x ^ (2 * n + 2) in the g.f. Product _{ s=1..4 } (x ^ s - x ^ (n + 1)) / (1 - x ^ s). - _ Paul Weisenhorn _ , Jun 01 2009 • a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7). _ Vincenzo Librandi _ , Jun 11 2012 •

[A020745] • 3,5,8,12,18,27,40,59,87,128,188,276,405,594,871,1277,1872,2744,4022,5895,8640,12663,18559,27200,39864 ★ Pisot sequence T(3,5). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A232896] • 1,3,5,8,12,18,27,41,63,98,154,244,389,623,1001,1612,2600,4198,6783,10965,17731,28678,46390,75048,121417 ★ a(n) = 3*a(n-1) - 2*a(n-2) - a(n-3) + a(n-4), where a(1) = 1, a(2) = 3, a(3) = 5, a(4) = 8. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4), where a(1) = 1, a(2) = 3, a(3) = 5, a(4) = 8. • a(n) = - 1 + (2 ^ (- 1 - n) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n))) / sqrt(5) + n. - _ Colin Barker _ , Mar 11 2017 •

[A286311] • 0,1,1,3,5,8,12,19,31,51,83,134,216,349,565,915,1481,2396,3876,6271,10147,16419,26567,42986,69552 ★ a(n) = 2*a(n-1) - a(n-2) + a(n-4), n>3, a(0)=0, a(1)=a(2)=1, a(3)=3. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4). Valid for b(n). •

[A265046] • 1,3,5,8,13,18,23,28,32,36,40,44,48,52,56,60,64,68,72,76,80,84,88,92,96 ★ Coordination sequence for a 4.6.6 point in the 3-transitive tiling {4.6.6, 6.6.6, 6.6.6.6} of the plane by squares and dominoes (hexagons). • a(n) = 2 * a(n - 1) - a(n - 2) for n>8. • a(n) = 4 * n for n>6. •

[A265070] • 1,3,5,8,13,21,33,51,80,126,198,311,488,766,1203,1889,2966,4657,7312,11481,18027,28305,44443,69782,109568 ★ Coordination sequence for (2,6,infinity) tiling of hyperbolic plane. • a(n) = a(n - 1) + a(n - 3) + a(n - 5) for n >6. - _ Vincenzo Librandi _ , Dec 30 2015 •

[A071679] • 1,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,10946,17711,28657,46368,75025,121393,196418 ★ Least k such that the maximum number of elements among the continued fractions for k/1, k/2, k/3, k/4 ...., k/k equals n. • a(n) = Fibonacci(n + 2) for n > 1. - _ Charles R Greathouse IV _ , Jan 17 2012 •

[A020701] • 3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,10946,17711,28657,46368,75025,121393,196418,317811 ★ Pisot sequences E(3,5), P(3,5). • a(n) = Fib(n + 4). a(n) = a(n - 1) + a(n - 2). • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 7 + 3 * sqrt(5)) + (1 + sqrt(5)) ^ n * (7 + 3 * sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Jun 05 2016 •

[A289916] • 1,3,5,8,13,22,39,69,120,206,353,607,1046,1803,3106,5348,9208,15856,27306,47025,80982,139457,240155,413566,712196 ★ Coefficients of 1/(Sum_{k>=0} round((k+1)*r)(-x)^k), where r = 9/7. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>5. •

[A259597] • 3,5,8,13,45,82,127,209,717,1307,2024,3331,11427,20830,32257,53087,182115,331973,514088,846061,2902413,5290738,8193151,13483889,46256493 ★ Numerators of the other-side convergents to sqrt(7). • a(n) = 16 * a(n - 4) - a(n - 8) for n>7. - _ Colin Barker _ , Jul 21 2015 •

[A159914] • 0,0,0,0,1,3,5,8,14,22,30,40,55,73,91,112,140,172,204,240,285,335,385,440,506 ★ Half the number of (n-3)-element subsets of {1,...,n} whose elements sum up to an odd value. • a(2k) = k(k - 1)(2k - 1) / 6 •

[A245968] • 0,0,1,1,3,5,8,14,23,37,61,99,160,260,421,681,1103,1785,2888,4674,7563,12237,19801,32039,51840 ★ The edge independence number of the Lucas cube Lambda(n). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5). - _ Colin Barker _ , Aug 31 2014 •

[A175378] • 0,0,0,0,1,3,5,8,14,26,45,75,125,212,358,598,993,1651,2745,4552,7526,12426,20501,33787,55605 ★ G.f. x^4*(2*x^2-1)/((x^2-1)*(x^2+x-1)*(2*x^3-2*x^2+2*x-1)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + 3 * a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7). •

[A108301] • 3,5,8,14,26,59,89,167,377,734,1376,2741,5624,11120,22166,44222,88262,176180,353042,707648,1419974,2836751,5679620,11365592,22723865 ★ Digital sum of the Fermat number 2^(2^n) + 1. • a(n) = ~ 4.5 * A057755. - _ Robert G. Wilson v _ , Jul 02 2005 •

[A282390] • 3,5,8,14,27,53,104,206,410,818,1635,3269,6536,13070,26139,52277,104552,209102,418202,836402,1672803,3345605,6691209,13382417,26764832 ★ Width of polyominoes in A282389. • a(1) = 3, a(n) = 2 * a(n - 1) - k for n > 1, where k is the width of the central step in the "ladder", which is 1 or 2. •

[A076797] • 1,3,5,8,15,17,20,25,28,30,32,35,43,54,58,65,67,70,73,76,82,86,89,94,97 ★ Greedy powers of (pi/5): sum_{n=1..inf} (pi/5)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(pi / 5) and frac(y) = y - floor(y). •

[A193147] • 1,1,1,3,5,8,15,26,45,80,140,245,431,756,1326,2328,4085,7168,12580,22076,38740,67985,119305,209365,367411 ★ G.f.: 1/(1 - x - 2*x^3 - x^5). • a(n) = a(n - 1) + 2 * a(n - 3) + a(n - 5) with a(n) = 0 for n= - 4, - 3, - 2, - 1 and a(0) = 1. • a(n) = Sum _{ m=floor((n + 1) / 2)..n } Sum _{ j=0..2 * m - n } C(j,3 * n - 5 * m + 2 * j) * C(2 * m - n,j) * 2 ^ (3 * n - 5 * m + 2 * j). - _ Vladimir Kruchinin _ , Mar 10 2013 •

[A099846] • 1,3,5,8,15,29,55,104,196,368,692,1304,2457,4627,8713,16408,30899,58189,109583,206368,388632,731872,1378264,2595552,4887953 ★ An Alexander sequence for the knot 8_5. • a(0)=1, a(1)=3, a(2)=5, a(3)=8, a(4)=15, a(5)=29, a(n)=3 * a(n - 1) - 4 * a(n - 2) + 5 * a(n - 3) - 4 * a(n - 4) + 3 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Sep 25 2011 •

[A141775] • 1,3,5,8,15,31,64,129,257,512,1023,2047,4096,8193,16385,32768,65535,131071,262144,524289,1048577,2097152,4194303,8388607,16777216 ★ Binomial transform of (1, 2, 0, 1, 2, 0, 1, 2, 0, ...). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3). • a(n) + a(n + 3) = 9 * 2 ^ n. • a(n + 6) - a(n) = 63 * 2 ^ n. • a(n) = 2 ^ n + (2 * sin((Pi * n) / 3)) / sqrt(3). - _ Colin Barker _ , Feb 10 2017 •

[A291223] • 0,0,1,1,3,5,8,17,25,52,83,159,271,497,868,1572,2762,4984,8784,15799,27939,50089,88831,158880,282293 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S^3 - S^4. • a(n) = 4 * a(n - 2) + a(n - 3) - 5 * a(n - 4) - a(n - 5) + 4 * a(n - 6) - a(n - 8) for n >= 9. •

[A292492] • 1,3,5,8,22,100,444,1680,5496,16096,43936,117360,323056,946288,2930320,9287792,29222800,89856944,269619792,795460592,2334102160,6882700336,20508738256,61728245104,186833742864 ★ p-INVERT of the odd positive integers, where p(S) = 1 - S + S^2 - S^3. • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 23 * a(n - 3) - 8 * a(n - 4) + 6 * a(n - 5) for n >= 7. •

[A195548] • 0,3,5,8,39,105,136,715,1869,2448,12815,33553,43920,229971,602069,788120,4126647,10803705,14142232,74049691,193864605,253772064,1328767775,3478759201,4553754912 ★ Numerators b(n) of Pythagorean approximations

b(n)/a(n) to 1/2. • a(n) = (F(n + 1) ^ 2 - F(n) ^ 2) / (2 - ((n + 2) ^ 2 mod 3)), where F(n)=Fibonacci(n). [From Gary Detlefs, Oct 15 2011] •

[A162699] • 1,3,5,9,11,13,15,17,19,23,25,27,29,31,33,37,39,41,43,45,47,51,53,55,57 ★ Odd numbers not divisible by 7. • a(n) = 2 * n + 1 + 2 * floor((2 * n - 7) / 12). • a(n) = a(n - 1) + a(n - 6) - a(n - 7). G.f.: x * (x ^ 2 + 1) * (x ^ 4 + 2 * x ^ 3 + x ^ 2 + 2 * x + 1) / ((1 + x) * (1 + x + x ^ 2) * (x ^ 2 - x + 1) * (x - 1) ^ 2). - _ R. J. Mathar _ , Jul 31 2009 •

[A047623] • 1,3,5,9,11,13,17,19,21,25,27,29,33,35,37,41,43,45,49,51,53,57,59,61,65 ★ Numbers that are congruent to {1, 3, 5} mod 8. • a(n) = 2 * floor((n - 1) / 3) + 2 * n - 1. - _ Gary Detlefs _ , Mar 18 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = (24 * n - 21 - 6 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 7. (End) •

[A047270] • 3,5,9,11,15,17,21,23,27,29,33,35,39,41,45,47,51,53,57,59,63,65,69,71,75 ★ Numbers that are congruent to {3, 5} mod 6. • a(n) = sqrt(2) * sqrt((1 - 6 * n) * (- 1) ^ n + 18 * n ^ 2 - 6 * n + 1) / 2. - _ Paul Barry _ , May 11 2003 • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0, with n > 3. • a(n) = (6 * n - (- 1) ^ n - 1) / 2. (End) • a(n) = 6 * n - a(n - 1) - 4 with n > 1, a(1)=3. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A078651] • 1,3,5,9,11,15,17,23,27,31,33,40,42,46,50,59,61,68,70,77,81,85,87,97,101 ★ Number of geometric subsequences of [1,...,n] with integral successive-term ratio and length >= 1. • a(n) = n + sum { r > 1, j > 0 } floor(n / r ^ j) •

[A101114] • 1,3,5,9,11,15,17,23,27,31,33,41,43,47,51,61,63,71,73,81,85,89,91,103,107 ★ Let t(G) = number of unitary factors of the Abelian group G. Then a(n) = sum t(G) over all Abelian groups G of order <= n. • a(n) = partial sums of A101113 •

[A281505] • 3,5,9,11,15,19,21,25,29,35,39,45,49,51,55,59,61,65,69,71,75,79,85,91,95 ★ Numbers of the form y^2 - x^2 such that x^2 + y^2 is a prime and 0 < x < y. • a(n) = n(log n) ^ c / (log log n) ^ O(1), where c = 1 - (1 + log log 2) / log 2 = 0.086... Cf. A027424. - Conjectured by Carl Pomerance, Jan 25 2017 •

[A292918] • 1,3,5,9,11,15,19,23,29,37,43,51,57,63,71,81,89,97,105,113,123,135,145,157,169 ★ Let A_n be a square n X n matrix with entries A_n(i,j)=1 if i+j is prime, and A_n(i,j)=0 otherwise. Then a(n) counts the 1's in A_n. • a(n) = a(n - 1) + 2 * (pi(2 * n - 1) - pi(n)) for n > 1, a(1) = 1. •

[A006046] • 0,1,3,5,9,11,15,19,27,29,33,37,45,49,57,65,81,83,87,91,99,103,111,119,135 ★ Total number of odd entries in first n rows of Pascal's triangle: a(0) = 0, a(1) = 1, a(2k) = 3*a(k), a(2k+1) = 2*a(k) + a(k+1). • a(n) = n ^ (log 2(3)) * G(log2(n)) where G(x) is a function of period 1 defined by its Fourier series. - _ Benoit Cloitre _ , Aug 16 2002; formula modified by S. R. Finch, Dec 31 2007 • a(1) = 1, a(n) = 2a([n / 2]) + a(ceil(n / 2)). •

[A120811] • 3,5,9,11,17,27,29,35,39,41,59,65,71,101,107,125,137,149,179,191,197,227,237,239,269 ★ Positive integers n such that n+d+1 is prime for all proper divisors d of n. Generalization of twin prime to all integers. • a(n)=n - th number such that n + d + 1 is prime for all proper divisors d of n. •

[A120806] • 1,3,5,9,11,29,35,39,41,65,125,179,191,239,281,419,431,641,659,749,755,809,905,935,989 ★ Positive integers n such that n+d+1 is prime for all divisors d of n. • a(n) = n - th number such that n + d + 1 is prime for all divisors d of n. •

[A091785] • 3,5,9,12,15,17,20,23,27,29,33,36,39,43,45,48,51,53,57,60,63,65,68,71,75 ★ Evil numbers (see A001969) in A003159. • a(n) is asymptotic to 3 * n. - _ Benoit Cloitre _ , Mar 22 2004 •

[A006282] • 0,1,3,5,9,12,16,19,26,31,37,41,48,53,59,63,74,82,91,97,107,114,122,127,138 ★ Sorting numbers: number of comparisons in Batcher's parallel sort. • a(1)=0, a(n)=a(ceiling(n / 2)) + a([n / 2]) + C(ceiling(n / 2), [n / 2]), n >1, where the C function is defined in Knuth by C[m,n] = m * n if m * n <= 1 and C[m,n] = C[Ceiling[m / 2],Ceiling[n / 2]] + C[Floor[m / 2],Floor[n / 2]] + Floor[(m + n - 1) / 2]] otherwise. •

[A259368] • 1,3,5,9,12,16,20,25,29,34,39,44,49,54,59,65,70,76,81,87,93,99,105,111,117 ★ Number of digits in n^n when written in binary. • a(n) = floor(n * log(n) / log(2)) + 1. •

[A060419] • 0,1,3,5,9,12,17,21,27,32,38,44,51,58,65,73,81,89,97,106,115,124,134,143,154 ★ floor[3^log2(n)]. • a(n) = floor[n ^ log2(3)] where log2(3) = 1.58496250... •

[A005766] • 0,1,3,5,9,12,18,21,29,34,44,48,60,67,81,85,101,110,128,134,154,165,187,192,216 ★ a(n) = cost of minimal multiplication-cost addition chain for n. • a(2n)=a(n) + n ^ 2, a(2n + 1)=a(n) + n(n + 2). - _ Ralf Stephan _ , May 04 2003 •

[A211538] • 0,0,0,1,3,5,9,12,18,22,30,35,45,51,63,70,84,92,108,117,135,145,165,176,198 ★ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w=2n-2x-y. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (6 * n ^ 2 - 26 * n + 25 - (2 * n - 7) * (- 1) ^ n) / 16, from _ Luce ETIENNE _ . [_ Bruno Berselli _ , Jun 03 2014] • a(n) = Sum _{ i=ceiling((n - 3) / 2)..n - 3 } i. (End) •

[A059093] • 1,3,5,9,12,21,23,25,29,31,33,35,39,41,43,45,49,51,53,55,59,61,63,65,69 ★ Numbers ending with the letter "e" (in English). • a(n + 1)=a((n mod 37) + 1) + 100 * floor(n / 37) for n>=1. •

[A076052] • 1,3,5,9,13,17,19,20,22,23,27,28,29,33,37,39,40,44,48,50,52,53,54,56,60 ★ Sum(k=1, n, A006460(k)). • a(n) seems to be asymptotic to 7 / 3 * n •

[A063915] • 1,3,5,9,13,17,21,29,37,45,53,61,69,77,85,101,117,133,149,165,181,197,213,229,245 ★ G.f.: (1 + Sum_{ i = 0..infinity} 2^i*x^(2^(i+1)-1)) / (1-x)^2. • a(n) = b(n + 1), with b(2n)=2b(n) + 2b(n - 1) + 1, b(2n + 1)=4b(n) + 1. •

[A183859] • 1,3,5,9,13,17,23,29,35,43,51,59,69,79,89,101,113,125,139,153,167,183,199,215,233 ★ n-1+ceiling((n^2)/3); complement of A183858. • a(n)=n - 1 + ceiling((n ^ 2) / 3). •

[A185170] • 1,1,1,1,3,5,9,13,17,23,29,37,45,53,63,73,85,97,109,123,137,153,169,185,203 ★ a(n) = floor((2*n^2 - 6*n + 9) / 5). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=3, a(5)=5, a(6)=9, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a (n - 7). - _ Harvey P. Dale _ , Dec 28 2012 •

[A007664] • 0,1,3,5,9,13,17,25,33,41,49,65,81,97,113,129,161,193,225,257,289,321,385,449,513 ★ Reve's puzzle: number of moves needed to solve the Towers of Hanoi puzzle with 4 pegs and n disks, according to the Frame-Stewart algorithm. • a(n) = min { 2 a(k) + 2 ^ (n - k) - 1 ; k < n } , which is always odd. - _ M. F. Hasler _ , Feb 06 2008 •

[A265429] • 1,3,5,9,13,18,23,30,37,45,53,63,73,84,95,108,121,135,149,165,181,198,215,234,253 ★ Total number of ON (black) cells after n iterations of the "Rule 188" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 16 * (6 * n ^ 2 + 24 * n - 3 * (- 1) ^ n + 2 * (- i) ^ n + 2 * i ^ n + 15) where i = sqrt(- 1). •

[A071404] • 1,3,5,9,13,18,25,31,39,46,55,66,76,86,99,112,125,142,157,172,187,206,225,244,264 ★ Which nonsquarefree number is a square number? a(n)-th nonsquarefree number equals n^2, the n-th square. • a(n) = kn ^ 2 + O(n), where k = 1 - 6 / Pi ^ 2. - _ Charles R Greathouse IV _ , Sep 13 2013 •

[A065802] • 3,5,9,13,19,24,32,38,48,56,67,77,90,102,116,129,145,160,178,194,213,231,252,272,294 ★ How small is the squeezed n-gon? Let s0 be the side of a regular n-gon and s1 the side of the maximal n-gon which can be squeezed between the former and its circumcircle. The n-th entry in the sequence is floor(s0/s1). • a(n) = floor(4 * n ^ 2 / Pi ^ 2) - b(n) where b(n) is in { 0,1,2 } ; 0 occurs only for odd n, while 2 occurs only for even n. - _ Robert Israel _ , Oct 24 2017 •

[A245302] • 3,5,9,13,19,25,32,39,48,57,67,78,90,103,116,130,145,161,178,195,213,232,252,273,294 ★ Circle curvature (rounded down) inscribed between a unit circle and a circumscribed regular n-gon. • a(n) = floor(sin(Pi / (2 * n)) ^- 2 - 1) for n>2. - _ Michael Somos _ , Aug 05 2014 •

[A099392] • 1,1,3,5,9,13,19,25,33,41,51,61,73,85,99,113,129,145,163,181,201,221,243,265,289 ★ a(n) = floor((n^2-2*n+3)/2). • a(n) = ceiling(n ^ 2 / 2) - n + 1. - _ Paul Barry _ , Jul 16 2006; index shifted by _ R. J. Mathar _ , Jul 29 2007 •

[A080827] • 1,3,5,9,13,19,25,33,41,51,61,73,85,99,113,129,145,163,181,201,221,243,265,289,313 ★ Rounded up staircase on natural numbers. • a(n) = ceiling((n ^ 2 + 1) / 2). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4), n>4. • a(n) = (n ^ 2 + 2 - (1 - (- 1) ^ n) / 2) / 2. •

[A248956] • 1,3,5,9,13,19,27,37,49,65,85,109,139,175,219,273,337,413,505,613,741,893,1071,1279,1523 ★ Number of polynomials a_k*x^k + ... + a_1*x + a_0 with k > 0, integer coefficients and only non-multiple positive integer roots and a_0 = p^n (p is a prime). • a(n) = 2 * sum(a * (k),k,0,n) - 1 ; a * (n) see A000009. •

[A267262] • 0,1,3,5,9,13,20,24,35,39,54,58,77,81,104,108,135,139,170,174,209,213,252,256,299 ★ Total number of OFF (white) cells after n iterations of the "Rule 111" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 + (- 1) ^ n * (n - 4) + 2) / 2 for n>3. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>8. •

[A106607] • 1,1,3,5,9,13,20,28,39,51,67,85,107,131,160,192,229,269,315,365,421,481,548,620,699 ★ G.f.: (1+t^3)^2/((1-t)*(1-t^2)^2*(1-t^4)). • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 56 * n + 3 * (9 * (- 1) ^ n + (2 - 2 * i) * (- i) ^ n + (2 + 2 * i) * i ^ n + 19)) / 96 where i is the imaginary unit. - _ Colin Barker _ , Feb 08 2016 •

[A058989] • 1,3,5,9,13,21,25,33,39,45,57,65,73,89,99,105,117,131,151,173,189,199,215,233,257 ★ Largest number of consecutive integers such that each is divisible by a prime <= the n-th prime. • a(n) >= (2e ^ gamma + o(1)) n log ^ 2 n log log log n / (log log n) ^ 2, see A048670. - _ Charles R Greathouse IV _ , Sep 08 2012 •

[A049691] • 0,3,5,9,13,21,25,37,45,57,65,85,93,117,129,145,161,193,205,241,257,281,301,345,361 ★ a(n)=T(n,n), array T as in A049687. Also a(n)=T(2n,2n), array T given by A049639. • a(n) is related to the sequence b(n) = | { (x, y): gcd(x, y) = 1, 1<=x, y<=n } | (A018805) as follows: a(n) = b(n - 1) + 2 (for n > 1). - Shawn Westmoreland (westmore(AT)math.utexas.edu), Jun 11 2003 •

[A136252] • 1,3,5,9,13,21,29,45,61,93,125,189,253,381,509,765,1021,1533,2045,3069,4093,6141,8189,12285,16381 ★ a(n) = a(n-1) + 2*a(n-2) - 2*a(n-3). • a(n) = 2 ^ ((1 / 2) * n - 1) * (4 + 4(- 1) ^ n + 3sqrt(2) * [1 - (- 1) ^ n)] - 3. - _ Emeric Deutsch _ , Mar 31 2008 • a(n) = - 2 * (1 + sqrt(2)) ^ (- 1) * a(0) * (1 - sqrt(2)) ^ (- 1) - 1 / 4 * sqrt(2) * sqrt(2) ^ n * (1 - sqrt(2)) ^ (- 1) * a(2) + 1 / 2 * sqrt(2) ^ n * a(0) * (1 - sqrt(2)) ^ (- 1) + (- 4 - 2 * sqrt(2)) ^ (- 1) * (- sqrt(2)) ^ n * a(1) + (- 4 - 2 * sqrt(2)) ^ (- 1) * sqrt(2) * (- sqrt(2)) ^ n * a(1) - (- 4 - 2 * sqrt(2)) ^ (- 1) * sqrt(2) * (- sqrt(2)) ^ n * a(0) - 1 / 2 * sqrt(2) ^ n * a(1) * (1 - sqrt(2)) ^ (- 1) + (1 + sqrt(2)) ^ (- 1) * (1 - sqrt(2)) ^ (- 1) * a(2) - (- 4 - 2 * sqrt(2)) ^ (- 1) * (- sqrt(2)) ^ n * a(2) + 1 / 4 * sqrt(2) * sqrt(2) ^ n * a(1) * (1 - sqrt(2)) ^ (- 1). - _ Alexander R. Povolotsky _ , Mar 31 2008 • a(n) = 2 * a(n - 2) + 3 ; First differences are powers of 2 , occurring in pairs. - _ Toby Gottfried _ , Nov 29 2010 • a(2n + 1) = (a(2n) + a(2n + 2)) / 2. - _ Richard R. Forberg _ , Nov 30 2013 •

[A248604] • 1,3,5,9,13,21,37,69,133,261,517,1029,2053,4101,8197,16389,32773,65541,131077 ★ Numbers a(n) which are the minimum number of moves needed in a variation of the tower of Hanoi with 4 towers and n disks. • a(1) =1; a(2)=3; a(3)=5; a(n) = 5 + 2 ^ (n - 2) for n>3. •

[A153263] • 3,5,9,13,23,35,59,93,153,245,399,643,1043,1685,2729,4413,7143,11555,18699,30253,48953,79205,128159,207363,335523 ⋆ A014217(n+3) - A014217(n) • a(2n + 2)=a(2n + 1) + a(2n) + 1. a(2n + 3)=a(2n + 2) + a(2n + 1) - 1. •

[A082874] • 1,3,5,9,14,18,26,34,41,52,64,72,87,102,113,131,150,162,184,206,221,246,272,288,317 ⋆ Independence number of king KG_4 on triangle board B_n. • a(n)= a(n - 1) + a(n - 3) - a(n - 4) + a(n - 6) - a(n - 7) - a(n - 9) + a(n - 10), n>12. •

[A266250] • 1,1,3,5,9,14,18,27,31,44,48,65,69,90,94,119,123,152,156,189,193,230,234,275,279 ⋆ Total number of ON (black) cells after n iterations of the "Rule 9" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 - (- 1) ^ n * (n - 4) + 2) / 2 for n>2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>7. •

[A081946] • 0,1,3,5,9,14,19,26,34,43,52,63,75,87,101,116,132,148,166,185,204,225,247,269,293 ⋆ a(n) = sum(i=1,n,floor(r*floor(i/r))) where r=sqrt(2). • a(n) = n * (n + 1) / 2 - floor((1 - 1 / sqrt(2)) * n). •

[A053618] • 0,0,0,1,1,3,5,9,14,21,30,42,55,72,91,114,140,170,204,243,285,333,385,443,506 ⋆ a(n) = ceiling(C(n,4)/n). • a(n) = (2 * n ^ 3 - 12 * n ^ 2 + 22 * n - 3 + 9 * (- 1) ^ n + 3 * (1 + (- 1) ^ n) * (- 1) ^ (n * (n - 1) / 2) - 6 * (1 + (- 1) ^ n) * (- 1) ^ floor(n / 4)) / 48. - _ Luce ETIENNE _ , Jan 20 2015 •

[A267047] • 1,3,5,9,14,22,27,39,44,60,65,85,90,114,119,147,152,184,189,225,230,270,275,319,324 ⋆ Total number of ON (black) cells after n iterations of the "Rule 91" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 + 4 * n - (- 1) ^ n * (n - 3) - 3) / 2 for n>1. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>6. •

[A032801] • 0,0,0,0,1,3,5,9,14,22,30,42,55,73,91,115,140,172,204,244,285,335,385,445,506 ⋆ Number of unordered sets a,b,c,d of distinct integers from 1..n such that a+b+c+d=0 (mod n). • a(n) = (- 6 * (4 + 2 * (- 1) ^ n + (- i) ^ n + i ^ n) + (25 + 3 * (- 1) ^ n) * n - 12 * n ^ 2 + 2 * n ^ 3) / 48 (conjectured) - _ Colin Barker _ , Oct 23 2016 •

[A033818] • 3,5,9,14,22,34,53,83,131,208,332,532,855,1377,2221,3586,5794,9366,15145,24495,39623,64100,103704,167784,271467 ⋆ Convolution of natural numbers n >= 1 with Lucas numbers L(k) for k >= -2. • a(n) = L(1) * (F(n + 1) - 1) + L(0) * F(n) - L(- 1) * n, F(n): Fibonacci (A000045), L(n): Lucas (A000032) with L(- n)=(- 1) ^ n * L(n) •

[A061556] • 1,3,5,9,14,23,43,79,149,263,461,823,1451,2549,4483,7879,13859,24247,42683,75037 ⋆ Least k such that sigma(k!)>=n*k!. • a(n)=Min { w | Floor[Sigma(w!) / w!=n] •

[A129771] • 3,5,9,15,17,23,27,29,33,39,43,45,51,53,57,63,65,71,75,77,83,85,89,95,99 ⋆ Evil odd numbers. • a(n) = 4n + O(1). - _ Charles R Greathouse IV _ , Mar 21 2013 •

[A027688] • 3,5,9,15,23,33,45,59,75,93,113,135,159,185,213,243,275,309,345,383,423,465,509,555,603 ⋆ a(n) = n^2 + n + 3. • a(n) = 2 * n + a(n - 1) (with a(0)=3). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Dec 29 2014 •

[A135342] • 1,3,5,9,15,25,37,55,77,105,137,179,225,283,347,419,499,595,697,817,945,1085,1235,1407,1587 ⋆ Number of distinct means of subsets of {1,...,n}. • a(n) = sum _{ k=1 }^{ n - 1 } [(n - k) * phi(k)] + min(n,2); a(1)=1; a(2)=3; a(3)=5; a(n) = 2a(n - 1) - a(n - 2) + phi(n - 1), n>3 •

[A001595] • 1,1,3,5,9,15,25,41,67,109,177,287,465,753,1219,1973,3193,5167,8361,13529,21891,35421,57313,92735,150049 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = a(1) = 1. • a(n) = (2 / sqrt(5)) * ((1 + sqrt(5)) / 2) ^ (n + 1) - 2 / sqrt(5) * ((1 - sqrt(5)) / 2) ^ (n + 1) - 1. • a(n + 1) / a(n) is asymptotic to Phi = (1 + sqrt(5)) / 2. - _ Jonathan Vos Post _ , May 26 2005 • a(n) = Fibonacci(n - 1) + Fibonacci(n + 2) - 1. - _ Zerinvary Lajos _ , Jan 31 2008, corrected by _ R. J. Mathar _ , Dec 17 2010 • a(n) = 2 * a(n - 1) - a(n - 3); a(0)=1, a(1)=1, a(2)=3. - _ Harvey P. Dale _ , Aug 07 2012 •

[A083658] • 1,1,3,5,9,15,27,45,81,135,243,405,729,1215,2187,3645,6561,10935,19683,32805,59049,98415,177147,295245,531441 ⋆ a(n) = a(n-1) + a(n-2) + gcd(a(n-1),a(n-2)) for n>1, with a(0)=1, a(1)=1. • a(2n) = 3 ^ n, a(2n + 1) = 5 * 3 ^ (n - 1) for n>0, with a(0)=1, a(1)=1. •

[A188223] • 1,1,3,5,9,16,29,53,96,174,315,571,1035,1876,3400,6162,11168,20241,36685,66488,120503,218400,395829,717402,1300222 ⋆ G.f.: (1+x^2+x^3)/(1-x-x^2-x^4-x^5) • a(n) = a(n - 1) + a(n - 2) + a(n - 4) + a(n - 5). •

[A077879] • 1,1,3,5,9,17,29,53,93,165,293,517,917,1621,2869,5077,8981,15893,28117,49749,88021,155733,275541,487509,862549 ⋆ Expansion of (1-x)^(-1)/(1-2*x^2-2*x^3). • a(n)=sum(k=1..n, sum(j=floor((4 * k - n) / 3)..floor((4 * k - n) / 2), binomial(j,n - 4 * k + 3 * j) * (- 1) ^ (k - j) * binomial(k,j) * 2 ^ (n - 3 * k + 2 * j))), n>0, a(0)=1. [From _ Vladimir Kruchinin _ , May 25 2011] •

[A078140] • 1,3,5,9,17,30,52,90,154,262,446,758,1285,2176,3683,6230,10533,17803,30085,50831,85873,145063,245037,413891,699082 ⋆ Convolutory inverse of signed lower Wythoff sequence. • a(n) = d * [w(n) * a(1) - w(n - 1) * a(2) + ... + d * w(2) * a(n - 1)], where d=(- 1) ^ n, with a(1)=1 and w=floor(n * tau), tau=(1 + sqrt(5)) / 2. •

[A289260] • 1,3,5,9,17,30,52,90,154,262,446,758,1286,2182,3702,6278,10646,18054,30614,51910,88022,149254,253078,429126,727638 ⋆ Coefficients in the expansion of 1/([r]-[2r]x+[3r]x^2-...); [ ]=floor, r=8/5. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) for n>3. •

[A066173] • 1,3,5,9,17,31,55,99,176,313,557,990,1759,3125,5553,9866,17531,31149,55346,98339,174729,310457,551617,980109,1741450 ⋆ Self-reciprocating sequence: the integer part of powers of the reciprocal sum. • a(n) = floor[S ^ n], where S=1.776791425488... = Sum 1 / a(k), k=1, 2, 3, ... The n - th term of the sequence is the integer part of the n - th power of the sum of the infinite series of reciprocal terms of this same sequence. •

[A114322] • 1,3,5,9,17,31,56,99,177,316,562,999,1778,3162,5623,9999,17782,31622,56234,99999,177827,316227,562341,999999,1778279 ⋆ Largest number whose 4th power has n digits. • a(n) = ceiling((10 ^ n) ^ (1 / 4)) - 1. •

[A000213] • 1,1,1,3,5,9,17,31,57,105,193,355,653,1201,2209,4063,7473,13745,25281,46499,85525,157305,289329,532159,978793 ⋆ Tribonacci numbers: a(n) = a(n-1) + a(n-2) + a(n-3) with a(0)=a(1)=a(2)=1. • a(n) = rightmost term of M ^ n * [1 1 1], where M is the 3 X 3 matrix [1 1 1 / 1 0 0 / 0 1 0]. M ^ n * [1 1 1] = [a(n + 2) a(n + 1) a(n)]. a(n) / a(n - 1) tends to the tribonacci constant, 1.839286755...; an eigenvalue of M and a root of x ^ 3 - x ^ 2 - x - 1 = 0. - _ Gary W. Adamson _ , Dec 17 2004 • a(n) = 2 * a(n - 1) - a(n - 4), n > 3. - _ Gary Detlefs _ , Sep 13 2010 • a(n) = sum(m=0..n / 2, sum(i=0..m, binomial(n - 2 * m + 1,m - i) * binomial(n - 2 * m + i,n - 2 * m))). - _ Vladimir Kruchinin _ , Dec 17 2011 •

[A083318] • 1,3,5,9,17,33,65,129,257,513,1025,2049,4097,8193,16385,32769,65537,131073,262145,524289,1048577,2097153,4194305,8388609,16777217 ⋆ a(0) = 1; for n>0, a(n) = 2^n+1. • a(n) = 2 ^ n + 1 ^ n - 0 ^ n. • a(n) = Sum _{ k=0..n } 0 ^ (k * (n - k)) * 2 ^ (n - k). - _ Paul Barry _ , Feb 09 2005 •

[A048578] • 3,5,9,17,33,65,129,257,513,1025,2049,4097,8193,16385,32769,65537,131073,262145,524289,1048577,2097153,4194305,8388609,16777217,33554433 ⋆ Pisot sequence L(3,5). • a(n) = 2 ^ (n + 1) + 1. a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A006723] • 1,1,1,1,1,1,1,3,5,9,17,41,137,769,1925,7203,34081,227321,1737001,14736001,63232441,702617001,8873580481,122337693603,1705473647525 ⋆ Somos-7 sequence: a(n) = (a(n-1) * a(n-6) + a(n-2) * a(n-5) + a(n-3) * a(n-4)) / a(n-7), a(0) = ... = a(6) = 1. • a(6 - n) = a(n) for all n in Z. • a(n) = ((8 - 2 * (- 1) ^ n) * a(n - 5) * a(n - 3) - a(n - 4) ^ 2) / a(n - 8). - _ Bruno Langlois _ , Aug 09 2016 •

[A092264] • 1,1,1,1,1,3,5,9,17,65,117,227,449,1737,3137,6105,12097,46819,84565,164593,326161,1262361,2280101,4437891,8794241 ⋆ a(n)*a(n-5) = a(n-1)*a(n-4)+a(n-2)+a(n-3), with initial terms a(1) = ... = a(5) = 1. • a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(5)=1, a(6)=3, a(7)=5, a(8)=9, a(9)=17, a(10)=65, a(11)=117, a(12)=227, a(n)=28 * a(n - 4) - 28 * a(n - 8) + a(n - 12). - _ Harvey P. Dale _ , Aug 08 2013 •

[A289914] • 1,3,5,9,18,35,66,124,234,441,830,1563,2944,5544,10440,19661,37026,69727,131310,247284,465686,876981,1651534,3110175,5857092 ⋆ Coefficients of 1/(Sum_{k>=0} round((k+1)*r)(-x)^k), where r = 7/5. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>3. •

[A293332] • 3,5,9,18,36,72,144,287,573,1145,2290,4580,9159,18318,36636,73272,146543,293086,586172,1172344,2344688,4689375,9378749,18757498,37514996 ⋆ Least integer k such that k/2^n > sqrt(5). • a(n) = ceiling(r * 2 ^ n), where r = sqrt(5). •

[A291222] • 0,1,1,3,5,9,19,30,66,106,223,379,753,1345,2565,4723,8816,16456,30480,57093,105677,197751,366697,684765,1272311 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S^2 - S^3. • a(n) = 4 * a(n - 2) + a(n - 3) - 4 * a(n - 4) + a(n - 6) for n >= 7. •

[A291398] • 0,1,3,5,9,19,39,76,150,301,600,1191,2370,4721,9396,18696,37212,74069,147417,293398,583956,1162257,2313237,4604037,9163443 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S^2 - S^3. • a(n) = a(n - 2) + 3 * a(n - 3) + 4 * a(n - 4) + 3 * a(n - 5) + a(n - 6) for n >= 7. •

[A227234] • 1,3,5,9,19,43,109,297,793,2059,5382,14319,38897,110525,335225,1067923,3449922,11058922,35087589,110642516,346605981,1072833978,3270252617,9869924183,29933522269 ⋆ G.f.: Sum_{n>=1} x^n * (1+x)^prime(n). • a(n) = Sum _{ k=1..n } binomial(prime(k), n - k). •

[A107028] • 1,3,5,9,19,49,155,591,2651,13689,80009,522193,3762273,29629483,252966249,2325176147,22874076091,239615657133,2661015200515,31207545002577,385191232715737,4988767088734625,67615869255979521 ⋆ Row sums of number triangle A107027. • a(n)=sum { k=0..n, (n - k - 1)C((n - k) * k, k) - (n - k - 2) * sum { j=0..k, C((n - k) * k, j) }} •

[A136401] • 0,0,0,1,3,5,9,21,45,85,165,341,693,1365,2709,5461,10965,21845,43605,87381,174933,349525,698709,1398101,2796885 ⋆ a(n) = 3*a(n-1)-4*a(n-2)+6*a(n-3)-4*a(n-4). • a(n) = - (1 / 3) + (1 / 6) * 2 ^ n + (1 / 12) * (I * sqrt(2)) ^ n + (1 / 12) * (- I * sqrt(2)) ^ n, with I=sqrt(- 1). - _ Paolo P. Lava _ , Jun 09 2008 •

[A006722] • 1,1,1,1,1,1,3,5,9,23,75,421,1103,5047,41783,281527,2534423,14161887,232663909,3988834875,45788778247,805144998681,14980361322965,620933643034787,16379818848380849 ⋆ Somos-6 sequence: a(n) = (a(n-1) * a(n-5) + a(n-2) * a(n-4) + a(n-3)^2) / a(n-6), a(0) = ... = a(5) = 1. • a(n) = a(5 - n). • a(n + 3) = A * B ^ n * C ^ (n ^ 2 - 1) * sigma(v _ 0 + n * v) / sigma(v) ^ (n ^ 2), •

[A047389] • 3,5,10,12,17,19,24,26,31,33,38,40,45,47,52,54,59,61,66,68,73,75,80,82,87 ⋆ Numbers that are congruent to {3, 5} mod 7. • a(n) = - 4 + (1 / 2) * Sum _{ k=0..n } (7 - 3 * (- 1) ^ n), with n >= 1. - _ Paolo P. Lava _ , Feb 29 2008 • a(n) = 7 * n - a(n - 1) - 6, n > 1. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0 for n > 3. • a(n) = (14 * n - 5 - 3 * (- 1) ^ n) / 4. (End) •

[A266663] • 1,3,5,10,12,21,23,36,38,55,57,78,80,105,107,136,138,171,173,210,212,253,255,300,302 ⋆ Total number of ON (black) cells after n iterations of the "Rule 47" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 - (- 1) ^ n * n + 2 * n + (- 1) ^ n + 3) / 2 for n>0. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A007557] • 1,1,3,5,10,12,24,26,43,52,78,80,133,135,189,219,295,297,428,430,584,642,804,806,1100 ⋆ Shifts left when inverse Moebius transform applied twice. • a(n + 1) = Sum _{ d divides n } tau(n / d) * a(d). - _ Vladeta Jovovic _ , Jan 24 2003 •

[A165718] • 3,5,10,13,20,24,33,38,49,55,68,75,90,98,115,124,143,153,174,185,208,220,245,258,285 ★ Integers of the form k*(k+7)/6. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ R. J. Mathar _ , Sep 25 2009 • a(n) = Sum _{ i=1..n } numerator(i / 2) + denominator(i / 2). - _ Wesley Ivan Hurt _ , Feb 26 2017 • a(n) = (3 * n ^ 2 + 14 * n) / 8 for n even. • a(n) = (3 * n ^ 2 + 16 * n + 5) / 8 for n odd. •

[A031878] • 0,1,3,5,10,13,21,25,36,41,55,61,78,85,105,113,136,145,171,181,210,221,253,265,300 ★ Maximal number of edges in Hamiltonian path in complete graph on n nodes. • a(n)= (n * n + n - (n - 1) * (n mod 2)) / 2. [_ Frank Ellermann _] •

[A265282] • 0,1,3,5,10,13,22,26,41,46,68,74,105,112,153,161,214,223,289,299,380,391,488,500,615 ★ Number of triangles in a certain geometric structure: see "Illustration of initial terms" link for precise definition. • a(n) = (2 * n ^ 3 + 15 * n ^ 2 + 57 * n - 8 + (3 * n ^ 2 - n + 4) * (- 1) ^ n + 4 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4)) / 64. •

[A160792] • 0,1,3,5,10,13,23,27,44,49,77,83,124,131,189,197,274,283,383,393,522,533,693,705,902 ★ Vertex number of a rectangular spiral related to prime numbers. The distances between nearest edges of the spiral that are parallel to the initial edge are the prime numbers, while the distances between nearest edges perpendicular to the initial edge are all one. • a(2n) = a(2n - 1) + sum(prime(j),j=1..n), a(2n + 1) = a(2n) + n + 1 for n >= 1. - Nathaniel Johnsto n, Jun 16 2011 •

[A266793] • 1,3,5,10,14,21,26,37,42,57,62,81,86,109,114,141,146,177,182,217,222,261,266,309,314 ★ Total number of ON (black) cells after n iterations of the "Rule 61" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (1 + 7 * (- 1) ^ n - 2 * (- 3 + (- 1) ^ n) * n + 2 * n ^ 2) / 4 for n>3 . • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>8. •

[A176222] • 0,3,5,10,14,21,27,36,44,55,65,78,90,105,119,136,152,171,189,210,230,253,275,300,324 ★ a(n) = (n^2-3*n+1+(-1)^n)/2. • a(n) = (n - t(n)) * (n - 3 + t(n)) / 2, where t(n) = 1 - (n mod 2). • a(n) = 1 - 2n + floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 14 2013 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4), n>4. • a(n) = Sum _{ i=(- 1) ^ n..n - 2 } i. (End) •

[A008610] • 1,1,3,5,10,14,22,30,43,55,73,91,116,140,172,204,245,285,335,385,446,506,578,650,735 ★ Molien series of 4-dimensional representation of cyclic group of order 4 over GF(2) (not Cohen-Macaulay). • a(n) = (1 / 48) * (2 * n ^ 3 + 3 * (- 1) ^ n * (n + 4) + 12 * n ^ 2 + 25 * n + 24 + 12 * cos(n * Pi / 2)). - _ Ralf Stephan _ , Apr 29 2014 •

[A090491] • 1,1,3,5,10,15,26,37,57,79,112,149,202,260,338,425,536,659,812,980,1184,1408,1673,1963,2302 ★ G.f.: (1+x^3+x^4+x^5+x^6+x^9)/((1-x)*(1-x^2)^2*(1-x^3)*(1-x^4)). • a(n)=2 * a(n - 1) - a(n - 3) - 2 * a(n - 5) + 2 * a(n - 6) + a(n - 8) - 2 * a(n - 10) + a(n - 11) for n>10. - _ Harvey P. Dale _ , Apr 10 2015 •

[A097513] • 1,1,3,5,10,15,27,38,60,84,122,164,229,298,398,509,658,823,1041,1278,1582,1917,2331,2786,3343 ★ Number of ways to label the vertices of the octahedron (or faces of the cube) with nonnegative integers summing to n, where labelings that differ only by rotation or reflection are considered the same. • a(n) is asymptotically equal to n ^ 5 / 5760. - Isabel C. Lugo (izzycat (AT)gmail.com), Aug 31 2004 •

[A032279] • 1,1,3,5,10,16,26,38,57,79,111,147,196,252,324,406,507,621,759,913,1096,1298,1534,1794,2093 ★ Number of bracelets (turn over necklaces) of n beads of 2 colors, 5 of them black. • a(n) = 0.4 * s(n,0,5) + (n - 1) * (n - 3) * ((n - 2) * (n - 4) + 15) / 240, if n is odd; a(n)=0.4 * s(n,0,5) + (n - 2) * (n - 4) * ((n - 1) * (n - 3) + 15) / 240, if n is even. - _ Vladimir Shevelev _ , Apr 23 2011 • a(n + 5) = floor(n ^ 4 / 240 + n ^ 3 / 24 + 5 * n ^ 2 / 24 + 25 * n / 48 + 1 + (- 1) ^ n * n / 16). - _ Robert Israel _ , Jul 22 2015 •

[A129361] • 1,1,3,5,10,16,29,47,81,131,220,356,589,953,1563,2529,4126,6676,10857,17567,28513,46135,74792,121016,196041 ★ a(n) = sum{k=floor((n+1)/2)..n, F(k+1)}. • a(n) = a(n - 1) + 2a(n - 2) - a(n - 3) - a(n - 5) - a(n - 6). • a(n) = sum { k=0..floor(n / 2), F(n - k + 1) } . • a(n) = sum { k=0..n, F(k + 1) - F((k + 1) / 2)(1 - (- 1) ^ k) / 2 } . • a(n) = sum { k=0..n, F(k + 1) } - sum { k=0..floor((n - 1) / 2), F(k + 1) } . •

[A062773] • 3,5,10,16,31,40,62,73,100,147,163,220,264,284,330,410,488,520,610,676,706,812,887,1001,1164 ★ Index of the smallest prime which follows square of n-th prime. • a(n) = PrimePi(nextprime(prime(n) ^ 2)). •

[A079934] • 1,3,5,10,17,29,46,99,169,268,577,985,1562,3363,5741,9104,19601,33461,53062,114243,195025,309268,665857,1136689,1802546 ★ Greedy frac multiples of sqrt(2): a(1)=1, sum(n>0,frac(a(n)*x))=1 at x=sqrt(2). • a(3 * n + 4) = a(3 * n + 2) + a(3 * n + 3). • a(3 * n) = ceil((3 + 2 * sqrt(2)) ^ n * (2 + sqrt(2)) / 4). • a(3 * n + 2) / a(3 * n + 1) - > 1 / sqrt(2). • a(3 * n + 1) / a(3 * n) - > 3 - sqrt(2). • a(3 * n) / a(3 * n - 1) - > (8 + 5 * sqrt(2)) / 7. •

[A215004] • 1,1,3,5,10,17,30,50,84,138,227,370,603,979,1589,2575,4172,6755,10936,17700,28646,46356,75013,121380,196405 ★ a(0) = a(1) = 1; for n>1, a(n) = a(n-1) + a(n-2) + floor(n/2). • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) + a(n - 5) for n>4. • a(n) = Fibonacci(n + 3) - floor((n + 3) / 2). - _ Nathan Fox _ , Jan 27 2017 • a(n) = (- 3 / 4 + (- 1) ^ n / 4 + (2 ^ (- n) * ((1 - t) ^ n * (- 2 + t) + (1 + t) ^ n * (2 + t))) / t + (- 1 - n) / 2) where t=sqrt(5). - _ Colin Barker _ , Feb 09 2017 •

[A010049] • 0,1,1,3,5,10,18,33,59,105,185,324,564,977,1685,2895,4957,8462,14406,24465,41455,70101,118321,199368,335400 ★ Second-order Fibonacci numbers. • a(n) = sum(F(k) * F(n - 1 - k): k=0..n - 1) + F(n), where F = A000045. - _ Reinhard Zumkeller _ , Nov 01 2013 • a(n) = sum _{ k=0..n - 1 } (k + 1) * binomial(n - k - 1, k). - _ Peter Luschny _ , Nov 20 2013 • a(n) = sum(sum(F(j - 1) * F(i - j - 1): j=0..i): i=0..n - 1), where F = A000045. - _ Carlos A. Rico A. _ Jul 14 2016 •

[A154949] • 1,1,3,5,10,18,34,62,115,211,389,715,1316,2420,4452,8188,15061,27701,50951,93713,172366,317030,583110,1072506,1972647 ★ Diagonal sums of Riordan array A154948. • a(n) = sum { k=0..floor(n / 2), sum { j=0..n - k + 1, C(n - k + 1 - j,k + 1)C(k - 1,j) }} . •

[A107232] • 1,3,5,10,18,35,65,126,238,462,882,1716,3300,6435,12441,24310,47190,92378,179894,352716,688636,1352078,2645370,5200300,10192588 ★ Expansion of (1+xc(x^2))^3/sqrt(1-4x^2), c(x) the g.f. of A000108. • a(n)=sum { k =0..floor(n / 2), binomial(n, k) * binomial(3, n - 2k) } . •

[A291735] • 1,1,3,5,10,19,35,67,124,234,441,827,1558,2927,5503,10349,19453,36580,68774,129304,243119,457093,859415,1615837,3038024 ★ p-INVERT of (1,0,1,0,0,0,0 where p(S) = 1 - S - S^3. • a(n) = a(n - 1) + 2 * a(n - 3) + 3 * a(n - 5) + 3 * a(n - 7) + a(n - 9) for n >= 10. •

[A158943] • 1,1,3,5,10,19,36,69,131,250,476,907,1728,3292,6272,11949,22765,43371,82629,157422,299915,571388,1088589,2073943,3951206 ★ INVERT transform of A027656: (1, 0, 2, 0, 3, 0, 4, 0, 5,...) • a(n)=a(n - 1) + 2a(n - 2) - a(n - 4). G.f.: x / (1 - x - 2 * x ^ 2 + x ^ 4). [From _ R. J. Mathar _ , Apr 02 2009] •

[A217925] • 1,1,1,3,5,10,19,40,77,155,306,610,1207,2400,4760,9456,18765,37257,73955,146813,291434,578524,1148434,2279720,4525487 ★ G.f. A(x) satisfies A(x) = 1 + x*A(x)*A(x^2)^2. • a(n) = T(4 * n + 1,1), where T(n,m) = Sum _{ k=1..(n - m) / 4 } C(m + k - 1,k) * T((n - m) / 2,2 * k). - _ Vladimir Kruchinin _ , Mar 25 2015 •

[A270737] • 1,3,5,10,20,42,91,195,415,880,1864,3952,8385,17795,37765,80138,170044,360810,765595,1624515,3447071,7314368,15520400,32932800,69880225 ★ a(n) = ((n+2)/2)*Sum_{k=0..n/2} (Sum_{i=0..n-2*k} (binomial(k+1,n-2*k-i)*binomial(k+i,k))*F(k+1)/(k+1)), where F(k) is Fibonacci numbers. • a(n) = 2 * a(n - 1) + 2 * a(n - 5) + a(n - 6). - _ G. C. Greubel _ , mar 25 2016 •

[A270724] • 1,3,5,10,20,42,93,213,504,1221,3014,7553,19158,49087,126845,330174,864884,2278138,6030218,16031950,42790362,114616360,307996874,830084080,2243193198 ★ a(n) = ((n+2)/2)*Sum_{k=0..n/2} (Sum_{i=0..n-2*k} (binomial(k+1,n-2*k-i)*binomial(k+i,k))/(k+1)*C(k)), where C(k) is Catalan numbers. • a(n) = ((n + 2) / 2) * Sum _{ k=0..n / 2 } (Sum _{ i=0..n - 2 * k } (binomial(k + 1,n - 2 * k - i) * binomial(k + i,k)) * binomial(2 * k,k) / (k + 1) ^ 2). •

[A293321] • 3,5,10,21,42,84,168,335,670,1340,2681,5362,10723,21447,42894,85788,171575,343151,686302,1372604,2745208,5490415,10980830,21961661,43923322 ★ The integer k that minimizes |k/2^n - tau^2|, where tau = (1+sqrt(5))/2 = golden ratio. • a(n) = floor(1 / 2 + r * 2 ^ n), where r = (3 + sqrt(5)) / 2. •

[A080522] • 1,3,5,10,22,49,107,228,476,979,1993,4030,8114,16293,32663,65416,130936,261991,524117,1048386,2096942,4194073,8388355,16776940,33554132 ★ Leading diagonal of triangle in A080521. • a(n)=2 ^ n - (n - 1) * (n - 2) / 2 - n + 1 for n>1. - Lambert Herrgesell (zero815(AT)googlemail.com), Mar 14 2006 • a(n)=5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>5. G.f.: - x * (2 * x ^ 4 - 5 * x ^ 3 + x ^ 2 + 2 * x - 1) / ((x - 1) ^ 3 * (2 * x - 1)). - _ Colin Barker _ , Dec 18 2012 •

[A047621] • 3,5,11,13,19,21,27,29,35,37,43,45,51,53,59,61,67,69,75,77,83,85,91,93,99 ★ Numbers that are congruent to {3, 5} mod 8. • a(n) = 8 * n - a(n - 1) - 8 (with a(1)=3). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A266723] • 1,3,5,11,13,23,25,39,41,59,61,83,85,111,113,143,145,179,181,219,221,263,265,311,313 ★ Total number of ON (black) cells after n iterations of the "Rule 59" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (3 + (- 1) ^ n - 2 * (- 3 + (- 1) ^ n) * n + 2 * n ^ 2) / 4. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •

[A164053] • 3,5,11,15,27,35,59,75,123,155,251,315,507,635,1019,1275,2043,2555,4091,5115,8187,10235,16379,20475,32763 ★ Partial sums of A162255. • a(n) = 2 * a(n - 2) + 5 for n > 2; a(1) = 3, a(2) = 5. • a(n) = (13 - 3 * (- 1) ^ n) * 2 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2 - 5. • a(1)=3, a(2)=5, a(3)=11, a(n) =a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3). - _ Harvey P. Dale _ , Aug 28 2012 •

[A211435] • 1,3,5,11,17,25,35,45,59,73,89,107,125,147,169,193,219,245,275,305,337,371,405,443,481 ★ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and w+4x+5y=0. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) for n>6. •

[A286264] • 3,5,11,17,27,37,51,65,83,101,123,145,171,197,227,257,291,325,363,401,443,485,531,577,627 ★ a(n) = 2*(ceiling((n^2)/2)+1) - 1. • a(n) > n ^ 2 . • a(n) = 3 / 2 - (- 1) ^ n / 2 + n ^ 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A073022] • 1,1,3,5,11,17,29,47,79,127,211,347,563,911,1481,2393,3877,6271,10151,16427,26591,43019,69623,112643,182279 ★ Each term is the smallest prime > the sum of the previous 2 terms. • a(n + 1)=nextprime(a(n) + a(n - 1)) •

[A006450] • 3,5,11,17,31,41,59,67,83,109,127,157,179,191,211,241,277,283,331,353,367,401,431,461,509 ★ Prime-indexed primes: primes with prime subscripts. • a(n) > n * (log(n)) ^ 2, as prime(n) > n * log(n) by Rosser's theorem. - _ Jonathan Sondow _ , Jul 11 2012 • a(n) / log(a(n)) ~ prime(n). - _ Thomas Ordowski _ , Mar 30 2015 •

[A006171] • 1,1,3,5,11,17,34,52,94,145,244,370,603,899,1410,2087,3186,4650,6959,10040,14750,21077,30479,43120,61574 ★ Number of factorization patterns of polynomials of degree n over integers. • a(n) = 1 / n * Sum _{ k=1..n } a(n - k) * b(k), n>1, a(0)=1, b(k) = Sum _{ d|k } d * tau(d), cf. A060640. (End) • a(n) = Sum _{ <b(i) ^ k(i)> partition of n } product p(k(i)), where p(n) is the partition function A000041. E.g., for the partition [4,2 ^ 3,1 ^ 4], the product is p(1) * p(3) * p(4) = 1 * 3 * 5 = 15. - _ Franklin T. Adams - Watters _ , Jun 19 2006 •

[A060647] • 1,3,5,11,17,35,53,107,161,323,485,971,1457,2915,4373,8747,13121,26243,39365,78731,118097,236195,354293,708587,1062881 ★ Number of alpha-beta evaluations in a tree of depth n and branching factor b=3. • a(2n) = 2 * (3 ^ n) - 1, a(2n + 1) = 3 ^ n + 3 ^ (n + 1) - 1. • a(n) = (sqrt(3)) ^ n(1 + 2 / sqrt(3)) + (1 - 2 / sqrt(3))(- sqrt(3)) ^ n - 1. - _ Paul Barry _ , Apr 17 2004 • a(2n + 1) = 3 * a(2n - 1) + 2; a(2n) = (a(2n - 1) + a(2n + 1)) / 2, with a(1)= 1. See A062318 for case where a(1)= 0. • a(n) = (2 ^ ((1 + (- 1) ^ n) / 2)) * (b ^ ((2 * n - 1 + (- 1) ^ n) / 4)) + ((1 - (- 1) ^ n) / 2) * (b ^ ((2 * n + 1 - (- 1) ^ n) / 4)) - 1, with b=3. - _ Luce ETIENNE _ , Aug 30 2014 •

[A007455] • 1,1,3,5,11,17,39,61,139,217,495,773,1763,2753,6279,9805,22363,34921,79647,124373,283667,442961,1010295,1577629,3598219 ★ Number of subsequences of [1,...,n] in which each odd number has an even neighbor. • a(n) = 3 * a(n - 2) + 2 * a(n - 4). •

[A244473] • 1,3,5,11,18,30,49,80,129,209,338,547,885,1432,2317,3749,6066,9815,15881,25696,41577,67273,108850,176123,284973 ★ 3rd-largest term in n-th row of Stern's diatomic triangle A002487. • a(n) = a(n - 1) + a(n - 2) for n> 9. - _ Colin Barker _ , Jul 10 2015 •

[A122516] • 3,5,11,19,23,37,43,61,83,107,181,271,283,349,467,499,547,563,743,821,863,947,991,1013,1571 ★ Primes in A046992. • a(n) = Prime[A122933[n]]. - _ Alexander Adamchuk _ , Sep 20 2006 •

[A131887] • 3,5,11,19,41,71,153,265,571,989,2131,3691,7953,13775,29681,51409,110771,191861,413403,716035,1542841,2672279,5757961,9973081,21489003 ★ Number of Khalimsky-continuous functions with a three-point codomain. • a(2k) = a(2k - 1) + a(2k - 2) + a(2k - 3) and a(2k - 1) = a(2k - 2) + 2a(2k - 3). •

[A293820] • 1,1,3,5,11,19,43,75,155,287,567,1053,2063,3859,7455,14089,27083,51463,98855,188697,362675,695155,1338087,2573235,4962875 ★ Number of integer-sided polygons having perimeter n, modulo rotations but not reflections. • a(n) = (Sum _{ d|n } phi(n / d) * 2 ^ d) / n - 1 - 2 ^ floor(n / 2). - _ Andrew Howroyd _ , Nov 21 2017 •

[A293948] • 1,1,3,5,11,20,41,82,163,334,659,1350,2667,5430,10763,21782,43307,87254,173867,349270,697003,1397590,2791595,5591382,11174571 ★ Arises in a coin-weighing problem. • a(n) = (2 ^ (n + 1) + 1) / 3 + (1 / 2 - n / 8) * 2 ^ (n / 2) if n>2 is even. • a(n) = (2 ^ (n + 1) + 2) / 3 - 2 ^ ((n + 1) / 2) / 4 if n>1 is odd. •

[A269112] • 3,5,11,21,33,47,65,87,111,137,167,201,237,275,317,363,411,461,515,573,633,695,761,831,903 ★ a(n) = (3*(n-1)*n + (-1)^((n-1)*n/2) + 5)/2. • a(n) = (3 * n ^ 2 - 3 * n + cos(n * Pi / 2) + sin(n * Pi / 2) + 5) / 2. • a(n) = 3 * (n - 1) ^ 2 - 3 * (n - 1) - a(n - 2) + 8 for n>2. • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5) for n>5. - _ Colin Barker _ , Feb 22 2016 •

[A093328] • 3,5,11,21,35,53,75,101,131,165,203,245,291,341,395,453,515,581,651,725,803,885,971,1061,1155 ★ a(n) = 2*n^2 + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A192664] • 1,1,3,5,11,21,41,80,155,303,593,1162,2280,4478,8806,17336,34158,67361,132938,262532,518776,1025694,2028969,4015445,7950176 ★ Floor-Sqrt transform of the binomial coefficients bin(2*n+1,n) (A001700). • a(n) = floor (sqrt(binomial(2 * n + 1,n))). •

[A291219] • 1,1,3,5,11,21,42,83,163,323,635,1255,2473,4880,9625,18985,37451,73869,145715,287421,566954,1118331,2205947,4351307,8583091 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - S^3. • a(n) = a(n - 1) + 3 * a(n - 2) - a(n - 3) - 3 * a(n - 4) + a(n - 5) + a(n - 6) for n >= 7. •

[A283584] • 1,3,5,11,21,43,69,219,261,795,1301,2923,5205,11691,20805,46811,83205,187163,333077,748395,1332309,2993579,5329221,11974363,21316869 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 646", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * a(n - 2) + a(n - 8) - 4 * a(n - 10) for n>11. •

[A152046] • 1,1,1,3,5,11,21,43,85,171,341,683,1365,2731,5461,10923 ★ A product based sequence: a(n)=Product[(1 + 8*Cos[k*Pi/n]^2), {k, 1, Floor[(n - 1)/2]}]. • a(n)=Product[(1 + 8 * Cos[k * Pi / n] ^ 2), { k, 1, Floor[(n - 1) / 2] }]. •

[A154917] • 0,0,1,1,3,5,11,21,43,85,171,341,683,1365,2731,5461,10923,21845,43691,87381,174763,349525,699051,1398101,2796203 ★ Zero followed by the Jacobsthal sequence A001045. • a(n) = (1 / 3) * (2 ^ (n - 1) - (- 1) ^ (n - 1)) - (1 / 2) * (binomial(2 * n,n) mod 2). - _ Paolo P. Lava _ , Jan 19 2009 • a(n) = a(n - 1) + 2 * a(n - 2). - _ Matthew House _ , Feb 13 2017 •

[A001045] • 0,1,1,3,5,11,21,43,85,171,341,683,1365,2731,5461,10923,21845,43691,87381,174763,349525,699051,1398101,2796203,5592405 ★ Jacobsthal sequence (or Jacobsthal numbers): a(n) = a(n-1) + 2*a(n-2), with a(0) = 0, a(1) = 1. • a(n) = 2 ^ (n - 1) - a(n - 1). a(n) = 2 * a(n - 1) - (- 1) ^ n = (2 ^ n - (- 1) ^ n) / 3. • a(2 * n) = 2 * a(2 * n - 1) - 1 for n >= 1, a(2 * n + 1) = 2 * a(2 * n) + 1 for n >= 0. - _ Lee Hae - hwang _ , Oct 11 2002; corrected by Mario Catalani (mario.catalani(AT)unito.it), Dec 04 2002 • a(n) = Sum _{ k =1..n } binomial(n, k) * (- 1) ^ (n + k) * 3 ^ (k - 1). - _ Paul Barry _ , Apr 02 2003 • a(n) = U(n - 1, i / (2 * sqrt(2))) * (- i * sqrt(2)) ^ (n - 1) with i ^ 2= - 1. - _ Paul Barry _ , Nov 17 2003 • a(n + 1) = Sum _{ k=0..ceiling(n / 2) } 2 ^ k * binomial(n - k, k). - _ Benoit Cloitre _ , Mar 06 2004 • a(n) = round(2 ^ n / 3) = (2 ^ n + (- 1) ^ (n - 1)) / 3 so lim _{ n - >inf } 2 ^ n / a(n) = 3. - _ Gerald McGarvey _ , Jul 21 2004 •

[A283642] • 1,3,5,11,21,43,85,171,341,683,1365,2731,5461,10923,21845,43691,87381,174763,349525,699051,1398101,2796203,5592405,11184811,22369621 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 678", based on the 5-celled von Neumann neighborhood. • a(n) = (2 ^ (n + 2) - 1) / 3 for n even. • a(n) = (2 ^ (n + 2) + 1) / 3 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) for n>1. •

[A283647] • 1,3,5,11,21,43,93,179,373,715,1501,2867,6005,11467,24029,46003,96117,184011,384477,736051,1537909,2944203,6151645,11776947,24606581 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 694", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * a(n - 2) + a(n - 8) - 4 * a(n - 10) for n>11. •

[A283905] • 1,3,5,11,21,43,93,179,381,763,1533,3059,6141,12283,24573,49139,98301,196603,393213,786419,1572861,3145723,6291453,12582899,25165821 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 758", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>4. •

[A293338] • 3,5,11,22,43,87,174,348,696,1392,2784,5567,11134,22268,44536,89073,178145,356291,712581,1425163,2850325,5700650,11401300,22802601,45605201 ★ The integer k that minimizes |k/2^n - e|. • a(n) = floor(1 / 2 + e * 2 ^ n). •

[A007008] • 0,1,1,3,5,11,22,47,93,193,386,793,1586,3238,6476,13167,26333,53381,106762,215955,431910,872218,1744436,3518265,7036530 ★ Chvatal conjecture for radius of graph of maximal intersecting sets. • a(n)=round(2 ^ (n - 2) - binomial(n - 1,floor((n - 1) / 2)) / 2), cf. Thm. 14 in the Loeb - Meyerowitz paper. - _ M. F. Hasler _ , Jan 14 2014 •

[A155753] • 3,5,11,23,43,73,115,171,243,333,443,575,731,913,1123,1363,1635,1941,2283,2663,3083,3545,4051,4603,5203 ★ (n^3 - n + 9)/3. • a(n)=n(n - 1) + a(n - 1), with a(1)=3 . • a(n) - 4 * a(n - 1) + 6 * a(n - 2) - 4 * a(n - 3) + a(n - 4) = 0 with n>4. •

[A269964] • 1,1,3,5,11,23,53,121,279,639,1465,3357,7699,17659,40509,92921,213143,488903,1121441,2572357,5900475,13534515,31045477,71212113,163346335 ★ Start with a square; at each stage add a square at each expandable vertex so that the ratio between the side of the squares at stage n+1 and at stage n is the golden ratio phi=0.618...; a(n) is the number of squares in a portion of the n-th stage (see below). • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) - 2. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 4 * a(n - 4) - 2 * a(n - 6). •

[A104545] • 1,1,1,3,5,11,25,55,129,303,721,1743,4241,10415,25761,64095,160385,403263,1018369,2581887,6569089,16767871,42927105,110194175,283574017 ★ Number of Motzkin paths of length n having no consecutive (1,0) steps. • a(n + 1)=sum(binomial(2 * k,k) / (k + 1) * (binomial(2 * k,n - 2 * k + 1) + binomial(2 * k,n - 2 * k)),k,ceiling(n / 4),(n + 1) / 2), a(0)=1. [From Vladimir Kruchinin, Mar 14 2012] •

[A279674] • 1,3,5,11,29,67,149,347,813,1875,4325,10027,23229,53731,124341,287867,666317,1542131,3569413,8261963,19123037,44261763,102448341,237127067,548852845 ★ The maximum number of coins that can be processed in n weighings that all are real except for one LHR-coin starting in the heavy state. • a(n) = 2 * a(n - 1) - a(n - 2) + 4 * a(n - 3). •

[A168607] • 3,5,11,29,83,245,731,2189,6563,19685,59051,177149,531443,1594325,4782971,14348909,43046723,129140165,387420491,1162261469,3486784403,10460353205,31381059611,94143178829,282429536483 ★ 3^n + 2. • a(n) = 3 * a(n - 1) - 4, a(0) = 3. • a(n) = 4 * a(n - 1) - 3 * a(n - 2), a(0)=3, a(1)=5. - _ Vincenzo Librandi _ , Feb 06 2013 •

[A144467] • 3,5,11,41,919,3517,6691,13709,23669,52301,83101,146051,417959,777901,970231,1076401,1894117,2315069,2592269,2641469,2777111,2997227,3523343,3788843,4076257 ★ A038601 type numbers where Prime of Prime numbers: a(n)=Prime[A038601 (n)]. • a(n)=Prime[A038601 (n)]. •

[A062530] • 3,5,11,97,1847,5623,89753,3851587,1872852203,1999066711903,22790428875365903 ★ Smallest prime p such that there is a gap of 2^n between p and previous prime. • a(n) = A000230[2 ^ (n - 1)] + 2 ^ n = Min { p | p - prevprime(p)=2 ^ n } . - _ Amarnath Murthy _ , Feb 24 2002 •

[A101315] • 3,5,11,431,1877,2081,3851,9437,10427,11351,12821,14561,20147,26861,30137,30851,37571,38711,38921,40637,46817,59357,73361,116687,120941 ★ Primes p such that p+2, p^2 - 2p + 2, and p^2 - 2p + 4 are all prime. • a(n) >> n log ^ 4 n. - _ Charles R Greathouse IV _ , Jan 14 2017 •

[A182537] • 0,1,3,5,12,12,22,33,63,103,156,264,408,669,1075,1733,2792,4540,7350,11877,19207,31095,50312,81384,131704 ★ a(0)=0, a(1)=1, a(n) = a(n-1) + (a(n-2) XOR n). • a(0)=0, a(1)=1, a(n) = a(n - 1) + (a(n - 2) XOR n), where XOR is the bitwise exclusive - or operator. •

[A057587] • 0,1,3,5,12,15,30,34,60,65,105,111,168,175,252,260,360,369,495,505,660,671,858,870,1092 ★ Nonnegative numbers of form n*(n^2+-1)/2. • a(n) = (2 * n ^ 3 + 9 * n ^ 2 + 15 * n + 5 + (3 * n ^ 2 + n - 5) * (- 1) ^ n) / 32. - _ Luce ETIENNE _ , Nov 18 2014 • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). (End) •

[A213036] • 0,1,3,5,12,16,20,33,39,45,64,72,80,105,115,125,156,168,180,217,231,245,288,304,320 ★ n^2-[2n/3]^2, where [] = floor. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7). •

[A032438] • 0,0,3,5,12,16,27,33,48,56,75,85,108,120,147,161,192,208,243,261,300,320,363,385,432 ★ a(n) = n^2 - floor((n+1)/2)^2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5), n > 4. - _ Harvey P. Dale _ , Nov 24 2011 •

[A295360] • 1,3,5,12,18,27,41,63,98,155,247,392,628,1008,1624,2620,4228,6831,11041,17853,28874,46706,75559,122244,197778 ★ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) + b(n-2) - 3*b(n-3), where a(0) = 1, a(1) = 3, a(2) = 5, b(0) = 2, b(1) = 4, b(2) = 6, and (a(n)) and (b(n))

are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[A177143] • 1,3,5,12,22,47,91,186,368,741,1477,2960,5914,11835,23663,47334,94660,189329,378649,757308,1514606,3029223,6058435,12116882,24233752 ⋆ Pasquale's sequence: a(n) = 2a(n-1) + (-1)^n*floor(n/2), with a(1)=1. • a(n) = (1 / 2) * 2 ^ n + 2 ^ n * Sum { k=1..n }{ floor(k / 2) * (- 1 / 2) ^ k } , n >=1. - _ Paolo P. Lava _ , May 28 2010 • a(n) = 2 * a(n - 1) + n / 2 if n is even; a(n) = 2 * a(n - 1) - (n - 1) / 2 if n is odd, with a(1)=1. - _ Vincenzo Librandi _ , Sep 30 2010 • a(n) = 13 * 2 ^ n / 18 - 1 / 4 + (- 1) ^ n * (n / 6 + 1 / 36) = a(n - 1) + 3 * a(n - 2) - a(n - 3) - 2 * a(n - 4). - _ R. J. Mathar _ , Nov 18 2010 •

[A191391] • 0,1,1,3,5,12,22,49,93,200,386,814,1586,3304,6476,13381,26333,54096,106762,218386,431910,880616,1744436,3547658,7036530 ⋆ Number of horizontal segments in all dispersed Dyck paths of length n (i.e., in all Motzkin paths of length n with no (1,0)-steps at positive heights; a horizontal segment is a maximal sequence of consecutive (1,0)-steps). • a(0)=0 and a(n)=2 ^ (n - 1) - C(n - 1,floor(n / 2) - 1) for n>=1. [_ Joerg Arndt _ , Aug 07 2012, aeb] •

[A161624] • 3,5,12,22,56,76,132,162,240,390,441,637,783,855,1023,1311,1634,1738,2107,2366,2491,2929,3233,3729,4453 ⋆ Sum of all numbers from n to n-th prime. • a(n) = Sum _{ k=n..prime(n) } k. •

[A215109] • 1,3,5,12,23,43,81,148,266,476,842,1478,2581,4481,7743,13328,22857,39073,66605,113242,192084,325128,549252,926220,1559353 ⋆ a(n) = A215082(2^n+2) • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - 2 * a(n - 4) - 3 * a(n - 5) - a(n - 6), a(0) = 1, a(1) = 3, a(2) = 5, a(3) = 12, a(4) = 23, a(5) = 43 . •

[A131322] • 1,1,3,5,12,23,51,103,221,456,965,2009,4227,8833,18540,38803,81363,170399,357145,748176,1567849,3284833,6883059,14421533,30218028 ⋆ Row sums of triangle A131321. • a(n) = a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4), a(0)=1, a(1)=1, a(2)=3, a(3)=5 . - _ Philippe Deléham _ , Jan 21 2012 • a(n)=sum(m=0..ceiling(n / 2), binomial(n - m,n - 2 * m) * fib(n - 2 * m + 1)), where fib = A000045 are the Fibonacci numbers. - _ Vladimir Kruchinin _ , Jan 26 2013 •

[A129757] • 1,1,3,5,12,25,54,113,235,481,980,1985,4007,8065,16204,32513,65175,130561,261421,523265,1047129,2095105,4191409,8384513,16771425 ⋆ Maximum genus of fixed edge 2^m-1 binary state graph with 2*m+1 states: Vertices(n)=Floor[2^(n/2)]; Faces(n)=Floor[2^[m-n/2]; Edges(n)=Vertices(n)+Faces(n)-2+2*g=2^m-1; solved for g at the central point m. • a(n) =Ceiling[Flatten[Table[N[Flatten[g / . Solve[2 * Floor[2 ^ (n / 2)] - 2 + 2 * g - (2 ^ n - 1) == 0, g]]], { n, 1, 32 }]]] •

[A141685] • 1,1,3,5,12,25,54,116,249,535,1149,2468,5301,11386,24456,52529,112827,242341,520524,1118033,2401422,5158012,11078889,23796335,51112125 ⋆ An Invert transform sequence of the form: a(n)=Sum[Mod[k,3]*a(n-k),{k,1,n}]. • a(n)=Sum[Mod[k,3] * a(n - k), { k,1,n }]. •

[A291035] • 1,3,5,12,27,58,130,285,629,1389,3060,6753,14892,32844,72445,159775,352401,777244,1714259,3780930,8339090,18392449,40565829,89470733,197333940 ⋆ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = 1 - S - 2 S^2. • a(n) = a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - a(n - 6) for n >= 7. •

[A086769] • 1,3,5,13,15,23,25,33,65,67,99,107,109,117,149,181,183,215,223,225,257,265,297,425,433 ⋆ a(n) = sum{2^(b(i)-1): 1<=i<=n}, where b(n) is the differences between consecutive primes. • a(n) = a(n - 1) + 2 ^ (p(n + 1) - p(n) - 1). •

[A131020] • 3,5,13,17,61,67,97,139,157,163,173,223,271,349,353,419,479,503,541,691,701,743,877,941,1013 ⋆ For all cyclic quadrilaterals with four consecutive primes as sides that have an area that is prime after rounding, the sequence gives the first of these four consecutive primes. • a(n) = prime(k) for some k such that, where S = semiperimeter = (prime(k) + prime(k + 1) + prime(k + 2) + prime(k + 3)) / 2 is an element of A131019 and rounded area = round(sqrt((S - prime(k) * S - prime(k + 1) * S - prime(k + 2) * S - prime(k + 3)) is prime. •

[A081353] • 3,5,13,19,31,41,57,71,91,109,133,155,183,209,241,271,307,341,381,419,463,505,553,599,651 ⋆ Diagonal of square maze arrangement of natural numbers A081349. • a(n) = (n + 1) * (n + 2) + (- 1) ^ n = 2 * binomial(n + 2,2) + (- 1) ^ n. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4), n>4. • a(n) = n ^ 2 + 3n + 3 if n is even, otherwise n ^ 2 + 3n + 1. •

[A168388] • 1,3,5,13,21,39,57,89,121,171,221,293,365,463,561,689,817,979,1141,1341,1541,1783,2025,2313,2601 ⋆ First number in the n-th row of A172002. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) . • a(n) = (12 + n + 3 * (- 1) ^ n * n + 2 * n ^ 3) / 12. •

[A283583] • 1,3,5,13,21,53,81,219,321,867,1349,3437,5445,13677,20805,56173,82245,222061,345413,879981,1393989,3501421,5326149,14380397,21054789 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 646", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 2) + 256 * a(n - 8) - 256 * a(n - 10) for n>11. •

[A086893] • 1,3,5,13,21,53,85,213,341,853,1365,3413,5461,13653,21845,54613,87381,218453,349525,873813,1398101,3495253,5592405,13981013,22369621 ⋆ a(n) is the index of F(n+1) at the unique occurrence of the ordered pair of reversed consecutive terms (F(n+1),F(n)) in Stern's diatomic sequence A002487, where F(k) denotes the k-th term of the Fibonacci sequence A000045. • a(n + 2) = 4 * a(n) + 1, a(1) = 1, a(2) = 3, n > 0. - _ Yosu Yurramendi _ , Mar 07 2017 •

[A283646] • 1,3,5,13,21,53,93,205,349,845,1501,3277,5597,13517,24029,52685,89565,216525,384477,839117,1433053,3460557,6151645,13487565,22928861 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 694", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 2) + 256 * a(n - 8) - 256 * a(n - 10) for n>11. •

[A283752] • 1,3,5,13,21,53,93,205,381,893,1533,3325,6141,14333,24573,53245,98301,229373,393213,851965,1572861,3670013,6291453,13631485,25165821 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 758", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 16 * a(n - 4) - 16 * a(n - 5) for n>4. •

[A014437] • 1,1,3,5,13,21,55,89,233,377,987,1597,4181,6765,17711,28657,75025,121393,317811,514229,1346269,2178309,5702887,9227465,24157817 ⋆ Odd Fibonacci numbers. • a(n) = Fibonacci(3 * floor((n + 1) / 2)) + (- 1) ^ n). - _ Antti Karttunen _ , Feb 05 2001 • a(n) = ((cos(Pi * n / 2) - sqrt(phi) * sin(Pi * n / 2)) / phi ^ ((3 * n + 2) / 2) + (sqrt(phi) * cos(Pi * n / 2) ^ 2 + sin(Pi * n / 2) ^ 2) * phi ^ ((3 * n + 1) / 2)) / sqrt(5), where phi=(1 + sqrt(5)) / 2. •

[A089067] • 1,3,5,13,23,51,97,207,401,825,1627,3305,6559,13215,26333,52873,105539,211479,422557,845939,1691053,3383733,6765839,13534983,27066661 ⋆ a(n) = 2*a(n-1)+(-1)^n*a([n/2]);a(1)=1. • a(n) / 2 ^ n - > 0.8067474...as n - >infinity. •

[A005824] • 0,1,1,3,5,13,23,59,105,269,479,1227,2185,5597,9967,25531,45465,116461,207391,531243,946025,2423293,4315343,11053979,19684665 ⋆ a(n) = 2a(n-1) - 2a(n-4). • a(n) = (1 / 68) * (- 1) ^ n * [5 / 2 + (1 / 2) * sqrt(17)] ^ (- 1 / 4) * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 + (1 / 2) * sqrt(17)] ^ [(1 / 2) * n] * sqrt(17) - (1 / 68) * [5 / 2 - (1 / 2) * sqrt(17)] ^ (- 1 / 4) * (- 1) ^ n * sqrt(17) * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 4) * (- 1) ^ n] * [5 / 2 - (1 / 2) * sqrt(17)] ^ [(1 / 2) * n] + •

[A159290] • 3,5,13,25,53,105,213,425,853,1705,3413,6825,13653,27305,54613,109225,218453,436905,873813,1747625,3495253,6990505,13981013,27962025,55924053 ⋆ A generalized Jacobsthal sequence. • a(n) = - 1 + (2 * (- 1) ^ n + 5 * 2 ^ (n + 1)) / 3, G.f. (3 - x) / (- x ^ 2 + 1 - 2 * x + 2 * x ^ 3) •

[A110494] • 3,5,13,25,61,85,145,181,265,421,481,685,841,925,1105,1405,1741,1861,2245,2521,2665,3121,3445,3961,4705 ⋆ Least k such that prime(n)^2 divides binomial(2k,k). • a(n) = (prime(n) ^ 2 + 1) / 2 for n > 1. •

[A098615] • 1,1,3,5,13,25,61,125,295,625,1447,3125,7151,15625,35491,78125,176597,390625,880125,1953125,4390901,9765625,21920913,48828125,109486993 ⋆ G.f. A(x) satisfies: A(x*G(x)) = G(x), where G(x) is the g.f. for A098614(n) = Fibonacci(n+1)*Catalan(n). • a(2 * n + 1) = 5 ^ n. • a(n) = Sum _{ k=0..floor((n + 1) / 2) } (C(n,k) - C(n,k - 1)) * F(n - 2k + 1). - _ Paul Barry _ , Oct 01 2007 • a(n) = Sum _{ k=0..n } binomial((n - 1) / 2,(n - k) / 2) * 2 ^ (n - k - 1) * ((- 1) ^ (n - k) + 1). - _ Vladimir Kruchinin _ , Apr 16 2011 • a(n) is the upper left term in M ^ n, M = an infinite square production matrix as follows: •

[A026003] • 1,1,3,5,13,25,63,129,321,681,1683,3653,8989,19825,48639,108545,265729,598417,1462563,3317445,8097453,18474633,45046719,103274625,251595969 ⋆ a(n) = T([n/2],[(n+1)/2]), where T = Delannoy triangle (A008288). • a(n)=sum { k=0..floor(n / 2), C(n - k, k)C(n - 2k, floor((n - 2k) / 2)) } . - _ Paul Barry _ , Jul 30 2005 •

[A076156] • 1,3,5,13,26,37,49,51,61,62,65,69,73,74,77,91,99,115,123,125,129,146,157,169,185 ⋆ Numbers n such that Omega(n+1) = Omega(n)+1, where Omega(m) (A001222) denotes the number of prime factors of m, counting multiplicity. • a(n) seems to be asymptotic to c * n where c=7.6.... - _ Benoit Cloitre _ , Jan 15 2003 •

[A084173] • 1,3,5,13,27,59,121,249,503,1015,2037,4085,8179,16371,32753,65521,131055,262127,524269,1048557,2097131,4194283,8388585,16777193,33554407 ⋆ a(n) = +3*a(n-1) -1*a(n-2) -3*a(n-3) +2*a(n-4). • a(n) = 2 ^ (n + 1) - (2 * n + 1) / 2 - (- 1) ^ n / 2. •

[A026569] • 1,1,3,5,13,27,67,153,375,893,2189,5319,13089,32155,79479,196573,487833,1212135,3018355,7525585,18792303,46980373,117589689,294613155,738844719 ⋆ a(n)=T(n,n), T given by A026568. Also a(n) = number of integer strings s(0),...,s(n) counted by T, such that s(n)=0. • a(n) = sum(k=0..floor(n / 2), binomial(2 * k, k) * binomial(n - k, k)) - _ Paul Barry _ , Sep 09 2004 • a(n) = 1 / n * ((2 * n - 1) * a(n - 1) + (3 * n - 3) * a(n - 2) - (4 * n - 6) * a(n - 3)). - _ Vladeta Jovovic _ , Mar 12 2005 • a(n) = sum(k=0..n, C(k, n - k) * C(2 * (n - k), n - k)). - _ Paul Barry _ , Jul 30 2005 •

[A190667] • 1,3,5,13,30,69,160,371,859,1990,4610,10679,24738,57306,132750,307517,712367,1650207,3822725,8855390,20513621,47520058,110080805,255003553,590718900 ⋆ Expansion of (1+2*x)/(1-x^4-2*x^3-2*x^2-x). • a(n) = a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) + a(n - 4), a(0)=1, a(1)=3, a(2)=5, a(3)=13. •

[A135532] • 1,3,5,13,31,75,181,437,1055,2547,6149,14845,35839,86523,208885,504293,1217471,2939235,7095941,17131117,41358175,99847467,241053109,581953685,1404960479 ⋆ a(n) = 2*a(n-1) + a(n-2), with a(0)= -1, a(1)= 3. • a(n) = (1 / 2) * ((2 * sqrt(2) - 1) * (1 + sqrt(2)) ^ n - (1 + 2 * sqrt(2)) * (1 - sqrt(2)) ^ n), with n>=0. - _ Paolo P. Lava _ , Jun 09 2008 • a(n) = ((3 + sqrt(2)) * (1 + sqrt(2)) ^ n + (3 - sqrt(2)) * (1 - sqrt(2)) ^ n) / 2 with offset 0. - Al Hakanson (hawkuu(AT)gmail.com), Jun 17 2009 •

[A198636] • 3,5,13,38,117,370,1186,3827,12389,40169,130338,423065,1373466,4459278,14478659,47011093,152642789,495626046,1609284589,5225309458,16966465802,55089756851,178875298901,580804419201,1885860059450 ⋆ One half of total number of round trips, each of length 2n, on the graph P_6 (o-o-o-o-o-o). • a(n) = w(6,2 * n) / 2, n>=0, with w(6,l) the total number of closed walks on the graph P _ 6 (the simple path with 6 points (vertices) and 5 lines (or edges)). • a(n) = 7 * (binomial(2n - 1,n - 1) + sum _{ k = 1..floor(n / 7) } binomial(2n,n - 7k)) - 2 ^ (2n - 1). - _ M. Lawrence Glasser _ , Feb 20 2

013 • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + a(n - 3). - _ M. F. Hasler _ , Nov 05 2013 •

[A074378] • 0,3,5,14,18,33,39,60,68,95,105,138,150,189,203,248,264,315,333,390,410,473,495,564,588 ⋆ Even triangular numbers halved. • a(n) = n * (n + 1) / 4 where n * (n + 1) / 2 is even. • a(n) = (2 * n + 1) * floor((n + 1) / 2) . • a(2 * k) = k * (4 * k + 1); a(2 * k + 1) = (k + 1) * (4 * k + 3). (End) •

[A295359] • 1,3,5,14,24,41,68,112,183,298,484,786,1275,2064,3342,5409,8754,14166,22923,37092,60019,97116,157138,254257,411398 ⋆ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) + b(n-2) - 2*b(n-3), where a(0) = 1, a(1) = 3, a(2) = 5, b(0) = 2, b(1) = 4, b(2) = 6, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[A230585] • 3,5,14,42,132,429,1430,4862,16796,58786,208012,742900,2674440,9694845,35357670,129644790,477638700,1767263190,6564120420,24466267020,91482563640,343059613650,1289904147324,4861946401452,18367353072152 ⋆ First terms of first rows of zigzag matrices as defined in A088961. • a(n) = binomial(2 * n,n) - binomial(2 * n,n + 2) + 0 ^ (n - 1). •

[A129326] • 3,5,14,54,264,1560,10800,85680,766080,7620480,83462400,997920000,12933043200,180583603200,2702527027200,43153254144000,732297646080000,13160434839552000,249692574523392000,4987449116762112000,104614786351595520000,2299092397726924800000 ⋆ a(n) = (2*n+1)*(n-1)!. • a(n)=(n + 1)! * h(n + 1) - n * (n + 1) * (n - 1)! * h(n - 1), where h(n)=sum(1 / k,k=1..n). [From Gary Detlefs, Jul 19 2011] •

[A103127] • 1,3,5,15,17,19,21,31,33,35,37,47,49,51,53,63,65,67,69,79,81,83,85,95,97 ⋆ Numbers congruent to {-1, 1, 3, 5} mod 16. • a(n) = a(n - 4) + 16. (End) • a(n) = (1 + i) * i ^ n - (- 1) ^ n + 4 * n + (1 - i) * (- i) ^ n, with n>= 0 and i=sqrt(- 1). - _ Paolo P. Lava _ , Nov 19 2008 •

[A001317] • 1,3,5,15,17,51,85,255,257,771,1285,3855,4369,13107,21845,65535,65537,196611,327685,983055,1114129,3342387,5570645,16711935,16843009 ⋆ Sierpiński's triangle (Pascal's triangle mod 2) converted to decimal. • a(n + 1) = a(n) XOR 2 * a(n), where XOR is binary exclusive OR operator. - _ Paul D. Hanna _ , Apr 27 2003 • a(n) = Product _{ e(j, n) = 1 } (2 ^ (2 ^ j) + 1), where e(j, n) is the j - th least significant digit in the binary representation of n (Roberts: see Allouche & Shallit). - _ Benoit Cloitre _ , Jun 08 2004 • a(2 * n + 1) = 3 * a(2 * n). Proof: Since a(n) = Product _{ k in K } (1 + 2 ^ (2 ^ k)), where K is the set of integers such that n = Sum _{ k in K } 2 ^ k, clearly K(2 * n + 1) = K(2 * n) union { 0 } , hence a(2 * n + 1) = (1 + 2 ^ (2 ^ 0)) * a(2 * n) = 3 * a(2 * n). - Emmanuel Ferrand and _ Ralf Stephan _ , Sep 28 2004 • a(32 * n) = 3 ^ (32 * n * log(2) / log(3)) + 1. - _ Bret Mulvey _ , May 17 2008 • a(2 ^ (n - 1) - 1) * a(2 ^ n * m + 2 ^ (n - 1)) = 3 * a(2 ^ (n - 1)) * a(2 ^ n * m + 2 ^ (n - 1) - 2). - _ Vladimir Shevelev _ , Nov 28 2010 •

[A054432] • 1,1,3,5,15,17,63,85,219,325,1023,1105,4095,5397,13515,21845,65535,70737,262143,333125,890523,1397077,4194303,4527185,16236015 ⋆ a(n) = Sum_{1<=k<=n,GCD(k,n)=1} 2^(k-1). • a(4 * n) = (2 ^ (2 * n) + 1) * a(2 * n) [think how the reduced residue set of the numbers of the form 4n are formed] • a(n - 1) = Sum _{ k=1..n, gcd(n, k) = 1 } 2 ^ (k - 1). - _ Vladeta Jovovic _ , Aug 15 2002 •

[A284481] • 1,3,5,15,23,63,95,239,383,1023,1535,3839,6143,16383,24575,61439,98303,262143,393215,983039,1572863,4194303,6291455,15728639,25165823 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 950", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 16 * a(n - 4) - 16 * a(n - 5) for n>5. •

[A056487] • 1,3,5,15,25,75,125,375,625,1875,3125,9375,15625,46875,78125,234375,390625,1171875,1953125,5859375,9765625,29296875,48828125,146484375,244140625 ⋆ a(n) = 5^(n/2) for n even, a(n) = 3*5^((n-1)/2) for n odd. • a(n + 2) = 5 * a(n), a(0)=1, a(2)=3. • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Reinhard Zumkeller _ , Mar 04 2011 • a(n) = 3 ^ ((1 - (- 1) ^ n) / 2) * 5 ^ ((2 * n + (- 1) ^ n - 1) / 4). - _ Bruno Berselli _ , Mar 24 2011 •

[A163114] • 3,5,15,25,75,125,375,625,1875,3125,9375,15625,46875,78125,234375,390625,1171875,1953125,5859375,9765625,29296875,48828125,146484375,244140625,732421875 ⋆ a(n) = 5*a(n-2) for n > 2; a(1) = 3, a(2) = 5. • a(n) = (2 - (- 1) ^ n) * 5 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)). •

[A274638] • 0,0,3,5,15,27,63,119,255,495,1023,2015,4095,8127,16383,32639,65535,130815,262143,523775,1048575,2096127,4194303,8386559,16777215 ⋆ Main diagonal of A274637. • a(n) = (- 1 + 2 ^ n + 2 ^ ((n - 3) / 2) * (- 1 + (- 1) ^ n)). • a(n) = 2 ^ n - 1 for n even. • a(n) = 2 ^ n - 1 - 2 ^ ((n - 1) / 2) for n odd. • a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4) for n>3. •

[A118173] • 1,3,5,15,29,55,93,247,477,887,1501,3959,7645,14199,24029,63351,122333,227191,384477,1013623,1957341,3635063,6151645,16217975,31317469 ⋆ Decimal representation of n-th iteration of the Rule 188 elementary cellular automaton starting with a single black cell. • a(n odd) = (1 / 30) * (- 14 + 3 * I * (2 * I) ^ n + 55 * 2 ^ n), a(n even) = (1 / 15) * (- 13 + 3 * (2 * I) ^ n + 25 * 2 ^ n). • a(n) = a(n - 2) + 16 * a(n - 4) - 16 * a(n - 6) for n>5. •

[A079450] • 1,3,5,15,29,55,101,175,269,807,1397,2143,6429,11095,16901,50703,86573,259719,517013,1026751,2031677,3997879,7799333,15009391,28250957 ⋆ a(n)=2^(n-1)*u(n) where u(1)=1 and u(n)=frac(3/2*u(n-1))+1. • a(n + 1) <=3 * a(n). Conjecture : a(n + 1)=3 * a(n) if and only if n is a greedy power of (2 / 3) (i.e. n is in A077468) •

[A284482] • 1,3,5,15,29,63,125,247,509,1023,2045,4087,8189,16383,32765,65527,131069,262143,524285,1048567,2097149,4194303,8388605,16777207,33554429 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 950", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>5. •

[A126087] • 1,1,3,5,15,29,87,181,543,1181,3543,7941,23823,54573,163719,381333,1143999,2699837,8099511,19319845,57959535,139480397,418441191,1014536117,3043608351 ⋆ Expansion of c(2x^2)/(1-xc(2x^2)), where c(x) = (1-sqrt(1-4x))/(2x) is the g.f. of the Catalan numbers (A000108). • a(n) = sum(k=1..n, (1 + (- 1) ^ (n - k)) * k * 2 ^ ((n - k) / 2 - 1) * C(n,(n + k) / 2) / n), n>0 [_ Vladimir Kruchinin _ , Feb 18 2011] •

[A292689] • 1,3,5,15,31,45,119,231,325,975,2015,2925,8191,16383,23405,61431,118759,166725,499151,1030623,1495405,4186623,8372735,11960685,31392247 ⋆ Decimal values of the antidiagonals of the Sierpinski carpet considered as binary numbers. • a(k + 1) = 2 * a(k) + 1 for all k in A003462 = (1, 4, 13, 40, 121, 364, ...). (Conjectured.) - _ R. J. Cano _ , Oct 25 2017 •

[A286521] • 1,3,5,15,31,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607,16777215,33554431 ⋆ Decimal representation of the diagonal from the origin to the corner (or of the corner to the origin) of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 659", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (1 + n) - 1 for n>2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>4. •

[A120748] • 0,1,3,5,15,32,79,185,439,1041,2464,5841,13835,32781,77663,184000,435935,1032817,2446959,5797345 ⋆ Expansion of -x^2*(-1-2*x+x^2) / (1-x-3*x^2-x^3+x^4) • a(n) = a(n - 1) + 3 * a(n - 2) + a(n - 3) - a(n - 4). •

[A182143] • 1,3,5,15,33,83,197,479,1153,2787,6725,16239,39201,94643,228485,551615,1331713,3215043,7761797,18738639,45239073,109216787,263672645,636562079,1536796801 ⋆ Number of independent vertex sets in the Moebius ladder graph with 2n nodes (n >= 0). • a(n) = a(n - 1) + 3 * a(n - 2) + a(n - 3) with a(0)=1, a(1)=3, a(2)=5. • a(n) = Pell(n - 1) + Pell(n + 1) - (- 1) ^ n. • a(n) = [x ^ n] ((1 + 2 * x + sqrt(1 + 8 * x + 8 * x ^ 2)) / 2) ^ n. •

[A279684] • 1,3,5,15,37,87,205,495,1173,2759,6493,15263,35749,83575,195181,455247,1060533,2468391,5740925,13342975,30993349,71956951,166991501,387397551,898427605 ⋆ The maximum number of coins that can be processed in n weighings that all are real except for one LHR-coin starting in the heavy or real state. • a(n) = 3a(n - 1) - a(n - 2) + a(n - 3) - 2a(n - 4) - 8a(n - 5). •

[A161703] • 1,3,5,15,41,91,173,295,465,691,981,1343,1785,2315,2941,3671,4513,5475,6565,7791,9161,10683,12365,14215,16241 ⋆ a(n) = (4*n^3 - 12*n^2 + 14*n + 3)/3. • a(n) = C(n,0) + 2 * C(n,1) + 8 * C(n,3). •

[A190733] • 1,3,5,15,49,175,657,2559,10241,41855,173953,732927,3123457,13439743,58307841,254779391,1120247809,4952864767,22005184513,98196398079,439923990529,1977917169663,8921667641345,40361657696255,183092192411649 ⋆ Expansion of (4*x+2)/(1+sqrt(1-4*x-4*x^2)). • a(n) = (n + 1) * sum(k=1..n + 1,binomial(k,n - k + 1) * Catalan(k - 1) / k). •

[A080056] • 1,3,5,16,22,24,28,34,37,43,45,49,51,54,57,59,65,68,70,74,80,88,94,97,100 ⋆ Greedy powers of (2/Pi): sum_{n=1..inf} (2/Pi)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(2 / Pi) and frac(y) = y - floor(y). See A077468 for mathematica program by _ Robert G. Wilson v _ . •

[A295358] • 1,3,5,16,30,55,95,161,268,442,724,1181,1921,3120,5061,8201,13283,21506,34812,56342,91179,147547,238753,386328,625110 ⋆ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) + b(n-2) - b(n-3), where a(0) = 1, a(1) = 3, a(2) = 5, b(0) = 2, b(1) = 4, b(2) = 6, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). •

[A211440] • 1,3,5,17,23,29,53,63,73,109,123,137,185,203,221,281,303,325,397,423,449,533,563,593,689 ⋆ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and 2w+3x+3y=0. • a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7) for n>6. •

[A024862] • 3,5,17,23,50,62,110,130,205,235,343,385,532,588,780,852,1095,1185,1485,1595,1958,2090,2522,2678,3185 ⋆ a(n) = s(1)t(n) + s(2)t(n-1) + ... + s(k)t(n-k+1), where k = floor(n/2), s = natural numbers, t = odd natural numbers. • a(n) = (8 * n ^ 3 + 6 * (- 1) ^ n * n ^ 2 + 12 * n ^ 2 + 6 * (- 1) ^ n * n - 2 * n + 3 * (- 1) ^ n - 3) / 48. • a(n) = (4 * n ^ 3 + 9 * n ^ 2 + 2 * n) / 24 for n even. • a(n) = (4 * n ^ 3 + 3 * n ^ 2 - 4 * n - 3) / 24 for n odd. •

[A058580] • 1,3,5,17,29,29,99,169,577,985,985,3363,5741,19601,33461,33461,114243,195025,195025,1136689,1136689 ⋆ a(n) is the least natural number m such that the fractional part of m*(2^0.5) is less than 2^(-n). • a(n) = min m such that m * (2 ^ 0.5) - floor(m * (2 ^ 0.5)) < 2 ^ (- n) •

[A079496] • 1,1,3,5,17,29,99,169,577,985,3363,5741,19601,33461,114243,195025,665857,1136689,3880899,6625109,22619537,38613965,131836323,225058681,768398401 ⋆ a(0) = a(1) = 1; thereafter a(2*n+1) = 2*a(2*n) - a(2*n-1), a(2*n) = 4*a(2*n-1) - a(2*n-2). • a(2n + 1) = ceiling((2 + sqrt(2)) / 4 * (3 + 2 * sqrt(2)) ^ n), a(2n) = ceiling(1 / 2 * (3 + 2 * sqrt(2)) ^ n). • a(n) = 6 * a(n - 2) - a(n - 4). - _ R. J. Mathar _ , Apr 04 2008 • a(n) = (sqrt(2) * sqrt(2 + (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n)) / (2 + sqrt(2) + (- 1) ^ n * (- 2 + sqrt(2))). - _ Gerry Martens _ , Jun 06 2015 •

[A085749] • 3,5,17,61,317,1951,13697,109597,986411,9864091,108505097,1302061337,16926797467,236975164793,3554627472059,56874039553189,966858672404659,17403456103284379,330665665962403997,6613313319248079991 ⋆ Largest prime p for which every solution of the congruence x^n + y^n = z^n (mod p) is such that p divides xyz. • a(n) is the largest prime < n! * e + 1. •

[A114161] • 3,5,17,91,667,6213,70233,933819,14277555,246772485,4757596065,101218975515,2355535057995,59520844736325,1622874515042025,4749027

7029572475,1484579154624005475,49374909670517201925 ★ E.g.f.: (3-log(1-2*x))/(1-2*x)^(1/2). ● a(n) = 2 ^ n * GAMMA(n + 1 / 2) / Pi ^ (1 / 2) * (3 + Psi(n + 1 / 2) + gamma + 2 * log(2)). - _ Vladeta Jovovic _ ●

[A023394] ● 3,5,17,257,641,65537,114689,274177,319489,974849,2424833,6700417,13631489,26017793,45592577,63766529,167772161,825753601,1214251009,6487031809,70525124609,190274191361,646730219521,2710954639361,2748779069441 ★ Prime factors of Fermat numbers. ● a(n) >> n ^ 2 log ^ 2 n, see Křížek, Luca, & Somer. - _ Charles R Greathouse IV _ , Jul 16 2013 ●

[A016045] ● 3,5,17,347,13901,128981,128981,113575727,2426256797,137168442221,4656625081181,101951758179851,484511389338941,22186094470572640 7 ★ a(n) = smallest prime p(k) such that the gaps between the primes p(k), p(k+1), p(k+2), ..., p(k+n) are 2, 4, 6, ... 2n. ● a(n)=Min { x : x=prime; { x + 2k } =primes following x for k=1, .., n } ●

[A007516] ● 1,3,5,17,65537 ★ (2^2^...^2) (n times) + 1. ● a(1) = 1, a(2) = 3, a(n + 1) = 2 ^ (a(n) - 1) + 1. - _ Stefan Steinerberger _ , Apr 14 2006 ●

[A143546] ● 1,1,1,3,5,18,35,136,285,1155,2530,10530,23751,100688,231880,996336,2330445,10116873,23950355,104819165,250543370,1103722620,2658968130,11777187240,28558343775 ★ G.f. satisfies: A(x) = 1 + x*A(x)^3*A(-x)^2. ● a(2n) = C(5n,n) / (4n + 1); a(2n + 1) = C(5n + 2,n) * 3 / (4n + 3). ●

[A211439] ● 1,3,5,19,25,31,59,69,79,121,135,149,205,223,241,311,333,355,439,465,491,589,619,649,761 ★ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and w+3x+3y=0. ● a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7) for n>6. ●

[A228471] ● 3,5,19,31,117,191,721,1177,4443,7253,27379,44695,168717,275423,1039681,1697233,6406803,10458821,39480499,64450159,243289797,397159775,1499219281,2447408809,9238605483 ★ a(n) = 6*a(n-2) + a(n-4), where a(0) = 3, a(1) = 5, a(2) = 19, a(3) = 31. ● a(n) = (2 - 1 / 2 * (- 1) ^ n) * ((3 - sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) + (3 + sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n)) + (3 / 20 * (- 1) ^ n - 13 / 20) * sqrt(10) * ((3 - sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) - (3 + sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n)). - _ Paolo P. Lava _ , Sep 11 2013 ●

[A273020] ● 1,1,3,5,19,39,141,321,1107,2675,8953,22483,73789,190345,616227,1621413,5196627,13882947,44152809,119385663,377379369,1030434069,3241135527,8921880135,27948336381 ★ a(n) = Sum_{k=0..n} C(n,k)*((-1)^n*(C(k,n-k)-C(k,n-k-1))+C(n-k,k+1)). ● a(n) = JacobiP(n, 1, - n - 3 / 2, - 7) / (n + 1) + GegenbauerC(n - 1, - n, - 1 / 2), with a(0) = 1. ● a(n) = hypergeom([- n,1 / 2], [2], 4) + n * hypergeom([- n / 2 + 1, - n / 2 + 1 / 2], [2], 4). ●

[A242818] ● 1,1,3,5,19,39,173,407,2025,5281,28787,81597,479851,1459015,9156093,29582303,196506001,669822849,4680247715,16737058997,122398824579,457140004519,3484655325197,13541735424615,107230543328761 ★ a(n) = 2^floor(n/2) n! [x^n] exp(x+x^2/4), where [x^n] f(x) denotes the coefficient of x^n in the expansion of f(x). ● a(n) = sum(s(n,k) * (- 1) ^ n - k) * b(k) / 2 ^ (ceil(n / 2) - k), k=0..n), where the s(n,k) are the (signless) Stirling numbers of the first kind, and the b(n) are the Bell numbers. ● a(n) = sum(binomial(n,2 * k) * (- 1) ^ k * 2 ^ (floor(n / 2) - 2 * k) * (2 * k)! / k! * i(n - 2 * k), k=0..floor(n / 2)), where the i(n) are the involution numbers A000085. ● a(n) = I ^ (- n) * 2 ^ floor(n / 2) * U(- n / 2,1 / 2, - 1), where U(a,b,x) is Kummer's hypergeometric function of the second kind. - _ Peter Luschny _ , May 24 2014 ● a(n) = numerator(a(n - 1) + (a(n - 2) / 2) * (n - 2)) for a(1)=0 and a(2)=1. - _ Terry D. Grant _ , May 04 2017 ●

[A174132] ● 3,5,19,53,163,485,1459,4373,13123,39365,118099,354293,1062883,3188645,9565939,28697813,86093443,258280325,774840979,2324522933,6973568803,20920706405,62762119219,188286357653,564859072963 ★ 2*3^(n-1)-(-1)^n. ● a(n) = 2 * sum[a(i), i=1..n - 1] - 2 * (- 1) ^ n + 1 for n>1. (End) ●

[A055452] ● 1,3,5,19,75,305,1270,5390,23236,101480,448085,1997115,8973255,40602093,184853055,846206025,3892585325,17984308775,83417287855,388297304825,1813341109825,8493372326675,39889629750600 ★ T(n,n-2), array T as in A055450. ● a(n) = 5 * hypergeometric([4 - n,7 / 2],[5], - 4), for n>3. - _ Peter Luschny _ , Aug 15 2012 ●

[A261116] ● 0,1,3,5,20,29,119,169,696,985,4059,5741,23660,33461,137903,195025,803760,1136689,4684659,6625109,27304196,38613965,159140519,225058681,927538920 ★ Pairs of integers (a,b) such a^2 + (a+1)^2 = b^2. ● a(n) = 7 * a(n - 2) - 7 * a(n - 4) + a(n - 6) for n>6. ●

[A295361] ● 1,3,5,20,40,76,134,230,386,640,1052,1720,2802,4554,7390,11980,19408,31429,50882,82357,133287,215694,349033,564781,913870 ★ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1) + 2*b(n-2) - b(n-3), where a(0) = 1, a(1) = 3, a(2) = 5, b(0) = 2, b(1) = 4, b(2) = 6, and (a(n)) and (b(n)) are increasing complementary sequences. ● a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). ●

[A076149] ● 0,3,5,20,54,169,499,1506,4508,13535,40593,121792,365362,1096101,3288287,9864878,29594616,88783867,266351581,799054764,2397164270,7191492833,21574478475,64723435450,194170306324 ★ Expansion of x^2(3+2x)/(1-x-5x^2-3x^3). ● a(1)=0; a(n + 1) = 3 * a(n) - (- 1) ^ n * (n + 2); a(n)=floor((11 / 48) * 3 ^ n + (- 1) ^ n * n / 4 + 1 / 2) ●

[A256093] ● 1,3,5,20,101,572,3470,22040,144669,973356,6676186,46503080,328034226,2338460056,16819478972,121903180848,889396747869,6526715628492,48141140144546,356708675726088,2653863473928870,19816831149068360,148466651633265540,1115659552758534480 ★ G.f.: 2-x*2/(1-(1-8*x)^(1/4)). ● a(n) = Sum _{ k=0..(n + 1) } binomial(2 * k - 2,k) * 2 ^ (n - k + 1) * binomial(2 * n - k,n - k + 1)) / n, a(0)=1. ●

[A266203] ● 0,1,3,5,21,61,381,2045 ★ Number of steps k to make g_k(n) converge to zero. ● a(n) = k such that g _ k(n)=0. ●

[A216385] ● 1,3,5,21,78,403,2069,11856 ★ Number of values of k for which phi(k) is a permutation of decimal digits of k, for k < 10^n. ● a(n) = # { k in A115921 | k < 10 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 ●

[A084253] ● 1,3,5,21,108,660,4680,37800,342720,3447360,38102400,459043200,5987520000,84064780800,1264085222400,20268952704000,345226033152000,6224529991680000,118443913555968000,2372079457972224000 ★ a(n) is the denominator of the coefficient of z^(2n-1) in the Maclaurin expansion of Sqrt[Pi]Erfi[z]. ● a(n) = (2 * n - 1) * (n - 1)! / 2 for n>2. ●

[A025112] ● 3,5,22,30,73,91,172,204,335,385,578,650,917,1015,1368,1496,1947,2109,2670,2870,3553,3795,4612,4900,5863 ★ a(n) = s(1)s(n) + s(2)s(n-1) + ... + s(k)s(n-k+1), where k = floor(n/2), s = (odd natural numbers). ● a(n) = n * (4 * n ^ 2 - 3 * n + 2 + 3 * n * (- 1) ^ n) / 12. - _ Luce ETIENNE _ , Jan 07 2015 ●

[A124423] ● 1,1,1,3,5,22,52,283,855,5451,19921,144074,614866,4941987,24040451,211648665,1152972925,10998989896,66200911138,678600959525,4465023867757,48850849177703,348383154017581,4045835816532096,31052765897026352 ★ Number of partitions of the set {1,2,...n} having no blocks that contain only even entries. ● a(n) = Q[n](1,0,1), where the polynomials Q[n]=Q[n](t,s,x) are defined by Q[0]=1; Q[n]=t * dQ[n - 1] / dt + x * dQ[n - 1] / ds + x * dQ[n - 1] / dx + t * Q[n - 1] if n is odd and Q[n]=x * dQ[n - 1] / dt + s * dQ[n - 1] / ds + x * dQ[n - 1] / dx + s * Q[n - 1] if n is even. ● a(n) = Sum _{ j=0..ceil(n / 2) } stirling2(ceil(n / 2),j) * j ^ floor(n / 2). - _ Alois P. Heinz _ , Oct 23 2013 ●

[A199336] ● 1,3,5,23,39,181,307,1425,2417,11219,19029,88327,149815,695397,1179491,5474849,9286113,43103395,73109413,339352311,575589191,2671715093,4531604115,21034368433,35677243729 ★ x-values in the solution to 15*x^2 - 14 = y^2. ● a(n + 4) = 8 * a(n + 2) - a(n), a(1)=1, a(2)=3 ,a(3)=5, a(4)=23. ●

[A100302] ● 1,1,3,5,23,57,235,685,2559,8033,28499,92757,320743,1062793,3628731,12131069,41160911,138209457,467496739,1573172389,5313146295,17898525401,60403695755,203591898957,686821464991 ★ Expansion of (1-x-6x^2)/((1-x)(1-x-8x^2)). ● a(n)=2a(n - 1) + 7a(n - 2) - 8a(n - 3); a(n)=(2 ^ (- n)(sqrt(33) - 1) ^ (n + 1)(- 1) ^ n + 2 ^ (- n)(sqrt(33) + 1) ^ (n + 1))sqrt(33) / 264 + 3 / 4. ●

[A230080] ● 0,3,5,23,73,265,920,3245,11385,40018,140574,493911,1735243,6096533,21419128,75252674,264387942,928884046,3263482673,11465714843,40282921096,141527481021,497233748352,1746949771565,6137623429414 ★ Sequence needed for the nonpositive powers of rho(11) = 2*cos(Pi/11) in terms of the power basis of the degree 5 number field Q(rho(11)). Coefficients of the first power. ● a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - a(n - 4) + a(n - 5) for n >= 0, with a(- 5)= - 3, a(- 4)=a(- 3)=a(- 2)=0, a(- 1)=1. ●

[A154143] ● 3,5,26,36,155,213,906,1244,5283,7253,30794,42276,179483,246405,1046106,1436156,6097155,8370533,35536826,48787044,207123803,284351733,1207205994,1657323356,7036112163 ★ Indices k such that 10 plus the k-th triangular number is a perfect square. ● a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). ● a(1..4) = (3,5,26,36); a(n) = 6 * a(n - 2) - a(n - 4) + 2, for n > 4. - _ Ctibor O. Zizka _ , Nov 10 2009 ●

[A268409] ● 3,5,26,114,508,2260,10056,44744,199088,885840,3941536,17537824,78034368,347213120,1544921216,6874111104,30586286848,136093369600,605546052096,2694370947584,11988575894528,53343045473280,237349333682176,1056083425675264 ★ a(n) = 4*a(n - 1) + 2*a(n - 2) for n>1, a(0)=3, a(1)=5. ● a(n) = ((18 + sqrt(6)) * (2 - sqrt(6)) ^ n - (sqrt(6) - 18) * (2 + sqrt(6)) ^ n) / 12. ●

[A162262] ● 3,5,30,78,155,267,420,620,873,1185,1562,2010,2535,3143,3840,4632,5525,6525,7638,8870,10227,11715,13340,15108,17025 ★ (2*n^3+5*n^2-13*n)/2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 05 2012 ●

[A189739] ● 3,5,30,115,495,2060,8655,36265,152070,637535,2672955,11206540,46984395,196985885,825879630,3462568315,14517103095,60864150860,255177968055,1069854658465,4485453815670,18805634739335,78844173296355,330560693585740,1385902947238995 ★ a(1)=3, a(2)=5, a(n)=3a(n-1) + 5a(n-2) ● a(n) = 3 / 2 * ((3 / 2 + 1 / 2 * sqrt(29)) ^ (n - 1) + (3 / 2 - 1 / 2 * sqrt(29)) ^ (n - 1)) + 1 / 58 * sqrt(29) * ((3 / 2 + 1 / 2 * sqrt(29)) ^ (n - 1) - (3 / 2 - 1 / 2 * sqrt(29)) ^ (n - 1)). - Paolo P. Lava, May 24 2011 ●

[A287474] ● 3,5,31,197,1123,6485,37567,217397,1258051,7280549,42133471,243831461,1411082659,8166108917,47258275711,273489449237,1582717053571,9159378096965,53006446688671,306754821216389,1775227849020643 ★ Number of dominating sets in the n-web graph. ● a(n) = 5 * a(n - 1) + 3 * a(n - 2) + 9 * a(n - 3). ●

[A295364] ● 1,3,5,32,79,167,318,575,1003,1710,2869,4761,7840,12841,20953,34100,55395,89875,145690,236027,382223,618802,1001625,1621077,2623404 ★ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1)*b(n-2), where a(0) = 1, a(1) = 3, a[2] = 5, b(0) = 2, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. ● a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). ●

[A199774] ● 0,3,5,32,203,333,2112,13395,21973,139360,883867,1449885,9195648,58321827,95670437,606773408,3848356715,6312798957,40037849280,253933221363,416549060725,2641891279072,16755744253243,27485925208893,174324786569472 ★ x-values in the solution to 17*x^2 + 16 = y^2. ● a(n) = 66 * a(n - 3) - a(n - 6), a(1)=0, a(2)=3, a(3)=5, a(4)=32, a(5)=203, a(6)=333. ●

[A001790] ● 1,1,3,5,35,63,231,429,6435,12155,46189,88179,676039,1300075,5014575,9694845,300540195,583401555,2268783825,4418157975,34461632205,67282234305,263012370465,514589420475,8061900920775 ★ Numerators in expansion of 1/sqrt(1-x). ● a(n) = numerator(L(n)), with rational L(n):=binomial(

2 * n,n) / 2 ^ n. L(n) is the leading coefficient of the Legendre polynomial P _ n(x). •

[A155121] • 3,5,57,237,677,1557,3105,5597,9357,14757,22217,32205,45237,61877,82737,108477,139805,177477,222297,275117,336837,408405,490817,585117,692397 ⋆ 2*n*(1+n+n^2+n^3)-3. • a(n) = 2 * n * (1 + n + n ^ 2 + n ^ 3) - 3. •

[A130187] • 1,3,5,105,189,3465,19305,2027025,3828825,130945815,1249937325,105411381075,608142583125,30494006668125,412685556908625,191898783962510625,3725094041625206 25,24627010608522196875 ⋆ Numerators of rationals r(n) related to the z-sequence of the Sheffer matrix A060821 for Hermite polynomials. • a(n)=numerator(r(n)), n>=0. r(n):= - 2 * z(2 * n + 1) (in lowest terms). The e.g.f. of z(n) is given above. •

[A280427] • 3,5,167,359,839,1367,1847,2207,3719,5039,7919,1295027,3442949,9393929,13997519,21253931,49430861,84604517,95443991,237176657,329939369,384240581,487443401,633839777,904231061 ⋆ a(n) is a prime, such that a(n) = p^d-2 where p is a prime and d is the number of digits of p. • a(n) = p ^ d - 2, a(n) is prime, p is a prime and d is the number of digits of p. •

[A130482] • 0,1,3,6,6,7,9,12,12,13,15,18,18,19,21,24,24,25,27,30,30,31,33,36,36 ⋆ a(n) = Sum_{k=0..n} (k mod 4) (Partial sums of A010873). • a(n) = (1 - (- 1) ^ n - (2 * i) * (- i) ^ n + (2 * i) * i ^ n + 6 * n) / 4 where i = sqrt(- 1). - _ Colin Barker _ , Oct 15 2015 •

[A066779] • 1,3,6,6,11,17,24,24,24,34,45,45,58,72,87,87,104,104,123,123,144,166,189,189,189 ⋆ Sum of squarefree numbers <= n. • a(n) = Sum _{ i=1..n } mu(i) ^ 2 * i. • a(n) = Sum _{ d=1..sqrt(n) } mu(d) * d ^ 2 * floor(n / d ^ 2) * floor(n / d ^ 2 + 1) / 2. - _ Charles R Greathouse IV _ , Apr 26 2012 •

[A152083] • 1,3,6,7,7,8,10,13,14,14,15,17,20,21,21,22,24,27,28,28,29,31,34,35,35 ⋆ Number of occurrences of "I" in all Roman numerals of numbers from 1 to n • a(n + 5)=a(n) + 7 •

[A047559] • 0,1,3,6,7,8,9,11,14,15,16,17,19,22,23,24,25,27,30,31,32,33,35,38,39 ⋆ Numbers that are congruent to {0, 1, 3, 6, 7} mod 8. • a(0)=0, a(1)=1, a(2)=3, a(3)=6, a(4)=7, a(5)=8, a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. - _ Harvey P. Dale _ , Mar 04 2015 • a(n) = a(n - 5) + 8, for n>5. • a(n) = (40 * n - 35 + 3 * (n mod 5) - 7 * ((n + 1) mod 5) - 2 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 5, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A047283] • 0,1,3,6,7,8,10,13,14,15,17,20,21,22,24,27,28,29,31,34,35,36,38,41,42 ⋆ Numbers that are congruent to {0, 1, 3, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Harvey P. Dale _ , Mar 09 2012 • a(n) = (14n - 15 + i ^ (2n) + (3 + i) * i ^ (- n) + (3 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047557] • 0,3,6,7,8,11,14,15,16,19,22,23,24,27,30,31,32,35,38,39,40,43,46,47,48 ⋆ Numbers that are congruent to {0, 3, 6, 7} mod 8. • a(n) = 2 * n - 1 - sin(Pi * n / 2). (End) • a(n) = 2n - 1 - cos(Pi * (n - 1) / 2). - _ Wesley Ivan Hurt _ , Oct 22 2013 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * n - 2 - I ^ (1 - n) * (I ^ (n - 1) - 1) ^ 2 / 2 where I=sqrt(- 1). •

[A005767] • 3,6,7,9,11,12,13,14,15,17,18,19,21,22,23,24,25,26,27,28,29,30,31,33,34 ⋆ Solutions n to n^2 = a^2 + b^2 + c^2 (a,b,c > 0). • a(n) = n + 2 * log _ 2(n) + O(1). - _ Charles R Greathouse IV _ , Sep 01 2015 •

[A186348] • 3,6,7,9,11,12,14,16,17,18,20,21,23,24,25,27,28,30,31,32,33,35,36,37,39 ⋆ Adjusted joint rank sequence of (f(i)) and (g(j)) with f(i) after g(j) when f(i)=g(j), where f(i)=8i and g(j)=j^2. Complement of A186349. • a(n) = n + floor(sqrt(8n)). •

[A047558] • 1,3,6,7,9,11,14,15,17,19,22,23,25,27,30,31,33,35,38,39,41,43,46,47,49 ⋆ Numbers that are congruent to {1, 3, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 3 - i ^ (2 * n) - i ^ (1 - n) + i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A047242] • 0,1,3,6,7,9,12,13,15,18,19,21,24,25,27,30,31,33,36,37,39,42,43,45,48 ⋆ Numbers that are congruent to {0, 1, 3} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4), n>4. - _ Wesley Ivan Hurt _ , Dec 03 2014 • a(n) = n - 1 + floor((n - 1) / 3) + floor((2n - 2) / 3). - _ Wesley Ivan Hurt _ , Dec 03 2014 • a(n) = (6 * n - 8 - cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 3, a(3k - 1) = 6k - 5, a(3k - 2) = 6k - 6. (End) • a(n) = 2 * n - 2 - sign((n - 1) mod 3). - _ Wesley Ivan Hurt _ , Sep 26 2017 •

[A131392] • 3,6,7,9,12,14,15,18,20,22,23,26,27,30,31,34,36,38,40,42,43,45,48,50,52 ⋆ Positions of negative integers in A131389, minus 1. • a(n) = - 1 + position of the n - th negative integer in the sequence A131389=(0,1,2, - 1,3,4, - 2, - 3,6, - 4,5,...) •

[A131397] • 3,6,7,9,12,14,15,18,20,22,23,26,28,29,32,33,36,38,40,42,44,45,47,50,52 ⋆ Positions of negative integers in A131394, minus 1. • a(n) = position of n - th negative integer in A131394, minus 1. •

[A176409] • 3,6,7,9,12,14,15,18,21,24,27,28,30,33,35,36,39,42,45,48,49,51,54,56,57 ⋆ Multiples of 3 or 7. • a(n + 9) = a(n) + 21. • a(n) = 21 * floor(n / 9) + 2 * (n mod 9) + s((n mod 9) - 1) + 1 - floor(((n - 1) mod 9) / 8), where s(n) = floor(n * sqrt(2)) - 2 * floor(n / sqrt(2)). - _ Gary Detlefs _ , Oct 07 2013 • a(n) = 7n / 3 + O(1). - _ Charles R Greathouse IV _ , Feb 13 2017 •

[A047281] • 0,3,6,7,10,13,14,17,20,21,24,27,28,31,34,35,38,41,42,45,48,49,52,55,56 ⋆ Numbers that are congruent to {0, 3, 6} mod 7. • a(n + 1) = 3 * n - 2 * floor(n / 3). - _ Gary Detlefs _ , Mar 27 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 15 + 6 * cos(2 * n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 4, a(3k - 2) = 7k - 7. (End) • a(n) = Sum _{ i=1..n - 1 } numerator(3 / i). - _ Wesley Ivan Hurt _ , Feb 26 2017 •

[A136272] • 1,3,6,7,11,12,13,18,19,20,21,27,28,29,30,31,38,39,40,41,42,43,51,52,53 ⋆ Waterbird take-off sequence. Complement of A166021. • a(0)=1; let t =1. Start on position t. Jump t positions right hand. Erase t positions. (* P *) Set t=t + 1. Start on the last erased position. Jump t positions right hand. Erase t positions. Repeat procedure (* P *). •

[A076644] • 1,3,6,7,11,13,18,21,22,28,32,34,41,46,49,50,58,64,68,70,79,86,91,94,95 ⋆ a(1)=1; for n>1, a(n) = a(n-floor(sqrt(n))) + n. • a(n) is asymptotic to 2 / 3 * n ^ (3 / 2). •

[A047556] • 3,6,7,11,14,15,19,22,23,27,30,31,35,38,39,43,46,47,51,54,55,59,62,63,67 ⋆ Numbers that are congruent to {3, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 9 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 5. (End) •

[A004760] • 0,1,3,6,7,12,13,14,15,24,25,26,27,28,29,30,31,48,49,50,51,52,53,54,55 ⋆ List of numbers whose binary expansion does not begin 10. • a(0) = 0, a(1) = 1, for n>0: a(2n) = 2 * a(n) + 1, a(2n + 1) = 2 * a(n + 1) . - _ Philippe Deléham _ , Feb 29 2004 • a(1)=0, a(2)=1, a(2 ^ m + k + 2) = 2 ^ (m + 1) + 2 ^ m + k , m>=0, 0<=k<2 ^ m. - _ Yosu Yurramendi _ , Jul 30 2016 •

[A004755] • 3,6,7,12,13,14,15,24,25,26,27,28,29,30,31,48,49,50,51,52,53,54,55,56,57 ⋆ Binary expansion starts 11. • a(2n) = 2a(n), a(2n + 1) = 2a(n) + 1 + 2[n==0]. • a(2 ^ m + k) = 2 ^ (m + 1) + 2 ^ m + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 08 2016 •

[A069891] • 0,1,3,6,7,12,18,25,27,28,38,49,52,65,79,94,95,112,114,133,138,159,181,204,210 ⋆ a(n) = Sum_{k=1..n} A007913(k), the squarefree part of k. • a(n) is asymptotic to r * n ^ 2, where r = Pi ^ 2 / 30 = 0.3289868... •

[A033053] • 1,3,6,7,13,15,26,27,30,31,53,55,61,63,106,107,110,111,122,123,126,127,213,215,221 ⋆ Numbers n such that base 2 representation Sum{d(i)*2^i: i=0,1,...,m} has d(i)=1 when i<>m mod 2 • a(2j + 2) = 4 a(j) + 3, • a(2j + 1) = 4 a(j) + 2 if j <= 3 * 2 ^ (m - 1) - 2, • a(2j + 1) = 4 a(j) + 1 otherwise, where m = floor(log _ 2(j + 1)) •

[A266615] • 1,1,3,6,7,15,17,28,29,45,47,66,67,91,93,120,121,153,155,190,191,231,233,276,277 ⋆ Total number of ON (black) cells after n iterations of the "Rule 41" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n>6. •

[A227723] • 0,1,3,6,7,15,22,23,24,25,27,30,31,60,61,63,105,107,111,126,127,255,278,279,280 ⋆ Smallest Boolean functions from big equivalence classes (counted by A000616). • a(A000616 - 1) = a(2,5,21,401,...) = 3,15,255,65535,... = A051179 •

[A265227] • 0,1,3,6,8,9,10,12,15,17,18,19,21,24,26,27,28,30,33,35,36,37,39,42,44 ⋆ Nonnegative m for which k*floor(m^2/9) = floor(k*m^2/9), with 2 < k < 9. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[A047401] • 0,1,3,6,8,9,11,14,16,17,19,22,24,25,27,30,32,33,35,38,40,41,43,46,48 ⋆ Numbers that are congruent to {0, 1, 3, 6} mod 8. • a(n) = 2 * (n - 1) + (i ^ (n * (n - 1)) - 1) / 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Dec 05 2011 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. •

[A159061] • 3,6,8,10,12,15,17,19,21,24,26,28,30,32,34,36,39,41,43,45,47,49,51,53,56 ⋆ Nearest integer to the expected number of tosses of a fair coin required to obtain at least n heads and n tails. • a(n) is the nearest integer to 2 * n * (1 + binomial(2 * n,n) / (2 ^ (2 * n))). •

[A047282] • 1,3,6,8,10,13,15,17,20,22,24,27,29,31,34,36,38,41,43,45,48,50,52,55,57 ⋆ Numbers that are congruent to {1, 3, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 12 + 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3 * k) = 7 * k - 1, a(3 * k - 1) = 7 * k - 4, a(3 * k - 2) = 7 * k - 6. (End) • a(n) = 2 * n - 1 + floor(n / 3). - _ Wesley Ivan Hurt _ , Dec 28 2016 •

[A064437] • 1,3,6,8,10,13,15,18,20,23,25,27,30,32,35,37,39,42,44,47,49,51,54,56,59 ⋆ a(1)=1, a(n)=a(n-1)+3 if n is already in the sequence, a(n)=a(n-1)+2 otherwise. • a(n) = ceiling((1 + sqrt(2)) * (n - 1) + C) where C = 1 / (2 + sqrt(2)) = .292893218813... •

[A187336] • 0,0,3,6,8,10,15,15,18,21,23,25,30,30,33,36,38,40,45,45,48,51,53,55,60 ⋆ Sum{floor(kn/6), k=1,2,3,4,5}. • a(n)=Sum { floor(kn / 6), k=1,2,3,4, 5 } . •

[A118011] • 3,6,8,11,13,15,18,20,22,24,27,29,31,33,35,38,40,42,44,46,48,51,53,55,57 ⋆ Complement of the Connell sequence (A001614); a(n) = 4*n - A001614(n). • a(n) = 2n + [(1 + sqrt(8n - 7)) / 2]. - _ Juri - Stepan Gerasimov _ Aug 25 2009 • a(n) = 2 * n + round(sqrt(2 * n)). - _ Gerald Hillier _ , Apr 16 2015 •

[A047219] • 1,3,6,8,11,13,16,18,21,23,26,28,31,33,36,38,41,43,46,48,51,53,56,58,61 ⋆ Numbers that are congruent to {1, 3} mod 5. • a(n) = floor((5 * n - 3) / 2). - _ Santi Spadaro _ , Jul 24 2001, corrected by _ Gary Detlefs _ , Oct 28 2011 • a(n) = 5 * n - a(n - 1) - 6 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (1 / 4) * [- 7 - (- 1) ^ n + 10 * n], with n>=1. - _ Paolo P. Lava _ , Sep 03 2010 • a(n) = 2 * n + floor((n - 1) / 2) - 1. - _ Arkadiusz Wesolowski _ , Sep 19 2012 •

[A122437] • 1,3,6,8,11,13,16,19,21,24,26,29,32,34,37,39,42,44,47,50,52,55,57,60,63 ⋆ Allowable values of the "dropping time" of the Collatz (3x+1) iteration. • a(n + 1) = floor(1 + n + n * log(3) / log(2)). - _ T. D. Noe _ , Sep 08 2006 •

[A184657] • 3,6,8,11,13,16,19,21,24,26,29,32,34,37,40,42,45,47,50,53,55,58,61,63,66 ⋆ floor(n*s+h-h*s), where s=(3+sqrt(5))/2, h=-1/2; complement of A184656. • a(n)=floor(n * s + h - h * s), where s=(3 + sqrt(5)) / 2, h= - 1 / 2. •

[A047399] • 0,3,6,8,11,14,16,19,22,24,27,30,32,35,38,40,43,46,48,51,54,56,59,62,64 ⋆ Numbers that are congruent to {0, 3, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = floor((8 * n - 6) / 3). [_ Gary Detlefs _ , Mar 07 2010] • a(n) = 3 * n - floor(n / 3). [_ Gary Detlefs _ , Jul 09 2011] •

a(n) = (24 * n - 21 + 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 8. (End) •

[A057349] • 3,6,8,11,14,17,19,22,25,27,30,33,36,38,41,44,46,49,52,55,57,60,63,65,68 ⋆ Leap years in the Hebrew Calendar starting in year 1 (3761 BCE). The leap year has an extra-month. • a(n) = floor((19 * n + 5) / 7). •

[A185549] • 0,1,3,6,8,12,15,19,23,27,32,37,42,47,53,59,64,71,77,83,90,97,104,111,118 ⋆ a(n) = ceiling(n^(3/2)); complement of A185550. • a(n) = ceiling(n ^ (3 / 2)). •

[A082873] • 1,1,3,6,8,12,15,19,25,30,36,42,49,55,63,72,80,90,99,109,121,132,144,156,169 ⋆ Independence number of king KG_2 on triangle board B_n. • a(n) = floor((n + 1) ^ 2 / 4) if n == 0, 1, 4, 6, 9, 10, 11 (mod 12), a(n) = floor((n + 1) ^ 2 / 4) - 1 otherwise. • a(n)= + 2 * a(n - 1) - a(n - 2) + a(n - 12) - 2 * a(n - 13) + a(n - 14). - _ R. J. Mathar _ , Aug 05 2014 •

[A220001] • 0,1,3,6,8,12,15,20,22,26,30,36,39,44,49,56,58,62,66,72,76,82,88,96,99 ⋆ Benes network size for permutations of n. • a(n) = 2 * floor(n / 2) + a(floor(n / 2)) + a(ceiling(n / 2)) for n > 2 and a(1)=0 and a(2)=1. •

[A212984] • 1,1,3,6,8,12,17,21,27,34,40,48,57,65,75,86,96,108,121,133,147,162,176,192,209 ⋆ Number of (w,x,y) with all terms in {0..n} and 3w = x+y. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>4. • a(n) = 1 + floor(2 * n / 3) + floor(n ^ 2 / 3). - _ Wesley Ivan Hurt _ , Jul 25 2016 •

[A046670] • 1,3,6,8,13,16,23,25,28,33,44,47,60,67,72,74,91,94,113,118,125,136,159,162,167 ⋆ Partial sums of A006530. • a(n) = Pi ^ 2 / 12 * n ^ 2 / log n + O(n ^ 2 / log ^ 2 n). [See Mitrinovic et al.] - _ Charles R Greathouse IV _ , Feb 19 2014 •

[A073355] • 1,3,6,8,13,19,26,28,31,41,52,58,71,85,100,102,119,125,144,154,175,197,220,226,231 ⋆ Sum of squarefree kernels of numbers <= n. • a(n) = (1 / 2) * C * n ^ 2 + O(n ^ (3 / 2)) where C=prod(1 - 1 / p / (p + 1))=0.7044... (see A065463). - _ Benoit Cloitre _ , Jan 31 2003 •

[A123208] • 1,3,6,8,16,18,36,38,76,78,156,158,316,318,636,638,1276,1278,2556,2558,5116,5118,10236,10238,20476 ⋆ Start with 1, then alternately add 2 or double. • a(2n) = 5 * 2 ^ n - 4; a(2n + 1) = 5 * 2 ^ n - 2 (n>=0). - _ Emeric Deutsch _ , Oct 10 2006 • a(n + 1) = (1 + (- 1) ^ n) * (a(n) + 2) / 2 + (1 - (- 1) ^ n) * a(n), with a(0)=1. - _ Paolo P. Lava _ , Nov 19 2008 • a(n) = 3 * a(n - 2) - 2 * a(n - 4). - _ Colin Barker _ , Sep 10 2012 •

[A055264] • 0,1,3,6,9,10,12,15,18,19,21,24,27,28,30,33,36,37,39,42,45,46,48,51,54 ⋆ Possible values of A055263; numbers equal to 0, 1, 3 or 6 modulo 9. • a(n) =a(n - 4) + 9 =9 * floor[n / 4] + [n mod 4] * (1 + [n mod 4]) / 2 •

[A000408] • 3,6,9,11,12,14,17,18,19,21,22,24,26,27,29,30,33,34,35,36,38,41,42,43,44 ⋆ Numbers that are the sum of three nonzero squares. • a(n) = 6n / 5 + O(x / sqrt(log n)). (Can the error term be improved?) - _ Charles R Greathouse IV _ , Mar 14 2014 •

[A230193] • 3,6,9,11,12,15,18,21,22,24,27,30,33,36,39,42,44,45,48,51,54,55,57,60,63 ⋆ Numbers divisible by 3 or 11. • a(n + 13) = a(n) + 33. •

[A047400] • 1,3,6,9,11,14,17,19,22,25,27,30,33,35,38,41,43,46,49,51,54,57,59,62,65 ⋆ Numbers that are congruent to {1, 3, 6} mod 8. • a(n) = (1 / 9) *{ 25 * (n mod 3) + [(n + 1) mod 3] + 4 * [(n + 2) mod 3] } + 8 * A002264. - _ Paolo P. Lava _ , Nov 05 2007 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * (12 * n - 9 + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 7. (End) •

[A136616] • 1,3,6,9,11,14,17,19,22,25,28,30,33,36,38,41,44,47,49,52,55,57,60,63,66 ⋆ a(n) = largest m with H(m) - H(n) <= 1, where H(i) = sum{j=1 to i} 1/j, the i-th harmonic number, H(0)=0. • a(n) = floor(e * n + (e - 1) / 2 + (e - 1 / e) / (24 * (n + 1 / 2))), after a suggestion by David Cantrell •

[A242088] • 0,0,1,3,6,9,12 ⋆ Number of edges in the convex hull of a rigorous solution to Thomson's problem for n points. • a(n) <= n(n - 1) / 2 = (n choose 2). •

[A230215] • 3,6,9,12,13,15,18,21,24,26,27,30,33,36,39,42,45,48,51,52,54,57,60,63,65 ⋆ Numbers divisible by 3 or 13. • a(n + 15) = a(n) + 39. •

[A168045] • 1,3,6,9,12,14,16,18,20,23,25,27,29,31,34,36,38,40,43,45,47,49,51,53,56 ⋆ n-th non-single or nonisolated number plus n. • a(n) = 2n + n / log n + O(n / (log n) ^ 2). -_ Charles R Greathouse IV _ , May 25, 2011 •

[A008486] • 1,3,6,9,12,15,18,21,24,27,30,33,36,39,42,45,48,51,54,57,60,63,66,69,72 ⋆ Expansion of (1 + x + x^2)/(1 - x)^2. • a(n) = a(n - 1) + 3 for n >= 2. - _ Jaroslav Krizek _ , Nov 18 2009 • a(n) = 0 ^ n + 3 * n. - _ Vincenzo Librandi _ , Aug 21 2011 • a(n) = - a(- n) unless n = 0. - _ Michael Somos _ , May 05 2015 •

[A059563] • 3,6,9,12,15,18,21,24,27,30,33,37,40,43,46,49,52,55,58,61,64,67,70,74,77 ⋆ Beatty sequence for e + 1/e. • a(n) = floor(n * (e + 1 / e)). - _ Michel Marcus _ , Jan 04 2015 •

[A022844] • 0,3,6,9,12,15,18,21,25,28,31,34,37,40,43,47,50,53,56,59,62,65,69,72,75 ⋆ Floor(n*Pi). • a(n) / n converges to Pi because |a(n) / n - Pi|=|a(n) - n * Pi| / n<1 / n. - _ Hieronymus Fischer _ , Jan 22 2006 •

[A127451] • 3,6,9,12,15,18,21,25,28,31,34,37,40,43,47,50,53,56,59,62,65,69,72,75,78 ⋆ Beatty sequence for n/(1 - e^Pi + Pi^e), complement of A127450. • a(n) = floor(n / (1 - e ^ Pi + Pi ^ e)) •

[A138252] • 3,6,9,12,15,18,22,25,28,31,34,37,40,44,47,50,53,56,59,62,66,69,72,75,78 ⋆ Beatty sequence of the number t satisfying 1/s + 1/t = 1, where s is the positive root of x^3 - x^2 - 1. • a(n)=Floor(t * n). •

[A248524] • 3,6,9,12,15,18,22,25,28,31,34,37,40,44,47,50,53,56,59,63,66,69,72,75,78 ⋆ Beatty sequence for 1/(1-Pi^(-1/3)). • a(n) = floor(n / (1 - Pi ^ (- 1 / 3))). •

[A177102] • 3,6,9,12,15,18,22,25,28,31,34,37,41,44,47,50,53,56,60,63,66,69,72,75,79 ⋆ Beatty sequence for sqrt(10). • a(n) = floor(n * sqrt(10)). •

[A187337] • 0,0,3,6,9,12,15,21,21,24,27,30,33,36,42,42,45,48,51,54,57,63,63,66,69 ⋆ Sum{floor(kn/7), k=1,2,3,4,5,6}. • a(n)=Sum { floor(kn / 7), k=1,2,3,4,5,6 } . •

[A289761] • 3,6,9,12,15,22,29,36,43,50,57,68,79,90,101,112,123,138,153,168,183,198,213,232,251 ⋆ Maximum length of a perfect Wichmann ruler with n segments. • a(n) = (n ^ 2 - (mod(n,6) - 3) ^ 2) / 3 + n. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>9. •

[A194146] • 3,6,9,12,16,19,22,25,29,32,35,38,41,45,48,51,54,58,61,64,67,70,74,77,80 ⋆ Beatty sequence for (4+sqrt(6))/2; complement of A194145. • a(n) = Floor(n * (4 + sqrt(6)) / 2). - Vincenzo Librandi, Oct 25 2011 •

[A276854] • 0,3,6,9,12,16,19,22,25,29,32,35,38,42,45,48,51,55,58,61,64,67,71,74,77 ⋆ Beatty sequence for 1 + sqrt(5). • a(n) = floor(n * (1 + sqrt(5))). •

[A186156] • 1,3,6,9,12,16,20,23,28,32,36,41,46,51,56,61,66,71,77,83,89,94,100,107,113 ⋆ Rank of n^3 when {i^3: i>=1} and {2j^2: j>=1} are jointly ranked with i^3 before 2j^2 when i^3=2j^2. Complement of A186157. • a(n)=n + floor(((n ^ 3 - 1 / 2) / 2) ^ (1 / 2)), A186156. •

[A203016] • 3,6,9,12,21,24,27,30,39,42,45,48,57,60,63,66,75,78,81,84,93,96,99,102,111 ⋆ Numbers congruent to {1, 2, 3, 4} mod 6, multiplied by 3. • a(n) = 3 * (6 * n - 5 - i ^ (2 * n) + (1 + i) * i ^ (1 - n) + (1 - i) * i ^ (n - 1)) / 4 where i=sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A171982] • 3,6,9,13,16,19,23,26,29,33,36,39,43,46,49,53,56,59,63,66,69,72,76,79,82 ⋆ Beatty sequence for sqrt(11). • a(n) = floor(n * sqrt(11)). - _ Jon E. Schoenfield _ , Jun 18 2010 •

[A066343] • 3,6,9,13,16,19,23,26,29,33,36,39,43,46,49,53,56,59,63,66,69,73,76,79,83 ⋆ Beatty sequence for log_2(10). • a(n) = floor(n * log _ 2(10)). •

[A006590] • 1,3,6,9,13,16,21,24,29,33,38,41,48,51,56,61,67,70,77,80,87,92,97,100,109 ⋆ a(n) = Sum_{k=1..n} ceiling(n/k). • a(n) = n + Sum _{ k=1..n - 1 } tau(k). - _ Vladeta Jovovic _ , Oct 17 2002 •

[A004116] • 1,3,6,9,13,17,22,27,33,39,46,53,61,69,78,87,97,107,118,129,141,153,166,179,193 ⋆ a(n) = floor((n^2 + 6n - 3)/4). • a(n) = floor((1 / 4) * n ^ 2 + (3 / 2) * n + 1 / 4) - 1. • a(n) = (1 / 8) * (- 1) ^ (n + 1) - 7 / 8 + (3 / 2) * n + (1 / 4) * n ^ 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A171662] • 0,0,1,3,6,9,13,17,22,28,35,42,50,58,67,77,88,99,111,123,136,150,165,180,196 ⋆ Floor((2*n^2+n)/6). • a(n) = floor((n + 1) / (exp(3 / (n + 1)) - 1)). - _ Richard R. Forberg _ , Jun 22 2013 • a(0)=0, a(1)=0, a(2)=1, a(3)=3, a(4)=6, a(5)=9, a(6)=13, a(7)=17, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 6) - 2 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , Oct 15 2014 •

[A143975] • 1,3,6,9,13,18,23,29,36,43,51,60,69,79,90,101,113,126,139,153,168,183,199,216,233 ⋆ Floor(n(n+3)/3). • a(n)=floor(n(n + 3) / 3). • a(n)= 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). G.f.: x * (- 1 - x - x ^ 2 + x ^ 3) / ((1 + x + x ^ 2) * (x - 1) ^ 3) [From _ R. J. Mathar _ , Oct 05 2009] •

[A048202] • 3,6,9,13,18,24,29,31,37,43,47,51,54,61,67,69,71,74,78,82,88,94,97,99,103 ⋆ a(n)=T(n,2), array T given by A048201. • a(n)=a002048(n) + a002048(n + 1) [From _ Gerald Hillier _ , Oct 04 2008] •

[A033436] • 0,0,1,3,6,9,13,18,24,30,37,45,54,63,73,84,96,108,121,135,150,165,181,198,216 ⋆ a(n) = ceiling((3*n^2 - 4)/8). • a(n) = (1 / 16) { 6n ^ 2 - 5 + (- 1) ^ n + 2(- 1) ^ [n / 2] - 2(- 1) ^ [(n - 1) / 2] } . Therefore a(n) is asymptotic to 3 / 8 * n ^ 2. - _ Ralf Stephan _ , Jun 09 2005 • a(n) = Sum _{ i=0..n } { 1 / 8 * [(i mod 4) + ((i + 1) mod 4) - ((i + 2) mod 4) + 3 * ((i + 3) mod 4)] } + a(n - 1) - 1, with a(0)=0. - _ Paolo P. Lava _ , Jun 28 2007 • a(n + 1) = n + floor(n ^ 2 / 3). - _ Gary Detlefs _ , Mar 27 2010 • a(n) = floor(3 * n ^ 2 / 8). - _ Peter Bala _ , Aug 08 2013 • a(n) = Sum _{ i=1..n } floor(3 * i / 4). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A129728] • 1,3,6,9,13,18,25,35,50,73,109,166,257,403,638,1017,1629,2618,4217,6803,10986,17753,28701,46414,75073 ⋆ a(n) = 2*n-2 + Fibonacci(n). • a(n) = a(n - 1) + Fibonacci(n) - Fibonacci(n - 1) + 2 •

[A027424] • 1,3,6,9,14,18,25,30,36,42,53,59,72,80,89,97,114,123,142,152,164,176,199,209,225 ⋆ Number of distinct products ij with 1 <= i, j <= n (number of distinct terms in n X n multiplication table). • a(n) = Sum _{ l=1..n ^ 2 } Sum _{ d|l } moebius(l / d) * floor(m(d,n) * n / l), where m(d,n) is the maximum divisor of d not exceeding n. - _ Max Alekseyev _ , Jul 14 2011 •

[A258087] • 0,0,1,3,6,9,14,18,25,30,39,45,56,63,76,84,99,108,125,135,154,165,186,198,221 ⋆ Start with all terms set to 0. Then add n to the next n+2 terms for n=0,1,2,... . • a(n) = (6 * n ^ 2 + 2 * n - 11 + (2 * n - 5) * (- 1) ^ n) / 16 + 0 ^ n. • a(n) = Sum _{ i=1..n - 1 } (3 * i + 2) / 4 + (2 - i) * (- 1) ^ i / 4. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n >= 6. (End) • a(n) = a(- n) for n odd, a(n) = a(- n) + n / 2 otherwise. • a(n) = (floor(n / 2) + 1) * (floor(n / 2) + 2 * floor((n - 1) / 2)) / 2 for n>0. Therefore, after 3, all terms of the sequence are composite. (End) • a(n) = Sum _{ i= floor((n - 1) / 2)..n - 1 } i, for n>0. - _ Wesley Ivan Hurt _ , Apr 11 2016 •

[A228172] • 1,3,6,9,14,19,24,31,39,48,56,65,77,88,101,113,127,141,157,174,189,208,226,244,266 ⋆ Number of integer pairs (x,y) such that 0<=y<=x, x>0, and x^2+y^2<=n^2. • a(n) = A211340 (n) + n . [_ Joerg Arndt _ , Aug 19 2013] •

[A184015] • 1,3,6,9,14,19,25,31,38,46,55,64,75,86,97,110,123,137,151,167,183,200,217,235,254 ⋆ n-1+ceiling(n^2/e); complement of A184014. • a(n) = n - 1 + ceiling(n ^ 2 / e) •

[A082643] • 0,1,3,6,9,14,20,27,34,43,53,64,75,88,102,117,132,149,167,186,205,226,248,271,294 ⋆ a(n) = ceiling(n*(n+1/2)/2). • a(n) = + 2 a(n - 1) - a(n - 2) + a(n - 4) - 2 a(n - 5) + a(n - 6). - _ R. J. Mathar _ , Mar 11 2012 •

[A070885] • 1,3,6,9,15,24,36,54,81,123,186,279,420,630,945,1419,2130,3195,4794,7191,10788,16182,24273,36411,54618 ⋆ a(n) = (3/2)*a(n-1) if a(n-1) is even;

(3/2)*(a(n-1)+1) if a(n-1) is odd. • a(n) = 3 * ceiling(a(n - 1) / 2). - _ Benoit Cloitre _ , Apr 25 2003 •

[A002597] • 1,1,3,6,9,15,25,34,51,73,97,132,178,226,294,376,466,582,722,872,1062,1282,1522,1812,2147 ⋆ Number of partitions into one kind of 1's, two kinds of 2's, and three kinds of 3's. • a(n)=floor((160 * (n + 1) * (- 1) ^ (floor(n / 3 + 2 / 3) + n) + 80 * (n ^ 2 + 15 * n + 24) * (- 1) ^ (floor(n / 3 + 1 / 3) + n) + 80 * (n + 2) * (n + 11) * (- 1) ^ (floor(n / 3) + n) + 405 * (n + 1) * (- 1) ^ n + (n + 1) * (2 * n ^ 4 + 68 * n ^ 3 + 852 * n ^ 2 + 4748 * n + 10735)) / 25920 + 1 / 2). - _ Tani Akinari _ , Oct 12 2012 •

[A182751] • 1,3,6,9,18,27,54,81,162,243,486,729,1458,2187,4374,6561,13122,19683,39366,59049,118098,177147,354294,531441,1062882 ⋆ a(1)=1, a(2)=3, a(3)=6; a(n) = 3*a(n-2) for n > 3. • a(2 * k) = (3 / 2) * a(2 * k - 1) for k >= 2, a(2 * k + 1) = 2 * a(2 * k). •

[A133195] • 0,3,6,9,39,69,99,399,699,999,3999,6999,9999,39999,69999,99999,399999,699999,999999,3999999,6999999,9999999,39999999,69999999,99999999 ⋆ Smallest number whose sum of digits is 3n. • a(n) = a(n - 1) + 10 * a(n - 3) - 10 * a(n - 4). G.f.: 3 * x * (x ^ 2 + x + 1) / ((x - 1) * (10 * x ^ 3 - 1)). [_ Colin Barker _ , Feb 01 2013] •

[A130483] • 0,1,3,6,10,10,11,13,16,20,20,21,23,26,30,30,31,33,36,40,40,41,43,46,50 ⋆ a(n) = Sum_{k=0..n} (k mod 5) (Partial sums of A010874). • a(n) = a(n - 5) - a(n - 6) for n>5; a(n) = a(n - 5) + 10 for n>4. • a(n) = 10 + Sum _{ k=1..4 } k * floor((n - k) / 5). (End) •

[A073851] • 0,1,3,6,10,11,12,13,14,15,17,19,21,23,25,28,31,34,37,40,44,48,52,56,60 ⋆ Cumulative sum of initial digits of (n base 5). • a(n) = SUM { from i = 1 to n } [n / 5 ^ ([log _ 5(n)])] where [ ] denotes floor and log _ 5(n) is the logarithm is base 5. • a(n + 1) = a(n) + first - digit - of((n + 1) (base 5)). •

[A080667] • 3,6,10,13,16,20,23,26,29,33,36,39,43,46,49,53,56,59,62,66,69,72,76,79,82 ⋆ a(1)=3; for n>1, a(n)=a(n-1)+4 if n is already in the sequence, a(n)=a(n-1)+3 otherwise. • a(n) = floor(n * r + 1 / (1 + r)) where r = (3 + sqrt(13)) / 2. •

[A258834] • 0,3,6,10,13,17,20,24,27,30,34,37,41,44,47,51,54,58,61,65,68,71,75,78,82 ⋆ Nonhomogeneous Beatty sequence: ceiling((n - 1/4)*(2 + sqrt(2)). • a(n) = ceiling((n - 1 / 4) * (2 + sqrt(2))) = floor((n - 1 / 4) * (2 + sqrt(2)) + 1). •

[A194028] • 3,6,10,13,17,20,24,27,31,34,38,41,45,48,51,55,58,62,65,69,72,76,79,83,86 ⋆ Beatty sequence for sqrt(12). • a(n) = floor(n * sqrt(12)). •

[A047280] • 3,6,10,13,17,20,24,27,31,34,38,41,45,48,52,55,59,62,66,69,73,76,80,83,87 ⋆ Numbers that are congruent to {3, 6} mod 7. • a(n) = 7 * n - a(n - 1) - 5 with n>1, a(1)=3. [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) = 3 * n + ceiling(n / 2) - 1. - _ Arkadiusz Wesolowski _ , Sep 20 2012 • a(n) = 4n - 1 - floor(n / 2). - _ Wesley Ivan Hurt _ , Oct 16 2013 •

[A276219] • 3,6,10,13,17,21,25,30,34,39,44,49,54,60,65,70,76,82,88,94,100,106,112,118,125 ⋆ Position of n^s in the joint ranking of {h} and {k^s}, where s = sqrt(2), h >= 1, k >= 2. • a(n) = n + floor(n ^ s), n >= 2; the complement is given by n + floor(n ^ (1 / s)), n >= 1. •

[A113127] • 1,3,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90,94 ⋆ Expansion of (1+x+x^2+x^3)/(1-x)^2. • a(n)=4n - 2 + 2 * C(0, n) + C(1, n); a(n)=C(n + 1, n) + C(n, n - 1) + C(n - 1, n - 2) + C(n - 2, n - 3). •

[A036572] • 3,6,10,14,19,24,30,36,43,50,58,66,75,84,94,104,115,126,138,150,163,176,190,204,219 ⋆ Number of tetrahedra in largest triangulation of polygonal prism with regular polygonal base. • a(n) = (- 31 - (- 1) ^ n + 12 * n + 2 * n ^ 2) / 8. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: x ^ 3 * (2 * x ^ 2 - 3) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Sep 05 2013 •

[A033437] • 0,0,1,3,6,10,14,19,25,32,40,48,57,67,78,90,102,115,129,144,160,176,193,211,230 ⋆ Number of edges in 5-partite Turán graph of order n. • a(n) = floor(2n ^ 2 / 5). - _ Wesley Ivan Hurt _ , Jun 20 2013 • a(n) = Sum _{ i=1..n } floor(4 * i / 5). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A272058] • 0,0,1,3,6,10,14,20,25,33,39,49,56,68,76,90,99,115,125,143,154,174,186,208,221 ⋆ Start with all terms set to 0. Then add n to the next n+3 terms for n=0,1,2,... . • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>6. • a(n) = (6 * n ^ 2 + 6 * n - 23 + (7 - 2 * n) * (- 1) ^ n) / 16 for n>1. • a(n) = floor((n + 3) / 4) * floor((3 * n - 4) / 2) + (floor((n - 1) / 2) mod 2) * floor((3 * n - 3) / 4) for n>1. •

[A183863] • 1,3,6,10,14,20,26,33,41,49,59,69,80,92,104,118,132,147,163,179,197,215,234,254,274 ⋆ n-1+ceiling((2/5)(-1/2+n^2)); complement of A183862. • a(n)=n - 1 + ceiling((2 / 5)(- 1 / 2 + n ^ 2)). •

[A109804] • 0,1,3,6,10,15,16,17,18,19,20,21,23,25,27,29,31,33,36,39,42,45,48,51,55 ⋆ Cumulative sum of initial digits of (n base 6). • a(n) below is sum _{ i =0..n } first - digit { (i base 6) } . • a(n) = sum _{ i=1..n } floor(n / 6 ^ floor(log _ 6(n))) where log _ 6(n) is the logarithm to base 6. • a(n + 1) = a(n) + first - digit - of((n + 1) (base 6)). •

[A194458] • 1,3,6,10,15,17,21,27,35,45,48,54,63,75,90,94,102,114,130,150,155,165,180,200,225 ⋆ Total number of entries in rows 0,1,...,n of Pascal's triangle not divisible by 5. • a(n) = ((C(d0 + 1,2) * 15 ^ 0 * (d1 + 1) + C(d1 + 1,2) * 15 ^ 1) * (d1 + 1) + C(d1 + 1,2) * 15 ^ 1) * (d2 + 1) + C(d2 + 1,2) * 15 ^ 2 ..., where d _ k...d _ 1d _ 0 is the base 5 expansion of n + 1 and 15 = binomial(5 + 1,2). The formula generalizes to other prime bases p. •

[A033438] • 0,0,1,3,6,10,15,20,26,33,41,50,60,70,81,93,106,120,135,150,166,183,201,220,240 ⋆ Number of edges in 6-partite Turán graph of order n. • a(n) = + 2 * a(n - 1) - a(n - 2) + a(n - 6) - 2 * a(n - 7) + a(n - 8). • a(n) = floor(5 * n ^ 2 / 12). - _ Peter Bala _ , Aug 12 2013 • a(n) = Sum _{ i=1..n } floor(5 * i / 6). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A115015] • 1,3,6,10,15,21,21,29,38,48,59,71,84,84,99,115,132,150,169,189,189,211,234,258,283 ⋆ Sum_{i=1..n} (gcd(7,i)=1) i. • a(- 1 - n) = a(n). - _ Michael Somos _ , Jul 12 2006 •

[A033439] • 0,0,1,3,6,10,15,21,27,34,42,51,61,72,84,96,109,123,138,154,171,189,207,226,246 ⋆ Number of edges in 7-partite Turán graph of order n. • a(n) = floor(3 * n ^ 2 / 7). - _ Peter Bala _ , Aug 12 2013 • a(0)=0, a(1)=0, a(2)=1, a(3)=3, a(4)=6, a(5)=10, a(6)=15, a(7)=21, a(8)=27, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 7) - 2 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Mar 19 2015 • a(n) = Sum _{ i=1..n } floor(6 * i / 7). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A171971] • 0,1,3,6,10,15,21,27,35,43,52,62,73,84,97,110,125,140,156,173,190,209,229,249,270 ⋆ Integer part of the area of an equilateral triangle with side length n. • a(n) = floor(n ^ 2 * sqrt(3) / 4). •

[A033440] • 0,0,1,3,6,10,15,21,28,35,43,52,62,73,85,98,112,126,141,157,174,192,211,231,252 ⋆ Number of edges in 8-partite Turán graph of order n. • a(n) = round((7 / 16) * n(n - 2)) + 0 or - 1 depending on n: if there is k such 8k + 4<=n<=8k + 6 then a(n) = floor((7 / 16) * n * (n - 2)) otherwise a(n) = round((7 / 16) * n(n - 2)). E.g. because 8 * 2 + 4<=21<=8 * 2 + 6 a(n) = floor((7 / 16) * 21 * 19) = floor(174, 5625)=174. - _ Benoit Cloitre _ , Jan 17 2002 • a(n) = Sum _{ i=1..n } floor(7 * i / 8). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A108923] • 1,3,6,10,15,21,28,36,44,52,60,68,76,84,92,100,109,119,130,142,155,169,184,200,216 ⋆ Expansion of 1/((x^8+1)*(1-x)^3). • a(0)=1, a(1)=3, a(2)=6, a(3)=10, a(4)=15, a(5)=21, a(6)=28, a(7)=36, a(8)=44, a(9)=52, a(10)=60, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) - a(n - 8) + 3 * a(n - 9) - 3 * a(n - 10) + a (n - 11). - _ Harvey P. Dale _ , Jan 28 2015 •

[A033441] • 0,0,1,3,6,10,15,21,28,36,44,53,63,74,86,99,113,128,144,160,177,195,214,234,255 ⋆ Number of edges in 9-partite Turán graph of order n. • a(n) = Sum _{ i=1..n } floor(8 * i / 9). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A061076] • 1,3,6,10,15,21,28,36,45,45,46,48,51,55,60,66,73,81,90,90,92,96,102,110,120 ⋆ a(n) is the sum of the products of the digits of all the numbers from 1 to n. • a(n) = Sum _{ k = 1..n } product of the digits of k. • a(10 ^ k - 1) = (45 / 44) * (45 ^ k - 1). - _ Giovanni Resta _ , Oct 18 2012 •

[A217627] • 1,3,6,10,15,21,28,36,45,46,47,49,52,56,61,67,74,82,91,93,95,99,105,113,123 ⋆ a(n) is the sum of the products of the nonzero digits of the numbers from 1 to n. • a(10 ^ k) = 46 ^ k. •

[A037123] • 0,1,3,6,10,15,21,28,36,45,46,48,51,55,60,66,73,81,90,100,102,105,109,114,120 ⋆ a(n) = a(n-1) + Sum of digits of n. • a(n) = n * (n + 1) / 2 - 9 * Sum _{ k=1..n } Sum _{ i=1..ceiling(log _ 10(k)) } floor(k / 10 ^ i). - _ Benoit Cloitre _ , Aug 28 2003 • a(n) = (1 / 2) * ((n + 1) * (n - 18 * Sum _{ k>0 } floor(n / 10 ^ k)) + 9 * Sum _{ k>0 } (1 + floor(n / 10 ^ k)) * floor(n / 10 ^ k) * 10 ^ k). •

[A033442] • 0,0,1,3,6,10,15,21,28,36,45,54,64,75,87,100,114,129,145,162,180,198,217,237,258 ⋆ Number of edges in 10-partite Turán graph of order n. • a(n) = Sum _{ i=1..n } floor(9 * i / 10). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A033443] • 0,0,1,3,6,10,15,21,28,36,45,55,65,76,88,101,115,130,146,163,181,200,220,240,261 ⋆ Number of edges in 11-partite Turán graph of order n. • a(n) = Sum _{ i=1..n } floor(10 * i / 11). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A033444] • 0,0,1,3,6,10,15,21,28,36,45,55,66,77,89,102,116,131,147,164,182,201,221,242,264 ⋆ Number of edges in 12-partite Turán graph of order n. • a(n) = Sum _{ i=1..n } floor(11 * i / 12). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A268291] • 0,1,3,6,10,15,21,28,36,45,55,66,78,78,79,81,84,88,93,99,106,114,123,133,144 ⋆ a(n) = Sum_{k = 0..n} (k mod 13). • a(n) = 12 * floor((n - 12) / 13) + 11 * floor((n - 11) / 13) + 10 * floor((n - 10) / 13) + 9 * floor((n - 9) / 13) + 8 * floor((n - 8) / 13) + 7 * floor((n - 7) / 13) + 6 * floor((n - 6) / 13) + 5 * floor((n - 5) / 13) + 4 * floor((n - 4) / 13) + 3 * floor((n - 3) / 13) + 2 * floor((n - 2) / 13) + floor((n - 1) / 13) + 78. •

[A130910] • 0,1,3,6,10,15,21,28,36,45,55,66,78,91,105,120,120,121,123,126,130,135,141,148,156 ⋆ Sum {0<=k<=n, k mod 16} (Partial sums of A130909). • a(n) = + a(n - 1) + a(n - 16) - a(n - 17). G.f. (x * (1 + 2 * x + 3 * x ^ 2 + 4 * x ^ 3 + 5 * x ^ 4 + 6 * x ^ 5 + 7 * x ^ 6 + 8 * x ^ 7 + 9 * x ^ 8 + 10 * x ^ 9 + 11 * x ^ 10 + 12 * x ^ 11 + 13 * x ^ 12 + 14 * x ^ 13 + 15 * x ^ 14)) / ((1 + x) * (1 + x ^ 2) * (1 + x ^ 4) * (1 + x ^ 8) * (x - 1) ^ 2). - R. J. Mathar, Nov 05 2011 •

[A161680] • 0,0,1,3,6,10,15,21,28,36,45,55,66,78,91,105,120,136,153,171,190,210,231,253,276 ⋆ a(n) = binomial(n,2): number of size-2 subsets of {0,1,...,n} that contain no consecutive integers. • a(n) = (n ^ 2 - n) / 2. • a(n) = a(n - 1) + n - 1 (with a(0)=a(1)=0). - _ Vincenzo Librandi _ , Nov 30 2010 •

[A000217] • 0,1,3,6,10,15,21,28,36,45,55,66,78,91,105,120,136,153,171,190,210,231,253,276,300 ⋆ Triangular numbers: a(n) = binomial(n+1,2) = n(n+1)/2 = 0 + 1 + 2 + ... + n. • a(n) = a(- 1 - n). • a(n) + a(n - 1) * a(n + 1) = a(n) ^ 2. - _ Terrel Trotter, Jr. _ , Apr 08 2002 • a(n) = (- 1) ^ n * Sum _{ k =1..n } (- 1) ^ k * k ^ 2. - _ Benoit Cloitre _ , Aug 29 2002 • a(n + 1) = ((n + 2) / n) * a(n), Sum _{ n>=1 } 1 / a(n) = 2. - _ Jon Perry _ , Jul 13 2003 • a(n + 1) is the determinant of the n X n symmetric Pascal matrix M _ (i, j) = binomial(i + j + 1, i). - _ Benoit Cloitre _ , Aug 19 2003 • a(n) = ((n ^ 3 - (n - 1) ^ 3) - (n - (n - 1))) / (2 ^ 3 - 2 ^ 1) = (n ^ 3 - (n - 1) ^ 3 - 1) / 6. - Xavier Acloque, Oct 24 2003 •

[A253145] • 0,3,6,10,15,21,28,36,45,55,66,78,91,105,120,136,153,171,190,210,231,253,276,300,325 ⋆ Triangular numbers (A000217) omitting the term 1. • a(n) = (n + 1) * (n + 2) / 2 for n > 0. - _ Charles R Greathouse IV _ , Mar 23 2015 •

[A109811] • 0,1,3,6,10,15,21,28,36,45,55,66,78,91,105,120,136,153,171,190,210,231,253,300,378 ⋆ Triangular numbers (A000217) at Levenshtein distance 1 from another triangular number when considered as a decimal string. • a(n) is in this sequence iff a(n) is an element of A000217 and there exists another el

ement T of A000217 such that LD(a(n), T) = 1, where LD(A, B) = Levenshtein distance from A to B as decimal strings. •

[A025715] • 1,3,6,10,15,21,28,36,45,56,68,81,95,110,126,143,161,180,201,223,246,270,295,321,348 ★ Index of 6^n in A025622 (numbers of form 5^i*6^j). • a(n) >= binomial(n + 2, 2). - _ David A. Corneth _ , Jul 20 2017 •

[A175724] • 0,0,0,0,1,3,6,10,15,21,29,39,51,65,81,99,120,144,171,201,234,270,310,354,402 ★ Partial sums of floor(n^2/12). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 18 * n) / 72). • a(n) = a(n - 6) + (n - 2) * (n - 3) / 2, n>5. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 6) - 3 * a(n - 7) + 3 * a(n - 8) - a(n - 9), n>8. •

[A101551] • 0,0,0,0,1,3,6,10,15,21,29,42,66,111,192,330,554,906,1452,2303,3651,5826,9382,15225,24807 ★ C(n-2,2)+C(n-5,5)+...+C(n-(3*floor((n-3)/3)+2),3*floor((n-3)/3)+2). • a(n)=sum { k=0..n, if(mod(k + 1, 3)=0, C(n - k, k), 0) } . • a(n + 2)=sum { k=0..floor(n / 6), binomial(n - 3k, 3k + 2) } . - _ Paul Barry _ , Jan 13 2005 •

[A227430] • 0,0,1,3,6,10,15,21,29,45,90,220,561,1365,3095,6555,13110,25126,46971,87381,164921,320001,640002,1309528,2707629 ★ Expansion of x^2*(1-x)^3/((1-2*x)*(1-x+x^2)*(1-3*x+3x^2)). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) for n>5, a(0)=a(1)=0, a(2)=1, a(3)=3, a(4)=6, a(5)=10. •

[A025723] • 1,3,6,10,15,22,30,39,49,60,73,87,102,118,135,154,174,195,217,240,265,291,318,346,376 ★ Index of 7^n within sequence of numbers of form 5^i*7^j. • a(n) = 1 + Sum _{ 1<=k<=n } ceil(k * log[5](7)). - _ Robert Israel _ , Nov 16 2016 •

[A173645] • 0,0,0,0,1,3,6,10,15,22,31,42,55,70,87,107,130,156,185,217,253,293,337,385,437 ★ Partial sums of floor(n^2/11). • a(n)=round((2 * n ^ 3 + 3 * n ^ 2 - 23 * n - 12) / 66). • a(n)=floor((2 * n ^ 3 + 3 * n ^ 2 - 23 * n + 18) / 66). • a(n)=ceil((2 * n ^ 3 + 3 * n ^ 2 - 23 * n - 42) / 66). • a(n)=a(n - 11) + (n - 5) ^ 2 + 6 , n>10 . • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 11) - 3 * a(n - 12) + 3 * a(n - 13) - a(n - 14). [R. J. Mathar, Nov 24 2010] •

[A177100] • 0,0,0,1,3,6,10,15,22,31,42,55,71,90,112,137,165,197,233,273,317,366,420,479,543 ★ Partial sums of round(n^2/9). • a(n) = round((n - 1) * (n + 2) * (2 * n + 1) / 54); • a(n) = floor((n + 3) * (2 * n ^ 2 - 3 * n + 6) / 54); • a(n) = ceiling((n - 2) * (2 * n ^ 2 + 7 * n + 11) / 54); • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 3 * n) / 54); • a(n) = a(n - 9) + (n + 1) * (n - 9) + 31, n > 8. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 9) - 3 * a(n - 10) + 3 * a(n - 11) - a(n - 12). - _ R. J. Mathar _ , Mar 11 2012 •

[A265071] • 1,3,6,10,15,22,31,44,62,87,122,171,240,336,471,660,925,1296,1816,2545,3566,4997,7002,9812,13749 ★ Coordination sequence for (3,3,4) tiling of hyperbolic plane. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) - a(n - 6) for n>6. - _ Vincenzo Librandi _ , Dec 30 2015 •

[A137358] • 0,0,1,3,6,10,15,22,34,57,101,181,319,549,928,1557,2617,4427,7536,12872,21992,37513,63862,108575,184524 ★ a(n) = Sum_{k <= n/2 } binomial(n-2k, 3k+2). • a(0)=0, a(1)=0, a(2)=1, a(3)=3, a(4)=6, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5). - _ Harvey P. Dale _ , Nov 06 2012 •

[A139714] • 0,0,1,3,6,10,15,22,36,72,165,385,859,1807,3614,6995,13380,25773,50559,101118,204820,416405,843756,1698458,3396916 ★ a(n) = Sum_{ k >= 0} binomial(n,5*k+2). • a(n) = round((2 / 5) * (2 ^ (n - 1) + phi ^ n * cos(Pi * (n - 4) / 5))), where phi is the golden ratio, round(x) is the integer nearest to x. - _ Vladimir Shevelev _ , Jun 18 2017 • a(n + m) = a(n) * H _ 1(m) + H _ 2(n) * H _ 2(m) + H _ 1(n) * a(m) + H _ 5(n) * H _ 4(m) + H _ 4(n) * H _ 5(m), where H _ 1=A139398, H _ 2=A133476, H _ 4=A139748, H _ 5=A139761. - _ Vladimir Shevelev _ , Jun 18 2017 •

[A262927] • 0,1,3,6,10,15,23,30,39,49,60,72,85,99,114,132,149,168,188,209,231,254,278,303,331 ★ a(n+9) = a(n) + 10*(n+4) + 9. a(0)=0, a(1)=1, a(2)=3, a(3)=6, a(4)=10, a(5)=15, a(6)=23, a(7)=30, a(8)=39. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 9) - 2 * a(n - 10) + a(n - 11), n>10. • a(n) = (5n ^ 2 + 4n) / 9 + O(1), or more precisely (5n ^ 2 + 4n + 3) / 9 <= a(n) <= (5n ^ 2 + 4n - 10) / 9. - _ Charles R Greathouse IV _ , Oct 16 2015 •

[A214282] • 1,1,1,3,6,10,15,35,70,126,210,462,924,1716,3003,6435,12870,24310,43758,92378,184756,352716,646646,1352078,2704156 ★ Largest Euler characteristic of a downset on an n-dimensional cube. • a(n) = binomial(n - 1, n / 2) when n is even, a(n) = binomial(n - 1, (n + 1) / 2) when n is 3 mod 4, and a(n) = binomial(n - 1, (n - 1) / 2) when n is 1 mod 4. •

[A260708] • 0,1,3,6,10,16,21,29,36,46,55,68,78,93,105,122,136,156,171,193,210,234,253,280,300 ★ a(2n) = n*(2*n+1), a(2n+7) = a(2n+1) + 12*n + 28, with a(1)=1, a(3)=6, a(5)=16. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 6) - a(n - 7) - a(n - 8) + a(n - 9) for n>8. (End) • a(6 * k + 1) = 18 * k ^ 2 + 10 * k + 1, • a(6 * k + 3) = 2 * (9 * k ^ 2 + 11 * k + 3), • a(6 * k + 5) = 2 * (k + 1) * (9 * k + 8), that is A178574. • a(n) = n * (n + 1) / 2 + (1 - (- 1) ^ n) * floor(n / 6 + 1 / 3) / 2. [_ Bruno Berselli _ , Nov 18 2015] •

[A264041] • 1,3,6,10,16,21,29,36,46,55,68,78,93,105,122,136,156,171,193,210,234,253,280,300,329 ★ a(n) is the maximum number of diagonals that can be placed in an n X n grid made up of 1 X 1 unit squares when diagonals are placed in the unit squares in such a way that no two diagonals may cross or intersect at an endpoint. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 6) - a(n - 7) - a(n - 8) + a(n - 9) for n>9 (conjectured). - _ Colin Barker _ , Jan 31 2018 •

[A049697] • 1,3,6,10,16,22,30,40,50,60,74,88,104,122,136,152,176,198,222,248,268,290,322,352,380 ★ a(n)=T(n,n+1), array T as in A049695. • a(n - 1)=sum _{ k=1...n } mu(k)floor(n / k)ceiling(n / k); a(n) is asymptotic to (6 / Pi ^ 2) * n ^ 2 - _ Benoit Cloitre _ , Jun 27 2005 •

[A293407] • 0,1,3,6,10,16,23,31,40,51,62,75,89,105,122,140,159,179,201,224,248,273,300,327,356 ★ Least integer k such that k/n^2 > (-1 + sqrt(5))/2 (the golden ratio). • a(n) = ceiling(r * n ^ 2), where r = (- 1 + sqrt(5)) / 2. •

[A034198] • 0,1,3,6,10,16,23,32,43,56,71,89,109,132,158,187,219,255,294,337,384,435,490,550,614 ★ Number of binary codes (not necessarily linear) of length n with 3 words. • a(n) = floor(n * (2 * n ^ 2 + 21 * n - 6) / 72). • a(1)=0, a(2)=1, a(3)=3, a(4)=6, a(5)=10, a(6)=16, a(7)=23, a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7). [_ Harvey P. Dale _ , Dec 25 2011] •

[A121776] • 1,1,3,6,10,16,23,36,52,76,118,181,271,427,675,1057,1686,2705,4318,6923,11142,17966,28999,46793,75522 ★ Antidiagonal sums of triangle A121775. • a(n) = Sum _{ k=0..[n / 2] } Sum _{ d|(n - k) } phi((n - k) / d) * C(d,k) for n>0, with a(0)=1. •

[A259823] • 0,1,3,6,10,16,24,33,45,61,79,103,130,162,198,246,300,364,436,517,613,721,849,993,1155 ★ a(0)=0, a(1)=1, a(n)=min{3 a(k) + 2^(n-k)-1, k=0..(n-1)} for n>=2. • a(n) = min { 3 * a(k) + 2 ^ (n - k) - 1; k < n } . •

[A264847] • 0,1,3,6,10,16,24,34,46,60,76,94,114,137,163,192,224,259,297,338,382,429,479,532,588 ★ Pluritriangular numbers: a(0) = 0; a(n+1) = a(n) + the number of digits in terms a(0)..a(n). • a(n + 1) = 2 * a(n) - a(n - 1) + floor(log _ 10(a(n))) + 1. - _ Danny Rorabaugh _ , Jan 20 2016 •

[A173653] • 0,0,0,0,1,3,6,10,16,24,34,46,60,76,95,117,142,170,202,238,278,322,370,422,479 ★ Partial sums of floor(n^2/10) (A056865) • a(n) = sum(k=0..n ,floor(k ^ 2 / 10)). • a(n) = a(n - 10) + (n - 5) ^ 2 + n - 1 , n>9. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 10) - 3 * a(n - 11) + 3 * a(n - 12) - a(n - 13). [R. J. Mathar, Nov 24 2010] •

[A122046] • 0,0,0,1,3,6,10,16,24,34,46,61,79,100,124,152,184,220,260,305,355,410,470,536,608 ★ Partial sums of floor(n^2/8). • a(n) = sum(k=0..n,floor(k ^ 2 / 8)). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 8 * n) / 48) = round((4 * n ^ 3 + 6 * n ^ 2 - 16 * n - 9) / 96) = floor((2 * n ^ 3 + 3 * n ^ 2 - 8 * n + 3) / 48) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 8 * n - 12) / 48). - _ Mircea Merca _ • a(n) = a(n - 8) + (n - 4) ^ 2 + n , n>8. - _ Mircea Merca _ • a(n + 1) = cos((2n + 1)Pi / 4) / (4 * sqrt(2)) + (2n + 3)(2n ^ 2 + 6n - 5) / 96 + (- 1) ^ n / 32. - A. N. W. Hone (A.N.W.Hone(AT)kent.ac.uk), Jul 15 2008 • a(n)= 3a(n - 1) - 3a(n - 2) + a(n - 3) + a(n - 4) - 3a(n - 5) + 3a(n - 6) - a(n - 7). - A. N. W. Hone (A.N.W.Hone(AT)kent.ac.uk), Jul 15 2008 • a(n) = (4 * n ^ 3 + 6 * n ^ 2 - 16 * n - 9 - 3 * (- 1) ^ n + 12 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4)) / 96. - _ Luce ETIENNE _ , Mar 21 2014 •

[A173691] • 0,0,1,3,6,10,16,24,35,49,66,86,110,138,171,209,252,300,354,414,481,555,636,724,820 ★ Partial sums of round(n^2/6). • a(n) = sum(k=0..n,round(k ^ 2 / 6)) • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 + 6 * n) / 36) • a(n) = round((4 * n ^ 3 + 6 * n ^ 2 + 12 * n + 5) / 72) • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 + 6 * n + 16) / 36) • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 + 6 * n - 11) / 36) • a(n) = a(n - 6) + n ^ 2 - 5 * n + 10, n>5. •

[A011902] • 0,0,0,0,1,3,6,10,16,25,36,49,66,85,109,136,168,204,244,290,342,399,462,531,607 ★ [n(n-1)(n-2)/20]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 20) - 3 * a(n - 21) + 3 * a(n - 22) - a(n - 23). G.f.: x ^ 4 * (1 + x ^ 4 + x ^ 5 - x ^ 6 + 2 * x ^ 8 - 2 * x ^ 9 + 3 * x ^ 10 - 2 * x ^ 11 + 2 * x ^ 12 - x ^ 13 + 2 * x ^ 15 - x ^ 17 + x ^ 18) / ((- 1 + x) ^ 4 * (1 + x ^ 4 + x ^ 3 + x ^ 2 + x) * (1 + x) * (1 - x + x ^ 2 - x ^ 3 + x ^ 4) * (1 + x ^ 2) * (x ^ 8 - x ^ 6 + x ^ 4 - x ^ 2 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A145131] • 0,1,3,6,10,16,25,38,56,81,116,165,233,327,457,637,886,1230,1705,2361,3267,4518,6245,8629,11920 ★ Expansion of x/((1 - x - x^4)*(1 - x)^2). • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3) + a(n - 4) - 2a(n - 5) + a(n - 6). •

[A265074] • 1,3,6,10,16,26,42,67,106,167,264,418,662,1048,1658,2623,4150,6567,10392,16444,26020,41172,65148,103087,163120 ★ Coordination sequence for (3,3,7) tiling of hyperbolic plane. • a(n) = a(n - 1) + a(n - 3) + a(n - 5) + a(n - 7) - a(n - 8) for n>8. - _ Vincenzo Librandi _ , Dec 30 2015 •

[A054886] • 1,3,6,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314,92736,150050,242786 ★ Layer counting sequence for hyperbolic tessellation by cuspidal triangles of angles (Pi/3,Pi/3,0) (this is the classical modular tessellation). • a(n) = 2 * F(n) for n>2, with F(n) the n - th Fibonacci number (cf. A000045) •

[A038505] • 0,0,1,3,6,10,16,28,56,120,256,528,1056,2080,4096,8128,16256,32640,65536,131328,262656,524800,1048576,2096128,4192256 ★ Sum of every 4th entry of row n in Pascal's triangle, starting at "n choose 2". • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. • a(n) = Sum _{ k=0..n } binomial(n, 2 + 4 * k), n>=0. • a(n) = Sum _{ k=0..n } (1 / 2) * C(n, k) * (- 1) ^ C(k + 3, 3) for n>=1. - _ Paul Barry _ , Jul 07 2003 • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * (1 - (- 1) ^ k) / 2. (End) • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3), n > 3; sequence is identical to its fourth differences. - _ Paul Curtz _ , Dec 21 2007 • a(n + m) = a(n) * H _ 1(m) + H _ 2(n) * H _ 2(m) + H _ 1(n) * a(m) + H _ 4(n) * H _ 4(m), •

[A236326] • 3,6,10,17,24,27,30,34,41,48,51,54,58,65,72,75,78,82,89,96,99,102,106,113,120 ★ a(n)*Pi is the total length of irregular spiral (center points: 1, 2, 3, 4, 5; pattern 1) after n rotations. • a(n) = a(n - 1) + a(n - 5) - a(n - 6). •

[A189376] • 1,3,6,10,17,27,40,56,78,106,140,180,230,290,360,440,535,645,770,910,1071,1253,1456,1680,1932 ★ Expansion of 1/((1-x)^5*(x^3+x^2+x+1)^2). • a(0)=1, a(1)=3, a(2)=6, a(3)=10, a(4)=17, a(5)=27, a(6)=40, a(7)=56, a(8)=78, a(9)=106, a(10)=140, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - 6 * a(n - 5) + 6 * a(n - 6) - 2 * a(n - 7) - a(n - 8) + 3 * a(n - 9) - 3 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Apr 12 2015 •

[A266617] • 0,3,6,10,18,21,32,36,52,55,74,78,102,105,132,136,168,171,206,210,250,253,296,300,348 ★ Total number of OFF (white) cells after n iterations of the "Rule 41" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n>6. •

[A075111] • 0,1,1,1,3,6,10,18,34,63,115,211,389,716,1316,2420,4452,8189,15061,27701,50951,93714,172366,317030,583110 ⋆ a(n)=Sum((-1)^(i+Floor(n/2))T(2i+e)) i=0..Floor(n/2)), where T(n) are tribonacci numbers (A000073) and e=(1/2)(1-(-1)^n). • a(n)= a(n - 1) + 2a(n - 3) + a(n - 4) + a(n - 5), a(0)=0, a(1)=1, a(2)=1, a(3)=1, a(4)=3. G.f.: x / (1 - x - 2 * x ^ 3 - x ^ 4 - x ^ 5). •

[A295719] • 1,3,6,10,20,32,60,96,172,276,480,772,1316,2120,3564,5748,9568,15444,25524,41224,67772,109508,179328,289860,473284 ⋆ a(n) = a(n-1) + 3*a(n-2) -2*a(n-3) - 2*a(n-4), where a(0) = 1, a(1) = 3, a(2) = 6, a(3) = 10. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 1, a(1) = 3, a(2) = 6, a(3) = 10. •

[A048006] • 0,0,0,3,6,10,25,45,77,175,322,570,1245,2325,4213,9031,17061,31421,66547,126763,236203,496063,950818,1787346,3730293 ⋆ Number of nonempty subsets of {1,2,...,n} in which exactly 1/3 of the elements are <= (n-1)/3. • a(n) = Sum _{ 1<=k<=n / 3 } Binomial(floor((n - 1) / 3),3 * k) * Binomial(ceil(2 * (n - 1) / 3),2 * k). - _ Robert Israel _ , Feb 05 2017 •

[A001465] • 0,0,1,3,6,10,30,126,448,1296,4140,17380,76296,296088,1126216,4940040,23904000,110455936,489602448,2313783216,11960299360,61878663840,309644323296,1587272962528,8699800221696 ⋆ Number of degree-n odd permutations of order 2. • a(n) = sum[i=0,floor((n - 2) / 4), C(n,4i + 2) * (4i + 2)!!]. - _ Ralf Stephan _ , May 08 2007 •

[A262242] • 3,6,10,36,66,136,528,2080,8256,32896,131328,524800,2098176,8390656,33558528,134225920,536887296,2147516416,8590000128,34359869440,137439215616,549756338176,2199024304128,8796095119360,35184376283136 ⋆ Triangular numbers representable as 2^x + 2^y. • a(n) = 2 ^ (n - 5) * (2 ^ n + 4) for n>5. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>7. •

[A074737] • 1,1,3,6,11,14,15,24,27,36,39,41,42,51,54,56,57,66,69,74,77,87,93,96,107 ⋆ Let b(1)=b(2)=1, b(k+2)=gcd(k!,b(k+1)+b(k)); sequence gives values of n such that b(n)=1. • a(n) seems to be asymptotic to c * n * log(n) with 1 <c<3 / 2 •

[A189380] • 3,6,11,14,19,22,25,30,33,38,41,44,49,52,57,60,65,68,71,76,79,84,87,90,95 ⋆ a(n) = n + floor(ns/r) + floor(nt/r); r=1, s=-1+sqrt(2), t=1+sqrt(2). • a(n) = 5 * floor(n * (sqrt(2) - 1)) + 3 * floor(n * (2 - sqrt(2))) + 3. - _ Mikio Labalan _ , Dec 04 2016 •

[A047398] • 3,6,11,14,19,22,27,30,35,38,43,46,51,54,59,62,67,70,75,78,83,86,91,94,99 ⋆ Numbers that are congruent to {3, 6} mod 8. • a(n) = 8 * n - a(n - 1) - 7, n > 1. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 4 * n - (3 + (- 1) ^ n) / 2. •

[A266252] • 0,3,6,11,16,22,31,37,50,56,73,79,100,106,131,137,166,172,205,211,248,254,295,301,346 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 9" elementary cellular automaton starting with a single ON (black) cell. • a(n) = ((- 1) ^ n * (n - 4) + n * (n + 4)) / 2 for n>2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>7. •

[A267260] • 1,3,6,11,16,23,29,40,46,61,67,86,92,115,121,148,154,185,191,226,232,271,277,320,326 ⋆ Total number of ON (black) cells after n iterations of the "Rule 111" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 - ((- 1) ^ n - 4) * n + 4 * (- 1) ^ n) / 2 for n>3. •

[A116940] • 0,3,6,11,16,23,30,39,48,59,70,83,96,111,126,143,160,179,198,219,240,263,286,311,336 ⋆ Greatest m such that A116939(m) = n. • a(0) = 0, a(n + 1) = a(n) + 2 * floor(n / 2) + 3. • a(n) = + 2 * a(n - 1) - 2 * a(n - 3) + 1 * a(n - 4). - _ Joerg Arndt _ , Apr 02 2011 • a(n) = 2n + ceiling(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 14 2013 • a(n) = (2 * n * (n + 4) - (- 1) ^ n + 1) / 4. - _ Bruno Berselli _ , Jun 14 2013 •

[A071619] • 0,1,3,6,11,17,24,33,43,54,67,81,96,113,131,150,171,193,216,241,267,294,323,353,384 ⋆ a(n) = ceiling(2*n^2/3). • a(n) = (2 / 3) * n ^ 2 if n mod 3 = 0 else (2 / 3) * n ^ 2 + 1 / 3. • a(n) = ceiling(2 * n ^ 2 / 3). - _ Wesley Ivan Hurt _ , Jun 20 2013 • a(n) = Sum _{ j=1..n } Sum _{ i=1..n } ceiling((i + j - n) / 3). - _ Wesley Ivan Hurt _ , Mar 12 2015 • a(n) = n ^ 2 - floor(n ^ 2 / 3) = (2 / 9) * (3 * n ^ 2 + 1 - cos(2 * Pi * n / 3)). - _ Bruno Berselli _ , Jan 18 2017 •

[A109413] • 1,3,6,11,17,24,35,45,58,71,87,106,123,144,164,189,216,240,269,298,329,365,396,437,471 ⋆ a(n) equals the (n*(n+1)/2)-th partial sum of the self-convolution of A010054, which has the g.f.: Sum_{n>=0} x^(n*(n+1)/2). • a(n) = [x ^ (n * (n + 1) / 2)] [Sum _{ k>=0 } x ^ (k * (k + 1) / 2)] ^ 2 / (1 - x). •

[A003022] • 1,3,6,11,17,25,34,44,55,72,85,106,127,151,177,199,216,246,283,333,356,372,425,480,492 ⋆ Length of shortest (or optimal) Golomb ruler with n marks. • a(n) >= n(n - 1) / 2, with strict inequality for n >= 5 (Golomb). - _ David W. Wilson _ , Aug 18 2007 •

[A022775] • 1,3,6,11,17,25,34,44,56,69,84,100,117,136,156,178,201,226,252,279,308,338,370,403,437 ⋆ Place where n-th 1 occurs in A007336. • a(n)=1 + sum(k=1,n - 1,ceil(r * k)) where r=sqrt(2) [From _ Benoit Cloitre _ , Jan 24 2009] •

[A263807] • 1,3,6,11,17,25,34,45,57,71,86,103,121,141,162,185,209,235,262,291,321,353,386,421,457 ⋆ Total number of ON (black) cells after n iterations of the "Rule 157" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. •

[A281376] • 0,0,0,1,3,6,11,17,25,35,47,60,77,95,115,138,164,191,222,254,290,329,370,412,460 ⋆ Total number of counts where floor(N/k) < floor((N+k)/n) for k = {1, 2, ..., n-1} and N >= n. • a(n) = Sum _{ d=1..ceiling((n - 3) / 3) } Sum _{ j=1..n - (2 * d + 1) } floor(j / d). - _ Jon E. Schoenfield _ , Jan 23 2017 • a(n) = Sum _{ d=1..ceiling(n / 3) - 1 } ((j + 1) * (j * d / 2 + n mod d)), where j = floor(n / d) - 3. - _ Jon E. Schoenfield _ , Jan 24 2017 •

[A000603] • 1,3,6,11,17,26,35,45,58,73,90,106,123,146,168,193,216,243,271,302,335,365,402,437,473 ⋆ Number of nonnegative solutions to x^2 + y^2 <= n^2. • a(n) = n ^ 2 * Pi / 4 + O(n). - _ Charles R Greathouse IV _ , Apr 0

[A003453] • 1,3,6,11,17,26,36,50,65,85,106,133,161,196,232,276,321,375,430,495,561,638,716,806,897 ⋆ Number of nonequivalent dissections of an n-gon into 3 polygons by nonintersecting diagonals up to rotation and reflection. • a(5)= 1, a(6)=3, a(7)=6, a(8)=11, a(9)=17, a(10)=26, a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a (n - 6). - _ Harvey P. Dale _ , Jan 28 2013 • a(n) = (2 * n ^ 3 - 6 * n ^ 2 - 23 * n + 63 + 3 * (n - 5) * (- 1) ^ n) / 48, for n>=5. - _ Luce ETIENNE _ , Apr 07 2015 • a(n) = (1 / 2) * Sum _{ i=1..n - 4 } floor((i + 1) * (n - i - 2) / 2). - _ Wesley Ivan Hurt _ , May 07 2016 •

[A011901] • 0,0,0,0,1,3,6,11,17,26,37,52,69,90,114,143,176,214,257,306,360,420,486,559,639 ⋆ [n(n-1)(n-2)/19]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 19) - 3 * a(n - 20) + 3 * a(n - 21) - a(n - 22). [From _ R. J. Mathar _ , Apr 15 2010] •

[A279032] • 0,1,3,6,11,17,27,42,65,100,152,231,349,527,792,1186,1771,2639,3923,5817,8609,12715,18747,27595,40557 ⋆ a(n) is the greatest integer such that binomial(a(n),n)*2^(1 - binomial(n,2)) < 1. • a(n) is asymptotic to n * 2 ^ (n / 2) / (e * sqrt(2)). •

[A010000] • 1,3,6,11,18,27,38,51,66,83,102,123,146,171,198,227,258,291,326,363,402,443,486,531,578 ⋆ a(0) = 1, a(n) = n^2 + 2 for n>0. • a(n) = 2 * n * sum(j=0..n, (- 1) ^ (n - j) * binomial(n,j) * (j + 1 / n) ^ (n + 1)) / (n + 1)!, n>0, a(0)=1. - _ Vladimir Kruchinin _ , Jun 03 2013 •

[A172046] • 0,0,0,1,3,6,11,18,27,38,52,69,89,113,141,173,209,250,296,347,404,467,536,611,693 ⋆ Partial sums of floor(n^2/7) (A056834). • a(n) = sum(k=0..n,floor(k ^ 2 / 7)). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 11 * n) / 42). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 11 * n - 6) / 42). • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 - 11 * n + 6) / 42). • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 11 * n - 18) / 42). • a(n) = a(n - 7) + (n - 2) * (n - 4) + 3, n>6. •

[A014125] • 1,3,6,11,18,27,39,54,72,94,120,150,185,225,270,321,378,441,511,588,672,764,864,972,1089 ⋆ Bisection of A001400. • a(n) = - a(- 6 - n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). • a(n) = n ^ 3 / 18 + n ^ 2 / 2 + 4 * n / 3 + 1 + 2 / (9 * sqrt(3)) * sin(2 * Pi * n / 3). - _ Andrew Hone _ , Jul 29 2004 • a(n) = n ^ 3 / 18 + n ^ 2 / 2 + 4 * n / 3 + 1 + (mod(n + 1,3) - 1) / 9. - same formula, simplified by _ Gerald Hillier _ , Apr 14 2015 •

[A011849] • 0,0,0,0,1,3,6,11,18,28,40,55,73,95,121,151,186,226,272,323,380,443,513,590,674 ⋆ a(n) = floor(binomial(n,3)/3). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 3 * a(n - 3) + 3 * a(n - 4) - 6 * a(n - 5) + 3 * a(n - 6) + 3 * a(n - 7) - 6 * a(n - 8) + 4 * a(n - 9) - a(n - 10). • a(n) = (1 / 54) * (n ^ 3 - 3 * n - 6 + [6,8,4, - 12,8,4, - 30,8,4](mod 9)). - _ Ralf Stephan _ , Aug 11 2013 •

[A173690] • 0,0,1,3,6,11,18,28,41,57,77,101,130,164,203,248,299,357,422,494,574,662,759,865,980 ⋆ Partial sums of round(n^2/5). • a(n) = sum(k=0..n,round(k ^ 2 / 5)) • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 + n) / 30) • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 + n + 6) / 30) • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 + n - 6) / 30) • a(n) = a(n - 5) + (n - 2) ^ 2 + 2 , n>4 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8), n>7. •

[A014284] • 1,3,6,11,18,29,42,59,78,101,130,161,198,239,282,329,382,441,502,569,640,713,792,875,964 ⋆ Partial sums of primes, if 1 is regarded as a prime (as it was until quite recently, see A008578). • a(n) = a(n - 1) + prime(n - 1), with a(1)=1. - _ Vincenzo Librandi _ , Jul 27 2013 •

[A265075] • 1,3,6,11,18,29,46,73,116,183,290,459,726,1149,1818,2877,4552,7203,11398,18035,28538,45157,71454,113065,178908 ⋆ Coordination sequence for (3,4,4) tiling of hyperbolic plane. • a(n) = a(n - 1) + a(n - 3) + a(n - 5) + a(n - 7) - a(n - 8) for n>8. - _ Vincenzo Librandi _ , Dec 30 2015 •

[A279100] • 1,3,6,11,18,30,48,78,125,202,325,525,847,1369,2212,3577,5784,9356,15134,24484,39611,64088,103691,167771,271453 ⋆ a(n) = Sum_{k=0..n} ceiling(phi^k), where phi is the golden ratio (A001622). • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) + a(n - 5). • a(n) = (10 * n - 5 * (- 1) ^ n + 2 ^ (1 - n) * sqrt(5) * (5 + 3 * sqrt(5)) * (1 + sqrt(5)) ^ n + sqrt(5) * 2 ^ (1 - n) * (3 * sqrt(5) - 5) * (1 - sqrt(5)) ^ n - 35) / 20. •

[A058053] • 1,1,3,6,11,18,33,49,78,117,171,242,346,469,640,855,1127,1463,1896,2405,3045,3813,4736,5831,7156 ⋆ Number of 3-rowed binary matrices with n ones and no zero columns, up to row and column permutation. • a(n)= coefficient of x ^ n * y ^ n in expansion of 1 / 3! * (1 / (1 - x) / (1 - x * y) ^ 3 / (1 - x * y ^ 2) ^ 3 / (1 - x * y ^ 3) + 3 / (1 - x) / (1 - x * y) / (1 - x * y ^ 2) / (1 - x * y ^ 3) / (1 - x ^ 2 * y ^ 2) / (1 - x ^ 2 * y ^ 4) + 2 / (1 - x) / (1 - x * y ^ 3) / (1 - x ^ 3 * y ^ 3) / (1 - x ^ 3 * y ^ 6)). •

[A050228] • 1,3,6,11,19,31,49,76,116,175,262,390,578,854,1259,1853,2724,4001,5873,8617,12639,18534,27174,39837,58396 ⋆ a(n) is the number of subsequences {s(k)} of {1,2,3,...n} such that s(k+1)-s(k) is 1 or 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + a(n - 5). • a(n - 1) = Sum _{ k=0..floor(n / 3) } binomial(n - 2 * k, k + 2). (End) •

[A116557] • 1,3,6,11,19,32,52,85,139,225,365,592,958,1551,2511,4064,6577,10642,17220,27863,45084,72948,118033,190982,309016 ⋆ Backward iterated (limited) Fibonacci approximation: A000045. • a(n) = Floor[a(n - 1) * (- 1 / 2 + Sqrt[5]) / 2] •

[A001911] • 0,1,3,6,11,19,32,53,87,142,231,375,608,985,1595,2582,4179,6763,10944,17709,28655,46366,75023,121391,196416 ⋆ a(n) = Fibonacci(n+3) - 2. • a(n) = a(n - 1) + a(n - 2) + 2, a(0) = 0, a(1) = 1. - _ Michael Somos _ , Jun 09 1999 • a(n) = term (1,1) in the 1 X 3 matrix [0, - 1,1].[1,1,0; 1,0,0; 2,0,1] ^ n. - _ Alois P. Heinz _ , Jul 24 2008 • a(0) = 0, a(1) = 1, a(2) = 3, a(n) = 2 * a(n - 1) - a(n - 3). - _ Harvey P. Dale _ , Jun 06 2011 • a(n) = (- 2 + (2

^ (- n) * ((1 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (1 + sqrt(5)) ^ n * (2 + sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , May 12 2016 •

[**A179006**] • 0,0,0,0,0,1,3,6,11,19,32,54,90,148,242,394,640,1039,1685,2730,4421,7157,11584,18748,30340 ⋆ Partial sums of floor(Fibonacci(n)/4). • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) - a(n - 7) + a(n - 8). • a(n) = round(Fibonacci(n + 2) / 4 - n / 3 - 3 / 8). • a (n) = round(Fibonacci(n + 2) / 4 - n / 3 - 1 / 4). • a(n) = floor(Fibonacci(n + 2) / 4 - n / 3 - 1 / 12). • a(n) = ceil(Fibonacci(n + 2) / 4 - n / 3 - 2 / 3). • a(n) = a(n - 6) + Fibonacci(n - 1) - 2, n>6. •

[**A180086**] • 1,3,6,11,20,33,54,87,142,226,360,571,907,1438,2278,3606,5708,9032,14293,22614,35778,56604,89550,141670,224122 ⋆ Sum of previous terms divided by their distance from n • a(n) = n + floor(a(n - 1) / 1) + floor(a(n - 2) / 2) + ... + floor(a(1) / (n - 1)) •

[**A055417**] • 1,3,6,11,20,36,63,106,171,265,396,573,806,1106,1485,1956,2533,3231,4066,5055,6216,7568,9131,10926,12975 ⋆ Number of points in N^n of norm <= 2. • a(n) = (n ^ 3 - 3 * n ^ 2 + 14 * n + 24) * (n + 1) / 24. Proof: The c oordinates of such a point are a permutation of one of the vectors (0, ..., 0), (0 , ..., 0, 1), (0, ..., 0, 2), (0, ..., 0, 1, 1), (0, ..., 0, 1, 1, 1), or (0, ..., 0, 1, 1, 1, 1), so the number of points is 1 + n + n + binomial(n,2) + binomial(n,3) + bino mial(n,4). - Formula conjectured by _ Frank Ellermann _ , Mar 16 2002 and explained by _ Michael Somos _ , Apr 25 2003 •

[**A077855**] • 1,3,6,11,20,36,64,113,199,350,615,1080,1896,3328,5841,10251,17990,31571,55404,97228,170624,299425,525455,922110,1618191 ⋆ Expansion of (1-x)^(-1)/(1 - 2*x + x^2 - x^3). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - a(n - 4). - _ Seiichi Manyama _ , Nov 25 2016 •

[**A018918**] • 3,6,11,20,36,64,113,199,350,615,1080,1896,3328,5841,10251,17990,31571,55404,97228,170624,299425,525455,922110,1618191,2839728 ⋆ Define the generalized Pisot sequence T(a(0),a(1)) by: a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n). This is T(3,6). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - a(n - 4). • a(n) = ceiling(a(n - 1) ^ 2 / a(n - 2) - 1), by definition. - _ Bruno Berselli _ , Feb 16 2016 •

[**A119861**] • 0,1,3,6,11,20,36,64,117,209,381,699,1291,2387,4445,8317,15645,29494,55855,106021,201778,384941,735909,1409683,2705277 ⋆ Number of distinct prime factors of the odd Catalan numbers A038003(n). • a(n) = Length[Fact orInteger[Binomial[2 ^ (n + 1) - 2, 2 ^ n - 1] / (2 ^ n)]]. •

[**A265077**] • 1,3,6,11,20,37,66,117,208,371,662,1179,2100,3741,6666,11877,21160,37699,67166,119667,213204,379853,676762,1205749,2148216 ⋆ Coordination sequence for (3,6,8) tiling of hyperbolic plane. • a(n) = a(n - 1) + a(n - 2) + a (n - 4) + a(n - 5) - a(n - 6) for n>6. - _ Vincenzo Librandi _ , Dec 30 2015 •

[**A006127**] • 1,3,6,11,20,37,70,135,264,521,1034,2059,4108,8205,16398,32783,65552,131089,262162,524307,1048596,2097173,4194326,8388631,16777240 ⋆ a(n) = 2^n + n. • a(n) = 2 * a(n - 1) - n + 2 (with a(0)=1). - _ Vincenzo Libran di _ , Dec 30 2010 •

[**A291408**] • 1,3,6,11,21,39,70,126,224,394,690,1201,2079,3585,6158,10541,17991,30623,51996,88092,148944,251364,423492,712369,1196557 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - S)(1 - S^2). • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - 2 * a(n - 4) - 3 * a(n - 5) - a(n - 6) for n >= 7. •

[**A202012**] • 1,1,3,6,11,21,39,72,133,245,451,830,1527,2809,5167,9504,17481,32153,59139,108774,200067,367981,676823,1244872,2289677 ⋆ Expansion of (1-x+x^2)/((1-x)(1-x-x^2-x^3)). • a(n) = 2 * a(n - 1) - a(n - 4), n>3. •

[**A251655**] • 0,1,1,1,3,6,11,21,41,79,152,293,565,1089,2099,4046,7799,15033,28977,55855,107664,207529,400025,771073,1486291 ⋆ 4-step Fibonacci sequence starting with 0, 1, 1, 1. • a(n + 4) = a(n) + a(n + 1) + a(n + 2) + a(n + 3). •

[**A293320**] • 3,6,11,21,42,84,168,336,671,1341,2681,5362,10724,21447,42894,85788,171576,343151,686302,1372604,2745208,5490416,10980831,21961661,43923322 ⋆ Least integer k such that k/2^n > tau^2, where tau = (1+sqrt(5))/2 = golden ratio. • a(n) = ceiling(r * 2 ^ n), where r = (3 + sqrt(5)) / 2. •

[**A024495**] • 0,0,1,3,6,11,21,42,85,171,342,683,1365,2730,5461,10923,21846,43691,87381,174762,349525,699051,1398102,2796203,5592405 ⋆ a(n) = C(n,2) + C(n,5) + ... + C(n, 3*floor(n/3)+2). • a(2) = 1, a(3) = 3, a(n + 2) = a(n + 1) - a(n) + 2 ^ n. - _ Benoit Cloitre _ , Sep 04 2002 • a(n) = sum _{ k=0..n } 2 ^ k * 2 * sin(Pi * (n - k) / 3 + Pi / 3) / sqrt(3) (offset 0). - _ Paul Barry _ , May 18 2004 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3). - _ Paul Curtz _ , Nov 18 2007 • a(n) + a(n + 9)= 171 * 2 ^ n. • a(n + 12) - a(n)= 1365 * 2 ^ n. (End) • a(n) = 1 / 18 * (- 4 * (- 1) ^ floor((n - 1) / 3) - 6 * (- 1) ^ floor(n / 3) - 3 * (- 1) ^ floor((n + 1) / 3) + (- 1) ^ (1 + floor((n + 2) / 3)) + 3 * 2 ^ (n + 1)). - _ John M. Campbell _ , Dec 23 2016 •

[**A293066**] • 1,3,6,11,21,44,101,247,626,1615,4201,10968,28681,75051,196446,514259,1346301,3524612,9227501,24157855,63246026,165580183,433494481,1134903216,2971215121 ⋆ Number of vertices at level n of the hyperbolic Pascal pyramid PP_(4,5). • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - a(n - 4), n >= 5. • a(n) = (2 ^ (- 1 - n) * (- (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (5 + sqrt(5)) + 5 * 2 ^ (2 + n) * n)) / 5. •

[**A228206**] • 1,3,6,11,22,39,69,122,241,426,753,1331,2629,4647,8214,14519,28678,50691,89601,158378,312829,552954,977397,1727639,3412441 ⋆ y-values in the solution to x^2 - 13y^2 = 108. • a(n) = 11 * a(n - 4) - a(n - 8). •

[**A103322**] • 1,1,3,6,11,22,41,77,144,267,495,915,1689,3115,5740,10572,19464,35825,65926,121301,223166,410544,755211,1389186,2555292 ⋆ Expansion of 1 / ((1-x-x^2-x^3)*(1-x^2-x^3)). • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - 2 * a(n - 4) - 2 * a(n - 5) - a(n - 6). - _ G. C. Greubel _ , May 02 2017 •

[**A293337**] • 3,6,11,22,44,87,174,348,696,1392,2784,5568,11135,22269,44537,89073,178146,356291,712582,1425163,2850326,5700651,11401301,22802601,45605202 ⋆ Least integer k such that k/2^n > e. • a(n) = ceiling(e * 2 ^ n). •

[**A293364**] • 1,1,3,6,11,22,44,89,177,355,710,1420,2839,5678,11357,22713,45426,90852,181704,363409,726817,1453635,2907270,5814540,11629080 ⋆ The integer k that minimizes |k/2^n - log 2|. • a(n) = floor(1 / 2 + (log 2) * 2 ^ n). •

[**A001867**] • 1,3,6,11,24,51,130,315,834,2195,5934,16107,44368,122643,341802,956635,2690844,7596483,21524542,61171659,174342216,498112275,1426419858,4093181691,11767920118 ⋆ Number of n-bead necklaces with 3 colors. • a(n) = (1 / n) * Sum _{ d|n } phi(d) * 3 ^ (n / d), n>0. •

[**A119367**] • 0,0,1,3,6,11,30,126,519,1836,5877,18866,65472,242463,905425,3307371,11889414,42930441,157641714,586908936,2194106568,8189323686,30541703733,114219616809,429214875498 ⋆ Number of rooted planar n-trees whose number of leaves is equal to 2 modulo 3. • a(n)=sum { k=0..n, if(mod(n - k,3)=2, (1 / n) * C(n,k) * C(n,k + 1), 0) } . •

[**A180483**] • 3,6,11,38,87,354,839,3482,8283,34446,81971,340958,811407,3375114,8032079,33410162,79509363,330726486,787061531,3273854678,7791105927,32407820274,77123997719,320804348042,763448871243 ⋆ Solutions a(n) to (a(n)-2)*(a(n)-3) = 6*b(n)*(b(n)-1). • a(2 * n)=(10 + (1 + r) * s ^ n + (1 - r) * t ^ n)) / 4. • a(2 * n + 1)=(10 + (7 + 3 * r) * s ^ n + (7 - 3 * r) * t ^ n)) / 4. • a(n)=11 * a(n - 2) - 11 * a(n - 4) + a(n - 6). • a(n) = + a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5). - R. J. Mathar, Feb 05 2011 •

[**A102040**] • 3,6,12,14,18,26,32,34,38,46,52,54,58,66,72,74,78,86,92,94,98,106,112,114,118 ⋆ a(n) = a(n-1) + last digit of a(n-1), starting at 3. • a(n) = - 5 - (1 / 2 + i) * (- i) ^ n - (1 / 2 - i) * i ^ n + 5 * n for n>1, where i = sqrt(- 1) . • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>5. • a(n) = a(n - 4) + 20 for n >= 6. • a(4k) = 20 k - 6. • a(4k + 1) = 20 k - 2 for k >= 1. • a(4k + 2) = 20 k + 6. •

[**A016051**] • 3,6,12,15,21,24,30,33,39,42,48,51,57,60,66,69,75,78,84,87,93,96,102,105,111 ⋆ Numbers of the form 9n+3 or 9n+6. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) = 9 * n / 2 - 9 / 4 - 3 * (- 1) ^ n / 4. G.f: 3 * x * (1 + x + x ^ 2) / ((1 + x) * (x - 1) ^ 2). - _ R. J. Mathar _ , Dec 16 2009 • a(n) = 9 * (n - 1) - a(n - 1) (with a(1)=3). - _ Vincenzo Librandi _ , Nov 19 2010 •

[**A267353**] • 1,3,6,12,15,25,28,42,45,63,66,88,91,117,120,150,153,187,190,228,231,273,276,322,325 ⋆ Total number of ON (black) cells after n iterations of the "Rule 123" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 + (4 - (- 1) ^ n) * n + (- 1) ^ n + 1) / 2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •

[**A242477**] • 0,0,3,6,12,18,27,36,48,60,75,90,108,126,147,168,192,216,243,270,300,330,363,396,432 ⋆ Floor(3*n^2/4). • a(n) = a(n - 2) + 3 * (n - 1) for n>1, a(0) = a(1) = 0. •

[**A006156**] • 1,3,6,12,18,30,42,60,78,108,144,204,264,342,456,618,798,1044,1392,1830,2388,3180,4146,5418,7032 ⋆ Number of ternary squarefree words of length n. • a(n) >= 2 ^ (n / 17), see Zeilberger. Let L = lim a(n) ^ (1 / n); t hen L exists and Grimm proves 1.109999 < L < 1.317278. - _ Charles R Grea thouse IV _ , Nov 29 2013 •

[**A061776**] • 1,3,6,12,18,30,42,66,90,138,186,282,378,570,762,1146,1530,2298,3066,4602,6138,9210,12282,18426,24570 ⋆ Start with a single triangle; at n-th generation add a triangle at each vertex, allowing triangles to overlap; sequence gives number of triangles in n-th generation. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) for n>3. G.f.: (1 + 2 * x) * (1 + x ^ 2) / ((1 - x) * (1 - 2 * x ^ 2)). - _ Colin Barker _ , May 08 2012 •

[**A263511**] • 1,3,6,12,19,29,40,54,69,87,106,128,151,177,204,234,265,299,334,372,411,453,496,542,589 ⋆ Total number of ON (black) cells after n iterations of the "Rule 155" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. - _ Vincenzo Libr andi _ , Jan 18 2016 •

[**A209489**] • 0,1,3,6,12,19,33,50,77,111,166,229,329,448,615,824,1120,1467,1956,2538,3313,4258,5512,6993,8944 ⋆ Number of partitions of 1 into rational parts a/b satisfying 0<a<b<=n. • a(n)=a(n - 1) - 1 + (number of partitions of n i nto relatively prime parts). •

[**A200067**] • 0,0,0,1,3,6,12,20,30,45,63,84,112,144,180,225,275,330,396,468,546,637,735,840,960 ⋆ Maximum sum of all products of absolute differences and distances between element pairs among the integer partitions of n. • a(n) = m ax _{ k=0..n } (n - k - 1) * k * (k + 1) / 2. •

[**A061061**] • 0,0,1,3,6,12,20,31,46,64,87,115,147,186,231,282,342,408,482,566,657,759,871,991,1126 ⋆ Maximal number of 132 patterns in a permutation of 1,2,...,n. • a(n) = max(a(k) + k * C(n - k, 2): 1 <= k < n) • a(n + 1) / a(n) =1 + 3 / n + O(1 / n ^ 2). n ^ 2 * (a(n + 1) / a(n) - 1 - 3 / n) is bounded bu t there is no limit; limit n − >infinity a(n) / n ^ 3 = C = 0.0773... - _ Benoit Cloitre _ , Jan 25 2003 •

[**A006128**] • 0,1,3,6,12,20,35,54,86,128,192,275,399,556,780,1068,1463,1965,2644,3498,4630,6052,7899,10206,13174 ⋆ Total number of parts in all partitions of n. Also, sum of largest parts of all partitions of n. • a(n) = Sum _{ m=1.. n } of the number of divisors of m * number of partitions of n - m. •

[**A079983**] • 1,1,1,1,3,6,12,20,35,60,114,207,375,671,1213,2180,3954,7139,12892,23250,41996,75793,136891,247133,446211 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={-2,1,2}. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - 3 * a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) + 3 * a(n - 11) - 5 * a(n - 12) + 4 * a(n - 13) + 4 * a(n - 14) + a(n - 15) - 2 * a(n - 16) - a(n - 17) + a(n - 18) - a(n - 19) - a(n - 20) •

[**A038577**] • 1,3,6,12,20,36,58,100,160,268,430,708,1140,1860,3002,4876,7880,12772,20654,33444,54100,87564,141666,229252,370920 ⋆ Number of self-avoiding walks of length n from origin in strip Z X {0,1}. • a(n) = - 2 + 2 * (- 1) ^ n - (8 * (1 / 2 - sqrt(5) / 2) ^ n) / sqrt(5) + (8 * (1 / 2 + sqrt(5) / 2) ^ n) / sqrt

(5) - (1 / 2) * (1 + (- 1) ^ n) * n for n > 1. • a(n) = a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - 3 * a(n - 4) + a(n - 5) + a(n - 6) for n > 5. •

[A034738] • 1,3,6,12,20,42,70,144,270,540,1034,2112,4108,8274,16440,32928,65552,131418,262162,524880,1048740,2098206,4194326,8391024,16777300 ★ Dirichlet convolution of b_n = 2^(n-1) with phi(n). • a(n) = (1 / 2) * Sum _{ d|n } phi(d) * 2 ^ (n / d), n >= 1. •

[A053479] • 0,0,3,6,12,21,30,42,54,69,90,102,129,150,174,198,225,258,288,327,354,396,435,471,522 ★ Circle numbers (version 6): a(n) = number of points (i+j/2,j*sqrt(3)/2), i,j integers (triangular grid) contained in a circle of diameter n, centered at (1/2, 1/(2*sqrt(3))). • a(n) / (n / 2) ^ 2 - > Pi * 2 / sqrt(3). •

[A290768] • 3,6,12,21,33,48,66,87,111,138,168,201,237,276,318,363,411,462,516,573,633,696,762,831,903 ★ a(n) = 3/2*(n^2 - n + 2). • a(n) = 3 / 2 * (n ^ 2 - n + 2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A070333] • 1,3,6,12,21,33,50,72,99,133,174,222,279,345,420,506,603,711,832,966,1113,1275,1452,1644,1853 ★ Expansion of (1+x)*(1-x+x^2)/((1-x)^4*(1+x+x^2)). • a(n) = round((2 * n + 3) * (n ^ 2 + 3 * n + 6) / 18). • a(n) = floor((n + 2) * (2 * n ^ 2 + 5 * n + 11) / 18). • a(n) = ceiling((n + 1) * (2 * n ^ 2 + 7 * n + 14) / 18). • a(n) = round((n + 1) * (2 * n ^ 2 + 7 * n + 14) / 18). • a(n) = a(n - 3) + n ^ 2 + 2, n>2. (End) •

[A215005] • 0,1,3,6,12,21,37,62,104,171,281,458,746,1211,1965,3184,5158,8351,13519,21880,35410,57301,92723,150036,242772 ★ a(n) = a(n-2) + a(n-1) + floor(n/2) + 1 for n > 1 and a(0)=0, a(1)=1. • a(n) = 2 * F(n + 2) - n / 2 - 9 / 4 + (- 1) ^ n / 4, where F is Fibonacci number. - _ Vaclav Kotesovec _ , Aug 11 2012 • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) + a(n - 5) for n>4. •

[A087503] • 1,3,6,12,21,39,66,120,201,363,606,1092,1821,3279,5466,9840,16401,29523,49206,88572,147621,265719,442866,797160,1328601 ★ a(n) = 3(a(n-2) + 1), with a(0) = 1, a(1) = 3. • a(n) = (3 / 2) * (3 ^ ((n + 1) / 2) - 1) if n is odd, else a(n) = (3 / 2) * (5 * 3 ^ ((n - 2) / 2) - 1). • a(n) = (3 / 2) * (3 ^ floor((n + 1) / 2) + 3 ^ floor(n / 2) - 3 ^ floor((n - 1) / 2) - 1). • a(n) = 3 ^ floor((n + 1) / 2) + 3 ^ floor((n + 2) / 2) / 2 - 3 / 2. •

[A066982] • 1,1,3,6,12,22,39,67,113,188,310,508,829,1349,2191,3554,5760,9330,15107,24455,39581,64056,103658,167736,271417 ★ a(n) = Lucas(n+1) - (n+1). • a(1) = a(2) = 1, a(n + 2) = a(n + 1) + a(n) + n. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: x * (1 - 2 * x + 2 * x ^ 2) / ((1 - x) ^ 2 * (1 - x - x ^ 2)). [_ Colin Barker _ , Jun 30 2012] •

[A097939] • 1,3,6,12,22,42,79,151,291,566,1106,2175,4293,8499,16864,33523,66727,132958,265137,529050,1056169,2109282,4213710,8419697,16827079 ★ Sum of the smallest parts of all compositions of n. • a(n) = Sum _{ r=0..n - 1 } Sum _{ k=0..floor((n - r - 1) / (r + 1)) } binomial(n - r(k + 1) - 1, k). - _ Paul Barry _ , Oct 08 2004 •

[A055244] • 1,1,3,6,12,23,43,79,143,256,454,799,1397,2429,4203,7242,12432,21271,36287,61739,104791,177476,299978,506111,852457 ★ Number of certain stackings of n+1 squares on a double staircase. • a(n) = (((n - 4) * n - 6) * a(n - 2) + ((n - 5) * n - 11) * a(n - 1)) / ((n - 6) * n - 1). - _ Jean - François Alcover _ , Mar 11 2014 •

[A089068] • 0,0,1,3,6,12,23,43,80,148,273,503,926,1704,3135,5767,10608,19512,35889,66011,121414,223316,410743,755475,1389536 ★ a(n) = a(n-1)+a(n-2)+a(n-3)+2 with a(0)=0, a(1)=0 and a(2)=1. • a(n) = 2 * a(n - 1) - a(n - 4), a(0)=0, a(1)=0, a(2)=1, a(3)=3. [From _ Bruno Berselli _ , Sep 23 2010] •

[A038620] • 1,3,6,12,24,35,48,69,86,108,138,161,192,231,260,300,348,383,432,489,530,588,654,701,768 ★ Growth function of an infinite cubic graph (number of nodes at distance n from fixed node). • a(0)=1, a(1)=3, a(2)=6; for n>=3: if n == 0 (mod 3), a(n) = 4n ^ 2 / 3; if n == 1 (mod 3), a(n) = (4n ^ 2 + n + 4) / 3; if n == 2 (mod 3), a(n) = (4n ^ 2 - n + 10) / 3. •

[A293341] • 0,1,1,3,6,12,24,47,94,188,377,753,1507,3014,6027,12055,24109,48219,96437,192875,385750,771499,1542998,3085996,6171993 ★ The integer k that minimizes |k/2^n - 1/e|. • a(n) = floor(1 / 2 + (1 / e) * 2 ^ n). •

[A122391] • 1,1,1,3,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456 ★ Dimension of 2-variable non-commutative harmonics (Hausdorff derivative). The dimension of the space of non-commutative polynomials in 2 variables which are killed by all symmetric differential operators (where for a monomial w, d_{xi} (w) = sum over all subwords of w deleting xi once). • a(n) = 3 * 2 ^ (n - 3) = 2 ^ (n - 3) + 2 ^ (n - 2) for n >= 3. - _ Jaroslav Krizek _ , Aug 17 2009 • a(n) = ceiling(2 ^ (n - 2)) + floor(2 ^ (n - 3)). - _ Martin Grymel _ , Oct 17 2012 •

[A003945] • 1,3,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824 ★ Expansion of g.f. (1+x)/(1-2*x). • a(0) = 1; for n>0, a(n) = 3 * 2 ^ (n - 1). • a(n) = 2 * a(n - 1), n>1; a(0)=1, a(1)=3. • a(n)=sum { k=0..n, (n + k)binomial(n, k) / n } . - _ Paul Barry _ , Jan 30 2005 • a(0) = 1, a(n) = sum(k =0..n - 1, a(k)) + 2 for n>=1. - _ Joerg Arndt _ , Aug 15 2012 • a(n) = 2 ^{ n }+ floor(2 ^{ n - 1 }). - _ Martin Grymel _ , Oct 17 2012 •

[A007283] • 3,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824,50331648 ★ a(n) = 3*2^n. • a(n) = 2 * a(n - 1), n>0; a(0)=3. • a(n) = Sum _{ k =0..n } (- 1) ^ (k reduced (mod 3)) * C(n,k). - _ Benoit Cloitre _ , Aug 20 2002 • a(n) = 2 ^ n + 2 ^ (n + 1). - _ Jaroslav Krizek _ , Aug 17 2009 •

[A278666] • 1,3,6,12,24,50,102,196,388,804,1652,3156,6228,12884,26452,50516,99668,206164,423252,808276,1594708,3298644,6772052,12932436,25515348 ★ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 62", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 16 * a(n - 4) - 16 * a(n - 5) for n>7. •

[A077854] • 1,3,6,12,25,51,102,204,409,819,1638,3276,6553,13107,26214,52428,104857,209715,419430,838860,1677721,3355443,6710886,13421772,26843545 ★ Expansion of 1/((1-x)*(1-2*x)*(1+x^2)). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3) - 2 * a(n - 4), with initial values a(0) = 1, a(1) = 3, a(2) = 6, a(3) = 12. • a(n) = (1 / 10) * (2 ^ (n + 4) + (- 1) ^ floor(n / 2) - 2 * (- 1) ^ floor((n + 1) / 2) - 5). • a(n) = floor(2 ^ (n + 3) / 5). [_ Gary Detlefs _ , Sep 06 2010] • a(n) = round((2 ^ (n + 4) - 5) / 10) = floor((2 ^ (n + 3) - 1) / 5) = ceiling((2 ^ (n + 3) - 4) / 5) = round((2 ^ (n + 3) - 2) / 5); a(n) = a(n - 4) + 3 * 2 ^ (n - 1), n > 3. [_ Mircea Merca _ , Dec 27 2010] • a(n) = 2 ^ (n + 1) - 1 - a(n - 2); a(n) = a(n - 1) / 2 for n == 2, 3 (mod 4); a(n) = (a(n - 1) - 1) / 2 for n == 0, 1 (mod 4). [_ Arie Bos _ , Apr 06 2013] • a(n) = Sum _{ k=1..n + 3 } floor(1 + sin(k * Pi / 2 + 3 * Pi / 4)) * 2 ^ (n - k + 3). - _ Andres Cicuttin _ , Mar 28 2016 •

[A293313] • 1,3,6,12,25,51,103,207,414,828,1656,3313,6627,13254,26509,53019,106039,212078,424157,848315,1696631,3393263,6786526,13573052,27146105 ★ Greatest integer k such that k/2^n < (1+sqrt(5))/2 (the golden ratio). • a(n) = floor(r * 2 ^ n), where r = (1 + sqrt(5)) / 2. •

[A267539] • 1,3,6,12,25,51,103,207,415,831,1663,3327,6655,13311,26623,53247,106495,212991,425983,851967,1703935,3407871,6815743,13631487,27262975 ★ Decimal representation of the middle column of the "Rule 143" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. • a(n) = { 1,3,6 } followed by A198274. - _ Robert Price _ , Jan 17 2016 •

[A099445] • 1,3,6,12,25,54,117,252,542,1167,2514,5415,11662,25116,54093,116502,250913,540396,1163862,2506635,5398594,11627067,25041462,53932332,116155217 ★ An Alexander sequence for the Miller Institute knot. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3) - a(n - 4) for n>4. - _ Colin Barker _ , Feb 10 2014 •

[A088688] • 0,1,3,6,12,27,63,141,297,594,1146,2169,4095,7827,15291,30582,62256,127791,262143,534129,1078101,2156202,4282878,8477181,16777215 ★ Binomial transform of A088689. • a(n) = 2 ^ n - cos(Pi * n / 3) - 3 ^ (n / 2) * sin(Pi * n / 6) / sqrt(3). •

[A290997] • 0,0,1,3,6,12,27,63,143,315,684,1479,3195,6903,14932,32361,70266,152775,332397,723330,1573829,3423444,7444722,16185939,35185779 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S^3 - S^6. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 21 * a(n - 3) - 18 * a(n - 4) + 9 * a(n - 5) - a(n - 6) for n >= 7. •

[A052103] • 0,0,1,3,6,12,27,63,144,324,729,1647,3726,8424,19035,43011,97200,219672,496449,1121931,2535462,5729940,12949227,29264247,66134880 ★ The third of the three sequences associated with the polynomial x^3 - 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3), n >2. •

[A292290] • 0,0,3,6,12,27,66,168,435,1134,2964,7755,20298,53136,139107,364182,953436,2496123,6534930,17108664,44791059,117264510,307002468,803742891,2104226202 ★ Number of vertices of type A at level n of the hyperbolic Pascal pyramid. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n >= 4. • a(n) = 3 * (1 + (2 ^ (- 1 - n) * ((7 - 3 * sqrt(5)) * (3 + sqrt(5)) ^ n - (3 - sqrt(5)) ^ n * (7 + 3 * sqrt(5)))) / sqrt(5)) for n>0. •

[A208131] • 1,3,6,12,36,72,144,432,864,1728,5184,10368,20736,62208,124416,248832,746496,1492992,2985984,8957952,17915904,35831808,107495424,214990848,429981696 ★ Partial products of A052901. • a(n) = 12 ^ floor(n / 3) * (r + 1) * (r + 2) / 2 with r = n mod 3. G.f.: - (6 * x ^ 2 + 3 * x + 1) / (12 * x ^ 3 - 1). - _ Alois P. Heinz _ , Apr 05 2012 •

[A136484] • 0,1,3,6,13,19,28,37,48,64,77,94,110,131,152,172,199,226,253,281,308,343,377,412,447 ★ Number of unit square lattice cells inside quadrant of origin centered circle of diameter 2n+1. • a(n) = Sum(floor(sqrt((n + 1 / 2) ^ 2 - k ^ 2))), k = 1 ... n •

[A259583] • 3,6,13,19,34,55,84,120,174,231,310,399,510,634,786,948,1144,1359,1602,1863,2176,2496,2860,3256,3680 ★ Sum of numbers in the n-th antidiagonal of the reciprocity array of 3. • a(n) = sum { sum { floor((n * k + x) / m), k=0..m - 1, m=1..n } , where x = 3. •

[A048134] • 0,3,6,13,22,40,55,88,118,163,205,280,334,436,517,625,733,901,1018,1225,1381,1591,1786,2083,2287 ★ Number of colors that can mixed with up to n units of yellow, blue, red. • a(n) = number of triples (i, j, k) with 1 <= i + j + k <= n and gcd(i, j, k) = 1. •

[A162426] • 1,3,6,13,24,34,49,69,94,117,148,174,211,249,298,331,366,439,498,535,591,670,733,792,880 ★ Row 3 of table A162424. • a(n) = Sum _{ m=n(n + 1) / 2..n(n + 1) / 2 + n } [x ^ m] S(x) ^ 3 for n>=0 where S(x) = Sum _{ n >=0 } x ^ ((n + 1)(n + 2) / 2 - 1). •

[A131913] • 1,3,6,13,25,48,89,163,294,525,929,1632,2849,4947,8550,14717,25241,43152,73561,125075,212166,359133,606721,1023168,1722625 ★ Product of the square matrix in A065941 and the column vector (1, 2, 3,...)'. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4), a(0)=1, a(1)=3, a(2)=6, a(3)=13. • a(n) = a(n - 1) + a(n - 2) + 2 * Fibonacci(n). (End) •

[A081254] • 1,3,6,13,26,53,106,213,426,853,1706,3413,6826,13653,27306,54613,109226,218453,436906,873813,1747626,3495253,6990506,13981013,27962026 ★ Numbers n such that A081252(m)/m^2 has a local maximum for m = n. • a(n) = floor(2 ^ n * 5 / 3) • a(n)=5 * 2 ^ n / 3 - (- 1) ^ n / 6 - 1 / 2. a(n)=2a(n - 1) + (1 - (- 1) ^ n) / 2, a(0)=1. - _ Paul Barry _ , Mar 24 2003 •

[A164991] • 1,1,3,6,13,26,54,108,221,442,898,1796,3634,7268,14668,29336,59101,118202,237834,475668,956198,1912396,3841588,7683176,15425138 ★ Number of triangular involutions of n. A triangular involution is a square involution with at most three faces. • a(n) = 2 ^ (n - 1) - C(n - 2,(n - 2) / 2). • a(2 * k + 1) = 4 * Sum { j = 0..(k - 2) } binomial(2 * k - 1,j) + 3 * binomial(2 * k - 1,k - 1), k >= 1. • a(2 * k) = 4 * Sum { j = 0..(k - 2) } binomial(2 * (k - 1),j) + binomial(2 * (k - 1),k - 1), k >= 1. (End) •

[A213255] • 1,3,6,13,26,54,110,225,456,922,1862,3755,7562,15214,30584,61441,123362,247581,496694,996148,1997288,4003654,8023886,16078166,32212255 ⋆ 2^(n-1) - floor((2^(n-1) - 1)/(n-1)). • a(n) = 2 ^ (n - 1) - floor((2 ^ (n - 1) - 1) / (n - 1)). • a(n) = ceiling(2 ^ (n - 1) - (2 ^ (n - 1) - 1) / (n - 1)). •

[A291726] • 3,6,13,27,51,94,171,303,527,906,1539,2586,4308,7122,11692,19077,30957,49986,80349,128628,205146,326058,516594,816076,1285674 ⋆ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = (1 - S)^3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 4 * a(n - 3) - 6 * a(n - 4) + 3 * a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) for n >= 10. •

[A276129] • 1,3,6,13,27,54,106,204,387,725,1344,2469,4500,8145,14652,26213,46665,82704,145982,256722,449937,786109,1369494,2379447,4123944 ⋆ a(n) is the number of ordered ways to tile a strip of length n+2 with white tiles of odd lengths summing to length n and two red squares. • a(n) = Sum _{ k=0..floor((n - 1) / 2) } binomial(n - 2 * k + 2, 2) * binomial(n - k - 1, k)) for n > 0. - _ Andrew Howroyd _ , Dec 26 2017 •

[A033129] • 0,1,3,6,13,27,54,109,219,438,877,1755,3510,7021,14043,28086,56173,112347,224694,449389,898779,1797558,3595117,7190235,14380470 ⋆ Base 2 digits are, in order, the first n terms of the periodic sequence with initial period [1,1,0]. • a(n) = a(n - 3) + 3 * 2 ^ (n - 3). - _ Martin von Gagern _ , May 26 2004 • a(n + 1) = 2 * a(n) + 1 - 0 ^ ((a(n) + 1) mod 4). - _ Reinhard Zumkeller _ , Feb 22 2010 • a(n) = floor(2 ^ (n + 1) * 3 / 7). - _ Jean - Marie Madiot _ , Oct 05 2012 • a(n) = (1 / 14) * (- 9 - 2 * (- 1) ^ floor((2n) / 3) + (- 1) ^ (floor((2n + 7) / 3) + 1) + 3 * 2 ^ (n + 2)). - _ John M. Campbell _ , Dec 26 2016 •

[A079403] • 3,6,13,27,54,109,219,439,879,1759,3518,7037,14075,28151,56303,112606,225212,450424,900848,1801696,3603393 ⋆ Let G(t) be the set of numbers between 2^(t-1) and 2^t-1, inclusive. There is a unique number a(t) in G(t) so that the denominator of the a(t)-th partial sum of the double harmonic series is divisible by smaller 2-powers than its neighbors. • a(n + 1) - 2 * a(n) = (a(n + 1) mod 2); • a(n) = floor(c * 2 ^ n) where c = 1.718232... = 3 / 2 + Sum _{ k>=2 } (a(k + 1) - 2 * a(k)) / 2 ^ k. (End) •

[A267604] • 1,3,6,13,27,55,111,223,447,895,1791,3583,7167,14335,28671,57343,114687,229375,458751,917503,1835007,3670015,7340031,14680063,29360127 ⋆ Decimal representation of the middle column of the "Rule 175" elementary cellular automaton starting with a single ON (black) cell. • a(n) = ceiling((7 / 4) * 2 ^ n - 1). (End) • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>3. •

[A099036] • 1,1,3,6,13,27,56,115,235,478,969,1959,3952,7959,16007,32158,64549,129475,259560,520107,1041811,2086206,4176593,8359951,16730848 ⋆ a(n) = 2^n - Fibonacci(n). • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3). • a(n) = sum(t _ 1 + 2 * t _ 2 + ... + n * t _ n=n, multinomial(1 + t _ 1 + t _ 2 + ... + t _ n, 1 + t _ 1, t _ 2, ..., t _ n). - _ Mircea Merca _ , Oct 09 2013 •

[A131246] • 1,3,6,13,27,57,119,250,523,1097,2297,4815,10086,21137,44283,92793,194419,407378,853559,1788481,3747361,7851867,16451910,34471669,72228171 ⋆ Row sums of triangle A131245. • a(0)=1, a(1)=3, a(2)=6, a(3)=13, a(n)=a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 07 2013 •

[A095768] • 3,6,13,28,59,122,249,504,1015,2038,4085,8180,16371,32754,65521,131056,262127,524270,1048557,2097132,4194283,8388586,16777193,33554408,67108839 ⋆ a(n) = 2^(n+1) - n. • a(n) = 4a(n - 1) - 5a(n - 2) + 2a(n - 3). (End) •

[A002478] • 1,1,3,6,13,28,60,129,277,595,1278,2745,5896,12664,27201,58425,125491,269542,578949,1243524,2670964,5736961,12322413,26467299,56849086 ⋆ Bisection of A000930. • a(n) = a(n - 1) + 2a(n - 2) + a(n - 3). • a(n) = sum { k=0..n, binomial(2n - 2k, k) } . - _ Paul Barry _ , Nov 13 2004 • a(n) = sum { k=0..floor(n / 2), sum { j=0..n - k, C(j, n - k - j)C(j, k) }} . - _ Paul Barry _ , Nov 09 2005 • a(n) = sum { k=0..n, C(2k,n - k) } =sum { k=0..n, C(n,k)C(3k,n) / C(3k,k) } . - _ Paul Barry _ , Feb 04 2006 •

[A214260] • 0,1,3,6,13,29,64,141,311,686,1513,3337,7360,16233,35803,78966,174165,384133,847232,1868629,4121391,9090014,20048657,44218705,97527424 ⋆ First differences of A052980. • a(n + 1) = sum { k = 0..n, C(n - k, floor(k / 2)) * 2 ^ (n - k - floor(k / 2)) . •

[A098075] • 1,3,6,13,30,69,160,375,885,2102,5022,12060,29095,70485,171399,418220,1023663,2512761,6184253,15257262,37725972,93477778,232069116,577179078,1437926977 ⋆ Threefold convolution of A004148 (the RNA secondary structure numbers) with itself. • a(n)=3sum(binomial(k, n - k) * binomial(k + 2, 3 + n - k) / k, k=ceil((n + 1) / 2)..n) (n>=1), a(0)=1. G.f. = f ^ 3, where f=[1 - z + z ^ 2 - sqrt(1 - 2z - z ^ 2 - 2z ^ 3 + z ^ 4)] / (2z ^ 2) is the g.f. of A004148. •

[A162483] • 3,6,13,31,78,201,523,1366,3573,9351,24478,64081,167763,439206,1149853,3010351,7881198,20633241,54018523,141422326,370248453,969323031,2537720638,6643838881,17393796003 ⋆ a(n) is the number of perfect matchings of an edge-labeled 2 x (2n+1) Mobius grid graph. • a(n) = Real((1 - I) * (L(2 * n + 1) - F(2 * n + 1)) / 2 + F(2 * n + 2) + 2 * I)). • a(n)=4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). G.f.: - (3 - 6 * x + x ^ 2) / ((x - 1) * (x ^ 2 - 3 * x + 1)). - _ R. J. Mathar _ , Aug 08 2009 • a(n) = 2 ^ (- 1 - n) * (2 ^ (2 + n) - (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n). - _ Colin Barker _ , Nov 03 2016 •

[A264236] • 1,3,6,13,36,138,736,4908,36351,280228,2190651,17206203,135357481,1065387963,8387050686,66029196613,519841755036,4092692363058,32221664474776,253680537891828,1997222414704551,15724098193422028,123795561597659331,974640390569138163 ⋆ Number of vertices at level n of the hyperbolic Pascal pyramid. • a(n) = 12 * a(n - 1) - 37 * a(n - 2) + 37 * a(n - 3) - 12 * a(n - 4) + a(n - 5). • a(n) = (- 3 / 2 + 9 * sqrt(5) / 10) * ((3 + sqrt(5)) / 2) ^ n + (- 3 / 2 - 9 * sqrt(5) / 10) * ((3 - sqrt(5)) / 2) ^ n + (7 / 12 - 3 * sqrt(15) / 20) * (4 + sqrt(15)) ^ n + (7 / 12 + 3 * sqrt(15) / 20) * (4 - sqrt(15)) ^ n + 17 / 6. (See Németh paper, page 9.) •

[A083356] • 0,1,3,6,14,19,31,38,54,72,92,103,139,152,180,210,258,275,329,348,408,450,494,517,613 ⋆ Total area of all incongruent integer-sided rectangles of area <= n. • a(n) = sum _{ r=1..floor(sqrt(n)) } r * (r + floor(n / r)) * (floor(n / r) + 1 - r) / 2. •

[A291987] • 1,1,3,6,14,20,45,69,135,210,378,576,1057,1561,2667,4110,6902,10220,17109,25485,41583,62250,99666,147960,238633 ⋆ Expansion of 1/((1-x)*(1-2*x^2)*(1-3*x^3)*(1-4*x^4)). • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) + a(n - 4) - 10 * a(n - 5) - 2 * a(n - 6) - 4 * a(n - 7) + 12 * a(n - 8) + 24 * a(n - 9) - 24 * a(n - 10) for n >= 11. - _ Muniru A Asiru _ , Sep 07 2017 •

[A166212] • 1,3,6,14,25,39,66,99,138,201,274,357,479,616,768,977,1207,1458,1788,2146,2532,3022,3548,4110,4805 ⋆ Number of 4 X 4 X 4 triangular nonnegative integer arrays, symmetric under 120 degree rotation, with all sums of an element and its neighbors <= n. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 9) + 4 * a(n - 10) - 2 * a(n - 11) + a(n - 12) - 2 * a(n - 13) + a(n - 14) for n>13. •

[A291988] • 1,1,3,6,14,25,50,84,165,280,503,826,1477,2386,4067,6625,11032,17605,29039,45820,74708,117410,187691,293155,467733 ⋆ Expansion of 1/((1-x)*(1-2*x^2)*(1-3*x^3)*(1-4*x^4)*(1-5*x^5)). • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) + a(n - 4) - 5 * a(n - 5) - 7 * a(n - 6) - 14 * a(n - 7) + 7 * a(n - 8) + 19 * a(n - 9) + 26 * a(n - 10) + 10 * a(n - 11) + 20 * a(n - 12) - 60 * a(n - 13) - 120 * a(n - 14) + 120 * a(n - 15) for n >= 16. - _ Muniru A Asiru _ , Sep 07 2017 •

[A120940] • 0,1,3,6,14,26,52,95,177,318,572,1012,1784,3117,5423,9382,16170,27758,47500,81035,137885,234046,396408,670056,1130544 ⋆ Alternating sum of the Fibonacci numbers multiplied by their (combinatorial) indices. • a(n) = sum from k=0 to n of (- 1) ^ (n - k) * k * f(k) also, when n >= 3, a(n) = nf(n - 1) + f(n - 3) + (- 1) ^ n where f(n) = F(n + 1) •

[A277954] • 1,3,6,14,26,58,106,234,426,938,1706,3754,6826,15018,27306,60074,109226,240298,436906,961194,1747626,3844778,6990506,15379114,27962026 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 14", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) for n>2. • a(n) = (- 8 - (- 2) ^ n + 21 * 2 ^ n) / 12. (End) •

[A001970] • 1,1,3,6,14,27,58,111,223,424,817,1527,2870,5279,9710,17622,31877,57100,101887,180406,318106,557453,972796,1688797,2920123 ⋆ Functional determinants; partitions of partitions; Euler transform applied twice to all 1's sequence. • a(n) = (1 / n) * Sum _{ k = 1..n } a(n - k) * b(k), n > 1, a(0) = 1, b(k) = Sum _{ d|k } d * numbpart(d), where numbpart(d) = number of partitions of d, cf. A061259. - _ Vladeta Jovovic _ , Apr 21 2001 •

[A224840] • 1,3,6,14,27,61,117,250,494,1012,2007,4088,8112,16357,32635,65493,130779,262115,523710,1048502,2096110,4194124,8386419,16777182,33550085 ⋆ Divisor sum of the arithmetic function A085945(n). • a(n) = sum { d | n } sum _{ k <= d } mu(k) * (2 ^ floor(n / k) - 1) where mu is the Moebius function. •

[A216714] • 0,1,3,6,14,29,60,123,249,503,1012,2032,4075,8164,16347,32719,65471,130986,262030,524137,1048376,2096887,4193953,8388143,16776600 ⋆ 2^(n-5) - A000931(n). • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3) - 2 * a(n - 4). - _ Vincenzo Librandi _ , Mar 11 2013 •

[A084174] • 1,1,3,6,14,29,61,124,252,507,1019,2042,4090,8185,16377,32760,65528,131063,262135,524278,1048566,2097141,4194293,8388596,16777204 ⋆ a(n) = +3*a(n-1) -1*a(n-2) -3*a(n-3) +2*a(n-4). • a(n) = 2 ^ n + (- 1) ^ n / 4 - (2 * n + 1) / 4. • a(n + 2) = a(n + 1) + 2 * a(n) + n, a(0)=1, a(1)=1. • a(n) = floor(2 ^ n - n(n + 1) / 2). - _ Zerinvary Lajos _ , Apr 29 2007 •

[A192672] • 1,1,1,3,6,14,30,65,144,321,720,1626,3694,8428,19305,44371,102291,236450,547868,1272148,2959613,6897450,16100184,37635909,88095027 ⋆ Floor-Sqrt transform of little Schroeder numbers (A001003). • a(n) = floor(sqrt(littleSchroder(n))). •

[A175656] • 1,3,6,14,30,66,142,306,654,1394,2958,6258,13198,27762,58254,121970,254862,531570,1106830,2301042,4776846,9903218,20505486,42409074,87614350 ⋆ Eight bishops and one elephant on a 3 X 3 chessboard. • a(n) = 3 * a(n - 1) - 4 * a(n - 3) with a(0)=1, a(1)=3 and a(2)=6. • a(n) = ((3 * n + 22) * 2 ^ n - 4 * (- 1) ^ n) / 18. •

[A218982] • 3,6,14,31,70,156,349,780,1745,3901,8723,19505,43615,97526,218075,487630,1090374,2438150,5451870,12190751,27259348,60953755,136296740,304768775,681483699 ⋆ Power ceiling-floor sequence of sqrt(5). • a(n) = floor(x * a(n - 1)) if n is odd, a(n) = ceiling(x * a(n - 1) if n is even, where x=sqrt(5) and a(0) = ceiling(x). •

[A106803] • 0,1,1,3,6,14,31,70,157,353,793,1782,4004,8997,20216,45425,102069,229347,515338,1157954,2601899,5846414,13136773,29518061,66326481 ⋆ Expansion of x*(1-x)/(1-2*x-x^2+x^3). • a(0)=a(1)=1, a(2)=3, a(n + 1) = 2 * a(n) + a(n - 1) - a(n - 2) for n>=2. - _ Philippe Deléham _ , Sep 07 2006 •

[A006356] • 1,3,6,14,31,70,157,353,793,1782,4004,8997,20216,45425,102069,229347,515338,1157954,2601899,5846414,13136773,29518061,66326481,149034250 ⋆ Expansion of (1-x)/(1-2*x-x^2+x^3). • a(0)=a(1)=1, a(2)=3, a(n + 1) = 2 * a(n) + a(n - 1) - a(n - 2) for n>=2. - _ Philippe Deléham _ , Sep 07 2006 •

[A006356] • 1,3,6,14,31,70,157,353,793,1782,4004,8997,20216,45425,102069,229347,515338,1157954,2601899,5846414,13136773,29518061,66326481,149034250,334876920 ⋆ a(n) = 2*a(n-1) + a(n-2) - a(n-3). • a(n) is asymptotic to z(3) * w(3) ^ n where w(3)=(1 / 2) / cos(3 * Pi / 7) and z(3) is the root 1<X<2 of P(3, X) = 1 - 14 * X - 49 * X ^ 2 + 49 * X ^ 3. w(3)= 2.2469796.... z(3)=1.

220410935... • a(n - 1) = sum(k=1..n, sum(i=k..n, (sum(j=0..k, binomial(j, - 3 * k + 2 * j + i) * (- 1) ^ (j - k) * binomial(k,j))) * binomial(n + k - i - 1,k - 1))). - _ Vladimir Kruchinin _ , May 05 2011 •

[A129954] • 1,3,6,14,32,72,160,352,768,1664,3584,7680,16384,34816,73728,155648,327680,688128,1441792,3014656,6291456,13107200,27262976,56623104,117440512 ⋆ Second differences of A129952. • a(0) = 1, a(1) = 3; for n > 1, a(n) = (n + 4) * 2 ^ (n - 2). •

[A272362] • 1,3,6,14,32,74,171,396,917,2124,4920,11397,26401,61158,141673,328187,760249,1761126,4079670,9450606,21892446,50714123,117479896,272143639,630424122 ⋆ Expansion of (1 + x - x^2 - x^3 - x^4)/((1 - x)*(1 - x - 2*x^2 - 2*x^3 - x^4)). • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5). • a(n) = floor(phi * a(n - 1) + phi * a(n - 2)), a(0)=1, a(1)=3, where phi is the golden ratio (A001622). •

[A003477] • 1,3,6,14,33,71,150,318,665,1375,2830,5798,11825,24039,48742,98606,199113,401455,808382,1626038,3267809,6562295,13169814,26416318,52962681 ⋆ Expansion of 1/((1-2x)(1+x^2)(1-x-2x^3)). • a(0) = 1; for n>0, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 5 * a(n - 3) - 6 * a(n - 4) + 2 * a(n - 5) - 4 * a(n - 6) (where a(n)=0 for - 5<=n<= - 1). - _ Jon E. Schoenfield _ , Apr 23 2010 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + Re(i ^ (n - 4)), a(- 5)=a(- 4)=a(- 3)=a(- 2)=0 for all integers n element Z. - _ Manfred Lindemann _ , Dec 06 2015 • a(n)=(1 / 2) * (BR * ROR ^- (n + 4) + BC * ROC ^- (n + 4) + conjugate(BC * ROC ^- (n + 4)) •

[A275873] • 1,1,1,3,6,14,34,81,193,461,1101,2631,6288,15029,35921,85856,205208,490477,1172311,2801993,6697170,16007210,38259559,91445908,218569015 ⋆ Floor(r*a(n-1)) + floor(r*a(n-2)) + floor(r*a(n-3)), where r = 3/2, a(0) = a(1) = a(2) = 1. • a(n) = floor(r * a(n - 1)) + floor(r * a(n - 2)) + floor(r * a(n - 3)), where r = 3 / 2, a(0) = a(1) = a(2) = 1. •

[A184785] • 1,1,1,3,6,14,34,83,205,516,1317,3396,8848,23253,61570,164094,439860,1185086,3207477,8716726,23776459,65072379,178637758,491772915,1357288318 ⋆ Let A(x) satisfy: A(x) = 1 + x*A(x)^phi where phi = (sqrt(5)+1)/2, then this sequence equals the integer part of the coefficients of A(x). • a(n) = floor(binomial(phi * n, n) / (n / phi + 1)) where phi = (sqrt(5) + 1) / 2. •

[A129703] • 1,3,6,14,36,97,268,751,2124,6047,17304,49722,143366,414585,1201918,3492118,10165780,29643871,86574832,253188112,741365050,2173243129,6377181826,18730782253,55062586342 ⋆ Number of different walks generated by n steps that can only go in {east, southeast, southwest} directions on the 300 degree wedge in a 60 degree equilateral triangular lattice. • a(n) = 1 + Sum _{ k=0..n } Sum _{ t=0..floor(k / 2) } binomial(n, 2 * t + n - k) * (binomial (2 * t + n - k, t) - binomial(2 * t + n - k, t - 1)), for n>0. - _ Daniel Suteu _ , Feb 23 2018 •

[A001550] • 3,6,14,36,98,276,794,2316,6818,20196,60074,179196,535538,1602516,4799354,14381676,43112258,129271236,387682634,1162785756,3487832978,10462450356,31385253914,94151567436,282446313698 ⋆ 1^n + 2^n + 3^n. • a(0)=3, a(1)=6, a(2)=14, a(n)=6a(n - 1) - 11a(n - 2) + 6a(n - 3). - _ Harvey P. Dale _ , Apr 30 2011 •

[A079003] • 3,6,14,38,110,326,974,2918,8750,26246,78734,236198,708590,2125766,6377294,19131878,57395630,172186886,516560654,1549681958,4649045870,13947137606,41841412814,125524238438,376572715310 ⋆ Least x>=3 such that F(x)==-1 (mod 3^n) where F(x) denotes the x-th Fibonacci number (A000045). • a(1) = 3; for n>1, a(n) = 3 * a(n - 1) - 4; a(n) = 4 * 3 ^ (n - 2) + 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>3. G.f.: x * (3 - 6 * x - x ^ 2) / ((1 - x) * (1 - 3 * x)). [_ Colin Barker _ , May 01 2012] •

[A101162] • 1,3,6,14,40,131,471,1829,7620,33902,160362,803065,4241457,23546969,137002658,833225728,5284731576,34881786097,239147833907,1700114999791,12512735023124,95205884573428,747892058653238,6058264178225451 ⋆ Row sums of a Chebyshev number triangle. • a(n)=sum { k=0..n, if(n=k, 1, 2 T(n - k, (k + 2) / 2)) } where T(n, k)=(n / 2)sum { j=0..floor(n / 2), C(n - j, j)(- 1) ^ j * (2k) ^ (n - 2j) } . •

[A060304] • 0,0,3,6,15,19,37,47,69,82,113,139,180,216,244,300,381,423,486,553,638,726,820,887,1029 ⋆ Number of primes below n^3 does not exceed n times the number of primes below n^2. • a(n) = n * pi(n * n) - pi(n * n * n). - _ Jonathan Sondow _ , Feb 17 2014 •

[A117748] • 0,3,6,15,21,36,45,66,78,105,120,153,171,210,231,276,300,351,378,435,465,528,561,630,666 ⋆ Triangular numbers divisible by 3. • a(n) = 3 * (1 - (- 1) ^ n + 2 * (- 3 + (- 1) ^ n) * n + 6 * n ^ 2) / 16. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n > 5. •

[A179805] • 1,3,6,15,24,33,42,51,60,69,78,87,96,105,114,123,132,141,150,159,168,177,186,195,204 ⋆ a(0) = 1, a(1) = 3, a(2) = 6; a(n), n>2 = 2*a(n-1) - a(n-2). a(n), n>2 = a(n-1) + 9. • a(0) = 1, a(1) = 3, a(2) = 6; a(n), n>2 = 2 * a(n - 1) - a(n - 2). • a(n), n>2 = a(n - 1) + 9. • a(n) = 9 * n - 12 for n>1. G.f.: (2 * x + 1) * (3 * x ^ 2 - x + 1) / (x - 1) ^ 2. [_ Colin Barker _ , Oct 28 2012] •

[A272073] • 3,6,15,24,57,90,213,336,795,1254,2967,4680,11073,17466,41325,65184,154227,243270,575583,907896,2148105,3388314,8016837,12645360,29919243 ⋆ Exponents of x in the numerator of cluster variables of rank 2 cluster algebras. • a(n) = 4 * a(n - 2) - a(n - 4), with a(2)=3, a(3)=6, a(4)=15, a(5)=24. •

[A062878] • 1,3,6,15,24,60,102,255,384,960,1632,4080,6168,15420,26214,65535,98304,245760,417792,1044480,1579008,3947520,6710784 ⋆ a(n) is the position of A050614[n] in A062877. • a(2 ^ n - 1)=2 ^ (2 ^ n) - 1 . - _ Philippe Deléham _ , Apr 05 2007 •

[A227960] • 1,3,6,15,24,60,105,255,384,960,1632,1680,4080,15555,27030,65535,98304,245760,417792,430080,1044480,1582080,3947520,3982080,6908160 ⋆ Big equivalence classes (A227723) related to subgroups of nimber addition (A190939). • a(A076766 - 1) = A001146 - 1 = A051179. • a(A076766) = A001146 * 3 / 2 (probably). •

[A282484] • 1,3,6,15,24,62,99,254,387,1006,1595,4078,6203,16110,25531,65262,99259,257774,408507,1044206,1588155,4124398,6536123,16707310,25410491 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 478", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 2) + 16 * a(n - 4) - 16 * a(n - 6) for n>6. •

[A216304] • 3,6,15,25,27,33,54,57,60,75,94,97,99,118,123,129,132,136,162,174,186,190,201,213,228 ⋆ Values of k such that 10*k+1 and 10*k+7 alone are prime between 10*k and 10*k+9. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A020991] • 0,3,6,15,26,27,30,63,106,107,110,111,122,123,126,255,426,427,430,431,442,443,446,447,490 ⋆ Largest value of k for which Golay-Rudin-Shapiro sequence A020986(k) = n. • a(2 ^ n) = 2 ^ (2n) - 1. - _ Seiichi Manyama _ , Apr 23 2017 •

[A079825] • 1,3,6,15,26,41,62,92,129,169,224,287,366,443,548,656,793,919,1090,1255,1466,1653,1906,2140,2441 ⋆ Sum of numbers in n-th upward diagonal of triangle in A079826. • a(n) = ((2 * n + 1) * (7 * n ^ 2 + 7 * n + 12) - 3 * n * (n - 7) * (- 1) ^ n + 6 * (2 * n - 3 * (- 1) ^ n + 1) * i ^ (n * (n - 1))) / 96, where i=sqrt(- 1). - _ Bruno Berselli _ , Sep 05 2012 •

[A282123] • 1,3,6,15,26,63,106,255,426,1023,1706,4095,6826,16383,27306,65535,109226,262143,436906,1048575,1747626,4194303,6990506,16777215,27962026 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 430", based on the 5-celled von Neumann neighborhood. • a(n) = (- 5 - (- 2) ^ n + (- 1) ^ n + 11 * 2 ^ n) / 6. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>3. •

[A000740] • 1,1,3,6,15,27,63,120,252,495,1023,2010,4095,8127,16365,32640,65535,130788,262143,523770,1048509,2096127,4194303,8386440,16777200 ⋆ Number of 2n-bead balanced binary necklaces of fundamental period 2n, equivalent to reversed complement; also Dirichlet convolution of b_n=2^(n-1) with mu(n); also number of components of Mandelbrot set corresponding to Julia sets with an attractive n-cycle. • a(n) = sum _{ d|n } mu(n / d) * 2 ^ (d - 1), Mobius transform of A011782. Furthermore, sum _{ d|n } a(d) = 2 ^{ n - 1 } . •

[A103529] • 0,3,6,15,28,61,126,251,504,1017,2042,4095,8180,16373,32758,65523,131056,262129,524274,1048567,2097148,4194285,8388590,16777195,33554408 ⋆ Values of A102370 which are >= a new power of 2. • a(n) = 2 ^ (n - 1) - (n - 1) + Sum _{ k >= 1, k == n - 1 mod 2 ^ k } 2 ^ k. • a(0)=0, a(1)=3, for n>1, a(n)= a(n - 1) XOR (a(n - 1) + n), where XOR is the bitwise exclusive - or operator. - _ Alex Ratushnyak _ , Apr 21 2012 •

[A285543] • 1,3,6,15,28,63,120,255,496,1023,2016,4095,8128,16383,32640,65535,130816,262143,523776,1048575,2096128,4194303,8386560,16777215,33550336 ⋆ Decimal representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 35", based on the 5-celled von Neumann neighborhood. • a(n) = (- 1 + (- 1) ^ n + 2 ^ (2 + n) - 2 ^ (n / 2) * (1 + (- 1) ^ n)) / 2. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - 2 * a(n - 4) + 4 * a(n - 5) for n>4. •

[A077449] • 3,6,15,30,31,39,43,51,57,62,67,71,75,78,79,86,87,102,103,111,114,123,131,134,139 ⋆ Numbers n such that sum(d|n : mu(phi(d))) = 0. • a(n) seems to be asymptotic to c * n where c is around 5.47... •

[A242172] • 1,3,6,15,30,70,140,315,630,1386,2772,6006,12012,25740,51480,109395,218790,461890,923780,1939938,3879876,8112468,16224936,33801950,67603900 ⋆ a(n) = 2^n*binomial((n + 1 + (n mod 2))/2, 1/2). • a(2 * n + 2) / 2 = a(2 * n + 1). •

[A256281] • 1,3,6,15,30,78,170,423,991,2410,5742,13950,33462,80954,195060,471255,1136690,2745273,6625110,15996850,38614140,93228102,225058682,543354078,1311738151 ⋆ Inverse Moebius transform of Pell numbers. • a(n) = Sum _{ d|n } Pell(d). •

[A289006] • 0,1,3,6,15,33,66,155,333,666,1555,3333,6666,15555,33333,66666,155555,333333,666666,1555555,3333333,6666666,15555555,33333333,66666666 ⋆ Conversion to octal of the binary expansion given by the first n terms of the period-3 sequence A011655 (repeat 0, 1, 1). • a(3n) = floor(10 ^ n / 3) (= n times the digit '3'), a(3n + 1) = floor(10 ^ n / 3) * 2 (= n times the digit '6'), a(3n + 2) = floor(10 ^ (n + 1) / 6) - floor(10 ^ n / 9) (= digit '1' followed by n digits '5'). - _ M. F. Hasler _ , Jun 23 2017 •

[A105476] • 1,1,3,6,15,33,78,177,411,942,2175,5001,11526,26529,61107,140694,324015,746097,1718142,3956433,9110859,20980158,48312735,111253209,256191414 ⋆ Number of compositions of n when each even part can be of two kinds. • a(n) = a(n - 1) + 3 * a(n - 2) for n>=3. • a(n) = ((2 + sqrt(13)) * (1 + sqrt(13)) ^ n - (2 - sqrt(13)) * (1 - sqrt(13)) ^ n) / (3 * 2 ^ n * sqrt(13)) for n>0. - _ Bruno Berselli _ , May 24 2011 •

[A190525] • 1,3,6,15,34,80,185,431,1001,2328,5411,12580,29244,67985,158045,367411,854126,1985603,4615966,10730820,24946129,57992715,134816705,313410816,728591751 ⋆ Number of n-step one-sided prudent walks, avoiding exactly two consecutive west steps (can have three or more west steps). • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) with a(0) = 1, a(1) = 3, a(2) = 6 and a(3) = 15. •

[A291013] • 0,3,6,15,36,85,198,456,1040,2352,5280,11776,26112,57600,126464,276480,602112,1306624,2826240,6094848,13107200,28114944,60162048,128450560,273678336 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S^2)^3. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3) for n >= 7. • a(n) = 2 ^ (n - 6) * (60 + 17 * n + n ^ 2) for n>2. - _ Colin Barker _ , Aug 23 2017 •

[A033192] • 0,1,1,3,6,15,36,91,231,595,1540,4005,10440,27261,71253,186355,487578,1276003,3339820,8742471,22885995,59912931,156848616,410626153,1075018896 ⋆ a(n) = binomial(Fibonacci(n) + 1, 2). • a(n) = ((Fibonacci(n) + Fibonacci(n) ^ 2) / 2). - _ Gary Detlefs _ Dec 24 2010 •

[A140824] • 0,1,3,6,15,41,108,281,735,1926,5043,13201,34560,90481,236883,620166,1623615,4250681,11128428,29134601,76275375,199691526,522799203,1368706081,3583319040 ⋆ Expansion of (x-x^3)/(1-3*x+2*x^2-3*x^3+x^4). • a(0) = 0, a(1) = 1, a(2) = 3, a(3) = 6, a(n) - 3 a(n + 1) + 2 a(n + 2) - 3 a(n + 3) + a(n + 4) = 0. • a(n) = 2 / 3 * (T(n,3 / 2) - T(n,0)), where T(n,x) is a Chebyshev polynomial of the first kind. • a(n) = bottom left entry of the 2 X 2 matrix 2 * T(n, 1 / 2 * M), where M is the 2 X 2 matrix [0, 0; 1, 3]. •

[A067771] • 3,6,15,42,123,366,1095,3282,9843,29526,88575,265722,797163,2391486,7174455,21523362,64570083,193710246,581130735,1743392202,5230176603,15690529806,47071589415,141214768242,423644304723 ⋆ Number of vertices in Sierpiński triangle of order n. • a(n) = 3 + 3 ^ 1 + 3 ^ 2 + 3 ^ 3 + 3 ^ 4 + ... + 3 ^ n = 3 + Sum _{ k=1..n } 3 ^ n. • a(0) = 3, a(n) = a(n - 1) + 3 ^ n. a(n) = (3 / 2) * (1 + 3 ^ n). - _ Zak Seidov _ , Mar 19 2007 • a(n) = 4 * a(n - 1) - 3 * a(n - 2). • a(n) = 3 * a(n - 1) - 3. - _ Zak Seidov _ , Oct 26 2014 •

[A028401] • 3,6,15,45,153,561,2145,8385,33153,131841,525825,2100225,8394753,33566721,134242305,536920065,2147581953,8590131201,34360131585,137439739905,549757386753,2199026401281,8796099313665,35184384671745 ⋆ The (2^n+1)-th triangular number (cf. A000217). • a(n) = (2 ^ n + 4) * (2 ^ n + 8) / 32. - Tamas Kalmar - Nagy (integers(AT)kalmarnagy.com), Aug 02 2007 •

[A212977] • 0,3,6,16,25,46,64,100,130,185,230,308,371,476,560,696,804,975,1110,1320,1485,1738,1936,2236,2470 ⋆ Number of (w,x,y) with all terms in {0,...,n} and n/2 < w+x+y <= n. • a(n)=a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = (14 * n ^ 3 + 75 * n ^ 2 + 109 * n - 3 * ((n ^ 2 + 7 * n + 11) * (- 1) ^ n - 11)) / 96. - _ Luce ETIENNE _ , Mar 21 2014 •

[A049311] • 1,3,6,16,34,90,211,558,1430,3908,10725,30825,90156,273234,848355,2714399,8909057,30042866,103859678,368075596,1335537312,4958599228,18820993913,72980867400,288885080660 ⋆ Number of (0,1) matrices with n ones up to row and column permutations. • a(n) is the coefficient of x ^ n in the cycle index Z(S _ n X S _ n; 1 + x, 1 + x ^ 2, ...), where S _ n X S _ n is Cartesian product of symmetric groups S _ n of degree n. •

[A130095] • 1,3,6,16,35,97,234,626,1603,4218,10947,28767,75026,196654,514269,1346895,3524579,9229159,24157818,63250217,165580380,433505386,1134903171,2971244450,7778742084 ⋆ Inverse Möbius transform of odd indexed Fibonacci numbers. • a(n) = sum { d | n } Fibonacci(2 * d - 1). •

[A027852] • 0,1,1,3,6,16,37,96,239,622,1607,4235,11185,29862,80070,216176,586218,1597578,4370721,12003882,33077327,91433267,253454781,704429853,1962537755 ⋆ Number of connected functions on n points with a loop of length 2. • a(n) = Sum _ (p=1..L - 1) { f(p) * f(n - p) } + f(L) * f(n - L) * (n mod 2) + (f(L) + 1) * f(L) / 2 * (1 - n mod 2), where L = floor(n / 2), and f = A000081. - _ Washington Bomfim _ , Jul 06 2012 •

[A114410] • 1,3,6,16,37,147,420,2290,7477,50487,200910,1534220,7099871,61765581,301088574,2870376944,15554495573,167142509403,940873745772,11097270672382,66032188454581,807449164097111,5147307668890832 ⋆ Cumulative sum of double primorials (A079078). • a(n) = 0 ## + 1 ## + ... + n ## , where n ## = p(n) * (n - 2) ## , where p(n) is the n - th prime. •

[A279685] • 1,1,3,6,16,39,91,216,499,1144,2651,6152,14227,32904,76187,176376,408179,944728,2186779,5061544,11715219,27116008,62762971,145270808,336242675 ⋆ The maximum number of coins that can be processed in n weighings of an adaptive strategy that all are real (and identical) except for one LHR-coin starting in an unknown state. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 5 * a(n - 3) - 4 * a(n - 4) for n>9. •

[A046211] • 1,1,3,6,16,39,104,270,729,1960,5368,14742,40880,113828,318864,896670,2532160,7174089,20390552,58112088,166037352,475467916,1364393896,3922625070,11297181456 ⋆ Number of ternary Lyndon words whose digits sum to 1 (or 2) mod 3; number of trace 1 (or 2) monic irreducible polynomials over GF(3). • a(n) = 1 / (3 * n) * sum _{ d divides n, gcd(d, 3)=1 } mu(d) * 3 ^{ n / d } . •

[A166536] • 1,3,6,16,40,105,273,715,1870,4896,12816,33553,87841,229971,602070,1576240,4126648,10803705,28284465,74049691,193864606,507544128,1328767776,3478759201,9107509825 ⋆ A product of consecutive doubled Fibonacci numbers. • a(n) = F(n + 1) * F(n + 2) + (1 - (- 1) ^ n) / 2, where F = A000045. • a(n) = (F(n + 2) * (1 + (- 1) ^ n) / 2 + F(n) * (1 - (- 1) ^ n) / 2) * (F(n + 3) * (1 - (- 1) ^ n) / 2 + F(n + 1) * (1 + (- 1) ^ n) / 2). • a(n) * a(n + 2) - a(n + 1) ^ 2 = (- 1) ^ n * (F(2 * n + 4) - 1). • a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). - _ G. C. Greubel _ , May 16 2016 • a(n) = Sum _{ i=0..n + 1 } F(i + 1) * F(i - 1), where F(- 1) = 1. - _ Bruno Berselli _ , Feb 16 2017 •

[A128720] • 1,1,3,6,16,40,109,297,836,2377,6869,20042,59071,175453,524881,1579752,4780656,14536878,44394980,136107872,418757483,1292505121,4001039563,12418772656,38641790001 ⋆ Number of paths in the first quadrant from (0,0) to (n,0) using steps U=(1,1), D=(1,-1), h=(1,0) and H=(2,0). • a(n) = a(n - 1) + a(n - 2) + Sum _{ j=0,..,n - 2 } a(j) * a(n - 2 - j), a(0) = a(1) = 1. • a(n) = sum(binomial(2 * k,k) / (k + 1) * sum(binomial(n - j,2 * k) * binomial(n - j - 2 * k,j),j=0..n / 2),k=0..n / 2). - _ Emanuele Munarini _ , May 05 2011 •

[A019497] • 1,1,1,3,6,16,42,114,322,918,2673,7875,23457,70551,213846,652794,2004864,6190612,19207416,59850384,187217679,587689947,1850692506,5845013538,18509607753 ⋆ Number of ternary search trees on n keys. • a(0)=a(1)= 1 and for n>=2 a(n)= sum(i + j + k=n - 2, a(i) * a(j) * a(k)) (i, j, k>=0). - _ Benoit Cloitre _ , Jun 14 2004 • a(n) = Sum _{ k=0..n - 1 } C(n - k,k) / (n - k) * C(3 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A106361] • 1,1,1,3,6,16,45,128,371,1106,3343,10230,31635,98714,310366,982437,3128051,10011848,32193840,103955571,336946034,1095873115,3575319049,11697938232,38374479841 ⋆ Number of rooted ordered trees where no branch is identical to its adjacent neighbor. • a(n) = Sum _{ 1 <= s <= n - 1 } a(n - s) * b(s) for n>=2, where b(n) = Sum _{ m|n } (- 1) ^{ 1 + (n / m) } a(m), with a(1) = 1. •

[A235088] • 3,6,17,28,47,66,93,120,155,190,233,276,327,378,437,496,563,630,705,780,863,946,1037,1128,1227 ⋆ a(n)*Pi is the total length of irregular spiral (center points: 1, 2, 3, 4) after n rotations. • a(n) = 2 * floor((n - 1) ^ 2 / 4) + 3 * ceiling(n ^ 2 / 2) (conjectured). _ Ralf Stephan _ , Jan 13 2014 •

[A291227] • 1,3,6,17,37,96,221,551,1302,3189,7625,18528,44537,107835,259830,628105,1515053,3659808,8832085,21328159,51481638,124302381,300068689,724468416,1748959153 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - S - 2 S^2. • a(n) = a(n - 1) + 4 * a(n - 2) - a(n - 3) - a(n - 4) for n >= 5. •

[A129905] • 1,3,6,17,43,114,297,779,2038,5337,13971,36578,95761,250707,656358,1718369,4498747,11777874,30834873,80726747,211345366,553309353,1448582691,3792438722,9928733473 ⋆ G.f. (2*x+1)*(1-x)/((x+1)*(x^2-3*x+1)). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3); a(n) = - 1 / 5 * (3 / 2 + 1 / 2 * sqrt(5)) ^ n * sqrt(5) + 4 / 5 * (3 / 2 + 1 / 2 * sqrt(5)) ^ n + 1 / 5 * (3 / 2 - 1 / 2 * sqrt(5)) ^ n * sqrt(5) + 4 / 5 * (3 / 2 - 1 / 2 * sqrt(5)) ^ n + 2 / 5 * (- 1) ^ n • a(n)= (Fibonacci(n - 2) ^ 2 + Fibonacci(n + 2) ^ 2 + Fibonacci(2n)) / 2, [From _ Gary Detlefs _ Dec 20 2010] •

[A237670] • 1,3,6,17,43,140,430,1447,4868,16841,58787,208166,742901,2674872,9694893,35359117,129644791,477643702,1767263191,6564137275,24466267455,91482622429,343059613651,1289904356920,4861946401495 ⋆ Inverse Moebius transform of Catalan numbers. • a(n) = sum(binomial(2 * d,d) / (d + 1), d|n). •

[A143093] • 1,3,6,17,51,155,492 ⋆ Arises in counting relative Milnor rings in K-theory. • a(n) = the number of nonisomorphic elementary types K _* (F) / S with |F ^ X / S| = 2 ^ n, if we view the K - structures as graded rings with distinguished element. •

[A117863] • 3,6,18,30,78,126,318,510,1278,2046,5118,8190,20478,32766,81918,131070,327678,524286,1310718,2097150,5242878,8388606,20971518,33554430,83886078 ⋆ Number of palindromes (in base 4) below 4^n. • a(n) = 5 * 4 ^ ((n - 1) / 2) - 2 (n odd), 2 * 4 ^ (n / 2) - 2 (n even). • a(1)=3, a(2)=6, a(3)=18, a(n)=a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3). - _ Harvey P. Dale _ , May 09 2013 •

[A026532] • 1,3,6,18,36,108,216,648,1296,3888,7776,23328,46656,139968,279936,839808,1679616,5038848,10077696,30233088,60466176,181398528,362797056,1088391168,2176782336 ⋆ Ratios of successive terms are 3,2,3,2,3,2,3,2... • a(n) = T(n, 0) + T(n, 1) + ... + T(n, 2n), T given by A026519. • a(n) = (1 / 2) * (5 + (- 1) ^ n) * a(n - 1) for n>1, a(1) = 1. • a(n) = (1 / 4) * (3 - (- 1) ^ n) * 6 ^ floor(n / 2). (End) • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] •

[A120718] • 0,3,6,18,45,120,312,819,2142,5610,14685,38448,100656,263523,689910,1806210,4728717,12379944,32411112,84853395,222149070,581593818,1522632381,3986303328,10436277600 ⋆ Expansion of 3*x/(1 - 2*x^2 - 2*x + x^3). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for n>2. • a(n) = (- 3) * (2 ^ (- 1 - n) * ((- 1) ^ n * 2 ^ (1 + n) + (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) - (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / 5. •

[A032120] • 3,6,18,45,135,378,1134,3321,9963,29646,88938,266085,798255,2392578,7177734,21526641,64579923,193720086,581160258,1743421725,5230265175,15690618378,47071855134,141215033961,423645101883 ⋆ Number of reversible strings with n beads of 3 colors. • a(n) = (1 / 2) * ((2 - (- 1) ^ n) * 3 ^ floor(n / 2) + 3 ^ n). - _ Ralf Stephan _ , May 11 2004 • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3). • a(n) = (1 / 2) * (3 ^ (ceiling(n / 2)) + 3 ^ n). - _ Andrew Howroyd _ , Oct 10 2017 •

[A083337] • 0,3,6,18,48,132,360,984,2688,7344,20064,54816,149760,409152,1117824,3053952,8343552,22795008,62277120,170144256,464842752,1269974016,3469633536,9479215104,25897697280 ⋆ a(n)=2a(n-1)+2a(n-2). • a(n), n>0 = lower left term of [1,1; 3,1] ^ n - _ Gary W. Adamson _ , Mar 12 2008 • a(n) =(1 / 2) * [1 + sqrt(3)] ^ n * sqrt(3) - (1 / 2) * sqrt(3) * [1 - sqrt(3)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 10 2008 •

[A019308] • 1,3,6,18,48,144,414,1242,3678,11034,32958,98874,296208,888624,2664630,7993890,23977992,71933976,215790894,647372682,1942085088,5826255264,17478666918,52436000754,157307706054 ⋆ Number of "bifix-free" words of length n over a three-letter alphabet. • a(2n + 1) = 3a(2n); a(2n) = 3a(2n - 1) - a(n). •

[A000932] • 1,1,3,6,18,48,156,492,1740,6168,23568,91416,374232,1562640,6801888,30241488,139071696,653176992,3156467520,15566830368,78696180768,405599618496,2136915595392,11465706820800,62751681110208 ⋆ a(n) = a(n-1) + n*a(n-2); a(0) = a(1) = 1. • a(n) / a(n - 1) = sqrt(n) + 1 / 2 + o(1) - _ Benoit Cloitre _ , Jul 02 2004 • a(n) = - sqrt(Pi) / 2 * Sum[(- 1) ^ k * 2 ^ (k / 2) * Binomial[n,k] * (HypergeometricPFQRegularized[{ 1,k - n } , { 1 + (k - n) / 2,(1 / 2) * (1 + k - n) } , - (1 / 2)] + (- k + n) * HypergeometricPFQRegularized[{ 1,1 + k - n } , { 1 + (k - n) / 2,(1 / 2) * (3 + k - n) } , - (1 / 2)]) * HypergeometricU[1 - k / 2,3 / 2,1 / 2], { k,1,n }]. - _ Eric W. Weisstein _ , May 08 2013 •

[A110593] • 3,6,18,54,162,486,1458,4374,13122,39366,118098,354294,1062882,3188646,9565938,28697814,86093442,258280326,774840978,2324522934,697

3568802,20920706406,62762119218,188286357654,564859072962 ★ a(1) = 3, a(n+1) = 2*(3^n). ● a(1) = 3, a(2) = 6, for n>2: a(n + 1) = 3 * a(n). For n >1, cumulative sum of a(n) = A000244 = powers of 3. a(n) = the number of occurrences of the integer n in A081604 = "string - length of ternary represen tation of n." ●

[A152733] ● 0,0,3,6,18,57,168,504,1515,4542,13626,40881,122640,367920,1103763,3311286,9933858,29801577,89404728,268214184,804642555,2413927662,7241782986,21725348961,65176046880 ★ a(n)+a(n+1)+a(n+2)=3^n. ● a(n) = (1 / 13) * (3 ^ n + 12 * Cos[(2 * n * Pi) / 3] + 2 * Sqrt[3] * Sin[(2 * n * Pi) / 3]), n=1,2,.. [_ Zak Seidov _ , Dec 12 2008] ●

[A215455] ● 3,6,18,57,186,621,2109,7251,25146,87726,307293,1079370,3798309,13382817,47191491,166501902,587670810,2074699233,7325660010,25869337773,91359785781,322660334739 ★ a(n) = 6*a(n-1) - 9*a(n-2) + a(n-3), with a(0)=3, a(1)=6 and a(2)=18. ● a(n)=c(1) ^ (2n) + c(2) ^ (2n) + c(4) ^ (2n), where c(j)=2 * cos(Pi * j / 9). ●

[A178789] ● 3,6,18,66,258,1026,4098,16386,65538,262146,1048578,4194306,16777218,67108866,268435458,1073741826,4294967298,17179869186,68719476738,274877906946,1099511627778,4398046511106,17592186044418,70368744177666 ★ 4^(n-1) + 2 : Number of acute angles after n iterations of the Koch snowflake construction. ● a(n) = 2 ^ (2 * (n - 1)) + 2. - _ Vincenzo Librandi _ , Feb 02 2013 ●

[A076510] ● 3,6,18,72,144,432,1728,3456,10368,41472,82944,248832,995328,1990656,5971968,23887872,47775744,143327232,573308928,1146617856,3439853568,13759414272,27518828544,82556485632,330225942528 ★ 3 people at a party are saying Hello to each other. Person 3 says Hello Hello Hello. Person 1 counts the times Hello has been said and says Hello that number. Person 2 says Hello equal to 2 * the sum of Hello's and then it is Person 3 again. This is the total of Hello's said. ● a(0)=3, a(1)=6, a(2)=18, a(n)=24 * a(n - 3) [From Harvey P. Dale, Jul 23 2011] ●

[A215817] ● 3,6,19,66,237,866,3202,11948,44917,169914,646134,2467988,9462498,36398004,140399901,542894726,2103745125,8167514346,31762430143,123704647562,482435457922,1883712663668,7363103647479,28809291337986,112820819490970 ★ a(n) is the rational part of A(n) = (6-sqrt(7))*A(n-1) - (12-4*sqrt(7))*A(n-2) + (8-3*sqrt(7))*A(n-3) with A(0)=3, A(1)=6-sqrt(7), A(2)=19-4*sqrt(7). ● a(n) = rational part of c(1) ^ (2n) + c(2) ^ (2n) + c(4) ^ (2n) = (1 - s(1)) ^ n + (1 - s(2)) ^ n + (1 - s(4)) ^ n, where c(j) := 2 * cos((7 + 8 * j) / 28) and s(j) := sin(2 * Pi * j / 7). ●

[A081181] ● 1,3,6,20,35,126,210,792,1287,5005,8008,31824,50388,203490,319770,1307504,2042975,8436285,13123110,54627300,84672315,354817320,548354040,2310789600,3562467300 ★ Staircase on Pascal's triangle. ● a(n) = binomial(floor((n + 1) / 2) + (n + 1), n). ●

[A005558] ● 1,1,3,6,20,50,175,490,1764,5292,19404,60984,226512,736164,2760615,9202050,34763300,118195220,449141836,1551580888,5924217936,20734762776,79483257308,281248448936,1081724803600 ★ a(n) is the number of n-step walks on square lattice such that 0 <= y <= x at each step. ● a(n) = C(n + 1, ceiling(n / 2)) * C(n, floor(n / 2)) - C(n + 1, ceiling((n - 1) / 2)) * C(n, floor((n - 1) / 2)). - _ Paul D. Hanna _ , Apr 16 2004 ● a(n) = Sum _{ k=0..floor(n / 2) } n! / (k! * k! * (floor(n / 2) - k)! * (floor((n + 1) / 2) - k)! * (k + 1)) (conjectured). - _ Roger Ford _ , Aug 04 2017 ●

[A162171] ● 1,3,6,20,75,336,1708,9792,62325,436480,3334386,27595776,245951615,2348666880,23923317720,258910994432,2966901358185,35886973648896,456927138333790,6108665873694720,85555744482868275,1252729007440396288,19140289332506060676 ★ Third column of A162170. ● a(n) = Sum _{ k=1..floor(n / 2) } (- 1) ^ (floor(n / 2) + k) * binomial(n + 1, 2 * k) * a(2 * k - 1) for n > 1. - _ Mike Tryczak _ , Jun 18 2015 ●

[A063683] ● 1,3,6,21,50,108,364,987,1938,6150,17622,34776,121160,306852,549000,2178309,5701290,11197764,39083988,93031050,191708244,697884066,1836283246,3605645232,11442062750 ★ Integers formed from the reduced residue sets of even numbers and Fibonacci numbers. ● a(n) = Sum _{ i | gcd(i, 2n) =1 } Fib(i) (where Fib(i) = A000045[i]) ●

[A098511] ● 1,1,3,6,21,54,186,479,1938,5795,22888,70781,286443,861463,3592105,11492256,39274353,148852401,613876868,1917516257,8511689170,25445125513,100975365920,390096404027,1666653892303 ★ Diagonal sums of a matrix associated to the inverse of a Catalan scaled binomial matrix. ● a(n)=sum { k =0..floor(n / 2), denominator((n - k + 1)Binomial(n - k, k) / Binomial(2(n - k), n - k)) } ●

[A112520] ● 1,1,1,3,6,21,54,195,573,2086,6646,24289,81540,299136,1040262,3832923,13660698,50572983,183450064,682447378,2507959846,9374078232,34791088014,130624080993,488542321116 ★ Expansion of 2/(3-sqrt(3-2*sqrt(1-4x))). ● a(n)=sum { k=0..n, sum { j=0..n, (k / n)(- 1) ^ (j - k)C(2n - j - 1, n - j)C(2j - k - 1, j - k) }} . ●

[A151961] ● 3,6,21,78,291,1086,4053,15126,56451,210678,786261,2934366,10951203,40870446,152530581,569251878,2124476931,7928655846,29590146453,110431929966,412137573411,1538118363678,5740335881301,21423225161526,79952564764803 ★ Semiperimeter of the n-th Heronian triangle. ● a(n) = 4 * a(n - 1) - a(n - 2). G.f.: 3 * x * (1 - 2 * x) / (1 - 4 * x + x ^ 2). - _ Colin Barker _ , Mar 30 2012 ● a(n) = (3 * (2 - sqrt(3)) ^ n * (2 + sqrt(3)) - 3 * (- 2 + sqrt(3)) * (2 + sqrt(3)) ^ n) / 2. - _ Colin Barker _ , Oct 12 2015 ●

[A025229] ● 1,3,6,21,78,318,1356,5997,27222,126138,594132,2836290,13692300,66729180,327855768,1622216829,8076311142,40427919714,203353800324,1027318915254,5210182030308,26517609163812,135397544040744,693364054299474 ★ a(n) = a(1)*a(n-1) + a(2)*a(n-2) + ...+ a(n-1)*a(1) for n >= 3. ● a(n)=sum { k=0..n, 2 ^ (n - k) * C(k)C(k + 1, n - k) } [offset 0]. - _ Paul Barry _ , Feb 22 2005 ●

[A073951] ● 0,1,3,6,21,81,252,729,2187,6642,19845,59049,176904,531441,1594323,4780782,14344533,43046721,129146724,387420489,1162261467,3486843450,10460471301,31381059609,94143001680 ★ Number of strings over Z_3 of length n with trace 1 and subtrace 1. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 2, s + 2t + 1) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A049415] ● 3,6,22,68,217,683,2163,6837,21623,68377,216228,683772,2162278,6837722,21622777,68377223,216227767,683772233,2162277661,6837722339,21622776602,68377223398,216227766017,683772233983,2162277660169 ★ Number of squares (of positive integers) with n digits. ● a(n)=ceil(sqrt(10 ^ n)) - ceil(sqrt(10 ^ (n - 1))) ●

[A220167] ● 3,6,22,76,247,848,2892,9969,34455,119894,420582,1482874,5254954,18714432,66969859,240739417 ★ Number of simple squared rectangles of order n up to symmetry. ● a(n) = ((n ^ (- 5 / 2)) * (4 ^ n)) / (2 ^ 5 * sqrt(pi)), from 'A Census of Planar Maps', William Tutte gave an asymptotic formula for the number of perfect squared rectangles where n is the number of elem ents in the dissection (the order). ●

[A106213] ● 0,3,6,24,33,42,45,54,60,66,69,78,87,93,102,108,111,120,129,144,153,162,165,174,183 ★ Positions n where A083349(n) = 1 (mod 3). ● a(n) = 0 (mod 3) for n>=0. ●

[A054718] ● 1,3,6,24,72,240,696,2184,6480,19656,58800,177144,530640,1594320,4780776,14348640,43040160,129140160,387400104,1162261464,3486725280,10460350992,31380882456,94143178824,282428998560 ★ Number of ternary sequences with primitive period n. ● a(n) = Sum _{ d|n } mu(d) * 3 ^ (n / d). ●

[A132390] ● 3,6,24,76,288,1072,4224,16576,66048,262912,1050624,4197376,16785408,67121152,268468224,1073790976,4295098368,17180065792,68720001024,274878693376,1099513724928,4398049656832,17592194433024,70368756760576 ★ Number of binary pattern classes in the (2,n)-rectangular grid; two patterns are in same class if one of them can be obtained by reflection or rotation of the other one. ● a(n) = 2 ^ (- 3 + n) * (7 - (- 1) ^ n + 2 ^ (1 + n)) for n>2. ● a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3), n>=6. ●

[A262349] ● 1,1,3,6,24,98,240,878,13104,34560,143840,1628640,4421376,27644438,291751956,1666163520,10523628456,216625138884,779556556800,5873176163328,107021765366544,633207380826720,6399554302310400,669757534921386 00,594616643557427040 ★ Sum of the divisors of the n-th Bell number. ● a(n) = sigma _ 1(1 / e * Sum _{ k >=0 } k ^ n / (k!)). ●

[A081072] ● 3,6,24,147,990,6768,46371,317814,2178312,14930355,102334158,701408736,4807526979,32951280102,225851433720,1548008755923,10610209857726,72723460248144,498454011879267,3416454622906710,23416728348467688 ★ Fibonacci(4n) + 3, or Fibonacci(2n+2)*Lucas(2n-2). ● a(n) = 8a(n - 1) - 8 a(n - 2) + a(n - 3). ● a(n) = 3 + (1 / 5) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 ●

[A083695] ● 0,3,6,27,84,303,1026,3567,12264,42363,146046,503907,1738044,5995623,20681466,71341047,246089424,848884083,2928215286,10100850987,34842778404,120189811743,414593515506,1430136089727,4933239756984 ★ a(n) = 2*a(n-1) + 5*a(n-2). ● a(n) = 3[(1 + sqrt(6)) ^ n - (1 - sqrt(6)) ^ n] / (2 * sqrt(6)). ●

[A270889] ● 3,6,27,150,867,5046,29403,171366,998787,5821350,33929307,197754486,1152597603,6717831126,39154389147,228208503750,1330096633347,7752371296326,45184131144603,263352415571286,1534930362283107,8946229758127350,52142448186480987,303908459360758566,1771308307978070403 ★ Integers n such that the circular graph C_n has a square size deficiency. ● a(n + 2) = 6 * a(n + 1) - a(n) - 6; a(0) = 3 , a(1) = 6. ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>2. - _ Colin Barker _ , Apr 03 2016 ● a(n) = 3 * (2 + (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n) / 4. - _ Colin Barker _ , Apr 03 2016 ●

[A102428] ● 1,3,6,28,55,286,560,3060,5985,33649,65780,376740,736281,4272048,8347680,48903492,95548245,563921995,1101716330,6540715896,12777711870,76223753060,148902215280,891794789340,1742058970275 ★ Central column of triangle A102427. ● a(n) = binomial(floor((5 * n + 2) / 2), floor((n + 1) / 2)). - _ David Wasserman _ , Apr 04 2008 ●

[A007228] ● 3,6,28,165,1092,7752,57684,444015,3506100,28242984,231180184,1917334783,16077354108,136074334200,1160946392760,9973891723635,86210635955220,749191930237608,6541908910355280,57369142749576660,505045163173167760,4461713825057817120 ★ a(n) = (3/(n+1)) * C(4n,n). ● a(n) = C(4 n,n) / (3n + 1) + 2 * C(4n + 1,n) / (3n + 2) + 3 * C(4n + 2,n) / (3n + 3). - _ Paul Barry _ , Nov 05 2006 ●

[A211168] ● 1,1,3,6,30,60,420,420,1260,2520,27720,27720,360360,360360,360360,360360,6126120,12252240,232792560,232792560,232792560,232792560,5354228880,5354228880,26771144400 ★ Exponent of alternating group An. ● a(n) = lcm { 1,..., n - 1 } if n is even. ● a(n) = lcm { a(n - 1), n - 2 } if n is even. ●

[A090932] ● 1,1,1,3,6,30,90,630,2520,22680,113400,1247400,7484400,97297200,681080400,10216206000,81729648000,1389404016000,12504636144000,237588086736000,2375880867360000,49893498214560000 ★ a(n) = n! / 2^floor(n/2). ● a(n) = binomial(n - 1, 2) * a(n - 2). ●

[A157534] ● 1,3,6,30,135,441,1183,2871,6660,15070,33231,70863,145236,285390,537930,974746,1703043,2878101,4719220,7529340,11718861,17834223,26591841,38918025,55995550 ★ Half the number of length n integer sequences with sum zero and sum of squares 8. ● a(n) = n (n - 1)(n ^ 6 - 27 n ^ 5 + 295 n ^ 4 - 1473 n ^ 3 + 3376 n ^ 2 - 3036 n + 1008) / 1152. - _ Robert Israel _ , Apr 07 2014 ●

[A088436] • 0,1,3,6,30,225,1575,12180,109620,1100925,12110175,145259730,1888376490,26438216805,396573252075,6345155817000,107867648889000,1941617990136825,36890741812599675,737814829704702750 ★ Number of permutations in the symmetric group S_n that have exactly one transposition in their cycle decomposition. • a(n)=n! * sum(((- 1) ^ j) / (j! * 2 ^ j),j=0..floor(n / 2) - k) / (k! * 2 ^ k), n>=1. •

[A282132] • 0,1,3,6,30,300,2100,11760,105840,1421280,15634080,147692160,1919998080,33106993920,496604908800,6638004172800,112846070937600,2386916704972800,45351417394483200,785383247480832000,16493048197097472000,413938002507853824000 ★ Imaginary part of n!*Sum_{k=1..n} i^(k-1)/k, where i is sqrt(-1). • a(1) = 0, a(n + 1) = a(n) * (n + 1) + n! * sin(Pi * n / 2). •

[A203715] • 1,3,6,34,120,1096,5040,56848,362880,5451136,39916800,688876288,6227020800,130789805056,1307674368000,29497569445888,355687428096000,9746045395173376,121645100408832000,3451902721622867968,51090942171709440000,1686006043164464644096 ★ E.g.f.: Sum_{n>=1} log((1 + exp(2*x^n))/2). • a(2 * n - 1) = (2 * n - 1)!. •

[A228279] • 3,6,35,133,587,2448,10414,44024,186414,789100,3340345,14140347,59858152,253389483,1072638232,4540650778,19221306410,81366888278,344439152622,1458066449898,6172230293325,26128045670722,110604228640954 ★ Number of nX4 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or nw-se diagonally. • a(n) = a(n - 1) + 10 * a(n - 2) + 15 * a(n - 3) + 4 * a(n - 4) - 6 * a(n - 5) - a(n - 6) + 3 * a(n - 7) - a(n - 8) •

[A205336] • 0,3,6,35,138,689,3272,16522,83792,434749,2278888,12093271,64741330,349470487,1899418046,10387322922,57111322368,315523027610,1750681516380,9751416039535,54507046599094,305650440453943,1718956630038438 ★ Number of length n+1 nonnegative integer arrays starting and ending with 0 with adjacent elements unequal but differing by no more than 3. • a(n) = Sum _{ i=1..n } ((Sum _{ l=0..i } (binomial(i,l) * (Sum _{ j=0=(3 * (i - l)) / 7 } ((- 1) ^ j * binomial(i - l,j) * binomial(- l + 3 * (- l - 2 * j + i) - j + i - 1,3 * (- l - 2 * j + i) - j))) * (- 1) ^ l)) * a(n - i)) / n, a(0)=1. - Vladimir Kruchinin, Apr 07 2017 •

[A048642] • 1,1,3,6,36,252,1260,5040,60480,786240,11793600,165110400,1651104000,18162144000,163459296000,1307674368000,31384184832000,784604620800000,21184324761600000,550792443801600000,16523773314048000000 ★ Partial products of A003188 (Gray code). • a(0) = 1, a(n) = product(XOR(j, floor(j / 2)), j=1..n). •

[A085696] • 3,6,42,154,693,2871,12267,51794,219678,930126,3940797,16692319,70711683,299536446,1268861682,5374976354,22768778133,96450071031,408569091147,1730726388874,7331474722278,31056625155606,131557975542717,557288527006079,2360712084085443 ★ a(n) = L(n) L(n+1) L(n+2) / 2, where L(n) = Lucas number (A000032). • a(n) = (6 * F(n + 1) ^ 3 + 11 * F(n + 1) ^ 2 * F(n) - 3 * F(n + 1) * F(n) ^ 2 - 2 * F(n) ^ 3) / 2 for all n in Z, where F(n) = Fibonacci number (A000044). - _ Michael Somos _ , Sep 17 2014 • a(n) = (2 * F(n + 1) - F(n)) * (3 * F(n + 1) + F(n)) * (F(n + 1) + 2 * F(n)) / 2 for all n in Z. - _ Michael Somos _ , Sep 17 2014 • a(- 2 - n) = - (- 1) ^ n * a(n) for all n in Z. - _ Michael Somos _ , Sep 17 2014 •

[A153742] • 3,6,44,201,2436,16768,284388,2610633,56926096,653221506,17409078576,239721136817,7550440414752,121296879540684,4408222329882272,80934331054201905,3333529520918540544,68853515512316939422 ★ Number of elements in wreath product C_3\wr S_n that alternate up/not-up with respect to a weak product ordering. • a(n) / n! ~ c / r ^ (n + 1) where r = 0.59974142102782394317972557684 is the root of the equation 4 * r * tan(r) = (2 - r ^ 2), c = 4 * sqrt(4 + 12 * r ^ 2 + r ^ 4) / (12 + 16 * r ^ 2 + r ^ 4) = 1.0837719267197115958973167583838141520381872675225558954477173... if n is even and c = (8 + 24 * r ^ 2 + 2 * r ^ 4) / (12 + 16 * r ^ 2 + r ^ 4) = 1.574796874239172551189266069683707274566749343427786813320559 9... if n is odd. - _ Vaclav Kotesovec _ , Aug 27 2016 •

[A058161] • 1,1,1,3,6,60,120,1260,6720,90720,362880,9979200,39916800,1037836800,10897286400,163459296000,1307674368000,59281238016000,3556874280960000,15205637551104000,202741834014720000,5109094217170944000,51090942171709440000 ★ Number of labeled cyclic groups with a fixed identity. • a(n) = (n - 1)! / phi(n). •

[A145887] • 0,0,3,6,60,390,3255,29652,300384,3337380,40382595,528644490,7445077068,112248853626,1803999434055,30788257006920,556112892188640,10598857474652712,212565974908314339,4475073155964510510 ★ Number of excedances in all even permutations of {1,2,...,n} with no fixed points. • a(n) = 1 / 4 * n * n! * Sum _{ k=2..n - 1 } (- 1) ^ k * (k + 2) * (k - 1) / (k + 1)!. - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A215492] • 0,3,6,63,147,1365,3528,29694,83643,648270,1964361,14199171,45789471,311933118,1060973088,6871121775,24463966674,151720368891,561841152579,3357375513429,12860706786396,74437773850062,293576471108319,1653218198356074,6686170310225133 ★ a(n) = 21*a(n-2) + 7*a(n-3), with a(0)=0, a(1)=3, and a(2)=6. • a(n) = (1 / 7) * ((c(1) - c(4)) * (1 + 3 * c(1)) ^ n + (c(2) - c(1)) * (1 + 3 * c(2)) ^ n + (c(4) - c(2)) * (1 + 3 * c(4)) ^ n), where c(j):=2 * cos(2 * Pi * j / 7) (for the proof see Witula - Slota - Warzynski paper). •

[A125817] • 0,3,6,63,228,1527,6930,39819,197448,1071819,5500254,29221431,151947180,800658687,4184419434,21980036547,115095203472,603851028243,3164320515510,16594108511151,86981665785972,456063176261511,2390814670884546,12534703338214779 ★ a(n)=((1 + 3Sqrt[2])^n - (1 - 3Sqrt[2])^n)/(2Sqrt[2]) • a(0)=0, a(1)=3, a(n) = 2 * a(n - 1) + 17 * a(n - 2) for n >= 2 . G.f.:3 * x / (1 - 2 * x - 17 * x ^ 2). - _ Philippe Deléham _ , Dec 12 2006 •

[A222010] • 0,1,3,7 ★ Dimensions of spheres that admit continuous multiplications with unit element. • a(n) = 2 ^ n - 1 for n = 0, 1, 2, 3. •

[A080457] • 3,7,7,11,15,19,19,23,27,31,31,35,39,43,43,47,51,55,55,59,63,67,67,71,75 ★ a(1)=3; for n>1, a(n)=a(n-1) if n is already in the sequence, a(n)=a(n-1)+4 otherwise. • a(n) = 3 + 4 * (n - 2 - floor((n - 3) / 4)). • a(n) = a(n - 1) + a(n - 4) - a(n - 5), n>5. • a(n) = (6 * n - 1 + (- 1) ^ n - 2 * (- 1) ^ ((2 * n + 1 - (- 1) ^ n) / 4)) / 2. (End) •

[A118259] • 1,3,7,7,13,17,27,27,27,33,47,47,63,73,85,85,107,107,131,131,147,165,195,195,195 ★ Numbers of strongly carefree couples (a,b) with a,b <= n. • a(n) = sum _{ i,j=1...n } mu(i * j) ^ 2. - _ Benoit Cloitre _ , Oct 10 2009 •

[A098581] • 1,3,7,7,15,39,95,151,271,583,1343,2551,4719,9383,20127,40535,78287,153351,314367,638647,1264943,2491751,5006687,10115863,20235407 ★ Expansion of (1+2*x+4*x^2)/(1-x-8*x^4). • a(n) = a(n - 1) + 8 * a(n - 4). • a(n) = Sum _{ k=0..n } binomial(n - k, floor(k / 3)) * 2 ^ k. •

[A270307] • 1,3,7,7,21,27,57,95,169,303,529,943,1665,2943,5217,9215,16321,28863,51073,90367,159873,282879,500481,885503,1566721 ★ Expansion of -(4*x^3+8*x^2+x-1). • a(n) = (n + 1) * Sum _{ k=0..n } (Sum _{ l=0..n - k } (binomial(k + 1,l) * 2 ^ l * (- 1) ^ (n - l - k) * binomial(n - 2 * l,n - l - k)) / (k + 1)). •

[A004794] • 3,7,7,28,45,189,799,2091,2091,8856,14329,60697,257115,673135,673135,2851444,4613733,19544085,82790071,216747219,216747219,918155952,1485607537,6293134513,26658145587 ★ Least positive integer k such that the fractional part of k*sqrt(5) has its n initial partial quotients all equal to 1. • a(n) = (Fib(12[n / 6] + S _ (n mod 6)) + 1) / 2 where S = (2, 5, 7, 7, 10, 11). •

[A047530] • 0,1,3,7,8,9,11,15,16,17,19,23,24,25,27,31,32,33,35,39,40,41,43,47,48 ★ Numbers that are congruent to {0, 1, 3, 7} mod 8. • a(n) = ceiling(n / 4) + 2 * ceiling((n - 1) / 4) + 4 * ceiling((n - 2) / 4) + ceiling((n - 3) / 4). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8n - 9 + i ^ (2n) + (2 + i) * i ^ (- n) + (2 - i) * i ^ n) / 4, where i=sqrt(- 1). •

[A047357] • 0,1,3,7,8,10,14,15,17,21,22,24,28,29,31,35,36,38,42,43,45,49,50,52,56 ★ Numbers that are congruent to {0, 1, 3} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 30 - 6 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 4, a(3k - 1) = 7k - 6, a(3k - 2) = 7k - 7. (End) •

[A174871] • 3,7,8,11,12,16,23,27,28,31,32,36,43,47,48,51,52,56,63,67,68,71,72,76,83 ★ Numbers n such that n-th triangular number ends in 6 or 8 • a(n) = + a(n - 1) + a(n - 6) - a(n - 7). G.f.: x * (3 + 4 * x + x ^ 2 + 3 * x ^ 3 + x ^ 4 + 4 * x ^ 5 + 4 * x ^ 6) / ((1 + x) * (x ^ 2 - x + 1) * (1 + x + x ^ 2) * (x - 1) ^ 2). [From _ R. J. Mathar _ , Apr 15 2010] •

[A078466] • 1,3,7,8,11,13,14,18,24,26,27,29,32,33,36,37,39,40,43,45,46,51,52,56,57 ★ First cycle is reached under a "Collatz-Fibonacci" transform (cf. comment). • a(n) / n seems greater than 2 for n large enough and if limit a(n) / n exists, this limit should be > 2.5. Does a(n) / n = O(log(log(n))? •

[A047528] • 0,3,7,8,11,15,16,19,23,24,27,31,32,35,39,40,43,47,48,51,55,56,59,63,64 ★ Numbers that are congruent to {0, 3, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 8 * n / 3 - 2 + cos(2 * n * Pi / 3) - sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 8k - 1, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 8. (End) •

[A007970] • 3,7,8,11,15,19,23,24,27,31,32,35,40,43,47,48,51,59,63,67,71,75,79,80,83 ★ Rhombic numbers. • a(n) is in the sequence if a(n) = D * E with positive integers D and E, such that E * U ^ 2 - D * T ^ 2 = 2 has an integer solution with U * T odd (without loss of generality one may take U and T positive). See the Conway link. D and E are given in A191856 and A191857, respectively. - _ Wolfdieter Lang _ , Oct 05 2015 •

[A182389] • 1,3,7,9,9,11,23,25,41,59,79,81,81,83,111,113,145,179,215,249,281,315,327,329,377 ★ a(0)=1, a(n) = (a(n-1) + n) XOR n. • a(0)=1, a(n)=(a(n - 1) + n) XOR n, where XOR is the bitwise exclusive - OR operator. •

[A241662] • 1,3,7,9,10,11,13,17,19,21,23,27,29,30,31,33,37,39,41,43,47,49,51,53,57 ★ Numbers of the form m * 10^k where gcd(10, m) = 1 and k >= 0 and m > 0. • a(n) = 9n / 4 + O(log n). - _ Charles R Greathouse IV _ , May 14 2014 •

[A045572] • 1,3,7,9,11,13,17,19,21,23,27,29,31,33,37,39,41,43,47,49,51,53,57,59,61 ★ Numbers that are odd but not divisible by 5. • a(n) = - 1 + Sum _{ k=0..n } ((1 / 12) * (5 * (k mod 4) + 11 * ((k + 1) mod 4) - ((k + 2) mod 4) + 5 * ((k + 3) mod 4))). - _ Paolo P. Lava _ , Dec 20 2007 • a(n) = 10 * floor((n - 1) / 4) + 2 * floor((4 * ((n - 1) mod 4) + 1) / 3) + 1; a(n) = a(n - 1) + 2 + 2 * floor(((x + 6) mod 10) / 9). - _ Carl R. White _ , Feb 06 2008 • a(n) = 2 * n + 2 * floor((n - 3) / 4) + 1. - Kenneth Hammond (weregoose(AT)gmail.com), Mar 07 2008 • a(n) = - 1 + 2 * n + 2 * floor((n + 1) / 4). - Kenneth Hammond (weregoose(AT)gmail.com), Mar 25 2008 • a(n) = a(n - 1) + a(n - 4) - a(n - 5). • a(n) = (10 * n + 2 * (- 1) ^ (n * (n + 1) / 2) - (- 1) ^ n - 5) / 4. - _ Bruno Berselli _ , Nov 06 2011 •

[A158938] • 3,7,9,11,13,23,25,27,61,71,73,75,77,87,89,91,125,135,137,139,141,151,153,155,189 ★ Numbers congruent to {-3,7,9,11,13,23,25,27} mod 64 . • a(n)=a(n - 8) + 64 . •

[A047529] • 1,3,7,9,11,15,17,19,23,25,27,31,33,35,39,41,43,47,49,51,55,57,59,63,65 ★ Numbers that are congruent to {1, 3, 7} mod 8. • a(n) = (24 * n + 2 * sqrt(3) * sin(2 * Pi * n / 3) + 6 * cos(2 * Pi * n / 3) - 15) / 9. - _ Fred Daniel Kline _ , Nov 12 2015 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n + 3) = a(n) + 8 for all n in Z. - _ Michael Somos _ , Nov 15 2015 • a(3k) = 8k - 1, a(3k - 1) = 8k - 5, a(3k - 2) = 8k - 7. - _ Wesley Ivan Hurt _ , Jun 13 2016 • a(n) = 8 * floor((n - 1) / 3) + 2 ^ (((n - 1) mod 3) + 1) - 1. - _ Fred Daniel Kline _ , Aug 09 2016 •

[A047241] • 1,3,7,9,13,15,19,21,25,27,31,33,37,39,43,45,49,51,55,57,61,63,67,69,73 ★ Numbers that are congruent to {1, 3} mod 6. • a(n) = 3n - 5 / 2 - (- 1) ^ n / 2. (End) • a(n) = 2 * floor((n - 1) / 2) + 2 * n - 1. - _ Gary Detlefs

_ , Mar 18 2010 • a(n) = 6 * n - a(n - 1) - 8 with n > 1, a(1)=1. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3n - 2 - ((n + 1) mod 2). - _ Wesley Ivan Hurt _ , Jun 29 2013 • a(1)=1, a(2)=3, a(3)=7, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Oct 01 2013 •

[A132222] • 1,3,7,9,13,15,19,21,25,29,31,35,37,41,43,47,51,53,57,59,63,65,69,73,75 ★ Beatty sequence 1+2*floor(n*Pi/2), which contains infinitely many primes. • a(n) = 1 + 2 * floor(n * Pi / 2). •

[A172367] • 1,3,7,9,13,15,19,25,27,33,37,39,43,49,55,57,63,67,69,75,79,85,93,97,99 ★ Numbers n > 0 such that n+4 is a prime. • a(n)=(n + 2)th prime - 4. •

[A063204] • 0,3,7,9,13,16,19,22,26,28,32,35,38,41,45,47,51,54,57,60,64,66,70,73,76 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(25). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). G.f.: x ^ 2 * (3 + 7 * x + 6 * x ^ 2 + 3 * x ^ 3) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A130568] • 1,3,7,9,13,17,19,23,25,29,33,35,39,43,45,49,51,55,59,61,65,67,71,75,77 ★ Beatty sequence 1+2*floor(n*phi), which contains infinitely many primes. • a(n) = 1 + 2 * floor(n * phi), where phi = (1 + sqrt(5)) / 2. •

[A172407] • 1,3,7,9,13,19,21,27,31,33,37,43,49,51,57,61,63,69,73,79,87,91,93,97,99 ★ Positive numbers n such that n+10 is a prime. • a(n) = prime(n + 4) - 10. • a(n) = binomial(prime(n + 4) - 3,3) mod prime(n + 4), (Empirical). - _ Gary Detlefs _ , Jul 10 2014 •

[A178207] • 1,3,7,9,15,17,21,23,31,33,37,39,45,47,51,53,63,65,69,71,77,79,83,85,93 ★ a(n) = 4*n - 2*A000120(n) + 1 where A000120(n) = number of nonzero digits in the binary representation of n. • a(0) = 1; a(n) = 2n + a(floor(n / 2)). - _ Daniel Suteu _ , Jan 01 2016 •

[A064194] • 1,3,7,9,17,21,25,27,43,51,59,63,71,75,79,81,113,129,145,153,169,177,185,189,205 ★ a(2n) = 3*a(n), a(2n+1) = 2*a(n+1)+a(n), with a(1) = 1. • a(1) = 1, a(n) = a([n / 2]) + 2a(ceil(n / 2)), n>1. • a(n + 1) = Sum _{ 0<= i, j<=n } { binomial(i + j, i) mod 2 } . - _ Benoit Cloitre _ , Mar 07 2005 •

[A099886] • 1,3,7,9,21,63,107,189,273,819,1911,2457,5189,15567,28123,46701,65793,197379,460551,592137,1381653,4144959,7039851,12434877,17829905 ★ XOR binomial transform of A099885. • a(n) = SumXOR _{ k=0..n } SumXOR _{ i=0..k \ 2 } (C(n, k)mod 2) * (C(k \ 2, i) mod 2) * 2 ^ ((k + 1) \ 2 + k \ 2 - i), where the SumXOR is the analog of summation under XOR and x \ y stands for floor(x / y) (see Pari program). •

[A128052] • 1,3,7,9,47,123,161,843,2207,2889,15127,39603,51841,271443,710647,930249,4870847,12752043,16692641,87403803,228826127,299537289,1568397607,4106118243,5374978561 ★ a(n) = (F(2n-1) + F(2n+1)) * (5/6 - cos(2*pi*n/3)/3) where F(n) = Fibonacci(n). • a(n)=Lucas(2 * n) * (Fibonacci(n) mod 2 + 1) / 2, Lucas(n)=A000032, Fibonacci(n)=A000045. [_ Gary Detlefs _ , Jan 19 2001] • a(n) = 18 * a(n - 3) - a(n - 6). G.f: - (3 * x ^ 5 + 7 * x ^ 4 + 9 * x ^ 3 - 7 * x ^ 2 - 3 * x - 1) / ((x ^ 2 - 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 8 * x ^ 2 + 3 * x + 1)). - _ Colin Barker _ , Jun 27 2013 •

[A115164] • 3,7,9,55,201,823,3273,13111,52425,209719,838857,3355447,13421769,53687095,214748361,858993463,3435973833,13743895351,54975581385,219902325559,879609302217,3518437208887,14073748835529,56294995342135 ★ a(n) = 2*Abs[(3/10)*(-1(-4)^n)-(2/5)*(4+(-4)^n)*UnitStep[-1+n]]. • a(n) = (4 ^ (1 + n) - 19 * (- 1) ^ n) / 5 for n>0. a(n) = 3 * a(n - 1) + 4 * a(n - 2) for n>2. G.f.: (24 * x ^ 2 + 2 * x - 3) / ((x + 1) * (4 * x - 1)). [_ Colin Barker _ , Oct 31 2012] •

[A013574] • 3,7,10,12,15,19,22,24,27,31,34,36,39,43,46,48,51,55,58,60,63,67,70,72,75 ★ Minimal scope of an (n,2) difference triangle. • a(n) = 3n if n = { 0, 1 } (mod 4). a(n) = 3n + 1 if n = { 2,3 } (mod 4). [Chee Theor. 2] - _ R. J. Mathar _ , Nov 28 2016 • a(n) = (- 1 / 4 - i / 4) * ((- 1 + i) + (- i) ^ n - i * i ^ n - (6 - 6 * i) * n). • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. •

[A226723] • 3,7,10,13,16,20,23,26,30,32,36,40,42,46,49,52,55,59,62,65,69,72,75,79,82 ★ Positions of the numbers 3^n, for n >=0, in the joint ranking of all the numbers 2^h, 3^k, 5^k, for h >= 0, k >= 1. • a(n) = 1 + n + floor(n * log _ 2(3)) + floor(n * log _ 5(3). •

[A081842] • 0,3,7,10,13,16,20,23,26,30,33,36,40,43,46,50,53,56,59,63,66,69,73,76,79 ★ a(1)=0, a(n)=a(n-1)+4 if n is already in th sequence, a(n)=a(n-1)+3 otherwise. • a(n)=floor(r * n - (4 * r - 1) / (r + 1)) where r= (1 / 2) * (3 + sqrt(13)) •

[A047355] • 0,3,7,10,14,17,21,24,28,31,35,38,42,45,49,52,56,59,63,66,70,73,77,80,84 ★ Numbers that are congruent to {0, 3} mod 7. • a(n) = a(n - 2) + 7 = a(n - 1) + a(n - 2) - a(n - 3). - _ Henry Bottomley _ , Jan 19 2001 • a(n) = 7 * n - a(n - 1) - 11 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (14 * n - (- 1) ^ n - 15) / 4. (End) • a(n) = 2 * n - 2 + floor((3 * n - 3) / 2). - _ Wesley Ivan Hurt _ , Jan 30 2014 •

[A098005] • 3,7,10,14,17,21,24,28,31,35,39,42,46,49,53,56,60,63,67,70,74,78,81,85,88 ★ Beatty sequence for 1/(3 - e): a(n) = floor(n/(3-e)). • a(n) = floor(n / (3 - e)). •

[A171983] • 3,7,10,14,18,21,25,28,32,36,39,43,46,50,54,57,61,64,68,72,75,79,82,86,90 ★ Beatty sequence for sqrt(13). • a(n) = floor(n * sqrt(13)). - _ Jon E . Schoenfield _ , Jun 18 2010 •

[A190080] • 3,7,10,14,18,22,25,29,33,37,40,44,48,52,55,59,63,67,71,74,78,82,86,89,93 ★ n + [n*r/s] + [n*t/s]; r=1, s=cos(pi/5), t=sec(pi/5). • a(n) = n + [n * sec(Pi / 5)] + [n * (sec(Pi / 5)) ^ 2]. •

[A184812] • 3,7,10,14,18,22,26,29,34,37,41,44,48,53,56,60,63,68,72,75,79,82,87,90,94 ★ n+floor(ns/r)+floor(nt/r), where r=sqrt(2), s=sqrt(3), t=sqrt(5). • a(n)=n + floor(ns / r) + floor(nt / r), r=sqrt(2), s=sqrt(3), t=sqrt(5). •

[A214066] • 0,3,7,10,15,18,22,25,30,33,37,40,45,48,52,55,60,63,67,70,75,78,82,85,90 ★ a(n) = floor((3/2)*floor(5*n/2)). • a(n) = (30 * n + 2 * i ^ ((n - 1) * n) + 3 * (- 1) ^ n - 5) / 8, where i=sqrt(- 1). (End) • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Wesley Ivan Hurt _ , Jun 04 2016 •

[A114113] • 1,3,7,10,16,21,29,36,46,55,67,78,92,105,121,136,154,171,191,210,232,253,277,300,326 ★ a(n) = sum{k=1 to n} (A114112(k)). (For n>=2, a(n) = sum{k=1 to n} (A014681(k)) =sum{k=1 to n} (A103889(k)).). • a(1)=1. a(2n) = n * (2n + 1). a(2n + 1) = 2n ^ 2 + 3n + 2. •

[A100056] • 1,3,7,10,16,22,27,37,47,57,67,75,91,107,123,139,155,171,187,200,226,252,278,304,330 ★ Sum of absolute differences of p(n) defined in A054065. • a(n) = sum, (abs. values) of difference row of p(n), A054065. •

[A163714] • 3,7,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314,92736,150050,242786,392836 ★ Number of n X 2 binary arrays with all 1s connected, a path of 1s from top row to bottom row, and no 1 having more than two 1s adjacent. • a(n) = (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 3 + sqrt(5)) + (1 + sqrt(5)) ^ n * (3 + sqrt(5)))) / sqrt(5) for n>2. •

[A128223] • 0,1,3,7,10,17,21,31,36,49,55,71,78,97,105,127,136,161,171,199,210,241,253,287,300 ★ a(n) = if n mod 2 = 0 then n*(n+1)/2 otherwise (n+1)^2/2-1. • a(n) = (- 1 + (- 1) ^ n - (- 3 + (- 1) ^ n) * n + 2 * n ^ 2) / 4. a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: x * (x ^ 3 - 2 * x ^ 2 - 2 * x - 1) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Oct 16 2013 •

[A217258] • 1,3,7,10,17,21,31,39,49,55,71,79,97 ★ Threshold for the P(n)-avoidance edge-coloring game with two colors and fixed tree size restriction, where P(n) denotes the path on n edges (see the comments and reference for precise definition). • a(n) >= n + ceiling(n / 2) * (n - 1) for all n. • a(n) >= (8 / 15 + o(1)) * n ^ 2 as n tends to infinity (the term o(1) tends to 0). • a(n) <= (9 + 5 * sqrt(3)) / 6 * n ^ (2 * log _ 2(1 + sqrt(3))) = Theta(n ^ 2.899...). •

[A022120] • 3,7,10,17,27,44,71,115,186,301,487,788,1275,2063,3338,5401,8739,14140,22879,37019,59898,96917,156815,253732,410547 ★ Fibonacci sequence beginning 3, 7. • a(n) = 4 * Fibonacci(n + 2) - Fibonacci(n + 1). - _ Gary Detlefs _ Dec 21 2010 • a(n) = round(((15 + 11 * sqrt(5)) / 10) * ((1 + sqrt(5)) / 2) ^ n + ((15 - 11 * sqrt(5)) / 10) * ((1 - sqrt(5)) / 2) ^ n). - _ Bogart B. Strauss, Oct 27 2013 •

[A041191] • 1,3,7,10,17,27,44,115,389,7895,24074,56043,80117,136160,216277,352437,921151,3115890,63238951,192832743,448904437,641737180,1090641613,1732378797,2823020414 ★ Denominators of continued fraction convergents to sqrt(106). • a(n) = 8010 * a(n - 9) + a(n - 18). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041251] • 1,1,3,7,10,17,44,105,149,3383,3532,10447,24426,34873,59299,153471,366241,519712,11799905,12319617,36439139,85197895,121637034,206834929,535306892 ★ Denominators of continued fraction convergents to sqrt(137). • a(n) = 3488 * a(n - 9) + a(n - 18). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A265724] • 0,3,7,10,18,21,33,36,52,55,75,78,102,105,133,136,168,171,207,210,250,253,297,300,348 ★ Total number of OFF (white) cells after n iterations of the "Rule 1" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 2 * (n ^ 2 + (- 1) ^ n * n + 4 * n - (- 1) ^ n + 1). • a(n) = 1 / 2 * (n ^ 2 + 5 * n) for n even. • a(n) = 1 / 2 * (n ^ 2 + 3 * n + 2) for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n >4. •

[A041437] • 1,3,7,10,27,37,101,340,10301,31243,72787,104030,280847,384877,1050601,3536680,107151001,324989683,757130367,1082120050,2921370467,4003490517,10928351501,36788545020,1114584702101 ★ Denominators of continued fraction convergents to sqrt(234). • a(n) = 10402 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A041525] • 1,1,3,7,10,27,64,91,2976,3067,9110,21287,30397,82081,194559,276640,9047039,9323679,27694397,64712473,92406870,249526213,591459296,840985509,27502995584 ★ Denominators of continued fraction convergents to sqrt(279). • a(n) = 3040 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A041783] • 1,3,7,10,37,47,225,722,1669,22419,225859,2958586,6143031,21387679,91693747,113081426,430938025,544019451,1518976927,5100950232,205556986207,621771908853,1449100803913,2070872712766,7661718942211 ★ Denominators of continued fraction convergents to sqrt(412). • a(n) = 207075963134 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A041899] • 1,1,3,7,10,37,158,2249,9154,29711,38865,107441,253747,361188,15423643,15784831,46993305,109771441,156764746,580065679,2477027462,3525850147,143510828050,465790934297,609301762347 ★ Denominators of continued fraction convergents to sqrt(471). • a(n) = 15677390 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A276283] • 1,3,7,11,13,15,19,23,25,27,31,35,37,39,43,47,49,51,55,59,61,63,67,71,73 ★ Expansion of (1 + x + 3*x^2 + x^3)/((1 - x)^2*(1 + x^2)). • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). • a(n) = 3 * n - sin(Pi * n / 2) + 1. • a(n) = (6 * n - i * ((- i) ^ n - i ^ n + 2 * i)) / 2, where i is the imaginary unit. •

[A260484] • 3,7,11,14,18,22,25,29,33,36,40,44,47,51,55,58,62,66,69,73,77,80,84,88,91 ★ Complement of the Beatty sequence for e^(1/Pi) = A179706. • a(n) = floor(n * e ^ (1 / Pi) / (e ^ (1 / Pi) - 1)). •

[A003512] • 3,7,11,14,18,22,26,29,33,37,41,44,48,52,55,59,63,67,70,74,78,82,85,89,93 ★ A Beatty sequence: floor(n*(sqrt(3) + 2)). • a(n) = floor(n * (sqrt(3) + 2)). - _ Michel Marcus _ , Jan 05 2015 •

[A246170] • 3,7,11,14,18,22,26,29,33,37,41,44,48,52,56,59,63,67,71,74,78,82,86,89,93 ⋆ Beatty sequence for sqrt(14). • a(n) = floor(n * sqrt(14)). •

[A265045] • 1,3,7,11,14,18,23,28,32,36,40,44,48,52,56,60,64,68,72,76,80,84,88,92,96 ⋆ Coordination sequence for a 6.6.6 point in the 3-transitive tiling {4.6.6, 6.6.6, 6.6.6.6} of the plane by squares and dominoes (hexagons). • a(n) = 2 * a(n - 1) - a(n - 2) for n>8. • a(n) = 4 * n for n>6. •

[A079710] • 3,7,11,15,17,19,23,24,26,31,35,39,43,44,47,51,53,55,59,62,63,67,71,74,79 ⋆ Numbers n such that squarefree kernel of n > squarefree kernel of n+1. • a(n) is asymptotic to c * n where c=2.94... •

[A059554] • 3,7,11,15,19,22,26,30,34,38,42,45,49,53,57,61,65,68,72,76,80,84,87,91,95 ⋆ Beatty sequence for Gamma(2/3)/(Gamma(2/3)-1). • a(n) = floor(n * gamma(2 / 3) / (gamma(2 / 3) - 1)). - _ Michel Marcus _ , Jan 05 2015 •

[A246171] • 3,7,11,15,19,23,27,30,34,38,42,46,50,54,58,61,65,69,73,77,81,85,89,92,96 ⋆ Beatty sequence for sqrt(15). • a(n) = floor(n * sqrt(15)). •

[A131098] • 1,3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63,67,71,75,79,83,87,91,95 ⋆ Partial sums of A151798. • a(1) = 1, a(n) = 4 * n - 5 for n>=2. [_ Jaroslav Krizek _ , Aug 15 2009] •

[A004767] • 3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63,67,71,75,79,83,87,91,95,99 ⋆ a(n) = 4*n + 3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>1, a(0)=3, a(1)=7. - _ Philippe Deléham _ , Nov 03 2008 • a(n) = 8 * n - a(n - 1) + 2 for n>0, a(0)=3. - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = 4 * n - 1, with offset 1. - _ Wesley Ivan Hurt _ , Mar 12 2014 •

[A082644] • 0,0,1,3,7,11,16,22,30,38,47,57,69,81,94,108,124,140,157,175,195,215,236,258,282 ⋆ a(n) = floor(n*(n-1/2)/2). • a(n) = floor(n ^ 3 / (2n + 1)). - _ Gary Detlefs _ , Feb 11 2010 • a(n) = (4 * n! / (n - 2)! + 2 * n - 3 + (- 1) ^ n + (- 1) ^ (n / 2) - (- 1) ^ ((n + 1) / 2) + (- 1) ^ (- n / 2) - (- 1) ^ (- (n + 1) / 2)) / 8. - _ Wesley Ivan Hurt _ , May 19 2016 •

[A047838] • 1,3,7,11,17,23,31,39,49,59,71,83,97,111,127,143,161,179,199,219,241,263,287,311,337 ⋆ a(n) = floor(n^2/2) - 1. • a(2)=1; for n > 2, a(n) = a(n - 1) + n - 1 + (n - 1 mod 2). - _ Benoit Cloitre _ , Jan 12 2003 • a(n) = T(n - 1) + floor(n / 2) - 1 = T(n) - floor((n + 3) / 2), where T(n) is the n - th triangular number (A000217). - _ Robert G. Wilson v _ , Aug 31 2006 • a(n) = floor((n ^ 2 + 4 * n + 2) / 2). - _ Gary Detlefs _ , Feb 10 2010 • a(n) = (2 * n ^ 2 + (- 1) ^ n - 5) / 4. - _ Bruno Berselli _ , Sep 14 2011 • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4), n > 4. - _ Wesley Ivan Hurt _ , Aug 06 2015 •

[A194069] • 1,3,7,11,17,25,33,43,55,67,81,97,113,131,151,171,193,217,241,267,295,323,353,385,417 ⋆ 1+floor((2/3)*n^2). • a(n)=1 + floor(2 * n ^ 2 / 3). •

[A210977] • 0,1,3,7,11,18,24,34,42,55,65,81,93,112,126,148,164,189,207,235,255,286,308,342,366 ⋆ A005475 and positive terms of A000566 interleaved. • a(n) = (10 * n ^ 2 + 6 * n - 1 - (2 * n - 1) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Oct 04 2014 •

[A018805] • 1,3,7,11,19,23,35,43,55,63,83,91,115,127,143,159,191,203,239,255,279,299,343,359,399 ⋆ Number of elements in the set {(x,y): 1 <= x,y <= n, gcd(x,y)=1}. • a(n) = 2 * (Sum _{ j=1..n } phi(j)) - 1. • a(n) = n ^ 2 - Sum _{ j=2..n } a(floor(n / j)). • a(n) = Sum _{ k=1..n } mu(k) * floor(n / k) ^ 2. - _ Benoit Cloitre _ , May 11 2003 •

[A236632] • 0,1,3,7,11,19,25,36,46,60,70,92,104,124,144,170,186,219,237,273,301,333,355,407,435 ⋆ Sum of all divisors of all positive integers <= n minus the total number of divisors of all positive integers <= n. • a(n) = (1 / 2) * Sum _{ i=1..n } floor(n / i) * floor((n - i) / i). - _ Wesley Ivan Hurt _ , Jan 30 2016 • a(n) = Sum _{ i=1..n } binomial(floor(n / i),2). - _ Wesley Ivan Hurt _ , May 08 2016 • a(n) = Sum _{ k=1..n } (k - 1) * floor(n / k). - _ Wesley Ivan Hurt _ , Apr 02 2017 •

[A022406] • 3,7,11,19,31,51,83,135,219,355,575,931,1507,2439,3947,6387,10335,16723,27059,43783,70843,114627,185471,300099,485571 ⋆ a(0)=3, a(1)=7; thereafter a(n) = a(n-1) + a(n-2) + 1. • a(n) = (2 ^ (- n) * (- 5 * 2 ^ n + (10 - 6 * sqrt(5)) * (1 - sqrt(5)) ^ n + 2 * (1 + sqrt(5)) ^ n * (5 + 3 * sqrt(5)))) / 5. - _ Colin Barker _ , Mar 02 2018 •

[A282914] • 1,3,7,11,19,55,111,219,435,887,1775,3547,7091,14199,28399,56795,113587,227191,454383,908763,1817523,3635063,7270127,14540251,29080499 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 526", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>5. •

[A178881] • 0,1,3,7,11,20,26,38,50,67,77,105,117,142,172,204,220,265,283,335,379,420,442,518,558 ⋆ Sum of all pairs of greater common divisors for (i,j) where i<j. • a(n) = sum _{ i=1:n - 1,j=i + 1:n } GCD(i,j). •

[A028831] • 1,3,7,11,22,43,83,159,307,592,1141,2199,4239,8171,15750,30359,58519,112799,217427,419104,807849,1557179,3001559,5785691,11152278 ⋆ Expansion of (1+2*x+3*x^2)/(1-x-x^2-x^3-x^4). • a(0)=1, a(1)=3, a(2)=7, a(3)=11, a(n)=a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) [From Harvey P. Dale, Apr 18 2012] •

[A116362] • 0,1,3,7,11,23,39,79,143,287,543,1087,2111,4223,8319,16639,33023,66047,131583,263167,525311,1050623,2099199,4198399,8392703 ⋆ Smallest m such that A116361(m) = n. • a(n) = 2 ^ (n - 1) + 2 ^ floor((n + 1) / 2) - 1 for n > 1. • a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4) for n>5. G.f.: - x * (4 * x ^ 4 - 4 * x ^ 3 - 2 * x ^ 2 + 1) / ((x - 1) * (2 * x - 1) * (2 * x ^ 2 - 1)). - _ Colin Barker _ , Mar 29 2013 and Feb 09 2015 •

[A283588] • 1,3,7,11,23,43,71,219,439,875,1735,3547,6839,13675,27335,54747,109495,218987,437959,875995,1751735,3503467,7006919,14013915,28027831 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 654", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 8) - 2 * a(n - 9) for n>12. •

[A284543] • 1,3,7,11,23,43,71,219,503,1003,1991,4059,8183,16363,32711,65499,131063,262123,524231,1048539,2097143,4194283,8388551,16777179,33554423 ⋆ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 974", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>8. •

[A267052] • 1,3,7,11,23,43,87,171,343,683,1367,2731,5463,10923,21847,43691,87383,174763,349527,699051,1398103,2796203,5592407,11184811,22369623 ⋆ Decimal representation of the n-th iteration of the "Rule 92" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (3 + 2 * (- 1) ^ n + 2 ^ (2 + n)) / 3 for n>0. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>3. •

[A139814] • 0,1,3,7,11,23,47,95,187,375,751,1503,3003,6007,12015,24031,48059,96119,192239,384479,768955,1537911,3075823,6151647,12303291 ⋆ a(n)=a(n-1)+a(n-2)+a(n-3)+2a(n-4); a(0)=0,a(1)=1,a(2)=3,a(3)=7. • a(n)=(2 / 5 + 1 / 5 * I) * I ^ n + (1 / 3) * (- 1) ^ n + (11 / 30) * 2 ^ n + (2 / 5 - 1 / 5 * I) * (- I) ^ n, with n>=1 and I=(- 1) ^ (1 / 2) - _ Paolo P. Lava _ , Jun 03 2008 •

[A099902] • 1,3,7,11,23,59,103,139,279,827,1895,2955,5655,14395,24679,32907,65815,197435,460647,723851,1512983,3881019,6774887,9142411,18219287 ⋆ Multiplies by 2 and shifts right under the XOR BINOMIAL transform (A099901). • a(n) = SumXOR _{ k=0..n } (C(n - k + [k / 2], [k / 2])mod 2) * 2 ^ k for n>=0. • a(n)=sum { k=0..2n, (binomial(k, 2n - k) mod 2) * 2 ^ (2n - k) } ; a(n)=sum { k=0..n, (binomial(2n - k, k) mod 2) * 2 ^ k } ; - _ Paul Barry _ , May 10 2005 •

[A092284] • 1,3,7,11,26,42,99,107,382,428,1156,1223,4525,4903,14811,14827,58022,61236,201420,201611 ⋆ Number of nonterminal symbols in a certain "divide-and-conquer" context-free grammar in Chomsky normal form that generates all permutations of n symbols. • a(n) = Sum(k=1..n, t(n, k)), where t(n, k) is the n - th row of the Pascal - like triangle of A090349. •

[A093361] • 1,3,7,11,27,33,69,77,141,151,251,263,407,421,617,633,889,907,1231,1251,1651,1673,2157,2181,2757 ⋆ Add/multiply sequence, see example. • a(n) = (1 / 24) * (4 * n ^ 3 + 12 * n ^ 2 + 20 * n + 33 + (6 * n ^ 2 - 9) * (- 1) ^ n). - _ Ralf Stephan _ , Dec 02 2004 •

[A014447] • 1,3,7,11,29,47,123,199,521,843,2207,3571,9349,15127,39603,64079,167761,271443,710647,1149851,3010349,4870847,12752043,20633239,54018521 ⋆ Odd Lucas numbers. • a(n) = 4 * a(n - 2) + a(n - 4). - R. J. Mathar, Feb 10 2011 •

[A131588] • 1,1,3,7,11,31,43,127,171,511,683,2047,2731,8191,10923,32767,43691,131071,174763,524287,699051,2097151,2796203,8388607,11184811 ⋆ Interlaces A007583 with A083420 (related to Jacobsthal sequence A001045). • a(n) = 5 * a(n - 2) - 4 * a(n - 4); a(n) = (5 * 2 ^ n + (- 2) ^ n - 8 * (- 1) ^ n - 4) / 12; g.f. (1 + x - 2 * x ^ 2 + 2 * x ^ 3) / ((x - 1) * (2 * x + 1) * (2 * x - 1) * (x + 1)) •

[A045134] • 3,7,12,13,19,23,28,29,48,49,52,53,67,71,76,77,83,87,92,93,112,113,116,117,192 ⋆ Numbers n with property that in base 4 representation the numbers of 2's and 3's are 0 and 1, respectively. • a(m + (n + 1) * 2 ^ n) = a(m) + 4 ^ (n + 1) for 1 <= m <= (n + 1) * 2 ^ n. •

[A083031] • 0,3,7,12,15,19,24,27,31,36,39,43,48,51,55,60,63,67,72,75,79,84,87,91,96 ⋆ Numbers that are congruent to {0, 3, 7} mod 12. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (12 * n - 14 - cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 12k - 5, a(3k - 1) = 12k - 9, a(3k - 2) = 12k - 12. (End) •

[A027379] • 1,3,7,12,18,25,33,42,52,63,75,88,102,117,133,150,168,187,207,228,250,273,297,322,348 ⋆ Expansion of (1+x^2-x^3)/(1-x)^3. • a(n) = n + a(n - 1) + 2, n>1. - _ Vincenzo Librandi _ , Dec 06 2009 •

[A055998] • 0,3,7,12,18,25,33,42,52,63,75,88,102,117,133,150,168,187,207,228,250,273,297,322,348 ⋆ a(n) = n*(n+5)/2. • a(n) = C(n,2) - 2 * n, n>=5. - _ Zerinvary Lajos _ , Nov 25 2006 • a(n) = n + a(n - 1) + 2 with a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = Sum _{ k=1..n } (k + 2). - _ Gary Detlefs _ , Aug 10 2010 • a(n) = Sum _{ i=3..n + 2 } i. - _ Wesley Ivan Hurt _ , Jun 28 2013 •

[A005228] • 1,3,7,12,18,26,35,45,56,69,83,98,114,131,150,170,191,213,236,260,285,312,340,369,399 ⋆ Sequence and first differences (A030124) together list all positive numbers exactly once. • a(n) = a(n - 1) + c(n - 1) for n >= 2, where a(1)=1, a( ) increasing, c( ) = complement of a( ) (c is the sequence A030124). • a(1) = 1, a(2) = 3; a( ) increasing; for n >= 3, if a(q) = a(n - 1) - a(n - 2) + 1 for some q < n then a(n) = a(n - 1) + (a(n - 1) - a(n - 2) + 2), otherwise a(n) = a(n - 1) + (a(n - 1) - a(n - 2) + 1). - Albert Neumueller (albert.neu(AT)gmail.com), Jul 29 2006 • a(n) = n ^ 2 / 2 + 1 / (3 * sqrt(2)) * n ^ (3 / 2) + O(n ^ (5 / 4)) [proved in Jubin's link]. - _ Benoit Jubin _ , May 13 2015 •

[A000969] • 1,3,7,12,18,26,35,45,57,70,84,100,117,135,155,176,198,222,247,273,301,330,360,392,425 ⋆ G.f.: (1+x+2*x^2)/((1-x)^2*(1-x^3)). • a(n) = floor((2 * n + 3) * (n + 1) / 3). Or, a(n) = (2 * n + 3) * (n + 1) / 3 but subtract 1 / 3 if n == 1 mod 3. - _ N. J. A. Sloane _ , May 05 2010. • a(n) = Sum _{ i=0..n } floor(4 * i / 3). - Enrique Pérez Herrero, Apr 21 2012 • a(n) = + 2 * a(n - 1) - 1 * a(n - 2) + 1 * a(n - 3) - 2 * a(n - 4) + 1 * a(n - 5). - _ Joerg Arndt _ , Apr 22 2012 •

[A122250] • 0,1,3,7,12,18,26,35,45,58,72,87,104,122,141,162,184,207,233,260,288,318,349,381,415 ⋆ Partial sums of A004128. • a(n) = Sum _{ j=0..n } (Sum _{ k=0..j } floor(j / 3 ^ k)). •

[A184534] • 1,3,7,12,18,27,36,48,60,75,90,108,126,147,168,192,216,243,270,300,330,363,396,432,468 ★ a(n) = floor(1/{(4+n^3)^(1/3)}), where {}=fractional part. • a(n) = floor[1 /{ (4 + n ^ 3) ^ (1 / 3) }], where {} =fractional part. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A171835] • 3,7,12,18,29,41,54,68,87,107,128,150,177,205,234,264,299,335,372,410,453,497,542,588,639 ★ Partial sums of numbers congruent to {3, 4, 5, 6} mod 8 (A047425). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) for n>6. • a(n) = (4 * n ^ 2 + 2 * n + 5 - 2 * I ^ (- n) - 2 * I ^ n - I ^ (2 * n)) / 4 where I=sqrt(- 1). (End) •

[A212293] • 0,0,3,7,12,19,26,34,43,53,63,74,85,97,110,122,136,150,164,179,194,210,226,242,259 ★ Integer part of n*log(n)^2. • a(n) = floor(n * log(n) ^ 2). •

[A077043] • 0,1,3,7,12,19,27,37,48,61,75,91,108,127,147,169,192,217,243,271,300,331,363,397,432 ★ "Three-quarter squares": a(n) = n^2 - A002620(n). • a(2k) = a(2k - 2) + 6k - 3, • a(2k + 1) = a(2k - 1) + 6k, • a(4n) = 12n ^ 2, • a(4n + 1) = a(4n) + 6n + 1, • a(4n + 2) = a(4n + 1) + 6n + 2, • a(4n + 3) = a(4n + 2) + 6n + 4, •

[A122793] • 1,3,7,12,19,28,38,50,64,80,97,116,137,160,185,211,239,269,301,335,371,408,447,488,531 ★ Connell sum sequence (partial sums of the Connell sequence). • a(n) = (n - th triangular number) - n + (n - th partial sum of A122797). •

[A036698] • 0,1,3,7,12,20,28,37,49,63,79,94,110,132,153,177,199,225,252,282,314,343,379,413,448 ★ a(n)=number of Gaussian integers z=a+bi satisfying |z|<=n, a>0, b>=0. • a(n) = n ^ 2 * Pi / 4 + O(n). - _ Charles R Greathouse IV _ , Apr 03 2013 •

[A279169] • 0,0,3,7,12,20,28,39,51,64,80,96,115,135,156,180,204,231,259,288,320,352,387,423,460 ★ a(n) = floor(4*n^2/5). • a(n) = a(- n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7). • a(5 * m + r) = 4 * m * (5 * m + 2 * r) + a(r), where m >= 0 and 0 <= r < 5. Example: for m=4 and r=3, a(5 * 4 + 3) = a(23) = 4 * 4 * (5 * 4 + 2 * 3) + a(3) = 416 + 7 = 423. •

[A130050] • 3,7,12,20,29,39,50,63,77,92,108,126,145,166,188,211,235,260,286,313,341,371,402,435,469 ★ A bisection of A120049. • a(n)=b(2n), for n>=1, where b=A130049. •

[A280345] • 3,7,12,25,48,97,192,385,768,1537,3072,6145,12288,24577,49152,98305,196608,393217,786432,1572865,3145728,6291457,12582912,25165825,50331648 ★ a(0) = 3, a(n+1) = 2*a(n) + periodic sequence of length 2: repeat [1, -2]. • a(2n) = 3 * 4 ^ n, a(2n + 1) = 6 * 4 ^ n + 1. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), n>2. • a(n + 2) = a(n) + 9 * 2 ^ n. • a(n) = 3 * 2 ^ n for n even. • a(n) = 3 * 2 ^ n + 1 for n odd. •

[A056530] • 1,3,7,13,15,19,25,27,31,37,39,43,49,51,55,61,63,67,73,75,79,85,87,91,97 ★ Sequence remaining after third round of Flavius Josephus sieve; remove every fourth term of A047241. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n > 4. •

[A080565] • 3,7,13,15,25,27,29,31,49,51,53,55,57,59,61,63,97,99,101,103,105,107,109,111,113 ★ Binary expansion of n has form 11**...*1. • a(n) = 2 ^ floor(log[2](4 * (n - 1))) + 2 * n - 1 for n>1, a(1)=3. - Antonio G. Astudillo (afg _ astudillo(AT)hotmail.com), Feb 22 2003 •

[A063226] • 3,7,13,17,23,27,33,37,43,47,53,57,63,67,73,77,83,87,93,97,103,107,113,117,123 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(63). • a(n) = 4 * floor(n / 2) + 6 * floor((n - 1) / 2) + 3. - _ Gary Detlefs _ , Jul 04 2014 • a(n) = (1 / 2) * (10 * n - 5 - (- 1) ^ n). •

[A214696] • 3,7,13,17,4919,73789919 ★ Sum of next a(n) > 1 positive triangular numbers is a triangular number. • a(n) is the smallest integer k > 1 such that (4 * k ^ 3 + 12 * s * k ^ 2 + 4 * (3 * s ^ 2 - 1) * k) / 3 + 1 is a square, where s = 1 + a(1) + a(2) + ... + a(n - 1). - _ Max Alekseyev _ , Jan 30 2014 •

[A118667] • 0,1,3,7,13,19,21,23,27,33,39,41,43,47,53,59,61,63,67,73,79,81,83,87,93 ★ a(n) = a(n-1)+ ((abs(2^a(n-1)*a(n-1)) mod 10). • a(n) = a(n - 1) + ((abs(2 ^ a(n - 1) * a(n - 1)) mod 10) being a(0) = 0 and a(1) = 1 • a(n)=(2 / 5) * Sum { k=0..n - 1 }{ 3 * (k mod 5) + [(k + 1) mod 5] + [(k + 4) mod 5] }-1 + [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Oct 07 2008] •

[A056531] • 1,3,7,13,19,25,27,31,39,43,49,51,61,63,67,73,79,85,87,91,99,103,109,111,121 ★ Sequence remaining after fourth round of Flavius Josephus sieve; remove every fifth term of A056530. • a(n) = a(n - 1) + a(n - 12) - a(n - 13) for n > 13. •

[A276215] • 3,7,13,19,26,34,42,51,61,72,83,95,108,121,135,150,165,181,197,214,231,249,267,286,306 ★ Position of n^s in the joint ranking of {h^r} and {k^s}, where r = sqrt(2), s = sqrt(6), h > 1, k > 1. • a(n) = n + floor(n ^ (s / r)); the complement is given by n + floor(n ^ (r / s)). •

[A099957] • 1,3,7,13,19,29,41,49,65,83,95,117,137,155,183,213,233,257,293,317,357,399,423,469,511 ★ a(n) = Sum_{i=0..n-1} phi(2i+1). • a(n + 1) - a(n) =phi(2n + 1) (A037225). •

[A023205] • 3,7,13,19,31,37,61,67,73,79,97,103,109,139,151,163,181,229,241,271,283,307,313,367,373 ★ Numbers m such that m and 2*m + 5 are both prime. • a(n) == 1 (mod 6) for n>=2. - _ John Cerkan _ , Sep 07 2016 •

[A023200] • 3,7,13,19,37,43,67,79,97,103,109,127,163,193,223,229,277,307,313,349,379,397,439,457,463 ★ Primes p such that p + 4 is also prime. • a(n) > > n log ^ 2 n via the Selberg sieve. - _ Charles R Greathouse IV _ , Nov 20 2016 •

[A100531] • 1,3,7,13,21,23,27,33,41,43,47,53,61,63,67,73,81,83,87,93,101,103,107,113,121 ★ a(n) = a(n-1) + (2*n - 1) mod 8 + 1 with a(0)=1. • a(0)=1, a(1)=3, a(2)=7, a(3)=13, a(4)=21, a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Apr 09 2012 • a(n) = (- 3 / 2 + (- 1) ^ n / 2 + (- i) ^ n + i ^ n + 5 * n) where i=sqrt(- 1). - _ Colin Barker _ , Oct 16 2015 •

[A002061] • 1,1,3,7,13,21,31,43,57,73,91,111,133,157,183,211,241,273,307,343,381,421,463,507,553 ★ Central polygonal numbers: a(n) = n^2 - n + 1. • a(n) = - (n - 5) * a(n - 1) + (n - 2) * a(n - 2). • a(1 - n) = a(n). - _ Michael Somos _ , Sep 04 2006 • a(n) = ceiling((n - 1 / 2) ^ 2). - _ Benoit Cloitre _ , Apr 16 2003. [Hence the terms are about midway between successive squares and so (except for 1) are not squares. - _ N. J. A. Sloane _ , Nov 01 2005] • a(n) = 1 + Sum _{ j=0..n - 1 } (2 * j). - Xavier Acloque, Oct 08 2003 • a(n) = leftmost term in M ^ (n - 1) * [1 1 1], where M = the 3 X 3 matrix [1 1 1 / 0 1 2 / 0 0 1]. E.g., a(6) = 31 since M ^ 5 * [1 1 1] = [31 11 1]. - _ Gary W. Adamson _ , Nov 11 2004 • a(n + 1) = n ^ 2 + n + 1. a(n + 1) * a(n) = (n ^ 6 - 1) / (n ^ 2 - 1) = n ^ 4 + n ^ 2 + 1 = a(n ^ 2 + 1) (a product of two consecutive numbers from this sequence belongs to this sequence). (a(n + 1) + a(n)) / 2 = n ^ 2 + 1. (a(n + 1) - a(n)) / 2 = n. a((a(n + 1) + a(n)) / 2) = a(n + 1) * a(n). - _ Alexander Adamchuk _ , Apr 13 2006 •

[A247890] • 1,3,7,13,21,31,43,57,73,91,111,133,157,183,211,241,273,307,343,381,421,464,508,554,602 ★ Number of digits in (R_n)^n. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 22) - 2 * a(n - 23) + a(n - 24) for n>24. •

[A171965] • 0,0,0,1,3,7,13,21,31,44,60,80,104,132,164,201,243,291,345,405,471,544,624,712,808 ★ Partial sums of floor(n^2/6) (A056827) • a(n) = sum(k=0..n,floor(k ^ 2 / 6)). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 12 * n - 6) / 36) . • a(n) = round((4 * n ^ 3 + 6 * n ^ 2 - 24 * n - 13) / 72). • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 - 12 * n + 7) / 36). • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 12 * n - 20) / 36). • a(n) = a(n - 6) + n ^ 2 - 5 * n + 7 , n>5 •

[A011898] • 0,0,0,0,1,3,7,13,21,31,45,61,82,107,136,170,210,255,306,363,427,498,577,664,759 ★ a(n) = floor(n*(n-1)*(n-2)/16). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 16) - 3 * a(n - 17) + 3 * a(n - 18) - a(n - 19). •

[A098577] • 1,1,1,1,1,3,7,13,21,31,47,77,133,231,391,645,1053,1727,2863,4781,7989,13303,22071,36565,60621 ★ a(n) = Sum_{k=0..floor(n/5)} C(n-3*k,2*k) * 2^k. • a(n) = a(n - 1) - a(n - 2) + 2 * a(n - 5). •

[A098575] • 1,1,1,1,3,7,13,21,35,63,117,213,379,671,1197,2149,3859,6911,12357,22101,39563,70847,126845,227045,406371 ★ a(n) = Sum_{k=0..floor(n/4)} C(n-2*k,2*k)*2^k. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 4). •

[A098482] • 1,1,1,1,3,7,13,21,37,73,147,283,531,1007,1953,3817,7423,14371,27877,54333,106189,207585,405743,793719,1554889 ★ Expansion of 1/sqrt((1-x)^2-4*x^4). • a(n) = sum(k=0..floor(n / 2), binomial(n - 2 * k, k) * binomial(n - 3 * k, k)). •

[A051336] • 1,3,7,13,22,33,48,65,86,110,138,168,204,242,284,330,381,434,493,554,621,692,767,844,929 ★ Number of arithmetic progressions in {1,2,3,...,n}, including trivial arithmetic progressions of lengths 1 and 2. • a(n) = n + sum { i=1..n - 1, j=1..floor(n / i) } (n - i * j). - Robert E. Sawyer (rs.1(AT)mindspring.com) •

[A173196] • 0,0,1,3,7,13,22,34,50,70,95,125,161,203,252,308,372,444,525,615,715,825,946,1078,1222 ★ Partial sums of A002620. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 - 4 * n - 3 + 3 * (- 1) ^ n) / 48. - _ Bruno Berselli _ , Jan 19 2011 • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 2 * n) / 24) = round((4 * n ^ 3 + 6 * n ^ 2 - 4 * n - 3) / 48) = floor((2 * n ^ 3 + 3 * n ^ 2 - 2 * n) / 24) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 2 * n - 3) / 24). - _ Mircea Merca _ , Nov 23 2010 • a(n) = a(n - 2) + n * (n - 1) / 2, n>1. - _ Mircea Merca _ , Nov 25 2010 • a(n) = floor(n / 2) * (floor(n / 2) + 1) * (8 * ceiling(n / 2) - 2 * n - 1) / 6. - _ Alexander Evnin _ , Oct 12 2010 •

[A002623] • 1,3,7,13,22,34,50,70,95,125,161,203,252,308,372,444,525,615,715,825,946,1078,1222,1378,1547 ★ G.f.: 1/((1-x)^4*(1+x)). • a(n + 1) = a(n) + { (k - 1) * k if n=2 * k } or { k * k if n=2 * k + 1 } . • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * C(k + 3,3). • a(n) = (4 * n ^ 3 + 30 * n ^ 2 + 68 * n + 45) * (- 1) ^ n / 48 + 1 / 16. • a(n) = Sum _{ k=0..n } floor((k + 2) ^ 2 / 4). • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } Sum _{ i=0..j } (1 + (- 1) ^ i) / 2. (End) • a(n) = a(n - 2) + (n * (n - 1)) / 2, with n>2, a(1)=0, a(2)=1; a(n) = (4 * n ^ 3 + 6 * n ^ 2 - 4 * n + 3 * (- 1) ^ n - 3) / 48, with offset 2. - Cecilia Rossiter (cecilia(AT)noticingnumbers.net), Dec 14 2004 (formula simplified by _ Bruno Berselli _ , Aug 29 2013) •

[A081662] • 1,3,7,13,22,35,54,82,124,188,287,442,687,1077,1701,2703,4316,6917,11116,17900,28866,46598,75277,121668,196717 ★ Partial sums of n+F(n+1). • a(n)=(1 - 2sqrt(5) / 5)(sqrt(5) / 2 - 1 / 2) ^ n(- 1) ^ n + (sqrt(5) / 2 + 1 / 2) ^ n(2sqrt(5) / 5 + 1) + (n ^ 2 + n - 2) / 2 • a(0)=1, a(1)=3, a(2)=7, a(3)=13, a(4)=22, a(n)=4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5) [From _ Harvey P. Dale _ , Nov 19 2011] •

[A101301] • 1,3,7,13,23,35,51,69,91,119,149,185,225,267,313,365,423,483,549,619,691,769,851,939,1035 ★ The sum of the first n primes, minus n. • a(n)=sum _{ k=1..n } (prime(k) - 1) •

[A164787] • 1,3,7,13,23,37,57,83,118,162,218,286,370,470,590,730,895,1086,1308,1562,1854,2186,2564,2990,3471 ★ Polynomial expansion of: p(x)=1/(1 - 3 x + 2 x^2 + 2 x^3 - 4 x^4 + 4 x^5 - 2 x^6 - 2 ^7 + 3 x^8 - x^9 - x^17 + 3 x^18 - 2 x^19 - 2 x^20 + 4 x^21 - 4 x^22 + 2 x^23 + 2 x^24 - 3 x^25 + x^26); polynomial associated with substitution matrix of A126810, frequency of characters in English text. • a(n)=Expansion(1 / (1 - 3 x + 2 x ^ 2 + 2 x ^ 3 - 4 x ^ 4 + 4 x ^ 5 - 2 x ^ 6 - 2 ^ 7 + 3 x ^ 8 - x ^ 9 - x ^ 17 + 3 x ^ 18 - 2 x ^ 19 - 2 x \^ 20 + 4 x ^ 21 - 4 x ^ 22 + 2 x ^ 23 + 2 x ^ 24 - 3 x ^ 25 + x ^ 26)); •

[A053599] • 1,3,7,13,23,37,59,89,135,197,291,417,607,861,1243,1753,2519,3541,5075,7121,10191,14285,20427,28617,40903 ★ Number of nonempty subsequences {s(k)} of 1..n such that the difference sequence is palindromic. • a(1) =1, a(2)=3 and, for n > 2, a(n) = 2 a(n - 2) + 2n - 1. • a(n) = 5 * 2 ^ ((n + 1) / 2) - 2 * n - 7 for odd n, 7 * 2 ^ (n / 2) - 2 * n - 7 for even n. - _ Andrew Woods _ , May 19 2012 •

[A122886] • 0,0,1,1,1,1,3,7,13,23,39,61,123,231,385,739,1339,2185,4263,7819,12853,24935,45543,74677,145155 ★ Interlaced merger of A122883, A122884 and A122885. • a(n)=4 * a(n - 3) + 11 * a(n - 6) - 2 * a(n - 9). G.f.: x ^ 2 * (1 - x) * (2 * x ^ 5 - x ^ 4 + 3 * x ^ 2 + 2 * x + 1) / ((2 * x ^ 3 + 1) * (1 - 6 * x ^ 3 + x ^ 6)). [From _ R. J. Mathar _ , Aug 12 2009] •

[A154691] • 1,3,7,13,23,39,65,107,175,285,463,751,1217,1971,3191,5165,8359,13527,21889,35419,57311,92733,150047,242783,392833 ★ Expansion of (1+x+x^2) / ((1-x-x^2)*(1-x)). • a(n) = - 3 + (2 ^ (1 - n) * ((1 - r) ^ n * (- 2 + r) + (1 + r) ^ n * (2 + r))) / r where r=sqrt(5). • a(n) = 2 * a(n - 1) - a(n - 3) for n >2. •

[A049112] • 1,1,3,7,13,23,45,87,167,321,619,1193,2299,4431,8541,16463,31733,61167,117903,227265,438067,844401,1627635,3137367,6047469 ★ 2-ranks of difference sets constructed from Glynn type I hyperovals. • a(n + 1) = a(n) + a(n - 1) + a(n - 2) + a(n - 3) - 1, n >= 5. •

[A100720] • 3,7,13,23,47,97,193,383,767,1537,3073,6143,12287,24577,49153,98303,196607,393217,786433,1572863,3145727,6291457,12582913,25165823,50331647 ★ G.f.: (3+x+2*x^2-2*x^3)/((1-2*x)*(1+x^2)). • a(0)=3 and for n>1: a(n)= 3 * 2 ^ n + 1 if n(mod 4)=1 or 2; otherwise 3 * 2 ^ n - 1. - R. Piyo (nagoya314(AT)yahoo.com), Dec 12 2004 •

[A275788] • 0,1,3,7,13,25,49,99,199,399,797,1593,3185,6371,12743,25487,50973,101945,203889,407779,815559,1631119,3262237,6524473,13048945 ★ a(0) = 0, a(n+1) = 2*a(n) + (-1)^floor(n/3). • a(n) = 2 * a(n - 1) - a(n - 3) + 2 * a(n - 4) for n>3. • a(n + 3) = 7 * 2 ^ n - a(n), a(0)=0, a(1)=1, a(2)=3. •

[A007909] • 1,1,1,3,7,13,25,51,103,205,409,819,1639,3277,6553,13107,26215,52429,104857,209715,419431,838861,1677721,3355443,6710887 ★ Expansion of (1-x)/(1-2*x+x^2-2*x^3). • a(n) = (1 / 5) * (2 ^ (n + 1) + 3 * cos(n * Pi / 2) + sin(n * Pi / 2)). • a(n) = sum { k=0..floor((n - 1) / 3), binomial(n - k - 1 , 2 * k) * 2 ^ k } . - _ Paul Barry _ , Sep 16 2004 • a(n) = (1 / 5) * (2 ^ (n + 1) + (- 1) ^ [(n + 1) / 2] + 2 * (- 1) ^ [n / 2]). - _ Ralf Stephan _ , Jun 09 2005 • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3). Sequence is identical to its half second differences from the second term; a(n) + a(n + 2)=2 ^ (n + 1). - _ Paul Curtz _ , Dec 17 2007 • a(n + 1) = (2 ^ n) * sum(((- 1) ^ (floor(k / 2))) / (2 ^ k),k=1..n). - _ Yalcin Aktar _ , Jul 20 2008 •

[A282913] • 1,3,7,13,25,59,123,219,411,955,1979,3515,6587,15291,31675,56251,105403,244667,506811,900027,1686459,3914683,8108987,14400443,26983355 ★ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 526", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 16 * a(n - 4) - 16 * a(n - 5) for n>5. •

[A098479] • 1,1,1,3,7,13,27,61,133,287,633,1407,3121,6943,15517,34755,77959,175213,394499,889461,2007963,4538485,10269247,23258881,52726599 ★ Expansion of 1/sqrt((1-x)^2-4*x^3). • a(n) = Sum { k=0..floor(n / 2) } binomial(n - k, k) * binomial(n - 2 * k, k). •

[A283587] • 1,3,7,13,29,53,113,219,475,859,1819,3515,7595,13739,29099,56235,121771,220075,465835,900011,1944491,3517355,7449515,14396331,31173547 ★ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 654", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 256 * a(n - 8) - 256 * a(n - 9) for n>12. •

[A284542] • 1,3,7,13,29,53,113,219,479,863,1823,3519,7679,13823,29183,56319,122879,221183,466943,901119,1966079,3538943,7471103,14417919,31457279 ★ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 974", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 16 * a(n - 4) - 16 * a(n - 5) for n>8. •

[A283323] • 1,3,7,13,29,53,117,213,469,853,1877,3413,7509,13653,30037,54613,120149,218453,480597,873813,1922389,3495253,7689557,13981013,30758229 ★ a(n) = 4*a(n-2)+1 with initial terms 1,3,7. • a(n) = (- 4 + (- 2) ^ n + 21 * 2 ^ n) / 12 for n>0. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) for n>3. •

[A091565] • 0,1,1,1,3,7,13,29,71,163,377,913,2219,5375,13189,32677,81167,202523,508273,1280537,3236275,8207543,20880893,53263405,136205527 ★ Expansion of (1 - x - sqrt(1 - 2*x + x^2 - 8*x^3)) / (4*x^2) in powers of x. • a(n) = a(n - 1) + 2 * (a(1) * a(n - 3) + a(2) * a(n - 4) + ... + a(n - 3) * a(1)) for n> 1. •

[A119962] • 3,7,13,31,61,127,251,509,1021,2039,4093,8191,16381,32749 ★ Largest prime factor of the odd denominator of n * n-th harmonic number = A027611[2^n]. • a(n) = Max[FactorInteger[Denominator[2 ^ n * Sum[1 / k, { k,1,2 ^ n }]]]]. •

[A110436] • 1,3,7,13,31,63,105,255,511,869,2047,3963,7021,16383,32767,56141,125811,262143,449325,1048575,2097151,3459945,8388607,16645111,28760685 ★ A weighted sum of Jacobi function values. • a(n)=sum { k=0..n, abs(Jacobi(n - k, 2k + 1))2 ^ k } •

[A112040] • 1,3,7,13,33,47,132,458,777,853,3845,4395,4783,4983,6038,6487,6719,6957,11707,12030,12688,13025,13365,13709,14057 ★ Terms in A112039 that are divisible by 3, divided by 3. • a(0)=1 / 2 a(n) = a(n - 1) + Prime[n] / 2 if a[2 * n] / 3 is an Integer then aout=a[2 * n] / 3 •

[A228209] • 3,7,13,57,253,487,2163,9607,18493,82137,364813,702247,3119043,13853287,26666893,118441497,526060093,1012639687,4497657843,19976430247,38453641213,170792556537,758578289293,1460225726407,6485619490563 ★ x-values in the solutions to x^2 - 10y^2 = 9. • a(n) = 38 * a(n - 3) - a(n - 6). •

[A156859] • 0,3,7,14,22,33,45,60,76,95,115,138,162,189,217,248,280,315,351,390,430,473,517,564,612 ★ The main column of a version of the Ulam spiral. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). (End) • a(n) = - n - 1 + Sum _{ j=0..n } Sum _{ k=0..j } (2 + (- 1) ^ k). - _ Paolo P. Lava _ , Mar 05 2009 • a(n - 1) = floor(n / (e ^ (1 / n) - 1)). - _ Richard R. Forberg _ , Jun 19 2013 •

[A173209] • 1,3,7,14,22,33,46,60,76,95,116,138,163,189,217,248,280,315,352,390,431,473,517,564,613 ★ Partial sums of A000069. • a(n) = n ^ 2 - n / 2 + O(1). - _ Charles R Greathouse IV _ , Mar 22 2013 •

[A140462] • 0,0,0,1,3,7,14,23,36,54,75,102,136,174,220,275,335,405,486,573,672,784,903,1036,1184 ★ Turan's upper bound on the number of triangles of a simplicial complex of dimension two for which every minimal non-face has three vertices. • a(n) = (5 / 2) * (k ^ 3) - (3 / 2) * (k ^ 2) if n = 3 * k; (5 / 2) * (k ^ 3) + (k ^ 2) - (1 / 2) * k if n = 3 * k + 1; (5 / 2) * (k ^ 3) + (7 / 2) * (k ^ 2) + k if n = 3 * k + 2. •

[A060999] • 0,1,3,7,14,24,38,57,81,111,148,192,244,305,375,455,546,648,762,889,1029,1183,1352,1536,1736 ★ Nearest integer to (n+1)^3/9. • a(- 2 - n) = - a(n). - _ Michael Somos _ , Aug 12 2009 •

[A179178] • 1,3,7,14,25,40,57,77,100,126,155,187,222,260,301,345,392,442,495,551,610,672,737,805,876 ★ The number of equal-sized equilateral triangles visible (when viewed from above) in successive Genealodrons formed from 2^n -1 same size equilateral triangles. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>5. • a(n) = (2 - 5 * n + 3 * n ^ 2) / 2 for n>5. •

[A171973] • 0,0,3,7,14,25,40,60,85,117,156,203,258,323,397,482,579,687,808,942,1091,1254,1433,1629,1841 ★ Integer part of the volume of a regular tetrahedron with edge length n. • a(n) = floor(n ^ 3 * sqrt(2) / 12). •

[A253895] • 1,3,7,14,25,41,63,90,120,154,192,233,278,328,382,439,500,566,636,709,786,868,954,1043,1136 ★ Total number of octagons in two variants of an octagon expansion after n iterations: either "side-to-side" or "vertex-to-vertex", respectively. • a(n) = (- 4 - i * (- i) ^ n + i * i ^ n - 18 * n + 8 * n ^ 2) / 4 for n>8, where i=sqrt(- 1). •

[A004006] • 0,1,3,7,14,25,41,63,92,129,175,231,298,377,469,575,696,833,987,1159,1350,1561,1793,2047,2324 ★ a(n) = C(n,1) + C(n,2) + C(n,3), or n*(n^2 + 5)/6. • a(- n) = - a(n). • a(n) = binomial(n + 2,n - 1) - binomial(n,n - 2). - _ Zerinvary Lajos _ , May 11 2006 • a(n) = a(n - 1) + n ^ 2 / 2 - n / 2 + 1 , with a(0)=0. - _ Paolo P. Lava _ , Apr 12 2007 • a(0)=0, a(1)=1, a(2)=3, a(3)=7, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 21 2011 • a(n) = 2 * a(n - 1) + (n - 1) - a(n - 2) with a(0) = 0, a(1) = 1. - _ Richard R. Forberg _ , Jan 23 2014 • a(n) = Sum _{ i=1..n } binomial(n - 2i,2). - _ Wesley Ivan Hurt _ , Nov 18 2017 •

[A057524] • 1,3,7,14,25,41,64,95,136,189,256,339,441,564,711,885,1089,1326,1600,1914,2272,2678,3136,3650,4225 ★ Number of 3 x n binary matrices without unit columns up to row and column permutations. • a(n) = sum _{ m=0 }^{ n } (n - m + 1) * floor(((m + 3) ^ 2 + 3) / 12). [_ Renzo Benedetti _ , Sep 30 2009] • a(n) = floor(((n + 2) * (n + 6) / 12) ^ 2) = round(((n + 2) * (n + 6) / 12) ^ 2). [_ Renzo Benedetti _ , Jul 25 2012] •

[A011795] • 0,0,0,0,0,1,3,7,14,25,42,66,99,143,200,273,364,476,612,775,969,1197,1463,1771,2125 ★ a(n) = floor(C(n,4)/5). • a(n) = floor(binomial(n + 1,5) / (n + 1)). - _ Gary Detlefs _ Nov 23 2011 •

[A051170] • 0,1,3,7,14,25,42,66,99,143,200,273,364,476,612,775,969,1197,1463,1771,2125,2530,2990,3510,4095 ★ T(n,5), array T as in A051168; a count of Lyndon words; aperiodic necklaces with 5 black beads and n-5 white beads. • a(n) = floor(C(n,5) / n). - _ Alois P. Heinz _ , Jun 05 2013 •

[A193911] • 1,3,7,14,25,43,69,110,167,255,375,558,805,1179,1681,2438,3451,4975,7011,10070,14153,20283,28461,40734,57103 ★ Sums of the diagonals of the matrix formed by listing the h-Stohr sequences in increasing order. • a(n + 4) = - 2 * a(n) + 3 * a(n + 2) + n + 5. - _ Alexander R. Povolotsky _ , Aug 09 2011 • a(n) = 1 / 8 * (2 ^ (n / 2 + 2) * ((10 - 7 * sqrt(2)) * (- 1) ^ n + 10 + 7 * sqrt(2)) - (- 1) ^ n - 2 * n * (n + 12) - 79). - _ Alexander R. Povolotsky, Aug 09 2011 •

[A206417] • 0,3,7,14,25,43,72,119,195,318,517,839,1360,2203,3567,5774,9345,15123,24472,39599,64075,103678,167757,271439,439200 ★ (5*F(n)+3*L(n)-8)/2. • a(n) = 2 * a(n - 1) - a(n - 3). G.f.: x ^ 2 * (x + 3) / ((x - 1) * (x ^ 2 + x - 1)). - _ Colin Barker _ , Oct 28 2014 •

[A008646] • 1,1,3,7,14,26,42,66,99,143,201,273,364,476,612,776,969,1197,1463,1771,2126,2530,2990,3510,4095 ★ Molien series for cyclic group of order 5. • a(- 5 - n) = a(n) for all integers. • a(n) = ceiling(C(n, 5) / n), with a different offset. • a(n) = (n ^ 4 + 10 * n ^ 3 + 35 * n ^ 2 + 50 * n + 24 * (3 - 2 * (- 1) ^ (2 ^ (n - 5 * floor(n / 5))))) / 120. - _ Luce ETIENNE _ , Oct 31 2015 •

[A036830] • 3,7,14,26,44,70,105,152,213,291,388,508,654,829,1037,1281,1566,1896,2276,2710,3203,3761,4388,5091,5875 ★ Schoenheim bound L_1(n,n-4,n-5). • a(6)=3 a(n)=ceiling(n / (n - 4) * a(n - 1)) - _ Benoit Cloitre _ , May 31 2003 •

[A001924] • 0,1,3,7,14,26,46,79,133,221,364,596,972,1581,2567,4163,6746,10926,17690,28635,46345,75001,121368,196392,317784 ★ Apply partial sum operator twice to Fibonacci numbers. • a(n) = sum(k=0, n, sum(i=0, k, F(i))). - _ Benoit Cloitre _ , Jan 26 2003 • a(n) = (sqrt(5) / 2 + 1 / 2) ^ n * (7 * sqrt(5) / 10 + 3 / 2) + (3 / 2 - 7 * sqrt(5) / 10) * (sqrt(5) / 2 - 1 / 2) ^ n * (- 1) ^ n - n - 3. - _ Paul Barry _ , Mar 26 2003 • a(n) = sum(k=0, n, F(k) * (n - k)). - _ Benoit Cloitre _ , Jun 07 2004 • a(n) = Sum _{ k=1..n } C(n - k + 2,k + 1), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 • a(n) = Sum _{ k=0..n } Sum _{ i=0..n } i * C(n - k,k - i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A079921] • 3,7,14,26,46,79,133,221,364,596,972,1581,2567,4163,6746,10926,17690,28635,46345,75001,121368,196392,317784,514201,832011 ★ Solution to the Dancing School Problem with n girls and n+2 boys: f(n,2). • a(n)=a(n - 1) + a(n - 2) + n + 1, a(1)=3, a(2)=7 •

[A132109] • 1,3,7,14,26,47,85,156,292,557,1079,2114,4174,8283,16489,32888,65672,131225,262315,524478,1048786,2097383,4194557,8388884,16777516 ⋆ a(n) = (2^(n+1) + n^2 + n)/2. • a(n) = (2 ^ (n + 1) + n ^ 2 + n) / 2. - _ Eric W. Weisstein _ , Aug 09 2017 • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ Eric W. Weisstein _ , Aug 09 2017 •

[A088209] • 1,3,7,14,28,53,99,181,327,584,1034,1817,3173,5511,9527,16402,28136,48109,82023,139481,236631,400588,676822,1141489,1921993 ⋆ Numerators of convergents of the continued fraction with the n+1 partial quotients: [1;1,1,...(n 1's)...,1,n+1], starting with [1], [1;2], [1;1,3], [1;1,1,4], ... • a(n)=Fib(n) + (n + 1)Fib(n + 1). - _ Paul Barry _ , Apr 20 2004 •

[A125176] • 1,3,7,14,28,56,112,224,448,896,1792,3584,7168,14336,28672,57344,114688,229376,458752,917504,1835008,3670016,7340032,14680064,29360128 ⋆ Row sums of A125175. • a(1) = 1, a(2) = 3, a(n) = 7 * 2 ^ (n - 3) for n>= 3. • a(n) = 2 * a(n - 1) for n>3. G.f.: - x * (x ^ 2 + x + 1) / (2 * x - 1). - _ Colin Barker _ , Oct 12 2013 •

[A153234] • 0,0,0,0,1,3,7,14,28,56,113,227,455,910,1820,3640,7281,14563,29127,58254,116508,233016,466033,932067,1864135 ⋆ a(n) = floor(2^n/9). • a(n) = round((2 * 2 ^ n - 9) / 18) = floor((2 ^ n - 1) / 9) = ceil((2 ^ n - 8) / 9); a(n) =a(n - 6) + 7 * 2 ^ (n - 6), n>5. - _ Mircea Merca _ , Dec 28 2010 • a(n)= + 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + 3 * a(n - 4) - 2 * a(n - 5). •

[A293334] • 0,0,1,3,7,14,28,57,114,228,457,915,1831,3663,7327,14654,29308,58617,117234,234468,468937,937874,1875749,3751499,7502999 ⋆ Greatest integer k such that k/2^n < sqrt(1/5). • a(n) = floor(r * 2 ^ n), where r = sqrt(1 / 5). •

[A151754] • 1,3,7,14,28,57,115,230,460,921,1843,3686,7372,14745,29491,58982,117964,235929,471859,943718,1887436,3774873,7549747,15099494,30198988 ⋆ Number of n-digit numbers that are divisible by 5^n. • a(n) = [(9 / 10) * 2 ^ n]. - _ David W. Wilson _ , Jun 18 2009 •

[A266791] • 1,3,7,14,29,58,117,234,468,937,1875,3751,7502,15005,30010,60021,120042,240085,480170,960341,1920682,3841365,7682730,15365461,30730922 ⋆ Decimal representation of the middle column of the "Rule 61" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- (- 1) ^ n + 5627 * 2 ^ (n - 9) - 3) / 6 for n>9. •

[A052997] • 1,3,7,14,29,58,117,234,469,938,1877,3754,7509,15018,30037,60074,120149,240298,480597,961194,1922389,3844778,7689557,15379114,30758229 ⋆ Expansion of (1+x-x^3)/((1-2*x)*(1-x^2)). • a(n) = 2 * a(n - 1) + 1 for even n, otherwise a(n) = 2 * a(n - 1), with a(0)=1, a(1)=3. [_ Bruno Berselli _ , Jun 19 2014] •

[A267210] • 1,3,7,14,29,59,118,237,475,950,1901,3803,7606,15213,30427,60854,121709,243419,486838,973677,1947355,3894710,7789421,15578843,31157686 ⋆ Decimal representation of the middle column of the "Rule 109" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) + a(n - 3) - 2 * a(n - 4) for n>3. •

[A074988] • 1,3,7,14,29,59,119,238,476,953,1907,3814,7629,15259,30519,61038,122077,244154,488309,976618,1953237,3906475,7812951,15625902,31251804 ⋆ Numbers n such that the k-th binary digit of n equals mu(k)^2 for k=1 up to A029837(n+1). • a(n + 1)=2 * a(n) + mu(n + 1) ^ 2 a(n)=sum(i=1, n, mu(i) ^ 2 * 2 ^ (n - i)) • a(n)=sum { k=0..n, abs(mu(n - k + 1)) * 2 ^ k } ; - _ Paul Barry _ , Jul 20 2005 •

[A265381] • 1,3,7,14,29,59,119,238,477,955,1911,3822,7645,15291,30583,61166,122333,244667,489335,978670,1957341,3914683,7829367,15658734,31317469 ⋆ Decimal representation of the middle column of the "Rule 158" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 45 + 5 * (- 1) ^ n - (6 - i * 3) * (- i) ^ n - (6 + 3 * i) * i ^ n + 7 * 2 ^ (4 + n)) / 60 where i = sqrt(- 1). • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>4. •

[A173010] • 0,0,1,3,7,14,30,62,126,253,509,1021,2045,4092,8188,16380,32764,65531,131067,262139,524283,1048570,2097146,4194298 ⋆ The variance v(n) = sum((k-m(n))^2*p(n,k), k = 0 .. 2^n-n-1) of the distribution function p(n,k) := binomial(2^n-n-1, k)/2^(2^n-n-1) with m(n) its mean value is 0., 0.25, 1., 2.75, 6.5, 14.25, 30., 61.75, 125.5, 253.25, 509., 1020.75, 2044.5, 4092.25, 8188... We set A173010(n)= round(v(n)). • a(n)= - 1 / 4 + (1 / 4) * 2 ^ n - (1 / 4) * n. •

[A098582] • 1,3,7,15,15,31,79,191,431,671,1167,2431,5487,12383,23119,41791,80687,168479,366607,736511,1405167,2696159,5391823,11257535,23041711 ⋆ Expansion of (1+2*x+4*x^2+8*x^3)/(1-x-16*x^5). • a(n) = a(n - 1) + 16 * a(n - 5). • a(n) = Sum _{ k=0..n } binomial(n - k, floor(k / 4)) * 2 ^ k. •

[A075694] • 1,3,7,15,19,27,31,43,51,55,63,71,75,83,95,99,103,111,115,139,159,167,179,183,199 ⋆ a(1)=1, then "jump over next prime": a(n) = 2 nextprime(a(n-1))-a(n-1). • a(1)=1, a(n) = 2 nextprime(a(n - 1)) - a(n - 1). •

[A235699] • 0,1,3,7,15,21,23,27,35,41,43,47,55,61,63,67,75,81,83,87,95,101,103,107,115 ⋆ a(n+1) = a(n) + (a(n) mod 10) + 1, a(0) = 0. • a(n) = 5 * n - 6 + cos(n * Pi / 2) + 2 * sin(n * Pi / 2), for n>0. - _ Giovanni Resta _ , Jan 15 2014 •

[A182247] • 0,1,3,7,15,21,31,39,47,57,75,95,111,125,143,159,191,209,243,279,319,341,383,407,447 ⋆ a(0)=0, a(n) = (a(n-1) + n) OR n. • a(0)=0, a(n)=(a(n - 1) + n) OR n, where OR is the bitwise logical inclusive - OR operator. •

[A229527] • 1,3,7,15,22,27,37,48,61,69,85,99,118,129,142,150,157,171,181,192,205,213,220,225,235 ⋆ Start with 1, skip (sum of digits of n) numbers, accept next number. • a(n + 1) = a(n) + (sum of digits of a(n)) + 1. •

[A181106] • 1,3,7,15,23,35,47,63,79,99,119,143,167,195,223,255,287,323,359,399,439,483,527,575,623 ⋆ Largest odd number strictly less than a square. • a(n) = n ^ 2 - 1 for n even; a(n) = n ^ 2 - 2 for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A011890] • 0,0,0,0,3,7,15,26,42,63,90,123,165,214,273,341,420,510,612,726,855,997,1155,1328,1518 ⋆ [n(n-1)(n-2)/8]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) - a(n - 11). G.f.: x ^ 4 * (3 - 2 * x + 3 * x ^ 2 - x ^ 3 + 2 * x ^ 4 + x ^ 6) / ((- 1 + x) ^ 4 * (1 + x) * (1 + x ^ 2) * (1 + x ^ 4)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A001648] • 1,3,7,15,26,51,99,191,367,708,1365,2631,5071,9775,18842,36319,70007,134943,260111,501380,966441,1862875,3590807,6921503,13341626 ⋆ Tetranacci numbers A073817 without the leading term 4. • a(n) = trace of M ^ n, where M = the 4 X 4 matrix [0 1 0 0 / 0 0 1 0 / 0 0 0 1 / 1 1 1 1]. E.g., the trace (sum of diagonal terms) of M ^ 12 = a(12) = 2631 = (108 + 316 + 717 + 1490) . - _ Gary W. Adamson _ , Feb 22 2004 • a(n) = n * Sum _{ k=ceiling(n / 5)..n } Sum _{ i=0..(n - k) / 4 } (- 1) ^ i * binomial(k,k - i) * binomial(n - i * 4 - 1,k - 1)) / k), n>0. - _ Vladimir Kruchinin _ , Jan 20 2012 •

[A051054] • 0,1,3,7,15,26,54,85,159,292,513,804,1844,2965,5169,10679,20107,34120,72498,126028,245966,498852,913872,1644570,3600916 ⋆ a(n) = Sum_{k=1..n} C(n, floor(n/k)). • a(n) is asymptotic to 2 ^ n / sqrt(n * Pi / 2). - _ Benoit Cloitre _ , Jan 11 2003 •

[A097080] • 3,7,15,27,43,63,87,115,147,183,223,267,315,367,423,483,547,615,687,763,843,927,1015,1107,1203 ⋆ a(n) = 2*n^2 - 2*n + 3. • a(n) = 4 * (n - 1) + a(n - 1) for n>1, a(1)=3. - _ Vincenzo Librandi _ , Nov 16 2010 •

[A147595] • 1,3,7,15,27,51,99,195,387,771,1539,3075,6147,12291,24579,49155,98307,196611,393219,786435,1572867,3145731,6291459,12582915,25165827 ⋆ a(n) is the number whose binary representation is A138144(n). • a(n + 4) = 3 * (2 ^ (n + 2) + 1), n >= 0. - _ Brad Clardy _ , Apr 03 2013 • a(n) = 3 * (4 + 2 ^ n) / 4 for n>3. a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: - x * (2 * x ^ 2 - 1) * (2 * x ^ 2 + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Sep 15 2013 •

[A139806] • 1,3,7,15,27,55,111,223,443,887,1775,3551,7099,14199,28399,56799,113595,227191,454383,908767,1817531,3635063,7270127,14540255,29080507 ⋆ a(n)=a(n-1)+a(n-2)+a(n-3)+2a(n-4), a(0)=1, a(1)=3, a(2)=7, a(3)=15. • a(n)= - (1 / 5 - 2 / 5 * I) * I ^ n - (1 / 3) * (- 1) ^ n + (26 / 15) * 2 ^ n - (1 / 5 + 2 / 5 * I) * (- I) ^ n, with n>=0 and I=(- 1) ^ (1 / 2). - _ Paolo P. Lava _ , Jun 03 2008 •

[A023552] • 3,7,15,28,50,86,145,241,397,650,1060,1724,2799,4539,7355,11912,19286,31218,50525,81765,132313,214102,346440,560568,907035 ⋆ Convolution of natural numbers >= 3 and Fibonacci numbers. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. • a(n) = - 5 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 13 + 5 * sqrt(5)) + (1 + sqrt(5)) ^ n * (13 + 5 * sqrt(5)))) / sqrt(5) - n. •

[A182640] • 0,1,3,7,15,29,52,91,155,259,429,705,1152,1876,3049,4948,8022,12996,21045,34070,55146,89249,144429,233714,378181 ⋆ a(n)=n+floor(r*a(n-1)), where r = golden ratio = (1+sqrt(5))/2, a(0)=0, a(1)=1. • a(n)=n + floor(r * a(n - 1)), r=(1 + sqrt(5)) / 2, a(0)=0, a(1)=1. •

[A192960] • 1,3,7,15,29,53,93,159,267,443,729,1193,1945,3163,5135,8327,13493,21853,35381,57271,92691,150003,242737,392785,635569 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A080011] • 1,1,1,3,7,15,29,59,126,262,542,1121,2328,4839,10039,20827,43220,89704,186172,386345,801768,1663916,3453137,7166272,14872078 ⋆ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=2, r=3, I={-1}. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 2 * a(n - 4) + 3 * a(n - 5) - a(n - 6) + a(n - 8) - a(n - 9) - a(n - 10). •

[A055795] • 0,1,3,7,15,30,56,98,162,255,385,561,793,1092,1470,1940,2516,3213,4047,5035,6195,7546,9108,10902,12950 ⋆ a(n) = binomial(n,4) + binomial(n,2). • a(n + 1) = C(n, 1) + C(n, 2) + C(n, 3) + C(n, 4). - _ James A. Sellers _ , Mar 16 2002 • a(n) = n * (n ^ 3 - 6 * n ^ 2 + 23 * n - 18) / 24. - _ Gary Detlefs _ , Dec 08 2011 • a(1)=0, a(2)=1, a(3)=3, a(4)=7, a(5)=15, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Dec 07 2015 •

[A023610] • 1,3,7,15,30,58,109,201,365,655,1164,2052,3593,6255,10835,18687,32106,54974,93845,159765,271321,459743,777432,1312200,2211025 ⋆ Convolution of Fibonacci numbers and {F(2), F(3), F(4), ...}. • a(n) = sum { k=0..n + 1, (n - k + 1) * C(n - k + 1, k) } - _ Paul Barry _ , Nov 05 2005 • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4), n>=4. - _ L. Edson Jeffery _ , Mar 29 2013 •

[A062544] • 0,1,3,7,15,30,58,110,206,383,709,1309,2413,4444,8180,15052,27692,50941,93703,172355,317019,583098,1072494,1972634,3628250 ⋆ a(n) = n plus sum of previous three terms. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 1 * a(n - 4) + 1 * a(n - 5). - _ Joerg Arndt, Apr 02 2011 •

[A224520] • 0,1,3,7,15,30,60,120,240,481,963,1927,3855,7710,15420,30840,61680,123361,246723,493447,986895,1973790,3947580,7895160,15790320 ⋆ Numbers a(n) with property a(n) + a(n+4) = 2^(n+4) - 1 = A000225(n+4). • a(n) + a(n + 4) = 2 ^ (n + 4) - 1. • a(n) = + 3 * a(n - 1) - 2 * a(n - 2) - 1 * a(n - 4) + 3 * a(n - 5) - 2 * a(n - 6). (End) •

[A098583] • 1,3,7,15,31,31,63,159,383,863,1855,2847,4863,9951,22207,49823,109183,200287,355903,674335,1384959,2979295,6473151,12882335,24271231 ⋆ Expansion of (1+2*x+4*x^2+8*x^3+16*x^4)/(1-x-32*x^6). • a(n) = a(n - 1) + 32 * a(n - 6). • a(n) = Sum _{ k=0..n } binomial(n - k, floor(k / 5)) * 2 ^ k. •

[A023424] • 1,3,7,15,31,57,113,223,439,863,1695,3333,6553,12883,25327,49791,97887,192441,378329,743775,1462223,2874655,5651423,11110405,21842481 ⋆ Expansion of (1+2*x+3*x^2+4*x^3+5*x^4)/(1-x-x^2-x^3-x^4-x^5). • a(n) = n * Sum _{ k=1..n } (1 / k) * Sum _{ r=0..k } binomial(k,r) * Sum _{ m=0

..r } binomial(r,m) * Sum _{ j=0..m } binomial(m,j) * binomial(j,n - m - k - j - r), n>0. - _ Vladimir Kruchinin _ , Feb 22 2011 •

[**A276647**] • 1,3,7,15,31,59,107,183,303,483,755,1151,1735,2571,3787,5511,7999,11507,16547,23631,33783,48027,68411,96983,137839 ★ Number of squares after the n-th generation in a symmetric (with 45° angles) non-overlapping Pythagoras tree. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 6 * a(n - 4) - 2 * a(n - 5) for n>4. • a(n) = (- 25 + 2 ^ ((n - 1) / 2) * (24 - 24 * (- 1) ^ n + 17 * sqrt(2) + 17 * (- 1) ^ n * sqrt(2)) - 4 * (1 + n) - 2 * (1 + n) * (2 + n)). Therefore: • a(n) = 17 * 2 ^ (n / 2 + 1) - 2 * n ^ 2 - 10 * n - 33 for n even. • a(n) = 3 * 2 ^ ((n + 7) / 2) - 2 * n ^ 2 - 10 * n - 33 for n odd. (End) •

[**A007574**] • 1,3,7,15,31,60,113,207,373,663,1167,2038,3537,6107,10499,17983,30703,52272,88769,150407,254321,429223,723167,1216490,2043361 ★ Patterns in a dual ring. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) - a(n - 6). G.f.: - x * (- 1 + x + x ^ 2 - x ^ 3 - x ^ 4 + 2 * x ^ 5) / ((x - 1) ^ 2 * (x ^ 2 + x - 1) ^ 2). [_ R. J. Mathar _ , Feb 06 2010] •

[**A057703**] • 0,1,3,7,15,31,62,119,218,381,637,1023,1585,2379,3472,4943,6884,9401,12615,16663,21699,27895,35442,44551,55454 ★ Answer to the question: if you have a tall building and 5 plates and you need to find the highest story, a plate thrown from which does not break, what is the number of stories you can handle given n tries? • a(n) = n ^ 5 / 120 - n ^ 4 / 24 + 5 * n ^ 3 / 24 + n ^ 2 / 24 + 47 * n / 60. • a(n) = C[n, 5] + C[n, 4] + C[n, 3] + C[n, 2] + C[n, 1]. - _ Labos Elemer _ •

[**A224521**] • 0,1,3,7,15,31,62,124,248,496,992,1985,3971,7943,15887,31775,63550,127100,254200,508400,1016800,2033601,4067203,8134407,16268815 ★ Numbers a(n) with property a(n) + a(n+5) = 2^(n+5) - 1 = A000225(n+5). • a(n) + a(n + 5) = 2 ^ (n + 5) - 1. • a(n) = + 3 * a(n - 1) - 2 * a(n - 2) - 1 * a(n - 5) + 3 * a(n - 6) - 2 * a(n - 7). (End) •

[**A147596**] • 1,3,7,15,31,63,119,231,455,903,1799,3591,7175,14343,28679,57351,114695,229383,458759,917511,1835015,3670023,7340039,14680071,29360135 ★ a(n) is the number whose binary representation is A138145(n). • a(n) = 7 * (2 ^ (n - 3) + 1) if n>=6. [From _ Hagen von Eitzen _ , Jun 02 2009] • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: - x * (2 * x ^ 2 - 1) * (4 * x ^ 4 + 2 * x ^ 2 + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Sep 15 2013 •

[**A115567**] • 0,1,3,7,15,31,63,126,246,465,847,1485,2509,4095,6475,9948,14892,21777,31179,43795,60459,82159,110055,145498,190050 ★ a(n) = C(n,6) + C(n,5) + C(n,4) + C(n,3) + C(n,2) + C(n,1). • a(n) = C(n,6) + C(n,5) + C(n,4) + C(n,3) + C(n,2) + C(n,1). • a(n) = n * (n + 1) * (n ^ 4 - 10 * n ^ 3 + 65 * n ^ 2 - 140 * n + 444) / 720. •

[**A283091**] • 3,7,15,31,63,127,217,511,1023,2047,3255,8001,11811,32767,63457,131071,262143,520065,1048575,2097151,4194303,8388607,16766977,33554431,67074049 ★ Maximal order of the trinomials of degree n over GF(2). • a(n) <= 2 ^ n - 1, with equality if and only if n is a term of A073726. •

[**A116082**] • 0,1,3,7,15,31,63,127,254,501,967,1815,3301,5811,9907,16383,26332,41225,63003,94183,137979,198439,280599,390655,536154 ★ a(n) = C(n,7) + C(n,6) + C(n,5) + C(n,4) + C(n,3) + C(n,2) + C(n,1). • a(n) = n * (n ^ 6 - 14 * n ^ 5 + 112 * n ^ 4 - 350 * n ^ 3 + 1099 * n ^ 2 + 364 * n + 3828) / 5040. - _ Emeric Deutsch _ , Apr 14 2006 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8), with a(0)=0, a(1)=1, a(2)=3, a(3)=7, a(4)=15, a(5)=31, a(6)=63, a(7)=127. - _ Harvey P. Dale _ , Aug 05 2011 •

[**A105754**] • 1,3,7,15,31,63,127,255,502,1003,2003,3999,7983,15935,31807,63487,126719,252936,504869,1007735,2011471,4014959,8013983,15996159,31928831 ★ Lucas 8-step numbers. • a(n) = Sum _{ k=1..8 } a(n - k) for n>0, a(0)=8, a(n)= - 1 for n= - 7.. - 1 •

[**A116690**] • 0,1,3,7,15,31,63,127,255,510,1012,1980,3796,7098,12910,22818,39202,65535,106761,169765,263949,401929,600369,880969,1271625 ★ a(n) = C(n,8) + C(n,7) + C(n,6) + C(n,5) + C(n,4) + C(n,3) + C(n,2) + C(n,1). • a(n) = n * (n + 1) * (25584 - 9604 * n + 5264 * n ^ 2 - 1295 * n ^ 3 + 231 * n ^ 4 - 21 * n ^ 5 + n ^ 6) / 40320. - _ G. C. Greubel _ , Nov 25 2017 •

[**A267258**] • 1,3,7,15,31,63,127,255,510,1021,2042,4085,8170,16341,32682,65365,130730,261461,522922,1045845,2091690,4183381,8366762,16733525,33467050 ★ Decimal representation of the middle column of the "Rule 111" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (383 * 2 ^ n - 32 * ((- 1) ^ n + 3)) / 192 for n>5. •

[**A105755**] • 1,3,7,15,31,63,127,255,511,1013,2025,4047,8087,16159,32287,64511,128895,257535,514559,1028105,2054185,4104323,8200559,16384959,32737631 ★ Lucas 9-step numbers. • a(n) = Sum _{ k=1..9 } a(n - k) for n>0, a(0)=9, a(n)= - 1 for n= - 8.. - 1 • a(n) = n * Sum _{ k=1..n } Sum _{ i=0..(n - k) / 9 } (- 1) ^ i * binomial(k,k - i) * binomial(n - 9 * i - 1,k - 1)) / k. - _ Vladimir Kruchinin _ , Aug 10 2011 •

[**A000225**] • 0,1,3,7,15,31,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607,16777215 ★ a(n) = 2^n - 1. (Sometimes called Mersenne numbers, although that name is usually reserved for A001348.) • a(n) = Sum _{ k=0..n - 1 } 2 ^ k. - _ Paul Barry _ , May 26 2003 • a(n) = a(n - 1) + 2a(n - 2) + 2, a(0)=0, a(1)=1. - _ Paul Barry _ , Jun 06 2003 • a(n + 1) = 2 * a(n) + 1, a(0) = 0. • a(n) = Sum _{ k=1..n } binomial(n, k). • a(n) = n + Sum _{ i=0..n - 1 } a(i); a(0) = 0. - _ Rick L. Shepherd _ , Aug 04 2004 • a(n + 1) = (n + 1) * Sum _{ k=0..n } binomial(n, k) / (k + 1). - _ Paul Barry _ , Aug 06 2004 •

[**A126646**] • 1,3,7,15,31,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607,16777215,33554431 ★ a(n) = 2^(n+1) - 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>1. - _ Wesley Ivan Hurt _ , Aug 21 2015 •

[**A123121**] • 1,3,7,15,31,63,127,255,511,1024,2050,4102,8206,16414,32830,65662,131326,262654,525310,1050622,2101246,4202494,8404990,16809982,33619966 ★ Length of the n-th Zimin word (A082215(n)). • a(n) = 2 * a(n - 1) + ceiling(log _ 10(n + 1)). •

[**A178460**] • 0,0,0,0,0,0,1,3,7,15,31,63,127,256,514,1030,2062,4126,8254,16510,33023,66049,132101,264205,528413 ★ Partial sums of floor(2^n/127). • a(n) =round((14 * 2 ^ n - 127 * n + 75) / 889). • a(n)=floor((14 * 2 ^ n - 127 * n + 284) / 889). • a(n)=ceil((14 * 2 ^ n - 127 * n - 134) / 889). • a(n)=round((14 * 2 ^ n - 127 * n - 14) / 889). • a(n)=a(n - 7) + 2 ^ (n - 6) - 1 , n>6. • a(n)=3 * a(n - 1) - 2 * a(n - 2) + a(n - 7) - 3 * a(n - 8) + 2 * a(n - 9), n>9. •

[**A178459**] • 0,0,0,0,1,3,7,15,31,64,130,262,526,1054,2111,4225,8453,16909,33821,67646,135296,270596,541196,1082396,2164797 ★ Partial sums of floor(2^n/31) • a(n)=round((10 * 2 ^ n - 31 * n - 7) / 155). • a(n)=floor((10 * 2 ^ n - 31 * n + 22) / 155). • a(n)=ceil((10 * 2 ^ n - 31 * n - 36) / 155). • a(n)=round((10 * 2 ^ n - 31 * n - 10) / 155). • a(n)=a(n - 5) + 2 ^ (n - 4) - 1 , n>4 •

[**A099444**] • 1,3,7,15,32,69,149,321,691,1488,3205,6903,14867,32019,68960,148521,319873,688917,1483735,3195552,6882329,14822619,31923791,68754951,148079008 ★ A Chebyshev transform of Fib(2n+2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k)(- 1) ^ k * Fib(2(n - 2k) + 2) } ; • a(n) = sum { k=0..n, binomial((n + k) / 2, k)(- 1) ^ ((n - k) / 2)(1 + (- 1) ^ (n + k))Fib(2k + 2) / 2 } ; •

[**A132402**] • 1,3,7,15,32,70,156,348,768,1672,3600,7696,16384,34784,73664,155584,327680,688256,1442048,3014912,6291456,13106688,27261952,56622080,117440512 ★ Binomial transform of A004524 starting at 1. • a(n + 1) - 2a(n) = 1, 1, 1, 2, 6, 16, 36, 72, 136, 256 = essentially A038503. •

[**A137166**] • 1,3,7,15,32,70,156,349,778,1728,3833,8505,18884,41943,93160,206897,459459,1020311,2265815,5031792,11174374,24815508,55108933,122382762,271780616 ★ Sequence equals its 4th differences shifted by one index. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - a(n - 4). - _ R. J. Mathar _ , Apr 09 2008 •

[**A101890**] • 0,0,1,3,7,15,32,70,157,357,815,1859,4232,9620,21853,49635,112747,256139,581944,1322210,3004145,6825557,15507867,35234183,80052656 ★ Sum C(n,2k)F(k), k=0..floor(n/2). • a(n)=4a(n - 1) - 5a(n - 2) + 2a(n - 3) + a(n - 4); • a(n)=sum { k=0..n, binomial(n, k)(F(k / 2)(1 + (- 1) ^ k) / 2 } . •

[**A249512**] • 1,1,3,7,15,33,75,169,375,835,1875,4203,9375,20931,46875,104919,234375,523737,1171875,2621545,5859375,13098001,29296875,65523597,146484375 ★ Expansion of 1/(1-x*sqrt(4*x^2+1)-2*x^2). • a(n) = sum(k = 1..n, k * 4 ^ (n - k) * binomial(n / 2,n - k)) / n, a(0)=1. • a(n) = 3 * 5 ^ (n / 2 - 1) if n is even and n>0 else a(n) = ((4 ^ (n - 1) * binomial(n / 2, n - 1) * hypergeometric([2, 1 - n],[2 - n / 2], - 1 / 4)) / n). - _ Peter Luschny _ , Oct 31 2014 •

[**A136029**] • 1,1,1,3,7,15,33,75,171,391,899,2077,4815,11195,26097,60975,142751,334791,786419,1849905,4357121,10274313,24252923,57305241,135521807 ★ a(n) is the number of central ideals of a garland of order 2n, i.e., a(n) = g(2n,n), where g(n,k) is the number of ideals of size k in a garland (or double fence) of order n (see A137278). • a(n) = 1 + sum(k=1..floor((n - 1) / 2), sum(i=1..min(n - 2 * k,k), C(n - 2 * k + 1,i) * C(k - 1,k - i) * C(n - k - i,k))). - _ Shanzhen Gao _ , May 13 2011 •

[**A199882**] • 1,1,1,1,3,7,15,33,93,309,1071,3699,13947,58293,260337,1202121,5797035,29682639,161252631,915546969,5401610901,33227826669,213648580503,1430820925083,9936454523427 ★ E.g.f. A(x) satisfies differential equation A"'(x)=A(x)+A(x)^2, A(0)=0, A'(0)=1, A"(0)=1, A"'(0)=1. • a(n)=n! * b(n), b(n)=1 / (n * (n - 1) * (n - 2)) * (i=1..n - 4, b(n - 3) + sum(b(i) * b(n - 3 - i))), n>3, b(1)=1, b(2)=1 / 2, b(3)=1 / 6. •

[**A077946**] • 1,1,3,7,15,35,79,179,407,923,2095,4755,10791,24491,55583,126147,286295,649755,1474639,3346739,7595527,17238283,39122815,88790435,201512631 ★ Expansion of 1/(1-x-2*x^2-2*x^3). • a(n) = leftmost term in M ^ n * [1 0 0], where M = the 3X3 matrix [1 1 1 / 2 0 0 / 0 1 0]. a(n) = a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3). a(n) / a(n - 1) tends to 2.26953084..., an eigenvalue of M and a root of the characteristic polynomial x ^ 3 - x ^ 2 - 2x - 2. a(6) = 79 = 35 + 2 * 15 + 2 * 7 = a(5) + 2 * a(4) + 2 * a(3). - _ Gary W. Adamson _ , Dec 21 2004 •

[**A167539**] • 1,3,7,15,36,87,211,519,1285,3198,7998,20079,50571,127725,323367,820407,2085306,5309169,13537045,34561890,88347091,226079208,579110262,1484766015,3809948461 ★ a(n) = Sum_{k=0..[n/2]} C(n-k,k)^2 * n/(n-k), n>=1. • a(n) = Sum _{ k=0..n - 1 } Sum _{ j=0..k } C(n - k + j,n - k) * n / (n - k + j) * C(n - k,k - j) * C(k - j,j). •

[**A290470**] • 3,7,15,59,143,367,1039,2755,7395,20007,53727,144635,389535,1048159,2821535,7595267,20443523,55029319,148125295,398712379,1073232175,2888862159,7776059055,20931132355,56341155043 ★ Number of minimal edge covers in the n-Moebius ladder. • a(n) = a(n - 1) + 2 * a(n - 2) + 6 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. •

[**A036666**] • 0,3,7,16,24,39,51,72,88,115,135,168,192,231,259,304,336,387,423,480,520,583,627,696,744 ★ Numbers k such that 5*k+1 is a square. • a(n) has the form ((5 * m + 1) ^ 2 - 1) / 5 if n is odd; a(n) has the form ((5 * m + 4) ^ 2 - 1) / 5 if n is even. • a(2 * k) = k * (5 * k + 2), a(2 * k + 1) = 5 * k ^ 2 + 8 * k + 3. - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Nov 06 2007 • a(n) = n ^ 2 + n + ceiling(n / 2) ^ 2, (with offset 0). - _ Gary Detlefs _ , Feb 23 2010 • a(n) = (10 * n * (n - 1) + (2 * n - 1) * (- 1) ^ n + 1) / 8. •

[**A211379**] • 0,0,0,3,7,16,27,45,66,96,130,175,225,288,357,441,532,640,756,891,1035,1200,1375,1573,1782 ★ Number of pairs of parallel diagonals in a regular n-gon. • a(n) = 1 / 2 * n * (binomial(1 / 2 * (n - 2),2) + binomial(1 / 2 * (n - 4),2)) = 1 / 8 * n * (n - 4) ^ 2 for n even; • a(n) = n * binomial(1 / 2 * (n - 3),2) = 1 / 8 * n * (n - 3) * (n - 5) for n odd. •

[**A084631**] • 1,3,7,16,33,61,107,178,286,442,663,969,1384,1938,2664,3605,4807,6325,8222,10571,13455,16965,21206,26295,32364 ★ Floor(C(n+8,8)/C(n+2,2)). • a(n)=floor(n ^ 6 / 20160 + 11n ^ 5 / 6720 + 89n ^ 4 / 4032 + 209n ^ 3 / 1344 + 6077n ^ 2 / 10080 + 341n / 280) + 1 •

[**A192968**] • 0,1,1,3,7,16,33,64,118,210,364,619,1038,1723,2839,4653,7597,12370,20103,32626,52900,85716,138826,224773,363852 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[**A014668**] • 1,1,3,7,16,33,71,143,295,594,1206,2413,4871,9743,19559,39138,78428,156857,314047,628095,1256809,2513693,5028594,10057189,20116979 ★ a(1) = 1, a(n) = Sum_{k=1..n-1} Sum_{d|k} a(d). • a(n) is asymptotic to c * 2 ^ n where c = 0.5996073136145003389693 4... • a(n + 1) = Sum _{ k=1..n } a(k) * floor(n / k). - _ Franklin T. Adams - Watters _ , Mar 21 2017 •

[**A178455**] • 0,0,0,1,3,7,16,34,70,143,289,581,1166,2336,4676,9357,18719,37443,74892,149790,299586,599179,1198365,2396737,4793482 ★ Partial sums of floor(2^n/7). • a(n)=round((12 * 2 ^ n - 14 * n - 15) / 42). • a(n)=round((6 * 2 ^ n - 7 * n - 5) / 21). • a(n)=round((6 * 2 ^ n - 7 * n - 10) / 21). • a(n)=round((6 * 2 ^ n - 7 * n - 6) / 21). • a(n)=a(n - 3) + 2 ^ (n - 2) - 1, n>2 . • a(n)=3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - 3 * a(n - 4) + 2 * a(n - 5), n>4. •

[**A238089**] • 0,0,0,1,3,7,16,34,73,152,318,657,1356,2784,5703,11647,23740,48290,98073,198887,402837,815032,1647424,3327112,6714352 ★ Number of compositions of n such that the minimum part is equal to 1 and the first 1 occurs before any maximum part in the composition. • a(n) = Sum _{ i>=2 } x ^ (i + 1) / (1 - Sum _{ j=2..i - 1 } x ^ j) / (1 - Sum { k=1..i - 1 } x ^ k) / (1 - Sum _{ m=1..i } x ^ m). •

[**A133124**] • 1,3,7,16,35,74,153,312,631,1270,2549,5108,10227,20466,40945,81904,163823,327662,655341,1310700,2621419,5242858,10485737,20971496,41943015 ★ A007318 * [1, 2, 2, 3, 2, 3, 2, 3, 2,...]. • a(n) = 5 * 2 ^ (n - 1) - (n + 1), for n >= 1. •

[**A104004**] • 1,3,7,16,35,75,158,329,679,1392,2839,5767,11678,23589,47555,95720,192427,386451,775486,1555153,3117071,6245088,12507887,25044431,50135230 ★ Expansion of (1-x)(1+x)/((2x-1)(x^2+x-1)). • a(n) = 3 * 2 ^ n - Fibonacci(n + 3). - _ Ralf Stephan _ , May 20 2007 • a(n) = (3 * 2 ^ n - (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (1 + sqrt(5)) ^ n * (2 + sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Aug 18 2017 •

[**A101509**] • 1,3,7,16,35,75,159,334,696,1442,2976,6123,12562,25706,52492,107014,217877,443061,899957,1826078,3701783,7498261,15178255,30706320,62085915 ★ Binomial transform of tau(n) (see A000005). • a(n) = Sum _{ k=0..n, Sum _{ i=0..n, if(mod(i + 1, k + 1)=0, binomial(n, i), 0) }} . •

[**A099325**] • 1,3,7,16,35,76,162,344,723,1516,3158,6568,13598,28120,57956,119344,245123,503116,1030542,2109704,4311786,8808328,17969372,36644176,74640430 ★ Expansion of (sqrt(1+2x)+sqrt(1-2x))/(2(1-2x)^(3/2)). • a(n) = sum { k=0..n, (k + 1) * binomial(n, (n - k) / 2) * binomial(k + 2, 2) * (1 + (- 1) ^ (n - k)) / (n + k + 2) } . • a(n) = 2 ^ n + sum { k=0..floor((n - 1) / 2), (2 * n - 4 * k - 1) * binomial(n, k) } . - Nathaniel Johnston, Apr 20 2011 • a(n) = M ^ n * V topmost term. M = an infinite tridiagonal matrix with all 1's in the super and subdiagonals, [1,0,0,0,...] as the main diagonal; and the rest zeros. V = the vector [1,2,3,...]. - Gary W. Adamson, Jan 30 2012 •

[**A173514**] • 1,1,3,7,16,36,79,172,373,806,1742,3762,8123,17538,37864,81745,176480,381003,822545,1775788,3833737,8276627,17868350,38575848,83281109 ★ a(n) = 2*a(n-1) + a(n-2) - [a(n-2)/2] - [a(n-4)/2] - [a(n-5)/2]. • a(n) = 2 * a(n - 1) + a(n - 2) - Floor[a(n - 2) / 2] - Floor[a) n - 4] / 2] - Floor[a(n - 5) / 2]. •

[**A045891**] • 1,1,3,7,16,36,80,176,384,832,1792,3840,8192,17408,36864,77824,163840,344064,720896,1507328,3145728,6553600,13631488,28311552,58720256 ★ First differences of A045623. • a(n) = (n + 4) * 2 ^ (n - 3), n >= 2; a(0)=1= a(1). • a(n) = (n + 4) * 2 ^ (n - 3) + 3C(0, n) / 4 - C(1, n) / 4; a(n) = sum { k=0..floor(n / 2), C(n, 2k)(k + 1) } . - _ Paul Barry _ , Nov 29 2004 • a(n) = Sum _{ k=0..n } (k + 1) * C(n - 2,n - k). _ Peter Luschny _ , Apr 20 2015 •

[**A019489**] • 3,7,16,36,80,177,391,863,1904,4200,9264,20433,45067,99399,219232,483532,1066464,2352161,5187855,11442175,25236512,55660880,122763936,270764385,597189651 ★ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(3,7). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for n>0. - _ Bruno Berselli _ , Feb 15 2016 •

[**A218983**] • 3,7,16,36,81,182,407,911,2038,4558,10192,22791,50963,113957,254816,569786,1274081,2848932,6370406,14244661,31852031,71223307,159260157,356116538,796300787 ★ Power ceiling sequence of sqrt(5). • a(n) = ceiling(x * a(n - 1)), where x=sqrt(5), a(0) = ceiling(x). •

[**A033303**] • 1,3,7,16,36,81,182,409,919,2065,4640,10426,23427,52640,118281,265775,597191,1341876,3015168,6775021,15223334,34206521,76861355,172705897,388066628 ★ Expansion of (1 + x)/(1 - 2*x - x^2 + x^3). • a(0)=1, a(1)=h(n), and a(n) = h(n) + h(n - 1) for n >= 2, where h(n) = Sum _{ k=1..n } Sum _{ j=0..k } binomial(k, j) * binomial(j, n - 3 * k + 2 * j) * 2 ^ (3 * k - n - j) * (- 1) ^ (k - j). - _ Vladimir Kruchinin _ , Sep 09 2010 • a(0)=1, a(1)=3, a(2)=7, a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Oct 31 2013 •

[**A124671**] • 1,3,7,16,37,85,191,418,893,1871,3863,7892,16005,32297,64959,130374,261309,523299,1047415,2095800,4192741,8386813,16775167,33552106,67106237 ★ Row sums of A126277 = binomial transform of (1, 2, 2, 3, 4, 4, 4,...) • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) for n>4. - _ Vincenzo Librandi _ , Mar 15 2014 • a(n) = - 2 + 2 ^ (1 + n) - (5 * n) / 6 - n ^ 3 / 6. - _ Colin Barker _ , Jul 21 2017 •

[**A188626**] • 1,3,7,16,37,86,199,456,1033,2314,5131,11276,24589,53262,114703,245776,524305,1114130,2359315,4980756,10485781,22020118,46137367,96469016,201326617 ★ n+(n-1)*2^(n-2). • a(n)= n + (n - 1)2 ^ (n - 2). •

[**A123392**] • 0,0,0,1,1,3,7,16,37,86,199,461,1068,2474,5731,13276,30754,71242,165033,382301,885605,2051515,4752360,11008901,25502256 ★ a(-3) = a(-2) = a(-1) = 0, a(0) = 1, a(n) = a(n-1) + 2*a(n-2) + 2*a(n-3) + a(n-4), for n>0. • a(n) = Sum _{ k=0..n } C(n - k,k) * F(n - k + 1). - _ Paul Barry _ , Mar 01 2010 •

[**A095263**] • 1,3,7,16,37,86,200,465,1081,2513,5842,13581,31572,73396,170625,396655,922111,2143648,4983377,11584946,26931732,62608681,145547525,338356945,786584466 ★ a(n+3) = 3*a(n+2) - 2*a(n+1) + a(n). • a(n) / a(n - 1) tends to 2.3247179572..., an eigenvalue of M and a root of the characteristic polynomial. [Is that constant equal to 1 + A060006? - _ Michel Marcus _ , Oct 11 2014] [Yes, the limit is the root of the equation - 1 + 2 * x - 3 * x ^ 2 + x ^ 3 = 0, after substitution x = y + 1 we have the equation for y: - 1 - y + y ^ 3 = 0, y = A060006. - _ Vaclav Kotesovec _ , Jan 27 2015] • a(n)=sum { k=0..floor((n + 1) / 2), binomial(n + k, n - 2k + 1) } ; a(n)=sum { k=0..floor((n + 1) / 2), binomial(n + k, 3k - 1) } . - _ Paul Barry _ , Jul 06 2004 •

[**A010912**] • 3,7,16,37,86,200,465,1081,2513,5842,13581,31572,73396,170625,396655,922111,2143648,4983377,11584946,26931732,62608681,145547525,338356945,786584466,1828587033 ★ Pisot sequences E(3,7), P(3,7). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) (holds at least up to n = 1000 but is not known to hold in general). •

[**A192665**] • 1,1,1,3,7,16,37,88,207,496,1196,2900,7075,17344,42693,105473,261397,649638,1618527,4041401,10111385,25343883,63627940,159982510,402802976 ★ Floor-Sqrt transform of the numbers bin(3*n,n)/(2*n+1) (A001764). • a(n) = floor(sqrt(binomial(3 * n,n) / (2 * n + 1))). •

[**A052967**] • 1,1,3,7,16,38,89,209,491,1153,2708,6360,14937,35081,82391,193503,454460,1067342,2506753,5887345,13826983,32473969,76268168,179122960,420687105 ★ Expansion of (1-x)/(1-2*x-x^2+x^4). • a(n) = Sum _{ k=0..n } (Sum _{ l=0..k } (binomial(k,l) * Sum _{ i=0..n - k - l } (binomial(l,i) * binomial(n - i - 2 * l - 1,n - k - i - l)))). - _ Vladimir Kruchinin _ , Mar 16 2016 •

[**A293065**] • 0,0,0,1,3,7,16,38,94,239,617,1605,4190,10956,28668,75037,196431,514243,1346284,3524594,9227482,24157835,63246005,165580161,433494458 ★ Number of vertices of type D at level n of the hyperbolic Pascal pyramid PP_(4,5). • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - a(n - 4), n >= 5 . •

[**A227235**] • 1,3,7,16,38,96,262,767,2346,7315,22954,72239,228484,730470,2379669,7960733,27453387,97418566,353442491,1300699953,4821108695,17903653177,66375491706,245111697148,900578294735 ★ G.f.: Sum_{n>=1} x^n / (1-x)^prime(n). • a(n) = Sum _{ k=1..n } binomial(prime(k) + n - k - 1, n - k). •

[**A152090**] • 1,1,1,3,7,16,39,91,217,513,1216,2881,6825,16171,38311,90768,215047,509491,1207089,2859841,6775552,16052673,38032081,90105811,213479175 ★ a(n) = 2^n*Product_{k=1..floor((n-1)/2)} (1 + 2*cos(k*Pi/n)^2 + 4*cos(k*Pi/n)^4) • a(n) = a(n - 1) + 3 * a(n - 2) + a(n - 3) - a(n - 4) for n>4. • a(n) = (T(n, alpha) - T(n,beta)) / (alpha - beta), n >= 1, where alpha = 1 / 4 * (1 + sqrt (21)), beta = 1 / 4 * (1 - sqrt(21)) and where T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = U(n - 1,1 / 4 * (1 + sqrt(- 3))) * U(n - 1 ,1 / 4 * (1 - sqrt(- 3))) for n >= 1, where U(n,x) denotes the Chebyshev polynomial of the second kind. • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 5 / 4; 1, 1 / 2]. See the remarks in A100047 for the general connection between Chebyshev polynomials of the first kind and 4th - order linear divisibility sequences. (End) •

[**A190528**] • 1,3,7,16,39,92,219,521,1238,2944,6999,16640,39562,94058,223623,531663,1264027,3005221,7144904,16986989,40386518,96018831,228284497,542745740,1290376448 ★ Number of n-step one-sided prudent walks avoiding exactly three consecutive West steps. • a(0)=1, a(1)=3, a(2)=7, a(3)=16, a(4)=39, a(n)=2 * a(n - 1) + a(n - 2) - a(n - 4) + a(n - 5) [From Harvey P. Dale, Sep 20 2011] •

[**A014140**] • 1,3,7,16,39,104,301,927,2983,9901,33615,116115,406627,1440039,5147891,18550588,67310955,245716112,901759969,3325067016,12312494483,45766188970,170702447097,638698318874,2396598337975 ★ Apply partial sum operator twice to Catalan numbers. • a(n) = Sum[Sum[(2k)! / k! / (k + 1)!, { k,0,m }], { m,0,n }]. a(n) = Sum[(n + 1 - k) * (2k)! / k! / (k + 1)!, { k,0, n }]. - _ Alexander Adamchuk _ , Jul 04 2006 • a(n) = Sum _{ k=0..n } binomial(n + 2,k + 2) * r(k), where r(k) are the Riordan numbers A005043. - _ Vladimir Kruchinin _ , Oct 14 2016 •

[**A103439**] • 0,1,3,7,16,39,105,315,1048,3829,15207,65071,297840,1449755,7468541,40555747,231335960,1381989881,8623700811,56078446615,37923314280,2662013133295,19362917622001,145719550012299,1133023004941272 ★ Sum[i=0..n, Sum[j=0..i, (i-j+1)^j]]. • a(n + 1) = sum { k=0..n, ((k + 2) ^ (n - k) + k) / (k + 1) } ; - _ Paul Barry _ , Oct 01 2006 •

[**A036567**] • 3,7,16,41,101,247,613,1529,3821,9539,23843,59611,149015,372539,931327,2328307,5820767,14551919,36379789,90949471,227373677,568434193,1421085473,3552713687,8881784201 ★ Basic numbers used in Sedgewick-Incerpi upper bound for shell sort. • a(n) is the smallest number >= 2.5 ^ n that is relatively prime to all previous terms in the sequence. •

[**A041077**] • 1,1,3,7,17,24,305,329,963,2255,5473,7728,98209,105937,310083,726103,1762289,2488392,31622993,34111385,99845763,233802911,567451585,801254496,10182505537 ★ Denominators of continued fraction convergents to sqrt(45). • a(n) = 322 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - x ^ 9 + 3 * x ^ 8 - 7 * x ^ 7 + 17 * x ^ 6 - 24 * x ^ 5 - 17 * x ^ 4 - 7 * x ^ 3 - 3 * x ^ 2 - x - 1) / ((x ^ 2 - 3 * x + 1) * (x ^ 2 + 3 * x + 1) * (x ^ 4 - 3 * x ^ 3 + 8 * x ^

2 - 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 8 * x ^ 2 + 3 * x + 1)). [_ Colin Barker _ , Jul 18 2012] •

[A178521] • 0,0,3,7,17,35,70,134,251,461,835,1495,2652,4668,8163,14195,24565,42331,72674,124354,212155,360985,612743,1037807,1754232 ⋆ The cost of all leaves in the Fibonacci tree of order n. • a(n) = (n - 1) * F(n) + n * F(n - 1). - _ Bruno Berselli _ , Dec 06 2013 • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Dec 14 2016 • a(n) = (n + 1) * F(n + 1) - F(n + 2). - _ Bruno Berselli _ , Jul 26 2017 • a(n) = (2 ^ (- 1 - n) * (2 * sqrt(5) * ((1 - sqrt(5)) ^ n - (1 + sqrt(5)) ^ n) + (- (1 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (1 + sqrt(5)) ^ n * (5 + sqrt(5))) * n)) / 5. - _ Colin Barker _ , Jul 26 2017 •

[A295146] • 1,3,7,17,36,76,156,317,639,1284,2574,5155,10317,20642,41292,82594,165197,330405,660820,1321652,2643315,5286643,10573298,21146610,42293233 ⋆ Solution of the complementary equation a(n) = a(n-1) + 2*a(n-2) + b(n-2), where a(0) = 1, a(1) = 3, b(0) = 2, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 2. •

[A014314] • 0,1,3,7,17,36,82,169,373,760,1646,3334,7130,14392,30500,61429,129293,260016,544342,1093546,2279470,4575736,9504188,19067162,39486402 ⋆ Number of up steps in all length n left factors of Dyck paths. • a(n) = 2 ^ (n - 1) + (n - 1) * binomial(n, (n - 1) / 2) / 2 if n is odd. (End) •

[A089116] • 0,1,3,7,17,37,77,158,314,611,1174,2222,4156,7703,14149,25790,46703,84059,150476,268076,475460,839873,1478140,2592620,4533157 ⋆ Convoluted convolved Fibonacci numbers G_j^(3). • a(n) = + 3 * a(n - 1) - 4 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + 7 * a(n - 6) - 3 * a(n - 7) - 3 * a(n - 8) + 4 * a(n - 9) - 3 * a(n - 11) - a(n - 12). - _ R. J. Mathar _ , Jan 25 2011 •

[A026396] • 3,7,17,37,87,187,437,937,2187,4687,10937,23437,54687,117187,273437,585937,1367187,2929687,6835937,14648437,34179687,73242187,170898437,366210937,854492187 ⋆ Sum{T(i,j)}, 0<=j<=i, 0<=i<=n, where T is the array in A026386. • a(n) = (7 * 5 ^ (n / 2) - 1) / 2 for n even. • a(n) = (6 * 5 ^ ((n + 1) / 2) - 2) / 4 for n odd. • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) for n>2. •

[A119587] • 0,1,1,3,7,17,39,87,189,403,847,1761,3631,7439,15165,30795,62343,125905,253783,510759,1026685,2061731,4136991,8295873,16627167 ⋆ 2^n + 1 - 2*Fibonacci(n+1). • a(n)=1 + 2 ^ n - [1 / 2 + (1 / 2) * sqrt(5)] ^ n - (1 / 5) * [1 / 2 + (1 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 5) * sqrt(5) * [1 / 2 - (1 / 2) * sqrt(5)] ^ n - [1 / 2 - (1 / 2) * sqrt(5)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Oct 07 2008] •

[A127984] • 1,3,7,17,39,89,199,441,967,2105,4551,9785,20935,44601,94663,200249,422343,888377,1864135,3903033,8155591,17010233,35418567,73633337,152859079 ⋆ a(n) = (n/3 + 7/9)*2^(n - 1) + (-1)^n/9. • a(n) = (n / 3 + 7 / 9) * 2 ^ (n - 1) + (- 1) ^ n / 9. • a(n) = 3 * a(n - 1) - 4 * a(n - 3). (End) • a(n) = f(n + 1) * 2 ^ (n - 1), where f(n) is a rational Fibonacci type sequence based on fuse(a,b) = (a + b + 1) / 2 with f(0) = 0, f(1) = 1 and f(n) = fuse(f(n - 1,f(n - 2)), for n >= 2. For fuse(a,b) see the _ Jeff Erickson _ link under A188545. Proof: f(n) = (3 * n + 4 - (- 1) ^ n / 2 ^ (n - 2)) / 9, n >= 0, by induction. • a(n) = a(n - 1) + a(n - 2) + 2 ^ (n - 2), n >= 1, with inputs a(- 1) = 0, a(0) = 1 / 2. •

[A106472] • 1,3,7,17,40,92,208,464,1024,2240,4864,10496,22528,48128,102400,217088,458752,966656,2031616,4259840,8912896,18612224,38797312,80740352,167772160 ⋆ Expansion of (1 - x)^2*(1 + x) / (1 - 2*x)^2. • a(0)=1, a(1)=3, and a(n) = (3 * n + 8) * 2 ^ (n - 3), for n>=2. [simplified by _ Ralf Stephan _ , Nov 16 2010] • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n > 3. - _ Colin Barker _ , Dec 16 2017 •

[A249753] • 1,3,7,17,40,99,246,642,1690,4554,12436,34132,95230,263934,744956,2075132,5892430,16456014,46871196,131068572,373897870,1046231694,2986898716,8360588572,23878057870 ⋆ Number of triangles in the complex obtained by starting with an isosceles right triangle, and dividing each cell into two similar isosceles right triangles n times. • a(0) = 1; • a(1) = 3; • a(2) = 7; • a(2k + 1) = (140 2 ^ (3k) + 318 2 ^ (2k) + 60 2 ^ (k) - 48 + 16 (- 1) ^ (k)) / 144, for k > 0; • a(2k) = (50 2 ^ (3k) + 147 2 ^ (2k) + 60 2 ^ (k) - 48 + 16 (- 1) ^ (k)) / 144, for k > 1. •

[A192674] • 1,1,3,7,17,41,94,220,515,1209,2845,6711,15861,37549,89015,211287,502051,1194083,2842413,6771220,16141369,38501639,91888052,219411132,524154756 ⋆ Floor-Sqrt transform of large central Delannoy numbers (A001850). • a(n) = floor(sqrt(centralDelannoy(n))). •

[A001333] • 1,1,3,7,17,41,99,239,577,1393,3363,8119,19601,47321,114243,275807,665857,1607521,3880899,9369319,22619537,54608393,131836323,318281039,768398401 ⋆ Numerators of continued fraction convergents to sqrt(2). • a(n) = 2a(n - 1) + a(n - 2); • a(n) = ((1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n) / 2. • a(n) = (- i) ^ n * T(n, i), with T(n, x) Chebyshev's polynomials of the first kind A053120 and i ^ 2 = - 1. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2k)2 ^ k. - _ Paul Barry _ , May 13 2003 • a(n) = upper left and lower right terms of [1,1; 2,1] ^ n. - _ Gary W. Adamson _ , Mar 12 2008 • a(- n) = (- 1) ^ n * a(n). - _ Michael Somos _ , Sep 02 2012 •

[A078057] • 1,3,7,17,41,99,239,577,1393,3363,8119,19601,47321,114243,275807,665857,1607521,3880899,9369319,22619537,54608393,131836323,318281039,768398401,1855077841 ⋆ Expansion of (1+x)/(1-2*x-x^2). • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1; a(1)=3. - _ Wayne VanWeerthuizen _ , May 02 2004 • a(n) = 2 * a(n - 1) + a(n - 2); a(n + 1) / a(n) tends to silver ratio 1 + sqrt(2) as n tends to infinity. - Shiva Samieinia (shiva(AT)math.su.se), Oct 08 2007 • a(n) = (1 / 2) * [1 + sqrt(2)] ^ n - (1 / 2) * sqrt(2) * [1 - sqrt(2)] ^ n + (1 / 2) * [1 - sqrt(2)] ^ n + (1 / 2) * [1 + sqrt(2)] ^ n * sqrt(2), with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •

[A089742] • 1,3,7,17,41,99,242,596,1477,3681,9215,23155,58368,147530,373768,948882,2413264,6147414,15682008,40056238,102434119,262228051,671945055,1723350315,4423518544 ⋆ Number of subwords UHH...HD in all peakless Motzkin paths of length n+3, where U=(1,1), D=(1,-1) and H=(1,0). • a(n) = Sum _{ m=0..n + 2 } (Sum _{ j=1..m / 2 } (j * Sum _{ i=0..m / 2 - j } ((binomial(2 * j + 2 * i,i) * Sum _{ k=0..m - 2 * j - 2 * i } (binomial(k,m - k - 2 * j - 2 * i) * binomial(k + 2 * j + 2 * i - 1,k) * (- 1) ^ (k - m))) / (j + i)))). - _ Vladimir Kruchinin _ , Mar 07 2016 •

[A003440] • 1,1,3,7,17,42,104,259,648,1627,4098,10350,26202,66471,168939,430071,1096451,2799072,7154189,18305485,46885179,120195301,308393558,791882862,2034836222 ⋆ Number of binary vectors with restricted repetitions. • a(n) = Sum _{ k=0..n } (C(k, n - k) + C(k + 1, n - k - 1)) ^ 2 / 2 for n>0, with a(0)=1. - _ Paul D. Hanna _ , Mar 06 2005 •

[A102071] • 1,3,7,17,42,106,272,708,1865,4963,13323,36037,98123,268737,739833,2046207,5682915,15842505,44315637,124348275,349911204,987212856,2791964574,7913642086,22477090679 ⋆ Pairwise sums of general ballot numbers (A002026). • a(n) = 1 / n * Sum _{ j=0..n } ((binomial(j,n - 1 - j) + 4 * binomial(j,n - 2 - j) + 3 * binomial(j,n - 3 - j)) * binomial(n,j)). - _ Vladimir Kruchinin _ , Mar 08 2016 •

[A178778] • 1,3,7,17,42,112,308,882,2563,7565,22449,66979,200204,599514,1796350,5385764,16150725,48442327,145307291,435892341,1307617966,3922765316,11768118792,35304090646,105911740487 ⋆ Partial sums of walks of length n+1 on a tetrahedron A001998. • a(n) = Sum _{ i=0..n } (if i mod 2 = 0 then ((3 ^ ((i - 2) / 2) + 1) / 2) ^ 2 else 3 ^ ((i - 3) / 2) + (1 / 4) * (3 ^ (i - 2) + 1)). • a(n) = (- 7 + 3 ^ (1 + n) + 3 ^ (1 / 2 * (- 1 + n)) * (9 - 9 * (- 1) ^ n + 5 * sqrt(3) + 5 * (- 1) ^ n * sqrt(3)) + 2 * (1 + n)) / 8. • a(n) = (2 * n + 10 * 3 ^ (n / 2) + 3 ^ (n + 1) - 5) / 8 for n even. • a(n) = (2 * n + 3 ^ (n + 1) + 2 * 3 ^ ((n + 3) / 2) - 5) / 8 for n odd. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 12 * a(n - 3) + 21 * a(n - 4) - 9 * a(n - 5) for n>4. •

[A192908] • 1,1,3,7,17,43,111,289,755,1975,5169,13531,35423,92737,242787,635623,1664081,4356619,11405775,29860705,78176339,204668311,535828593,1402817467,3672623807 ⋆ Constant term in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3) for n>3. • a(n) = 2 * Fibonacci(2 * n - 2) + 1 for n>0, a(0)=1 . - _ Bruno Berselli _ , Dec 27 2016 • a(n) = - 1 + 3 * a(n - 1) - a(n - 2) with a(1) = 1 and a(2) = 3. Cf. A055588 and A097136. - _ Peter Bala _ , Nov 12 2017 •

[A085279] • 1,3,7,17,43,113,307,857,2443,7073,20707,61097,181243,539633,1610707,4815737,14414443,43177793,129402307,387944777,1163310043,3488881553,10464547507,31389448217,94159956043 ⋆ Expansion of (1 - 2*x - 2*x^2)/((1 - 2*x)*(1 - 3*x)). • a(n) = (3 * 2 ^ n + 3 ^ n - 0 ^ n) / 3. • a(n) = 2 ^ n + 3 ^ (n - 1) for n >= 1. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) for n > 1. - _ Vincenzo Librandi _ , Sep 12 2014 •

[A294129] • 0,1,3,7,17,43,119,351,1115,3735,13231,48927,189079,757583,3148063,13497599,59704335,271503647,1268817471,6078518911,29837183007,149789875903,768674514815,4026518397439,21518708975039 ⋆ Numbers n for which exactly one length minimal language exists having exactly n nonempty words over a countably infinite alphabet such that within each prefix of a word every letter of the alphabet is at least as frequent as the subsequent alphabet letter. • a(n) = 2 * a(n - 1) + (n - 3) * a(n - 2) - (n - 2) * a(n - 3) for n>= 4, a(n) = n * (n - 1) / 2 for n<4. •

[A233656] • 1,3,7,17,45,127,371,1101,3289,9851,29535,88585,265733,797175,2391499,7174469,21523377,64570099,193710263,581130753,1743392221,5230176623,15690529827,47071589437,141214768265 ⋆ a(n) = 3*a(n-1) - 2*(n-1), with a(0) = 1. • a(n) = 3 * a(n - 1) - 2 * (n - 1), with a(0) = 1. • a(n) = (1 + 3 ^ n + 2 * n) / 2. a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). G.f.: (x ^ 2 + 2 * x - 1) / ((x - 1) ^ 2 * (3 * x - 1)). - _ Colin Barker _ , Dec 17 2013 • a(0) =1, a(1)=3, a(2)=7, a(n)=5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). - _ Harvey P. Dale _ , Feb 13 2015 •

[A179944] • 1,3,7,17,47,148,518,1977,8138,35879,168500,838944 ⋆ Row sums of triangle A179943 • a(n) = sum of n - th row terms of triangle A179943 •

[A014144] • 0,1,3,7,17,51,205,1079,6993,53227,462341,4500255,48454969,571411283,7321388397,101249656711,1502852293025,23827244817339,4018390654 37653,7182224591785967,135607710526966281 ⋆ Apply partial sum operator twice to factorials. • a(n) = (n - 1) * !n - n! + 1, !n = sum[k=0..n - 1] k!. - Joe Keane (jgk(AT)jgk.org) • a(n) = convolution(A000142, A001477). - _ Peter Luschny _ , Jan 21 2012 •

[A042077] • 1,1,3,7,17,75,92,535,627,14329,14956,89109,104065,505369,1114803,2734975,6584753,9319728,435292241,444611969,1324516179,3093644327,7511804833,33140863659,40652668492 ⋆ Denominators of continued fraction convergents to sqrt(562). • a(n) = 441876994 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A041949] • 1,3,7,17,92,569,2937,6443,15823,53912,2387951,7217765,16823481,40864727,221147116,1367747423,7059884231,15487515885,38034916001,129592263888,5740094527073,17349875845107,40439846217287,98229568279681,531587687615692 ⋆ Denominators of continued fraction convergents to sqrt(497). • a(n) = 2403774 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A006124] • 3,7,18,36,61,93,132,178,231,291,358,432,513,601,696,798,907,1023,1146,1276,1413,1557,1708,1866,2031 ⋆ a(n) = 3 + n/2 + 7n^2/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[A074587] • 1,3,7,18,37,85,171,364,736,1513,3027,6168,12337,24849,49743,99872,199745,400322,800645,1602862,3205903,6414837,12829675,25665996,51332030 ⋆ Sum of the coefficients of the n-th Moebius polynomial, M(n,x), where M(n,-1) = mu(n), the Moebius function of n. • a(1)=1 a(n)=1 + sum(i=1, n

- 1, floor(n / i) * a(i)). - _ Benoit Cloitre _ , Dec 04 2002 ●

[**A181306**] ● 1,1,3,7,18,44,110,272,676,1676,4160,10320,25608,63536,157648,391152,970528,2408064,5974880,14824832,36783296,91266496,226449920,561866240,1394099328 ★ Number of 2-compositions of n having no increasing columns. A 2-composition of n is a nonnegative matrix with two rows, such that each column has at least one nonzero entry and whose entries sum up to n. ● a(0)=1, a(1)=1, a(2)=3, a(3)=7, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) [From Harvey P. Dale, Mar 07 2012] ●

[**A291734**] ● 3,7,18,45,108,258,615,1459,3453,8164,19287,45540,107496,253695,598659,1412587,3332970,7863853,18553752,43774722,103279023,243668295,574890057,1356344056,3200033343 ★ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = (1 - S)(1 - 2 S). ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 3 * a(n - 3) - 4 * a(n - 4) - 2 * a(n - 6) for n >= 7. ●

[**A291229**] ● 3,7,18,45,111,272,663,1611,3906,9457,22875,55296,133611,322751,779490,1882341,4545159,10974256,26496255,63970947,154444914,372871721,900206067,2173312512,5246877459 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)(1 - 2 S). ● a(n) = 3 * a(n - 1) - 2 * a(n - 3) - a(n - 4) for n >= 5. ●

[**A116413**] ● 1,3,7,18,46,117,298,759,1933,4923,12538,31932,81325,207120,527497,1343439,3421495,8713926,22192786,56520993,143948698,366611175,933692041,2377943955,6056191126 ★ Expansion of (1+x)/(1-2x-x^2-x^3). ● a(n)=2a(n - 1) + a(n - 2) + a(n - 3); a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, C(k + 1,j)C(n - k - j,k)2 ^ (n - 2k - j) }} . ●

[**A052960**] ● 1,1,3,7,18,46,118,303,778,1998,5131,13177,33840,86905,223182,573157,1471933,3780093,9707713,24930522,64024444,164422126,422254905,1084399096,2784861432 ★ Expansion of (1-x-x^2) / (1-2*x-2*x^2+x^3+x^4). ● a(n) = sum(sum(binomial(i + 2 * k,2 * k) * binomial(i + k,n - i - 2 * k),k=0..n / 2),i=0..n) [Emanuele Munarini, May 10 2011] ●

[**A059512**] ● 0,1,1,3,7,18,46,119,309,805,2101,5490,14356,37557,98281,257231,673323,1762594,4614226,12079707,31624285,82792161,216750601,567457058,1485616392 ★ For n>=2, the number of (s(0), s(1), ..., s(n-1)) such that 0 < s(i) < 5 and |s(i) - s(i-1)| <= 1 for i = 1,2,....,n-1, s(0) = 2, s(n-1) = 2. ● a(n) = 2a(n - 1) + Sum { m<n - 1 } a(m) - F(n - 3) where F(n) is the n - th Fibonacci number (A000045). ● a(n + 1)=sum { k=0..floor(n / 2), C(n,2k) * F(2k + 1) } . [From _ Paul Barry _ , Oct 14 2009] ●

[**A094297**] ● 1,3,7,18,46,120,316,840,2248,6048,16336,44256,120160,326784,889792,2424960,6613120,18043392,49247488,134450688,367134208,1002645504,2738510848,7480215552,20433258496 ★ Number of (s(0), s(1), ..., s(n)) such that 0 < s(i) < 6 and |s(i) - s(i-1)| <= 1 for i = 1,2,....,n, s(0) = 2, s(n) = 2. ● a(n)=(1 / 3) * Sum(k, 1, 5, Sin(Pi * k / 3) ^ 2(1 + 2Cos(Pi * k / 6)) ^ n) or a(n)=(2 ^ n + (1 - Sqrt(3)) ^ n + (1 + Sqrt(3)) ^ n) / 4 ●

[**A027971**] ● 3,7,18,47,123,319,806,1954,4506,9859,20495,40615,77040,140455,247085,420906,696509,1122751,1767344,2722551,4112177,6100063,8900312,12789498,18121132 ★ T(n,2n-9), T given by A027960. ● a(n) = (17055360 - 16329024 * n + 7697736 * n ^ 2 - 2299060 * n ^ 3 + 462798 * n ^ 4 - 60207 * n ^ 5 + 4284 * n ^ 6 - 30 * n ^ 7 - 18 * n ^ 8 + n ^ 9) / 362880. - _ Colin Barker _ , Nov 25 2014 ●

[**A267799**] ● 3,7,18,49,138,397,1158,3409,10098,30037,89598,267769,801258,2399677,7190838,21556129,64635618,193841317,581392878,1743916489,5231225178,15692626957,47075783718,141223156849,423661081938 ★ a(n) = (1 + 2^n + 3^n)/2. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>3. ●

[**A103177**] ● 3,7,18,50,145,429,1280,3832,11487,34451,103342,310014,930029,2790073,8370204,25110596,75331771,225995295,677985866,2033957578,6101872713,18305618117,54916854328,164750562960,494251688855 ★ (7*3^n + 2n + 5)/4. ● a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). G.f.: (3 - 2 * x) * (1 - 2 * x) / ((1 - x) ^ 2 * (1 - 3 * x)). [_ Colin Barker _ , Aug 28 2012] ●

[**A180166**] ● 1,3,7,18,51,161,560,2163,8691,38142,178107,885041,4636948 ★ Row sums of triangle A180165 ● a(n) = sum of n - th row terms of triangle A180165 ●

[**A256873**] ● 3,7,18,52,168,592,2208,8512,33408,132352,526848,2102272,8398848,33574912,134258688,536952832,2147647488,8590262272,34360393728,137440264192,549758435328,2199028498432,8796103507968,35184393060352,140737530298368 ★ a(n) = 2^(n-1)*(2^n+5). ● a(n) = 6 * a(n - 1) - 8 * a(n - 2). - _ Colin Barker _ , Apr 26 2015 ●

[**A134045**] ● 1,3,7,18,61,258,1177,5358,23821,103338,439297,1838598,7605781,31191618,127100617,515462238,2083142941,8396683098,33779525137,135697396278,544529307301,2183340065778,8749036112857,35043186680718,140313902770861 ★ Let P(A) be the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are disjoint and for which either x is a subset of y or y is a subset of x, or 1) x and y are intersecting but for which x is not a subset of y and y is not a subset of x, or 2) x = y. ● a(n) = (1 / 2)(4 ^ n - 3 ^ (n + 1) + 7 * 2 ^ n - 3) = 3 * StirlingS2(n + 1,4) + 2 * StirlingS2(n + 1,2) + 1. ●

[**A164097**] ● 3,7,19,27,47,59,87,103,139,159,203,227,279,307,367,399,467,503,579,619,703,747,839,887,987 ★ Numbers n such that 6n + 7 is a perfect square. ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). ●

[**A222465**] ● 3,7,19,39,67,103,147,199,259,327,403,487,579,679,787,903,1027,1159,1299,1447,1603,1767,1939,2119,2307 ★ a(n) = 4*n^2 + 3. ● a(n) = 4 * n ^ 2 + 3, n >= 0. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0) = 3, a(1) = 7, a(2) = 19. - _ Philippe Deléham _ , Mar 05 2013 ●

[**A055622**] ● 1,3,7,19,43,99,235,535,1239,2879,6619,15323,35451,81823,189263,437543,1011059,2337731,5403987,12491223,28877687,66755519,154315883,356738411,824668747 ★ Minimum solution for tri-color tower of Hanoi, restricted so like colors can't be together. ● a(n) = a(n - 1) + 2 a(n - 2) + 7 a(n - 3) - 5 a(n - 4) - 8 a(n - 5) - 14 a(n - 6) + 2 a(n - 7) + 4 a(n - 8) + 4 a(n - 9) + 8 a(n - 10) ●

[**A075900**] ● 1,1,3,7,19,43,115,259,659,1523,3731,8531,20883,47379,113043,259219,609683,1385363,3245459,7344531,17028499,38579603,88585619,199845267,457864595 ★ G.f.: Product_{n>0} 1/(1 - 2^(n-1)*x^n). ● a(n) = Sum _{ partitions n = c _ 1 + ... + c _ k } 2 ^ (n - k). If p(n, m) = number of partitions of n into m parts, a(n) = sum _{ m=1..n } p(n, m) * 2 ^ (n - m). ● a(n) = s(1,n), a(0)=1, where s(m,n)=sum(k=m..n / 2, 2 ^ (k - 1) * s(k,n - k)) + 2 ^ (n - 1), s(n,n) = 2 ^ (n - 1), s(m,n)=0, m>. - _ Vladimir Kruchinin _ , Sep 06 2014 ●

[**A029855**] ● 1,1,3,7,19,46,124,320,858,2282,6161,16647,45352,123861,340000,936098,2586518,7166394,19911638,55456892,154814055,433081632,1213901668,3408659401,9587879987 ★ Number of rooted trees where root has degree 4. ● a(n)= Sum _ (P) { Prod _ (1 ^ a1 2 ^ a2 3 ^ a3 ...) { binomial(f(i) + a _ i - 1 , a _ i) } } , where P is the set of the partitions of n with four parts, and f = A000081. - _ Washington Bomfim _ , Jul 10 2012 ●

[**A026581**] ● 1,3,7,19,47,123,311,803,2047,5259,13447,34483,88271,226203,579287,1484099,3801247,9737643,24942631,63893203,163663727,419236539,1073891447,2750837603,7046403391 ★ Expansion of (1 + 2*x) / (1 - x - 4*x^2). ● a(n) = a(n - 1) + 4 * a(n - 2), n>1. ● a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(17)) ^ n * (- 5 + sqrt(17)) + (1 + sqrt(17)) ^ n * (5 + sqrt(17)))) / sqrt(17). - _ Colin Barker _ , Dec 22 2016 ●

[**A061646**] ● 1,1,1,3,7,19,49,129,337,883,2311,6051,15841,41473,108577,284259,744199,1948339,5100817,13354113,34961521,91530451,239629831,627359043,1642447297 ★ a(-1) = 1, a(0) = 1, a(1) = 1; for n>1, a(n) = 2*a(n-1)+2*a(n-2)-a(n-3). ● a(n) = (2 * fibonacci(n) * fibonacci(n + 1) * (fibonacci(n + 2) + phi * fibonacci(n + 1)) + (1 / phi) ^ n) / (fibonacci(n) * phi + fibonacci(n + 1)). - _ Thomas Baruchel _ , Nov 19 2004 ● a(n) = F(2 * n - 1) + F(n - 1) * F(n), with F(- 3):=2, F(- 2):= - 1 and F(- 1):=1 (corrected eq. (1.3) of the Atanassov et al. reference) with F(n):=A000045 (Fibonacci). - _ Wolfdieter Lang _ , Jul 22 2005 ● a(n) = 1 / 5 * Sum _{ k=1..5) ((w _ k) ^ 2 - 1) ^ n, w _ k=2 * cos((2 * k - 1) * Pi / 10), n>=0, recalling that the offset for A061646 is - 1. - _ L. Edson Jeffery _ , Apr 20 2011. ● a(n) = ((- 2) ^ n + 2 * (3 - Sqrt(5)) ^ n + 2 * (3 + Sqrt(5)) ^ n) / (5 * 2 ^ n). - _ L. Edson Jeffery _ , Apr 21 2011 ● a(n) = L(2 * n - 2) + F(n - 3) * F(n - 2) for n>=3, where L= A000032 are Lucas numbers. - _ J. M. Bergot _ , Aug 08 2012 ●

[**A052948**] ● 1,1,3,7,19,51,139,379,1035,2827,7723,21099,57643,157483,430251,1175467,3211435,8773803,23970475,65488555,178918059,488813227,1335462571,3648551595,9968028331 ★ G.f.: (1-2*x)/(1-3*x+2*x^3) ● a(n)=1 / 3 + (1 + sqrt(3)) ^ n / 3 + (1 - sqrt(3)) ^ n / 3. Binomial transform of A025192 (with interpolated zeros). - _ Paul Barry _ , Sep 16 2003 ● a(n)=(1 / 3) * Sum(k, 1, 5, Sin(Pi * k / 2) ^ 2(1 + 2Cos(Pi * k / 6)) ^ n) - _ Herbert Kociemba _ , Jun 02 2004 ● a(0) = a(1) = 1; a(n + 2) = 2 * a(n + 1) + 2 * a(n) - 1. - _ Carl R. White _ , Jul 30 2009 ● a(0)=1, a(1)=1, a(2)=3, a(n)=3 * a(n - 1) - 2 * a(n - 3). - _ Harvey P. Dale _ , Aug 22 2012 ●

[**A002426**] ● 1,1,3,7,19,51,141,393,1107,3139,8953,25653,73789,212941,616227,1787607,5196627,15134931,44152809,128996853,377379369,1105350729,3241135527,9513228123,27948336381 ★ Central trinomial coefficients: largest coefficient of (1 + x + x^2)^n. ● a(n) is asymptotic to d * 3 ^ n / sqrt(n) with d around 0.5.. - _ Benoit Cloitre _ , Nov 02 2002, d = sqrt(3 / Pi) / 2 = 0.4886025119... - _ Vaclav Kotesovec _ , Sep 18 2014 ● a(n) = ((2 * n - 1) * a(n - 1) + 3 * (n - 1) * a(n - 2)) / n; a(0)=a(1)=1; see paper by Barcucci, Pinzani and Sprugnoli. ● a(n) = Sum _{ k=0..n } C(n, k)C(k, k / 2)(1 + (- 1) ^ k) / 2; a(n) = Sum _{ k=0..n } (- 1) ^ (n - k)C(n, k)C(2k, k). - _ Paul Barry _ , Jul 01 2003 ● a(n) = Sum _{ k>=0 } C(n, 2 * k) * C(2 * k, k). - _ Philippe Deléham _ , Dec 31 2003 ● a(n) = Sum _{ i + j=n, 0<=j<=i<=n } binomial(n, i) * binomial(i, j). - _ Benoit Cloitre _ , Jun 06 2004 ● a(n) is asymptotic to d * 3 ^ n / sqrt(n) with d = sqrt(3 / Pi) / 2 = 0.488602512... - Alec Mihailovs (alec(AT)mihailovs.com), Feb 24 2005 ●

[**A011769**] ● 1,3,7,19,51,141,393,1107,3139,8955,25675,73945,213825,620595,1807263,5279283,15465139,45420261,133708777,394446691,1165855131,3451793403,10235554347,30392965809,90357645121 ★ a(0) = 1, a(n+1) = 3 * a(n) - F(n)*(F(n) + 1), where F(n) = A000045(n) is n-th Fibonacci number. ● a(n) = + 6 * a(n - 1) - 8 * a(n - 2) - 8 * a(n - 3) + 14 * a(n - 4) + 4 * a(n - 5) - 3 * a(n - 6). [_ R. J. Mathar _ , Sep 04 2010] ● a(n + 1) = (1 / 10) * (3 ^ n + 2 * Lucas(2n) + Lucas(n) + (- 1) ^ n). - _ Ralf Stephan _ , Aug 10 2013 ● a(k) = 3 ^ (k + 1) * x ^ k / 10 + (- 1) ^ (k + 1) * x ^ k / 10 + p ^ (k + 1) * x ^ k / 5 + (- q) ^ (k + 1) * x ^ k / 5 + p ^ (2 * k + 2) * x ^ k / 5 + q ^ (2 * k + 2) * x ^ k / 5 ; p=(sqrt(5) + 1) / 2 , q=(sqrt(5) - 1) / 2 . - _ Sergei N. Gladkovskii _ , Dec 17 2011 ●

[**A087432**] ● 1,1,3,7,19,51,143,407,1179,3451,10183,30207,89939,268451,802623,2402407,7196299,21567051,64657463,193885007,581480259,1744091251,5231574703,15693326007,47077181819 ★ Expansion of 1+x*(1-x-4*x^2)/((1+x)*(1-2*x)*(1-3*x)). ● a(n) = (- 1) ^ n / 6 + 2 ^ n / 3 + 3 ^ n / 6, n>0. ●

[**A059506**] ● 3,7,19,53,148,412,1143,3161,8717,23977,65798,180182,492459,1343563,3659623,9953117,27031768,73320496,198632607,537507677,1452978593,3923762257,10586222474,28536313898,76859031123 ★ Transform of A059502 applied to sequence 3,4,5,... ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). ● a(n) = ((3 - n) * Fibonacci(2 * n) + (10 + 3 * n) * Fibonacci(2 * n - 1)) / 5. - _ G. C. Greubel _ , Sep 10 2017 ●

[**A183124**] ● 0,1,3,7,19,53,153,451,1339,4001,11981,35919,107727,323149,969409,2908187,8724515,26173497,78520437,235561255,706683703 ★ Magnetic Tower of Hanoi, number of moves of disk number n, generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [NEUTRAL

; NEUTRAL ; NEUTRAL] pre-colored puzzle. • a(n)= + 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) + 3 * a(n - 4), n>=9. • a(n) = 3 * a(n - 1) - 4 * n + 18 ; n even ; n >= 5 • a(n) = 3 * a(n - 1) - 4 * n + 20 ; n odd ; n >= 6 • a(n) = P64(n - 1) + P64(n - 2) + P75(n - 3) + 8 * 3 ^ (n - 4) ; n >= 4 • a(n) = (197 / 324) * 3 ^ (n - 1) + 2 * n - 27 / 4; n even; n >= 6 • a(n) = (197 / 324) * 3 ^ (n - 1) + 2 * n - 25 / 4; n odd; n >= 5 •

[A078481] • 0,1,1,3,7,19,53,153,453,1367,4191,13015,40857,129441,413337,1328971,4298727,13978971,45673981,149867513,493638797,1631616239,5410015615,17990076527,59981630321 ★ Expansion of (1 - x - x^2 - sqrt(1 - 2*x - 5*x^2 - 2*x^3 + x^4)) / (2*x + 2*x^2). • a(n) = sum(k=0..n, ((sum(i=0..n - k, binomial(k + 1,n - k - i) * binomial(k + i,k))) * binomial(n - k - 2,k)) / (k + 1)), n>0, a(0)=0. - _ Vladimir Kruchinin _ , Nov 22 2014. •

[A183122] • 0,1,3,7,19,53,153,455,1359,4073,12213,36635,109899,329693,989073,2967215,8901639,26704913,80114733,240344195,721032579,2163097733,6489293193,19467879575,58403638719 ★ Magnetic Tower of Hanoi, number of moves of disk number k, generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [NEUTRAL ; NEUTRAL ; NEUTRAL] pre-colored puzzle. • a(n)= + 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) for n>6. • a(n) = 3 * a(n - 1) - 6; n even; n >= 6 • a(n) = 3 * a(n - 1) - 4; n odd; n >= 5 • a(n) = P67(n - 1) + P67(n - 2) + P75(n - 3) + 8 * 3 ^ (n - 4) ; n >= 4 • a(n) = (67 / 108) * 3 ^ (n - 1) + 9 / 4; n even; n >= 4 • a(n) = (67 / 108) * 3 ^ (n - 1) + 11 / 4; n odd; n >= 5 •

[A104522] • 1,3,7,19,53,155,459,1371,4105,12307,36911,110723,332157,996459,2989363,8968075,26904209,80712611,242137815,726413427,2179240261,6537720763,19613162267,58839486779,176518460313 ★ Expansion of (-1+x+3*x^2-x^3)/((x+1)(3*x-1)(x-1)^2). • a(n) = (1 / 8) * (5 * 3 ^ n + 4 * (n + 1) - (- 1) ^ n). - _ Ralf Stephan _ , Nov 13 2010. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) + 3 * a(n - 4). - _ Wesley Ivan Hurt _ , Sep 12 2014 •

[A183120] • 0,1,3,7,19,55,159,471,1403,4199,12583,37735,113187,339543,1018607,3055799,9167371,27502087,82506231,247518663,742555955,2227667831,6683003455,20049010327,60147030939 ★ Magnetic Tower of Hanoi, number of moves of disk number k, generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [RED ; NEUTRAL ; NEUTRAL] or [NEUTRAL ; NEUTRAL ; BLUE] pre-colored puzzle. • a(n) = 3 * a(n - 1) - 2 * n + 6; n even; n >= 4 • a(n) = 3 * a(n - 1) - 2 * n + 8; n odd; n >= 5 • a(n) = a(n - 1) + 2 * P75(n - 3) + 10 * 3 ^ (n - 4); n >= 4 • a(n) = (23 / 36) * 3 ^ (n - 1) + n - 9 / 4; n even; n >= 4 • a(n) = (23 / 36) * 3 ^ (n - 1) + n - 7 / 4; n odd; n >= 3 • a(0)=0, a(1)=1, a(2)=3, a(3)=7, a(4)=19, a(5)=55, a(6)=159, a(n)= 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) + 3 * a(n - 4) [From Harvey P. Dale, May 04 2012] •

[A100702] • 1,3,7,19,55,163,487,1459,4375,13123,39367,118099,354295,1062883,3188647,9565939,28697815,86093443,258280327,774840979,2324522935,6973568803,20920706407,62762119219,188286357655 ★ Number of layers of dough separated by butter in successive foldings of croissant dough. • a(n)=1 + 2 * 3 ^ (n - 1), n>0. a(n)=4 * a(n - 1) - 3 * a(n - 2), n>2. G.f.: - (1 + x) * (2 * x - 1) / ((3 * x - 1) * (x - 1)). - _ R. J. Mathar _ , Jun 30 2009 •

[A201169] • 1,1,1,3,7,19,59,179,615,2141,7853,30179,118663,487581,2050325,8890743,39593811,180367655,842738375,4018170415,19578229355,97275623919,492406520567,2538806377419,13312298342703 ★ G.f. A(x) satisfies A(x) = 1 + x/sqrt(1-4*x^2) * A(x/sqrt(1-4*x^2)). • a(n) = sum(m=0..(n - 1) / 2, a(n - 2 * m - 1) * binomial(n / 2 - 1,m) * 2 ^ (2 * m)), n>0, a(0)=1. •

[A160128] • 3,7,19,63,235,919,3651,14575,58267,233031,932083,3728287,14913099,59652343,238609315,954437199,3817748731,15270994855,61083979347,244335917311,977343669163,3909374676567,15637498706179 ★ a(n) = number of grid points that are covered after (2^n)th stage of A139250. • a(n) = (1 / 9) * (2 ^ (2 * n + 3) + 12 * n + 19). [From Nathaniel Johnston, Mar 29 2011] •

[A271894] • 1,3,7,20,50,138,356,964,2524,6768,17848,47624,126032,335472,889328,2364352,6273184,16667808,44242240,117516608,311995328,828603648,2200088960,5842620544,15513975040 ★ Expansion of (1+x-3*x^2) / (1-2*x-4*x^2+6*x^3). • a(n) >= 2 ^ n. •

[A109220] • 1,3,7,20,53,143,385,1036,2789,7507,20207,54392,146409,394095,1060801,2855400,7685993,20688691,55688567,149899116,403489373,1086088287,2923466753,7869210964,21181866061 ★ Expansion of (1+x-x^2)/(1-2x-2x^2+x^4) • a(n)=2a(n - 1) + 2a(n - 2) - a(n - 4); a(n)=a(n)=sum { k=0..n, binomial(floor((n + k + 1) / 2) + k, floor((n + k) / 2) - k) * 2 ^ k } . •

[A030238] • 1,1,3,7,20,59,184,593,1964,6642,22845,79667,281037,1001092,3595865,13009673,47366251,173415176,638044203,2357941142,8748646386,32576869203,121701491701,456012458965,1713339737086 ★ Backwards shallow diagonal sums of Catalan triangle A009766. • a(n)=sum { k=0..floor(n / 2), (k + 1)binomial(2n - 3k + 1, n - k + 1) / (2n - 3k + 1) } . Diagonal sums of A033184. - _ Paul Barry _ , Jun 22 2004 • a(n)=sum { k=0..floor(n / 2), (k + 1)binomial(2n - 3k, n - k) / (n - k + 1) } - _ Paul Barry _ , Feb 02 2005 •

[A110490] • 1,1,3,7,20,59,185,600,2003,6833,23727,83606,298313,1076155,3920823,14416987,53482012,200151737,755894009,2882782933,11115015138,43400057683,172016505877,694208585423,2863726993748 ★ Diagonal sums of a triangle based on the Catalan numbers. • a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ j=0..(n - 2 * k) } 2 * (j + 1) * (k - 1) ^ j * C(2 * (n - 2 * k) + 1, n - 2 * k - j) / (n - 2 * k + j + 2). •

[A132868] • 1,3,7,20,60,182,547,1641,4921,14762,44286,132860,398581,1195743,3587227,10761680,32285040,96855122,290565367,871696101,2615088301,7845264902,23535794706,70607384120,211822152361 ★ a(n) = 3*a(n-1) - a(n-3) + 3*a(n-4), n > 3. • a(n) = (1 / 12) * (3 ^ (n + 2) - 4 * cos((n + 1) * Pi / 3) + cos((n + 1) * Pi) + 4 * sqrt(3) * sin(((n + 1) * Pi) / 3) + I * sin((n + 1) * Pi)). [_ Harvey P. Dale _ , Jan 21 2012] •

[A176697] • 1,1,3,7,20,63,208,711,2496,8944,32578,120263,448938,1691776,6427130,24589043,94653498,366344216,1424750506,5565002716,21821377624,85867522754,338974659036,1342074448663,5327845401606 ★ G.f. satisfies: A(x) = 1 + x^2 + x*A(x)^2. • a(n) = Sum _{ i=1..n } a(i - 1) * a(n - i) for n>2; a(0) = a(1) = 1, a(2) = 3. - _ Alois P. Heinz _ , May 24 2012 • a(n) = sum(m=0..n / 2, binomial(n - 2 * m + 1,m) * binomial(2 * (n - 2 * m),n - 2 * m) / (n + 1 - 2 * m)). - _ Vladimir Kruchinin _ , Nov 21 2014 •

[A071688] • 0,1,3,7,20,66,217,715,2424,8398,29414,104006,371384,1337220,4847637,17678835,64821680,238819350,883634026,3282060210,12233125112,45741281820,171529836218,644952073662,2430973096720 ★ Number of plane trees with even number of leaves. • a(2n) = (1 / (4 * n + 2)) * binomial(4 * n, 2 * n), a(2n + 1)= (1 / (4 * n + 4)) * binomial(4 * n + 2, 2 * n + 1) + (- 1) ^ (n + 1) * ((1) / (2 * n + 2)) * binomial(2 * n, n) • a(0)=1, a(n) = Sum _{ k=0..floor(n / 2) } (1 / n) * C(n,2k - 1)C(n,2k), n>0. - _ Paul Barry _ , Jan 2 5 2007 • a(n) = 0 ^ n + Sum { k=1..n } (1 / n) * C(n,k) * C(n,k - 1) * (1 + (- 1) ^ k) / 2. - _ Paul Barry _ , Dec 16 2008 • a(n) = Sum _{ k=0..n } (Sum _{ j=0..n - k } ((- 1) ^ j * (C(n,2k) * C(n,2k + j) - C(n,2k - 1) * C(n,2k + j + 1))). - _ Paul Barry _ , Sep 13 2010 •

[A110149] • 3,7,20,81,404,2425,16974,135793,1222136,12221361,134434970,1613219641,20971855332,293605974649,4404089619734,70465433915745,1197912376567664,21562422778217953,409686032786141106 ★ a(1) = 3; for n>1, a(n) = n*a(n-1) + (-1)^n. • a(n)= 3 * n! + floor((n! + 1) / e) [From _ Gary Detlefs _ , Apr 11 2010] •

[A097162] • 1,3,7,21,37,123,187,681,937,3663,4687,19341,23437,100803,117187,520401,585937,2667543,2929687,13599861,14648437,69047883,73242187,349433721,366210937 ★ Sum(k=0..n, C(floor((n+1)/2),floor((k+1)/2))*2^k). • a(n) = (3 / 4 - 3 * sqrt(5) / 4) * (- sqrt(5)) ^ n + (3 / 4 + 3 * sqrt(5) / 4) * (sqrt(5)) ^ n - (2 ^ n - (- 2) ^ n) - 1 / 2. • a(n + 5) = 20 * a(n) - 20 * a(n + 1) - 9 * a(n + 2) + 9 * a(n + 3) + a(n + 4). - _ Robert Israel _ , Sep 18 2014 •

[A119959] • 3,7,21,43,111,157,273,343,507,813,931,1333,1641,1807,2163,2757,3423,3661,4423,4971,5257,6163,6807,7833,9313 ★ p^2-p+1 central polygonal numbers with prime indices A002061[Prime[n]]. • a(n) = Prime[n] ^ 2 - Prime[n] + 1. •

[A027151] • 1,3,7,21,45,135,291,873,1881,5643,12159,36477,78597,235791,508059,1524177,3284145,9852435,21229047,63687141,137226717,411680151,887047443,2661142329,5733964809 ★ a(n) = T(n,0) + T(n,1) + ... + T(n,n), T given by A027144. • a(n) = 6 * a(n - 2) + 3 * a(n - 4) for n>3. - _ Colin Barker _ , Jan 18 2018 •

[A036569] • 1,3,7,21,48,112,336,861,1968,4592,13776,33936,86961,198768,463792,1391376,3402672,8382192,21479367,49095696,114556624,343669872,852913488,2085837936,5138283696 ★ Increments used in Sedgewick-Incerpi upper bound for shell sort. • a(0)=1, then a(s)=a(s - r) * b(r) for r such that C(r, 2)<s<=C(r + 1, 2), where b() is A036567. •

[A161707] • 1,3,7,21,53,111,203,337,521,763,1071,1453,1917,2471,3123,3881,4753,5747,6871,8133,9541,11103,12827,14721,16793 ★ a(n) = (4*n^3 - 9*n^2 + 11*n + 3)/3. • a(n) = C(n,0) + 2 * C(n,1) + 2 * C(n,2) + 8 * C(n,3). •

[A192068] • 0,3,7,21,54,144,376,987,2583,6765,17710,46368,121392,317811,832039,2178309,5702886,14930352,39088168,102334155,267914295,701408733,1836311902,4807526976,12586269024 ★ a(n) = Fibonacci(2*n) - n mod 2. • a(n) = Fibonacci(2 * n) - (n mod 2). - _ Peter Luschny _ , Mar 10 2015 •

[A091650] • 1,3,7,21,59,171,491,1415,4073,11729,33771,97241,279993,806209,2321385,6684163,19246279,55417453,159568195,459458307,1322957467,3809304207,10968454313,31582405473,90937912211 ★ Let M = the 4 X 4 matrix [0 1 0 0 / 0 0 1 0 / 0 0 0 1 / -1 -1 3 2]. Set seed vector = [1 1 1 1] = first row, then take M*[1 1 1 1] = [1 1 1 3] then M * [1 1 1 3], etc. Sequence gives terms in rightmost column. • a(1)=1, a(2)=3, a(3)=7, a(4)=21, a(n)=2 * a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4) [From Harvey P. Dale, Feb 17 2012] •

[A122983] • 1,1,3,7,21,61,183,547,1641,4921,14763,44287,132861,398581,1195743,3587227,10761681,32285041,96855123,290565367,871696101,2615088301,7845264903,23535794707,70607384121 ★ a(n) = (2 + (-1)^n + 3^n)/4. • a(0)=1, a(1)=1, a(2)=3, a(n)=3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). - _ Harvey P. Dale _ , Sep 03 2013 •

[A182399] • 1,1,1,3,7,21,61,187,583,1837,5885,19027,62167,204917,680621,2275211,7648519,25852573,87812093,299349795,1023570647,3515918501,12140103149,41894710427,143835281351 ★ G.f. A(x) satisfies: A(A(x)) - A(A(x))^2 = x + x^2. • a(n) = T(n,1), with T(n, m) = (sum((binomial(k + m,n - k - m) * binomial(2 * k + m - 1,k + m - 1)) / (k + m),k,0,n - m) * m - sum(T(n, i) * T(i, m), i, m + 1, n - 1)) / 2, n>m, T(n,n) = 1. - _ Vladimir Kruchinin _ , Apr 28 2012 •

[A025235] • 1,1,3,7,21,61,191,603,1961,6457,21595,72975,249085,857013,2970007,10356323,36311633,127937649,452738867,1608426647,5734534629,20511509549,73583105007,264687136235,954482676217 ★ a(n) = (1/2)*s(n+2), where s = A014431. • a(n) = Sum _{ k=0,..,n } 2 ^ (k - 1) * binomial(n + 1, k) * binomial(n - k + 1, k - 1) / (n + 1). - _ Len Smiley _ • a(n) is the leftmost term in the top row of M ^ n, M is an infinite square production matrix as follows: • a(n) = hypergeom([- n / 2, (1 - n) / 2], [2], 8). - _ Peter Luschny _ , May 28 2014 •

[A270049] • 1,1,3,7,21,61,199,659,2345,8569,32971,130527,538045,2279733,9987727,44897131,207693905,983926001,4780294291,23740460215,120595843941,625175300653,3308054119767,17837452131139,98006292402553 ★ Number of 123 avoiding set partitions of [n]. • a(n) = Sum _{ i=0..n / 2 } binomial(n,2 * i) * (2 * i)!!. • a(n) - 2 * a(n - 1) - (n - 1) * a(n - 2) + (n - 2) * a(n - 3) = 0. •

[A141495] • 1,3,7,21,63,189,567,1701,5103,15309,45927,137781,413343,1240029,3720087,11160261,33480783,100442349,301327047,903981141,2711943423,81

35830269,24407490807,73222472421,219667417263 ★ a(n) = 3*a(n-1) for n>2; a(0)=1, a(1)=3, a(2)=7. ● a(n) = 7 * 3 ^ (n - 2) for n>1. a(n)=3 * a(n - 1) for n>2. G.f.: (2 * x ^ 2 - 1) / (3 * x - 1). - _ Colin Barker _ , Jan 09 2014 ●

[A052805] ● 1,1,1,3,7,21,64,204,666,2236,7625,26419,92644,328370,1174234,4231898,15354424,56042372,205626906,758021598,2806143522,10427671924,38882984840,145443260702,545598228056 ★ If B is a collection in which there are C(n-1) [Catalan numbers, A000108] things with n points, a(n) is the number of subsets without repetition of B with a total of n points. ● a(n)=(1 / n) * Sum _{ k=1..n } a(n - k) * b(k), n>0, a(0)=1, b(k)=Sum _{ d|k } (- 1) ^ (k / d + 1) * binomial(2 * d - 2, d - 1). - _ Vladeta Jovovic _ , Jan 17 2002 ●

[A105864] ● 1,1,1,3,7,21,65,215,735,2585,9281,33883,125383,469229,1772801,6752623,25902975,99978865,388001025,1513077235,5926139207,23301146501,91942524481,363957103303,1444966207967,5752187960841 ★ Expansion of (1/(1-x^2))*c(x/(1-x^2)), where c(x) is the g.f. of A000108. ● a(n) = Sum _{ k=0..floor(n / 2) } C(n - k, k) * C(n - 2 * k) } . ●

[A240506] ● 1,3,7,21,67,213,667,2061,6307,19173,58027,175101,527347,1586133,4766587,14316141,42981187,129009093,387158347,1161737181,3485735827,10458256053,31376865307,94134790221,282412759267 ★ Number of length-n gap-free words on {1,2,3}. ● a(n) = 2 - 2 ^ n + 3 ^ n for n>0. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>3. ●

[A001576] ● 3,7,21,73,273,1057,4161,16513,65793,262657,1049601,4196353,16781313,67117057,268451841,1073774593,4295032833,17180000257,68719738881,274878431233,1099512676353,4398048608257,17592190238721 ★ a(n) = 1^n + 2^n + 4^n. ● a(n) = 6 * a(n - 1) - 8 * a(n - 2) + 3. ●

[A080882] ● 1,3,7,22,52,164,388,1224,2896,9136,21616,68192,161344,508992,1204288,3799168,8988928,28357376,67094272,211662336,500798464,1579869184,3738010624,11792304128,27900891136 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=3, a(2)=7. ● a(n + 4) = 8 * a(n + 2) - 4 * a(n). - _ Richard Choulet _ , Dec 06 2008 ● a(n) = (7 / 24 * 3 ^ (1 / 2) + 1 / 2) * ((1 + sqrt(3))) ^ n + (- 7 / 24 * 3 ^ (1 / 2) + 1 / 2) * ((1 - sqrt(3))) ^ n + (- 1 / 24 * 3 ^ (1 / 2)) * (- (1 + sqrt(3))) ^ n + (1 / 24 * 3 ^ (1 / 2)) * (- ((1 - sqrt(3)))) ^ n. - _ Richard Choulet _ , Dec 06 2008 ●

[A166135] ● 1,1,3,7,22,65,213,693,2352,8034,28014,98505,350548,1256827,4542395,16517631,60417708,222087320,820099720,3040555978,11314532376,42243332130,158196980682,594075563613,2236627194858 ★ Number of possible paths to each node that lies along the edge of a cut 4-nomial tree, that is rooted one unit from the cut. ● a(n) = (1 / n) * sum(k=0..n, binomial(n,k) * binomial(n, 2n - 1 - 3k)). - _ David Nguyen _ , Dec 31 2016 ●

[A242566] ● 0,1,1,3,7,22,67,225,765,2704,9710,35558,131859,494892,1874901,7162807,27558511,106695148,415346144,1624780952,6383671910,25179642120,99670897534,395810459602,1576464630375 ★ Expansion of (1-sqrt(1-(2*(1-sqrt(1-4*x^2)))/x))/2. ● a(n) = sum(i=0..(n - 1) / 2, binomial(2 * n - 4 * i - 2,n - 2 * i - 1) * binomial(n,i)) / n, n>0, a(0)=0. ●

[A069505] ● 1,3,7,22,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111 ★ a(1) = 1; a(n) = smallest palindromic number of the form k*a(n-1) + 1 with k > 1. ● a(n) = { 10 ^ (n - 2) - 1 }/ 9 for n > 4. ●

[A054270] ● 3,7,23,47,113,167,283,359,523,839,953,1367,1669,1847,2207,2803,3469,3719,4483,5039,5323,6229,6883,7919,9403 ★ Largest prime below prime(n)^2 (A001248). ● a(n) = Max[prime q: q < prime(n) ^ 2]. ●

[A001275] ● 3,7,23,61,127,199,337,479,677,937,1193,1511,1871,2267,2707,3251,3769,4349,5009,5711,6451,7321,8231,9173,10151 ★ Smallest prime p such that the product of q/(q-1) over the primes from prime(n) to p is greater than 2. ● a(n) = prime(n) ^ 2 + O(n ^ 2 / exp((log n) ^ (4 / 7 - e))) for any e > 0. ●

[A096019] ● 3,7,23,67,203,607,1823,5467,16403,49207,147623,442867,1328603,3985807,11957423,35872267,107616803,322850407,968551223,2905653667,8716961003,26150883007,78452649023,235357947067,706073841203 ★ a(0)=3, a(n) = 3*a(n-1) + 2*(-1)^n. ● a(n) = 3 ^ (n + 1) - (3 ^ n - (- 1) ^ n) / 2. ● a(n) = 2 * a(n - 1) + 3 * a(n - 2). G.f.: (3 + x) / ((1 + x) * (1 - 3 * x)). [Colin Barker, Mar 26 2012] ●

[A045723] ● 1,1,3,7,23,71,252,890,3299,12283,46508,176870,677294,2602198,10034104,38787572,150289699,583434323,2268861516,8836447022,34461940538,134564992898,526025965864,2058359779052,8061905791118 ★ Number of configurations, excluding reflections and black-white interchanges, of n black and n white beads on a string. ● a(n) = (1 / 4) * (2 ^ n + C(2 * n, n) + 2 * C(n - 1, (1 / 2) * (n - 2)) * mod(n + 1, 2)). ●

[A169650] ● 3,7,23,79,263,847,2663,8239,25223,76687,232103,700399,2109383,6344527,19066343,57264559,171924743,516036367,1548633383,4646948719,13942943303,41833024207,125507461223,376539160879,1129651037063 ★ a(1) = 3; thereafter a(n) = 3*a(n-1)+2^n-6. ● a(n) = 4 * 3 ^ (n - 1) - 2 ^ (n + 1) + 3. - _ Todd Silvestri _ , Dec 15 2014 ●

[A080355] ● 1,3,7,23,87,1111,5207,70743,332887,4527191,272962647,1346704471,70066181207,1169577808983,5567624320087,75936368497751,4579535995868247,29280991214757999 1,1445731416754426967 ★ a(1)=1; for n>1, a(n) = a(n-1) + 2^(j-1), where j is position of n-th 1 in A080339. ● a(n) = 1 + Sum _{ k=1..n - 1 } 2 ^ (prime(k) - 1). ●

[A145542] ● 1,3,7,24,55,189,433,1488,3409,11715,26839,92232,211303,726141,1663585,5716896,13097377,45009027,103115431,354355320,811826071,2789833533,6391493137,21964312944,50320119025 ★ Numerators in continued fraction expansion of sqrt(3/5). ● a(2 * n + 1) = Product _{ k=1..n } (6 + 4 * cos ^ 2(k * Pi / (2 * n + 1)); ● a(2 * n) = 3 * Product _{ k=1..n - 1 } (6 + 4 * cos ^ 2(k * Pi / (2 * n)). ●

[A225826] ● 1,3,7,24,76,288,1072,4224,16576,66048,262912,1050624,4197376,16785408,67121152,268468224,1073790976,4295098368,17180065792,68720001024,274878693376,1099513724928,4398049656832,17592194433024,70368756760576 ★ Number of binary pattern classes in the (2,n)-rectangular grid: two patterns are in same class if one of them can be obtained by a reflection or 180-degree rotation of the other. ● a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3) with n>2, a(0)=1, a(1)=3, a(2)=7 (communicated by _ Jon E. Schoenfield _). ● a(n) = 2 ^ (n - 3) * (2 ^ (n + 1) - (- 1) ^ n + 7). ●

[A176606] ● 1,3,7,24,91,376,1635,7377,34197,161876,779125,3801307,18757219,93444662,469349303,2374206202,12084696935,61848753886,318082531211,1643009103729,8520055528453,44338931718570,231488012768833 ★ Sequence defined by the recurrence formula a(n+1)=sum(a(p)*a(n-p)+k,p=0..n)+l for n>=1, with here a(0)=1, a(1)=3, k=0 and l=1. ● a(n) = Sum _{ k=0..n } (C(k) * Sum _{ j=0..n - k } (binomial(k + 1,n - k - j) * binomial(- n + 2 * k + 2 * j,j))). - _ Vladimir Kruchinin _ , Apr 15 2016 ●

[A229039] ● 1,3,7,24,108,600,3960,30240,262080,2540160,27216000,319334400,4071513600,56043187200,828193766400,13076743680000,219689293824000,3912561709056000,73627297615872000,1459741204905984000,30411275102208000000,664182248232222720000 ★ G.f.: Sum_{n>=0} (n+2)^n * x^n / (1 + (n+2)*x)^n. ● a(n) = (n + 5) * n! / 2 for n>0 with a(0)=1. ●

[A041045] ● 1,3,7,24,247,765,1777,6096,62737,194307,451351,1548360,159349 51,49353213,114641377,393277344,4047414817,12535521795,29118458407,9989089 7016,1028027428567,3183973182717,7395973794001 ★ Denominators of continued fraction convergents to sqrt(28). ● a(n) = 254 * a(n - 4) - a(n - 8). G.f.: - (x ^ 2 - 3 * x - 1) * (x ^ 4 + 8 * x ^ 2 + 1) / ((x ^ 4 - 16 * x ^ 2 + 1) * (x ^ 4 + 16 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 16 2012] ●

[A041563] ● 1,3,7,24,823,2493,5809,19920,683089,2069187,4821463,16533576,566963047,1717422717,4001808481,13722848160,470578645921,1425458785923,3321496217767,11389947439224,390579709151383,1183129074893373,2756837858938129,9453642651707760 ★ Denominators of continued fraction convergents to sqrt(299). ● a(n) = 830 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 20 2013 ●

[A047974] ● 1,1,3,7,25,81,331,1303,5937,26785,133651,669351,3609673,19674097,113525595,664400311,4070168161,25330978113,163716695587,1075631907655,7296866339961,50322142646161,356790528924523,2570964805355607,1898332913588 3665 ★ a(n) = a(n-1) + 2*(n-1)*a(n-2). ● a(n) = Sum _{ k=0..n } C(k,n - k) * n! / k!. - _ Paul Barry _ , Mar 29 2007 ● a(n) = Sum _{ k=0..floor(n / 2) } C(n,2k) * (2k)! / k!; - _ Paul Barry _ , Feb 11 2008 ● a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator sqrt(1 + 4 * x) * d / dx. Cf. A000085 and A115329. - _ Peter Bala _ , Dec 07 2011 ● a(n) = I ^ (- n) * H _{ n } (I / 2) with I the imaginary unit and H _{ n } the Hermite polynomial of degree n. - _ Alyssa Byrnes _ and C. Vignat, Jan 31 2013 ●

[A259595] ● 3,7,27,71,267,703,2643,6959,26163,68887,258987,681911,2563707,6750223,25378083,66820319,251217123,661452967,2486793147,6547709351,24616714347,64815640543,243680350323,641608696079,2412186788883 ★ Numerators of the other-side convergents to sqrt(6). ● a(n) = 10 * a(n - 2) - a(n - 4) for n>3. - _ Colin Barker _ , Jul 21 2015 ●

[A098465] ● 1,1,3,7,27,91,373,1457,6163,25795,111897,486421,2153429,9584901,43121211,195082479,888861555,4069956979,18732710281,86579713685,402776434017,1870946532705,8740907398527,40956105551603 ★ Expansion of (sqrt(1+3*x)-sqrt(1-5*x))/(4*x*sqrt(1-x)). ● a(n) = sum { k=0..n } binomial(n,k) * C(k) * (1 + (- 1) ^ k) / 2. ●

[A246313] ● 1,3,7,27,95,339,1207,4299,15311,54531,194215,691707,2463551,8774067,31249303,111296043,396386735,1411752291,5028030343,17907595611,63778847519,227151733779,809012896375,2881342156683,10262052262799 ★ G.f.: (-1+6*x)/(1-3*x-2*x^2). ● a(n) = 3 * a(n - 1) + 2 * a(n - 2) with a(0)= - 1, a(1)=3. ● a(n) = - (17 + 9 * sqrt(17)) / 34 * (3 / 2 - sqrt(17) / 2) ^ n + (- 17 + 9 * sqrt(17)) / 34 * (3 / 2 + sqrt(17) / 2) ^ n. For n >= 3, a(n) = round(- 17 + 9 * sqrt(17)) / 34 * (3 / 2 + sqrt(17) / 2) ^ n). - _ Robert Israel _ , Aug 27 2014 ●

[A242328] ● 3,7,27,127,627,3127,15627,78127,390627,1953127,9765627,48828127,244140627,1220703127,6103515627,30517578127,152587890627,762939453127,3814697265627,19073486328127,95367431640627,476837158203127,2384185791015627,11920928955078127 ★ 5^n + 2. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2) for n>1. ●

[A136580] ● 1,1,3,7,27,127,747,5167,41067,368047,3669867,40284847,482671467,6267305647,87660962667,1313941673647,21010450850667,357001369769647,6423384156578667,122002101778601647,2439325392333218667 ★ Row sums of triangle A136579. ● a(n) = (- 1) ^ n * exp(1) * Gamma(0, 1) / 2 - Re(Gamma(0, - 1)) * exp(- 1) / 2 + (n + 2)! * ((- 1) ^ n * Re(Gamma(- n - 2, - 1)) * exp(- 1) - Gamma(- n - 2, 1) * exp(1)) / 2, where Gamma(a, x) is the upper incomplete Gamma function. ●

[A080806] ● 1,3,7,29,69,287,683,2841,6761,28123,66927,278389,662509,2755767,6558163,27279281,64919121,270037043,642633047,2673091149,6361411349,26460874447,62971480443,261935653321,623353393081 ★ Positive integer values of n such that 6n^2-5 is a square. ● a(n) = 10 * a(n - 2) - a(n - 4). ● a(2 * n + 1) = ((6 + r) * (5 + 2 * r) ^ n + (6 - r) * (5 + 2 * r) ^ n) / 12, a(2 * n + 2) = ((18 + 7 * r) * (5 + 2 * r) ^ n + (18 - 7 * r) * (5 - 2 * r) ^ n) / 12, where r=sqrt(6) and n>=0. - _ Paul Weisenhorn _ , Sep 01 2012 ●

[A171180] ● 1,3,7,29,96,463,1905,10233,49159,287891,1557744,9814741,58451849,392539575,2532516511,17999936497,124360077816,930257069563,6822980957481,53470578301581,413527226164711,3382254701784223,27432377661111360,233410016529114601 ★ a(n) = (4*n + 1)^(1/2)/(4*n + 1)*((1 - p)*q^n - (1 - q)*p^n), where p = (1 - (4*n + 1)^(1/2))/2 and q = (1 + (4*n + 1)^(1/2))/2.

• a(n) = [x ^ n] 1 / (1 - x - n * x ^ 2). - _ Paul D. Hanna _ , Dec 27 2012 •

[A173280] • 1,1,3,7,29,129,757,5185,41155,368351,3671635,40295943,482758111,6268066531,87668492115,1314023850727,21011431917453,3570140742807 85,64235614950574 21,122004755658629081,2439367774898883497,5121366367 4167659301,1126452985959434543237 ★ First column of the matrix power A173279(.,.)^j in the limit j->infinity. • a(n) = (A173279 ^ j)(n,0). • a(n) = sum _{ t=0..n, n - t even } t! * a _{ (n - t) / 2 } . [R. J. Mathar, Feb 22 2010] •

[A110505] • 0,1,3,7,30,144,876,6084,48816,438624,4389120,48263040,579242880,7529552640,105417365760,1581231456000,25299906508800,430096581734400,7741753102540800,147093162635059200,2941864569520128000 ★ Numerators of unsigned columns of triangle A110504: a(n) = n!*A110504(n,0) = (-1)^k*n!*A110504(n+k,k) for all k >= 0. • a(2 * n + 1) = (2 * n + 1)! * (1 + Sum _{ k=1..n } (1 / binomial(2 * k + 1, k)) / (k + 1)). • a(2 * n + 2) = (2 * n + 2)! * (1 + 1 / 2 - Sum _{ k=1..n } 1 / binomial(2 * k + 2, k) / k) = n! * (1 + 1 / 2 - 1 / 3 + 1 / 12 - 1 / 20 + 1 / 60 - 1 / 105 + 1 / 280 -+ ...). •

[A042131] • 1,3,7,31,69,238,11493,34717,80927,358425,797777,2751756,132882065,401397951,935677967,4144109819,9223897605,31815802634,1536382424037,4640963074745,10818308573527,47914197368853,106646703311233,367854307302552,1776365345383372 9 ★ Denominators of continued fraction convergents to sqrt(590). • a(n) = 11562 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A072881] • 1,1,1,3,7,31,85,393,1093,5071,14119,65523,182449,846721,2357713,10941843,30467815,141397231,393723877,1827222153,5087942581,23612490751,65749529671,305135157603,849655943137 ★ a(1)=a(2)=a(3)=1; for n>3, a(n)=(a(n-1)*a(n-2)+a(n-1)+a(n-2))/a(n-3). • a(2 * n - 1) = ceiling((1 / 11) * sqrt(1002 / 5 - 78 * sqrt(33 / 5)) * (sqrt(15) / 2 + sqrt(11) / 2) ^ (2 * n - 1)). • a(2 * n) = ceiling((1 / 11) * (13 - sqrt(165)) * (sqrt(15) / 2 + sqrt(11) / 2) ^ (2 * n)). • a(n) = (4 - (- 1) ^ n) * a(n - 1) - a(n - 2) - 1. - _ Bruno Langlois _ , Aug 21 2016 •

[A061095] • 1,3,7,31,121,831,5041,42911,364561,3742453,39916801,486891175,6227020801,87859375033,1307843292757,21004582611871,355687428096001,6415015581617 57,121645100408832001,2435278206317164781,51091124681475552961,1124549556257968545433 ★ Number of ways of dividing n labeled items into labeled boxes with an equal number of items in each box. • a(n) = Sum _{ d|n } n! / (n / d)! ^ d. •

[A042271] • 1,1,3,7,31,131,2127,2258,22449,47156,69605,882416,4481685,5364101,9845786,15209887,40265560,55475447,206691901,262167348,468859249,1668745095,2137604344,5943953783,8081558127 ★ Denominators of continued fraction convergents to sqrt(661). • a(n) = 5730908870845166436 * a(n - 39) + a(n - 78) for n>77. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A141385] • 3,7,31,157,827,4407,23563,126105,675075,3614143,19349431,103593805,554625899,2969386479,15897666067,85113810057,455687062275,2439682811479,13061709929935,69930511268509,374397872321627 ★ a(n) = 7*a(n-1)-9*a(n-2)+a(n-3) with a(0)=3, a(1)=7, a(2)=31. • a(n + 3) = 7 * a(n + 2) - 9 * a(n + 1) + a(n). • a(n) = A ^ n + B ^ n + C ^ n, where, putting u = atan (sqrt(5319) / 73), we have: •

[A238314] • 1,1,3,7,33,91,388,1163,4231,13297,44694,136621,444535,1335335,4149785,12327698,37154245,108185961,318923590,913506701,2633793550,7443298426,21073435606,58715695683,163805615535 ★ Binomial transform of the squared rows of the table A072233 (A008284). • a(n) = sum(binomial(n,k) * p(n,k) ^ 2,k=0..n), where p(n,k) is the number of partitions of n into k positive parts (A072233, A008284). •

[A051256] • 1,3,7,33,121,843,5167,46233,362881,3991683,40279687,522910113,6227383801,93409304523,1313941673647,22324392524313,355687428096001,6758061133824003,122000787836928007,2561305169719296033 ★ Numbers formed from binomial coefficients (mod 2) interpreted as digits in factorial base. • a(n) = Sum _{ k=0..n } (k + 1)!(C(n, k) mod 2). •

[A081890] • 1,3,7,33,643,11073,151867,1816713,19996963,208630833,2099398027,20597485593,198424412083,1885822419393,17740469253787,165580566245673,1535948935336003,14178113530908753,130361707324735147 ★ A sum of decreasing powers. • a(n)=9 ^ n - 8 ^ n - 7 ^ n - 6 ^ n + 3 * 5 ^ n. •

[A215575] • 3,7,35,175,931,5047,27587,151263,830403,4560871,25054435,137642127,756187747,4154438295,22824258947,125395430335,688917131651,3784882096583,20793986742179,114241312597615,627637106311971,3448212648805239,18944339609269571 ★ a(n) = 7*(a(n-1) - a(n-2) - a(n-3)), with a(0)=3, a(1)=7, a(2)=35. • a(n) = (sqrt(7) ^ n) * (cot(2 * Pi / 7) ^ n + cot(4 * Pi / 7) ^ n + cot(8 * Pi / 7) ^ n) = (3 + 4 * cos(2 * Pi / 7)) ^ n + (3 + 4 * cos(4 * Pi / 7)) ^ n + (3 + 4 * cos(8 * Pi / 7)) ^ n = (- tan(2 * Pi / 7) * tan(4 * Pi / 7)) ^ n + (- tan(2 * Pi / 7) * tan(8 * Pi / 7)) ^ n + (- tan(4 * Pi / 7) * tan(8 * Pi / 7)) ^ n. • a(n) = x1 ^ n + x2 ^ n + x3 ^ n, where x1, x2, x3 are the roots of the polynomial x ^ 3 - 7 * x ^ 2 + 7 * x + 7, that is, x1 = sqrt(7) / tan(Pi / 7), x2 = sqrt(7) / tan(2 * Pi / 7), x3 = sqrt(7) / tan(4 * Pi / 7). - _ Kai Wang _ , Jul 19 2016 •

[A081555] • 3,7,35,199,1155,6727,39203,228487,1331715,7761799,45239075,263672647,1536796803,8957108167,52205852195,304278004999,1773462177795,10336495061767,60245508192803,351136554095047,2046573816377475 ★ a(n)=6a(n-1)-a(n-2)-4, a(0)=3, a(1)=7. • a(n) = (3 + 2sqrt(2)) ^ n + (3 - 2sqrt(2)) ^ n + 1 •

[A081010] • 3,7,36,235,1599,10948,75027,514231,3524580,24157819,165580143,1134903172,7778742051,53316291175,365435296164,2504730781963,17167680177567,117669030460996,806515533049395,5527939700884759,37889062373143908,259695496911122587 ★ Fibonacci(4n+1)+2, or Fibonacci(2n-1)*Lucas(2n+2). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 2 + (1 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n >=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A281093] • 3,7,37,43,47,73,79,97,337,347,349,373,379,397,433,439,443,449,479,499,733,739,743,773,797 ★ Primes that only use digits that survived in the movie 9: {3, 4, 7, 9}. • a(n) >> n ^ k, where k = log(10) / log(4) = 1.660964 .... - _ Charles R Greathouse IV _ , Jan 24 2017 •

[A087208] • 1,1,3,7,37,141,1111,5923,62217,426457,5599531,46910271,739138093,7318002277,134523132927,1536780478171,32285551902481,4180042900625 13,98793788821591 87,1429574672013794 47,3754163975220491061 ★ Expansion of e.g.f.: exp(x)/(1-x^2). • a(n) = Sum _{ k=0..floor(n / 2) } n! / (n - 2 * k)!. • a(n) = n * (n - 1) * a(n - 2) + 1. - _ Vladeta Jovovic _ , Aug 24 2004 • a(n) = sum { k=0..n, binomial(n, k)(1 + (- 1) ^ k)k! / 2 } Binomial transform of A010050 (with interpolated zeros). - _ Paul Barry _ , Sep 14 2004 • a(n) = Sum[P(n, k)[1, 0, 1, 0, 1, 0...](k), { k, 0, n }]. - _ Ross La Haye _ , Aug 29 2005 • a(n) = (1 / (2 * exp(1))) * [int(t ^ n * exp(1 - abs(1 - t)), t=0..2) + int([(2 + t) ^ n + (- t) ^ n] * exp(- t), t=0..infinity)]. - Groux Roland, Jan 15 2011 •

[A042895] • 1,3,7,38,45,218,263,1533,3329,11520,717569,2164227,5046023,27394342,32440365,157155802,189596167,1105136637,2399869441,8304744960,5172940569 61,1560186915843,3637667888647,19748526359078,23386194247725 ★ Denominators of continued fraction convergents to sqrt(979). • a(n) = 720898 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A074582] • 3,7,39,241,1499,9327,58035,361109,2246915,13980895,86992799,541292033,3368061131,20956960551,130399710235,811381230021,5048627019523,31413882696791,195465425009943,1216237188605169,7567747077883259 ★ a(n) = S(3n), where S(n) is the generalized tribonacci sequence A001644. • a(n) = 7a(n - 1) - 5a(n - 2) + a(n - 3), a(0)=3, a(1)=7, a(2)=39. •

[A041349] • 1,1,3,7,45,97,239,336,8975,9311,27597,64505,414627,893759,2202145,3095904,82695649,85791553,254278755,594349063,3820373133,8235095329,20290563791,28525659120,761957700911 ★ Denominators of continued fraction convergents to sqrt(188). • a(n) = 9214 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 16 2013 •

[A003758] • 0,3,7,46,193,963,4470,21367,100909,478924,2268405,10753173,50957032,241508575,1144553203,5424374574,25707458901,121834519567,5774054 14054,2736475971043,12968875078785,61462896633780 ★ Number of 2-factors in D_4 X P_n. • a(n) = 3a(n - 1) + 9a(n - 2) - 3a(n - 3) - 3a(n - 4) + a(n - 5), n>5. •

[A263806] • 1,3,7,47,95,703,1407,11007,22015,175103,350207,2797567,5595135,44744703,89489407,715849727,1431699455,11453333503,22906667007,183252287487,366504574975,2932032405503,5864064811007,46912501710847,93825003421695 ★ Decimal representation of the n-th iteration of the "Rule 157" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) + 14 * a(n - 2) - 48 * a(n - 3) + 32 * a(n - 4) for n>4. •

[A190444] • 1,1,3,7,49,201,1411,7183,68097,453169,4523491,34273911,403454833,3618761017,45157828899,445900023871,6206361667201,69111310499553,1017103374816067,12237616620289639,195222691795726641,2575612811875082281,43240905591424459843,608870179599833137647 ★ E.g.f. exp(x+x^2+x^4) • a(n)=n! * sum(k=1..n, sum(j=floor((4 * k - n) / 3)..floor((4 * k - n) / 2), binomial(j,n - 4 * k + 3 * j) * binomial(k,j)) / k!), n>0, a(0)=1. • a(n) = a(n - 1) + 2 * (n - 1) * a(n - 2) + 4 * (n - 3) * (n - 2) * (n - 1) * a(n - 4). - _ Vaclav Kotesovec _ , Oct 09 2013 •

[A118393] • 1,1,3,7,49,201,1411,7183,108417,816049,9966691,80843511,1381416433,14049020857,216003063459,2309595457471,72927332784001,1046829280528353,23403341433961027,329565129021010279,9695176730057249841,1606325143296600035881 ★ Eigenvector of triangle A059344. E.g.f.: exp(Sum_{n>=0} x^(2^n)). • a(n) = Sum _{ k=0..[n / 2] } n! / k! / (n - 2 * k)! * a(k) for n>=0, with a(0)=1. •

[A113775] • 1,1,3,7,49,321,2131,19783,195777,2101249,25721731,340358151,4902173233,75688032577,1253701725459,22347046050631,418439924732161,8318748086461953,175769214730290307,3871849719998940679,89734800330818444721,2187944831367633226561 ★ Number of sets of lists (cf. A000262) whose list sizes are not a multiple of 3. • a(n) = a(n - 1) + 2 * (n - 1) * a(n - 2) + 2 * (n - 3) * (n - 2) * (n - 1) * a(n - 3) + 2 * (n - 3) * (n - 2) * (n - 1) * a(n - 4) + (n - 4) * (n - 3) * (n - 2) * (n - 1) * a(n - 5) - (n - 6) * (n - 5) * (n - 4) * (n - 3) * (n - 2) * (n - 1) * a(n - 6). - _ Vaclav Kotesovec _ , Sep 25 2013 •

[A130294] • 1,1,3,7,55,307,6153,82977,4196961,137460201,17446527483,1392263902567 ★ Degree of the n X n Brauer loop scheme. Also, the sum of components of the Brauer loop model in size n. • a(2n)=det(binomial(2i + 2j + 1,2i)), 0<=i,j<=n - 1 a(2n + 1)=det(binomial(2i + 2j + 3,2i + 1)), 0<=i,j<=n - 1. •

[A046859] • 1,3,7,61 ★ Simplified Ackermann function (main diagonal of Ackermann-Péter function). • a(n) = A(n,n). • a(n) = 2[n](n + 3) - 3 = H _ n(2,n + 3) - 3. (End) •

[A113841] • 1,3,7,71,199,455,4551,12743,29127,291271,815559,1864135,18641351,52195783,119304647,1193046471,3340530119,7635497415,76354974151,213793927623,488671834567,4886718345671,13682811367879,31274997412295 ★ a(n) = a(n-1) + 2^A047240(n) for n>1, a(1)=1. • a(1)=1, a(2)=3, a(3)=7, a(4)=71, a(n)=a(n - 1) + 64 * a(n - 3) - 64 * a(n - 4). - _ Harvey P. Dale _ , Nov 18 2013 •

[A041705] • 1,3,7,87,181,630,24121,72993,170107,2114277,4398661,15310260,586188541,1773875883,4133940307,51381159567,106896259441,372069937890,14245553899261,43108731635673,100463017170607,1248664937682957,2597792892536521,9042043615292520 ★ Denominators of continued fraction conver-

gents to sqrt(372). • a(n) = 24302 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A015884] • 3,7,113,4739,46804,134370,614063,1669512,15474115,18858140,19180902,41486462,492988666,1794101482,34644610027,48670872793,97414216753,138669015304,195575194804,543142431219,3173502039447,4968328076747 ★ A modified Pierce-type expansion for Pi: Pi = a(0) + Sum_{n>=1} (-1)^floor(n/2)/(Product_{i=1..n} a(i)) = 3 + 1/7 - 1/(7*113) - 1/(7*113*4739) + 1/(7*113*4739*46804) + 1/(7*113*4739*46804*134370) - 1/(7*113*4739*46804*134370*614063) - 1/(7*113*4739*46804*134370*614063*1669512) + ... • a(0) = floor(Pi); A(1) = Pi - a(0); a(2 * n - 1) = floor(1 / A(2 * n - 1)); A(2 * n) = 1 - a(2 * n - 1) * A(2 * n - 1); a(2 * n) = ceiling(1 / A(2 * n)) and A(2 * n + 1) = a(2 * n) * A(2 * n) - 1 for n >= 1. •

[A104051] • 3,7,399,759,971,52947,133663,144027,7011591,18280739,24294831,926780523,2486418967,3842160243,122290016319,336572174651,58334924547,9,16110885760707,45370056714703,86112795218187,2119413836354871 ★ Integers where 3^n and 5^m are nearly the same gives a difference sequence. • a(q) = if 3 ^ n>5 ^ m and Floor[3 ^ n / 5 ^ m]<2 then a[q]=Abs[3 ^ n - 5 ^ m] •

[A168209] • 3,8,8,13,13,18,18,23,23,28,28,33,33,38,38,43,43,48,48,53,53,58,58,63,63 ★ a(n) = 5*n - a(n-1) + 1 with n>1, a(1)=3. • a(n) = (10 * n + 7 + 5 * (- 1) ^ n) / 4. - _ Jon E. Schoenfield _ , Jun 24 2010 •

[A047472] • 0,1,3,8,9,11,16,17,19,24,25,27,32,33,35,40,41,43,48,49,51,56,57,59,64 ★ Numbers that are congruent to {0, 1, 3} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = 8 * n / 3 - 4 - cos(2 * n * Pi / 3) + 5 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 8k - 5, a(3k - 1) = 8k - 7, a(3k - 2) = 8k - 8. (End) •

[A191487] • 0,1,3,8,9,22,24,26,27,62,66,70,72,76,78,80,81,178,186,194,198,206,210,214,216 ★ The row sums of the Sierpinski-Stern triangle A191372. • a(2 * n) = 3 * a(n) •

[A099256] • 3,8,9,23,24,61,63,160,165,419,432,1097,1131,2872,2961,7519,7752,19685,20295,51536,53133,134923,139104,353233,364179 ★ G.f.: (3-x)(1+3x+x^2)/((1-x-x^2)(1+x-x^2)). • a(2n + 2) - a(2n + 1) = F(2n - 1). • a(0) = 3, a(1) = 8, a(2) = 9, a(3) = 23, a(n + 4) = 3a(n + 2) - a(n). •

[A212966] • 1,1,3,8,10,12,23,25,29,44,48,52,73,77,83,108,114,120,151,157,165,200,208,216,257 ★ Number of (w,x,y) with all terms in {0,...,n} and 2*w=range{w,x,y} • a(n) = a(n - 2) + 2 * a(n - 3) - 2 * a(n - 5) - a(n - 6) + a(n - 8). •

[A047356] • 1,3,8,10,15,17,22,24,29,31,36,38,43,45,50,52,57,59,64,66,71,73,78,80,85 ★ Numbers that are congruent to {1, 3} mod 7. • a(n) = 7 * n - a(n - 1) - 10 with n > 1, a(1)=1. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 7 * n / 2 - 13 / 4 - 3 * (- 1) ^ n / 4. •

[A213033] • 0,0,0,3,8,10,36,42,64,108,150,165,288,312,392,525,640,680,972,1026,1200,1470,1694,1771,2304 ★ n*[n/2]*[n/3], where [] = floor. • a(n) = a(n - 2) + a(n - 3) - a(n - 5) + 2 * a(n - 6) - 2 * a(n - 8) + 2 * a(n - 11) - a(n - 12) + a(n - 14) + a(n - 15) - a(n - 17). •

[A108752] • 0,3,8,11,12,15,20,23,24,27,32,35,36,39,44,47,48,51,56,59,60,63,68,71,72 ★ Numbers k such that 12 divides k*(k+1). • a(n) = 3 * n - 2 - (- 1) ^ (2 * n - 3 - (- 1) ^ n) / 4). - _ Luce ETIENNE _ , Apr 04 2015 •

[A047470] • 0,3,8,11,16,19,24,27,32,35,40,43,48,51,56,59,64,67,72,75,80,83,88,91,96 ★ Numbers that are congruent to {0, 3} mod 8. • a(n) = 8 * n - a(n - 1) - 13 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 4 * n - (9 + (- 1) ^ n) / 2. - _ Arkadiusz Wesolowski _ , Sep 18 2012 •

[A003623] • 3,8,11,16,21,24,29,32,37,42,45,50,55,58,63,66,71,76,79,84,87,92,97,100,105 ★ Wythoff AB-numbers: [[n*phi^2]*phi], where phi = (1+sqrt(5))/2. • a(n) = 2 * [n * phi] + n. •

[A014255] • 1,3,8,12,21,27,40,48,65,75,96,108,133,147,176,192,225,243,280,300,341,363,408,432,481 ★ Expansion of (1+2*x+3*x^2)/((1-x)*(1-x^2)^2). • a(n) = (n + 1) ^ 2 - floor((n + 1) / 2) ^ 2. - _ Franklin T. Adams - Watters _ , May 26 2006 • a(n) = 3 * n ^ 2 / 4 + 7 * n / 4 + 7 / 8 + (- 1) ^ n * (n / 4 + 1 / 8). - _ R. J. Mathar _ , Mar 22 2011 • a(n) = (k + 1) * (3 * k + 1) if n = 2 * k, 3 * (k + 1) ^ 2 if n = 2 * k + 1. - _ Michael Somos _ , Feb 27 2014 •

[A022407] • 3,8,12,21,34,56,91,148,240,389,630,1020,1651,2672,4324,6997,11322,18320,29643,47964,77608,125573,203182,328756,531939 ★ a(n) = a(n-1) + a(n-2) + 1, with a(0)=3, a(1)=8. • a(n) = Fibonacci(n) + Fibonacci(n + 7) - 1, n >= - 2. - _ Zerinvary Lajos _ , Feb 01 2008 • a(n) = - 1 - B * (2 / (- 1 - sqrt(5))) ^ n - C * (2 / (- 1 + sqrt(5))) ^ n, with B=(- 8 - 6 * sqrt(5)) / (5 + 3 * sqrt(5)), C=(- 8 + 6 * sqrt(5)) / (5 - 3 * sqrt(5)). (End) •

[A016885] • 3,8,13,18,23,28,33,38,43,48,53,58,63,68,73,78,83,88,93,98,103,108,113,118,123 ★ a(n) = 5*n+3. • a(n) = floor((15n + 10) / 3). - _ Gary Detlefs _ , Mar 07 2010 • a(n) = 10 * n - a(n - 1) + 1, (with a(0)=3). - _ Vincenzo Librandi _ , Nov 20 2010 •

[A184739] • 3,8,13,18,24,29,34,39,45,50,55,60,65,71,76,81,86,92,97,102,107,113,118,123,128 ★ floor(n*s+h-h*s), where s=3+sqrt(5), h=1/2; complement of A184738. • a(n)=floor(n * s + h - h * s), where s=3 + sqrt(5), h=1 / 2. •

[A014848] • 0,1,3,8,14,23,33,46,60,77,95,116,138,163,189,218,248,281,315,352,390,431,473,518,564 ★ n^2 - floor(n/2). • a(n) = (2 * n * (2 * n - 1) - (- 1) ^ n + 1) / 4. - _ Bruno Berselli _ , Feb 17 2011 • a(n) = round(n / (exp(1 / n) - 1)), n > 0. - _ Richard R. Forberg _ , Nov 14 2014 •

[A123329] • 0,1,3,8,14,26,39,59,83,115,148,197,247,307 ★ Let M be the matrix defined in A111490. Sequence gives M(2,1)-M(1,2), M(2,1)+M(3,1)+M(3,2)-M(1,2)-M(1,3)-M(2,3), etc. • a(n) = Sum _{ i=1..(n - 1) } M(i + 1,i) - M(i,i + 1). •

[A083656] • 1,3,8,15,24,35,47,62,78,97,118,140,165,191,220,251,284,319,355,394,435,478,523,569,618 ★ a(n)=sum(i=1,n,floor(r*floor(r*i))) where r=sqrt(2). • a(n) = n * (n - 1 + 1 / sqrt(2)) + O(1). •

[A005563] • 0,3,8,15,24,35,48,63,80,99,120,143,168,195,224,255,288,323,360,399,440,483,528,575,624 ★ a(n) = n*(n+2) = (n+1)^2 - 1. • a(n) = Real((n + 1 + i) ^ 2). - _ Gerald Hillier _ , Oct 12 2008 • a(n) = (n! + (n + 1)!) / (n - 1)!..n>0. - _ Gary Detlefs _ , Aug 10 2009 • a(n) = floor(n ^ 5 / (n ^ 3 + 1)) with offset 1..a(1)=0. - _ Gary Detlefs _ , Feb 11 2010 • a(n) = a(n - 1) + 2 * n + 1 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = 15 * C(n + 4,3) * C(n + 4,5) / (C(n + 4,2) * C(n + 4,4)). - _ Gary Detlefs _ , Aug 30 2013 • a(n) = (n + 2)! / ((n - 1)! + n!), n>0. - _ Ivan N. Ianakiev _ , Nov 11 2013 •

[A071399] • 0,0,1,3,8,15,25,40,60,86,118,157,204,259,323,398,483,579,687,808,943,1091,1255,1434,1629 ★ Rounded volume of a regular tetrahedron with edge length n. • a(n) = round(n ^ 3 * sqrt(2) / 12) •

[A159465] • 3,8,15,26,39,54,71,90,111,134,161,190,221,254,289,326,365,406,449,494,541,592,645,700,757 ★ Partial sums of A088828. • a(n) = (n + S) ^ 2 - (4 * S ^ 3 - S) / 3 where S = ceiling(round(sqrt(2 * n - 1)) / 2). •

[A172296] • 3,8,15,26,39,56,75,98,129,172,233,312,413,540,707,898,1097,1410,1757,2458,4167,6784,10323,16130,26631 ★ Partial sums of Wagstaff numbers A000978. • a(n) = SUM[i=1..n] { integers i such that (2 ^ i + 1) / 3 is prime } . •

[A034828] • 0,0,1,3,8,15,27,42,64,90,125,165,216,273,343,420,512,612,729,855,1000,1155,1331,1518,1728 ★ a(n) = floor(n^2/4)*(n/2). • a(n) = if n mod 2 = 1 then (n ^ 2 - 1) * n / 8 otherwise n ^ 3 / 8. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (2 * n ^ 3 + 12 * n ^ 2 + 23 * n + 14) / 16 + (n + 2) * (- 1) ^ n / 16. • a(n) = Sum _{ k= 0..floor((n + 2) / 2) } ((n + 2) / (n + 2 - k))(- 1) ^ k * C(n + 2 - k, k) * C(n - 2 * k + 2, 2) * C(n - 2 * k, floor((n - 2 * k) / 2)). [Typo corrected by _ R. J. Mathar _ , Aug 18 2008] (End) • a(n) = (2 * n ^ 2 - 1 + (- 1) ^ n) * n / 16 . - _ Michael Somos _ , Sep 06 2008 • a(- n) = - a(n). - _ Michael Somos _ , Sep 06 2008 •

[A109900] • 0,1,3,8,15,27,42,64,90,125,165,216,273,343,420,512,612,729,855,1000,1155,1331,1518,1728,1950 ★ The (n,r)-th term of the following triangle is T(n)-T(r) for r = 0 to n. The n-th row contains n+1 terms. T(n) = the n-th triangular number = n(n+1)/2. Sequence contains the sum of terms at a 45-degree angle. • a(2n + 1) = (n + 1) ^ 3; a(2n) = (2n + 1) * T(n) = (2n + 1) * (n + 1) * n / 2, where T=A000217. - _ R. J. Mathar _ , Feb 11 2008 • a(n) = (2 * n ^ 3 + 6 * n ^ 2 + 5 * n + 1 - (n + 1) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , May 12 2015 •

[A081276] • 0,0,1,3,8,15,27,42,64,91,125,166,216,274,343,421,512,614,729,857,1000,1157,1331,1520,1728 ★ Floor(n^3/8). • a(n) = floor(n ^ 3 / 8). • a(0)=0, a(1)=0, a(2)=1, a(3)=3, a(4)=8, a(5)=15, a(6)=27, a(7)=42, a(8)=64, a(9)=91, a(10)=125, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 8) - 3 * a(n - 9) + 3 * a(n - 10) - a (n - 11). - _ Harvey P. Dale _ , Jan 27 2012 •

[A135350] • 0,1,3,8,15,29,56,113,227,456,911,1821,3640,7281,14563,29128,58255,116509,233016,466033,932067,1864136,3728271,7456541,14913080 ★ a(n) = 2*a(n-1) - a(n-3) + 2*a(n-4). • a(n) = - (1 / 3) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n - (2 / 9) * (- 1) ^ n - (1 / 3) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n + (8 / 9) * 2 ^ n - (2 / 9) * I *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n * sqrt(3) + (2 / 9) * I *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n * sqrt(3), with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Jun 09 2008 •

[A065500] • 1,1,3,8,15,64,65,426,847,2528,2529,27730,27731,360372,360373,360374,720735,12252256,12252257,232792578,232792579,232792580,232792581,5354228902,5354228903 ★ Number of distinct functions from a set with n^n elements to itself that can be defined naturally (in n) by typed lambda-calculus expressions. • a(n) = lcm(seq(i, i=1..n)) + n - 1, except at n=0 (where the lcm is infinite). •

[A188012] • 3,8,16,21,29,37,42,50,55,63,71,76,84,92,97,105,110,118,126,131,139,144,152,160,165 ★ Positions of 0 in A188011; complement of A188013. • a(n + 1) = 3 * floor(n * phi) + 2 * n + 3 for n>=0, where phi = (1 + sqrt(5)) / 2 (see A188011). - _ Michel Dekking _ , Sep 28 2017 •

[A122794] • 1,3,8,16,25,37,52,70,91,113,138,166,197,231,268,308,349,393,440,490,543,599,658,720,785 ★ Connell (3,2)-sum sequence (partial sums of the (3,2)-Connell sequence). • a(n) = (n - th triangular number) - n + (n - th partial sum of A122800). •

[A115006] • 0,3,8,16,26,39,54,72,92,115,140,168,198,231,266,304,344,387,432,480,530,583,638,696,756 ★ Row 2 of array in A114999. • a(n) = Floor((n + 1) ^ 2 / 4) + n * (n + 1). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (10 * n ^ 2 + 12 * n + 1 - (- 1) ^ n) / 8. • a(n) = sum _{ i=1..n + 1 } (10 * i + (- 1) ^ i - 9) / 4. (End) •

[A211480] • 0,3,8,16,27,40,56,75,96,120,147,176,208,243,280,320,363,408,456,507,560,616,675,736,800 ★ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and w + 2x + 3y = 1. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>5. •

[A122796] • 1,3,8,16,27,41,58,76,97,121,148,178,211,247,286,328,373,421,470,522,577,635,696,760,827 ★ Connell (3,5)-sum sequence (partial sums of the (3,5)-Connell sequence) • a(n) = (n - th triangular number) - n + (n - th partial sum of A122799). •

[A254875] • 1,3,8,16,28,45,68,97,134,179,233,297,372,458,557,669,795,936,1093,1266,1457,1666,1894,2142,2411 ★ a(n) = floor((10*n^3 + 57*n^2 + 102*n + 72) / 72). • a(n) - 2 * a(n + 1) + 2 * a(n + 3) - a(n + 4) = - 1 if n == 0 (mod 3) else - 2 for all n in Z. •

[A131941] • 0,1,3,8,16,29,47,72,104,145,195,256,328,413,511,624,752,897,1059,1240,1440,1661,1903,2168,2456 ★ Partial sums of ceiling(n^2/2) (A000982). • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 + 4 * n) / 12) = round((2 * n + 1) * (2 * n ^ 2 + 3 * n + 3) / 24) = floor((n + 1) * (2 * n ^ 2 + n + 3) / 12) = ceil((

2 * n ^ 3 + 3 * n ^ 2 + 4 * n) / 12). • a(n) = a(n - 2) + n ^ 2 - n + 1, n>1. (End) • a(n) = (2 * n * (2 * n ^ 2 + 3 * n + 4) - 3 * (- 1) ^ n + 3) / 24. - _ Bruno Berselli _ , Dec 07 2010 •

[A167616] • 0,3,8,16,29,50,84,139,228,372,605,982,1592,2579,4176,6760,10941,17706,28652,46363,75020,121388,196413,317806,514224 ★ Fibonacci(n) - 5. • a(n) = a(n - 1) + a(n - 2) + 5. - _ Zak Seidov _ , Jun 27 2010 • a(5)=0, a(6)=3, a(7)=8, a(n) = 2 * a(n - 1) - a(n - 3). - Harvey P. Dale, Dec 31 2011 •

[A002624] • 1,3,8,16,30,50,80,120,175,245,336,448,588,756,960,1200,1485,1815,2200,2640,3146,3718,4368,5096,5915 ★ Expansion of (1-x)^(-3) * (1-x^2)^(-2). • a(n - 1) = (n ^ 4 + 10 * n ^ 3 + 32 * n ^ 2 + 32 * n + (6 * n + 15) * (n mod 2)) / 96. • a(n) = C(n + 2, 2) + 2 * C(n, 2) + 3 * C(n - 2, 2) + 4 * C(n - 4, 2) + ... • a(n) = Sum _{ i = 1..z } i * C(n + 4 - 2i, 2) where z = (2 * n + 3 + (- 1) ^ n) / 4. • a(n) = (3 * (2 * n + 7) * (- 1) ^ n + 2 * n ^ 4 + 28 * n ^ 3 + 136 * n ^ 2 + 266 * n + 171) / 192. •

[A081661] • 1,3,8,16,31,57,106,198,377,727,1420,2796,5539,11013,21950,43810,87517,174915,349696,699240,1398311,2796433,5592658,11185086,22369921 ★ Partial sums of A081660. • a(n) = 2 ^ (n + 2) / 3 + (n ^ 2 + n - 1) / 2 + (- 1) ^ n / 6. •

[A173283] • 1,3,8,16,32,56,96,152,240,360,536,768,1096,1520,2096,2824,3792,5000,6568,8496,10960,13960,17728,22264,27896 ★ A(x) satisfies A005408(x) = A(x)/A(x^2), A005408 = odd numbers. • a(n) = sum _{ t=0..n / 2 } (2 * n - 4 * t + 1) * a(t). [From _ R. J. Mathar _ , Apr 01 2010] •

[A171497] • 3,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432,67108864 ★ a(n) = 2*a(n-1) for n > 1; a(0) = 3, a(1) = 8. • a(n) = 4 * 2 ^ n for n > 0; a(0) = 3. •

[A227017] • 1,3,8,17,28,43,60,81,104,131,160,193,228,267,308,353,400,451,504,561,620,683,748,817,888 ★ Floor(M(g(n-1)+1,..,g(n))), where M = harmonic mean and g(n) = n(3n-1)/2 = A000326(n). • a(n) = (1 / 4) * (1 - (- 1) ^ n + 4 * n + 6 * n ^ 2) (conjectured). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 1 (conjectured). •

[A033816] • 3,8,17,30,47,68,93,122,155,192,233,278,327,380,437,498,563,632,705,782,863,948,1037,1130,1227 ★ a(n) = 2*n^2 + 3*n + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A011889] • 0,0,0,0,3,8,17,30,48,72,102,141,188,245,312,390,480,582,699,830,977,1140,1320,1518,1734 ★ a(n) = floor(n*(n-1)*(n-2)/7). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 7) - 3 * a(n - 8) + 3 * a(n - 9) - a(n - 10). •

[A105163] • 1,1,3,8,17,31,51,78,113,157,211,276,353,443,547,666,801,953,1123,1312,1521,1751,2003,2278,2577 ★ a(n) = (n^3 - 7*n + 12)/6. • a(n) = C(n + 1,n - 2) - n + 2. - _ Zerinvary Lajos _ , Mar 21 2008 • a(n) = 2 * a(n - 1) - a(n - 2) + n - 1, for all n in Z. - _ Gionata Neri _ , Jul 28 2016 •

[A011850] • 0,0,0,0,0,1,3,8,17,31,52,82,123,178,250,341,455,595,765,969,1211,1496,1828,2213,2656 ★ a(n) = floor(binomial(n,4)/4). • a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) - 10 * a(n - 6) + 10 * a(n - 7) - 6 * a(n - 8) + 6 * a(n - 9) - 10 * a(n - 10) + 10 * a(n - 11) - 6 * a(n - 12) + 6 * a(n - 13) - 10 * a(n - 14) + 10 * a(n - 15) - 5 * a(n - 16) + a(n - 17). [_ R. J. Mathar _ , Apr 15 2010] •

[A002625] • 1,3,8,17,33,58,97,153,233,342,489,681,930,1245,1641,2130,2730,3456,4330,5370,6602,8048,9738,11698,13963 ★ Expansion of 1/((1-x)^3*(1-x^2)^2*(1-x^3)). • a(n) = floor((n + 1) * (135 * (- 1) ^ n + 6 * n ^ 4 + 144 * n ^ 3 + 1256 * n ^ 2 + 4744 * n + 6785) / 8640 + 1 / 2). - _ Tani Akinari _ , Oct 07 2012 •

[A027181] • 1,3,8,17,33,60,105,179,300,497,817,1336,2177,3539,5744,9313,15089,24436,39561,64035,103636,167713,271393,439152,710593 ★ a(n) = Lucas(n+4) - (2n+6). • a(n) = - 4 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 15 + 7 * sqrt(5)) + (1 + sqrt(5)) ^ n * (15 + 7 * sqrt(5)))) / sqrt(5) - 2 * (1 + n). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>3. •

[A281166] • 1,1,3,8,17,33,64,127,255,512,1025,2049,4096,8191,16383,32768,65537,131073,262144,524287,1048575,2097152,4194305,8388609,16777216 ★ a(n) = 3*a(n-1) - 3*a(n-2) + 2*a(n-3) for n>2, a(0)=a(1)=1, a(2)=3. • a(n + 3) = - a(n) + 9 * 2 ^ n. • a(n) = 2 ^ n - periodic 6: repeat [0, 1, 1, 0, - 1, - 1, 0]. • a(n + 6) = a(n) + 63 * 2 ^ n. • a(n + 1) = 2 * a(n) - period 6: repeat [1, - 1, - 2, - 1, 1, 2]. • a(n) = 2 ^ n - 2 * sin(Pi * n / 3) / sqrt(3). - _ Jean - François Alcover _ and _ Colin Barker _ , Jan 16 2017 • a(n)= 2 ^ n - (1 / 3) * i * sqrt(3) * ((1 / 2 - (1 / 2) * i * sqrt(3)) ^ n - (1 / 2 + (1 / 2) * i * sqrt(3)) ^ n), where i=sqrt(- 1). - _ Paolo P. Lava _ , Jan 25 2017 •

[A130750] • 1,3,8,17,33,64,127,255,512,1025,2049,4096,8191,16383,32768,65537,131073,262144,524287,1048575,2097152,4194305,8388609,16777216,33554431 ★ Binomial transform of A010882. • a(0) = 1; a(1) = 3; a(2) = 8; for n > 2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3). •

[A002626] • 1,3,8,17,34,61,105,170,267,403,594,851,1197,1648,2235,2981,3927,5104,6565,8351,10529,13152,16303,20049,24492 ★ Expansion of 1/((1-x)^3 (1-x^2)^2 (1-x^3) (1-x^4)). • a(n) = floor((n + 1) * (n + 13) * (135 * (- 1) ^ n + 2 * n ^ 4 + 56 * n ^ 3 + 570 * n ^ 2 + 2492 * n + 4175) / 69120 + 1 / 2). - _ Tani Akinari _ , Nov 07 2012 •

[A163312] • 1,3,8,17,34,64,114,195,325,529,840,1303,1977,2940 ★ Row sums of triangle A163311 • a(n) = sum of n - th row terms, triangle A163311 •

[A145071] • 3,8,17,34,67,132,261,518,1031,2056,4105,8202,16395,32780,65549,131086,262159,524304,1048593,2097170,4194323,8388628,16777237,33554454,67108887 ★ Partial sums of A000051, starting at n=1. • a(1) = 3; a(n) = a(n - 1) + 2 ^ n + 1 for n > 1. • a(n) = 2 ^ (n + 1) + n - 2. - _ Franklin T. Adams - Watters _ , Jul 06 2009 •

[A052996] • 1,3,8,17,35,71,143,287,575,1151,2303,4607,9215,18431,36863,73727,147455,294911,589823,1179647,2359295,4718591,9437183,18874367,37748735 ★ G.f.: (1+x^2-x^3)/((1-x)(1-2*x)). • a(n) = 9 * 2 ^ (n - 2) - 1 for n > 1. - _ Brad Clardy _ , Sep 23 2011 •

[A046994] • 1,3,8,17,38,78,164,332,680,1368,2768,5552,11168,22368,44864,89792,179840,359808,720128,1440512,2882048,5764608,11531264,23063552,46131200 ★ Number of Greek-key tours on a 3 X n board; i.e., self-avoiding walks on a 3 X n grid starting in the top left corner. • a(1) = 1; a(2m) = sum _{ i = 2 ...2m - 1 } a(i) + 3 * 2 ^ (m - 1); a(2m + 1) = sum _{ i = 2...2m } a(i) + 5 * 2 ^ (m - 1). • a(n) = 11 * 2 ^ (n - 3) - (4 + (- 1) ^ n) * (2 ^ ((1 / 4) * (2n - 7 - (- 1) ^ n))), n >= 2. - _ Nathaniel Johnston _ , Feb 03 2006 • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) for n>4. G.f.: x * (1 + x - x ^ 3) / (1 - 2 * x - 2 * x ^ 2 + 4 * x ^ 3). - _ Colin Barker _ , Jul 19 2012 •

[A058811] • 1,1,3,8,17,41,92,215,487,1126,2583,5981,13698,31647,72678,167474,385021 ★ Number of terms on the n-th level of the Inverse-Totient-Tree (ITT). The 0th, 1st, 2nd and 3rd levels are {1}, {2}, {3, 4, 6}, {5, 7, 8, 9, 10, 12, 14, 18} with 1, 1, 3, 8 entries resp. The (n+1)-st level is obtained from the n-th level as the union of the inverse phi sets of the terms occurring earlier on the n-th level. • a(n) = Cardinality[Floor(n)], where Floor(0)= { 1 } , Floor(n + 1)=Union[invphi(t(i, n)), i=1..a(n))], where t(i, n) is the i - th integer in Floor(n), ordered by size or lexicographically. •

[A101822] • 1,1,3,8,17,42,100,235,561,1331,3158,7503,17812,42292,100425,238445,566171,1344336,3192013,7579198,17996232,42730667,101460725,240910755,572024206 ★ Expansion of 1/(1-x-2*x^2-3*x^3). • a(n) = a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3), a(0) = a(1) = 1, a(2) = 3. • a(n) = left term in M ^ n * [1 0 0], where M = the 3X3 matrix [1 1 1 / 2 0 0 / 0 3 / 2 0]. •

[A004210] • 1,3,8,18,30,43,67,90,122,161,202,260,305,388,416,450,555,624,730,750,983,1059,1159,1330,1528 ★ "Magic" integers: a(n+1) is the smallest integer m such that there is no overlap between the sets {m, m-a(i), m+a(i): 1 <= i <= n} and {a(i), a(i)-a(j), a(i)+a(j): 1 <= j < i <= n}. • a(n + 1) = min { k | k and k +- a(i) are not equal to a(i) or a(i) - a(j) or a(i) + a(j) for any n + 1 > i > j > 0 } . [Corrected by _ T. D. Noe _ , Sep 08 2008] •

[A184636] • 3,8,18,32,50,72,98,128,162,200,242,288,338,392,450,512,578,648,722,800,882,968,1058,1152,1250 ★ floor(1/{(n^4+2*n)^(1/4)}), where {}=fractional part. • a(n)=floor(1 /{ (n ^ 4 + 2 * n) ^ (1 / 4) }), where {} =fractional part. •

[A081489] • 1,3,8,18,35,61,98,148,213,295,396,518,663,833,1030,1256,1513,1803,2128,2490,2891,3333,3818,4348,4925 ★ a(n) = n*(2*n^2-3*n+7)/6 = C(n, 1) + C(n, 2) + 2*C(n, 3). • a(n) = n * (2 * n ^ 2 - 3 * n + 7) / 6 = C(n, 1) + C(n, 2) + 2 * C(n, 3). - _ Paul Barry _ , Jul 03 2003 • a(n) = 2n + Sum _{ i=1..n } (i ^ 2 - 2i). - _ Wesley Ivan Hurt _ , Feb 25 2014 •

[A136376] • 1,3,8,18,37,73,139,259,474,856,1529,2707,4757,8307,14428,24942,42941,73661,125951,214739,365166,619508,1048753,1771943,2988457 ★ a(n) = n*F(n) + (n-1)*F(n-1). • a(n) = n * F(n) + (n - 1) * F(n - 1). Equals the matrix product A128064 (unsigned) * A000045. • a(n) = ((n + 1) * F(n) + (n - 1) * L(n)) / 2, where L(n) are Lucas numbers (A000032). •

[A078409] • 1,3,8,18,38,76,142,256,448,760,1260,2048,3264,5120,7917,12076,18200,27130,40026,58499,84756,121792,173682,245920,345856 ★ Number of ways to partition 4*n+1 into distinct positive integers. • a(n) = t(4 * n + 1, 0), t as defined in A079211. •

[A006478] • 1,3,8,18,38,76,147,277,512,932,1676,2984,5269,9239,16104,27926,48210,82900,142055,242665,413376,702408,1190808,2014608,3401833 ★ a(n) = a(n-1) + a(n-2) + F(n) - 1, a(0) = a(1) = 0, where F() = Fibonacci numbers A000045. • a(n) = 1 + ((n - 2) * F(n + 2) + (3 * n + 1) * F(n + 3)) / 5 (with offset 0). • a(n) = sum(k=0, n - 1, sum(i=0, k, F(i) * F(k - i))). - _ Benoit Cloitre _ , Jan 26 2003 • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + a(n - 4) + a(n - 5). - _ Eric W. Weisstein _ , Sep 05 2017 •

[A104187] • 1,3,8,18,38,76,147,279,523,973,1802,3328,6136,11302,20805,38285,70437,129575,238348,438414,806394,1483216,2728087,5017763,9229135 ★ G.f. -(1+x^2+x^4)/((x^3+x^2+x-1)*(x-1)^2). • a(0)=1, a(1)=3, a(2)=8, a(3)=18, a(4)=38, a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jun 14 2011 •

[A131051] • 1,3,8,18,38,78,158,318,638,1278,2558,5118,10238,20478,40958,81918,163838,327678,655358,1310718,2621438,5242878,10485758,20971518,41943038 ★ Row sums of triangle A133805. • a(n) = 5 * 2 ^ (n - 2) - 2, n>1. [_ Gary Detlefs _ , Jun 22 2010] • a(n) = 2(n - 1) + Sum[i=1,n - 1] a(i). - _ Jon Perry _ , Nov 19 2012 •

[A051633] • 3,8,18,38,78,158,318,638,1278,2558,5118,10238,20478,40958,81918,163838,327678,655358,1310718,2621438,5242878,10485758,20971518,41943038,83886078 ★ a(n) = 5*2^n - 2. • a(n) = 2 * (a(n - 1) + 1) with a(0)=3. - _ Vincenzo Librandi _ , Aug 06 2010 •

[A178420] • 0,1,3,8,18,39,81,166,336,677,1359,2724,5454,10915,21837,43682,87372,174753,349515,699040,1398090,2796191,5592393,11184798,22369608 ★ Partial sums of floor(2^n/3). • a(n) = round((8 * 2 ^ n - 6 * n - 9) / 12). • a(n) = floor((4 * 2 ^ n - 3 * n - 4) / 6). • a(n) = ceiling((4 * 2 ^ n - 3 * n - 5) / 6). • a(n) = round((4 * 2 ^ n - 3 * n - 4) / 6). • a(n) = a(n - 2) + 2 ^ (n - 1) - 1, n>2. • a(n) = (8 * 2 ^ n - 6 * n - 9 + (- 1) ^ n) / 12. G.f.: x ^ 2 / ((1 + x) * (1 - 2 * x) * (1 - x) ^ 2). - _ Bruno Berselli _ , Jan 15 2011 •

[A011377] • 1,3,8,18,39,81,166,336,677,1359,2724,5454,10915,21837,43682,87372,174753,349515,699040,1398090,2796191,5592393,11184798,22369608,44739229 ★ Expansion of 1/((1-x)*(1-2*x)*(1-x^2)). • a(n) = Sum _{ k=0..(n + 2) } floor((n - k + 2) / 2) * 2 ^ k) = • a(n) = Sum _{ k=0..(n + 2) } floor(k / 2) * 2 ^ (n - k + 2)). (End) • a(n) = Sum _{ k=0..floor((n + 2) / 2) } binomial(n - k + 2, k + 2) * 2 ^ k). - _ Paul Barry _ , Oct 25 2004 • a(n) = floor((2 ^ (n + 4) - 3 * n - 6) / 6). - _ David W. Wilson _ , Feb 26 2006 • a(n) = (2 ^ (n + 5) - 6 * n - 21 + (- 1) ^ n) / 12 - _ Hieronymus Fischer _ , Dec

02 2006 • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4). - _ Paul Curtz _ , Jul 29 2008 •

[A026635] • 1,3,8,18,40,84,174,354,716,1440,2890,5790,11592,23196,46406,92826,185668,371352,742722,1485462,2970944,5941908,11883838,23767698,47535420 ⋆ Sum{T(i,j)}, 0<=i<=n, 0<=j<=n, T given by A026626. • a(n) = (- 9 + (- 1) ^ n + 17 * 2 ^ n - 6 * n) / 6 for n>0. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4) for n>4. •

[A135094] • 0,1,3,8,18,40,84,176,360,736,1488,3008,6048,12160,24384,48896,97920,196096,392448,785408,1571328,3143680,6288384,12578816,25159680 ⋆ a(n) = 2*a(n-1) + 2*a(n-2) - 4*a(n-3) with n>2, a(0)=0, a(1)=1, a(2)=3. • a(n) = 3 * 2 ^ (n - 1) - 3 * 2 ^ (n / 2 - 1) for n even. • a(n) = 3 * 2 ^ (n - 1) - 2 ^ ((n + 1) / 2) for n odd. (End) •

[A117080] • 1,3,8,18,40,89,197,435,960,2118,4672,10305,22729,50131,110568,243866,537864,1186297,2616461,5770787,12727872,28072206,61915200,136558273,301188753 ⋆ a(n) = 2a(n-1)+a(n-3)+1 with a(1)=1, a(2)=3, a(3)=8. • a(n) =3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - a(n - 4). G.f.: x * (- 1 - x ^ 2 + x ^ 3) / ((1 - x) * (x ^ 3 + 2 * x - 1)). [From _ R. J. Mathar _ , May 25 2009] •

[A066425] • 1,3,8,18,41,84,181,364,751,1512,3037,6107,12216,24547,49117,98236,196544,393178,786407,1573201,3146426,6292969,12586763,25173709,50347996 ⋆ Smallest increasing sequence (with a(1) = 1) such that a(n) minus any sum of distinct earlier terms is not already in the sequence. • a(1)=1, a(n) the smallest integer > a(n - 1) so that a(n) - a(k _ 1) - a(k _ 2) - ... - a(k _ m) is not in the sequence for any nonempty subset { k _ 1, ..., k _ m } of { 1, .., n - 1 } •

[A026384] • 1,3,8,18,43,93,218,468,1093,2343,5468,11718,27343,58593,136718,292968,683593,1464843,3417968,7324218,17089843,36621093,85449218,183105468,427246093 ⋆ a(n) = Sum_{j=0..i, i=0..n} T(i,j), where T is the array in A026374. • a(n) = (7 * 5 ^ (n / 2) - 3) / 4 for n even. • a(n) = 3 * (5 ^ ((n + 1) / 2) - 1) / 4 for n odd. • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) for n> 2. •

[A219391] • 0,3,8,19,23,40,55,80,88,119,144,183,195,240,275,328,344,403,448,515,535,608,663,744,768 ⋆ Numbers n such that 21*n+1 is a square. • a(n) = a(- n + 1) = (42 * n * (n - 1) + 2 * i ^ (n * (n + 1)) * (6 * n + (- 1) ^ n - 3) + 7 * (- 1) ^ n * (2 * n - 1) + 11) / 32, where i=sqrt(- 1). •

[A067332] • 3,8,19,40,80,154,289,532,965,1730,3072,5412,9471,16480,28535,49196,84496,144638,246845,420140,713353,1208518,2043264,3448200,5809275 ⋆ Convolution of Fibonacci F(n+1), n>=0, with F(n+4), n>=0. • a(0)=3, a(1)=8, a(2)=19, a(3)=40, a(n)=2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 25 2014 •

[A178457] • 0,0,0,0,0,1,3,8,19,41,85,174,352,708,1420,2844,5693,11391,22788,45583,91173,182353,364714,729436,1458880 ⋆ Partial sums of floor(2^n/23) • a(n)=round((22 * 2 ^ n - 92 * n - 24) / 253). • a(n)=floor((22 * 2 ^ n - 92 * n + 100) / 253). • a(n)=ceil((22 * 2 ^ n - 92 * n - 148) / 253). • a(n)=round((22 * 2 ^ n - 92 * n - 22) / 253). • a(n)=a(n - 11) + 89 * 2 ^ (n - 10) - 4 , n>10. •

[A079583] • 1,3,8,19,42,89,184,375,758,1525,3060,6131,12274,24561,49136,98287,196590,393197,786412,1572843,3145706,6291433,12582888,25165799,50331622 ⋆ a(n) = 3*2^n - n - 2. • a(0)=1, a(n) = 2 * a(n - 1) + n; •

[A099050] • 1,1,3,8,19,42,92,194,398,808,1638,3334,6686,13392,26842,53708,107450,214952,430148,860340,1720826,3441688,6883446,13766950,27533998 ⋆ a(1)=1; for n>=2, a(n)=sum(1<=i<=j<=n-1, gcd(a(i),a(j))). • a(n) is asymptotic to c * 2 ^ n where c=0.8205797305404015389561... •

[A008466] • 0,0,1,3,8,19,43,94,201,423,880,1815,3719,7582,15397,31171,62952,126891,255379,513342,1030865,2068495,4147936,8313583,16655823 ⋆ a(n) = 2^n - Fibonacci(n+2). • a(1)=0, a(2)=1, a(3)=3, a(n)=3 * a(n - 1) - a(n - 2) - 2 * a(n - 3). - _ Miklos Kristof _ , Nov 24 2003 • a(n) = a(n - 1) + a(n - 2) + 2 ^ (n - 2). - Jon Stadler (jstadler(AT)capital.edu), Aug 21 2006 • a(n) = 2 * a(n - 1) + Fib(n - 1). - _ Thomas M. Green _ , Aug 21 2007 • a(n) = term (1,3) in the 3 X 3 matrix [3,1,0; - 1,0,1; - 2,0,0] ^ n. - _ Alois P. Heinz _ , Jul 18 2008 • a(n) = 2 * a(n - 1) - a(n - 3) + 2 ^ (n - 3). - _ Carmine Suriano _ , Mar 08 2011 •

[A189391] • 0,1,3,8,19,44,98,216,467,1004,2134,4520,9502,19928,41572,86576,179587,372044,768398,1585416,3263210,6711176,13775068,28255568,57863214 ⋆ The minimum possible value for the apex of a triangle of numbers whose base consists of a permutation of the numbers 0 to n, and each number in a higher row is the sum of the two numbers directly below it. • a(n) = Sum _{ k=0..floor((n - 1) / 2) } (2 * n - 4 * k - 1) * binomial(n,k). •

[A097550] • 1,3,8,19,44,102,237,551,1281,2978,6923,16094,37414,86977,202197,470051,1092736,2540303,5905488,13728594,31915109,74193627,172479257,400965626,932131991 ⋆ Number of positive words of length n in the monoid Br_3 of positive braids on 4 strands. • a(n) = term (1,1) in the 1 X 3 matrix [1,1,2].[3,1,0; - 2,0,1; 1,0,0] ^ n. - _ Alois P. Heinz _ , Jul 24 2008 •

[A143785] • 3,8,20,36,63,96,144,200,275,360,468,588,735,896,1088,1296,1539,1800,2100,2420,2783,3168,3600,4056,4563 ⋆ Antidiagonal sums of the triangle A120070. • a(n) = (n + 2) * (2 * n ^ 2 + 4 * n - (- 1) ^ n + 1) / 8. - _ Ilya Gutkovskiy _ , May 07 2016 • a(n) = (n ^ 3 + 4 * n ^ 2 + 4 * n) / 4 for n even. • a(n) = (n ^ 3 + 4 * n ^ 2 + 5 * n + 2) / 4 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. (End) • a(n) = Sum _{ k=1..n + 1 } floor((n + 1) * k / 2). - _ Wesley Ivan Hurt _ , Apr 01 2017 •

[A139488] • 1,3,8,20,43,81,138,218,325,463,636,848,1103,1405,1758,2166,2633,3163,3760,4428,5171,5993,6898,7890,8973 ⋆ Binomial transform of [1, 2, 3, 4, 0, 0, 0,...]. • a(n)=(4n ^ 3 - 3n ^ 2 + 11n + 6) / 6. - _ Emeric Deutsch _ , Apr 30 2008 •

[A192982] • 0,1,1,3,8,20,44,89,169,307,540,928,1568,2617,4329,7115,11640,18980,30876,50145,81345,131851,213596,345888,559968 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A134393] • 1,3,8,20,45,91,168,288,465,715,1056,1508,2093,2835,3760,4896,6273,7923,9880,12180,14861,17963,21528,25600,30225 ⋆ Row sums of triangle A134392. • a(n) = binomial(n + 3,4) - 2 * binomial(n + 2,4) + 3 * binomial(n + 1,4). - _ Johannes W. Meijer _ , Apr 29 2011, corrected by _ Eric Rowland and _ , Aug 16 2017 • a(n) = n * (n + 1) * (n ^ 2 - 3 * n + 8) / 12. - _ Johannes W. Meijer _ , Apr 29 2011, corrected by _ Eric Rowland _ , Aug 16 2017 •

[A014628] • 3,8,20,45,91,168,288,465,715,1056,1508,2093,2835,3760,4896,6273,7923,9880,12180,14861,17963,21528,25600,30225,35451 ⋆ Number of segments (and sides) created by diagonals of an n-gon in general position. • a(n) = (n ^ 4 - 6 * n ^ 3 + 17 * n ^ 2 - 24 * n) / 12 + n; or equally n * (n - 1) * (n ^ 2 - 5 * n + 12) / 12. • a(n) = C(n,2) + 2 * C(n,4). - _ Gary Detlefs _ , Jun 06 2010 •

[A140481] • 1,3,8,20,46,96,204,420,864,1752,3520,7068,14160,28360,56736,113508,227040,454176,908424,1816944,3633908,7267828,14535662,29071328,58142704 ⋆ a(1) = 1; for n >= 1, a(n+1) is obtained by adding to a(n) the a(n)-th smallest number not dividing a(n). • a(n + 1) = 2 * a(n) + tau(a(n)) (cf. A000005). - Hans Havermann and Franklin T. Adams - Watters, Jun 25 2008. Using a(n + 1) = a(n) + tau(a(n)) would give A064491. •

[A027928] • 1,3,8,20,46,97,189,344,591,967,1518,2300,3380,4837,6763,9264,12461,16491,21508,27684,35210,44297,55177,68104,83355 ⋆ T(n,2n-5), T given by A027926. • a(n) = (n - 2)(n ^ 4 - 8n ^ 3 + 39n ^ 2 - 92n + 180) / 120. • a(n) = C(n,n - 1) + C(n + 1,n - 2) + C(n + 2,n - 3) with offset 1. - _ Zerinvary Lajos _ , May 29 2007 •

[A048492] • 1,3,8,20,47,105,226,474,977,1991,4028,8112,16291,32661,65414,130934,261989,524115,1048384,2096940,4194071,8388353,16776938,33554130,67108537 ⋆ a(n) = (8*(2^n) - n^2 - 3*n - 6)/2. • a(0) = 1; a(n) = a(n - 1) + 2 ^ (n + 1) - (n + 1) for n > 0. - _ Klaus Brockhaus _ , Oct 13 2008 • a(n) = (- 2 + 2 ^ (2 + n) - 1 / 2 * (1 + n) * (2 + n)). • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). •

[A291097] • 3,8,20,47,106,233,504,1079,2294,4853,10228,21491,45042,94193,196592,409583,851950,1769453,3669996,7602155,15728618,32505833,67108840,138412007,285212646 ⋆ a(n) = 2^n*(n/8 + 1) - n. • a(n) = 2 ^ n * (n / 8 + 1) - n. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). •

[A050231] • 0,0,1,3,8,20,47,107,238,520,1121,2391,5056,10616,22159,46023,95182,196132,402873,825259,1686408,3438828,6999071,14221459,28853662 ⋆ a(n) is the number of n-tosses having a run of 3 or more heads for a fair coin (i.e., probability is a(n)/2^n). • a(n) = 2 ^ n - tribonacci(n + 3), see A000073. - _ Vladeta Jovovic _ , Feb 23 2003 • a(n) = 2 * a(n - 1) + 2 ^ (n - 4) - a(n - 4) since we can add T or H to a sequence of n - 1 flips which has HHH, and H to one which ends in THH and does not have HHH among the first (n - 4) flips. - _ Toby Gottfried _ , Nov 20 2010 • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3) - 2 * a(n - 4), a(0)=0, a(1)=0, a(2)=1, a(3)=3. - _ David Nacin _ , Mar 07 2012 •

[A136305] • 3,8,20,47,109,253,588,1367,3178,7388,17175,39927,92819,215778,501623,1166132,2710928,6302143,14650705,34058757,79177004,184064203,427897358,994740672,2312491503 ⋆ Transform of A000027 by the T_{1,2} transformation (see link). • a(n + 3) = 3 * a(n + 2) - 2 * a(n + 1) + a(n) (n>=0). [_ Richard Choulet _ , Apr 07 2009] •

[A050232] • 0,0,0,1,3,8,20,48,111,251,558,1224,2656,5713,12199,25888,54648,114832,240335,501239,1042126,2160676,4468664,9221281,18989899 ⋆ a(n) is the number of n-tosses having a run of 4 or more heads for a fair coin (i.e., probability is a(n)/2^n). • a(n) = 2 ^ n - tetranacci(n + 4), see A000078. - _ Vladeta Jovovic _ , Feb 23 2003 •

[A050233] • 0,0,0,0,1,3,8,20,48,112,255,571,1262,2760,5984,12880,27553,58631,124192,262008,550800,1154256,2412031,5027575,10455246 ⋆ a(n) is the number of n-tosses having a run of 5 or more heads for a fair coin (i.e., probability is a(n)/2^n). • a(n) = 2 ^ (n + 1) - pentanacci(n + 6), cf. A001591. - _ Vladeta Jovovic _ , Feb 23 2003 •

[A001792] • 1,3,8,20,48,112,256,576,1280,2816,6144,13312,28672,61440,131072,278528,589824,1245184,2621440,5505024,11534336,24117248,50331648,104857600,218103808 ⋆ a(n) = (n+2)*2^(n-1). • a(n) = (n + 2) * 2 ^ (n - 1). • a(n) = 4 * a(n - 1) - 4 * a(n - 2). • a(n) = Sum _{ k=0..n + 2 } binomial(n + 2, 2k) * k. - _ Paul Barry _ , Mar 06 2003 • a(n) = Sum _{ k=0..n } binomial(n, k) * (k + 1). - _ Lekraj Beedassy _ , Jun 24 2004 • a(n) = (n + 1) * 2 ^ n - n * 2 ^ (n - 1). Equals A128064 * A000079. - _ Gary W. Adamson _ , Dec 28 2007 • a(n) = 1 + Sum _{ k=1..n } (n - k + 4)2 ^ (n - k - 1). This follows from the result that the number of parts equal to k in all compositions of n is (n - k + 3)2 ^ (n - k - 2) for 0 < k < n. - _ Geoffrey Critzer _ , Sep 21 2008 •

[A048739] • 1,3,8,20,49,119,288,696,1681,4059,9800,23660,57121,137903,332928,803760,1940449,4684659,11309768,27304196,65918161,159140519,384199200,927538920,2239277041 ⋆ Expansion of 1/((1 - x)*(1 - 2*x - x^2)). • a(n) = 2 * a(n - 1) + a(n - 2) + 1 with n > 1, a(0)=1, a(1)=3. • a(n) = ((2 + (3 * sqrt(2)) / 2) * (1 + sqrt(2)) ^ n - (2 - (3 * sqrt(2)) / 2) * (1 - sqrt(2)) ^ n) / (2 * sqrt(2)) - 1 / 2. • a(0)=1, a(n + 1) = ceiling(x * a(n)) for n > 0, where x = 1 + sqrt(2). - _ Paul D. Hanna _ , Apr 22 2003 • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3). With two leading zeros, e.g.f. is exp(x)(cosh(sqrt(2)x) - 1) / 2. a(n) = Sum _{ k=0..floor((n + 2) / 2) } binomial(n + 2, 2k + 2)2 ^ k. - _ Paul Barry _ , Aug 16 2003 • a(n) = floor((1 + sqrt(2)) ^ (n + 2) / 4). - _ Bruno Berselli _ , Feb 06 2013 • a(n) = (((1 - sqrt(2)) ^ (n + 2) + (1 + sqrt(2)

) ^ (n + 2) - 2) / 4). - _ Altug Alkan _ , Mar 16 2016 •

[A122595] • 1,3,8,20,50,125,313,784,1964,4920,12325,30875,77344,193752,485362,1215865,3045825,7630000,19113672,47881056,119945321,300471235,752701000,1885567500,4723475586 ★ Expansion of x/(1 - 3*x + x^2 + x^3 - x^4). • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3) + a(n - 4) for n>4. - _ Wesley Ivan Hurt _ , Sep 18 2015 •

[A187003] • 1,1,3,8,20,50,126,317,798,2008,5053,12716,32000,80528,202649,509967,1283334,3229515,8127087,20451846,51467150,129517283,325930746,820205989,2064051559 ★ Expansion of 1/(1-x-2*x^2-3*x^3-3*x^4-2*x^5-x^6). • a(n):=sum(m=1..n, sum(k=m..n, binomial(m,k - m) * sum(j=0..k, binomial(k,j) * binomial(j,n - 3 * k + 2 * j)))), a(0)=1. •

[A101893] • 0,0,1,3,8,20,50,126,320,816,2084,5324,13600,34736,88712,226552,578560,1477504,3773200,9635888,24607872,62842944,160486688,409846752,1046656000 ★ a(n) = sum_{k=0..floor(n/2)} C(n,2k)*Pell(k). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 4). •

[A140662] • 1,3,8,20,50,126,322,834,2187,5797,15510,41834,113633,310571,853466,2356778,6536381,18199283,50852018,142547558,400763222,1129760414,3192727796,9043402500,25669818475 ★ Number of possible column states for self-avoiding polygons in a slit of width n. • a(n)=sum _{ m=1..[(n + 1) / 2] } (n + 1)! / ((n + 1 - 2m)!m!(m + 1)!). •

[A077997] • 1,1,3,8,20,51,130,331,843,2147,5468,13926,35467,90328,230049,585893,1492163,3800268,9678592,24649615,62778090,159884387,407196479,1037055435,2641191736 ★ Expansion of (1-x)/(1-2*x-x^2-x^3). • a(n)=2 * a(n - 1) + a(n - 2) + a(n - 3), n>2 ; a(0)=1, a(1)=1, a(2)=3. [_ Philippe Deléham _ , Nov 20 2008] • a(n)=sum(m=1..n, sum(i=0..n - m, binomial(m + i - 1,m - 1) * sum(j=0..m, binomial(j,n - 3 * m + 2 * j - i) * binomial(m,j)))), n>0, a(0)=1. [_ Vladimir Kruchinin _ , May 12 2011] •

[A027319] • 1,3,8,20,120,432,1512,5184,17496,58320,192456,629856,2047032,6613488,21257640,68024448,216827928,688747536,2181033864,6887475360,21695547384,68186006064,213856109928,669462604992,2092070640600 ★ a(n) = Sum{(k+1)*T(n,k)}, 0<=k<=m, m=n for n=0,1,2,3; m=2n for n >= 4; T given by A026082. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) for n>5. •

[A172243] • 3,8,21,38,79,176,289,482,723,980,1333,1782,2359,3000,3673,4442,5371,6524,7741,9150,10751,12864,15553,18306,21443 ★ Partial sums of Proth primes A080076. • a(n) = SUM[i=1..n] A080076 (i) = SUM[i=1..n] { Proth numbers p such that p is prime, i.e., a number of the form N=k * 2 ^ n + 1 for odd k, n a positive integer, and 2 ^ n>k } . •

[A179903] • 1,3,8,21,46,87,148,233,346,491,672,893,1158,1471,1836,2257,2738,3283,3896,4581,5342,6183,7108,8121,9226 ★ (1, 3, 5, 7, 9...) convolved with (1, 0, 3, 5, 7, 9,...) • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 04 2012 •

[A193045] • 0,1,1,3,8,21,49,105,210,399,729,1293,2242,3821,6427,10703,17690,29073,47579,77621,126340,205291,333171,540233,875428 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - 3 * a(n - 5) + a(n - 6). •

[A259714] • 1,1,3,8,21,50,129,327,827,2089,5290,13386,33868,85693,216836,548660,1388269,3512737,8888292,22490049,56906580,143990771,364339983,921889753,2332658401 ★ a(n) = Sum_{k=1..n-1}((k mod 5)*a(n-k)), a(1) = 1. • a(n) = a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 4 * a(n - 4) + a(n - 5) for n>6. •

[A096770] • 1,1,3,8,21,51,127,303,734,1751,4200,10004,23918,56981,135958,323996,772530,1840993,4388456,10458354,24926754,59405383,141581236,337417607,804153140 ★ a(1) = 1; for n >= 1, replace each part, with repetitions, of every part k in each partition of n with a(k), then take the sum to get a(n+1). • a(n + 1) = sum { k=1 to n } (sum { j|k } a(j)) * p(n - k), where p(k) is the number of partitions of k (A000041). •

[A186812] • 1,1,3,8,21,53,135,346,886,2266,5796,14828,37935,97047,248269,635134,1624833,4156729,10633949,27204296,69595384,178042372,455476844,1165223500,2980932677 ★ Expansion of 1/(1-x^6-3*x^5-4*x^4-3*x^3-2*x^2-x). • a(n + 1) = sum(m=1..n, sum(k=m..n, binomial(k,n - k) * sum(j=0..m, binomial(m,j) * binomial(j,k - 3 * m + 2 * j)))). •

[A027930] • 1,3,8,21,54,133,309,674,1383,2683,4950,8735,14820,24285,38587,59652,89981,132771,192052,272841,381314,524997,712977,956134,1267395 ★ T(n,2n-7), T given by A027926. • a(n) = sum(binomial(n - k, 7 - 2k), k=0..3). - _ Len Smiley _ , Oct 20 2001 • a(n) = C(n,n - 1) + C(n + 1,n - 2) + C(n + 2,n - 3) + C(n + 3,n - 4), n>=1. - _ Zerinvary Lajos _ , May 29 2007 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). G.f.: x ^ 4 * (x ^ 2 - x + 1) * (x ^ 4 - 4 * x ^ 3 + 7 * x ^ 2 - 4 * x + 1) / (x - 1) ^ 8. - _ R. J. Mathar _ , Oct 05 2009 •

[A291039] • 1,3,8,21,54,136,337,825,2000,4809,11484,27264,64401,151455,354808,828349,1927986,4475080,10361441,23936565,55183904,126983569,291698040,669004352,1532095329 ★ a(n) = (1/4)*A291038(n). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) - a(n - 6) for n >= 7. •

[A094723] • 1,3,8,21,54,137,344,857,2122,5229,12836,31413,76686,186833,454448,1103921,2678674,6494037,15732284,38089677,92173782,222961529,539145416,1303349513,3150038746 ★ Pell(n+2)-2^n. • a(n) = ((1 + sqrt(2)) ^ n * (3 * sqrt(2) / 4 + 1) - (3 * sqrt(2) / 4 - 1)(1 - sqrt(2)) ^ n) - 2 ^ n. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3). - _ Vincenzo Librandi _ , Jun 24 2012 •

[A127358] • 1,3,8,21,54,138,350,885,2230,5610,14088,35346,88596,221952,555738,1391061,3480870,8708610,21783680,54483510,136254964,340729788,852000828,2130354786,5326563004 ★ a(n) = Sum_{k=0..n} binomial(n, floor(k/2))*2^(n-k). • a(n) is the sum of top row terms of M ^ n, M = an infinite square production matrix as follows: •

[A190139] • 1,1,3,8,21,54,140,363,941,2439,6322,16387,42476,110100,285385,739733,1917427,4970072,12882689,33392610,86555408,224356187,581543081,1507390367,3907235410 ★ a(n) = 2*a(n-1) + a(n-2) + a(n-3) + a(n-4), a(-2)=0, a(-1)=0, a(0)=1, a(1)=1. • a(n) = Sum _{ k=1..n } (Sum _{ t=k..n } (Sum _{ j=0..k } C(k,j) * Sum _{ i=j..t - k + j } C(j,i - j) * C(k - j,t - 3 * (k - j) - i) * C(- t + n + k - 1,k - 1))), n>0, a(0)=1. •

[A027932] • 1,3,8,21,55,143,364,894,2098,4685,9955,20175,39130,72905,130965,227612,383911,630191,1009242,1580345,2424289,3649547,5399802,7863034,11282400 ★ T(n,2n-9), T given by A027926. • a(n)=sum(binomial(n - k, 9 - 2k), k=0..4). - _ Len Smiley _ , Oct 20 2001 • a(n)=C(n,n - 1) + C(n + 1,n - 2) + C(n + 2,n - 3) + C(n + 3,n - 4) + C(n + 4,n - 5), n>=1 . - _ Zerinvary Lajos _ , May 29 2007 •

[A084625] • 1,3,8,21,55,143,366,919,2265,5491,13125,31000,72485,168042,386709,884161,2009742,4543830,10222264,22891099,51041560,113359224,250839510,553173006,1216070081 ★ Binomial transform of A084624. • a(n)=sum { k=0..n, C(n, k)floor(C(k + 5, 5) / C(k + 2, 2)) } •

[A001906] • 0,1,3,8,21,55,144,377,987,2584,6765,17711,46368,121393,317811,832040,2178309,5702887,14930352,39088169,102334155,267914296,701408733,1836311903,4807526976 ★ F(2n) = bisection of Fibonacci sequence: a(n) = 3*a(n-1) - a(n-2). • a(n) = - a(- n). • a(n) = (ap ^ n - am ^ n) / (ap - am), with a p := (3 + sqrt(5)) / 2, am := (3 - sqrt(5)) / 2. • a(n) = S(n - 1, 3) with S(n, x) = U(n, x / 2) Chebyshev's polynomials of the 2nd kind, see A049310. • a(n) = Sum _{ k=0..n } binomial(n, k) * F(k). - _ Benoit Cloitre _ , Sep 03 2002 • a(0)=0, a(1)=1, a(2)=3, a(n) * a(n - 2) + 1 = a(n - 1) ^ 2. - _ Benoit Cloitre _ , Dec 06 2002 • a(n) = Sum _{ k=1..n } binomial(n + k - 1, n - k). - _ Vladeta Jovovic _ , Mar 23 2003 •

[A088305] • 1,1,3,8,21,55,144,377,987,2584,6765,17711,46368,121393,317811,832040,2178309,5702887,14930352,39088169,102334155,267914296,701408733,1836311903,4807526976 ★ a(0)=1, a(n)=F(2*n) where F(n) = Fibonacci numbers A000045. Has the property: a(n) = 1*a(n-1) + 2*a(n-2) + 3*a(n-3) + 4*a(n-4) + ... • a(0) = 1, a(n) = (h ^ (2n) - h ^ (- 2n)) / sqrt(5), where h = (1 + sqrt(5)) / 2. • a(n) = Sum { k=1..n + 1 } binomial(n + k - 1,n - k), with a(0)=1. - _ Paolo P. Lava _ , Apr 13 2007 • a(0) = 1, a(1) = 1, a(2) = 3, a(n + 1) = 3 * a(n) - a(n - 1) for n>=2. - _ Philippe Deléham _ , Nov 21 2007 • a(n) = (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) / sqrt(5). - _ Geoffrey Critzer _ , Sep 23 2008 •

[A243633] • 1,1,3,8,21,56,152,417,1149,3169,8738,24083,66356,182806,503597,1387317,3821839,10528644,29005093,79905508,220130016,606431481,1670644817,4602422317,12679110454 ★ Expansion of (4*x^3-6*x^2+4*x-1)/(5*x^3-8*x^2+5*x-1). • a(n) = sum(m=0..n, sum(k=0..n / 2, binomial(m + k - 1,k) * binomial(n + m - 1,n - 4 * k - m))). •

[A094374] • 1,3,8,21,56,153,428,1221,3536,10353,30548,90621,269816,805353,2407868,7207221,21588896,64701153,193972388,581655021,1744440776,5232273753,15694724108,47079978021,141231545456 ★ a(n)=(3^n-1)/2+2^n. • a(n) = 6a(n - 1) - 11a(n - 2) + 6a(n - 3). • a(n) = sum { k=0..n, C(n,k) + 2 ^ k * C(n,k + 1) } ; - _ Paul Barry _ , Dec 04 2007 • a(n) = StirlingS2(n + 1,3) + 2 * StirlingS2(n + 1,2) + 1. - _ Ross La Haye _ , Jan 11 2008 • a(0)=1, a(1)=3, a(2)=8, a(n)=6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Harvey P. Dale _ , Jul 22 2013 •

[A014318] • 1,3,8,21,56,154,440,1309,4048,12958,42712,144210,496432,1735764,6145968,21986781,79331232,288307254,1054253208,3875769606,14315659632,53097586284,197677736208,738415086066 ★ Convolution of Catalan numbers and powers of 2. • a(n) = Sum(2 ^ (n - j) * binomial(2j,j) / (j + 1), j=0..n). - _ Emeric Deutsch _ , Oct 16 2008 •

[A273720] • 1,3,8,21,57,162,479,1458,4528,14259,45349,145289,468121,1515128,4922145,16040310,52411294,171646085,563266323,1851661113,6096654978,20101681834,66362538332,219336702948,725692113292 ★ Number of horizontal steps in the peaks of all bargraphs having semiperimeter n (n>=2). • a(n) = ((2 * (3 * n - 7)) * (2 * n - 9) * a(n - 1) - (254 - 155 * n + 22 * n ^ 2) * a(n - 2) + (2 * (101 - 58 * n + 8 * n ^ 2)) * a(n - 3) - (86 - 47 * n + 6 * n ^ 2) * a(n - 4) + (2 * (n - 6)) * (2 * n - 5) * a(n - 5) - (n - 6) * (2 * n - 5) * a(n - 6)) / ((n - 2) * (2 * n - 9)) for n>=6. - _ Alois P. Heinz _ , Jun 01 2016 •

[A178525] • 0,0,3,8,22,49,104,208,403,760,1406,2561,4608,8208,14499,25432,44342,76913,132808,228416,391475,668840,1139518,1936513,3283392 ★ The sum of the costs of all nodes in the Fibonacci tree of order n. • a(n)=3 + (2n - 3)F(n - 1) + (2n - 5)F(n), where F(k)=A000045 are the Fibonacci numbers. • a(n)=a(n - 1) + a(n - 2) + 2F(n + 1) + 2F(n - 1) - 3 (n>=2); F(0)=0, F(1)=0. •

[A271893] • 1,3,8,22,58,156,412,1100,2912,7752,20552,54640,144976,385200,1022464,2715872,7210400,19149504,50845376,135026368,358537216,952107648,2528205952,6713619200,17827416320 ★ Expansion of (2*x+1)*(1-x) / (1-2*x-4*x^2+6*x^3). • a(n) >= 2 ^ n. •

[A291399] • 1,3,8,22,59,156,412,1093,2903,7707,20453,54275,144035,382255,1014469,2692284,7144989,18961928,50322686,133550412,354426839,940606403,2496256771,6624766692,17581338025 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S - S^2 - S^3 - S^4. • a(n) = a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 5 * a(n - 4) + 7 * a(n - 5) + 7 * a(n - 6) + 4 * a(n - 7) + a(n - 8) for n >= 9. •

[A077848] • 1,3,8,22,59,157,418,1112,2957,7863,20908,55594,147823,393057,1045126,2778956,7389153,19647515,52242096,138910014,369357155,982108517,2611394218,6943611264,18462833781 ★ Expansion of (1-x)^(-1)/(1-2*x-x^2-2*x^3). • a(0)=1, a(1)=3, a(2)=8, a(3)=22, a(n)=3 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4). - _ Harvey P. Dale _ , Oct 12 2012 •

[A278612] • 3,8,22,60,162,436,1174,3164,8530,22996,61990,167100,450434,1214196,3273014,8822812,23782962,64109844,172815814,465845884,1255743842,3385009204,9124701142,24596733916,66303466770 ★ Sum of terms in level n of

TRIP - Stern sequence associated with permutation triplet (e, e, e). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 4 * a(n - 3) for n>2. •

[A155020] • 1,1,3,8,22,60,164,448,1224,3344,9136,24960,68192,186304,508992,1390592,3799168,10379520,28357376,77473792,211662336,578272256,1579869184,4316282880,11792304128 ★ a(0)=1, a(1)=1, a(2)=3; a(n) = 2*a(n-1) + 2*a(n-2) for n>2. • a(n) = (1 / 3) * sqrt(3) *{ [1 + sqrt(3)] ^ (n - 1) - [1 - sqrt(3)] ^ (n - 1) }+ (1 / 2) *{ [1 + sqrt(3)] ^ (n - 1) + [1 - sqrt(3)] ^ (n - 1) } + (1 / 2) * [C(2 * n,n) mod 2], with n>=0. - _ Paolo P. Lava _ , Jan 26 2009 • a(n) = sum(bin(n - k,k) * 2 ^ (n - k - 1),k=0..floor(n / 2)) for n > 0. - _ Emanuele Munarini _ , Feb 04 2014 •

[A028859] • 1,3,8,22,60,164,448,1224,3344,9136,24960,68192,186304,508992,1390592,3799168,10379520,28357376,77473792,211662336,578272256,1579869184,4316282880,11792304128,32217174016 ★ a(n+2) = 2*a(n+1) + 2*a(n). • a(n)=[(1 + sqrt(3)) ^ (n + 2) - (1 - sqrt(3)) ^ (n + 2)] / (4 * sqrt(3)). - _ Emeric Deutsch _ , Feb 01 2005 •

[A048503] • 1,3,8,22,61,165,430,1080,2627,6223,14428,32874,73849,163977,360602,786604,1704127,3670227,7864552,16777470,35651861,75497773,159383878,335544672,704643451 ★ G.f.: (1-4*x+6*x^2-2*x^3)/((1-x)^3*(1-2*x)^2). • a(n) = (14 + 7 * n + n ^ 2 + (n - 3) * 2 ^ (n + 2)) / 2. - T. D. Noe, Dec 11 2006 •

[A048579] • 3,8,22,61,170,474,1322,3688,10289,28705,80084,223427,623341,1739065,4851835,13536184,37764738,105360229,293945582,820081790,2287954586,6383187935,17808521403,49684176276,138614392311 ★ Pisot sequence L(3,8). • a(n) = 3 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 5) (holds at least up to n = 1000 but is not known to hold in general). •

[A121449] • 1,1,3,8,22,61,170,475,1329,3721,10422,29196,81797,229178,642125,1799169,5041123,14124860,39576902,110891905,310712054,870595599,2439354329,6834918465,19151015274 ★ Expansion of (1-3*x+2*x^2)/(1-4*x+3*x^2+x^3)/(3*x^6-4*x^5+x^4-3*x^2+4*x-1). • a(n) = b(n + 1,3) - b(n + 1,4) with b(n,c) = sum(floor(3 ^ m / 2 ^ c), m=1..n). • a(n) = (9 * 3 ^ n + 4 * n + 1 - (1 + (- 1) ^ n) * (1 + 4 * i ^ n)) / 32, where i=sqrt(- 1). - _ Bruno Berselli _ , Jul 30 2011 •

[A000782] • 1,3,8,23,70,222,726,2431,8294,28730,100776,357238,1277788,4605980,16715250,61020495,223931910,825632610,3056887680,11360977650,42368413620,158498860260,594636663660,2236748680998,8433988655580 ★ a(n) = 2*Catalan(n)-Catalan(n-1). • a(n) = leftmost column term of M ^ (n - 1) * V, where M = a tridiagonal matrix with 1's in the super and subdiagonals, (1,2,2,2,...) in the main diagonal; and the rest zeros. V = the vector [1,2,0,0,0,...]. - _ Gary W. Adamson _ , Jun 16 2011 •

[A176605] • 1,1,3,8,23,72,239,825,2929,10624,39193,146587,554535,2118042,8156595,31635298,123462515,484483902,1910465543,7566438417,30084771297,120044573286,480550302501,1929362833770,7767140703837 ★ Sequence defined by the recurrence formula a(n+1)=sum(a(p)*a(n-p)+k,p=0..n)+l for n>=1, with here a(0)=1, a(1)=1, k=0 and l=1. • a(n) = Sum _{ k=0..n } ((C(k) * Sum _{ j=0..(n - k) / 2 } (binomial(k + 1,j) * binomial(n - k - j - 1,n - k - 2 * j)))), where C(n) is Catalan numbers (A100108). - _ Vladimir Kruchinin _ , Apr 15 2016 •

[A080410] • 0,1,3,8,23,72,279,1236,6313,36133,230119,1611138,12308693,101865629,907900133,8669791288,88309821406,955736037556,10951928988000,132472073263683,1686686835102650,22549341913109430,315817852408881670 ★ Boustrophedon transform of the continued fraction of the Euler-Mascheroni constant, gamma (A001620). • a(n) appears to be asymptotic to C * n! * (2 / Pi) ^ n where C=5.79838940503783299259552225238077705314049166104773668246015... which almost satisfies the polynomial equation 94487 - 16249C - 8 C ^ 2=0 - _ Benoit Cloitre _ and Mark Hudson (mrmarkhudson(AT)hotmail.com) •

[A101495] • 1,1,3,8,23,73,253,948,3817,16433,75295,365600,1874083,10108025,57194585,338615084,2092609701,13470059649,90137761867,625940219896,4503468629391,33520255302185,257764170849941,2045255722438180 ★ Column 1 of triangle A101494. • a(n) = Sum _{ k=0..n } (k + 1) * (n - k) ^ k. G.f.: Sum _{ k>=0 } x ^ k / (1 - k * x) ^ 2. - _ Vladeta Jovovic _ , Sep 07 2006 •

[A099265] • 1,3,8,23,75,277,1132,4977,22979,109451,531456,2610931,12917683,64181625,319695980,1594859885,7963472187,39784944799,198827606704,993846943839,4968361974491,24839192686973,124188113975628 ★ Partial sum of A056272 (= Sum_{m=1..n} Sum_{i=1..5} S(m,i)) (i.e., partial sum of Stirling numbers of second kind S(n,i) for i=1..5)). • a(5,n) = (1 / 96) 5 ^ n + (1 / 8) 3 ^ n + ... + (1 / 3) 2 ^ n + (3 / 8) n - 15 / 32. •

[A084920] • 3,8,24,48,120,168,288,360,528,840,960,1368,1680,1848,2208,2808,3480,3720,4488,5040,5328,6240,6888,7920,9408 ★ a(n) = (prime(n)-1)*(prime(n)+1). • a(n) = (1 / 2) * Sum _{ |k|<=2 * sqrt(p) } k ^ 2 * H(4 * p - k ^ 2) where H() is the Hurwitz class number and p is n - th prime. - _ Seiichi Manyama _ , Dec 31 2017 •

[A080097] • 0,3,8,24,63,168,440,1155,3024,7920,20735,54288,142128,372099,974168,2550408,6677055,17480760,45765224,119814915,313679520,821223648,2149991423,5628750624,14736260448 ★ Fibonacci(n+2)^2 - 1. • a(n) = (1 / 5) *(Lucas(2 * n + 4) - 2 * (- 1) ^ n - 5). •

[A096886] • 1,3,8,24,64,192,512,1536,4096,12288,32768,98304,262144,786432,2097152,6291456,16777216,50331648,134217728,402653184,1073741824,3221225472,8589934592,25769803776,68719476736 ★ Expansion of (1+3x)/(1-8x^2). • a(n) = (1 + (- 1) ^ n)8 ^ floor((n + 1) / 2) / 2 + 3(1 - (- 1) ^ n)8 ^ floor(n / 2) / 2; • a(n) = 2 ^ (3n / 2)(3sqrt(2) / 8 + 1 / 2 - (3sqrt(2) / 8 - 1 / 2)(- 1) ^ n). • a(2n + 1) = 2a(2n) + 2a(2n - 1) + 2a(2n - 2); • a(2n) = 2a(2n - 1) + 2a(2n - 2). • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] •

[A095125] • 1,3,8,24,69,202,587,1711,4981,14508,42248,123039,358314,104349

2x-3x^2)). • a(n) = ((3 ^ n + 2 * 0 ^ n) / 3 + Sum _{ k=0..floor(n / 2) } C(n,2k)C(2k,k)) / 2. • a(n) = (4 * 3 ^ n + 3 * (- 1) ^ n * y1(n + 1) + 3 ^ (n + 2) * y2(n + 1)) / 24, n>0. • a(n) = ((5 * n - 4) * a(n - 1) - (3 * n - 6) * a(n - 2) - (9 * n - 18) * a(n - 3)) / n for n>3. - _ Alois P. Heinz _ , May 30 2016 •

[A057198] • 3,8,23,68,203,608,1823,5468,16403,49208,147623,442868,1328603,3985808,11957423,35872268,107616803,322850408,968551223,2905653668,8716961003,26150883008,78452649023,235357947068,706073841203 ★ a(n) = (5*3^(n-1)+1)/2. • a(n + 1) = 3 * a(n) - 1 for n > 1. [_ Reinhard Zumkeller _ , Jan 22 2011] •

[A025262] • 1,1,1,3,8,23,68,207,644,2040,6558,21343,70186,232864,778550,2620459,8872074,30195288,103246502,354508628,1221846856,4225644866,14659644348,51002664023,177909901566 ★ a(n) = a(1)*a(n-1) + a(2)*a(n-2) + ...+ a(n-1)*a(1) for n >= 4. • a(n)=sum(m=0..floor((n - 1) / 2), C(n - 2 * m - 1) * binomial(n - 2 * m,m) * (- 1) ^ m), where C = A000108 are the Catalan numbers. - _ Vladimir Kruchinin _ , Jan 26 2013 •

[A056010] • 1,1,3,8,23,68,207,644,2040,6558,21343,70186,232864,778550,2620459,8872074,30195288,103246502,354508628,1221846856,4225644866,14659644348,51002664023,177909901566,622093882290 ★ Number of words of length n in a simple grammar. • a(n) = 2 * a(n - 1) + a(0) * a(n - 2) + ... + a(n - 2) * a(0) for n>1. •

[A192679] • 1,1,1,3,8,23,68,217,738,2662,10111,40281,167605,725850,3262107,15175084,72908536,361068922,1839982245,9633358049,51746379547,284824200163,1604632175859,9243292234736,54390064543757 ★ Floor-Sqrt transform of ordered Bell numbers (A000670). • a(n) = floor(sqrt(orderedBell(n))). •

[A193418] • 1,3,8,23,69,206,616,1846,5537,16609,49824,149469,448405,1345212,4035632,12106892,36320673,108962015,326886040,980658115,2941974341,8825923018,26477769048,79433307138,238299921409 ★ Expansion of x*(x^2+x-1)/(3*x^6-4*x^5+x^4-3*x^2+4*x-1). • a(n) = b(n + 1,3) - b(n + 1,4) with b(n,c) = sum(floor(3 ^ m / 2 ^ c), m=1..n). • a(n) = (9 * 3 ^ n + 4 * n + 1 - (1 + (- 1) ^ n) * (1 + 4 * i ^ n)) / 32, where i=sqrt(- 1). - _ Bruno Berselli _ , Jul 30 2011 •

[A000782] • 1,3,8,23,70,222,726,2431,8294,28730,100776,357238,1277788,4605980,16715250,61020495,223931910,825632610,3056887680,11360977650,42368413620,158498860260,594636663660,2236748680998,8433988655580 ★ a(n) = 2*Catalan(n)-Catalan(n-1). • a(n) = leftmost column term of M ^ (n - 1) * V, where M = a tridiagonal matrix with 1's in the super and subdiagonals, (1,2,2,2,...) in the main diagonal; and the rest zeros. V = the vector [1,2,0,0,0,...]. - _ Gary W. Adamson _ , Jun 16 2011 •

[A176605] • 1,1,3,8,23,72,239,825,2929,10624,39193,146587,554535,2118042,8156595,31635298,123462515,484483902,1910465543,7566438417,30084771297,120044573286,480550302501,1929362833770,7767140703837 ★ Sequence defined by the recurrence formula a(n+1)=sum(a(p)*a(n-p)+k,p=0..n)+l for n>=1, with here a(0)=1, a(1)=1, k=0 and l=1. • a(n) = Sum _{ k=0..n } ((C(k) * Sum _{ j=0..(n - k) / 2 } (binomial(k + 1,j) * binomial(n - k - j - 1,n - k - 2 * j)))), where C(n) is Catalan numbers (A100108). - _ Vladimir Kruchinin _ , Apr 15 2016 •

[A080410] • 0,1,3,8,23,72,279,1236,6313,36133,230119,1611138,12308693,101865629,907900133,8669791288,88309821406,955736037556,10951928988000,132472073263683,1686686835102650,22549341913109430,315817852408881670 ★ Boustrophedon transform of the continued fraction of the Euler-Mascheroni constant, gamma (A001620). • a(n) appears to be asymptotic to C * n! * (2 / Pi) ^ n where C=5.79838940503783299259552225238077705314049166104773668246015... which almost satisfies the polynomial equation 94487 - 16249C - 8 C ^ 2=0 - _ Benoit Cloitre _ and Mark Hudson (mrmarkhudson(AT)hotmail.com) •

[A101495] • 1,1,3,8,23,73,253,948,3817,16433,75295,365600,1874083,10108025,57194585,338615084,2092609701,13470059649,90137761867,625940219896,4503468629391,33520255302185,257764170849941,2045255722438180 ★ Column 1 of triangle A101494. • a(n) = Sum _{ k=0..n } (k + 1) * (n - k) ^ k. G.f.: Sum _{ k>=0 } x ^ k / (1 - k * x) ^ 2. - _ Vladeta Jovovic _ , Sep 07 2006 •

[A099265] • 1,3,8,23,75,277,1132,4977,22979,109451,531456,2610931,12917683,64181625,319695980,1594859885,7963472187,39784944799,198827606704,993846943839,4968361974491,24839192686973,124188113975628 ★ Partial sum of A056272 (= Sum_{m=1..n} Sum_{i=1..5} S(m,i)) (i.e., partial sum of Stirling numbers of second kind S(n,i) for i=1..5)). • a(5,n) = (1 / 96) 5 ^ n + (1 / 8) 3 ^ n + ... + (1 / 3) 2 ^ n + (3 / 8) n - 15 / 32. •

[A084920] • 3,8,24,48,120,168,288,360,528,840,960,1368,1680,1848,2208,2808,3480,3720,4488,5040,5328,6240,6888,7920,9408 ★ a(n) = (prime(n)-1)*(prime(n)+1). • a(n) = (1 / 2) * Sum _{ |k|<=2 * sqrt(p) } k ^ 2 * H(4 * p - k ^ 2) where H() is the Hurwitz class number and p is n - th prime. - _ Seiichi Manyama _ , Dec 31 2017 •

[A080097] • 0,3,8,24,63,168,440,1155,3024,7920,20735,54288,142128,372099,974168,2550408,6677055,17480760,45765224,119814915,313679520,821223648,2149991423,5628750624,14736260448 ★ Fibonacci(n+2)^2 - 1. • a(n) = (1 / 5) *(Lucas(2 * n + 4) - 2 * (- 1) ^ n - 5). •

[A096886] • 1,3,8,24,64,192,512,1536,4096,12288,32768,98304,262144,786432,2097152,6291456,16777216,50331648,134217728,402653184,1073741824,3221225472,8589934592,25769803776,68719476736 ★ Expansion of (1+3x)/(1-8x^2). • a(n) = (1 + (- 1) ^ n)8 ^ floor((n + 1) / 2) / 2 + 3(1 - (- 1) ^ n)8 ^ floor(n / 2) / 2; • a(n) = 2 ^ (3n / 2)(3sqrt(2) / 8 + 1 / 2 - (3sqrt(2) / 8 - 1 / 2)(- 1) ^ n). • a(2n + 1) = 2a(2n) + 2a(2n - 1) + 2a(2n - 2); • a(2n) = 2a(2n - 1) + 2a(2n - 2). • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] •

[A095125] • 1,3,8,24,69,202,587,1711,4981,14508,42248,123039,358314,104349

7,3038897,8849971,25773136,75057288,218584013,636566754,1853828259,5398772767,15722463557,45787417156,133343452216 ★ Expansion of -x*(-1-x+x^2) / (1-2*x-3*x^2+x^3). • a(n + 3) = 2 * a(n + 2) + 3 * a(n + 1) - a(n), with a(1) = 1, a(2) = 3, a(3) = 8. •

[A291243] • 3,8,24,71,210,621,1836,5428,16047,47440,140247,414612,1225716,3623579,10712370,31668929,93622704,276776352,818232603,2418937120,7151092203,21140739568,62498266944,184763326671,546214936050 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - 3 S + S^2. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) for n >= 5. •

[A153774] • 1,3,8,24,71,213,638,1914,5741,17223,51668,155004,465011,1395033,4185098,12555294,37665881,112997643,338992928,1016978784,3050936351,9152809053,27458427158,82375281474,247125844421 ★ a(2*n) = 3*a(2*n-1), a(2*n+1) = 3*a(2*n) - 1, with a(1) = 1. • a(n) = (7 * 3 ^ (n - 1) + 2 + (- 1) ^ n) / 8. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). •

[A080923] • 1,3,8,24,72,216,648,1944,5832,17496,52488,157464,472392,1417176,4251528,12754584,38263752,114791256,344373768,1033121304,3099363912,9298091736,27894275208,83682825624,251048476872 ★ First differences of A003946. • a(n) = 2 ^ 3 * 3 ^ (n - 2), n >= 2, a(0) = 1, a(1) = 3. - _ Wolfdieter Lang _ , Jan 18 2013 •

[A178543] • 0,1,3,8,24,73,219,656,1968,5905,17715,53144,159432,478297,1434891,4304672,12914016,38742049,116226147,348678440,1046035320,3138105961,9414317883,28242953648,84728860944 ★ Partial sums of round(3^n/5). • a(n) = round(3 ^ (n + 1) / 10). • a(n) = floor((3 * 3 ^ n + 3) / 10). • a(n) = ceil((3 * 3 ^ n - 3) / 10). • a(n) = a(n - 4) + 8 * 3 ^ (n - 3) , n>3. • a(n) = 3 * a(n - 1) - a(n - 2) + 3 * a(n - 3), n>2. •

[A275856] • 1,1,3,8,24,74,231,723,2265,7098,22246,69724,218533,684941,2146791,6728628,21089356,66099798,207174811,649342415,2035216397,6378923798,19993288618,62664424664,196407414185 ★ a(n) = floor(c*s*a(n-1)) + floor(d*r*a(n - 2)), where r = (1+sqrt(5))/2, s = r/(r-1), c = 1, d = 1, a(0) = 1, a(1) = 1. • a(n) = floor(s * a(n - 1)) + floor(r * a(n - 2)), where r = (1 + sqrt(5)) / 2, s = r / (r - 1). •

[A000958] • 1,1,3,8,24,75,243,808,2742,9458,33062,116868,417022,1500159,5434563,19808976,72596742,267343374,988779258,3671302176,13679542632,51134644014,191703766638,720629997168,2715610275804 ★ Number of ordered rooted trees with n edges having root of odd degree. • a(n) = (- 1 / 2) ^ n * (- 2 - 5 * Sum((- 8) ^ k * Gamma(1 / 2 + k) * (4 / 5 + k) / (sqrt(Pi) * Gamma(k + 3)),k=1.. n - 1)). - Mark van Hoeij, Nov 11 2009 • a(n) = sum of top row terms in M ^ (n - 1), where M = the following infinite square production matrix: • a(n) = Catalan(n - 1) * h(n - 1) for n>=2 where h(n) = hypergeom([1,3 / 2, - n / 2,(1 - n) / 2],[1 / 2, - n, - n + 1 / 2], 1). - _ Peter Luschny _ , Apr 25 2016 •

[A134165] • 1,3,8,24,86,348,1478,6324,26846,112668,467798,1925124,7867406,31980588,129475718,522603924,2104600766,8461122108,33972973238,136278002724,546271650926 ★ Let P(A) be the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are disjoint and for which either x is a subset of y or y is a subset of x, or 1) x and y are disjoint and for which x is not a subset of y and y is not a subset of x, or 2) x and y are intersecting but for which x is not a subset of y and y is not a subset of x, or 3) x = y. • a(n) = (1 / 2)(4 ^ n - 2 * 3 ^ n + 5 * 2 ^ n - 2) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 1,3) + 2 * StirlingS2(n + 1,2) + 1. •

[A174662] • 1,3,8,24,88,400,2212,14500,110116,951076,9205156,98646436,1159016356,14808626596,204358994596,3028436306596,47955883346596,807990334802596,14430691329362596,272302801683794596,5412861968581970596 ★ Partial sums of A003149. • a(n) = Sum _{ i=0..n } Sum _{ k=0..i } k! * (i - k)!. •

[A002104] • 0,1,3,8,24,89,415,2372,16072,125673,1112083,10976184,119481296,1421542641,18348340127,255323504932,3809950977008,60683990530225,1027542662934915,18430998766219336,349096664728623336 ★ Logarithmic numbers. • a(n) = Sum _{ k=1..n } Sum _{ i=0..n - k } (n - k)! / i!. • a(n) = sum { k=0..n - 1, binomial(n, k) * (n - k - 1)! } , row sums of A111492. - _ Paul Barry _ , Aug 26 2004 • a(n) = n * 3F1((1,1,1 - n); (2); - 1). - _ Jean - François Alcover _ , Mar 29 2011 • a(n) = n * a(n - 1) - (n - 1) * a(n - 2) + 1, a(0) = 0, a(1) = 1. - _ Richard R. Forberg _ , Dec 15 2014 •

[A026970] • 1,3,8,25,60,147,336,765,1700,3751,8184,17745,38220,81915,174752,371365,786420,1660239,3495240,7340025,15379100,32156323,67108848,139810125,290805060 ★ a(n) = Sum{(k+1)*T(n,k)}, 0<=k<=n, T given by A026637. • a(n) = - ((- 1) ^ n - 2 ^ (n + 2) + 3) * (n + 2) / 6 for n>0. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 7 * a(n - 4) + 4 * a(n - 5) - 4 * a(n - 6) for n>6. •

[A192905] • 0,1,3,8,25,79,248,777,2435,7632,23921,74975,234992,736529,2308483,7235416,22677769,71078319,222778856,698249753,2188505347,6859373216,21499148257,67384199871,211200478176 ★ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n)= 3 * a(n - 1) + a(n - 3) + a(n - 4). •

[A101490] • 0,1,1,3,8,25,80,267,911,3170,11192,39993,144320,525124,1924196,7093603,26288928,97878831,365918064,1372982706,5168555770,19514482964,73876936272,280363191353,1066357904128 ★ G.f. satisfies A(x) = x*(1+A^2)^2/(1-A+A^2). • a(n) = T(2 * n - 1,n) / n, where T(n,k)=T(n - 1,k) - T(n - 2,k) + T(n - 1,k - 1) + 2 * T(n - 3,k - 1) + T(n - 5,k - 1). - _ Vladimir Kruchinin _ , Sep 29 2014 •

[A161634] • 1,1,3,8,25,81,274,953,3389,12265,45025,167256,627540,2374672,9052447,34731401,134010573,519683813,2024370167,7917605996,31080085431,122407860927,483558273368,1915535953655,7607408410408 ★ G.f. satisfies: A(x) = 1/(1 - x*(1 + x*A(x))^2). • a(n) = Sum _{ k=0..n } C(n + 1,k) / (n + 1) * C(2 * k,n - k). • a(n,m) = Sum _{ k=0..n } C(n + m,k) * m / (n + m) * C(2 * k,n - k). •

[A038665] • 3,8,25,84,294,1056,3861,14300,53482,201552,764218,2912168,11143500,42791040,164812365,636438060,2463251010,9552774000,37112526990,144410649240,562724141460,2195581527360,8576490341250,33537507830424 ★ Convolution of A007054 (super ballot numbers) with A000984 (central binomial coefficients). • a(n) = (n + 3) * C(n + 1) with C(n) the Catalan numbers A000108. •

[A045900] • 1,1,3,8,25,85,318,1234,4884,19458,77727,310761,1242853,4971151,19884270,79536639 ★ Hypothetical numbers of terms in general expressions for coefficients of Lovelock Lagrangians. • a(n + 3) = 3 * a(n + 2) - 3 * a(n + 1) + a(n) + p(n + 3) - 3 * p(n + 2) + 3 * p(n + 1) - p(n) + 2 ^ (2 * n + 1); a(n + 4) = 7 * a(n + 3) - 15 * a(n + 2) + 13 * a(n + 1) - 4 * a(n) + p(n + 4) - 7 * p(n + 3) + 15 * p(n + 2) - 13 * p(n + 1) + 4 * p(n); where p(n) is the partition function (i.e. number of partitions of n, A000041) and where p(0) = 1. •

[A130522] • 1,1,3,8,25,89,349,1496,6962,34861,186678,1063591,6418167,40860485,273513831,1919284246,14080876273,107750778177,858195666410,7100543662976,60922480229704,541193416875432,4970306167860426 ★ Diagonal immediately below the main diagonal of triangle A130521. • a(n) = Sum _{ k=0..[n / 2] + 1 } [C(n - k,k) + C(n - k + 1,k - 1)] * a(n - k - 1) for n>=2, with a(0)=a(1)=1. •

[A161938] • 3,8,26,88,300,1024,3496,11936,40752,139136,475040,1621888,5537472,18906112,64549504,220385792,752444160,2569005056,8771131904,29946517504,102243806208,349082189824,1191841146880,4069200207872 ★ a(n) = ((3+sqrt(2))*(2+sqrt(2))^n + (3-sqrt(2))*(2-sqrt(2))^n)/2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n>1; a(0) = 3; a(1) = 8. •

[A189177] • 1,1,3,8,26,88,311,1125,4139,15411,57901,219070,833509,3185834,12223298,47048989,181596815,702589992,2723964698,10580344863,41163089721,160380285133,625698670720 ★ Diagonal sums of the Riordan matrix (1+x/sqrt(1-4*x),(1-sqrt(1-4*x))/2) (A189175). • a(n) = sum(binomial(2 * n - 3 * k,n - k) * (n ^ 2 - n * k - k ^ 2 - k) / ((2 * n - 3 * k) * (2 * n - 3 * k - 1)),k=0..floor(n / 2))), for n>=3. •

[A028270] • 1,3,8,26,90,322,1176,4356,16302,61490,233376,890188,3409588,13104756,50517200,195234120,756197910,2934686610,11408741520,44420399100,173191792620,676104403260,2642356838160,10337529691320,40481034410700 ★ Central elements in 3-Pascal triangle A028262 (by row). • a(n) = (n + 1) * C(n) + n * C(n - 1), C = Catalan number (A000108). - _ Gary W. Adamson _ , Dec 28 2007 •

[A074506] • 3,8,26,92,338,1268,4826,18572,72098,281828,1107626,4371452,17308658,68703188,273218426,1088090732,4338014018,17309009348,69106897226,276040168412,1102998412178,4408506864308,17623567104026 ★ a(n) = 1^n + 3^n + 4^n. • a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 6 with a(0)=3, a(1)=8. - _ Vincenzo Librandi _ , Jul 19 2010 • a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 12 * a(n - 3). - _ R. J. Mathar _ , Jul 18 2010 •

[A242537] • 1,3,8,27,82,255,794,2463,7654,23775,73850,229407,712606,2213583,6876098,21359343,66348934,206100927,640215146,1988712255,6177573934,19189513071,59608742162,185163746895,575177598550 ★ Number of n-length words on {1,2,3,4,5} such that the maximal runs of identical odd integers are of odd length and the maximal runs of identical even integers are of even length. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4). - _ Fung Lam _ , May 18 2014 •

[A210680] • 0,1,3,8,27,89,272,873,2859,8936,25491,67665,228192,752241,2167859,6833896,18464907,52758345,142005584,440498361,1186119547,3461957320,9357060899,26968655777,72945663424 ★ a(n) = (3*a(n-1)) XOR a(n-2). • a(n) = (3 * a(n - 1)) XOR a(n - 2), a(0)=0, a(1)=1. •

[A102318] • 1,1,3,8,27,97,373,1493,6163,26027,111897,488006,2153429,9596199,43121211,195165576,888861555,4070582971,18732710281,86584519280,401776434017,1870983991035,8740907398527,40956401225597 ★ A mean binomial transform of the Catalan numbers. • a(n)=sum { k=0..floor(n / 2), binomial(n, 2k)C(n - 2k) } ; • a(n)=sum { k=0..n, binomial(n, k)C(k)(1 + (- 1) ^ (n - k)) / 2 } . •

[A102206] • 3,8,27,98,363,1352,5043,18818,70227,262088,978123,3650402,13623483,50843528,189750627,708158978,2642885283,9863382152,36810643323,137379191138,512706121227,1913445293768,7141075053843,26650854921602,99462344632563 ★ a(0) = 3, a(1) = 8, a(n+2) = 4*a(n+1) - a(n) - 2. • a(0)=3, a(1)=8, a(2)=27, a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 25 2012 • a(n) = (2 + (2 - sqrt(3)) ^ (1 + n) + (2 + sqrt(3)) ^ (1 + n)) / 2. - _ Colin Barker _ , Nov 03 2016 •

[A110886] • 1,1,3,8,27,104,436,1930,8871,41916,202300,992942,4940912,24867870,126371426,647494746,3341341155,17350565376,90593056624,475333630402,2504959102224,13252904123786,70366654738470,374824160997086 ★ Number of signed weighted Euler trees with total weight n (associated to even switching classes of matrices of order 2n). • a(n)=2 + sum(k=1,n - 1,a(n - k) * a(k)) - _ Benoit Cloitre _ , Jul 27 2008 • a(n)=sum(k=1..n, (binomial(2 * k - 2,k - 1) * sum(i=0..n - k, binomial(k,n - k - i) * binomial(k + i - 1,k - 1))) / k), n>0 a(0)=1. [_ Vladimir Kruchinin _ , Jan 24 2013] • a(n + 1) starting (1, 3,...) = (first n terms) dot product (first n difference terms), added to a(n). [_ Gary W. Adamson _ , May 20 2013] •

[A294197] • 3,8,27,120,650,4117,30380,255000,2402333,25086428 ★ Floor of log base n! of product of all primes between n!+1 and (n+1)!. • a(n) = Sum _ (log(p _ i), i=primepi(n!) + 1..primepi((n + 1)!)) / log(n!). •

[A030495] • 1,3,8,27,124,725,5046,40327,362888,3628809,39916810,4790016

11,6227020812,87178291213,1307674368014,20922789888015,3556874280960
16,6402373705728017,121645100408832018,2432902008176640019 ⋆ a(n) =
(n+1)!+ n. • a(n) = n + Sum _{ k * k!: k=1, 2, ..., n - 1 } . •
[A074271] • 1,3,8,27,130,863,7554,84385,1165814,19408513,381328184,86903
96907,226500350374,6671888768963,219904832427160,8040978338951561,323
784549401655250,14264968083112608087 ⋆ Previous term + prime(previous
term). • a(1)=1; a(n)=a(n - 1) + prime(a(n - 1)). •
[A163062] • 3,8,28,88,288,928,3008,9728,31488,101888,329728,1067008,34529
28,11173888,36159488,117014528,378667008,1225392128,3965452288,12832473
088,41526755328,134383403008,434873827328,1407281266688 ⋆ a(n) = ((3+sqrt(5))^n
+ (3-sqrt(5))*(1-sqrt(5))^n)/2. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) for n > 1;
a(0) = 3, a(1) = 8. •
[A093356] • 3,8,28,104,400,1568,6208,24704,98560,393728,1573888,6293504,2
5169920,100671488,402669568,1610645504,6442516480,25769934848,10307947
7248,412317384704,1649268490240,6597071863808,26388283260928 ⋆ Number
of occurrences of pattern 1-2 after n iterations of morphism A007413. • a(1) =
3, a(n) = { 3 * 4 ^ (n - 1) + 2 ^ n }/ 2. • a(1)=3, a(2)=8, a(3)=28, a(n)=6 *
a(n - 1) - 8 * a(n - 2) [From Harvey P. Dale, Oct 02 2011] •
[A135583] • 3,8,28,108,428,1708,6828,27308,109228,436908,1747628,699050
8,27962028,111848108,447392428,1789569708,7158278828,28633115308,114532
461228,458129844908,1832519379628,7330077518508,29320310074028 ⋆ a(n) =
4*a(n-1) - 4 for n>0, a(0)=3. • a(n) = (4 + 5 * 4 ^ n) / 3. • a(n) = (13 * 4
^ n - 4) / 3. - _ Paolo P. Lava _ , Jun 06 2008 • a(0)=3, a(1)=8; for n>1, a
(n) = 5 * a(n - 1) - 4 * a(n - 2). - _ Harvey P. Dale _ , Feb 27 2013 •
[A000776] • 1,3,8,28,124,668,4248,31176,259488,2416032,24886080,28100448
0,3451887360,45832538880,654109585920,9986000371200,162391354675200,280
2498609254400,51156349822771200,984775394044108800,199387980816998400
00,4235805637320499200000 ⋆ a(n) = n! * (1 + 2*Sum_{k=1..n} 1/k). • a(0)
=1, a(n + 1) = (n + 1) * a(n) + 2 * n!, n > 0. - _ Sean A. Irvine _ , Jun 14
2011 •
[A080874] • 1,1,3,8,29,79,287,782,2841,7741,28123,76628,278389,758539,275
5767,7508762,27279281,74329081,270037043,735782048,2673091149,728349139
9,26460874447,72099131942,261935653321 ⋆ a(n)*a(n+3) - a(n+1)*a(n+2) =
5, given a(0)=a(1)=1, a(2)=3. • a(n) = (- 1 / 24 * 3 ^ (1 / 2) * 2 ^ (1 / 2) +
1 / 4 - 1 / 16 * 2 ^ (1 / 2) + 1 / 8 * 3 ^ (1 / 2)) * (sqrt(3) + sqrt(2)) ^ n + (1
/ 24 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 4 + 1 / 16 * 2 ^ (1 / 2) + 1 / 8 * 3 ^ (1
/ 2)) * (sqrt(3) - sqrt(2)) ^ n + (- 1 / 24 * 3 ^ (1 / 2) * 2 ^ (1 / 2) - 1 / 8 * 3
^ (1 / 2) + 1 / 16 * 2 ^ (1 / 2) + 1 / 4) * (- sqrt(3) - sqrt(2)) ^ n + (- 1 / 16
* 2 ^ (1 / 2) + 1 / 4 + 1 / 24 * 3 ^ (1 / 2) * 2 ^ (1 / 2) - 1 / 8 * 3 ^ (1 / 2)) *
(- sqrt(3) + sqrt(2)) ^ n [From _ Richard Choulet _ , Dec 04 2008] •
[A162560] • 3,8,30,132,612,2880,13608,64368,304560,1441152,6819552,32270
400,152705088,722608128,3419418240,16180860672,76568654592,36232676352
0,1714548653568,8113331340288,38392696120320,181676188680192 ⋆ a(n) =
(4+sqrt(3))*(3+sqrt(3))^n + (4-sqrt(3))*(3-sqrt(3))^n. • a(n) = 6 * a(n - 1) -
6 * a(n - 2) for n > 0; a(- 1) = 3, a(0) = 8. • a(n) = 6 * (a(n - 1) - a(n - 2)),
with a(0)=3 and a(1)=8. - _ Paolo P. Lava _ , Jul 15 2009 •
[A074501] • 3,8,30,134,642,3158,15690,78254,390882,1953638,9766650,488301
74,244144722,1220711318,6103532010,30517610894,152587956162,76293958419
8,3814697527770,19073486852414,95367432689202,476837160300278 ⋆ a(n) =
1^n + 2^n + 5^n. • a(n) = 7 * a(n - 1) - 10 * a(n - 2) + 4 with a(0)=3, a(1)
=8. - _ Vincenzo Librandi _ , Jul 21 2010 •
[A059171] • 1,1,3,8,30,144,840,5760,45360,403200,3991680,43545600,518918
400,6706022400,93405312000,1394852659200,22230464256000,3766102179840
00,6758061133824000,128047474114560000,2554547108585472000 ⋆ Size of
largest conjugacy class in S_n, the symmetric group on n symbols. • a(1)
= a(2) = 1; a(n) = n * (n - 2)! = (n!) / (n - 1) for n>2. This is the number o
f (n - 1) - cycles in S _ n. •
[A078619] • 1,1,3,8,30,145,844,5779,45457,403791,3995883,43579692,519229
008,6709162022,93440175754,1395274532769,22235989448253,37668808479712
8,6759236101851595,128066374705591015,2554869984086726681 ⋆ Floor(average
of first n factorials). • a(n) = Floor((1 / n)(Sum _{ i=1, ..., n } i!) •
[A066165] • 3,8,30,234,1680,13040,119448,1212120,13412520,161968872,211
8607920,29813747040,449227822680,7216747374720,123128587713600,222351
1629522624,42370586275466880,849664985938704000 ⋆ Variant of Stanley's
children's game. Class of n (named) children forms into rings of at least two
with exactly one child inside each ring. a(n) gives number of possibilities,
including clockwise order (or which hand is held), in each ring. • a(n)=n! * s
um(sum(binomial(k,j) * j! / (n - 2 * k + j)! * stirling1(n - 2 * k + j,j) * (- 1)
^ (n - k - j),j,0,k) / k!,k,1,floor(n / 2)), n>2. - _ Vladimir Kruchinin _ , Sep
07 2010 •
[A003470] • 1,1,3,8,31,147,853,5824,45741,405845,4012711,43733976,520795
003,6726601063,93651619881,1398047697152,22275111534553,37727884839024
9,6768744159489931,128228860181918440,2557808459478878871,535857487888
74537851,1176328664895760953853 ⋆ a(n) = n*a(n-1) - a(n-2) + 1 + (-1)^n. •
a(n) = Sum _{ k=0..floor(n / 2) } C(n - k,k) * (n - 2k)!. - _ Paul Barry _ D
ec 15 2010 • a(2m) = hypergeom([1, - m,m + 1],[], - 1). • a(2m + 1) = hyper
geom([1, - m,m + 2],[], - 1) * (m + 1). • a(2m - 1) + a(2m + 1) = (2m + 1)
a(2m). (End) • a(n) = Sum _{ k=0..n } (- 1) ^ k * hypergeom([k + 1, k - n]
, [], - 1). - _ Peter Luschny _ , Oct 05 2017 •
[A103939] • 1,3,8,32,136,722,3924,22954,138316,860364,5472444,35503288,23
4070648,1564945158,10589356592,72412611194,499788291616,3478059566250,2
4383023246284,172074483068320 ⋆ Number of unrooted Eulerian n-edge maps
in the plane (planar with a distinguished outside face). • a(n)=(1 / (2n))[2 ^
n * binomial(2n, n) / (n + 1) + sum _{ 0<k<n, k|n } phi(n / k)2 ^ k * bino
mial(2k, k)] where phi is the Euler function A000010. •
[A001120] • 1,3,8,33,164,985,6894,55153,496376,4963761,54601370,65521644
1,8517813732,119249392249,1788740883734,28619854139745,48653752037566
4,8757675366761953,166395831968477106,3327916639369542121,698862494267
60384540,1537497487388728459881 ⋆ a(1) = 1; for n > 1, a(n) = n*a(n-1) +
(-1)^n. • a(n) = n! * (1 + Sum _{ k=0..n } (- 1) ^ k / k!, n>=1. - _ Paolo
P. Lava _ , Nov 21 2008 • a(n) = (n - 1) * (a(n - 1) + a(n - 2)), n>2. - _ Ga
ry Detlefs _ , Apr 11 2010 •
[A024419] • 1,1,3,8,34,156,924,6144,48096,420480,4134240,44720640,530444
0,68168448051200,94787884800,1412038656000,22464536371200,38001722572800
0,6811416338227200,128936055177216000,2570286167543808000,538185465037
94688000,1180914445357903872000 ⋆ a(n) = n! (1/C(n,0) + 1/C(n,1) + ... +
1/C(n,[n/2])). • a(n) = Sum _{ k=0..floor(n / 2) } k! * (n - k)!. - _ Vladi
mir Reshetnikov _ , Oct 05 2016 •
[A295103] • 1,1,3,8,36,159,932,5627,40016,302364,2510712,22623490,2134868
64,2227719948,23388469400,277570328040,3182959484736,42530335589088,523
078873327872,7846745537655360,101370634558327680,1717052148685665792,2
2657314273376353408 ⋆ a(n) = (1/n) times the n-th derivative of the third
tetration of x (power tower of order 3) x^^3 at x=1. • a(n) = 1 / n * [(d / dx
) ^ n x ^^ 3] _{ x=1 } . • a(n) = (n - 1)! * [x ^ n] (x + 1) ^^ 3. •
[A024039] • 1,3,8,37,192,899,3880,16041,65024,261415,1047576,4192973,167
75488,67106667,268432712,1073738449,4294963200,17179864271,6871947090
4,274877900085,1099511619776,4398046501843,17592186033768,70368744165
497,281474976696832 ⋆ 4^n-n^3. • a(0)=1, a(1)=3, a(2)=8, a(3)=37, a(4)=19
2, a(n)=8 * a(n - 1) - 22 * a(n - 2) + 28 * a(n - 3) - 17 * a(n - 4) + 4 * a(n - 5
) [From Harvey P. Dale, Jul 26 2011] •
[A065914] • 1,3,8,38,294,2922,38949,604764,11635147,287020007,772112974
0,250811981714 ⋆ Number of primes in the interval [1/2 * q(n), 3/2 * q(n) - 1
] where q(n) is prime(n)#, the n-th primorial. • a(n) = pi(3 * q(n) / 2 - 1) -
pi(q(n) / 2 - 1). •
[A108262] • 3,8,39,220,1275,7424,43263,252148,1469619,8565560,49923735,29
0976844,1695937323,9884647088,57611945199,335787024100,1957110199395,11
406874172264,66484134834183 ⋆ Second order recursive series having the prop-
erty that the product of any two adjacent terms equals 4 times a triangular
number. That is a(n)*a(n+1)= 4*T(c) = 2c(c+1), where c = the term a(n+1)
of related series A108261. • a(n) = 6 * a(n - 1) - a(n - 2) - 6 • a(n)= 3 / 2 +
(1 / 4) * [3 + 2 * sqrt(2)] ^ n + (1 / 4) * [3 - 2 * sqrt(2)] ^ n, with n>=0 - _
Paolo P. Lava _ , Jun 25 2008 •
[A107991] • 1,1,1,3,8,40,180,1260,8064,72576,604800,6652800,68428800,88957
4400,10897286400,163459296000,2324754432000,39520825344000,64023737057
2800,12164510040883200 ⋆ Complexity (number of maximal spanning trees) in
an unoriented simple graph with nodes {1,2,..,n} and edges {i,j} if i+j>n. • a
(n)=(n - 1)! / floor((n + 1) / 2) • a(n + 1) = n! / floor(n / 2 + 1). - _ M. F.
Hasler _ , Apr 21 2015 •
[A038048] • 1,3,8,42,144,1440,5760,75600,524160,6531840,43545600,11176704
00,6706022400,149448499200,2092278988800,40537905408000,37661021798400
0,13871809695744000,128047474114560000,5109094217170944000 ⋆ a(n) = (n-
1)! * sigma(n). • a(n) = Sum _{ d|n } n! / d. - _ Amarnath Murthy _ , Jul
24 2005 • a(p) = (p + 1) * (p - 1)! if p is a prime. - _ Amarnath Murthy _ ,
Jul 24 2005 •
[A210373] • 0,3,8,48,84,243,360,768,1040,1875,2400,3888,4788,7203,8624,122
88,14400,19683,22680,30000,34100,43923,49368,62208,69264 ⋆ Number of 2 X
2 matrices with all elements in {0,1,...,n} and positive odd determinant. • a(n
) = (2 * n + 1 - (- 1) ^ n) ^ 2 * (6 * n + 5 - (- 1) ^ n) * (2 * n + 3 + (- 1) ^
n) / 256 • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n
- 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 8. •
[A005444] • 1,1,3,8,50,214,2086,11976,162816,1143576,20472504,165910128,3
785092032,33908109936,967508478192,9252123203712,327062428940160,32360
57604910080,141403289873955840,1404243298160352000,7616895591683102970
60,735206146073008508160 ⋆ From a Fibonacci-like differential equation. • a(
n) = Sum(k! * fibonacci(k + 1) * stirling1(n, k), k = 0..n). •
[A121567] • 1,1,3,8,55,144,987,2584,17711,317811,832040,14930352,10233415
5,267914296,1836311903,32951280099,591286729879,1548008755920,277778900
35288,190392490709135,498454011879264,8944394323791464 ⋆ Fibonacci[(p -
1)], where p = Prime[n]. • a(n) = Fibonacci[Prime[n] - 1]. •
[A047471] • 1,3,9,11,17,19,25,27,33,35,41,43,49,51,57,59,65,67,73,75,81,83,89,9
1,97 ⋆ Numbers that are congruent to {1, 3} mod 8. • a(n) = 4 * (n - 1) - (-
1) ^ n. [_ Rolf Pleisch _ , Aug 04 2009] • a(n) = 8 * n - a(n - 1) - 12, with a
(1)=1. [_ Vincenzo Librandi _ , Aug 06 2010] •
[A225771] • 1,3,9,11,17,19,27,33,41,43,51,57,59,67,73,81,83,89,97,99,107,113,1
21,123,129 ⋆ Numbers that are positive integer divisors of 1 + 2*x^2 where x
is a positive integer. • a(n) integers whose prime divisors are congruent to 1 o
r 3 (mod 8). - _ Carmine Suriano _ , Jan 09 2015 •
[A144181] • 1,1,3,9,11,17,35,57,91,161,275,457,779,1329,2243,3801,6459,109
45,18547,31465,53355,90449,153379,260089,440987 ⋆ INVERT transform of
A118434, = row sums of triangle A144182. • a(n) = a(n - 1) + 2 * a(n -
3) for n>3. •
[A179867] • 3,9,11,21,22,41,42,43,44,81,82,83,84,85,86,87,88,161,162,163,164,1
65,166,167,168 ⋆ "Recurrence function" for Thue-Morse infinite word A010060.
• a(1)=3, a(2)=9; thereafter define k by 2 ^ k + 2 <= n <= 2 ^ (k + 1) + 1
and set a(n) = 9 * 2 ^ k + n - 1. •
[A145812] • 1,3,9,11,33,35,41,43,129,131,137,139,161,163,169,171,513,515,52
1,523,545,547,553,555,641 ⋆ Odd positive integers a(n) such that for every odd

integer m > 1 there exists a unique representation of m as a sum of the form a(l) + 2a(s). • a(2n - 1) = 4 * a(n) - 3. • a(2n) = 4 * a(n) - 1. •

[A220944] • 1,3,9,11,33,35,105,107,321,323,969,971,2913,2915,8745,8747,26241,26243,78729,78731,236193,236195,708585,708587,2125761 ★ Expansion of (1+3*x+5*x^2-x^3)/((1-x^2)*(1-3*x^2). • a(n) = a(n - 1) + 2 if n odd. • a(n) = a(n - 1) * 3 if n even. • a(n) = 4 * a(n - 2) - 3 * a(n - 4) with a(0)=1, a(1)=3, a(2)=9, a(3)=11. •

[A249647] • 1,3,9,11,33,99,111,333,999,1111,3333,9999,11111,33333,99999,111111,142857,333333,999999,1111111,3333333,9999999,11111111,33333333,99999999 ★ Numbers n that divide the concatenation of n+1 and n-1. • a(n) = 1000001 * a(n - 19) + 1000000 * a(n - 38). - _ Robert Israel _ , Jan 06 2016 •

[A135365] • 1,3,9,11,33,99,313,939,2817,8435,25305,75915,227761,683283,2049849,6149531,18448593,55345779,166037353,498112059,1494336177,4483008515,13449025545,40347076635,121041229921 ★ a(n) = 3*a(n-1) - a(n-3) + 3*a(n-4) for n>3. • a(n) = (1 / 7) * 3 ^ (n + 1) + (4 / 3) * (- 1) ^ n - (16 / 21) * cos(Pi * n / 3) + (16 * sqrt(3) / 7) * sin(Pi * n / 3). • a(n) = (1 / 7) * 3 ^ (n + 1) + (1 / 7) * [4; 12; 36; - 4; - 12; - 36] for n>=0. (End) • a(n) = (3 / 7) * 3 ^ n + (4 / 3) * (- 1) ^ n - (8 / 21) *{ [(1 - I * sqrt(3)) / 2] ^ n + [(1 + I * sqrt(3)) / 2] ^ n } + (8 / 7) * I * sqrt(3) *{ [(1 - I * sqrt(3)) / 2] ^ n - [(1 + I * sqrt(3)) / 2] ^ n } , with n>=0. - _ Paolo P. Lava _ , Jan 09 2009 •

[A069871] • 3,9,11,33,111,333,1111,3333,11111,33333,111111,142857,333333,1111111,3333333,11111111,33333333,111111111,333333333,1111111111,3333333333,11111111111,33333333333,111111111111,142857142857 ★ Numbers n that divide the concatenation of n-1 and n+1. • a(1 + 2 * j + 13 * k) = (10 ^ (1 + j + 6 * k) - 1) / 9, j=0..5, k >= 0 (except for j=k=0). • a(2 * j + 13 * k) = (10 ^ (j + 6 * k) - 1) / 3, j=0..5, k >= 0 (except for j=k=0 and j=1,k=0). • a(13 * k - 1) = (10 ^ (6 * k) - 1) / 7, k >= 1. •

[A077468] • 1,3,9,12,15,17,27,34,39,46,49,52,54,66,70,73,81,84,90,95,102,106,110,116,119 ★ Greedy powers of (2/3): sum_{n=1..inf} (2/3)^a(n) = 1. • a(n) =sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(2 / 3) and frac(y) = y - floor(y). •

[A136290] • 1,3,9,12,15,21,24,27,33,36,39,45,48 ★ Continuing from the arrangement of pennies described in A136289, we also wish to place dimes over the holes in the array, where the n-th generation of dimes can be placed only when all three of its supporting pennies are in place already; sequence gives number of dimes in generation n. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n >5. •

[A261953] • 1,3,9,12,18,21,27,30,36,39,45,48,54,57,63,66,72,75,81,84,90,93,99,102,108 ★ Start with a single equilateral triangle for n=0; for the odd n-th generation add a triangle at each expandable side of the triangles of the (n-1)-th generation (this is the "side to side" version); for the even n-th generation use the "vertex to vertex" version; a(n) is the number of triangles added in the n-th generation. • a(0)=1, a(1)=3; for n >= 2, a(n)= a(n - 1) + 6, if mod(n,2) = 0, otherwise a(n) = a(n - 1) + 3. • a(n) = (3 * (- 1 + (- 1) ^ n + 6 * n)) / 4 . • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[A022379] • 3,9,12,21,33,54,87,141,228,369,597,966,1563,2529,4092,6621,10713,17334,28047,45381,73428,118809,192237,311046,503283 ★ Fibonacci sequence beginning 3, 9. • a(n + 2) = 3 * L(n + 3) = L(n) + 4 * L(n + 1) + 2 * L(n + 2), where L=A000032. - _ J. M. Bergot _ , Oct 21 2012 • a(n) = Fibonacci(n + 4) - Fibonacci(n - 4), where n>0 and Fibonacci(- 3.. - 1) = 2, - 1,1. - _ Bruno Berselli _ , May 22 2015 • a(n) = L(n + 4) + L(n - 4) - 4 * L(n) for n >0. - _ Bruno Berselli _ , Dec 29 2016 •

[A268044] • 3,9,13,19,23,29,33,39,43,49,53,59,63,69,73,79,83,89,93,99,103,109,113,119,123 ★ The odd numbers congruent to {3, 4} mod 5. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = 5 * n - (3 - (- 1) ^ n) / 2. •

[A075318] • 3,9,13,19,25,29,35,39,45,51,55,61,67,71,77,81,87,93,97,103,107,113,119,123,129 ★ Pair the odd numbers such that the k-th pair is (r, r+2k) where r is the smallest odd number not included earlier: (1,3),(5,9),(7,13),(11,19),(15,25),(17,29),(21,35),(23,39),(27,45). This is the sequence of the second member of pairs. • a(n) = 2 * floor(n * phi ^ 2) - 1, where phi=(1 + sqrt(5)) / 2. - _ Michel Dekking _ , Sep 08 2016 •

[A135370] • 1,3,9,13,23,29,43,51,69,79,101,113,139,153,183,199,233,251,289,309,351,373,419,443,493 ★ a(1)=1; then if n even a(n) = n + a(n-1), if n odd a(n) = 2*n + a(n-1). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = - 7 / 8 + 3 * n * (n + 1) / 4 - (- 1) ^ n * (1 + 2 * n) / 8 . (End) • a(n) = (lcm(f(n), f(n) + 3) - 1) / 3, where f(n) = floor((3 * n - 1) / 2). - _ Gary Detlefs _ , May 14 2011 •

[A092476] • 1,3,9,14,16,22,27,29,35,40,42,48,53,55,61,66,68,74,79,81,87,92,94,100,105 ★ Numbers that are congruent to {1, 3, 9} mod 13. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = a(n - 3) + 13 for n>3. (End) • a(n) = (39 * n - 39 + 3 * cos(2 * n * Pi / 3) + 7 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 13k - 4, a(3k - 1) = 13k - 10, a(3k - 2) = 13k - 12. (End) •

[A001968] • 3,9,14,19,24,30,35,40,45,51,56,61,66,71,77,82,87,92,98,103,108,113,119,124,129 ★ Wythoff game. • a(n) = floor((n + 3 / 4) * (3 + sqrt 5)) . - R. J. Mathar, Feb 14 2011 •

[A259754] • 3,9,15,18,21,27,33,39,42,45,51,57,63,66,69,75,81,87,90,93,99,105,111,114,117 ★ Numbers that are congruent to {3,9,15,18,21} mod 24. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n>6. •

[A277569] • 3,9,15,18,21,27,33,39,45,51,54,57,63,69,75,81,87,90,93,99,105,108,111,117,123 ★ Numbers n such that n/6^m == 3 mod 6, where 6^m is the greatest power of 6 that divides n. • a(n) = 5n + O(log n). - _ Charles R Greathouse IV _ , Nov 03 2016 •

[A016945] • 3,9,15,21,27,33,39,45,51,57,63,69,75,81,87,93,99,105,111,117,123,129,135,141,147 ★ a(n) = 6*n+3. • a(n) = 12 * n - a(n - 1) for n>0, a(0)=3. - _ Vincenzo Librandi _ , Nov 20 2010 •

[A085046] • 1,3,9,15,25,35,49,63,81,99,121,143,169,195,225,255,289,323,361,399,441,483,529,575,625 ★ a(1) = 1, a(2) = 3, then a(2n) = (a(2n-1)*a(2n+1))^1/2 and a(2n+1) = {a(2n) + a(2n+2)}/2. Even-indexed terms are the geometric mean, and odd-indexed terms are the arithmetic mean, of their neighbors. • a(2n + 1) = (2n + 1) ^ 2 and a(2n) = 4n ^ 2 - 1. • a(n) = n ^ 2 - (1 + (- 1) ^ n) / 2. (End) • a(1)=1, a(2)=3, a(3)=9, a(4)=15, a(n) = 2 * a(n - 1) + 0 * a(n - 2) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Oct 25 2015 •

[A138495] • 0,1,1,1,3,9,15,25,55,121,231,441,903,1829,3655,7225,14535,29241,58311,116281,232903 ★ First differences of A138477. • a(n)= - 1 / 9 * (- 1) ^ n + 2 / 9 * 2 ^ n - 1 / 18 * (I * sqrt(2)) ^ n - (1 / 9 * I) * (I * sqrt(2)) ^ n * sqrt(2) + (1 / 9 * I) * sqrt(2) * (- I * sqrt(2)) ^ n - 1 / 18 * (- I * sqrt(2)) ^ n, with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 03 2008 •

[A247643] • 1,3,9,15,27,37,55,69,93,111,141,163,199,225,267,297,345,379,433,471,531,573,639,685,757 ★ a(n) = (10*n*(n+1)+(2*n+1)*(-1)^n+7)/8. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , Sep 25 2014 •

[A048701] • 0,3,9,15,33,45,51,63,129,153,165,189,195,219,231,255,513,561,585,633,645,693,717,765,771 ★ List of binary palindromes of even length (written in base 10). • a(n) = (2 ^ (floor _ log _ 2(n) + 1)) * n + Sum _{ i=0..floor _ log _ 2(n) } '(bit _ i(n, i) * (2 ^ (floor _ log _ 2(n) - i)))'. •

[A065917] • 1,3,9,15,45,75,105,315,525,735,945,1155,3465,5775,8085,10395,12705,15015,45045,75075,105105,135135,165165,195195,225225 ★ Boundaries of primorial intervals [1,3]; [3,9],[9,15]; [15,45], etc. • a(n + 1)= a(n) + q(j) for primorial q(j) < a(n + 1) <= q(j + 1) / 2. •

[A120403] • 3,9,15,45,225,639,1275,4005,675405,2203959,3075159,6195234165,77989711185,4566262987329 ★ a(1)=3; a(n)=first odd number greater than a(n-1) such that 2*a(n)-1 is prime and a(i)+a(n)-1 is prime for all 1<=i<=n-1. • a(1)=3; a(n) = s where s is the first odd number s>a(n - 1) such that 2 * s - 1 is prime and s + a(i) - 1 is prime, 1<=i<=n - 1. •

[A253547] • 0,0,0,1,3,9,16,23,33,43,56,69,85,101,120,139,161,183,208,233,261,289,320,351,385 ★ The total number of star-shaped dodecagons appearing in a variant of hexagon expansion after n iterations. • a(n) = (27 - 3 * (- 1) ^ n - 28 * n + 6 * n ^ 2) / 8 for n>5. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>6. •

[A109340] • 0,0,1,3,9,16,24,36,49,63,81,100,120,144,169,195,225,256,288,324,361,399,441,484,528 ★ Expansion of x^2*(1+x+4*x^2)/((1+x+x^2)*(1-x)^3). • a(0)=0, a(1)=0, a(2)=1, a(3)=3, a(4)=9, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jun 24 2013 • a(n) = (n - 1) ^ 2 - [(n + 1) mod 3] mod 2, n>=1 - _ Gerhard Kirchner _ , Jan 20 2017 •

[A212566] • 0,0,0,1,3,9,16,26,44,63,87,123,160,204,264,325,395,485,576,678,804,931,1071,1239,1408 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x=3y+3z. • a(n) = 2 a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). •

[A014209] • 1,3,9,17,27,39,53,69,87,107,129,153,179,207,237,269,303,339,377,417,459,503,549,597,647 ★ a(n) = n^2 + 3*n - 1. • a(n) = a(n - 1) + 2 * n + 2, with n>0, a(0)= - 1. - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A035107] • 3,9,17,29,44,64,88,118,153,195,243,299,362,434,514,604,703,813,933,1065,1208,1364,1532,1714,1909 ★ First differences give (essentially) A028242. • a(n) = (4 * n ^ 3 + 54 * n ^ 2 + 212 * n + 153 - 9 * (- 1) ^ n) / 48. •

[A049778] • 1,3,9,17,32,50,78,110,155,205,271,343,434,532,652,780,933,1095,1285,1485,1716,1958,2234,2522,2847 ★ a(n)=Sum{T(n,2k-1): k=1,2,...,[(n+1)/2]}, array T as in A049777. • a(n) = Sum _{ k=1..n } k * ceil(k / 2). - _ Vladeta Jovovic _ , Apr 29 2006 • a(n) = 5 * n / 24 + 1 / 16 + 3 * n ^ 2 / 8 + n ^ 3 / 6 - (- 1) ^ n * (1 / 16 + n / 8). - _ R. J. Mathar _ , Mar 03 2011 •

[A239206] • 1,1,3,9,17,35,73,147,295,591,1181,2363,4729,9459,18917,37837,75673,151347,302697,605395,1210791,2421581,4843163,9686329,19372659 ★ a(n) = 1 + 2 * floor(2^n / 3). • a(n) = 2 * floor((1 - r) / (2 * r * cos(Pi / 6))) + 1, where r = 1 / 2 ^ n. •

[A261952] • 1,3,9,18,18,24,27,33,36,42,45,51,54,60,63,69,72,78,81,87,90,96,99,105,108 ★ Start with a single equilateral triangle for n=0; for the odd n-th generation add a triangle at each expandable vertex of the triangles of the (n-1)-th generation (this is the "vertex to vertex" version); for the even n-th generation use the "side to side" version; a(n) is the number of triangles added in the n-th generation. • a(n) = 3 * (1 - (- 1) ^ n + 6 * n) / 4 for n>3. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>6. •

[A045943] • 0,3,9,18,30,45,63,84,108,135,165,198,234,273,315,360,408,459,513,570,630,693,759,828,900 ★ Triangular matchstick numbers: a(n) = 3*n*(n+1)/2. • a(n) is the sum of n + 1 integers starting from n, i.e., 1 + 2, 2 + 3 + 4, 3 + 4 + 5 + 6, 4 + 5 + 6 + 7 + 8, etc. - _ Jon Perry _ , Jan 15 2004 • a(n) = a(n - 1) + 3 * n, n>0. - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Wesley Ivan Hurt _ , Nov 24 2015 •

[A134479] • 1,3,9,18,30,45,63,84,108,135,165,198,234,273,315,360,408,459,513,570,630,693,759,828,900 ★ Row sums of triangle A134478. • a(n) = 3 * n * (1 + n) / 2 for n>0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. (End) •

[A184969] • 3,9,18,30,45,63,84,109,137,168,202,239,279,322,369,419,472,528,587,649,714,783,855,930,1008 ★ a(n) = [Pi]+[2*Pi]+...+[n*Pi], where []=floor. • a(n) / n ^ 2 ~ Pi / 2. • a(n) = Pi / 2 * n ^ 2 + e(n) * n, where Pi / 2 - 1 < e(n) < Pi / 2. [_ Charles R Greathouse IV _ , May 27 2011] •

[A132920] • 1,3,9,18,35,63,112,196,342,595 ★ Row sums of triangle A132919. • a(n) = n terms of: F(n) + (F(n) + 1) + (F(n) + 2) + (F(n) + 3),... •

[A028723] • 0,0,0,0,0,1,3,9,18,36,60,100,150,225,315,441,588,784,1008,1296,1620,2025,2475,3025,3630 ⋆ a(n) = (1/4)*floor(n/2)*floor((n-1)/2)*floor((n-2)/2)*floor((n-3)/2). • a(n) = (n ^ 4 - 8 * n ^ 3 + 18 * n ^ 2 - 12 * n + 2 * n * (n - 2) * ((1 + (- 1) ^ n) / 2) + (2 * n - 3) ^ 2 * ((1 - (- 1) ^ n) / 2)) / 64. - _ Luce ETI ENNE _ , Mar 22 2014 • a(n) = a(4 - n) for all n in Z. - _ Michael Somos _ , Nov 02 2014 • a(n + 1) ^ 2 - a(n) * a(n + 2) = binomial(n / 2, 2) ^ 3 for all even n in Z (= 0 if n odd). - _ Michael Somos _ , Nov 02 2014 • a(n) * (a(n + 1) + a(n + 2)) + a(n + 1) * (- 3 * a(n + 1) + a(n + 2)) = 0 for all even n in Z (= k ^ 4 * (k ^ 2 - 1) / 4 if n = 2 * k + 1). - _ Michael Somos _ , Nov 02 2014 •

[A291143] • 0,0,3,9,18,36,81,189,430,954,2097,4602,10080,21996,47796,103473,223308,480584,1031571,2208807,4718610,10058580,21398715,45438270,96313626 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S^3)^3. • a(n) = 9 * a(n - 1) - 36 a(n - 2) + 87 * a(n - 3) - 144 * a(n - 4) + 171 * a(n - 5) - 147 * a(n - 6) + 90 * a(n - 7) - 36 * a(n - 8) + 8 * a(n - 9) for n >= 10. •

[A026565] • 1,3,9,18,54,108,324,648,1944,3888,11664,23328,69984,139968,419904,839808,2519424,5038848,15116544,30233088,90699264,181398528,544195584,1088391168,3265173504 ⋆ a(n) = 6*a(n-2), starting 1,3,9. • a(0)=1, a(1)=3; a(n)=3 * a(n - 1) if n is even, a(n)=2 * a(n - 1) if n is odd. [_ Vincenzo Librandi _ , Nov 19 2010] •

[A058331] • 1,3,9,19,33,51,73,99,129,163,201,243,289,339,393,451,513,579,649,723,801,883,969,1059,1153 ⋆ a(n) = 2*n^2 + 1. • a(n) = M ^ n * [1 1 1], left most term, where M = the 3 X 3 matrix [1 1 1 / 0 1 4 / 0 0 1]. a(0) = 1, a(1) = 3; a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). E.g., a(4) = 33 since M ^ 4 * [1 1 1] = [33 17 1]. - _ Gary W. Adamson _ , Nov 11 2004 • a(n) = cosh(2 * arccosh(n)). - _ Artur Jasinski _ , Feb 10 2010 • a(n) = 4 * n + a(n - 1) - 2 for n>0, a(0) = 1. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = (((n - 1) ^ 2 + n ^ 2)) / 2 + (n ^ 2 + (n + 1) ^ 2) / 2. - _ J. M. Bergot _ , May 31 2012 •

[A062748] • 3,9,19,34,55,83,119,164,219,285,363,454,559,679,815,968,1139,1329,1539,1770,2023,2299,2599,2924,3275 ⋆ Fourth column (r=3) of FS(3) staircase array A062745. • a(n - 3) = ((n ^ 3 - n) / 6) - 1, n >= 3. - _ Zerinvary Lajos _ , May 05 2007 • a(n) = sum of n successive triangular numbers A000217 starting from n=2. • a(n) = Sum[i(i + 1) / 2, { i=2..n }]. (End) •

[A005994] • 1,3,9,19,38,66,110,170,255,365,511,693,924,1204,1548,1956,2445,3015,3685,4455,5346,6358,7514,8814,10283 ⋆ Alkane (or paraffin) numbers l(7,n). • a(- 5 - n)=a(n). - _ Michael Somos _ , Mar 08 2007 • a(n) = 3a(n - 1) - a(n - 2) - 5a(n - 3) + 5a(n - 4) + a(n - 5) - 3a(n - 6) + a(n - 7), with a(0)=1, a(1)=3, a(2)=9, a(4)=19, a(5)=38, a(6)=66, a(7)=110. - _ Harvey P. Dale _ , May 02 2011 • a(n) = (1 / 48) * (n + 1) * (n + 3) * ((n + 2) * (n + 4) + 3) + 1 / 32 * (2 * n + 5) * (1 + (- 1) ^ n). - _ Yosu Yurramendi _ , Jun 20 2013 •

[A038163] • 1,3,9,19,39,69,119,189,294,434,630,882,1218,1638,2178,2838,3663,4653,5863,7293,9009,11011,13377,16107,19292 ⋆ G.f.: 1/((1-x)*(1-x^2))^3. • a(n) = 1 / 3840 * (4 * n ^ 5 + 90 * n ^ 4 + 760 * n ^ 3 + 2970 * n ^ 2 + 5266 * n + 3285 + (- 1) ^ n * (30 * n ^ 2 + 270 * n + 555)). Recurrence: a(n) = 3 * a(n - 1) - 8 * a(n - 3) + 6 * a(n - 4) + 6 * a(n - 5) - 8 * a(n - 6) + 3 * a(n - 8) - a(n - 9). - _ Vladeta Jovovic _ , Apr 24 2002 •

[A160704] • 1,3,9,19,41,87,181,363,729,1463,2933,5871,11753,23523,47061,94123,188249,376503,753013,1506031,3012073 ⋆ Jacobsthal sequence A001045 convolved with A139251 (first differences of toothpick numbers). • a(n) = 2 * a(n - 1) + A160552, where A160552 begins with offset 1: (1, 1, 3, 1, 3, 5, 7, 1, 3, 5, 7, 5,...). •

[A279673] • 1,3,9,19,41,99,233,531,1225,2851,6601,15251,35305,81763,189225,437907,1013641,2346275,5430537,12569363,29093289,67339363,155862889,360759571,835013705 ⋆ The maximum number of coins that can be processed in n weighings where all coins are real except for one LHR-coin starting in the light state. • a(n) = 2a(n - 1) - a(n - 2) + 4a(n - 3). •

[A028377] • 1,1,3,9,19,46,100,218,460,965,1975,3993,7975,15712,30650,59150,113093,214300,402812,751165,1390714,2557004,4670770,8479232,15302657 ⋆ Expansion of Product_{m>0} (1+q^m)^(m(m+1)/2). • a(0) = 1 and a(n) = (1 / (2 * n)) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d ^ 2 * (d + 1) * (- 1) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 14 2017 •

[A279682] • 1,3,9,19,49,123,297,707,1697,4043,9561,22547,53073,124571,291721,682083,1592577,3713643,8650425,20132275,46818225,108804923,252718825,586701827,1361496929 ⋆ The maximum number of coins that can be processed in n weighings where all coins are real except for one LHR-coin. • a(n) = 3 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) - 8 * a(n - 5). •

[A102001] • 1,3,9,19,49,123,297,739,1825,4491,11097,27379,67537,166683,411273,1014787,2504065,6178731,15246009,37619731,92826673,229050171,565182441,1394589475,3441155041 ⋆ A weighted tribonacci, (1,2,4). • a(n) = a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3), n>3. a(n) = left term in M ^ n * [1 0 0], where M = the 3 X 3 matrix [1 1 1 / 2 0 0 / 0 2 0]. • a(n) = Sum { k=0..n } T(n - k, k)2 ^ k, T(n, k) = trinomial coefficients (A027907). - _ Paul Barry _ , Feb 15 2005 •

[A077442] • 1,3,9,19,53,111,309,647,1801,3771,10497,21979,61181,128103,356589,746639,2078353,4351731,12113529,25363747,70602821,147830751,411503397,861620759,2398417561 ⋆ 2*a(n)^2 + 7 is a square. • a(n) = 6 * a(n - 2) - a(n - 4) with a(1)=1, a(2)=3, a(3)=9, a(4)=19. - _ Sture Sjöstedt _ , Oct 08 2012 • a(n) = ((- (- 1 - sqrt(2)) ^ n * (- 2 + sqrt(2)) - (- 1 + sqrt(2)) ^ n * (2 + sqrt(2)) + (1 - sqrt(2)) ^ n * (- 4 + 3 * sqrt(2)) + (1 + sqrt(2)) ^ n * (4 + 3 * sqrt(2)))) / (4 * sqrt(2)). - _ Colin Barker _ , Mar 27 2016 •

[A192951] • 0,1,3,9,20,40,74,131,225,379,630,1038,1700,2773,4511,7325,11880,19252,31182,50487,81725,132271,214058,346394,560520 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined as Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A145070] • 3,9,20,40,77,147,282,546,1067,2101,4160,8268,16473,32871,65654,131206,262295,524457,1048764,2097360,4194533,8388859,16777490,33554730,67109187 ⋆ Partial sums of A006127, starting at n=1. • a(1) = 3; a(n) = a(n - 1) + 2 ^ n + n for n > 1. • a(n) = (- 4 + 2 ^ (2 + n) + n + n ^ 2) / 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). •

[A011796] • 1,3,9,20,42,75,132,212,333,497,728,1026,1428,1932,2583,3384,4389,5598,7084,8844,10962,13442,16380,19776,23751 ⋆ Number of irreducible alternating Euler sums of depth 6 and weight 6+2n. • a(n) = T(n,6), array T as in A051168. •

[A164680] • 1,3,9,20,42,78,139,231,372,573,861,1254,1791,2499,3432,4629,6162,8085,10492,13455,17094,21503,26832,33201,40795 ⋆ Expansion of x/((1-x)^3*(1-x^2)^3*(1-x^3)). • a(n) = round(- (- 1) ^ n * (n + 3) * (n + 7) / 256 + (6 * n ^ 6 + 180 * n ^ 5 + 2070 * n ^ 4 + 11400 * n ^ 3 + 30429 * n ^ 2 + 34290 * n + 9785) / 103680) - R. J. Mathar, Mar 19 2012 •

[A295148] • 1,3,9,20,44,91,187,379,764,1534,3075,6157,12322,24652,49313,98635,197280,394571,789153,1578318,3156648,6313309,12626631,25253276,50506566 ⋆ Solution of the complementary equation a(n) = a(n-1) + 2*a(n-2) + b(n-1), where a(0) = 1, a(1) = 3, b(0) = 2, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 2. •

[A191527] • 0,0,1,3,9,20,50,105,245,504,1134,2310,5082,10296,22308,45045,96525,194480,413270,831402,1755182,3527160,7407036,14872858,31097794 ⋆ Number of turns in all left factors of Dyck paths of length n. • a(n) = Sum _{ k=0..n } k * binomial(floor((n - 1) / 2), floor(k / 2)) * binomial(ceiling((n - 1) / 2), ceiling(k / 2)). •

[A128127] • 1,3,9,21,37,59 ⋆ The number of regular pentagons found by constructing n equally-spaced points on each side of the pentagon and drawing lines parallel to the pentagon side. • a(n) = (10 * n ^ 2 - 4 * n + 5 - (- 1) ^ n) / 4 (conjectural). •

[A007518] • 0,3,9,21,39,66,102,150,210,285,375,483,609,756,924,1116,1332,1575,1845,2145,2475,2838,3234,3666,4134 ⋆ Floor(n*(n+2)*(2*n-1)/8). • a(1)=0, a(2)=3, a(3)=9, a(4)=21, a(5)=39, a(n)=3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a (n - 5). - _ Harvey P. Dale _ , Oct 06 2014 •

[A064999] • 1,3,9,21,41,71,113,169,241,331,441,573,729,911,1121,1361,1633,1939,2281,2661,3081,3543,4049,4601,5201 ⋆ Partial sums of sequence (essentially A002378): 1, 2, 6, 12, 20, 30, 42, 56, 72, 90, ... • a(0) = 1, a(n) = n * (n + 1) + a(n - 1) for n > 1. - _ Gerald McGarvey _ , Sep 26 2004 •

[A213396] • 0,3,9,21,42,72,114,171,243,333,444,576,732,915,1125,1365,1638,1944,2286,2667,3087,3549,4056,4608,5208 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 2*w < |x+y-w|. • a(n) = (n + 2) * (n + 1) * n / 3 + floor((n - 1) / 3) + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A011843] • 0,0,0,0,0,0,1,3,9,21,42,77,132,214,333,500,728,1031,1428,1938,2584,3391,4389,5608,7084 ⋆ a(n) = floor(binomial(n,5)/6). • a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + a(n - 18) - 5 * a(n - 19) + 10 * a(n - 20) - 10 * a(n - 21) + 5 * a(n - 22) - a(n - 23) - a(n - 36) + 5 * a(n - 37) - 10 * a(n - 38) + 10 * a(n - 39) - 5 * a(n - 40) + a(n - 41) + a(n - 54) - 5 * a(n - 55) + 10 * a(n - 56) - 10 * a(n - 57) + 5 * a(n - 58) - a(n - 59). [_ R. J. Mathar _ , Apr 15 2010] • a(n) = floor(binomial(n + 1,6) / (n + 1)). [_ Gary Detlefs _ , Nov 23 2011] •

[A084569] • 1,3,9,21,44,82,142,230,355,525,751,1043,1414,1876,2444,3132,3957,4935,6085,7425,8976,10758,12794,15106,17719 ⋆ Partial sums of A084570. • a(n)=(- 1) ^ n / 8 + (n ^ 4 + 6n ^ 3 + 17n ^ 2 + 30n + 21) / 24; a(n)=sum(sum(sum(i + (- 1) ^ i, i, 0, j), j, 0, k), k, 0, n). •

[A192970] • 0,1,3,9,21,44,85,156,276,476,806,1347,2230,3667,6001,9787,15923,25862,41955,68006,110170,178406,288828,467509,756636 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A068156] • 1,3,9,21,45,93,189,381,765,1533,3069,6141,12285,24573,49149,98301,196605,393213,786429,1572861,3145725,6291453,12582909,25165821,50331645 ⋆ G.f.: (x+2)*(x+1)/((x-1)*(x-2)) = Sum_{n>=0} a(n)*(x/2)^n. • a(n) = 3 * 2 ^ n + 0 ^ n - 3. - _ Paul Barry _ , Sep 04 2003 • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n > 1. - _ Vincenzo Librandi _ , Nov 11 2011 • a(n) = a(n - 1) + 3 * 2 ^ (n - 1); a(1)=3. - _ Ctibor O. Zizka _ , Apr 17 2008 •

[A052101] • 1,1,1,3,9,21,45,99,225,513,1161,2619,5913,13365,30213,68283,154305,348705,788049,1780947,4024809,9095733,20555613,46454067,104982561 ⋆ One of the three sequences associated with the polynomial x^3 - 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3). • a(n) / a(n - 1) tends to 2.259921049... = 1 + 2 ^ (1 / 3) (a real root to (x - 1) ^ 3 = 2 or x ^ 3 - 3x ^ 2 + 3x - 3 = 0). A 3 X 3 matrix corresponding to the latter polynomial is [0 1 0 / 0 0 1 / 3 - 3 3]. Let the matrix = M. Then a(n) = the center term in M ^ n * [1, 1, 1]. M ^ [1, 1, 1] = [9, 21, 45], center term = a(4) - _ Gary W. Adamson _ , Mar 28 2004 •

[A063830] • 1,3,9,21,45,117,297,585,1521,3105,6993,14553,43653,90885,185925,397125,847125,1813125,3238725,7556829,17253789,36910365,94571997,220301277,475043037 ⋆ a(n+1) is the smallest odd m such that its cototient equals a(n). • a(n)=Min { x, odd : A051953[a(n - 1)]=a(n) } ; a(1)=1; a(2)=3, least odd prime; a(n)=Min[Select[Range[a, b], Equal[#- EulerPhi[#], a(n - 1)] &]] •

[A014286] • 0,1,3,9,21,46,94,185,353,659,1209,2188,3916,6945,12223,21373,37165,64314,110826,190265,325565,555431,945073,1604184,2717016 ⋆ a(n) = Sum_{i=0..n} i*Fibonacci(i). • a(n) = n * F(n + 2) - F(n + 3) + 2. •

[A267226] • 3,9,21,47,103,223,479,1023,2175,4607,9727,20479,43007,90111,188415,393215,819199,1703935,3538943,7340031,15204351,31457279,65011711,134217727,276824063 ★ Number of length-n 0..2 arrays with no following elements greater than or equal to the first repeated value. • a(n) = 2 ^ (n + 1) + 2 ^ (n - 2) * n - 1 for n>1. •

[A274230] • 0,0,1,3,9,21,49,105,225,465,961,1953,3969,8001,16129,32385,65025,130305,261121,522753,1046529,2094081,4190209,8382465,16769025 ★ Number of holes in a sheet of paper when you fold it n times and cut off the four corners. • a(n) = (2 ^ ceiling(n / 2) - 1) * (2 ^ floor(n / 2) - 1). • a(n) = (2 ^ (n / 2) - 1) ^ 2 for n even, a(n) = 2 ^ n + 1 - 3 * 2 ^ ((n - 1) / 2) for n odd. • a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4) for n>3. • a(n) = (1 + 2 ^ n - 2 ^ ((n - 3) / 2) * (3 - 3 * (- 1) ^ n + 2 * sqrt(2) + 2 * (- 1) ^ n * sqrt(2))). (End) •

[A119917] • 1,3,9,21,51,105,231,471,975,1965,4011,8031,16221,32475,65205,130485,261555,523131,1047417,2094957,4191975,8384229,16772835,33545715,67100115 ★ Number of rationals in [0, 1) consisting just of repeating bits of period at most n. • a(n) = sum _{ i=1..n } sum _{ d|i } (2 ^ d - 1) * mu(i / d) •

[A111209] • 0,1,3,9,21,51,111,237,489,995,2017,4059,8151,16341,32721,65483,131013,262083,524221,1048505,2097079,4194225,8388525,16777127,33554335 ★ Difference between the powers of two and the primes. • a(n) = 2 ^ n - prime(n). •

[A260185] • 1,3,9,21,63,111,333,693,1521,2577,7731,13491,40473,67833,119241,239481,718443,1340523,4021569,7494849,13356657,22271409,66814227,130266387,268286823 ★ a(n) is the number of ways to select an ordered pair of subsets of {2,...,n} such that each pair of elements from different subsets are relatively prime. • a(p) = 3 * a(p - 1) for p prime. - _ Alois P. Heinz _ , Jul 19 2015 •

[A073947] • 1,1,3,9,21,63,225,729,2187,6561,19845,59535,177633,531441,1594323,4782969,14344533,43033599,129127041,387420489,1162261467,3486784401,10460471301,31381413903,94143533121 ★ Number of strings over Z_3 of length n with trace 0 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 2, s + 2t + 1) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A001470] • 1,1,1,3,9,21,81,351,1233,5769,31041,142011,776601,4874013,27027729,168369111,1191911841,7678566801,53474964993,418199988339,3044269834281,23364756531621,199008751634001,1605461415071823 ★ Number of degree-n permutations of order dividing 3. • a(n) = Sum _{ j=0..floor(n / 3) } n! / (j! * (n - 3j)! * (3 ^ j)) (the latter formula from _ Roger Cuculière _). • a(n) = a(n - 1) + (n - 1) * (n - 2) * a(n - 3). - _ Geoffrey Critzer _ , Feb 03 2009 • a(n) = n! * Sum _{ k=floor(n / 3), n } (if mod(n - k,2)=0 then binomial(k,(3 * k - n) / 2) * (1 / 3) ^ ((n - k) / 2) / k! else 0). - _ Vladimir Kruchinin _ , Sep 07 2010 •

[A118932] • 1,1,1,3,9,21,81,351,1233,10249,75841,388411,3733401,33702813,215375889,1984583511,19181083041,141963117201,1797976123393,22534941675379,202605151063081,2992764505338021,43182110678814801,445326641624332623 ★ E.g.f.: A(x) = exp(Sum_{n>=0} x^(3^n)/3^((3^n-1)/2)). • a(n) = Sum _{ k=0..[n / 3] } n! / [k! * (n - 3 * k)! * 3 ^ k] * a(k), with a(0)=1. •

[A191998] • 1,3,9,21,231,847,2541,16093,33649,43263,447051,1043119,13560547,83300503,170222767,222599003,13133341177,774867129443,4719645242971,335094812250941 ★ Numerators of partial products of a Hardy-Littlewood constant. • a(n) = numerator(r(n)) with •

[A131477] • 0,1,3,9,22,42,72,115,171,243,334,444,576,733,915,1125,1366,1638,1944,2287,2667,3087,3550,4056,4608 ★ a(n) = ceiling(n^3/3). • a(n) = floor(n ^ 3 / 3 + 2 / 3). - _ Bruno Berselli _ , Dec 21 2017 •

[A064808] • 1,3,9,22,45,81,133,204,297,415,561,738,949,1197,1485,1816,2193,2619,3097,3630,4221,4873,5589,6372,7225 ★ The (n+1)st (n+2)-gonal number. • a(n) = (n + 1) * (n ^ 2 + 2) / 2. • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } (k - (k - 1) * C(0, j - k)). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Feb 21 2015 •

[A192389] • 0,1,3,9,22,48,96,181,327,573,982,1656,2760,4561,7491,12249,19966,32472,52728,85525,138615,224541,363598,588624,952752 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A000716] • 1,3,9,22,51,108,221,429,810,1479,2640,4599,7868,13209,21843,35581,57222,90882,142769,221910,341649,521196,788460,1183221,1762462 ★ Number of partitions of n into parts of 3 kinds. • a(0)=1, a(n) = 1 / n * Sum _{ k=0..n - 1 } 3 * a(k) * sigma _ 1(n - k). - _ Joerg Arndt _ , Feb 05 2011 •

[A001628] • 1,3,9,22,51,111,233,474,942,1836,3522,6666,12473,23109,42447,77378,140109,252177,451441,804228,1426380,2519640,4434420,7777860,13599505 ★ Convolved Fibonacci numbers. • a(n) = ((5 * n + 16) * (n + 1) * F(n + 2) + (5 * n + 17) * (n + 2) * F(n + 1)) / 50, F=A000045. -_ Wolfdieter Lang _ , Apr 12 2000 (This formula coincides with eq. (32.14) of the Koshy reference, p. 375, if there n - > n + 3. - _ Wolfdieter Lang _ , Aug 03 2012) • a(n) = F''(n + 2, 1) / 2, i.e. 1 / 2 times the 2nd derivative of the (n + 2)th Fibonacci polynomial evaluated at 1. - _ T. D. Noe _ , Jan 18 2006 • a(n) = Sum _{ k=0..n } C(k,n - k) * C(k + 2,2). - _ Paul Barry _ , Apr 13 2008 • a(n) = 3 * a(n - 1) - 5 * a(n - 3) + 3 * a(n - 5) + a(n - 6). - _ Eric W. Weisstein _ , Sep 05 2017 •

[A054442] • 1,3,9,22,54,123,281,618,1362,2934,6330,13452,28620,60243,126921,265282,554874,1153506,2399390,4966740,10286196,21219038,43790154,90076452,185353204 ★ Second convolution of A001405 (central binomial numbers). • a(2 * k)= - 3 * 2 ^ (2 * k + 1) + binomial(2 * (k + 1), k + 1) * (4 * k + 7) / 2, a(2 * k + 1)= - 3 * 4 ^ (k + 1) + binomial(2 * (k + 2), k + 2) * (2 * k + 5) / 2, k >= 0. •

[A192663] • 1,1,3,9,22,54,136,340,857,2164,5481,13911,35379,90124,229913,587254,1501615,3843314,9845118,25238541,64744455,166190960,426829202,1096784835,2819620836 ★ Floor-Sqrt transform of the binomial coefficients bin(3*n,n) (A005809). • a(n) = floor(sqrt(binomial(3 * n,n))). •

[A114697] • 1,3,9,22,55,133,323,780,1885,4551,10989,26530,64051,154633,373319,901272,2175865,5253003,12681873,30616750,73915375,178447501,430810379,1040068260,2510946901 ★ Expansion of (1+x+x^2)/((x-1)*(x+1)*(x^2+2*x-1)); a Pellian-related sequence. • a(n) = (2 * (- 3 + (- 1) ^ n) + (6 - 5 * sqrt(2)) * (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n * (6 + 5 * sqrt(2))) / 8. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>3. •

[A064551] • 1,1,1,1,3,9,23,51,103,195,353,619,1061,1789,2981,4925,8087,13221,21547,35039,56891,92271,149541,242231,392233 ★ Ado [Simone Caramel]'s Fibonacci function: define the Fibonacci sequence by f(0) = 1, f(1) = 1, f(n) = f(n-1)+f(n-2); then a(0) = 1, a(n) = a(n-1)+2*(f(n)-n), n > 0. • a(n) = 4a(n - 1) - 5a(n - 2) + a(n - 3) + 2a(n - 4) - a(n - 5) - T. D. Noe, Oct 12 2007 • a(n) = 1 / 5 * 2 ^- n * (- 15 * 2 ^ n + (10 - 4 * sqrt(5)) * (1 - sqrt(5)) ^ n + (1 + sqrt(5)) ^ n * (10 + 4 * sqrt(5))) - n - n ^ 2 [_ Jean - François Alcover _ , May 28 2013] •

[A183155] • 1,1,3,9,23,53,115,241,495,1005,2027,4073,8167,16357,32739,65505,131039,262109,524251,1048537,2097111,4194261,8388563,16777169,33554383 ★ The number of order-preserving partial isometries (of an n-chain) of fix zero (fix of alpha = 0)). Equivalently, the number of order-preserving partial derangement isometries (of an n-chain). • a(n) = 2 ^ (n + 1) - (2n + 1). • a(0)=1, a(n) = 2 * a(n - 1) + 2 * n - 3. - _ Vincenzo Librandi _ , Feb 05 2011 •

[A045883] • 0,1,3,9,23,57,135,313,711,1593,3527,7737,16839,36409,78279,167481,356807,757305,1601991,3378745,7107015,14913081,31224263,65244729,136081863 ★ a(n) = ((3*n+1)*2^n - (-1)^n)/9. • a(n) = f(n) * 2 ^ n, where f(n) is a rational Fibonacci type sequence based on fuse(a,b) = (a + b + 1) / 2 with f(0) = 0, f(1) = 1 / 2 and f(n) = fuse(f(n - 1), f(n - 2)), for n >= 2. For fuse(a,b) see the Jeff Erickson link under A188545. Proof with f(n) = (3 * n + 1 - (- 1) ^ n / 2 ^ n) / 9, n >= 0, by induction. • a(n) = a(n - 1) + 2 * a(n - 2) + 2 ^ (n - 1), n >= 0, with input a(- 2) = 1 / 4 and a(- 1) = 0. See also A127984. (End) •

[A292329] • 0,0,1,3,9,23,57,138,332,798,1920,4626,11157,26925,64997,156921,378861,914692,2208324,5331444,12871324,31074180,75019701,181113471,437246349 ★ p-INVERT of the Fibonacci sequence (A000045), where p(S) = 1 - S^3. • a(n) = 3 * a(n - 1) - 4 * a(n - 3) + 3 * a(n - 5) + a(n - 6) for n >= 7. •

[A133654] • 1,3,9,23,57,139,337,815,1969,4755,11481,27719,66921,161563,390049,941663,2273377,5488419,13250217,31988855,77227929,186444715,450117361,1086679439,2623476241 ★ a(n) = 2*A000129(n) - 1. • a(n) = - 1 + (- (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n) / sqrt(2). - _ Colin Barker _ , Mar 16 2016 •

[A045650] • 3,9,23,58,153,409,1103,2988,8112,22036,59885,162766,442426,1202618,3269032,8886126,24154969,65659986,178482317,485165200,1318815598,3584912013,9744794175,26489071629,72004350010 ★ Numbers that cannot be expressed as k + floor(log(k)) where k is an integer. • a(n) = floor(e ^ n) + n . - Nurdin N. Takenov (greanvert(AT)gmail.com), Mar 10 2007 •

[A077847] • 1,3,9,23,59,147,367,911,2263,5615,13935,34575,85791,212863,528159,1310463,3251519,8067647,20017407,49667071,123233663,305766655,758666495,1882398975,4670597631 ★ Expansion of (1-x)^(-1)/(1-2*x-2*x^2+2*x^3). • a(0)=1, a(1)=3, a(2)=9, a(3)=23, a(n)=3 * a(n - 1) - 4 * a(n - 3) + 2 * a(n - 4). - _ Harvey P. Dale _ , Apr 02 2013 •

[A180488] • 0,1,3,9,23,60,152,388,984,2501,6347,16117,40911,103864,263664,669352,1699216,4313673,10950739,27799745,70572839,179157364,454811656,1154592108,2931065640 ★ Partial sums of A006864. • a(n)= + 3 * a(n - 1) - 4 * a(n - 3) + 3 * a(n - 4) - a(n - 5). G.f.: x ^ 2 / ((x - 1) * (x ^ 4 - 2 * x ^ 3 + 2 * x ^ 2 + 2 * x - 1)). [From _ R. J. Mathar _ , Sep 19 2010] •

[A061647] • 1,3,9,23,61,159,417,1091,2857,7479,19581,51263,134209,351363,919881,2408279,6304957,16506591,43214817,113137859,296198761,775458423,2030176509,5315071103,13915036801 ★ Beginning at the well for the topograph of a positive definite quadratic form with values 1, 1, 1 at a superbase (i.e., 1, 1 and 1 are the vonorms of the superbase), these numbers indicate the labels of the edges of the topograph on a path of greatest ascent. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for n > 3, with a(1)=1, a(2)=3, a(3)=9. • a(n) = Fibonacci(n) ^ 2 + Fibonacci(n - 1) ^ 2 + 2 * Fibonacci(n) * Fibonacci(n + 1) + 3 * Fibonacci(n - 1) * Fibonacci(n), with offset 0. - _ Paul Barry _ , Sep 22 2004 • a(n) = Fibonacci(n + 1) ^ 2 - Fibonacci(n - 2) ^ 2 - (- 1) ^ n. - _ Thomas Baruchel _ , Jul 29 2005 • a(n) = F(n - 2) * F(n - 1) + F(n - 1) * F(n) + F(n) * F(n + 1), where F=A000045. • a(n) = (L(2 * n + 1) + L(2 * n - 1) + L(2 * n - 3) - (- 1) ^ n) / 5, where L=A000032. [Corrected by _ Ehren Metcalfe _ , Mar 26 2016] • a(n) = 4 * Fibonacci(n - 1) * Fibonacci(n) - (- 1) ^ n. - _ Bruno Berselli _ , Oct 30 2015 •

[A077996] • 1,1,3,9,23,61,163,433,1151,3061,8139,21641,57543,153005,406835,1081761,2876367,7648165,20336219,54073337,143779223,382304221,1016534339,2702931345,7187005471 ★ Expansion of (1-x)/(1-2*x-x^2-2*x^3). • a(n)=sum(k=1..n, sum(i=k..n,(sum(j=0..k, binomial(j, - 3 * k + 2 * j + i) * 2 ^ (k - j) * binomial(k,j))) * binomial(n + k - i - 1,k - 1))); [From _ Vladimir Kruchinin _ , May 05 2011] •

[A108488] • 1,1,3,9,23,69,203,601,1815,5493,16731,51225,157367,485093,1499499,4646233,14427095,44880981,139849979,436419737,1363713015,4266417221,13362194571,41891406681,131452430999 ★ Expansion of 1/sqrt(1 -2*x -3*x^2 -4*x^3 +4*x^4). • a(n) = Sum _{ k=0..n } C(n - k, k) ^ 2 * 2 ^ k. •

[A244504] • 3,9,24,51,102,177,294,459,690,987,1380,1875,2508,3279,4212,5319,6648,8199,10026,12141,14580,17343,20496,24051,28068 ★ Number of distinct lines passing through at least two points in a triangular grid of side n. • a(n)

= 3 * sum(j = 1..n - 1, euler _ phi(j) * (g(n - j) - g(n - 2 * j))), where g(i) = i * (i + 1) / 2 if i > 0, otherwise 0, after _ Jon E. Schoenfield _ . •

[A291706] • 3,9,24,56,136,328,792,1912,4616,11144,26904,64952,156808,378568,913944,2206456,5326856,12860168,31047192,74954552,180956296,436867144,1054690584,2546248312,6147187208 ★ Number of connected dominating sets in the n-ladder graph. • a(n) = 4 lucas(n - 1, 2) for n > 2. • a(n) = 2 * a(n - 1) + a(n - 2) for n > 4. •

[A089830] • 1,3,9,24,57,122,239,435,745,1213,1893,2850,4161,5916,8219,11189,14961,19687,25537,32700,41385,51822,64263,78983,96281 ★ Expansion of (1-3*x+6*x^2-5*x^3+3*x^4-x^5)/(1-x)^6. • a(0)=1, a(1)=3, a(2)=9, a(3)=24, a(4)=57, a(5)=122, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). -_ Harvey P. Dale _ , Jul 18 2012 • a(n) = 13 * n / 15 + 1 + n ^ 3 / 8 + 11 * n ^ 2 / 12 + n ^ 5 / 120 + n ^ 4 / 12. - _ R. J. Mathar _ , Sep 27 2014 •

[A084858] • 1,3,9,24,60,144,336,768,1728,3840,8448,18432,39936,86016,184320,393216,835584,1769472,3735552,7864320,16515072,34603008,72351744,150994944,314572800 ★ Binomial transform of A001651. • a(n) = 3 * (0 ^ n / 3 + 2 ^ n + n * 2 ^ n) / 4. • a(n) = 4 * a(n - 1) - 4 * a(n - 2). - _ Vincenzo Librandi _ , Jun 24 2012 •

[A003262] • 1,3,9,24,61,145,333,732,1565,3247,6583,13047,25379,48477,91159,168883,308736,557335,994638,1755909,3068960,5313318,9118049,15516710,26198568 ★ Let y=f(x) satisfy F(x,y)=0. The sequence a(n) is the number of terms in the expansion of (d^n/dx^n) y in terms of the partial derivatives of F. • a(n) = coefficient of t ^ n * u ^ (n - 1) in Product _{ i,j>=0,(i,j)<>(0,1) } (1 - t ^ i * u ^ (i + j - 1)) ^ (- 1). - Tom Wilde (tom(AT)beech84.fsnet.co.uk) , Jan 19 2008 •

[A079282] • 1,3,9,24,61,149,354,823,1881,4240,9449,20857,45666,99291,214589,461336,987221,2103917,4467394,9454895,19951601,41989408,88155409,184670769,386072386 ★ Diagonal sums of triangle A055249. • a(n) = sum(sum((k + 1)binomial(n - j, n - 2j - k), k, 0, n - 2j), j, 0, floor(n / 2)) •

[A117585] • 1,3,9,24,61,151,369,896,2169,5243,12665,30584,73845,178287,430433,1039168,2508785,6056755,14622313,35301400,85225133,205751687,496728529,1199208768,2895146089 ★ a(n) = 2*(a(n-1))+ a(n-2) + n. • a(n) / a(n - 1) tends to 1 + sqrt(2) = 2.414213562...(a(14) / a(13) = 430433 / 178287 = 2.4142702...). • a(n)=4 * a(n - 1) - 4 * a(n - 2) + a(n - 4). G.f.: - (1 - x + x ^ 2) / ((x ^ 2 + 2 * x - 1) * (x - 1) ^ 2). [From _ R. J. Mathar _ , Aug 05 2009] •

[A006684] • 0,0,1,3,9,24,62,156,387,951,2323,5652,13716,33228,80405,194415,469845,1135092,2741626,6620928,15987663,38603019,93204647,225030024,543293352 ★ Convolve Fibonacci and Pell numbers. • a(n) = Pell(n) - Fibonacci (n). •

[A267465] • 3,9,24,62,160,418,1112,3018,8352,23522,67240,194554,568304,1672146,4946808,14692970,43767616,130647490,390566216,1168815066,3500415888,10488664754,31439779864,94264813642,282681194720 ★ Number of length-n 0..2 arrays with no following elements larger than the first repeated value. • a (n) = 2 ^ n + 3 ^ (n - 1) + 2 ^ (n - 2) * (n + 1) - 1. •

[A267960] • 3,9,24,63,159,394,957,2292,5419,12678,29385,67560,154215,349770,788741,1769388,3950499,8782094,19445313,42898032,94315743,206709714,451711869,984397108,2139750939 ★ Number of n X 1 0..2 arrays with every repeated value in every row and column greater than the previous repeated value. • a(n) = (96 * n + 2 ^ n * (9 * n * (n * (n + 44) + 445) + 7622) + 640) / 7776 for n even. • a(n) = (2 ^ n * (9 * n * (n * (n + 44) + 445) + 7622) - 32 * (3 * n + 20)) / 7776 for n odd. •

[A090400] • 1,3,9,24,63,162,414,1053,2673,6777,17172,43497,110160,278964,706401,1788723,4529277,11468628,29039715,73531314,186188058,471445029,1193741145,3022659261,7653642696 ★ Expansion of 1/(1-3x+3x^3) in powers of x. • a(n)=3a(n - 1) - 3a(n - 3); a(n)=sum { k=0..floor(n / 2), comb(n - 2k, k) (- 1) ^ k 3 ^ (n - 2k) } . •

[A097134] • 1,3,9,24,63,165,432,1131,2961,7752,20295,53133,139104,364179,953433,2496120,6534927,17108661,44791056,117264507,307002465,803742888,2104226199,5508935709,14422580928 ★ a(n) = 3*Fibonacci(2*n) + 0^n. • a(n) = 3 * a(n - 1) - a(n - 2) for n > 2. • a(n) = Sum _{ k=0..n } binomial(n, k) * (3 * Fibonacci(k) + (- 1) ^ k). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k - 1,k) * (- 1) ^ k * 3 ^ (n - 2 * k). - _ Paul Barry _ , Jan 16 2005 • a (n) = Fibonacci(n + 2) ^ 2 - Fibonacci(n - 2) ^ 2. - _ Gary Detlefs _ , Dec 03 2010 • a(n) = Fibonacci(6 * n) - 5 * Fibonacci(2 * n) ^ 3 for n > 0. - _ Gary Detlefs _ , Oct 18 2011 •

[A064831] • 0,1,3,9,24,64,168,441,1155,3025,7920,20736,54288,142129,372099,974169,2550408,6677056,17480760,45765225,119814915,313679521,821223648,2149991424,5628750624 ★ Partial sums of A001654, or sum of the areas of the first n Fibonacci rectangles. • a(n) = F(n + 1) ^ 2 - 1 if n is even, or F(n + 1) ^ 2 if n is odd. • a(n) = Sum _{ k=0..floor(n / 2)) U(n - 2k - 1, 3 / 2). - _ Paul Barry _ , Nov 15 2003 • a(n) = floor(phi ^ (2 * n + 2) / 5), where phi =(1 + sqrt(5)) / 2. [_ Gary Detlefs _ Mar 12 2011] • a(n) = Sum _{ i=0..n } (n + 1 - i) * Fibonacci(i) ^ 2. - _ Bruno Berselli _ , Feb 20 2017 •

[A121907] • 1,3,9,24,66,180,492,1344,3672,10032,27408,74880,204576,558912,1526976,4171776,11397504,31138560,85072128,232421376,634987008,1734816768,4739607552,12948848640,35376912384 ★ G.f.: (1+x+x^2)/(1-2*x-2*x^2) • a(0)=1, a(1)=3, a(2)=9, a(n)=2 * a(n - 1) + 2 * a(n - 2) for n>=3. [_ Philippe Deléham _ , Sep 19 2009] •

[A005262] • 1,3,9,25,59,131,277,573,1167,2359,4745,9521,19075,38187,76413,152869,305783,611615,1223281,2446617,4893291,9786643,19573349,39146765,78293599 ★ a(n) = floor((7*2^(n+1)-9*n-10)/3). • a(n) = (28 * 2 ^ n - 18 * n - (- 1) ^ n - 21) / 6 = (7 * 2 ^ (n + 1) - 9 * n - 10) / 3 - ((- 1) ^ n + 1) / 6. - _ Bruno Berselli _ , Jan 12 2012 •

[A101357] • 0,1,3,9,25,60,126,238,414,675,1045,1551,2223,3094,4200,5580,7276,9333,11799,14725,18165,22176,26818,32154,38250 ★ Partial sums of A060354. • a(n) = Sum[i=0, n][(i(i - 2) ^ 2 + i ^ 2) / 2]. • a(n) = binomial(n + 3,4) - 2 * binomial(n + 2,4) + 4 * binomial(n + 1,4). • a(n) = (n ^ 4 - 2 * n ^ 3 + 3 * n ^ 2 + 6 * n) / 8. - _ Johannes W. Meijer _ , Apr 29 2011 •

[A292326] • 3,9,25,63,153,359,819,1830,4018,8694,18582,39298,82350,171186,353338,724719,1478061,2999175,6057687,12183945,24411935,48740193,96998325,192459996,380812692 ★ p-INVERT of (1,1,1,0,0,0,0,0,0,0,0,...), where p(S) = (1 - S)^3. • a(n) = 3 * a(n - 1) - 2 * a(n - 3) - 6 * a(n - 4) + 4 * a(n - 6) + 6 * a(n - 7) + 3 * a(n - 8) + a(n - 9) for n >= 10. •

[A295142] • 1,3,9,25,64,159,389,945,2289,5534,13369,32285,77953,188206,454381,1096985,2648369,6393742,15435873,37265509,89966913,217199358,524365653,1265930690 ★ Solution of the complementary equation a(n) = 2*a(n-1) + a(n-2) + b(n-2), where a(0) = 1, a(1) = 3, b(0) = 2, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 1 + sqrt(2). •

[A002064] • 1,3,9,25,65,161,385,897,2049,4609,10241,22529,49153,106497,229377,491521,1048577,2228225,4718593,9961473,20971521,44040193,92274689,192937985,402653185 ★ Cullen numbers: n*2^n + 1. • a(n) = 4a(n - 1) - 4a(n - 2) + 1. - _ Paul Barry _ , Jun 12 2003 • a(n) = sum of row (n + 1) of triangle A130197. Example: a(3) = 25 = (12 + 8 + 4 + 1), row 4 of A130197. - _ Gary W. Adamson _ , May 16 2007 • a(0)=1, a(1)=3, a(2)=9, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Oct 13 2011 •

[A058396] • 1,3,9,25,66,168,416,1008,2400,5632,13056,29952,68096,153600,344064,765952,1695744,3735552,8192000,17891328,38928384,84410368,182452224,393216000,845152256 ★ Expansion of (1-x)^3/(1-2x)^3. • a(n) =(n + 2) * (n + 7) * 2 ^ (n - 4) for n>0. • a(n)=sum { k=0..floor((n + 2) / 2), C(n + 2, 2k)k(k + 1) / 2 } . - _ Paul Barry _ , May 15 2003 • a(n)=sum { k=0..n, C(n, k)Floor((k + 2) ^ 2 / 4) } . - _ Paul Barry _ , May 27 2003 • a(n)=6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3), n>3. - _ Harvey P. Dale _ , Oct 17 2011 •

[A081663] • 1,3,9,25,66,169,425,1058,2621,6485,16066,39921,99601,249666,628917,1592029,4048866,10341577,26517113,68226722,176065901,455514533,1181040514,3067684065,7980068641 ★ F(2n+1)+n*2^(n-1). • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 16 * a(n - 3) - 4 * a(n - 4). G.f.: - (3 * x ^ 3 - 5 * x ^ 2 + 4 * x - 1) / ((2 * x - 1) ^ 2 * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Jun 04 2013 •

[A106514] • 1,3,9,25,67,175,449,1137,2851,7095,17553,43225,106051,259423,633089,1541985,3749827,9107175,22095249,53559817,129739171,314086735,760009793,1838300625,4444999651 ★ Expansion of (1-x)/((1-2x)(1-2x-x^2)). • a(n) =sum { k=0..n, 2 ^ (n - k)((1 - sqrt(2)) ^ k + (1 + sqrt(2)) ^ k) / 2 } ; a(n)= sum { k=0..n, sum { j=0..floor((n + 1) / 2), binomial(n + 1, 2j + k + 1)2 ^ j }} . •

[A069403] • 1,3,9,25,67,177,465,1219,3193,8361,21891,57313,150049,392835,1028457,2692537,7049155,18454929,48315633,126491971,331160281,866988873,2269806339,5942430145,15557484097 ★ a(n) = 2*Fibonacci(2*n+1)-1. • a(0) = 1, a(1) = 3, a(2) = 9, a(3) = 25; a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). • a(n) = 3 * a(n - 1) - a(n - 2) + 1 for n>1, a(1) = 3, a(0) = 0. - _ Reinhard Zumkeller _ , May 02 2006 • a(n)= 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). G.f.: (1 - x + x ^ 2) / ((1 - x)(1 - 3x + x ^ 2)). - _ R. J. Mathar _ , Feb 23 2009 • a(n) = (2 ^ (- n) * (- 5 * 2 ^ n - (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5)))) / 5. - _ Colin Barker _ , Nov 02 2016 •

[A291021] • 1,3,9,25,67,178,472,1249,3297,8685,22843,60014,157540,413289,1083693,2840521,7443331,19500394,51079696,133782385,350354841,917456901,2402365387,6290338310,16470047644 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^2 - S^3 + S^4 + S^5. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 14 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) for n >= 5. •

[A094292] • 0,0,1,3,9,25,68,182,483,1275,3355,8811,23112,60580,158717,415715,1088661,2850645,7463884,19541994,51163695,133951675,350695511,918141623,2403740304 ★ Number of (s(0), s(1), ..., s(n)) such that 0 < s(i) < 5 and |s(i) - s(i-1)| <= 1 for i = 1,2,....,n, s(0) = 2, s(n) = 4. • a(n) = (2 / 5) * Sum (k, 1, 4, sin(2 * Pi * k / 5)sin(4 * Pi * k / 5)(1 + 2 * cos(Pi * k / 5)) ^ n). • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3) + a(n - 4). G.f.: (x ^ 2 - x ^ 3) / (1 - 4x + 3x ^ 2 + 2x ^ 3 - x ^ 4). - _ Herbert Kociemba _ , Jun 16 2004 • a(n) = (Fibonacci(2 * n) - Fibonacci(n)) / 2. - _ Vladeta Jovovic _ , Jul 17 2004 • a(n + 1) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k)(- 1) ^ k * F(3n - 3k) / F(3). - _ Paul Barry _ , Nov 17 2004 • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2k) * Fibonacci(2k). - _ Paul Barry _ , Jun 10 2005 • a(n) = Sum _{ k=0..n - 1 } Fibonacci(n + k - 1) / 2. - _ Gary Detlefs _ , Feb 22 2011 •

[A291019] • 1,3,9,25,68,185,504,1373,3739,10180,27714,75445,205376,559064,1521840,4142609,11276581,30695881,83556891,227449066,619135745,1685339900,4587637263,12487934387,33993205996 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^2 - S^3 + S^4. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 6 * a(n - 3) - 3 * a(n - 4) for n >= 5. •

[A077846] • 1,3,9,25,69,189,517,1413,3861,10549,28821,78741,215125,587733,1605717,4386901,11985237,32744277,89459029,244406613,667731285,1824275797,4984014165,13616579925,37201188181 ★ Expansion of 1/(1-3*x+2*x^3). • a(0)=1, for n>=1 a(n) = ceil((1 + sqrt(3)) * a(n - 1)). - _ Benoit Cloitre _ , Jun 19 2004. • a(n) = sum(i=0, n, sum(j=0, n, 2 ^ j * binomial(j, i - j))). - _ Benoit Cloitre _ , Oct 23 2004 • a(n) = 2 * (a(n - 1) + a(n - 2)) + 1, n>1. [_ Gary Detlefs _ , Jun 20 2010] • a(n) = floor((1 + sqrt(3)) ^ (n + 2) / 6). [_ Bruno Berselli _ , Feb 05 2013] • a(n) = (- 2 + (1 - sqrt(3)) ^ (n + 2) + (1 + sqrt(3)) ^ (n + 2)) / 6. - _ Alexander R. Povolotsky _ , Feb 13 2016 •

[A005322] • 1,3,9,25,69,189,518,1422,3915,10813,29964,83304,232323,649845,1822824,5126520,14453451,40843521,115668105,328233969,933206967,265794

6907,7583013474,21668135850,62007732605 ★ Column of Motzkin triangle. ● a(n) = number of (s(0), s(1), ..., s(n)) such that s(i) is a nonnegative integer and |s(i) - s(i - 1)| <= 1 for i = 1, 2, ..., n, s(0) = 0, s(n) = 2. ● a(n) = - sqrt(- 3) * (- 1) ^ n * (3 * n * (13 * n + 27) * hypergeom([1 / 2, n],[1],4 / 3) - hypergeom([1 / 2, n + 1],[1],4 / 3) * (41 * n ^ 2 + 115 * n + 60)) / (2 * (n + 3) * (n + 5) * (n + 6)). [From _ Mark van Hoeij _ , Nov 12 2009] ● a(n) = sum(k=1..n + 2, (k - 2) * k * sum(j=k..n + 2, C(- k + 2 * j - 1,j - 1) * (- 1) ^ (n + 2 - j) * C(n + 2,j))) / (n + 2). [From _ Vladimir Kruchinin _ , Sep, 26 2011] ● a(n) (5 + n) = (13 + 4 n) a(n - 1) - n a(n - 2) - 6 n a(n - 3). [_ Simon Plouffe _ . Feb 09 2012] ●

[A103780] ● 1,1,3,9,25,69,189,519,1428,3930,10812,29742,81816,225070,619156,1703262,4685565,12889687,35458707,97544655,268339161,738183999,2030697309,5586319365,15367609920 ★ Row sums of square of trinomial triangle A071675. ● a(n) = a(n - 1) + 2a(n - 2) + 4a(n - 3) + 6a(n - 4) + 8a(n - 5) + 8a(n - 6) + 6a(n - 7) + 3a(n - 8) + a(n - 9). ●

[A098182] ● 1,1,3,9,25,69,191,529,1465,4057,11235,31113,86161,238605,660767,1829857,5067409,14033137,38861859,107619849,298030825,825334485,2285592479,6329473777,17528163337 ★ a(n) = 3*a(n-1) - a(n-2) + a(n-3), a(0)=1,a(1)=1,a(2)=3. ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n + k, 3 * k) * 2 ^ k. ●

[A007046] ● 1,3,9,25,70,194,537,1485,4104,11338,31318,86498,238885,659713,1821843,5031071,13893316,38366206,105947374,292570493,807923428,2231050832,6160961041,17013250192,46981405457 ★ Number of irreducible positions of size n in Montreal solitaire. ● a(n) = d(n, 2) where d(n, k) = 0 if n < k * (k + 1) / 2, d(n, k) = 1 if n = k * (k + 1) / 2, and d(n, k) = d(n, k + 1) + Sum _{ r=1..k } binomial(k + 1, r) * d(n - k * (k + 1) / 2 + r * (r - 1) / 2, r) if n > k * (k + 1) / 2 [From Cannings and Haigh]. - _ Sean A. Irvine _ , Sep 25 2017 ●

[A097861] ● 0,1,3,9,25,70,196,553,1569,4476,12826,36894,106470,308113,893803,2598313,7567465,22076404,64498426,188689684,552675364,1620567763,4756614061,13974168190,41088418150 ★ Number of humps in all Motzkin paths of length n. (A hump is an upstep followed by 0 or more flatsteps followed by a downstep.) ● a(n) = Sum _{ j=1..n } C(n,j) * C(n - j,j) / 2. - _ Zerinvary Lajos _ , Sep 24 2006 ●

[A101197] ● 1,3,9,25,71,199,561,1577,4439,12487,35137,98857,278151,782599,2201937,6195369,17431351,49044935,137993185,388258473,1092406631,3073602311,8647907569,24331808809,68460135703 ★ Lengths of successive words (starting with a) under the substitution: {a -> aab, b -> aac, c -> b}. ● a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3). ●

[A101168] ● 1,3,9,25,71,201,569,1611,4561,12913,36559,103505,293041,829651,2348889,6650121,18827671,53304473,150914409,427265435,1209664161,3424773601,9696140959,27451493281,77720042081 ★ Lengths of successive words (starting with a) under the substitution: {a -> aab, b -> aac, c -> a}. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) + a(n - 3). ● a(n - 1) = sum(k=1..n, sum(m=0..n - k, (sum(j=0..k, binomial(j, n - m - 3 * k + 2 * j) * binomial(k, j))) * sum(i =ceiling(m / 2)..m, binomial(i, m - i) * binomial(k + i - 1, k - 1)))). [From _ Vladimir Kruchinin _ , May 05 2011] ●

[A138574] ● 0,1,3,9,25,73,211,609,1761,5089,14707,42505,122841,355017,1026019,2965249,8569729,24766977,71577891,206863945,597847897,1727812489,4993470771,14431398369,41707515361 ★ a(0)=0, a(1)=1, a(2)=3, a(3)=9, a(4)=25 then a(n+4) = 2*a(n+3) +2*a(n+2) +2*a(n+1) -a(n). ● a(n) = round(w ^ n * (1 + 1 / sqrt(5)) / 4) where w=(1 + r) / (1 - r)=2.89005363826396... and r = sqrt(sqrt(5) - 2) = 0.485868271756... . ●

[A183111] ● 0,1,3,9,25,75,223,665,1993,5971,17903,53697,161065,483163,1449439,4348233,13044585,39133571,117400431,352200881,1056601993 ★ Magnetic Tower of Hanoi, number of moves of disk number k, optimally solving the [RED ; BLUE ; NEUTRAL] or [NEUTRAL ; RED ; BLUE] pre-colored puzzle. ● a(n) = a(n - 2) + a(n - 3) + 2 * 3 ^ (n - 2) + 2 * 3 ^ (n - 4) ; n >= 4 ● a(n) = (10 / 11) * 3 ^ (n - 1) + AP * 1 ^ (n - 1) + BP * 2 ^ (n - 1) + CP * 3 ^ (n - 1) ●

[A191354] ● 1,1,3,9,25,75,227,693,2139,6645,20757,65139,205189,648427,2054775,6526841,20775357,66251247,211617131,676930325,2168252571,6953348149,22322825865,71735559255,230735316795 ★ Number of lattice paths from (0,0) to (n,n) using steps (1,0), (1,1), (1,2), and (2,1). ● a(n) = Sum _{ k=0..n } (binomial(2 * k,k) * Sum _{ j=0..k } (binomial(j,n - k - j) * 2 ^ (j - k) * binomial(k,j) * 3 ^ (- n + k + 2 * j) * 4 ^ (n - k - 2 * j))). - _ Vladimir Kruchinin _ , Feb 27 2016 ●

[A001189] ● 0,1,3,9,25,75,231,763,2619,9495,35695,140151,568503,2390479,10349535,46206735,211799311,997313823,4809701439,23758664095,119952692895,618884638911,3257843882623,17492190577599,95680443760575 ★ Number of degree-n permutations of order exactly 2. ● a(n) = b(n, 2), where b(n, d)=Sum _{ k=1..n } (n - 1)! / (n - k)! * Sum _{ l:lcm { k, l } =d } b(n - k, l), b(0, 1)=1 is the number of degree - n permutations of order exactly d. ●

[A101786] ● 1,1,1,3,9,25,77,247,801,2657,8969,30635,105785,368745,1295493,4582767,16309953,58357313,209798289,757461011,2745281705,9984464761,36428252541,133293594343,489028250465 ★ G.f. satisfies: A(x) = 1 + x*A(x)/(1 - 2*x^2*A(x)^2). ● a(n) = Sum _{ k=0..[(n - 1) / 2] } C(n - k - 1, k) * C(n, 2 * k) * 2 ^ k / (2 * k + 1) for n>0, with a(0)=1. ●

[A246653] ● 1,1,3,9,25,87,287,993,3519,12525,45369,165519,608569,2253307,8386575,31370297,117834837,444258387,1680516731,6375706325,24253227159,92481509389,353417696625,1353280137975,5191349266275 ★ G.f.: Sum_{n>=0} x^n / (1-x^2)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k] * [Sum_{k=0..n} C(n,k)^2 * x^(2*k)]. ● a(n) = Sum _{ k=0..[n / 2] } binomial(2 * k, k) * binomial(n - k, k) ^ 2. ●

[A178061] ● 0,0,1,3,9,25,120,546,4438,28134,308115,2440405,33237831,314699463,5119097074,56345113020,1065268609980,13359512435356,287786703606453,4049825314169079,97903924694681365,1527478596708475845,40946200336523631996,701409698806896677158 ★ Number of distinct cycles without repeated edges on the multigraph consisting of two vertices joined by n edges. ● a(n) = n * (n - 1) / 2 + Sum _{ k=4..n:2 divides k } (n! / ((n - k)! * 2 * k)). ●

[A291410] ● 1,3,9,26,69,186,511,1401,3824,10438,28521,77938,212928,581700,1589231,4341911,11862339,32408429,88541424,241899801,660882666,1805564823,4932894579,13476918898,36819627664 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S - S^2 - 2 S^3. ● a(n) = a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3) + 7 * a(n - 4) + 6 * a(n - 5) + 2 * a(n - 6) for n >= 7. ●

[A054963] ● 1,3,9,26,72,194,515,1357,3563,9340,24466,64068,167749,439191,1149837,3010334,7881180,20633222,54018503,141422305,370248431,969323008,2537720614,6643838856,17393795977 ★ Number of cells in the first column of all directed column-convex polyominoes of area n+1. ● a(n) = fibonacci(2n) + fibonacci(2n + 2) - n. ●

[A291733] ● 1,3,9,26,72,195,520,1368,3560,9184,23520,59860,151536,381840,958256,2396192,5972736,14845040,36801792,91021056,224642304,553347072,1362020816,3340024384,8186748160 ★ a(n) = (1/4)*A291732(n). ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 8 * a(n - 4) - 4 * a(n - 6) for n >= 7. ●

[A084787] ● 1,3,9,26,73,199,542,1475,4011,10903,29640,80571,219017,595350,1618331,4399082,11957946,32505069,88357939,240181783,652881776,1774716669,4824180073,13113481032,35646137200 ★ Least integer such that e^n/(ceil(e^n) + a(n)) monotonically decreases. ● a(0)=1, a(n + 1) = ceil(e * a(n) + e * ceil(e ^ n) - ceil(e ^ (n + 1))), e=2.71828... ●

[A054447] ● 1,3,9,26,73,201,545,1460,3873,10191,26633,69198,178889,460437,1180545,3016552,7684481,19522203,49473097,125093506,315654537,795016545,1998909985,5017895196,12578040097 ★ Row sums of triangle A054446 (partial row sums triangle of Fibonacci convolution triangle). ● a(n)=sum(k * sum(binomial(i,n - k - i) * binomial(k + i - 1,k - 1),i,ceiling((n - k) / 2),n - k),k,1,n), n>0 [From _ Vladimir Kruchinin _ , Sep 06 2010] ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) - a(n - 4), a(0)=1, a(1)=3, a(2)=9, a(3)=26. - _ Philippe Deléham _ , Jan 22 2014 ●

[A061667] ● 1,3,9,26,73,201,546,1469,3925,10434,27633,72977,192322,506037,1329885,3491810,9161929,24026745,62983842,165055853,432445861,1132806018,2967020769,7770353441,20348233858 ★ Fibonacci(2*n+1) - 2^(n-1). ● a(n) = Sum _{ k=0..n + 1 } C(n + 1, k) * sum { j=0..floor(k / 2), Fibonacci(k - 2 j) } . - _ Paul Barry _ , Apr 17 2005 ● a(n) = 2 ^ (- 1 - n) * (- 5 * 4 ^ n - (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5))) / 5. ● a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 2 * a(n - 3) for n>3. ●

[A077845] ● 1,3,9,26,74,210,595,1685,4771,13508,38244,108276,306549,867895,2457165,6956670,19695566,55761638,157871079,446961001,1265425799,3582644680,10143101960,28716919080,81302686761 ★ Expansion of (1-x)^(-1)/(1-2*x-2*x^2-x^3). ● a(n) = 3 * a(n - 1) - a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Mar 10 2015 ●

[A291000] ● 1,3,9,26,74,210,596,1692,4804,13640,38728,109960,312208,886448,2516880,7146144,20289952,57608992,163568448,464417728,1318615104,3743926400,10630080640,30181847168,85694918912 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^2 - S^3. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 3) for n >= 4. ●

[A289806] ● 1,3,9,26,74,211,600,1708,4860,13832,39364,112029,318827,907366,2582312,7349121,20915193,59523497,169400608,482104856,1372044007,3904762096,11112739032,31626246588,90006565434 ★ p-INVERT of (1,1,2,2,3,3,...) (A008619), where p(S) = 1 - S - S^2. ● a(n) = 3 * a(n - 1) + a(n - 2) - 5 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6). ●

[A123941] ● 0,1,3,9,26,75,216,622,1791,5157,14849,42756,123111,354484,1020696,2938977,8462447,24366645,70160958,202020427,581694636,1674922950,4822748423,13886550633,39984728949 ★ The (1,2)-entry in the 3 X 3 matrix M^n, where M = {{2, 1, 1}, {1, 1, 0}, {1, 0, 0}}. ● a(n)=3a(n - 1) - a(n - 3), a(0)=0, a(1)=1, a(2)=3 (follows from the minimal polynomial x ^ 3 - 3x ^ 2 + 1 of the matrix M). ●

[A076264] ● 1,3,9,26,75,216,622,1791,5157,14849,42756,123111,354484,1020696,2938977,8462447,24366645,70160958,202020427,581694636,1674922950,4822748423,13886550633,39984728949,115131438424 ★ Number of ternary (0,1,2) sequences without a consecutive '012'. ● a(n) is asymptotic to g * c ^ n where c = cos(Pi / 18) / cos(7 * Pi / 18) and g is the largest real root of 81 * x ^ 3 - 81 * x ^ 2 - 9 * x + 1 = 0. - _ Benoit Cloitre _ , Nov 06 2002 ● a(n) = 3 * a(n - 1) - a(n - 3), n > 0. ● a(n) = Sum _{ k=0..floor(n / 3) } binomial(n - 2k, k)(- 1) ^ k * 3 ^ (n - 3k). - _ Paul Barry _ , Oct 20 2004 ●

[A005774] ● 0,1,3,9,26,75,216,623,1800,5211,15115,43923,127854,372749,1088283,3181545,9312312,27287091,80038449,234988827,690513030,2030695569,5976418602,17601021837,51869858544 ★ Number of directed animals of size n (k=1 column of A038622); number of (s(0), s(1), ..., s(n)) such that s(i) is a nonnegative integer and |s(i) - s(i-1)| <= 1 for i = 1,2,...,n, where s(0) = 2; also sum of row n+1 of array T in A026323. ● a(n) * (2 + n) = (4 + 4 * n) * a(n - 1) - n * a(n - 2) + (12 - 6 * n) * a(n - 3). - _ Simon Plouffe _ , Feb 09 2012 ● a(n) = GegenbauerC(n - 2, - n, - 1 / 2) + GegenbauerC(n - 1, - n, - 1 / 2). - _ Peter Luschny _ , May 12 2016 ●

[A101169] ● 1,3,9,26,76,221,644,1875,5461,15903,46314,134876,392791,1143896,3331289,9701475,28252921,82278978,239615244,697814501,2032195756,5918219771,17235212309,50192888175,146173193506 ★ Lengths of successive words (starting with a) under the substitution: {a -> aab, b -> aac, c -> ab}. ● a(n) = 2 * a(n - 1) + 3 * a(n - 2) - a(n - 3). ●

[A119826] ● 1,3,9,26,76,222,648,1892,5524,16128,47088,137480,401392,1171920,3421584,9989792,29166592,85155936,248624640,725894336,2119349824,61877

37600,18065963520,52746101888,153999606016 ⋆ Number of ternary words of length n with no 000's. • a(n - 1) = sum(m=1..n, sum(k=m..n, C(k - 1,m - 1) * sum(j=0..k, C(j,n - 3 * k + 2 * j) * C(k,j)))) [From _ Vladimir Kruchinin _ , Apr 25 2011] • a(n) = round(3 / 2 * ((r + s + 2) / 3) ^ (n + 3) / (r ^ 2 + s ^ 2 + 10)), where r=(53 + 3 * sqrt(201)) ^ (1 / 3), s=(53 - 3 * sqrt(201)) ^ (1 / 3); r and s are the real roots of the polynomial x ^ 6 - 106 * x ^ 3 + 1000. [_ Anton Nikonov _ , Jul 11 2013] •

[A133405] • 0,0,0,1,3,9,26,78,234,703,2109,6327,18980,56940,170820,512461,1537383,4612149,13836446,41509338,124528014,373584043,1120752129,3362256387,10086769160 ⋆ a(n)=3a(n-1)-a(n-3)+3a(n-4). • a(n + 1) - 3a(n)=hexaperiodic 0, 0, 1, 0, 0, - 1, A131531. • a(n)=(1 / 42) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n + (1 / 28) * 3 ^ n - (1 / 12) * (- 1) ^ n + (1 / 42) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n - (1 / 14) * I *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n * sqrt(3) + (1 / 14) * I *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n * sqrt(3), with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A248959] • 1,3,9,27,36,72,132,240,444,816,1500,2760,5076,9336,17172,31584,58092,106848,196524,361464,664836,1222824,2249124,4136784,7608732 ⋆ Number of ternary words of length n in which all digits 0..2 occur in every subword of 4 consecutive digits. • a(n) = a(n - 1) + a(n - 2) + a(n - 3). •

[A097803] • 3,9,27,57,99,153,219,297,387,489,603,729,867,1017,1179,1353,1539,1737,1947,2169,2403,2649,2907,3177,3459 ⋆ a(n) = 3(2*n^2 + 1). • a(0)=3, a(1)=9, a(2)=27, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 29 2011 •

[A161712] • 1,3,9,27,65,131,233,379,577,835,1161,1563,2049,2627,3305,4091,4993,6019,7177,8475,9921,11523,13289,15227,17345 ⋆ a(n) = (4*n^3 - 6*n^2 + 8*n + 3)/3. • a(n) = C(n,0) + 2 * C(n,1) + 4 * C(n,2) + 8 * C(n,3). •

[A137368] • 3,9,27,66,144,253,424,651,977,1392,1866,2479,3169,3981,4978,6137,7420,8829,10477,12279,14295,16613,19124,21906,24904 ⋆ a(n) = least m such that sum of m reciprocal primes starting with n-th prime is >1. • a(n)=m: sum(1 / prime(i), i=n,n + m - 1))>1, while sum(1 / prime(i), i=n,n + m - 2))< 1. •

[A191007] • 3,9,27,69,171,405,939,2133,4779,10581,23211,50517,109227,234837,502443,1070421,2271915,4805973,10136235,21321045,44739243,93672789,195734187,408245589,850045611 ⋆ Another renewal type of sequence: Let X, X(1),X(2),... denote independent random variables with pdf P(X=1) = P(X=2) = P(X=4) = 1/3. Let N(x) denote the first value of k such that X(1)*X(2)...*X(k) > x, and let H(x) = E(N(x)). The sequence a(n) is given by a(n) = 2^(n+1)*H(2^n). • a(n) = n * 2 ^ (n + 1) + (2 ^ (n + 3) + (- 1) ^ n) / 3. •

[A206604] • 1,1,3,9,27,73,189,465,1115,2601,5973,13489,30149,66641,146233,318369,689403,1484137,3181797,6790641,14445101,30617841,64724553,136426849,286926757 ⋆ Number of integers in the smallest interval containing both minimal and maximal possible apex values of an addition triangle whose base is a permutation of n+1 consecutive integers. • a(n) = 1 + Sum _{ k=0..n } C(n,floor(k / 2)) * (2 * k - n). •

[A084707] • 1,3,9,27,73,195,513,1347,3529,9243,24201,63363,165889,434307,1137033,2976795,7793353,20403267,53416449,139846083,366121801,958519323,2509436169,6569789187,17199931393 ⋆ a(0) = 1, a(1) = 3, a(2) = 9, a(3) = 27; a(n) = 3*a(n-1) - 3*a(n-3) + a(n-4) for n > 3. • a(n) = - 2 + (8 / 5) * (3 / 2 + (1 / 2) * sqrt(5)) ^ n - (1 / 5) * (- 1) ^ n + (8 / 5) * (3 / 2 - (1 / 2) * sqrt(5)) ^ n with n>=0. [_ Paolo P. Lava _ , Aug 01 2008] •

[A289658] • 1,3,9,27,75,186,414,840,1578,2784,4662,7476,11556,17313,25245,35955,50157,68697,92559,122889,161001,208404,266808,338154,424620 ⋆ Number of 2-abelian equivalence classes of words of length n over an alphabet of size 3. • a(n) = (2 * n ^ 6 + 42 * n ^ 5 + 335 * n ^ 4 - 1140 * n ^ 3 + 5828 * n ^ 2 - 4752 * n + 5760) / 1920 for n>0 and even. • a(n) = (2 * n ^ 6 + 42 * n ^ 5 + 335 * n ^ 4 - 1140 * n ^ 3 + 5828 * n ^ 2 - 4662 * n + 5355) / 1920 for n odd. •

[A289693] • 0,0,1,3,9,27,75,197,503,1263,3132,7695,18784,45649,110585,267276,644907,1554208,3742321,9005265,21659603,52078400,125186565,300870586,723010749 ⋆ The number of partitions of [n] with exactly 3 blocks without peaks. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 24 * a(n - 3) - 29 * a(n - 4) + 25 * a(n - 5) - 17 * a(n - 6) + 9 * a(n - 7) - 3 * a(n - 8) + a(n - 9) for n>9. •

[A048481] • 1,3,9,27,77,207,529,1299,3093,7191,16409,36891,81949,180255,393249,852003,1835045,3932199,8388649,17825835,37748781,79691823,167772209,352321587,738197557 ⋆ a(n) = T(0,n)+T(1,n-1)+...+T(n,0), array T given by A048472. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4) . - _ Colin Barker _ , Dec 04 2014 •

[A241574] • 1,3,9,27,78,222,618,1686,4512,11856,30624,77856,195072,482304,1178112,2846208,6807552,16134144,37920768,88449024,204865536,471465984,1078591488,2454061056,5555355648 ⋆ Number of ternary words of length n avoiding the pattern 11-11. • a(n) = 3 * 2 ^ (n - 7) * (16 + 36 * n - n ^ 2 + n ^ 3) for n>3. - _ Colin Barker _ , Jun 06 2015 • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>7. - _ Colin Barker _ , Jun 06 2015 •

[A090401] • 1,3,9,27,78,225,648,1863,5355,15390,44226,127089,365202,1049436,3015630,8665623,24901263,71555481,205619553,590861790,1697881581,4878978300,14020076241,40287643353,115769285316 ⋆ Expansion of 1/(1-3x+3x^4). • a(n)=3a(n - 1) - 3a(n - 4); a(n)=sum { k=0..floor(n / 2), comb(n - 3k, k)3 ^ (n - 3k) } . •

[A291020] • 1,3,9,27,79,228,656,1889,5445,15701,45275,130544,376388,1085199,3128841,9021083,26009635,74991112,216214692,623391005,1797363157,5182163781,14941232871,43078615236,124204414928 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^2 - S^3 - S^4 + S^5. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 14 * a(n - 3) - 7 * a(n - 4) for n >= 6. •

[A282087] • 1,3,9,27,79,229,657,1871,5295,14909,41801,116783,325287,903741,2505377,6932479,19151519,52833853,145578265,400705135,1101936119,3027902045,8314284721,22816209855,62579270191 ⋆ Number of length-n ternary strings that do not contain both "00" and "11". • a(n) = 4 * a(n - 1) - a(n - 2) - 6 * a(n - 3) - 2 * a(n - 4) for n >= 4 (derived in the math.stackexchange.com link). • a(n) = - (1 - u) ^ (1 + n) / 2 - (1 + u) ^ (1 + n) / 2 + (1 - v) ^ n - (2 * (1 - v) ^ n) / v + (1 + v) ^ n + (2 * (1 + v) ^ n) / v where u=sqrt(2) and v=sqrt(3). •

[A287898] • 1,3,9,27,79,233,687,2025,5969,17595,51865,152883,450655,1328401,3915743,11542481,34023905,100292659,295633833,871443275,2568763439,7571973753,22319994767,65792907193,193938514865 ⋆ Number of ways to go up and down n stairs, with fewer than 4 stairs at a time, stepping on each stair at least once. • a(n + 4) = 2 * a(n + 3) + 2 * a(n + 2) + 2 * a(n + 1) + a(n). •

[A134396] • 1,3,9,27,80,232,656,1808,4864,12800,33024,83712,208896,514048,1249280,3002368,7143424,16842752,39387136,91422720,210763776,482869248,1099956224,2492465152,5620367360 ⋆ A007318 * A000125. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>3. • a(n) = (2 ^ (n - 4) * (48 + 20 * n + 3 * n ^ 2 + n ^ 3)) / 3. •

[A291006] • 1,3,9,27,80,235,688,2013,5891,17244,50482,147791,432672,1266680,3708288,10856241,31782309,93044665,272394011,797450348,2334585333,6834643282,20008841823,58577124509,171488162320 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^2 - S^3 - S^4. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 6 * a(n - 3) - a(n - 4) for n >= 4. •

[A289781] • 1,3,9,27,80,237,701,2073,6129,18120,53569,158367,468181,1384083,4091760,12096453,35760689,105719157,312537041,923951760,2731474161,8075043963,23872213729,70573310907,208635540400 ⋆ p-INVERT of the positive Fibonacci numbers (A000045), where p(S) = 1 - S - S^2. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4). •

[A248960] • 1,3,9,27,81,150,366,870,2022,4686,10974,25614,59742,139398,325350,759198,1771590,4134126,9647262,22512342,52533750,122590422,286071414,667563054,1557794622 ⋆ Number of ternary words of length n in which all digits 0..2 occur in every 5 consecutive digits. • a(n) = a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) - a(n - 5) - a(n - 6). •

[A181140] • 3,9,27,81,240,714,2124,6318,18792,55896,166260,494532,1470960,4375296,13014096,38709768,115140240,342478800,1018685808,3030029232,9012668160,26807724000,79738214400,237177271584,705471756288 ⋆ The number of ways to color n balls in a row with 3 colors with no color runs having lengths greater than 4. This sequence is a special case of the general problem for coloring n balls in a row with p colors where each color has a given maximum run-length. In this example, the bounds are uniformly 4. It can be phrased in terms of tossing a p-faced dice n times, requiring each face having no runs longer than b. • a(1)=3, a(2)=9, a(3)=27, a(4)=81. •

[A291007] • 1,3,9,27,81,242,720,2137,6337,18789,55715,165232,490058,1453493,4311025,12786359,37923789,112480082,333610072,989469949,2934716101,8704215281,25816251319,76569665176,227101665034 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S - S^2 - S^3 - S^4 - S^5. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 14 * a(n - 3) - 7 * a(n - 4) + 2 * a(n - 5) for n >= 6. •

[A249019] • 1,3,9,27,81,243,540,1440,3804,9960,25908,67344,175884,458832,1196364,3119304,8134164,21212832,55316892,144249168,376159644,980918904,2557958964,6670420704,17394543180 ⋆ Number of ternary words of length n in which all digits 0..2 occur in every 6 consecutive digits. • a(n) = a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 5 * a(n - 4) + 6 * a(n - 5) - a(n - 6) - a(n - 7) - a(n - 9) - a(n - 10), for n>=16. •

[A000244] • 1,3,9,27,81,243,729,2187,6561,19683,59049,177147,531441,1594323,4782969,14348907,43046721,129140163,387420489,1162261467,3486784401,10460353203,31381059609,94143178827,282429536481 ⋆ Powers of 3. • a(n) = 3 ^ n. • a(0) = 1; a(n) = 3 * a(n - 1). • a(n) = n! * Sum _{ i + j + k = n, i, j, k >= 0 } 1 / (i! * j! * k!). - _ Benoit Cloitre _ , Nov 01 2002 • a(n) = Sum _{ k = 0..n } 2 ^ k * binomial(n, k), binomial transform of A000079. • a(n) = 2 * StirlingS2(n + 1,3) + StirlingS2(n + 2,2) = 2 * (StirlingS2(n + 1,3) + StirlingS2(n + 1,2)) + 1. - _ Ross La Haye _ , Jun 26 2008 • a(n) = 2 * StirlingS2(n + 1, 3) + StirlingS2(n + 2, 2) = 2 * (StirlingS2(n + 1, 3) + StirlingS2(n + 1, 2)) + 1. - _ Ross La Haye _ , Jun 09 2008 •

[A052917] • 1,3,9,27,82,249,756,2295,6967,21150,64206,194913,591706,1796268,5453010,16553943,50253535,152556873,463123629,1405924830,4268028025,12956640948,39333046473,119405064249,362483220772 ⋆ Expansion of 1/(1-3*x-x^4). • a(n) = Sum(1 / 2443 * (729 + 324 *_ alpha ^ 3 + 144 *_ alpha ^ 2 + 64 *_ alpha) *_ alpha ^ (- 1 - n), _ alpha = RootOf(- 1 + 3 *_ Z +_ Z ^ 4)). •

[A192909] • 1,1,3,9,27,83,259,811,2541,7963,24957,78221,245165,768413,2408415,7548629,23659463,74155215,232422687,728476151,2283243129,7156307287,22429820697,70301181369,220343094521 ⋆ Constant term in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n)=4 * a(n - 1) - 3 * a(n - 2) + a(n - 3) - a(n - 5). •

[A171155] • 1,1,3,9,27,83,259,817,2599,8323,26797,86659,281287,915907,2990383,9786369,32092959,105435607,346950321,1143342603,3772698725,12463525229,41218894577,136451431723,452116980643 ⋆ For two strings of length n, this is the number of pairwise alignments that do not have an insertion adjacent to a deletion. • a(n) = ((4 * n - 3) * a(n - 1) - (2 * n - 5) * a(n - 2) + a(n - 3) - (n - 3) * a(n - 4)) / n. - _ Alois P. Heinz _ , Jan 22 2013 •

[A131428] • 1,1,3,9,27,83,263,857,2859,9723,33591,117571,416023,1485799,5348879,19389689,70715339,259289579,955277399,3534526379,13128240839,48932534039,182965127279,686119227299,2579808294647 ⋆ 2*C(n)-1, where C(n)=A000108(are the Catalan numbers. • a(n) = 2 * binom(2n,n) / (n + 1) - 1. G.f.: [1 - s

qrt(1 - 4x)] / x - 1 / (1 - x). - _ Emeric Deutsch _ , Jul 25 2007 •

[A032092] • 3,9,28,60,126,226,396,636,1001,1491,2184,3080,4284,5796,7752,10152,13167,16797,21252,26532,32890,40326,49140,59332,71253 ★ Number of reversible strings with n-1 beads of 2 colors. 5 beads are black. String is not palindromic. • a(n) = (2 * n ^ 5 - 30 * n ^ 4 + 170 * n ^ 3 - 480 * n ^ 2 + 728 * n - 480) / 480 if n is even. • a(n) = (2 * n ^ 5 - 30 * n ^ 4 + 170 * n ^ 3 - 450 * n ^ 2 + 548 * n - 240) / 480 if n is odd. •

[A282081] • 1,3,9,28,66,126,226,396,651,1001,1491,2184,3108,4284,5796,7752,10197,13167,16797,21252,26598,32890,40326,49140,59423 ★ Number of n-element subsets of [n+5] having an even sum. • a(n) = (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) / 240 + ((- i) ^ n + i ^ n) * (8 + 6 * n + n ^ 2) / 32 where i=sqrt(- 1). - _ Colin Barker _ , Feb 06 2017 •

[A292328] • 3,9,28,84,246,707,2001,5592,15461,42357,115122,310716,833472,2223471,5902415,15598896,41058423,107673601,281416248,733229412,1904957434,4936026747,12758472189,32901998472,84667043769 ★ p-INVERT of the Fibonacci sequence (A000045), where p(S) = (1 - S)^3. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) - 4 * a(n - 3) + 9 * a(n - 4) + 6 * a(n - 5) + a(n - 6) for n >= 7. •

[A291731] • 1,3,9,28,84,255,772,2340,7088,21476,65064,197126,597228,1809420,5481980,16608712,50319264,152451844,461882016,1399359936,4239628608,12844765920,38915675520,117902483528,357208128400 ★ a(n) = (1/2)*A291730(n).. • a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) - 2 * a(n - 4) for n >= 5. •

[A291257] • 1,3,9,28,85,261,797,2440,7461,22827,69821,213588,653345,1998573,6113529,18701072,57205769,174990195,535287793,1637423756,5008812525,15321754293,46868623381,143369215128,438560602669 ★ a(n) = (1/2)*A291228(n). • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n >= 5. •

[A052541] • 1,3,9,28,87,270,838,2601,8073,25057,77772,241389,749224,2325444,7217721,22402387,69532605,215815536,669848995,2079079590,6453054306,20029011913,62166115329,192951400293,598883212792 ★ Expansion of 1/(1-3x-x^3). • a(n) = sum { k=0..floor(n / 3), binomial(n - 2k, k)3 ^ (n - 3k) } . - _ Paul Barry _ , Oct 20 2004 •

[A124820] • 1,3,9,28,88,277,872,2745,8641,27201,85626,269542,848491,2670964,8407925,26467299,83316385,262271568,825604416,2598919345,8181135700,25753389181,81069068969,255197244033,803335158406 ★ Expansion of (1-x)/(1-4*x+3*x^2-x^3). • a(n) = sum(k=0..n, C(n + 2k + 1, 3k + 1)). •

[A195675] • 0,1,3,9,28,88,278,873,2742,8616,27067,85032,267137,839237,2636540,8282934,26021606,81749286,256822958,806833117,2534740992,7963123679,25016890851,78592880513,246906816043 ★ Round(Pi^(n+1)/(Pi^2 + 1)). • a(n) = round(Pi ^ (n + 1) / (Pi ^ 2 + 1)). •

[A049220] • 0,0,1,3,9,28,89,285,914,2931,9397,30124,96565,309545,992266,3180775,10196193,32684604,104772769,335856389,1076610978,3451151243,11062904925,35462909836,113678819677 ★ Number of horizontally convex n-ominoes in which the top row has at least 2 squares and the rightmost square in the top row is above the leftmost square in the second row. • a(n) = 5a(n - 1) - 7a(n - 2) + 4a(n - 3) for n >= 6. •

[A094790] • 1,3,9,28,89,286,924,2993,9707,31501,102256,331981,1077870,3499720,11363361,36896355,119801329,388991876,1263047761,4101088878,13316149700,43237262993,140390505643,455845099957,1480119728920 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 7 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 1, s(2n) = 3. • a(n)=2 / 7 * Sum _{ k=1..6 } sin(Pi * k / 7)sin(3Pi * k / 7)(2cos(Pi * k / 7)) ^ (2n). • a(n) = 5a(n - 1) - 6a(n - 2) + a(n - 3). • a(n) = rightmost term in M ^ n * [1,0,0] where M = the 3 X 3 matrix [2,1,1; 1,2,0; 1,0,1]. E.g., M ^ 3 * [1,0,0] = [19,14,9]; right term = 9 = a(3). - _ Gary W. Adamson _ , Apr 04 2006 •

[A094803] • 1,3,9,28,90,296,988,3328,11272,38304,130416,444544,1516320,5174144,17659840,60282880,205795456,702583296,2398676736,8189409280,27960021504,95460743168,325921881088,1112763940864,3799207806976 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 8 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 1, s(2n) = 3. • a(n)=(1 / 4) * Sum _{ k=1..7 } Sin(Pi * k / 8)Sin(3Pi * k / 8)(2Cos(Pi * k / 8)) ^ (2n). • a(n)= 6a(n - 1) - 10a(n - 2) + 4a(n - 3). •

[A094826] • 1,3,9,28,90,297,1000,3417,11799,41041,143472,503262,1769365,6230304,21960801,77461435,273351705,964918116,3406804786,12029917377,42483179304,150036624217,529901048943,1871559855009,6610286313784 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 1, s(2n) = 3. • a(n)=(2 / 9) * Sum(r, 1, 8, Sin(r * Pi / 9)Sin(3 * r * Pi / 9)(2Cos(r * Pi / 9)) ^ (2n)) a(n)=6a(n - 1) - 9a(n - 2) + a(n - 3) and also a(n)=7a(n - 1) - 15a(n - 2) + 10a(n - 3) - a(n - 4) G.f.: x(- 1 + 3x) / (- 1 + 6x - 9x ^ 2 + x ^ 3) •

[A033190] • 0,1,3,9,28,90,297,1001,3431,11917,41820,147918,526309,1881009,6744843,24244145,87300092,314765506,1135980801,4102551897,1482362801 5,53581222773,193724727804,700551945014 ★ Sum(binomial(n,k)*binomial(fibonacci(k+1),n-k)) • a(n)=(1 / 5) * Sum(r, 1, 9, Sin(r * Pi / 10)Sin(3 * r * Pi / 10)(2Cos(r * Pi / 10)) ^ (2n)), n>=1 a(n)=8a(n - 1) - 21a(n - 2) + 20a(n - 3) - 5a(n - 4), n>=5. - _ Herbert Kociemba _ , Jun 14 2004 •

[A000245] • 0,1,3,9,28,90,297,1001,3432,11934,41990,149226,534888,1931540,7020405,25662825,94287120,347993910,1289624490,4796857230,1790214660 0,67016296620,251577050010,946844533674,3572042254128 ★ a(n) = 3*(2*n)!/((n+2)!(n-1)!). • a(n + 1) = sum(i + j + k=n, C(i)C(j)C(k)) with i, j, k>=0 and where C(k) denotes the k - th Catalan number. - _ Benoit Cloitre _ , Nov 09 2003 • a(n) = sum { k=0..n, binomial(n,k) * 2 ^ (n - k) * (- 1) ^ (k + 1) * binomial(k,floor((k - 1) / 2)) } . - _ Paul Barry _ , Feb 16 2006 • a(n) = (1 / Pi) * int(x ^ n * (x - 1) * sqrt(x * (4 - x)) / (2 * x),x,0,4). - _ Paul Barry _ , Feb 08 2008 • a(n) = sum of top row terms of M ^ (n - 1), M = an infinite square production matrix as follows: • a(n) = - binomial(2 * n,n) / (n + 1) * hypergeom([- 1,n + 1 / 2],[n + 2],4). - _ Peter Luschny _ , Aug 15 2012 • a(n) = sum(i=0..n - 1, C(i) * C(n - i)), where C(i) denotes the i - th Catalan number. - _ Dmitry Kruchinin _ , Mar 02 2013 •

[A071724] • 1,1,3,9,28,90,297,1001,3432,11934,41990,149226,534888,1931540,7020405,25662825,94287120,347993910,1289624490,4796857230,1790214660 0,67016296620,251577050010,946844533674,3572042254128 ★ a(n) = 3*C(2n,n-1)/(n+2), n>0. a(0)=1. • a(n) is the n - th moment of the function defined on the segment (0, 4) of x axis: a(n)= int(x ^ n * (- x ^ (1 / 2) * cos(3 * arcsin(1 / 2 * x ^ (1 / 2))) / Pi), x=0..4), n=0, 1... . - _ Karol A. Penson _ , Sep 29 2004 •

[A215007] • 1,3,9,28,91,308,1078,3871,14161,52479,196196,737793,2785160,10540390,39955041,151615947,575723785,2187128524,8311078307,31587815308,120069510526,456434707519,1735184512425,6596692255391,25079305566420 ★ a(n) = 7*a(n-1) - 14*a(n-2) + 7*a(n-3), a(0)=1, a(1)=3, a(2)=9. • a(n) = (1 / sqrt(7)) * (cot(8 * Pi / 7) * (s(1)) ^ 2n + cot(4 * Pi / 7) * (s(4)) ^ 2n + cot(2 * Pi / 7) * (s(2)) ^ 2n), where s(j) := 2 * sin(2Pi * j / 7). •

[A081914] • 1,3,9,28,93,333,1269,5022,20169,80919,321489,1259712,4861701,18482337,69264477,256154562,935867601,3381559083,12096128601,42874534116,150706570221,525729603573,1821263718789,6269238352998,21454184419353 ★ 3^n(n^3-3n^2+2n+162)/162. • a(n)=3 ^ n(n ^ 3 - 3n ^ 2 + 2n + 162) / 162 G.f.: (1 - 9x + 27x ^ 2 - 26x ^ 3) / (1 - 3x) ^ 4 •

[A120985] • 1,3,9,28,93,333,1272,5085,20925,87735,372879,1602450,6953824,30438138,134255403,596154495,2662813341,11955684591,53927330037,244250703252,1110401393067,5065143385647,23176155530394,106344639962973 ★ Number of ternary trees with n edges and having no vertices of degree 2. A ternary tree is a rooted tree in which each vertex has at most three children and each child of a vertex is designated as its left or middle or right child. • a(n)=(1 / (n + 1)) * sum(3 ^ (n - 3j) * binomial(n + 1,2j + 1) * binomial(n - 2j,j), j=0..n / 2). G.f.=G(z) satisfies G=1 + 3zG + z ^ 3 * G ^ 3. •

[A098589] • 1,3,9,29,93,297,949,3033,9693,30977,98997,316377,1011085,3231249,10326501,33001673,105467517,337055553,1077170005,3442445049,11001446253,35158678769,112360926405,359085671721,1147574372701 ★ a(n) = 3*a(n-1) + 2*a(n-3), with a(0)=1, a(1)=3. • a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ i=0..n } Sum _{ j=0..i } C(n - 2 * k,i) * C(i,j) * C(j, k) * 2 ^ k. •

[A061534] • 1,3,9,29,93,299,961,3089,9929,31915,102585,329741,1059893,3406835,10950657,35198913,113140561,363669939,1168951465,3757383773,12077432845,38820730843,124782241601,401090022801,1289231579161 ★ Expansion of (1-x^2)/(1-3*x-x^2+x^3). • a(n) = 3 * a(n - 1) + a(n - 2) - a(n - 3) for n>3. - _ Colin Barker _ , Sep 13 2014 •

[A036550] • 1,3,9,29,95,307,973,3033,9339,28511,86537,261637,788983,2375115,7141701,21457841,64439027,193448119,580606465,1742343645,5228079471,15686335523,47063200829,141197991049,423610750315 ★ a(n)=T(0,n)+t(1,n-1)+...+T(n,0), array T given by A048471. • a(n) = (1 / 2) * (3 ^ (n + 1) - 2 ^ (n + 2) + 2n + 3). - _ Ralf Stephan _ , Feb 17 2004 •

[A290897] • 1,3,9,29,95,307,976,3073,9645,30283,95207,299625,943363,2970320,9351621,29439359,92671625,291715157,918275995,2890621063,9099375792,28643956245,90168412937,283841284899,893503898503 ★ p-INVERT of the positive integers, where p(S) = 1 - S - S^3. • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 27 * a(n - 3) - 19 * a(n - 4) + 7 * a(n - 5) - a(n - 6). •

[A289804] • 1,3,9,29,96,321,1077,3617,12149,40802,137009,459991,1544169,5183201,17396800,58387097,195950657,657602545,2206838633,7405775266,24852220929,83398067755,279861976377,939138581941,3151475258656 ★ p-INVERT of the even bisection (A001519) of the Fibonacci numbers, where p(S) = 1 - S - S^2. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 9 * a(n - 3) + a(n - 4). •

[A082306] • 1,3,9,29,97,327,1097,3649,12033,39371,127945,413349,1328609,4251535,13551753,43046729,136314625,430467219,1355971721,4261625389,13366006881,41841412823,130754415049,407953774929,1270932914177 ★ Expansion of (1+x)exp(2x)cosh(x). • a(n)=(n + 1 + 3 ^ (n - 1)(n + 3)) / 2 G.f.: (1 / (1 - x) ^ 2 + (1 - 2x) / (1 - 3x) ^ 2) / 2 E.g.f. (1 + x)exp(2x)cosh(x) •

[A081696] • 1,1,3,9,29,97,333,1165,4135,14845,53791,196417,721887,2667941,9907851,36950465,138320021,519515209,1957091277,7392602917,27992976565,106236268337,404005515873,1539293204549,5875059106769 ★ Expansion of 1/(x + sqrt(1-4x)). • a(n) = Sum _{ k=0..n } binomial(2n - k,n + k) * (3k + 1) / (n + k + 1). - _ Emanuele Munarini _ , Apr 02 2011 • a(n) = Sum { k=0..n } (k / (2n - k))binomial(2n - k, n - k)F(k + 1). (End) • a(n) = the upper left term in M ^ n, M = an infinite square production matrix in which a column of (1,2,2,2,...) is prepended to an infinite lower triangular matrix of all 1's and the rest zeros: •

[A247172] • 0,1,1,3,9,29,97,335,1185,4273,15649,58051,217673,823709,3141692,12065087,46613121,181049025,706549185,2769069091,10894034633,43008192637,170327978401,676511841743,2694115428769 ★ Expansion of -1-(sqrt(x^4+4*x^3-2*x^2-4*x+1)-x^2-2*x-1)/(4*x). • a(n) = sum(k=1..n, (binomial(n - k,k - 1) * sum(i=0..n - k, 2 ^ i * binomial(k,n - k - i) * binomial(k + i - 1,k - 1) * (- 1) ^ (n - k - i))) / k). •

[A077587] • 1,3,9,29,98,342,1221,4433,16302,60554,226746,854658,3239044,12332140,47137005,180780345,695367510,2681600130,10364759790,40142121032,155748675420,605274171060,2355676013730,9180275261274,35819645937228 ★ a(n) = C(n+1) + n*C(n) where C = A000108 (Catalan numbers). • a(n) = binomial(2n + 1, n + 1) - binomial(2n, n + 2). • a(n) = (3 * (3 * n + 2) * a(n - 1) - 2 * (11 * n - 7) * a(n - 2) + 4 * (2 * n - 5) * a(n - 3)) / (n + 2), n>2. •

[A001893] • 1,3,9,29,98,343,1230,4489,16599,61997,233389,884170,3366951,12876702,49424984,190297064,734644291,2842707951,11022366544,42815701060,166583279325,649063995030,2532267577126,9891097066760,38676401680776 ★ Number of permutations of (1,...,n) having n-3 inversions (n>=3). • a(n) =

2 ^ (2 * n - 4) / sqrt(Pi * n) * Q * (1 + O(n ^{- 1 })), where Q is a digital search tree constant, Q = 0.2887880951... (see A048651). - corrected by _ Vaclav Kotesovec _ , Mar 16 2014 •

[A099780] • 1,3,9,29,99,351,1273,4677,17307,64295,239361,892125,3327091,12412143,46313289,172824629,644952459,2406919671,8982595153,33523198797,125109675747,466914455615,1742546049561,6503265548325,24270507755131 ★ a(n) = Sum_{k=0..floor(n/3)} C(n-k, 2*k) * 2^k*3^(n-3*k). • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 2 * a(n - 3). • a(n) = (2 ^ (2 + n) - (2 - sqrt(3)) ^ n * (- 1 + sqrt(3)) + (1 + sqrt(3)) * (2 + sqrt(3)) ^ n) / 6. - _ Colin Barker _ , Feb 05 2017 •

[A006134] • 1,3,9,29,99,351,1275,4707,17577,66197,250953,956385,3660541,14061141,54177741,209295261,810375651,3143981871,12219117171,47564380971,185410909791,723668784231,2827767747951,11061198475551,43308802158651 ★ a(n) = Sum_{k=0..n} binomial(2*k,k). • a(n) = C(2n,n) * Sum _{ k=0..2n } (- 1) ^ k * trinomial(n,k) / C(2n,k) where trinomial(n,k) = [x ^ k] (1 + x + x ^ 2) ^ n. E.g. a(2) = C(4,2) * (1 / 1 - 2 / 4 + 3 / 6 - 2 / 4 + 1 / 1) = 6 * (3 / 2) = 9 ; a(3) = C(6,3) * (1 / 1 - 3 / 6 + 6 / 15 - 7 / 20 + 6 / 15 - 3 / 6 + 1 / 1) = 20 * (29 / 20) = 29. - _ Paul D. Hanna _ , Aug 21 2007 • a(n) = - binomial(2 * (n + 1),n + 1) * hypergeom([1,n + 3 / 2],[n + 2], 4) - i / sqrt(3). - _ Peter Luschny _ , Oct 29 2015 • a(n) = binomial(2 * n, n) * hypergeom([1, - n], [1 / 2 - n], 1 / 4). - _ Peter Luschny _ , Mar 16 2016 •

[A238803] • 1,1,3,9,29,99,357,1351,5343,21993,93923,414969,1892277,8887291,42912261,212676951,1080355463,5617772049,29868493827,162204146857,898874710797,5078665886931,29232738375653,171294038649639,1021117638212079 ★ Number of ballot sequences of length 2n with exactly n fixed points. • a(n) = ((2 * n - 1) * a(n - 1) + n * (n - 2) * a(n - 2)) / (n - 1) for n>1, a(0) = a(1) = 1. •

[A293070] • 1,3,9,29,103,399,1641,6989,30319,132735,583665,2571821,11343223,50052495,220904217,975041453,4303886431,18997962879,83860441185,370176644813,1634036256295,7212979975503,31839623961801,140546879747981,620403902366671 ★ Sum of values of vertices at level n of the hyperbolic Pascal pyramid PP_(4,5). • a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 14 * a(n - 3), n >= 3. • a(n) = (2 ^ (2 + n) - (3 - sqrt(2)) ^ n * (1 + sqrt(2)) + (- 1 + sqrt(2)) * (3 + sqrt(2)) ^ n) / 2. •

[A060719] • 1,3,9,29,103,405,1753,8279,42293,231949,1357139,8427193,55288873,381798643,2765917089,20960284293,165729739607,1364153612317,11665484410113,103448316470743,949739632313501,9013431476894645,88304011710168691 ★ a(0) = 1; a(n+1) = a(n) + Sum_{i=0..n} binomial(n,i)*(a(i)+1). • a(n) = 2 * Bell(n + 1) - 1. - _ Vladeta Jovovic _ , Feb 11 2003 •

[A177255] • 0,1,3,9,29,104,416,1837,8853,46113,257583,1533308,9676148,64452909,451475027,3314964857,25442301577,203604718076,1695172374548,14654631691569,131309475792709,1217516798735521,11664652754184043 ★ a(n) = Sum_{j=1..n}j*B(j-1), where B(k) = A000110(k) are the Bell numbers. • a(n) = Sum _{ k=0..n } k * A(177254(n,k). •

[A154147] • 3,9,30,60,179,353,1046,2060,6099,12009,35550,69996,207203,407969,1207670,2377820,7038819,13858953,41025246,80775900,239112659,470796449,1393650710,2744002796,8122791603 ★ Indices k such that 19 plus the k-th triangular number is a perfect square. • a(n)= + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A179545] • 3,9,30,63,165,234,408,513,759,1218,1395,1998,2460,2709,3243,4134,5133,5490,6633,7455,7884,9243,10209,11748,13968 ★ The sum of the elements within a jump in a Sieve of Eratosthenes table. • a(n) = sum(p + 1 .. 2p - 1) = 3p(p - 1) / 2 where p is the n - th prime. (End) •

[A089978] • 1,3,9,30,99,324,1062,3483,11421,37449,122796,402651,1320300,4329288,14195817,46548351,152632917,500486202,1641103659,5381209728,17645087790,57858574347,189719352225,622093320045,2039855683176 ★ Expansion of 1/(1-3x-3x^3). • a(n) = Sum _{ k=0..floor(n / 2) } C(n - 2 * k, k)3 ^ (n - 2 * k). • a(0)=1, a(1)=3, a(2)=9, a(n)=3 * a(n - 1) + 3 * a(n - 3). - _ Harvey P. Dale _ , Jul 22 2015 •

[A052906] • 1,3,9,30,99,327,1080,3567,11781,38910,128511,424443,1401840,4629963,15291729,50505150,166807179,550926687,1819587240,6009688407,19848652461,65555645790,216515589831,715102415283,2361822835680 ★ Expansion of (1-x^2)/(1-3x-x^2). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k - 1)3 ^ (n - 2k). - _ Paul Barry _ , Jan 16 2005 • a(n) = 3(((3 + sqrt(13)) / 2) ^ n - ((3 - sqrt(13)) / 2) ^ n) / sqrt(13), for n>=1. - _ Bogart B. Strauss _ , Jul 19 2013 •

[A102898] • 1,3,9,30,99,330,1098,3660,12195,40650,135486,451620,1505358,5017860,16726068,55753560,185844771,619482570,2064940470,6883134900,22943778138,76479260460,254930851404,849769504680,2832564956814 ★ A Catalan-related transform of 3^n. • a(0)=1, a(n)=sum { k=0..n, k * binomial(n - 1, (n - k) / 2)(1 + (- 1) ^ (n - k))3 ^ k / (n + k) } , n>0. •

[A050181] • 0,1,3,9,30,99,333,1144,3978,13995,49742,178296,643842,2340135,8554275,31429026,115997970,429874830,1598952366,5967382200,22338765540,83859016527,315614844558,1190680751376,4501802223090 ★ T(2n+3, n), array T as in A051168; a count of Lyndon words. • a(n) = (1 / (2 * n + 3)) * Sum _{ d|gcd(n,3) } mu(d) * binomial((2 * n + 3) / d, n / d). (This is a special case of A. Howroyd's formula for double array A051168.) • a(n) = (1 / (2 * n + 3)) * (binomial(2 * n + 3, n) - binomial((2 * n / 3) + 1, n / 3)) if 3|n; = (1 / (2 * n + 3)) * binomial(2 * n + 3, n) otherwise. •

[A089931] • 1,3,9,30,100,330,1089,3597,11881,39240,129600,428040,1413721,4669203,15421329,50933190,168220900,555595890,1835008569,6060621597,20016873361,66111241680,218350598400,721163036880,2381839709041 ★ a(n) = 3a(n-1) + 3a(n-3) + a(n-4). • a(n) = ((3 + sqrt(13) ^ n(11 + 3sqrt(13)) / 13 + (3 - sqrt(13) ^ n(11 - 3sqrt(13)) / 13)2 ^ (- 1 - n) + 2(- 1) ^ n / 13; • a(n) =(- i) ^ nsum { k=0..floor(n / 2), U(n - 2k, 3i / 2) } with i ^ 2= - 1. •

[A096222] • 1,3,9,30,100,360,1296,4896,18496,71808,278784,1098240,4326400,17172480,68161536,271589376,1082146816,4320165888,17247043584,68920934400,275415040000,1101122764800,4402342526976,17605073043456,70403108110336 ★ Number of different rectangles when a piece of paper is folded n times in alternate directions. • a(n) = a b (a + 1) (b + 1) / 4, where a=2 ^ floor(n / 2) and b=2 ^ ceiling(n / 2). • a(n) (mod 10 ^ k) is cyclic. For (mod 10) the cycle is 0, 0, 0, 6, 6, 6, 8, 4. - _ Robert G. Wilson v _ , Jul 31 2004 •

[A029651] • 1,3,9,30,105,378,1386,5148,19305,72930,277134,1058148,4056234,15600900,60174900,232676280,901620585,3500409330,13612702950,53017895700,206769793230,807386811660,3156148445580,12350146091400,48371405524650 ★ Central elements of the (1,2)-Pascal triangle A029635. • a(n) = 3 * binomial(2n - 1, n) (n>0). - _ Len Smiley _ , Nov 03 2001 • a(n) = (3 / 2) * 4 ^ n * Gamma(1 / 2 + n) / (sqrt(Pi) * Gamma(1 + n)) - 0 ^ n / 2. - _ Peter Luschny _ , Dec 16 2015 • a(n) = 2 ^ (1 - n) * Sum _{ k=0..n } (binomial(k + n,k) * binomial(2 * n - 1,n - k))), n>0, a(0)=1. - _ Vladimir Kruchinin _ , Nov 23 2016 •

[A003409] • 3,9,30,105,378,1386,5148,19305,72930,277134,1058148,4056234,15600900,60174900,232676280,901620585,3500409330,13612702950,53017895700,206769793230,807386811660,3156148445580,12350146091400,48371405524650,189615909656628 ★ a(n) = 3*binomial(2n-1,n). • a(n) = (3 / 2) * 4 ^ n * Gamma(1 / 2 + n) / (sqrt(Pi) * Gamma(1 + n)). - _ Peter Luschny _ , Dec 14 2015 •

[A032125] • 3,9,30,108,408,1584,6240,24768,98688,393984,1574400,6294528,25171968,100675584,402677760,1610661888,6442549248,25770000384,103079608320,412317646848,1649269014528,6597072912384,26388285358080,105553128849408 ★ "BIK" (reversible, indistinct, unlabeled) transform of 3,3,3,3... • a(n) = 3 * 2 ^ (n - 2) * (2 ^ (n - 1) + 1). - _ Vladeta Jovovic _ , Dec 22 2002 • a(1)=3, a(2)=9, a(n) = 6 * a(n - 1) - 8 * a(n - 2). [_ Harvey P. Dale _ , Jan 01 2012] •

[A246472] • 1,3,9,30,109,418,1650,6604,26589,107274,432934,1746484,7040626,28362324,114175812,459344920,1847008989,7423262554,29822432862,119766845860,480833598054,1929896415484,7744047734652,31067665113640,124613703290994 ★ Number of order-preserving (monotone) functions from the power set of 1 = {0} to the power set of n = {0, ..., n-1}. • a(n) = sum _{ i=0..n } (binomial(n,i) * (1 + sum _{ j=i + 1..n } binomial(n,j)). • a(n) = 2 ^ (2 * n - 1) + 2 ^ n - binomial(2 * n, n) / 2. - _ Vaclav Kotesovec _ , Aug 28 2014 •

[A107379] • 1,1,1,3,9,30,110,436,1801,7657,33401,148847,674585,3100410,14422567,67792847,321546251,1537241148,7400926549,35854579015,174677578889,855312650751,4207291811538,20782253017825,103048079556241 ★ Number of ways to write n^2 as the sum of n odd numbers, disregarding order. • a(n) = [x ^ (n * (n - 1) / 2)] Product _{ k=1..n } 1 / (1 - x ^ k). - _ Paul D. Hanna _ , Feb 05 2012 •

[A134168] • 1,3,9,30,111,438,1779,7290,29871,121998,496299,2011650,8129031,32769558,131850819,529745610,2126058591,8525561118,34166421339,136858609170,548013994551,2193796224678,8780408783859,35137313082330,140596298752911 ★ Let P(A) be the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are disjoint and for which either x is a subset of y or y is a subset of x, or 1) x and y are intersecting but for which x is not a subset of y and y is not a subset of x, or 2) x and y are intersecting and for which either x is a proper subset of y or y is a proper subset of x, or 3) x = y. • a(n) = (1 / 2) * (4 ^ n - 3 ^ n + 3 * 2 ^ n - 1). • a(n) = 3 * StirlingS2(n + 1,4) + 2 * StirlingS2(n + 1,3) + 2 * StirlingS2(n + 1,2) + 1. •

[A124427] • 0,1,3,9,30,112,463,2095,10279,54267,306298,1838320,11677867,78207601,550277003,4055549053,31224520322,250547144156,2090779592827,18110124715919,162546260131455,1509352980864191,14478981877739094,143299752100925452,1461455003961745247 ★ Sum of the sizes of the blocks containing the element 1 in all set partitions of {1,2,...,n}. • a(n) = (n - 1) * B(n - 1) + B(n). - _ Vladeta Jovovic _ , Nov 10 2006 •

[A001672] • 1,3,9,31,97,306,961,3020,9488,29809,93648,294204,924269,2903677,9122171,28658145,90032220,282844563,888582403,2791563949,8769956796,27551631842,86556004191,271923706893,854273519913 ★ Floor(Pi^n). • a(n) ^ (1 / n) converges to pi because |1 - a(n) / pi ^ n|=|pi ^ n - a(n)| / pi ^ n<1 / pi ^ n and so a(n) ^ (1 / n)=(pi ^ n * (1 + o(1))) ^ (1 / n)=pi * (1 + o(1)). - _ Hieronymus Fischer _ , Jan 22 2006 •

[A049416] • 3,9,31,99,316,999,3162,9999,31622,99999,316227,999999,3162277,9999999,31622776,99999999,316227766,999999999,3162277660,9999999999,31622776601,99999999999,316227766016,999999999999,3162277660168 ★ Largest number whose square has n digits. • a(n)=ceil(sqrt(10 ^ n)) - 1. •

[A127927] • 1,1,3,9,31,108,391,1431,5319,19926,75252,285750,1090491,4177774,16060401,61916977,239307063,926929746,3597296770,13984508500,54448030092,212282062488,828673761978,3238495227846,12669206034339 ★ G.f. A(x) satisfies: [x^(2n)] A(x)/Catalan(x)^n = A001764(n) = C(3n,n)/(2n+1) and [x^(2n+1)] A(x)/Catalan(x)^n = A001764(n+1) for n>=0, where Catalan(x) is the g.f. of A000108. • a(n) = C(2n,n) - (- 1) ^ (n - 1) * Sum _{ i=0..[(n - 1) / 2] } C(3i,i) * C(i - n - 1,n - 1 - 2i) / (2i + 1). •

[A123222] • 1,3,9,31,109,391,1397,4995,17833,63675,227313,811543,2897269,10343647,36928061,131837979,470678161,1680380979,5999172633,21417807055,76464283837,272987183095,974598829637,3479441311347,12422046335161 ★ Expansion of -x * (x-1) * (3*x^2-1) / (9*x^4-8*x^3+4*x-1). • a(n) = 4 * a(n - 1) - 8 * a(n - 3) + 9 * a(n - 4). G.f.: - x * (x - 1) * (3 * x ^ 2 - 1) / (9 * x ^ 4 - 8 * x ^ 3 + 4 * x - 1). [_ Colin Barker _ , Oct 19 2012] •

[A120305] • 1,1,3,9,31,111,407,1513,5679,21471,81643,311895,1196131,460223

5,17757183,68680169,266200111,1033703055,4020716123,15662273839,61092127491,238582873475,932758045123,3650336341239,14298633670931 ⋆ Sum[Sum[(-1)^(i+j)*(i+j)!/(i!j!),{i,0,n}],{j,0,n}]. • a(n) = Sum[Sum[(- 1) ^ (i + j) * (i + j)! / (i!j!), { i,0,n }], { j,0,n }]. •

[A052709] • 0,1,1,3,9,31,113,431,1697,6847,28161,117631,497665,2128127,91830489,39940863,174897665,770452479,3411959809,15181264895,67833868289,304256253951,1369404661761,6182858317823,27995941060609 ⋆ Expansion of (1-sqrt(1-4x-4x^2))/(2(1+x)). • a(n) = sum((2 * n - 2 - 2 * k)! / k! / (n - k)! / (n - 1 - 2 * k)!, k=0..floor((n - 1) / 2)). - _ Emeric Deutsch _ , Nov 14 2001 • a(n + 1) = sum { k=0..n, C(k) * C(k, n - k) } - _ Paul Barry _ , Feb 22 2005 • a(n + 1) = (1 / (2 * Pi)) * int(x ^ n * (4 + 4x - x ^ 2) / (2(1 + x)),x,2 - 2 * sqrt(2),2 + 2 * sqrt(2)); - _ Paul Barry _ , Apr 01 2007 • a(n), n>0 = up per left term in M ^ (n - 1), where M = an infinite square production matrix as follows: •

[A110136] • 1,3,9,31,115,447,1803,7499,32069,140795,633981,2925671,13826405,66861107,330544409,1669024071,8598951451,45160258503,241540648011,1314519420803,7273377034547,40886211572271,233344325395327 ⋆ Sums of antidiagonals of number square A110135. • a(n) = Sum _{ j=0..floor((n - k) / 2) } binomial(n - k,j) * binomial(2(n - k - j),n - k) * k ^ j. •

[A086616] • 1,3,9,31,121,515,2321,10879,52465,258563,1296281,6589727,33887465,175966211,921353249,4858956287,25786112993,137604139011,7379229993 7,39746473101 11,214932666310 01,1166429218329 63,6350747972518 89,3467998148181631,18989465797056721 ⋆ Partial sums of the large Schroeder numbers (A006318). • a(1)=1, a(n)=n + sum(i=1, n - 1, a(i) * a(n - i)). - _ Benoit Cloitre _ , Mar 16 2004 •

[A040027] • 1,1,3,9,31,121,523,2469,12611,69161,404663,2512769,16485691,113842301,824723643,6249805129,49416246911,406754704841,3478340425563,30845565317189,283187362333331,2687568043654521,26329932233283223 ⋆ The Gould numbers. • a(n) = b(n - 2), n>1, b(n) = Sum _{ k = 1..n } binomial(n, k - 1) * b(n - k), b(0) = 1. - _ Vladeta Jovovic _ , Apr 28 2001 • a(n) = sum { k = 0..n } (sum { j = k..n } Stirling2(j,k) * k ^ (n - j)). •

[A111063] • 1,1,3,9,31,129,651,3913,27399,219201,1972819,19728201,217010223,2604122689,33853594971,473950329609,7109254944151,113748079106433,1933717344809379,34806912206568841,661331331924807999,13226626638496160001,277759159408419360043 ⋆ a(0) = 1; a(n) = (n-1)*a(n-1) + n. • a(n + 1) = Sum _{ k=0..2 * n } C(n,floor(k / 2))(n - floor(k / 2))!. - _ Paul Barry _ , May 04 2007 • a(n) = 2 * floor(e * n!) - 1, n>1. - _ Gary Detlefs _ , Jun 10 2010 • a(n) = 2 * exp(1) * GAMMA(n, 1) - 1 for n>=1. - _ Peter Luschny _ , Nov 21 2017 •

[A063020] • 0,1,1,3,9,32,119,466,1881,7788,32868,140907,611871,2685732,11896906,53115412,238767737,1079780412,4909067468,22424085244,102865595140,473678981820,2188774576575,10145798119530,47165267330415 ⋆ Reversion of y - y^2 - y^3 + y^4. • a(n) = sum(k=0..n - 1,(sum(j=0..k, binomial(j,n - 3 * k + 2 * j - 1) * (- 1) ^ (j - k) * binomial(k,j))) * binomial(n + k - 1,n - 1)) / n. [From _ Vladimir Kruchinin, _ Oct 11 2011] • a(n) = sum(i=0..n - 1, (- 1) ^ (i) * binomial(n + i - 1,i) * binomial(3 * n - i - 2,n - i - 1)) / n, n>0. - _ Vladimir Kruchinin _ , Feb 13 2014 •

[A104184] • 1,1,3,9,32,120,473,1925,8034,34188,147787,647141,2864508,12796238,57615322,261197436,1191268350,5462080688,25162978925,116414836445,540648963645,2519574506595,11779011525030,55225888341334 ⋆ a(n) is the number of paths from (0,0) to (n,0) using steps of the form (1,2),(1,1),(1,0),(1,-1) or (1,-2) and staying above the x-axis. Also, a(n) is the number of possible combinations of balls on the lawn after n turns, using a Motzkin variation of the (4,2)-case of the tennis ball problem considered by D. Merlini, R. Sprugnoli and M. C. Verri. • a(n) = ((Sum _{ l=1..n + 1 } (C(n + 1,l) * Sum _{ i=0..n - 1 } (C(i,2 * l - 1) * Sum _{ j=0..n - l + 1 } (C(j,n - j - i - 1) * C(n - l + 1, j))))) + Sum _{ j=0..n + 1 } (C(j,n - j) * C(n + 1,j))) / (n + 1). - _ Vladimir Kruchinin _ , Jun 26 2015 •

[A194530] • 0,1,3,9,32,132,623,3314,19628,128126,914005,7074517,59050739,528741491,5055414317,51406084221,553946196892,6305737560455,75610546284387,952559077043183,12579235034203780,173759983171005721,2505751777457313815,37657189917162605826 ⋆ Number of unlabeled rigid interval posets with n non-maximal and 2 maximal elements. • a(n) = [y ^ n z ^ 2] W(y,z); W(y,z) = z + z * (W(y,y + z + yz) - W(y,z)). •

[A273596] • 1,3,9,32,139,729,4515,32336,263205,2401183,24275037,269426592,3257394143,42615550453,599875100487,9040742057760,145251748024649,2478320458476795,44755020000606961,852823700470009056,17101229029400788083,359978633317886558801,7936631162022905081707 ⋆ The number of slim rectangular diagrams of length n >= 2. • a(n) = Sum _{ 1<=r,s; r + s<=n } binomial(n - r - 1, s - 1) * binomial(n - s - 1, r - 1) * (n - r - s)!. • a(n) = Sum _{ k=0..n } hypergeom([k + 1, k - n], [], - 1). - _ Peter Luschny _ , Oct 05 2017 • a(n) = Sum _{ k = 0..n - 2 } k! * binomial(n + k - 1, 2 * k + 1). • a(n) = (n - 2) * a(n - 1) + a(n - 2) + 2, with a(2) = 1, a(3) = 3. •

[A219557] • 1,3,9,33,96,273,749,1953,4916,12023,28642,66575,151544,338294,741880,1601048,3403936,7137386,14774713,30219025,61115184,122300146,242312186,475589389,925158391 ⋆ Sum of numbers of bipartite partitions of (n,k) into distinct pairs for 0<=k<=n. • a(n) = Sum _{ k=0..n } [x ^ n * y ^ k] 1 / 2 * Product _{ i,j>=0 } (1 + x ^ i * y ^ j). •

[A082841] • 3,9,33,123,459,1713,6393,23859,89043,332313,1240209,4628523,17273883,64467009,240594153,897909603,3351044259,12506267433,46674025473,174189834459,650085312363,2426151414993,9054520347609,33791929975443 ⋆ a(n) = 4*a(n-1) - a(n-2) for n>1, a(0)=3, a(1)=9. • a(n) == 3 (mod 6). •

[A087289] • 3,9,33,129,513,2049,8193,32769,131073,524289,2097153,8388609,33554433,134217729,536870913,2147483649,8589934593,34359738369,137438953473,549755813889,2199023255553 ⋆ a(n) = 2^(2*n+1) + 1. • a(n) = 4 * a(n - 1) - 3. - _ Lekraj Beedassy _ , Apr 29 2005 • a(n) = 2 ^ (2 * n + 1) * a(- 1 - n) for all n in Z. - _ Michael Somos _ , Jan 11 2017 •

[A247195] • 0,1,1,3,9,33,129,531,2265,9921,44361,201651,929073,4328865,20362137,96562659,461169873,2216134401,10707788721,51988771107,253515373305,1241069449377,6097106216529,30050252046195,148541591990505 ⋆ Expansion of -(sqrt(x^4-4*x^3-6*x^2-4*x+1)+x^2-2*x-1)/4. • a(n) = sum(k=1..n - 1, ((sum(i=0..n - k - 1, 2 ^ i * binomial(k,n - k - i - 1) * binomial(k + i - 1,k - 1))) * binomial(n - k - 1,k - 1)) / k), n>1, a(0)=0, a(1)=1. •

[A238113] • 1,3,9,33,135,591,2709,12837,62379,309147,1556577,7940169,40946607,213118119,1118080557,5906404557,31390735059,167727039027,900478280889,4855086475761,26277928981335,142724482802943,777647813128389,4249385026394613,23282201473312635 ⋆ Expansion of (3-5*x-3*sqrt(x^2-6*x+1))/(4*x). • a(n) = - 3 / 4 * GegenbauerC(n + 1, - 1 / 2,3), n>0. - _ Benedict W. J. Irwin _ , Sep 26 2016 •

[A049425] • 1,1,3,9,33,141,651,3333,18369,108153,678771,4495041,31324833,228803589,1744475643,13852095741,114235118721,976176336753,8627940414819,78726234866553,740440277799201,7168107030092541,71331617341611243,728811735008913909,7637128289949856833 ⋆ Row sums of triangle A049404. • a(n) = n! * sum(k=0..n, sum(j=0..k, binomial(3 * j,n) * (- 1) ^ (k - j) / (3 ^ k * (k - j)! * j!))). [_ Vladimir Kruchinin _ , Feb 07 2011] •

[A007489] • 0,1,3,9,33,153,873,5913,46233,409113,4037913,43954713,522956313,6749977113,93928268313,1401602636313,22324392524313,378011820620313,6780385526348313,128425485935180313,2561327494111820313,53652269665821260313 ⋆ a(n) = Sum_{k=1..n} k!. • a(n) = Sum _{ k=1..n } P(n, k) / C(n, k). - _ Ross La Haye _ , Sep 21 2004 • a(n) = a(n - 1) + n! for n >= 1. - _ Jaroslav Krizek _ , Jun 16 2009 • a(0)=0, a(1)=1, a(n) = (n + 1) * a(n - 1) - n * a(n - 2). - _ Sergei N. Gladkovskii _ , Jul 05 2012 •

[A264237] • 1,3,9,33,165,1137,9837,95193,962541,9884889,102049197,1055383929,10921055661,113032307769,1169952636525,12109971475065,125349031354029,1297477519769145,13430093334225645,139013932289379321,1438923355509080877,14894194022848480185 ⋆ Sum of values of vertices at level n of the hyperbolic Pascal pyramid. • a(n) = 18 * a(n - 1) - 99 * a(n - 2) + 226 * a(n - 3) - 224 * a(n - 4) + 92 * a(n - 5) - 12 * a(n - 6), for n >= 7. •

[A137953] • 1,1,3,9,34,132,546,2327,10191,45534,206788,951723,4429182,20808186,98550468,470038119,2255684699,10883852112,52769785320,256960840946,1256147650818,6162349332204,30328107189312,149698391878458 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^2)^3. • a(n) = Sum _{ k=0..n - 1 } C(3 * (n - k),k) / (n - k) * C(2 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A292292] • 0,0,0,1,3,9,34,174,1128,8251,63315,494175,3879370,30512736,240149088,1890487729,14883249459,117174190329,922506823618,7262871367566,57180440473320,450180590519275,3544264121625315,27903931958216271,219687190433359498 ⋆ Number of vertices of type C at level n of the hyperbolic Pascal pyramid. • a(n) = 12 * a(n - 1) - 37 * a(n - 2) + 37 * a(n - 3) - 12 * a(n - 4) + a(n - 5), n >= 6. •

[A102865] • 1,3,9,35,137,547,2185,8739,34953,139811,559241,2236963,8947849,35791395,143165577,572662307,2290649225,9162596899,36650387593,146601550371,586406201481,2345624805923,9382499223689,37529996894755,150119987579017 ⋆ Base 4 digits are, in order, the first n terms of the sequence (1, 3, 21, 203, 2021, 20203, 202021, 2020203, 20202021, 202020203, ...). • a(0)=1, a(1)=3, a(2)=9, a(n)=4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). [From Harvey P. Dale, Mar 23 2012] •

[A074507] • 3,9,35,153,707,3369,16355,80313,397187,1972809,9824675,49005273,244672067,1222297449,6108298595,30531927033,152630937347,763068593289,3815084686115,19074648589593,95370918425027,476847618556329 ⋆ a(n) = 1^n + 3^n + 5^n. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) + 8. •

[A217924] • 1,1,3,9,35,153,755,4105,24323,155513,1064851,7760745,59895203,487397849,4166564147,37298443977,348667014723,3395240969785,34365336725715,360837080222761,3923531021460707,44108832866004121,511948390801374835,6126363766802713481 ⋆ Row sums of triangle A217537. • a(n) = sum(k=0..n, sum(j=0..k, binomial(n,k - j) * 2 ^ j * (- 1) ^ (k - j) * stirling2(n - k + j,j))). - _ Vladimir Kruchinin _ , Feb 28 2015 •

[A097277] • 1,1,1,3,9,35,155,791,2590,6756,59091,414986,3520583,31103150,168701533,701447397,9487636929,99912639989,1238924779043,15635917876565,118729653870976,678787849773474,12421571493668547,174412390122722852 ⋆ a(n) = number of permutations <p(1), p(2), ..., p(n)> of <1, 2, ..., n>, such that p(k) > p(k-1) when k is composite and p(k) < p(k-1) when k is prime. • a(n) = n - th row sum of A097278. •

[A101880] • 1,1,3,9,35,161,913,6103,47319,416235,4092155,44424095,527511445,6798907249,94504286703,1408973416617,22426222745159,379522092608177,6804315177704869,128828842646944135,2568533750228603835,53788282243854336411,1180357162840624656959 ⋆ Number of arrangments of the partitions of n (e.g., 111 counts for 6). • a(n) = sum(i=1, n, P(n, i) * i!), where P(n, i) is the number of partitions of n into i parts. •

[A155858] • 1,1,3,9,35,168,967,6538,50831,446919,4383861,47451921,561715093,7217604520,100031995789,1487319385140,23613262336093,398673670050021,7132188802005991,134766129577134553,2681929390235577831 ⋆ Diagonal sums of triangle A155856. • a(n)=sum { k=0..floor(n / 2), C(2n - 3k,k) * (n - 2k)! } . •

[A000834] • 1,3,9,35,177,1123,8569,76355,777697,8911683,113466729,1589173475,24280777617,401898209443,7163977596889,136821894075395,2787312733887937,60331585563062403,1382698089425999049 ⋆ Expansion of exp(x)(1+tan x)/(1-tan x). • a(n) := - 1 + sum _{ i=0...n } ((- 1) ^ (i(i - 1) / 2) 4 ^ i C(n,

i)(E _{ i } (1 / 2) + E _{ i } (1))); E _{ n } (x) Euler polynomials. - _ Peter Luschny _ , Nov 25 2010 •

[A106435] • 0,3,9,36,135,513,1944,7371,27945,105948,401679,1522881,5773680,21889683,82990089,314639316,1192888215,4522582593,17146412424,65006985051,246460192425,934401532428,3542585174559,13430960120961 ★ a(n) = 3*a(n-1)+3*a(n-2), a(0)=0, a(1)=3. • a(n)=(1 / 7) * [3 / 2 + (1 / 2) * sqrt(21)] ^ n * sqrt(21) - (1 / 7) * sqrt(21) * [3 / 2 - (1 / 2) * sqrt(21)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Aug 01 2008] •

[A276368] • 1,3,9,36,135,567,2268,9720,40095,173745,729729,3184272,13533156,59337684,254304360,1118939184,4825425231,21288640725,92250776475,407845538100,1774128090735,7856852973255,34284449337840,152044079672160,665192848565700 ★ G.f. A(x) satisfies: A(x - 3*x^3) = 1/(1 - 3*x). • a(2 * n) = 3 ^ n * binomial(3 * n, n). • a(2 * n + 1) = 3 ^ (n + 1) * binomial(3 * n + 1, n). •

[A006229] • 1,1,1,3,9,37,177,959,6097,41641,325249,2693691,24807321,241586893,2558036145,28607094455,342232522657,4315903789009,57569080467073,807258131578995,11879658510739497,183184249105857781,2948163649552594737,49548882107764546223 ★ Expansion of exp(tan x). • a(n) = sum(if oddp(n + k) then 0 else (- 1) ^ ((n + k) / 2) * sum(j! / k! * stirling2(n,j) * 2 ^ (n - j) * (- 1) ^ (n + j - k) * binomial(j - 1,k - 1),j,k,n),k,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 05 2010 • a(n) = sum(i=0..(n - 1) / 2, binomial(n - 1,2 * i) * z(i) * a(n - 2 * i - 1)), a(0)=1, where z(n) is tangent (or "zag") numbers (A000182). - _ Vladimir Kruchinin _ , Mar 04 2015 •

[A133222] • 1,3,9,38,182,1112,7685,61892,556113,5580548,61438617 ★ Row sums of triangle in A133644. • a(n) = SUM[k=1..n] T(n,k) (n >= 1, 1 <= k <= n) = largest permanent of any n X n (0,1) matrix with k 1's in each row and column. •

[A103942] • 1,3,9,38,187,1120,7083,47990,337676,2455517,18310155,139447034,1080773098,8502896424,67763884363,546147639926,4445389286380,36501274080076,302060508150976,2517213486505592 ★ Number of unrooted n-edge isthmusless maps in the plane (planar with a distinguished outside face). • a(n)=(1 / (2n))[(5n ^ 2 + 13n + 2)binomial(4n, n) / ((n + 1)(3n + 1)(3n + 2)) + sum _{ 0<k<n, k|n } phi(n / k)binomial(4k, k) + q(n)] where phi is the Euler function (A000010), q(n)=0 if n is even and q(n)=(n - 1)binomial(2n, (n - 1) / 2) / (n + 1) if n is odd. •

[A287063] • 3,9,39,183,833,3629,15291,63051,256605,1036401,4167815,16720031,66986169,268173525,1073185011,4293787923,17177379125,68714234201,274866897279,1099488559527,4397998277073,17592085381629,70368534463019,281474540503643,1125899000873613 ★ Number of dominating sets in the n-crown graph. • a(n) = 4 ^ n - 2 ^ n * (n + 2) + n ^ 2 + n + 3. • a(n) = 11 * a(n - 1) - 47 * a(n - 2) + 101 * a(n - 3) - 116 * a(n - 4) + 68 * a(n - 5) - 16 * a(n - 6) for n>6. •

[A080635] • 1,1,1,3,9,39,189,1107,7281,54351,448821,4085883,40533129,435847959,5045745069,62594829027,828229153761,11644113200031,173331882039141,2723549731505163,45047085512477049,782326996336904679,14233537708408467549,270733989894887810547 ★ Number of permutations on n letters without double falls and without initial falls. • a(n) = n! * Sum _{ k= - oo..oo } (sqrt(3) / (2 * Pi * (k + 1 / 3))) ^ (n + 1) for n >= 1. - _ Richard Ehrenborg _ , Dec 09 2013 •

[A090012] • 3,9,39,213,1395,10617,91911,890901,9552387,112203465,1432413063,19743404469,292164206259,4619383947513,77708277841575,1385712098571957,26108441941918851,518231790473609481,10808479322484810087 ★ Permanent of (0,1)-matrix of size n X (n+d) with d=2 and n-1 zeros not on a line. • a(n) = (n + 1) * a(n - 1) + (n - 2) * a(n - 2), a(1)=3, a(2)=9 •

[A179088] • 3,9,41,59,123,153,249,291,419,473,633,699,891,969,1193,1283,1539,1641,1929,2043,2363,2489,2841,2979,3363 ★ Positive integers of the form (2*m^2+1)/11. • a(n) = (22 * n * (n - 1) - 5 * (2 * n - 1) * (- 1) ^ n + 7) / 4 . • a(n) = a(- n + 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A228478] • 3,9,41,172,728,3084,13050,55252,233875,990055,4191028,17741339,75101906,317918500,1345800258,5696989354,24116274286,102088075950,432155280235,1829382955772,7744072911728,32781908823977,138771103836595 ★ Number of nX4 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or antidiagonally. • a(n) = a(n - 1) + 10 * a(n - 2) + 15 * a(n - 3) + 4 * a(n - 4) - 6 * a(n - 5) - a(n - 6) + 3 * a(n - 7) - a(n - 8) •

[A074502] • 3,9,41,225,1313,7809,46721,280065,1679873,10078209,60467201,362799105,2176786433,13060702209,78364180481,470185017345,2821109972993,16926659575809,101559956930561,609359740534785,3656158441111553 ★ 1^n + 2^n + 6^n. • a(n) = 8 * a(n - 1) - 12 * a(n - 2) + 5, n> 1 [From _ Gary Detlefs _ , Jun 21 2010] •

[A081681] • 1,3,9,42,399,4578,49299,490542,4602159,41440938,362614539,3108879942,26262187719,219426920898,1818214750179,14970201491742,122642764106079,1000774210138458,8140442567772219,66044479587885942,534691055242021239 ★ A sum of decreasing powers. • a(n)=(8 ^ n - 7 ^ n - 6 ^ n - 5 ^ n + 4 * 4 ^ n) / 2. •

[A001902] • 1,1,3,9,45,75,175,1225,11025,19845,43659,160083,693693,1288287,2760615,41409225,703956825,1329696225,2807136475,10667118605,44801898141,85530896451,178837328943,1371086188563,11425718238025 ★ Successive denominators of Wallis's approximation to Pi/2 (reduced). • a(n) = denominator(W(n)), for n >= 0, with W(n) = Product _{ k=0..n } N(k) / D(k) (reduced), with N(k) = 2 * floor((k + 1) / 2) for k >= 1 and N(0) = 1, and D(k) = 2 * floor(k / 2) + 1, for k >= 0. (End) •

[A000246] • 1,1,1,3,9,45,225,1575,11025,99225,893025,9823275,108056025,1404728325,18261468225,273922023375,4108830350625,69850115960625,1187451971330625,22561587455281875,428670161650355625,9002073394657468125,1890435412878068306 25 ★ Number of permutations in the symmetric group S_n that have odd order. • a(2 * k) = (2 * k - 1) * a(2 * k - 1), a(2 * k + 1) = (2 * k + 1) * a(2 * k), for k >= 0, with a(0) = 1. • a(n) = Sum _{ k=0..floor((n - 1) / 2) } (2k)! * C(n - 1, 2k) * a(n - 2k - 1) for n > 0. - Noam Katz (noam kj(AT)hotmail.com), Feb 27 2001 • a(n) = a(n - 1) + (n - 1) * (n - 2) * a(n - 2). - _ Benoit Cloitre _ , Aug 30 2003 • a(n) is asymptotic to (n - 1)! * sqrt(2 * n / Pi). - _ Benoit Cloitre _ , Jan 19 2004 • a(n) = n! * binomial(n - 1, floor((n - 1) / 2)) / 2 ^ (n - 1), n > 0. - _ Ralf Stephan _ , Mar 22 2004 •

[A190009] • 1,1,3,9,49,237,1739,11557,105313,886201,9596211,97408641,1218112465,14446293669,204461028347,2769624924637,43702453433281,664858164527089,11560367630382051,194954793455032569,3700614762669466993,68462595466239603165,1407869708935659210155 ★ E.g.f.: exp(tan(x) + tan(x)^2). • a(n) = Sum _{ m=1..n } (Sum _{ k=m..n } ((1 + (- 1) ^ (n - k)) * Sum _{ j=k..n } (j! * stirling2(n,j) * 2 ^ (n - j - 1) * (- 1) ^ ((n + k) / 2 + j) * binomial(j - 1,k - 1)) * binomial(m,k - m)) / m!), n>0, a(0)=1. •

[A106329] • 3,9,51,297,1731,10089,58803,342729,1997571,11642697,67858611,395508969,2305195203,13435662249,78308778291,456417007497,2660193266691,15504742592649,90368262289203,526704831142569,3069860724566211,17892459516254697,104284896372961971 ★ Numbers k such that k^2 = 8*(j^2) + 9. • a(n) = (3 * ((3 - 2 * sqrt(2)) ^ (n - 1) + (3 + 2 * sqrt(2)) ^ (n - 1))) / 2. - _ Colin Barker _ , Oct 13 2015 •

[A261397] • 0,3,9,54,243,1215,5832,28431,137781,669222,3247695,15766083,76527504,371477259,1803179313,8752833270,42487113627,206236840311,1001094543576,4859415193527,23588096472765,114499026160038,555789946734999,2697861075645339,13095692747551008 ★ a(n) = 3^n*Fibonacci(n). • a(n) = 3 * a(n - 1) + 9 * a(n - 2), a(0)=0, a(1)=3. - _ G. C. Greubel _ , Aug 21 2015 •

[A212418] • 1,1,1,3,9,54,285,2160,15825,151200,1411095,16329600,185067855,2514758400,33530101605,523069747200,8020402655265,141228831744000,2447966414868975,48017802792960000,928344187296100575,2007144156745728000 0,42819075343843319025 ★ Size of the equivalence class of S_n containing the identity permutation under transformations of positionally adjacent elements of the form abc <–> acb <–> cba where a<b<c. • a(n) = 1 for n<3, otherwise: a(2k + 1) = (3 / 2) * k * (k + 1) * (2k - 1)!, a(2k) = (3 / 2) * k * (k - 1 / 3) * (2k - 2)! - (2k - 3)!!. •

[A025226] • 3,9,54,405,3402,30618,288684,2814669,28146690,287096238,2975361012,31241290626,331638315876,3553267670100,38375290837080,417331287853245,4566095267100210 ★ a(n) = a(1)*a(n-1) + a(2)*a(n-2) + ...+ a(n-1)*a(1) for n >= 2. Also a(n) = 3^n*C(n-1), where C = A000108 (Catalan numbers). E.g., a(3) = 3^3*C(2) = 27*2 = 54. • a(n) = 3 ^ n / (4 * n - 2) * binomial(2 * n,n). - _ Vaclav Kotesovec _ , Oct 11 2013 •

[A121696] • 0,1,3,9,63,297,2583,17577,184023,1630377,20142423,219358377,3133652823,40455492777,656970836823,9804424107177,178500684884823,3022686167979177,61001050889300823,1155449953199019177 ★ Number of even-length first columns in all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(n)=a(n - 2) + n(n - 2)! * floor((n - 1) / 2) for n>=3; a(1)=0, a(2)=1. •

[A067623] • 1,3,9,81,243,729,6561,19683,59049,1594323,4782969,14348907,129140163,387420489,1162261467,10460353203,31381059609,94143178827,2541865828329,7625597484987,22876792454961,205891132094649,617673396283947 ★ Consider the power series (x+1)^(1/3)=1+x/3-x^2/9+5x^3/81+...; sequence gives denominators of coefficients. • a(n) = 3 ^ n * a(floor(n / 3)). - _ Vladeta Jovovic _ , Mar 01 2004 • a(n) = denominator(binomial(1 / 3, n)). - _ Peter Luschny _ , Apr 07 2016 •

[A055156] • 3,9,81,243,2187,6561,59049,177147,1594323,4782969,43046721,129140163,1162261467,3486784401,31381059609,94143178827,847288609443,2541865828329,22876792454961,68630377364883,617673396283947 ★ Powers of 3 which are not powers of 3^3. • a(2n) = 3 ^ (3n + 1), a(2n + 1) = 3 ^ (3n + 2). •

[A135989] • 3,9,105,201,207,303,309,405,501,507,603,609,705,801,807,903,909,1005,1101,1107,1203,1209,1305,1401,1407 ★ a(n) = 6*n + 3 + 90*floor((6*n+3)/10). • a(n) = a(n - 1) + a(n - 5) - a(n - 6). - _ Colin Barker _ , Feb 02 2013 •

[A091409] • 1,3,9,220 ★ a(n) = smallest m such that A090822(m) = n. • a(n) is about 2 ^ (2 ^ (3 ^ (4 ^ (5 ^ ... ^ (n - 1))))). •

[A283770] • 1,3,10,12,14,16,23,25,27,29,34,36,38,40,42,47,49,51,53,55,60,62,64,66,73 ★ Numbers k such that L(k) = 1 mod 3, where L = A000201 = lower Wythoff sequence. • a(n + 1) - a(n) is in { 2,5,7 } for every n. •

[A088338] • 0,3,10,12,14,17,20,24,25,27,29,30,32,37,38,40,41,42,44,45,48,50,51,52,55 ★ Numbers n such that frac(x^n)=frac(x*frac(x^(n-1))) where x=3/2 and frac(x) denotes the fractional part of x. • a(n) appears to be asymptotic to 2 * n and a(n)>2n •

[A042897] • 1,3,10,13,23,59,82,141,505,1656,103177,311187,1036738,1347925,2384663,6117251,8501914,14619165,52359409,171697392,10697597713,32264490531,107491069306,139755559837,247246629143 ★ Denominators of continued fraction convergents to sqrt(980). • a(n) = 103682 * a(n - 10) - a(n - 20) for n >19. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A042331] • 1,3,10,13,36,49,85,1069,1154,2223,5600,7823,29069,95030,4970629,15006917,49991380,64998297,179987974,244986271,424974245,5344677211,5769651456,11114328667,27998308790 ★ Denominators of continued fraction convergents to sqrt(692). • a(n) = 4999698 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 20 2014 •

[A082975] • 1,1,3,10,13,36,121,157,435,1462,1897,5256,17665,22921,63507,213442,276949,767340,2578969,3346309,9271587,31161070,40432657,112026384,3

76511809 ⋆ Denominators of continued fraction convergents to (sqrt(37)-4)/3. • a(n + 3) = 12 * a(n) + a(n - 3), a(n + 1) = a(n - 1) + (1 + mod(n, 3)) * a(n) for all n in Z. •

[A041121] • 1,3,10,13,62,75,287,936,15263,46725,155438,202163,964090,1166253,4462849,14554800,237339649,726573747,2417060890,3143634637,14991599438,18135234075,69397301663,226327139064,3690631526687 ⋆ Denominators of continued fraction convergents to sqrt(69). • a(n) = 15550 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041865] • 1,3,10,13,179,371,1292,2955,4247,7202,33055,205532,238587,1875641,2114228,3989869,6104097,126071809,132175906,258247715,390423621,2991213062,3381636683,23281033160,96505769323 ⋆ Denominators of continued fraction convergents to sqrt(454). • a(n) = 33832080168351370 * a(n - 34) - a(n - 68) for n>67. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A283867] • 1,3,10,14,18,38,62,73,116,118,143,183,221,232,242,330,333,413,430,455,470,496,507,533,538 ⋆ Numbers n such that 30*n^2 - 1 and 30*n^2 + 1 are (twin) primes. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Mar 17 2017 •

[A245524] • 1,3,10,14,27,33,52,60,85,95,126,138,175,189,232,248,297,315,370,390,451,473,540,564,637 ⋆ a(n) = n^2 - floor(n/2)*(-1)^n. • a(n) = (4 * n ^ 2 - 1 - (2 * n - 1) * (- 1) ^ n) / 4. • a(n) = (2n - 1) * (n - floor(n / 2)). - _ Wesley Ivan Hurt _ , Jan 10 2017 •

[A186575] • 1,3,10,15,31,66,127,255,514,1023,2047,4098,8191,16383,32770,65535,131071,262146,524287,1048575,2097154,4194303,8388607,16777218,33554431 ⋆ Expansion of (1+2*x+6*x^2)/(1-x-x^2-2*x^3) in powers of x. • a(n + 1) =n * sum _{ k=1..n } sum _{ j=n - 3 * k..k } 2 ^ (k - j) * binomial(j,n - 3 * k + 2 * j) * binomial(k,j) / k . •

[A020330] • 3,10,15,36,45,54,63,136,153,170,187,204,221,238,255,528,561,594,627,660,693,726,759,792,825 ⋆ Numbers n such that base 2 representation is the juxtaposition of two identical strings. • a(n) = n + 2n * 2 ^ floor(log2(n)) . - _ Ralf Stephan _ , Dec 07 2004 •

[A217278] • 0,0,1,3,10,15,45,120,351,528,1540,4095,11935,17955,52326,139128,405450,609960,1777555,4726275,13773376,20720703,60384555,160554240,467889345 ⋆ Sequences A124174 and A006454 interlaced, where A124174 are the Sophie Germain triangular numbers. • a(n) = 35 * (a(n - 4) - a(n - 8)) + a(n - 12). • a(2 * n + 1) = 1 / 64 * (((4 + sqrt(2)) * (1 - (- 1) ^ (n + 1) * sqrt(2)) ^ (2 * floor((n + 1) / 2)) + (4 - sqrt(2)) * (1 + (- 1) ^ (n + 1) * sqrt(2)) ^ (2 * floor((n + 1) / 2)))) ^ 2 - 1. • a(2 * n + 2) = 1 / 2 * (3 * (a(2 * n + 1)) + sqrt((a(2 * n + 1)) + 1) * sqrt(8 * (a(2 * n + 1)) + 1) + 1). •

[A182334] • 0,1,3,10,15,120,325,528,4095,11026,17955,139128,374545,609960,4726275,12723490,20720703,160554240,432224101,703893960,5454117903,14682895930,23911673955,185279454480,498786237505 ⋆ Triangular numbers that differ from a square by 1. • a(n) = 35 * a(n - 3) - 35 * a(n - 6) + a(n - 9). - _ Charles R Greathouse IV _ , Apr 25 2012 •

[A051938] • 3,10,18,27,37,48,60,73,87,102,118,135,153,172,192,213,235,258,282,307,333,360,388,417,447 ⋆ Truncated triangular numbers: a(n) = n*(n+1)/2 - 18. • a(n) = n + a(n - 1) (with a(6)=3). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A028878] • 3,10,19,30,43,58,75,94,115,138,163,190,219,250,283,318,355,394,435,478,523,570,619,670,723 ⋆ a(n) = (n+3)^2 - 6. • a(n) = a(n - 1) + 2 * n + 5 (with a(0)=3). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = a(- n - 6). • a(n) mod (n + 1) = n - 1. (End) •

[A089693] • 1,3,10,20,30,40,60,80,120,160,240,320,480,640,960,1280,1920,2560,3840,5120,7680,10240,15360,20480,30720 ⋆ Numbers n such that phi(n) = 2^bigomega(n). • a(n) = 2 * a(n - 2) for n>5. [From Harvey P. Dale, Mar 01 2012] •

[A005997] • 1,3,10,20,39,63,100,144,205,275,366,468,595,735,904,1088,1305,1539,1810,2100,2431,2783,3180,3600,4069 ⋆ Number of paraffins. • a(n) = 1 + floor((n - 1) / 2) + 2 * (C(n + 1,3) - C(floor((n + 1) / 2),3) - C(ceiling((n + 1) / 2),3). - _ Enrique Pérez Herrero _ , Apr 22 2012 • a(n) = (n + 1)(2n ^ 2 - (- 1) ^ n + 1) / 8. - _ Bruno Berselli _ , Apr 22 2012 •

[A213850] • 1,3,10,20,42,70,120,180,275,385,546,728,980,1260,1632,2040,2565,3135,3850,4620,5566,6578,7800,9100,10647 ⋆ Antidiagonal sums of the convolution array A213849. • a(n) = (n + 1) * (n + 2) * (3 - 3 * (- 1) ^ n + 8 * n + 2 * n ^ 2) / 96. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A081205] • 1,3,10,20,70,126,462,792,3003,5005,19448,31824,125970,203490,817190,1307504,5311735,8436285,34597290,54627300,225792840,354817320,1476337800,2310789600,9669554100 ⋆ Staircase on Pascal's triangle. • a(n) = binomial(ceiling((n + 1) / 2) + (n + 1), n). •

[A014105] • 0,3,10,21,36,55,78,105,136,171,210,253,300,351,406,465,528,595,666,741,820,903,990,1081,1176 ⋆ Second hexagonal numbers: a(n) = n*(2n+1). • a(n) = 3 * sum(tan ^ 2(k * Pi / (2(n + 1))), k=1..n). - _ Ignacio Larrosa Cañestro _ , Apr 17 2001 • a(n) ^ 2 = n * (a(n) + 1 + a(n) + 2 + ... + a(n) + 2n), e.g., 10 ^ 2 = 2 * (11 + 12 + 13 + 14). - _ Charlie Marion _ , Jun 15 2003 • a(n) = a(n - 1) + 4 * n - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 24 2010 • a(n) = Sum _{ k=0.2 * n } (- 1) ^ k * k ^ 2. - _ Bruno Berselli _ , Aug 29 2013 • a(n) = sum[C(n - 2 + k,n - 2) * (C(n + 2 - k,n) { 0<=k<=2 }], for n>1. - _ J. M. Bergot _ , Jun 14 2014 • a(n) = floor(Sum _{ j=(n ^ 2 + 1)..((n + 1) ^ 2 - 1) } sqrt(j)). Fractional portion of each sum converges to 1 / 6 as n − > infinity. See A247112 for a similar summation sequence on j ^ (3 / 2) and references to other such sequences. - _ Richard R. Forberg _ , Dec 02 2014 •

[A117495] • 0,3,10,21,44,65,102,133,184,261,310,407,492,559,658,795,944,1037,1206,1349,1460,1659,1826,2047,2328 ⋆ Product of a prime number p and the number of primes smaller than p. • a(n) = (n - 1) * prime(n). - _ Zak Seidov _ , Aug 15 2010 •

[A192033] • 0,1,3,10,21,46,93,190,381,766,1533,3070,6141,12286,24573,49150,98301,196606,393213,786430,1572861,3145726,6291453,12582910,25165821 ⋆ Expansion of x*(3*x^2+x+1)/((x-1)*(2*x-1)*(x+1)). • a(n) = 3 * 2 ^ (n - 1) - 3 + (n mod 2) for n>0, a(0) = 0. •

[A008837] • 1,3,10,21,55,78,136,171,253,406,465,666,820,903,1081,1378,1711,1830,2211,2485,2628,3081,3403,3916,4656 ⋆ p(p-1)/2 for p prime. • a(n) = (phi(prime(n)) ^ 2 + phi(prime(n))) / 2, where phi(n) is Euler's totient function, A000010. - _ Alonso del Arte _ , Aug 22 2014 •

[A120109] • 1,3,10,21,106,107,750,1501,4504,4505,49556,49557,644242,644243,644244,1288489,21904314,21904315,416181986,416181987,416181988,416181989,9572185748,9572185749,47860928746 ⋆ Row sums of number triangle A120108. • a(n)=sum { k=0..n, lcm(1,..,n + 1) / lcm(1,..,k + 1) } . •

[A068082] • 1,3,10,21,190,1711,15400,138601,1247410,11226691,101040220,909361981,8184257830,73658320471,662924884240,5966323958161,53696915623450,483272240611051,4349450165499460,39145051489495141,352305463405456270 ⋆ a(1) = 1, a(n) = smallest triangular number of the form k*a(n-1) + 1 for some positive integer k. • a(n) = (169 * 9 ^ (n - 3) - 1) / 8 for n>2. • a(n) = 10 * a(n - 1) - 9 * a(n - 2) for n>4. •

[A122795] • 1,3,10,22,39,57,80,108,141,179,222,270,319,373,432,496,565,639,718,802,891,985,1080,1180,1285 ⋆ Connell (5,3)-sum sequence (partial sums of the (5,3)-Connell sequence) • a(n) = (n - th triangular number) - n + (n - th partial sum of A122798). •

[A140066] • 1,3,10,22,39,61,88,120,157,199,246,298,355,417,484,556,633,715,802,894,991,1093,1200,1312,1429 ⋆ (5n^2 - 11n + 8)/2. • a(n)=(8 - 11n + 5n ^ 2) / 2. - _ Emeric Deutsch _ , May 07 2008 • a(n)=a(n - 1) + 5 * n - 8 (with a(1)=1) [From Vincenzo Librandi, Nov 24 2010] • a(1)=1, a(2)=3, a(3)=10, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Jan 28 2012] •

[A006503] • 0,3,10,22,40,65,98,140,192,255,330,418,520,637,770,920,1088,1275,1482,1710,1960,2233,2530,2852,3200 ⋆ a(n) = n*(n+1)*(n+8)/6. • a(n) = n * (n + 1) * (n + 8) / 6. • a(0)=0, a(1)=3, a(2)=10, a(3)=22, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 27 2016 •

[A248851] • 0,3,10,22,41,68,105,153,214,289,380,488,615,762,931,1123,1340,1583,1854,2154,2485,2848,3245,3677,4146 ⋆ a(n) = (2*n*(2*n^2 + 9*n + 14) + (-1)^n - 1)/16. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). - _ Colin Barker _ , Mar 03 2015 •

[A023554] • 3,10,22,43,78,136,231,386,638,1047,1710,2784,4523,7338,11894,19267,31198,50504,81743,132290,214078,346415,560542,907008,1467603 ⋆ Convolution of natural numbers >= 3 and (Fib(2), Fib(3), Fib(4), ...). • a(n) = -7 + (2 ^ (- 1 - n) * ((1 - t) ^ n * (- 19 + 9 * t) + (1 + t) ^ n * (19 + 9 * t))) / t - 2 * (1 + n) where t=sqrt(5). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A041403] • 1,1,3,10,23,33,947,980,2907,9701,22309,32010,918589,950599,2819787,9409960,21639707,31049667,891030383,922080050,2735190483,9127651499,20990493481,30118144980,864298552921 ⋆ Denominators of continued fraction convergents to sqrt(216). • a(n) = 970 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A271740] • 3,10,23,42,67,98,135,178,227,282,343,410,483,562,647,738,835,938,1047,1162,1283,1410,1543,1682,1827 ⋆ a(n) = 3*n^2 + 4*n + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Wesley Ivan Hurt _ , Apr 13 2016 •

[A227347] • 0,3,10,23,43,73,113,166,233,316,416,536,676,839,1026,1239,1479,1749,2049,2382,2749,3152,3592,4072,4592 ⋆ Number of lattice points in the closed region bounded by the graphs of y = (5/6)*x^2, x = n, and y = 0, excluding points on the x-axis. • a(n) = sum(floor((5 / 6) * x ^ 2), x=1..n). • a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7). • a(n) = (2 * n * (10 * n ^ 2 + 45 * n + 44) + 24 * floor((n + 1) / 3) - 9 * (- 1) ^ n + 9) / 72. [_ Bruno Berselli _ , Jul 09 2013] •

[A145069] • 0,3,10,23,44,75,118,175,248,339,450,583,740,923,1134,1375,1648,1955,2298,2679,3100,3563,4070,4623,5224 ⋆ n*(n^2+3*n+5)/3. • a(n) = a(n - 1) + n ^ 2 + n + 1 for n > 0, with a(0) = 0. • a(n) = n * (n ^ 2 + 3 * n + 5) / 3. - _ Bruno Berselli _ , Apr 01 2011 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 30 2012 • a(n) = sum _{ i=1..n } 3i + (n - i) ^ 2. - _ Wesley Ivan Hurt _ , Aug 21 2014 •

[A192973] • 1,3,10,23,47,88,157,271,458,763,1259,2064,3369,5483,8906,14447,23415,37928,61413,99415,160906,260403,421395,681888,1103377 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A080204] • 1,3,10,23,51,114,253,559,1234,2723,6007,13250,29225,64459,142170,313567,691595,1525362,3364293,7420183,16365730,36095755,79611695,175589122,387274001 ⋆ Number of fixed points under n-fold inflation for the substitution rule a->abc, b->ab, c->b that underlies the Kolakoski (3,1) sequence, compare math.MG/0206098. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - a(n - 4). G.f.: x * (1 + 3 * x ^ 2 - 2 * x ^ 3) / ((1 - x) * (1 - 2 * x - x ^ 3)). [_ Colin Barker _ , Jul 02 2012] • a(n) = n * sum(m=1..n, sum(i=0..(n - m) / 2 , binomial(m,i) * binomial(n - 2 * i - 1,m - 1)) / m). - _ Vladimir Kruchinin _ , Mar 10 2015 •

[A185828] • 1,3,10,23,61,162,421,1103,2890,7563,19801,51842,135721,355323,930250,2435423,6376021,16692642,43701901,114413063,299537290,784198803,2053059121,5374978562,14071876561 ⋆ Half the number of nX2 binary arrays with every element equal to exactly one or two of its horizontal and vertical neighbors. • a(n) = n * Sum _{ k=0..n - 1 } C(2n - 2k, 2k) / (n - k). [Paul D. Hanna, Mar 19 2011] •

[A134438] • 1,1,3,10,23,62,170,441,1173,3127,8266,21937,58234,154390,409573,1086567,2882021,7645046,20279829,53794224,142696606,378522507,1004078871,2663452699,7065162260 ⋆ Number of tilings of a 3 X n rectangle with n trominoes. • a(n) = a(n - 1) + 2 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - a(n - 6) . •

[A092255] • 1,1,3,10,23,66,222,561,1647,5410,14318,42351,137018,372191,1105275,3537540,9772767,29090826,92364198,258208671,769820418,2429091885,6850744365,20447143866,64200928194 ⋆ a(0) = 1; for n > 0, a(n) = b(n) - n*b(n-1), b() = A076177(). • a(n) = n! * sum(i + j + k=n, 1 / (i! * j! * k!)) (0<= k<=j<=i<=n). - _ Benoit Cloitre _ , Mar 22 2004 •

[A105861] • 1,3,10,23,76,102,442,695,1792,2828,11254,13334,53236,65418,155110,347319,1114096,1259328,4980718,6223148,15033700,27548678,96468970,108761942,352992576 ⋆ n/2 * sum_{k=0..n} binomial(n,k)/GCD(n,k). • a(n) = n / 2 * sum _{ k=0..n } (binomial(n, k) / gcd(n, k)). •

[A041327] • 1,3,10,23,194,411,1427,4692,123419,374949,1248266,2871481,2422011451311709,178155241,585777432,15408368473,46810882851,155841017026,358492916903,3023784352250,6406061621403,22241969216459,73131969270780,1923673170256739 ⋆ Denominators of continued fraction convergents to sqrt(177). • a(n) = 124846 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A259443] • 1,3,10,24,25,27,43,45,55,58,62,79,80,100,107,113,124,134,147,150,152,161,171,186,197 ⋆ The position of the first occurrence in the decimal expansion of Pi of n identical digits. • a(10) = 58, a(100) = 882, a(1000) = 9619, a(10000) = 98564, a(100000) = 996482. •

[A293405] • 0,3,10,24,42,65,94,128,168,212,262,317,377,442,513,589,670,757,848,945,1047,1155,1267,1385,1508 ⋆ The integer k that minimizes |k/n^2 - tau^2|, where tau = (1+sqrt(5))/2 (golden ratio). • a(n) = floor(1 / 2 + tau * n ^ 2). •

[A033811] • 3,10,24,49,92,164,283,478,796,1313,2152,3512,5715,9282,15056,24401,39524,63996,103595,167670,271348,439105,710544,1149744,1860387 ⋆ Convolution of natural numbers n >= 1 with Lucas numbers L(k)(A000032) for k >= 2. • a(n)=L(5) * (F(n + 1) - 1) + L(4) * F(n) - L(3) * n, F(n): Fibonacci (A000045). G.F. x * (3 + x) / ((1 - x - x ^ 2) * (1 - x) ^ 2) •

[A053208] • 0,3,10,24,52,108,220,444,892,1788,3580,7164,14332,28668,57340,114684,229372,458748,917500,1835004,3670012,7340028,14680060,29360124,58720252 ⋆ Row sums of A053207. • a(0) = 0, a(1) = 3, a(n + 1) = 2 * a(n) + 4, for n >= 1; a(n) = 7 * 2 ^ (n - 1) - 4, n >= 1. •

[A179608] • 1,3,10,24,64,144,352,768,1792,3840,8704,18432,40960,86016,188416,393216,851968,1769472,3801088,7864320,16777216,34603008,73400320,150994944,318767104 ⋆ (7+(-1)^n+6*n)*2^(n-3). • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 8 * a(n - 3) with a(1)=1, a(2)=3 and a(3)=10. • a(n) = (7 + (- 1) ^ n + 6 * n) * 2 ^ (n - 3). •

[A212068] • 0,0,3,10,25,49,86,137,206,294,405,540,703,895,1120,1379,1676,2012,2391,2814,3285,3805,4378,5005,5690 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 2w=x+y+z. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = n * (10 * n ^ 2 - 3 * n + 2) / 24 for n even. • a(n) = (n - 1) * (10 * n ^ 2 + 7 * n + 9) / 24 for n odd. •

[A192963] • 0,1,3,10,25,55,110,207,373,652,1115,1877,3124,5157,8463,13830,22533,36635,59474,96451,156305,253176,409943,663625,1074120 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A000247] • 0,3,10,25,56,119,246,501,1012,2035,4082,8177,16368,32751,65518,131053,262124,524267,1048554,2097129,4194280,8388583,16777190,33554405,67108836 ⋆ a(n) = 2^n - n - 2. • a(2)=0, a(3)=3, a(4)=10, a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Aug 23 2011 • a(n) = (Sum _{ k=2..floor(n / 2) } binomial(n + 1,k)) + if(n odd, binomial(n + 1,(n + 1) / 2) / 2, 0). • a(n) = Sum _{ k=0..n - 3 } Sum _{ i=0..n - 1 } C(i,k). - _ Wesley Ivan Hurt _ , Sep 20 2017 •

[A130783] • 0,1,3,10,25,66,154,372,837,1930,4246,9516,20618,45332,97140,210664,447661,960858,2028478,4319100,9070110,19188796,40122028,84438360,175913250 ⋆ Maximum value of the n-th difference of a permutation of 0..n. • a(n) = (n + 1) * (2 ^ (n - 1) - binomial(n - 1,n / 2)) if n is even else ((n + 1) / 2) * (2 ^ n - binomial(n,(n + 1) / 2)). - _ Vladeta Jovovic _ , Aug 23 2007 • a(n) = (n + 1) * (2 ^ n - binomial(n,[n / 2])) / 2, where [x] is floor. - _ Graeme McRae _ , Jan 30, 2012 •

[A026975] • 1,3,10,25,66,154,392,882,2180,4796,11640,25220,60424,129480,307264,652936,1538064,3247024,7604000,15968400,37217312,77818016,180652416,376359200,870795328 ⋆ a(n) = Sum{(k+1)*T(n,k)}, 0<=k<=n, T given by A026648. • a(n) = 8 * a(n - 2) - 12 * a(n - 4) - 16 * a(n - 6) - 4 * a(n - 8) for n>7. •

[A212967] • 0,3,10,26,50,89,140,212,300,415,550,718,910,1141,1400,1704,2040,2427,2850,3330,3850,4433,5060,5756,6500 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w < range{w,x,y}. • a(n) = (n + 1) * (10 * n * (n + 2) - 3 * (- 1) ^ n + 3) / 24. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A269965] • 1,3,10,26,63,145,332,760,1745,4007,9198,21102,48403,111021,254656,584132,1339893,3073459,7049906,16171066,37093175,85084313,195166404,447672720,1026871705 ⋆ Start with a square; at each stage add a square at each expandable vertex so that the ratio between the side of the squares at stage n+1 and at stage n is the golden ratio phi=0.618...; a(n) is the number of squares in a portion of the n-th stage (see below) • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) + 5. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 4 * a(n - 4) - 2 * a(n - 6). •

[A271357] • 3,10,27,71,186,487,1275,3338,8739,22879,59898,156815,410547,1074826,2813931,7366967,19286970,50493943,132194859,346090634,906077043,2372140495,6210344442,16258892831,42566334051 ⋆ a(n) = k*Fibonacci(2*n+1) + (k+1)*Fibonacci(2*n), where k=3. • a(n) = 3 * a(n - 1) - a(n - 2) for n>1. • a(n) = (2 ^ (- 2 - n) * ((9 - sqrt(5)) * (3 + sqrt(5)) ^ (n + 1) - (9 + sqrt(5)) * (3 - sqrt(5)) ^ (n + 1))) / sqrt(5). • a(n) = 4 * Fibonacci(2 * n + 2) - Fibonacci(2 * n + 1). •

[A000471] • 0,1,3,10,27,74,201,548,1490,4051,11013,29937,81377,221206,601302,1634508,4443055,12077476,32829984,89241150,242582597,659407867,1792456423,4872401723,13244561064 ⋆ a(n) = floor(sinh(n)). • a(n) = floor(e ^ n / 2). - _ Bruno Berselli _ , Mar 04 2016 •

[A059193] • 3,10,28,54,88,130,180,238,304,378,460,550,648,754,868,990,1120,1258,1404,1558,1720,1890,2068,2254,2448 ⋆ Engel expansion of 1/e = 0.367879... . • a(n) = 2 * (2 * n + 1) * (n - 1) (for n>1) follows from 1 / e = sum ((1 / (2 * n)! - 1 / (2 * n + 1)!). - Helena Verrill (verrill(AT)math.lsu.edu), Jan 19 2004 • a(1)=3, a(2)=10, a(1)=28, a(2)=54, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 10 2012 •

[A267707] • 1,3,10,28,66,136,253,435,703,1081,1596,2278,3160,4278,5671,7381,9453,11935,14878,18336,22366,27028,32385,38503,45451 ⋆ a(n) = A000217(A000217(n • a(n) = (n ^ 4 + 2n ^ 3 + 7n ^ 2 + 6n + 8) / 8 = (n ^ 2 + n + 2)(n ^ 2 + n + 4) / 8. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Jan 22 2016 •

[A128135] • 1,3,10,28,72,176,416,960,2176,4864,10752,23552,51200,110592,237568,507904,1081344,2293760,4849664,10223616,21495808,45088768,94371840,197132288,411041792 ⋆ Row sums of A128134. • a(n)=2 * a(n - 1) + 2 ^ (n - 1), for n>=2. [Philipp Zumstein (zuphilip(AT)inf.ethz.ch), Oct 05 2009] • a(n)=2 ^ (n - 2) * (2 * n - 1) for n>1. a(n)=4 * a(n - 1) - 4 * a(n - 2) for n>3. G.f.: x * (1 - x + 2 * x ^ 2) / (1 - 2 * x) ^ 2. [_ Colin Barker _ , May 29 2012] •

[A191797] • 0,0,0,1,3,10,28,78,210,561,1485,3916,10296,27028,70876,185745,486591,1274406,3337236,8738290,22879230,59901985,156830905,410597496,1074972528 ⋆ a(n) = binomial(F(n), 2) where F(n) = A000045(n). • a(n) = + 3 * a(n - 1) + 1 * a(n - 2) - 5 * a(n - 3) - 1 * a(n - 4) + 1 * a(n - 5). • a(n) = (2 ^ (- 1 - n) * (- (- 1) ^ n * 2 ^ (1 + n) + sqrt(5) * (1 - sqrt(5)) ^ n + (3 - sqrt(5)) ^ n - sqrt(5) * (1 + sqrt(5)) ^ n + (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Mar 26 2017 •

[A130218] • 1,3,10,29,70,146,273,470,759,1165,1716,2443,3380,4564,6035,7836,10013,12615,15694,19305,23506,28358,33925,40274,47475 ⋆ Partial sums of A100119. Sum of first n of the n-th centered n-gonal numbers. • a(n) = (n * (26 - 3 * n - 2 * n ^ 2 + 3 * n ^ 3)) / 24. G.f.: x * (x ^ 3 - 5 * x ^ 2 + 2 * x - 1) / (x - 1) ^ 5. - _ Colin Barker _ , Apr 29 2013 •

[A048493] • 1,3,10,29,76,187,442,1017,2296,5111,11254,24565,53236,114675,245746,524273,1114096,2359279,4980718,10485741,22020076,46137323,96468970,201326569,419430376 ⋆ a(n) = (n+1)*2^n - n. • a(n) = (n + 1) * 2 ^ n - n. - _ Vladeta Jovovic _ , Feb 28 2003 • a(n) = 5 * a(n - 1) - 7 * a(n - 2) - a(n - 3) + 8 * a(n - 4) - 4 * a(n - 5). - _ Colin Barker _ , Nov 26 2014 •

[A096140] • 0,1,3,10,29,81,220,589,1563,4126,10857,28513,74792,196041,513619,1345282,3522981,9224881,24153636,63239221,165569195,433476726,1134874513,2971168705,7778667024 ⋆ a(n) = sum of n Fibonacci numbers starting from F(n). • a(n) = Fibonacci(2 * n + 1) - Fibonacci(n + 1). - _ Vladeta Jovovic _ , Jul 17 2004 •

[A291393] • 3,10,29,83,232,643,1771,4862,13321,36455,99696,272535,744839,2035358,5561381,15195075,41515496,113425323,309888403,846638398,2313071313,6319448079,17265085152,47169141487,128868574671 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - S)(1 - 2 S). • a(n) = 3 * a(n - 1) + a(n - 2) - 4 * a(n - 3) - 2 * a(n - 4) for n >= 5. •

[A244615] • 1,3,10,29,88,259,771,2284,6786,20191,60189,179654,536925,1606221,4808601,14403804,43163793,129388755,387946445,1163370778,3489117566,10465248174,31391306504,94164586011,282474177151 ⋆ G.f.: Sum_{n>=0} (2 + x^n)^n * x^n / (1-x)^(n+1). • a(n) - 3 ^ n ~ n / 9 * 2 ^ n. - _ Vaclav Kotesovec _ , Jul 02 2014 •

[A006484] • 0,1,3,10,30,75,161,308,540,885,1375,2046,2938,4095,5565,7400,9656,12393,15675,19570,24150,29491,35673,42780,50900 ⋆ a(n) = n*(n + 1)*(n^2 - 3*n + 5)/6. • a(n) = (1 / 6) * (n ^ 4 - 2 * n ^ 3 + 2 * n ^ 2 + 5 * n). - James A. Record (james.record(AT)gmail.com), Nov 07 2004 • a(n) = binomial(n + 3,4) - 2 * binomial(n + 2,4) + 5 * binomial(n + 1,4). - _ Johannes W. Meijer _ , Apr 29 2011 •

[A026960] • 1,3,10,30,78,189,440,999,2230,4917,10740,23283,50162,107505,229360,487407,1032174,2179053,4587500,9633771,20185066,42205161,88080360,183500775,381681638 ⋆ a(n) = Sum{(k+1)*T(n,k)}, 0<=k<=n, T given by A026615. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4) for n>5 •

[A026937] • 1,3,10,30,87,245,676,1836,4925,13079,34446,90090,234227,605865,1560200,4002072,10230201,26069995,66251090,167941494,424753615,1072057117,2700704172,6791746500,17052595573 ⋆ a(n) = Sum{(k+1)*T(n,n-k)}, 0<=k<=n, T given by A008288. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) - a(n - 4). _ Vincenzo Librandi _ , Jun 20 2012 •

[A094306] • 1,3,10,30,88,252,712,1992,5536,15312,42208,116064,318592,873408,2392192,6547584,17912320,48985344,133926400,366085632,1000548352,2734316544,7471826944,20416481280,55785005056 ⋆ Number of (s(0), s(1), ..., s(n)) such that 0 < s(i) < 6 and |s(i) - s(i-1)| <= 1 for i = 1,2,...,n, s(0) = 2, s(n) = 4. • a(n) = ((1 - sqrt(3)) ^ n + (1 + sqrt(3)) ^ n - 2 ^ n) / 4. • a(n) = (1 / 3) * Sum _{ k=1..5 } Sin(Pi * k / 3)Sin(2 * Pi * k / 3)(1 + 2 * cos(Pi * k / 6)) ^ n. •

[A014531] • 1,3,10,30,90,266,784,2304,6765,19855,58278,171106,502593,1477035,4343160,12778152,37616427,110797569,326527350,962803170,2840372304,8383467708,24755608584,73133433800,216143407675 ⋆ Form array in which n-th row is obtained by expanding (1+x+x^2)^n and taking the 2nd column from the center. • a(n) = sum { k=0..n + 1, C(n + 1,k) * C(n - k + 1,k + 2) } - _ Paul Barry _ , Sep 20 2004 • a(n) = n * (n + 1) * hypergeom([(1 - n) / 2, 1 - n / 2], [3], 4) / 2. - _ Peter Luschny _ , Nov 23 2014 • a(n) = GegenbauerC(n - 1, - n - 1, - 1 / 2). - _ Peter Luschny _ , May 09 2016 •

[A062107] • 0,1,3,10,30,90,270,810,2430,7290,21870,65610,196830,590490,1771470,5314410,15943230,47829690,143489070,430467210,1291401630,3874204890,11622614670,34867844010,104603532030 ⋆ Diagonal of table A062104. • a(n) = 10 * 3 ^ (n - 4) for n >= 4. • a(n) = Sum _{ k=0..n - 2 } 3 ^ (n - k - 2)binomial(1, k / 2)(1 + (- 1) ^ k) / 2. •

[A033113] • 1,3,10,30,91,273,820,2460,7381,22143,66430,199290,597871,1793613,5380840,16142520,48427561,145282683,435848050,1307544150,3922632451,11767897353,35303692060,105911076180,317733228541 ⋆ Base 3 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). - _ R. J. Mathar _ , Jun 28 2010 • a(n)=2 * a(n - 1) + 3 * a(n - 2) + 1. • a(n)=sum { k=0..floor(n / 2), C(n + 2, 2k + 2) * 4 ^ k } . - _ Paul Barry _ , Aug 24 2003 • a(n)=sum { k=0..floor(n / 2), 3 ^ (n - 2 * k) } ; a(n)=sum { k=0..n, sum { j=0..k, (- 1) ^ (j + k) * 3 ^ j }} . - _ Paul Barry _ , Nov 12 2003 • a(n)=(1 / 8) * (9 * 3 ^ (n - 1) + (- 1) ^ (n - 1) - 2), with n>=1. - _ Paolo P. Lava _ , Jan 19 2009 • a(n) = round(3 ^ (n + 1) / 8) = round((3 ^ (n + 1) - 2) / 8) = floor((3 ^ (n + 1) - 1) / 8) = ceil((3 ^ (n + 1) - 3) / 8) = round((3 ^ (n + 1) - 3) / 8). a(n)=a(n - 2) + 3 ^ (n - 1) , n>2. - _ Mircea Merca _ , Dec 27 2010 •

[A290718] • 3,10,30,94,318,1150,4350,16894,66558,264190,1052670,4202494,16793598,67141630,268500990,1073872894,4295229438,17180393470,6872052531 0,274880004094,1099515822078,4398054899710,17592202821630,703687777320 94,281475043819518 ⋆ a(n) = 2^(n + 1) + 4^(n - 1) - 2. • a(n) = 2 ^ (n + 1) + 4 ^ (n - 1) - 2. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). •

[A003441] • 1,1,3,10,30,99,335,1144,3978,14000,49742,178296,643856,2340135,8554275,31429068,115997970,429874830,1598952498,5967382200,22338765540,83859016956,315614844558,1190680751376,4501802224520 ⋆ Number of nonequivalent dissections of a polygon into n triangles by nonintersecting diagonals rooted at a cell up to rotation. • a(n) = number of necklaces of n - 1 white beads and n + 2 black beads. a(n) = binomial(2n + 1, n - 1) / (2n + 1) + (2 / 3) * C((n - 1) / 3) where C is the Catalan number A000108 (assumed t o be 0 for nonintegral argument). G.f.: (((1 - sqrt(1 - 4x)) / 2) ^ 3 + (1 - sqr t(1 - 4x ^ 3))) / (3x ^ 2). •

[A290061] • 3,10,31,77,162,303,520,836,1277,1872,2653,3655,4916,6477,8382,10678,13415,16646,20427,24817,29878,35675,42276,49752,58177 ⋆ a(n) = (1/24)*(n + 3)*(3*n^3 + 5*n^2 - 6*n + 16). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. •

[A033121] • 1,3,10,31,93,280,841,2523,7570,22711,68133,204400,613201,1839603,5518810,16556431,49669293,149007880,447023641,1341070923,4023212770,12069638311,36208914933,108626744800,325880234401 ⋆ Base-3 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. • a(n) = 3 * a(n - 1) + a(n - 3) - 3 * a(n - 4). •

[A237930] • 3,10,31,94,283,850,2551,7654,22963,68890,206671,620014,1860043,5580130,16740391,50221174,150663523,451990570,1355971711,4067915134,12203745403,36611236210,109833708631,329501125894,988503377683 ⋆ 3^(n+1) + (3^n-1)/2. • a(n) = 3 * a(n - 1) + 1 for n>0, a(0)=3. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>1, a(0)=3, a(1)=10. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 2 for n>1. •

[A106517] • 1,3,10,31,95,288,869,2615,7858,23595,70819,212512,637625,1913019,5739290,17218247,51655351,154967040,464902717,1394710735,4184136386,12552415923,37657258715,112971793856,338915410225 ⋆ Convolution of Fib(n-1) and 3^n. • a(n) = (1 / 5) * (6 * 3 ^ n - Lucas(n + 1)). – _ Ralf Stephan _ , Nov 16 2010 •

[A055217] • 1,3,10,31,96,294,897,2727,8272,25048,75747,228826,690691,2083371,6280650,18925047,57002616,171633840,516632307,1554702516,4677501237,14069962041,42314975352,127240600050,382555886571 ⋆ a(n) = sum of the first n coefficients of (1+x+x^2)^n. • a(n) = 3 ^ n * 3 / 2 + O(3 ^ n / sqrt(n)). - _ Charles R Greathouse IV _ , Dec 02 2015 • a(n) = (3 ^ (n + 1) - hypergeo m([- (n + 1) / 2, - n / 2], [1], 4)) / 2. • a(n) = (3 ^ (n + 1) - GegenbauerC(n + 1, - n - 1, - 1 / 2)) / 2. (End) •

[A097472] • 1,3,10,31,96,296,912,2809,8651,26642,82047,252672,778128,2396320,7379697,22726483,69988378,215535903,663763424,2044122936,6295072048,19386276329,59701891739,183857684514,566207320575 ⋆ Number of different candle trees having a total of m edges. • a(n) = sum _{ s, d, k>=0 with s + d + k=m } binom(s + 2d + 1, s) * binom(s, k); generating function = 1 / (x ^ 4 + 2x ^ 3 - x ^ 2 - 3x + 1); a(n + 4) = 3a(n + 3) + a(n + 2) - 2a(n + 1) - a(n) • a(n)=sum(m=1..n, sum(k=1..n - m + 1, binomial(k,n - m - k + 1) * bi nomial(k + 2 * m - 1,2 * m - 1))) + 1. - _ Vladimir Kruchinin _ , May 12 2011 • a(0)=1, a(1)=3, a(2)=10, a(3)=31, a(n)=3 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 14 2011 •

[A017934] • 1,3,10,31,100,316,1000,3162,10000,31622,100000,316227,1000000,3162277,10000000,31622776,100000000,316227766,1000000000,3162277660,10000000000,31622776601,100000000000 ⋆ Powers of sqrt(10) rounded down. • a (n)=floor(sqrt(10 ^ n)). - _ Zak Seidov _ •

[A005725] • 1,1,3,10,31,101,336,1128,3823,13051,44803,154518,534964,1858156,6472168,22597760,79067375,277164295,973184313,3422117190,12049586631,42478745781,149915252028,529606271560,1872653175556 ⋆ Quadrinomial coefficients. • a(n) = sum(i + j + k=n, 0<=k<=j<=i<=n, C(n,i) * C(i,j) * C(j,k)). - _ Benoit Cloitre _ , Jun 06 2004 • a(n) = hypergeom([1 / 2 - n / 2 , - n, - n / 2], [1 / 2, 1], - 1). - _ Vladimir Reshetnikov _ , Oct 04 2016 •

[A286444] • 0,3,10,32,70,143,252,424,660,995,1430,2008,2730,3647,4760,6128,7752,9699,11970,14640,17710,21263,25300,29912,35100 ⋆ Number of nonequivalent ways to tile an n X n X n triangular area with two 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-8) of 1 X 1 X 1 tiles. • a(n) = (n ^ 4 - 6 * n ^ 3 + 11 * n ^ 2 - 12) / 12 + IF(MOD(n, 2) = 1, - n + 2) / 2. •

[A080406] • 3,10,32,73,457,1994,6407,29489,148253,852592,5420543,37975111,290066507,2400720769,21396506651,204322668174,2081209926313,22523982873141,258105780607144,3121989826825492,39750408190737416 ⋆ Boustrophedon transform of the continued fraction of Pi (cf. A001203). • a(n) appears t o be asymptotic to C * n! * (2 / Pi) ^ n where C=136.6515363673253296829736048979767588776142627312849651332287088 20... - _ Benoit Cloitre _ and Mark Hudson (mrmarkhudson(AT)hotmail.com) •

[A036682] • 3,10,32,84,207,478,1060,2272,4744,9692,19446,38420,74909,144378,275464,520864,977005,1819426,3366182,6191056,11325040,20613800,37350060,67389320,121113335 ⋆ T(n+3,3) with T as in A036355. • a(0)=3, a(1)=10, a(2)=32, a(3)=84, a(4)=207, a(5)=478, a(6)=1060, a(7)=2272, a(n)=4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 5 * a(n - 4) + 8 * a(n - 5) - 2 * a(n - 6) - 4 * a(n - 7) - a(n - 8) [From Harvey P. Dale, May 06 2012] •

[A038731] • 1,3,10,32,99,299,887,2595,7508,21526,61251,173173,486925,1362627,3797374,10543724,29180067,80521055,221610563,608468451,1667040776,4558234018,12441155715,33900136297,92230468249 ⋆ Number of columns in all directed column-convex polyominoes of area n+1. • a(n) = sum(k * binom(n + k - 1, 2k - 2), k=1..n + 1). - _ Emeric Deutsch _ , Jun 11 2003 • a(n) = su m { k=0..n, C(n + k,2k)(k + 1) } . (End) • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). [_ R. J. Mathar _ , Feb 06 2010] • a(n) = sum { k =0..n, (F(2k) + 0 ^ k) * F(2n - 2k + 1) } . [_ Paul Barry _ , Jun 23 2010] •

[A244762] • 1,3,10,32,99,301,908,2730,8197,24599,73806,221428,664295,1992897,5978704,17936126,53808393,161425195,484275602,1452826824,4358480491,13075441493,39226324500,117678973522,353036920589 ⋆ (5*3^n-2*n-1)/4. • a(n + 1) = 3 * a(n) + n. •

[A053581] • 1,3,10,32,100,308,940,2852,8620,25988,78220,235172,706540,2121668,6369100,19115492,57362860,172121348,516429580,1549419812,4648521580,13946089028,41839315660,125520044132 ⋆ First differences of the Poly-Bernoulli numbers B_n^(k) with k=-2 (A027649). • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + C(2,2 - n), n>1; a(0)=1, a(1)=3, where C(2, 2 - n)=1 for n=2 and =0 for n>2. • a(n) = 4 * 3 ^ n / 3 + 0 ^ n / 6 - 2 ^ n / 2. (End) •

[A292398] • 1,3,10,32,102,323,1021,3224,10177,32121,101378,319960,1009830,3187145,10059029,31747584,100199485,316242607,998102878,3150142840,9942261690,31379074783,99036453193,312571964808,986517893269 ⋆ p-INVERT of A010892, where p(S) = 1 - S - S^2 - S^3. • a(n) = 4 * a(n - 1) - a(n - 2) - 6 * a(n - 3) + a(n - 4) + 4 * a(n - 5) + a(n - 6) for n >= 7. •

[A063782] • 1,3,10,32,104,336,1088,3520,11392,36864,119296,386048,1249280,4042752,13082624,42336256,137003008,443351040,1434714112,4642832384,15024521216,48620371968,157338828800,509159145472,1647673606144 ⋆ a(0) = 1, a(1) = 3; for n>1, a(n) = 2*a(n-1) + 4*a(n-2). • a(n) = (1 / 2) * (1 + sqrt (5)) ^ n + (1 / 5) * (1 + sqrt(5)) ^ n * sqrt(5) - (1 / 5) * sqrt(5) * (1 - sqrt(5)) ^ n + (1 / 2) * (1 - sqrt(5)) ^ n. - _ Alexander R. Povolotsky _ , Aug 15 2010 •

[A027989] • 1,3,10,33,105,324,977,2895,8462,24465,70101,199368,563425,1583643,4430290,12342849,34262337,94800780,261545777,719697255,1975722326,5412138033,14796520365,40380240528,110016825025 ⋆ a(n) = self-convolution of row n of array T given by A027926. • a(n) = sum(binomial(2 * n - k,k) * (k + 1),k=0..n). • a(n) = + 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - 1 * a(n - 4). (End) •

[A093043] • 0,0,1,3,10,33,105,344,1105,3591,11594,37565,121485,393264,1272413,4117971,13325450,43123017,139547457,451587592,1461364025,4729080015,15303613546,49523551333,160261550085 ⋆ Jacobsthal(n)*Fibonacci(n-1). • a(n) := (2 ^ n / 3 - (- 1) ^ n / 3)(((1 + sqrt(5)) / 2) ^ (n - 1) / sqrt(5) - ((1 - sqrt(5)) / 2) ^ (n - 1) / sqrt(5)). •

[A053156] • 1,3,10,33,106,333,1030,3153,9586,29013,87550,263673,793066,2383293,7158070,21490593,64504546,193579173,580868590,1742867913,5229128026,15688432653,47067395110,141206379633,423627527506 ⋆ Number of 2-element intersecting families (with not necessary distinct sets) whose union is an n-element set. • a(n) = (3 ^ n - 2 ^ n + 1) / 2. • a(n) = StirlingS2(n + 2, 3) + StirlingS2(n + 1,2) + 1. - _ Ross La Haye _ , Jan 12 2008 • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n > 3. •

[A049219] • 1,1,3,10,33,107,344,1103,3535,11330,36317,116415,373176,1196243,3834643,12292218,39403561,126310851,404898200,1297929287,4160602439,13337099986,42753000005,137047709879,439315949304 ⋆ Number of horizontally convex n-ominoes in which the top row has exactly 1 square. • a(n) = 5a(n - 1) - 7a(n - 2) + 4a(n - 3) for n >= 5. •

[A126184] • 1,3,10,33,108,351,1134,3645,11664,37179,118098,373977,1180980,3720087,11691702,36669429,114791256,358722675,1119214746,3486784401,10847773692,33705582543,104603532030,324270949293,1004193907488 ⋆ Number of hex trees with n edges and having no nonroot nodes of outdegree 2. • a(n) = (n + 8) * 3 ^ (n - 2) for n>=1; a(0)=1. •

[A292397] • 1,3,10,33,108,352,1144,3714,12050,39084,126752,411041,1332923,4322363,14016392,45451793,147389276,477948252,1549872500,5025868667,16297700769,52849583211,171378684824,555740504324,1802134907175 ⋆ p-INVERT of the tribonacci numbers (A000073(k), k>=2), where p(S) = 1 - S - S^2 - S^3.

• a(n) = 4 * a(n - 1) - a(n - 2) - 3 * a(n - 3) - 7 * a(n - 4) + 2 * a(n - 5) + 6 * a(n - 6) + 7 * a(n - 7) + 3 * a(n - 8) + a(n - 9) for n >= 10. •

[A060557] • 1,3,10,33,108,352,1145,3721,12087,39254,127469,413908,1343980,4363921,14169633,46008619,149389218,485064009,1574993356,5113971944,16604963593,53915979657,175064088671 ★ Row sums of triangle A060556. • a(n) = 5a(n - 1) - 6a(n - 2) + a(n - 3). - _ Floor van Lamoen _ , Nov 02 2005 •

[A018920] • 3,10,33,108,353,1153,3766,12300,40172,131202,428506,1399501,4570771,14928140,48755311,159234864,520061125,1698519827,5547366384,18117700664,59172417076,193257136076,631177877968,2061427183105,6732621943159 ★ Pisot sequence T(3,10), a(n) = floor(a(n-1)^2/a(n-2)). • a(n) = 3 * a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) - a(n - 6) (holds at least up to n = 1000 but is not known to hold in general). •

[A255116] • 1,3,10,33,108,354,1161,3807,12483,40932,134217,440100,1443096,4731939,15516117,50877639,166828734,547034553,1793736576,5881695930,19286191449,63239784075,207364440015,679951894392,2229575035401 ★ Number of n-length words on {0,1,2,3} in which 0 appears only in runs of length 2. • a(n + 3) = 3 * a(n + 2) + 3 * a(n) with n>1, a(0) = 1, a(1) = 3, a(2) = 10. •

[A006190] • 0,1,3,10,33,109,360,1189,3927,12970,42837,141481,467280,1543321,5097243,16835050,55602393,183642229,606529080,2003229469,6616217487,21851881930,72171863277,238367471761,787274278560 ★ a(n) = 3*a(n-1) + a(n-2), with a(0)=0, a(1)=1. • a(n) = U(n - 1, (3 / 2)i)(- i) ^ (n - 1), i ^ 2 = - 1. - _ Paul Barry _ , Nov 19 2003 • a(n) = Sum _{ k=0..n - 1 } binomial(n - k - 1,k)3 ^ (n - 2k - 1). - _ Paul Barry _ , Oct 02 2004 • a(n) = F(n, 3), the n - th Fibonacci polynomial evaluated at x=3. • a(n + 1) = Sum _{ k=0..n } Sum _{ j=0..n - k } C(k,j)C(n - j,k) * 2 ^ (k - j) = Sum _{ k=0..n } Sum _{ j =0..n - k } C(k,j)C(n - j,k) * 2 ^ (n - j - k); a(n + 1) = Sum _{ k=0..floor(n / 2) } C(n - k,k) * 3 ^ (n - 2k) = Sum _{ k=0..n } C(k,n - k) * 3 ^ (2k - n). - _ Paul Barry _ , May 21 2006 • a(n) = (ap ^ n - am ^ n) / (ap - am), with a p = (3 + sqrt(13)) / 2, am = (3 - sqrt(13)) / 2. • a(n) = ((3 + sqrt(13)) ^ n - (3 - sqrt(13)) ^ n) / (2 ^ n * sqrt(13)). - Al Hakanson (hawkuu(AT)gmail.com), Jan 12 2009 •

[A020704] • 3,10,33,109,360,1189,3927,12970,42837,141481,467280,1543321,5097243,16835050,55602393,183642229,606529080,2003229469,6616217487,21851881930,72171863277,238367471761,787274278560,2600190307441,8587845200883 ★ Pisot sequences E(3,10), P(3,10). • a(n) = 3 * a(n - 1) + a(n - 2) (holds at least up to n = 1000 but is not known to hold in general). • a(n) = (2 ^ (- 1 - n) * ((3 - sqrt(13)) ^ n * (- 11 + 3 * sqrt(13)) + (3 + sqrt(13)) ^ n * (11 + 3 * sqrt(13)))) / sqrt(13). •

[A113299] • 1,3,10,33,110,366,1219,4059,13518,45018,149924,499290,1662787,5537577,18441799,61416729,204536183,681166986,2268490929,7554756990,25159612832,83789077212,279042826065,929296530558,3094836925438 ★ Expansion of solution to an algebraic functional equation. • a(2 * n) == 0 (mod 3). •

[A257178] • 1,3,10,33,110,369,1247,4245,14558,50295,175029,613467,2165100,7692345,27504600,98941185,357952580,1301960925,4759282415,17478557925,64468072820,238736987535,887359113700,3309489922743,12381998910700 ★ Number of 3-Motzkin paths of length n with no level steps at odd level. • a(n)= Sum _{ i=0..floor(n / 2) } 3 ^ (n - 2i) * C(i) * binomial(n - i,i), where C(n) is the n - th Catalan number A000108. •

[A041633] • 1,3,10,33,1198,3627,12079,39864,1447183,4381413,14591422,48155679,1748195866,5292743277,17626425697,58172020368,2111819158945,6393629497203,21292707650554,70271752448865,2551075795809694,7723499139877947,25721573215443535 ★ Denominators of continued fraction convergents to sqrt(335). • a(n) = 1208 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A083580] • 0,1,3,10,34,114,374,1202,3798,11842,36550,111954,340982,1034210,3127206,9434866,28419286,85503618,257035142,772219538,2319017910,6962034466,20896589158,62711787570,188181500054 ★ Binomial transform of A083579. • a(n)=2 * 3 ^ n / 3 - 5 * 0 ^ n / 12 - (n + 1)2 ^ (n - 2). •

[A255631] • 1,3,10,34,114,382,1282,4302,14434,48430,162498,545230,1829410,6138222,20595586,69104398,231866082,777980590,2610359362,8758542414,29387549602,98604086254,330846428418,1110089483662,3724684796002 ★ Number of n-length words on {0,1,2,3} avoiding runs of zeros of length 1 (mod 3). • a(n + 3) = 3 * a(n + 2) + 4 * a(n) with n > 0, a(0) = 1, a(1) = 3, a(2) = 10. •

[A291337] • 1,3,10,34,115,387,1300,4366,14665,49263,165490,555934,1867555,6273687,21075220,70798066,237832225,798950763,2683918570,9016098634,30287816995,101745987387,341795711140,1148195728966,3857138603785 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 2 S - 2 S^3. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 5 * a(n - 3) for n >= 4. •

[A255813] • 1,3,10,34,115,388,1309,4417,14905,50296,169720,572707,1932356,6521263,22005505,74255899,250570870,845532298,2853184279,9627852832,32488455385,109629815881,369937455865,1248325741972,4212380047936 ★ Numbers of words on {0,1,2,3} having no isolated zeros. • a(n + 3) = 4 * a(n + 2) - 3 * a(n + 1) + 3 * a(n) with n>=0, a(0) = 1, a(1) = 3, a(2) = 10. •

[A007052] • 1,3,10,34,116,396,1352,4616,15760,53808,183712,627232,2141504,24963200,85229696,290992384,993510144,3392055808,11581202944,39540700160,135000394752,460920178688,1573679925248 ★ Number of order-consecutive partitions of n. • a(n + 1) = 4a(n) - 2a(n - 1). G.f.: (1 - x) / (1 - 4x + 2x ^ 2). Binomial transform of Pell numbers 1, 2, 5, 12, ... (A000129). • a(n) = ((2 - Sqrt(2)) ^ (n + 1) + (2 + Sqrt(2)) ^ (n + 1)) / 4. - _ Herbert Kociemba _ , Jun 12 2004 • a(n - 1) = sum((- 1) ^ k * binomial(2 * n,n + 4 * k) / 2, k= - floor(n / 4)..floor(n / 4)). [_ Mircea Merca _ , Jan 28 2012] • a(n) = 3 * a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + ... + a(0). [_ Gary W. Adamson _ , Aug 12 2013] • a(n) = a(- 2 - n) * 2 ^ (n + 1) for all n in Z. - _ Michael Somos _ , Jan 25 2017 •

[A048580] • 3,10,34,116,396,1352,4616,15760,53808,183712,627232,2141504,7311552,24963200,85229696,290992384,993510144,3392055808,11581202944,39540700160,135000394752,460920178688,1573679925248,5372879343616,18344157523968 ★ Pisot sequence L(3,10). • a(n) = 4 * a(n - 1) - 2 * a(n - 2) (holds at least up to n = 1000 but is not known to hold in general). •

[A094832] • 1,3,10,34,117,406,1417,4965,17443,61390,216318,762841,2691574,9500193,33539833,118428835,418214706,1476968554,5216307805,18423344550,65070265609,229827800509,811757757123,2867166603766,10127007608998 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 3, s(2n+1) = 4. • a(n)=(2 / 9) * Sum(r, 1, 8, Sin(r * Pi / 3)Sin(4 * r * Pi / 9)(2Cos(r * Pi / 9)) ^ (2n)). • a(n)=6a(n - 1) - 9 a(n - 2) + a(n - 3). •

[A217778] • 1,3,10,34,117,407,1429,5055,17986,64278,230473,828391,2982825,10754459,38811802,140165322,506449789,1830590295,6618524221,23933966743,86562282258,313102489406,1132598701585,4097213146599,14822370816337 ★ Expansion of (1-x)^2*(1-3*x)/((1-3*x+x^2)*(1-5*x+5*x^2)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4) for n>3, a(0)=1, a(1)=3, a(2)=10, a(3)=34. • a(n) = ((3 + r) * (5 + r) ^ n - (3 - r) * (5 - r) ^ n + (1 + r) * (3 + r) ^ n - (1 - r) * (3 - r) ^ n) / (4 * r * 2 ^ n), where r=sqrt(5). [_ Bruno Berselli _ , Mar 28 2013] •

[A071725] • 1,1,3,10,34,117,407,1430,5070,18122,65246,236436,861764,3157325,11622015,42961470,159419670,593636670,2217608250,8308432140,31212003420,117544456770,443690433654,1678353186780,6361322162444 ★ Expansion of (1+x^2*C^4)*C, where C = (1-(1-4*x)^(1/2))/(2*x) is g.f. for Catalan numbers, A000108. • a(n) = sum { k=0..n, C(n,k) * 2 ^ (n - k) * (- 1) ^ k * C(k + 1,floor(k / 2)) } . (End) •

[A178578] • 1,3,10,34,118,417,1497,5448,20063,74649,280252,1060439,4040413,15488981,59701236,231236830,899559100,3513314664,13770811198,54152480421,213585706927,844723104691,3349274471386,13310603555085,53012829376985 ★ Diagonal sums of second binomial transform of the Narayana triangle A001263. • a(n) = Sum { k=0..floor(n / 2) } Sum { j=0..n - k } C(n - k,j) * C(j,k) * C(j + 1,k) * 2 ^ (n - k - j) / (k + 1) }} . •

[A026616] • 1,3,10,34,120,434,1596,5940,22308,84370,320892,1226108,4702880,18097044,69832600,270118440,1047043260,4066132050,15816664380,61615392300,240347793840,938669220060,3669940053000 ★ T(2n,n), T given by A026615. • a(n) = (1 / 2) * ((7 * n - 4) / (2 * n - 1)) * binomial(2 * n, n), n>0. G.f.: (2 - x) / sqrt(1 - 4 * x) - 1. - _ Vladeta Jovovic _ , Jan 08 2004 •

[A159309] • 1,3,10,35,116,606,2990,11203,65368,567558,3229942,12730946,78628616,666394746,3968286590,21143707843,160244432497,1602468019110,20852615681805,320475672814590,4102188681702086,36438823274699332 ★ L.g.f.: Sum_{n>=1} a(n)*x^n/n = Sum_{n>=1} (1 + sigma(n)*x)^n * x^n/n. • a(n) = n * Sum _{ k=0..[n / 2] } C(n - k,k) * sigma(n - k) ^ k / (n - k) for n>=1. •

[A187925] • 1,1,3,10,35,121,426,1520,5475,19855,72403,265233,975338,3598180,13311000,49360405,183424355,682870587,2546441085,9509714340,35561166195,133138728845,499005557515,1872137642125,7030166054250 ★ Coefficient of x^n in (1+x+x^2+x^3+x^4)^n. • a(n) = sum(r=0..n, binomial(n,r) * sum(m=0..r, (sum(j=0..m, binomial(j, - r + n - m - j) * binomial(m,j))) * binomial(r,m))). [_ Vladimir Kruchinin _ , Feb 03 2013] •

[A094855] • 1,3,10,35,124,440,1560,5525,19551,69142,244419,863788,3052100,10782928,38092457,134560491,475313762,1678930611,5930320300,20946860064,73987208296,261331829501,923052962407,3260318517230,11515766271219 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 4, s(2n+1) = 5. • a(n)=(2 / 9) * Sum(r, 1, 8, Sin(4 * r * Pi / 9)Sin(5 * r * Pi / 9)(2Cos(r * Pi / 9)) ^ (2n + 1)). • a(n)=7a(n - 1) - 15a(n - 2) + 10a(n - 3) - a(n - 4). •

[A243871] • 1,3,10,35,124,454,1684,6305,23781,90209,343809,1315499,5050144,19442366,75034354,290203076,1124511549,4364693311,16966567970,66041815437,257378634365,1004167036295,3921726323436,15330264382726,59977821022143 ★ Number of Dyck paths of semilength n having exactly 1 occurrence of the consecutive steps UDUUUDDDUD (with U=(1,1), D=(1,-1)). • a(n) = (2 * (2 * n - 17) * (2 * n - 19) * (2 * n - 9) * a(n - 1) - (2 * n - 19) * (6 * n ^ 2 - 75 * n + 208) * a(n - 4) + 2 * (2 * n - 17) * (10 * n ^ 2 - 136 * n + 387) * a(n - 5) - (2 * n - 19) * (6 * n ^ 2 - 75 * n + 212) * a(n - 8) + (32 * n ^ 3 - 704 * n ^ 2 + 4940 * n - 10850) * a(n - 9) - (2 * n - 17) * (2 * n - 9) * (n - 14) * a(n - 10) - (2 * n - 19) * (n - 8) * (2 * n - 9) * a(n - 12) + 2 * (2 * n - 9) * (2 * n ^ 2 - 36 * n + 161) * a(n - 13) - (n - 10) * (2 * n - 17) * (2 * n - 9) * a(n - 14)) / ((2 * n - 17) * (2 * n - 19) * (n - 4)). •

[A081567] • 1,3,10,35,125,450,1625,5875,21250,76875,278125,1006250,3640625,13171875,47656250,172421875,623828125,2257031250,8166015625,29544921875,106894531250,386748046875,1399267578125,5062597656250 ★ Second binomial transform of F(n+1). • a(n) = 5 * a(n - 1) - 5 * a(n - 2), a(0)=1, a(1)=3. • a(n) = (1 / 2 - sqrt(5) / 10) * (5 / 2 - sqrt(5) / 2) ^ n + (sqrt(5) / 10 + 1 / 2) * (sqrt(5) / 2 + 5 / 2) ^ n. • a(n - 1) = Sum _{ k=1..n } binomial(n, k) * F(k) ^ 2. - _ Benoit Cloitre _ , Oct 26 2003 • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } binomial(n, j) * binomial(j + k, 2k); • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } binomial(n, k + j) * binomial(k, k - j)2 ^ (n - k - j); • a(n) = Sum _{ k=0..n } Sum _{ j=0..n - k } binomial(n + k - j, n - k - j) * binomial(k, j)(- 1) ^ j * 2 ^ (n - k - j). (End) •

[A224509] • 1,3,10,35,125,451,1637,5965,21794,79781,292468,1073296,3941950,14486721,53264010,195909180,720769621,2652351034,9761957789,35933354 1

94,132282020709,487008295675,1793068462212,6602016250702,2430922270656 6 ★ Expansion of (1-x)*(1-2*x)*(1-3*x)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 3, a(2) = 10, a(3) = 35, a(4) = 125. •

[A216710] • 1,3,10,35,126,460,1690,6225,22950,84626,312019,1150208,4239225,15621426,57556155,212037241,781074572,2877011660,10596599460,390276762 20,143735627861,529352597361,1949472483601,7179308057596,264388771434 76 ★ Expansion of (1-3*x+x^2)^2/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a (0) = 1, a(1) = 3, a(2) = 10, a(3) = 35, a(4) = 126. •

[A087946] • 1,3,10,35,126,461,1702,6315,23494,87533,326382,1217483,4542526,16950573,63255670,236063915,880983606,3287837741,12270301822,45793238 475,170902389934,637815796973,2380359749382,8883621103403 ★ Expansion of (1-3x+x^2)/((1-2x)(1-4x+x^2)). • a(0)=1, a(1)=3, a(2)=10, a(n)=6a(n - 1) - 9a(n - 2) + 2a(n - 3), n>2. • a(n) = 2 ^ n / 3 + (2 + sqrt(3))(2 + sqrt(3)) ^ n / 6 + (2 - sqrt(3))(2 - sqrt(3)) ^ n / 6. •

[A122068] • 1,3,10,35,126,462,1715,6419,24157,91238,345401,1309574,4970070,18874261,71705865,272491891,1035680954,3936821259,14965658694,56893879910,216295686467,822315097387,3126323230541,11885921055638 ★ Expansion of x*(1-3*x)*(1-x)/ (1-7*x+14*x^2-7*x^3). • a(n) = (1 / 2) * Sum _{ k=0..2 } (1 - 1 / sqrt(7) * cot(2 ^ k * alpha)) * (2 * sin(2 ^ k * alpha)) ^ (2n), where alpha := 2 * Pi / 7. •

[A167403] • 1,3,10,35,126,462,1716,6435,24310,92368,352595,1351142,5194385,20024980,77384340,299671971,1162635441,4518099300,17583582225,68522664400,267350823015,1044243559263,4082760176300,15977236602150,62576817828876 ★ Number of decimal numbers having n or fewer digits and having the sum of their digits equal to n. • a(n) = [x ^ n] ((x ^ 10 - 1) / (x - 1)) ^ n. •

[A088218] • 1,1,3,10,35,126,462,1716,6435,24310,92378,352716,1352078,5200300,20058300,77558760,300540195,1166803110,4537567650,17672631900,68923264410,269128937220,1052049481860,4116715363800,16123801841550 ★ Total number of leaves in all rooted ordered trees with n edges. • a(n) = (0 ^ n + C (2n, n)) / 2. - _ Paul Barry _ , May 21 2004 • a(n) is the coefficient of x ^ n in 1 / (1 - x) ^ n and also the sum of the first n coefficients of 1 / (1 - x) ^ n. Given B(x) with the property that the coefficient of x ^ n in B(x) ^ n equals t he sum of the first n coefficients of B(x) ^ n, then B(x) = B(0) / (1 - x). • a(n) = Sum _{ k=0..n } binomial(2n, k)cos((n - k) * Pi) } ; • a(n) = Sum _{ k =0..n } binomial(n, (n - k) / 2)(1 + (- 1) ^ (n - k))cos(k * Pi / 2) / 2 } (with interpolated zeros); • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, k)cos((n - 2k)Pi / 2) } (with interpolated zeros); (End) • a(n) = Sum _{ k=0..n } (- 1) ^ k * binomial(2 * n,n + k). - _ Mircea Merca _ , Jan 28 2012 •

[A001700] • 1,3,10,35,126,462,1716,6435,24310,92378,352716,1352078,5200300,20058300,77558760,300540195,1166803110,4537567650,17672631900,68923264410,269128937220,1052049481860,4116715363800,16123801841550,63205303218876 ★ a(n) = binomial(2n+1, n+1): number of ways to put n+1 indistinguishable balls into n+1 distinguishable boxes = number of (n+1)-st degree monomials in n+1 variables = number of monotone maps from 1..n+1 to 1..n+1. • a(n - 1) = binomial(2 * n, n) / 2 = (2 * n)! / (2 * n! * n!). • a(0) = 1, a(n) = 2 * (2 * n + 1) * a(n - 1) / (n + 1) for n > 0. • a(n) = sum(k=0. .n, C(n + k, k)). - _ Benoit Cloitre _ , Aug 20 2002 • a(n) = sum(k=0..n, C(n, k) * C(n + 1, k + 1)). - _ Benoit Cloitre _ , Oct 19 2002 • a(n) = 4 ^ n * binomial(n + 1 / 2, n) / (n + 1). - _ Paul Barry _ , May 10 2005 • a(n) = n * (n + 1) * (n + 2) * ... * (2 * n - 1) / n! (product of n consecutive integers, divided by n!). - _ Jonathan Vos Post _ , Apr 09 2007 •

[A085282] • 1,3,10,35,126,463,1730,6555,25126,97223,379050,1486675,5858126,23166783,91869970,365088395,1453179126,5791193143,23100202490,92207099715,368247268126,1471245680303,5879752544610,23503319648635 ★ Expansion of (1-5*x+5*x^2)/((1-x)*(1-3*x)*(1-4*x)). • a(n)=4 ^ n / 3 + 3 ^ n / 2 + 1 / 6 • a(n) = sum(binomial(2 * n,n + 6 * k) / 2, k= - floor(n / 6)..floor(n / 6)). [_ Mircea Merca _ , Jan 28 2012] •

[A114196] • 1,3,10,35,127,472,1781,6783,25978,99823,384331,1481424,5714073,22048715,85098282,328485899,1268080423,4895497064,18899853101,72967061671,281708048154,1087611942455,4199040207827,16211637659168 ★ Expansion of (1-3x)/(1-6x+8x^2+x^3). • a(n)=6a(n - 1) - 8a(n - 2) - a(n - 3); a(n) =sum { k=0..floor(n / 2), sum { j=0..n - k, C(n - k, j)C(j + k, 2k)2 ^ (j - k) }} . •

[A078789] • 1,3,10,35,127,474,1807,6995,27370,107883,427351,1698458,6765175,26985675,107746282,430470899,1720537327,6878624730,27505271455,109996928003,439924466026,1759532283963,7037695641415,28149647662490 ★ Expansion of (1-4x+2x^2)/(1-7x+13x^2-4x^3). • a(n) = sum(binomial(2 * n,n + 5 * k) / 2, k= - floor(n / 5)..floor(n / 5)) = ((3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n + 2 ^ (3 * n - 1)) / (5 * 2 ^ n). [_ Mircea Merca _ , Jan 28 2012] •

[A084781] • 1,1,3,10,35,132,519,2105,8746,37033,159229,693343,3051290,13550083,60642857,273248824,1238567263,5643738611,25837579578,118785766683,548182891007,2538522337214,11792272546723,54936210525388 ★ G.f. A(x) satisfies A(x) = 1 + x*(1+x+x^2)*A(x)^2. • a(n) = sum(m=1..n, (sum(k=m ..n, ((sum(j=0..k, binomial(j,n - 3 * k + 2 * j) * binomial(k,j))) * binomial(- m + 2 * k - 1,k - 1)) / k)) * m); [From Vladimir Kruchinin, May 28 2011] •

[A184175] • 1,1,1,3,10,35,139,611,2925,15128,83903,495929,3108129,20565721,143134606,1044489265,7968879387,63407648443,525016067171,4514661402304,40245681692885,371319303282381,3540506731807277,34840411462506887,353394158240095874 ★ Number of set partitions of {1,2,...,n} having no blocks of the form {i, i+1}. • a(n) = Sum((- 1) ^ j * binomial(n - j,j) * bell(n - 2j,j), j =0..floor(n / 2)). •

[A075890] • 3,10,35,462,1716,24310,92378,1352078,77558760,300540195,17672631900,269128937220,1052049481860,16123801841550,973469712824056,5913229290782430712,2327141766276305 44,14226520737620288370 ★ Either of the twin middle(greatest) terms in p(n)-th row of Pascal's triangle,p(n) being the n-th prime. • a(n)=C[p(n), { p(n) +- 1 }/ 2] •

[A102871] • 1,3,10,36,133,495,1846,6888,25705,95931,358018,1336140,4986541,18610023,69453550,259204176,967363153,3610248435,13473630586,502842739 08,187663465045,700369586271,2613814880038 ★ a(n) = a(n-3) - 5*a(n-2) + 5*a(n-1), a(0) = 1, a(1) = 3, a(2) = 10. • a(j + 3) - 3 * a(j + 2) - 3 * a(j + 1) + a(j) = - 2 for all j. • a(n + 1) = 2 * a(n) - 0.5 + 0.5 * (12 * a(n) ^ 2 - 12 * a(n) + 9) ^ 0.5. - _ Richard Choulet _ , Oct 09 2007 • a(n) = 1 / 2 - (1 / 4) * sqrt(3) * (2 - sqrt(3)) ^ n + (1 / 4) * sqrt(3) * (2 + sqrt(3)) ^ n + (1 / 4) * (2 - sqrt(3)) ^ n + (1 / 4) * (2 + sqrt(3)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Oct 03 2008 •

[A277287] • 1,3,10,36,133,499,1891,7217,27690,106680,412368,1598358,6209542,24171004,94246202,368022472,1438965885,5632870627,22072920103,86575738469,339860843589,1335186464195,5249164967309,20650056413491,81285516680103 ★ a(n) = binomial(2*n,n) + Sum_{k=1..n} binomial(2*n-k,n-k)*Fibonacci(k). • a(n) = binomial(2 * n - 1, n - 1) * ((hypergeom([1, 1 - n], [1 - 2 * n], 1 - phi) / phi + hypergeom([1, 1 - n], [1 - 2 * n], phi) * phi) / s qrt(5) + 2), where phi=(1 + sqrt(5)) / 2. •

[A081909] • 1,3,10,36,135,513,1944,7290,26973,98415,354294,1259712,4428675,15411789,53144100,181752822,617003001,2080591515,6973568802,23245229340,77096677311,254535261273,836828256240,2740612539186 ★ 3^n(n^2-n+18)/18. • a(n)=3 ^ n(n ^ 2 - n + 18) / 18 G.f.: (1 - 6x + 10x ^ 2) / (1 - 3x) ^ 3 •

[A007582] • 1,3,10,36,136,528,2080,8256,32896,131328,524800,2098176,8390656,33558528,134225920,536887296,2147516416,8590000128,34359869440,137439215616,549756338176,2199024304128,8796095119360,35184376283136 ★ a(n) = 2^(n-1)*(1+2^n). • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k)3 ^ (n - 2k) . - _ Paul Barry _ , May 08 2003 • a(n) = 6 * a(n - 1) - 8 * a(n - 2). - _ Em eric Deutsch _ , Apr 01 2004 • a(n) = StirlingS2(2 ^ n + 1,2 ^ n) = 1 + 2 * StirlingS2(n + 1,2) + 3 * StirlingS2(n + 1,3) + 3 * StirlingS2(n + 1,4) = Sti rlingS2(n + 2,2) + 3(StirlingS2(n + 1,3) + StirlingS2(n + 1,4)). - _ Ross La Haye _ , Mar 01 2008 • a(n) = StirlingS2(2 ^ n + 1,2 ^ n) = 1 + 2 * Stirling S2(n + 1,2) + 3 * StirlingS2(n + 1,3) + 3 * StirlingS2(n + 1,4) = StirlingS2(n + 2,2) + 3(StirlingS2(n + 1,3) + StirlingS2(n + 1,4)). - _ Ross La Haye _ , Apr 02 2008 • a(n) = sum _{ k= - floor(n / 4)..floor(n / 4) } binomial(2 * n ,n + 4 * k) / 2. - _ Mircea Merca _ , Jan 28 2012 • a(n) = Sum _{ k=1..2 ^ n } k. - _ Joerg Arndt _ , Sep 01 2013 •

[A171753] • 1,3,10,36,137,543,2218,9264,39329,168939,731770,3188364,13948745,61196775,269007994,1184076216,5216618369,22996827795,101421591466,447422614068,1974197123657,8712062181999,38449506441994 ★ Expansion of 1/(1-3x-x^2/(1-3x-x^2/(1-3x))). • a(n)=(3 - sqrt(2)) ^ n / 4 + (3 + sqrt(2)) ^ n / 4 + 3 ^ n / 2. •

[A002212] • 1,1,3,10,36,137,543,2219,9285,39587,171369,751236,3328218,14878455,67030785,304036170,1387247580,6363044315,29323149825,135700543190,630375241380,2938391049395,13739779184085,64430797069375 ★ Number of restricted hexagonal polyominoes with n cells. • a(n) = Sum _{ i=ceiling((n - 1) / 2)..n - 1 } (3 ^ (2i + 1 - n) * binomial(n, i) * binomial(i, n - i - 1)) / n. - _ Emeric Deutsch _ , Jul 23 2002 • a(n) = Sum _{ k=1..n } binomial(2k, k) * binomial(n - 1, k - 1) / (k + 1), i.e., binomial transform of the Catalan num bers 1, 2, 5, 14, 42, ... (A000108). a(n) = Sum _{ k=0..floor((n - 1) / 2) } 3 ^ (n - 1 - 2 * k) * binomial(2k, k) * binomial(n - 1, 2k) / (k + 1). - _ Emeric D eutsch _ , Aug 05 2002 • a(1)=1, a(n) = (3(2n - 1) * a(n - 1) - 5(n - 2) * a(n - 2)) / (n + 1) for n > 1. - _ Emeric Deutsch _ , Dec 18 2002 • a(n) is asym ptotic to c * 5 ^ n / n ^ (3 / 2) with c=0.63.... - _ Benoit Cloitre _ , Jun 23 2003 • a(n) = - 5 ^ (1 / 2) / (10 * (n + 1)) * (5 * hypergeom([1 / 2, n], [1], 4 / 5) - 3 * hypergeom([1 / 2, n + 1], [1], 4 / 5)) (for n>0). - _ Mark van Hoeij _ , Nov 12 2009 • a(n + 1) = [x ^ n](1 - x ^ 2)(1 + 3 * x + x ^ 2) ^ n. - _ E manuele Munarini _ , May 18 2011 •

[A202834] • 1,3,10,36,138,558,2364,10440,47868,227124,1112184,5607792,29057400,154465704,841143312,4685949792,26674999056,155000193840,918475565472,5545430185536,34087326300576,213170582612448,1355345600149440,8755789617922176,57440317657203648 ★ E.g.f.: exp(3*x + x^2/2). • a(n) = Sum _{ k=0..[n / 2] } 3 ^ (n - 2 * k) / 2 ^ k * n! / ((n - 2 * k)! * k!). •

[A129247] • 1,1,3,10,36,138,560,2402,10898,52392,267394,1450790,8371220,51327178,333759746,2295276480,16639104002,126718172670,1010487248556,8411744415418,72899055533482,656136245454232,6120474697035762 ★ Invert transform of the Bell numbers. • a(n) = Sum _{ i=1..n } Bell(i) * a(n - i). •

[A162162] • 1,1,3,10,36,139,560,2328,9914,43027,189619,846267,3817105,17373048,79687447,367991891,1709477714,7983062151,37454903501,176470241003,834601583199,3960757007408,18855383609076,90019104197240 ★ G.f. satisfies: A(x) = Catalan(x + x^2 + x^3*A(x)) where Catalan(x) = (1-sqrt(1-4*x))/(2x) is the g.f. of A000108. • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } C(2 * n - 2 * k + j + 1,n - k) / (2 * n - 2 * k + j + m) * C(n - k,k - j) * C(k - j,j). • a(n,m) = Sum _{ k=0..n } Sum _{ j=0..k } C(2 * n - 2 * k + j + m,n - k) * m / (2 * n - 2 * k + j + m) * C(n - k,k - j) * C(k - j,j). •

[A081921] • 1,3,10,36,144,648,3384,20520,145728,1181952,10917504,111601152,1265777280,15544566144,208320719616,2980582728192,46020833427456,751100760576000,13121167636058112,240473024248393728 ★ Expansion of exp(3x)/sqrt(1-x^2). • a(n) = 3 ^ n * n! * Sum _{ k=0..floor(n / 2) } binomial(2 * k, k) / (n - 2 * k)! / 36 ^ k. - _ Vladeta Jovovic _ , Oct 11 2003 •

[A165792] • 1,3,10,36,152,770,4632,32438,259520,2335698,23357000,256927022,3083124288,40080615770,561128620808,8416929312150,134670868994432,2289404772905378,41209285912296840,782976432333639998 ★ a(0)=1, a(n)=n*(a(n-

1)+2). • a(n) = n! + 2 * floor(e * n!) - 2, n>0. - _ Gary Detlefs _ , Jun 06 2010 •

[A010373] • 1,1,3,10,36,153,780,4005,22366,128778,766941,4674153,29180980,185117661,1193918545,7800816871,51584238201,344632209090,2324190638055,15804057614995,108277583483391,746878494484128,5183852459907628 ★ Number of unrooted quartic trees with 2n (unlabeled) nodes and possessing a bicentroid; number of 2n-carbon alkanes C(2n)H(4n+2) with a bicentroid, ignoring stereoisomers. • a(n) = b(n) * (b(n) + 1) / 2, where b(n) = A000598[n]. •

[A138807] • 0,1,3,10,37,128,439,1508,5179,17779,61033,209522,719266,2469165,8476377,29098491,99891986,342918422,1177201983,4041207525,13873029857,47624616207,163490174266,561244146614 ★ a(n) = floor: Pi*a(n-1) + a(n-2). • a(n) = floor: Pi * a(n - 1) * a(n - 2); a(0) = 0, a(1) = 1; n>1. a(n) = floor of terms (1,2) and (2,2) of the 2 X 2 matrix [0,1; 1,Pi] ^ n •

[A242725] • 1,1,3,10,37,137,511,1906,7113,26545,99067,369722,1379821,5149561,19218423,71724130,267678097,998988257,3728274931,13914111466,51928170933,193798572265,723266118127,2699265900242,10073797482841 ★ Sequence with all (x, y) = (a(2m), a(2m+-1)) satisfying x|y^2+y+1 and y|x^2+1. • a(n + 1) = 4 * a(n) - a(n - 1) - p _ n (n>0), where p _ n = 0 if n is odd and p _ n = 1 if n is even. • a(n) = 4 * a(n - 1) - 4 * a(n - 3) + a(n - 4) for n>3. [_ Bruno Berselli _ , May 22 2014] • a(n) = (3 + (- 1) ^ n + (4 + sqrt(3)) * (2 - sqrt(3)) ^ n + (4 - sqrt(3)) * (2 + sqrt(3)) ^ n) / 12. [_ Bruno Berselli _ , May 25 2014] •

[A195350] • 1,1,3,10,37,141,541,2080,8001,30781,118423,455610,1752877,6743881,25945881,99822160,384048001,1477556361,5684635243,21870622810,84143330517,323726495221,1245480100021,4791763116240,18435456144001 ★ Expansion of (1-3*x-x^2)/(1-4*x+2*x^3+x^4). • a(n) = 4 * a(n - 1) - 2 * a(n - 3) - a(n - 4). •

[A164044] • 1,3,10,37,144,571,2278,9105,36412,145639,582546,2330173,9320680,37282707,149130814,596523241,2386092948,9544371775,38177487082,152709948309,610839793216,2443359172843,9773436691350,39093746765377 ★ a(n+1) = 4*a(n) - n. • a(0)=1; a(n + 1) = 4 * a(n) - n. • a(n) = (5 * 4 ^ n + 3 * n + 4) / 9. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). •

[A109081] • 1,1,3,10,37,146,602,2563,11181,49720,224540,1027038,4748042,22150519,104146733,493012682,2347796965,11239697816,54061835288,261130778516,1266125122956,6160158505040,30065608532008,147161532388934 ★ Reversion of x*(1-x)*(1-x^2)*(1-x^3)/(1-x^6). • a(n) = Sum _{ k=0..n } C(n,k) / (n - k + 1) * C(n + k - 1,n - k). • a(n) is the upper left term in M ^ (n - 1), M = an infinite square matrix as follows: •

[A046632] • 1,3,10,37,147,586,2341,9363,37450,149797,599187,2396746,9586981,38347923,153391690,613566757,2454267027,9817068106,39268272421,157073089683,628292358730,2513169434917,10052677739667,40210710958666 ★ Number of cubic residues mod 4^n. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 22 2012 •

[A064613] • 1,3,10,37,150,654,3012,14445,71398,361114,1859628,9716194,51373180,274352316,1477635912,8016865533,43773564294,240356635170,1326359740956,7351846397334,40913414754324,228508350629892 ★ Generalized binomial transform of Catalan numbers. • a(n) = the upper left term in M ^ n, M = an infinite square production matrix as follows: •

[A005493] • 1,3,10,37,151,674,3263,17007,94828,562595,3535027,23430840,163254885,1192059223,9097183602,72384727657,599211936355,5150665398898,45891416030315,423145657921379,4031845922290572,39645290116637023,401806863439720943,4192631462935194064 ★ 2-Bell numbers: a(n) = number of partitions of [n+1] with a distinguished block. • a(n - 1) = Sum _{ k=1..n } k * Stirling2(n, k) for n>=1. • a(n) = exp(- 1) * Sum _{ k>=0 } ((k + 2) ^ n) / k!. - _ Gerald McGarvey _ , Jun 03 2004 • a(n) = B(n + 2) - B(n + 1), where B(n) are Bell numbers (A000110). - _ Franklin T. Adams - Watters _ , Jul 13 2006 • a(n) = D ^ (n + 1)(x * exp(x)) evaluated at x = 0, where D is the operator (1 + x) * d / dx. Cf. A003128, A052852 and A009737. - _ Peter Bala _ , Nov 25 2011 •

[A250307] • 1,3,10,37,152,690,3422,18257,103144,608730,3713524,23235490,148281656,961255200,6311395814,41878914665,280365966232,1891270498050,12842102343820,87703053156406,601999871121200,4150859861430252,28736613316786220,199671324115916570 ★ Number of 2-colored Schroeder paths of semilength n in which there are no (2,0)-steps at level 1. • a(n) = Sum _{ k=0..n } ((k + 1) * (Sum _{ j=0..k } (2 ^ j * (- 1) ^ (- k + j) * binomial(k - j,j))) * Sum _{ j=0..n + 1 } (binomial(j, - n - k + 2 * j - 2) * 4 ^ (- n - k + 2 * j - 2) * 3 ^ (n - j + 1) * binomial(n + 1,j))) / (n + 1). - _ Vladimir Kruchinin _ , Mar 08 2016 •

[A123636] • 1,1,3,10,37,176,979,6658,50873,451180,4376911,47740694,560586613,7248848608,99837660875,1492197903466,23571796088689,399706304138708,7121101849585543,135049981967575870,2678257990821099821 ★ a(n) = 1 + 1*n + 1*n*2 + 1*n*2*(n-1) + 1*n*2*(n-1)*3 + 1*n*2*(n-1)*3*(n-2) + ... + n!. • a(n) = 1 + Sum _{ k=1..n } (floor((k + 1) / 2)! * n!) / ((n - floor(k / 2))!)). - _ G. C. Greubel _ , Oct 26 2017 •

[A109085] • 1,1,3,10,38,153,646,2816,12585,57343,265401,1244256,5896512,28200365,135935424,659754072,3221354296,15812501100,77985955410,386254209762,1920391362054,9580985321554,47951223856445,240680464689600 ★ G.f. A(x) satisfies: A(x) = P(x*A(x)) where P(x) = A(x/P(x)) is the g.f. of the partition numbers A000041. • a(n) = ([x ^ n] 1 / ((x; x) _ inf) ^ (n + 1)) / (n + 1), where (a; q) _ inf is the q - Pochhammer symbol. - _ Vladimir Reshetnikov _ , Nov 20 2016 •

[A001002] • 1,1,3,10,38,154,654,2871,12925,59345,276835,1308320,6250832,30142360,146510216,717061938,3530808798,17478955570,86941210950,434299921440,2177832612120,10959042823020,55322023332420,280080119609550 ★ Number of dissections of a convex (n+2)-gon into triangles and quadrilaterals by nonintersecting diagonals. • a(n) = sum(binomial(n + k, k) * binomial(k, n - k), k=ceil(n / 2)..n) / (n + 1). - _ Len Smiley _ • a(n) = Sum _{ k=0..[n / 2] } C(2 * n - k, n + k) * C(n + k, k) / (n + 1). - _ Paul D. Hanna _ , Mar 30 2005 • a(n) = Catalan(n) * hypergeom([1 / 2 - n / 2, - n / 2], [- 2 * n], - 4) for n>0. - _ Peter Luschny _ , Oct 03 2014 •

[A000902] • 1,1,3,10,38,156,692,3256,16200,84496,460592,2611104,15355232,93376960,585989952,3786534784,25152768128,171474649344,1198143415040,8569374206464,62668198184448,468111364627456,3568287053001728 ★ E.g.f.: (1/2)*(exp(2x + x^2) + 1). • a(n) = 2 * a(n - 1) + (2n - 2) * a(n - 2) for n >= 3. - _ N. J. A. Sloane _ , Sep 23 2006 • a(n) = 1 + n! / (2e) * [x ^ n] Sum [l>=0, 1 / l! * { (1 + x) ^ l - 1 }^ 2]. • a(n) = (i / 2) ^ (1 - n) * KummerU((1 - n) / 2, 3 / 2, - 1)) for n>=1. - _ Peter Luschny _ , Nov 29 2017 •

[A010842] • 1,3,10,38,168,872,5296,37200,297856,2681216,26813184,294947072,3539368960,46011804672,644165281792,9662479259648,154599668219904,2628194359869440,47307498477912064,898842471080853504,17976849216181186 56,377513837853982588928 ★ E.g.f.: exp(2x)/(1-x). • a(n) = row sums of A090802. - _ Ross La Haye _ , Aug 18 2006 • a(n) = n * a(n - 1) + 2 ^ n = (n + 2)a(n - 1) - (2n - 2)a(n - 2) = n! * sum { 0 <= j <= n } [2 ^ j / j!] - _ Henry Bottomley _ , Jul 12 2001 • a(n) = sum { k=0..n, k! * C(n, k)2 ^ (n - k) } ; - _ Paul Barry _ , Apr 22 2005 • a(n) is the number of ways to split the set { 1,2,...,n } into two disjoint subsets S,T with S union T = { 1,2,...,n } and linearly order S and then choose a subset of T. - _ Geoffrey Critzer _ , Mar 10 2009 • a(n) = n! * e ^ 2 - sum { k >= 0 } 2 ^ (n + k + 1) / ((n + 1) * ... * (n + k + 1)) • a(n) = 2 ^ (n + 1) * U(1, n + 2, 2), where U is the Bessel U function. - _ Peter Luschny _ , Nov 26 2014 •

[A140710] • 1,3,10,38,172,944,6208,47696,417952,4101824,44491648,528068096,6804155392,94559581184,1409615239168,22434345998336,379633330204672,6805952938041344,128854632579186688,2568966172926181376 ★ Number of maximal initial consecutive columns ending at the same level, summed over all deco polyominoes of height n. (A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column). • a(n)=2 ^ (n - 1) * [1 + sum(j ^ 2 * (j - 1)! / 2 ^ j,j=1..n - 1)] (n>=1). Rec. rel.: a(n)=(n - 1)!(n - 1) + 2a(n - 1); a(1)=1. •

[A005750] • 1,1,3,10,39,160,702,3177,14830,70678,342860,1686486,8393681,42187148,213828802,1091711076,5609297942,28982708389,150496728594,784952565145,4110491658233,21602884608167,113907912618599,602414753753310,3194684310627727 ★ Number of planted matched trees with n nodes. • a(n + 1) is Euler transform of A000151. •

[A253194] • 1,3,10,39,162,707,3190,14766,69719,334481,1625846,7989908,39631204,198151579,997623275,5053274850,25734158411,131680565544,676693557574,3490897656337,18071699948492,93851485181749,488815126122166 ★ Number of ways to place non-intersecting diagonals in a convex (n+2)-gon so as to create no pentagons. • a(n) = (1 / (n + 1)) * Sum _{ i=0..floor(n / 3) } Sum _{ k=i + 1..n - 2 * i } (- 1) ^ i * binomial(n + k,k) * binomial(k,i) * binomial(n - 3 * i - 1,k - i - 1), n !== 0 (mod 3), • a(n) = ((- 1) ^ (n / 3) / (n + 1)) * binomial(4 * n / 3,n / 3) + (1 / (n + 1)) * Sum _{ i=0..(n / 3) - 1 } Sum _{ k=i + 1..n - 2 * i } (- 1) ^ i * binomial(n + k,k) * binomial(k,i) * binomial(n - 3 * i - 1,k - i - 1), n == 0 (mod 3). •

[A083862] • 0,1,3,10,39,171,819,4229,23247,135088,824163,5255361,34876647,240130801,1710323667,12572548582,95183606559,740843916471,5918533467075,48463830575837,406239439253175,3481899731310196 ★ Main diagonal of array A083857. • a(n)=(((3 + sqrt(4n + 1)) / 2) ^ n - ((3 - sqrt(4n + 1)) / 2) ^ n) / sqrt(4n + 1) •

[A087860] • 0,1,3,10,39,176,905,5244,34111,250480,2108529,20751380,241315151,3282366504,50786289385,865850559196,15856276032255,306665879765984,6199863566817761,130237717066988580,2832527601333186319 ★ Expansion of e.g.f.: (1-exp(x/(x-1)))/(1-x). • a(n) = n! * (1 - LaguerreL(n, 1)). • a(n) = 3 * (n - 1) * a(n - 1) - (n - 1) * (3 * n - 5) * a(n - 2) + (n - 2) ^ 2 * (n - 1) * a(n - 3). - _ Vaclav Kotesovec _ , Nov 13 2017 •

[A136128] • 1,3,10,40,192,1092,7248,55296,478080,4625280,49524480,581368320,7422589440,102372076800,1516402944000,24004657152000,404347023360000,7220327288832000,136227009945600000,2707657158721536000 ★ Number of components in all permutations of [1,2,...,n]. • a(n) = Sum(i! * (n - i)!, i=0..n - 1). • a(n) = (n + 1)![1 + Sum(2 ^ j / (j + 1),j=1..n - 1)] / 2 ^ n. • a(n) = (n + 1)! * Re(- LerchPhi(2, 1, n + 1)). - _ Peter Luschny _ , Jan 04 2018 •

[A089902] • 1,3,10,40,193,1107,7412,56960,495055,4805327,51540462,605360184,7726837413,106484488843,1575591323104,24910186990320,419042540060243,7472730215908551,140804433625595626,2795108750920323336 ★ Antidiagonal sums of array A089900. • a(n) = sum _{ k=0..n } sum _{ i=0..k } (n - k) ^ (k - i) * binomial(k, i) * (i + 1)! •

[A216386] • 1,1,3,10,40,215,1224,6587,3387628,50507498 ★ Number of values of k for which sigma(k)-k is a permutation of decimal digits of k, for 10^(n-1) < k < 10^n. • a(n) = # { k in A085844 | 10 ^ (n - 1) < k < 10 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A163843] • 1,3,10,41,116,427,1240,4181,12472,40091,121364,380701,1160186,3593969,10979532,33785469,103258800,316532947,966976444,2957131673,9026437602,27558146133,84043120308,256263107177,780817641926 ★ Row sums of triangle A163840. • a(n) = Sum _{ k=0..n } Sum _{ i=k..n } binomial(n - k, n - i) * i $ where i $ denotes the swinging factorial of i (A056040). •

[A000248] • 1,1,3,10,41,196,1057,6322,41393,293608,2237921,18210094,157329097,1436630092,13810863809,139305550066,1469959371233,16184586405328,185504221191745,2208841954063318,27272621155678841,348586218389733556,4

605223387997411873 ★ Number of forests with n nodes and height at most 1. ● a(n) = Sum _{ k=0..n } C(n,k) * (n - k) ^ k. [_ Paul D. Hanna _ , Jun 26 2009] ●

[A002627] ● 0,1,3,10,41,206,1237,8660,69281,623530,6235301,68588312,823059745,10699776686,149796873605,2246953104076,35951249665217,611171244308690,11001082397556421,209020565553572000,4180411311071440001,87788637532500240022 ★ a(n) = n*a(n-1) + 1, a(0) = 0. ● a(n) = n! * Sum _{ k=1..n } 1 / k!. ● a(n) = floor(n! * (e - 1)), n >= 1. - _ Amarnath Murthy _ , Mar 08 2002 ● a(n) = Sum _{ j=1..n } (n - j)! * binomial(n,j). - _ Zerinvary Lajos _ , Jul 31 2006 ● a(n) = 1 + Sum _{ k=0..n - 1 } k * a(k). - _ Benoit Cloitre _ , Jul 26 2008 ● a(m) = int(((1 + s) ^ m - s ^ m) * exp(- s), s=0..infinity) = GAMMA(m + 1,1) * exp(1) - GAMMA(m + 1). - _ Stephen Crowley _ , Jul 24 2009 ● a(n + 1) = a(n) + n! + Sum _{ k=1..n } (n! / k!) * a(k). The above conjectured recurrence can be obtained from the original recurrence or from the differential equation satisfied by f(x). - _ Emanuele Munarini _ , Jun 20 2014 ●

[A074511] ● 3,10,42,190,882,4150,19722,94510,456162,2215270,10814202,53022430,260917842,1287811990,6371951082,31591319950,156882857922,780119322310,3883416742362,19348364235070,96466943268402,481235204714230 ★ a(n) = 1^n + 4^n + 5^n. ● a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 12 with a(0)=3, a(1)=10. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A094195] ● 1,3,10,42,199,981,4888,24420,122077,610359,3051766,15258798,76293955,381469737,1907348644,9536743176,47683715833,238418579115,1192092895522,5960464477554,29802322387711,149011611938493,745058059692400,3725290298461932,18626451492309589 ★ G.f.: (1-4*x)/((1-5*x)*(1-x)^2). ● a(0)=1, a(1)=3, a(2)=10, a(n)=7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3) [From Harvey P. Dale, Dec 31 2011] ●

[A125274] ● 1,1,3,10,42,210,1199,7670,54224,418744,3499781,31425207,301324035,3069644790,33078375153,375634524357,4480492554993,55971845014528,730438139266281,9935106417137098,140553930403702487 ★ Eigensequence of triangle A078812: a(n) = Sum_{k=0..n-1} A078812(n-1,k)*a(k) for n>0 with a(0)=1. ● a(n) = Sum _{ k=0..n - 1 } C(n + k,n - k - 1) * a(k) for n>0 with a(0)=1. ●

[A263823] ● 1,1,3,10,42,213,1283,8989,71925,647346,6473494,71208489,854501957,11108525585,155519358423,2332790376722,37324646028162,634518982479741,11421341684636935,217005492008104349,4340109840162091161,91142306643403921146,2005130746154886276158 ★ a(n) = n!*Sum_{k=0..n} Fibonacci(k-1)/k!, where Fibonacci(-1) = 1, Fibonacci(n) = A000045(n) for n>=0. ● a(n) = (Gamma(n + 1, 1 - phi) * exp(1 - phi) * phi + Gamma(n + 1, phi) * exp(phi) / phi) / sqrt(5), where Gamma(a, x) is the upper incomplete Gamma function, phi=(1 + sqrt(5)) / 2. ● a(n) = (phi ^ (n - 1) * hypergeom([1, - n], [], 1 - phi] - (- phi) ^ (1 - n) * hypergeom([1, - n], [], phi)) / sqrt(5). ●

[A082936] ● 1,1,3,10,43,201,1038,5538,30667,173593,1001603,5864750,34769374,208267320,1258579654,7663720710,46976034379,289628805623,17949324685 71,111751573565 22,69864075597643,438403736549145,2760351032959050,17433869214973754,110420300879752990 ★ (1/(3*n))*Sum_{d|n, d even} phi(2*n/d)*binomial(3d/2,d). ● a(n) = sum(d divides n, phi(n / d) * C(3 * d,d)) / (3 * n) for n>=1, a(0)=1. ● a(n) = sum(d divides n, phi(n / d) * C(3 * d - 1,d)) / (2 * n) for n>=1, a(0)=1. ●

[A132428] ● 1,1,3,10,43,216,1241,7988,56763,440254,3693728,33281359,320112326,3270177860,35329070470,402128329243,4806784533967,60166803598106,786622663286330,10717555856584617,151864784070048105 ★ Central terms of triangle A132427. ● a(n)=sum(k=1..n, sum(i=k..n, binomial(i - 1,k - 1) * binomial(i,n - i)) * a(k - 1)), n>0,a(0)=1. [_ Vladimir Kruchinin _ , May 02 2012] ●

[A157313] ● 1,1,3,10,43,216,1326,9283,74667,672085,6730098,74031079,888657130,11552542691,161747905609,2426218982400,38820193151115,659943283568956,11879029341157575,225701557481993926,4514035666639844778 ★ G.f.: exp(Sum_{n>=1} a(n)*x^n/n) = Product_{n>=1} 1/(1 - a(n-1)*x^n). ● a(n) = Sum _{ d divides n, 1<=d<=n } d * a(d - 1) ^ (n / d) for n>0 with a(0)=1. ●

[A248687] ● 1,3,10,43,221,1371,9696,78751,712447,7173853,79106413,952587175,12397677007,173864946685,2609479384942,41786786069887,710577455524223,12795789975272877,243154034699436147,4864103085730989101,102153340062463300261,2247608818115460466681 ★ Sum of the numbers in row n of the triangular array at A248686. ● a(n) = sum { n! / (n(1)! * n(2)! * ... * n(k)!), k = 1..n, where n(i) = floor((n + i - 1) / k) for i = 1..k. ●

[A001040] ● 0,1,1,3,10,43,225,1393,9976,81201,740785,7489051,83120346,1004933203,13147251985,185066460993,2789144166880,44811373131073,764582487395121,13807296146243251,263103209266016890,5275871481466581051,111056404320064218961,2448516766522879398193 ★ a(n+1) = n*a(n) + a(n-1). ● a(-n) = a(n) for all n in Z. - _ Michael Somos _ , Sep 25 2005 ● a(n) = 2 * (BesselI(0,2) * BesselK(n,2) - BesselI(n, - 2) * BesselK(0,2)). - _ Vaclav Kotesovec _ , Jan 05 2013 ● a(n) = (n - 1)! * hypergeometric([1 - n / 2,1 / 2 - n / 2],[1,1 - n,1 - n], 4) for n >= 2. - _ Peter Luschny _ , Sep 10 2014 ●

[A041737] ● 1,1,3,10,43,526,569,5078,5647,72842,297015,963887,2224789,3188676,123394477,126583153,376560783,1256265502,5401622791,66075738994,71477361785,637894633274,709371995059,9150358573982,37310806290987 ★ Denominators of continued fraction convergents to sqrt(388). ● a(n) = 12561926 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 23 2013 ●

[A240172] ● 1,1,3,10,44,234,1470,10656,87624,806280,8211000,91707120,1114793280,14653936080,207138844080,3133376225280,50508380361600,864341342363520,15650522186302080,298948657681094400,6007868689030387200,126719410500228268800,2799004485444175008000,64613640777996615782400 ★ O.g.f.: Sum_{n>=0} n! * x^n * (1+x)^n. ● a(n) = Sum _{ k=0..[n / 2] } binomial(n - k, k) * (n - k)!. ●

[A096752] ● 1,1,3,10,45,216,1197,7134,46209,319555,2350183,18254380,149117618,1275857233,11396595255 ★ Number of n-dimensional partitions of n. ● a(n) = n - th row sums of A096651 ^ n, with a(0)=1. ●

[A293554] ● 1,1,3,10,45,216,1232,7624,52215,385495,3056680,25825669,231503636,2191866327,21835650219,228089127908,2490775088645,28362322146780,336015253520857,4133561828779865,52705520063966840,695406327616587268,9480212057583970983 ★ a(n) = [x^n] exp(Sum_{k>=1} x^k/(k*(1 - x^k)^n)). ● a(n) = [x ^ n] Product _{ k>=1 } 1 / (1 - x ^ k) ^ binomial(n + k - 2,n - 1). ●

[A134018] ● 0,1,3,10,45,226,1113,5230,23565,102826,438273,1836550,7601685,31183426,127084233,515429470,2083077405,8396552026,33779262993,135696871990,544528258725,2183337968626,8749031918553,35043178292110,140313885993645 ★ Let P(A) be the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are disjoint and for which either x is a subset of y or y is a subset of x, or 1) x and y are intersecting but for which x is not a subset of y and y is not a subset of x. ● a(n) = (1 / 2)(4 ^ n - 3 ^ (n + 1) + 5 * 2 ^ n - 3) = 3 * StirlingS2(n + 1, 4) + StirlingS2(n + 1,2). ●

[A184947] ● 1,1,3,10,45,241,1525,11096,91441,842185,8577871,95768454,1163339221,15278140593,215739927481,3259925357716,52489756856993,897249441166993,16228613753092315,309660835748163394,6216734677256575581,130994769191324727697 ★ E.g.f. exp(x)*(1-x)^(-x). ● a(n) = sum(k=0..n, C(n,k) * sum(j=0..k, C(k,j) * abs(stirling1(n - k,j)) * j!)). ●

[A099237] ● 1,1,3,10,45,251,1624,11908,97545,880660,8664546,92096731,1050304775,12778138842,165033693175,2253204163256,32401745953105,489207829112931,7733130368443057,127664099576228184,2196149923000824756 ★ a(n) = Sum_{k=0..n} binomial(n*(n-k),k). ● a(n) ^ (1 / n) ~ n ^ (n / w) * (n + 1 - w) ^ (1 - (n + 1) / w) * (w - 1) ^ (1 / w - 1), where w = LambertW(exp(1) * n), ● a(n) ^ (1 / n) ~ n / log(n), but the convergence is too slow. ●

[A121138] ● 1,1,3,10,46,192,840,3584,15392,65536,278656,1179648,4981248,209715208808243236909875215434356847836811669149696463856599040,1924145348608,7971459825664,32985348833280,136339443941376 ★ Numbers of isomers of unbranched a-4-catapolyheptagons - see Brunvoll reference for precise definition. ● a(n) = 4 ^ (n - 4) * (n + 6) for n>3 and even. ● a(n) = 2 ^ (n - 8) * (2 ^ n * (n + 6) + 16) for n>3 and odd. ● a(n) = 8 * a(n - 1) - 12 * a(n - 2) - 32 * a(n - 3) + 64 * a(n - 4) for n>7. ●

[A074508] ● 3,10,46,244,1378,8020,47386,282124,1686178,10097380,60525226,362974204,2177313778,13062288340,78368947066,470199333484,2821152954178,16926788584900,101560344088906,609360902271964 ★ 1^n + 3^n + 6^n. ● a(n) = 9 * a(n - 1) - 18 * a(n - 2) + 10, n>1 [From _ Gary Detlefs _ , Jun 21 2010] ●

[A005651] ● 1,1,3,10,47,246,1602,11481,95503,871030,8879558,98329551,1191578522,15543026747,218668538441,3285749117475,52700813279423,896697825211142,16160442591627990,307183340680888755,6147451460222703502,129125045333789172825 ★ Sum of multinomial coefficients (n_1+n_2+...)!/(n_1!*n_2!*...). ● a(n) = Sum _{ k=1..n } (n - 1)! / (n - k)! * b(k) * a(n - k), where b(k) = Sum _{ d divides k } d * d! ^ (- k / d). - _ Vladeta Jovovic _ , Oct 14 2002 ● a(n) = S(n,1), where S(n,m) = sum(k=m..n / 2 , binomial(n,k) * S(n - k,k)) + 1, S(n,n)=1, S(n,m)=0 for n<m. - _ Vladimir Kruchinin _ , Sep 06 2014 ●

[A220362] ● 0,3,10,48,195,840,3536,15015,63546,269280,1140535,4831632,20466720,86699067,367262090,1555748880,6590255259,27916773720,118257343984,500946159615,2122041966330,8989114051008,38078498128175,161303106631968,683290924545600 ★ a(n) = Fibonacci(n-1) * Fibonacci(n) * Fibonacci(n+2). ● a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - a(n - 4); g.f.: (3x + x ^ 2) / (1 - 3x - 6x ^ 2 + 3x ^ 2 + x ^ 4) = x(3 + x) / ((x ^ 2 - x - 1)(x ^ 2 + 4x - 1)). [_ Ron Knott _ , Jun 27 2013] ● a(n) = 2 * (- 1) ^ n * Lucas(n - 3) / 25 + 3 * (- 1) ^ n * Lucas(n + 1) / 25 + Fibonacci(3 * n + 1) / 5 = (1 / 5) * (- (- 1) ^ n * Fibonacci(n - 1) + 3 * (- 1) ^ n * Fibonacci(n) + Fibonacci(3 * n + 1)). - _ Ehren Metcalfe _ , Mar 26 2016 ●

[A276028] ● 1,3,10,50,259,1540,9594,62649,422598,2960716,21030711,152470357,1129502128,8434189996,63674017174,488573782216,3762932025753,29178861276815,229208503750838,1803350026315019,14248236439629534,113825380196996557,909507867095014380 ★ Number of ways to transform a sequence of n zeros and n ones to a single number by continually removing two numbers and replacing them with their sum modulo 3. ● a(n) = f(n, n, 0) where f(a, b, c) is the number of ways to reach one number beginning with a zeros, b ones, and c twos. ●

[A192482] ● 1,3,10,51,286,1710,10740,69763,464822,3159450,21821516,152708078,1080452972,7716009724,55545950568,402649640163,2936600795174,21532660592418,158645924209500,1173875395710458,8719519396134596,64995349923442628,486020221692290392 ★ a(n) = 2^n*C(n-1)-y(n), where y(n) = Sum_{i=1..n-1} (2^i*C(i-1)-y(i))*(2^(n-i)*C(n-i-1)-y(n-i)), y(0)=0, y(1)=1 and where C(i) is the i-th Catalan number. ● a(n) = 2 ^ n * C(n - 1) - y(n), where y(n) = Sum _{ i=1..n - 1 } (2 ^ i * C(i - 1) - y(i)) * (2 ^ (n - i) * C(n - i - 1) - y(n - i)), y(0)=0, y(1)=1 and C(i) is the i - th Catalan number. ●

[A189815] ● 1,1,3,10,53,304,2303,18768,185033,1954176,23756667,308077056,4457821821,68513332224,1150764459063,20443736745984,391167511473681,7884821722497024,169370797497060339,3818539009013907456,91013260219635394629,2269047587255097753600,59435772666287730632559 ★ Expansion of e.g.f. log(1/(1-arcsin(x))). ● a(n) = (n - 1)! * Sum _{ m=1..(n - 1) } ((1 + (- 1) ^ (n - m)) / 2) * Sum _{ k=1..(n - m) } (Sum _{ j=1..k } binomial(k,j) * 2 ^ (1 - j) * Sum _{ i=0..floor(j / 2) } (- 1) ^ ((n - m) / 2 - i - j) * binomial

(j,i) * (j - 2 * i) ^ (n - m + j) / (n - m + j)!) * binomial(k + n - 1,n - 1)) + (n - 1)!. •

[A074503] • 3,10,54,352,2418,16840,117714,823672,5765058,40354120,282476274,1977328792,13841291298,96889018600,678223089234,4747561542712,33232930635138,232630514118280,1628413598172594,11398895185897432 ★ a(n) = 1^n + 2^n + 7^n. • a(n) = 9 * a(n - 1) - 14 * a(n - 2) + 6 with a(0)=3, a(1)=10. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A018932] • 0,3,10,60,408,3120,26640,252000,2620800,29756160,366508800,4869849600,69455232000,1058593536000,17174123366400,295534407168000,5377157001216000,103149354147840000,2080771454361600000 ★ The number of permutations of n cards in which 4 will be the next hit after 2. • a(n)=(n - 2)! - 3(n - 3)! + 2(n - 3)! if n>5. - _ R. J. Mathar _ , Oct 02 2008 •

[A042705] • 1,1,3,10,63,199,461,660,38741,39401,117543,392030,2469723,7801199,18072121,25873320,1518724681,1544598001,4607920683,15368360050,96818080983,305822602999,708463286981,1014285889980,59537044905821 ★ Denominators of continued fraction convergents to sqrt(882). • a(n) = 39202 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A290557] • 0,3,10,108,2166,4567,38181,155830,1802916,24862120,266983762,1961835256,5916488742,19757775943,116646786350,116646786350,9611769806236,42844700375837,275475214363044,6789129606004840,75182500718243698,154974767015855699 ★ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(2). These are the numbers congruent to 3 mod 7 (except for the initial 0). • a(0) = 0 and a(1) = 3, a(n) = a(n - 1) + (a(n - 1) ^ 2 - 2) mod 7 ^ n for n > 1. •

[A055046] • 3,11,12,19,27,35,43,44,48,51,59,67,75,76,83,91,99,107,108,115,123,131,139,140,147 ★ Numbers of the form 4^i*(8*j+3). • a(n) = 6n + O(log n). - _ Charles R Greathouse IV _ , Dec 19 2013 •

[A023248] • 3,11,13,31,41,43,53,101,113,211,223,263,283,431,433,491,521,563,571,601,631,641,673,743,811 ★ Numbers n such that n remains prime through 2 iterations of function f(x) = 3x + 8. • a(n) == 1 or 3 (mod 10) for n>=2. - _ John Cerkan _ , Sep 13 2016 •

[A186078] • 3,11,14,16,17,21,25,26,27,29,32,33,34,35,38,39,42,43,48,49,50,52,56,57,58 ★ Index of Fibonacci numbers having last digit greater than corresponding tribonacci number. • a(n) = a(n - 864) + 1860. - _ Charles R Greathouse IV _ , Jul 18 2013 •

[A143029] • 3,11,14,19,27,32,35,43,51,59,67,68,75,76,78,83,86,91,99,107,115,122,123,131,139 ★ A sequence of asymptotic density zeta(3) - 1, where zeta is the Riemann zeta function. • a(n) = 2 * a(n - 1) + 3. [Obviously wrong, _ R. J. Mathar _ , Jul 14 2016] •

[A022410] • 3,11,15,27,43,71,115,187,303,491,795,1287,2083,3371,5455,8827,14283,23111,37395,60507,97903,158411,256315,414727,671043 ★ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=3, a(1)=11. • a(n) = 2 ^ (- n) * (- 2 ^ n + 2 * (1 - sqrt(5)) ^ (1 + n) + 2 * (1 + sqrt(5)) ^ (1 + n)). • a(n) = 2 * a(n - 1) - a(n - 3) for n>2. •

[A035337] • 3,11,16,24,32,37,45,50,58,66,71,79,87,92,100,105,113,121,126,134,139,147,155,160,168 ★ Third column of Wythoff array. • a(n) = F(4)A(n) + F(3)(n - 1) = 3A(n) + 2n - 2, where A = A000201 and F = A000045. - _ Michel Dekking _ , Aug 31 2017 •

[A113803] • 3,11,17,25,31,39,45,53,59,67,73,81,87,95,101,109,115,123,129,137,143,151,157,165,171 ★ Numbers that are congruent to {3, 11} mod 14. • a(n) = 14 * n - a(n - 1) - 14 (with a(1)=3) [From _ Vincenzo Librandi _ , Nov 13 2010] • a(n) = 7 * n - (7 - (- 1) ^ n) / 2. •

[A186424] • 1,3,11,17,33,43,67,81,113,131,171,193,241,267,323,353,417,451,523,561,641,683,771,817,913 ★ Odd terms in A186423. • a(n) = 3 * (1 + 2 * n + 2 * n ^ 2) / 4 + (- 1) ^ n * (1 + 2 * n) / 4. - _ R. J. Mathar _ , Feb 28 2011 •

[A023865] • 1,3,11,17,38,50,90,110,175,205,301,343,476,532,708,780,1005,1095,1375,1485,1826,1958,2366,2522,3003 ★ a(n) = s(1)t(n)+s(2)t(n-1)+...+s(k)t(n+1-k), where k=[(n+1)/2], s = (natural numbers), t = (odd numbers). • a(n)= (8 * n ^ 3 + 24 * n ^ 2 + 10 * n - 3 - 3 * (2 * n ^ 2 + 2 * n - 1) * (- 1) ^ n) / 48. - _ Luce ETIENNE _ , Nov 21 2014 •

[A203162] • 1,3,11,17,40,132,168,372,1188,1404,3024,9504,10800,22896,71280,79056,165888,513216,559872,1166400,3592512,3872448,8024832,24634368,26313984 ★ (n-1)-st elementary symmetric function of the first n terms of (1,2,3,1,2,3,1,2,3,...). • a(n) = 12 * a(n - 3) - 36 * a(n - 6). - _ Clark Kimberling _ , Aug 18 2012 •

[A228470] • 3,11,18,68,111,419,684,2582,4215,15911,25974,98048,160059,604199,986328,3723242,6078027,22943651,37454490,141385148,230804967,871254539,1422284292,5368912382,8764510719 ★ a(n) = 6*a(n-2) + a(n-4), where a(0) = 3, a(1) = 11, a(2) = 18, a(3) = 68. • a(n) = (3 + sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) * (7 / 2 + sqrt(10) * (11 / 10 - 13 / 20 * (- 1) ^ n) - 2 * (- 1) ^ n) + (3 - sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) * (7 / 2 - sqrt(10) * (11 / 10 - 13 / 20 * (- 1) ^ n) - 2 * (- 1) ^ n). - _ Paolo P. Lava _ , Sep 12 2013 •

[A246453] • 3,11,18,123,843,5778,39603,271443,1860498,12752043,87403803,599074578,4106118243,28143753123,192900153618,1322157322203,9062201101803,62113250390418,425730551631123,2918000611027443,20000273725560978,137083915467899403,939587134549734843 ★ Lucas numbers (A000204) of the form n^2 + 2. • a(n) = (2 ^ (- n) * ((7 + 3 * sqrt(5)) ^ n * (- 20 + 9 * sqrt(5)) + (7 - 3 * sqrt(5)) ^ n * (20 + 9 * sqrt(5)))) / sqrt(5) for n>2. • a(n) = 7 * a(n - 1) - a(n - 2) for n>4. (End) •

[A017101] • 3,11,19,27,35,43,51,59,67,75,83,91,99,107,115,123,131,139,147,155,163,171,179,187,195 ★ a(n) = 8n + 3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>1. - _ Vincenzo Librandi _ , May 28 2011 •

[A289840] • 0,1,3,11,19,27,35,67,83,99,115,163,179,195,211,275,323,355,387,467,483,499,515,579,627 ★ Complex cross sequence (see Comments lines for definition). • a(n) = a(n - 1) + a(n - 8) - a(n - 9) for n>19. •

[A139593] • 0,3,11,22,38,57,81,108,140,175,215,258,306,357,413,472,536,603,675,750,830,913,1001,1092,1188 ★ A139276(n) followed by A139272(n+1). • a(n) = (- 1 + (- 1) ^ n + 6 * n + 8 * n ^ 2) / 4. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x * (5 * x + 3) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Sep 15 2013 •

[A121471] • 1,3,11,22,39,59,85,114,149,187,231,278,331,387,449,514,585,659,739,822,911,1003,1101,1202,1309 ★ 9*n^2/4 -4*n +19/8 -3*(-1)^n/8. • a(n)= 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x * (1 + x + 5 * x ^ 2 + 2 * x ^ 3) / ((1 + x) * (x - 1) ^ 3). •

[A178946] • 1,3,11,22,45,73,119,172,249,335,451,578,741,917,1135,1368,1649,1947,2299,2670,3101,3553,4071,4612,5225 ★ n*(n+1)*(2*n+1)/6 - n*floor(n/2). • a(n)= + 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). G.f.: x * (1 + x + 4 * x ^ 2 + x ^ 4 + x ^ 3) / ((1 + x) ^ 2 * (x - 1) ^ 4). - _ R. J. Mathar _ , Jan 03 2011 • a(n) = n * (n + 1) * (2 * n + 1) / 6 - n * floor(n / 2). - _ Wesley Ivan Hurt _ , Sep 17 2013 •

[A132209] • 0,3,11,23,39,59,83,111,143,179,219,263,311,363,419,479,543,611,683,759,839,923,1011,1103,1199 ★ a(0) = 0 and a(n) = 2*n^2 + 2*n - 1, for n>=1. • a(n) = 2 * n ^ 2 + 2 * n - 1 for n>=1. •

[A142463] • 1,3,11,23,39,59,83,111,143,179,219,263,311,363,419,479,543,611,683,759,839,923,1011,1103,1199 ★ a(n) = 2*n^2 + 2*n - 1. • a(n) = a(n - 1) + 4 * n. • a(n) = 4 * C(n + 1,2) - 1. (End) • a(n) = 3 * sum(k ^ 5,k=1..n) / sum(k ^ 3,k=1..n), n>0. - _ Gary Detlefs _ , Oct 18 2011 •

[A121509] • 1,3,11,23,41,63,91,123,161,203,251,303,361,423,491,563,641,723,811,903,1001,1103,1211,1323,1441 ★ 5*n^2/2 -5*n +13/4 -(-1)^n/4. • a(n)= 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x * (1 + x + 5 * x ^ 2 + 3 * x ^ 3) / (1 + x) / (x - 1) ^ 3). • a(n) = 1 + 2(n - 1) ^ 2 + floor((n - 1) ^ 2 / 2). [_ Wesley Ivan Hurt _ , Jun 14 2013] •

[A173078] • 1,3,11,23,51,103,211,423,851,1703,3411,6823,13651,27303,54611,109223,218451,436903,873811,1747623,3495251,6990503,13981011,27962023,55924051 ★ 5*2^n/3-2*(-1)^n/3-3. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). •

[A120088] • 3,11,23,179,365,1439,2911,46147,93009,369605,743409,5917879,11887761,47365319,95064943,3032383331,6082445497,24264959593,48649328861,388310999293,778263028691,3106935548009,6225306416473 ★ Numerators of partial sums of a series for sqrt(2). • a(n)=numerator(r(n)), with the rational s defined above. •

[A005475] • 0,3,11,24,42,65,93,126,164,207,255,308,366,429,497,570,648,731,819,912,1010,1113,1221,1334,1452 ★ a(n) = n*(5*n+1)/2. • a(n) = a(n - 1) + 5 * n - 2 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A293404] • 0,3,11,24,42,66,95,129,168,213,262,317,377,443,514,590,671,757,849,946,1048,1155,1268,1385,1508 ★ Least integer k such that k/n^2 > (3 + sqrt(5))/2 (the golden ratio). • a(n) = ceiling(r * n ^ 2), where r = (3 + sqrt(5)) / 2. •

[A293414] • 0,3,11,24,43,68,98,133,174,220,272,329,391,459,533,612,696,786,881,981,1087,1199,1316,1438,1566 ★ The integer k that minimizes |k/n^2 - e|. • a(n) = floor(1 / 2 + (n ^ 2) * e). •

[A212252] • 0,0,0,3,11,24,45,76,117,171,240,324,426,548,690,855,1045,1260,1503,1776,2079,2415,2786,3192,3636 ★ Number of (w,x,y,z) with all terms in {1,...,n} and 3w=x+y+z+n+2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). • a(n)=2 / 9 - n / 2 - n ^ 2 / 3 + 5 * n ^ 3 / 18 - 2 / 9 * cos(2 * n * Pi / 3) + 4 * sin(2 * n * Pi / 3) / (9 * sqrt(3)). •

[A295622] • 3,11,24,46,75,117,168,236,315,415,528,666,819,1001,1200,1432,1683,1971,2280,2630,3003,3421,3864,4356,4875 ★ Number of nonequivalent dissections of an n-gon into 3 polygons by nonintersecting diagonals rooted at a cell up to rotation. • a(n) = (n - 4) * (- 5 + (- 1) ^ n - 4 * n + 2 * n ^ 2) / 8 for n>4. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>10. •

[A293413] • 0,3,11,25,44,68,98,134,174,221,272,329,392,460,533,612,696,786,881,982,1088,1199,1316,1438,1566 ★ Least integer k such that k/n^2 > e. • a(n) = ceiling(e * n ^ 2). •

[A056106] • 1,3,11,25,45,71,103,141,185,235,291,353,421,495,575,661,753,851,955,1065,1181,1303,1431,1565,1705 ★ Second spoke of a hexagonal spiral. • a(n) = 3 * n ^ 2 - n + 1. • a(n) = a(n - 1) + 6 * n - 4 = 2 * a(n - 1) - a(n - 2) + 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A212971] • 0,0,3,11,25,48,82,128,189,267,363,480,620,784,975,1195,1445,1728,2046,2400,2793,3227,3703,4224,4792 ★ Number of (w,x,y) with all terms in {0,...,n} and w<floor((x+y)/3)). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A258440] • 3,11,25,49,84,132,196,278,379,503,651,825,1028,1262,1528,1830,2169,2547,2967,3431,3940,4498,5106,5766,6481 ★ Number of squares of all sizes in polyominoes obtained by union of two bi-symmetric figures (A241526) with intersection equals A173196. • a(n) = (1 / 8) * (Sum _{ i=0..(n - 1 - floor(n / 3)) } (4 * n + 1 - 6 * i - (- 1) ^ i) * (4 * n + 3 - 6 * i + (- 1) ^ i) - Sum _{ j=0..(2 * n - 1 + (- 1) ^ n) } (2 * n + 1 + (- 1) ^ n - 4 * j) * (2 * n + 1 - (- 1) ^ n - 4 * j)). • a(n) = (52 * n ^ 3 + 186 * n ^ 2 + 212 * n - 3 * (32 * floor(n / 3) + 3 * (1 - (- 1) ^ n))) / 144. • a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7) for n>7. - _ Colin Barker _ , Jun 01 2015 •

[A184634] • 1,3,11,25,50,86,137,204,291,400,532,691,878,1097,1350,1638,1965,2332,2743,3200,3704,4259,4866,5529,6250 ★ Floor(1/{(10+n^4)^(1/4)}), where

{}=fractional part. • a(n)=floor(1 /{ (10 + n ^ 4) ^ (1 / 4) }), where {} =fractional part. •

[A164303] • 3,11,25,61,147,355,857,2069,4995,12059,29113,70285,169683,409651,988985,2387621,5764227,13916075,33596377,81108829,195814035,472736899,1141287833,2755312565,6651912963 ★ a(n) = 2*a(n-1) + a(n-2) for n > 1; a(0) = 3, a(1) = 11. • a(n) = 2 * a(n - 1) + a(n - 2) for n > 1; a(0) = 3, a(1) = 11. • a(n) = ((3 + 4 * sqrt(2)) * (1 + sqrt(2)) ^ n + (3 - 4 * sqrt(2)) * (1 - sqrt(2)) ^ n) / 2. •

[A051925] • 0,0,3,11,26,50,85,133,196,276,375,495,638,806,1001,1225,1480,1768,2091,2451,2850,3290,3773,4301,4876 ★ a(n) = n*(2*n+5)*(n-1)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Apr 27 2012 •

[A011942] • 0,0,0,0,0,3,11,26,52,94,157,247,371,536,750,1023,1365,1785,2295,2907,3633,4488,5486,6641,7969 ★ [n(n-1)(n-2)(n-3)/32]. • a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) - 10 * a(n - 6) + 10 * a(n - 7) - 6 * a(n - 8) + 6 * a(n - 9) - 10 * a(n - 10) + 10 * a(n - 11) - 6 * a(n - 12) + 6 * a(n - 13) - 10 * a(n - 14) + 10 * a(n - 15) - 5 * a(n - 16) + a(n - 17). G.f.: x ^ 5 * (x ^ 2 - x + 1) * (3 * x ^ 8 - x ^ 7 - 3 * x ^ 6 + 5 * x ^ 4 - 3 * x ^ 2 - x + 3) / ((1 - x) ^ 5 * (x ^ 4 + 1) * (x ^ 8 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A290513] • 3,11,26,79,224,640,1828,5225,14928,42654,121873,348232,995003,2843014,8123337,23210809,66320216,189496620,541448364,1547079580,4420468031,12630596045,36089381477,103118131368,294639269914 ★ Number of irredundant sets in the n-ladder graph. • a(n) = 2 * a(n - 1) + a(n - 2) + 3 * a(n - 3) + 5 * a(n - 4) - 2 * a(n - 5) - 6 * a(n - 6) - 5 * a(n - 7) - 4 * a(n - 8) - 4 * a(n - 9) - 3 * a(n - 10) - 2 * a(n - 11) - 2 * a(n - 12). •

[A164897] • 3,11,27,51,83,123,171,227,291,363,443,531,627,731,843,963,1091,1227,1371,1523,1683,1851,2027,2211,2403 ★ a(n) = 4*n*(n+1) + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), n>2. •

[A212982] • 0,3,11,27,53,92,146,218,310,425,565,733,931,1162,1428,1732,2076,2463,2895,3375,3905,4488,5126,5822,6578 ★ Number of (w,x,y) with all terms in {0,...,n} and w<x+y and x<=y. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (20 * n ^ 3 + 66 * n ^ 2 + 52 * n - 3 * (- 1) ^ n + 3) / 48. • a(n) = (10 * n ^ 3 + 33 * n ^ 2 + 26 * n) / 24 for n even. • a(n) = (10 * n ^ 3 + 33 * n ^ 2 + 26 * n + 3) / 24 for n odd. •

[A164845] • 3,11,27,54,95,153,231,332,459,615,803,1026,1287,1589,1935,2328,2771,3267,3819,4430,5103,5841,6647,7524,8475 ★ 3+5*n+5*n^2/2+n^3/2. • a(n)=2a(n - 1) - a(n - 2) + 3 * n + 5, n>1. • a(n)=3a(n - 1) - 3a(n - 2) + a(n - 3) + 3, n>2. • a(n)=4a(n - 1) - 6a(n - 2) + 4a(n - 3) - a(n - 4), n>3. •

[A033960] • 3,11,27,56,106,190,329,557,929,1534,2516,4108,6687,10863,17623,28564,46270,74922,121285,196305,317693,514106,831912,1346136,2178171 ★ Convolution of natural numbers n >= 1 with Fibonacci numbers F(k), k >= 4. • a(n) = F(n + 8) - (18 + 5 * n); G.F. (3 + 2 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2); •

[A036571] • 0,1,3,11,27,91,347,859,2907,11099,43867,109403,371547,1420123,5614427,22391643,55946075,190163803,727034715,2874518363,11464452955,45824191323,114543668059,389421575003 ★ Binary packing of Connell sequence (shifted once right). • a(0)=0, a(n) = a(n - 1) + (2 ^ ((2 * n - floor((1 / 2) * (1 + sqrt(8 * n - 7)))) - 1)) •

[A182260] • 0,3,11,28,56,99,159,240,344,475,635,828,1056,1323,1631,1984,2384,2835,3339,3900,4520,5203,5951,6768,7656 ★ Number of ordered triples (w,x,y) with all terms in {1,...,n} and 2w<x+y. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (- 1 + (- 1) ^ n - 2 * n ^ 2 + 4 * n ^ 3) / 8. G.f.: x ^ 2 * (3 + 2 * x + x ^ 2) / ((1 - x) ^ 4 * (1 + x)). [_ Colin Barker _ , May 06 2012] •

[A272000] • 3,11,29,47,79,111,161,211,283,355,453,551,679,807,969,1131,1331,1531,1773,2015,2303,2591,2929,3267,3659 ★ Coinage sequence: a(n) = A018227(n)-7. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (n ^ 3 + 9 * n ^ 2 + 26 * n - 30) / 6 for n even. • a(n) = (n ^ 3 + 9 * n ^ 2 + 29 * n - 21) / 6 for n odd. (End) •

[A259594] • 1,3,11,29,109,287,1079,2841,10681,28123,105731,278389,1046629,2755767,10360559,27279281,102558961,270037043,1015229051,2673091149,10049731549,26460874447,99482086439,261935653321,984771132841 ★ Denominators of the other-side convergents to sqrt(6). • a(n) = 10 * a(n - 2) - a(n - 4) for n>3. - _ Colin Barker _ , Jul 21 2015 •

[A295144] • 1,3,11,30,77,191,467,1134,2745,6636,16030,38710,93465,225656,544794,1315262,3175337,7665956,18507270,44680518,107868329,260417200,628702754 ★ Solution of the complementary equation a(n) = 2*a(n-1) + a(n-2) + b(n-1), where a(0) = 1, a(1) = 3, b(0) = 2, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. • a(n + 1) / a(n) - > 1 + sqrt(2). •

[A071568] • 1,3,11,31,69,131,223,351,521,739,1011,1343,1741,2211,2759,3391,4113,4931,5851,6879,8021,9283,10671,12191,13849 ★ Smallest k>n such that n^3+1 divides k*n^2+1. • a(n) = n ^ 3 + n + 1. •

[A093406] • 1,3,11,31,71,145,289,601,1321,2979,6683,14743,32111,69697,151777,332113,728689,1598883,3503627,7668079,16774775,36704017,80343361,175916521,385196761 ★ A sequence converging to 1 + 2^(1/4). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) + a(n - 4). G.f.: - x * (x ^ 3 + 5 * x ^ 2 - x + 1) / (x ^ 4 + 4 * x ^ 3 - 6 * x ^ 2 + 4 * x - 1). [_ Colin Barker _ , Oct 21 2012] •

[A107587] • 1,1,1,1,3,11,31,71,155,379,1051,2971,8053,21165,56057,152881,425491,1186227,3287971,9102787,25346457,71111377,200425149,565676629,1597672277 ★ Expansion of (sqrt(1-2x+5x^2)-sqrt(1-2x-3x^2))/(4x^2). • a(n)=sum { k=0..floor(n / 2), binomial(n, 2k)C(k)mod(k + 1, 2) } where C(n) is A000108. •

[A190590] • 1,1,1,1,3,11,31,71,157,397,1141,3301,9087,24311,66067,185771,532121,1520889,4316233,12255913,35079739,101232419,293236615,849895311,2465119669 ★ Expansion of series reversion of x/(1 + x + 2*x^4). • a(n) = Sum _{ j=floor((3 * n + 1) / 4)..n } binomial(j, - 3 * n + 4 * j - 1) * 2 ^ (n - j) * binomial(n,j)) / n. •

[A087323] • 0,3,11,31,79,191,447,1023,2303,5119,11263,24575,53247,114687,245759,524287,1114111,2359295,4980735,10485759,22020095,46137343,96468991,201326591,419430399 ★ a(n) = (n+1) * 2^n - 1. • a(n) = (n + 1) * 2 ^ n - 1 = 2 ^ n * n + 2 ^ n - 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). G.f.: x * (3 - 4 * x) / ((1 - x) * (1 - 2 * x) ^ 2). - _ Colin Barker _ , Mar 23 2012 •

[A119901] • 3,11,31,93,281,841,2525,7575,22727,68183,204551,613655,1840965,5522897,16568691,49706071,149118215,447354647,1342063941,4026191825,12078575475,36235726425,108707179277,326121537829,978364613487 ★ Difference between two consecutive squares enclosing 3^(2n+1). • a(n) = 2 * Floor(3 ^ ((2n + 1) / 2)) + 1. •

[A079996] • 1,1,1,3,11,33,82,198,516,1389,3690,9642,25143,65867,173092,454578,1192227,3125940,8198836,21509532,56429115,148023671,388279519,1018515853,2671777153 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={1}. • a(n) = a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 4 * a(n - 4) + 9 * a(n - 5) + 9 * a(n - 6) - 15 * a(n - 7) - 12 * a(n - 8) + 7 * a(n - 10) - 6 * a(n - 11) - 6 * a(n - 12) + 5 * a(n - 13) + 5 * a(n - 14) + 3 * a(n - 15) - 2 * a(n - 16) - a(n - 17) + 2 * a(n - 18) - a(n - 19) - a(n - 20) . •

[A288038] • 3,11,33,89,225,545,1281,2945,6657,14849,32769,71681,155649,335873,720897,1540097,3276801,6946817,14680065,30932993,65011713,136314881,285212673,595591169,1241513985 ★ Number of independent vertex sets in the n-Andrasfai graph. • a(n) = 1 + (3 * n - 1) * 2 ^ (n - 1). • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>3. •

[A171270] • 3,11,33,95,273,791,2313,6815,20193,60071,179193,535535,1602513,4799351,14381673,43112255,129271233,387682631,1162785753,3487832975,10462450353,31385253911,94151567433,282446313695,847322163873 ★ a(n) is the only number m such that m = pi(1^(1/n)) + pi(2^(1/n)) + ... + pi(m^(1/n)). • a(n) = 3 ^ n + 2 ^ n - 2. •

[A182879] • 0,1,3,11,33,96,278,787,2205,6133,16941,46554,127390,347331,944121,2559607,6923529,18690138,50364988,135506485,364063815,976880631,2618206923,7009868646,18749876418 ★ The sum of the lengths of all weighted lattice paths in L_n. • a(n) = Sum _{ k=0..n } k * [binom(k,n - k)] ^ 2. •

[A081250] • 1,3,11,33,101,303,911,2733,8201,24603,73811,221433,664301,1992903,5978711,17936133,53808401,161425203,484275611,1452826833,4358480501,13075441503,39226324511,117678973533,353036920601 ★ Numbers n such that A081249(m)/m^2 has a local minimum for m = n. • a(n) = floor(3 ^ n * 5 / 4). • a(n) = + 3 * a(n - 1) + 1 * a(n - 2) - 3 * a(n - 3). • a(n) = 5 * 3 ^ n / 4 + (- 1) ^ n / 4 - 1 / 2. - _ Paul Barry _ , May 19 2003 • a(n) = a(n - 2) + 10 * 3 ^ (n - 2) for n > 1. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 2, a(0)=1, a(1)=3. - _ Zerinvary Lajos _ , Apr 28 2008 •

[A135247] • 0,0,1,3,11,33,103,309,935,2805,8431,25293,75911,227733,683263,2049789,6149495,18448485,55345711,166037133,498111911,1494335733,4483008223,13449024669,40347076055 ★ a(n) = 3*a(n-1) + 2*a(n-2) - 6*a(n-3). • a(n) = - 14 * (- sqrt(2)) ^ n * (- 56 - 84 * sqrt(2)) ^ (- 1) + 22 * 2 ^ (1 / 2 * n) * (- 56 - 84 * sqrt(2)) ^ (- 1) + 12 * 2 ^ (1 / 2 * n) * sqrt(2) * (- 56 - 84 * sqrt(2)) ^ (- 1) - 12 * 3 ^ n * sqrt(2) * (- 56 - 84 * sqrt(2)) ^ (- 1) - 8 * 3 ^ n * (- 56 - 84 * sqrt(2)) ^ (- 1), with n>=0 - _ Paolo P. Lava _ , Jun 09 2008 •

[A036542] • 1,3,11,34,93,236,571,1338,3065,6904,15351,33782,73717,159732,344051,737266,1572849,3342320,7077871,14942190,31457261,66060268,138412011,289406954,603979753 ★ a(n) = T(n, n), array T given by A047858. • a(n) = 3 * n * 2 ^ (n - 1) - n + 1. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4) for n>3. •

[A084266] • 1,3,11,34,96,256,656,1632,3968,9472,22272,51712,118784,270336,610304,1368064,3047424,6750208,14876672,32636928,71303168,155189248,336592896,727711744,1568669696 ★ Binomial transform of A084265. • a(n) = Sum _{ k, 0<=k<=n - 1 } a(k) + (n + 2) * 2 ^ (n - 1) - 1. - _ Philippe Deléham _ , Jul 12 2007 • a(n) = sum(binomial(n + 1,k) * k ^ 4,k=0..n + 1) / ((n + 1) * (n + 2)), n>0. [From Gary Detlefs, Nov 26, 2011] •

[A037496] • 1,3,11,34,102,308,925,2775,8327,24982,74946,224840,674521,2023563,6070691,18212074,54636222,163908668,491726005,1475178015,4425534047,13276602142,39829806426,119489419280,358468257841 ★ Base-3 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,2. • a(n) = 3 * a(n - 1) + a(n - 3) - 3 * a(n - 4). • a(n) = round((11 * 3 ^ n - 13) / 26) = (11 * 3 ^ n - 13) / 26 + ((3 - 7 * i * sqrt(3)) * (- 1 + i * sqrt(3)) ^ n + (3 + 7 * i * sqrt(3)) * (- 1 - i * sqrt(3)) ^ n) / (78 * 2 ^ n) where i is the imaginary unit. (End) •

[A134326] • 3,11,34,112,359,1167,3764,12191,39391,127434,411973,1332290,4307638,13928919,45036841,145621921,470842799,1522389829,4922341763,15915370482,51458800352,166380151440,537950254595,1739329494378 ★ The sum of the elements in the first, middle and last row of the n-th power of the 9-by-9 matrix defined in the formula. • a(n)= 4 * a(n - 1) + 5 * a(n - 2) - 23 * a(n - 3) - 19 * a(n - 4) + 37 * a(n - 5) + 42 * a(n - 6) - 8 * a(n - 7) - 5 * a(n - 8). G.f.: - x * (- 3 + x + 25 * x ^ 2 + 10 * x ^ 3 - 51 * x ^ 4 - 51 * x ^ 5 + 10 * x ^ 6 + 11 * x ^ 7) / (1 - 4 * x - 5 * x ^ 2 + 23 * x ^ 3 + 19 * x ^ 4 - 37 * x ^ 5 - 42 * x ^ 6 + 8 * x ^ 7 + 5 * x ^ 8). [From _ R. J. Mathar _ , Aug 12 2009] •

[A088578] • 1,3,11,35,99,259,643,1539,3587,8195,18435,40963,90115,196611,425987,917507,1966083,4194307,8912899,18874371,39845891,83886083,176160771,369098755,771751939 ★ a(n) = n*x^n + (n-1)*x^(n-1) + . . . + x + 1 for x=2. • a(n) = (n - 1) * 2 ^ (n + 1) + 3. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) +

4 * a(n - 3). - _ Colin Barker _ , Apr 02 2012 ●

[A171498] ● 3,11,35,107,323,971,2915,8747,26243,78731,236195,708587,2125763,6377291,19131875,57395627,172186883,516560651,1549681955,4649045867,13947137603,41841412811,125524238435,376572715307,1129718145923 ★ 4*3^n-1. ● a(n) = 3 * a(n - 1) + 2 for n > 0; a(0) = 3. ●

[A014335] ● 0,0,1,3,11,35,115,371,1203,3891,12595,40755,131891,426803,1381171,4469555,14463795,46805811,151466803,490156851,1586180915,5132989235,16610702131,53753361203,173949530931 ★ Exponential convolution of Fibonacci numbers with themselves (divided by 2). ● a(n + 1) = Sum _{ i=0..n } F(i) * 2 ^ (i - 1); a(n) = (1 / 5) * (2 ^ (n - 1) * L(n) - 1) where L(n) are Lucas numbers defined in A000032. - _ Benoit Cloitre _ , Sep 25 2004 ● a(n) = 2 * a(n - 1) + 4 * a(n - 2) + 1, a(0)=0; a(1)=0. - _ Zerinvary Lajos _ , Dec 14 2008 ●

[A291413] ● 3,11,36,117,375,1197,3810,12112,38478,122198,388008,1231911,3911097,12416751,39419610,125145175,397296363,1261288403,4004182620,12711979296,40356397332,128118414852,406734209280,1291248512101,4099293000471 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 3 S + S^2 + S^3. ● a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3) - 4 * a(n - 4) - 3 * a(n - 5) - a(n - 6) for n >= 7. ●

[A017937] ● 1,3,11,36,121,401,1331,4414,14641,48558,161051,534145,1771561,5875603,19487171,64631634,214358881,710947978,2357947691,7820427766,25937424601,86024705429,285311670611 ★ Powers of sqrt(11) rounded down. ● a(n) = Floor(Sqrt(11 ^ n)); [From Vincenzo Librandi, Jun 24 2011] ●

[A100068] ● 1,3,11,36,123,408,1370,4560,15235,50760,169326,564336,1881582,6271632,20907156,69689376,232304355,774343560,2581169510,8603882160,28679699578,95598937008,318663476076,1062211351776,3540705857998 ★ Sum(k=0..n, binomial(n,k)*3^(n-2*k)). ● a(n) = sum { k=0..floor(n / 2), binomial(n, k) * 3 ^ (n - k) } . ● a(n) = sum { k=0..n, binomial(n, (n - k) / 2) * (1 + (- 1) ^ (n - k) * 3 ^ k / 2 } . ●

[A084171] ● 1,3,11,37,119,373,1151,3517,10679,32293,97391,293197,881639,2649013,7955231,23882077,71678999,215102533,645438671,1936578157,5810258759,17431824853,52297571711,156896909437,470699116919 ★ Binomial transform of generalized Jacobsthal numbers A084170. ● a(n) = 5 * 3 ^ n / 3 + 0 ^ n / 3 - 2 ^ n. ●

[A192875] ● 0,1,3,11,37,119,391,1257,4087,13195,42757,138271,447615,1448249,4687071,15166963,49082501,158832391,513995543,1663319433,5382623015,17418520571,56367538373,182409150671,590288468367 ★ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) given in Comments. ● a(n) =2 * a(n - 1) + 6 * a(n - 2) - 5 * a(n - 3) - 6 * a(n - 4) + 4 * a(n - 5). ●

[A134757] ● 1,3,11,37,123,401,1293,4131,13107,41353,129873,406319,1267093,3940431,12224579,37845117,116944371,360771417,1111332129,3418840431,10504903809,32242682787,98863833159,302863592073,927025884477 ★ A007318 * A100071. ● a(n) = (n - 1)! * [x ^ (n - 1)] exp(x) * ((1 + 2 * x) * BesselI(0, 2 * x) + 2 * x * BesselI(1, 2 * x)) for n>0, a(0) = 0. - _ Peter Luschny _ , Aug 26 2012 ●

[A291415] ● 3,11,37,126,427,1448,4909,16643,56424,191292,648529,2198680,7454090,25271280,85676131,290464093,984747891,3338548317,11318536416,38372746007,130093466328,441050269849,1495273713773,5069362002354,17186439428582 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 3 S + S^2. ● a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n >= 5. ●

[A214996] ● 3,11,37,127,433,1479,5049,17239,58857,200951,686089,2342455,7997641,27305655,93227337,318298039,1086737481,3710353847,12667940425,43251054007,147668335177,504171232695,1721348260425,5877050576311,20065505784393 ★ Power floor-ceiling sequence of 2+sqrt(2). ● a(n) = ceiling(x * a(n - 1)) if n is odd, a(n) = floor(x * a(n - 1) if n is even, where x = 2 + sqrt(2) and a(0) = floor(x). ● a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3). ● a(n) = (1 / 7) * ((- 1) ^ (1 + n) + (11 - 8 * sqrt(2)) * (2 - sqrt(2)) ^ n + (2 + sqrt(2)) ^ n * (11 + 8 * sqrt(2))). - _ Colin Barker _ , Nov 13 2017 ●

[A180168] ● 1,3,11,37,129,443,1531,5277,18209,62803,216651,747317,2577889,8892363,30674171,105810157,364991169,1259033123,4343022091,14981209797,51677530049,178261109083,614909868411,2121125282237,7316799906529 ★ a(n) = 2*a(n-1) + 5*a(n-2), a(0) = 1, a(1) = 3. ● a(n) = (1 / 6) * (- (1 - sqrt(6)) ^ n * sqrt(6) + sqrt(6) * (1 + sqrt(6)) ^ n + 3 * (1 - sqrt(6)) ^ n + 3 * (1 + sqrt(6)) ^ n). - _ Alexander R. Povolotsky _ , Aug 15 2010 ●

[A109000] ● 1,1,3,11,37,133,479,1719,6121,21609,75675,263171,909899,3130963,10730891,36639987,124528283,420319907,1403656123,4615627555,14868713515,46702912307,142489152555,421113970835,1203581558011 ★ Antidiagonal sums of square array A108998, in which row n equals the coordination sequence of B_n lattice. ● a(n) = Sum _{ k=0..n } Sum _{ j=0..k } C(n - j - 1, k - j) * (C(2 * n - 2 * k + 1, 2 * j) - 2 * (n - k) * C(n - k - 1, j - 1)). ●

[A006189] ● 1,1,3,11,38,126,415,1369,4521,14933,49322,162900,538021,1776661,5868903,19383671,64019918,211443426,698350195,2306494009,7617832221,25159990673,83097804242,274453403400,906458014441 ★ Number of self-avoiding walks of any length from NW to SW corners of a grid or lattice with n rows and 3 columns. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) + a(n - 4) for n > 3. - _ Giovanni Resta _ , Mar 13 2013 ●

[A273526] ● 1,1,3,11,38,127,423,1423,4854,16787,58776,208001,742888,2674427,9694831,35357655,129644774,477638683,1767263172,6564120401,24466267000,91482563619,343059613628,1289904147301,4861946401428 ★ Number of 123-avoiding indecomposable permutations. ● a(n) = C(n) - n + 1, where C(n) is the Catalan number. ●

[A166336] ● 1,3,11,39,131,421,1309,3971,11823,34691,100611,289033,823801,2332419,6566291,18394911,51310979,142587181,394905493,1090444931,3002921271,8249479163,22612505091,61857842449,168903452401 ★ Expansion of (1-4x+7x^2-4x^3+x^4)/(1-7x+17x^2-17x^3+7x^4-x^5). ● a(0)=1, a(1)=3, a(2)=11, a(3)=39, a(4)=131, a(n)= - 17 * a(n - 1) + 17 * a(n - 2) - 7 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Jul 05 2014 ●

[A289834] ● 1,1,3,11,39,134,456,1557,5364,18674,65680,233182,834796,3010712,10929245,39904623,146451871,539972534,1999185777,7429623640,27705320423,103636336176,388775988319,1462261313876,5513152229901 ★ Number of perfect matchings on n edges which represent RNA secondary folding structures characterized by the Lyngso and Pedersen (L&P) family and the Cao and Chen (C&C) family. ● a(n) = Sum _{ i=0..n - 2 } C _ i * (Sum _{ j=1..n - i } C _ j - (n - i)) + C _ n where C is A000108. ●

[A007482] ● 1,3,11,39,139,495,1763,6279,22363,79647,283667,1010295,3598219,12815247,45642179,162557031,578955451,2061980415,7343852147,26155517271,93154256107,331773802863,1181629920803,4208437368135 ★ a(n) = number of subsequences of [1, ..., 2n] in which each odd number has an even neighbor. ● a(n) = 3 * a(n - 1) + 2 * a(n - 2). ● a(n) = (ap ^ (n + 1) - am ^ (n + 1)) / (ap - am), where ap = (3 + sqrt(17)) / 2 and am = (3 - sqrt(17)) / 2. ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k)2 ^ k * 3 ^ (n - 2k). - _ Paul Barry _ , Apr 23 2005 ● a(n) = - a(- 2 - n) * (- 2) ^ (n + 1) for all n in Z. - _ Michael Somos _ , Jun 03 2015 ● a(n) = 3 ^ n * hypergeom([(1 - n) / 2, - n / 2], [- n], - 8 / 9)) for n>=1. - _ Peter Luschny _ , Jun 28 2017 ●

[A281482] ● 3,11,39,143,543,2111,8319,33023,131583,525311,2099199,8392703,33562623,134234111,536903679,2147549183,8590065663,34360000511,137439477759,549756862463,2199025352703,8796097216511,35184380477439,140737505132543,562949986975743 ★ a(n) = 2^(n + 1) * (2^n + 1) - 1. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>2. ●

[A132889] ● 1,3,11,39,144,530,1987,7455,28268,107334,410354,1570954,6042984,23273172,89948835,348000975,1350028020,5241881150,20396787070,79426533758,309829067496,1209384071532,4727454837846,18490127530394 ★ Sum of the lengths of the longest increasing subsequence over all 321-avoiding permutations of [n]. ● a(n) = Sum _{ k=floor((n + 1) / 2)..n } k * (2 * k - n + 1) ^ 2 * binomial(n + 1,n - k) ^ 2 / (n + 1) ^ 2. ●

[A136775] ● 1,3,11,40,145,525,1900,6875,24875,90000,325625,1178125,4262500,15421875,55796875,201875000,730390625,2642578125,9560937500,34591796875,125154296875,452812500000,1638291015625,5927392578125,21445507812500 ★ Number of multiplex juggling sequences of length n, base state <1,1> and hand capacity 2. ● a(n) = 5 * a(n - 1) - 5 * a(n - 2) for n>3. - _ Colin Barker _ , Aug 31 2016 ●

[A108153] ● 0,1,3,11,40,145,526,1908,6921,25105,91065,330326,1198213,4346356,15765820,57188385,207443151,752472043,2729490816,9900859685,35914032730,130273308376,472548850273,1714107200301,6217692609825 ★ a(n) = 3*a(n-1) + 2*a(n-2) + a(n-3). ● a(n) = 11 * a(n - 2) + 7 * a(n - 3) + 3 * a(n - 4) [From _ Gary Detlefs _ , Sep 13 2010] ●

[A014301] ● 0,1,3,11,40,148,553,2083,7896,30086,115126,442118,1703052,6577474,25461493,98759971,383751472,1493506534,5820778858,22714926826,88745372992,347087585824,1358789148058,5324148664846,20878676356240 ★ Number of internal nodes of even outdegree in all ordered rooted trees with n edges. ● a(n) = (1 / 2) * Sum _{ k=0..n } (- 1) ^ (n - k) * binomial(n + k - 1, k). - _ Vladeta Jovovic _ , Aug 28 2002 ● a(n) = (1 / 2) * Sum _{ j=0..floor(n / 2) } binomial(2n - 2j - 2, n - 2). ● a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * C (n + k,k - 1). - _ Paul Barry _ , Jul 18 2006 ●

[A218348] ● 3,11,41,149,547,2007,7361,27001,99043,363299,1332617,4888173,17930307,65770159,241251521,884934705,3246028995,11906758971,43675182633,160204937605,587647732323,2155550649479,7906775346689,29002842683433 ★ Hilltop maps: number of n X 2 binary arrays indicating the locations of corresponding elements not exceeded by any horizontal or vertical neighbor in a random 0..1 nX2 array. ● a(n) = 3 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - a(n - 5). ●

[A001835] ● 1,1,3,11,41,153,571,2131,7953,29681,110771,413403,1542841,5757961,21489003,80198051,299303201,1117014753,4168755811,15558008491,58063278153,216695104121,808717138331,3018173449203,11263976658481 ★ a(n) = 4*a(n-1) - a(n-2), with a(0)=1, a(1)=1. ● a(1 - n) = a(n). ● a(n) = ((3 + sqrt(3)) ^ (2 * n - 1) + (3 - sqrt(3)) ^ (2 * n - 1)) / 6 ^ n. - _ Dean Hickerson _ , Dec 01 2002 ● a(n) = (8 + a(n - 1) * a(n - 2)) / a(n - 3). - _ Michael Somos _ , Aug 01, 2001 ● a(n + 1) = sum(2 ^ k * binomial(n + k, n - k), k=0..n), n >=0. - _ Len Smiley _ , Dec 09 2001 ● a(n + 1)= sum((((- 1) ^ k) * ((2 * n + 1) / (2 * n + 1 - k)) * binomial(2 * n + 1 - k,k) * 6 ^ (n - k),k=0..n) (from standard T(n,x) / x, n>=1, Chebyshev sum formula). The Smiley and Cloitre sum representation is that of the S(2 * n,i * sqrt(2)) * (- 1) ^ n Chebyshev polynomial. - _ Wolfdieter Lang _ , Nov 29 2002 ● a(n) = 1 / 6 (3 (2 - Sqrt[3]) ^ n + Sqrt[3] (2 - Sqrt[3]) ^ n + 3 (2 + Sqrt[3]) ^ n - Sqrt[3] (2 + Sqrt[3]) ^ n) (Mathematica's solution to the recurrence relation). [From Sarah - Marie Belcastro (smbelcas(AT)toroidalsnark.net), Jul 04 2009] ●

[A079935] ● 1,3,11,41,153,571,2131,7953,29681,110771,413403,1542841,5757961,21489003,80198051,299303201,1117014753,4168755811,15558008491,58063278153,216695104121,808717138331,3018173449203,11263976658481 ★ a(n) = 4*a(n-1) - a(n-2). ● a(n) = sum { k=0..n, binomial(2n - k, k)2 ^ (n - k) } . - _ Paul Barry _ , Jan 22 2005 ● a(n) = (- 1) ^ n * U(2n, I * sqrt(2) / 2), U(n , x) Chebyshev polynomial of second kind, I=sqrt(- 1); - _ Paul Barry _ , Mar 13 2005 ● a(n) = Jacobi _ P(n, - 1 / 2,1 / 2,2) / Jacobi _ P(n, - 1 / 2,1 / 2,1). - _ Paul Barry _ , Feb 03 2006 ● a(n) = sqrt(2 + (2 - sqrt(3)) ^ (2 * n - 1) + (2 + sqrt(3)) ^ (2 * n - 1)) / sqrt(6). - _ Gerry Martens _ , Jun 05 2015 ● a(n) = (1 / 2 + sqrt(3) / 6) * (2 - sqrt(3)) ^ n + (1 / 2 - sqrt(3) / 6) * (2 + sqrt(3)) ^ n. - _ Robert Israel _ , Jun 05 2015 ●

[A281593] ● 1,1,3,11,41,153,573,2157,8163,31043,118559,454479,1747771,6740

059,26055459,100939779,391785129,1523230569,5931153429,23126146629,90282147849,352846964649,1380430179489,5405662979649,21186405207549 ★ a(n) = b(n) - Sum_{j=0..n-1} b(n) with b(n) = binomial(2*n, n). • a(n) = [x ^ n] (2 * x - 1) / (sqrt(1 - 4 * x) * (x - 1)). • a(n) = binomial(2 * n,n) * (1 + hypergeom([1,n + 1 / 2],[n + 1],4)) + I / sqrt(3). • a(n + 1) = a(n) + 2 * n * Catalan(n). •

[A113437] • 1,3,11,41,154,581,2197,8317,31501,119338,452141,1713111,6490879,24593701,93184802,353074657,1337790401,5068852073,19205744921,72770053106,275723780329,1044710007771,3958378188707,14998188734897 ★ Second row of A113435. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3) - a(n - 4). •

[A076540] • 1,3,11,41,154,582,2211,8437,32318,124202,478686,1849498,7161556,27784460,107980515,420300045,1638238710,6393535170,24980504010,97704407790,382509199020,1498824792660,5877754713870,23067328421826,90590960500524 ★ Number of branches in all ordered trees with n edges. • a(n)=(3n ^ 2 - 2n + 1)binom(2n, n) / [2(n + 1)(2n - 1)]; g.f.=(1 - z)(C - 1) / sqrt(1 - 4z), where C=[1 - sqrt(1 - 4z)] / (2z) is the Catalan function. • a(n + 1) = [x ^ n] (1 + x + x ^ 2) * (1 + x) ^ (2 * n) = binomial(2 * n,n) + binomial(2 * n,n - 1) + binomial(2 * n,n - 2). - _ Peter Bala _ , Jun 15 2015 •

[A129637] • 1,3,11,41,157,607,2367,9277,36505,144059,569779,2257521,8957109,35579351,141460391,562871557,2241129905,8928207987,35584894299,141886838329,565938926669 ★ Number of n-step paths that can go {west, southeast, southwest, northwest} on a 240-degree wedge on the equilateral triangular lattice. • a(n) = Sum _{ k=0..n + 1 } (binomial(n + 1,k) * Sum _{ i=0..n } (2 ^ (i + k - 1) * binomial(k,i) * (- 1) ^ (n - i) * binomial(n - i - 1,k - i - 1))) / (n + 1). - _ Vladimir Kruchinin _ , Feb 28 2016 •

[A099489] • 1,3,11,42,157,585,2183,8148,30409,113487,423539,1580670,5899141,22015893,82164431,306641832,1144402897,4270969755,15939476123,59486934738,222008262829,828546116577,3092176203479,11540158697340 ★ Expansion of (1-x+x^2)/((1+x^2)(1-4x+x^2)). • a(n) = 4 * a(n - 1) - 2 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - corrected by _ Matthew House _ , Oct 22 2016 • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k) * (- 1) ^ k * (3 * 4 ^ (n - 2 * k) + 0 ^ (n - 2 * k) / 4 } . • a(n) = sum { k=0..n, (0 ^ k - sin(Pi * k / 2)) * ((2 + sqrt(3)) ^ (n - k + 1) - (2 - sqrt(3)) ^ (n - k + 1)) / (2 * sqrt(3)) } . •

[A032443] • 1,3,11,42,163,638,2510,9908,39203,155382,616666,2449868,9740686,38754732,154276028,614429672,2448023843,9756737702,38897306018,155111585372,618679078298,2468152192772,9848142504068,39301087452632,156861290196878 ★ a(n) = Sum_{i=0..n} binomial(2*n, i). • a(n) = (4 ^ n + binomial(2 * n, n)) / 2. - _ David W. Wilson _ • a(n) = Sum _{ 0 <= i _ 1 <= i _ 2 <= n } binomial(n, i _ 2) * binomial(n, i _ 1 + i _ 2). - _ Benoit Cloitre _ , Oct 14 2004 • a(n) = Sum _{ k=0..n } C(n + k - 1, k) * 2 ^ (n - k). - _ Paul Barry _ , Sep 28 2007 • a(n) = coefficient of x ^ n in (4 * x + 1 / (1 + x)) ^ n. - _ Michael Somos _ , Jan 25 2014 • a(n) = [x ^ n] 1 / ((1 - x) ^ n * (1 - 2 * x)). - _ Ilya Gutkovskiy _ , Oct 12 2017 •

[A270561] • 1,3,11,42,164,649,2592,10423,42140,171133,697641,2853587,11707542,48166629,198677283,821495226,3404577572,14140959469,58859315929,245493952745,1025954717376,4295887639272,18021572480109,75740267331717 ★ Binomial transform(2) of Motzkin numbers. • a(n) = Sum _{ i=0..n } ((Sum _{ k=0..i } ((binomial(i,2 * k) * binomial(2 * k,k)) / (k + 1))) * binomial(2 * n - i,n - i)). • a(n) = Sum _{ k=0,n } (T(n,k) * m(k)), where m(k) is Motzkin numbers (A001006), T(n,k) = binomial(2 * n - k,n) (triangle A092392). • a(n) = [x ^ n] (1 - x - sqrt(1 - 2 * x - 3 * x ^ 2)) / (2 * x ^ 2 * (1 - x) ^ (n + 1)). - _ Ilya Gutkovskiy _ , Oct 30 2017 •

[A259858] • 1,1,3,11,42,165,654,2605,10398,41550,166116,664299,2656866,10626810,42505932,170021123,680079282,2720306730,10881206124,43524782946,174099048684,696396028620,2785583782248,11142334464693,44569336530174 ★ A bisection of A002083. • a(0)=a(1)=1; a(2)=3; a(n) = 4 * a(n - 1) + (((- 1) ^ (n - 1) - 3) / 2 * a(floor((n - 1) / 2)). - _ Carl R. White _ , Oct 06 2017 •

[A084782] • 1,1,3,11,42,168,696,2965,12915,57276,257787,1174597,5407854,25119663,117579351,554053049,2626184688,12513029640,59898952650,287931365692,1389297316104,6726449251539,32668497856323,159114598216251 ★ G.f.: A(x) = 1 + x*A(x)^2/(1-x-x^2). • a(0)=a(1)=1; for n>1, a(n) = Sum _{ j=0..n } (Sum _{ i=0..j } a(i)a(j - i))F(n - j), where F(n) are the Fibonacci numbers A000045. - Mario Catalani (mario.catalani(AT)unito.it), Jun 18 2003 • a(n) = sum(sum(C(i,n - k - i) * C(k + i - 1,k - 1),i,ceiling((n - k) / 2),n - k) * C(k),k,1,n), C(k) - Catalan numbers A000108. - _ Vladimir Kruchinin _ , Sep 15 2010 •

[A007583] • 1,3,11,43,171,683,2731,10923,43691,174763,699051,2796203,11184811,44739243,178956971,715827883,2863311531,11453246123,45812984491,183251937963,733007751851,2932031007403,11728124029611,46912496118443 ★ a(n) = (2^(2*n+1) + 1)/3. • a(n) = Sum _{ k=0..n } binomial(n + k, 2 * k) / 2 ^ (k - n). a(n)= 4 * a(n - 1) - 1, n>0. • a(0) = 1; a(n + 1) = a(n) * 4 - 1. - Regis Decamps (decamps(AT)users.sf.net), Feb 04 2004 • a(n) = Sum _{ i + j + k=n; 0 <= i,j,k <= n } (n + k)! / i! / j! / (2 * k)!. - _ Benoit Cloitre _ , Mar 25 2004 • a(n) = 5 * a(n - 1) - 4 * a(n - 2). - _ Emeric Deutsch _ , Apr 01 2004 • a(n) = Sum _{ k= - floor(n / 3)..floor(n / 3) } binomial(2 * n, n + 3 * k) / 2. - _ Mircea Merca _ , Jan 28 2012 • a(n) == 2 * n + 1 (mod 3). Indeed, from Regis Decamps' formula (Feb 04 2004) we have a(i + 1) - a(i) == - 1 (mod 3), i= 0,1,...,n - 1. Summing, we have a(n) - 1 == - n (mod 3), and the formula follows. - _ Vladimir Shevelev _ , May 13, 20 2015 •

[A026671] • 1,3,11,43,173,707,2917,12111,50503,211263,885831,3720995,15652239,65913927,277822147,1171853635,4945846997,20884526283,88224662549,372827899079,1576001732485,6663706588179,28181895551161,119208323665543 ★ Number of lattice paths from (0,0) to (n,n) with steps (0,1), (1,0) and, when on the diagonal, (1,1). • a(0) = 1, a(n) = sum { k=0..n, (k / (2n - k)) * C(2n - k,n - k) * F(2k + 2) } . (End) • a(n) = the upper left term in M ^ n, M = the infinite square production matrix: •

[A270447] • 1,3,11,43,174,721,3044,13059,56837,250690,1119612,5059561,23119628,106753404,497762380,2342096579,11113027686,53138757319,255892224332,1240217043450,6046131132030,29631889507380,145923474439800,721733515299225,3583733352377724 ★ Binomial transform(2) of Catalan numbers. • a(n) = Sum _{ k=0..n } (T(n,k) * C(k)), where C(k) is Catalan numbers (A000108), T(n,k) - triangle of A092392. • a(n) = Sum _{ k=0..n } ((binomial(2 * k,k) / (k + 1) * binomial(2 * n - k,n))). • a(n) = [x ^ n] (1 - sqrt(1 - 4 * x)) / (2 * x * (1 - x) ^ (n + 1)). - _ Ilya Gutkovskiy _ , Nov 01 2017 •

[A059278] • 1,1,3,11,43,175,735,3167,13935,62383,283311,1302271,6047679,28332991,133752191,635618431,3038326911,14599154431,70474889471,341624867071,1662254107391,8115717976831,39747223425791,195219110182911,961330824858623 ★ G.f. is G(x*(1-x)/(1-2*x)) where G(x) is g.f. for Catalan numbers A000108. • a(n) = Sum _{ k=0..n } ((C(k) * Sum _{ i=0..n - k } (2 ^ i * binomial(k,n - k - i) * binomial(k + i - 1,i) * (- 1) ^ (n - k - i))))), where C(k) is Catalan numbers. - _ Vladimir Kruchinin _ , Mar 04 2016 •

[A103821] • 1,3,11,43,179,771,3395,15171,68515,311907,1428835,6578531,30414435,141105251,656588899,3063038051,14321092195,67088405091,314825048675,1479654425187,6963888239203,32815960756835,154813864252003 ★ A Whitney transform of the central binomial coefficients A000984. • a(n)=sum { k=0..n, sum { i=0..n, C(k, i - k) }* C(2k, k) } . •

[A277220] • 0,1,3,11,43,180,790,3590,16745,79705,385615,1890747,9375216,46931897,236873261,1204089630,6159064015,31678706490,163739008070,850051218980,4430529313065,23175017046351,121617754070653,640122809255716,3378402106118508 ★ Exponential convolution of Fibonacci (A000045) and Catalan (A000108) numbers. • a(n) = (phi ^ n * hypergeom([1 / 2, - n], [2], - 4 / phi) - (- phi) ^ (- n) * hypergeom([1 / 2, - n], [2], 4 * phi)) / sqrt(5), where phi = (1 + sqrt(5)) / 2 = A001622. •

[A051257] • 1,3,11,43,231,1337,9739,76209,706109,6914977,78150249,920172983,12216376453,168531536319,2571960399839,40581616143967,701349512411763,12460393480873445,240094506439569631,4749510978132662277 ★ Numbers formed from binomial coefficients (mod 2+k) interpreted as digits in factorial base. • a(n) = Sum (k + 1)!(C(n, k) mod (2 + k)), k=0..n •

[A200613] • 1,3,11,44,183,774,3294,14034,59711,253430,1072506,4525168,19036726,79861404,334155036,1394789214,5808981711,24143440374,100156051746,414762312504,1714844273586,7079573497524,29187378344676,120180109515204,494264431607718 ★ Number of quasi-abelian ideals in the affine Lie algebra sl_n^{hat}. • a(n) = ((n + 4) / 4) * binomial(2 * n,n) - 3 * 2 ^ (2 * n - 3). [_ Volodymyr Mazorchuk _ , Sep 14 2012] •

[A059714] • 1,3,11,44,184,789,3435,15100,66806,296870,1323318,5911972,26455294,118528793,531540891,2385375732,10710619014,48112492938,216195753066,971744791032,4368674392104,19643610378738,88339070102046,397313118498744,1787115246076764 ★ Number of stacked directed animals on the triangular lattice. • a(n) = 3 ^ (2 * n - 2) / 2 ^ n * (2 - Sum _{ k=1..n - 1 } (k + 8) * C(2 * k,k) * 2 ^ k / ((k + 1) * (k + 2) * 3 ^ (2 * k))), for n>1. - _ Vaclav Kotesovec _ , Oct 28 2012 • a(n) = Sum _{ k=1..n - 1 } (k + 1) * 2 ^ (k - 1) * binomial(2 * n,n - k - 1) / n + binomial(2 * n,n - 1) / n. - _ Vladimir Kruchinin _ , Jun 08 2016 •

[A127632] • 1,1,3,11,44,185,804,3579,16229,74690,347984,1638169,7780876,37245028,179503340,870374211,4243141332,20786340271,102275718924,505235129250,2504876652190,12459922302900,62167152967680,311040862133625 ★ Expansion of c(x*c(x)), where c(x) is the g.f. for A000108. • a(n) = sum(m=1..n, m * sum(k=m..n, binomial(2 * k - m - 1,k - 1) * binomial(2 * n - k - 1,n - 1))) / n, a(0)=1. - _ Vladimir Kruchinin _ , Oct 08 2011 •

[A061706] • 0,0,1,3,11,44,185,805,3552,15671,68827,301108,1314553,5735237,25024104,109216135,476775195,2081568940,9088283129,39679791093,173240442512,756351086215,3302134987931,14416689863220,62941426366169 ★ G.f.: x^2*(x-1)^8/(4*x^9+x^8-79*x^7+166*x^6-225*x^5+206*x^4-129*x^3+50*x^2-11*x+1). • a(n) = 11 * a(n - 1) - 50 * a(n - 2) + 129 * a(n - 3) - 206 * a(n - 4) + 225 * a(n - 5) - 166 * a(n - 6) + 79 * a(n - 7) - a(n - 8) - 4 * a(n - 9) for n >= 11. •

[A063018] • 0,1,1,3,11,44,189,850,3951,18832,91542,452075,2261753,11439372,58394014,300455892,1556636807,8113709916,42518000652,223868503324,1183764310960,6283573101960,33470346433605,178850415320010 ★ Reversion of x - x^2 - x^3 - x^4. • a(n) = sum(k=1..n - 1, (sum(j=0..k, binomial(j,n - 3 * k + 2 * j - 1) * binomial(k,j))) * binomial(n + k - 1,n - 1)) / n, n>1, a(1)=1, a(0)=0. [From Vladimir Kruchinin, May 28 2011] •

[A293468] • 1,3,11,44,189,880,4542,26712,182793,1461368,13477650,140564536,1627370146,20621925504,283161372284,4182215376240,66065933347425,1111053154779720,19814069772086730,373435157945506680,7415765258637418950,154751460071567005920,3385387828167428482020 ★ a(n) = Sum_{k=0..n} k!*binomial(2*n-k, n). • a(n) = [x ^ n] 1 / ((1 - x) ^ (n + 1) * (1 - x / (1 - x / (1 - 2 * x / (1 - 2 * x / (1 - 3 * x / (1 - 3 * x / (1 - ...)))))))), a continued fraction. • a(n) = Gamma(n + 1 / 2) * 4 ^ n * hypergeom([1,1, - n],[- 2n],1) / (sqrt(Pi) * n!). - _ Robert Israel _ , Oct 09 2017 •

[A256752] • 1,3,11,44,190,859,4015,19248,94117,467575,2353443,11975568,61505088,318406927,1659801852,8704865907,45898065978,243163198928,1293769867676,6910165762943,37036898772008,199140325574519,1073849938338566 ★ Number of ways to place non-intersecting diagonals in a convex (n+2)-gon so as to create no hexagons. • a(n) = (1 / (n + 1)) * Sum _{ i=0..floor(n / 4) } Sum _{ k=i + 1..n - 3 * i } (- 1) ^ i * binomial(n + k,k) * binomial(k,i) * binomial(n - 4 * i - 1,k - i - 1), n !== 0 (mod 4), • a(n) = ((- 1) ^ (n / 4) / (n

+ 1)) * binomial(5 * n / 4,n / 4) + (1 / (n + 1)) * Sum _{ i=0..(n / 4) - 1 } Sum _{ k=i + 1..n - 3 * i } (- 1) ^ i * binomial(n + k,k) * binomial(k,i) * binomial(n - 4 * i - 1,k - i - 1), n == 0 (mod 4). •

[A234627] • 1,3,11,44,198,1036,6346,45019,364039,3306553,33328389,3691327 82,4456043300,58230679722,818965960156,12334276322245,19805988627174 1,3377876368962559,60978094460613103,1161619710523459392 ★ Numbers of undirected cycles in the n-sun graph. • a(n) = (1 / 2) * (2 - binomial(n + 1, 2) + Sum _{ k=1..n } (k - 1)! * (binomial(n, k) + Sum _{ j=1..k } Sum _{ i =0..n - j - k } n * (2 ^ j) * binomial(n - j - i - 1, j - 1) * binomial(i + j - 1, i) * binomial(n - 2 * j - i, k - j) / j)). - _ Andrew Howroyd _ , Mar 05 2016 •

[A292278] • 1,3,11,45,189,799,3383,14329,60697,257115,1089155,4613733,195 44085,82790071,350704367,1485607537,6293134513,26658145587,11292571685 9,478361013021,2026369768941,8583840088783,36361730124071,154030760585 065,652484772464329 ★ a(n) = (Fibonacci(3*n-1) + 1)/2 for n >= 1. • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - a(n - 3). •

[A083324] • 1,3,11,45,191,813,3431,14325,59231,242973,990551,4019205,1624 9871,65522733,263668871,1059425685,4251986111,17050860093,68332318391,2 73716169765,1096025891951,4387588255053,17560809179111,70274609387445 ★ An alternating sum of decreasing powers. • a(n) = 4 ^ n - 3 ^ n + 2 ^ n • a (n) = 9 * a(n - 1) - 26 * a(n - 2) + 24 * a(n - 3). - _ Geoffrey Critzer _ , Dec 01 2013 •

[A238578] • 0,1,3,11,45,191,833,3695,16593,75199,343233,1575551,7265921,3 3637631,156234497,727681791,3397475585,15896054783,74512968705,34985930 9567,1645121398785,7746058698751,36516283891713,172332643868671,814108 326764545 ★ Expansion of -(-4*x^4 + sqrt(-4*x^2-4*x+1) * (2*x^3+x^2-2*x) -12*x^3-7*x^2+2*x) / (sqrt(-4*x^2-4*x+1) * (4*x^3+8*x^2+3*x-1) - 4*x^3-8*x^2-3*x+1). • a(n) = Sum _{ k=1..n } (Sum _{ i=0..(n - k) } C(k,n - k - i) * C(k + i - 1,k - 1))) * C(n - 1,k - 1)). •

[A083878] • 1,3,11,45,193,843,3707,16341,72097,318195,1404491,6199581,273 66049,120799227,533233019,2353803525,10390190017,45864515427,202455762 443,893682966669,3944907462913,17413664010795,76867631824379 ★ a(0)=1, a(1)=3, a(n)=6a(n-1)-7a(n-2), n>=2. • a(n)=((3 - sqrt(2)) ^ n + (3 + sqrt(2)) ^ n) / 2; • a(n)=Sum { k=0..n; C(n, 2k)3 ^ (n - 2k)2 ^ k } ; • a(n)=sum { k=0..n, C(n, k)2 ^ ((n - k) / 2)(1 + (- 1) ^ (n - k))3 ^ k / 2 } . - _ Paul Barry _ , Jan 22 2005 •

[A026375] • 1,3,11,45,195,873,3989,18483,86515,408105,1936881,9238023,442 41261,212601015,1024642875,4950790605,23973456915,116312293305,56528038 6625,2751474553575,13411044301945,65448142561035,319756851757695 ★ a(n) = Sum_{k=0..n} binomial(n,k)*binomial(2*k,k). • a(n) = [t ^ n](1 + 3 * t + t ^ 2) ^ n; a(n)=sum(j=ceil(n / 2)..n, 3 ^ (2 * j - n) * binomial(n, j) * binomial(j, n - j)). - _ Emeric Deutsch _ , Jan 30 2004 • a(n) = sum of squared coefficients of (1 + x - x ^ 2) ^ n - see triangle A084610. - _ Paul D. Hanna _ , Jul 18 2009 • a(n) = sum of squares of coefficients of (1 - x - x ^ 2) ^ n. - _ Joerg Arndt _ , Jul 06 2011 • a(n) = (1 / Pi) * integral(x = - 2..2, (3 + x) ^ n / sqrt((2 - x) * (2 + x)). - _ Peter Luschny _ , Sep 12 2011 • a(n) = GegenbauerC(n, - n, - 3 / 2). - _ Peter Luschny _ , May 09 2016 •

[A063024] • 0,1,1,3,11,45,196,894,4215,20377,100463,503191,2553291,1309746 9,67808104,353851124,1859313324,9828998946,52237988523,278952216129,149 5976545546,8053571710250,43507491045810,235784617161780 ★ Reversion of y - y^2 - y^3 - y^4 - y^5. • a(n)=sum(k=1..n - 1, (sum(j=0..k, binomial(k,j) * sum(i=j..n - k + j - 1, binomial(j,i - j) * binomial(k - j,n - 3 * (k - j) - i - 1)))) * binomial(n + k - 1,n - 1) / n, n>1. a(1)=1. [_ Vladimir Kruchinin _ , May 10 2011] •

[A191243] • 1,1,3,11,45,197,902,4269,20717,102531,515521,2625909,1352177 6,70274194,368131940,1941801115,10304601189,54976677289,294708283729,15 86565791533,8574185062861,46498569928775,252966168370110,1380203261726 925,7550534790990360 ★ Reversion of x-x^2-x^3-x^4-x^5-x^6 • a(n)=sum(k=1 ..n - 1, binomial(n + k - 1,n - 1) * sum(r=0..k, binomial(k,r) * sum(m=0..r,(sum(j=0..m, binomial(j, - r + n - m - k - j - 1) * binomial(m,j))) * binomial(r, m)))) / n, n>1, a(1)=1. •

[A146086] • 3,11,45,197,903,4271,20625,100937,498123,2470931,12295605,613 00877,305972943,1528270391,7636568985,38168496017,190799433363,95386802 6651,4768952712765,23843601302357,119214519727383,596062138283711,2980 279310358945,14901302408615897 ★ Number of n-digit numbers with each digit odd where the digits 1 and 3 occur an even number of times. • a(n) = (5 ^ n + 2 * 3 ^ n + 1) / 4. • a(n) = 9 * a(n - 1) - 23 * a(n - 2) + 15 * a(n - 3). •

[A001003] • 1,1,3,11,45,197,903,4279,20793,103049,518859,2646723,1364886 9,71039373,372693519,1968801519,10463578353,55909013009,300159426963,16 18362158587,8759309660445,47574827600981,259215937709463,1416461675464 871 ★ Schroeder's second problem (generalized parentheses); also called super-Catalan numbers or little Schroeder numbers. • a(n + 1) = - a(n) + 2 * Sum _{ k=1..n } a(k) * a(n + 1 - k). - _ Philippe Deléham _ , Jan 27 2004 • a(n - 2) = (1 / (n - 1)) * Sum _{ k=0..n - 3 } binomial(n - 1,k + 1) * binomial(n - 3,k) * 2 ^ (n - 3 - k) for n >= 3 [G. Polya, Elemente de Math., 12 (1957), p. 115.] - _ N. J. A. Sloane _ , Jun 13 2015 • a(n + 1) = Sum _{ k=0..floor((n - 1) / 2) } 2 ^ k * 3 ^ (n - 1 - 2k) * binomial(n - 1, 2k) * Catalan(k). This formula counts colored Dyck paths by the same parameter by which Touchard's identity counts ordinary Dyck paths: number of DDUs (U=up step, D=down step). See also Gouyou - Beauchamps reference. - _ David Callan _ , Mar 14 2004 • a(n - 1) = (d ^ (n - 1) / dx ^ (n - 1))((1 - x) / (1 - 2 * x)) ^ n / n!| _{ x=0 } . (For a proof see the comment on the unsigned row sums of triangle A 111785.) • a(n) = (1 / n) * Sum _{ k=1..n } binomial(n, k) * binomial(n + k , k - 1) = hypergeom([1 - n, n + 2], [2], - 1), n>=1. - _ Wolfdieter Lang _ , Sep 12 2005 • a(n) = hypergeom([1 - n, - n], [2], 2) for n>=0. - _ Peter Luschny _ , Sep 22 2014 •

[A200075] • 1,1,3,11,45,198,914,4367,21414,107155,544987,2808978,1464007 3,77025373,408544815,2182206259,11727989593,63373962690,344109933186,1 876562458845,10273572074493,56443282489240,311097732946200,171970777 5782826,9531914043637385 ★ G.f. satisfies: A(x) = (1 + x*A(x)^2)*(1 + x^2*A(x)^3). • a(n) = [x ^ n] G(x) ^ (n + 1) / (n + 1), where 1 + x * G(x) is the g.f. of A004148. •

[A187764] • 1,1,3,11,45,198,919,4445,22215,114000,597790,3191070,1728902 3,94845796,525838005,2941748627,16585870501,94147448172,537592229784,30 85816136840,17795391949590,103051160368120,598997937352830,34935755518 91610,20438727738501275 ★ Number of uud-avoiding rooted non-crossing trees of n+1 vertices with the root 1. • a(n) = sum(k=1..n, (C(2 * k - 2,k - 1) * sum(i=k..n, i * C(i - 1,k - 1) * C(2 * n - i - 1,n - 1))) / k) / n, n>0, a(0)=1. - _ Vladimir Kruchinin _ , Jan 23 2013 • a(n) = Sum _{ k=1..n } binomial(2 * k - 2,k - 1) * binomial(2 * n,n - k) / n, a(0)=1. - _ Vladimir Kruchinin _ , Apr 28 2016 • a(n) = Catalan(n) * hypergeom([1 / 2, 1 - n], [n + 2], - 4) for n >=1. - _ Peter Luschny _ , Apr 28 2016 •

[A083886] • 1,3,11,45,201,963,4899,26253,147345,862083,5238459,32957037,2 14117209,1433320515,9867008979,69734001357,505212273441,3747124863747,2 8418591888235,220152270759597,1740363304031721,14027180742479043,11517 6800996769411,96272635569386125,818631191282955128 1 ★ E.g.f. exp(3*x)*exp(x^2). • a(n) = sum { k=0..floor(n / 2), C(n,2k)(2k)!3 ^ (n - 2k) / k! } . (End) • a(n) = i ^ n * Hermite _ H(n, - 3i / 2), i=sqrt(- 1). - _ Paul Barry _ , Jun 15 2009 • a(0) = 1; a(1) = 3; a(n) = 3 * a(n - 1) + 2 * (n - 1) * a(n - 2) for n >= 2. - _ Justin M. Troyka _ , Aug 05 2011 •

[A006605] • 1,1,3,11,46,207,979,4797,24138,123998,647615,3428493,1835671 4,99229015,540807165,2968468275,16395456762,91053897066,508151297602,28 48290555562,16028132445156,90516256568235,512831902620465,291411238880 2779,16604034506299314 ★ Number of modes of connections of 2n points. • a(n) = 1 / (2 * n + 1) * Sum _{ j=0...2 * n + 1 } binomial(j,2 * j - 2 - 3 * n) * binomial(2 * n + 1,j). - _ Vladimir Kruchinin _ , Dec 24 2010 •

[A086521] • 1,1,3,11,46,210,1021,5202,27477,149324,830357,4705386,2708710 6,158019030,932390694,5555902302,33391080001,202196156448,123255047391 8,7558030268270,46592437224093,288599067239678,1795348952256896 ★ Number of tandem duplication trees on n duplicated gene segments. • a(n) = b(n + 1, n - 1), where b(n, 0) = b(n - 1, 0) + b(n - 1, 1); b(n, k) = b(n - 1, k + 1) + b(n, k - 1), for k = 1, ..., n - 2; with initial values b(2, 0) = 1, b(3, 0) = 0, b(3, 1) = 1. •

[A129579] • 1,1,3,11,46,213,1075,5854,34141,211974,1394115,9670976,705017 76,538393812,4294921858,35702077464,308575560999,2767618399029,25713383 197122,247072773486828,2451716229465559,25090920235275889 ★ Main diagonal of triangle A129577. • a(n) = Sum _{ k=0..n - 1 } a(k) * C(2 * n - k - 1,n - k - 1) * (k + 2) / (n + 1) for n>0, with a(0)=1; eigensequence of triangle A0 33184 when the first column is omitted. - _ Paul D. Hanna _ , Aug 12 2008 •

[A264416] • 1,1,3,11,46,234,1269,7609,48501,328831,2347655,17551462,13690 2440,1109043889,9308756773,80704240807,721319484280,6632169860334,62631 220229804,606525577239266,6015393685594488,61024457251302195,632560831 051022660,6693134988051996106,72226722923184020925 ★ G.f.: Sum_{n>=0} x^n * (d/dx)^(n^2) x^(n^2) * (1+x)^n / (n^2)!, where (d/dx)^k denotes the k-th derivative operator. • a(n) = Sum _{ k=0..[n / 2] } binomial(n - k, k) * binomial((n - k) ^ 2 + k, k). •

[A163063] • 3,11,47,199,843,3571,15127,64079,271443,1149851,4870847,20633 239,87403803,370248451,1568397607,6643838879,28143753123,119218851371,5 05019158607,2139295485799,9062201101803,38388099893011 ★ Lucas(3n+2) = Fibonacci(3n+1) + Fibonacci(3n+3). • a(n) = 4 * a(n - 1) + a(n - 2) for n > 1; a(0) = 3, a(1) = 11. • a(n) = ((3 + sqrt(5)) * (2 + sqrt(5)) ^ n + (3 - sqrt (5)) * (2 - sqrt(5)) ^ n) / 2. •

[A247313] • 1,3,11,47,219,1063,5251,26127,130379,651383,3255891,1627740 7,81382939,406906503,2034516131,10172547887,50862673899,254313238423,12 71565929971,6357829125567,31789144579259,158945720799143,7947285998014 11,3973642990618447 ★ a(n) = 5*a(n-1) - 2^n for n>0, a(0)=1. • a(n) = (2 ^ (n + 1) + 5 ^ n) / 3. • a(n) = 7 * a(n - 1) - 10 * a(n - 2) for n>1. •

[A035009] • 1,1,3,11,47,227,1215,7107,44959,305091,2206399,16913987,13682 3263,1163490499,10366252031,96491364675,935976996127,9440144423875,9880 0604237119,1071092025420867,12008090971866207,139014305916844739,16595 7803940102207 9,20405708646650507075 ★ STIRLING transform of [1,1,2,4,8,16,32,...]. • a(n + 1) = 1 + 2 * Sum _{ j=1..n } binomial(n, j) * a(j). - _ Jon Perry _ , Apr 25 2005 •

[A051296] • 1,1,3,11,47,231,1303,8431,62391,524495,4960775,52223775,60559 5319,7664578639,105046841127,1548880173119,24434511267863,410503693136 559,7315133279097607,137787834979031839,2734998201208351479,5705364456 2104430735,1247772806059088954855 ★ INVERT transform of factorial numbers. • a(0) = 1; a(n) = Sum _{ k=1..n } a(n - k) * k! for n>0. • a(n) is the upper left term of M ^ n, M = an infinite square production matrix as follows: •

[A020543] • 1,1,3,11,47,239,1439,10079,80639,725759,7257599,79833599,9580 03199,12454041599,174356582399,2615348735999,41845579775999,7113748561 91999,12804747411455999,243290200817663999,4865804016353279999 ★ a(0) = 1, a(1) = 1, a(n+1) = (n+1)*a(n) + n. • a(n) = 2 * n! - 1. - _ Gary W. Adamson _ , Jan 07 2008 • a(0) = a(1) = 1, a(n) = a(n - 1) * n + (n - 1) for n > = 2. - _ Jaroslav Krizek _ , Jan 23 2010 •

[A111139] • 0,1,3,11,47,240,1448,10149,81213,730951,7309565,80405304,9648 63792,12543229529,175605213783,2634078207355,42145251318667,7164692724 18936,12896446903543432,245032491167329389,4900649823346594545 ★ a(n)

= n!*Sum_{k=0..n} Fibonacci(k)/k!. • a(n) = (phi ^ n * hypergeom([1, - n], [], 1 - phi) - (1 - phi) ^ n * hypergeom([1, - n], [], phi)) / sqrt(5). • a(n) = (exp(phi) * Gamma(n + 1, phi) - exp ^ (1 - phi) * Gamma(n + 1, 1 - phi)) / sqrt(5), where Gamma(a, x) is the upper incomplete Gamma function. •

[A233162] • 1,1,3,11,48,236,1248,6896,39168,226496,1325568,7821056,46399488,276294656,1649369088,9862639616,59041579008,353712521216,2120127479808,12712174616576,76238687305728,457294683570176,2743218342985728 ⋆ Number of n X 1 0..7 arrays with no element x(i,j) adjacent to itself or value 7-x(i,j) horizontally, diagonally, antidiagonally or vertically, top left element zero, and 1 appearing before 2 3 4 5 and 6, 2 appearing before 3 4 and 5, and 3 appearing before 4 in row major order (unlabelled 8-colorings with no clashing color pairs). • a(n) = (2 ^ (n - 6) * (90 + 9 * 2 ^ n + 2 * 3 ^ n)) / 9 for n>1. •

[A186185] • 1,1,3,11,48,239,1306,7612,46436,292875,1894365,12496864,83753165,568628232,3902600850,27031069848,188709211952,1326456525471,9379857716098,66680723764051,476269444919163,3416178576731504 ⋆ Expansion of 1/(1 - x*A001764(x/(1-x))/(1-x)). • a(n)=sum(m=1..n, sum(k=m..n, binomial(n - 1,k - 1) * m / (2 * k - m) * binomial(3 * k - 2 * m - 1,k - m))), n>0, a(0)=1. •

[A268414] • 1,3,11,49,237,1175,5863,29301,146489,732427,3662115,18310553,91552741,457763679,2288818367,11444091805,57220458993,286102294931,1430511474619,7152557373057,35762786865245,178813934326183,894069671630871,4470348358154309 ⋆ a(n) = 5*a(n - 1) - 2*n for n>0, a(0) = 1. • a(n) = (4 * n + 3 * 5 ^ n + 5) / 8. •

[A246985] • 1,3,11,49,251,1393,8051,47449,282251,1686433,10097891,60526249,362976251,2177317873,13062296531,78368963449,470199366251,2821153019713,16926788715971,101560344351049,609360902796251,3656161927895953,21936961102828211,131621735227521049,789730317205170251 ⋆ Expansion of (1-8*x+14*x^2)/((1-2*x)*(1-3*x)*(1-6*x)). • a(n) = 11 * a(n - 1) - 36 * a(n - 2) + 36 * a(n - 3) for n>2. [_ Bruno Berselli _ , Mar 25 2015] • a(n) = 2 ^ (n - 1) + 3 ^ (n - 1) + 6 ^ (n - 1). - _ Álvar Ibeas _ , Mar 25 2015 •

[A004211] • 1,1,3,11,49,257,1539,10299,75905,609441,5284451,49134923,487026929,5120905441,56878092067,664920021819,8155340557697,104652541401025,1401572711758403,19546873773314571,283314887789276721 ⋆ Shifts one place left under 2nd-order binomial transform. • a(n) = Sum _{ k=0..n } 2 ^ (n - k) * Stirling2(n, k). - _ Emeric Deutsch _ , Feb 11 2002 • a(n) = upper left term in M ^ n, M = an infinite square production matrix with an appended diagonal of (2,2,2,...) to the right of Pascal's triangle: • a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator (1 + 2 * x) * d / dx. Cf. A000110. - _ Peter Bala _ , Nov 25 2011 •

[A001339] • 1,3,11,49,261,1631,11743,95901,876809,8877691,98641011,1193556233,15624736141,220048367319,3317652307271,53319412081141,909984632851473,16436597430879731,313262209859119579,6282647653285676001 ⋆ a(n) = Sum_{k=0..n} (k+1)! binomial(n,k). • a(n) = round(evalf(exp(1) * (n - 1) * (n - 1)!)) (n>1). • a(n) = floor(n * n! * e) + 1. - Melvin J. Knight (knightmj (AT)juno.com), May 30 2001 • a(n) = { e * n * n! } for n>0, where { x } denotes the nearest integer part. Proposed by _ Simon Plouffe _ , March 1993. • a(n) = Sum[P(n, k) * (k + 1), { k, 0, n }]. - _ Ross La Haye _ , Aug 28 2005 • a(n) = n! * n * (3 - Sum _{ j=2..n } 1 / (j * (j - 1) * j!) for n>=1. - _ Emeric Deutsch _ , Apr 12 2008 • a(n) = (a(n - 1) ^ 2 + 2 * a(n - 2) ^ 2 + a(n - 2) * a(n - 3) - 4 * a(n - 1) * a(n - 3)) / (a(n - 2) - a(n - 3)) if n>1. - _ Michael Somos _ , Oct 20 2011 •

[A000254] • 0,1,3,11,50,274,1764,13068,109584,1026576,10628640,120543840,1486442880,19802759040,283465647360,4339163001600,70734282393600,1223405590579200,22376988058521600,431565146817638400,8752948036761600000,186244810780170240000 ⋆ Unsigned Stirling numbers of first kind, s(n+1,2): a(n+1)=(n+1)*a(n)+n!. • a(n) is coefficient of x ^ (n + 2) in (- log(1 - x)) ^ 2, multiplied by (n + 2)! / 2. • a(n) = a(n - 1) * (2 * n - 1) - a(n - 2) * (n - 1) ^ 2, if n>1. - _ Michael Somos _ , Mar 24 2004 • a(n) = n! * Sum _{ k=1..n } (- 1) ^ (k + 1) * binomial(n, k) / k. - _ Vladeta Jovovic _ , Jan 29 2005 • a(n + 1) = Sum _{ i=1..floor((n - 1) / 2) } n! / ((n - i) * i) + Sum _{ i=ceiling(n / 2)..floor(n / 2) } n! / (2 * (n - i) * i). - _ Shanzhen Gao _ , Sep 14 2010 • a(n) = (a(n - 1) * (n ^ 2 - 2n + 1) + (n + 1)!) / (n - 1), n>2. • a(n) = int((x ^ n - n!) * log(x) * exp(- x),x=0..infinity). - _ Groux Roland _ , Mar 28 2011 •

[A256126] • 1,1,3,11,50,278,1860,14793,138166,1494034,18422609,255359957,3929301362,66412322717,1222216175058,24314268876147,519701698551031,11874016816562299,288722141589331161,7442890569982739838,202733505298293899570,5817564888930184685708 ⋆ Coefficients in asymptotic expansion of sequence A179327. • a(k) ~ (k - 1)! / (log(2)) ^ k. •

[A284702] • 3,11,51,183,663,2435,8935,32775,120219,440971,1617531,5933271,21763823,79831875,292831311,1074134535,3940032883,14452434635,53012975555,194456895863,713287340551,2616409296963,9597250953527,35203676264199,129130605057163 ⋆ Number of dominating sets in the n-prism graph. • a(n) = 3 * a(n - 1) + a(n - 2) + 5 * a(n - 3) + a(n - 4) + a(n - 5) - a(n - 6) - a(n - 7). •

[A191341] • 3,11,51,227,963,3971,16131,65027,261123,1046531,4190211,16769027,67092483,268402691,1073676291,4294836227,17179607043,68718952451,274876858371,1099509530627,4398042316803,17592177655811,70368727400451,281474943156227,1125899839733763 ⋆ a(n) = 4^n - 2*2^n + 3. • a(n) = 4 ^ n - 2 ^ (n + 1) + 3. - _ Nathaniel Johnston _ , May 30 2011 • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Eric W. Weisstein _ , Jun 29 2017 •

[A199212] • 3,11,51,251,1251,6251,31251,156251,781251,3906251,19531251,97656251,488281251,2441406251,12207031251,61035156251,305175781251,1525878906251,7629394531251,38146972656251,190734863281251,953674316406251 ⋆ 2*5^n+1. • a(n) = 5 * a(n - 1) - 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A056199] • 0,1,3,11,51,291,1971,15411,136371,1345971,14651571,174318771,2249992371,31309422771,467200878771,7441464174771,126003940206771,2260128508782771,42808495311726771,853775831370606771,17884089888607086771,392550999147809646771 ⋆ A simple recurrence. • a(1)=0, a(2)=1, a(n) = n * a(n - 1) - Sum _{ k=1..n - 2 } a(k). • a(1)=0, n>1 a(n)=(1 / 3) * (- 1 + sum(k=0, n, k!)) - _ Benoit Cloitre _ , Nov 12 2005 •

[A058799] • 1,3,11,52,301,2055,16139,143196,1415821,15430835,183754199,2373373752,33043478329,493278801183,7859417340599,133116815989000,2388243270461401,45243505322777619,902481863185090979 ⋆ Column 2 of A007754. • a(n) = Sum _{ k = 0..floor(n / 2) } (- 1) ^ k * (n - 2 * k)! * binomial(n - k,k) * binomial(n - k + 2,k + 2). Cf. A058798. - _ Peter Bala _ , Aug 01 2013 •

[A039302] • 1,3,11,53,261,1303,6511,32553,162761,813803,4069011,20345053,101725261,508626303,2543131511,12715657553,63578287761,317891438803,1589457194011,7947285970053,39736429850261,198682149251303,993410746256511 ⋆ Number of distinct quadratic residues mod 5^n. • a(n) = floor((5 ^ n + 3) * 5 / 12). • a(n) = 5 * a(n - 1) + a(n - 2) - 5 * a(n - 3). _ Vincenzo Librandi _ , Apr 21 2012 •

[A074512] • 3,11,53,281,1553,8801,50753,296321,1745153,10339841,61514753,366991361,2193559553,13127802881,78632599553,471258726401,2825404874753,16943839313921,101628676145153,609634617917441 ⋆ a(n) = 1^n + 4^n + 6^n. • a(n) = 10 * a(n - 1) - 24 * a(n - 2) + 15 with a(0)=3, a(1)=11. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A000255] • 1,1,3,11,53,309,2119,16687,148329,1468457,16019531,190899411,2467007773,34361893981,513137616783,8178130767479,138547156531409,2486151753313617,47106033220679059,939765362752547227 ⋆ a(n) = n * a(n-1) + (n-1) * a(n-2), a(0) = 1, a(1) = 1. • a(n) = Sum _{ k=0..n } (- 1) ^ k * (n - k + 1) * n! / k!. - _ Len Smiley _ • a(n) = floor((1 / e) * n! * (n + 2) + 1 / 2). - _ Benoit Cloitre _ , Jan 15 2004 • a(n) = { (n + 2)n! / e } , where { x } denotes the nearest integer. Proposed by _ Simon Plouffe _ , March 1993. • a(n) = (n * (n + 2) * a(n - 1) + (- 1) ^ n) / (n + 1) for n >= 1, a(0)=1. See the Charalambides reference. • a(n) = GAMMA(n + 3, - 1) * exp(- 1) / (n + 1) (incomplete Gamma function). - _ Mark van Hoeij _ , Nov 11 2009 • a(n) = hypergeometric([2, - n],[],1) * (- 1) ^ n = KummerU(2,3 + n, - 1) * (- 1) ^ n. See the Abramowitz - Stegun handbook (for the reference see e.g. A103921) p. 504, 13.1.10, and for the recurrence p. 507, 13.4.16. - _ Wolfdieter Lang _ , May 20 2010 •

[A121580] • 1,3,11,53,317,2237,18077,164237,1656077,18348557,221561357,2895986957,40737113357,613623026957,9854521894157,168083120422157,3034505335078157,57810369261862157,1159018646647078157 ⋆ Number of cells in column 1 of all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=1, a(n)=a(n - 1) + (n - 1)! * ([1 + n (n - 1) / 2] for n>=2. • a(n)=(1 / 2)Sum(j!,j=0..n + 1) - n!. - _ Emeric Deutsch _ , Apr 06 2008 •

[A224345] • 1,3,11,53,323,2359,19877,188591,1981963,22795849,284285351,3815293199,54762206985,836280215979,13527449608779,230894574439485,4144741143359355,78017419806432567,1535903379571939981,31550210953904250759 ⋆ Number of closed normal forms of size n in lambda calculus with size 0 for the variables. • a(n) = F(n,0) where F(0,m) = m, F(n + 1,m) = F(n,m + 1) + G(n + 1,m), and G(0,m) = m, G(n + 1,m) = sum(k=0..n, G(n - k,m) * F(k,m) * d(n,0)) where d(0,i) = [i = 1], d(n + 1,i) = sum(j=i..n + 1, binomial(j,i) * d(n,j) + g(n + 1,j)) and g(0,i) = [i = 1], g(n + 1,i) = sum(j=0..i, sum(k=0..n, g(k,j) * d(n - k,i - j))). •

[A081367] • 1,3,11,53,345,2947,31411,400437,5927921,99816515,1882741659,39310397557,899919305929,22410922177347,603120939234755,17441737474345973,539390080299331809,17762381612118471043 ⋆ E.g.f.: exp(2*x)/sqrt(1-2*x). • a(n) = U(1 / 2,3 / 2 + n,1) * 2 ^ n, where U is the confluent hypergeometric Kummer function U. - _ John M. Campbell _ , May 04 2011 • a(n) = 2 ^ n * hypergeom([1 / 2, - n],[], - 1). G.f. satisfies (1 - 3 * x + 4 * x ^ 2) * g(x) + (- 2 * x ^ 2 + 4 * x ^ 3) * g'(x)=1. - _ Robert Israel _ , Nov 04 2014 •

[A094259] • 1,3,11,55,315,1871,11203,67191,403115,2418655,14511891,87071303,522427771,3134566575,18807399395,112844396311,677066377803,4062398266751,24374389600435,146246337602535,877478025615131,5264868153690703,31589208922144131,189535253532864695 ⋆ G.f.: (1-5*x)/((1-6*x)*(1-x)^2). • a(n) = (6 ^ (n + 1) + 20n + 19) / 25. •

[A007841] • 1,1,3,11,56,324,2324,18332,167544,1674264,18615432,223686792,2937715296,41233157952,623159583552,10008728738304,171213653641344,3092653420877952,59086024678203264,1185657912197967744,25015435198774723584,552130504313534175744 ⋆ Number of factorizations of permutations of n letters into cycles in nondecreasing length order. • a(n) = Sum _{ k=1..n } (n - 1)! / (n - k)! * b(k) * a(n - k), where b(k) = Sum _{ d divides k } d ^ (1 - k / d) and a(0) = 1. - _ Vladeta Jovovic _ , Oct 14 2002 • a(n) = R(n,1), R(n,m) = R(n,m + 1) + binomial(n,m) * (m - 1)! * R(n - m,m), R(n,n)=(n - 1)!, R(n,m)=0 for n<m. - _ Vladimir Kruchinin _ , Sep 09 2014 •

[A001586] • 1,1,3,11,57,361,2763,24611,250737,2873041,36581523,512343611,7828053417,129570724921,2309644635483,44110959165011,898621108880097,19450718635716001,445777636063460643,10784052561125704811,274613643571568682777,7342627959965776406281 ⋆ Generalized Euler numbers, or Springer numbers. • a(n) = numerator of abs(Euler(n,1 / 4)). - _ N. J. A. Sloane _ , Nov 07 2009 • a(n) = (- 1) ^ floor(n / 2) Sum _{ k=0..n } 2 ^ k C(n,k) Euler(k). - _ Peter Luschny _ , Jul 08 2009 • a(n) = | 2 * 4 ^ n * le

rchphi(- 1, - n, 1 / 4) |. - _ Peter Luschny _ , Apr 27 2013 ● a(n) = (- 1) ^ C(n + 1,2) * 2 ^ (3 * n + 1) * (Zeta(- n,1 / 8) - Zeta(- n,5 / 8)), where Zeta (a,z) is the generalized Riemann zeta function. - _ Peter Luschny _ , Mar 11 2015 ●

[A028342] ● 1,1,3,11,59,339,2629,20677,202089,2066201,24322931,296746251,4193572723,59806188571,954679763829,15845349818789,285841314451409,5293203821406897,106976406006818659,2201383054398314251 ★ Expansion of Product_{i>=1} (1 - x^i)^(-1/i); also of exp(Sum_{n>=1} (d(n)*x^n/n)) where d is number of divisors function. ● a(n) = (n - 1)! * Sum _{ i=0..n - 1 } d(i + 1) * a(n - i - 1) / (n - i - 1)!, a(0)=1, where d(i) is number of divisors function. - _ Vladimir Kruchinin _ , Feb 27 2015 ●

[A074509] ● 3,11,59,371,2483,17051,118379,825731,5771363,40373291,282534299,1977503891,13841818643,96890604731,678227855819,4747575858851,33232973616323,232630643127371,1628413985330939,11398896347634611 ★ a(n) = 1^n + 3^n + 7^n. ● a(n) = 10 * a(n - 1) - 21 * a(n - 2) + 12 with a(0)=3, a(1)=11. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A228204] ● 3,11,61,213,4107,14339,79189,276477,5330883,18612011,102787261,358866933,6919482027,24158375939,133417785589,465809002557,8981482340163,31357553356811,173176182907261,604619726452053,11657957158049547,40702080098764739 ★ y-values in the solution to x^2 - 13y^2 = 27. ● a(n) = 1298 * a(n - 4) - a(n - 8). ●

[A095237] ● 1,3,11,61,379,2731,22301,203897,2064455,22938391,277554529,3633441109,51170962283,771500662115,12399117783989,211611610180081,3822234708877711,72847296804492847,1460993008134550985 ★ a(1)=1; then for n even, a(n)=(sum of previous terms times n) plus 1, for n odd, a(n)=(sum of previous terms times n) minus 1. ● a(n) = (n + 1)! - floor(((n + 1)! + 1) / e) - n! + floor((n! + 1) / e),n>1 [From _ Gary Detlefs _ , Nov 07 2010] ●

[A074504] ● 3,11,69,521,4113,32801,262209,2097281,16777473,134218241,1073742849,8589936641,68719480833,549755822081,4398046527489,35184372121601,281474976776193,2251799813816321,18014398509744129,144115188076380161 ★ a(n) = 1^n + 2^n + 8^n. ● a(n) = 10 * a(n - 1) - 16 * a(n - 2) + 7 with a(0)=3, a(1)=11. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A088075] ● 3,11,131,1429,77141,1456729,117048931,10326137821,1110819807371,140734085123059,11639258217451019 ★ Smallest number sandwiched between two numbers having exactly n prime divisors. ● a(n)=Min { x; A001221[x - 1]=A001221[x + 1]=n } ●

[A022380] ● 3,12,15,27,42,69,111,180,291,471,762,1233,1995,3228,5223,8451,13674,22125,35799,57924,93723,151647,245370,397017,642387 ★ Fibonacci sequence beginning 3, 12. ● a(n) = ((2 ^ (- n - 1) / 5) * ((15 + 21 * sqrt(5)) * (1 + sqrt(5)) ^ n + (15 - 21 * sqrt(5)) * (1 - sqrt(5)) ^ n). [_ Bogart B. Strauss _ , Oct 27 2013] ●

[A290593] ● 3,12,15,31,49,92,156,279,484,855,1495,2629,4608,8092,14195,24916,43719,76727,134641,236284,414644,727655,1276940,2240879,3932463 ★ Number of maximal independent vertex sets (and minimal vertex covers) in the n-antiprism graph. ● a(n) = a(n - 1) + a(n - 2) + a(n - 4). ●

[A001196] ● 0,3,12,15,48,51,60,63,192,195,204,207,240,243,252,255,768,771,780,783,816,819,828,831,960 ★ Double-bitters: only even length runs in binary expansion. ● a(2n) = 4a(n), a(2n + 1) = 4a(n) + 3. ●

[A224924] ● 0,1,3,12,16,33,63,112,120,153,211,300,408,553,735,960,976,1041,1155,1324,1536,1809,2143,2544,2952 ★ Sum_{i=0..n} Sum_{j=0..n} (i AND j), where AND is the binary logical AND operator. ● a(2 ^ n) = a(2 ^ n - 1) + 2 ^ n. ●

[A136047] ● 1,3,12,16,41,47,96,104,185,195,316,328,497,511,736,752,1041,1059,1420,1440,1881,1903,2432,2456,3081 ★ a(1)=1, a(n)=a(n-1)+n if n even, a(n)=a(n-1)+ n^2 if n is odd. ● a(n)=(1 / 12)(1 + n)(2n ^ 2 + 7n - 3) if n is odd, a(n)=(1 / 12)n(2n ^ 2 + 3n + 4) if n is even; a(n)=(- 3 + 3 * (- 1) ^ n + 8 * n + 12 * n ^ 2 - 6 * (- 1) ^ n * n ^ 2 + 4 * n ^ 3) / 24; a(1)=1 then a(n)=a(n - 1) + n ^ (if n is even then 1 else 2), or a(n)=a(n - 1) + n ^ (1 + mod(n,2)), or a(n)=a(n - 1) + n ^ ((3 - (- 1) ^ n) / 2)). ● a(n)=a(n - 1) + 3a(n - 2) - 3a(n - 3) - 3a(n - 4) + 3a(n - 5) + a(n - 6) - a(n - 7). G.f.: x * (1 + 2 * x + 6 * x ^ 2 - 2 * x ^ 3 + x ^ 4) / ((1 + x) ^ 3 * (x - 1) ^ 4). [From _ R. J. Mathar _ , Feb 22 2009] ●

[A234904] ● 3,12,18,21,30,36,39,48,54,57,66,72,75,84,90,93,102,108,111,120,126,129,138,144,147 ★ a(n)*Pi is the total length of irregular spiral (center points: 2, 1, 3) after n rotations. ● a(n) = a(n - 1) + a(n - 3) - a(n - 4). G.f.: 3 * x * (x + 1) * (2 * x + 1) / ((x - 1) ^ 2 * (x ^ 2 + x + 1)). - _ Colin Barker _ , Jul 12 2014 ●

[A134965] ● 3,12,19,28,35,44,51,60,67,76,83,92,99,108,115,124,131,140,147,156,163,172,179,188,195 ★ a(0)=3; for n>0, a(n) = a(n-1) + 7 + 2*mod(n, 2). ● a(n) = 8 * n - 4 for n even. ● a(n) = 8 * n - 5 for n odd. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. ●

[A212760] ● 1,3,12,20,45,63,112,144,225,275,396,468,637,735,960,1088,1377,1539,1900,2100,2541,2783,3312,3600,4225 ★ Number of (w,x,y,z) with all terms in {0,...,n}, w even, and x = y + z. ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). ● a(n) = (n + 1) * (n + 2) * (2 * n + 3 + (- 1) ^ n) / 8. - _ Wesley Ivan Hurt _ , Jul 22 2014 ● a(n) = Sum _{ i=1..n + 1 } numerator(i ^ 2 / 2). - _ Wesley Ivan Hurt _ , Feb 26 2017 ●

[A017197] ● 3,12,21,30,39,48,57,66,75,84,93,102,111,120,129,138,147,156,165,174,183,192,201,210,219 ★ a(n) = 9*n + 3. ● a(n) = 9 + a(n - 1). ● a(n) = 3 * (6 * n - 1) - a(n - 1) with a(0)=3. - _ Vincenzo Librandi _ , Nov 20 2010 ●

[A051656] ● 0,1,3,12,21,77,168,609,987,3572,7755,28059,47376,171409,372099,1346268,2178309,7881197,17108664,61899729,104512485,378129724,820851717,2969869413,4809706272 ★ Sum_{i=0..n} (C(n,i) mod 2)*Fibonacci(2*i). ● a(n) = sum _{ i=0..n } (C(2n, 2i) mod 2) * F(2 * i) = FL(n)product _{ i=0..i nf } L(2 ^ i) ^ bit(n, i) where L is n - th Lucas number (A000032) and FL is defined as in A048757: FL(n) = n - th fibonacci number if n even, n - th Lucas number if n odd. ●

[A154138] ● 1,3,12,22,73,131,428,766,2497,4467,14556,26038,84841,151763,494492,884542,2882113,5155491,16798188,30048406,97907017,175134947,570643916,1020761278,3325956481 ★ Indices k such that 3 plus the k-th triangular number is a perfect square. ● a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5); ● a(1..4)=(1,3,12,22); a(n>4)=6 * a(n - 2) - a(n - 4) + 2. [_ Zak Seidov _ , Oct 21 2009] ●

[A028725] ● 0,0,0,0,0,0,1,3,12,24,60,100,200,300,525,735,1176,1568,2352,3024,4320,5400,7425,9075,12100 ★ a(n) = floor(n/2) * floor(n/2-1/2) * floor(n/2-1) * floor(n/2-3/2) * floor(n/2-2) / 12. ● a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=0, a(5)=0, a(6)=1, a(7)=3, a(8)=12, a(9)=24, a(10)=60, a(n)=a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) - 10 * a(n - 4) + 10 * a(n - 5) + 10 * a(n - 6) - 10 * a(n - 7) - 5 * a(n - 8) + 5 * a(n - 9) + a(n - 10) - a(n - 11). - _ Harvey P. Dale _ , Jun 26 2012 ●

[A206917] ● 0,1,3,12,24,96,192,768,1536,6144,12288,49152,98304,393216,786432,3145728,6291456,25165824,50331648,201326592,402653184,1610612736,3221225472,12884901888,25769803776 ★ Sum of binary palindromes in the half-open interval [2^(n-1), 2^n). ● a(n) = (3 / 8) * 2 ^ (n + floor((n + 1) / 2)). ● a(n) = 8 * a(n - 2) for n>3. G.f.: - x * (4 * x ^ 2 + 3 * x + 1) / (8 * x ^ 2 - 1). - _ Colin Barker _ , May 31 2013 ●

[A071355] ● 3,12,25,42,63,88,117,150,187,228,273,322,375,432,493,558,627,700,777,858,943,1032,1125,1222,1323 ★ a(n) = 2*n^2 + 11*n + 12. ● a(n) = (n + 4) * (2 * n + 3). - _ Reinhard Zumkeller _ , Nov 18 2004 ● a(n) = 3 * a(n - 1) - 3 * a(n - 1) + a(n - 2). ●

[A033428] ● 0,3,12,27,48,75,108,147,192,243,300,363,432,507,588,675,768,867,972,1083,1200,1323,1452,1587,1728 ★ a(n) = 3*n^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. ● a(n) = a(n - 1) + 6 * n - 3, with a(0)=0. - _ Jean - Bernard François _ , Oct 04 2013 ●

[A213486] ● 0,3,12,27,48,78,120,174,240,321,420,537,672,828,1008,1212,1440,1695,1980,2295,2640,3018,3432,3882,4368 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y|+|y-w| > w+x+y. ● a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). ●

[A058034] ● 1,3,12,27,49,75,108,147,193,243,300,363,433,507,588,675,769,867,972,1083,1201,1323,1452,1587,1729 ★ Number of numbers whose cube root rounds to n. ● a(n) = 3n ^ 2 + 1 if n == 0 (mod 4), 3n ^ 2 otherwise. ● a(n) = (1 + (- 1) ^ n + (- i) ^ n + i ^ n + 12 * n ^ 2) / 4 where i=sqrt(- 1). - _ Colin Barker _ , Jul 04 2014 ●

[A187273] ● 0,3,12,27,72,135,324,567,1296,2187,4860,8019,17496,28431,61236,98415,209952,334611,708588,1121931,2361960,3720087,7794468,12223143,25509168 ★ a(n) = (n/4)*3^(n/2)*((1+sqrt(3))^2+(-1)^n*(1-sqrt(3))^2). ● a(n) = 6 * a(n - 2) - 9 * a(n - 4). G.f.: 3 * x * (x + 1) * (3 * x + 1) / (3 * x ^ 2 - 1) ^ 2. - _ Colin Barker _ , Jul 24 2013 ● a(2 * n) = 4 * n * 3 ^ n, a(2 * n + 1) = (2 * n + 1) * 3 ^ (n + 1). - _ Andrew Howroyd _ , Mar 28 2016 ●

[A133647] ● 1,3,12,27,108,243,972,2187,8748,19683,78732,177147,708588,1594323,6377292,14348907,57395628,129140163,516560652,1162261467,4649045868,10460353203,41841412812,94143178827,376572715308 ★ A133566 * A000244. ● a(n + 2) = 9 * a(n), a(0) = 1, a(1) = 3, a(2) = 12. - _ Philippe Deléham _ , Apr 06 2012 ●

[A066643] ● 0,3,12,28,50,78,113,153,201,254,314,380,452,530,615,706,804,907,1017,1134,1256,1385,1520,1661,1809 ★ a(n) = floor(Pi*n^2). ● a(n) = floor(Pi * n ^ 2). ●

[A140065] ● 1,3,12,28,51,81,118,162,213,271,336,408,487,573,666,766,873,987,1108,1236,1371,1513,1662,1818,1981 ★ a(n) = (7*n^2 - 17*n + 12)/2. ● a(n) = 7 * n + a(n - 1) - 12 for n>1, a(1)=1. - _ Vincenzo Librandi _ , Jul 08 2010 ●

[A005995] ● 1,3,12,28,66,126,236,396,651,1001,1512,2184,3108,4284,5832,7752,10197,13167,16852,21252,26598,32890,40404,49140,59423 ★ Alkane (or paraffin) numbers l(8,n). ● a(2n - 1) = n(n + 1)(n + 2)(2n + 1)(2n + 3) / 30, a(2n) = (n + 1)(n + 2)(n + 3)(4n ^ 2 + 6n + 5) / 30. [_ M. F. Hasler _ , May 01 2009] ● a(n) = (1 / 240) * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) + (1 / 16) * (n + 2) * (n + 4) * (1 / 2) * (1 + (- 1) ^ n). [_ Yosu Yurramendi _ , Jun 20 2013] ●

[A124052] ● 1,3,12,28,168,168,1344,2880,9360,9360,112320,112320,1572480,1572480,1572480,3249792,58496256,58496256,1169925120,1169925120,1169925120,1169925120,1169925120,28078202880,28078202880,145070714880 ★ Sum from 1 to n of all factors of primes less than n such that the power of any factor (p) never exceeds log(n) base p. ● a(n) = a(n - 1)(1 + n * (P - 1) / (n - 1)) (If n is the power of any prime (P)) a(n) = A(n - 1) If n is not the power of any prime ●

[A164013] ● 3,12,30,57,93,138,192,255,327,408,498,597,705,822,948,1083,1227,1380,1542,1713,1893,2082,2280,2487,2703 ★ 3 times centered triangular numbers: 9*n*(n+1)/2 + 3. ● a(n) = a(n - 1) + 9 * n (with a(0)=3). - _ Vincenzo Librandi _ , Nov 30 2010 ● a(0)=3, a(1)=12, a(2)=30, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 26 2015 ●

[A057671] ● 0,3,12,30,59,102,163,243,347,476,634,823,1046,1307,1607,1951,2340,2778,3267,3811,4411,5072,5796,6585,7443 ★ a(n) equals floor(Vc(n) - Vs(n)), where Vc(n) is the volume of the cube with side length n and Vs(n) is the volume of the sphere of diameter n. ● a(n) = floor(n ^ 3 * (1 - Pi / 6)). ●

[A027480] ● 0,3,12,30,60,105,168,252,360,495,660,858,1092,1365,1680,2040,2448,2907,3420,3990,4620,5313,6072,6900,7800 ★ a(n) = n*(n+1)*(n+2)/2. ● a(n) = n * binomial(2 + n, 2). - _ Zerinvary Lajos _ , Jan 10 2006 ● a(n) = numbperm(n,3) / 2, n>=2 [where numbperm(n, k) = n! / (n - k)!]. - _ Zerinvar

y Lajos _ , Apr 26 2007 ● a(n) = Sum _{ i=0..n } n * (n - i) + 2 * i. [_ Bruno Berselli _ , Jan 13 2016] ● a(n - 1) = binomial(n ^ 2,2) / n for n > 0. - _ Jonathan Sondow _ , Jan 07 2018 ●

[A073952] ● 0,0,3,12,30,81,252,756,2187,6480,19602,59049,176904,530712,1594323,4785156,14351094,43046721,129146724,387440172,1162261467,3486725352,10460294154,31381059609,94143001680 ★ Number of strings over Z_3 of length n with trace 1 and subtrace 2. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 2, s + 2t + 1) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A037237] ● 3,12,31,64,115,188,287,416,579,780,1023,1312,1651,2044,2495,3008,3587,4236,4959,5760,6643,7612,8671,9824,11075 ★ Expansion of (3 + x^2) / (1 - x)^4. ● a(n) = Sum _{ k=0..n } (2 * (k + 1) ^ 2 + 1). - Mike Warburton (mikewarb(AT)gmail.com), Jul 07 2007, Sep 07 2007 ● a(n) = (n + 1) * (2 * n ^ 2 + 7 * n + 9) / 3. - _ R. J. Mathar _ , Mar 29 2010 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 21 2012 ●

[A005718] ● 3,12,31,65,120,203,322,486,705,990,1353,1807,2366,3045,3860,4828,5967,7296,8835,10605,12628,14927,17526,20450,23725 ★ Quadrinomial coefficients: C(2+n,n) + C(3+n,n) + C(4+n,n). ● a(n) = binomial(n, 2) * (n ^ 2 + 7 * n + 18) / 12, n >= 2. ● a(n) = 3 * C(n + 2,2) + 3 * C(n + 2,3) + C(n + 2,4) (see comment in A071675). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 ●

[A098500] ● 1,3,12,32,59,91,130,176,229,289,356,430,511,599,694,796,905,1021,1144,1274,1411,1555,1706,1864,2029 ★ Number of squares on infinite quarter chessboard at <=n knight moves from the corner. ● a(n) = (1 / 2) * (7 * n ^ 2 + n + 2), for n>3. ●

[A037236] ● 3,12,32,68,125,208,322,472,663,900,1188,1532,1937,2408,2950,3568,4267,5052,5928,6900,7973,9152,10442,11848,13375 ★ Expansion of (3+2*x^2)/(1-x)^4. ● a(n)= (n + 1) * (5 * n ^ 2 + 13 * n + 18) / 6. a(n)= 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [From _ R. J. Mathar _ , Feb 12 2010] ●

[A054602] ● 0,3,12,33,72,135,228,357,528,747,1020,1353,1752,2223,2772,3405,4128,4947,5868,6897,8040,9303,10692,12213,13872 ★ a(n) = Sum_{d|3} phi(d)*n^(3/d). ● a(n) = ((n - 1) ^ 3 + n ^ 3 + (n + 1) ^ 3) / 3. - _ David Morales Marciel _ , Aug 28 2015 ●

[A192972] ● 0,1,3,12,33,77,160,309,567,1004,1733,2937,4912,8137,13387,21916,35753,58181,94512,153341,248575,402716,652173,1055857,1709088 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). ●

[A081423] ● 1,3,12,34,75,141,238,372,549,775,1056,1398,1807,2289,2850,3496,4233,5067,6004,7050,8211,9493,10902,12444,14125 ★ Subdiagonal of array of n-gonal numbers A081422. ● a(n) = (2 * n ^ 3 + n ^ 2 + n + 2) / 2. ●

[A257890] ● 3,12,34,80,166,314,553,920,1461,2232,3300,4744,6656,9142,12323,16336,21335,27492,34998,44064,54922,67826,83053,100904,121705 ★ Expansion of the g.f. (x^2-x+1)*(x^2-3*x+3)/(x-1)^6. ● a(n) = (n + 1) * (n ^ 4 + 14 * n ^ 3 + 91 * n ^ 2 + 254 * n + 360) / 120. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. - _ Wesley Ivan Hurt _ , Jan 27 2016 ●

[A073372] ● 1,3,12,34,99,261,678,1692,4149,9959,23568,55014,127031,290457,658602,1482240,3314025,7365915,16285300,35832810,78500811,171293293,372412782,806963364,1743173469 ★ Second convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. ● a(n) = sum(binomial(n - k + 2, 2) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). ●

[A295363] ● 1,3,12,35,77,154,287,513,890,1513,2546,4241,6997,11478,18747,30531,49620,80531,130571,211564,342641,554757,897998,1453405,2352105 ★ Solution of the complementary equation a(n) = a(n-1) + a(n-2) + b(n-1)*b(n-2), where a(0) = 1, a(1) = 3, b(0) = 2, b(1) = 4, and (a(n)) and (b(n)) are increasing complementary sequences. ● a(n) / a(n - 1) - > (1 + sqrt(5)) / 2 = golden ratio (A001622). ●

[A260006] ● 0,3,12,35,90,217,504,1143,2550,5621,12276,26611,57330,122865,262128,557039,1179630,2490349,5242860,11010027,23068650,48234473,100663272,209715175,436207590 ★ a(n) = f(1,n,n), where f is the Sudan function defined in A260002. ● a(n) = (2 ^ n - 1) * (n + 2). ● a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4) for n>3. - _ Colin Barker _ , Jul 29 2015 ●

[A167667] ● 1,3,12,36,96,240,576,1344,3072,6912,15360,33792,73728,159744,344064,737280,1572864,3342336,7077888,14942208,31457280,66060288,138412032,289406976,603979776 ★ Expansion of (1-x+4*x^2)/(1-2*x)^2. ● a(0)=1, a(n) = 3 * n * 2 ^ (n - 1) for n>0. ● a(0)=1, a(1)=3, a(2)=12, a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>2. ● a(0)=1, a(n) = Sum _{ i=0..n } binomial(n,i) * (2 n - i). - _ Wesley Ivan Hurt _ , Mar 20 2015 ●

[A292291] ● 0,0,0,3,12,36,99,264,696,1827,4788,12540,32835,85968,225072,589251,1542684,4038804,10573731,27682392,72473448,189737955,496740420,1300483308,3404709507 ★ Number of vertices of type B at level n of the hyperbolic Pascal pyramid. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n >= 4. ●

[A290927] ● 0,3,12,36,108,331,1008,3027,8992,26502,77592,225806,653544,1882224,5396776,15411399,43847688,124331457,351448620,990586686,2784612380,7808372811,21845061504,60983031772,169897677504 ★ p-INVERT of the positive integers, where p(S) = (1 - S^2)^3. ● a(n) = 12 * a(n - 1) - 63 * a(n - 2) + 196 * a(n - 3) - 414 * a(n - 4) + 636 * a(n - 5) - 731 * a(n - 6) + 636 * a(n - 7) - 414 * a(n - 8) + 196 * a(n - 9) - 63 * a(n - 10) + 12 * a(n - 11) - a(n - 12). ●

[A167993] ● 0,0,1,3,12,36,117,351,1080,3240,9801,29403,88452,265356,797697,2390391,7173360,21520080,64566801,193700403,581120892,1743362676,5230147077,15690441231,47071500840 ★ Expansion of x^2/((3*x-1)*(3*x^2-1)). ● a(2 * n + 1) = 3 * a(2 * n). ● a(n) = 3 * a(n - 1) + 3 * a(n - 4) - 9 * a(n - 3). ● a(n) = 3 ^ (n - 1) / 2 - 3 ^ (n / 2 - 1) / 2 for n even. ● a(n) = 3 ^ (n - 1) / 2 - 3 ^ (n / 2 - 1 / 2) / 2 for n odd. ●

[A282022] ● 1,3,12,36,144,432,1728,5184,20736,62208,248832,746496,2985984,8957952,35831808,107495424,429981696,1289945088,5159780352,15479341056,61917364224,185752092672,743008370688,2229025112064,8916100448256 ★ Start with 1; multiply alternately by 3 and 4. ● a(n) = 2 ^ n * 3 ^ (n / 2) for n even. ● a(n) = 2 ^ (n - 1) * 3 ^ ((n + 1) / 2) for n odd. ● a(n) = 12 * a(n - 2) for n>1. ●

[A290930] ● 0,3,12,37,116,372,1188,3763,11860,37261,116760,365056,1139224,3549635,11045804,34335421,106633804,330916268,1026277180,3181108619,9855901108,30524529485,94506627952,292521594048,905220237168 ★ p-INVERT of the positive integers, where p(S) = (1 - S^2)(1 - 2*S^2). ● a(n) = 8 * a(n - 1) - 25 * a(n - 2) + 44 * a(n - 3) - 54 * a(n - 4) + 44 * a(n - 5) - 25 * a(n - 6) + 8 * a(n - 7) - a(n - 8). ●

[A029858] ● 0,3,12,39,120,363,1092,3279,9840,29523,88572,265719,797160,2391483,7174452,21523359,64570080,193710243,581130732,1743392199,5230176600,15690529803,47071589412,141214768239 ★ a(n) = (3^n - 3)/2. ● a(n) = 3 * a(n - 1) + 3. - _ Alexandre Wajnberg _ , Apr 25 2005 ● a(n) = 3 ^ (n - 1) + a(n - 1) (with a(1)=0). - _ Vincenzo Librandi _ , Nov 18 2010 ●

[A123109] ● 1,3,12,39,120,363,1092,3279,9840,29523,88572,265719,797160,2391483,7174452,21523359,64570080,193710243,581130732,1743392199,5230176600,15690529803,47071589412,141214768239,423644304720 ★ a(0) = 1, a(1) = 3, a(n) = 3*a(n-1)+3 for n>1. ● a(n) = - 3 / 2 * (3 ^ n - 1) + (binomial(2 * n,n) mod 2), with n>=0. - _ Paolo P. Lava _ , Nov 19 2008 ● a(n + 1) - a(n) = 3 ^ n, n>=2. - _ R. J. Mathar _ , Aug 18 2011 ●

[A242587] ● 1,3,12,39,129,399,1245,3783,11514,34734,104754,314922,946623,2842077,8532147,25603788,76830033,230513439,691598901,2074870002,6224790639,18674600664,56024355396,168073769199,504222998115 ★ The number of conjugacy classes of n X n matrices over F_3. ● a(n) = S(n,1), where S(n,m) = sum(k=m..n / 2, 3 * S(n - k,k)) + 3, S(n,n)=3, S(0,m)=1, S(n,m)=0 for n<m. - _ Vladimir Kruchinin _ , Sep 07 2014 ●

[A290906] ● 0,3,12,39,132,456,1572,5409,18612,64053,220440,758640,2610840,8985147,30922188,106418031,366235308,1260390744,4337606988,14927778921,51373622388,176801189997,608457401520,2093992746720,7206429919920 ★ p-INVERT of the positive integers, where p(S) = 1 - 3*S^2. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A122994] ● 1,3,12,39,147,498,1821,6303,22692,79419,283647,998418,3551241,12537003,44498172,157331199,557814747,1973795538,6994128261,24758288103,87705442452,310530035379,1099879017447,3894649335858,13793560492881 ★ a(n) = a(n-1)+9*a(n-2) initialized with a(0)=1, a(1)=3. ● a(n) = (1 / 2 + 5 * sqrt(37) / 74) * (1 / 2 + sqrt(37) / 2) ^ (n - 1) + (1 / 2 - 5 * sqrt(37) / 74) * (1 / 2 - sqrt(37) / 2) ^ (n - 1). [_ Antonio Alberto Olivares _ , Jun 07 2011] ●

[A007993] ● 3,12,40,102,219,419,738,1221,1923,2910,4260,6064,8427,11469,15326,20151,26115,33408,42240,52842,65467,80391,97914,118361,142083 ★ Poincaré series [or Poincare series] of Lie algebra associated with a certain braid group. ● a(n) = 3 + 9(n - 1) + 19(n - 1)(n - 2) / 2 + 15(n - 1)(n - 2)(n - 3) / 6 + 6(n - 1)(n - 2)(n - 3)(n - 4) / 24 + (n - 1)(n - 2)(n - 3)(n - 4)(n - 5) / 120. - _ John W. Layman _ , May 12 1999 ● a(n - 1) = (1 / 120)(n ^ 5 + 10n ^ 4 + 35n ^ 3 - 10n ^ 2 - 396n + 720) with n>1. - _ Ralf Stephan _ , Jun 11 2005 ●

[A080929] ● 1,3,12,40,120,336,896,2304,5760,14080,33792,79872,186368,430080,983040,2228224,5013504,11206656,24903680,55050240,121110528,265289728,578813952,1258291200,2726297600 ★ Sequence associated with a(n) = 2*a(n-1) + k*(k+2)*a(n-2). ● a(n) = Sum _{ k=0..n } Sum _{ i=0..n } (k + 1) * binomial(n - 1,i). - _ Wesley Ivan Hurt _ , Sep 20 2017 ●

[A052482] ● 3,12,40,120,336,896,2304,5760,14080,33792,79872,186368,430080,983040,2228224,5013504,11206656,24903680,55050240,121110528,265289728,578813952,1258291200,2726297600,5888802816 ★ a(n) = 2^(n-2)*binomial(n+1,2). ● a(n) = (1 / 2) * Sum _{ k=0..n - 1 } Sum _{ i=0..n - 1 } (k + 1) * C(n - 1,i). - _ Wesley Ivan Hurt _ , Sep 20 2017 ● a(n) = 2 ^ (n - 3) * n * (1 + n). ● a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3) for n>4. ●

[A102839] ● 0,1,3,12,40,135,441,1428,4572,14535,45925,144408,452244,1411501,4392675,13636080,42237792,130580451,403009209,1241912580,3821849640,11746816389,36064532427,110610649548,338928124500 ★ a(0)=0, a(1)=1, a(n)=((2*n-1)*a(n-1)+3*n*a(n-2))/(n-1). ● a(n) is asymptotic to c * sqrt(n) * 3 ^ n where c=0.2443012(5)..... ● a(n) = 4 ^ (n - 1) * JacobiP[n - 1, - n - 1 / 2, - n - 1 / 2, - 1 / 2]. - _ Peter Luschny _ , May 13 2016 ●

[A126725] ● 0,1,3,12,40,195,861,5488,31032,247005,1706815,16302396,133131648,1483518127,13978823145,178022175360,1901119947856,27237392830233,325091511083547,5175104637744460,68269217327545080,1195449171318970491 ★ a(1)=0, a(2)=1; for n>2, a(n) = C(n,2)*(1+a(n-2)). ● a(n) = Sum _{ k=1..floor(n / 2) } 2 ^ k * Pochhammer(- n / 2,k) * Pochhammer(1 / 2 - n / 2,k). - _ Theodore M. Mishura _ , Mar 16 2015 ●

[A263102] ● 0,0,1,3,12,40,225,1071,8848,56232,616185,4880755,66475596,629398848,10238194057,112690225935,2130537219840,26719024870576,575573407212753,8099650628337987,195807849389362540,3054957193416951480,81892400673047263761,1402819397613793354063,41294565798306731368272 ★ Number of distinct cycles without repeated edges on the multigraph with 2 vertices connected by n edges. ● a(n) = n * (n - 1) / 2 + Sum _{ k=4..n:2 divides k } (n! / ((n - k)! * k)). ●

[A017940] ● 1,3,12,41,144,498,1728,5985,20736,71831,248832,861979,2985984,10343751,35831808,124125023,429981696,1489500287,5159780352,17874003451,61917364224,214488041413,743008370688 ★ Powers of sqrt(12) rounded down. ● a(n) = Floor(Sqrt(12 ^ n)); [From Vincenzo Librandi, Jun 24 2011] ●

[A038342] • 1,3,12,41,146,511,1798,6314,22187,77946,273856,962142,3380337,11876254,41725295,146595013,515037713,1809501081,6357387289,22335644540,78472648463,275700866485,968630080476,3403123989780 ⋆ G.f.: 1/(1 - 3 x - 3 x^2 + 4 x^3 + x^4 - x^5). • a(n) = 3a(n - 1) + 3a(n - 2) - 4a(n - 3) - a(n - 4) + a(n - 5). Also a(n) = b(4n + 2) with b(n) as in 5 - wave sequence A038201. •

[A135264] • 3,12,42,123,366,1092,3279,9840,29526,88575,265722,797160,2391483,7174452,21523362,64570083,193710246,581130732,1743392199,5230176600,15690529806,47071589415,141214768242,423644304720,1270932914163 ⋆ a(n) = 3*A132357(n). • a(n) = 3 * a(n - 1) - a(n - 3) + 3 * a(n - 4). •

[A290918] • 3,12,43,147,486,1566,4944,15351,47009,142278,426315,1266300,3732705,10928910,31806583,92069229,265215756,760621914,2172669846,6183333681,17538237677,49590486888,139817553417,393157465848,1102792703055 ⋆ p-INVERT of the positive integers, where p(S) = (1 - S)^3. • a(n) = 9 * a(n - 1) - 30 * a(n - 2) + 45 * a(n - 3) - 30 * a(n - 4) + 9 * a(n - 5) - a(n - 6). •

[A190051] • 1,3,12,44,150,482,1476,4344,12368,34240,92544,244992,636928,1629696,4111360,10242048,25227264,61505536,148570112,355860480,845807616,1996095488,4680056832,10906763264,25275924480 ⋆ Expansion of (1-x)*(10*x^4-20*x^3+16*x^2-6*x+1)/(1-2*x)^5 • a(n) = (264 + 214 * n + 14 * n ^ 3 + 83 * n ^ 2 + n ^ 4) * 2 ^ (n - 7) / 3 for n >=1 with a(0)=1. •

[A005656] • 0,0,1,3,12,44,170,651,2520,9752,37854,147070,572264,2229096,8692788,33933459,132594480,518584880,2029976630,7952706234,31179618184,122331419080,480283635468,1886828198398 ⋆ Number of bracelets (turn over necklaces) with n red, 1 pink and n - 3 blue beads; also reversible strings with n red and n-3 blue beads. • a(n) = (1 / 2) * (binomial(2 * n - 3, n - 3) + binomial(n - 2, floor((n - 3) / 2))). - _ Michael Somos _ •

[A064017] • 1,3,12,45,162,567,1944,6561,21870,72171,236196,767637,2480058,7971615,25509168,81310473,258280326,817887699,2582803260,8135830269,25569752274,80196041223,251048476872,784526490225,2447722649502 ⋆ Number of ternary trees (A001764) with n nodes and maximal diameter. • a(n) = 3 * a(n - 1) + 3 ^ (n - 2); closed formula: (n + 1) * 3 ^ (n - 2). • a(1)=1, a(2)=3, a(3)=12, a(n) = 6 * a(n - 1) - 9 * a(n - 2). - _ Harvey P. Dale _ , Feb 07 2012 •

[A005320] • 0,3,12,45,168,627,2340,8733,32592,121635,453948,1694157,6322680,23596563,88063572,328657725,1226567328,4577611587,17083879020,63757904493,237947738952,888033051315,3314184466308,12368704813917 ⋆ a(n) = 4*a(n-1) - a(n-2), with a(0) = 0, a(1) = 3. • a(n) = (sqrt(3) / 2) * (2 + sqrt(3)) ^ n - (sqrt(3) / 2) * (2 - sqrt(3)) ^ n. - _ Antonio Alberto Olivares _ , Jan 17 2004 •

[A128593] • 1,3,12,45,170,644,2451,9365,35908,138104,532589,2058782,7975216,30951921,120326060,468473348,1826415556,7129330988,27860219331,108984557708,426730087879,1672310507262,6558840830680,25742937514814 ⋆ Column 1 of triangle A128592; a(n) = coefficient of q^(n+2) in the q-analog of the odd double factorials (2n+3)!! for n>=0. • a(n) = [q ^ (n + 2)] Product _{ j =1..n + 2 } (1 - q ^ (2j - 1)) / (1 - q) for n>=0. •

[A030195] • 0,1,3,12,45,171,648,2457,9315,35316,133893,507627,1924560,7296561,27663363,104879772,397629405,1507527531,5715470808,21668995017,82153397475,311467177476,1180861724853,4476986706987,16973545295520 ⋆ a(n) = 3*a(n-1) + 3*a(n-2), a(0)=0, a(1)=1. • a(n + 1) = (- I * sqrt(3)) ^ n * U(n, I * sqrt(3) / 2). • a(n + 1) = Sum _{ k=0..floor(n / 2) } 3 ^ (n - k) * binomial(n - k, k). - _ Emeric Deutsch _ , Nov 14 2001 • a(n) = (p ^ n - q ^ n) / sqrt(21); p = (3 + sqrt 21) / 2, q = (3 - sqrt 21) / 2. - _ Gary W. Adamson _ , Jul 02 2003 •

[A114515] • 0,0,1,3,12,45,171,651,2488,9540,36690,141482,546864,2118207,8219967,31952115,124389552,484908408,1892657934,7395597354,28928182440,113260606074,443827115886,1740592240638,6831289801872 ⋆ Number of peaks in all hill-free Dyck paths of semilength n (a Dyck path is hill-free if it has no peaks at level 1). • a(n) = Sum _{ k=1..n } (k * (- 1) ^ (k + 1) * binomial(2 * n - k,n - k - 1)). - _ Vladimir Kruchinin _ , Oct 22 2016 •

[A094547] • 1,3,12,45,180,708,2832,11283,45132,180348,721392,2884860,11539440,46154928,184619712,738467565,2953870260,11815435908,47261743632,189046794180,756187176720,3024747985488,12098991941952,48395964882948 ⋆ A019309(n)/4 for n >= 1. • a(2n + 1) = 4 * a(2n); a(2n) = 4 * a(2n - 1) - a(n). - _ David Wasserman _ , May 22 2007 •

[A088132] • 1,3,12,47,185,728,2865,11275,44372,174623,687217,2704496,10643361,41886227,164840412,648718287,2552986921,10047107272,39539710801,155605856283,612376317860,2409965560639,9484256386273,37324649227232 ⋆ a(n) equals the square of the n-th partial sum added to twice the n-th partial sum of the squares, divided by a(n-1), for all n>1, with a(0)=1, a(1)=3. • a(n) = 4 * a(n - 1) - a(n - 3) for n>3. •

[A077828] • 1,3,12,48,189,747,2952,11664,46089,182115,719604,2843424,11235429,44395371,175422672,693160416,2738935377,10822555395,42763953564,168976333008,667688525901,2638286437419,10424853888984,41192486556912,162766880649945 ⋆ Expansion of 1/(1-3*x-3*x^2-3*x^3). • a(n)=sum { k=0..n, T(n - k, k)3 ^ (n - k) } , T(n, k) = trinomial coefficients (A027907). - _ Paul Barry _ , Feb 15 2005 • a(n)=sum { k=0..n, sum { i=0..floor((n - k) / 2), C(n - k - i, i)C(k, n - k - i) }* 3 ^ k } ; - _ Paul Barry _ , Apr 26 2005 •

[A164346] • 3,12,48,192,768,3072,12288,49152,196608,786432,3145728,12582912,50331648,201326592,805306368,3221225472,12884901888,51539607552,206158430208,824633720832,3298534883328,13194139533312,52776558133248 ⋆ a(n) = 3 * 4^n. • a(n) = 4 * a(n - 1) for n > 1; a(0) = 3. •

[A002001] • 1,3,12,48,192,768,3072,12288,49152,196608,786432,3145728,12582912,50331648,201326592,805306368,3221225472,12884901888,51539607552,206158430208,824633720832,3298534883328,13194139533312,52776558133248,211062325329 92 ⋆ a(n) = 3*4^(n-1), n>0; a(0)=1. • a(n) = (3 * 4 ^ n + 0 ^ n) / 4 (with 0 ^ 0=1). • a(n) = Sum _{ j=0..1 } Sum _{ k=0..n } C(2n + j, 2k). - _ Paul Barry _ , Nov 29 2003 • a(n) = 3 * Sum _ (k=0..(n - 1) } a(k). - _ Adi Dani _ , Jun 24 2011 • a(n) = 4 * a(n - 1), a(0)=1, a(1)=3. - _ Vincenzo Librandi _ , Dec 31 2010 • a(n) = ceiling(3 * 4 ^ (n - 1)). - _ Wesley Ivan Hurt _ , Dec 17 2013 •

[A283679] • 0,1,3,12,48,197,815,3391,14153,59185,247791,1038186,4351706,18245861,76514483,320899470,1345931153,5645394769,23679726926,99326654214,416638208001,1747652017025,7330817809523,30750407615699 ⋆ G.f.: F(F(F(x))) where F(x) = x/(1-x-x^2) is the g.f. for the Fibonacci numbers.Three fold self composition of the Fibonacci generating series x/(1-x-x^2) in A000045. • a(0)=0, a(1)=1, a(2)=3, a(3)=14, a(4)=60, a(5)=259, a(6)= 1103, a(7)=4673; the reafter • a(k) = 7 * a(k - 1) - 10 * a(k - 2) - 13 * a(k - 3) + 21 * a(k - 4) + 13 * a(k - 5) - 10 * a(k - 6) - 7 * a(k - 7) - a(k - 8) for k >7. •

[A226443] • 1,1,1,3,12,48,288,1356,10848,70896,588480 ⋆ Number of distinct shadow transforms for sequences of length n. • a(p + 1) = (p + 1)a(p) where p is prime. • a(n - 1) <= a(n) <= n * a(n - 1). •

[A178872] • 0,1,3,12,49,195,780,3121,12483,49932,199729,798915,3195660,12782641,51130563,204522252,818089009,3272356035,13089424140,52357696561,209430786243,837723144972,3350892579889,13403570319555,53614281278220 ⋆ Partial sums of round(4^n/7). • a(n) = round((8 * 4 ^ n + 1) / 42) = round((4 * 4 ^ n - 4) / 21). • a(n) = floor((4 * 4 ^ n + 5) / 21). • a(n) = ceiling((4 * 4 ^ n - 4) / 21). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) + 4 * a(n - 3) for n > 2. •

[A012772] • 1,3,12,49,200,816,3329,13581,55405,226030,922111,3761840,15346786,62608681,255418101,1042002567,4250949112,17342153393,70748973084,288627200960,1177482265857,4803651498529,19596955630177 ⋆ Take every 5th term of Padovan sequence A000931, beginning with the sixth term. • a(n + 3) = 5 * a(n + 2) - 4 * a(n + 1) + a(n). •

[A012864] • 1,1,3,12,49,200,816,3329,13581,55405,226030,922111,3761840,15346786,62608681,255418101,1042002567,4250949112,17342153393,70748973084,288627200960,1177482265857,4803651498529,19596955630177 ⋆ Take every 5th term of Padovan sequence A000931, beginning with the first term. • a(n + 3) = 5 * a(n + 2) - 4 * a(n + 1) + a(n). •

[A045890] • 1,3,12,49,204,864,3714,16170,71178,316303,1417248,6396273,29051856,132700725,609200640,2809373915,13008512040,60457182345,281919911460,1318666411635,6185356518660,29088241615910,137121834221346,647821223533044,3066862717614234 ⋆ Catafusenes (see reference for precise definition). • a(n)=(3 / n) * sum(binomial(n, j) * binomial(2j + 2, j - 1), j=1..n) for n>= 1. - _ Emeric Deutsch _ , Mar 25 2004 •

[A049673] • 0,1,3,12,49,205,864,3653,15463,65484,277365,1174889,4976832,21082073,89304891,378301260,1602509321,6788337557,28755857952,121811766781,516002920895,2185823443596,9259296684333,39223010163217,166151337308544 ⋆ a(n) = (F(3n) + F(n))/3, where F = A000045 (the Fibonacci sequence). • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 5 * a(n - 3) - a(n - 4) for n>3. - _ Wesley Ivan Hurt _ , Jun 01 2016 • a(n) = ((- (1 / 2 * (1 - sqrt(5))) ^ n - (2 - sqrt(5)) ^ n + (1 / 2 * (1 + sqrt(5))) ^ n + (2 + sqrt(5)) ^ n)) / (3 * sqrt(5)). - _ Colin Barker _ , Jun 02 2016 •

[A108080] • 1,3,12,50,211,895,3805,16193,68940,293526,1249622,5318976,22634700,96296410,409573584,1741574006,7403616923,31466106703,133704121665,568008916093,2412570019447,10245302874071,43500597657111,184670002546295,783850164628721 ⋆ Sum_{i=0..n} C(2n+i,n-i). • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C(n + k,j - k) * C(n,j). (End) • a(n) = Sum _{ k=0..n } C(2n,n - k) * F(k + 1) = Sum _{ k=0..n } C(2n,k) * F(n - k + 1). •

[A113441] • 1,3,12,50,212,905,3872,16576,70968,303832,1300737,5568473,23838453,102051167,436874885,1870233780,8006350999,34274673894,146727674181,628131735844,2688991567300,11511399994065,49279563214531 ⋆ Second row of A113439. • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 38 * a(n - 3) - 20 * a(n - 4) + a(n - 5). •

[A119976] • 1,3,12,50,216,952,4256,19224,87520,400928,1845888,8533824,39590656,184216320,859354112,4017738112,18820855296,88317817344,415075665920,1953473141760,9205135036416,43425512132608,205072796270592 ⋆ E.g.f. exp(2x)*(Bessel_I(0,2*sqrt(2)x)+Bessel_I(1,2*sqrt(2)x)/sqrt(2)). • a(n) = Sum _{ k=0..n } 2 ^ (n - k) * C(n,k) * C(k,floor(k / 2))2 ^ floor(k / 2). •

[A074547] • 3,12,50,216,962,4392,20450,96696,462722,2234952,10873250,53199576,261449282,1289406312,6376734050,31605668856,156925904642,780248462472,3883804162850,19349526496536,96470430052802,481245665067432 ⋆ 3^n + 4^n + 5^n. • a(n) = + 12 * a(n - 1) - 47 * a(n - 2) + 60 * a(n - 3) •

[A191242] • 1,1,3,12,50,224,1054,5121,25509,129591,668811,3496740,18481512,98585788,530068840,2869725800,15630429306,85589391884,470905310206,2601941245750,14432082902820,80328808797750,448527122885700,2511672193514250 ⋆ Reversion of x-x^2-x^3-2*x^4 • a(n)=sum(k=1..n - 1, (sum(j=0..k, binomial(j,n - 3 * k + 2 * j - 1) * 2 ^ (k - j) * binomial(k,j))) * binomial(n + k - 1,n - 1)) / n, n>1, a(1)=1. •

[A105479] • 0,0,1,3,12,50,225,1092,5684,31572,186300,1163085,7654350,52928460,383437327,2902665885,22907918640,188082362120,1603461748491,14169892736484,129594593170210,1224875863061970,11948280552370932 ⋆ a(n) = C(n,2)*Bell(n-2) (cf. A000217, A000110). • a(n) = binomial(n - 1, 2) * Bell(n - 3), the case r = 2 of the general case of r pairs: c(n, r) = binomial(n - 1, r)B(n - r - 1). •

[A043291] • 3,12,51,204,819,3276,13107,52428,209715,838860,3355443,13421772,53687091,214748364,858993459,3435973836,13743895347,54975581388,219902325555,879609302220,3518437208883,14073748835532,56294995342131 ⋆ Every run length in base 2 is 2. • a(n)=4 * a(n - 1) + a(n - 2) - 4 * a(n - 3), n >3. - _ John W. Layman _ , Feb 01 2000. • a(n)=(1 / 10) * [3 * (- 1) ^ n +

32 * 4 ^ n - 5], with n>=0. - _ Paolo P. Lava _ , Feb 10 2009 • a(n) = floor(4 ^ (n + 1) / 5). - _ Mircea Merca _ , Dec 26 2010 •

[A135343] • 1,3,12,51,205,820,3277,13107,52428,209715,838861,3355444,13421773,53687091,214748364,858993459,3435973837,13743895348,54975581389,219902325555,879609302220,3518437208883,14073748835533,56294995342132,225179981368525 ★ a(n) = 3*a(n-1) + 4*a(n-2) - a(n-3) + 3*a(n-4) + 4*a(n-5). • a(n + 1) - 4 * a(n) = hexaperiodic - 1, 0, 3, 1, 0, - 3. • a(n) = (1 / 15) * (3 * 4 ^ (n + 1) - 2 * (- 1) ^ n + 5 * cos(Pi * n / 3) - 5 * sqrt(3) * cos(Pi * n / 3)). - _ Richard Choulet _ , Jan 04 2008 •

[A083314] • 1,3,12,51,216,903,3732,15291,62256,252303,1019052,4105731,16511496,66311703,266043972,1066567371,4273443936,17115299103,68525766492,274296776211,1097768235576,4392816334503,17576495514612,70321672588251 ★ (2*4^n-(3^n-1))/2. • a(n)=(2 * 4 ^ n - (3 ^ n - 1)) / 2 •

[A155179] • 1,3,12,51,216,915,3876,16419,69552,294627,1248060,5286867,22395528,94868979,401871444,1702354755,7211290464,30547516611,129401356908,548152944243,2322013133880,9836205479763,41666835052932 ★ a(n)=4*a(n-1)+a(n-2), n>2; a(0)=1, a(1)=3, a(2)=12. • a(n) = (3 / 2) * ((2 - sqrt(5)) ^ (n - 1) + (2 + sqrt(5)) ^ (n - 1)) + (3 / 5) * sqrt(5) * ((2 + sqrt(5)) ^ (n - 1) - (2 - sqrt(5)) ^ (n - 1)) + (C(2 * n,n) mod 2). - _ Paolo P. Lava _ , Jan 26 2009 •

[A081704] • 1,3,12,51,219,942,4053,17439,75036,322863,1389207,5977446,25719609,110665707,476169708,2048851419,8815747971,37932185598,163213684077,702271863591,3021718265724,13001775737847,55943723892063,240713292246774,1035735289557681 ★ Let f(0)=1, f(1)=t, f(n+1) = (f(n)^2+t^n)/f(n-1). f(t) is a polynomial with integer coefficients. Then a(n) = f(n) when t=3. • a (n + 1) = (a(n) ^ 2 + 3 ^ n) / a(n - 1). • a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(13)) ^ n * (- 1 + sqrt(13)) + (1 + sqrt(13)) * (5 + sqrt(13)) ^ n)) / sqrt(13). - _ Colin Barker _ , Nov 26 2016 •

[A166482] • 1,3,12,51,221,965,4227,18540,81363,357145,1567849,6883059,30218018,132664227,582428789,2557009709,11225925267,49284687948,216372426339,949930508209,4170438905425,18309298027683,80382521554380 ★ a(n) = Sum_{k=0..n} C(n+k,2k)*F(2k+1). • a(n) = Sum _{ k=0..n } C(n + k,2k) * Sum _{ j=0..k } C(k + j,2j). •

[A007854] • 1,3,12,51,222,978,4338,19323,86310,386250,1730832,7763550,34847796,156503064,703149438,3160160811,14206181382,63874779714,287242041528,1291872728826,5810776384932,26138647551564,117587214581508 ★ G.f.: 1/(1 - 3*x*C(x)), where C(x) = (1 - sqrt(1 - 4*x))/(2*x) = g.f. for the Catalan numbers A000108. • a(n) = Sum _{ k = 0..n } C(2n,n - k)(2k + 1)2 ^ k / (n + k + 1). - _ Paul Barry _ , Jan 20 2007 • a(n) = Sum _{ k = 1..n } C(2 * n - k,n - k) * (k * 3 ^ k) / (2 * n - k), for n>0. • a(n) = (1 / 4) * (9 / 2) ^ n - 3 * Sum _{ k=0..n } C(2 * k,k) / (2k - 1) * (9 / 2) ^ (n - k). • a(n) = upper left term in M ^ n, M = the infinite square production matrix: •

[A110167] • 1,3,12,51,226,1026,4733,22083,103914,492228,2344035,11211210,53817063,259135299,1251074772,6053946531,29354128498,142584834924,693691007267,3379680991356,16486985580693,80521218046569,393674826425462 ★ Diagonal sums of Riordan array A110165. • a(n) = sum { k=0..floor(n / 2), sum { j=0..n - k, C(n - k, j) * C(2 * j, j + k) }} . •

[A195255] • 1,3,12,51,234,1179,6624,41931,300078,2420307,21841812,218595267,2405079378,28862546859,375217892136,5253064838811,78796015628886,1260736379202339,21432518833860252,385785340171746003,7329921466749958458,146598429345459522363 ★ O.g.f.: Sum_{n>=0} 3*(n+3)^(n-1)*x^n/(1+n*x)^n. • a(n) = (n - 1)! * Sum _{ k=1..n } 3 ^ k / (k - 1)! for n>0, with a(0)=1. •

[A125187] • 1,1,3,12,52,232,1049,4777,21845,100159,460023,2115350,9735205,44829766,206526972,951759621,4387156587,20226421380,93264500832,430091815527,1983549213861,9148582037193,42197572190160,194643215702835 ★ Number of Dumont permutations of the first kind of length 2n avoiding the patterns 1423 and 4132. • a(n) = upper left term in M ^ n, where M is an infinite square production matrix in which two columns of (1,2,3,...) are prepended to an infinite lower triangular matrix of all 1's and the rest zeros, as follows: •

[A010736] • 1,3,12,52,237,1119,5424,26832,134913,687443,3541932,18421524,96585597,509960223,2709067968,14469453632,77655751329,418567792899,2246867271852,12298297439892,66993811842477,366009125766463 ★ Let S(x,y) = number of lattice paths from (0,0) to (x,y) that use the step set { (0,1), (1,0), (2,0), (3,0), ...} and never pass below y = x. Sequence gives S(n-2,n). • a(n) = (3 / n) * sum(binomial(n, k) * binomial(n + k + 2, k - 1), k=1..n) = 3 * hypergeom([1 - n, n + 4], [2], - 1), n>=1, a(0)=1. •

[A060460] • 3,12,53,254,1255,6256,31257,156258,781259,3906260,19531261,97656262,488281263,2441406264,12207031265,61035156266,305175781267,1525878906268,7629394531269,38146972656270,190734863281271 ★ Consider the final n decimal digits of 2^j for all values of j. They are periodic. Sequence gives position (or phase) of the maximal value seen in these n digits. • a(1)=3, a[n] =5 * a(n - 1) - [3 + 4 * (n - 1)] a(2)=5 * 3 - [3 + 4 * 0]=15 - 3=12, etc.. •

[A293131] • 1,3,12,53,291,1878,13975,117949,1113390,11623335,132966129,1654043412,22229656253,320987000444,4955905924999,81473034355102,1420855869195491,26199991898769875,509316957086997352,10410226994717110400,223190941584248205202,5008311999035018587226,117392752431157519424 60,2869030095761224977541954,72986933627698300236793754 ★ a(n) = floor(Product_{k=0..n-1} (k + t)), where t = Sum_{n>=1} 1/a(n) is given by A293130. • a(n) = floor(gamma(n + t) / gamma(t)) for n>=1. •

[A083881] • 1,3,12,54,252,1188,5616,26568,125712,594864,2814912,13320288,63032256,298271808,1411437312,6678993024,31605334272,149558047488,707716279296,3348949390848,15847398669312,74990695670784,354859782008832 ★ a(0)=1, a(1)=3, a(n) = 6a(n-1) - 6a(n-2), n>=2. • a(n)=((3 - sqrt(3)) ^ n + (3 + sqrt(3)) ^ n) / 2; a(n)=sum { k=0..floor(n / 2); C(n, 2k)3 ^ (n - 2k)3 ^ k } ; •

[A055835] • 1,3,12,54,255,1239,6132,30744,155628,793650,4071210,20984340,108590118,563816526,2935798680,15324533448,80164934919,420151515255,2205762626010,11597513662350,61060181223195,321870918101535 ★ T(2n+1,n), where T is the array in A055830. • a(n) = sum(k=0..n, (sum(i=k..n, binomial (i,k) * binomial(i + 1,n - i))) * binomial(n,k)). - _ Vladimir Kruchinin _ , Mar 01 2014 •

[A158826] • 1,3,12,54,260,1310,6824,36478,199094,1105478,6227712,35520498,204773400,1191572004,6990859416,41313818217,245735825082,1470125583756,8840948601024,53417237877396,324123222435804,1974317194619712 ★ Third iteration of x*C(x) where C(x) is the Catalan function (A000108). • a(n) = (1 / n) * Sum _{ k=1..n } [binomial(2 * k - 2,k - 1) * Sum _{ i=k..n } (binomial(- k + 2 * i - 1,i - 1) * binomial(2 * n - i - 1,n - 1))]. - _ Vladimir Kruchinin _ , Jan 24 2013 •

[A107264] • 1,3,12,54,261,1323,6939,37341,205011,1143801,6466230,36960300,213243435,1240219269,7263473148,42799541886,253556163243,1509356586897,9023497273548,54154973176074,326154592965879,1970575690572297 ★ Expansion of (1-3x-sqrt((1-3x)^2-4*3*x^2))/(2*3*x^2). • a(n)=sum { k=0..floor (n / 2), C(n, 2k)C(k) * 3 ^ (n - k) } - _ Paul Barry _ , May 18 2005 • a(n)= (1 / pi) * int(x ^ n * sqrt(- x ^ 2 + 6x + 3) / 6,x,3 - 2sqrt(3),3 + 2sqrt(3)); - _ Paul Barry _ , Sep 16 2006 •

[A186241] • 1,1,3,12,54,262,1337,7072,38426,213197,1202795,6879160,39794416,232429030,1368806610,8118934656,48458809586,290832756606,1754059333738,10625545472716,64620970743082,394409682103262,2415084675723048,14832185219521152,91339478577683664 ★ G.f. satisfies: A(x) = 1 + x*A(x)^2 + x^2*A(x)^4 + x^3*A(x)^6. • a(n) = 1 / (2 * n - 1) * Sum _{ j=0..2 * n - 1 } binomial(2 * n - 1,j) * Sum _{ i=j..n + j - 1 } binomial(j,i - j) * binomial(2 * n - j - 1,3 * j - 3 * n - i + 1))), n>0. • a(n) = 1 / (2 * n + 1) * Sum _{ k = 0..floor(n / 2) } binomial(2 * n + 1,k) * binomial(2 * n + 1,n - 2 * k). •

[A266083] • 1,1,3,12,54,280,1695,11886,95116,856080,8560845,94169350,1130032266,14690419536,205665873595,3084988104030,49359809664600,839116764298336,15104101757370201,286977933390033990,5739558667800679990,120530732023814280000,2651676104523914160231 ★ a(n) = Sum_{k = 0..n - 1} (a(n - 1) + k) for n>0, a(0) = 1. • a(n) = (2 * n! + exp(1) * n * (n - 1) * Gamma (n - 1, 1)) / 2, where Gamma(a, x) is the incomplete gamma function. • a(n) = n * a(n - 1) + binomial(n,2). - _ G. C. Greubel _ , Dec 22 2015 •

[A245374] • 1,3,12,54,288,1782,12474,96714,819882,7536402,74610234,790692354,8921660922,106687646802,1346863560714,17890362862434,249297686894682,3634756665823602,55317506662094634,876911386062810114,14451743847813157242,247171758180997987602,4380263376360686471754 ★ G.f.: Sum_{n>=0} x^n / ((1+x)^(n+1) * (1 - 3*(n+1)*x)). • a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ i=0..k } (- 1) ^ i * binomial(k,i) * 3 ^ (n - k) * (k - i + 1) ^ (n - k). •

[A001764] • 1,1,3,12,55,273,1428,7752,43263,246675,1430715,8414640,50067108,300830572,1822766520,11124755664,68328754959,422030545335,2619631042665,16332922290300,102240109897695,642312451217745,4048514844039120,25594403741131680,162250238001816900 ★ a(n) = binomial(3n,n)/(2n+1) (enumerates ternary trees and also noncrossing trees). • a(n) = n - th coefficient in expansion of power series P(n), where P(0)=1, P(k + 1) = 1 / (1 - x * P(k) ^ 2). • a(n) = upper left term in M ^ n. Top row terms of M ^ n = (n + 1) - th row of triangle A143603, with top row sums generating A006013: (1, 2, 7, 30, 143, 728, ...). (End) •

[A176281] • 1,3,12,56,280,1440,7488,39104,204544,1070592,5604864,29345792,153653248,804532224,4212572160,22057287680,115493404672,604731211776,3166413520896,16579556016128,86811681488896,454551863820288 ★ Hankel transform of A176280. • a(n)=2 ^ (n - 1) + (3 - sqrt(5)) ^ n * (1 / 4 - sqrt(5) / 20) + (3 + sqrt(5)) ^ n * (1 / 4 + sqrt(5) / 20). • a(0)=1, a(1)=3, a(2)=12, a(n)=8 * a(n - 1) - 16 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Aug 14 2013 •

[A050147] • 1,3,12,56,280,1452,7700,41456,225648,1238420,6840988,37986984,211842696,1185635388,6655993380,37463920608,211350457824,1194706644516,6765300359468,38370431711000,217931108199672 ★ a(n) = T(n,n-1), array T as in A050143. Also T(2n+1,n), array T as in A055807. • a(n) = C(2 * n - 3, n - 2) + sum(i=0..n - 2, C(n,i + 1) * C(n + i - 2,n - 2)). - _ Vladimir Kruchinin _ , Nov 25 2014 •

[A192132] • 1,1,3,12,56,285,1533,8571,49311,290019,1735845,10538550,64741482,401708635,2513837901,15847466748,100547969532,641570954283,4114313131809,26503231512588,171416266008912,1112726163448431,7247066415484731 ★ G.f. satisfies: A(x) = 1 + x*A(x)^3 + x*(A(x) - 1)^3. • a(n)=sum(i=0..n - 1, 2 ^ i * binomial(n,i) * sum(j=0..n, binomial(j, - n + 2 * j - i - 1) * binomial (n,j))) / n, n>0, a(0)=1. •

[A000257] • 1,1,3,12,56,288,1584,9152,54912,339456,2149888,13891584,91287552,608583680,4107939840,28030648320,193100021760,1341536993280,9390758952960,66182491668480,469294031831040,3346270487838720,23981605162844160,172667557172477952 ★ Number of rooted bicubic maps: a(n) = (8n-4)*a(n-1)/(n+2). • a(0) = 1 and a(n) = 3 * 2 ^ (n - 1) * C(n) / (n + 2) for n>=1, where C = Catalan (A000108). •

[A027390] • 1,3,12,56,294,1698,10624,71256,508188,3829652,30340464,251647872,2177440648,19596586584,182967013056,1768251873632,17653554391056,181748836240944,1926542292294592,20996051677557888,234959167687868256,2696726674789023008 ★ Number of labeled servers of dimension 3. • a(n) = 3 * a(n - 1) + 3 * (n - 1) * a(n - 2) + (n - 1) * (n - 2) * a(n - 3). - _ Vaclav Kotesovec _ , Dec 29 2012 [unless n=0, _ Michael Somos _ , May 31 2014] •

[A106570] ● 0,3,12,57,264,1227,5700,26481,123024,571539,2655228,12335529,57307800,266237787,1236874548,5746211553,26695469856,124020514083,576168465900,2676735405849,12435447021096,57771994301931,268394318271012 ★ First entry of the vector (M^n)v, where M is the 2 X 2 matrix [[0,3],[1,4]] and v is the column vector [0,1]. ● a(n)=first entry of v[n], where v[n]=Mv[n - 1], M is the 2 X 2 matrix [[0, 3], [1, 4]] and v[0] is the column vector [0,1]. G.f.=3 x / (1 - 4x - 3x ^ 2). a(n)=4a(n - 1) + 3a(n - 2); a(0)=0, a(1)=3. ● a(n)= - (3 / 14) * [2 - sqrt(7)] ^ n * sqrt(7) + (3 / 14) * sqrt(7) * [2 + sqrt(7)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Oct 07 2008] ●

[A165310] ● 1,3,12,57,291,1524,8049,42627,225948,1197993,6352419,33684996,178623201,947197443,5022773292,26634636057,141237492771,748950724884,3971517639249,21060066950787,111676809902268,592197066758793 ★ a(0)=1, a(1)=3, a(n)=7*a(n-1)-9*a(n-2) for n>1 . ● a(n) = ((13 - sqrt(13)) * (7 + sqrt(13)) ^ n + (13 + sqrt(13)) * (7 - sqrt(13)) ^ n) / (26 * 2 ^ n). [From _ Klaus Brockhaus _ , Sep 26 2009] ●

[A047891] ● 1,3,12,57,300,1686,9912,60213,374988,2381322,15361896,100389306,663180024,4421490924,29712558576,201046204173,1368578002188,9366084668802,64403308499592,444739795023054,3082969991029800 ★ Number of planar rooted trees with n nodes and tricolored end nodes. ● a(1)=1, a(n) = 2 * a(n - 1) + Sum _{ i=1..(n - 1) } a(i) * a(n - i). - _ Benoit Cloitre _ , Mar 16 2004 ● a(n + 1) = (Sum _{ k=0..n } binomial(n,k) * binomial(2 * n - k + 1,n + 1) * (2 * n ^ 2 - 6 * (k - 1) * n + 3 * k ^ 2 - 9 * k + 4) / ((n - k + 2) * (n - k + 1)) * 2 ^ k) / 2. ● a(n) = 2 ^ (n - 1) * (LegendreP _ n(2) - Legendre P _{ n - 2 } (2)) / (2n - 1). ● a(n) = 3 * hypergeom([1 - n,2 - n], [2], 3) - 2 * 0 ^ (n - 1). ●

[A243521] ● 1,3,12,57,300,1701,10206,63825,411096,2702349,17992506,120543561,808224372,5400815829,35868103734,236354531841,1544182760496,10001335837725,64233753928722,409298268016761,2589206145139596 ★ The number of states in a Tower of Hanoi puzzle with three pegs and n discs, where a larger disc can be placed directly on top of a smaller one at most once per peg. ● a(n) = Sum _{ i + j + k=n, i >= 0, j >= 0, k>= 0 } { n choose i, j, k } (2 ^ i - i)(2 ^ j - j)(2 ^ k - k). ● a(n) = 6 ^ n - 3 * n * 5 ^{ n - 1 }+ 3 * n * (n - 1) * 4 ^{ n - 2 }- n * (n - 1) * (n - 2)3 ^{ n - 3 } . ●

[A027710] ● 1,3,12,57,309,1866,12351,88563,681870,5597643,48718569,4474288856,43188544429,436668953343,4611019621 08,5072054649573,57986312752497,687610920335610,8442056059773267,107135148331162767 ★ Number of ways of placing n labeled balls into n unlabeled (but 3-colored) boxes. ● a(n) = exp(- 3) * sum(k>=0, 3 ^ k * k ^ n / k!) - _ Benoit Cloitre _ , Sep 25 2003 ●

[A125276] ● 1,1,3,12,58,325,2060,14514,112170,941128,8502393,82160481,844532873,9191329357,105491177081,1272418794619,16080824798705,212370154398094,2923859710010527,41877072960374478,622763691600244335 ★ Eigensequence of triangle A039598: a(n) = Sum_{k=0..n-1} A039598(n-1,k)*a(k) for n>0 with a(0)=1. ● a(n) = Sum _{ k=0..n - 1 } a(k) * C(2 * n,n - k - 1) * (k + 1) / n for n>0 with a(0)=1. ●

[A101054] ● 1,3,12,59,343,2302,17537,149711,1417444,14755947,167664955,2066153410,27460121377,391670868279,5969233120520,96827494235555,1665874346755107,30302732222472482,581141491978752769,11719848107849221435,247960209086201040552,5491993051193586857235 ★ E.g.f: exp(exp(x)-1)/(1-x)^2. ● a(n) = ((- 1) ^ n * n! / e) * sum(L(n, - n - 2,k) / k!, k>=0), where L is a generalized Laguerre polynomial. ●

[A253171] ● 3,12,60,240,756,1988,4572,9495,18205,32736,55848,91182,143430,218520,323816,468333,662967,920740,1257060,1689996,2240568,2933052,3795300,4859075,6160401 ★ a(n) = number of permutations of (1,2,...,n) producible by an ordered triple of distinct transpositions. ● a(n) = n * (n ^ 5 - 7 * n ^ 4 + 17 * n ^ 3 - 17 * n ^ 2 + 30 * n - 24) / 48 for n>=3. ● a(n) = C(n,2) * (C(n - 2,2) * C(n - 4,2) / 6 + 1) + 2 * C(n,3) * C(n - 3,2) + 6 * C(n,4) for n>=3. ●

[A073996] ● 0,1,3,12,60,256,1008,4032,16320,65536,261888,1047552,4193280,16777216,67104768,268419072,1073725440,4294967296,17179803648,68719214592,274877644800,1099511627776,4398045462528,17592181850112,70368739983360 ★ Number of strings of length n over GF(4) with trace 0 and subtrace 1. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t - 1, s - (t - 1)) + a(n - 1; t - 2, s - 2(t - 2)) + a(n - 1; t - 3, s - 3(t - 3)) where t is the trace and s is the subtrace. Note that all operations involving operands t or s are carried out over GF(4). ●

[A003483] ● 1,1,1,3,12,60,270,1890,14280,128520,1096200,12058200,139043520,1807565760,22642139520,339632092800,5237183952000,89032127184000,1475427973219200,28033131491164800,543494606861606400,11413386744093734400,235075995738558374400,5406747901986842611200,126214560713084056012800 ★ Number of square permutations of n elements. ● a(2n + 1) = (2n + 1) * a(2n). ●

[A092803] ● 1,3,12,60,336,1968,11712,70080,420096,2519808,15117312,90700800,544198656,3265179648,19591053312,117546270720,705277526016,4231664959488,25389989363712,152339935395840,914039610802176 ★ Expansion of (1-5x)/((1-2x)(1-6x)). ● a(n)=2 ^ (n - 2)(3 ^ n + 3)=(6 ^ n + 3 * 2 ^ n) / 4 ●

[A181282] ● 1,3,12,60,336,2016,12672,82368,549120,3734016,25798656,180590592,1278025728,9128755200,65727037440,476521021440,3475800391680,25489202872320,187815179059200,1389832325038080,10324468700282880 ★ a(n) is the number of associate Rota-Baxter words in one idempotent generator x and one idempotent operator P of degree n. Such words are Rota-Baxter words that begin and/or ends with x, and P is applied n times in the word. ● a(n) = 3 * 2 ^ (n - 1)C(n), where C(n) is the n - th Catalan number. G.F. (3 - 4t - 3 sqrt(1 - 8t)) / (8t). ●

[A140097] ● 1,1,3,12,60,346,2218,15444,115075,908155,7535185,65374018,590579575,5537249212,53742567000,538801229874,5570060420573,59288164937748,648934780013375,7295904025820975,84174136470742517,995682428049720830 ★ G.f. satisfies: A(x) = Series_Reversion(x/(1 + A(x) + A(x)^2)). ● a(n) =T(n,1), T(n,j)= - sum(m=j..n - 1, T(m,j) * sum(i=1..n - m, (sum(k=1..i, (- 1) ^ k * binomial(k,i - k) * binomial(m + k - 1,m - 1))) * T(n - m,i))), n>j, T(n,n)=1. [_ Vladimir Kruchinin _ , May 04 2012] ●

[A000258] ● 1,1,3,12,60,358,2471,19302,167894,1606137,16733779,188378402,2276423485,29367807524,402577243425,5840190914957,89345001017415,1436904211547895,24227076487779802,427187837301557598,7859930038606521508,150601795280158255827 ★ E.g.f.: exp(exp(exp(x)-1)-1). ● a(n) = Sum(stirling2(n, k) * (bell(k)), k=0..n). - Detlef Pauly (dettodet(AT)yahoo.de), Jun 06 2002 ●

[A062569] ● 1,1,3,12,60,360,2418,19344,159120,1481040,15334088,184009056,2217441408,31044179712,442487616480,6686252969760,107004539285280,1926081707135040,34683832925921088,693676658518421760 ★ a(n) = sigma(n!). ● a(p) = (p + 1) * a(p - 1) for p prime. - _ Altug Alkan _ , Jul 18 2016 ●

[A001710] ● 1,1,1,3,12,60,360,2520,20160,181440,1814400,19958400,239500800,3113510400,43589145600,653837184000,10461394944000,177843714048000,3201186852864000,60822550204416000,1216451004088320000 ★ Order of alternating group A_n, or number of even permutations of n letters. ● a(0) = a(1) = a(2) = 1; a(n) = n * a(n - 1) for n>2. - _ Chad Brewbaker _ , Jan 31 2003 [Corrected by _ N. J. A. Sloane _ , Jul 25 2008] ● a(0) = 0, a(1) = 1; a(n) = Sum _{ k=1..n - 1 } k * a(k). - _ Amarnath Murthy _ , Oct 29 2002 ● a(n) = n! / 2 for n>=2 (proof from the e.g.f). - _ Wolfdieter Lang _ , Apr 30 2010 ● a(n) = if n<2 then 1 else pochhammer(n,n) / binomial(2n,n). - _ Peter Luschny _ , Nov 07 2011 ● a(n) = Sum _{ k=0..floor(n / 2) } s(n,n - 2 * k) where s(n,k) are Stirling number of the first kind, A048994. - _ Mircea Merca _ , Apr 07 2012 ● a(n - 1), n>=3, is M _ 1([2,1 ^ (n - 2)]) / n = (n - 1)! / 2, with the M _ 1 multinomial numbers for the given n - 1 part partition of n. See the second to last entry in line n>=3 of A036038, and the above necklace comment by W. Lang. - _ Wolfdieter Lang _ , Jun 26 2012 ●

[A192479] ● 1,3,12,61,344,2074,13080,85229,569264,3876766,26817304,187908802,1330934032,9513485076,68539442800,497178707325,3628198048352,26617955242806,196205766112536,1452410901340598,10792613273706320 ★ a(n) = 2^n*C(n-1)-A186997(n-1), where C(n) are the Catalan numbers (A000108). ● a(n + 1) = sum(k=1..n + 1, (binomial(k,n - k + 1) * binomial(n + 2 * k - 1,k)) / (n + k)), a(1)=1. - _ Vladimir Kruchinin _ , May 15 2014 ●

[A161799] ● 1,3,12,61,345,2085,13182,86106,576543,3936029,27294390,191722887,1361291244,9754412169,70447946556,512278417176,3747570671685,27561220671408,203657352324178,1511270129552163,11257532921742528 ★ G.f. satisfies: A(x) = 1/(1 - x/(1 - x*A(x))^2)^3. ● a(n) = Sum _{ k=0..n } C(3 * n - 2 * k + 2,k) / (n - k + 1) * C(n + k - 1,n - k). ● a(n,m) = Sum _{ k=0..n } C(3 * n - 2 * k + 3 * m - 1,k) * m / (n - k + m) * C(n + k - 1,n - k). ●

[A121694] ● 1,3,12,61,377,2734,22671,211035,2175754,24592551,302295925,4014475756,57277225309,873819665135,14195291340656,244657733062761,4459137940238245,85694418205589534,1731893273528613811 ★ Sum of the vertical heights (i.e., number of rows) of all deco polyominoes of height n. ● a(n) = Sum _{ k=1..n } k * T(n,k), where T(n,k) (A121692) is defined by T(n,1)=1; T(n,n)=1; T(n,k) = k * T(n - 1,k) + 2 * T(n - 1,k - 1) + Sum _{ j=1..k - 2 } T(n - 1,j) for k <= n; T(n,k)=0 for k > n. ●

[A074516] ● 3,12,62,342,1922,10902,62282,358062,2070242,12030822,70231802,411625182,2420922962,14281397142,84467679722,500702562702,2973697798082,17689598897862,105374653934042,628433226338622 ★ a(n) = 1^n + 5^n + 6^n. ● a(n) = 11 * a(n - 1) - 30 * a(n - 2) + 20, n>1. [_ Gary Detlefs _ , Jun 21 2010] ●

[A143916] ● 1,1,1,3,12,62,385,2781,22848,210176,2139336,23872450,289825228,3803859030,53676793157,810508456373,13041332257860,222776899815744,4026846590787586,76792054455516582,1540845309830989064 ★ G.f. A(x) satisfies: A(x) = 1+x + x^2*A(x)*A'(x). ● a(0) = 1, a(1) = 1, a(n) = Sum _{ 0 < k < n } k * a(k) * a(n - k - 1). - _ Vladimir Reshetnikov _ , May 17 2016 ●

[A186186] ● 1,1,3,12,63,403,2919,22833,187799,1599718,13984383,124717327,1130144932,10375309228,96290993853,901915801437,8514822062757,80939662475426 ★ Expansion of 1/(1-x/(1-x)*A(x/(1-x))) where A(x) is the g.f. of A002293. ● a(n)=sum(m=1..n, sum(k=m..n, binomial(n - 1,k - 1) * m / (3 * k - 2 * m) * binomial(4 * k - 3 * m - 1,k - m))), n>0, a(0)=1. ●

[A206226] ● 1,1,3,12,64,377,2432,16475,116263,845105,6292069,47759392,368379006,2879998966,22777018771,181938716422,1465972415692,11902724768574,97299665768397,800212617435074,6617003142869419,54985826573015541,458962108485797208,3846526994743330075 ★ Number of partitions of n^2 into parts not greater than n. ● a(n) = [x ^ (n ^ 2)] Product _{ k=1..n } 1 / (1 - x ^ k). ●

[A111262] ● 3,12,65,403,2652,17889,121859,833260,5706081,39096531,267936188,1836369217,12586419075,86267964108,591287758337,4052742230419,27777897084444,190392509164065,1304969593244291,8944394450283436 ★ a(n) = (1/n)*Sum_{k=1..n} F(4k)B(2n-2k)binomial(2n,2k)), where F are Fibonacci numbers and B are Bernoulli numbers. ● a(n) = F(4n - 2) + 2F(2n - 1); recurrence: a(n) = 10a(n - 1) - 23a(n - 2) + 10a(n - 3) - a(n - 4). ●

[A256124] ● 1,1,3,12,65,443,3626,34811,384479,4806098,67109281,1035627571,17505788792,321689532755,6385033369589,136124555962844,3102031758758001,75238874818446123,1935053096953675800,52595740530868430967,1506344153813275882667 ★ Coefficients in asymptotic expansion of sequence A107894. ● a(k) ~ k! / (4 * (log(2)) ^ (k + 1)). ●

[A082987] ● 0,3,12,66,309,1524,7356,35787,173568,842790,4090485,19856568,96384072,467861331,2271040644,11023873914,53510987541,259747827852,1260842371428,6120257564955,29708354037720,144207380197758 ★ a(n)=sum(k=0,n,3^k*

where F(k) is the k-th Fibonacci number. • a(0)=0, a(1)=3, a(2)=12, a(n)=4 a(n - 1) + 6a(n - 2) - 9a(n - 3). •

[A086836] • 3,12,66,378,1890,7560,22680,45360,45360 ⋆ On a 3 X 3 board, number of distinct positions of n digits (modulo rotation/reflection)). • a(n) = 1 / 8 * ([9] _ n + 4 * [3] _ n + 3 * [1] _ n) = 3 / 8 * (967680 - 1145424 * n + 705596 * n ^ 2 - 256796 * n ^ 3 + 59649 * n ^ 4 - 8936 * n ^ 5 + 834 * n ^ 6 - 44 * n ^ 7 + n ^ 8) / GAMMA(10 - n), where [m] _ n=m * (m - 1) * ... * (m - n + 1) is falling factorial. - _ Vladeta Jovovic _ , Aug 10 2003 •

[A074513] • 3,12,66,408,2658,17832,121746,839928,5830338,40615752,283523826,1981521048,13858064418,96956119272,678491508306,4748635251768,33237225536898,232647693856392,1628482317387186,11399170063280088 ⋆ a(n) = 1^n + 4^n + 7^n. • a(n) = 11 * a(n - 1) - 28 * a(n - 2) + 18 with a(0)=3, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=3, a(1)=12, a(2)=66, a(n) = 12 * a(n - 1) - 39 * a(n - 2) + 28 * a(n - 3). - _ Harvey P. Dale _ , Mar 06 2013 •

[A199746] • 1,1,3,12,66,449,3678,35111,383192,4704300,64172052,962908056,15762088585,279514500434,5338014558032,109224066408835,2383887010044728,55281768382909480,1357381019671809552,35180557115610914376,959798458208463538416,27494554194938752676656 ⋆ E.g.f.: 1/(1 + Sum_{n>=1} (-1)^n*x^(n*(3*n-1)/2)/(n*(3*n-1)/2)! + (-1)^n*x^(n*(3*n+1)/2)/(n*(3*n+1)/2)!). • a(n) is odd iff n is a generalized pentagonal number (A001318). •

[A248871] • 1,1,3,12,66,450,3679,35260,388511,4844584,67502450,1039929756,17556193609,322321551868,6393505020803,136245752898586,3103879644045050,75268872986970840,1935571325829192247,52605265683008056660,1506530437404419817467 ⋆ Coefficients in asymptotic expansion of sequence A107895. • a(k) ~ k! / (4 * (log(2)) ^ (k + 1)). •

[A080599] • 1,1,3,12,66,450,3690,35280,385560,4740120,64751400,972972000,15949256400,283232149200,5416632421200,110988861984000,2425817682288000,56333385828720000,1385151050307024000,35950878932544576000,982196278209226080000,28175806418228108640000 ⋆ Expansion of e.g.f.: 2/(2-2*x-x^2). • a(n) = n * a(n - 1) + (n * (n - 1) / 2) * a(n - 2). - _ Vladeta Jovovic _ , Aug 22 2003 • a(n) = n! * ((1 + sqrt(3)) ^ (n + 1) - (1 - sqrt(3)) ^ (n + 1)) / (2 ^ (n + 1) * sqrt(3)). - _ Vladimir Reshetnikov _ , Oct 31 2015 •

[A256125] • 1,1,3,12,67,457,3734,35741,392875,4886114,67924417,1044531625,17609980356,322993544751,6402464186243,136373115537072,3105809328600351,75300018326324541,1936106590359322126,52615058519875702993,1506721174739412743551 ⋆ Coefficients in asymptotic expansion of sequence A077365. • a(k) ~ k! / (4 * (log(2)) ^ (k + 1)). •

[A074510] • 3,12,74,540,4178,33012,262874,2099340,16783778,134237412,1073800874,8590111740,68720008178,549757408212,4398051294074,35184386437740,281475019757378,2251799942825412,18014398896902474,144115189238117340 ⋆ a(n) = 1^n + 3^n + 8^n. • a(n) = 11 * a(n - 1) - 24 * a(n - 2) + 14 with a(0)=3, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A238630] • 1,3,12,75,588,5043,44652,399675,3590508,32294883,290594892,2615176875,23536060428,211822949523,1906401762732,17157601515675,154418370594348,1389765206208963,12507886468460172,112570977053880075,1013138789998136268,9118249099522873203 ⋆ Number of partitions of 3^n into parts that are at most 3. • a(n) = [x ^ (3 ^ n)] Product _{ j=1..3 } 1 / (1 - x ^ j). •

[A074505] • 3,12,86,738,6578,59082,531506,4783098,43046978,387421002,3486785426,31381061658,282429540578,2541865836522,22876792471346,205891132127418,1853020188917378,16677181699797642,150094635297261266 ⋆ a(n) = 1^n + 2^n + 9^n. • a(n) = 11 * a(n - 1) - 18 * a(n - 2) + 8 with a(0)=3, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A039305] • 1,3,12,87,684,5463,43692,349527,2796204,22369623,178956972,1431655767,11453246124,91625968983,733007751852,5864062014807,46912496118444,375299968947543,3002399751580332,24019198012642647,192153584101141164 ⋆ Number of distinct quadratic residues mod 8^n. • a(n) = floor((8 ^ n + 10) / 6). • a(n) = 8 * a(n - 1) + a(n - 2) - 8 * a(n - 3) for n>0, a(0)=1. _ Vincenzo Librandi _ , Apr 22 2012 •

[A124191] • 0,3,12,90,528,3372,20880,130728,815232,5091120,31777728,198386592,1238434560,7731150528,48262685952,301286851200,1880825008128,11741315949312,73296813911040 ⋆ a(n)=((2 + 3Sqrt[2])^n - (2 - 3Sqrt[2])^n)/(2Sqrt[2]). • a(0)=0, a(1)=3, a(n)=4 * a(n - 1) + 14 * a(n - 2) for n>=2 . G.f.:3x / (1 - 4 * x - 14 * x ^ 2) - _ Philippe Deléham _ , Dec 12 2006 • a(n)= - (1 / 4) * sqrt(2) * [2 - 3 * sqrt(2)] ^ n + (1 / 4) * [2 + 3 * sqrt(2)] ^ n * sqrt(2), with n >=0 [From _ Paolo P. Lava _ , Oct 07 2008] •

[A293126] • 3,12,108,1092,11208,115272,1185888,12200592,125522208,1291399392,13286195328,136691243712,1406309006208,14468410468992,148854128491008,1531443389475072,15755820002738688,162099275536276992,1667712319943927808,17157784159685102592 ⋆ Number of matchings in the 2n-crossed prism graph. • a(n) = 12 * a(n - 1) - 18 * a(n - 2) + 4 * a(n - 3). •

[A073987] • 0,1,3,12,126,1296,9072,52488,297432,1700352,9843120,58576608,356638464,2176782336,13162730688,78940272384,471877757568,2821109907456,16894457846784,101361597378048,608764662139392,3656220357427200,21947909832446976,131685972252346368 ⋆ Number of strings of length n over Z_6 with trace 2 and subtrace 4. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A168437] • 3,13,13,23,23,33,33,43,43,53,53,63,63,73,73,83,83,93,93,103,103,113,113,123,123 ⋆ a(n) = 3 + 10*floor(n/2). • a(n) = 10 * n - a(n - 1) - 4, with n>1, a(1) = 3. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Sep 19 2013 • a(n) = (1 + 5 * (- 1) ^ n + 10 * n) / 2. - _ Bruno Berselli _ , Sep 19 2013 •

[A146512] • 1,3,13,15,25,27,37,39,49,51,61,63,73,75,85,87,97,99,109,111,121,123,133,135,145 ⋆ Numbers congruent to {1, 3} mod 12. • a(2k - 1) = 12 * (k - 1) + 1, a(2k) = 12 * (k - 1) + 3, where k>0. • a(n) = 8 * floor(n / 2) + 2 * n + 1, with offset 0..a(0)= 1 a(n) = 6 * n - 1 + 2 * (- 1) ^ n, with offset 0..a(0) =1. [_ Gary Detlefs _ , Mar 13 2010] • a(n) = 12 * n - a(n - 1) - 20 (with a(1)=1). [_ Vincenzo Librandi _ , Nov 26 2010] •

[A273678] • 3,13,16,23,29,35,41,47,53,59,65,71,77,83,89,95,101,107,113,119,125,131,137,143,149 ⋆ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 833", based on the 5-celled von Neumann neighborhood. • a(n) = 5 + 6 * n for n>2. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. •

[A042133] • 1,3,13,16,29,219,248,467,2116,6815,329236,994523,4307328,5301851,9609179,72566104,82175283,154741387,701140831,2258163880,109093000711,329537185093,1427241747443,1756778932536,3184020679979 ⋆ Denominators of continued fraction convergents to sqrt(591). • a(n) = 331352 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A041297] • 1,1,3,13,16,45,61,289,639,928,22911,23839,70589,306195,376784,1059763,1436547,6805951,15048449,21854400,539554049,561408449,1662370947,7210892237,8873263184 ⋆ Denominators of continued fraction convergents to sqrt(161). • a(n) = 23550 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A041815] • 1,1,3,13,16,93,946,4823,5769,27899,61567,89466,3640207,3729673,11099553,48127885,59227438,344265075,3501878188,17853656015,21355534203,103275792827,227907119857,331182912684,13475223627217 ⋆ Denominators of continued fraction convergents to sqrt(428). • a(n) = 3701774 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A023239] • 3,13,19,31,61,67,79,97,109,127,163,199,223,229,241,277,283,313,367,379,421,433,439,463,487 ⋆ Numbers n such that n and 10n + 7 are both prime. • a(n) == 1 mod 6, for n > 1. - _ John Cerkan _ , Sep 12 2016 •

[A273312] • 3,13,23,33,39,49,55,65,71,81,87,97,103,113,119,129,135,145,151,161,167,177,183,193,199 ⋆ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 641", based on the 5-celled von Neumann neighborhood. • a(n) = 8 - (- 1) ^ n + 8 * n for n>1. • a(n) = 8 * n + 7 for n>1 and even. • a(n) = 8 * n + 9 for n>1 and odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. •

[A017305] • 3,13,23,33,43,53,63,73,83,93,103,113,123,133,143,153,163,173,183,193,203,213,223,233,243 ⋆ a(n) = 10n + 3. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 28 2011 •

[A178825] • 1,3,13,23,41,59,137,263,313,587,709,2207,2417,2767,4289,4547,5857,8543,9413,9631,18593,20611,45953,50147,52253 ⋆ a(1) = 1, a(n+1) = least prime p > a(n) such that a(n) + p is a square. • a(1) = 1, a(n + 1) = MIN { p in A000040 >= a(n) such that a(n) + p is in A000290 } . •

[A052454] • 1,3,13,25,111,493,949,4215,18721,36037,160059,710905,1368457,6078027,26995669,51965329,230804967,1025124517,1973314045,8764510719,38927735977,74933968381,332820602355,1478228842609,2845517484433 ⋆ Positive integer values of n such that 10n^2 - 9 is a square. • a(n) = 38 * a(n - 3) - a(n - 6). •

[A041035] • 1,1,3,13,29,42,365,407,1179,5123,11425,16548,143809,160357,464523,2018449,4501421,6519870,56660381,63180251,183020883,795263783,1773548449,2568812232,22324046305 ⋆ Denominators of continued fraction convergents to sqrt(22). • a(n) = 394 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - x ^ 9 + 3 * x ^ 8 - 13 * x ^ 7 + 29 * x ^ 6 - 42 * x ^ 5 - 29 * x ^ 4 - 13 * x ^ 3 - 3 * x ^ 2 - x - 1) / (x ^ 12 - 394 * x ^ 6 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A042269] • 1,1,3,13,29,42,2129,2171,6471,28055,62581,90636,4594381,4685017,13964415,60542677,135049769,195592446,9914672069,10110264515,30135201099,130651068911,291437338921,422088407832,21395857730521 ⋆ Denominators of continued fraction convergents to sqrt(660). • a(n) = 2158 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A144391] • 3,13,29,51,79,113,153,199,251,309,373,443,519,601,689,783,883,989,1101,1219,1343,1473,1609,1751,1899 ⋆ a(n) = 3*n^2 + n - 1. • a(n) = 1 + Sum _{ i = n - 1..2 * n - 1 } 2 * i. - _ Bruno Berselli _ , Feb 16 2018 •

[A227541] • 0,3,13,29,52,81,117,159,208,263,325,393,468,549,637,731,832,939,1053,1173,1300,1433,1573,1719,1872 ⋆ a(n) = floor(13*n^2/4). • a(n) = 13 * n ^ 2 / 4 + ((- 1) ^ n - 1) / 8, n >= 0 (use even or odd n to prove it). • a(2 * k) = k ^ 2 * 13, k >= 0. • a(2 * k + 1) = 3 + k * (k + 1) * 13, k >= 0. • a(n) = a(- n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Bruno Berselli _ , Aug 08 2013 • a(n) = Sum _{ j=1..n } Sum _{ i=1..n } ceiling((i + j - n + 5) / 2). - _ Wesley Ivan Hurt _ , Mar 12 2015 •

[A022264] • 0,3,13,30,54,85,123,168,220,279,345,418,498,585,679,780,888,1003,1125,1254,1390,1533,1683,1840,2004 ⋆ a(n) = n*(7*n - 1)/2. • a(n) = C(7 * n,2) / 7, n >= 0. - _ Zerinvary Lajos _ , Jan 02 2007 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2, a(0)=0, a(1)=3 and a(2)=13. - _ Paolo P. Lava _ , Jul 29 2009 • a(n) = 7 * n + a(n - 1) - 4 for n > 0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = (1 / 5) * Sum _{ i=n..(6 * n - 1) } i. - _ Wesley Ivan Hurt _ , Dec 04 2016 •

[A273337] • 3,13,31,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ⋆ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 657", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>2. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. •

[A273769] • 3,13,31,33,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ⋆ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule

913", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>5. •

[**A054554**] • 1,3,13,31,57,91,133,183,241,307,381,463,553,651,757,871,993,1123,1261,1407,1561,1723,1893,2071,2257 ⋆ a(n) = 4n^2 - 10n + 7. • a(n) = 8 * n + a(n - 1) - 14 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 07 2010 •

[**A051939**] • 3,13,31,58,95,143,203,276,363,465,583,718,871,1043,1235,1448,1683,1941,2223,2530,2863,3223,3611,4028,4475 ⋆ Truncated triangular pyramid numbers: a(n) = Sum_{k=6..n}(k*(k+1)/2 - 18). • a(n) = (1 / 6) * (n - 5) * (n ^ 2 + 8 * n - 66). • a(6)=3, a(7)=13, a(8)=31, a(9)=58, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 22 2011 •

[**A034050**] • 3,13,31,113,131,311,1113,1131,1311,3111,11113,11131,11311,13111,31111,111113,111131,111311,113111,131111,311111,1111113,1111131,1111311,1113111 ⋆ Numbers with multiplicative digital root value 3. • a(m * (m - 1) / 2 + j + 1) = (10 ^ m - 1) / 9 + 2 * 10 ^ j for 0 <= j < m. - _ Robert Israel _ , Sep 27 2016 •

[**A166805**] • 3,13,33,68,124,208,328,493,713,999,1363,1818,2378,3058,3874,4843,5983,7313,8853,10624,12648,14948,17548,20473,23749 ⋆ Number of n X 4 1..2 arrays containing at least one of each value, all equal values connected, rows considered as a single number in nondecreasing order, and columns considered as a single number in nondecreasing order. • a(n) = (n ^ 4 + 10 * n ^ 3 + 35 * n ^ 2 + 50 * n - 24) / 24. • a(n) = (n ^ 2 + 5 * n - 2) * (n ^ 2 + 5 * n + 12) / 24. • a(n) = (1 / 24) * (n + 1) * (n + 2) * (n + 3) * (n + 4) - 2. - _ Joerg Arndt _ , Apr 14 2011 •

[**A016061**] • 0,3,13,34,70,125,203,308,444,615,825,1078,1378,1729,2135,2600,3128,3723,4389,5130,5950,6853,7843,8924,10100 ⋆ a(n) = n*(n+1)*(4*n+5)/6. • a(n) = sum(i=0, n - 1, 2 * i ^ 2 + i). - Jani Nurminen (slinky(AT)iki.fi), May 14 2006 • a(n) = 2 * n ^ 3 / 3 + 3 * n ^ 2 / 2 + 5 * n / 6. - _ Jonathan Vos Post _ , Dec 14 2013 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Bobby Milazzo _ , Mar 10 2013 •

[**A154154**] • 3,13,34,84,203,493,1186,2876,6915,16765,40306,97716,234923,569533,1369234,3319484,7980483,19347373,46513666 ⋆ Indices n such that 30 plus the n-th triangular number is a perfect square. • a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A095661**] • 3,13,35,75,140,238,378,570,825,1155,1573,2093,2730,3500,4420,5508,6783,8265,9975,11935,14168,16698,19550,22750,26325 ⋆ Fifth column (m=4) of (1,3)-Pascal triangle A095660. • a(n)= (n + 12) * binomial(n + 3, 3) / 4 = 3 * b(n) - 2 * b(n - 1), with b(n):=binomial(n + 4, 4); cf. A000332. • a(n) = sum _{ k=1..n } (sum _{ i=1..k } i * (n - k + 3)), with offset 1. - _ Wesley Ivan Hurt _ , Sep 25 2013 •

[**A108480**] • 1,1,3,13,35,117,379,1197,3859,12357,39563,126845,406371,1302101,4172443,13369293,42838835,137266917,439837739,1409354397,4515934339,14470215157,46366299963,148569565165,476055153491 ⋆ Expansion of (1-x-2x^2)/(1-2x-3x^2-4x^3+4x^4). • a(n)=2a(n - 1) + 3a(n - 2) + 4a(n - 3) - 4a(n - 4); a(n)=sum { k=0..floor(n / 2), C(2(n - k), 2k)2 ^ k } . •

[**A098547**] • 1,3,13,37,81,151,253,393,577,811,1101,1453,1873,2367,2941,3601,4353,5203,6157,7221,8401,9703,11133,12697,14401 ⋆ a(n) = n^3 + n^2 + 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Aug 29 2014 •

[**A076800**] • 1,3,13,38,41,54,57,60,63,67,73,75,88,91,95,98,101,109,116,122,125,129,131,142,145 ⋆ Greedy powers of (e/4): sum_{n=1..inf} (e/4)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(e / 4) and frac(y) = y - floor(y). •

[**A277411**] • 0,3,13,38,94,213,459,960,1972,4007,8089,16266,32634,65385,130903,261956,524080,1048347,2096901,4194030,8388310,16776893,33554083,67108488,134217324 ⋆ Column 1 of triangle A277410. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>4. • a(n) = (8 * (2 ^ n - 1) - n * (n + 7)) / 2. (End) •

[**A166911**] • 3,13,39,89,171,293,463,689,979,1341,1783,2313,2939,3669,4511,5473,6563,7789,9159,10681,12363,14213,16239,18449,20851 ⋆ a(n) = (9 + 14*n + 12*n^2 + 4*n^3)/3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A167910**] • 0,0,1,3,13,39,133,399,1261,3783,11605,34815,105469,316407,953317,2859951,8596237,25788711,77431669,232295007,697147165,2091441495,6275373061,18826119183,56482551853 ⋆ a(n) = (4*3^n - 5*2^n + (-2)^n)/20. • a(2 * n + 1) = 3 * a(2 * n). • a(n) = 3 * a(n - 1) + 4 * a(n - 2) - 12 * a(n - 3). •

[**A059020**] • 0,3,13,40,108,275,681,1664,4040,9779,23637,57096,137876,332899,803729,1940416,4684624,11309731,27304157,65918120,159140476,384199155,927538873,2239276992,5406092952 ⋆ Number of 2 X n checkerboards in which the set of red squares is edge connected. • a(n) = 2a(n - 1) + a(n - 2) + 4n - 1. • a(n) = - 7 / 2 + (7 / 4) * [1 + sqrt(2)] ^ n - 2 * n - (5 / 4) * sqrt(2) * [1 - sqrt(2)] ^ n + (7 / 4) * [1 - sqrt(2)] ^ n + (5 / 4) * [1 + sqrt(2)] ^ n * sqrt(2), with n>=0. - _ Paolo P. Lava _ , Jun 10 2008 • a(n) = 3a(n - 1) - a(n - 2) - a(n - 3) + 4; a(n)=4a(n - 1) - 4a(n - 2) + a(n - 4). - _ Jaume Oliver Lafont _ , Nov 23 2008 • a(n) = (LucasL[n + 3,2] - 8 * n - 14) / 4. - _ Eric W. Weisstein _ , May 02 2017 •

[**A290720**] • 3,13,40,127,430,1525,5572,20779,78682,301537,1166704,4548631,17840134,70297549,278001436,1102439683,4381060786,17438149561,69494317768,277202429935,1106485196638,4418967217573,17654948163700,70557030535387,282039835783690 ⋆ a(n) = 2*3^n + 4^n + 3*n. • a(n) = 2 * 3 ^ n + 4 ^ n + 3 * n. • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 31 * a(n - 3) - 12 * a(n - 4). •

[**A041499**] • 1,3,13,42,1357,4113,17809,57540,1859089,5634807,24398317,78829758,2546950573,7719681477,33425676481,107996710920,3489320425921,10575957988683,45793152380653,147955415130642,4780366436561197,144890547248 14233,62736585335818129 ⋆ Denominators of continued fraction convergents to sqrt(266). • a(n) = 1370 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 19 2013 •

[**A247584**] • 1,1,1,1,1,3,13,43,113,253,509,969,1849,3719,8009,18027,40897,91257,198697,423777,894081,1886011,4007301,8594411,18560081 ⋆ a(n) = 5a(n-1)-10a(n-2)+10a(n-3)-5a(n-4)+3a(n-5) with a(0)=a(1)=a(2)=a(3)=a(4)=1. • a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + 3a(n - 5). • a(n) = Sum _{ k=0...floor(n / 5) } (2 ^ k * binomial(n,5 * k)). - _ Alexander Samokrutov _ , Jul 11 2015 •

[**A208060**] • 1,3,13,43,233,611,4405,10515,64145,218755,1215821,2689083,28162105,61179795,307475813,1236997051,8042542625,17101581699,146671231501,309740445795,2415132010441,8877053064643,40919003272005,85564885298027,1068638260341937 ⋆ a(n) = 1 + 2*n + 2^2*n*[n/2] + 2^3*n*[n/2]*[n/3] + 2^4*n*[n/2]*[n/3]*[n/4] +... where [x]=floor(x). • a(n) = 1 + Sum _{ m=1..n } Product _{ k=1..m } 2 ^ k * floor(n / k). •

[**A193041**] • 0,1,3,13,44,122,292,631,1267,2411,4408,7820,13560,23109,38867,64721,106964,175782,287660,469275,763795,1241071,2014128,3265848,5292144 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - 3 * a(n - 5) + a(n - 6). •

[**A239592**] • 1,3,13,46,129,301,613,1128,1921,3079,4701,6898,9793,13521,18229,24076,31233,39883,50221,62454,76801,93493,112773,134896,160129 ⋆ (n^4 - n^3 + 4*n^2 + 2)/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), a(0) = 1, a(1) = 3, a(2) = 13, a(3) = 46, a(4) = 129. •

[**A017943**] • 1,3,13,46,169,609,2197,7921,28561,102978,371293,1338715,4826809,17403307,62748517,226242995,815730721,2941158941,10604499373,38235066239,137858491849,497055861119,1792160394037,6461726194556 ⋆ Powers of sqrt(13) rounded down. • a(n) = floor(sqrt(13 ^ n)). - _ Vincenzo Librandi _ , Jun 24 2011 •

[**A084519**] • 1,1,3,13,47,173,639,2357,8695,32077,118335,436549,1610471,5941181,21917583,80856053,298285687,1100404333,4059496479,14975869477,55247410055,203812962077,751885445295,2773777080149,10232728055191 ⋆ Number of indecomposable ground-state 3-ball juggling sequences of period n. • a(n) seems to satisfy the recurrence: a(1) = a(2) = 1, a(3) = 3 and a(n) = 3 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3). If so, a(n) = floor(A * B ^ n + 1 / 2) where B = 3.6890953... is the real positive root of x ^ 3 - 3x ^ 2 - 2x - 2 = 0 and A = 0.0687059... is the real positive root of 118 * x ^ 3 + 118 * x ^ 2 + 35 * x - 3 = 0. - _ Benoit Cloitre _ , Jun 14 2003 [This conjecture is established in the Chung - Graham paper.] •

[**A265920**] • 1,3,13,47,185,723,2821,11127,43825,173147,685181,2713919,10762793,42715619,169654133,674238983,2680944545,10665068907,42443750893,168973210575,672913173913,2680539263219,10680581419493,42566341729431,169678604019217 ⋆ Numerator of the probability that Alice wins the following game: Alice and Bob take turn (Alice starts first) to gain 1 or 2 chips randomly and independently with 1/2 chance, and the first player that collects at least n chips is the winner. • a(n) = (4 ^ n + sum _ (k=1..n) 4 ^ (n - k) * (binomial (k, n - k) + binomial(k - 1, n - k)) ^ 2) / 8. •

[**A048482**] • 1,3,13,49,161,481,1345,3585,9217,23041,56321,135169,319489,745473,1720321,3932161,8912897,20054017,44826625,99614721,220200961,484442113,1061158913,2315255809,5033164801 ⋆ a(n) = T(n,n), array T given by A048472. • a(n) = (n ^ 2 + n) * 2 ^ (n - 1) + 1. - _ Ralf Stephan _ , Sep 02 2003 • a(0)=1, a(1)=3, a(2)=13, a(3)=49, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Harvey P. Dale _ , Feb 02 2015 •

[**A251743**] • 3,13,49,185,713,2793,11049,43945,175273,700073,2798249,11188905,44747433,178973353,715860649,2863377065,11453377193,45813246633,183252462249,733008800425,2932033104553,11728128223913,46912504507049,187650001250985,750599971449513 ⋆ Pairs of nodes in a complete binary tree that are at an absolute height difference of less than 2 from each other. • a(n) = (3 * 2 ^ n + 2 ^ (1 + 2 * n) - 5) / 3. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) + 8 * a(n - 4). •

[**A178934**] • 1,3,13,49,186,711,2749,10705,41946,165159,652765,2587441,10278906,40903047,162974461,649984657,2594199066,10359577575,41386654237,165391648753,661101690426,2643012047943,10567864050493,42258903778129 ⋆ Floor((3*4^n+2*3^n)/5). • a(n) = 7 * a(n - 1) - 12 * a(n - 2) + a(n - 4) - 7 * a(n - 5) + 12 * a(n - 6); initial terms are 1, 3, 13, 49, 186, 711. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) - 6 * a(n - 3) - 5 * a(n - 4) - 12 * a(n - 5) - 6; initial terms are 1, 3, 13, 49, 186. •

[**A118589**] • 1,1,3,13,49,261,1531,9073,63393,465769,3566611,29998101,262167313,2394499693,23249961099,233439305401,2439472944961,26649502709073,300078056044963,3498896317045789,42244252226263281,524289088799352661 ⋆ E.g.f.: A(x) = exp(x + x^2 + x^3). • a(n) = n! * sum(sum(binomial(j,n - 3 * k + 2 * j) * binomial(k,j),j,0,k) / k!,k,1,n), n>0. [_ Vladimir Kruchinin _ , Sep 01 2010] •

[**A026529**] • 1,3,13,50,205,833,3437,14232,59301,248050,1041469,4385888,18519306,78376403,332370925,1412000824,6008104249,25601113893 ⋆ a(n) = T(2n-1,n-2), T given by A026519. • a(n + 1) = sum(i=1..floor(n / 2), C(n - 1,i - 1) * sum(j=0..n, C(j,n - j + 2 * i) * C(n,j))). - _ Vladimir Kruchinin _ , Jan 16 2015 •

[**A286182**] • 3,13,51,167,503,1441,4007,10923,29355,78037,205659,538127,1399583,3621289,9327695,23931603,61186131,155949085,396369795,1004904695,2541896519,6416348209,16165610999,40657256571,102090514683 ⋆ Number of connected induced (non-null) subgraphs of the prism graph with 2n nodes. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 4 * a(n - 3) + 5 * a(n - 4) - 2 * a(n - 5) - a(n - 6), for n>6 (conjectured). • a(n) = LucasL[n, 2] + 3 * n * Fibonacci[n,

2] - 3 * n + 1 (conjectured). - _ Eric W. Weisstein _ , May 08 2017 •

[A016064] • 1,3,13,51,193,723,2701,10083,37633,140451,524173,1956243,7300801,27246963,101687053,379501251,1416317953,5285770563,19726764301,73621286643,274758382273,1025412242451,3826890587533,14282150107683,53301709843201 ★ Shortest legs of Heronian triangles (sides are consecutive integers, area is an integer). • a(n) = 3 + floor((2 + sqrt(3)) * a(n - 1)), n>=3. - _ Rick L. Shepherd _ , Sep 04 2005 • a(n) = 4 * a(n - 1) - a(n - 2) + 2. a(n) = (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n - 1. - _ Paul Barry _ , Feb 17 2004 • a(n) = [x ^ n] (1 + 2 * x + sqrt(1 + 2 * x + 3 * x ^ 2)) ^ n. - _ Peter Bala _ , Jun 23 2015 •

[A163774] • 1,3,13,51,201,783,3039,11763,45481,175803,679779,2630367,10187659,39500373,153329913,595883763,2318471289,9030982491,35216266947,137469149451,537152523711,2100857828193,8223917499477,32219655346719,126328429601451 ★ Row sums of the central coefficients triangle (A163771). • a(n) = Sum _{ k=0..n } Sum _{ i=k..n } (- 1) ^ (n - i) * binomial(n - k,n - i) * (2i) $, where i $ denotes the swinging factorial of i (A056040). •

[A015521] • 0,1,3,13,51,205,819,3277,13107,52429,209715,838861,3355443,13421773,53687091,214748365,858993459,3435973837,13743895347,54975581389,219902325555,879609302221,3518437208883,14073748835533 ★ a(n) = 3*a(n-1) + 4*a(n-2), a(0) = 0, a(1) = 1. • a(n) = (4 ^ n - (- 1) ^ n) / 5. • a(n) = Sum _{ k=1..n, binomial(n, k)(- 1) ^ (n + k) * 5 ^ (k - 1) } . - _ Paul Barry _ , May 13 2003 • a(2 * n) = 4 * a(2 * n - 1) - 1, a(2 * n + 1) = 4 * a(2 * n) + 1. In general this is true for all sequences of the type a(n) + a(n + 1) = q ^ (n): i.e., a(2 * n) = q * a(2n - 1) - 1 and a(2 * n + 1) = q * a(2 * n) + 1. - _ Amarnath Murthy _ , Jul 15 2003 • a(n) = 4 ^ (n - 1) - a(n - 1). • a(n + 1) = Sum _{ k=0..floor(n / 2), binomial(n - k, k) * 3 ^ (n - 2k) * 4 ^ k } . - _ Paul Barry _ , Jul 29 2004 • a(n) = 4 * a(n - 1) - (- 1) ^ n, n>0, a(0)=0. - _ Paul Barry _ , Aug 25 2004 •

[A098619] • 1,3,13,51,213,867,3589,14739,60853,250563,1033605,4259571,17565909,72412707,298586661,1231016019,5075753589,20927272323,86286346693,355763629491,1466857936405,6047981701347,24936516122469,102815688922899,423920292507061 ★ G.f. A(x) satisfies: A(x*G098618(x)) = G098618(x), where G098618 is the g.f. for A098618(n) = A007482(n)*Catalan(n). • a(2 * n + 1) = 3 * 17 ^ n. •

[A291182] • 3,13,52,203,781,2976,11267,42469,159596,598499,2241165,8388372,31340691,117100285,437378260,1633244795,6097779229,22763575008,84971451155,317161317781,1183776154124,4418211213011,16489770106653,61542705525504,229685859522339 ★ p-INVERT of the positive integers, where p(S) = 1 - 3*S + 2*S^2. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 7 * a(n - 3) - a(n - 4). •

[A072197] • 3,13,53,213,853,3413,13653,54613,218453,873813,3495253,13981013,55924053,223696213,894784853,3579139413,14316557653,57266230613,229064922453,916259689813,3665038759253,14660155037013,58640620148053,234562480592213,938249922368853 ★ a(n) = 4*a(n-1) + 1 with a(0) = 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2), n > 1. - _ Vincenzo Librandi _ , Oct 31 2011 • a(n) = (5 * 2 ^ (2n + 1) - 1) / 3. - _ Bob Selcoe _ , Apr 03 2015 •

[A121240] • 1,3,13,53,849,3397,54353,217413,3478609,222630977,890523909,56993530177,911896482833,3647585931333,58361374901329,373512799368505 7,239048191595843649,956192766383374597,6119633704853597420 9 ★ Numerator of sum_{k=1..n} 1/2^prime(k). • a(n) = Numerator[Sum[1 / 2 ^ Prime[k], { k,1,n }]]. a(n) = A072762[Prime[n]]. •

[A093834] • 1,3,13,55,229,943,3853,15655,63349,255583,1028893,4135255,16600069,66577423,266841133,1068958855,4280618389,17136822463,68590336573,274490486455,1098349366309,4394559726703,17581725691213,70337363118055 ★ Expansion of (1-2x)^2/((1-3x)(1-4x)). • a(n)=4 ^ n - 3 ^ n / 3 - 0 ^ n / 3. a(n + 1)=4 ^ (n + 1) - 3 ^ n, n>0. • a(0)=1, a(1)=3, a(2)=13, a(n)=7 * a(n - 1) - 12 * a(n - 2) [From _ Harvey P. Dale _ , Dec 27 2011] •

[A286191] • 3,13,55,233,971,3981,16143,65041,261139,1046549,4190231,16769049,67092507,268402717,1073676319,4294836257,17179607075,68718952485,274876858407,1099509530665,4398042316843,17592177655853,70368727400495,281474943156273,1125899839733811 ★ a(n) = (2^n-1)^2 + 2*n. • a(n) = (2 ^ n - 1) ^ 2 + 2 * n. • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 22 * a(n - 3) - 8 * a(n - 4) for n>4. •

[A033887] • 1,3,13,55,233,987,4181,17711,75025,317811,1346269,5702887,24157817,102334155,433494437,1836311903,7778742049,32951280099,139583862445,591286729879,2504730781961,10610209857723,44945570212853,190392490709135,806515533049393 ★ a(n) = Fibonacci(3n+1). • a(n) = 4 * a(n - 1) + a(n - 2) for n>1, a(0)=1, a(1)=3; • a(n) = ((1 + sqrt(5)) * (2 + sqrt(5)) ^ n - (1 - sqrt(5)) * (2 - sqrt(5)) ^ n) / (2 * sqrt(5)). • a(n) = Sum _{ k=0..n } Sum _{ j=0..n - k } C(n,j)C(n - j,k)F(n - j + 1). - _ Paul Barry _ , May 19 2006 • a(n) = Sum _{ k=0..n } C(n,k) * F(n + k + 1). - _ Paul Barry _ , Apr 19 2010 • a(n) = F(2 * n) * L(n + 1) + F(n - 1) * (- 1) ^ n for n > 0. - _ J. M. Bergot _ , Feb 09 2016 • a(n) = Sum _{ k=0..n } binomial(n,k) * 5 ^ floor(k / 2) * 2 ^ (n - k). - _ Tony Foster III _ , Sep 03 2017 •

[A117376] • 1,3,13,55,240,1057,4688,20879,93250,417272,1869725,8386137,37640961,169042436,759470361,3413223919,15343588991,68988110756,310233741889,1395268187372,6275807975664,28230370862051,126996552221811 ★ Expansion of 1/((1-3x*c(x))(1-x^2*c(x))), c(x) the g.f. of A000108. • a(n)=sum { k=0..floor(n / 2), [k<=n - k] * sum { j=0..n - k, (j / (n - k - j)) * C(2n - k - j,n - k - j)[k<=j] * 3 ^ (j - k) }} •

[A264037] • 0,1,1,3,13,55,241,1171,6357,37567,236521,1574331,11068333,82110535,640794337,5239439011,44723250501,397481121295,3671081354137,35176098791115,349120380267421,3583273413146647,37975511840454673,415004245048757299,4670891190907818165 ★ Stirling transform of A077957 (aerated powers of 2) with 0 prepended [0, 1, 0, 2, 0, 4, 0, 8, ...]. • a(n) = Sum _{ k=0..floor(n / 2) } 2 ^ k * stirling2(n,2 * k + 1). • a(n) = (Bell _ n(sqrt(2)) - Bell _ n(- sqrt(2))) / (2 * sqrt(2)), where Bell _ n(x) is n - th Bell polynomial. •

[A010903] • 3,13,56,241,1037,4462,19199,82609,355448,1529413,6580721,28315366,121834667,524227237,2255632184,9705479209,41760499493,179686059838,773148800711,3326685824041,14313982718072,61589856118237,265007332436969,1140267093830134 ★ Pisot sequence E(3,13): a(n) = floor(a(n-1)^2/a(n-2) + 1/2). • a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(13)) ^ n * (- 11 + 3 * sqrt(13)) + (5 + sqrt(13)) ^ n * (11 + 3 * sqrt(13)))) / sqrt(13). - _ Colin Barker _ , Nov 26 2016 •

[A095934] • 1,3,13,56,241,1037,4462,19199,82609,355448,1529413,6580721,28315366,121834667,524227237,2255632184,9705479209,41760499493,179686059838,773148800711,3326685824041,14313982718072,61589856118237,265007332436969,1140267093830134 ★ G.f.: (1-x)^2/(1-5*x+3*x^2). • a(n + 2) = 5a(n + 1) - 3a(n) (n >= 1); a(0) = 1, a(1) = 3, a(2) = 13. •

[A049086] • 1,3,13,57,249,1087,4745,20713,90417,394691,1722917,7520929,32830585,143313055,625594449,2730863665,11920848033,52037243619,227154537661,991581805481,4328482658041,18894822411423,82480245888473 ★ Number of tilings of 4 X 3n rectangle by 1 X 3 rectangles. Rotations and reflections are considered distinct tilings. • a(n) = 5 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) / a(n - 1) tends to 4.3652300134..., an eigenvalue of the matrix M and an inverse root of the polynomial x ^ 3 - 3x ^ 2 + 5x - 1. [a(n - 2), a(n - 1), a(n)] = M ^ n * [1 1 1], where M = the 3 X 3 matrix [5 - 3 1 / 1 0 0 / 0 1 0]. E.g., a(3), a(4), a(5) = 57, 249, 1087. M ^ 5 * [1 1 1] = [57, 249, 1087] - _ Gary W. Adamson _ , Apr 25 2004 •

[A275634] • 3,13,57,250,1097,4814,21126,92711,406861,1785505,7835670,34386757,150905930,662249126,2906273499,12754151453,55971462889,245630191042,1077945575073,4730553104614,20759983799798,91104976064543,399813253409277,1754576363517905,7699940382577342 ★ Expansion of (3-2*x-2*x^2) / (1-5*x+2*x^2+3*x^3). • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 3 * a(n - 3) for n>2. - _ Colin Barker _ , Aug 10 2016 •

[A163606] • 3,13,57,251,1107,4885,21561,95171,420099,1854397,8185689,36133355,159500307,704068357,3107907993,13718969459,60558460803,267317978605,1179998646009,5208766025819,22992605632851,101494271616373 ★ a(n) = ((3 + 2*sqrt(2))*(3 + sqrt(2))^n + (3 - 2*sqrt(2))*(3 - sqrt(2))^n)/2. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 3, a(1) = 13. •

[A005827] • 1,3,13,57,259,1177,5367,24473,111631,509193,2322703,10595097,48330079,220460137,1005640527,4587282233,20925130111,95451085833,435405168943,1986123672537,9059808024799,41326792777897,188514347839887,859918153641593,3922562072528191 ★ Worst case of a Jacobi symbol algorithm. • a(n)=5a(n - 1) - 10a(n - 3) + 4a(n - 4) by definition [_ R. J. Mathar _ , Mar 11 2009] •

[A052984] • 1,3,13,59,269,1227,5597,25531,116461,531243,2423293,11053979,50423309,230008587,1049196317,4785964411,21831429421,99585218283,454263232573,2072145726299,9452202166349,43116719379147,196679192563037 ★ a(n) = 5*a(n-1) - 2*a(n-2) for n>1, with a(0) = 1, a(1) = 3. • a(n) = Sum(1 / 17 * (1 + 6 *_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(1 - 5 *_ Z + 2 *_ Z ^ 2)). • a(k) = [M ^ k] _ 2,2, where M is the 3 X 3 matrix defined as follows: M = [2,1,2; 1,1,1; 2,1,2]. - _ Simone Severini _ , Jun 12 2006 • a(n) = (a(n - 1) ^ 2 + 2 ^ n) / a(n - 2). - _ Irene Sermon _ , Oct 29 2013 •

[A262664] • 1,1,3,13,59,271,1257,5881,27715,131395,626033,2995147,14380181,69249337,334345091,1617924973,7844900339,38105139907,185380469961,903147125143,4405621159969,21515837558557,105188202097091,514747668977263 ★ Expansion of (1-2*x)/((2-x)*sqrt(5*x^2-6*x+1))+1/(2-x). • a(n) = Sum _{ k=0..n } (binomial(n,k) * Sum _{ i=0..n - k } (2 ^ i * binomial(k,n - k - i) * binomial(k + i - 1,i) * (- 1) ^ (n - k - i))). •

[A101368] • 1,1,3,13,61,291,1393,6673,31971,153181,733933,3516483,16848481,80725921,386781123,1853179693,8879117341,42542407011,203832917713,976622181553,4679277990051,22419767768701,107419560853453,514678036498563,2465970621639361 ★ The sequence solves the following problem: find all the pairs (i,j) such that i divides 1+j+j^2 and j divides 1+i+i^2. In fact, the pairs (a(n),a(n+1)), n>0, are all the solutions. • a(n) = 6a(n - 1) - 6a(n - 2) + a(n - 3), a(n) = 5a(n - 1) - a(n - 2) - 1. - _ Floor van Lamoen _ , Aug 01 2006 • a(n) = (4 / 3 - (2 / 7) * sqrt(21)) * ((5 + sqrt(21)) / 2) ^ n + (4 / 3 + (2 / 7) * sqrt(21)) * ((5 - sqrt(21)) / 2) ^ n + 1 / 3. - _ Floor van Lamoen _ , Aug 04 2006 •

[A074548] • 3,13,61,307,1633,9043,51481,298507,1751713,10359523,61573801,367168507,2194090993,13129397203,78637382521,471273075307,2825447921473,16943968454083,101629063565641,609635780178907 ★ 3^n + 4^n + 6^n. • a(n) = + 13 * a(n - 1) - 54 * a(n - 2) + 72 * a(n - 3) •

[A243014] • 1,1,3,13,61,321,1951,13693,109593,986401,9864091,108505101,1302061333,16926797473,236975164791,3554627472061,56874039553201,966858672404673,17403456103284403,330665665962403981,6613313319248079981,138879579704209680001 ★ Number of acyclic digraphs (DAGS) on n labeled nodes, where the indegree and outdegree of each node is at most 1. • a(n) = (n! * Sum(1 / k!)) + 1, k=0..n - 2. • a(n) = (n * (a(n - 1) + n - 2)) + 1, for n>1, a(1)=1. •

[A186242] • 1,1,3,13,62,317,1707,9529,54634,319838,1903895,11488985,70122538,432126645,2685003765,16802798157,105811579002,670008272170,4263402119458,27248174904238 ★ G.f. A(x) given by A(x)=1+x*A(x)^2+x^2*A(x)^4+2*x^3*A(• a(n):=1 / (2 * n - 1) * sum(j=0..2 * n - 1, binomial(i=j..n + j - 1, 2 * n - 1,j) * sum(binomial(j,i - j) * binomial(2 * n - j - 1,3 * j - 3 * n - i + 1) * 2 ^ (3 * j - 3 * n - i + 1))), n>0. •

[A092467] • 1,3,13,63,309,1511,7373,35951,175269,854455,4165565,20307647,99002389,482649479,2352978861,11471077391,55922991237,272631840855,13

29115610269,6479611111519,31588945184245,154000207833639 ★ a(n)=sum(i+j+k=n,(n+2k)!/i!/j!/(3*k)!) 0<=i,j,k<=n. • a(n)=sum { k=0..n, C(n + 2k,3k)2 ^ (n - k) } ; - _ Paul Barry _ , Aug 23 2007 •

[A034478] • 1,3,13,63,313,1563,7813,39063,195313,976563,4882813,24414063,122070313,610351563,3051757813,15258789063,76293945313,381469726563,1907348632813,9536743164063,47683715820313,238418579101563 ★ (5^n+1)/2. • a(n)=sum { k=0..n, sum { j=0..k, C(n, k) * C(2 * k, 2 * j) }} - _ Paul Barry _ , Jan 13 2005 • a(n) = 6 * a(n - 1) - 5 * a(n - 2), a(0) = 1, a(1) = 3. - _ Philippe Deléham _ , Jul 11 2005 • a(n)=5 * a(n - 1) - 2 with a(0)=1. - _ Vincenzo Librandi _ , Aug 01 2010 •

[A001850] • 1,3,13,63,321,1683,8989,48639,265729,1462563,8097453,45046719,251595969,1409933619,7923848253,44642381823,252055236609,1425834724419,8079317057869,45849429914943,260543813797441,1482376214227923,8443414161166173 ★ Central Delannoy numbers: a(n) = Sum_{k=0..n} C(n,k)*C(n+k,k). • a(n) = Sum _{ i=0..n } (A000079[i] * A008459[n, i]) = Sum _{ i=0..n } (2 ^ i * C(n, i) ^ 2). - Antti Karttunen, Oct 10 2001 • a(n) = sum(k=0..n, C(n + k, n - k) * C(2k, k)). - _ Benoit Cloitre _ , Feb 13 2003 • a(n) = sum(k=0..n, C(n, k) ^ 2 * 2 ^ k). - _ Michael Somos _ , Oct 08 2003 • a(n) = sum { k=0..n, C(2n - k, n)C(n, k) } ; - _ Paul Barry _ , Apr 23 2005 • a(n) = Sum _{ k>=n } binomial(k, n) ^ 2 / 2 ^ (k + 1). - _ Vladeta Jovovic _ , Aug 25 2006 • a(n) = a(- 1 - n) for all n in Z. - _ Michael Somos _ , Sep 23 2006 •

[A243280] • 1,3,13,63,325,1748,9685,54841,315605,1838610,10811788,64041706,381525253,2283436938,13718099275,82672421423,499546587317,3025336228390,18357852413062,111587292429820,679306584310220 ★ Expansion of log'(1/2-sqrt((5*x+2*sqrt(1-4*x)-2)/x)/2). • a(n) = sum(k=0..n, binomial(2 * k - 1,k) * binomial(2 * n,n - k)). •

[A000259] • 1,3,13,63,326,1761,9808,55895,324301,1908878,11369744,68395917,414927215,2535523154,15592255913,96419104103,599176447614,37398451080 57,23435007764606,147374772979438,929790132901804,5883377105975922,37328490926964481,237427707464042693 ★ Number of certain rooted planar maps. • a(n) = Sum _{ k = 1..n } (- 1) ^ (k - 1) * C(3n, n - k) * k / n * F(k - 2) where F(k) is the k - th Fibonacci number (A000045) and F(- 1) = 1. - _ Michael D. Weiner _ , Aug 03 2017 •

[A202837] • 1,3,13,63,345,2043,13029,88119,629169,4707315,36772029,298608687,2513795337,21874602987,196341166485,1814001266727,17222473789281,167763502438371,1674418724986221,17102228350521375,178562508150516921,1903865792493260763 ★ E.g.f.: exp(3*x + 2*x^2). • a(n) = Sum _{ k=0..[n / 2] } 3 ^ (n - 2 * k) * 2 ^ k * n! / ((n - 2 * k)! * k!). •

[A065065] • 1,3,13,64,341,1913,11132,66573,406653,2526351,15913347,101396034,652378120,4232439734,27657380019,181872596607,1202641671293,7991878198287,53343146808137,357464739709920,2404073823950915 ★ Number of noncrossing connected graphs with nodes on a circle having n edges. • a(n) = Sum _{ k=ceil((n + 3) / 2)..n + 1 } binomial(3 * k - 3,n + k) * binomial(n - 1,n - k + 1) / (k - 1). •

[A080227] • 0,0,1,3,13,65,391,2737,21897,197073,1970731,21678041,260136493,3381774409,47344841727,710172625905,11362762014481,193166954246177,3477005176431187,66063098352192553,1321261967043851061,27746501307920872281,610423028774259190183 ★ a(n) = n*a(n-1) + (1/2)*(1+(-1)^n), a(0)=0. • a(n) = floor((cosh(1) - 1) * n!). - _ Benoit Cloitre _ , Feb 14 2003 • a(n) = (n - 1) * (a(n - 1) + a(n - 2)) + 1, n>1. - _ Gary Detlefs _ , Jun 22 2010 •

[A045743] • 1,3,13,66,367,2164,13293,84157,545270,3598244,24100375,163416748,1119592052,7738412716,53894849437,377851866954,2664570714233,18887568709788,134501247038230,961774761388430,6903072966224220 ★ Number of noncrossing connected graphs on n nodes on a circle having no triangular faces. • a(n) = Sum _{ i=0..floor((n - 2) / 2) } binomial(n - 2 + i, i) * binomial(3 * n - 3 - i, n - 2 - 2 * i) / (n - 1). •

[A142979] • 1,3,13,66,406,2868,23220,210192,2116656,23375520,281792160,3673814400,51599514240,775673176320,12440524320000,211848037632000,3820318338816000,72685037892096000,1455838255452672000 ★ a(1) = 1, a(2) = 3, a(n+2) = 3*a(n+1)+(n+1)^2*a(n). • a(n) = n! * p(n) * sum { k = 1..n } (- 1) ^ (k + 1) / (k * p(k - 1) * p(k)), where p(n) = 2 * n + 1. Recurrence: a(1) = 1, a(2) = 3, a(n + 2) = 3 * a(n + 1) + (n + 1) ^ 2 * a(n). The sequence b(n):= n! * p(n) satisfies the same recurrence with b(1) = 3, b(2) = 10. Hence we obtain the finite continued fraction expansion a(n) / b(n) = 1 / (3 + 1 ^ 2 / (3 + 2 ^ 2 / (3 + 3 ^ 2 / (3 + ... + (n - 1) ^ 2 / 3)))), for n >=2. Lim n -> infinity a(n) / b(n) = 1 / (3 + 1 ^ 2 / (3 + 2 ^ 2 / (3 + 3 ^ 2 / (3 + ... + (n - 1) ^ 2 / (3 + ...))))) = sum { k = 1..inf } (- 1) ^ (k + 1) / (k * (4k ^ 2 - 1)) = 1 - log(2). Thus a(n) ~ c * n * n! as n - > infinity, where c = 2 * (1 - log(2)). •

[A136784] • 1,3,13,67,369,2083,11869,67875,388705,2227267,12764973,73165315,419377873,2403873891,13779078781,78982269667,452730133185,2595071559811,14875080747085,85264715699139,488741675881009,2801492102959267,16058295037221021,92046962959297699 ★ Number of primitive multiplex juggling sequences of length n, base state <3> and hand capacity 3. • a(n) = (13 + (4 - sqrt(3)) ^ n * (4 + sqrt(3)) - (- 4 + sqrt(3)) * (4 + sqrt(3)) ^ n) / 39. • a(n) = 9 * a(n - 1) - 21 * a(n - 2) + 13 * a(n - 3) for n>3. •

[A027277] • 1,3,13,67,375,2189,13089,79479,487833,3018355,18792303,117589689,738844719,4658460165,29458662005,186761788579,1186655988771,7554520173441,48176764031385,307706150625855,1968040844127793,12602972755261195,80798365998084795,518536437750443773 ★ a(n) = Sum_{k=0..n} binomial(2*k,k)*binomial(2*n-k,k). • a(n) = hypergeom([1 / 2, - n, 1 / 2 - n], [1, - 2 * n], - 16) for n>=1. • a(n) = (2 * n * (4 * n - 5) * (- 9 + 4 * n) * (- 7 + 4 * n) * a(n - 3) - (4 * n - 5) * (50 * n ^ 3 - 175 * n ^ 2 + 152 * n - 9) * a(n - 2) + (80 * n ^ 3 - 260 * n ^ 2 + 198 * n - 27) * (n - 1) * a(n - 1)) / (n * (- 1 + 2 * n)) for n>=3. (End) •

[A242798] • 0,1,3,13,67,376,2211,13378,82499,515659,3255628,20714354,132611491,853226921,5512508382,35739673513,232405291587,1515159860388,9900216370689,64816750480666,425097621975692,2792332673312356,18367642416256334,120972943783673953 ★ Expansion of -x*log'((1-x*(2/sqrt(3*x))*sin((1/3)*arcsin(s • a(n) = n * Sum _{ k=1..n } binomial(3 * n - 2 * k - 1,n - k) / (2 * n - k). •

[A239198] • 1,3,13,67,377,2235,13701,85947,548209,3540851,23093885,151793203,1004023273,6675725867,44581355765,298829626795,2009477057761,13550281076451,91594501130989,620471833255971,4211165312423001 ★ Expansion of -(3*x^5+sqrt(-7*x^2-6*x+1)*(3*x^4+5*x^3-11*x^2-7*x+2)-24*x^4-34*x^3+10*x^2+12) / (7*x^5+sqrt(-7*x^2-6*x+1)*(3*x^4+6*x^3-2*x^2+6*x-5)-15*x^4-12*x^3-12*x^2-19*x+3). • a(n) = sum(m=1..n, (sum(k=m..n, (binomial(k,n - k) * binomial(- m + 2 * k - 1,k - m)) / k)) * m * binomial(n - 1,n - m)). •

[A062992] • 1,3,13,67,381,2307,14589,95235,636925,4341763,30056445,210731011,1493303293,10678370307,76957679613,558403682307,4075996839933,29909606989827,220510631755773,1632599134961667,12133359132082173 ★ Row sums of unsigned triangle A062991. • a(n)=(1 / (n + 1)) * sum { k=0..n, binomial(2n + 2, n - k) * binomial(n + k, k) } . - _ Paul Barry _ , May 11 2005 • a(n) = hypergeometric([- n, n + 1], [- n - 1], 2). - _ Peter Luschny _ , Nov 30 2014 •

[A064062] • 1,1,3,13,67,381,2307,14589,95235,636925,4341763,30056445,210731011,1493303293,10678370307,76957679613,558403682307,4075996839933,29909606989827,220510631755773,1632599134961667,12133359132082173 ★ Generalized Catalan numbers C(2; n). • a(n) = (32 / Pi) * integral _{ x=0..1 } (8 * x) ^ (n - 1) * sqrt(x * (1 - x)) / (8 * x + 1). - _ Groux Roland _ , Dec 12 2010 • a(n + 2) = 8 ^ (n + 2) * (c(n + 2) - c(1) * c(n + 1) - sum _{ i=0..n - 1 } 8 ^ (- i - 2) * c(n - i) * a(i + 2)) with c(n)=Catalan(n + 2) / 2 ^ (2 * n + 1). - _ Groux Roland _ , Dec 12 2010 • a(n) = the upper left term in M ^ n, M = the production matrix: • a(n) = hypergeometric([1 - n, n], [- n], 2) for n > 0. - _ Peter Luschny _ , Nov 30 2014 •

[A028418] • 1,3,13,67,411,2911,23563,213543,2149927,23759791,286370151,3734929903,52455166063,788704078527,12648867695311,215433088624351,3884791172487903,73919882720901823,1480542628345939807,31128584449987511871,685635398619169059391 ★ Sum over all n! permutations of n letters of maximum cycle length. • a(n) = f(n, 0, n, n!) where f(L, r, n, m) = m * r if r >= l, otherwise Sum _{ k=0..L - 1 } (f(k, max(L - k,r), n - 1, m / n) + (n - L) * f(L, r, n - 1, m / n)). - _ Thomas Dybdahl Ahle _ , Aug 15 2011 •

[A042659] • 1,3,13,68,81,149,230,609,1448,4953,11354,220679,1997465,2218144,6433753,8651897,15085650,68994497,84080147,321234938,3617664465,7556563868,48957047673,1427310946385,8612822725983 ★ Denominators of continued fraction convergents to sqrt(859). • a(n) = 41176895439592861202484020 * a(n - 46) - a(n - 92) for n>91. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A200757] • 1,3,13,68,395,2450,15892,106489,731379,5121392,36425796,262425982,1911063188,14044679173,104030937139,775856119012,5821085551579,43906627941144,332742274685104,2532358764929916,19346427410500788,148312939031577504,1140578980645677208 ★ Noncrossing forests in the regular (n+1)-polygon obtained by a grafting procedure. • a(n) = sum(i=0..n - 1, C(3 * n - i - 2,2 * n - 1) * sum(j=0..n, C(j, - 2 * n + 2 * j + i) * (- 1) ^ (n - j) * C(n,j))) / n, n>0. - _ Vladimir Kruchinin _ , Nov 25 2011 • a(n) = Sum _{ k=0..n - 1 } (C(n - 1,k) * C(n + 2 * k,n + k - 1)) / (n + k). - _ Vladimir Kruchinin _ , Mar 02 2013 •

[A000260] • 1,1,1,3,13,68,399,2530,16965,118668,857956,6369883,48336171,373537388,2931682810,23317105140,187606350645,1524813969276,12504654858828,103367824774012,860593023907540,7211115497448720,60776550501588855 ★ Number of rooted simplicial 3-polytopes with n+3 nodes; or rooted 3-connected triangulations with 2n+2 faces; or rooted 3-connected trivalent maps with 2n+2 vertices. • a(n) = 2(4n + 1)! / ((n + 1)!(3n + 2)!) = binomial(4n + 1, n + 1) - 9 * binomial(4n + 1, n - 1). • a(n) = binomial(4 * n + 2, n + 1) / ((2 * n + 1) * (3 * n + 2)). - _ Michael Somos _ , Mar 28 2012 •

[A186371] • 0,1,3,13,68,420,3000,24360,221760,2237760,24796800,299376000,3911846400,55005350400,828193766400,13294689408000,226663557120000,4090405423104000,77895546753024000,1561112121913344000,32844177110384640000,723788347432550400000 ★ Number of up-down runs in all permutations of {1,2,...,n}. • a(n) = n! * (4n + 1) / 6 for n>=2. •

[A058307] • 0,1,3,13,68,421,3015,24541,223884,2263381,25121075,303716281,3973432728,55931774473,842950049823,13543132571641,231076203767720,4172914800390601,79516457411189139,1594502063024173381,33564059780918830140,740003817243238436461 ★ a(0)=0, a(1)=1, a(n) = a(n-2)+(n+1)*a(n-1). • a(2r + 1) = Sum[Binomial[r + c, r - c](r + c)! / (r - c)! - Binomial[r + c, r - c - 1](r + c + 1)! / (r - c)!, { c, 0, r }] and a(2r) = Sum[- Binomial[r + c, r - c](r + c + 1)! / (r - c + 1)! + Binomial[r + c + 1, r - c](r + c + 1)! / (r - c)!, { c, 0, r }]. - _ Wouter Meeussen _ , Feb 02 2001 • a(n) = Sum _{ k = 0..floor((n - 1) / 2) } (n - 2 * k - 1)! * binomial(n - k - 1,k) * binomial(n - k + 1,k + 2). Cf. A058798. - _ Peter Bala _ , Aug 01 2013 • a(n) = (n + 1)! * hypergeometric([1 / 2 - n / 2,1 - n / 2],[3, - 1 - n,1 - n],4) / 2 for n >= 2. - _ Peter Luschny _ , Sep 10 2014 •

[A128079] • 1,3,13,69,411,2633,17739,124029,892327,6567285,49235715,374841195,2890994445,22545855855,177524073021,1409591810133,11275693221519,90792020672429,735367765159347,5987665336600683,48987680485918149 ★ a(n) = Sum_{k=0..n} A000984(k)*A001263(n+1,k+1), where A000984 is the central binomial coefficients and A001263 is the Narayana triangle. • a(n) = Sum _{ k=0..n } C(2k,k) * C(n,k) * C(n + 1,k) / (k + 1). •

[A153395] • 1,1,3,13,69,417,2754,19373,142732,1088875,8533278,68308641,556242792,4593529882,38380159009,323860968709,2756019889146,23625552635 1

84,2038237931182 68,1768357487401595,15418860927887232,1350424459503165 14 ★ G.f.: A(x) = F(x*G(x)) where F(x) = G(x/F(x)^2) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)^2) = 1 + x*G(x)^4 is the g.f. of A002293. • a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(4n - 3k,n - k) * k / (4n - 3k) for n>0 with a(0)=1. •

[A088714] • 1,1,3,13,69,419,2809,20353,157199,1281993,10963825,97828031,907177801,8716049417,86553001779,886573220093,9351927111901,101447092428243,1130357986741545,12923637003161409,151479552582252239 ★ G.f. satisfies A(x) = 1 + x*A(x)^2*A(x*A(x)). • a(n,m) = Sum _{ k=0..n } m * C(n + k + m,k) / (n + k + m) * a(n - k,k). •

[A007808] • 1,1,3,13,69,431,3103,25341,231689,2345851,26065011,315386633,4128697741,58145826519,876660153671,14089181041141,240455356435473,4343224875615731,82776756452911579,1660133837750060001 ★ Number of directed column-convex polyominoes of height n: a(k+1)=(k+1)*a(k)+(a(1)+...+a(k)). • a(n) = (a(n - 1) ^ 2 - 2 * a(n - 2) ^ 2 + a(n - 2) * a(n - 3) - 4 * a(n - 1) * a(n - 3)) / (a(n - 2) - a(n - 3)) if n>3. - _ Michael Somos _ , Oct 20 2011 • a(n) = (n ^ 2 * a(n - 1) - 1) / (n - 1). - _ Vladeta Jovovic _ , Apr 26 2003 • a(n) = n! * n * [1 - Sum(1 / (j * (j + 1) * (j + 1)!), j=1..n - 1)). - _ Emeric Deutsch _ , Aug 07 2006 • a(n) = n! + n! * sum(j=1..n - 1, (n - j) / (j + 1)!). - _ Walden Freedman _ , Aug 21 2014 •

[A121586] • 1,3,13,70,446,3276,27252,253296,2602224,29288160,358457760,4740577920,67375532160,1024208720640,16583626886400,284953145702400,5178968115148800,99268112350310400,2001336861359001600 ★ Number of columns in all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(n) = (n + 1)! - |s(n + 1,2)|, where s(n,k) are the signed Stirling numbers of the first kind (A008275). Recurrence relation: a(n) =n * a(n - 1) + (n - 1)! * (n - 1); a(1)=1 (see the Barcucci et al. reference, p. 34). • a(n) = (n - 1)! * (n ^ 2 + n - 1 - n * H(n - 1)), where H(j)=1 / 1 + 1 / 2 + ... + 1 / j. [_ Emeric Deutsch _ , Nov 10 2008] • a(n) = n! * ((n + 1) - h(n)), where h(n)= sum(1 / k,k=1..n) •

[A182189] • 1,3,13,71,409,2379,13861,80783,470833,2744211,15994429,93222359,543339721,3166815963,18457556053,107578520351,627013566049,3654502875939,21300003689581,124145519261543,723573111879673 ★ a(n) = 6*a(n-1) - a(n-2) - 4 with n > 1, a(0)=1, a(1)=3. • a(n) = 1 + (1 / 4) * sqrt(2) * ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n). - _ Paolo P. Lava _ , May 10 2012 •

[A162326] • 1,1,3,13,71,441,2955,20805,151695,1135345,8671763,67320573,529626839,4213228969,33833367963,273892683573,2232832964895,18314495896545,151037687326755,1251606057754605,10416531069771111,87029307323766681 ★ Let a(0) = a(1) = 1, and n*a(n) = 2*(-7+5*n)*a(n-1) + 9*(2-n)*a(n-2) for n >= 2. • a(n) = 2F1(1 / 2,1 - n;2; - 8), where 2F1 is the Gauss hypergeometric series. •

[A126390] • 1,3,13,71,457,3355,27509,248127,2434129,25741939,291397789,3510328695,44782460313,602513988107,8518757813637,126179029108463,1952609274344353,31492811964616163,528249539951292461,9197240228562763687,165923214676585626729 ★ a(n) = Sum_{i=0..n} 2^i*B(i)*binomial(n,i) where B(n) = Bell numbers A000110(n). • a(n) = e ^ (- 1) * (2) ^ n * sum((k + 1 / 2) ^ n / k!, k=0..infinity). This is a Dobinski - type formula. - _ Karol A. Penson _ and _ Olivier Gérard _ , Oct 22 2007 •

[A233824] • 0,1,3,13,71,461,3447,29093,273343,2829325,31998903,392743957,5201061455,73943424413,1123596277863,18176728317413,311951144828863,5661698774848621,108355864447215063,2181096921557783605 ★ A recurrent sequence in Panaitopol's formula for pi(x), where pi(x) is the number of primes <= x. • a(n) = n * n! - Sum _{ k=1..n - 1 } k! * a(n - k). •

[A003319] • 0,1,1,3,13,71,461,3447,29093,273343,2829325,31998903,392743957,5201061455,73943424413,1123596277863,18176728317413,311951144828863,5661698774848621,108355864447215063,2181096921557783605,46066653228356851631,1018705098450570562877 ★ Number of connected permutations of [1..n] (those not fixing [1..j] for 0<j<n). Also called indecomposable permutations. • a(n) = (- 1) ^{ n - 1 } * det { | 1! 2! ... n! | 1 1! ... (n - 1)! | 0 1 1! ... (n - 2)! | ... | 0 ... 0 1 1! | } . • a(n) = upper left term in M ^ (n - 1), M = triangle A128175 as an infinite square production matrix (deleting the first "1"); as follows: •

[A192936] • 1,1,3,13,71,463,3497,29975,287265,3042545,35284315,444617525,6048575335,88347242335,1378930649745,22903345844335,403342641729665,7506843094993825,147226845692229875,3034786640911840925,65592491119118514375 ★ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x)=(x+1)(x+2)...(x+n). • a(n) = 1 / 10 * (5 - sqrt(5)) * GAMMA(n + 3 / 2 + 1 / 2 * sqrt(5)) / GAMMA(3 / 2 + 1 / 2 * sqrt(5)) - 1 / 10 * (5 + sqrt(5)) * GAMMA(1 / 2 * sqrt(5) - 1 / 2) * sin(1 / 2 * Pi * (5 + sqrt(5))) * GAMMA(n + 3 / 2 - 1 / 2 * sqrt(5)) / Pi. - _ Vaclav Kotesovec _ , Oct 26 2012 •

[A000261] • 0,1,3,13,71,465,3539,30637,296967,3184129,37401155,477471021,6581134823,97388068753,1539794649171,25902759280525,461904032857319,8702813980639617,172743930157869827,3602826440828270029,78768746000235327495,1801366114380914335441 ★ a(n) = n*a(n-1) + (n-3)*a(n-2), with a(1) = 0, a(2) = 1. • a(n + 1) = round(GAMMA(n) * (n ^ 3 + 6 * n ^ 2 + 8 * n + 1) * exp(- 1) / 6) for n>0. - _ Mark van Hoeij _ , Nov 11 2009 • a(n) = hypergeometric([4, - n + 2],[],1) * (- 1) ^ n for n>=2. - _ Peter Luschny _ , Sep 20 2014 •

[A086662] • 1,1,3,13,72,481,3745,33209,329868,3624270,43608474,570008803,8039735704,121673027607,1966231022067,33786076421499,615043147866660,11822938288619344,239298079351004608,5086498410027323134,113278368771499790136,2637549737582063583274,64082443707327038140602,1621782672366231029685407 ★ Stirling transform of Catalan numbers: Sum_{k=0..n} |Stirling1(n,k)|*C(2*k,k)/(k+1). • a(n)=(1 / (2 * pi)) * int(product(x + k,k,0,n - 1) * sqrt((4 - x) / x),x,0,4) (moment representation). [_ Paul Barry _ , Jul 26 2010] •

[A067764] • 1,1,3,13,73,167,4051,37633,43817,4596553,58941091,2746910471,12470162233,202976401213,1178339174801,65573803186921,99264170666917,994319127823939,5886334683154038 43,13564373693588558173,109232642628695218147,752832094524169066031 ★ Numerators of the coefficients in exp(x/(1-x)) power series. • a(n) is the numerator of Sum _{ i=1..n } binomial(n - 1, i - 1) / i!. •

[A193930] • 1,1,3,13,73,381,2611,19993,165873,1436473,14004451,145099461,1584090553,18196817653,223416271443,2865429498961,38330181602401,535448870264433,7823019065848003,118402856414023933,1856454825152993961,30160691907215561581 ★ E.g.f.: exp(x+x^2+x^3+x^4). • a(n) = n! * sum(k=1..n).sum(i=0..(n - k) / 4, (- 1) ^ i * binomial(k,k - i) * binomial(n - 4 * i - 1,k - 1)) / k!), n>0, a(0)=1. • a(n) = a(n - 1) + 2 * (n - 1) * a(n - 2) + 3 * (n - 1)(n - 2) * a(n - 3) + 4 * (n - 1) * (n - 2) * (n - 3) * a(n - 4). - _ Geoffrey Critzer _ , Oct 11 2014 •

[A199317] • 3,13,73,433,2593,15553,93313,559873,3359233,20155393,120932353,725594113,4353564673,26121388033,156728328193,940369969153,5642219814913,33853318889473,203119913336833,1218719480020993,7312316880125953,43873901280755713 ★ 2*6^n+1. • a(n) = 6 * a(n - 1) - 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). •

[A193931] • 1,1,3,13,73,501,3331,27553,253233,2540233,27340291,309811701,3843476473,50560182973,701098196163,10205952248521,155809733115361,2506135027165713,42013633806350083,732584456250306013,13270900741926553641,249625454707702681861 ★ E.g.f. A(x) = exp(x+x^2+x^3+x^4+x^5). • a(n)=n! * sum(k=1..n, sum(i=0..(n - k) / 5, (- 1) ^ i * binomial(k,k - i) * binomial(n - 5 * i - 1,k - 1)) / k!), n>0, a(0)=1. •

[A193932] • 1,1,3,13,73,501,4051,32593,313713,3326473,38377891,476464341,6299024953,87715975933,1314012177843,20776583119321,345267365639521,6009277853650833,109262845394221123,2073062512187103133,41084832105634595241,845645768972241105541 ★ E.g.f. A(x) = exp(x+x^2+x^3+x^4+x^5+x^6). • a(n)=n! * sum(k=1..n, sum(i=0..(n - k) / 6, (- 1) ^ i * binomial(k,k - i) * binomial(n - 6 * i - 1,k - 1)) / k!), n>0, a(0)=1. •

[A193933] • 1,1,3,13,73,501,4051,37633,354033,3870793,46240291,597877941,8298856633,122751616573,1921371570483,31604885804521,552755907700321,10156326950561553,195421314725788483,3926668816722630493,82199760488718697641,1789438454541407131141 ★ E.g.f. A(x) = exp(x+x^2+x^3+x^4+x^5+x^6+x
• a(n)=n! * sum(k=1..n, sum(i=0..(n - k) / 7, (- 1) ^ i * binomial(k,k - i) * binomial(n - 7 * i - 1,k - 1)) / k!), n>0, a(0)=1. •

[A000262] • 1,1,3,13,73,501,4051,37633,394353,4596553,58941091,824073141,12470162233,202976401213,3535017524403,65573803186921,1290434218669921,26846616451246353,588633468315403843,13564373693588558173,327697927886085654441,8281153039765859726341 ★ Number of "sets of lists": number of partitions of {1,...,n} into any number of lists, where a list means an ordered subset. • a(n) = (2 * n - 1) * a(n - 1) - (n - 1) * (n - 2) * a(n - 2). • a(n) = n! Sum _{ j=0..n - 1 } binomial(n - 1, j) / (j + 1)!, for n > 0. - Herbert S. Wilf, Jun 14 2005 • a(n) = exp(- 1) * Sum _{ m>=0 } [m] ^ n / m!, where [m] ^ n = m * (m + 1) * ... * (m + n - 1) is the rising factorial. - _ Vladeta Jovovic _ , Sep 20 2006 • a(n) = (n - 1)! * Sum _{ k=1..n } (a(n - k) * k!) / ((n - k)! * (k - 1)!), where a(0)=1. - _ Thomas Wieder _ , Sep 10 2008 • a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator (1 + x) ^ 2 * d / dx. Cf. A000110, A049118, A049119 and A049120. - _ Peter Bala _ , Nov 25 2011 • a(n) = n! * hypergeom([1 - n],[2], - 1) for n >= 1. - _ Peter Luschny _ , Jun 05 2014 •

[A205572] • 1,1,3,13,73,521,4443,44213,502993,6436561,91520883,1431459613,24424457113,451474855001,8987248462923,191682800678213,4360821252342433,105410131831623841,2697863748098734563,72885101748061044013,2072687894252786558953 ★ E.g.f.: 1/(cos(x) - sinh(x)). • a(2 ^ n + k) == a(k) (mod 2 ^ n) for k>=0, n>=1 (conjecture). •

[A128196] • 1,3,13,73,527,4775,52589,683785,10257031,174370039,3313031765,69573669113,1600194393695,40004859850567,1080131215981693 ★ A weighted sum of quotients of double factorials. • a(n) = (2n)! / (n! 2 ^ n) Sum(k=0..n, 4 ^ k k! / (2k)!) • a(n) = 2 ^ n Gamma(n + 1 / 2) Sum(k=0..n, 1 / Gamma(k + 1 / 2)) • a(n) = Sum(k=0..n, 2 ^ (2k - n)((n + 1)! Catalan(n)) / ((k + 1)! Catalan(k))) [Catalan(n) A000108] • a(n) = Sum(k=0..n, 2 ^ (2k - n) QuadFact(n) / QuadFact(k)) [QuadFact(n) A001813] • a(x) = 2 ^ x(exp(1) * Gamma(x + 1 / 2,1) + K * Gamma(x + 1 / 2)) •

[A162161] • 1,1,3,13,73,561,5251,57583,739089,10794241,176570371,3209512791,64116701353,1396247370961,32941566738627,836962322583871,22785381648804001,661810614930630273,20428823103775758595 ★ E.g.f. satisfies: A(x) = exp(x + x^2 + x^3*A(x)). • a(n) = n! * Sum _{ k=0..n } Sum(j=0..k } (j + 1) ^ (n - k - 1) / (n - k)! * C(n - k,k - j) * C(k - j,j). • a(n) = n! * Sum _{ k =0..n } Sum(j=0..k } m * (j + m) ^ (n - k - 1) / (n - k)! * C(n - k,k - j) * C(k - j,j). •

[A189886] • 1,1,3,13,74,530,4550,45570,521640,6717480,96117000,1512819000,25975395600,483169486800,9678799930800,207733600074000,4755768505488000,115681418156304000,2979408725813520000,80998627977002736000,2317937034142810080000,69649003197501567840000,2192459412316607834400000,72152830779716793506400000,2477756318984329979756160000 ★ a(n) is the number of compositions of the set {1, 2, ..., n} into blocks, each of size 1, 2 or 3 (n >= 0). • a(n) = sum(m=0..n, sum(j=0..3 * m - n, n! / (2 ^ (n + j - 2 * m) * 3 ^ (m - j)) * C(m,j) * C(j,n + 2 * j - 3 * m))) where C(n,k) is the binomial coefficient. • a(n) = n * a(n - 1) + n * (n - 1) / 2 * a(n - 2) + n * (n - 1)

* (n - 2) / 6 * a(n - 3). - _ Istvan Mezo _ , Jun 06 2013 ●

[A038762] ● 3,13,75,437,2547,14845,86523,504293,2939235,17131117,99847467,581953685,3391874643,19769294173,115223890395,671574048197,3914220398787,22813748344525,132968269668363,774995869665653 ★ a(n) = 6a(n-1)-a(n-2) for n >= 2, with a(0)=3, a(1)=13. ● a(n) = { 13 * ([3 + 2 * sqrt(2)] ^ n - [3 - 2 * sqrt(2)] ^ n) - 3 * ([3 + 2 * sqrt(2)] ^ (n - 1) - [3 - 2 * sqrt(2)] ^ (n - 1)) }/ (4 * sqrt(2)). ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3); a(n) = (1 / 2) * (3 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ (n - 1) + (1 / 2) * (3 - sqrt(2)) * (3 - 2 * sqrt(2)) ^ (n - 1). - _ Antonio Alberto Olivares _ , Apr 20 2008 ● a(n) = rational part of z(n) = (3 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n, n >= 0. z(n) gives only one part of the positive solutions to the Pell equation x ^ 2 - 2 * y ^ 2 = 7. See the Nagell reference on how to find z(n), and a comment above. - _ Wolfdieter Lang _ , Feb 05 2015 ●

[A074517] ● 3,13,75,469,3027,19933,133275,901669,6155427,42306733,292240875,2026154869,14085427827,98109713533,684326588475,4778079088069,33385518460227,233393453440333,1632228295176075,11417968671701269 ★ a(n) = 1^n + 5^n + 7^n. ● a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 24 with a(0)=3, a(1)=13. - _ Vincenzo Librandi _ , Jul 21 2010 ● a(0)=3, a(1)=13, a(2)=75, a(n) = 13 * a(n - 1) - 47 * a(n - 2) + 35 * a(n - 3). - _ Harvey P. Dale _ , Apr 15 2015 ●

[A007178] ● 1,1,3,13,75,525,4347,41245,441675,5259885,68958747,986533053,15292855019,255321427725,4567457001915,87156877087069,1767115200924299,37936303950503853,859663073472084315,20505904049009202685,513593410566661282347,13476082013068430626893 ★ Number of ways to write 1 as ordered sum of n powers of 1/2, allowing repeats. ● a(n) = coefficient of z ^ (2 ^ n) in (z + z ^ 2 + z ^ 4 + ... + z ^ (2 ^ n)) ^ n. - _ Don Knuth _ . ● a(n) = 4 + (- 1) ^ n (mod 8) when n>2 (see References: "Representation of a 2 - power as sum of k 2 - powers: a recursive formula"). (End) ●

[A000670] ● 1,1,3,13,75,541,4683,47293,545835,7087261,102247563,1622632573,28091567595,526858348381,10641342970443,230283190977853,5315654681981355,130370767029135901,3385534663256845323,92801587319328411133,2677687796244384203115 ★ Fubini numbers: number of preferential arrangements of n labeled elements; or number of weak orders on n labeled elements; or number of ordered partitions of [n]. ● a(n) = Sum _{ k=1..n } binomial(n, k) * a(n - k), a(0) = 1. ● a(n) is asymptotic to (1 / 2) * n! * log _ 2(e) ^ (n + 1), where e log _ 2(e) = 1.442695... [Barthelemy80, Wilf90]. ● a(n) = ((x * d / dx) ^ n) (1 / (2 - x)) evaluated at x=1. - _ Karol A. Penson _ , Sep 24 2001 ● a(n) = Sum _{ k=0..n } (- 1) ^ k * k! * Stirling2(n + 1, k + 1)(1 + (- 1) ^ k) / 2. - _ Paul Barry _ , Apr 20 2005 ● a(n) = Sum _{ k=0..n } k! * (Stirling2(n + 2, k + 2) - Stirling2(n + 1, k + 2)). - Micha Hofri (hofri(AT)wpi.edu), Jul 01 2006 ● a(n) = (- 1) ^ n * n! * Laguerre(n,P((.),2)), umbrally, where P(j,t) are the polynomials in A131758. - _ Tom Copeland _ , Sep 27 2007 ●

[A032036] ● 1,1,1,1,3,13,75,543,4719,47871,555177,7245015,105069249,1676322369,29178875913,550266979833,11176051287627,243213176948013,5645877335588331,139257558038636847,3636985088689068231,100266394939348499127,2909740575643004791953,88664517647380019280375 ★ Shifts left 3 places under "AIJ" (ordered, indistinct, labeled) transform. ● a(n)=sum(k=0..n - 4, binomial(n - 3,k) * a(k + 3) * a(n - k - 3)), a(1)=a(2)=a(3)=1. [From _ Vladimir Kruchinin _ , May 10 2011] ●

[A162435] ● 1,3,13,76,535,3921,31767,283574,2679558,26954099,285775908,3183625080,37069123612,449410859046,5658593670526,73786800505502,994254712074330,13815743636007248,197629567539080448,2905687475271339406 ★ Main diagonal of table A162430. ● a(n) = Sum _{ m=n(n + 1) / 2..n(n + 1) / 2 + n } [x ^ m] S(x) ^ (n + 1) for n>=0 where S(x) = Sum _{ n>=0 } x ^ (n(n + 1) / 2). ●

[A189239] ● 1,1,3,13,77,521,4237,38879,402537,4605697,57796601,787755255,11583272461,182651526513,3072748617317,54914056549231,1038486405418449,20713226786502529,434426374539131761,9555736871169618407,219912659890141260661,5283756963089094382705 ★ E.g.f. exp(x/cos(x)*exp(x/cos(x))) ● a(n) = n! * sum(r=1..n, ((sum(k=r..n - 1, (((- 1) ^ (n - k) + 1) * (sum(m=1..n - k, binomial(m + k - 1,k - 1) * sum(j=1..m, ((sum(i=0..floor((j - 1) / 2, (j - 2 * i) ^ (n - k) * binomial(j,i)))) * binomial(m,j) * (- 1) ^ ((n - k) / 2 - j)) / 2 ^ j))) * r ^ (k - r)) / ((n - k)! * (k - r)!))) + r ^ (n - r) / (n - r)!) / r!); ●

[A215915] ● 1,1,3,13,79,579,5209,53347,628257,8223481,119473291,1893056781,32677209103,606930554923,12109058077809,257638964244739,5830359141736129,139638723615395697,3531794326401241747,93977250969358226701,2625647922067519041231,76809884197769914248211 ★ E.g.f.: exp(Sum_{n>=1} A000041(n)*x^n/n), where A000041(n) is the number of partitions of n. ● a(n) = (n - 1)! * sum(p(i + 1) * a(n - i - 1) / (n - i - 1)!,i,0,n - 1), a(0)=1, where p(i) is the number of partitions of n. - _ Vladimir Kruchinin _ , Feb 27 2015 ●

[A010844] ● 1,3,13,79,633,6331,75973,1063623,17017969,306323443,6126468861,134782314943,3234775558633,84104164524459,2354916606684853,70647498200545591,2260719942417458913,76864478042193603043 ★ a(n) = 2*n*a(n-1) + 1 with a(0)=1. ● a(n) = floor(n! * e ^ (1 / 2) * 2 ^ n) = n! * Sum(2 ^ (n - k) / k!, k=0..n) (i.e. binomial transform of (2n)!!=n!2 ^ n) = n! * (e ^ (1 / 2) * 2 ^ n - Sum(2 ^ (n - k) / k!, k=n + 1...)). - _ Michael Somos _ , Mar 26 1999 ● a(n) = Sum[P(n, k)2 ^ k, { k, 0, n }]. - _ Ross La Haye _ , Aug 29 2005 ● a(n) = Sum _{ k=0..n } C(n,k) * k! * 2 ^ k. - _ Marc LeBrun _ , Dec 07 2013 ● a(n) + (- 2 * n - 1) * a(n - 1) + 2 * (n - 1) * a(n - 2)=0. - _ R. J. Mathar _ , Jan 31 2014 ● a(n) = hypergeometric _ U(1, n + 2, 1 / 2) / 2. - _ Peter Luschny _ , Nov 26 2014 ● a(n) = int { x = 0..inf } (2 * x + 1) ^ n * exp(- x) dx. Cf. A000354. ●

[A074514] ● 3,13,81,577,4353,33793,266241,2113537,16842753,134479873,1074790401,8594128897,68736253953,549822922753,4398314946561,35185445830657,281479271677953,2251816993554433,18014467228958721,144115462953762817 ★ 1^n + 4^n + 8^n. ● a(n)=12 * a(n - 1) - 32 * a(n - 2) + 21 with a(0)=3, a(1)=13. - _ Vincenzo Librandi _ , Jul 21 2010 ● a(0)=3, a(1)=13, a(2)=81, a(n)=13 * a(n - 1) - 44 * a(n - 2) + 32 * a(n - 3). - _ Harvey P. Dale _ , Jun 30 2011 ●

[A000904] ● 0,3,13,83,592,4821,43979,444613,4934720,59661255,780531033,10987095719,165586966816,2660378564777,45392022568023,819716784789193,15620010933562688,313219935456042955,6593238655510464741 ★ a(n) = (n+1)*a(n-1) + (n+2)*a(n-2) + a(n-3); a(1)=0, a(2)=3, a(3)=13. ● a(n - 1) = (n + 1) * a(n - 2) + a(n - 3) - 2 * (- 1) ^ n. Summing this with (i), we see that (i) defines A000904); ● a(n) = Sum _{ i=0..n + 2 } (- 1) ^ i * binomial(2 * n - i + 5, i)* (n + 2 - i)! (*) ● a(n + 1) = Sum _{ j=0..n + 3 } (- 1) ^ j * binomial(2 * n - j + 6,j) * (n - j + 3)! + Sum _{ j=1..n + 3 } (- 1) ^ j * binomial(2 * n - j + 6, j - 1 }* (n + 3 - j)! ● a(n + 1) = Sum _{ j=0..n + 3 }} (- 1) ^ j * binomial(2 * n - j + 7, j }* (n + 3 - j)! = Sum _{ j=0..n + 3 } (- 1) ^ j * binomial(2 * (n + 1) - j + 5,j) * ((n + 1) + 2 - j)! ●

[A121679] ● 1,1,3,13,85,706,7042,81887,1081257,15911488,257476901,4533396418,86110501919,1752312402881,37982176570353,872648321081531,21162807249523025,539772371783003416,14433746294326451095 ★ a(n) = A121678(n)/(n+1) = [x^n] (1 + x*(1+x)^n)^(n+1) / (n+1). ● a(n) = Sum _{ k=0..n + 1 } C(n + 1,k) * C(n * k,n - k) / (n + 1). ●

[A054420] ● 1,3,13,87,585,3899,25973,173039,1152849,7680691,51171485,340922567,2271346969,15132518507,100818201477,671686589663,4475014115745,29814130048611,198632300941357,1323358787022391,8816685256575721 ★ Number of connectable 3 X n binary matrices. ● a(n) = 7 * a(n - 1) - 3 * a(n - 2) + 5 * a(n - 3). ●

[A034513] ● 3,13,91,757,6643,59293,532171,4785157,43053283,387440173,3486843451,31381236757,282430067923,2541867422653,22876797237931,205891146443557,1853020231898563,16677181828806733,150094635684419611 ★ 1^n + 3^n + 9^n. ● a(0)=3, a(1)=13, a(2)=91, a(n)=13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3) [From Harvey P. Dale, Apr 13 2012] ●

[A277492] ● 3,13,96,780,6684,58812,523932,4693884,42158940,379086396,3410401308,30688106748,276170940636,2485450385340,22368701146524,201316901032572,1811846472148572,16306595700758844,146759271112516380,1320833079235394556 ★ Number of vertices in the metrically regular triangulation of the n-th approximation of the Koch snowflake fractal. ● a(n + 1) = (1 / 5) * (44 * 9 ^ n + 21 * 4 ^ n) for all n > - 1. ● a(0)=3, a(1)=13, a(2)=96, a(n) = 13 * a(n - 1) - 36 * a(n - 2) for n > 2. ●

[A041591] ● 1,1,3,13,146,159,305,1074,2453,5980,20393,26373,46766,540799,2209962,4960723,7170685,248764013,255934698,760633409,3298468334,37043785083,40342253417,77386038500,272500368917 ★ Denominators of continued fraction convergents to sqrt(313). ● a(n) = 253724736 * a(n - 17) + a(n - 34) for n>33. [_ Bruno Berselli _ , Dec 22 2013] ●

[A016104] ● 1,3,13,16381 ★ 2^2^2^ ... 2^w (with n 2's), where w = 1.9287800..... ● a(0) = 1, a(n) = the greatest prime less than 2 ^ (a(n - 1) + 1). - _ Charles R Greathouse IV _ , Oct 25 2006 ●

[A048756] ● 3,13,305175781 ★ Prime repunits in ascending prime bases (written in decimal). ● a(p)=((p ^ a(p - 1)) - 1) / (p - 1); a(p)=111...111 in base p with a(p - 1) 1's; p runs though the primes. ●

[A022125] ● 3,14,17,31,48,79,127,206,333,539,872,1411,2283,3694,5977,9671,15648,25319,40967,66286,107253,173539,280792,454331,735123 ★ Fibonacci sequence beginning 3, 14. ● a(n) = h * Fibonacci(n + k) + Fibonacci(n + k - h) with h=6, k=2. - _ Bruno Berselli _ , Feb 20 2017 ● a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 25 + 3 * sqrt(5)) + (1 + sqrt(5)) ^ n * (25 + 3 * sqrt(5)))) / sqrt(5). ● a(n) = a(n - 1) + a(n - 2) for n>1. ●

[A024598] ● 1,3,14,22,55,73,140,172,285,335,506,578,819,917,1240,1368,1785,1947,2470,2670,3311,3553,4324,4612,5525 ★ a(n) = s(1)s(n) + s(2)s(n-1) + ... + s(k)s(n+1-k), where k = floor((n+1)/2), s = (odd natural numbers). ● a(n) = (4 * n ^ 3 + 3 * n ^ 2 + 2 * n - 3 * n ^ 2 * (- 1) ^ n) / 12. - _ Luce ETIENNE _ , Jan 17 2015 ●

[A071396] ● 0,3,14,31,55,87,125,170,222,281,346,419,499,585,679,779,887,1001,1122,1251,1386,1528,1677,1833,1995 ★ Rounded total surface area of a regular octahedron with edge length n. ● a(n) = round(2 * n ^ 2 * sqrt(3)) ●

[A032525] ● 0,3,14,31,56,87,126,171,224,283,350,423,504,591,686,787,896,1011,1134,1263,1400,1543,1694,1851,2016 ★ Floor(7*n^2/2). ● a(n) = (- 1 + (- 1) ^ n + 14 * n ^ 2) / 4. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x * (3 * x ^ 2 + 8 * x + 3) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Aug 03 2013 ●

[A033991] ● 0,3,14,33,60,95,138,189,248,315,390,473,564,663,770,885,1008,1139,1278,1425,1580,1743,1914,2093,2280 ★ a(n) = n*(4*n-1). ● a(n) = a(n - 1) + 8 * n - 5 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. - _ Harvey P. Dale _ , Oct 10 2011 ● a(n) = Sum _{ i=n..3n - 1 } i. - _ Wesley Ivan Hurt _ , Dec 04 2016 ●

[A140064] ● 1,3,14,34,63,101,148,204,269,343,426,518,619,729,848,976,1113,1259,1414,1578,1751,1933,2124,2324,2533 ★ a(n) = (9*n^2 - 23*n + 16)/2. ● a(n) = a(n - 1) + 9 * n - 16, a(1)=1. - _ Vincenzo Librandi _ , Nov 24 2010 ● a(1)=1, a(2)=3, a(3)=14, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 01 2011 ●

[A064226] ● 3,14,34,63,101,148,204,269,343,426,518,619,729,848,976,1113,1259,1414,1578,1751,1933,2124,2324,2533,2751 ★ a(n) = (9*n^2 + 13*n + 6) / 2. ● a(n) = 3 * C(n, 0) + 11 * C(n, 1) + 9 * C(n, 2); binomial transform of (3, 11, 9, 0, 0, 0, ...). G.f.:(3 + 5 * x + x ^ 2) / (1 - x) ^ 3. - _ Paul Barry _ , Mar 15 2003 ●

[A094627] • 1,3,14,34,144,344,1444,3444,14444,34444,144444,344444,1444444,3444444,14444444,34444444,144444444,344444444,1444444444,3444444444,14444444444,34444444444,144444444444,344444444444,1444444444444 ⋆ Expansion of (1+x)^2/((1-x)*(1-10*x^2)). • a(n) = 10 ^ (n / 2) * (31 * sqrt(10) / 180 + 13 / 18 - (31 * sqrt(10) / 180 - 13 / 18) * (- 1) ^ n) - 4 / 9. • a(n) = (13 * b(n) + 31 * b(n - 1) - 4) / 9 with b(n) = 1,0,10,0,100,0,1000,.. (aerated A011557) [_ R. J. Mathar _ , Nov 26 2010] •

[A143941] • 3,14,37,76,135,218,329,472,651,870,1133,1444,1807,2226,2705,3248,3859,4542,5301,6140,7063,8074,9177,10376,11675 ⋆ The Wiener index of a chain of n triangles (i.e., joined like VVV..VV; here V is a triangle!). • a(n) = n * (1 + 6 * n + 2 * n ^ 2) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Apr 08 2015 •

[A162147] • 0,3,14,38,80,145,238,364,528,735,990,1298,1664,2093,2590,3160,3808,4539,5358,6270,7280,8393,9614,10948,12400 ⋆ a(n) = n*(n+1)*(5*n+4)/6. • a(n) = Sum _{ i = 0..n } i * (n + 1 + i). - _ Bruno Berselli _ , Mar 17 2016 •

[A027444] • 0,3,14,39,84,155,258,399,584,819,1110,1463,1884,2379,2954,3615,4368,5219,6174,7239,8420,9723,11154,12719,14424 ⋆ a(n) = n^3 + n^2 + n. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Wesley Ivan Hurt _ , Apr 05 2016 •

[A050297] • 0,1,3,14,40,90,175,308,504,780,1155,1650,2288,3094,4095,5320,6800,8568,10659,13110,15960,19250,23023,27324,32200 ⋆ Number of scalars which can be constructed from the Riemann tensor and metric tensor in n dimensions. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 7. •

[A005701] • 3,14,40,90,175,308,504,780,1155,1650,2288,3094,4095,5320,6800,8568,10659,13110,15960,19250,23023,27324,32200,37700,43875 ⋆ Number of exterior points formed by extending diagonals of n-gon in general position. • a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 6) / 12. •

[A213482] • 0,3,14,41,87,161,265,409,594,831,1120,1473,1889,2381,2947,3601,4340,5179,6114,7161,8315,9593,10989,12521,14182 ⋆ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y| > w+x+y. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A058389] • 1,3,14,44,129,316,714,1452,2775,4963,8478,13838,21827,33306,49504,71754,101871,141807,194128,261570,347633,456026,591384,758596,963657 ⋆ Number of 3 X 3 matrices with nonnegative integer entries and all row sums equal to n, up to row and column permutation. • a(n) = (1 / 6) * (C(C(n + 2, 2) + 2, 3) + 3 / 2 * floor((n + 2) / 2) * (C(n + 2, 2) - floor((n + 2) / 2)) + 3 * C(floor((n + 2) / 2) + 2, 3) + 2 * floor(C(n + 2, 2) / 3) + 2 * C(C(n + 2, 2) - 3 * floor(C(n + 2, 2) / 3) + 2, 3)). •

[A059672] • 0,3,14,45,124,315,762,1785,4088,9207,20470,45045,98292,212979,458738,983025,2097136,4456431,9437166,19922925,41943020,88080363,184549354,385875945,805306344 ⋆ Sum of binary numbers with n 1's and one (possibly leading) 0. • a(n) = Sum _{ k=0..n } Sum _{ i=0..n } C(n + 1,i) - C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A104196] • 1,3,14,46,206,694,2610,9420,35038,130784,484136,1827996,6891816,26121822,99232238,379021972,1450654796,5564804616,21406426134,82457456808 ⋆ Sum of CarmichaelLambda[n] between successive powers of 2. • a(n) =Sum[CarmichaelLambda[i], { i, 2 ^ n, 2 ^ (n + 1) - 1 }] •

[A287426] • 3,14,47,164,577,2046,7275,25896,92213,328402,1169599,4165564,14835849,52838630,188187539,670239824,2387094493,8501763066,30279478119,107841960420,384084837425,1367938433038,4871984973883,17351831787640,61799465310597 ⋆ Number of connected induced subgraphs in the n-sun graph. • a(n) = - 1 + n + ((3 - sqrt(17)) / 2) ^ n + ((3 + sqrt(17)) / 2) ^ n. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - a(n - 3) + 2 * a(n - 4) for n>4. (End) •

[A212505] • 0,0,3,14,48,114,243,444,768,1220,1875,2730,3888,5334,7203,9464,12288,15624,19683,24390,30000,36410,43923,52404,62208 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y>=2z. • a(n) = 2a(n - 1) + 2a(n - 2) - 6a(n - 3) + 6a(n - 5) - 2a(n - 6) - 2a(n - 7) + a(n - 8). •

[A176027] • 0,3,14,48,144,400,1056,2688,6656,16128,38400,90112,208896,479232,1089536,2457600,5505024,12255232,27131904,59768832,131072000,286261248,622854144,1350565888,2919235584 ⋆ Binomial transform of A005563. • a(n) = 2 ^ (n - 2) * n * (5 + n). - _ R. J. Mathar _ , Dec 11 2010 • a(n) = Sum _{ k=0..n - 1 } Sum _{ i=0..n - 1 } (k + 3) * C(n - 1,i). - _ Wesley Ivan Hurt _ , Sep 20 2017 •

[A164304] • 3,14,50,172,588,2008,6856,23408,79920,272864,931616,3180736,10859712,37077376,126590080,432205568,1475642112,5038157312,17201345024,58729065472,200513571840,684596156416,2337357481984,7980237615104 ⋆ a(n) = 4*a(n-1) - 2*a(n-2) for n > 1; a(0) = 3, a(1) = 14. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n > 1; a(0) = 3, a(1) = 14. • a(n) = ((3 + 4 * sqrt(2)) * (2 + sqrt(2)) ^ n + (3 - 4 * sqrt(2)) * (2 - sqrt(2)) ^ n) / 2. •

[A098521] • 0,0,1,3,14,50,195,721,2716,10116,37845,141295,528330,1975766,7395479,27698685,103821240,389410568,1461605481,5489516955,20630539910,77579118330,291893775019,1098848179561,4138773239892 ⋆ E.g.f. exp(x)*BesselI(2,2*sqrt(x)). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(n - k, k + 2) * 2 ^ k } . •

[A084150] • 0,0,1,3,14,50,199,749,2892,11028,42301,161799,619706,2372006,9081955,34767953,133109592,509594856,1950956857,7469077707,28594853414,109473250778,419110475455,1604533706357,6142840740900 ⋆ A Pell related sequence. • a(n)=((1 + sqrt(8)) ^ n + (1 - sqrt(8)) ^ n - 2) / 16; E.g.f. : exp(x)(sinh(sqrt(2)x)) ^ 2 / 4. •

[A192882] • 0,1,3,14,51,205,792,3107,12117,47362,184965,722591,2822544,11025793,43069611,168242270,657200859,2567211037,10028243016,39173122739,153021167805,597743469778,2334953116653,9120979734623,35629097057568 ⋆ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) given in Comments. • a(n)=2 * a(n - 1) + 7 * a(n - 2) + 2 * a(n - 3) - a(n - 4). •

[A017946] • 1,3,14,52,196,733,2744,10267,38416,143739,537824,2012353,7529536,28172943,105413504,394421215,1475789056,5521897022,20661046784,77306558317,289254654976,1082291816449,4049565169664 ⋆ Powers of sqrt(14) rounded down. • a(n) = Floor(Sqrt(14 ^ n)); [From Vincenzo Librandi, Jun 24 2011] •

[A083424] • 1,3,14,52,216,848,3424,13632,54656,218368,873984,3494912,13981696,55922688,223698944,894779392,3579150336,14316535808,57266274304,229064835072,916259864576,3665038409728,14660155736064,58640618749952 ⋆ a(n) = (5*4^n + (-2)^n)/6. • a(n) = 2 * a(n - 1) + 8 * a(n - 2). - _ N. J. A. Sloane _ , Jul 16 2014 •

[A099487] • 1,1,3,14,53,195,727,2716,10137,37829,141179,526890,1966381,7338631,27388143,102213944,381467633,1423656585,5313158707,19828978246,74002754277,276182038859,1030725401159,3846719565780,14356152861961 ⋆ Expansion of (1-3x+x^2)/((1+x^2)(1-4x+x^2)). • a(n)=4a(n - 1) - 2a(n - 2) + 4a(n - 3); a(n)=sum { k=0..floor(n / 2), C(n - k, k)(- 1) ^ n * (4 ^ (n - 2k) + 3 * 0 ^ (n - 2k)) / 4 } . •

[A179610] • 1,3,14,53,217,860,3453,13791,55198,220737,883037,3532004,14128249,56512619,226051086,904203357,3616815025,14467257516,57869034245,231476130215,925904531806,3703618109513,14814472466709,59257889820468 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: 1/(1-3*x-5*x^2+4*x^3). • a(n) = 3 * a(n - 1) + 5 * a(n - 2) - 4 * a(n - 3) with a(1)=1, a(2)=3 and a(3)=14. • a(n) = (1 / 95) * (5 * 2 ^ (2 * n + 4) - (11 - 2 * phi) * phi ^ (- n - 1) - (9 + 2 * phi) * (1 - phi) ^ (- n - 1)) with phi = (1 + sqrt(5)) / 2, with A001622 = phi. • a(n) = (- 1) ^ n * sum((- 4) ^ m * F(n + 1 - m),m=0..n). •

[A104191] • 1,3,14,54,236,920,3730,14862,59776,238856,956110,3823410,15299542,61193632,244779854,979111158,3916558030,15666093384,62664665094,250658276292,1002634426882,4010536846838,16042149531756,64168594080686,256674403929154 ⋆ Sum of Euler totient function between successive powers of two. • a(n) = phi(2 ^ n) + phi(2 ^ n + 1) + ... + phi(2 ^ (n + 1) - 2) + phi(2 ^ (n + 1) - 1). •

[A037793] • 3,14,57,228,915,3662,14649,58596,234387,937550,3750201,15000804,60003219,240012878,960051513,3840206052,15360824211,61443296846,245773187385,983092749540,3932370998163,15729483992654,62917935970617 ⋆ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 3,2,1,0. • a(1)=3, a(2)=14, a(3)=57, a(4)=228, a(5)=915, a(n)= 4 * a(n - 1) + a(n - 4) - 4 * a(n - 5). - _ Harvey P. Dale _ , Jun 01 2014 •

[A015523] • 0,1,3,14,57,241,1008,4229,17727,74326,311613,1306469,5477472,22964761,96281643,403668734,1692414417,7095586921,29748832848,124724433149,522917463687,2192374556806,9191710988853,38537005750589 ⋆ a(n) = 3*a(n-1) + 5*a(n-2), with a(0)=0, a(1)=1. • a(n) = 3 * a(n - 1) + 5 * a(n - 2). • a(n) = ((3 / 2 + sqrt(29) / 2) ^ n - (3 / 2 - sqrt(29) / 2) ^ n) / sqrt(29). • a(n) = Sum _{ k=0..floor((n - 1) / 2) } binomial(n - k - 1,k) * 5 ^ k * 3 ^ (n - 2 * k - 1). (End) •

[A110526] • 0,1,3,14,58,247,1045,4428,18756,79453,336567,1425722,6039454,25583539,108373609,459077976,1944685512,8237820025,34895965611,147821682470,626182695490,2652552464431,11236392553213,47598122677284 ⋆ a(n+3) = 3*a(n+2) + 5*a(n+1) + a(n), a(0) = 0, a(1) = 1, a(2) = 3. • a(n) = (1 / 8) * [2 - sqrt(5)] ^ n - (1 / 4) * (- 1) ^ n + (1 / 8) * [2 + sqrt(5)] ^ n + (1 / 40) * [2 + sqrt(5)] ^ n * sqrt(5) - (1 / 40) * [2 - sqrt(5)] ^ n * sqrt(5), with n>= 0. - _ Paolo P. Lava _ , Oct 02 2008 • a(n) = (- 1) ^ n / 2 * Sum _{ k=0..n } (- 1) ^ k * Fibonacci(3 * k). - _ Gary Detlefs _ , Jan 03 2013 •

[A038679] • 3,14,59,242,982,3964,15955,64106,257282,1031780,4135518,16569204,66365964,265761016,1064046979,4259609626,17050224394,68241838036,273110643754,1092947507356,4373580244084,17500703480776 ⋆ Convolution of A007054 (Super ballot numbers) with A000302 (powers of 4). • a(n) = 4 ^ (n + 1) - C(n + 1), C(n): Catalan numbers A000108; G.f. c(x) * (4 - c(x)) / (1 - 4 * x), where c(x) = g.f. for Catalan numbers. •

[A171499] • 3,14,60,248,1008,4064,16320,65408,261888,1048064,4193280,16775168,67104768,268427264,1073725440,4294934528,17179803648,68719345664,274877644800,1099511103488,4398045462528,17592183947264,70368739983360 ⋆ a(n) = 6*a(n-1) - 8*a(n-2) for n > 1; a(0) = 3, a(1) = 14. • a(n) = 4 * 4 ^ n - 2 ^ n = 2 ^ n * (2 ^ (n + 2) - 1). • a(n) = 4 * a(n - 1) + 2 ^ n, a(0)=3; a(n) = 6 * a(n - 1) - 8 * a(n - 2). [_ Vincenzo Librandi _ , Jul 18 2011] •

[A024037] • 1,3,14,61,252,1019,4090,16377,65528,262135,1048566,4194293,16777204,67108851,268435442,1073741809,4294967280,17179869167,68719476718,274877906925,1099511627756 ⋆ 4^n-n. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Jun 16 2013 •

[A100295] • 1,3,14,61,269,1184,5213,22951,101046,444873,1958633,8623232,37965321,167149115,735903870,3239948389,14264452181,62801801632,276496162501,1217323801087,5359485727718,23596094350545,103886025056529,457372283034,2012683168560465 ⋆ Simple recursive sequence generated from a symmetric matrix. • a(n) = rightmost term in M ^ n * [1 0 0], where M = [3 2 1 / 2 1 0 / 1 0 0] a(n) = 4 * a(n - 1) + 2 * a(n - 2) - a(n - 3). •

[A291025] • 3,14,62,273,1200,5271,23146,101626,446181,1958880,8600043,37756502,165760934,727733433,3194937360,14026596927,61580365906,270353629378,1186921889997,5210892012480,22877154557139,100436585338334,440942410322894,1935850452749409 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 3*S + S^2. • a(n) = 7 * a(n - 1) - 13 * a(n - 2) + 7 * a(n - 3) - a(n - 4). •

[A091701] • 1,3,14,63,287,1306,5945,27061,123180,560707,2552301,11617904,52883925,240724103,1095760078,4987826867,22704255571,103348258626,470434387405,2141385987489,9747446339348,44369726286423,201968037801353 ⋆

Row sums of triangle A091700. • a(0)=1, a(1)=3, a(2)=14, a(3)=63, a(n)=4 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Nov 26 2013 •

[A026243] • 0,3,14,63,324,1955,13698,109599,986408,9864099,108505110,1302061343,16926797484,236975164803,3554627472074,56874039553215,966858672404688,17403456103284419,330665665962403998,6613313319248079999,138879579704209680020,3055350753492612960483 ⋆ a(n) = A000522(n) - 2. • a(n) = n * (a(n - 1) + 2) - 1 for n>1, a(1) = 0. - _ Alois P. Heinz _ , May 25 2012 •

[A247978] • 1,1,1,3,14,64,426,2790,24024,229080,2399760,25022880,312273360,3884393520,56255149440,869007242880,14266826784000,233845982899200,4309095479673600,79300508301907200,1620482929875532800,34699018357638835200,777011144137311283200 ⋆ Number of permutations of [n] that have no prime fixed points. • a(n) = Sum _{ j=0..pi(n) } (- 1) ^ (j) * C(pi(n),j) * (n - j)!, with pi = A000720. •

[A002320] • 1,3,14,67,321,1538,7369,35307,169166,810523,3883449,18606722,89150161,427144083,2046570254,9805707187,46981965681,225104121218,1078538640409,5167589080827,24759406763726,118629444737803 ⋆ a(n) = 5*a(n-1) - a(n-2). • a(n)= - (1 / 42) * sqrt(21) * [(5 / 2) - (1 / 2) * sqrt(21)] ^ n + (1 / 42) * [(5 / 2) + (1 / 2) * sqrt(21)] ^ n * sqrt(21) + (1 / 2) * [(5 / 2) + (1 / 2) * sqrt(21)] ^ n + (1 / 2) * [(5 / 2) - (1 / 2) * sqrt(21)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 21 2008] •

[A241478] • 1,3,14,68,326,1532,7068,32104,143942,638444,2806196,12239768,53035804,228504408,979640696,4181649360,17780949574,75348050252,318312780612,1341015321784,5635404667700,23628002057736,98861122208008,412853709749168,1721097463947036 ⋆ a(n) = 4^n*(n/4 + binomial(n-1/2, -1/2)). • a(n) = 4 ^ n * (n / 4 + Gamma(n + 1 / 2) / (sqrt(Pi) * Gamma(n + 1))). •

[A113140] • 1,3,14,68,347,1819,9712,52532,286905,1578679,8738278,48601968,271406347,1520725095,8545396208,48138689272,271768537793,1537212749338,9709732836238,49423440297324,280835252080651,1597731101233763 ⋆ Diagonal sums of a Delannoy related triangle. • a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, C(n - 2k, j)C(n - k + j, k + j) }} . •

[A199314] • 3,14,69,344,1719,8594,42969,214844,1074219,5371094,26855469,134277344,671386719,3356933594,16784667969,83923339844,419616699219,2098083496094,10490417480469,52452087402344,262260437011719,13113021850585 94 ⋆ (11*5^n+1)/4. • a(n) = 5 * a(n - 1) - 1. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A190725] • 1,3,14,69,355,1872,10037,54459,298138,1643565,9111191,50739120,283635481,1590648819,8945090870,50423423685,284831065723,1611918320688,9137141645645,51869777201595,294843392318146,1677980087882013,9555901907126959 ⋆ Diagonal sums of Riordan matrix A118384. • a(n) = (3 * sum((- 1) ^ k * F(2k + 1) * d(n - k),k=0..n) - (- 1) ^ n * F(2n + 2)) / 2, where d(n) = central Delannoy number (A001850) and F(n) = Fibonacci number (A000045). •

[A261207] • 0,1,3,14,70,363,1925,10364,56412,309605,1710247,9496746,52960674,296408847,1663998345,9365980152,52837614456,298676661129,1691325089867,9592607927750,54482777049918,309837754937843,1764046900535053,10054065679046004,57357471874390100 ⋆ Expansion of (x-1)/8 - (x^2-4*x-1)/(8*sqrt(x^2-6*x+1)). • a(n) = Sum _{ i=0..n - 1 } (2 ^ i * (- 1) ^ (n - i - 1) * C(n + 1,n - i - 1) * C(n + i,n)). • a(n) = (- 1) ^ (n + 1) * (n * (n + 1) / 2) * hypergeom([1 - n, 1 + n], [3], 2)). - _ Peter Luschny _ , Aug 12 2015 •

[A161939] • 3,14,70,364,1932,10360,55832,301616,1631280,8827616,47783008,258677440,1400457408,7582175104,41050997120,222257525504,1203346244352,6515164597760,35274469361152,190983450520576,1034025033108480 ⋆ a(n) = ((3+sqrt(2))(4+sqrt(2))^n + (3-sqrt(2))(4-sqrt(2))^n)/2. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 3; a(1) = 14. •

[A186765] • 1,1,1,3,14,70,419,2933,23421,210789,2108144,23189584,278279165,3617629145,50646737049,759701055735,12155215581362,206638664883154,3719496008830391,70670424167777429,1413408484443295197,29681578173309199137 ⋆ Number of permutations of {1,2,...,n} having no increasing even cycles. A cycle (b(1), b(2), ...) is said to be increasing if, when written with its smallest element in the first position, it satisfies b(1)<b(2)<b(3)<... . A cycle is said to be even if it has an even number of entries. • a(n)=((sum(m=1..n,sum(k=1..m,((- 1) ^ k * sum(j=0..k,((sum(i=0..j,(j - 2 * i) ^ m * binomial(j, i))) * (- 1) ^ (j - k) * binomial(k, j)) / 2 ^ j)) / k!) / m!)) + 1) * n! [From _ Vladimir Kruchinin _ , Apr 25 2011] •

[A109792] • 1,3,14,70,444,3108,25584,230256,2342880,25771680,312888960,4067556480,57424792320,861371884800,13869128448000,235775183616000,4264876094976000,81032645804544000,1627055289796608000,34168161085728760000,754132445894209536000 ⋆ E.g.f.: log(1+x)/(1-x)^2. • a(n) = n! * Sum _{ k =1..n } Sum _{ i=1..k } (- 1) ^ (i + 1) / i. •

[A098648] • 1,3,14,72,376,1968,10304,53952,282496,1479168,7745024,40553472,212340736,1111830528,5821620224,30482399232,159607914496,835717890048,4375875682304,22912382533632,119970792472576,628175224700928 ⋆ Expansion of (1-3*x)/(1 - 6*x + 4*x^2). • a(n) = ((3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n) / 2. • a(n) = 2 * (3 * a(n - 1) - 2 * a(n - 2)). - _ Lekraj Beedassy _ , Oct 22 2004 • a(n) = 2 ^ (n - 1) * Lucas(2 * n). - _ Eric W. Weisstein _ , Mar 31 2017 •

[A118650] • 1,3,14,72,388,2150,12134,69370,400398,2328162,13616892,80022612,472133638,2794893246,16592160944,98743919468,588913687966,3518968100982,21062444053040,126256612255260,757853797478188 ⋆ Center column a(2n,n) of A106597. • a(n) = Sum _{ k=0..n } binomial(2 * k,k) * (- 1) ^ (n - k) * Sum _{ j=0..k } binomial(k,j) * binomial(k + 1,n - k - j) * 2 ^ (k - j). •

[A295104] • 1,1,3,14,72,489,3722,33641,334520,3761688,45898272,615641806,8863726704,137786878644,2279658872696,40229212948404,750433323448128,14801457167223872,306869893647304896,6683254543551623904,152281219079726183040,3626445842114839589952 ⋆ a(n) = (1/n) times the n-th derivative of the fourth tetration of x (power tower of order 4) x^^4 at x=1. • a(n) = 1 / n * [(d / dx) ^ n x ^^ 4] _{ x=1 } . • a(n) = (n - 1)! * [x ^ n] (x + 1) ^^ 4. •

[A074549] • 3,14,74,434,2738,18074,122474,842114,5836898,40635434,283582874,1981698194,13858595858,96957713594,678496291274,4748649600674,33237268583618,232647822996554,1628482704807674,11399171225541554 ⋆ 3^n + 4^n + 7^n. • a(n) = + 14 * a(n - 1) - 61 * a(n - 2) + 84 * a(n - 3) •

[A026004] • 1,3,14,75,429,2548,15504,95931,600875,3798795,24192090,154969620,997490844,6446369400,41802112192,271861216539,1772528290407,11582393855305,75831424919250,497337483739635,3266814940064445 ⋆ a(n) = T(3n+1,n), where T = Catalan triangle (A008315). • a(n) = (n + 2) / (2 * n + 2) * C(3 * n + 1, n). - _ Ralf Stephan _ , Apr 30 2004 • a(n) = sum(k=0..n, (k + 1) * binomial(n,k) * binomial(2 * (n + 1),n - k)) / (n + 1). - _ Vladimir Kruchinin _ , Mar 01 2014 • a(n) = [x ^ n] ((1 - sqrt(1 - 4 * x)) / (2 * x)) ^ (n + 2). - _ Ilya Gutkovskiy _ , Nov 01 2017 •

[A200718] • 1,1,3,14,75,433,2636,16668,108399,720431,4871555,33409042,231817448,1624503716,11480658056,81731416480,585579734959,4219179476875,30552067317233,222225174139730,1622894404239115,11894991079960721,87472260252499560,645183802300787356,4771926560361458884 ⋆ G.f. satisfies: A(x) = (1 + x*A(x)^2) * (1 + x^2*A(x)^6). • a(n) = Sum _{ k=0..n / 2 } ((binomial(2 * n + 2 * k + 1,k) * binomial(2 * n + 2 * k + 1,n - 2 * k)) / (2 * n + 2 * k + 1)). - _ Vladimir Kruchinin _ , Mar 11 2016 •

[A063016] • 1,3,14,75,434,2646,16764,109395,730730,4973826,34381412,240728670,1703826292,12170930700,87633375480,635351667075,4634365164570,33985474184970,250419761106900,1853107999454250,13765951702923420 ⋆ Product of Catalan(n) and (2^(n+1)-1). • a(n) = Catalan(n) * (2 ^ (n + 1) - 1). • a(n) = 2 * (2 * n - 3) * (3 * (n - 1) * a(n - 1) - 4 * (2 * n - 5) * a(n - 2)) / (n * (n - 1)). (Starting with a(0) = 0 and a(1) = 1.) •

[A246455] • 1,3,14,75,439,2718,17483,115575,779716,5342937,37065029,259694334,1834494025,13048232853,93352065596,671245767795,4847769647701,35145881098272,255674861620439,1865618971630305,13650358024120804,100123485522075447,736036670999528711 ⋆ G.f.: Sum_{n>=0} x^n / (1-2*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k] * [Sum_{k=0..n} C(n,k)^2 * 2^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, k) ^ 2 * 2 ^ j. •

[A048779] • 1,3,14,77,462,2926,19228,129789,894102,6258714,44379972,318056466,2299792908,16755634044,122874649656,906200541213,6716545187814,50000947509282,373691291911476,2802684689336070,21086865757861860,159109987082048580,1203701641403324040 ⋆ Coefficients of power series for (1-(1-8x)^(1/4))/2. • a(n) = 2 ^ (n - 1) * 3 * 7 * 11 * ... * (4n - 5) / n! = 2a(n - 1) (32a(n - 2) + a(n - 1)) / (18a(n - 2) - a(n - 1)). • a(n) = 8 ^ n * binomial(n - 1 / 4, - 1 / 4) / (n + 1). •

[A074538] • 3,14,78,476,3042,19964,133338,901796,6155682,42307244,292241898,2026156916,14085431922,98109721724,684326604858,4778079120836,33385518525762,233393453571404,1632228295438218,11417968672225556,79887633730301202,559022701243584284 ⋆ a(n) = 2^n + 5^n + 7^n. • a(n) = 14 * a(n - 1) - 59 * a(n - 2) + 70 * a(n - 3) for n > 2. - _ Wesley Ivan Hurt _ , Oct 06 2017 •

[A277132] • 1,3,14,78,508,3796,32048,301872,3139680,35746080,442258560,5909028480,84802072320,1301090515200,21253339699200,368281038182400,6747621163315200,130338926671564800,2647326900234240000,56404832240977920000 ⋆ The first subdiagonal of triangle A196842. • a(n) + (- 2 * n - 1) * a(n - 1) + n ^ 2 * a(n - 2) = 0. •

[A003169] • 1,3,14,79,494,3294,22952,165127,1217270,9146746,69799476,539464358,4214095612,33218794236,263908187100,2110912146295,16985386737830,137394914285538,1116622717709012,9113225693455362,74659999210200292 ⋆ Number of 2-line arrays; or number of P-graphs with 2n edges. • a(n) = ((324 * n ^ 2 - 708 * n + 360) * a(n - 1) - (371 * n ^ 2 - 1831 * n + 2250) * a(n - 2) + (20 * n ^ 2 - 130 * n + 210) * a(n - 3)) / (16 * n * (2 * n - 1)) for n>2, with a(0)=0, a(1)=1, a(2)=3. - _ Paul D. Hanna _ , Nov 16 2004 • a(n) = (1 / n) * Sum _{ i=0..n - 1 } binomial(n,i) * binomial(3 * n - i - 2,n - i - 1). - _ Vladeta Jovovic _ , Sep 13 2006 •

[A121873] • 1,3,14,80,510,3479,24848,183465,1389090,10726452,84150858,668825768,5373971036,43580383095,356234802952,2932097981824,24279982680870,202134854855973,1690839212784240,14204198452365180,119784707913644598,1013675671656956976 ⋆ Number of non-crossing plants in the (n+1)-sided regular polygon (contains non-crossing trees). • a(n) = sum(j=0..n - 1, (sum(i=0..n - j - 1, binomial(i + n - 1,n - 1) * binomial(i + n,n - j - i - 1))) * binomial(n,j)) / n, n>0, a(0)=0. - _ Vladimir Kruchinin _ , Oct 12 2011 •

[A215661] • 1,3,14,83,554,3966,29756,230915,1838162,14926346,123157572,1029590062,8702171620,74238432924,638408311800,5528154378467,48161687414498,421848099386322,3712675503776372,32815429463428794,291169073934720940,2592569269501484836 ⋆ G.f. satisfies: A(x) = (1 + 2*x*A(x)) * (1 + x*A(x)^2). • a(n) = [x ^ n] ((1 + 2 * x) / (1 - x - 2 * x ^ 2)) ^ (n + 1) / (n + 1). •

[A121687] • 1,1,3,14,83,574,4432,37244,335153,3194510,32001596,335019839,3649450270,41227610316,481724831132,5809341783543,72177761136925,922539273876404,12115001489115910,163284755614174305 ⋆ G.f. satisfies A(x) = 1 + x*A(x) * A(x*A(x))^2. • a(n,m) = Sum _{ k=0..n } m * C(n + m,k) / (n + m) * a(n - k,2k). - _ Paul D. Hanna _ , Dec 15 2010 •

[A005700] • 1,1,3,14,84,594,4719,40898,379236,3711916,37975756,403127256,4415203280,49671036900,571947380775,6721316278650,80419959684900,977

737404590100,12058761323277900,150656212896017400 ★ Number of closed walks of 2n unit steps north, east, south, or west starting and ending at the origin and confined to the first octant. • a(n) = 6 * (2 * n)! * (2 * n + 2)! / (n! * (n + 1)! * (n + 2)! * (n + 3)!) (Mihailovs). • a(n) = Det[Table[binomial [i + 1, j - i + 2], { i, 1, n } , { j, 1, n }]] - _ David Callan _ , Jul 20 2005 • a (n) = b(n)b(n + 1) / 6 where b(n) is the superballot number A007054. - _ D avid Callan _ , Feb 01 2007 • a(n) = 12 * 4 ^ n * (2 * n - 1)!! * (2 * n + 1)!! / ((n + 2)! * (n + 3)!). - _ Michael Somos _ , Oct 02 2014 •

[A088717] • 1,1,3,14,84,596,4785,42349,406287,4176971,45640572,526788153,6392402793,81247489335,1078331283648,14907041720241,214187010762831,3192620516380376,49287883925072010,786925082232918304,12976244331714379149,220728563512663520510 ★ G.f. satisfies: A(x) = 1 + x*A(x)^2*A(x*A(x)^2). • a(n) = coefficient of x ^ n in (1 + x * A(x)) ^ (2 * n + 1) / (2 * n + 1) where A(x) = Sum _{ n=0 } a(n) * x ^ n. • a(n,m) = Sum _{ k=0..n } m * C(2 n + m,k) / (2n + m) * a(n - k,k). [_ Paul D. Hanna _ , Dec 16 2010] •

[A088716] • 1,1,3,14,85,621,5236,49680,521721,5994155,74701055,1003125282,14437634276,221727608284,3619710743580,62605324014816,1143782167355649,22014467470369143,445296254367273457,9444925598142843970 ★ G.f. satisfies: A(x) = 1 + x*A(x)*d/dx[x*A(x)] = 1 + x*A(x)^2 + x^2*A(x)*A'(x). • a(0)=1, a(n) = Sum _{ k=1..n } k * a(k - 1) * a(n - k) for n>=1 with a(0) =1. •

[A074520] • 3,14,86,560,3698,24584,164306,1103480,7444418,50431304,342941426,2340123800,16018069538,109949704424,756587236946,5217746494520,36054040477058,249557173431944,1729973554578866,12008254925383640 ★ 1^n + 6^n + 7^n. • a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 30, n>1. [_ Gary Detlefs _ , Jun 21 2010] •

[A127715] • 1,1,3,14,86,645,5662,56632,633545,7820115,105401961,1538517351,24157841308,405778641302,7256711524298,137607733327779,2757147167433326,58188668578629283,1289965088962987961 ★ Rightmost border of triangle A127714: a(n) = A127714(n, (n+1)*(n+2)/2 - 1). • a(n) = upper left term of M ^ n, M = an infinite square production matrix in which nonzero terms = A 033184 with the first "1" deleted, as follows: M = •

[A081005] • 3,14,90,611,4182,28658,196419,1346270,9227466,63245987,433494438,2971215074,20365011075,139583862446,956722026042,6557470319843,44945570212854,308061521170130,2111485077978051,14472334024676222,99194853094755498,679891637638612259 ★ Fibonacci(4n+3)+1, or Fibonacci(2n+1)*Lucas(2n+1). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 1 + [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n + (2 / 5) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ P aolo P. Lava _ , Dec 01 2008 •

[A074518] • 3,14,90,638,4722,35894,277770,2175278,17167842,136170854,1083507450,8638762718,68963617362,550976517014,4404150026730,35214889666958,281627564601282,2252562753138374,18018213206747610,144134261562183998 ★ a(n) = 1^n + 5^n + 8^n. • a(n) = 13 * a(n - 1) - 40 * a(n - 2) + 28 with a(0)=3, a(1)=14. - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=3, a(1)=14, a (2)=90, a(n) = 14 * a(n - 1) - 53 * a(n - 2) + 40 * a(n - 3). - _ Harvey P. Dal e _ , Sep 24 2013 •

[A113181] • 1,3,14,95,859,9130,106039,1297295,16428300,213388961,2827645453,38086408002,520062618300,7184570776213,100256059855188,1411319038583375,20021022607979629,285965560309310708,4109498933510809561,59380204746202961953,862266486434574492404 ★ Number of unrooted two-vertex (or, dually, two-face) regular planar maps of even valency 2n considered up to orientation-preserving homeomorphism. • a(n) = binomial(2n, n) / 4 + (1 / (4n))Sum _{ k|2n } phi(k)binomial((2n / k) - 1), floor(n / k)) ^ 2 where phi(k) is the Euler function A000010. •

[A074515] • 3,14,98,794,6818,60074,535538,4799354,43112258,387682634,3487832978,31385253914,282446313698,2541932937194,22877060890418,205892205836474,1853024483819138,16677198879535754,150094704016475858 ★ a(n) = 1^n + 4^n + 9^n. • a(n) = 13 * a(n - 1) - 36 * a(n - 2) + 24 with a(0)=3, a(1)=14. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A076015] • 1,3,14,100,979,12201,184820,3297456,67731333,1574304985,40851766526,1170684360924,36720042483591,1251308658130545,46034015337733480,1818399978159990976,76762718946972480009 ★ Row sums of triangle A076014. • a(n) = sum _{ m=1..n } m ^ (n - 1), n>=1. •

[A073550] • 3,14,134,1334,13334,133334,1333334,13333334,133333334,1333333334,13333333334,133333333334,1333333333334,13333333333334,133333333333334,1333333333333334,13333333333333334,133333333333333334 ★ Number of Fibonacci numbers F(k), k <= 10^n, which end in 1. • a(n) = ceil((10 ^ n - 1) / 60) + ceil((10 ^ n - 2) / 60) + ceil((10 ^ n - 8) / 60) + ceil((10 ^ n - 19) / 60) + ceil((10 ^ n - 22) / 60) + ceil((10 ^ n - 28) / 60) + ceil((10 ^ n - 41) / 6 0) + ceil((10 ^ n - 59) / 60). • a(n) =ceil(40 / 3 * 10 ^ n) - _ Benoit Cloitre _ , Aug 27 2002 •

[A090897] • 3,14,159,2653,58979,323846,2643383,27950288,419716939,9375105820,97494459230,781640628620,8998628034825,34211706798214,808651328230664,7093844609550582,23172535940812848,111745028410270193 ★ Next n digits of Pi. • a(n)=floor(pi * 10 ^ (n * (n + 1) / 2 - 1)) mod (10 ^ n) [From _ Carl R. White _ , Aug 13 2010] •

[A133227] • 1,3,15,15,105,105 ★ The number of ways of selecting an ordered pair of permutations {P_1,P_2} out of S={1,2..,n} (i)each of length floor function {n/2} (ii)each element of P_1 is less than corresponding element of P_2 (iii) There are no common elements between P_1 and P_2. • a(2n + 2)= (1 + 2n) * a(2n) a(2n + 1)= (1 + 2n) * a(2n) with a(2)=1,a(3)=3 •

[A120467] • 1,3,15,15,165,2145,2145,40755,937365,937365,29058315,1075157655,1075157655,46231779165,2172893620755,2172893620755,12820072362454 5,7820244141097245,7820244141097245,555237334017904395 ★ Goedel number sequence of the modulo two Fibonacci sequence. • a(n) = Product[prime[i + 1] ^ mod[Fibonacci[i],2], { i,0,n }] •

[A083545] • 1,3,15,19,95,104,125,164,194,255,259,341,491,495,504,512,513,584,591,629,679,755,775,975,1024 ★ Geometric mean of Euler-phi of 2 consecutive integers {n,n+1} is also an integer: n's are collected here. • a(m)=x is such t hat Sqrt(A000010[x] * A000010[x + 1]) is integer. Values of x solutions to phi [x + 1].phi[x]=A083542[x]=y ^ 2, •

[A014493] • 1,3,15,21,45,55,91,105,153,171,231,253,325,351,435,465,561,595,703,741,861,903,1035,1081,1225 ★ Odd triangular numbers. • a(n) = (2 * n - 1) * (2 * n - 1 - (- 1) ^ n) / 2. - _ Ant King _ , Nov 17 2010 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Ant King _ , Nov 17 2010 •

[A057780] • 0,3,15,24,48,63,99,120,168,195,255,288,360,399,483,528,624,675,783,840,960,1023,1155,1224,1368 ★ Multiples of 3 that are one less than a perfect square. • a(n) = 3 / 8 * (6 * n ^ 2 - 2 * ((- 1) ^ n + 3) * n + (- 1) ^ n - 1). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A017557] • 3,15,27,39,51,63,75,87,99,111,123,135,147,159,171,183,195,207,219,231,243,255,267,279,291 ★ 12n+3. • a(n) = 2 * a(n - 1) - a(n - 2). [From Vi ncenzo Librandi, Jun 07 2011] •

[A290325] • 3,15,30,51,78,111,150,195,246,303,366,435,510,591,678,771,870,975,1086,1203,1326,1455,1590,1731,1878 ★ Number of minimal dominating sets (and maximal irredundant sets) in the complete tripartite graph K_{n,n,n}. • a(n) = 3 * n ^ 2 + 3 for n > 1. - _ Andrew Howroyd _ , Jul 27 2017 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 4. (End) •

[A152813] • 3,15,31,51,75,103,135,171,211,255,303,355,411,471,535,603,675,751,831,915,1003,1095,1191,1291,1395 ★ a(n) = 2n^2 + 10n + 3. • a(n) = 3 * a (n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 22 2012 • a(n - 1) = 2n ^ 2 + 2n - 9. - _ Avi Friedlich _ , Mar 27 2015 •

[A000466] • 1,3,15,35,63,99,143,195,255,323,399,483,575,675,783,899,1023,1155,1295,1443,1599,1763,1935,2115,2303 ★ a(n) = 4*n^2 - 1. • a(n) = a(n - 1) + 8 * n - 4 for n>0, a(0)= - 1. - _ Vincenzo Librandi _ , Dec 17 2010 • a(n) = 3 * Pochhammer(5 / 2,n - 1) / Pochhammer(1 / 2,n - 1). Hence, the e.g.f. f or a(n + 1), i.e., dropping the first term, is 3 * 1F1(5 / 2;1 / 2;x), with 1F1 b eing the confluent hypergeometric function (also known as Kummer's). - _ St anislav Sykora _ , May 26 2016 •

[A001803] • 1,3,15,35,315,693,3003,6435,109395,230945,969969,2028117,16900975,35102025,145422675,300540195,9917826435,20419054425,83945001525,172308161025,1412926920405,2893136075115,11835556670925 ★ Numerators in expansion of (1-x)^(-3/2). • a(n) = numer((2 * n + 1) * binomial(2 * n,n) / (4 ^ n)) •

[A161738] • 1,1,3,15,35,315,693,9009,19305,328185,692835,14549535,30421755,760543875,1579591125,45808142625,94670161425,3124115327025,6432002143875,237984079323375,488493636505875,20028239096740875 ★ Sequence related to the column sums of the BG2 matrix • a(n) = product((2 * n - 3 - 2 * k), k =0..floor(n / 2 - 1)) •

[A062741] • 0,3,15,36,66,105,153,210,276,351,435,528,630,741,861,990,1128,1275,1431,1596,1770,1953,2145,2346,2556 ★ 3 times pentagonal numbers: 3*n*(3*n-1)/2. • a(n) = C(3 * n,2). - _ Zerinvary Lajos _ , Jan 02 2007 • a(n) = 9 * n + a(n - 1) - 6, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A185541] • 1,3,15,36,66,105,171,253,378,496,666,861,1081,1378,1711,2080,2485,2926,3403,4005,4656,5356,6105,6903,7875 ★ m*(m+1)/2, where m=floor(n^(3/2)). • a(n)=(1 / 2) * [n ^ 3 / 2] * [1 + n ^ 3 / 2], where []=floor. •

[A117561] • 3,15,38,73,124,194,286,403,548,724,934,1181,1468,1798,2174,2599,3076,3608,4198,4849,5564,6346,7198,8123,9124 ★ Floor(n*(n^3-n-3)/(2*(n-1))). • a(n) = floor(n * (n ^ 3 - n - 3) / (2 * (n - 1))). •

[A059270] • 0,3,15,42,90,165,273,420,612,855,1155,1518,1950,2457,3045,3720,4488,5355,6327,7410,8610,9933,11385,12972,14700 ★ Numbers which are both the sum of n+1 consecutive integers and the sum of the n immediately higher consecutive integers. • a(n) = n * (n + 1) * (2 * n + 1) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 6 = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a (n - 4). - _ Ant King _ , Jan 03 2011] •

[A219085] • 0,3,15,42,91,166,274,421,614,857,1157,1520,1953,2460,3048,3723,4492,5359,6331,7414,8615,9938,11390,12977,14706 ★ Floor((n + 1/2)^3). • a (n) = floor((n + 1 / 2) ^ 3). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a (n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7). • a(n) = (n + 1 / 2) ^ 3 + (2 * i ^ (n * (n - 1)) + (- 1) ^ n - 4) / 8, where i=sqrt(- 1). - _ Bruno Berselli _ , Dec 21 2012 •

[A101165] • 0,3,15,43,94,175,293,455,668,939,1275,1683,2170,2743,3409,4175,5048,6035,7143,8379,9750,11263,12925,14743,16724 ★ a(n) = (7*n^3 + 6*n^2 + 5*n) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A127407] • 3,15,44,100,195,343,560,864,1275,1815,2508,3380,4459,5775,7360,9248,11475,14079,17100,20580,24563,29095,34224,40000,46475 ★ Negative value of coefficient of x^(n-2) in the characteristic polynomial of a certain n X n integer circulant matrix. • a(n + 1) = n * (n + 1) ^ 2 * (n + 8) / (2 * 3!) f or n>=1. • a(n) = ((n - 1) ^ 4 + 10 * (n - 1) ^ 3 + 17 * (n - 1) ^ 2 + 8 * (n - 1)) / (2 * 3!) for n>=2. • a(n) = (n ^ 2 * (- 7 + 6 * n + n ^ 2)) / 12. G.f.: x ^ 2 * (3 - x ^ 2) / (1 - x) ^ 5. [_ Colin Barker _ , May 13 2012] •

[A050534] • 0,0,0,3,15,45,105,210,378,630,990,1485,2145,3003,4095,5460,7140,9180,11628,14535,17955,21945,26565,31878,37950 ★ Tritriangular numbers: a(n) = binomial(binomial(n,2),2) = n(n + 1)(n - 1)(n - 2)/8. • a(n + 1) = T(T(n)) - T(n); a(n + 2) = T(T(n) + n) where T is A000217. - _ Jon Perry _ , Jun 11 2003 • a(n) = T(T(n - 1) - 1) where T is A000217. - _ Jon E. Schoenf ield _ , Dec 14 2014 • a(n) = 3 * C(n, 4) + 3 * C(n, 3), for n>3. • a(n) = (4 x ^ 4 - 4x ^ 3 - x ^ 2 + x) / 2 where x = floor(n / 2) * (- 1) ^ n for n >= 0. -

_ William A. Tedeschi _ , Aug 24 2010 • a(n) = Sum _{ k=1..n } Sum _{ i =1..k } (n - i - 1) * (n - k). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A030505] • 3,15,45,106,213,384,643,1014,1526,2210,3100,4236,5658,7411,9541,12101,15144,18727,22910,27758,33337,39717,46971,55175,64410 ★ Graham-Sloane-type lower bound on the size of a ternary (n,3,5) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[A005560] • 1,3,15,45,189,588,2352,7560,29700,98010,382239,1288287,5010005,17177160,66745536,232092432,901995588,3173688180,12342120700,4386199818 0,170724392916,611947174608,2384209771200,8609646396000,33577620944 00 ★ Number of walks on square lattice. • a(n) = C(n + 3, ceil(n / 2)) * C(n + 2, floor(n / 2)) - C(n + 3, ceil((n - 1) / 2)) * C(n + 2, floor((n - 1) / 2)). - _ Paul D. Hanna _ , Apr 16 2004 •

[A100747] • 1,3,15,45,225,675,3375,10125,50625,151875,759375,2278125,1139 0625,34171875,170859375,512578125,2562890625,7688671875,38443359375,115 330078125,576650390625,1729951171875,8649755859375,25949267578125 ★ A modular recurrence. • a(2n) = 15 ^ n, a(2n + 1) = 3 * 15 ^ n. - _ Ralf Steph an _ , May 16 2007 •

[A178669] • 0,3,15,45,315,3150,28350,274050,3014550,36330525,472296825,66 09317715,99139765725,1586293008300,26966981141100,485404420000500,9222 683980009500,184453709062998375 ★ The number of permutations of [n] with 2 cycles of length 2 • a(n)=n! * sum _{ j=k.. [n / 2] } (- 1) ^ j / ((j - k)! * 2 ^ j * k!). E.g.f. = exp(- z ^ 2 / 2) * z ^ (2 * k) / ((1 - z) * 2 ^ k * k!), where k is the number of cycles of length 2. •

[A163383] • 1,3,15,47,127,319,767,1791,4095,9215,20479,45055,98303,21299 1,458751,983039,2097151,4456447,9437183,19922943,41943039,88080383,18454 9375,385875967,805306367 ★ a(n) = (n-1)*2^n - 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). •

[A061316] • 0,3,15,48,120,255,483,840,1368,2115,3135,4488,6240,8463,11235,14640,18768,23715,29583,36480,44520,53823,64515,76728,90600 ★ a(n) = n*(n+1)*(n + n + 4)/4. • a(n) = n * (n + 1) * (n ^ 2 + n + 4) / 4. • a(0)=0, a(1)=3, a(2)=15, a(3)=48, a(4)=120, a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5). •

[A124161] • 0,0,3,15,48,121,261,504,896,1494,2367,3597,5280,7527,10465,14238,19008,24956,32283,41211,51984,64869,80157,98164,119232 ★ a(n) = n*(n-1)*(n^3 + 21*n^2 - 4*n + 96)/120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. - _ Colin Barker _ , Jan 16 2017 •

[A248122] • 0,0,3,15,51,165,507,1551,4683,14127,42459,127599,383019,1149693,3449715,10351023,31054947,93170397,279516747,838566831,2515717083,7547200797,22641651939,67925104239,203775461139 ★ Number of strings of length n over a three-letter alphabet that begin with a nontrivial palindrome. • a(0) = 0; a(1) = 0; a(n) = 3 * a(n - 1) + 3 ^ ceiling(n / 2) - a(ceiling(n / 2)), for n >= 2. •

[A282464] • 0,1,3,15,51,176,560,1743,5271,15675,45925,133056,381888,1087645,3077451,8658951,24245655,67602608,187789616,519924075,1435228575,3951341811,10852291273,29740435200,81340229376 ★ a(n) = Sum_{i=0..n} i*Fibonacci(i)^2. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 10 * a(n - 3) + 10 * a(n - 4) + 4 * a(n - 5) - 5 * a(n - 6) + a(n - 7). • a(n) = ((n - 1) * Fibonacci(n) + n * Fibonacci(n - 1)) * Fibonacci(n) + (1 - (- 1) ^ n) / 2. •

[A284663] • 3,15,51,179,663,2439,8935,32771,120219,440975,1617531,5933267,21763823,79831879,292831311,1074134531,3940032883,14452434639,53012975555,194456895859,713287340551,2616409296967,9597250953527,35203676264195,129130605057163 ★ Number of dominating sets in the Moebius ladder M_n. • a(n) = 3 * a(n - 1) + a(n - 2) + 5 * a(n - 3) + a(n - 4) + a(n - 5) - a(n - 6) - a(n - 7) for n>7. •

[A192742] • 3,15,51,191,708,2631,9775,36319,134943,501380,1862875,6921503,25716811,95550687,355018116,1319068095,4900991135,18209608887,67657713855,251381908996,934008268531,3470303209839,12893894812259,47907203888767,177998984624708 ★ Number of matchings in the n-antiprism graph. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4). •

[A290764] • 3,15,54,174,537,1629,4908,14748,44271,132843,398562,1195722,3587205,10761657,32285016,96855096,290565339,871696071,2615088270,7845264870,23535794673,70607384085,211822152324,635466457044,1906399371207 ★ Number of (non-null) connected induced subgraphs in the 2 X n king graph. • a(n) = 3 / 4 * (3 ^ (n + 1) - 2 * n - 3). • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). •

[A286986] • 3,15,54,175,543,1642,4875,14271,41310,118487,337263,953810,2682579,7508655,20929158,58121407,160877055,443993146,1222110555,3355879647,9195143598,25144855655,68635721679,187035899810,508896450723 ★ Number of connected dominating sets in the n-antiprism graph. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). •

[A085480] • 3,15,54,207,783,2970,11259,42687,161838,613575,2326239,8819442,33437043,126769455,480619494,1822166847,6908359023,26191577610,99299809899,376474162527,1427321917278,5411388239415,20516130470079 ★ Expansion of 3*x*(1+2*x)/(1-3*x-3*x^2). • a(n) = p ^ n + q ^ n, where p = (3 + sqrt 21) / 2, q = (3 - sqrt 21) / 2. • a(n)=3 * a(n - 1) + 3 * a(n - 2), a(1)=3, a(2)=15. [From _ Philippe Deléham _ , Nov 19 2008] •

[A286185] • 3,15,55,173,511,1451,4019,10937,29371,78055,205679,538149,1399607,3621315,9327723,23931633,61186163,155949119,396369831,1004904733,2541896559,6416348251,16165611043,40657256617,102090514731 ★ Number of connected induced (non-null) subgraphs of the Möbius ladder graph with 2n nodes. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 4 * a(n - 3) + 5 * a(n - 4) - 2 * a(n - 5) - a(n - 6), for n>6 (conjectured). • a(n) = 1 / 4 * ((1 - sqrt(2)) ^ n * (4 - 3 * sqrt(2) * n) + (1 + sqrt(2)) ^ n * (4 + 3 * sqrt(2) * n)) - 1 - n (conjectured). - _ Eric W. Weisstein _ , May 08 2017 •

[A015249] • 1,3,15,55,231,903,3655,14535,58311,232903,932295,3727815,14913991,59650503,238612935,954429895,3817763271,15270965703,61084037575,244335800775,977343902151,3909374210503,15637499638215 ★ Gaussian binomial coefficient [n,2] for q = -2. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + (- 1) ^ n * 2 ^ (n - 2), n >= 4. - _ Vincenzo Librandi _ , Mar 20 2011 • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 8 * a(n - 3), n >= 3. - _ Vincenzo Librandi _ , Mar 20 2011 • a(n) = (1 / 18) * (4 ^ n - 2 + (- 1) ^ n * 2 ^ n). - _ R. J. Mathar _ , Mar 21 2011 •

[A084152] • 0,0,1,3,15,55,231,903,3655,14535,58311,232903,932295,3727815,14913991,59650503,238612935,954429895,3817763271,15270965703,61084037575,244335800775,977343902151,3909374210503,15637499638215 ★ Exponential self-convolution of Jacobsthal numbers (divided by 2). • a(n) = (4 ^ n - 2 + (- 2) ^ n) / 18. • a(n) = + 3 * a(n - 1) + 6 * a(n - 2) - 8 * a(n - 3). • a(n) = floor(2 ^ n / 3)ceiling(2 ^ n / 3) / 2 - Paul Barry, Apr 28 2004 •

[A084175] • 0,1,3,15,55,231,903,3655,14535,58311,232903,932295,3727815,14913991,59650503,238612935,954429895,3817763271,15270965703,61084037575,244335800775,977343902151,3909374210503,15637499638215,62549992960455 ★ Jacobsthal oblong numbers. • a(n) = (2 * 4 ^ n - (- 2) ^ n - 1) / 9; a(n)=3 * a(n - 1) + 6 * a(n - 2) - 8 * a(n - 3), a(0)=0, a(1)=1, a(2)=3. • a(n) = round(2 ^ n / 3) * round(2 ^ (n + 1) / 3). - _ Gary Detlefs _ , Feb 10 2010 •

[A284699] • 3,15,57,223,863,3333,12883,49791,192441,743775,2874655,11110405,42941187,165965647,641449337,2479171199,9581878847,37033506309,143132741651,553201243263,2138096511097,8263641389887,31938581194175,123441098248197,477093977471363 ★ Number of dominating sets in the n-antiprism graph. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5) for n>5. •

[A123007] • 1,3,15,57,249,1011,4263,17625,73617,305859,1274271,5301273,22070985,91853427,382345719,1591372281,6623856033,27570062595,114754829487,477640222329,1988073910041,8274909821043,34442484832455 ★ Expansion of x(1+x)/(1-2x-9x^2). • a(n)=2 * a(n - 1) + 9 * a(n - 2) for n>2 . G.f.: x * (1 + x) / (1 - 2x - 9 * x ^ 2) - _ Philippe Deléham _ , Oct 18 2006 •

[A121695] • 1,1,3,15,57,423,2457,22743,178857,1998423,19774377,259643223,3093367977,46722798423,650703531177,11118365780823,177186743211177,3379687537748823,60644049519531177,1277452054977620823 ★ Number of odd-length first columns in all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(n)=a(n - 2) + (n - 2)!(n * floor(n / 2) - 1) for n>=3; a(1)=a(2)=1. •

[A017949] • 1,3,15,58,225,871,3375,13071,50625,196069,759375,2941046,11390625,44115700,170859375,661735513,2562890625,9926032708,38443359375,148890490631,576650390625,2233357359474,8649755859375 ★ Powers of sqrt(15) rounded down. • a(n) = Floor(Sqrt(15 ^ n)); [From Vincenzo Librandi, Jun 24 2011] •

[A069009] • 1,3,15,59,250,1030,4283,17752,73658,305513,1267344,5257031,21806850,90457205,375227042,1556484658,6456477531,26782210229,111095686086,460837670465,1911607611040,7929568022610,32892759309540 ★ Let M denote the 6 X 6 matrix with rows / 1,1,1,1,1,1 / 1,1,1,1,1,0 / 1,1,1,1,0,0 / 1,1,1,0,0,0 / 1,1,0,0,0,0 / 1,0,0,0,0,0 / and A(n) the vector (x(n),y(n),z(n),t(n),u(n),v(n)) = M^n*A where A is the vector (1,1,1,1,1,1); then a(n) = t(n). • a(n - 2) = T(n,3) with T(n,k) = sum(T(n - 1,k1), k1=7 - k..6), T(1,1) = T(1,2) = T(1,3) = T(1,4) = T(1,5) = 0 and T(1,6) = 1, n>=1 and 1 <= k <= 6. [Steinbach] •

[A179604] • 1,3,15,59,259,1079,4607,19443,82507,349215,1479879,6267707,26552755,112474631,476459471,2018296131,8549676763,36216937647,153417558423,649886909195,2752965719491,11661748738583,49399962770975 ★ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+x)/(1-2*x-9*x^2-2*x^3). • a(n) = 2 * a(n - 1) + 9 * a(n - 2) + 2 * a(n - 3) with a(0)=1, a(1)=3 and a(2)=15. • a(n) = (20 * (- 1 / 2) ^ (- n) + (5 + 7 * sqrt(5)) * A ^ (- n - 1) + (5 - 7 * sqrt(5)) * B ^ (- n - 1)) / 110 with A = (- 2 + sqrt(5)) and B:= (- 2 - sqrt(5)). •

[A286183] • 3,15,60,207,663,2038,6107,17983,52272,150407,429223,1216490,3427635,9609327,26821668,74576703,206650167,570877918,1572754187,4322192287,11851474968,32430381815,88576465735,241511251922,657457204323 ★ Number of connected induced (non-null) subgraphs of the antiprism graph with 2n nodes. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 34 * a(n - 3) - 24 * a(n - 4) + 8 * a(n - 5) - a(n - 6), for n>6 (conjectured). • a(n) = LucasL[2 * n] - 2 * n + 2 * n * Fibonacci[2 * n] (conjectured). - _ Eric W. Weisstein _ , May 08 2017 •

[A001655] • 1,3,15,60,260,1092,4641,19635,83215,352440,1493064,6324552,26791505,113490195,480752895,2036500788,8626757644,36543528780,154800876945,655747029795,2777789007071,11766903040368,49845401197200,211148507782800,894439432403425 ★ Fibonomial coefficients: a(n) = F(n+1)*F(n+2)*F(n+3)/2, where F() = Fibonacci numbers A000045. • a(n) = 4 * a(n - 1) + a(n - 2) + ((- 1) ^ n) * F(n + 1), n >= 2; a(0)=1, a(1)=3. • a(n) = (F(n + 3) ^ 3 - F(n + 2) ^ 3 - F(n + 1) ^ 3) / 6. - _ Gary Detlefs _ Dec 24 2010 • a(n - 1) = Sum _{ k=0..n } F(k + 1) * F(k) ^ 2, n >= 1. [_ Wolfdieter Lang _ Aug 01 2012] • a(n - 1) * (- 1) ^ n = Sum _{ k=0..n } (- 1) ^ k * F(k + 1) ^ 2 * F(k), n >= 1. See the link under A215037, eq. (25). • a(n) = (F(3 * (n + 2)) + 2 * (- 1) ^ n * F(n + 2)) / 10, n >= 0. See the same link, eq. (32). (End) • a(n) = - a(- 4 - n) * (- 1) ^ n for all n in Z. - _ Michael Somos _ , Sep 19 2014 •

[A292483] • 3,15,61,240,912,3376,12240,43632,153360,532656,1831248,6240240,21100176,70858800,236510928,785115504,2593432080,8528565168,279325389

60,91144257264,296391022992,960802812720,3105562639824,10010945435760,32189993590032 ★ p-INVERT of the odd positive integers, where p(S) = (1 - S)^3. ● a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3) for n >= 6. ● a(n) = 16 * 3 ^ (n - 5) * (51 + 22 * n + 2 * n ^ 2) for n>2. - _ Colin Barker _ , Oct 03 2017 ●

[A229277] ● 0,3,15,63,243,891,3159,10935,37179,124659,413343,1358127,4428675,14348907,46235367,148272039,473513931,1506635235,4778186031,15109399071,47652720147,149931729243,470715894135,1474909801623,4613015762523 ★ Number of ascending runs in {1,...,3}^n. ● a(n) = 3 ^ (n - 1) * (2 * n + 1) for n>0, a(0) = 0. ●

[A024036] ● 0,3,15,63,255,1023,4095,16383,65535,262143,1048575,4194303,16777215,67108863,268435455,1073741823,4294967295,17179869183,68719476735,274877906943,1099511627775,4398046511103,17592186044415,70368744177663,281474976710655 ★ a(n) = 4^n-1. ● a(n) = 4 * a(n - 1) + 3, with a(0)=0. - _ Vincenzo Librandi _ , Aug 01 2010 ● a(n) = n * E(2 * n - 1,1) / B(2 * n,1), for n>0, where E(n,x) denotes the Euler polynomials and B(n,x) the Bernoulli polynomials. - _ Peter Luschny _ , Apr 04 2014 ●

[A083858] ● 0,1,3,15,63,279,1215,5319,23247,101655,444447,1943271,8496495,37149111,162426303,710173575,3105078543,13576277079,59359302495,259535569959,1134762524847,4961500994295,21693078131967,94848240361671 ★ Expansion of x/(1 - 3*x - 6*x^2). ● a(n) = 3 * a(n - 1) + 6 * a(n - 2), a(0)=0, a(1)=1. ● a(n) = (3 * sqrt(33) / 2 + 21 / 2) ^ (n / 2) / sqrt(33) - (21 / 2 - 3 sqrt(33) / 2) ^ (n / 2) * (- 1) ^ n / sqrt(33). ● a(n) = B(n, k + 2 ^ (n - 1)) - B(n,k) where B(n,k) is formed by the family of recursions b(n) = 3 * (b(n - 1) + b(n - 2)) / 2, with b(0) = 1 and b(1) = k, as explained further in A249861. - _ Richard R. Forberg _ , Nov 04 2014 ●

[A001447] ● 1,3,15,65,325,1575,7875,39125,195625,976875,4884375,24415625,122078125,610359375,3051796875,15258828125,76294140625,381469921875,1907349609375,9536744140625,47683720703125 ★ (5^n + 5^[n/2])/2. ● a(0)=1, a(1)=3, a(2)=15, a(n)=5a(n - 1) + 5a(n - 2) - 25a(n - 3) [From Harvey P. Dale, May 05 2011] ●

[A122558] ● 1,3,15,69,321,1491,6927,32181,149505,694563,3226767,14990757,69643329,323545587,1503112335,6983086101,32441681409,150715983939,700188979983,3252903871749,15112182426945,70207441323027,326166312572943 ★ a(0)=1, a(1)=3, a(n)=4*a(n-1)+3*a(n-2) for n>1. ● a(n + 1) / a(n) - > 2 + sqrt(7)= 4,645751311064... if n - >infinity. ● a(n)= - (1 / 14) * [2 - sqrt(7)] ^ n * sqrt(7) + (1 / 14) * sqrt(7) * [2 + sqrt(7)] ^ n + (1 / 2) * [2 - sqrt(7)] ^ n + (1 / 2) * [2 + sqrt(7)] ^ n [From _ Paolo P. Lava _ , Nov 19 2008] ● a(n)= ((7 + sqrt(7)) / 14) * (2 + sqrt(7)) ^ n + ((7 - sqrt(7)) / 14) * (2 - sqrt(7)) ^ n [From _ Richard Choulet _ , Nov 20 2008] ●

[A033876] ● 3,15,70,315,1386,6006,25740,109395,461890,1939938,8112468,33801950,140408100,581690700,2404321560,9917826435,40838108850,167890003050,689232644100,2825853840810,11572544300460,47342226683700,193485622098600,790066290235950,3223470464162676 ★ Expansion of 1/(2*x) * (1/(1-4*x)^(3/2)-1). ● a(n) = (2 * n + 3) * binomial(2 * n + 1, n). - _ Paul Boddington _ , Nov 03 2003 ● a(n) = 2 ^ (2 * n + 1) * binomial(n + 3 / 2, 1 / 2). - _ Peter Luschny _ , May 06 2014 ● a(n - 2) = n * binomial(2 * n, n) / 4 for n > 1. - _ Eric W. Weisstein _ , Nov 30 2017 ●

[A291031] ● 3,15,70,321,1461,6624,29967,135399,611318,2758881,12447753,56154744,253306119,1142572767,5153589754,23244956169,104843981505,472885383744,2132882300571,9620044596687,43389716584682,195702453488433,882684641446989,3981207177094608 ★ p-INVERT of the positive integers, where p(S) = 1 - 3*S + 2*S^3. ● a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 36 * a(n - 3) - 27 * a(n - 4) + 90 * a(n - 5) - a(n - 6). ●

[A123942] ● 0,1,3,15,71,340,1626,7778,37205,177966,851280,4072001,19477953,93170570,445670811,2131815570,10197297001,48777608903,233322137235,1116069871981,5338593130960,25536552265626,122151189577128,584296304368075,2794914830384226 ★ The (1,4)-entry in the 4 X 4 matrix M^n, where M={{3, 2, 1, 1}, {2, 1, 1, 0}, {1, 1, 0, 0}, {1, 0, 0, 0}} (n>=0). ● a(n)=4a(n - 1) + 4a(n - 2) - a(n - 3) - a(n - 4) for n>=4 (follows from the minimal polynomial of the matrix M). ●

[A290902] ● 3,15,72,345,1653,7920,37947,181815,871128,4173825,19997997,95816160,459082803,2199597855,10538906472,50494934505,241935766053,1159183895760,5553983712747,26610734667975,127499689627128,610887713467665,2926938877711197,14023806675088320 ★ p-INVERT of the positive integers, where p(S) = 1 - 3*S. ● a(n) = 5 * a(n - 1) - a(n - 2). ●

[A155117] ● 1,3,15,72,348,1680,8112,39168,189120,913152,4409088,21288960,102792192,496324608,2396467200,11571167232,55870537728,269766819840,1302549430272,6289265000448,30367257722880,146626090893312 ★ a(n)=4*a(n-1)+4*a(n-2), n>2 ; a(0)=1, a(1)=3, a(2)=15 . ● a(n)=(3 / 2) *{ [2 + 2 * sqrt(2)] ^ (n - 1) + [2 - 2 * sqrt(2)] ^ (n - 1) }+ (9 / 8) * sqrt(2) *{ [2 + 2 * sqrt(2)] ^ (n - 1) - [2 - 2 * sqrt(2)] ^ (n - 1) }+ (1 / 4) * [C(2 * n,n) mod 2], with n >=0 [From _ Paolo P. Lava _ , Jan 26 2009] ●

[A145839] ● 1,3,15,73,354,1716,8318,40320,195444,947380,4592256,22260144,107902088,523036176,2535324816,12289536016,59571339552,288761470848,1399719859808,6784893012864,32888561860032,159421452802624,772767131681280,3745851196992000 ★ Number of 3-compositions of n. ● a(n + 3) = 6a(n + 2) - 6a(n + 1) + 2a(n); ● a(n) = sum(k>=0, C(n + 3 * k - 1,n) / 2 ^ (k + 1)). - _ Vaclav Kotesovec _ , Dec 31 2013 ●

[A007142] ● 1,3,15,73,387,2106,11998,69999,418104,2540368,15660843,97692822,615559931,3911866377,25044058215,161369414590,1045681767924,6810222330303,44552627690401,292642818035352,1929238465836366,12760620159195044 ★ E-trees with at most 3 colors. ● a(n) = E(3, n) where E(c, n) is defined in A007141. - _ Sean A. Irvine _ , Oct 29 2017 ●

[A190010] ● 1,1,3,15,73,537,3899,35623,345553,3767185,44993331,575013087,8040614041,118459611753,1883371991531,31449522256183,558550869727393,10410156829764769,204093418753532259,4191381846930998319,89889103856588434921 ★ E.g.f. exp(tan(x)+tan(x)^2+tan(x)^3). ● a(n) = Sum _{ m=1..n } (Sum _{ k=m..n } ((1 + (- 1) ^ (n - k)) * Sum _{ j=k..n } (j! * stirling2(n,j) * 2 ^ (n - j - 1) * (- 1) ^ ((n + k) / 2 + j) * binomial(j - 1,k - 1)) * Sum _{ j=0..m } binomial(j, - 3 * m + k + 2 * j) * binomial(m,j))) / m!), n>0, a(0)=1. ●

[A236579] ● 1,3,15,75,371,1833,9057,44753,221137,1092699,5399327,26679563,131831075,651413681,3218814561,15905050017,78591236385,388340962771,1918899743823,9481812581835,46852249642771 ★ The number of tilings of a 5 X (4n) floor with 1 X 4 tetrominoes. ● a(n) = hypergeom([(n + 1) / 3, (n + 2) / 3, n / 3 + 1, - n], [1 / 4, 1 / 2, 3 / 4], - 27 / 128). - _ Peter Luschny _ , Nov 02 2017 ●

[A005053] ● 1,3,15,75,375,1875,9375,46875,234375,1171875,5859375,29296875,146484375,732421875,3662109375,18310546875,91552734375,457763671875,2288818359375,11444091796875,57220458984375 ★ Expand (1-2*x)/(1-5*x). ● a(0) = 1, a(n) = 3 * 5 ^ (n - 1) for n>=1 . - _ Philippe Deléham _ , Oct 19 2006 ●

[A136778] ● 1,3,15,75,381,1947,9975,51159,262497,1347123,6913911,35485779,182133885,934823451,4798101855,24626900271,126400914849,648769995939,3329901037119,17091174551835,87722802540957,450249343708827,2310966659437671,11861354115061383 ★ Number of primitive multiplex juggling sequences of length n, base state <2,1> and hand capacity 2. ● a(n) = 7 * a(n - 1) - 9 * a(n - 2) - 3 * a(n - 3) for n>3. - _ Colin Barker _ , Aug 31 2016 ●

[A000266] ● 1,1,1,3,15,75,435,3045,24465,220185,2200905,24209955,290529855,3776888115,52876298475,793144477125,12690313661025,215735332237425,3883235945814225,73781482970470275,1475629660064134575,30988222861346826075,681740902935880863075 ★ E.g.f. exp(-x^2/2) / (1-x). ● a(n) = n! * sum i=0 ... [n / 2]((- 1) ^ i / (i! * 2 ^ i)); a(n) / n! ~ sum i >= 0 (- 1) ^ i / (i! * 2 ^ i) = e ^ (- 1 / 2); a(n) ~ e ^ (- 1 / 2) * n!; a(n) ~ e ^ (- 1 / 2) * (n / e) ^ n * sqrt(2 * Pi * n). - Avi Peretz (njk(AT)netvision.net.il), Apr 21 2001 ● a(n) = n! * floor((floor(n / 2)! * 2 ^ floor(n / 2) / exp(1 / 2) + 1 / 2)) / floor(n / 2)! / 2 ^ floor(n / 2), n>=0. - _ Simon Plouffe _ from old notes, 1993 ●

[A059838] ● 0,0,1,3,15,75,495,3465,29295,263655,2735775,30093525,370945575,4822292475,68916822975,1033752344625,16813959537375,285837312135375,5214921734397375,99083512953550125,2004231846526284375 ★ Number of permutations in the symmetric group S_n that have even order. ● a(2n) = (2 n - 1)! + (2n - 1)a(2n - 1), a(2n + 1) = (2n + 1)a(2n). ●

[A027911] ● 1,3,15,77,414,2277,12727,71955,410346,2355962,13599915,78855339,458917850,2679183405,15683407785,92022516525,541050073146,3186886397310,18801598011274,111083331666918,657153430251396,3892199032434105,23077435617920925,136963282273730613,813597690808666386 ★ a(n) = T(2*n+1,n), with T given by A027907. ● a(n) = GegenbauerPoly(n, - 2 * n - 1, - 1 / 2) - _ Emanuele Munarini _ , Oct 20 2016 ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(2 * n + 1,k) * binomial(2 * n + 1 - k,n - 2 * k) - _ Emanuele Munarini _ , Oct 20 2016 ●

[A104530] ● 1,3,15,78,411,2178,11574,61596,328083,1748346,9319650,49688004,264943902,1412826132,7534329804,40180417848,214285867011,1142822599722,6094924220394,32505784870068,173362418710506,924593002335612,4931138212856244,26299312319336328,140262655976846766 ★ Expansion of (1+sqrt(1-4x))/(4sqrt(1-4x)-2). ● a(n)=0 ^ n + sum { k=0..n, 3 ^ (k + 1) * C(2n - 1, n - k - 1) * 2 * (k + 1) / (n + k + 1); ●

[A137957] ● 1,1,3,15,79,468,2895,18670,123765,838860,5785503,40473729,286504086,2048388112,14770313397,107290913232,784380664232,5766985753620,42614014459911,316304429143995,2357275139670183,17631888703154172 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^4)^3. ● a(n) = Sum _{ k=0..n - 1 } C(3 * (n - k),k) / (n - k) * C(4 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 ●

[A002514] ● 0,0,0,0,1,3,15,79,474,3207,24087,198923,1791902,17484377,183707380,2067904033,24827519376,316694549817,4277112686513,60971132411393,914869422343564,14413525170009350,237888443951757586,4104608160094962304 ★ Coefficients in the asymptotic expansions of modified Hankel functions h_1(z) and h_2(z), rounded to nearest integer. ● a(n) = round((Product _{ k=1..n } (9 * (2 * k - 1) ^ 2 - 4)) / (2 ^ (4 * n) * 3 ^ n * n!)). - _ Sean A. Irvine _ , Oct 18 2015 ● a(n) = round(Gamma(n + 5 / 6) * Gamma(n + 1 / 6) * 3 ^ n / (2 ^ (2 * n + 1) * Pi * n!)). - _ Robert Israel _ , Oct 19 2015 ●

[A198628] ● 1,3,15,81,435,2313,12195,63801,331395,1710153,8775075,44808921,227890755,1155180393,5839846755,29458152441,148335904515,745888590333,3746364947235,18799770158361,94271405748675,472449569948073,2366624981836515,11850654345690681,59323452211439235 ★ Alternating sums of powers for 1,2,3,4 and 5. ● a(n) = sum(((- 1) ^ (j + 1)) * j ^ k,j=1..5), k>=0. ●

[A084120] ● 1,3,15,81,441,2403,13095,71361,388881,2119203,11548575,62933841,342957321,1868942403,10184782455,55501867521,302456857761,1648235544003,8982042690735,48947549512401,266739169002201 ★ a(n)=6a(n-1)-3a(n-2), a(0)=1,a(1)=3. ● a(n)=((3 + sqrt(6)) ^ n + (3 - sqrt(6)) ^ n) / 2; G.f.: (1 - 3 x) / (1 - 6x + 3x ^ 2); E.g.f.: exp(3x)cosh(sqrt(6)x). ● a(n)=3 ^ n * sum { k =0..floor(n / 2), C(n, 2k)(2 / 3) ^ k } ; - _ Paul Barry _ , Sep 10 2005 ● a(n) / a(n - 1) tends to (3 + sqrt(6)) = 5.445489742... - _ Gary W. Adamson _ , Mar 19 2008 ●

[A163470] ● 3,15,81,453,2571,14679,84009,481245,2757843,15806559,90600513,519318837,2976744027,17062807335,97804786329,560621795277,3213512139939,18420013780911,105584452428081,605215440272805 ★ a(n) = 8*a(n-1) - 13*a(n-2) for n > 1; a(0) = 3, a(1) = 15. ● a(n) = ((3 + sqrt(3)) * (4 + sqrt(

3)) ^ n + (3 - sqrt(3)) * (4 - sqrt(3)) ^ n) / 2. •

[A122868] • 1,3,15,81,459,2673,15849,95175,576963,3523257,21640365,133549155,827418645,5143397535,32063180535,200367960201,1254816463923,7873205412825,49482344889261,311457546052659 ★ Expansion of 1/sqrt(1-6x-3x^2). • a(n) = sum { k=0..floor(n / 2), C(n,2k) * C(2k,k) * 3 ^ (n - k) } . •

[A006964] • 1,3,15,82,495,3144,20875,142773,1000131,7136812,51702231,379234623,2810874950,21020047557,158398829121,1201617201230,9169060501023,70329406653879,541949364313821,4193569906262874,32571403998781956,252842927519362734,1984442128649393178 ★ Number of directed rooted trees with n nodes. • a(n + 1) has g.f.: prod from n =1 to inf (1 - x ^ 3 a(n)) ^- 1. •

[A192662] • 1,1,3,15,82,518,3652,28123,233733,2075597,19542826,193908574,2017519282,21921326573,247882099197,2908534759303,35322473621014,443010881207381,5726889928765906,76175517383629544,1040964231177762308,14594191539892866665 ★ Floor-Sqrt transform of (signless) central Stirling numbers of the first kind (A187646). • a(n) = floor(sqrt(|stirling1(2 * n,n)|)). •

[A074552] • 3,15,83,495,3107,20175,134003,903855,6161987,42326415,292299923,2026332015,14085959267,98111307855,684331371443,4778093436975,33385561506947,233393582580495,1632228682596563,11417969833962735 ★ 3^n + 5^n + 7^n. • a(n) = + 15 * a(n - 1) - 71 * a(n - 2) + 105 * a(n - 3) •

[A106569] • 0,3,15,84,465,2577,14280,79131,438495,2429868,13464825,74613729,413463120,2291156787,12696173295,70354336836,389860204065,2160364030833,11971400766360,66338095924299,367604681920575 ★ First entry of the vector (M^n)v, where M is the 2 X 2 matrix [[0,4],[1,4]] and v is the column vector [0,1]. • a(n)=first entry of v[n], where v[n]=Mv[n - 1], M is the 2 X 2 matrix [[0, 4], [1, 4]] and v[0] is the column vector [0,1]. a(n)=5a(n - 1) + 3a(n - 2); a(0)=0, a(1)=3. • a(n)=(3 / 37) * [5 / 2 + (1 / 2) * sqrt(37)] ^ n * sqrt(37) - (3 / 37) * [5 / 2 - (1 / 2) * sqrt(37)] ^ n * sqrt(37), with n>=0 [From _ Paolo P. Lava _ , Oct 07 2008] •

[A005809] • 1,3,15,84,495,3003,18564,116280,735471,4686825,30045015,193536720,1251677700,8122425444,52860229080,344867425584,2254848913647,14771069086725,96926348578605,636983969321700,4191844505805495,27619435402363035 ★ a(n) = binomial(3n,n). • a(n) = Sum _{ k=0..n } C(n, k) * C(2n, k). - _ Paul Barry _ , May 15 2003 • a(n) = Sum _{ i _ 1=0..n, i _ 2=0..n } binomial(n, i _ 1) * binomial(n, i _ 2) * binomial(n, i _ 1 + i _ 2). - _ Benoit Cloitre _ , Oct 14 2004 • a(n) = Sum _{ k=0..n } binomial(2 * n + k - 1,k)). - _ Arkadiusz Wesolowski _ , Apr 02 2012 • a(n) = C(3 * n - 1,n - 1) * C(9 * n ^ 2,2) / (3 * n * C(3 * n + 1,3)), n>0. - _ Gary Detlefs _ , Jan 02 2014 • a(n) = [x ^ n] 1 / (1 - x) ^ (2 * n + 1). - _ Ilya Gutkovskiy _ , Oct 03 2017 •

[A011900] • 1,3,15,85,493,2871,16731,97513,568345,3312555,19306983,112529341,655869061,3822685023,22280241075,129858761425,756872327473,4411375203411,25711378892991,149856898154533,873430010034205,5090723162050695,29670908962269963 ★ a(n) = 6*a(n-1) - a(n-2) - 2 with a(0) = 1, a(1) = 3. • a(n) = (((1 + sqrt(2)) ^ (2 * n - 1) - (1 - sqrt(2)) ^ (2 * n - 1)) / sqrt(8) + 1) / 2. • a(n) = 7(a(n - 1) - a(n - 2)) + a(n - 3); a(1) = 1, a(2) = 3, a(3) = 15. Also a(n) = 1 / 2 + ((1 - sqrt(2)) / (- 4 * sqrt(2))) * (3 - 2 * sqrt(2)) ^ n + ((1 + sqrt(2)) / (4 * sqrt(2))) * (3 + 2 * sqrt(2)) ^ n. - _ Antonio Alberto Olivares _ , Dec 23 2003 • a(n + 1) = 3 * a(n) - 1 + sqrt(8 * a(n) ^ 2 - 8 * a(n) + 1), a(1)=1. - _ Richard Choulet _ , Sep 18 2007 • a(n + 1) = a(n) * (a(n) + 2) / a(n - 1) for n>=1 with a(0)=1. - _ Paul D. Hanna _ , Apr 08 2012 •

[A182016] • 1,3,15,85,531,3545,24833,180251,1344163,10237001,79287469,622596063,4945078477,39658283943,320689293119,2611817435525,21405148148051,176396318594937,1460795339822349,12150467810552223,101463416752305385,850306144532133787 ★ Central coefficients of triangle A182013. • a(n) = sum(M(i),i=n..2 * n), where the M(n)'s are the Motzkin numbers. •

[A180677] • 1,3,15,87,503,2871,16311,92599,525751,2985399,16952759,96267703,546663863,3104271799,17627835831,100100959671,568430652855,3227875241399,18329726840247,104086701305271,591063984860599 ★ The Gi4 sums of the Pell-Jacobsthal triangle A013609. • a(n) = 9 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) with a(0)=1, a(1)=3, a(2)= 15 and a(3)= 87. •

[A075841] • 3,15,87,507,2955,17223,100383,585075,3410067,19875327,115841895,675176043,3935214363,22936110135,133681446447,779152568547,4541233964835,26468251220463,154268273357943,899141388927195 ★ Numbers k such that 2*k^2 - 9 is a square. • a(n) = 3 * sqrt(2) / 4 * ((1 + sqrt(2)) ^ (2 * n - 1) - (1 - sqrt(2)) ^ (2 * n - 1)) = 6 * a(n - 1) - a(n - 2). •

[A152596] • 1,3,15,87,519,3111,18663,111975,671847,4031079,24186471,145118823,870712935,5224277607,31345665639,188073993831,1128443962983,6770663777895,40623982667367,243743896004199,1462463376025191 ★ a(n) = 7*a(n-1) - 6*a(n-2), n>1; a(0)=1, a(1)=3. • a(n) = (1 / 5) * (3 + 2 * 6 ^ n), with n >=0. - _ Paolo P. Lava _ , Dec 12 2008 •

[A089022] • 1,3,15,87,543,3543,23823,163719,1143999,8099511,57959535,418441191,3043608351,22280372247,164008329423,1213166815047,9012417249663,67208553680247,502920171632943,3775020828459687,28415858155984863,214444848460273224 7,1622146752543427983 ★ Number of walks of length 2n on the 3-regular tree beginning and ending at some fixed vertex. • a(n) = 2 ^ x * binomial(2 * x,x) - 3 ^ (x - 1) * sum((2 / 3) ^ j * binomial(x + j,x), j=0..x - 1) - Tobias Friedrich (tfried(AT)mpi - inf.mpg.de), Jun 12 2007 • a(n) is the (2 * n) - th moment of a positive function W(x)=(3 / Pi) * sqrt(8 - x ^ 2) / (9 - x ^ 2), on the segment x=(0,2 * sqrt(2)), in Maple notation: a(n)=int(x ^ (2 * n) * W(x),x=0..2 * sqrt(2)); • a(n) is the special value of hypergeometric function 2F1, in Maple notation: a(n)=2 * 8 ^ n * GAMMA(n + 1 / 2) * hypergeom([1,n + 1 / 2],[n + 2],8 / 9) / (3 * sqrt(Pi) * (n + 1)!). (End) •

[A246538] • 1,3,15,87,559,3807,26919,195399,1445967,10859967,82527687,633165255,4896345487,38117454303,298435452135,2348094847047,18554434810831,147171478237695,1171272947140359,9349653181797063,74834845484454927,600441007306747167,4828337830880795943,38904633251921442375 ★ G.f.: Sum_{n>=0} 2^n * x^n / (1-x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k]^2. • a(n) = Sum _{ k=0..[n / 2] } 2 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 2 ^ j. •

[A192989] • 1,3,15,87,585,4383,35919,318195,3015441,30354075,322626159,3603292047,42120047385,513557128503,6512375759535,85673471945067,1166675225150241,16413589529042355,238151194659626319,3558129109803374535 ★ E.g.f.: exp((1+x)^3 - 1). • a(n) = Sum _{ k=0..n } Stirling1(n, k) * Bell(k) * 3 ^ k. •

[A074550] • 3,15,89,603,4433,34035,266969,2115723,16849313,134499555,1074849449,8594306043,68736785393,549824517075,4398319729529,35185460179563,281479314724673,2251817122694595,18014467616379209,144115464116024283 ★ 3^n + 4^n + 8^n. • a(n) = + 15 * a(n - 1) - 68 * a(n - 2) + 96 * a(n - 3) •

[A255688] • 1,3,15,90,579,3858,26262,181380,1265955,8906706,63058530,448716876,3206387790,22992276180,165364807308,1192393813320,8617219956003,62397513984210,452607991376490,3288138397237884,23921128800374874 ★ G.f.: (2*x+1)/(2*sqrt(4*x^2-8*x+1)) + 1/2. • a(n) = Sum _{ i=0..n } 2 ^ (n - i) * binomial(n,i) * binomial(n + i - 1,i)). • a(n) = 2 ^ n * hypergeom([- n, n], [1], - 1 / 2). - _ Peter Luschny _ , Mar 15 2015 •

[A097188] • 1,3,15,90,594,4158,30294,227205,1741905,13586859,107459703,859677624,6943550040,56540336040,463630755528,3824953733106,31724616256938,264371802141150,2212374554760150,18583946259985260,156636118477018620 ★ G.f. A(x) satisfies A057083(x*A(x)) = A(x) and so equals the ratio of the g.f.s of any two adjacent diagonals of triangle A097186. • a(n) = 1 / (n + 1) * sum(k=1..n, binomial(k,n - k) * 3 ^ (k) * (- 1) ^ (n - k) * binomial(n + k, n)) if n>0; a(0)=1. - _ Vladimir Kruchinin _ , Feb 07 2011 • a(n) = 9 ^ n * GAMMA(n + 2 / 3) / ((n + 1) * GAMMA(2 / 3) * GAMMA(n + 1)). - _ Vaclav Kotesovec _ , Feb 09 2014 •

[A099251] • 1,1,3,15,91,603,4213,30537,227475,1730787,13393689,105089229,834086421,6684761125,54022715451,439742222071,3602118427251,29671013856627,245613376802185,2042162142208813,17047255430494497,142816973618414817 ★ Bisection of Motzkin sums (A005043). • a(n) = Sum _{ j=0..2n + 1 } (C(2 * j,j) * (- 1) ^ (j) * C(2 * n + 1,j + 1)) / (2 * n + 1). - _ Vladimir Kruchinin _ , Apr 02 2017 •

[A006632] • 1,3,15,91,612,4389,32890,254475,2017356,16301164,133767543,1111731933,9338434700,79155435870,676196049060,5815796869995,50318860986108,437662920058980,3824609516638444,33563127932394060,295655735395397520,2613391671568320765 ★ a(n) = 3*binomial(4*n-1,n-1)/(4*n-1). • a(n) = binomial(4 * n - 1, n) / (4 * n - 1) = 3 * binomial(4 * n - 2, n - 1) - binomial(4 * n - 2, n). - _ David Callan _ , Sep 15 2004 • a(n) = (3 / 4) * binomial(4 * n,n) / (4 * n - 1). - _ Bruno Berselli _ , Jan 17 2014 •

[A002893] • 1,3,15,93,639,4653,35169,272835,2157759,17319837,140668065,1153462995,9533639025,79326566595,663835030335,5582724468093,47152425626559,399769750195965,3400775573443089,29016970072920387,248256043372999089 ★ a(n) = Sum_{k=0..n} binomial(n,k)^2 * binomial(2k,k). • a(n) = Sum _{ p + q + r=n } (n! / (p! * q! * r!)) ^ 2 with p, q, r >= 0. - _ Michael Somos _ , Jul 25 2007 • a(n) = hypergeom([1 / 2, - n, - n], [1, 1], 4). - _ Mark van Hoeij _ , Jun 02 2010 • a(n) = [x ^ (2n)] 1 / agm(sqrt((1 - 3 * x) * (1 + x) ^ 3), sqrt((1 + 3 * x) * (1 - x) ^ 3)). - _ Gheorghe Coserea _ , Aug 17 2016 •

[A258313] • 1,3,15,93,641,4719,36335,289017,2356321,19586283,165364799,1414193205,12224831937,106645825047,937685498271,8301129707121,73929906605249,661919872559763,5954449287679919,53791836313371405,487807821246726273,4438980860105747967,40521481906592540175 ★ G.f. A(x) satisfies: A(x) = B(x)*C(x) where B(x) = 1 + x*A(x)*C(x) and C(x) = 1 + 2*x*A(x)*B(x). • a(n) = Sum _{ k=0..n } 2 ^ k * (2 * n + 1) / ((2 * n - 2 * k + 1) * (2 * k + 1)) * binomial(2 * n - k, k) * binomial(n + k, n - k). - _ Paul D. Hanna _ , Dec 08 2016 •

[A103210] • 1,3,15,93,645,4791,37275,299865,2474025,20819307,178003815,1541918901,13503125805,119352115551,1063366539315,9539785668657,86104685123025,781343125570515,7124072211203775,65233526296899981,599633539433039445,5531156299278726663 ★ a(n) = (1/n) * Sum_{i=0..n-1} C(n,i)*C(n,i+1)*2^i*3^i), a(0)=1. • a(n) = Sum _{ k=0..n } C(n + k, 2k)2 ^ k * C(k), C(n) given by A000108. - _ Paul Barry _ , May 21 2005 • a(0) = 1, a(n) = a(n - 1) + 2 * Sum _{ k=0..n - 1 } a(k) * a(n - 1 - k). - _ Philippe Deléham _ , Oct 23 2007 • a(n) = Hypergeometric2F1(- n,n + 1,2, - 2) = sum { k=0..n, C(n + k,k) * C(n,k) * 2 ^ k / (k + 1) } . - _ Paul Barry _ , Feb 08 2011 •

[A108442] • 1,1,3,15,97,721,5827,49759,441729,4035937,37702723,358474735,3457592161,33748593841,332730216579,3308635650495,33145196426753,334193815799233,3388807714823043,34537227997917391,353578650475659617,3634495706671023505,37496621681376849219,388135791657414454815 ★ Number of paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1), U=(1,2), or d=(1,-1) and having only u steps among the steps leading to the first d step. • a(n) = Sum _{ k=1..n } (k * (Sum _{ i=0..n - k } binomial(2 * n - k, i) * binomial(3 * n - 2 * k - i - 1, 2 * n - k - 1)) / (2 * n - k)), n > 0, a(0)=1. - _ Vladimir Kruchinin _ , Oct 23 2011 •

[A199416] • 3,15,99,687,4803,33615,235299,1647087,11529603,80707215,564950499,3954653487,27682574403,193778020815,1356446145699,9495123019887,66465861139203,465261027974415,3256827195820899,22797790370746287 ★ 2*7^n+1. • a(n) = 7 * a(n - 1) - 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A046635] • 1,3,15,99,689,4817,33713,235987,1651903,11563315,80943201,566602401,3966216801,27763517603,194344623215,1360412362499,9522886537 48

9,66660205762417,466621440336913,3266350082358387,22864450576508703 ★ Number of cubic residues mod 7^n. ● a(n)= + 7 * a(n - 1) + a(n - 3) - 7 * a(n - 4) with g.f. (1 - 4 * x - 6 * x ^ 2 - 7 * x ^ 3) / ((x - 1) * (7 * x - 1) * (1 + x + x ^ 2)). - _ R. J. Mathar _ , Feb 27 2011 ●

[A111546] ● 1,3,15,99,783,7083,71415,789939,9485343,122721723,1701224775,25156450179,395362560303,6583219735563,115817825451735,2147443419579219,41868118883289663,856527397513863003 ★ Column 2 of triangle A111544. ● a(n + 1)=(1 / 2) * ((n + 4)! - 3 * (n + 3)! - sum((n + 2 - k)! * a(k + 1),k =0..n - 1)) ● a(n + 1) is the moment of order n for the measure of density: 2 * x ^ 2 * exp(- x) / ((x ^ 2 * exp(- x) * Ei(x) - x - 1) ^ 2 + Pi ^ 2 * x ^ 4 * exp(- 2 * x)), on the interval 0..infinity. [_ Groux Roland _ , Dec 10 2010] ●

[A147664] ● 1,1,3,15,100,801,7296,73174,791751,9116613,110640310,1405349658,18585016509,254855278565,3612425924919,52793266545585,793851646358364,12261570084250926,194260753173421656,3153098224666860712 ★ G.f. satisfies: A(x/A(x)) = 1 + x*A(x)^2. ● a(n) = [x ^ (n - 1)] 3 * A(x) ^ (n + 2) / (n + 2) for n>=1 with a(0)=1; i.e., a(n) equals the coefficient of x ^ (n - 1) in 3 * A(x) ^ (n + 2) / (n + 2) for n>=1 (see comment). ●

[A074521] ● 3,15,101,729,5393,40545,308801,2377089,18456833,144295425,1134208001,8952731649,70896259073,562816507905,4476410675201,35654557073409,284296086618113,2268726473129985,18115958466150401,144724547815866369 ★ a(n) = 1^n + 6^n + 8^n. ● a(n) = 14 * a(n - 1) - 48 * a(n - 2) + 35 with a(0)=3, a(1)=15. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A174493] ● 1,3,15,102,861,8598,98547,1270160,18138601,283754826,4818884319,88186786020,1728395865021,36091833338174,799408841413051,18708996086926272,461095012437724881,11931573394008790290 ★ a(n) = coefficient of x^n/(n-1)! in the 3-fold iteration of x*exp(x). ● a(n) = Sum _{ k=0..n, j=0..n - k } C(n,k) * C(n - k,j) * (k + 1) ^ j * (k + 1 + j) ^ (n - k - j). ●

[A079486] ● 3,15,103,879,8787,99061,1227369,16409937,233588249,3504149013,54963273921,895797910129 ★ Number of different solutions to a variant of the 3-ball tennis ball problem. ● a(n) is the number of 2 X n matrices of positive integers, with the numbers in each row and column increasing, the numbers in column k less than or equal to 3k and no number used more than once. ●

[A136092] ● 1,1,3,15,104,909,9449,112398,1489410,21562086,336086022,5577242292,97671172836,1792348213025,34268124834495,679376016769260,13911118850603610,293220749128031010 ★ Bisection of A138540. ● a(n) = Sum _{ j =0..n + 1 } 180 * (2n)! * (2j + 2)! * (2n - 3j + 2) / (j! * (j + 1)! * (j + 2)! * (j + 4)! * (n - j + 1)! * (n - j + 3)!) (conjectured). - _ Michael D. Weiner _ , May 11 2016 ●

[A267840] ● 0,0,0,3,15,105,525,3255,17703,112455,669735,4485195,29023995,205768563,1432735395,10728177915,79665069435,627587657595,4933313794683,40724759240235,336819780949995,2902978545030795,25135723046974155,225455477000793963 ★ Number of symmetric difference-closed 4-sets consisting of the empty set and sets consisting of pairwise disjoint 2-subsets of {1,2,...,n}. ● a(n) = n! * sum(sum(sum((2 ^ (k - i - j)) / (k!) / (i - k)! / (j - k)! / (n - 2i - 2j + 2k)! / (delta(i, j) + delta(i, 2k) + 1)!, k=max(ceil(i / 2), i + j - [n / 2])..min(j, [1 / 4 * (2i + 2j - 1)])), j=1..i), i=1..[n / 2]), where delta denotes the Kronecker delta function. ●

[A074519] ● 3,15,107,855,7187,62175,547067,4861095,43437347,389373615,3496550027,31429887735,282673677107,2543086531455,22882895970587,205921649672775,1853172776742467,16677944639119695,150098449994264747 ★ a(n) = 1^n + 5^n + 9^n. ● a(n) = 14 * a(n - 1) - 45 * a(n - 2) + 32 with a(0)=3, a(1)=15. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A217061] ● 1,1,3,15,109,1053,12767,186763,3204313,63128665,1404963387,34867190823,954800951749,28600649870133,930325531322519,32658109219519843,1230609634110271921,49545182501048868145 ★ E.g.f. exp(A006351(x)). ● a(n) = sum(m=1..n, (sum(k=0..n - m, (n + k - 1)! * sum(j=0..k, 1 / (k - j)! * sum(l=0..j, (2 ^ (j - l) * (- 1) ^ (l + j) * stirling1(n - m - l + j,j - l)) / (l! * (n - m - l + j)!))))) / (m - 1)!), n>0, a(0)=1. ●

[A109498] ● 1,3,15,111,951,8463,75975,683391,6149751,55346223,498112935,4483010271,40347080151,363123696783,3268113221895,29413018898751,264717169892151,2382454528636143,21442090756938855 ★ Number of closed walks of length 2n on the Heawood graph from a given node. ● a(n) = (9 ^ n + 6 * 2 ^ n) / 7. ●

[A082163] ● 1,3,15,114,1191,15993,263976,5189778,118729335,3104549229,91472523339,3002047651764,108699541743348,4307549574285900,185545521930558012 ★ Number of deterministic completely defined initially connected acyclic automata with 2 inputs and n+1 transient unlabeled states including a unique state having all transitions to the absorbing state. ● a(n) := d _ 2(n) / (n - 1)! where d _ 2(n) := T _ 2(n, 1) - sum(binomial(n - 1, j - 1) * T _ 2(n - j, j + 1) * d _ 2(j), j=1..n - 1); and T _ 2(0, k) := 1, T _ 2(n, k) := sum(binomial(n, i) * (- 1) ^ (n - i - 1) * ((i + k + 1) ^ 2 - 1) ^ (n - i) * T _ 2(i, k), i=0..n - 1), n>0. ●

[A006454] ● 0,3,15,120,528,4095,17955,139128,609960,4726275,20720703,160554240,703893960,5454117903,23911673955,185279454480,812293020528,6294047334435,27594051024015,213812329916328,937385441796000,7263325169820735,31843510970040003,246739243443988680 ★ Solution to a Diophantine equation: each term is a triangular number and each term + 1 is a square. ● a(n) = 35 * (a(n - 2) - a(n - 4)) + a(n - 6). - _ Raphie Frank _ , Sep 28 2012 ● a(n) = (1 / 64) * (((4 + sqrt(2)) * (1 - (- 1) ^ (n + 1) * sqrt(2)) ^ (2 * floor((n + 1) / 2)) + (4 - sqrt(2)) * (1 + (- 1) ^ (n + 1) * sqrt(2)) ^ (2 * floor((n + 1) / 2)))) ^ 2 - 1. - _ Raphie Frank _ , Dec 20 2015 ● a(n) = ([8 * sqrt((b(n - 2) * (b(n - 2) + 1) / 2) + 1) + b(n - 4)] * [8 * sqrt((b(n - 2) * (b(n - 2) + 1) / 2) + 1) + b(n - 4) + 1] / 2). (End) ● a(n) = a(n - 1) + 34 * a(n - 2) - 34 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. ●

[A229673] ● 1,3,15,126,1667,31966,828678,27535826,1128945382,55473589278,3193471420236,211517309562652 ★ The number of subsets of nonzero integers of cardinality n, produced as the steps in a computation starting with 1 and using the operations of multiplication, addition, or subtraction. ● a(n) >= 2 ^ (n - 1) * (n - 1)!. ●

[A222390] ● 0,3,15,132,588,5031,22347,191064,848616,7255419,32225079,275514876,1223704404,10462309887,46468542291,397292260848,1764580902672,15086643602355,67007605759263,572895164628660,2544524437949340,21754929612286743,96624921036315675 ★ Nonnegative integers m such that 10*m*(m+1)+1 is a square. ● a(n) = a(- n + 1) = a(n - 1) + 38 * a(n - 2) - 38 * a(n - 3) - a(n - 4) + a(n - 5). ● a(n) = - 1 / 2 + ((5 + t * (- 1) ^ n) * (3 - t) ^ (2 * floor(n / 2)) + (5 - t * (- 1) ^ n) * (3 + t) ^ (2 * floor(n / 2))) / 20, where t=sqrt(10). ●

[A102556] ● 3,15,159,867,19239,107985,1222563,6965835,319153335,1835486085,21185534577,122622340677,2846090375067,16550504577861,192854402926251,1125503935556763,105252693980913879 ★ Numerator of the probability that 2n-dimensional Gaussian random triangle has an obtuse angle. ● a(n) is the numerator of p(n) = Sum _{ k=n..2n - 1 } binomial(2n - 1,k) 3 ^ (2n - k) / 4 ^ (2n - 1). ●

[A145272] ● 1,3,15,210,26565,358999410,64449908117864115 ★ First differences of successive iterated triangular numbers. ● a(n)=T(x(n - 1)) - x(n - 1) where x(n)=T(x(n - 1)) and T(x)=x * (x + 1) / 2. ●

[A004002] ● 1,3,15,3814279 ★ Benford numbers: a(n)=e^e^...^e (n times) rounded to nearest integer. ● a(n) = round(e ^ e ^ ... ^ e), where e occurs n times, a(0) = 1 (= e ^ 0). - _ Melissa O'Neill _ , Jul 04 2015 ●

[A022126] ● 3,16,19,35,54,89,143,232,375,607,982,1589,2571,4160,6731,10891,17622,28513,46135,74648,120783,195431,316214,511645,827859 ★ Fibonacci sequence beginning 3 16. ● a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 29 + 3 * sqrt(5)) + (1 + sqrt(5)) ^ n * (29 + 3 * sqrt(5)))) / sqrt(5). ● a(n) = a(n - 1) + a(n - 2) for n>1. ●

[A042075] ● 1,1,3,16,19,35,89,213,515,728,1243,6943,15129,22072,1030441,1052513,3135467,16729848,19865315,36595163,93055641,222706445,538468531,761174976,1299643507 ★ Denominators of continued fraction convergents to sqrt(561). ● a(n) = 1045570 * a(n - 14) - a(n - 28)for n>27. - _ Vincenzo Librandi _ , Jan 14 2014 ●

[A041461] ● 1,1,3,16,19,282,301,1787,3875,5662,173735,179397,532529,2842042,3374571,50086036,53460607,317389071,688238749,1005627820,3085707334,9,31862701169,94582475687,504775079604,599357555291 ★ Denominators of continued fraction convergents to sqrt(246). ● a(n) = 177610 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 18 2013 ●

[A258717] ● 0,3,16,27,48,67,96,123,160,195,240,283,336,387,448,507,576,643,720,795,880,963,1056,1147,1248 ★ If n even then 2*n^2-4*n else 2*n^2-4*n-3. ● a(n) = - a(n - 1) - 12 * n + 3 + 4 * n ^ 2, n>=3. - _ R. J. Mathar _ , Nov 07 2015 ● a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>5. ●

[A081270] ● 3,16,38,69,109,158,216,283,359,444,538,641,753,874,1004,1143,1291,1448,1614,1789,1973,2166,2368,2579,2799 ★ Diagonal of triangular spiral in A051682. ● a(n) = 3C(n, 0) + 13C(n, 1) + 9C(n, 2); binomial transform of (3, 13, 9, 0, 0, 0, ...). ● a(n) = (9n ^ 2 + 17n + 6) / 2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 ●

[A147874] ● 0,3,16,39,72,115,168,231,304,387,480,583,696,819,952,1095,1248,1411,1584,1767,1960,2163,2376,2599,2832 ★ a(n) = (5*n-7)*(n-1). ● a(n) = 10 * (n - 2) + 3 + a(n - 1). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A255211] ● 0,3,16,46,100,185,308,476,696,975,1320,1738,2236,2821,3500,4280,5168,6171,7296,8550,9940,11473,13156,14996,17000 ★ a(n) = n*(n+1)*(7*n+2)/6. ● a(n) = Sum _{ j=0..n - 1 } (n - j) * (3 * n - 2 * j) = Sum _{ j=1..n } j * (n + 2 * j) for n>0. ●

[A172482] ● 3,16,47,104,195,328,511,752,1059,1440,1903,2456,3107,3864,4735,5728,6851,8112,9519,11080,12803,14696,16767,19024,21475 ★ (1+n)*(9+11*n+4*n^2) ● a(n)=4 * a(n) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ● a(n) mod 10 = 3, 6, 7, 4, 5, 8, 1, 2, 9, 0 (and repeat periodically) ●

[A212564] ● 0,0,0,3,16,48,114,229,416,696,1100,1655,2400,3368,4606,6153,8064,10384,13176,16491,20400,24960,30250,36333,43296 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x>2y+2z. ● a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). ● a(n) = 1 / 96 * (2 * n * (3 * ((- 1) ^ n - 1) + (n - 2) * n * (7 * n - 4)) - 9 * (- 1) ^ n + 9). ●

[A004320] ● 0,3,16,50,120,245,448,756,1200,1815,2640,3718,5096,6825,8960,11560,14688,18411,22800,27930,33880,40733,48576,57500,67600 ★ a(n) = n*(n+1)*(n+2)^ ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Wesley Ivan Hurt _ , Oct 28 2014 ●

[A000574] ● 3,16,51,126,266,504,882,1452,2277,3432,5005,7098,9828,13328,17748,23256,30039,38304,48279,60214,74382,91080,110630,133380,159705 ★ Coefficient of x^5 in expansion of (1 + x + x^2)^n. ● a(n) = 3 * binomial(n + 2,5) - 2 * binomial(n + 1,5). ● a(n) = binomial(n + 1, 4) * (n + 12) / 5 = 3 * b(n - 3) - 2 * b(n - 4), with b(n)=binomial(n + 5, 5); cf. A000389. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Vincenzo Librandi _ , Jun 10 2012 ● a(n) = 3 * binomial(n, 3) + 4 * binomial(n, 4) + binomial(n, 5). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 ● a(n) = GegenbauerC(N, - n, - 1 / 2) where N = 5 if 5<n else 2 * n - 5. - _ Peter Luschny _ , May 10 2016 ●

[A041233] ● 1,3,16,51,1138,3465,18463,58854,1313251,3998607,21306286,67917465,1515490516,4614389013,24587435581,78376695756,1748874742213,5325000922395,28373879354188,90446638984959,2018199937023286,6145046450054817,32743432187297371 ★ Denominators of continued fraction convergents to

sqrt(128). • a(n) = 1154 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 13 2013 •

[**A027540**] • 3,16,55,156,399,960,2223,5020,11143,24432,53079,114492,245535,524032,1113823,2358972,4980375,10485360,22019655,46136860,96468463,201326016,419429775,872414556,1811938599 ★ Second diagonal of A027537. • a(n) = (n + 1) * (2 ^ n - n - 1). - _ Vladeta Jovovic _ , Aug 18 2002 • a(n) = Sum _{ k=0..n } Sum _{ i=0..n } (i - k) * C(n - k,i - 2). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[**A073999**] • 0,0,3,16,60,240,1008,4096,16320,65280,261888,1048576,4193280,16773120,67104768,268435456,1073725440,4294901760,17179803648,68719476736,274877644800,1099510579200,4398045462528,17592186044416,70368739983360 ★ Number of strings of length n over GF(4) with trace 1 and subtrace x where x = RootOf(z^2+z+1). • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t - 1, s - (t - 1)) + a(n - 1; t - 2, s - 2(t - 2)) + a(n - 1; t - 3, s - 3(t - 3)) where t is the trace and s is the subtrace. Note that all operations involving operands t or s are carried out over GF(4). • a(n) = - 2 ^ (n - 3) + ((- 2i) ^ n + (2i) ^ n + 4 ^ n) / 16 with i=sqrt(- 1). - R. J. Mathar, Nov 18 2011 •

[**A267036**] • 1,3,16,63,256,1023,4096,16383,65536,262143,1048576,4194303,16777216,67108863,268435456,1073741823,4294967296,17179869183,68719476736,274877906943,1099511627776,4398046511103,17592186044416,70368744177663,281474976710656 ★ Decimal representation of the n-th iteration of the "Rule 85" elementary cellular automaton starting with a single ON (black) cell. • a(n) = ((- 1) ^ n - 1) / 2 + 4 ^ n. • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3) for n>2. •

[**A037451**] • 0,1,3,16,63,275,1152,4901,20727,87856,372075,1576279,6676992,28284569,119814747,507544400,2149990983,9107510539,38580029568,163427634589,692290558575,2932589884016,12422650070163,52623190204271,222915410823168 ★ a(n) = Fibonacci(n) * Fibonacci(2*n). • a(n + 4) = 3 * a(n + 3) + 6 * a(n + 2) - 3 * a(n + 1) - a(n). • a(n) = (1 / 5) * (Lucas(3 * n) - (- 1) ^ n * Lucas(n)) = (1 / 5) * (Lucas(3 * n) - Lucas(- n)). In general, for r = s (mod 2) the sequence Lucas(r * n) - Lucas(s * n) is a divisibility sequence. Cf. A273622. - _ Peter Bala _ , May 27 2016 • a(n) = (- (1 / 2 * (- 1 - sqrt(5))) ^ n + (2 - sqrt(5)) ^ n - (1 / 2 * (- 1 + sqrt(5))) ^ n + (2 + sqrt(5)) ^ n) / 5. - _ Colin Barker _ , Jun 03 2016 •

[**A293579**] • 3,16,66,248,892,3136,10888,37536,128880,441472,1510176,5161856,17635264,60233728,205697152,702386688,2398283520,8188622848,27958448640,95457597440,325915589632,1112751357952,3799182641152,12971244625920,44286646775808 ★ Number of compositions of n where each part i is marked with a word of length i over a binary alphabet whose letters appear in alphabetical order and both letters occur at least once in the composition. • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3). • a(n) = 2 ^ (n / 2 - 2) * ((sqrt(2) + 1) ^ (n + 1) - (sqrt(2) - 1) ^ (n + 1)) - 2 ^ n. •

[**A179600**] • 1,3,16,66,304,1332,5968,26472,117952,524496,2334400,10385568,46213120,205619520,914912512,4070872704,18113348608,80595074304,358607125504,1595618388480,7099688329216,31589989045248,140559334936576 ★ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+x)/(1-2*x-10*x^2-4*x^3). • a(n) = 2 * a(n - 1) + 10 * a(n - 2) + 4 * a(n - 3) with a(0)=1, a(1)=3 and a(2)=16. • a(n) = (4 * (- 1 / 2) ^ (- n) + (1 + sqrt(6)) * A ^ (- n - 1) + (1 - sqrt(6)) * B ^ (- n - 1)) / 20 with A = (- 1 + sqrt(6) / 2) and B = (- 1 - sqrt(6) / 2). •

[**A015524**] • 0,1,3,16,69,319,1440,6553,29739,135088,613437,2785927,12651840,57457009,260933907,1185000784,5381539701,24439624591,110989651680,504046327177,2289066543291,10395523920112,47210037563373 ★ a(n) = 3*a(n-1) + 7*a(n-2). • a(n) = 14 ^ n * (1 / A ^ n - (- 1) ^ n / B ^ n) / sqrt(37), where A = sqrt(37) - 3 = A010491 - 3 and B = sqrt(37) + 3 = A010491 + 3. (End) • a(n) = (7 * (111 + 23 * sqrt(37)) * (1 / 2 * (3 + sqrt(37))) ^ n + (2553 + 431 * sqrt(37)) * (1 / 2 (3 - sqrt(37))) ^ n) / (518 * (45 + 8 * sqrt(37))). - _ Harvey P. Dale _ , Jul 04 2011 •

[**A038602**] • 3,16,73,316,1334,5552,22901,93892,383290,1559680,6331098,25649976,103758828,419195552,1691825933,6822051092,27488564498,110691186272,445487285678,1792047789512,7205785665908,28963557761312 ★ One half of convolution of central binomial coefficients A000984(n) with A000984(n+2), n >= 0. • a(n) = 2 ^ (2 * n + 3) - (3 * n + 5) * C(n + 1), C(n): Catalan numbers A000108. •

[**A207836**] • 0,3,16,75,336,1463,6240,26199,108640,445995,1815792,7341347,29505840,117982815,469672384,1862393775,7359403968,28991540051,113892526800,446305331451,1744950085648,6808253393415,26513475730464,103072540115975,400058834841120 ★ a(n) = n*A052530(n)/2. • a(n) = 8 * a(n - 1) - 18 * a(n - 2) + 8 * a(n - 3) - a(n - 4) for n>5. - _ Colin Barker _ , Jun 08 2015 •

[**A005386**] • 1,3,16,75,361,1728,8281,39675,190096,910803,4363921,20908800,100180081,479991603,2299777936,11018898075,52794712441,252954664128,1211978608201,5806938376875,27822713276176,133306628004003 ★ Area of n-th triple of squares around a triangle. • a(n)= |U(n - 1,sqrt(3) * i / 2)| ^ 2, where U(n,x) denotes the Chebyshev polynomial of the second kind. • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 5 / 2; 1, 3 / 2] and T(n,x) denotes the Chebyshev polynomial of the first kind. •

[**A003769**] • 3,16,75,361,1728,8281,39675,190096,910803,4363921,20908800,100180081,479991603,2299777936,11018898075,52794712441,252954664128,1211978608201,5806938376875,27822713276176,133306628004003,638710426743841,3060245505715200 ★ Number of perfect matchings (or domino tilings) in K_4 X P_n. • a(n) = 4a(n - 1) + 4a(n - 2) - a(n - 3), n>3. • a(n) = 2 ^ (- 1 - n) * ((- 1) ^ n * 2 ^ (2 + n) + (5 - sqrt(21)) ^ (1 + n) + (5 + sqrt(21)) ^ (1 + n)) / 7. - _ Colin Barker _ , Dec 16 2017 •

[**A055842**] • 1,3,16,80,400,2000,10000,50000,250000,1250000,6250000,31250000,156250000,781250000,3906250000,19531250000,97656250000,488281250000,2441406250000,12207031250000,61035156250000,305175781250000,1525878906250000,7629394531250000 ★ Expansion of (1-x)^2/(1-5*x). • a(n)=16 * 5 ^ (n - 2), a(0)=1, a(1)=3. •

[**A290587**] • 3,16,81,265,729,1786,4060,8833,18786,39586,83273,175463,370615,784290,1661122,3517669,7441936,15720066,33145015,69744491,146458013,306933394,642004440,1340415817,2793811726 ★ Number of irredundant sets in the n-Andrasfai graph. • a(n) = (- 45 * (8 + 3 * 2 ^ n) + (1772 + 405 * 2 ^ n) n - 1010 * n ^ 2 + 25 * n ^ 3 + 50 * n ^ 4 + 3 * n ^ 5) / 120 for n > 3. • a(n) = 10 * a(n - 1) - 43 * a(n - 2) + 104 * a(n - 3) - 155 * a(n - 4) + 146 * a(n - 5) - 85 * a(n - 6) + 28 * a(n - 7) - 4 * a(n - 8) for n > 11. •

[**A020871**] • 0,3,16,81,392,1815,8112,35301,150544,632043,2620880,10759353,43804824,177105279,711809392,2846259405,11330543648,44929049811,177540878736,699402223137,2747583822760,10766828545767,42095796462896,164244726238389,639620518118448 ★ Number of spanning trees in a Moebius ladder M_n with 2n vertices. • a(n) = (n / 2) * (2 + (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n). •

[**A041707**] • 1,3,16,83,265,10153,30724,163773,849589,2712540,103926109,314490867,1676380444,8696393087,27765559705,1063787661877,3219128545336,17159430388557,89016280488121,284208271852920,1088893061089081,3295100010455016 3,175643931133649896 ★ Denominators of continued fraction convergents to sqrt(373). • a(n) = 10236 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 23 2013 •

[**A030983**] • 0,3,16,83,442,2420,13566,77539,450340,2650635,15777450,94815732,574518536,3506232184,21533144486,132980242755,825304177544,5144743785545,32199189658020,202252227085755,1274578959894450,8056409137803600,51063344718826440 ★ Number of rooted noncrossing trees with n nodes such that root has degree 1 and the child of the root has degree at least 2. • a(n) = (19 * n - 31) * binomial(3 * n - 8, n - 4) / (n - 1) / (2 * n - 3). • a(n) = binomial(3 * n - 5,2 * n - 3) / (n - 1) - 2 * binomial(3 * n - 8,2 * n - 5) / (n - 2), n >2. • a(n) = sum(i=1..n - 3, (binomial(3 * i - 2,2 * i - 1) * binomial(3 * (n - i - 2),2 * (n - i - 2) - 1)) / (i * (n - i - 2))). (End) •

[**A278681**] • 3,16,85,451,2392,12686,67280,356818,1892376,10036172,53226604,282286052,1497097488,7939821584,42108658448,223322287224,1184384537744,6281355751296,33313023614352,176674843181968,936990907061504,4969309405367264,26354616443092800,139771093164846816,741272730213321216 ★ Pisot sequence T(3,16). • a(n) = floor(a(n - 1) ^ 2 / a(n - 2)), a(0) = 3, a(1) = 16. • a(n) = 6 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4). (End) •

[**A163604**] • 3,16,86,464,2508,13568,73432,397504,2151984,11650816,63078752,341518592,1849046208,10011109376,54202228096,293462293504,1588867154688,8602465128448,46575580861952,252170135097344,1365302948711424,7392041698328576,40022092304668672 ★ a(n) = ((3+2*sqrt(2))*(4+sqrt(2))^n + (3-2*sqrt(2))*(4-sqrt(2))^n)/2. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 3, a(1) = 16. •

[**A146963**] • 1,3,16,90,508,2868,16192,91416,516112,2913840,16450816,92877216,524361664,2960415552,16713769984,94361788800,532743192832,3007735579392,16980927090688,95870091385344,541258694130688 ★ a(n) = ((3 + sqrt(7))^n + (3 - sqrt(7))^n)/2. • a(n) = 6 * a(n - 1) - 2 * a(n - 2); a(0)=1, a(1)=3. •

[**A130744**] • 0,3,16,90,576,4200,34560,317520,3225600,35925120,435456000,5708102400,80472268800,1214269056000,19527937228800,333456963840000,6025763487744000,114887039275008000,2304854534062080000 ★ a(n) = n*(n+2)*n!. • a(n) = (n + 2)! - (n + 1)! - n! [from Orlovsky's Mathematica - code]. •

[**A137644**] • 1,3,16,95,591,3780,24620,162423,1081780,7258053,48982176,332140328,2261099491,15444137880,105789736896,726426836103,4998885106599,34464824536500,238017084356680,1646234203000485,11401464090042224 ★ a(n) = Sum_{k=0..n} C(n+k,k)*C(n+k,n-k). • a(n) = 3F2({- n, n + 1, n + 1 } ; { 1 / 2, 1 })(- (1 / 4)). - _ Olivier Gérard _ , Apr 23 2009 •

[**A181067**] • 1,3,16,95,606,4032,27616,193167,1372930,9881498,71846160,526764680,3889340560,28888634400,215680108416,1617467908751,12177754012458,92004463332486,697263463622080,5298985086555090,40371796982444356 ★ a(n) = Sum_{k=0..n-1} C(n-1,k)^2 * C(n,k). • a(n) = 3F2[{ 1 - n, 1 - n, - n } , { 1, 1 } , - 1] - _ Pierre - Louis Giscard _ , Jul 20 2013 • a(n) = n * hypergeometric([- n + 1, - n + 1, - n + 1], [1,2], - 1) for n > 0. - _ Emanuele Munarini _ , Sep 27 2016 •

[**A006347**] • 0,1,3,16,95,666,5327,47944,479439,5273830,63285959,822717468,11518044551,172770668266,2764330692255,46993621768336,845885191830047,1607181864477089 4,3214363728954178 79,6750163830803775460 ★ a(n) = (n+1) a(n-1) + (-1)^n. • a(n) = round((1 / 2 - exp(- 1)) * (n + 1)!). - _ Benoit Cloitre _ , Sep 24 2006 • a(n) = n(a(n - 1) + a(n - 2)), n > 2. - _ Gary Detlefs _ , Apr 10 2010 • a(n) = 1 / 2 * (n + 1)! - floor(((n + 1)! + 1) / e). - _ Gary Detlefs _ , Apr 16 2010 •

[**A074553**] • 3,16,98,664,4802,36136,278498,2177464,17174402,136190536,1083566498,8638939864,68964148802,550978111336,4404154809698,35214904015864,281627607648002,2252562882278536,18018213594168098,1441342627244454 64 ★ 3^n + 5^n + 8^n. • a(n) = + 16 * a(n - 1) - 79 * a(n - 2) + 120 * a(n - 3) •

[**A246056**] • 1,3,16,99,681,4950,37303,288399,2272318,18167553,146950227,1199921310,9875193549,81811617237,681621711306,5706874227051,47985527200311,405002888376840,3429714479025247,29130993220171449,248095567594494634,2118053534177686959,18122259456592141785 ★ G.f.: Sum_{n>=0} x^n / (1-2*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * 2^k * x^k] * [Sum_{k=0..n} C(n,k)^2 * 3^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 3 ^ k * Sum _{ j=0..n

- 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 2 ^ j. •

[A000949] • 1,1,3,16,101,756,6607,65794,733833,9046648,121961051,1782690174,28055070397,472594822324,8479144213191,161340195463066,3243707386310033,68679247688467056,1526976223741111987,35557878951515668726,865217354118762606021 ★ Number of forests with n nodes and height at most 2. • a(n) = n! * sum(m=1..n - 1, sum(k=1..n - m, (k ^ (n - m - k) * m ^ k) / (k! * (n - m - k)!)) / m!) + 1. - _ Vladimir Kruchinin _ , May 28 2011 •

[A278429] • 1,3,16,102,699,4973,36194,267480,1998565,15057255,114179652,870351386,6662847871,51189449457,394476780694,3047878296556,23602623675273,183142111511819,1423578146798168,11082963785614926,86405502413568259 ★ a(n) = Sum_{k=0..n} binomial(k+n-2,k)*binomial(2*n+1,k+n+1). • a(n) = binomial(2n + 1, n + 1) * 2F1(n - 1, - n; n + 2; - 1). - _ Jean - François Alcover _ , Nov 22 2016 •

[A110903] • 0,0,0,3,16,105,672,4935,39936,361935,3624960,39906405,478955520,6226885665,87177646080 ★ Difference between the factorial of n and the double factorial of n. • a(n) = n! - n!! •

[A206351] • 1,3,16,105,715,4896,33553,229971,1576240,10803705,74049691,507544128,3478759201,23843770275,163427632720,1120149658761,7677619978603,52623190191456,360684711361585,2472169789339635 ★ a(n) = 7*a(n-1) - a(n-2) - 4 with a(1)=1, a(2)=3. • a(n) = 4 / 5 + 1 / 10 * ((7 / 2 - 3 / 2 * sqrt(5)) ^ (n - 1) + (7 / 2 + 3 / 2 * sqrt(5)) ^ (n - 1)) + 1 / 10 * sqrt(5) * ((7 / 2 + 3 / 2 * sqrt(5)) ^ (n - 1) - (7 / 2 - 3 / 2 * sqrt(5)) ^ (n - 1)). - _ Paolo P. Lava _ , Feb 07 2012 •

[A085614] • 1,3,16,105,768,6006,49152,415701,3604480,31870410,286261248,2604681690,23957864448,222399744300,2080911654912,19604537460045,185813170126848,1770558814528770,16951376923852800,162984598242674670 ★ Elementary arches of size n. • a(n) = 2 ^ n(3n)!! / ((n + 1)! n!!). - Maxim Krikun (krikun(AT)iecn.u - nancy.fr), May 25 2007 •

[A215931] • 1,3,16,105,770,6048,49764,423423,3695120,32891430,297473956,2725789248,25251200716,236101791900,2225241057600,21118368117105,201640796593290,1935642349666080,18670022226540300,180851385211254450,1758621701183524320,17160853351737885660 ★ Product of Fibonacci and Catalan numbers: a(n) = A000045(2*n+2)*A000108(n). • a(n) = Fibonacci(2 * n + 2) * binomial(2 * n,n) / (n + 1). •

[A074551] • 3,16,106,820,6898,60316,536266,4801540,43118818,387702316,3487892026,31385431060,282446845138,2541934531516,22877065673386,205892220185380,1853024526865858,16677199008675916,150094704403896346 ★ 3^n + 4^n + 9^n. • a(n) = + 16 * a(n - 1) - 75 * a(n - 2) + 108 * a(n - 3) •

[A292752] • 1,1,3,16,108,811,6513,54706,472818,4157701,36931023,329937796,2957233128,26554062991,238681391133,2146606641286,19311830377038,173768326420681,1563724202922843,14072564151989176,126648308996320548,1139810939108974771,10258179242691222153,92323017137773245466 ★ Dimensions of centralizer algebras of groups associated with Z_4-codes. • a(n) = 15 * a(n - 1) - 59 * a(n - 2) + 45 * a(n - 3) for n>3. •

[A074540] • 3,16,110,862,7202,62206,547130,4861222,43437602,389374126,3496551050,31429889782,282673681202,2543086539646,22882895986970,205921649705542,1853172776808002,16677944639250766,150098449994526890,1350870791159844502,12157760826489618002 ★ a(n) = 2^n + 5^n + 9^n. • a(n) = 16 * a(n - 1) - 73 * a(n - 2) + 90 * a(n - 3) for n > 2. - _ Wesley Ivan Hurt _ , Oct 06 2017 •

[A074523] • 3,16,114,856,6498,49576,379794,2920696,22542018,174571336,1356217074,10567261336,82560763938,646644824296,5076269583954,39931933598776,314707907280258,2484430327672456,19642812107392434,155514083261229016 ★ a(n) = 1^n + 7^n + 8^n. • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 42 with a(0)=3, a(1)=16. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A042437] • 1,3,16,115,131,246,377,623,1000,1623,12361,63428,202645,11006258,33221419,177113353,1273014890,1450128243,2723143133,4173271376,6896414509,11069685885,17966100394,136832388643,702128043609 ★ Denominators of continued fraction convergents to sqrt(746). • a(n) = 11069686 * a(n - 13) + a(n - 26) for n>25. - _ Vincenzo Librandi _ , Jan 22 2014 •

[A074522] • 3,16,118,946,7858,66826,578098,5062906,44726338,397498186,3547250578,31743856666,284606318818,2554926522346,22955156619058,206361317079226,1855841298759298,16694108359111306,150196195253667538 ★ a(n) = 1^n + 6^n + 9^n. • a(n) = 15 * a(n - 1) - 54 * a(n - 2) + 40 with a(0)=3, a(1)=16. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A003692] • 1,1,3,16,120,1170,14070,201600,3356640,63730800,1359666000,32212857600,839350512000,23860289653200,734964075846000,24388126963200000,867393811956672000,32919980214689568000 ★ Number of trees on n labeled vertices with degree at most 3. • a(n + 1) = (- a(n - 1) * a(n) - (- 3 * a(n) ^ 2 + (2 / 3) * a(n - 2) * a(n) * n + (- 4 / 3) * a(n - 1) * a(n) * n + (- 4 / 3) * a(n) ^ 2 * n + (- 1 / 3) * a(n - 2) * a(n) * n ^ 2 + (- 2 / 3) * a(n - 1) * a(n) * n ^ 2)) / (a(n - 1) + (- 1 / 3) * a(n) - 2 * a(n - 2) * n + 2 * a(n - 1) * n + a(n - 2) * n ^ 2). (End) • a(n) = Sum _{ q=0..floor((n - 2) / 2) } C(n,q) * C(n - q,n - 2 - 2q) * (n - 2)! / 2 ^ q, a(n) = (n - 2)! / 2 ^ n * Sum _{ q=0..n } C(n,q) C(2q,n - 2), a(n) = (n - 2)! / 2 ^ n [v ^{ n - 2 }] (2 + 2v + v ^ 2) ^ n. - _ Marko Riedel _ , Jun 10 2016 •

[A121629] • 1,3,16,121,1179,14026,196783,3177861,58019356,1181098459,26515026561,650572403218,17316566815441,496889918749251,15288155067806104,502024850361876481,17522822345606176083 ★ Finite sum involving signless Stirling numbers of the first kind and the Bell numbers. Appears in the process of normal ordering of n-th power of (a)^2*(a+*a), where a+ and a are boson creation and annihilation operators, respectively. • a(n)=sum(abs(stirling1(n + 1,p)) * 2 ^ (n - p + 1) * bell(p - 1),p=1..n + 1), n=0,1... •

[A121673] • 1,1,3,16,131,1306,15257,203967,3047907,50115310,896746169,17308420306,357767229778,7872926416538,183537476164902,4513828442107368,116688468769638435,3160881019508153238,89471871451166037425 ★ a(n) = [x^n] (1 + x*(1+x)^(n-1))^n. • a(n) = Sum _{ k=0..n } C(n,k) * C((n - 1) * k,n - k). •

[A273420] • 3,17,20,31,41,47,57,63,73,79,89,95,105,111,121,127,137,143,153,159,169,175,185,191,201 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 705", based on the 5-celled von Neumann neighborhood. • a(n) = 8 + (- 1) ^ n + 8 * n for n>2. • a(n) = 8 * n + 9 for n>2 and even. • a(n) = 8 * n + 7 for n>2 and odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>5. •

[A022127] • 3,17,20,37,57,94,151,245,396,641,1037,1678,2715,4393,7108,11501,18609,30110,48719,78829,127548,206377,333925,540302,874227 ★ Fibonacci sequence beginning 3, 17. • a(n) = 2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 31 + 3 * sqrt(5)) + (1 + sqrt(5)) ^ n * (31 + 3 * sqrt(5))) / sqrt(5). • a(n) = a(n - 1) + a(n - 2) for n>1. •

[A273448] • 3,17,20,39,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 721", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>5. •

[A273407] • 3,17,23,33,39,49,55,65,71,81,87,97,103,113,119,129,135,145,151,161,167,177,183,193,199 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 673", based on the 5-celled von Neumann neighborhood. • a(n) = 8 - (- 1) ^ n + 8 * n for n>0. • a(n) = 8 * n + 7 for n>0 and even. • a(n) = 8 * n + 9 for n>0 and odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[A273834] • 3,17,24,31,41,47,57,63,73,79,89,95,105,111,121,127,137,143,153,159,169,175,185,191,201 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 961", based on the 5-celled von Neumann neighborhood. • a(n) = 8 + (- 1) ^ n + 8 * n for n>2. • a(n) = 9 + 8 * n for n>2 and even. • a(n) = 7 + 8 * n for n>2 and odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>5. •

[A273850] • 3,17,24,31,45,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 969", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>4. • a(n) = 2 * a(n - 1) - a(n - 2) for n>6. •

[A273782] • 3,17,27,33,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>5. •

[A179783] • 1,3,17,39,81,139,225,335,481,659,881,1143,1457,1819,2241,2719,3265,3875,4561,5319,6161,7083,8097,9199,10401 ★ a(n) = 2*n*(n+1)*(n+2)/3 + (-1)^n. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. •

[A087908] • 1,3,17,47,99,179,293,447,647,899,1209,1583,2027,2547,3149,3839,4623,5507,6497,7599,8819,10163,11637,13247,14999 ★ Largest integer not expressible as a nonnegative linear combination of n and n^2 + 1. • a(n) = n ^ 3 - n ^ 2 - 1. [This follows from the well - known fact that the largest integer not expressible as a nonnegative linear combination of a and b is the number ab - a - b. - Matthias Beck (beck(AT)math.sfsu.edu), Sep 22 2005] • a(1)= - 1, a(2)=3, a(3)=17, a(4)=47; for n>4, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jul 19 2011 •

[A144640] • 3,17,48,102,185,303,462,668,927,1245,1628,2082,2613,3227,3934,5627,6633,7752,8990,10353,11847,13478,15252,17175 ★ Row sums from A144562. • a(n) = (2 * n ^ 2 + 5 * n - 1) * n / 2. - _ Jon E. Schoenfield _ , Jun 24 2010 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 06 2012 •

[A084069] • 1,3,17,48,271,765,4319,12192,68833,194307,1097009,3096720,17483311,49353213,278635967,786554688,4440692161,12535521795,70772438609,199781794032,1127918325583,3183973182717,17975920770719,50743789129440 ★ Numbers n such that 7*n^2 = floor(n*sqrt(7)*ceil(n*sqrt(7))). • a(1)=1, a(2)=3, a(2n)=6 * a(2n - 1) - a(2n - 2); a(2n + 1)=3 * a(2n) - a(2n - 1) • a(n)a(n + 3) = - 3 + a(n + 1)a(n + 2). • a(n)=16 * a(n - 2) - a(n - 4), n>4. [From Harvey P. Dale, Oct 31 2011] •

[A011917] • 0,0,0,0,3,17,51,120,240,432,720,1131,1697,2451,3432,4680,6240,8160,10491,13289,16611,20520,25080,30360,36432 ★ [n(n-1)(n-2)(n-3)/7]. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 7) - 4 * a(n - 8) + 6 * a(n - 9) - 4 * a(n - 10) + a(n - 11). G.f.: x ^ 4 * (3 + 5 * x + x ^ 2 + 6 * x ^ 3 + x ^ 4 + 5 * x ^ 5 + 3 * x ^ 6) / ((1 - x) ^ 5 * (1 + x + x ^ 2 + x ^ 3 + x ^ 4 + x ^ 5 + x ^ 6)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A163943] • 0,3,17,52,121,240,428,707,1102,1641,2355,3278,4447,5902,7686,9845,12428,15487,19077,23256,28085,33628,39952,47127,55226 ★ Third left hand column of triangle A163940. • a(n)= (2 * n + 45 * n ^ 2 + 22 * n ^ 3 + 3 * n ^ 4) / 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A212415] • 0,0,3,17,55,135,280,518,882,1410,2145,3135,4433,6097,8190,10780,13940,17748,22287,27645,33915,41195,49588,59202,70150 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<x>=y<=z. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = (n - 1) * n * (n + 1) * (5 * n + 2) / 24. [_ Bruno Berselli _ , May 30 2012] •

[**A152457**] • 0,3,17,56,140,295,553,952,1536,2355,3465,4928,6812,9191,12145,15760,20128,25347,31521,38760,47180,56903,68057,80776,95200 ⋆ Partial sums of A027444. • a(n) = n(n + 1)(3n ^ 2 + 7n + 8) / 12. - _ Giovanni Resta _ , Jun 15 2013 • a(0)=0, a(1)=3, a(2)=17, a(3)=56, a(4)=140, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Dec 13 2013 •

[**A168547**] • 1,3,17,59,145,291,513,827,1249,1795,2481,3323,4337,5539,6945,8571,10433,12547,14929,17595,20561,23843,27457,31419,35745 ⋆ a(n) = 1 - 2*n^2 + 4*n*(1 + 2*n^2)/3 . • a(n)= 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A101562**] • 1,3,17,67,257,1011,4097,16451,65553,261891,1048577,4195379,16777217,67104771,268435729,1073758275,4294967297,17179804659,68719476737,274878168899,1099511631889,4398045462531,17592186044417,70368748388427 ⋆ a(n)=(-1)^n*coefficient of x^n in sum{k>=1,x^(k-1)/(1+4x^k)}. • a(n) =sum { k=0..n, (- 1) ^ (n - k) * if(mod(n + 1, k + 1)=0, 1, 0) * 4 ^ k } •

[**A265919**] • 0,1,3,17,71,301,1275,5257,21711,88997,363395,1480385,6014423,24393245,98781323,399502841,1614022751,6514800277,26275725843,105904696369,426598453863,1717507247885,6911604624923,27802402448233,111796372691439 ⋆ Numerator of the probability that Bob wins the following game: Alice and Bob take turn (Alice starts first) to gain 1 or 2 chips randomly and independently with 1/2 chance, and the first player that collects at least n chips is the winner. • a(n) = (4 ^ n - Sum _ (k=1..n) 4 ^ (n - k) * (binomial(k, n - k) + binomial(k - 1, n - k)) ^ 2) / 8. •

[**A248917**] • 1,3,17,73,257,801,2305,6273,16385,41473,102401,247809,589825,1384449,3211265,7372801,16777217,37879809,84934657,189267969,419430401,924844033,2030043137,4437573633,9663676417 ⋆ a(n) = 2^n * n^2 + 1. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 ^ (n + 1) + 1. • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Jean - François Alcover _ , Oct 22 2014 •

[**A179596**] • 1,3,17,73,351,1607,7513,34809,161903,751783,3493353,16227737,75393055,350251335,1627192697,7559508409,35119644495,163157037671,757987215241,3521419711833,16359641017343,76002822156295,353090213774361 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+x)/(1-2*x-11*x^2-6*x^3). • a(n) = 2 * a(n - 1) + 11 * a(n - 2) + 6 * a(n - 3) with a(0)=1, a(1)=3 and a(2)=17. • a(n) = (- 1) ^ (- n) * 2 ^ (n + 1) / 9 + ((49 + 17 * sqrt(7)) * A ^ (- n) + (49 - 17 * sqrt(7)) * B ^ (- n)) / 126 with A = (- 2 + sqrt(7)) / 3 and B = (- 2 - sqrt(7)) / 3. •

[**A100233**] • 1,3,17,75,321,1363,5777,24475,103681,439203,1860497,7881195,33385281,141422323,599074577,2537720635,10749957121,45537549123,192900153617,817138163595,3461452808001,14662949395603,62113250390417,263115950957275,1114577054219521 ⋆ a(n) = Lucas(3*n) - 1. • a(n) = 4 * a(n - 1) + a(n - 2) + 4 for n>1, with a(0)=1, a(1)=3. • a(n) = [x ^ n] (1 + 2 * x + sqrt(1 + 2 * x + 5 * x ^ 2)) ^ n. Cf. A016064. - _ Peter Bala _ , Jun 23 2015 • a(n) = - 1 + (2 - sqrt(5)) ^ n + (2 + sqrt(5)) ^ n. • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - a(n - 3) for n>2. •

[**A015525**] • 0,1,3,17,75,361,1683,7937,37275,175321,824163,3875057,18218475,85655881,402715443,1893393377,8901903675,41852858041,196773803523,925144274897,4349623252875,20450023957801,96147057896403 ⋆ Expansion of x/(1-3*x-8*x^2). • a(n) = 3 * a(n - 1) + 8 * a(n - 2). • a(n) = - 16 ^ n * (A ^ n - B ^ n) / sqrt(41) where A = - 1 / (3 + sqrt(41)) and B = 1 / (sqrt(41) - 3). - _ R. J. Mathar _ , Apr 29 2008 •

[**A164305**] • 3,17,81,367,1635,7241,32001,141319,623907,2754209,12157905,53667967,236902467,1045739033,4616116929,20376528343,89946351555,397042410929,1752630004689,7736483151631,34150488876963,150747551200361,665431885063425,2937358451978023 ⋆ a(n) = 6*a(n-1) - 7*a(n-2) for n > 1; a(0) = 3, a(1) = 17. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 3, a(1) = 17. • a(n) = ((3 + 4 * sqrt(2)) * (3 + sqrt(2)) ^ n + (3 - 4 * sqrt(2)) * (3 - sqrt(2)) ^ n) / 2. •

[**A083217**] • 1,3,17,83,417,2083,10417,52083,260417,1302083,6510417,32552083,162760417,813802083,4069010417,20345052083,101725260417,508626302083,2543131510417,12715657552083,63578287760417,317891438802083 ⋆ (2*5^n+(-1)^n)/3. • a(n)=(2 * 5 ^ n + (- 1) ^ n) / 3. G.f.: (1 - x) / ((1 - 5x)(1 + x)). E.g.f.: (2exp(5x) + exp(- x)) / 3 • a(0)=1, a(n)=5 * a(n - 1) - 2 if n is odd; a(n)=5 * a(n) + 2 if n is even. - _ Vincenzo Librandi _ , Nov 18 2010 •

[**A198766**] • 3,17,87,437,2187,10937,54687,273437,1367187,6835937,34179687,170898437,854492187,4272460937,21362304687,106811523437,534057617187,2670288085937,13351440429687,66757202148437,333786010742187,1668930053710937 ⋆ (7*5^n-1)/2. • a(n) = 5 * a(n - 1) + 2. • a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. •

[**A204092**] • 1,3,17,91,449,2123,9841,45211,206881,945003,4313297,19680571,89784449,409577483,1868351281,8522666971,38876763361,177338745003,808940722577,3690027171451,16832256509249,76781232397643,350241657358321,1597645838773531,7287745912705441 ⋆ The number of 1 by n Haunted Mirror Maze puzzles with a unique solution. • a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 16 * a(n - 3) - 4 * a(n - 4), a(0) = 1, a(1) = 3, a(2) = 17, a(3) = 91. •

[**A290925**] • 3,17,92,495,2661,14304,76891,413329,2221860,11943663,64203453,345127232,1855239875,9972887313,53609499612,288179176047,1549114207525,8327301302176,44763611772699,240627889663761,1293501104827044,6953246818258415,37377348295412093 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 3*S - 2*S^2. • a(n) = 7 * a(n - 1) - 10 * a(n - 2) + 7 * a(n - 3) - a(n - 4). •

[**A010913**] • 3,17,96,542,3060,17276,97536,550664,3108912,17552144,99095040,559465952,3158605632,17832701888,100679000064,568408596608,3209093579520,18117744283904,102288278544384,577494182698496,3260388539102208,18407342869216256,103923280137093120 ⋆ Pisot sequence E(3,17), a(n) = floor(a(n-1)^2/a(n-2)+1/2). • a(n) = (((3 - sqrt(7)) ^ n * (- 8 + 3 * sqrt(7)) + (3 + sqrt(7)) ^ n * (8 + 3 * sqrt(7)))) / (2 * sqrt(7)). • a(n) = 6 * a(n - 1) - 2 * a(n - 2) for n>1. •

[**A142988**] • 1,3,17,96,696,5448,49752,492480,5457600,65128320,850296960,11864240640,178442611200,2848854758400,48517709184000,872011090944000,16589133517824000,331426982928384000,6966369015201792000 ⋆ a(1) = 1, a(2) = 3, a(n+2) = 3*a(n+1)+(n+1)*(n+3)*a(n). • a(n) = (n + 2)! * sum { k = 1..n } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2)). •

[**A155610**] • 1,3,17,99,545,2883,14897,75939,384065,1933443,9706577,48650979,243609185,1219108803,6098732657,30503229219,152544843905,762810312963,3814309845137,19072324066659,95363944856225,476826697849923 ⋆ 5^n - 3^n + 1. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) + 8 with a(0)=1, a(1)=3. - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=3, a(2)=17, a(n)=9 * a(n - 1) - 23 * a(n - 2) + 15 * a(n - 3). - _ Harvey P. Dale _ , Jan 06 2012 •

[**A001541**] • 1,3,17,99,577,3363,19601,114243,665857,3880899,22619537,131836323,768398401,4478554083,26102926097,152139002499,886731088897,5168247530883,30122754096401,175568277047523,1023286908188737,5964153172084899,34761632124320657 ⋆ a(0) = 1, a(1) = 3; for n > 1, a(n) = 6*a(n-1) - a(n-2). • a(n) = T(n, 3), with Chebyshev's T - polynomials A053120. (End) • a(n) = ((3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n) / 2. • a(n) = cosh(2n * arcsinh(1)). - _ Herbert Kociemba _ , Apr 24 2008 • a(n) = cos(n * arccos(3)) = cosh(n * log(3 + 2 * sqrt(2))). - _ Daniel Suteu _ , Jul 28 2016 • a(2n + 1) = 2 * a(n) * a(n + 1) - 3. - _ Timothy L. Tiffin _ , Oct 12 2016 • a(n) = a(- n) for all n in Z. - _ Michael Somos _ , Jan 20 2017 •

[**A161940**] • 3,17,101,619,3867,24433,155389,991931,6345363,40639217,260448821,1669786219,10707539307,68670310033,440429696269,2824879831931,18118915305123,116216916916817,745434117150341,4781352082416619 ⋆ a(n) = ((3+sqrt(2))*(5+sqrt(2))^n + (3-sqrt(2))*(5-sqrt(2))^n)/2. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 3, a(1) = 17. •

[**A074565**] • 3,17,101,623,3953,25607,168401,1119863,7509953,50693447,343990001,2344318103,16034846753,110016813287,756855672401,5218820236343,36058335444353,249574353301127,1730042274055601,12008529803290583 ⋆ 4^n + 6^n + 7^n. • a(0)=3, a(1)=17, a(2)=101, a(n)=17 * a(n - 1) - 94 * a(n - 2) + 168 * a(n - 3). - _ Harvey P. Dale _ , Jun 22 2013 •

[**A163064**] • 3,17,103,637,3963,24697,153983,960197,5987763,37339937,232854103,1452093517,9055353003,56469795337,352149479663,2196028088597,13694580432483,85400334485297,532562291125063,3321094649662237 ⋆ a(n) = ((3+sqrt(5))*(4+sqrt(5))^n + (3-sqrt(5))*(4-sqrt(5))^n)/2. • a(n) = 8 * a(n - 1) - 11 * a(n - 2) for n > 1; a(0) = 3, a(1) = 17. •

[**A036551**] • 1,3,17,105,641,3873,23297,139905,839681,5038593,30232577,181397505,1088389121,6530342913,39182073857,235092475905,1410554920961,8463329656833,50779978203137,304679869743105,1828079219507201,10968475319140353,65810851919036417 ⋆ a(n) = 2^(n-1)*(3^n-1) + 1. • a(n) = T(n, n), array T given by A048471. • a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 12 * a(n - 3) for n>2. •

[**A074556**] • 3,17,109,755,5473,40787,309529,2379275,18463393,144315107,1134267049,8952908795,70896790513,562818102227,4476415458169,35654571422315,284296129664833,2268726602270147,18115958853570889,144724548978127835 ⋆ 3^n + 6^n + 8^n. • a(0)=3, a(1)=17, a(2)=109, a(n)=17 * a(n - 1) - 90 * a(n - 2) + 144 * a(n - 3) [From Harvey P. Dale, May 19 2011] •

[**A119259**] • 1,3,17,111,769,5503,40193,297727,2228225,16807935,127574017,973168639,7454392321,57298911231,441739706369,3414246490111,26447737520129,205272288591871,1595964714385409,12427568655368191,96905907580960769,756583504975757311,5913649000782757889 ⋆ Central terms of the triangle in A119258. • a(n) = sum { k=0..n, C(2n,k) * C(2n - k - 1,n - k) } ;. - _ Paul Barry _ , Sep 28 2007 • a(n) = sum { k=0..n, C(n + k - 1,k)2 ^ k } . - _ Paul Barry _ , Sep 28 2007 • a(n) = (- 1) ^ n - 2 ^ (n + 1) * binomial(2 * n,n - 1) * hyper2F1([1,2 * n + 1],[n + 2],2). - _ Peter Luschny _ , Jul 25 2014 • a(n) = [x ^ n] ((1 + x) ^ 2 / (1 - x)) ^ n. Exp(Sum _{ n >= 1 } a(n) * x ^ n / n) = 1 + 3 * x + 13 * x ^ 2 + 67 * x ^ 3 + ... is essentially the o.g.f for A064602. - _ Peter Bala _ , Oct 01 2015 •

[**A249921**] • 1,3,17,111,805,6147,48641,394863,3266629,27421395,232867889,1996302447,17248208485,150013649955,1312111499105,11532737017839,101799869875717,901975446062451,8018470050567953,71496291428776815,639204721160345509,5728606469731066947,51453397357702434497 ⋆ G.f.: Sum_{n>=0} x^n / (1-2*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * 2^k * x^k] * [Sum_{k=0..n} C(n,k)^2 * 4^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 4 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 2 ^ j. •

[**A074554**] • 3,17,115,881,7267,62417,547795,4863281,43443907,389393297,3496609075,31430064881,282674208547,2543088125777,22882900753555,205921664021681,1853172819789187,16677944768259857,150098450381685235 ⋆ 3^n + 5^n + 9^n. • a(n) = + 17 * a(n - 1) - 87 * a(n - 2) + 135 * a(n - 3) •

[**A074544**] • 3,17,117,863,6513,49607,379857,2920823,22542273,174571847,1356218097,10567263383,82560768033,646644832487,5076269600337,39931933631543,314707907345793,2484430327803527,19642812107654577,155514083261753303 ⋆ 2^n + 7^n + 8^n. • a(n) = + 17 * a(n - 1) - 86 * a(n - 2) + 112 * a(n - 3) •

[**A249924**] • 1,3,17,120,948,8022,71106,651717,6126175,58736535,572178165,5647102500,56345894052,567444190680,5760259701864,58879552102416,605508278430348,6260413541738610,65036607553643550,678530086525374930,710645729820338037 0,7468826933140625826 0,78746365333620224838 0 ⋆ G.f. A(x) satisfies: x = A(x) - 3*A(x)^2 + A(x)^3. • a(n) = sum(k=0..n - 1, binomial(n + k - 1,k) * binomial(3 * n + k - 2,n - k - 1)) / n. - _ Vladimir Kruchinin _ , Mar 11 2015 • a(n) = C(3 * n - 2,n - 1) * hypergeom([1 - n,3 * n - 1],[n + 1 /

2], - 1 / 4) / n. - _ Peter Luschny _ , Mar 11 2015 •

[A074543] • 3,17,121,953,7873,66857,578161,5063033,44726593,397498697,3547251601,31743858713,284606322913,2554926530537,22955156635441,206361317111993,1855841298824833,16694108359242377,150196195253929681 ⋆ 2^n + 6^n + 9^n. • a(0)=3, a(1)=17, a(2)=121, a(n)=17 * a(n - 1) - 84 * a(n - 2) + 108 * a(n - 3). - _ Harvey P. Dale _ , Feb 20 2015 •

[A216314] • 1,3,17,121,965,8247,73841,683713,6493145,62898859,619079889,6173490857,62239144525,633323532783,6496052173665,67093423506049,697181754821297,7283521984427283,76455801614169809,806004056649062937,8529783421905380629,90584730265930813607 ⋆ G.f. satisfies: A(x) = (1 + x*A(x)) * (1 + 2*x*A(x)^2). • a(n) = [x ^ n] ((1 + x) / (1 - 2 * x - 2 * x ^ 2)) ^ (n + 1) / (n + 1). •

[A199493] • 3,17,129,1025,8193,65537,524289,4194305,33554433,268435457,2147483649,17179869185,137438953473,1099511627777,8796093022209,70368744177665,562949953421313,4503599627370497,36028797018963969 ⋆ 2*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[A074524] • 3,17,131,1073,8963,75857,649091,5606513,48811523,427774097,3769259651,33358386353,296270823683,2638754838737,23555015527811,210638693604593,1886253119421443,16909812213653777,151723048894909571 ⋆ a(n) = 1^n + 7^n + 9^n. • a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 48 with a(0)=3, a(1)=17. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A212280] • 1,1,3,17,131,1177,11531,119201,1276771,14015401,156585211,1772626673,20275611347,233912585849,2718842818923,31816917837377,374657837729987,4436890509548617 ⋆ G.f. A(x)=1/(1-F(x)), where F(F(x)) = (1 - sqrt(1-16*x))/8. • a(n) = sum(m=1..n, T(n,m)) for n>0, where T(n,m)= 1 if n=m, otherwise = (m * 4 ^ (n - m) * binomial(2 * n - m - 1,n - 1) / n - sum _{ i=m + 1..n - 1 } T(n,i) * T(i,m)) / 2. •

[A055214] • 1,1,3,17,135,1349,16187,226617,3625871,65265677,1305313539,28716897857,689205548567,17919344262741,501741639356747,15052249180702409,481671973782477087,16376847108604220957 ⋆ a(n) = 2n*a(n-1) - 1. • a(n) = 2 ^ n * n! - floor(2 ^ n * n! * (e ^ (1 / 2) + 1)). - _ Gary Detlefs _ , Jul 18 2010 •

[A290806] • 0,3,17,311,997,3398,20205,608450,2255536,25314740,25314740,307789989,8217096961,77423532966,368090564187,4437429001281,4437429001281,4437429001281,4437429001281,4437429001281,3261264624822179,3261264624822179,3261264624822179,1120352992791390193 ⋆ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(-5). These are the numbers congruent to 3 mod 7 (except for the initial 0). • a(0) = 0 and a(1) = 3, a(n) = a(n - 1) + (a(n - 1) ^ 2 + 5) mod 7 ^ n for n > 1. •

[A103715] • 0,0,1,3,18,22,119,285,1516,1844,9797,23407,124334,151226,803275,1919129,10193912,12398728,65858793,157345211,835776490,1016544510,5399617791,12900388213,68523478308 ⋆ Define a(1)=0, a(2)=0, a(3)=1, a(4)=3, a(5)=18, a(6)=22, a(7)=119, a(8)=285 such that from i=1 to 8 : 420*(a(i)^2)+420*a(i)+420*j(i)=1, j(2)=1, j(3)=29, j(4)=71, j(5)=379, j(6)=461, j(7)=2449, j(8)=5841 Then a(n)=a(n-8)+4*sqrt(420*(a(n-4)^2)+420*a(n-4)+1). • a(n) = a(n - 1) + 82 * a(n - 4) - 82 * a(n - 5) - a(n - 8) + a(n - 9). G.f.: x ^ 3 * (x ^ 2 + 1) * (x ^ 4 + 2 * x ^ 3 + 14 * x ^ 2 + 2 * x + 1) / ((1 - x) * (x ^ 8 - 82 * x ^ 4 + 1)). [From _ R. J. Mathar _ , Nov 13 2009] •

[A169598] • 3,18,26,41,49,64,72,87,95,110,118,133,141,156,164,179,187,202,210,225,233,248,256,271,279 ⋆ Numbers that are congruent to {3,18} mod 23. • a(n) = (46 * n + 7 * (- 1) ^ n - 27) / 4. - _ Vincenzo Librandi _ , Jan 06 2013, modified Jul 07 2015 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Jan 06 2013 •

[A094159] • 0,3,18,45,84,135,198,273,360,459,570,693,828,975,1134,1305,1488,1683,1890,2109,2340,2583,2838,3105,3384 ⋆ 3 times hexagonal numbers: a(n) = 3*n*(2*n-1). • a(n) = 12 * n + a(n - 1) - 9 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 16 2010 •

[A085789] • 3,18,54,120,225,378,588,864,1215,1650,2178,2808,3549,4410,5400,6528,7803,9234,10830,12600,14553,16698,19044,21600,24375 ⋆ Partial sums of n 3-spaced triangular numbers beginning with t(2), e.g., a(2) = t(2) + t(5) = 3 + 15 = 18. • a(n) = 3 / 2 * n ^ 2 * (n + 1). •

[A130505] • 1,3,18,54,324,972,5832,17496,104976,314928,1889568,5668704,34012224,102036672,612220032,1836660096,11019960576,33059881728,198359290368,595077871104,3570467226624,10711401679872,64268410079232,192805230237696 ⋆ a(n) = 3*a(n-1) if n is odd, otherwise 6*a(n-1). • a(0) = 1; a(n), n>0 = 3 * a(n - 1) if n is odd. a(n), n even = 6 * a(n - 1). Upper left term in M ^ n where M = the 2 X 2 matrix [3, 3; 3, - 3]. • a(n) = 18 * a(n - 2). - _ Charles R Greathouse IV _ , Jan 10 2013 • a(n) = (3 + 3 * i) ^ n / (s(n + 2) + s(n) * i), where s(n)= round(sin(Pi * n / 4)). - _ Gary Detlefs _ , Aug 04 2013 • a(2 * k) = 18 ^ k, a(2 * k + 1) = 3 * 18 ^ k, k>=0. (From the partial fraction decomposition of the o.g.f.) (End) •

[A061317] • 0,3,18,57,132,255,438,693,1032,1467,2010,2673,3468,4407,5502,6765,8208,9843,11682,13737,16020,18543,21318,24357,27672 ⋆ Split positive integers into extending even groups and sum: 1+2, 3+4+5+6, 7+8+9+10+11+12, 13+14+15+16+17+18+19+20, ... • a(n) = 2 * n ^ 3 + n. •

[A006011] • 0,0,3,18,60,150,315,588,1008,1620,2475,3630,5148,7098,9555,12600,16320,20808,26163,32490,39900,48510,58443,69828,82800 ⋆ a(n) = n^2*(n^2 - 1)/4. • a(n) = Sum(i * (i ^ 2 + n), i=1..n - 1) for n>1 (see Example section n). [_ Bruno Berselli _ , Aug 29 2014] •

[A235988] • 3,18,63,144,285,486,777,1152,1647,2250,3003,3888,4953,6174,7605,9216,11067,13122,15447,18000,20853,23958,27393,31104,35175 ⋆ Sum of the partition parts of 3n into 3 parts. • a(n) = 3 * n ^ 3 - 3 * n * floor(n ^ 2 / 4). • a(n) = (3 * n * (1 - (- 1) ^ n + 6 * n ^ 2)) / 8. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n > 6. - _ Wesley Ivan Hurt _ , Nov 15 2015 •

[A253942] • 3,18,63,168,378,756,1386,2376,3861,6006,9009,13104,18564,25704,34884,46512,61047,79002,100947,127512,159390,197340,242190,294840,356265 ⋆ a(n) = 3*binomial(n+1, 5). • a(n) = (n - 3) * (n - 2) * (n - 1) * n * (1 + n) / 40. - _ Colin Barker _ , Jan 20 2015 •

[A048899] • 0,3,18,68,443,1068,1068,32318,110443,1672943,3626068,23157318,120813568,1097376068,1097376068,19407922943,49925501068,355101282318,355101282318,15613890344818,15613890344818,110981321985443 ⋆ One of the two successive approximations up to 5^n for 5-adic integer sqrt(-1). Here the 3 (mod 5) case (except for n=0). • a(n) = 3 ^ (5 ^ (n - 1)) (mod 5 ^ n), n >=1. Compare with the above given formula involving A066601. • a(n) * a(n - 1) + 1 == 0 (mod 5 ^ (n - 1)), n>=1. •

[A098522] • 0,0,1,3,18,70,330,1386,6160,26496,115965,502975,2194302,9553050,41687737,181908195,794770200,3474159304,15199740171,66541189473,291507681070,1277822445690,5604712643376,24596642511628,108001447419048 ⋆ E.g.f. exp(x)*BesselI(2,2*sqrt(3)*x)/3. • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(n - k, k + 2) * 3 ^ k } . •

[A174764] • 0,1,3,18,70,330,1386,6328,28008,130140,603460,2895816,14024088,69786808,352043160,1817317440,9525774016,50958843408,276906491568,1532719442080,8615750596320,49260355141536,285887468809888 ⋆ Sum of the numerators for computing the second moment of the probability mass function (PMF) of the number of 2-cycles in the involutions on n elements (A000085) assuming the involutions are all equally likely. • a(n) = Sum _{ k=0..[n / 2] } k ^ 2 * n! / ((n - 2 * k)! * 2 ^ k * k!). •

[A152897] • 0,3,18,73,256,844,2709,8596,27146,85560,269464,848400,2670859,8407805,26467163,83316232,262271397,825604226,2598919135,8181135469,25753388928,81069068693,255197243733,803335158081,2528817970143 ⋆ Partial sums of A152896. • a(1)=0, a(2)=3, a(3)=18, a(4)=73, a(5)=256, a(6)=844, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 23 * a(n - 3) - 16 * a(n - 4) + 6 * a(n - 5) - a (n - 6). - _ Harvey P. Dale _ , Feb 07 2015 •

[A094033] • 0,0,0,3,18,75,270,903,2898,9075,27990,85503,259578,784875,2366910,7125303,21425058,64373475,193317030,580344303,1741819338,5227030875,15684238350,47059006503,141189602418 ⋆ Number of connected 2-element antichains on a labeled n-set. • a(n) = (3 ^ n - 3 * 2 ^ n + 3) / 2. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). •

[A245580] • 3,18,76,322,1364,5778,24476,103682,439204,1860498,7881196,33385282,141422324,599074578,2537720636,10749957122,45537549124,192900153618,817138163596,3461452808002,14662949395604,62113250390418,263115950957276,1114577054219522 ⋆ Smallest Lucas number L(m) > L(n) that is divisible by the n-th Lucas number L(n) = A000204(n). • a(n) = (2 - sqrt(5)) ^ n + (2 + sqrt(5)) ^ n for n>1. • a(n) = 4 * a(n - 1) + a(n - 2) for n>3. •

[A086346] • 21,3,18,80,400,1904,9248,44544,215296,1039104,5018112,24227840,116985856,564850688,2727354368,13168803840,63584665600,307013812224,1482394042368,7157631156224 ⋆ On a 3 X 3 board, the number of n-move paths for a chess king ending in a given corner square. • a(n) = (1 / 32)(2(- 2) ^ (n + 2) + (2 + sqrt(8)) ^ (n + 2) + (2 - sqrt(8)) ^ (n + 2)). • a(n) = 2 * a(n - 1) + 12 * a(n - 2) + 8 * a(n - 3). •

[A036290] • 0,3,18,81,324,1215,4374,15309,52488,177147,590490,1948617,6377292,20726199,66961566,215233605,688747536,2195382771,6973568802,22082967873,69735688020,219667417263,690383311398,2165293113021,6778308875544 ⋆ a(n) = n*3^n. • a(n) = Sum _{ i=0..n } Sum _{ j=0..n } (2 * n - 2 * i - j) * n! / (i! * j! * (n - i - j)!). (End) • a(n) = Sum _{ k=0..2 * n } T(n, k) * k, where T(n, k) is given by A027907. • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C(n, j) * C(j, k) * (j + k). (End) •

[A078904] • 0,3,18,81,336,1359,5454,21837,87372,349515,1398090,5592393,22369608,89478471,357913926,1431655749,5726623044,22906492227,91625968962,366503875905,1466015503680,5864062014783,23456248059198,93824992236861 ⋆ a(n) = 4a(n-1) + 3n with a(0) = 0. • a(n) = (1 / 3) * (4 ^ (n + 1) - 3 * n - 4). •

[A099012] • 0,1,3,18,81,405,1944,9477,45927,223074,1082565,5255361,25509168,123825753,601059771,2917611090,14162371209,68745613437,33369818119 2,1619805064509,7862698824255,38166342053346,185263315578333 ⋆ a(n) = 3^(n-1)*Fibonacci(n). • a(n) = 3 * a(n - 1) + 9 * a(n - 2). • a(n) = sqrt(5)(3 / 2 + 3sqrt(5) / 2) ^ n / 15 - sqrt(5)(3 / 2 - 3sqrt(5) / 2) ^ n / 15. •

[A122069] • 1,3,18,81,405,1944,9477,45927,223074,1082565,5255361,25509168,123825753,601059771,2917611090,14162371209,68745613437,33369818119 2,1619805064509,7862698824255,38166342053346,185263315578333 ⋆ a(0)=1, a(1)=3, a(n) = 3*a(n-1) + 9*a(n-2) for n > 1. • a(n + 1) / a(n) - > 3 * ((1 + sqrt(5)) / 2 if n - >infinity. • a(n) = (1 / 2) * ((3 / 2) + (3 / 2) * sqrt(5)) ^ n + (1 / 10) * ((3 / 2) + (3 / 2) * sqrt(5)) ^ n * sqrt(5) - (1 / 10) * sqrt(5) * ((3 / 2) - (3 / 2) * sqrt(5)) ^ n + (1 / 2) * ((3 / 2) - (3 / 2) * sqrt(5)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Nov 19 2008 •

[A147518] • 1,3,18,90,468,2412,12456,64296,331920,1713456,8845344,45662112,235720512,1216854720,6281741952,32428096128,167402836224,864179921664,4461136704000,23029626345984,118885325607936,613719060507648 ⋆ Expansion of (1-x)/(1-4*x-6*x^2). • a(n)=(1 / 2) * [2 + sqrt(10)] ^ n - (1 / 20) * [2 - sqrt(10)] ^ n * sqrt(10) + (1 / 20) * [2 + sqrt(10)] ^ n * sqrt(10) + (1 / 2) * [2 - sqrt(10)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] • a(n)= ((10 + sqrt(10)) / 20) * (2 + sqrt(10)) ^ n + ((10 - sqrt(10)) / 20) * (2 - sqrt(10)) ^ n [From _ Richard Choulet _ , Nov 20 2008] •

[A133594] • 1,3,18,90,486,2538,13446,70794,373734,1970730,10396998,54839754,289283238,1525926762,8049179142,42458658570,223966125414,1181402279082,6231800342214,32872228375626,173398289233446,914661608207850 ⋆

a(n)=3*a(n-1)+12*a(n-2) for n>=3, a(0)=1, a(1)=3, a(2)=18 . • a(n)=(3 / 2) * [(3 / 2) - (1 / 2) * sqrt(57)] ^ (n - 1) + (3 / 2) * [(3 / 2) + (1 / 2) * sqrt(57)] ^ (n - 1) + (9 / 38) * sqrt(57) * [(3 / 2) + (1 / 2) * sqrt(57)] ^ (n - 1) - (9 / 38) * sqrt(57) * [(3 / 2) - (1 / 2) * sqrt(57)] ^ (n - 1),100) + (1 / 4) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] •

[A092691] • 0,0,1,3,18,90,660,4620,42000,378000,4142880,45571680,586776960,7628100480,113020427520,1695306412800,28432576972800,483353808537600,9056055981772800,172065063653683200,3562946373482496000,74821873843132416000,1697172166720622592000 ★ a(n) = n! * Sum_{k=1..floor(n/2)} 1/(2k). • a(2n + 1) = (2n + 1) * a(2n). • a(n) = n! * (Psi(floor(n / 2) + 1) + gamma) / 2. • a(n) = n! / 2 * h(floor(n / 2)), where h(n) = Sum _{ k=1.. n } 1 / k. - _ Gary Detlefs _ , Jul 19 2011 •

[A064671] • 0,3,18,91,420,1829,7686,31623,128520,518665,2084874,8361995,33497100,134094861,536608782,2146926607,8588754960,34357248017,137433710610,549744803859,2199000186900,8796044787733,35184271425558,140737278640151,562949517213720 ★ Number of n-digit base 4 biquanimous numbers (with leading 0's allowed, but not all-0 string). • a(n) = (2 ^ n - 2) * (1 + 2 ^ n - n) / 2. • a(n) = 10 * a(n - 1) - 37 * a(n - 2) + 64 * a(n - 3) - 52 * a(n - 4) + 16 * a(n - 5) for n>5. •

[A125833] • 0,3,18,93,468,2343,11718,58593,292968,1464843,7324218,36621093,183105468,915527343,4577636718,22888183593,114440917968,572204589843,2861022949218,14305114746093,71525573730468,357627868652343 ★ Numbers whose base 5 representation is 333333.....3. • a(n)=3 * (5 ^ n - 1) / 4. • a(n)=5 * a(n - 1) + 3 (with a(0)=0) [From _ Vincenzo Librandi _ , Sep 30 2010] •

[A129547] • 0,1,3,18,94,611,4381,35834,326662,3301193,36611767,442379438,5784595282,81393560783,1226280162097,19696507698878,335990910075202,6066382761193373,115578717461844067,2317323290060066858 ★ a(n)= n! - (n-1)!! - a(n-1), with a(1)=1!-0!!=0. • a(n)= n! - (n - 1)!! - a(n - 1), with a(1)=1! - 0!!=0. a(n)=abs { sum { i=1..n,[(n - i + 1)! - (n - i)!!] * (- 1) ^ i }} •

[A180036] • 1,3,18,99,549,3042,16857,93411,517626,2868363,15894693,88078554,488076849,2704619907,14987330082,83050510131,460214540901,2550224234898,14131764797193,78309496690659,433942777844874 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1-2*x)/(1-5*x-3*x^2). • a(n) = 5 * a(n - 1) + 3 * a(n - 2) with a(0) = 1 and a(1) = 3. • a(n) = ((1 + 16 * A) * A ^ (- n - 1) + (1 + 16 * B) * B ^ (- n - 1)) / 37 with A = (- 5 + sqrt(37)) / 6 and B = (- 5 - sqrt(37)) / 6. •

[A136779] • 1,3,18,105,606,3483,19986,114609,657054,3766515,21590418,123758649,709393758,4066287627,23308182162,133603718145,765823377054,4389738680547,25162205542674,144231041494281,826739659899486,4738913739770235,27163694339468562 ★ Number of multiplex juggling sequences of length n, base state <1,1,1> and hand capacity 2. • a(n) = 8 * a(n - 1) - 13 * a(n - 2) for n>3. • a(n) = ((9 - 14 * sqrt(3)) * (4 - sqrt(3)) ^ n + (4 + sqrt(3)) ^ n * (9 + 14 * sqrt(3))) / 338 for n>1. •

[A106328] • 0,3,18,105,612,3567,20790,121173,706248,4116315,23991642,139833537,815009580,4750223943,27686334078,161367780525,940520349072,5481754313907,31950005534370,186218278892313,1085359667819508,6325939728024735,36870278700328902,214895732473948677 ★ Numbers j such that 8*(j^2) + 9 = k^2 for some positive number k. • a(1)=0, a(2)=3 then a(n) = 6 * a(n - 1) - a(n - 2). • a(n) = ((3 + 2 * sqrt(2)) ^ (n - 1) - (3 - 2 * sqrt(2)) ^ (n - 1)) * 3 / 4 / sqrt(2). - _ Max Alekseyev _ , Jan 11 2007 •

[A137962] • 1,1,3,18,106,720,5085,37493,284331,2204973,17404720,139369905,1129411314,9244823986,76326154857,634847759955,5314684735045,44746683774474,378652035541761,3218705637379698,27471657413667780 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^5)^3. • a(n) = Sum _{ k=0..n - 1 } C(3 * (n - k), k) / (n - k) * C(5 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A169604] • 3,18,108,648,3888,23328,139968,839808,5038848,30233088,181398528,1088391168,6530347008,39182082048,235092492288,1410554953728,8463329722368,50779978334208,304679870005248,1828079220031488,10968475320188928,65810851921133568 ★ Expansion of exp(3*x)*cosh(3*x). • a(0)=1, a(n) = 6 ^ n / 2, n>0 • a(n) = ((3 + sqrt(9)) ^ n + (3 - sqrt(9)) ^ n / 2. [Al Hakanson (hawkuu(AT)gmail.com), Dec 08 2008] • a(n) = ((8 * n - 4) * a(n - 1) - 12 * (n - 2) * a(n - 2)) / n , a(0)=1, a(1)=3. •

[A132900] • 1,3,18,108,729,5103,37179,277749,2119203,16435305,129199212,1027098306,8243181351,66698502705,543507899346,4456368744804,36738955831707,304354824214977,2532328310730798,21152326520189628 ★ Colored Motzkin paths where each of the steps has three possible colors. • a(n) = (1 / (2 * Pi)) * Integral _{ x= - 3..9 } x ^ n * sqrt(27 + 6x - x ^ 2) / 9. •

[A134092] • 1,3,18,110,780,6167,53494,504030,5112090,55411697,638154165,7770348170,99618149267,1339889000543,18848892749144,276573551651632,4228214264496510,66947348027905977,1099955438013660173 ★ Column 2 of triangle A134090. • a(n) = [x ^ n] Sum _{ k=0..n + 2 } C(n + 2,k) * x ^ k / (1 - k * x) ^ 2 / [Product _{ i=1..k } (1 - i * x)]. •

[A000274] • 0,0,1,3,18,110,795,6489,59332,600732,6674805,80765135,1057289046,14890154058,224497707343,3607998868005,61576514013960,1112225784377144,21197714949305577,425131949816628507,8950146311929021210 ★ Number of permutations of length n with 2 consecutive ascending pairs. • a(n) = (1 + n) a(n - 1) + (3 + n) a(n - 2) + (3 - n) a(n - 3) + (2 - n) a(n - 4). • a(n) = (n - 1) ^ 2 / (n - 2) * a(n - 1) - (- 1) ^ n * (n - 1) / 2, n>2, a(2)=0. - _ Vladeta Jovovic _ , Aug 31 2003 • a(n) = (1 / 2) { [n! / e] - [(n - 1)! / e] } (conjectured). • a(n) = (n - 1) * GAMMA(n, - 1) * exp(- 1) / 2 where GAMMA = incomplete Gamma function. [_ Mark van Hoeij _ , Nov 11 2009] •

[A163471] • 3,18,114,744,4932,32952,221016,1485216,9989808,67223328,452457504,3045661824,20502553152,138020971392,929153544576,6255074075136,42109362770688,283481998053888,1908413999583744,12847536038651904 ★ a(n) = 10*a(n-1) - 22*a(n-2) for n > 1; a(0) = 3, a(1) = 18. • a(n) = ((3 + sqrt(3)) * (5 + sqrt(3)) ^ n + (3 - sqrt(3)) * (5 - sqrt(3)) ^ n) / 2. •

[A153394] • 1,3,18,118,813,5799,42470,317637,2416671,18649874,145655292,1149199212,9146686605,73354982763,592217363334,4809250320023,39258457746069,321964620209940,2651536017682988,21919266484180533,181820251665093357 ★ G.f.: A(x) = F(x*G(x)^2)^3 where F(x) = G(x*F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x/G(x)) = 1 + x*G(x)^2 is the g.f. of A000108 (Catalan). • a(n) = Sum _{ k=0..n } C(3k + 3,k) / (k + 1) * C(2n, n - k) * k / n for n>0 with a(0)=1. •

[A199421] • 3,18,123,858,6003,42018,294123,2058858,14412003,100884018,706188123,4943316858,34603218003,242222526018,1695557682123,11868903774858,83082326424003,581576284968018,4071033994776123,28497237963432858 ★ (5*7^n+1)/2. • a(n) = 7 * a(n - 1) - 3. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A004987] • 1,3,18,126,945,7371,58968,480168,3961386,33011550,277297020,2344420260,19927572210,170150808870,1458435504600,12542545339560,108179453553705,935434098376155,8107095519260010,70403724246205350 ★ a(n) = (3^n/n!)*Product_{k=0..n-1} (3*k + 1). • a(n) = (- 9) ^ n * binomial(- 1 / 3,n). - _ Peter Luschny _ , Mar 23 2014 •

[A073971] • 1,1,3,18,126,1008,8100,52488,297432,1679616,9843120,59058720,358108128,2176782336,13162730688,78976384128,471877757568,2820249944064,16891882995456,101361597378048,608764662139392,3656158440062976,21947909832446976,131687458994681856 ★ Number of strings of length n over Z_6 with trace 0 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A185113] • 1,3,18,130,1020,8379,70840,610740,5340060,47187580,420412278,3770221338,33991902308,307826695050,2798052616800,25514463687720,233296537299228,2138295980859588,19639886707062280,180724535020583400 ★ Number of dissections of a convex (3n+3)-sided polygon into n pentagons and one triangle (up to equivalence) • a(n) = binomial(4 * n + 1,n - 1) * (n + 2) / n = binomial(4 * n + 1,n) * (n + 2) / (3 * n + 2) •

[A074545] • 3,18,134,1080,8978,75888,649154,5606640,48811778,427774608,3769260674,33358388400,296270827778,2638754846928,23555015544194,210638693637360,1886253119486978,16909812213784848,151723048895171714 ★ 2^n + 7^n + 9^n. • a(n) = + 18 * a(n - 1) - 95 * a(n - 2) + 126 * a(n - 3) •

[A005159] • 1,3,18,135,1134,10206,96228,938223,9382230,95698746,991787004,10413763542,110546105292,1184422556700,12791763612360,139110429284415,1522031755700070,16742349312700770,185047018719324300,2054021907784499730 ★ a(n) = 3^n*Catalan(n). • a(n) = upper left term in M ^ n, M = the infinite square production matrix: •

[A003122] • 1,3,18,136,1170,10962,109158,1138032,12298392,136803060,1558392462,18110005704,214056200904,2567339253864,31186302919290,383088799324192,4752646170647124,59485067001886392,750454803914305388,9535654298173667520,121954511767711578480,1568979034333191541588,20295073846997967634038 ★ Number of Hamiltonian rooted triangulations with n internal nodes and 3 external nodes. • a(n) = f(n, 3). - _ Sean A. Irvine _ , Feb 02 2015 •

[A107708] • 1,3,18,144,1323,13176,138348,1507977,16900650,193536864,2254630788,26635735440,318350663748,3842488208997,46770206742342,573435609537600,7075551692662875,87794803094586336,1094807464312435344 ★ Number of paths from (0,0) to (3n,0) that stay in the first quadrant (x,y>=0) and where each step is (3,0), (2,1), (1,2), or (1,-1). • a(n) = (1 / n) * Sum(3 ^ j * binomial(n, j) * binomial(n + j, 2n + 1 - j), j=ceil((n + 1) / 2)..n) for n>=1; a(0)=1. •

[A074525] • 3,18,146,1242,10658,91818,793586,6880122,59823938,521638218,4560526226,39970994202,351149013218,3091621642218,27274838966066,241075504183482,2134495165562498,18928981513351818,168109033806481106 ★ a(n) = 1^n + 8^n + 9^n. • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 56 with a(0)=3, a(1)=18. - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=3, a(1)=18, a(2)=146, a(n) = 18 * a(n - 1) - 89 * a(n - 2) + 72 * a(n - 3). - _ Harvey P. Dale _ , Mar 23 2012 •

[A084879] • 1,3,18,189,2106,22113,220158,2114829,19853586,183662073,1683014598,15327998469,139038783066,1257874611633,11360039237838,102475402586109,923689049088546,8321664384098793,74945758272961878,674816500839877749 ★ Number of (k,m,n)-multiantichains of multisets with k=3 and m=2. • a(n) = (9 ^ n - 2 * 6 ^ n + 3 * 3 ^ n) / 2. •

[A137223] • 3,18,234,1110,15018,70998,961194,4543830,61516458,290805078,3937053354,18611524950,251971414698,1191137596758,16126170540714,76232806192470,1032074914605738,4878899596318038,66052794534767274,312249574164354390 ★ A135574(3n)+A135574(3n+1)+A135574(3n+2). • a(n)= - a(n - 1) + 64 * a(n - 2) + 64 * a(n - 3) = - 2 * (- 1) ^ n / 3 + 35 * 8 ^ n / 12 + 3 * (- 8) ^ n / 4. G.f.: 3(1 + 7x + 20x ^ 2) / ((1 - 8x)(1 + 8x)(1 + x)). [From _ R. J. Mathar _ , Feb 07 2009] •

[A041381] • 1,3,19,22,107,129,881,2772,78497,238263,1508075,1746338,8493427,10239765,69932017,220035816,6230934865,18912840411,119707977331,138620817742,674191248299,812812066041,5551063644545,17466002999676,494599147635473 ★ Denominators of continued fraction convergents to sqrt(205). • a

(n) = 79378 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 16 2013 •

[A273367] • 1,3,19,25,57,67,115,129,193,211,291,313,409,435,547,577,705,739,883,921,1081,1123,1299,1345,1537 ★ Numbers n such that 10*n+6 is a perfect square. • a(2n) = 10 * n ^ 2 - 8 * n + 1. • a(2n + 1) = 10 * n ^ 2 + 8 * n + 1. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ G. C. Greubel _ , May 20 2016 •

[A187828] • 3,19,37,53,71,109,149,211,251,277,307,359,397,449,479,521,593,641,709,769,823,859,919,1009,1033 ★ Partition the sequence of consecutive primes into groups so that the absolute value of the alternating sum (-1)^n (An) with n = 0,....m in each group is prime. • a(x) = Sum(- 1) ^ n (An) with n = (0, 1, 2..m) •

[A103145] • 3,19,43,76,119,173,239,318,411,519,643,784,943,1121,1319,1538,1779,2043,2331,2644,2983,3349,3743,4166,4619 ★ a(n) = (1/6)*(n^3 + 21*n^2 + 74*n + 18). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 26 2012 •

[A112627] • 1,3,19,51,307,819,4915,13107,78643,209715,1258291,3355443,20132659,53687091,322122547,858993459,5153960755,13743895347,82463372083,219902325555,1319413953331,3518437208883,21110623253299,56294995342131,337769972052787 ★ Decimal equivalent of number defined by last k bits of the infinite binary string ...0011001100110011 (numbers with leading zeros omitted). • a(n) = 4 ^ (n - 1) - (4 + (- 4) ^ n) / 20. - _ Robert Israel _ , Sep 02 2014 • a(n) = a(n - 1) + 16 * a(n - 2) - 16 * a(n - 3) for n>3. - _ Colin Barker _ , May 19 2016 •

[A114250] • 0,0,0,0,3,19,63,175 ★ Number of Fermat pseudoprimes to bases 2, 3, 5 and 7 less than 10^n. • a(n) = card { m in A083739, m<10 ^ n } . - _ R. J. Mathar _ , Feb 07 2008 •

[A249994] • 1,3,19,63,307,1095,4843,18111,76483,294327,1213147,4747119,19308979,76282599,308006731,1223430687,4919576995,19600876311,78636062395,313847102415,1257480899731,5023648225863,20113423216939,80397210315903,321758305696387 ★ Expansion of 1/((1-2*x)*(1+3*x)*(1-4*x)). • a(n) = (- 7 * 2 ^ (1 + n) + 5 * 2 ^ (3 + 2 * n) + (- 1) ^ n * 3 ^ (2 + n)) / 35. - _ Colin Barker _ , Dec 29 2014 • a(n) = 3 * a(n - 1) + 10 * a(n - 2) - 24 * a(n - 3) . - _ Colin Barker _ , Dec 29 2014 •

[A178747] • 1,3,19,65,295,1129,4663,18441,74359,296585,1188727,4751497,19015543,76048521,304232311,1216874633 ★ Sum of terms in 'rows' of A178746 • a(n) = (17 * 4 ^ n + 5 * (2 * (- 1) ^ n - 1) * 2 ^ n - 7 * (- 1) ^ n) / 15 [From _ David Scambler _ , Jun 17 2010] •

[A071245] • 0,0,3,19,66,170,365,693,1204,1956,3015,4455,6358,8814,11921,15785,20520,26248,33099,41211,50730,61810,74613,89309,106076 ★ a(n) = n*(n-1)*(2*n^2+1)/6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n>4, a(0)=0, a(1)=0, a(2)=3, a(3)=19, a(4)=66. - _ Yosu Yurramendi _ , Sep 03 2013 •

[A064056] • 3,19,68,185,426,875,1652,2922,4905,7887,12232,18395,26936,38535,54008,74324,100623,134235,176700,229789,295526,376211,474444,593150,735605 ★ Seventh column of quintinomial coefficients. • a(n) = 3 * C(n + 2,2) + 10 * C(n + 2,3) + 10 * C(n + 2,4) + 5 * C(n + 2,5) + C(n + 2,6) (see comment in A213887). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A059599] • 3,19,69,189,434,882,1638,2838,4653,7293,11011,16107,22932,31892,43452,58140,76551,99351,127281,161161,201894,250470,307970,375570,454545 ★ Expansion of (3+x)/(1-x)^6. • a(n) = binomial(n + 4, 4) * (15 + 4 * n) / 5. •

[A095662] • 3,19,70,196,462,966,1848,3300,5577,9009,14014,21112,30940,44268,62016,85272,115311,153615,201894,262108,336490,427570,538200,671580,831285 ★ Seventh column (m=6) of (1,3)-Pascal triangle A095660. • a(n)= binomial(n + 5, 5) * (n + 18) / 6 = 3 * b(n) - 2 * b(n - 1), with b(n):=binomial(n + 6, 6); cf. A000579. • a(0)=3, a(1)=19, a(2)=70, a(3)=196, a(4)=462, a(5)=966, a(6)=1848, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Mar 30 2014 •

[A243142] • 0,3,19,75,218,542,1178,2350,4340,7585,12605,20153,31094,46620,68068,97212,136008,186975,252855,337095,443410,576378,740894,942890,1188668 ★ Number of inequivalent (mod D_3) ways to place 3 points on a triangular grid of side n so that they are not vertices of an equilateral triangle of any orientation. • a(n) = (n ^ 6 + 3 * n ^ 5 - 5 * n ^ 4 + 6 * n ^ 3 - 68 * n ^ 2 + 72 * n + IF(MOD(n, 2) = 1) * (27 * n ^ 2 - 81 * n + 45)) / 288. •

[A061171] • 3,19,79,283,940,2982,9171,27581,81557,237995,687158,1966764,5588259,15780103,44323195,123920827,345062176,957403026,2647935987,7302634865,20087869313,55128445259,150971982314 ★ One half of second column of Lucas bisection triangle (odd part). • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4), with a(0)=3, a(1)=19, a(2)=79, a(3)=283. - _ Harvey P. Dale _ , Oct 11 2012 •

[A015528] • 0,1,3,19,87,451,2223,11179,55767,279091,1394943,6975739,34876647,174387331,871928463,4359658699,21798260727,108991369171,544956714783,2724783836059,13623918656007,68119594328611,340597969545903 ★ a(n) = 3*a(n-1) + 10*a(n-2). • a(n) = 3 * a(n - 1) + 10 * a(n - 2). • a(n) = (5 ^ n - (- 2) ^ n) / 7. Binomial transform is A015540. - _ Paul Barry _ , Feb 07 2004 •

[A074361] • 0,0,0,3,19,93,407,1674,6618,25455,95953,356151,1305887,4741092,17072484,61055787,217074895,767882865,2704365719,9487509102,33170122494,115614094071,401864286637,1393378817259,4820368210175 ★ Coefficient of q^1 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(3,1). • a(0)=0, a(1)=0, a(2)=0, a(3)=3, a(4)=19, a(n)=6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 16 2012 •

[A198763] • 3,19,99,499,2499,12499,62499,312499,1562499,7812499,39062499,195312499,976562499,4882812499,24414062499,122070312499,610351562499,3051757812499,15258789062499,76293945312499,381469726562499,1907348632812499 ★ 4*5^n-1. • a(n) = 5 * a(n - 1) + 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. •

[A089164] • 3,19,107,591,3259,18019,99987,556831,3111347,17436915,97981179,551871087,3114878571,17613879747,99768824355,565962587199,3214923140707,18284737574611,104110467624075,593397580894351 ★ Number of steps in all Schroeder paths (i.e., consisting of steps U=(1,1), D=(1,-1),H=(2,0) and never going below the x-axis) from (0,0) to (2n,0). • a(n) = (1 / n) * Sum _{ k=n..2 * n } k * C(n, k - n) * C(k, n - 1). •

[A253811] • 3,19,111,647,3771,21979,128103,746639,4351731,25363747,147830751,861620759,5021893803,29269742059,170596558551,994309609247,5795261096931,33777256972339,196868280737103,1147432427450279,6687726283964571,38978925276337147 ★ Part of the y solutions of the Pell equation x^2 - 2*y^2 = +7. • a(n) = irrational part of z(n), where z(n) = (5 + 3 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n), n >= 0, the general positive solutions of the second class of proper solutions. • a(n) = 6 * a(n - 1) - a(n - 2). G.f.: (x + 3) / (x ^ 2 - 6 * x + 1). - _ Colin Barker _ , Feb 05 2015 •

[A267802] • 1,3,19,115,499,2035,8179,32755,131059,524275,2097139,8388595,33554419,134217715,536870899,2147483635,8589934579,34359738355,137438953459,549755813875,2199023255539,8796093022195,35184372088819,140737488355315,562949953421299 ★ Decimal representation of the n-th iteration of the "Rule 213" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. • a(n) = 2 ^ (2 * n + 1) - 13 for n>1. - _ Colin Barker _ , Nov 25 2016 •

[A005667] • 1,3,19,117,721,4443,27379,168717,1039681,6406803,39480499,243289797,1499219281,9238605483,56930852179,350823718557,2161873163521,13322062699683,82094249361619,505887558869397,3117419602578001,19210405174337403,118379850648602419 ★ Numerators of continued fraction convergents to sqrt(10). • a(n) = 6a(n - 1) + a(n - 2). • a(n) = ((- i) ^ n) * T(n, 3 * i) with T(n, x) Chebyshev's polynomials of the first kind (see A053120) and i ^ 2 = - 1. •

[A290477] • 3,19,118,709,4259,25557,153343,920062,5520373,33122243,198733461,1192400767,7154404606,42926427637,257558565827,1545351394965,9272108369791,55632650218750,333795901312501,2002775407875011,12016652447250069,72099914683500415 ★ Base 6 digits are, in order, the first n terms of the periodic sequence with initial period 3,1,4,1,5 (the first five digits of Pi). • a(n) = 6 * a(n - 1) + a(n - 5) - 6 * a(n - 6) for n>6. •

[A138977] • 3,19,121,771,4913,31307,199497,1271251,8100769,51620379,328939577,2096095523,13356910353,85113990379,542370291241,3456136077171,22023471375233,140339755317947,894284401724697,5698631790801091,36313284928708849,231398467337757579 ★ Number of 2 X n matrices containing a 1 in the top left entry, all entries are integer values and adjacent entries differ by at most 1. • a(n)=b(n) + c(n), where b(1)=2, c(1)=1, b(n + 1)=4 * b(n) + 4 * c(n), c(n + 1)=2 * b(n) + 3 * c(n). • a(n + 2) = 7 * a(n + 1) - 4 * a(n) for n >= 2. - _ Robert Israel _ , Sep 02 2014 • a(n) = (2 ^ (- 2 - n) * ((7 - sqrt(33)) ^ n * (- 5 + sqrt(33)) + (5 + sqrt(33)) * (7 + sqrt(33)) ^ n)) / sqrt(33). - _ Colin Barker _ , Jan 31 2018 •

[A163605] • 3,19,121,773,4947,31691,203129,1302397,8352003,53564899,343552921,2203536533,14133648147,90655141211,581477504729,3729706799437,23923085385603,153447597468979,984245010820921,6313155366422693 ★ a(n) = ((3+2*sqrt(2))*(5+sqrt(2))^n + (3-2*sqrt(2))*(5-sqrt(2))^n)/2. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 3, a(1) = 19. •

[A199484] • 3,19,131,915,6403,44819,313731,2196115,15372803,107609619,753267331,5272871315,36910099203,258370694419,1808594860931,12660164026515,88621148185603,620348037299219,4342436261094531,30397053827661715 ★ (8*7^n+1)/3. • a(n) = 7 * a(n - 1) - 2. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A256092] • 1,3,19,132,955,7068,53074,402552,3075747,23632620,182384774,1412575112,10972566670,85442073304,666717107460,5211833678832,40805272682787,319915465833804,2511182586525886,19732752016481000,155208152657919130,1221848390114284680 ★ G.f.: (2*x)/((1-(1-8*x)^(1/4))*(1-8*x)^(3/4)). • a(n) = Sum _{ k=0..n } binomial(2 * k - 1,k) * 2 ^ (n - k) * binomial(2 * n - k - 1,n - k)). • a(n) = 2 ^ (n - 1) * binomial(2 * n - 1,n) * (1 + hypergeom([1 / 2, - n],[1 - 2 * n],2)) for n>=2. - _ Peter Luschny _ , Mar 15 2015 •

[A091346] • 0,1,3,19,135,1171,11823,136459,1771815,25561891,405658143,7022891899,131714587095,2660335742611,57570797744463,1328913670495339,32592691757283975,846383665814211331,23200396829832102783 ★ Binomial convolution of A069321(n), where A069321(0)=0, with the sequence of all ones alternating in sign. • a(n)=Sum(C(n, k)(- 1) ^ (n - k)Sum(i!i Stirling2(k, i), i =1, .., k), k=0, .., n). •

[A138513] • 1,3,19,137,1001,7323,53579,392017,2868241,20985843,153545539,1123435097,8219753081,60140849163,440028027899,3219519977377,23556019679521,172350557549283,1261024361996659,9226442108226857 ★ a(n) = 8*a(n-1) - 5*a(n-2). • a(n) = 8 * a(n - 1) - 5 * a(n - 2), n> 2; given a(1) = 1, a(2) = 3. • a(n) = upper left term of the 2 X 2 matrix [1,2; 1,7] ^ n * [1,0]. • a(n) =[(3 * sqrt(11) / 22 + 1 / 2] * [4 - sqrt(11)] ^ n + [(- 3 * sqrt(11) / 22 + 1 / 2] * [4 + sqrt(11)] ^ n. - _ Emeric Deutsch _ , Apr 02 2008 •

[A156894] • 1,3,19,138,1059,8378,67582,552576,4563235,37972290,317894394,2674398268,22590697614,191475925332,1627653567916,13870754053388,118464647799075,1013709715774130,8689197042438274,74594573994750972,641252293546113434,5519339268476249676,47558930664216470628 ★ a(n) =

Sum_{k=0..n} C(n,k)*C(2n+k-1,k). • a(n) = [x ^ n] ((1 + x) / (1 - x) ^ 2) ^ n. • a(n) = Hyper2F1([- n, 2 * n], [1], - 1). - _ Peter Luschny _ , Aug 0 2 2014 •

[A082758] • 1,3,19,141,1107,8953,73789,616227,5196627,44152809,377379369,3241135527,27948336381,241813226151,2098240353907,18252025766941,159114492071763,1389754816243449,12159131877715993,106542797484006471 ★ Sum of the squares of the trinomial coefficients (A027907). • a(n) = Sum _{ k=0..2n } T(n, k) ^ 2, where T(n, k) are trinomial coefficients (A027907). • a (n) = Sum _{ k=0..n } binomial(2 * n - k, k) * binomial(2 * n, k). - _ Benoit Cloitre _ , Jul 30 2003 • a(n) = Sum _{ k=0..n } binomial(2 * n,2 * k) * bin omial(2 * k,k) = Sum _{ k=0..n } binomial(n + k,2k) * binomial(2 * n,n + k). - _ Paul Barry _ , Dec 16 2008 • a(n) = Sum _{ k=0..n } binomial(n,k) ^ 2 * binomial(2 * n,n) / binomial(2 * k,k). - _ Paul D. Hanna _ , Sep 29 2012 • a(n) = GegenbauerC(2 * n, - 2 * n, - 1 / 2). - _ Peter Luschny _ , May 07 2016 • a(n) = ((9 - 9 * n) * (4 * n - 1) * (2 * n - 3) * a(n - 2) + (4 * n - 3) * (20 * n ^ 2 - 30 * n + 7) * a(n - 1)) / (n * (2 * n - 1) * (4 * n - 5)) for n>=2. •

[A005258] • 1,3,19,147,1251,11253,104959,1004307,9793891,96918753,970336269,9807518757,99912156111,1024622952993,10567623342519,109527728400147,1140076177397091,11911997404064793,124879633548031009,1313106114867738897,13844511065506477501 ★ Apery numbers: a(n) = Sum_{k=0..n} binomial(n,k)^2 * binomial(n+k,k). • a(n) = hypergeom([n + 1, - n, - n], [1, 1], 1). - _ Vladeta Jovovic _ , Apr 24 2003 • a(- 1 - n) = (- 1) ^ n * a(n) if n>=0. a(- 1 - n) = - (- 1) ^ n * a(n) if n<0. - _ Michael Somos _ , Sep 18 2 013 • a(n) = binomial(2 * n, n) * hypergeom([- n, - n, - n],[1, - 2 * n], 1). - _ Peter Luschny _ , Feb 10 2018 • a(n) = Sum _{ k = 0..n } (- 1) ^ (n - k) * binomial(n,k) * binomial(n + k,k) ^ 2. - _ Peter Bala _ , Feb 10 2018 •

[A074546] • 3,19,149,1249,10673,91849,793649,6880249,59824193,521638729,4560527249,39970996249,351149017313,3091621650409,27274838982449,241075504216249,2134495165628033,18928981513482889,168109033806743249 ★ 2^n + 8^n + 9^n. • a(n) = + 19 * a(n - 1) - 106 * a(n - 2) + 144 * a(n - 3) •

[A199559] • 3,19,163,1459,13123,118099,1062883,9565939,86093443,774840979,6973568803,62762119219,564859072963,5083731656659,45753584909923,411782264189299,3706040377703683,33354363399333139,300189270593998243 ★ 2*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A080835] • 1,1,3,19,169,1761,22171,325123,5416209,101177569,2093489011,47501861331,1172566502713,31276078199809,896253254128779,27456289993445251,895308888305467681,30958452403586027073 ★ E.g.f.: exp(x/(1 - x - x^2 - x^3)). • a(n) = (2 * n - 1) * a(n - 1) + (n - 2) * (n - 1) * a(n - 2) + (n - 2) * (n - 1) * a(n - 3) - (n - 3) * (n - 2) * (n - 1) * (3 * n - 14) * a(n - 4) - 2 * (n - 5) * (n - 4) * (n - 3) * (n - 2) * (n - 1) * a(n - 5) - (n - 6) * (n - 5) * (n - 4) * (n - 3) * (n - 2) * (n - 1) * a(n - 6). - _ Vaclav Kotesovec _ , Oct 02 2013 •

[A256493] • 1,3,19,171,1675,16683,166699,1666731,16666795,166666923,1666667179,16666667691,166666668715,1666666670763,16666666674859,166666666683051,1666666666699435,16666666666732203,166666666666797739,1666666666666928811,16666666666667190955 ★ Number of factorizations of m^3 into at most 3 factors, where m is a product of exactly n distinct primes. • a(n) = (1 0 ^ n + 3 * 2 ^ n + 2) / 6. •

[A229832] • 3,19,349,2909,15377,128983,1319411,17797519,94097539,69278375559,48486717287,968068681519,1472840004019,129001208165719 ★ First term of smallest sequence of n consecutive weak primes. • a(n) = min { p(i): 2 * p(i + j) < p(i + j - 1) + p(i + j + 1), j = 0,1,..,n - 1 } . •

[A041951] • 1,3,19,421,2545,8056,357009,1079083,6831507,151372237,915064929,2896567024,128364013985,387988608979,2456295667859,5442649330187,329015255479121,1041472259739240,46153794684005681,1395028563117562 83,883170932554543379 ★ Denominators of continued fraction convergents to sqrt(498). • a(n) = 359554 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Libra ndi _ , Dec 27 2013 •

[A267055] • 1,3,20,47,336,703,5440,11007,87296,175103,1397760,2797567,22368256,44744703,357908480,715849727,5726601216,11453333503,91625881600,183252287487,1466015154176,2932032405503,23456246661120,46912501710847,375299963355136 ★ Decimal representation of the n-th iteration of the "Rule 93" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 21 * a(n - 2) - 84 * a(n - 4) + 64 * a(n - 6) for n>5. •

[A211068] • 0,3,20,48,144,243,528,768,1400,1875,3060,3888,5880,7203,10304,12288,16848,19683,26100,30000,38720,43923,55440,62208,77064 ★ Number of 2 X 2 matrices having all terms in {1,...,n} and positive odd determinant. • a(n) = (2 * n + 1 - (- 1) ^ n) ^ 2 * (6 * n + 1 - (- 1) ^ n) * (2 * n - 1 + (- 1) ^ n) / 256. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. •

[A099721] • 0,3,20,63,144,275,468,735,1088,1539,2100,2783,3600,4563,5684,6975,8448,10115,11988,14079,16400,18963,21780,24863,28224 ★ a(n) = n^2*(2*n+1). • a(n) = ceil(sum(i = n ^ 2 - (n - 1) to n ^ 2 + (n - 1), s(i))), for n>0 and int eger i, where s(i) are the real solutions to x = i + sqrt(x), and the summation range excludes the integer solutions which occur where i is an oblong number (A002378). The fractional portion of the summation converges to 2 / 3 for lar ge n. If s(i) is replaced with i, then the summation equals n ^ 2 * (2 * n - 1) = A015237. - _ Richard R. Forberg _ , Oct 15 2014 •

[A006411] • 3,20,75,210,490,1008,1890,3300,5445,8580,13013,19110,27300,38080,52020,69768,92055,119700,153615,194810,244398,303600,373750,456300,552825 ★ Nonseparable planar tree-rooted maps with three vertices and n+2 edges. • a(n) = n * (n + 1) * (n + 2) ^ 2 * (n + 3) / 24. - _ Bruno Berselli _ , May 17 2011] • a(n) = C(n + 2,n) * C(n + 2,n - 1) - C(n + 2,n + 1) * C(n + 2,n - 2). - _ J. M. Bergot _ , Apr 07 2013 • a(0)=0, a(1)=3, a(2)=20, a(3)=75, a(4)=210, a(5)=490, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Dec 24 2013 •

[A243208] • 0,3,20,77,223,552,1196,2380,4388,7657,12710,20301,31297,46892,68426,97674,136596,187713,253770,338217,444773,578018,742852,945210,1191398 ★ Number of inequivalent (mod D_3) ways to place 3 points on a triangular grid of side n so that they are not vertices of an equilateral triangle with sides parallel to the grid. • a(n) = (n ^ 6 + 3 * n ^ 5 - 3 * n ^ 4 - 2 * n ^ 3 - 48 * n ^ 2 + 48 * n) / 288 + IF(MOD(n, 2) = 1) * (3 * n ^ 2 - 9 * n - 1) / 32 + IF(MOD(n, 3) = 1) * 2 / 9. • a(n) = 3 * a(n - 1) - 7 * a(n - 3) + 3 * a(n - 4) + 6 * a(n - 5) - 6 * a(n - 7) - 3 * a(n - 8) + 7 * a(n - 9) - 3 * a(n - 11) + a(n - 12). - _ Vaclav Kotesovec _ , Jun 02 2014 •

[A129549] • 1,3,20,78,352,1365,5232,18271,60598,187296,548020,1515265,3991204,10035401,24210308,56188768,125904351,273044682,574635828,1176027747,2345376048,4565886531,8691118644,16198834634,29602895824 ★ Dimension of space of measures of entanglement that are homogeneous of degree 2n, for the case of four qubits. • a(n) = [q ^ (2n)] (P(q) + q ^ 54 * P(1 / q)) / ((1 - q ^ 2) ^ 3 * (1 - q ^ 4) ^ 11 * (1 - q ^ 6) ^ 6) where P(q) = 1 + 3 * q ^ 4 + 20 * q ^ 6 + 76 * q ^ 8 + 219 * q ^ 10 + 654 * q ^ 12 + 1539 * q ^ 14 + 3119 * q ^ 16 + 5660 * q ^ 18 + 9157 * q ^ 20 + 12876 * q ^ 22 + 16177 * q ^ 24 + 18275 * q ^ 26. •

[A015529] • 0,1,3,20,93,499,2520,13049,66867,344140,1767957,9089411,4671576 0,240130801,1234265763,6344236100,32609631693,167615492179,8615524251 60,4428427689449,22762359745107,116999783819260,601385308653957,3091153547973731 ★ Expansion of x/(1 - 3*x - 11*x^2). • a(n) = 3 * a(n - 1) + 11 * a(n - 2). • a(n) = - 22 ^ n * (A ^ n - B ^ n) / sqrt(53) where A = - 1 / (3 + s qrt(53)) and B = 1 / (sqrt(53) - 3). - _ R. J. Mathar _ , Apr 29 2008 •

[A000917] • 3,20,105,504,2310,10296,45045,194480,831402,3527160,14872858,62403600,260757900,1085822640,4508102925,18668849760,77138650050,318107374200,1309542023790,5382578744400,22093039119060,90567738003600,370847442355650,1516927277253024 ★ a(n) = (2n+3)!/(n!*(n+2)!). • a(n) = (n + 1) * binomial(2 * n + 3, n + 1). - _ Vincenzo Librandi _ , Jun 01 2016 •

[A178711] • 0,3,20,109,555,2787,13947,69750,348767,1743856,8719302,43596534,217982694,1089913497,5449567514,27247837603,136239188049,681195940281,3405979701441,17029898507244,85149492536261,425747462681350,2128737313406796,10643686567034028,53218432835170188 ★ Partial sums of floor(5^n/7) • a(n) = round((5 * 5 ^ n - 14 * n - 14) / 28). • a(n) = floo r((5 * 5 ^ n - 14 * n - 5) / 28). • a(n) = ceil((5 * 5 ^ n - 14 * n - 23) / 28). • a(n) = a(n - 6) + 558 * 5 ^ (n - 5) - 3 , n>6. •

[A275796] • 3,20,117,682,3975,23168,135033,787030,4587147,26735852,155827965,908231938,5293563663,30853150040,179825336577,1048098869422,6108767879955,35604508410308,207518282581893,1209505187081050,7049512839904407 ★ One half of the y members of the positive proper solutions (x = x2(n), y = y2(n)) of the second class for the Pell equation x^2 - 2*y^2 = +7^2. • a(n) = 6 * a(n - 1) - a(n - 2) for n >= 1, with a(- 1) = - 2 and a(0) = 3. • a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 11 + 6 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (11 + 6 * sqrt(2)))) / (4 * sqrt(2)). - _ Colin Barker _ , Sep 28 2016 •

[A164535] • 3,20,118,664,3660,19984,108632,589280,3193392,17297216,93670240,507200896,2746223808,14868977920,80504690048,435871829504,2359908975360,12777066189824,69177803863552,374543504250880 ★ a(n) = 8*a(n-1) - 14*a(n-2) for n > 1; a(0) = 3, a(1) = 20. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 3, a(1) = 20. • a(n) = ((3 + 4 * sqrt(2)) * (4 + sqrt(2)) ^ n + (3 - 4 * sqrt(2)) * (4 - sqrt(2)) ^ n) / 2. •

[A001652] • 0,3,20,119,696,4059,23660,137903,803760,4684659,27304196,159140519,927538920,5406093003,31509019100,183648021599,1070379110496,6238626641379,36361380737780,211929657785303,1235216565974040 ★ a(n) = 6*a(n-1) - a(n-2) + 2 with a(0) = 0, a(1) = 3. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). a _{ n } = - 1 / 2 + ((1 - 2 ^{ 1 / 2 }) / 4) * (3 - 2 ^{ 3 / 2 }) ^ n + ((1 + 2 ^{ 1 / 2 }) / 4) * (3 + 2 ^{ 3 / 2 }) ^ n. - _ Antonio Alberto Olivares _ , Oct 13 2003 • a(n) = a(n - 2) + 4 * sqrt(2 * (a(n - 1) ^ 2) + 2 * a(n - 1) + 1). - _ Pierre CAMI _ , Mar 30 2005 • a(n) = (sinh((2 * n + 1) * log(1 + sqrt(2))) - 1) / 2 = (sqrt(1 + 8 * A029549) - 1) / 2. - _ Bill Gosper _ , F eb 07 2010 • a(n) = 5 * (a(n - 1) + a(n - 2)) - a(n - 3) + 4. - Mohamed Bouh amida (bhmd95(AT)yahoo.fr), Sep 02 2006 • a(n + 1) = 3 * a(n) + (8 * a(n) ^ 2 + 8 * a(n) + 4) ^ 0.5 + 1, a(1)=0. - _ Richard Choulet _ , Sep 18 2007 •

[A128910] • 0,3,20,119,715,4523,30509,213343,1530983,11203550,83064263,620498643,4643259527,34592032908,254639722327,1832740718223,12680919388801,81678704122892,452951221016511,1574800035301944,8395299939524712,28224081301289728 2,44576975459063261 18,58106920364272792945,693274802905577732102 ★ Similar to A057835 except using K * X / log(X), K=1.022. • a(n) = abs(round(1.022 * 10 ^ n / log(10 ^ n)) - pi(10 ^ n)). - _ Charles R Gre athouse IV _ , Mar 22 2015 •

[A187442] • 1,3,20,126,924,6435,48620,352716,2704156,20058300,155117520,1166803110,9075135300,68923264410,538257874440,4116715363800,32247603683100,247959266474052,1946939425648112,15033633249770520,118264581564861424 ★ A trisection of A001405 (central binomial coefficients: binomial(3*n,floor(3*n/2)), n>=0. • a(n) = binomial(3 * n,floor(3 * n / 2)), n>= 0. •

[A114479] • 3,20,136,928,6336,43264,295424,2017280,13774848,94060544,642285568,4385800192,29948116992,204498534400,1396403339264,9535238438912,65110680797184,444603538866176,3035942864551936,20730714605486080 ★ Kekulé numbers for certain benzenoids. • a(n) = ((4 + sqrt(8)) ^ (n + 1) + (4 - sqrt(8)) ^ (n + 1)) / 16. • a(n) = 8 * a(n - 1) - 8 * a(n - 2). - _ Colin Bar ker _ , Aug 30 2013 •

[A163065] • 3,20,140,1000,7200,52000,376000,2720000,19680000,142400000,1030400000,7456000000,53952000000,390400000000,2824960000000,2044160000

0000,147916800000000,1070336000000000,7745024000000000,560435200000000 00 ★ a(n) = ((3+sqrt(5))*(5+sqrt(5))^n + (3-sqrt(5))*(5-sqrt(5))^n)/2. ● a(n) = 10 * a(n - 1) - 20 * a(n - 2) for n > 1; a(0) = 3, a(1) = 20. ●

[A082143] ● 1,3,20,140,1008,7392,54912,411840,3111680,23648768,180590592,1384527872,10650214400,82158796800,635361361920,4924050554880,38233804308480,297374033510400,2316387208396800,18067820225495040 ★ First subdiagonal of number array A082137. ● a(n) = (2 ^ (n - 1) + 0 ^ n / 2)C(2n + 1, n). ●

[A068571] ● 1,3,20,143,1442,14377,143071,1418854,14255667,145674808,1492609148,15091199357,149121303586,1443278000870,13770853279685,130660965862333,1245219117260664,12024696404768025,118226055080025491,1183229962059381238,12005034444292997294 ★ Number of happy numbers <= 10^n. ● a(n) is the sum of all h(n, 0 < x <= 81 * n), where x is a happy number, plus 1 for 10 ^ n. (End) ●

[A154627] ● 1,3,20,148,1104,8240,61504,459072,3426560,25576192,190903296,1424921600,10635759616,79386390528,592548085760,4422839123968,33012520648704,246408808693760,1839220386955264,13728127860867072 ★ Expansion of (1-5x)/(1-8x+4x^2). ● a(n) = 8 * a(n - 1) - 4 * a(n - 2), n>1 ; a(0)=1, a(1)=3 . [_ Philippe Deléham _ , Feb 02 2009] ● a(n) = (1 / 2) *{ [4 - 2 * sqrt(3)] ^ n + [4 + 2 * sqrt(3)] ^ n }+ (1 / 12) * sqrt(3) *{ [4 - 2 * sqrt(3)] ^ n - [4 + 2 * sqrt(3)] ^ n } , with n>=0. [_ Paolo P. Lava _ , Feb 13 2009] ●

[A126596] ● 1,3,20,154,1260,10659,92092,807300,7152444,63882940,574221648,5188082354,47073334100,428634152730,3914819231400,35848190542920,329007937216860,3025582795190340,27872496751392496,257172019222240200,2376196095585231920,21983235825545286435 ★ a(n) = binomial(4*n,n)*(2*n+1)/(3*n+1) ● a(n) = [x ^ n] ((1 - sqrt(1 - 4 * x)) / (2 * x)) ^ (2 * n + 1). - _ Ilya Gutkovskiy _ , Nov 01 2017 ●

[A074560] ● 3,20,154,1268,10738,92060,794314,6882308,59830498,521657900,4560585274,39971171348,351149544658,3091623236540,27274843749034,241075518532388,2134495208609218,18928981642491980,168109034193901594,1494966906911109428,13310586967150560178 ★ a(n) = 3^n + 8^n + 9^n. ● a(n) = 20 * a(n - 1) - 123 * a(n - 2) + 216 * a(n - 3) for n>2. - _ Wesley Ivan Hurt _ , Aug 15 2016 ●

[A063017] ● 1,3,20,165,1484,13986,135960,1352637,13707980,141061206,1470489800,15500280978,164967244792,1770548369700,19143828730800,208347968093085,2280730450967820,25096531231958670,277445318198433000 ★ Product of Catalan(n) and (3^n- 2^n +1)/2. ● a(n) = Catalan(n) * (3 ^ (n + 1) - 2 ^ (n + 1) + 1) / 2; o.g.f: - (sqrt(1 - 4x) - sqrt(1 - 8x) + sqrt(1 - 12x) - 1) / (4x) ●

[A051643] ● 1,3,20,169,1667,18084,208960,2527074,31630390,406680465,5342750699,71442850111,969548468960,13323571588607,185072895183632,2594890728951909,36681505784903758,522291180086851188 ★ Central elements in Parker's partition triangle. ● a(n) = coefficient of q ^ ((n ^ 2 - 1) / 2) in q - binomial coefficient [2n, n]. ●

[A273481] ● 3,21,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 737", based on the 5-celled von Neumann neighborhood. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>3. ●

[A045802] ● 3,21,29,47,103,121,129,147,203,221,229,247,303,321,329,347,403,421,429,447,503,521,529,547,603 ★ 2-ish numbers (end in 03, 21, 29, 47). ● a(n) = (50 * n - 24 * i ^ (n * (n + 1)) - 7 * (- 1) ^ n - 75) / 2, where i=sqrt(- 1). - Bruno Berselli, Feb 23 2012 ● a(1)=3, a(2)=21, a(3)=29, a(4)=47, a(5)=103, a(n)=a(n - 1) + a(n - 4) - a(n - 5) [From Harvey P. Dale, May 05 2012] ●

[A152773] ● 0,3,21,54,102,165,243,336,444,567,705,858,1026,1209,1407,1620,1848,2091,2349,2622,2910,3213,3531,3864,4212 ★ 3 times heptagonal numbers: a(n) = 3n(5n-3)/2. ● a(n) = a(n - 1) + 15 * n - 12 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 26 2010 ● a(0)=0, a(1)=3, a(2)=21, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 08 2012 ●

[A033567] ● 1,3,21,55,105,171,253,351,465,595,741,903,1081,1275,1485,1711,1953,2211,2485,2775,3081,3403,3741,4095,4465 ★ a(n) = (2*n-1)*(4*n-1). ● a(n) = a(n - 1) + 16 * n - 14 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 17 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 2). ●

[A117984] ● 1,3,21,63,189,1323,4161,12483,87381,262143,786429,5505003,16515009,49545027,346815189,1090777023,3272331069,22906317483,68719738881,206159216643,1443114516501,4329343549503,12988030648509,90916214539563 ★ A modified Legendre-binomial transform of 4^n for p=3. ● a(n)=sum { k=0..n, (- 1) ^ (n - k) * L(C(n,k) / 3) * 4 ^ k } where L(j / p) is the Legendre symbol of j and p. ●

[A188667] ● 0,0,3,21,72,180,375,693,1176,1872,2835,4125,5808,7956,10647,13965,18000,22848,28611,35397,43320,52500,63063,75141,88872 ★ Ordered (2,2)-selections from the multiset {1,1,2,2,3,3,...,n,n}. ● a(n) = n * (n + 4) * (n - 1) ^ 2 / 4. ●

[A083564] ● 3,21,72,329,1353,5796,24447,103729,439128,1860621,7880997,33385604,141421803,599075421,2537719272,10749959329,45537545553,192900159396,817138154247,3461452823129,14662949371128,62113250430021 ★ a(n) = L(n)*L(2n), where L(n) are the Lucas numbers (A000204). ● a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - a(n - 4); ● a(n) = Lucas(3 * n) + (- 1) ^ n * Lucas(n). ● a(n) = 2 * (2 - sqrt(5)) ^ n - (1 / 2) * (- 1 / 2 - (1 / 2) * sqrt(5)) ^ n - (1 / 2) * (- 1 / 2 - (1 / 2) * sqrt(5)) ^ n * sqrt(5) + 2 * (2 + sqrt(5)) ^ n + (1 / 2) * sqrt(5) * (- 1 / 2 + (1 / 2) * sqrt(5)) ^ n - (1 / 2) * (- 1 / 2 + (1 / 2) * sqrt(5)) ^ n + (2 + sqrt(5)) ^ n * sqrt(5) - (2 - sqrt(5)) ^ n * sqrt(5), with n>=0. - _ Paolo P. Lava _ , Jun 12 2008 ● a(n) = (1 + phi) ^ n + (- phi) ^ n + (2 * phi + 1) ^ n + (3 - 2 * phi) ^ n, phi = (1 + sqrt(5)) / 2. - _ Gary Detlefs _ , Dec 09 2012 ●

[A228317] ● 0,0,3,21,75,195,420,798,1386,2250,3465,5115,7293,10101,13650,18060,23460,29988,37791,47025,57855,70455,85008,101706,120750 ★ The hyper-Wiener index of the triangular graph T(n) (n>=1). ● a(n) = n * (n - 1) * (n - 2) * (3 * n - 5) / 8. ●

[A110450] ● 0,3,21,78,210,465,903,1596,2628,4095,6105,8778,12246,16653,22155,28920,37128,46971,58653,72390,88410,106953,128271,152628,180300 ★ a(n) = n*(n+1)*(n^2+n+1)/2. ● a(n) = Sum _{ i=1..n * (n + 1) } i. - _ Wesley Ivan Hurt _ , Sep 27 2013 ● a(n) = Sum _{ i=0..n } i * (2 * i ^ 2 + 1), and these are the partial sums of A061317. - _ Bruno Berselli _ , Feb 09 2017 ●

[A112851] ● 0,0,3,21,81,231,546,1134,2142,3762,6237,9867,15015,22113,31668,44268,60588,81396,107559,140049,179949,228459,286902,356730,439530 ★ a(n) = (n-1)*n*(n+1)*(n+2)*(2*n+1)/40. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(0)=0, a(1)=0, a(2)=3, a(3)=21, a(4)=81, a(5)=231. - _ Harvey P. Dale _ , Oct 28 2014 ● a(n) = (1 / 2) * Sum _{ k=0..n } C(k ^ 2,2). - _ Wesley Ivan Hurt _ , Sep 23 2017 ●

[A083231] ● 1,3,21,87,489,2283,11901,58047,294609,1459923,7338981,36576807,183238329,915128763,4578832461,22884596367,114451679649,572172304803,2861119804341,14304824180727,71526445426569,357625253564043 ★ (3*5^n+(-3)^n)/4. ● a(n) = (3 * 5 ^ n + (- 3) ^ n) / 4. ●

[A059826] ● 1,3,21,91,273,651,1333,2451,4161,6643,10101,14763,20881,28738,38613,50851,65793,83811,105301,130683,160401,194923,234741,280371,332353 ★ a(n) = (n^2 - n + 1)*(n^2 + n + 1). ● a(n) = n ^ 4 + n ^ 2 + 1. - _ Paul Barry _ , Apr 02 2003 ● a(n + 2) = (n ^ 2 + 3n + 3) * (n ^ 2 + 5n + 7) = (t(n) + t(n + 2)) * (t(n + 1) + t(n + 3)), where t=A000217 are triangular numbers. For n>=1, a(n + 2) = t(2 * t(n + 2) + t(n)) - t(t(n) - 1). - _ J. M. Bergot _ , Nov 29 2012 ●

[A289399] ● 0,3,21,102,426,1641,6015,21324,73812,250959,841449,2790066,9167358,29893557,96855123,312088728,1000836264,3196219035,10169787837,32252755710,101988443730,321655860993,1012039172391,3177332285412,9955641160956 ★ Total path length of the complete ternary tree of height n. ● a(n) = 3 * (1 - 3 ^ n + 2 * 3 ^ n * n) / 4. ● a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 9 * a(n - 3) for n>2. ●

[A134057] ● 0,0,3,21,105,465,1953,8001,32385,130305,522753,2094081,8382465,33542145,134193153,536821761,2147385345,8589737985,34359345153,137438167041,549754241025,2199020109825,8796086730753,35184359505921 ★ a(n) = binomial(2^n-1,2). ● a(n) = (1 / 2)(4 ^ n - 3 * 2 ^ n + 2) = 3 * (StirlingS2(n + 1,4) + StirlingS2(n + 1,3)). ● a(n) = (2 ^ n - 1) * (2 ^ (n - 1) - 1). - _ Alex Ratushnyak _ , Jun 02 2013 ● a(n) = StirlingS2(2 ^ n - 1,2 ^ n - 2). ●

[A122120] ● 1,3,21,111,633,3531,19821,111063,622641,3490131,19564293,109668351,614752041,3446023323,19316861661,108281656551,606978381153,3402448433571,19072599164661,106912432560783,599303122725081 ★ a(0)=1, a(1)=3, a(n)=4*a(n-1)+9*a(n-2) for n>1. ● a(n)= - (1 / 26) * sqrt(13) * [2 - sqrt(13)] ^ n + (1 / 2) * [2 + sqrt(13)] ^ n + (1 / 26) * [2 + sqrt(13)] ^ n * sqrt(13) + (1 / 2) * [2 - sqrt(13)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 19 2008] ●

[A080952] ● 3,21,112,504,2016,7392,25344,82368,256256,768768,2236416,6336512,17547264,47628288,127008768,333398016,862912512,2205220864,5571084288,13927710720,34487664640,84651540480,206108098560,498094571520 ★ a(n) = 2^(n-4)*(n+2)*(n+3)*(n+4)*(n+5)*(n+6)/15. ● a(n) = 12 * a(n - 1) - 60 * a(n - 2) + 160 * a(n - 3) - 240 * a(n - 4) + 192 * a(n - 5) - 64 * a(n - 6), n>=6. - _ Harvey P. Dale _ , Jun 11 2011 ●

[A005057] ● 0,3,21,117,609,3093,15561,77997,390369,1952613,9764601,48826077,244136529,1220694933,6103499241,30517545357,152587825089,762939322053,3814697003481,19073485803837,95367430592049,476837156105973,2384185786821321,11920928946689517 ★ 5^n - 2^n. ● a(n) = 7 * a(n - 1) - 10 * a(n - 2), a(0)=0, a(1)=3. - _ Vincenzo Librandi _ , Dec 30 2010 ●

[A084159] ● 1,3,21,119,697,4059,23661,137903,803761,4684659,27304197,159140519,927538921,5406093003,31509019101,183648021599,1070379110497,6238626641379,36361380737781,211929657785303,1235216565974041 ★ Pell oblongs. ● a(n) = ((sqrt(2) + 1) ^ (2 * n + 1) - (sqrt(2) - 1) ^ (2 * n + 1) + 2 * (- 1) ^ n) / 4. ● a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3). - _ Paul Curtz _ , May 17 2008 ● a(n) = (- 1) ^ n * R(n, - 4), where R(n,x) is the n - th row polynomial of A211955. ● a(n) = (- 1) ^ n * 1 / u * T(n,u) * T(n + 1,u) with u = sqrt(- 1) and T(n,x) the Chebyshev polynomial of the first kind. ● a(n) = (- 1) ^ n + 4 * sum { k = 1..n } (- 1) ^ (n - k) * 8 ^ (k - 1) * binomial(n + k,2 * k). ●

[A046727] ● 0,3,21,119,697,4059,23661,137903,803761,4684659,27304197,159140519,927538921,5406093003,31509019101,183648021599,1070379110497,6238626641379,36361380737781,211929657785303,1235216565974041,7199369738058939,41961001862379597 ★ Related to Pythagorean triples: alternate terms of A001652 and A046090. ● a(n) = 6 * a(n - 1) - a(n - 2) - 4 * (- 1) ^ n. - _ Ron Knott _ , Jul 01 2013 ● a(n) = (2 * (- 1) ^ n - (3 - 2 * sqrt(2)) ^ n * (- 1 + sqrt(2)) + (1 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4 for n>0. ● a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3) for n>3. (End) ●

[A121447] ● 3,21,127,747,4386,25897,154077,923910,5581485,33949836,207787668,1278900412,7911394686,49165322241,306809507561,1921849861260,12079999018605,76170034283805,481680300300255,3054157623774495 ★ Level of the first leaf (in preorder traversal) of a ternary tree, summed over all ternary trees with n edges. A ternary tree is a rooted tree in which each vertex has at most three children and each child of a vertex is designated as its left or middle or right child. ● a(n)=3n(23n ^ 2 + 78n + 67)binomial(3n + 2,n + 2) / [4(n + 3)(2n + 1)(2n + 3)(2n + 5)]. G.f.= (h - 1 - z)(h - 1) / z ^ 2, where h=1 + zh ^ 3=2sin(arcsin(sqrt(27z / 4)) / 3) / sqrt(3z). ●

[A141041] • 1,3,21,135,873,5643,36477,235791,1524177,9852435,63687141,411680151,2661142329,17201894427,111194793549,718774444575,4646231048097,30033709622307,194140950878133,1254946834135719,8112103857448713 ⋆ a(n) = ((3 + 2*sqrt(3))^n + (3 - 2*sqrt(3))^n)/2. • a(n) = 6 * a(n - 1) + 3 * a(n - 2), a(0) = 1, a(1) = 3 . - _ Philippe Deléham _ , Mar 03 2012 •

[A137969] • 1,1,3,21,136,1032,8139,66975,567417,4915386,43350639,387889254,3512655498,32133132074,296496163113,2756279003712,25790064341592,242699145598212,2295564345035100,21811226043019788,208084639385653938 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^6)^3. • a(n) = Sum _{ k=0..n - 1 } C(3 * (n - k),k) / (n - k) * C(6 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D . Hanna _ , Jun 16 2009 •

[A054419] • 3,21,143,953,6347,42285,281719,1876913,12504659,83310469,555043871,3697898985,24636713627,164138517789,1093548978567,7285610864737,48539321706403,323386164243445,2154513238908591,14354130788161817 ⋆ Number of connected 3 X n binary matrices (divided by 2). • a(n) = 7 * a(n - 1) - 3 * a(n - 2) + 5 * a(n - 3). •

[A033888] • 0,3,21,144,987,6765,46368,317811,2178309,14930352,102334155,701408733,4807526976,32951280099,225851433717,1548008755920,10610209857723,72723460248141,498454011879264,3416454622906707,23416728348467685,160500643816367088,1100087778366101931,7540113804746346429 ⋆ a(n) = Fibonacci(4n). • a(n) = 7 * a(n - 1) - a(n - 2). • a(n) = ((7 + 3 * sqrt(5)) ^ (n - 1) - (7 - 3 * sqrt(5)) ^ (n - 1)) / ((2 ^ (n - 1)) * sqrt(5)). - _ Gregory V. R ichardson _ , Oct 13 2002 • a(n) = Sum _{ k=0..n } F(3n - k) * binomial(n, k). - _ Benoit Cloitre _ , Jun 07 2004 • a(n) = Lucas(2n) * Lucas(n) * Fibon acci(n). - _ Ralf Stephan _ , Sep 25 2004 • a(n) = Fibonacci[(4 * n + 2)] mo dulo Fibonacci[(4 * n + 1)]. - _ Artur Jasinski _ , Nov 15 2011 (corrected by _ Iain Fox _ , Dec 18 2017) •

[A169634] • 3,21,147,1029,7203,50421,352947,2470629,17294403,121060821,847425747,5931980229,41523861603,290667031221,2034669218547,14242684529829,99698791708803,697891541961621,4885240793731347,34196685556119429 ⋆ a(n) = 3*7^n. • a(n) = 7 * a(n - 1) for n > 0; a(0) = 3. •

[A037761] • 3,21,148,1038,7269,50883,356182,2493276,17452935,122170545,855193816,5986356714,41904497001,293331479007,2053320353050,14373242471352,100612697299467,704288881096269,4930022167673884 ⋆ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 3,0,1,2. • a(n) = (- 100 - 25 * (- 1) ^ n - (24 - i * 32) * (- i) ^ n - (24 + 32 * i) * i ^ n + 173 * 7 ^ n) / 400, where i=sqrt(- 1). • a(n) = 7 * a(n - 1) + a(n - 4) - 7 * a(n - 5). •

[A037649] • 3,21,148,1039,7273,50912,356387,2494709,17462964,122240751,855685257,5989796800,41928577603,293500043221,2054500302548,14381502117839,100670514824873,704693603774112,4932855226418787 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,0,1. • a(n) = 7 * a(n - 1) + a(n - 3) - 7 * a(n - 4). G.f.: x * (x ^ 2 + 3) / ((x - 1) * (7 * x - 1) * (x ^ 2 + x + 1)). - _ Colin Barker _ , Aug 09 2014 •

[A037768] • 3,21,149,1044,7311,51177,358241,2507688,17553819,122876733,860137133,6020959932,42146719527,295027036689,2065189256825,14456324797776,101194273584435,708359915091045,4958519405637317 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,0,2,1. • a(n) = 7a(n - 1) + a(n - 4) - 7a(n - 5). •

[A074577] • 3,21,149,1071,7793,57351,426449,3200631,24221633,184649031,1416683249,10930058391,84737546273,659705518311,5154633748049,40402118583351,317529017187713,2501356987117191,19744372064060849,156123443001239511 ⋆ 6^n + 7^n + 8^n. • a(0)=3, a(1)=21, a(2)=149, a(n)=21 * a(n - 1) - 146 * a(n - 2) + 336 * a(n - 3) [From Harvey P. Dale, Dec 25 2011] •

[A155627] • 1,3,21,153,1041,6753,42561,263553,1614081,9815553,59417601,358602753,2160005121,12993585153,78095728641,469111242753,2816814940161,16909479575553,101491237191681,609084862103553,3655058928435201 ⋆ 6^n-4^n+1. • a(n)=10 * a(n - 1) - 24 * a(n - 2) + 15 with a(0)=1, a(1)=3 - _ Vin cenzo Librandi _ , Jul 21 2010 •

[A163472] • 3,21,153,1143,8667,66285,509409,3925503,30295539,234004869,1808305641,13977507015,108055998027,835414244829,6459123003057,49940805957327,386138612387043,2985616752052725,23084826815860281,178492568972583447 ⋆ a(n) = 12*a(n-1) - 33*a(n-2) for n > 1; a(0) = 3, a(1) = 21. • a(n) = ((3 + sqrt(3)) * (6 + sqrt(3)) ^ n + (3 - sqrt(3)) * (6 - sqrt(3)) ^ n) / 2. •

[A136781] • 1,3,21,162,1305,10719,88830,739179,6162669,51425010,429299217,3584510631,29932216686,249957514899,2087382613509,17431787135682,145573937119305,1215699423313455,10152411188679774,84783702198390651,708036493717628253,5912878431088447506 ⋆ Number of multiplex juggling sequences of length n, base state <2,2> and hand capacity 2. • a(n) = 14 * a(n - 1) - 54 * a(n - 2) + 57 * a(n - 3) for n>4. - _ Colin Barker _ , Aug 31 2016 •

[A225439] • 1,3,21,162,1305,10773,90342,765936,6546177,56293380,486451251,4220183916,36731240910,320571837810,2804298945840,24580601689752,215832643307217,1898042178972285,16714070686567620,147360883148636850,1300623629653125855 ⋆ Expansion of 3*x/((1-(1-9*x)^(1/3))*(1-9*x)^(2/3)). • a(n) = sum(k=0..n, C(k,n - k) * 3 ^ (k) * (- 1) ^ (n - k) * C(n + k - 1,n - 1)), n >0, a(0)=1. • a(n) = (Gamma(n + 2 / 3) / Gamma(2 / 3) + Gamma(n + 1 / 3) / (Gamma(1 / 3))) * 3 ^ (2 * n - 1) / Gamma(n + 1)) for n > 0. - _ Pet er Luschny _ , Jul 05 2013 •

[A262977] • 1,3,21,165,1365,11628,100947,888030,7888725,70607460,635745396,5752004349,52251400851,476260169700,4353548972850,39895566894540,366395202809685,3371363686069236,31074067324187580,286845713747883300,2651487106659130740,24539426037817994160 ⋆ a(n) = binomial(4*n-1,n). • a(n) = Sum _{ k=0..n } (binomial(n - 1,n - k) * binomial(3 * n,k)). • a(n) = [x ^ n] 1 / (1 - x) ^ (3 * n). - _ Ilya Gutkovskiy _ , Oct 03 2017 •

[A132805] • 0,3,21,171,1365,10923,87381,699051,5592405,44739243,357913941,2863311531,22906492245,183251937963,1466015503701,11728124029611,93824992236885,750599937895083,6004799503160661,48038396025285291,384307168202282325,3074457345618258603 ⋆ A trisection of A024495. • a(n)= - (1 / 3) * (- 1) ^ n + (1 / 3) * 8 ^ n. - _ Paolo P. Lava _ , Jul 08 2008 •

[A206178] • 1,3,21,171,1521,14283,138909,1385163,14072193,145039923,1512191781,15914734443,168802010001,1802247516891,19350710547021,208783189719531,2262263134211073,24604815145831011,268499713118585781,2938736789722114731,32250788066104022961 ⋆ a(n) = Sum_{k=0..n} binomial(n,k)^3 * 2^k. • a(2 * 3 ^ n) == 3 (mod 9) for n>=0; a(n) == 0 (mod 9) if n / 2 > 1 i s not a power of 3. • a(n) = hypergeom([- n, - n, - n],[1,1], - 2). - _ Peter Lu schny _ , Sep 23 2014 •

[A054879] • 1,3,21,183,1641,14763,132861,1195743,10761681,96855123,871696101,7845264903,70607384121,635466457083,5719198113741,51472783023663,463255047212961,4169295424916643,37523658824249781,337712929418248023,3039416364764232201,27354747282878089803,246192725545902808221 ⋆ Closed walks of length 2n along the edges of a cube based at a vertex. • a(n) = (3 ^ (2 * n) + 3) / 4. •

[A131763] • 1,3,21,183,1785,18651,204141,2310447,26819121,317530227,3819724293,46553474919,573608632233,7133530172619,89423593269213,1128765846337887,14334721079385441,183021615646831587,2347944226115977461,30250309354902101271,391241497991342192985 ⋆ Series reversion of x(1-4x)/(1-x). • a(n) = - a(n - 1) + 4 * Sum _{ i=0..n - 1 } a(i) * a(n - i - 1)), a(0)=1. - _ Vladimir Kruchinin _ , Mar 30 2015 • a(n) = (- 1) ^ n * hypergeom([- n, n + 1], [2], 4). - _ Peter Luschny _ , Jan 08 2018 •

[A212072] • 1,3,21,190,1950,21576,250971,3025308,37456650,473498025,6085977381,79296104784,1044955576496,13903071489300,186507160795350,2519857658331576,34258270557555282,468322722628414290,6433538749783033350,88767899653496377050,1229626632793564911906 ⋆ G.f. satisfies: A(x) = (1 + x*A(x)^2)^3. • a(n) = 3 * binomial(6 * n + 3,n) / (6 * n + 3). •

[A199682] • 3,21,201,2001,20001,200001,2000001,20000001,200000001,2000000001,20000000001,200000000001,2000000000001,20000000000001,200000000000001,2000000000000001,20000000000000001,200000000000000001 ⋆ 2*10^n+1. • a(n) = 10 * a(n - 1) - 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A120972] • 1,1,3,21,217,2814,42510,718647,13270944,263532276,5567092665,124143735663,2905528740060,71058906460091,1809695198254281,47861102278428198,1311488806252697283,37164457324943708739 ⋆ G.f. satisfies: A(x/A(x)^3) = 1 + x ; thus A(x) = 1 + series_reversion(x/A(x)^3). • a(n) = [x ^ (n - 1)] A(x) ^ (3 * n) / n for n>=1 with a(0)=1; i.e., a(n) equals th e coefficient of x ^ (n - 1) in A(x) ^ (3 * n) / n for n>=1 (see comment). •

[A108716] • 3,21,371,7077,135779,2606261,50028755,960335173,18434276035,353858266965,6792546291251,130387472704741,2502874814474531,48044357383337973,922243598852422035,17703083191185355397 ⋆ a(n) = tan(Pi/14)^(-2n) + tan(3*Pi/14)^(-2n) + tan(5*Pi/14)^(-2n). • a(n) = 7 ^ n * A(2n), whe re A(n) := A(n - 1) + A(n - 2) + A(n - 3) / 7, with A(0)=3, A(1)=1, and A(2)=3. - see Witula - Slota's (Section 6) and Witula's (Remark 11) papers for t he proofs and details. In these papers A(n) denotes the value of the big omeg a function with index n for the argument 2 * i / sqrt(7) (see also A215512). - _ Roman Witula _ , Aug 23 2012 •

[A288568] • 1,1,1,3,21,984,609423 ⋆ Number of non-isomorphic connected arrangements of n pseudo-circles on a sphere, in the sense that the union of the pseudo-circles is a connected set, reduced for mirror symmetry. • a(n) = 2 ^ (\ Theta(n ^ 2)). (cf. Arrangements of Pseudocircles: On Circularizability) •

[A042547] • 1,3,22,25,97,607,17093,103165,326588,429753,3334859,10434330,587657339,1773406347,13001501768,14774908115,57326226113,358732264793,10101829640317,60969710106695,193010959960402,253980670067097,1970875650430081,6166607621357340 ⋆ Denominators of continued fraction convergents to sqrt(802). • a(n) = 590992198 * a(n - 12) - a(n - 24) for n>23. - _ V incenzo Librandi _ , Jan 24 2014 •

[A041103] • 1,1,3,22,47,69,1013,1082,3177,23321,49819,73140,1073779,1146919,3367617,24720238,52808093,77528331,1138204727,1215733058,3569670843,26203428959,55976528761,82179957720 ⋆ Denominators of continued fraction convergents to sqrt(59). • a(n) = 1060 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - x ^ 9 + 3 * x ^ 8 - 22 * x ^ 7 + 47 * x ^ 6 - 69 * x ^ 5 - 47 * x ^ 4 - 22 * x ^ 3 - 3 * x ^ 2 - x - 1) / (x ^ 12 - 1060 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2 012] •

[A139272] • 0,3,22,57,108,175,258,357,472,603,750,913,1092,1287,1498,1725,1968,2227,2502,2793,3100,3423,3762,4117,4488 ⋆ a(n) = n*(8*n-5). • a(n) = 8 * n ^ 2 - 5 * n. • a(n) = 16 * n + a(n - 1) - 13 with n>0, a(0)=0. - _ Vincen zo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A005288] • 3,22,71,169,343,628,1068,1717,2640,3914,5629,7889,10813,14536,19210,25005,32110,40734,51107,63481,78131,95356,115480,138853,165852 ⋆ a(n) = C(n,5) + C(n,4) - C(n,3) + 1, n >= 7. • a(n) = C(n + 3, 5) - C(n + 2, 3) + C(n, 0). • a(n) = (n + 4) * (n - 3) * (n ^ 3 - 6 * n ^ 2 + 3 * n - 10) / 120, n >= 7. - _ R. J. Mathar _ , May 19 2013 •

[A143166] • 0,3,22,73,172,335,578,917,1368,1947,2670,3553,4612,5863,7322,9005,10928,13107,15558,18297,21340,24703,28402,32453,36872 ⋆ a(n) = n*(8*n^2 + 1)/3. • a(n) = (1 / 4) * (S(n) - S(n - 1)), with a(0)=0 and S(n):=sum(sum (p ^ 2 + q ^ 2,p= - n.. + n),q= - n.. + n) = 2 * sum(sum((p ^ 2,p= - n.. + n), q= - n.. + n) = 2 * sum(p ^ 2,p= - n.. + n) * sum(1,q= - n..n) = 2 * 2 * (n * (n + 1) * (2 * n + 1)) / 6) * (2 * n + 1) = (2 / 3) * n * (n + 1) * (2 * n + 1) ^ 2. • a(n) = n * (8 * n ^ 2 + 1) / 3. •

[A004305] • 3,22,85,254,644,1448,2967,5645,10109,17214,28093,44212,67430,100064,144959,205563,286007,391190,526869,699754,917608,1189352,1525175,1936649,2436849 ⋆ Simple triangulations of a disk: column 4 of square array in A210664. • a(n) = (n ^ 6 + 15 * n ^ 5 + 103 * n ^ 4 + 405 * n ^ 3 + 976 * n ^ 2 + 1236 * n + 432) / 144. •

[A277228] • 0,0,3,22,88,258,623,1316,2520,4476,7491,11946,18304,27118,39039,54824,75344,101592,134691,175902,226632,288442,363055,452364,558440 ⋆ Convolution of the even-indexed triangular numbers (A014105) and the squares (A000290). • a(n) = binomial(n + 1, 3) * (4 * n ^ 2 + 5 * n + 4) / 10 = (n - 1) * n * (n + 1) * (4 * n ^ 2 + 5 * n + 4) / 60. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. - _ Colin Barker _ , Oct 21 2016 •

[A095663] • 3,22,92,288,750,1716,3564,6864,12441,21450,35464,56576,87516,131784,193800,279072,394383,547998,749892,1012000,1348490,1776060,2314260,2985840,3817125 ⋆ Eighth column (m=7) of (1,3)-Pascal triangle A095660. • a(n)= binomial(n + 6, 6) * (n + 21) / 7 = 3 * b(n) - 2 * b(n - 1), with b(n):= binomial(n + 7, 7); cf. A000580. •

[A254332] • 1,3,22,96,817,3627,31006,137712,1177393,5229411,44709910,198579888,1697799169,7540806315,64471658494,286352060064,2448225223585,10873837476099,92968086837718,412919472031680,3530339074609681,15680066099727723,134059916748330142 ⋆ Indices of centered pentagonal numbers (A005891) which are also squares (A000290). • a(n) = a(n - 1) + 38 * a(n - 2) - 38 * a(n - 3) - a(n - 4) + a(n - 5). •

[A100511] • 0,3,22,126,652,3190,15060,69356,313624,1398438,6166660,26948548,116888232,503811516,2159864392,9216445080,39168381488,165864540934,700151508324,2947120122068,12373581565960,51831196048212,216659135089496,903925011410536 ⋆ a(n) = Sum_{j=0..n} Sum_{k=0..n} binomial(n,j)*binomial(2*k,j)*binomial(2*k,k) • a(n) = n * 2 ^ (2 * n - 1) + (n / 2) * binomial(2 * n, n). [Typo corrected by _ Ognjen Dragoljevic _ , Dec 26 2017] •

[A121723] • 0,3,22,150,1096,8820,78408,767088,8212608,95657760,1205438400,16350871680,237633108480,3685053415680,60748282022400,1061014235904000,19574489449267200,380408796994867200,7768172642717491200 ⋆ a(n) = A098916(n+2) + (1-n) * A067318(n). • a(n) = n! * (n - 1) * Sum _{ i=1..n } (1 / i). •

[A037775] • 3,22,154,1080,7563,52942,370594,2594160,18159123,127113862,889797034,6228579240,43600054683,305200382782,2136402679474,14954818756320,104683731294243,732786119059702,5129502833417914 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,1,0,2. • a(n) = 8a(n - 1) - 8a(n - 2) + 8a(n - 3) - 7a(n - 4) •

[A037782] • 3,22,156,1092,7647,53530,374712,2622984,18360891,128526238,899683668,6297785676,44084499735,308591498146,2160140487024,15120983409168,105846883864179,740928187049254,5186497309344780 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,1,2,0. • a(n) = 7a(n - 1) + a(n - 4) - 7a(n - 5). •

[A041661] • 1,1,3,22,157,336,493,18084,18577,55238,405243,2891939,6189121,9081060,333107281,342188341,1017483963,7464576082,53269516537,114003609156,167273125693,6135836134104,6303109259797,18742054653698,137497491835683 ⋆ Denominators of continued fraction convergents to sqrt(349). • a(n) = 18420 * a(n - 7) + a(n - 14) for n>13. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A164021] • 3,22,162,1196,8844,65464,484872,3592688,26626608,197367904,1463110176,10846813376,80416014528,596200519552,4420261740672,32772323223296,242978979496704,1801488764368384,13356579869532672,99028340445867008 ⋆ a(n) = 12*a(n-1) - 34*a(n-2) for n > 1; a(0) = 3, a(1) = 22. • a(n) = ((3 + 2 * sqrt(2)) * (6 + sqrt(2)) ^ n + (3 - 2 * sqrt(2)) * (6 - sqrt(2)) ^ n) / 2. •

[A077244] • 3,22,173,1362,10723,84422,664653,5232802,41197763,324349302,2553596653,20104423922,158281794723,1246149933862,9810917676173,77241191475522,608118614128003,4787707721548502,37693543158260013,296760637544531602,2336391557197992803 ⋆ Bisection (odd part) of Chebyshev sequence with Diophantine property. • a(n) = (((4 - sqrt(15)) ^ n * (- 10 + 3 * sqrt(15)) + (4 + sqrt(15)) ^ n * (10 + 3 * sqrt(15)))) / (2 * sqrt(15)). • a(n) = 8 * a(n - 1) - a(n - 2). •

[A147855] • 1,3,22,174,1444,12323,107104,942952,8381596,75053100,676017962,6118171326,55591175956,506805088026,4633571685968,42468065811884,390071875757852,3589637747968964,33089300640166360,305476314574338648,2823932709938708824,26137341654281261347 ⋆ G.f.: 1 / (1 + 4*x*G(x)^2 - 7*x*G(x)^3) where G(x) = 1 + x*G(x)^4 is the g.f. of A002293. • a(n) = Sum _{ k=0..n } C(k, n - k) * C(4 * n - k, k). • a(n) = Sum _{ k=0..n } C(n + k, n - k) * C(3 * n - k, k). • a(n) = Sum _{ k=0..n } C(2 * n + k, n - k) * C(2 * n - k, k). • a(n) = Sum _{ k=0..n } C(3 * n + k, n - k) * C(n - k, k). • a(n) = Sum _{ k=0..n } C(4 * n + k, n - k) * C(- k, k). •

[A079489] • 1,3,22,211,2306,27230,338444,4362627,57788170,781825066,10757497972,150073096238,2117778107732,30176799215196,433586825237912,6274885068167651,91383942213277530,1338275570267001458 ⋆ Series reversion of x(1-x^2)/(1+x^2)^2 expanded in odd powers of x. • a(n) = 2 ^ (2 * n + 1) * Catalan(n) - Catalan(2 * n + 1) (see Regev). It follows that the 2 - adic valuations of a(n) and Catalan(n) are equal. In particular, a(n) is odd iff n is of the form 2 ^ m - 1. - _ Peter Bala _ , Aug 02 2016 •

[A232327] • 3,23,27,89,137,9190,25731,80457,125859,270815,609977,959612,1034186,1491489,2975032,264484387,1092196976,1194228023,1424193547,4523998315,13583506006,380693793416,1097951708621,1486580651232 ⋆ A generalized Engel expansion of 1/Pi. • a(n) = ceiling(1 / g ^ (n)(1 / Pi)), where g(x) = - x * ceiling(- 1 / x) - 1. •

[A254626] • 1,3,23,61,421,1103,7563,19801,135721,355323,2435423,6376021,43701901,114413063,784198803,2053059121,14071876561,36840651123,252509579303,661078661101,4531100550901,11862575248703,81307300336923,212865275815561,1459000305513721 ⋆ Indices of triangular numbers (A000217) that are also centered pentagonal numbers (A005891). • a(n) = a(n - 1) + 18 * a(n - 2) - 18 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (- 2 + (2 - r) ^ n - (- 2 - r) ^ n * (- 2 + r) + 2 * (- 2 + r) ^ n + r * (- 2 + r) ^ n + (2 + r) ^ n) / 4 where r = sqrt(5). - _ Colin Barker _ , Nov 25 2016 •

[A126335] • 3,23,72,162,305,513,798,1172,1647,2235,2948,3798,4797,5957,7290,8808,10523,12447,14592,16970,19593,22473,25622,29052,32775 ⋆ a(n) = n*(4*n^2+5*n-3)/2. • a(1)=3, a(2)=23, a(3)=72, a(4)=162; for n>4, a(n) =4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A024196] • 3,23,86,230,505,973,1708,2796,4335,6435,9218,12818,17381,23063,30040,38488,48603,60591,74670,91070,110033,131813,156676,184900,216775 ⋆ a(n) = 2nd elementary symmetric function of the first n+1 odd positive integers. • a(n) = n * (n + 1) * (3 * n ^ 2 + 5 * n + 1) / 6. • a(n) = Sum _{ i=1..n } (n + 1 - i) * ((n + 1) ^ 2 - i). • a(n) = Sum _{ i=1..n } ((2 * i - 1) * Sum _{ j=i..n } (2 * j + 1)) = 1 * (3 + 5 + ...2 * n + 1) + 3 * (5 + 7 + ... + 2 * n + 1) + ... + (2 * n - 1) * (2 * n + 1). - _ J. M. Bergot _ , Apr 21 2017 •

[A213846] • 3,23,90,250,565,1113,1988,3300,5175,7755,11198,15678,21385,28525,37320,48008,60843,76095,94050,115010,139293,167233,199180,235500,276575 ⋆ Antidiagonal sums of the convolution array A213844. • a(n) = n * (1 + n) * (1 - 2 * n + 4 * n ^ 2) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A112459] • 3,23,98,308,798,1806,3696,6996,12441,21021,34034,53144,80444,118852,170544,240312,332367,452067 ⋆ Absolute value of coefficient of term [x^(n-3)] in characteristic polynomial of maximum matrix A of size n X n, where n >= 3. Maximum matrix A(i,j) is MAX(i,j), where indices i and j run from 1 to n. • a(n) = n * (n ^ 2 - 4) * (n ^ 2 - 1) * (5 * n + 3) / 6!. •

[A267816] • 1,3,23,111,479,1983,8063,32511,130559,523263,2095103,8384511,33546239,134201343,536838143,2147418111,8589803519,34359476223,137438429183,549754765311,2199021158399,8796088827903,35184363700223,140737471578111,562949919866879 ⋆ Decimal representation of the n-th iteration of the "Rule 221" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. • a(n) = 2 ^ (n + 1) * (2 ^ n - 1) - 1, for n > 0. - _ Jaroslav Krizek _ , Jan 22 2017 •

[A122883] • 1,3,23,123,739,4263,24935,145155,846379,4932351,28749263,167560155,976617811,5692134423,33176213303,193365096243,1127014462459,6568721481903,38285314822175,223143166664715,1300573686738979,7580298950623431,44181220023293063 ⋆ The (1,3)-entry in the 3 X 3 matrix M^n, where M = [1,1,1 / 4,2,1 / 9,3,1]. • a(n) = 4 * a(n - 1) + 11 * a(n - 2) - 2 * a(n - 3) (derived from the minimal polynomial of the matrix M). • a(n) = (- 3 * (- 1) ^ n * 2 ^ (2 + n) - (3 - 2 * sqrt(2)) ^ n * (- 6 + sqrt(2)) + (6 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 68. - _ Colin Barker _ , Mar 02 2017 •

[A091055] • 0,1,3,23,127,783,4655,28015,167919,1007855,6046447,36280047,217677551,1306070767,7836413679,47018503919,282110979823,1692665966319,10155995623151,60935974088431,365615843831535,2193695064387311 ⋆ Expansion of x(1-2x)/((1-x)(1+2x)(1-6x)). • a(n)=6 ^ n / 10 - (- 2) ^ n / 6 + 1 / 15 •

[A196881] • 1,1,3,23,132,729,3987,18687,82350,342383,1295579,4634280,15873501,51143461,156932559,463212189,1309275981,3576241449,9484669665,24306269493,60475548510,146630200929,345755185335,796397380425,1797676089003 ⋆ Number of partitions of n^3 into powers of 3. • a(n) = [x ^ (n ^ 3)] 1 / Product _{ j>=0 } (1 - x ^ (3 ^ j)). •

[A198797] • 3,23,143,863,5183,31103,186623,1119743,6718463,40310783,241864703,1451188223,8707129343,52242776063,313456656383,1880739938303,11284439629823,67706637778943,406239826673663,2437438960041983,14624633760251903 ⋆ 4*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A079755] • 0,3,23,148,1054,8453,76109,761126,8372436,100469287,1306100803,18285411320,274281169898,4388498718473,74604478214169,1342880607855178,25514731549248544,510294630984971051 ⋆ Operation count to create all permutations of n distinct elements using the "streamlined" version of Knuth's Algorithm L (lexicographic permutation generation). • a(3) = 0, a(n) = n * a(n - 1) + (n - 1) * floor((n - 1) / 2) for n >= 4. • a(n) = floor(c * n! - (n - 1) / 2) for n > 4, where c = lim n - > infinity a(n) / n! = 0.209747301481910445 ... - _ Benoit Cloitre _ , Jan 19 2003 •

[A164536] • 3,23,161,1081,7107,46207,298609,1923329,12365283,79416263,509761121,3271037161,20985865827,134624803567,863573121649,5539360734449,35531425546563,227908958573303,1461866798162081,9376761934434841 ⋆ a(n) = 10*a(n-1) - 23*a(n-2) for n > 1; a(0) = 3, a(1) = 23. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 3, a(1) = 23. • a(n) = ((3 + 4 * sqrt(2)) * (5 + sqrt(2)) ^ n + (3 - 4 * sqrt(2)) * (5 - sqrt(2)) ^ n) / 2. •

[A037789] • 3,23,161,1128,7899,55295,387065,2709456,18966195,132763367,929343569,6505404984,45537834891,318764844239,2231353909673,15619477367712,109336341573987,765354391017911,5357480737125377 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,2,0,1. • a(n) = 8a(n - 1) - 8a(n - 2) + 8a(n - 3) - 7a(n - 4). •

[A037670] • 3,23,161,1130,7912,55384,387691,2713839,18996873,132978114,930846800,6515927600,45611493203,319280452423,2234963166961,15644742168730,109513195181112,766592366267784,5366146563874491 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,2,0. • a(1)=3, a(2)=23, a(3)=161, a(4)=1130, a(n)=7 * a(n - 1) + a(n - 3) - 7 * a(n

- 4) [From Harvey P. Dale, Oct 15 2011] •

[A037796] • 3,23,162,1134,7941,55589,389124,2723868,19067079,133469555,934286886,6540008202,45780057417,320460401921,2243222813448,15702559694136,109917917858955,769425425012687,5385977975088810 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 3,2,1,0. • a(n) = 7a(n - 1) + a(n - 4) - 7a(n - 5). •

[A212395] • 0,0,3,23,164,1252,10512,97344,990432,11010528,132966720,1734793920,24330205440,365150833920,5840673108480,99204809356800,1783428104908800,33833306484633600,675513065777356800,14160039606855475200,310935875030323200000 ★ Number of move operations required to sort all permutations of [n] by insertion sort. • a(n) = a(n - 1) * n + (n - 1)! * (n - 1) * (n + 4) / 2 for n>0, a(0) = 0. • a(n) = ((2 * n ^ 3 + 3 * n ^ 2 - 13 * n + 4) * a(n - 1) - (n + 4) * (n - 1) ^ 3 * a(n - 2)) / ((n - 2) * (3 + n)) for n>2. •

[A144479] • 1,3,23,181,1425,11219,88327,695397,5474849,43103395,339352311,2671715093,21034368433,165603232371,1303791490535,10264728691909,80814038044737,636247575665987,5009166567283159,39437084962599285,310487513133511121,2444463020105489683 ★ a(0)=1, a(1)=3, a(n) = 8*a(n-1) - a(n-2). • a(n) = (((4 - sqrt(15)) ^ n * (1 + sqrt(15)) + (- 1 + sqrt(15)) * (4 + sqrt(15)) ^ n)) / (2 * sqrt(15)). - _ Colin Barker _ , Oct 12 2015 •

[A135423] • 3,23,203,1823,16403,147623,1328603,11957423,107616803,968551223,8716961003,78452649023,706073841203,6354664570823,57191981137403,514727830236623,4632550472129603,41692954249166423,375236588242497803 ★ a(n) = (5*9^n + 1)/2. • a(n) = 9 * a(n - 1) - 4 for n>0, a(0)=3. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). - _ Vincenzo Librandi _ , Nov 08 2011 •

[A093135] • 1,3,23,223,2223,22223,222223,2222223,22222223,222222223,2222222223,22222222223,222222222223,2222222222223,22222222222223,222222222222223,2222222222222223,22222222222222223 ★ Expansion of (1-8*x)/((1-x)*(1-10*x)). • a(n) = 2 * 10 ^ n / 9 + 7 / 9. • a(n) = 10 * a(n - 1) - 7 (with a(0)=1). [_ Vincenzo Librandi _ , Aug 02 2010] •

[A122009] • 1,1,3,23,233,2457,26035,276031,2926761,31032737,329043491,3488884359,36993025417,392241126601,4158975906675,44098080031919,467576804036105,4957768399767825,52567764896736163,557381806372388791 ★ G.f. x*(1-11*x+6*x^2)/(1-12*x+15*x^2-2*x^3). • a(n)= 12 * a(n - 1) - 15 * a(n - 2) + 2 * a(n - 3). •

[A199750] • 3,23,243,2663,29283,322103,3543123,38974343,428717763,4715895383,51874849203,570623341223,6276856753443,69045424287863,759499667166483,8354496338831303,91899459727144323,1010894056998587543,11119834626984462963 ★ 2*11^n+1. • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A264929] • 3,23,25165823 ★ a(n)= ackb(n,3) where ackb is the Ackermann-Burnell function. • a(n) = ackb(x,3) = (3 / 2) ie3(sqrt(8), x, 8 / 3) - 1 where ie3(a, b, c) = a ^ (a ^ (... a ^ c))) (with b copies of a). •

[A106217] • 0,3,24,30,48,57,63,72,81,99,105,114,120,129,132,135,141,147,156,159,168,177,180,195,198 ★ Positions of 1's in A106216. • a(n) = 0 (mod 3) for a ll n. •

[A267274] • 1,3,24,31,384,511,6144,8191,98304,131071,1572864,2097151,25165824,33554431,402653184,536870911,6442450944,8589934591,103079215104,137438953471,1649267441664,2199023255551,26388279066624,35184372088831,422212465065984 ★ Decimal representation of the n-th iteration of the "Rule 117" elementary cellular automaton starting with a single ON (black) cell. • a(n) = ((- 4) ^ n + (- 1) ^ n + 2 ^ (2 * n + 1) - 1) / 2 for n>1. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>5. •

[A211034] • 0,3,24,52,164,384,592,1131,1944,2628,4128,6144,7744,10955,15000,18100,23988,31104,36432,46179,57624,66052,81056,98304,110848 ★ Number of 2 X 2 matrices having all elements in {0,1,...,n} and determinant = 1 (mod 3). • a(n) = a(n - 1) + 4 * a(n - 3) - 4 * a(n - 4) - 6 * a(n - 6) + 6 * a(n - 7) + 4 * a(n - 9) - 4 * a(n - 10) - a(n - 12) + a(n - 13) for n > 12. • a(n) = r ^ 2 * s ^ 2 + 2 * r ^ 2 * s * t + r ^ 2 * t ^ 2 + 2 * r * s ^ 3 + 6 * r * s ^ 2 * t + 6 * r * s * t ^ 2 + 2 * r * t ^ 3 + 2 * s ^ 3 * t + 2 * s * t ^ 3. •

[A070734] • 3,24,60,720,2520,40320,181440,3628800,19958400,479001600,3113510400,87178291200,653837184000,20922789888000,177843714048000,6402373705728000,60822550204416000,2432902008176640000 ★ Order of the subgroup of the symmetric group S_n generated by the cycles (1,2,3) and (1,2,3,...,n). • a(n) = 1 / 4 * (3 + (- 1) ^ n) * n! - _ Benoit Cloitre _ , May 18 2002 •

[A152751] • 0,3,24,63,120,195,288,399,528,675,840,1023,1224,1443,1680,1935,2208,2499,2808,3135,3480,3843,4224,4623,5040 ★ 3 times octagonal numbers: 3*n*(3*n-2). • a(n) = a(n - 1) + 18 * n - 15 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 26 2010 •

[A117642] • 0,3,24,81,192,375,648,1029,1536,2187,3000,3993,5184,6591,8232,10125,12288,14739,17496,20577,24000,27783,31944,36501,41472 ★ a(n) = 3*n^3. • a(n + 1) = a(n) + 9 * n ^ 2 + 9 * n + 3 with a(0) = 0. - _ Jean - Bernard François _ , Oct 04 2013 •

[A211618] • 0,3,24,89,218,439,772,1245,1878,2699,3728,4993,6514,8319,10428,12869,15662,18835,22408,26409,30858,35783,41204,47149,53638 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and 2w+x+y>1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>5. • a(n) = 4 * n ^ 3 - 3 * n ^ 2 + 3 * n - 2 for n>0 and even. • a(n) = 4 * n ^ 3 - 3 * n ^ 2 + 3 * n - 1 for n odd. •

[A004282] • 0,3,24,100,300,735,1568,3024,5400,9075,14520,22308,33124,47775,67200,92480,124848,165699,216600,279300,355740,448063,558624,690000,845000 ★ a(n) = n*(n+1)^2*(n+2)^2/12. • a(n) = C(2 + n, 2) * C(2 + n, 3). - _ Zerinvary Lajos _ , Jan 10 2006 • a(n - 1) = Sum _{ 1 <= x _ 1, x _ 2 <= n } x _ 1 * (det V(x _ 1,x _ 2)) ^ 2 = Sum _{ 1 <= i,j <= n } i * (i - j) ^ 2, where V(x _ 1,x _ 2) is the Vandermonde matrix of order 2. - _ Peter Bala a _ , Sep 21 2007 • a(n) = Sum _{ k=0..n } Sum _{ i=0..n } (n - i + 1) * C(k + 1,k - 1). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A164938] • 0,3,24,102,312,777,1680,3276,5904,9999,16104,24882,37128,53781,75936,104856,141984,188955,247608,319998,408408,515361,643632,796260,976560 ★ a(n) = (n^5-n)/10, which is always an integer. • a(n) = (n ^ 5 - n) / 10. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), a(1)=0, a(2)=3, a(3)=24, a(4)=102, a(5)=312, a(6)=777. - _ Harvey P. Dale _ , Jan 14 2012 •

[A253944] • 3,24,108,360,990,2376,5148,10296,19305,34320,58344,95472,151164,232560,348840,511632,735471,1038312,1442100,1973400,2664090,3552120,4682340,6107400,7888725 ★ a(n) = 3*binomial(n+1,7). • a(n) = 3 * C(n + 1,7) = (n ^ 7 - 14n ^ 6 + 70n ^ 5 - 140n ^ 4 + 49n ^ 3 + 154n ^ 2 - 120n) / 1680. •

[A065692] • 0,3,24,117,417,1140,2583,7311,39840,251613,1329969,5738172,20838447,67344735,216818808,812592261,3660235905,17401156548,78077421639,318790895727,1197423287952,4316735957805,15912781695633 ★ Braided power sequence: this is b(n+1)=3b(n)+2d(n)-c(n), A065693 is c(n+1)=3c(n)+2b(n)-d(n) and A065694 is d(n+1)=3d(n)+2c(n)-b(n), starting with b(0)=0, c(0)=1 and d(0)=2. • a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 52 * a(n - 3) for n>2. •

[A069515] • 0,3,24,135,648,2835,11664,45927,174960,649539,2361960,8444007,29760696,103630995,357128352,1219657095,4132485216,13904090883,46490458680,154580775111,511395045480,1684116865683,5523066491184 ★ Number of transpositions (interchanges of adjacent digits, sometimes called inversions) needed to change all n-digit base 3 numbers into nondecreasing order. • a(n) = 3a(n - 1) + (2n - 1)3 ^ (n - 2). • a(n) = (n - 1)(n + 1)3 ^ (n - 2). - _ Ralf Stephan _ , Sep 02 2003 •

[A206949] • 0,0,0,3,24,135,657,2961,12744,53244,218025,880308,3518721,13961727,55097091,216546048,848476296,3316800555,12942852624,50437433079,196347606849,763752142233,2969021213928,11536374392820,44809232564673 ★ Number of nonisomorphic graded posets with 0 and non-uniform Hasse graph of rank n, with no 3-element antichain. • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 30 * a(n - 3) - 9 * a(n - 4), a(1)=0, a(2)=0, a(3)=3, a(4)=24. •

[A212698] • 3,24,144,768,3840,18432,86016,393216,1769472,7864320,34603008,150994944,654311424,2818572288,12079595520,51539607552,219043332096,927712935936,3917010173952,16492674416640,69269232549888,290271069732864,1213860837064704 ★ Main transitions in systems of n particles with spin 3/2. • a(n) = n * (b - 1) * b ^ (n - 1). For this sequence, set b=4. • a(n) = 3 * n * 4 ^ (n - 1). • a(n) = Sum _{ i>=0 } binomial(n,i) * i * 3 ^ i. - _ Geoffrey Critzer _ , Aug 08 2013 •

[A226511] • 0,3,24,147,816,4323,22344,113907,576096,2900163,14559864,72976467,365413776,1828663203,9148098984,45754843827,228817265856,1144215469443,5721464767704,28608486099987,143045917284336,715240046774883,3576231614934024,17881252217848947,89406543518781216 ★ 3*(5^n-3^n)/2. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) for n>1, a(0)=0, a(1)=3. - _ Vincenzo Librandi _ , Jun 12 2013 •

[A240916] • 0,0,3,24,158,978,5930,35706,214490,1287450,7725722,46356378,278142362,1668862362,10013190554,60079176090,360475122074,2162850863514,12977105443226,77862633183642,467175800150426,2803054802999706,16818328822192538 ★ a(n) = 6*a(n-1) + 2*2^(n-1) - 2 for n > 2, a(0) = a(1) = 0, a(2) = 3. • a(n) = (72 - 45 * 2 ^ (1 + n) + 23 * 6 ^ n) / 180 for n>1. • a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 12 * a(n - 3) for n>4. •

[A067370] • 0,1,3,24,160,1290,11046,106848,1117152,12849840,159089040,2132602560,30554297280,468754715520,7634862748800,132058767052800,2410986506342400,46443330717235200,939668036761036800 ★ The Weight of the Periphery of the alternating group, denoted v(P_N). • a(n) = (1 / 2) * ((- 1) ^ n * (n - 2)! + n * n! - abs(Stirling1(n + 1, 2))), n > 1. E.g.f.: (1 / 2) * ((1 + x) * log(1 + x) - x + x / (1 - x) ^ 2 + log(1 - x) / (1 - x)). - _ Vladeta Jovovic _ , Feb 02 2003 •

[A289795] • 3,24,162,1083,7260,48681,326406,2188536,14674041,98388840,659693103,4423214952,29657473194,198852130383,1333295304660,8939689838877,59940250397646,401896898269128,2694702070258437,18067865859946320,121144292846335179,812267469938047224 ★ p-INVERT of (3n), where p(S) = 1 - S - S^2. • a(n) = 7 * a(n - 1) - 3 * a(n - 2) + 7 * a(n - 3) - a(n - 4). •

[A058038] • 0,3,24,168,1155,7920,54288,372099,2550408,17480760,119814915,821223648,5628750624,38580030723,264431464440,1812440220360,12422650078083,85146110326224,583600122205488,4000054745112195,27416783093579880,187917426909946968 ★ Fibonacci(2n)*Fibonacci(2n+2). • a(n) = - 3 / 5 + (1 / 5 * sqrt(5) + 3 / 5) * (2 * 1 / (7 + 3 * sqrt(5))) ^ n / (7 + 3 * sqrt(5)) + (1 / 5 * sqrt(5) - 3 / 5) * (- 2 * 1 / (- 7 + 3 * sqrt(5))) ^ n / (- 7 + 3 * sqrt(5)). Recurrence: a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). G.f.: 3 * x / (1 - 7 * x + x ^ 2) / (1 - x). - _ Vladeta Jovovic _ , Jun 09 2002 • a(n) is the next integer from ((3 + sqrt(5)) * ((7 + 3 * sqrt(5)) / 2) ^ (n - 1) - 6) / 10. - _ Paul Weisenhorn _ , May 17 2009 • a(n) = 7 * a(n - 1) - a(n - 2) + 3, n>1. - _ Gary Detlefs _ , Dec 07 2010 • a(n) = sum _{ k=0..n } Fibonacci(4k). - _ Gary Detlefs _ , Dec 07 2010 • a(n) = (1 / 5) * (Fibonacci(4n + 4) - Fibonacci(4n) - 3). - _ Gary Detlefs _ , Dec 08 2010 • a(0)=0, a(1)=3, a(2)=24, a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 25 2013 •

[A120741] • 0,3,24,171,1200,8403,58824,411771,2882400,20176803,141237624,988663371,6920643600,48444505203,339111536424,2373780754971,16616465284800,116315256993603,814206798955224,5699447592686571,39896133148806000 ★ (7^n-1)/2 • a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>=2. • a(n) = right term in M ^ n * [1,0], where M is the 2x2 matrix [4,3; 3,4]. •

[A292293] • 0,0,0,0,3,24,177,1347,10467,82029,644808,5073915,39939900,314427960,2475438408,19488960504,153435934587,1207997701872,9510543548457,74876345104299,589500202673403,4641125238026805,36539501601385200,28767

4887310843395,2264859596198883588 ⋆ Number of vertices of type D at level n of the hyperbolic Pascal pyramid. • a(n) = 12 * a(n - 1) - 37 * a(n - 2) + 37 * a(n - 3) - 12 * a(n - 4) + a(n - 5), n >= 6. •

[A073985] • 0,0,3,24,180,1296,9072,54432,297432,1658880,9722592,58576608,356638464,2173796352,13162730688,79012495872,472093588224,2821109907456,16894457846784,101366747080704,608764662139392,3656096522698752,21947538146863104,131685972252346368 ⋆ Number of strings of length n over Z_6 with trace 2 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A181967] • 0,0,3,24,180,1440,12600,120960 ⋆ Sum of the sizes of the normalizers of all prime cyclic subgroups of the Alternating Group. • a(n) = n! * (n - 2) / 2, for n > 1 (conjecture). - _ Philippe Gibone _ , Apr 09 2016 •

[A144087] • 0,0,1,3,24,180,1620,16380,184800,2298240,31222800,459874800,7296791040,124047443520,2248897210560,43301275617600,882304501478400,18964350332928000,428768570841811200,10170992126597702400,252555415474602240000,6550785133563775104000,177151172210521513804800 ⋆ a(n) is the number of partial bijections (or subpermutations) of an n-element set with exactly 2 fixed points. • a(n) = (n! / 2) * sum(m=0..n - 2,(- 1 ^ m / m!) * sum(j=0..n - m,C(n - m,j) / j!)); •

[A136325] • 0,3,24,189,1488,11715,92232,726141,5716896,45009027,354355320,2789833533,21964312944,172924670019,1361433047208,10718539707645,84386884613952,664376537203971,5230625413017816,41180626766938557 ⋆ Integers x such that 3(5x^2+3) is a perfect square. • a(n) = (sqrt(3 / 5) * (- (4 - sqrt(15)) ^ n + (4 + sqrt(15)) ^ n)) / 2. G.f.: 3 * x / (x ^ 2 - 8 * x + 1). [_ Colin Barker _ , Jan 24 2013] •

[A103333] • 1,3,24,192,1536,12288,98304,786432,6291456,50331648,402653184,3221225472,25769803776,206158430208,1649267441664,13194139533312,105553116266496,844424930131968,6755399441055744,54043195528445952,432345564227567616 ⋆ Number of closed walks on the graph of the (7,4) Hamming code. • a(n)=8 * a(n - 1) for n>0. [From Harvey P. Dale, Mar 02 2012] •

[A163473] • 3,24,198,1668,14244,122688,1062408,9230064,80350128,700318848,6108357984,53302344768,465248359488,4061569173504,35460543892608,309615432515328,2703431036154624,23605724610459648,206122316883322368 ⋆ a(n) = 14*a(n-1) - 46*a(n-2) for n > 1; a(0) = 3, a(1) = 24. • a(n) = ((3 + sqrt(3)) * (7 + sqrt(3)) ^ n + (3 - sqrt(3)) * (7 - sqrt(3)) ^ n) / 2. •

[A073978] • 0,0,3,24,210,1620,9072,46656,262440,1594080,9843120,60466176,367960320,2210794560,13162730688,78328332288,468205557120,28100899468 80,16894457846784,101559956668416,609954817881600,3659790885120000,21947909832446976,131621703842267136 ⋆ Number of strings of length n over Z_6 with trace 1 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A000279] • 3,24,216,1824,15150,124416,1014888,8241792,66724398,538990800,4346692680,35009591040,281699380560,2264868936960,18198009147600,146142982814208,1173123636533454,9413509300965936,75513633110271264,605598295606296000,4855626127979443908,38924245740546950784 ⋆ Card matching: coefficients B[n,1] of t in the reduced hit polynomial A[n,n,n](t). • a(n) = 3n * sum(C(n, k + 1) * C(n, k) * C(n - 1, k), k=0..n - 1). •

[A225107] • 3,24,228,2256,22512,225024,2250048,22500096,225000192,2250000384,22500000768,225000001536,2250000003072,22500000006144,225000000012288,2250000000024576,22500000000049152,225000000000098304,2250000000000196608,22500000000000393216 ⋆ Number of (4n-3)-digit 4th powers in carryless arithmetic mod 10. • a(k) = (1 / 4) *{ 9 * 10 ^ (k - 1) - 2 ^ (k - 1) } + 2 ^ (k - 1). • a(n) = 12 * a(n - 1) - 20 * a(n - 2). G.f.: - 3 * x * (4 * x - 1) / ((2 * x - 1) * (10 * x - 1)). - _ Colin Barker _ , May 11 2013 •

[A041897] • 1,1,3,25,53,78,3329,3407,10143,84551,179245,263796,11258677,11522473,34303623,285951457,606206537,892157994,38076842285,38969000279,116014842843,967087743023,2050190328889,3017278071912,128775869349193 ⋆ Denominators of continued fraction convergents to sqrt(470). • a(n) = 3382 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A006222] • 3,25,69,135,223,333,465,619,795,993,1213,1455,1719,2005,2313,2643,2995,3369,3765,4183,4623,5085,5569,6075,6603 ⋆ 11*n^2 + 11*n + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[A083222] • 1,3,25,75,625,1875,15625,46875,390625,1171875,9765625,29296875,244140625,732421875,6103515625,18310546875,152587890625,457763671875,3814697265625,11444091796875,95367431640625,286102294921875 ⋆ (4*5^n+(-5)^n)/5. • a(n)=(4 * 5 ^ n + (- 5) ^ n) / 5. G.f. (1 + 3x) / ((1 + 5x)(1 - 5x)). E.g.f. (4exp(5x) + exp(- 5x)) / 5 •

[A041565] • 1,3,25,78,2677,8109,67549,210756,7233253,21910515,182517373,569462634,19544246929,59202203421,493161874297,1538687826312,52808547968905,159964331733027,1332523201833121,4157533937232390,142688677067734381,432223565140435533 ⋆ Denominators of continued fraction convergents to sqrt(300). • a(n) = 2702 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A114378] • 3,25,84,201,392,678,1077,1608,2290,3141,4181,5428,6902,8620,10602,12867,15434,18321,21548,25132,29094,33451,38223,43429,49087 ⋆ Area of annuli of consecutive integer thickness. • a(n) = floor(Pi * n ^ 3). - _ Robert Israel _ , Nov 24 2014 •

[A180324] • 0,3,25,98,270,605,1183,2100,3468,5415,8085,11638,16250,22113,29435,38440,49368,62475,78033,96330,117670,142373,170775,203228,240100 ⋆ Vassiliev invariant of fourth order for the torus knots • a(n) = (n * (n + 1) * (2 * n + 1) ^ 2) / 6. • a(n) = C(2 * n + 2,4) + C(2 * n + 2,3) / 2. •

[A095664] • 3,25,117,405,1155,2871,6435,13299,25740,47190,82654,139230,226746,358530,552330,831402,1225785,1773783,2523675,3535675,4884165,6660225,8974485,11960325,15777450 ⋆ Ninth column (m=8) of (1,3)-Pascal triangle A095660. • a(n)= binomial(n + 7, 7) * (n + 24) / 8 = 3 * b(n) - 2 * b(n - 1), with b(n):=binomial(n + 8, 8); cf. A000581. •

[A215773] • 0,3,25,120,420,1190,2898,6300,12540,23265,40755,68068,109200,169260,254660,373320,534888,750975,1035405,1404480,1877260,2475858,3225750,4156100,5300100 ⋆ Number of undirected labeled graphs on n+3 nodes with exactly n cycle graphs as connected components. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n ^ 2 + n + 4) / 48. •

[A099868] • 3,25,122,585,2803,13430,64347,308305,1477178,7077585,33910747,162476150,778470003,3729873865,17870899322,85624622745,410252214403,1965636449270,9417930031947,45124013710465,216202138520378,1035886678891425,4963231255936747 ⋆ a(n) = 5a(n - 1) - a(n - 2), a(0) = 3, a(1) = 25. • a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(21)) ^ n * (- 35 + 3 * sqrt(21)) + (5 + sqrt(21)) ^ n * (35 + 3 * sqrt(21)))) / sqrt(21). - _ Colin Barker _ , Mar 28 2017 •

[A112495] • 3,25,130,546,2037,7071,23436,75328,237127,735813,2260518,6896046,20933673,63325051,191088976,575625900,1731858075,5206059585,15640198410,46966732090,140996664733,423191320215,1269993390420 ⋆ Third column of triangle A112493 used for e.g.f.s of Stirling2 diagonals. • a(n) = 3 * a(n - 1) + (n + 3) * (2 ^ (n + 2) - (n + 3)), n>=1, a(0)=3. •

[A222052] • 1,3,25,210,1881,17303,162214,1540710,14776281,142774455,1387743525,13553773500,132906406950,1307654814222,12902933709922,127632756058610,1265251299930585,12566655467547195,125025126985317013,1245750306517239978,12429515281592007781 ⋆ a(n) = A222051(n)/binomial(2*n,n), the central terms in rows of triangle A220178 divided by the central binomial coefficients. • a(n) = [x ^ n] 1 / sqrt(1 - 2 * x - 3 * x ^ 2)) ^ (2 * n + 1). •

[A155640] • 1,3,25,219,1777,13683,102025,745419,5374177,38400483,272709625,1928498619,13597146577,95668307283,672119557225,4717043931819,33080342678977,231867574534083,1624598900644825,11379821699045019 ⋆ 7^n-5^n+1^n • a(n)=12 * a(n - 1) - 35 * a(n - 2) + 24 with a(0)=1, a(1)=3 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A199679] • 3,25,223,2005,18043,162385,1461463,13153165,118378483,1065406345,9588657103,86297913925,776681225323,6990131027905,62911179251143,566200613260285,5095805519342563,45862249674083065,412760247066747583 ⋆ (11*9^n+1)/4. • a(n) = 9 * a(n - 1) - 2. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A171640] • 1,3,25,243,2401,23763,235225,2328483,23049601,228167523,2258625625,22358088723,221322261601,2190864527283,21687323011225,214682365584963,2125136332838401,21036680962799043,208241673295152025,2061380051988721203,20405558846592060001 ⋆ a(n) = 10*a(n-1)-a(n-2)-4 with a(1)=1 and a(2)=3. • a(n + 1) = [(sqrt(3) - sqrt(2)) ^ n + (sqrt(3) + sqrt(2)) ^ n] ^ 2 / 4. • a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3) for n>3. •

[A191590] • 0,0,3,26,50,133,196,375,806,1001,1768,2451,2850,3773,5500,7686,8526,11408,13651,14875,18981,22100,27391,35673,40376 ⋆ a(n) is the genus of the modular curve associated to the principal congruence subgroup of level p(n), where p(n) is the n-th prime number. • a(n)=(prime(n) + 2) * (prime(n) - 3) * (prime(n) - 5) / 24. •

[A269342] • 3,26,85,196,375,638,1001,1480,2091,2850,3773,4876,6175,7686,9425,11408,13651,16170,18981,22100,25543,29326,33465,37976,42875 ⋆ a(n) = (n + 1)*(2*n + 1)*(4*n + 9)/3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = Sum _{ k=0..n } (8 * k ^ 2 + 12 * k + 3). •

[A292001] • 3,26,93,260,615,1278,2401,4168,6795,10530,15653,22476,31343,42630,56745,74128,95251,120618,150765,186260,227703,275726,330993,394200,466075 ⋆ Number of (undirected) paths in the n-helm graph. • a(n) = n * (- 21 + 38 * n - 12 * n ^ 2 + 4 * n ^ 3) / 3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A211622] • 0,3,26,94,229,457,800,1284,1931,2767,3814,5098,6641,8469,10604,13072,15895,19099,22706,26742,31229,36193,41656,47644,54179 ⋆ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+2x+3y>1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n ^ 3 - 4 * n ^ 2 + 3 * n - 2) / 2 for n>0 and even. • a(n) = (16 * n ^ 3 - 8 * n ^ 2 + 6 * n - 2) / 4 for n odd. •

[A169832] • 0,3,26,99,282,695,1578,3411,7154,14727,29970,60563,121866,244599,490202,981555,1964418,3930311,7862274,15726387,31454810,62911863,125826186,251655059,503313042 ⋆ a(n) = 15*2^(n+1) - (5*n^2+22*n+30). • a(n) - 5 * a(n - 1) + 9 * a(n - 2) - 7 * a(n - 3) + 2 * a(n - 4) = 0, with n>3. (End) •

[A100606] • 0,3,26,111,324,755,1518,2751,4616,7299,11010,15983,22476,30771,41174,54015,69648,88451,110826,137199,168020,203763,244926,292031,345624 ⋆ n^4+n^3+n. • a(0)=0, a(1)=3, a(2)=26, a(3)=111, a(4)=324, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 25 2015 •

[A038697] • 3,26,163,894,4558,22196,104739,483062,2189530,9789900,4329511 8,189749676,825364668,3567219688,15332925731,65591312550,279415474594,1185903736412,5016725589402,21159849864964,89012979703940 ⋆ Convolution of A000917 with A000984 (central binomial coefficients). • a(n)= n * 4 ^ (n + 1) + binomial(2 * n + 3, n + 1), G.f.: c(x) * (4 - c(x)) / (1 - 4 * x) ^ 2, where c(x) = g.f. for Catalan numbers A000108; •

[A037671] • 3,26,208,1667,13338,106704,853635,6829082,54632656,437061251,3496490010,27971920080,223775360643,1790202885146,14321623081168,114572984649347,916583877194778,7332671017558224,58661368140465795,469290

945123726362 ⋆ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 3,2,0. • a(n) = 8 * a(n - 1) + a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Dec 07 2014 •

[A152759] • 0,3,27,72,138,225,333,462,612,783,975,1188,1422,1677,1953,2250,2568,2907,3267,3648,4050,4473,4917,5382,5868 ⋆ 3 times 9-gonal (or nonagonal) numbers: 3n(7n-5)/2. • a(n) = a(n - 1) + 21 * n - 18 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 26 2010 •

[A127210] • 3,27,108,567,2673,13122,63423,308367,1495908,7263027,35252253,171124002,830642283,4032042867,19571909148,95004113247,461159522073,2238515585442,10865982454983,52744587633927,256027604996628,1242784103695227,6032600756055333,29282859201423042 ⋆ a(n) = 3^n*Lucas(n), where Lucas = A000204. • a(n) = Trace of matrix [({ 3,3 } , { 3,0 }) ^ n] = 3 ^ n * Trace of matrix [({ 1,1 } , { 1,0 }) ^ n]. • a(n) = 3 * a(n - 1) + 9 * a(n - 2). •

[A267924] • 1,3,27,123,507,2043,8187,32763,131067,524283,2097147,8388603,33554427,134217723,536870907,2147483643,8589934587,34359738363,137438953467,549755813883,2199023255547,8796093022203,35184372088827,140737488355323,562949953421307 ⋆ Decimal representation of the n-th iteration of the "Rule 245" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>2. • a(n) = 2 ^ (2 * n + 1) - 5 for n>0. - _ Colin Barker _ , Nov 26 2016 •

[A063263] • 3,27,125,420,1161,2807,6147,12465,23760,43032,74646,124787,202020,317970,488138,732870,1078497,1558665,2215875,3103254,4286579,5846577,7881525,10510175,13875030 ⋆ Ninth column (k=8) of sextinomial array A063260. • a(n) = 3 * C(n + 2,2) + 18 * C(n + 2,3) + 35 * C(n + 2,4) + 35 * C(n + 2,5) + 21 * C(n + 2,6) + 7 * C(n + 2,7) + C(n + 2,8) (see comment in A213888). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A080424] • 0,1,3,27,135,891,5103,31347,185895,1121931,6711903,40330467,241805655,1451365371,8706597903,52244370387,313451873415,1880754287211,11284396583103,67706766919107,406239439253175,2437440122303451 ⋆ a(n) = 3*a(n-1) + 18*a(n-2), a(0)=0, a(1)=1. • a(n) = (6 ^ n - (- 3) ^ n) / 9. • a(n + 1) = 6 * a(n) + (- 3) ^ n. - _ Paul Curtz _ , Jun 07 2011 •

[A285008] • 1,3,27,135,2835,15309,168399,938223,42220035,239246865,2727414261,15620645313,359274842199,2072739474225,23984556773175,139110429284415,1293726992345059 5,753405719071534 65,8789733389167904 25,51350547694612493 25,1201602816053932342 05 ⋆ Numerator of (3/4)^n * binomial(2*n,n). • a(n) = numerator of (- 3) ^ n * sqrt(Pi) / (Gamma(1 / 2 - n) * Gamma(1 + n)). •

[A127509] • 3,27,147,675,2883,11907,48387,195075,783363,3139587,12570627,50307075,201277443,805208067,3221028867,12884508675,51538821123,206156857347,824630575107,3298528591875,13194126950403,52776532967427 ⋆ Number of n-tuples where each entry is chosen from the subsets of {1,2,3} such that the intersection of all n entries contains exactly one element. • a(n)=3 * (2 ^ n - 1) ^ 2. •

[A129530] • 0,0,3,27,162,810,3645,15309,61236,236196,885735,3247695,11691702,41452398,145083393,502211745,1721868840,5854354056,19758444939,66248903619,220829678730,732224724210,2416341589893,7939408081077 ⋆ (1/2)n(n-1)3^(n-1). • a(0)=0, a(1)=0, a(2)=3, a(n)=9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3). - _ Harvey P. Dale _ , Dec 18 2013 •

[A241271] • 0,0,0,3,27,183,1143,6951,41895,251751,1511271,9069159,54418023,326514279,1959097959,11754612327,70527723111,423166436967,25389988184 07,152339933036 55,914039606083 59,548423765223015,3290542594483815,19743255573194343,118459533451748967 ⋆ a(n) = 6*a(n-1) + 3*(2^(n-2)-1) for n > 2, a(0)=a(1)=a(2)=0. • a(n) = (24 - 15 * 2 ^ n + 6 ^ n) / 40 for n>0. G.f. : - 3 * x ^ 3 / ((x - 1) * (2 * x - 1) * (6 * x - 1)). - _ Colin Barker _ , Apr 18 2014 •

[A127215] • 3,27,189,891,5103,28431,155277,859491,4743603,26158707,144374805,796630059,4395548511,24254435799,133832255589,738466498755,4074759563139,22483948079115,124063275771981,684563868232731,3777327684782127,20842766314284447 ⋆ a(n) = 3^n*tribonacci(n) or (3^n)*A001644(n+1). • a(n) = Trace of matrix [({ 3,3,3 } , { 3,0,0 } , { 0,3,0) ^ n]. • a(n) = 3 ^ n * Trace of matrix [({ 1,1,1 } , { 1,0,0 } ,0,1,0) ^ n]. • a(n) = 3 * a(n - 1) + 9 * a(n - 2) + 27 * a(n - 3). •

[A127220] • 3,27,189,1215,6318,37179,216513,1253151,7223661,41806692,241805655,1398221271,8084811933,46753521975,270362105694,1563413859999,9040715391141,52279683047127,302316992442837,1748203962973380,10109314209860523,58458991419115875 ⋆ a(n) = 3^n*tetranacci(n) or (2^n)*A001648(n). • a(n) = Trace of matrix [({{ 3,3,3,3 } , { 3,0,0,0 } , { 0,3,0,0), { 0,0,3,0 }}) ^ n]. • a(n) = 3 ^ n * Trace of matrix [({{ 1,1,1,1 } , { 1,0,0,0 } , { 0,1,0,0 } , { 0,0,1,0 }) ^ n]. • a(n) = 3 * a(n - 1) + 9 * a(n - 2) + 27 * a(n - 3) + 81 * a(n - 4). •

[A127222] • 3,27,189,1215,7533,41553,247131,1463103,8640837,50959287,300264165,1771292853,10447598619,61618989627,363414767589,2143339285311,12641143135581,74555586323649,439717218548643,2593383067853775,15295369041550269,90209719910309895 ⋆ a(n) = 3^n*pentanacci(n) or (3^n)*A023424(n-1). • a(n) = Trace of matrix [({{ 3,3,3,3,0 } , { 3,0,0,0,0 } , { 0,3,0,0,0), { 0,0,3,0,0 } , { 0,0,0,3,0 }) ^ n]. • a(n) = 3 ^ n * Trace of matrix [({{ 1,1,1,1,1 } , { 1,0,0,0,0 } , { 0,1,0,0,0 } , { 0,0,1,0,0 } , { 0,0,0,1,0) ^ n]. • a(n) = 3 * a(n - 1) + 9 * a(n - 2) + 27 * a(n - 3) + 81 * a(n - 4) + 243 * a(n - 5). - _ Colin Barker _ , Sep 02 2013 •

[A248225] • 0,3,27,189,1215,7533,45927,277749,1673055,10058013,60407127,362619909,2176250895,13059099693,78359381127,470170635669,2821066860735,16926530304573,101559569247927,609358577749029,3656154953278575,21936940180024653 ⋆ 6^n - 3^n. • a(n) = 9 * a(n - 1) - 18 * a(n - 2). •

[A198686] • 3,27,195,1371,9603,67227,470595,3294171,23059203,161414427,1129900995,7909306971,55365148803,387556041627,2712892291395,18990246039771,132931722278403,930522055948827,6513654391641795,45595580741492571 ⋆ 4*7^n-1. • a(n) = 7 * a(n - 1) + 6. a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>1. •

[A087426] • 0,3,27,216,1701,13365,104976,824499,6475707,50860872,399466485,3137450517,24641856288,193539651939,1520080160859,11938864580280,93769059774789,736471756750581,5784324272782128,45430672644283923 ⋆ a(n) = S(n,4) where S(n,m) = sum(k=0,n,binomial(n,k)*Fibonacci(m*k)). • a(n) = 9 * a(n - 1) - 9 * a(n - 2); a(n)=1 / sqrt(5) * ((9 + 3 * sqrt(5)) / 2) ^ n) - 1 / sqrt(5) * ((9 - 3 * sqrt(5)) / 2) ^ n. • a(n) = 3 ^ n * F(2n) - _ Benoit Cloitre _ , Sep 13 2005 •

[A145608] • 0,3,27,216,1704,13419,105651,831792,6548688,51557715,405913035,3195746568,25160059512,198084729531,1559517776739,12278057484384,96664942098336,761041479302307,5991666892320123,47172293659258680,371386682381749320,2923921165394735883,23019982640776137747 ⋆ Numbers a(n)=k such that (1/3)*(5*(2k+1)^2-2) is A057080(n)^2 • a(n + 2)=8 * a(n + 1) - a(n) + 3 • a(n)= - (1 / 2) + (1 / 4) *{ [4 - sqrt(15)] ^ n + [4 + sqrt(15)] ^ n }- (1 / 20) * sqrt(15) *{ [4 - sqrt(15)] ^ n - [4 + sqrt(15)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Nov 25 2008] • a(0)=0, a(1)=3, a(2)=27, a(n)=9 * a(n - 1) - 9 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 06 2013 •

[A083713] • 0,3,27,219,1755,14043,112347,898779,7190235,57521883,460175067,3681400539,29451204315,235609634523,1884877076187,15079016609499,120632132875995,965057063007963,7720456504063707,61763652032509659 ⋆ a(n) = (8^n - 1)*3/7. • a(n) = 8 * a(n - 1) + 3 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=0, a(1)=3, a(n) = 9 * a(n - 1) - 8 * a(n - 2). - _ Harvey P. Dale _ , Jun 06 2013 •

[A065100] • 3,27,240,2133,18957,168480,1497363,13307787,118272720,1051146693,9342047517,83027280960,737903481123,6558104049147,58285032961200,518007192601653,4603779700453677,40916010111481440,363640311302879283 ⋆ a(0) = c, a(1) = p*c^3; a(n+2) = p*c^2*a(n+1) - a(n), for p = 1, c = 3. • a(n) = 9 * a(n - 1) - a(n - 2) (with a(0)=3, a(1)=27). - _ Vincenzo Librandi _ , Aug 07 2010 •

[A013708] • 3,27,243,2187,19683,177147,1594323,14348907,129140163,1162261467,10460353203,94143178827,847288609443,7625597484987,68630377364883,617673396283947,5559060566555523,50031545098999707 ⋆ a(n) = 3^(2n+1). • a(n) = 9 * a(n - 1), n > 0; a(0)=3. •

[A163474] • 3,27,249,2337,22203,212691,2048673,19804617,191904819,1862395467,18092133513,175868012721,1710268059243,16636340171907,161855091136689,1574864707700697,15324674763873123,149128049052227451 ⋆ a(n) = 16*a(n-1) - 61*a(n-2) for n > 1; a(0) = 3, a(1) = 27. • a(n) = ((3 + sqrt(3)) * (8 + sqrt(3)) ^ n + (3 - sqrt(3)) * (8 - sqrt(3)) ^ n) / 2. •

[A199688] • 3,27,267,2667,26667,266667,2666667,26666667,266666667,2666666667,26666666667,266666666667,2666666666667,26666666666667,266666666666667,2666666666666667,26666666666666667,266666666666666667 ⋆ (8*10^n+1)/3. • a(n) = 10 * a(n - 1) - 3. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A014222] • 0,1,3,27,7625597484987 ⋆ a(0) = 0; thereafter a(n+1) = 3^a(n). • a(n + 1) = H _ 4(3,n) = 3 ^^ n; • a(0) = 0, a(1) = 1, a(n + 1) = 3 ^ 3 ^ ... ^ 3 (n times). •

[A041785] • 1,3,28,31,152,183,1799,5580,224999,680577,6350192,7030769,34473268,41504037,408009601,1265532840,51029323201,154353502443,1440210845188,1594564347631,7818468235712,9413032583343,92535761485799,287020317040740,11573348443115399 ⋆ Denominators of continued fraction convergents to sqrt(413). • a(n) = 226798 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A267360] • 1,3,28,47,496,575,8000,9215,128000,147455,2048000,2359295,32768000,37748735,524288000,603979775,8388608000,9663676415,134217728000,154618822655,2147483648000,2473901162495,34359738368000,39582418599935,549755813888000 ⋆ Decimal representation of the n-th iteration of the "Rule 125" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>8. •

[A053132] • 3,28,126,396,1001,2184,4284,7752,13167,21252,32890,49140,71253,100688,139128,188496,250971,329004,425334,543004,685377,856152,1059380,1299480,1581255 ⋆ One half of binomial coefficients C(2*n-4,5). • a(n)= binomial(2 * n - 4, 5) / 2 if n >= 5 else 0; •

[A095665] • 3,28,145,550,1705,4576,11011,24310,50050,97240,179894,319124,545870,904400,1456730,2288132,3513917,5287700,7811375,11347050,16231215,22891440,31865925,43826250,59603700 ⋆ Tenth column (m=9) of (1,3)-Pascal triangle A095660. • a(n)= binomial(n + 8, 8) * (n + 27) / 9 = 3 * b(n) - 2 * b(n - 1), with b(n):=binomial(n + 9, 9); cf. A000582. •

[A081019] • 3,28,198,1363,9348,64078,439203,3010348,20633238,141422323,969323028,6643838878,45537549123,312119004988,2139295485798,14662949395603,100501350283428,688846502588398,4721424167835363,32361122672259148 ⋆ Lucas(4n+3)-1, or Lucas(2n+1)*Lucas(2n+2). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 1 + 2 * (((7 / 2) - (3 / 2) * sqrt(5)) ^ n + ((7 / 2) + (3 / 2) * sqrt(5)) ^ n) + sqrt(5) * (((7 / 2) + (3 / 2) * sqrt(5)) ^ n - ((7 / 2) - (3 / 2) * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Dec 01 2008 •

[A045737] • 0,0,3,28,210,1470,9996,67032,446292,2960100,19594575,129585456,856703848,5663913528,37454912040,247778648880,1639890119016,10858731869160,71939098633185,476841658085100,3162310375905450 ⋆ Number of nonroot branch nodes in all noncrossing rooted trees on n nodes on a circle. • a(n) = 7 * (n - 1) * binomial(3n - 6, n - 4) / (2n - 1). •

[**A003466**] • 0,3,28,210,1506,10871,80592,618939,4942070,41076508,355372524,3198027157,29905143464,290243182755,2920041395248,30414515081650,327567816748638,3643600859114439,41809197852127240,494367554679088923,6017481714095327410 ★ Number of minimal covers of an n-set that have exactly one point which appears in more than one set in the cover. • a(n) = n * sum((2 ^ k - k - 1) * S2(n - 1,k), k=1..n - 1) where S2(n,k) are the Stirling number s of the second kind. - _ Sean A. Irvine _ , May 20 2015 •

[**A172241**] • 0,3,28,227,1820,14563,116508,932067,7456540,59652323,477218588,3817748707,30541989660,244335917283,1954687338268,15637498706147,125099989649180,1000799917193443,8006399337547548,64051194700380387 ★ a(n) = (1/18)*(8^n - (-1)^n - 9). • a(2 * k) = 8 * a(2 * k - 1) + 3 and a(2 * k + 1) = 8 * a(2 * k) + 4 for k>0, a(1)=0. - _ Yosu Yurramendi _ , Dec 30 2016 •

[**A037588**] • 3,28,255,2296,20667,186004,1674039,15066352,135597171,1220374540,10983370863,98850337768,889653039915,8006877359236,72061896233127,648557066098144,5837013594883299 ★ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 3,1. • a(n) = 7 * 9 ^ n / 20 - 1 / 4 + (- 1) ^ (n + 1) / 10. - _ R. J. Mathar _ , Apr 27 2015 •

[**A181069**] • 1,3,28,275,3126,37632,475056,6192531,82754650,1127504378,15603575208,218727171104,3099183987004,44315462038200,638663235342528,9267264584278419,135279095477748642,1985221072388231742 ★ L.g.f.: Sum_{n>=1} [Sum_{k>=0} C(n+k-1,k)^4 *x^k] *x^n/n. • a(n) = Sum _{ k=0..n - 1 } binomial(n - 1,k) ^ 3 * binomial(n,k). •

[**A239297**] • 3,28,282,2827,28274,282743,2827433,28274333,282743338,2827433388,28274333882,282743338823,2827433388230,28274333882308,282743338823081,2827433388230813,28274333882308139,282743338823081391,2827433388230813914 ★ Floor of first differences of Pi*10^n. • a(0)=3, a(n)=floor(Pi * 10 ^ n - Pi * 10 ^ (n - 1)) for n>0. •

[**A199754**] • 3,28,303,3328,36603,402628,4428903,48717928,535897203,5894869228,64843561503,713279176528,7846070941803,86306780359828,949374583958103,10443120423539128,114874324658930403,1263617571248234428 ★ (5*11^n+1)/2. • a(n) = 11 * a(n - 1) - 5. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[**A176335**] • 1,3,28,315,3876,50358,678112,9365499,131809060,1882294128,27193657008,396600597198,5829739893264,86262567856650,1283677784658528,19196304797150715,288295493121264420,4346056823245242420 ★ Central coefficients T(2n,n) of number triangle A176331. • a(n)=sum { k=0..2n, C(k,n) ^ 2 * (- 1) ^ k } . •

[**A119951**] • 1,3,29,65,281,595,9949,20613,84883,173965,1421113,2894229,11762641,23859587,773201629,1564082093,6321150767,12761711209,102977321267,207595672639,836499257311,1684433835077,27122471168057,5456741837294 5,219485160092143 ★ Numerators of partial sums of a convergent series with value 4, involving scaled Catalan numbers A000108. • a(n) = numerator of S um _{ k=1..n } C(k) / 2 ^ (2 * (k - 1)). • a(n - 1) = numerator of (1 / 4 ^ n) * Sum _{ i=0..n - 1 } (binomial(2 * (i + 1), i + 1) * binomial(2 * (n - i), n - i)), for n>=1. - _ Johannes W. Meijer _ , May 24 2009 •

[**A288918**] • 0,3,29,79,153,251,373,519,689,883,1101,1343,1609,1899,2213,2551,2913,3299,3709,4143,4601,5083,5589,6119,6673 ★ Number of 4-cycles in the n X n king graph. • a(n) = 12 * n ^ 2 - 34 * n + 23 for n>1. - _ Andrew Howroyd _ , Jun 19 2017 •

[**A211621**] • 0,3,29,103,247,484,843,1342,2008,2866,3938,5247,6822,8681,10851,13357,16221,19466,23121,27204,31742,36760,42280,48325,54924 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+2x+3y>0. • a (n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7) for n>6. •

[**A112498**] • 3,29,164,726,2805,9975,33630,109424,347519,1085313,3349848,10253994,31203945,94561643,285716018,861472836,2593592883,7800176565,23441423340,70410252350,211411111133,634610819679,1904620987014 ★ Third column of second-order Eulerian triangle A008517 divided by 2. • a(n) = 3 * a(n - 1) + (2 * n - 3) * (2 ^ (n - 1) - n), n>3, with a(3)=3. •

[**A135163**] • 0,3,29,237,1841,13893,102689,747477,5380481,38419653,272767649,1928673717,13597673921,95669893413,672124323809,4717058247957,33080385660161,231867703543173,1624599287803169,11379822860782197,79696902351707201,558069037383336933,3907436894168837729 ★ a(n) = 7^n - 5^n + 3^n - 2^n. • a(n) = 7 ^ n - 5 ^ n + 3 ^ n - 2 ^ n. • a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4) for n>3. (End) •

[**A140780**] • 1,3,29,287,2841,28123,278389,2755767,27279281,270037043,2673091149,26460874447,261935653321,2592895658763,25667020934309,254077313684327,2515106115908961,24896938345405283,246454732338143869,2439650339536033407,24150048663022190201 ★ a(n) = 10*a(n-1) - a(n-2). • a(n) = 10 * a(n - 1), - a(n - 2), n>1; given a(0) = 1, a(1) = 3. Term (1,1) in X ^ n where X = the 2x2 matrix [3,4; 5,7]. • a(n) = (- 1 / 12) * [5 + 2 * sqrt(6)] ^ n * sqrt(6) + (1 / 12) * sqrt(6) * [5 - 2 * sqrt(6)] ^ n + (1 / 2) * [5 + 2 * sqrt(6)] ^ n + (1 / 2) * [5 - 2 * sqrt(6)] ^ n, with n >= 0 - _ Paolo P. Lava _ , Jun 06 2008 •

[**A268493**] • 3,29,289,321,3209,32089,106963,356543,3565429,11884763,118847629,132052921,440176403,4401764029,4890848921,48908489209,163028297363,1630282973629,5434276578763,18114255262543,60380850875143,201269502917143,670898343057143 ★ Orbit of 3 under the map A268488: n -> least number k of the form k = n*(last digit of k) + (k without its last digit). • a(n) = 10 * a(n - 1) - 1 unless divisible by 3 or 9, then a(n) = (10 * a(n - 1) - 1) /{ 3,9 } , respectively. - _ Bob Selcoe _ , Feb 17 2016 •

[**A155651**] • 1,3,29,297,2801,24993,215489,1817217,15097601,124140033,1013275649,8227137537,66542694401,536695119873,4319682347009,34714187104257,278653866803201,2234873154240513,17912838552813569,143505828335845377 ★ 8^n-6^n+1^n • a(n)=14 * a(n - 1) - 48 * a(n - 2) + 35 with a(0)=1, a(1) =3 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A255597**] • 1,1,3,29,1667,3254781,10650037396483 ★ Upper bound on the number of different Euler diagrams for n classes. • a(n) = Sum _{ k=1..inf } e(n,k), where k is the number of zones, and the elements e(n,k) are defined re cursively as: e(0,1) = 1; e(n,k) = Sum _{ c=1..k - 1) binomial(c,k - c) * e(n - 1,c). •

[**A140153**] • 1,3,30,34,159,165,508,516,1245,1255,2586,2598,4795,4809,8184,8200,13113,13131,19990,20010,29271,29293,41460,41484,57109 ★ a(1)=1, a(n)=a(n-1)+n^3 if n odd, a(n)=a(n-1)+ n^1 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 3 +{ [1 + (- 1) ^ n] / 2 }* n, with a(1)=1 a(n)= (- 3 / 16) + (1 / 4) * (- 1) ^ n * n + (3 / 16) * (- 1) ^ n - (1 / 4) * (- 1) ^ n * n ^ 3 + (1 / 4) * n ^ 3 - (3 / 8) * (- 1) ^ n * n ^ 2 + (3 / 8) * n ^ 2 + (1 / 4) * n + (1 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 • a(n)=a(n - 1) + 4a(n - 2) - 4a(n - 3) - 6a(n - 4) + 6a(n - 5) + 4a(n - 6) - 4a(n - 7) - a(n - 8) + a(n - 9). G.f.: - x * (1 + 2 * x + 23 * x ^ 2 - 4 * x ^ 3 + 23 * x ^ 4 + 2 * x ^ 5 + x ^ 6) / ((1 + x) ^ 4 * (x - 1) ^ 5). [From _ R. J. Mathar _ , Feb 22 2009] •

[**A152767**] • 0,3,30,81,156,255,378,525,696,891,1110,1353,1620,1911,2226,2565,2928,3315,3726,4161,4620,5103,5610,6141,6696 ★ 3 times 10-gonal (or decagonal) numbers: 3n(4n-3). • a(n) = a(n - 1) + 24 * n - 21, n>0. - _ Vincenzo L ibrandi _ , Nov 26 2010 • a(0)=0, a(1)=3, a(2)=30, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 26 2012 •

[**A195029**] • 3,30,85,168,279,418,585,780,1003,1254,1533,1840,2175,2538,2929,3348,3795,4270,4773,5304,5863,6450,7065,7708,8379 ★ a(n) = n*(14*n + 13) + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[**A211617**] • 0,3,30,101,244,479,834,1329,1992,2843,3910,5213,6780,8631,10794,13289,16144,19379,23022,27093,31620,36623,42130,48161,54744 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and 2w+x+y>0. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. • a(n) = 4 * n ^ 3 - n ^ 2 + n for n even. • a(n) = 4 * n ^ 3 - n ^ 2 + n - 1 fo r n odd. •

[**A225018**] • 3,30,127,301,647,1100,1851,2715,4027,5434,7463,9545,12447,15336,19267,23095,28211,33110,39567,45669,53623,61060,70667,79571,90987 ★ Number of cusps in a class of degree-3n complex algebraic surfaces. • a(n) = (1 / 2) * (12 * n ^ 3 - 9 * n ^ 2 + 4 * n - 1) if n is odd; a(n) = (1 / 2) * (12 * n ^ 3 - 12 * n ^ 2 + 7 * n - 2) if n is even. • a(n) = (24 * n ^ 3 - 21 * n ^ 2 + 11 * n - (3 * n ^ 2 - 3 * n + 1) * (- 1) ^ n - 3) / 4. [_ Bruno Berselli _ , Apr 24 2013] •

[**A174774**] • 0,1,3,30,130,780,3696,19768,97560,510660,2603260,13754136,72333768,390339040,2116922640,11722194240,65521880896,372897624528,2146502657520,12558129505120,74371827119520,447090649997376 ★ Sum of the numerators for computing the third moment of the probability mass function for probability of k pairs among the involutions on n elements (A000085) assuming equal likelihood. • a(n)=Sum _{ k=0..[n / 2] } k ^ 3 * n! / ((n - 2 * k)! * 2 ^ k * k!). •

[**A020874**] • 0,3,30,135,452,1295,3378,8295,19560,44847,100790,223223,488940,1061775,2289882,4910535,10480208,22275695,47178270,99605847,209704980,440390223,922733570,1929364775,4026514872 ★ Number of paths in Moebius ladder M_n. • a(n) = 10 * n * 2 ^ n - n ^ 3 - 5 * n ^ 2 - 11 * n. •

[**A003689**] • 3,30,144,588,2160,7440,24576,78912,248448,771456,2371968,7241856,21998976,66586752,201025920,605781120,1823094144,5481472128,16470172032,49464779904,148508372352,445764192384,1337792747904 ★ Number of Hamiltonian paths in K_3 X P_n. • a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 12 * a(n - 3), n>5. • a(n) = 128 * 3 ^ (n - 2) - (21 * n + 57) * 2 ^ (n - 2), n>2. - _ Ralf Stephan _ , Sep 26 2004 •

[**A003771**] • 3,30,198,1326,8886,59550,399078,2674446,17922966,120111870,804937158,5394336366,36150480246,242264688990,1623551862438,10880333659086,72915231888726,488645955902910,3274691227542918 ★ Number of Hamilton cycles in K_4 X P_n. • a(n) = 7a(n - 1) - 2a(n - 2), n>3. •

[**A120689**] • 0,3,30,252,2040,16368,131040,1048512,8388480,67108608,536870400,4294966272,34359736320,274877902848,2199023247360,17592186028032,140737488322560,1125899906777088,9007199254609920,72057594037665792 ★ a(n) = 10*a(n-1) - 16*a(n-2), n>0. • a(n) = (2 ^ (n - 2)) * (2 ^ (2n - 2) - 1). - _ Artur Jasinski _ , Aug 04 2007 •

[**A093138**] • 1,3,30,300,3000,30000,300000,3000000,30000000,300000000,3000000000,30000000000,300000000000,3000000000000,30000000000000,300000000000000,3000000000000000,30000000000000000,300000000000000000 ★ Expansion of (1-7x)/(1-10x). • a(n) = 3 * 10 ^ n / 10 + 7 * 0 ^ n / 10. • a(n) = 3 * 10 ^ (n - 1) with a(0)=1. [_ Vincenzo Librandi _ , Aug 02 2010] •

[**A037764**] • 3,30,301,3012,30123,301230,3012301,30123012,301230123,3012301230,30123012301,301230123012,3012301230123,30123012301230,3012301230123012,30123012301230123 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,0,1,2. • a(n)=10 * a(n - 1) + [(n + 2) mod 4], with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[**A037771**] • 3,30,302,3021,30213,302130,3021302,30213021,302130213,3021302130,30213021302,302130213021,3021302130213,30213021302130,302130213021302,3021302130213021 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,0,2,1. • a(n)=10 * a(n - 1) + (1 / 4) *{ 2 * (n mod 4) - [(n + 1) mod 4] + 4 * [(n + 2) mod 4] - [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[**A037659**] • 3,30,302,3023,30230,302302,3023023,30230230,302302302,3023023023,30230230230,302302302302,3023023023023,30230230230230,302302302302302,3023023023023023 ★ Decimal expansion of a(n) is given by the first n

terms of the periodic sequence with initial period 3,0,2. • a(n)=10 * a(n - 1) + (1 / 9) *{- (n mod 3) + 14 * [(n + 1) mod 3] + 2 * [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A163475] • 3,30,306,3168,33156,349704,3708504,39476160,421307568,4504395744,48217133088,516565527552,5537243115072,59378264922240,636903805624704,6832763837309952,73311252232852224,786646960881163776 ⋆ a(n) = 18*a(n-1) - 78*a(n-2) for n > 1; a(0) = 3, a(1) = 30. • a(n) = ((3 + sqrt(3)) * (9 + sqrt(3)) ^ n + (3 - sqrt(3)) * (9 - sqrt(3)) ^ n) / 2. •

[A041207] • 1,1,3,31,65,96,1985,2081,6147,63551,133249,196800,4069249,4266049,12601347,130279519,273160385,403439904,8341958465,8745398369,25832755203,267072950399,559978656001,827051606400 ⋆ Denominators of continued fraction convergents to sqrt(114). • a(n) = 2050 * a(n - 6) - a(n - 12). G.f.: -(x ^ 10 - x ^ 9 + 3 * x ^ 8 - 31 * x ^ 7 + 65 * x ^ 6 - 96 * x ^ 5 - 65 * x ^ 4 - 31 * x ^ 3 - 3 * x ^ 2 - x - 1) / (x ^ 12 - 2050 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] •

[A133203] • 0,1,3,31,67,111,163,223,291,367,451,543,643,751,867,991,1123,1263,1411,1567,1731,1903,2083,2271,2467 ⋆ a(n) = a(n-1) + 8*n + 4, n > 2. • a(n) = 4n ^ 2 + 8n - 29, n > 1. (End) •

[A152417] • 0,1,3,31,78,781,1953,19531,48828,488281,1220703,12207031,30517578,305175781,762939453,7629394531,19073486328,190734863281,476837158203,4768371582031,11920928955078,119209289550781,298023223876953,2980232238769531,7450580596923828 ⋆ a(n) = (5^n - 1)/(2^(3 - (n mod 2))). • a(n) = (5 ^ n - 1) / (2 ^ (3 - (n mod 2))). • a(n) = (5 ^ n - 1) / 8 for n even. • a(n) = (5 ^ n - 1) / 4 for n odd. • a(n) = 26 * a(n - 2) - 25 * a(n - 4) for n>3. •

[A294973] • 1,3,31,96,223,765,7873,24384,56641,194307,1999711,6193440,14386591,49353213,507918721,1573109376,3654137473,12535521795,129009355423,399563588064,928136531551,3183973182717,32767868358721,101487578258880,235743024876481 ⋆ Denominators of the continued fraction convergents to sqrt(7)/2. • a(n) = 254 * a(n - 4) - a(n - 8) for n > 7. •

[A267941] • 1,3,31,127,511,2047,8191,32767,131071,524287,2097151,8388607,33554431,134217727,536870911,2147483647,8589934591,34359738367,137438953471,549755813887,2199023255551,8796093022207,35184372088831,140737488355327,562949953421311 ⋆ Decimal representation of the n-th iteration of the "Rule 253" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. • a(n) = 2 ^ (2 * n + 1) - 1 for n>1. - _ Colin Barker _ , Nov 26 2016 •

[A064055] • 3,31,155,546,1554,3823,8451,17205,32802,59268,102388,170261,273975,428418,653242,973998,1423461,2043165,2885169,4014076,5509328,7467801,10006725,13266955,17416620 ⋆ Ninth column of quadrinomial coefficients. • a(n) = 3 * C(n + 3,3) + 19 * C(n + 3,4) + 30 * C(n + 3,5) + 21 * C(n + 3,6) + 7 * C(n + 3,7) + C(n + 3,8) (see comment in A071675). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A111400] • 0,3,31,251,1485,6665,24073,73486,196626,473595,1047255,2157793,4189991,7736001,13676705,23285020,38354788,61359171,95642751,145651815,217207585,317827433,457099401,647115626,902970550 ⋆ P(P(n)) - P(P(n-1)), where P(n) = (n+1)*(n+2)*(n+3)/6 (see A000292). • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[A198852] • 3,31,255,2047,16383,131071,1048575,8388607,67108863,536870911,4294967295,34359738367,274877906943,2199023255551,17592186044415,140737488355327,1125899906842623,9007199254740991,72057594037927935 ⋆ 4*8^n-1. • a(n) = 8 * a(n - 1) + 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2) for n>1. •

[A114849] • 0,3,31,257,1950,14164,100464,702919,4878575,33695365,232040622,1595043816,10952137040,75149854091,515435467055,3534332855753,24230970910510,166108203507452,1138635489987488,7804802111777935 ⋆ F(4n+4)/F(4) F(3n+3)/F(3) where F(n)=A000045(n). • a(n) = F(4n + 4) / F(4) - F(3n + 3) / F(3) = (2 * F(4n + 4) - 3 * F(3n + 3)) / 6, where F=A000045. •

[A198964] • 3,31,283,2551,22963,206671,1860043,16740391,150663523,1355971711,12203745403,109833708631,988503377683,8896530399151,80068773592363,720618962331271,6485570660981443,58370135948832991,525331223539496923 ⋆ (7*9^n-1)/2. • a(n) = 9 * a(n - 1) + 4. • a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A037778] • 3,31,310,3102,31023,310231,3102310,31023102,310231023,3102310231,31023102310,310231023102,3102310231023,31023102310231,310231023102310,3102310231023102,31023102310231023,310231023102310231,3102310231023102310,31023102310231023102 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,1,0,2. • a(n)=10 * a(n - 1) + (1 / 4) *{- (n mod 4) + 2 * [(n + 1) mod 4] + 3 * [(n + 2) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037666] • 3,31,310,3103,31031,310310,3103103,31031031,310310310,3103103103,31031031031,310310310310,3103103103103 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,1,0. • a(n)=10 * a(n - 1) + (1 / 9) *{ 7 * (n mod 3) + 10 * [(n + 1) mod 3] - 5 * [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A108430] • 3,31,311,3151,32299,334335,3488239,36627487,386618387,4098713631,43611791783,465496885231,4981942135611,53443871159551,574500093677535,6186886528903231,66735614131858723,720897596248427295 ⋆ Number of d steps in all paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1), U=(1,2), or d=(1,-1). • a(n) = (1 / n) * sum(k * binomial(n,2n - k) * binomial(n + k,n - 1), k=n..2n) . •

[A037785] • 3,31,312,3120,31203,312031,3120312,31203120,312031203,3120312031,31203120312,312031203120,3120312031203,31203120312031,312031203120312,3120312031203120 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,1,2,0. • a(n)=10 * a(n - 1) + (1 / 4) *{ 3 * (n mod 4) + 3 * [(n + 2) mod 4] - 2 * [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037589] • 3,31,313,3131,31313,313131,3131313,31313131,313131313,3131313131,31313131313,313131313131,3131313131313,31313131313131,3131313131313131 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,1. • a(n)=10 * a(n - 1) + 2 - (- 1) ^ n, with a(0)=0. Closed form: a(n)= - (2 / 9) - (1 / 11) * (- 1) ^ n + (31 / 99) * 10 ^ n, with n>=1. - _ Paolo P. Lava _ , Mar 31 2009 •

[A011545] • 3,31,314,3141,31415,314159,3141592,31415926,314159265,3141592653,31415926535,314159265358,3141592653589,31415926535897,314159265358979,3141592653589793,31415926535897932 ⋆ Decimal expansion of Pi truncated to n places. • a(n) = floor(Pi * 10 ^ n), Pi=3.14.... •

[A011546] • 3,31,314,3142,31416,314159,3141593,31415927,314159265,3141592654,31415926536,314159265359,3141592653590,31415926535898,3141592653589,3141592653589793,31415926535897932,314159265358979324,3141592653589793238,31415926535897932385 ⋆ Decimal expansion of Pi rounded to n places. • a(n) = floor(10 ^ n * Pi + 0.5). •

[A210852] • 0,3,31,325,1354,1354,34968,740862,2387948,25447152,146507973,1276408969,9185715941,78392151946,272170172760,9503932456095,1044551626495,43678446835096,974200502783924,10744682090246618,221435772756197 ⋆ Approximations up to 7^n for one of the three 7-adic integers (-1)^(1/3). • a(n) == 3 ^ (7 ^ (n - 1)) (mod 7 ^ n) == 3 (mod 7), n>= 1. •

[A213845] • 3,32,119,296,595,1048,1687,2544,3651,5040,6743,8792,11219,14056,17335,21088,25347,30144,35511,41480,48083,55352,63319,72016,81475 ⋆ Principal diagonal of the convolution array A213844. • a(n) = (2 * n - 9 * n ^ 2 + 16 * n ^ 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A004256] • 0,3,32,150,480,1225,2688,5292,9600,16335,26400,40898,61152,88725,125440,173400,235008,312987,410400,530670,677600,855393,1068672,1322500,1622400 ⋆ n^2*(n+1)*(n+2)^2/6. • a(0)=0, a(1)=3, a(2)=32, a(3)=150, a(4)=480, a(5)=1225, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , May 26 2015 •

[A002059] • 3,32,225,1320,7007,34944,167076,775200,3517470,15690048,69052555,300638520,1297398375,5557977600,23663585880,100222246080,422559514170,1774647576000,7427639542050,30994292561232,128989359164358 ⋆ Number of partitions of a n-gon into (n-4) parts. • a(n) = (n - 3) * binomial(2n - 6,n) - Gill Barequet, Nov 09 2011 •

[A028447] • 1,3,32,229,1845,14320,112485,880163,6895792,54003765,422983905,3312866080,25947198337,203223953179,1591695681488,12466511517581,97640484615909,764741896529104,5989627994067061,46912093390144139,367425909133064576,2877761124002870925 ⋆ Number of perfect matchings in graph P_{2} X P_{3} X P_{n}. • a(n) = 6a(n - 1) + 21a(n - 2) - 42a(n - 3) - 89a(n - 4) + 68a(n - 5) + 89a(n - 6) - 42a(n - 7) - 21a(n - 8) + 6a(n - 9) + a(n - 10). - _ Emeric Deutsch _ , Oct 14 2006 •

[A081012] • 3,32,231,1595,10944,75023,514227,3524576,24157815,165580139,1134903168,7778742047,53316291171,365435296160,2504730781959,17167680177563,117669030460992,806515533049391,5527939700884755,37889062373143904 ⋆ Fibonacci(4n+1)-2, or Fibonacci(2n+2)*Lucas(2n-1). • a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). • a(n) = - 2 + (5 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n + (11 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n >= 0. - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = 7 * a(n - 1) - a(n - 2) + 10, n>=3. - _ R. J. Mathar _ , Nov 07 2015 •

[A037792] • 3,32,320,3201,32013,320132,3201320,32013201,320132013,3201320132,32013201320,320132013201,3201320132013,32013201320132,320132013201320,3201320132013201 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,2,0,1. • a(n)=10 * a(n - 1) + (1 / 4) *{ 3 * [(n + 1) mod 4] + 2 * [(n + 2) mod 4] - [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037673] • 3,32,320,3203,32032,320320,3203203,32032032,320320320,3203203203,32032032032,320320320320,3203203203203,32032032032032,3203203203203203,32032032032032032,320320320320320,3203203203203203 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,2,0. • a(n)=10 * a(n - 1) + (1 / 9) *{ 11 * (n mod 3) + 8 * [(n + 1) mod 3] - 4 * [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037799] • 3,32,321,3210,32103,321032,3210321,32103210,321032103,3210321032,32103210321,321032103210,3210321032103,32103210321032,321032103210321,3210321032103210 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 3,2,1,0. • a(n)=10 * a(n - 1) + (1 / 2) *{ (n mod 4) + [(n + 1) mod 4] + [(n + 2) mod 4] - [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A137215] • 3,32,355,4110,48887,588886,7111107,85555550,1022222215,12111111102,142222222211,1655555555542,19111111111095,218888888888870,2488888888888867,28111111111111086,315555555555555527 ⋆ a(n)=3*(10^n) + (n*n+1)*[(10^n)-1]/9. • a(n)=3 * (10 ^ n) + (n * n + 1) * [(10 ^ n) - 1] / 9 •

[A123336] • 0,3,32,405,5488,75867,1054560,14680173,204438752,2847353715,39658107808,552364642437,7693441239120,107155791629643,1492487562920672,20787669795714525,289534888481556928 ⋆ Values X satisfying the equation 3(X-Y)^4-16XY=0, where X>=Y. • a(n) = c(n) * (1 + d(n)) with c(0)=0,c(1)=1 and c(n) = 4 * c(n - 1) - c(n - 2) d(0)=1,d(1)=2 and d(n) = 4 * d(n

- 1) - d(n - 2). • a(n) = (((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) * (2 + (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n)) / (4 * sqrt(3)). - _ Gerry Martens _ , Jun 06 2015 •

[A139222] • 3,33,63,93,123,153,183,213,243,273,303,333,363,393,423,453,483,513,543,573,603,633,663,693,723 ★ 30*n - 27 • a(n) = a(n - 1) + 30. • a(n)=30 * n - 27 [From _ Paolo P. Lava _ , Sep 06 2010] •

[A153783] • 0,3,33,90,174,285,423,588,780,999,1245,1518,1818,2145,2499,2880,3288,3723,4185,4674,5190,5733,6303,6900,7524 ★ 3 times 11-gonal (or hendecagonal) numbers: 3*n*(9*n-7)/2. • a(n) = 27 * n + a(n - 1) - 24, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A048911] • 1,3,33,91,989,2727,29637,81719,888121,2448843,26613993,73383571,797531669,2199058287,23899336077,65898365039,716182550641,1974751892883,2146157718153,5917665842145 1,6431311329439 49,1773325000750647,19272472411135317,53140573364097959 ★ Indices of square numbers which are also 9-gonal. • a(n) = 30 * a(n - 2) - a(n - 4). • a(n) = 1 / 112 * ((p + q * (- 1) ^ n) * (2 * sqrt(2) + sqrt(7)) ^ n - (p - q * (- 1) ^ n) * (2 * sqrt(2) - sqrt(7)) ^ (n - 1)). • a(n) = floor (1 / 112 * (p + q * (- 1) ^ n) * (2 * sqrt(2) + sqrt(7)) ^ n). •

[A206950] • 0,0,0,3,33,259,1762,11093,66592,387264,2202053,12314587,67995221,371697914,2015659707,10859379024,58190011080,310409500291,1649579166385,8738000970251,46158910515154,243260704208613,1279386591175904,6716811592446952,35209193397256085 ★ Number of nonisomorphic graded posets with 0 and non-uniform Hasse graph of rank n, with no 3-element antichain. • a(n) = 13 * a(n - 1) - 59 * a(n - 2) + 115 * a(n - 3) - 109 * a(n - 4) + 51 * a(n - 5) - 9 * a(n - 6), a(1)=0, a(2)=0, a(3)=3, a(4)=33, a(5)=259, a(6)=1762. •

[A190542] • 0,3,33,279,2145,15783,113553,807159,5699265,40091463,281426673,1973132439,13824509985,96821901543,677954637393,4746487768119,33228635602305,232613334118023,1628344878433713,11398620307466199 ★ 7^n - 4^n. • a(n) = 11 * a(n - 1) - 28 * a(n - 2). •

[A180416] • 3,33,298,2649,23711,215341,1982296,18447847,173197435,1637524156,15570196516,148735628858,1426303768587,13722207893214,132387231596281,1280309591127436 ★ Number of positive integers below 10^n, excluding perfect squares, which have a representation as a sum of 2 positive squares. • a(n) = | { 0<k<10 ^ n : k in { A000415 } } |. • a(n) = | { 0<k<10 ^ n : k in ({ A000404 } \ { A000290 }) } |. •

[A226508] • 3,33,315,2889,26163,235953,2125035,19129689,172180323,1549662273,13947078555,125524061289,1129717614483,10167461718993,91507165036875,823564514029689,7412080712360643,66708726669526113 ★ a(n) = Sum_{i=3^n..3^(n+1)-1} i. • a(n) = 3 ^ (n - 1) * (4 * 3 ^ (n + 1) - 3). [_ Bruno Berselli _ , Jun 11 2013] • a(0)=3, a(1)=33, a(n)=12 * a(n - 1) - 27 * a(n - 2). - _ Harvey P. Dale _ , Jun 19 2013 •

[A121515] • 3,33,315,26163,235953,2125035,19129689,172180323,1549662273,13947078555,125524061289,1129717614483,10167461718993,91507165036875,823564514029689,7412080712360643,66708726669526113,600378540800575995,5403406869529706889,48630661832740930803 ★ Sum of all proper ternary numbers with n digits (those not beginning with 0). • a(n) = (((3 ^ n) * ((3 ^ n) - 1)) - ((3 ^ (n - 1)) * ((3 ^ (n - 1) - 1)))) / 2. a(n) = SUM[i=3 ^ (n - 1)..(3 ^ n) - 1]i. • a(n) = 3 ^ n * (- 1 + 4 * 3 ^ n) for n>4. G.f.: - 3 * x * (23166 * x ^ 4 - 7758 * x ^ 3 + x - 1) / ((3 * x - 1) * (9 * x - 1)). - _ Colin Barker _ , Apr 30 2013 •

[A002277] • 0,3,33,333,3333,33333,333333,3333333,33333333,333333333,3333333333,33333333333,333333333333,3333333333333,33333333333333,333333333333333,3333333333333333,33333333333333333 ★ a(n) = 3*(10^n - 1)/9. • a(n) = 10 * a(n - 1) + 3, with a(0)=0. - _ Paolo P. Lava _ , Jan 23 2009 • a(n) = a(n - 1) + 3 * 10 ^ (n - 1) with a(0)=0; • a(n) = 11 * a(n - 1) - 10 * a(n - 2) with a(0)=0, a(1)=3. (End) •

[A075835] • 0,3,33,360,3927,42837,467280,5097243,55602393,606529080,6616217487,72171863277,787274278560,8587845200883,93679022931153,1021881407041800,11147016454528647,121595299592773317 ★ Numbers n such that 13*n^2 + 4 is a square. • a(n) = [(11 + 3 * Sqrt(13)) ^ n - (11 - 3 * Sqrt(13)) ^ n] / [(2 ^ n) * Sqrt(13)] • a(n) = 11 * a(n - 1) - a(n - 2)with a(1)=0 and a(2)=3. G.f.: 3x ^ 2 / (1 - 11x + x ^ 2). [From _ Philippe Deléham _ , Nov 17 2008] •

[A163476] • 3,33,369,4179,47787,550377,6372201,74057451,863045523,10077337713,117831338529,1379125012419,16152860411067,189282082016697,2218814180460441,26015921653589211,305093457567121443 ★ a(n) = 20*a(n-1) - 97*a(n-2) for n > 1; a(0) = 3, a(1) = 33. • a(n) = ((3 + sqrt(3)) * (10 + sqrt(3)) ^ n + (3 - sqrt(3)) * (10 - sqrt(3)) ^ n) / 2. •

[A155660] • 1,3,33,387,4161,42243,413793,3959427,37281921,347066883,3204309153,29403732867,268588249281,2444976817923,22198569382113,201143570584707,1819787258282241,16444551185679363,148466221699088673 ★ 9^n-7^n+1. • a(n)=16 * a(n - 1) - 63 * a(n - 2) + 48 with a(0)=1, a(1)=3 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A011922] • 1,3,33,451,6273,87363,1216801,16947843,236052993,3287794051,45793063713,637815097923,8883618307201,123732841202883,1723376158533153,24003533378261251,334326091137124353 ★ a(n) = 15*a(n-1) - 15*a(n-2) + a(n-3). • a(n) = (2 + sqrt(1 + ((((2 + sqrt(3)) ^ (2 * n) - (2 - sqrt(3)) ^ (2 * n)) ^ 2) / 4))) / 3. • a(n) = ((7 + 4 * sqrt(3)) ^ n + (7 - 4 * sqrt(3)) ^ n + 4) / 6. - _ Bruno Berselli _ , Jul 09 2011 •

[A042821] • 1,1,3,34,37,552,1141,2834,3975,6809,17593,41995,605523,647518,7728221,16103960,23832181,1446034820,1469867001,4385768822,49713324043,54099092865,807100624153,1668300341171,4143701306495 ★ Denominators of continued fraction convergents to sqrt(941). • a(n) = 1462138780 * a(n - 17) + a(n - 34) for n>33. - _ Vincenzo Librandi _ , Jan 30 2014 •

[A195021] • 0,3,34,93,180,295,438,609,808,1035,1290,1573,1884,2223,2590,2985,3408,3859,4338,4845,5380,5943,6534,7153,7800 ★ n*(14*n - 11). • a(n) = 14 * n ^ 2 - 11 * n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (3 + 25 * x) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 09 2012 •

[A266696] • 3,34,260,1721,10808,67376,427449,2798432,19042144,135083103,999573770,7709458472,61890269371,516304085366,4468459583648,40058286666913,371420337948828,3556972620397996,35138563919933649,357654826207771292,3746672499505598556,40354065576745998303 ★ a(n) = Sum_{k=3..n} k*StirlingS2(n+1, k+1). • a(n) = Sum _{ k=3..n } k * StirlingS2(n + 1, k + 1). • a(n) = B(n + 2) - 2 * B(n + 1) - 3 ^ n + 2 ^ n, where B(n) is the n - th Bell number. - _ Ross La Haye _ , Feb 16 2017 •

[A001539] • 3,35,99,195,323,483,675,899,1155,1443,1763,2115,2499,2915,3363,3843,4355,4899,5475,6083,6723,7395,8099,8835,9603 ★ a(n) = (4*n+1)*(4*n+3). • a(n) = 32 * n + a(n - 1) for n>0, a(0)=3. - _ Vincenzo Librandi _ , Nov 12 2010 • a(n) = a(m) + 16 * (n - m) * (n + m + 1). The previous formula is obtained for m = n - 1. - _ Bruno Berselli _ , Sep 29 2017 •

[A271209] • 1,3,35,247,1029,3131,7783,16815,32777,59059,100011,161063,248845,371307,537839,759391,1048593,1419875,1889587,2476119,3200021,4084123,5153655,6436367,7962649 ★ a(n) = n^5 + n + 1. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), n>5. (End) •

[A198961] • 3,35,323,2915,26243,236195,2125763,19131875,172186883,1549681955,13947137603,125524238435,1129718145923,10167463313315,91507169819843,823564528378595,7412080755407363,66708726798666275,600378541187996483 ★ 4*9^n-1. • a(n) = 9 * a(n - 1) + 8. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A065929] • 3,35,416,4956,59055,703703,8385380,99920856,1190664891,14188057835,169066029128,2014604291700,24006185471271,286059621363551,3408709270891340,40618451629332528,484012710281098995,5767534071743855411,68726396150645165936 ★ (x,y) = (a(n),a(n+1)) are the solutions of (t(x)+t(y))/(1+xy)) = t(3) = 6, where t(n) denotes the n-th triangular number t(n) = n(n+1)/2. • a(n) = 2 * t(m) * a(n - 1) - a(n - 2) - 1, a(0) = m, a(1) = m ^ 3 + m ^ 2 - 1 with m = 3. • a(0)=3, a(1)=35, a(2)=416, a(n) = 13 * a(n - 1) - 13 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 23 2012 • a(n) = (2 + (29 - 5 * sqrt(35)) * (6 - sqrt(35)) ^ n + (6 + sqrt(35)) ^ n * (29 + 5 * sqrt(35))) / 20. - _ Colin Barker _ , Mar 05 2016 •

[A161495] • 3,35,432,5405,67773,850080,10663107,133755235,1677792528,21045816925,263993558397,3311470367040,41538271098243,521045872287395,6535871471114352,81984366749625245,1028391763981932093 ★ Expansion of x*(3*x-1)*(x-3)/(1-15*x+32*x^2-15*x^3+x^4). • a(n) = 15 * a(n - 1) - 32 * a(n - 2) + 15 * a(n - 3) - a(n - 4). •

[A100033] • 3,35,462,6435,92378,1352078,20058300,300540195,4537567650,68923264410,1052049481860,16123801841550,247959266474052,3824345300380220,59132290782430712,916312070471295267,14226520737620288370 ★ Bisection of A001700. • a(n)=binomial(4n + 3, 2n + 2) - _ Emeric Deutsch _ , Dec 09 2004 •

[A259557] • 1,3,35,462,6435,92378,1352078,20058300,300540195,4537567650,68923264410,1052049481860,16123801841550,247959266474052,38243453003802 20,591322907824307 12,9163120704712952 67,14226520737620288370 ★ a(n) = binomial(4*n-1, 2*n). • a(n) = [x ^ (2 * n)] 1 / (1 - x) ^ (2 * n). - _ Ilya Gutkovskiy _ , Oct 10 2017 •

[A072682] • 3,36,54,57,63,96,114,117,123,156,174,177,183,216,234,237,243,276,294,297,303,336,354,357,363 ★ Numbers congruent to {3, 36, 54, 57} mod 60. • a(n) = (1 / 4) *{ 22 * (n mod 4) + 7 * [(n + 1) mod 4] - 8 * [(n + 2) mod 4] + 79 * [(n + 3) mod 4] } + 60 * A002265. - _ Paolo P. Lava _ , Nov 05 2007 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = 15 * n + 3 * (1 + i) * ((1 - i) * i ^ (2 * n) - (5 + 2 * i) * i ^ (- n) + (2 + 5 * i) * i ^ n) / 4 where i=sqrt(- 1). (End) •

[A153448] • 0,3,36,99,192,315,468,651,864,1107,1380,1683,2016,2379,2772,3195,3648,4131,4644,5187,5760,6363,6996,7659,8352 ★ 3 times 12-gonal (or dodecagonal) numbers: 3*n*(5*n-4). • a(n) = 30 * n + a(n - 1) - 27 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=3, a(2)=36, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 18 2014 •

[A140958] • 3,36,108,420,684,1008,1332,1668,2076,2772,2952,3168,3576,4236,4776,5148,5532,5892,6312,6696,7008,7776,8064,8640,8964 ★ A090801(2n-1)+A090801(• a(n) == 0 (mod 6), n>1. •

[A213848] • 3,36,131,320,635,1108,1771,2656,3795,5220,6963,9056,11531,14420,17755,21568,25891,30756,36195,42240,48923,56276,64331,73120,82675 ★ Principal diagonal of the convolution array A213847. • a(n) = (- 4 * n - 3 * n ^ 2 + 16 * n ^ 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A006428] • 0,3,36,135,360,798,1568,2826,4770,7645,11748,17433 ★ Number of tree-rooted planar maps with 3 vertices and n faces. • a(n) seems to be divisible by n + 1. - _ Ralf Stephan _ , Sep 01 2003 •

[A073992] • 0,0,3,36,210,1260,8100,46656,262440,1574640,9843120,60963840,369476640,2210794560,13162730688,78364164096,468205557120,2809233342720,16891882995456,101559956668416,609954817881600,3659728907289600,21947909832446976,131623189859008512 ★ Number of strings of length n over Z_6 with trace 3 and subtrace 3. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[**A127960**] • 0,3,36,243,1296,6075,26244,107163,419904,1594323,5904900,21434787,76527504,269440587,937461924,3228504075,11019960576,37321507107,125524238436,419576389587,1394713760400,4613015762523,15188432850756 ★ n^2*3^n. • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3). - _ Vincenzo Librandi _ , Feb 07 2013 •

[**A073980**] • 0,0,3,36,300,1620,8100,44928,262440,1574640,9722592,60466176,369476640,2213827200,13162730688,78364164096,468419708160,28100899468 80,168918829954 56,1015547968880 64,6099548178816 00,36597289072896 00,2194753814686 3104,1316217038422 67136 ★ Number of strings of length n over Z_6 with trace 1 and subtrace 3. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[**A003691**] • 3,36,324,2880,25632,228096,2029824,18063360,160745472,1430470656,127297290 24,1132815974 40,1008090611712,8970977673216,798325462794 24,710428191621120 ★ Number of spanning trees with degrees 1 and 3 in K_3 X P_2n. • a(n) = 8 * a(n - 1) + 8 * a(n - 2), n>3. •

[**A026121**] • 0,3,36,351,3240,29403,265356,2390391,21520080,193700403,1743362676,15690441231,141214502520,1270932117003,11438393835996,102945558872871,926510072902560,8338590785263203,75047317454789316,675425858255365311 ★ 3^n*(3^n-1)/2. • a(n) = C(3 ^ n,2), n>=0. - _ Zerinvary Lajos _ , Jan 07 2008 • a(0) = 0, a(1)=3, a(n)=12 * a(n - 1) - 27 * a(n - 2). - _ Harvey P. Dale _ , Oct 07 2012 •

[**A055303**] • 3,36,360,3600,37800,423360,5080320,65318400,898128000,13172544000,205491686400,3399953356800,59499183744000,1098446469120000,21341245685760000,435361411989504000,9305850181275648000 ★ Number of labeled rooted trees with n nodes and 2 leaves. • a(n) = (n - 2)! * t(n - 2) * t(n - 1) = (n - 2)! * (n - 2) * (n - 1) ^ 2 * n / 4 = n! * (n - 2) * (n - 1) / 4 = n! * t(n - 2) / 2 - _ Jon Perry _ , Feb 22 2004 •

[**A099670**] • 3,36,369,3702,37035,370368,3703701,37037034,370370367,3703703700,37037037033,370370370366,3703703703699,37037037037032,370370370370365,3703703703703698,37037037037037031,370370370370370364 ★ Partial sums of repdigits of A002277. • a(n) = (3 / 81) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 •

[**A073236**] • 1,3,36,1340164183006357435 ★ Pi^Pi^...^Pi (n times) rounded to nearest integer. • a(n) = round(Pi ^ Pi ^ ... ^ Pi), where Pi occurs n times, a(0) = 1 (=Pi ^ 0). •

[**A041067**] • 1,3,37,114,1405,4329,53353,164388,2026009,6242415,76934989,237047382,2921503573,9001558101,110940200785,341822160456,4212806126257,12980240539227,159975692596981,492907318330170,6074863512559021,18717497856007233,230684837784645817 ★ Denominators of continued fraction convergents to sqrt(40). • a(n) = 38 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 10 2013 •

[**A155667**] • 1,3,37,489,5905,67233,737857,7902849,83222785,865782273,8926258177,91410065409,931280523265,9450244186113,95601953488897,964815627911169,9718525023289345,97748200186314753,981985601490518017 ★ 10^n-8^n+1. • a(n)=18 * a(n - 1) - 80 * a(n - 2) + 63 with a(0)=1, a(1)=3 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A199025**] • 3,38,423,4658,51243,563678,6200463,68205098,750256083,8252816918,90780986103,998590847138,10984499318523,120829492503758,1329124417541343,14620368592954778,160824054522502563,1769064599747528198 ★ (7*11^n-1)/2. • a(n) = 11 * a(n - 1) + 5. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[**A153875**] • 0,3,39,108,210,345,513,714,948,1215,1515,1848,2214,2613,3045,3510,4008,4539,5103,5700,6330,6993,7689,8418,9180 ★ 3 times 13-gonal (or tridecagonal) numbers: 3*n*(11*n - 9)/2. • a(n) = a(n - 1) + 33 * n - 30, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Dec 14 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A292542**] • 3,39,156,624,2496,9984,39936,159744,638976,2555904,10223616,40894464,163577856,654311424,2617245696,10468982784,41875931136,167503724544,670014898176,2680059592704,10720238370816,42880953483264,171523813933056,686095255732224 ★ Number of 4-cycles in the n-Sierpinski tetrahedron graph. • a(n) = 39 * 4 ^ (n - 2) for n > 1. • a(n) = 4 * a(n - 1) for n > 2. •

[**A292294**] • 0,0,0,0,3,39,357,2952,23622,186984,1474773,11617815,91485075,720308160,5671099008,44648794944,351520074867,2767513935927,21788596994037,171541276628904,1350541654293318,10632792057873480,83711795070905925,659061569195852295 ★ Number of vertices of type E at level n of the hyperbolic Pascal pyramid. • a(n) = 12 * a(n - 1) - 37 * a(n - 2) + 37 * a(n - 3) - 12 * a(n - 4) + a(n - 5), n >= 6. •

[**A191468**] • 0,3,39,387,3471,29643,246519,2019027,16386591,132264603,1063976199,8541106467,68475336111,548535110763,4391942995479,35153854510707,281322388820031,2251036874232123,18010583812216359,144096114589527747,1152826137175206351 ★ 8^n - 5^n. • a(n) = 13 * a(n - 1) - 40 * a(n - 2). •

[**A203243**] • 3,39,390,3630,33033,298389,2688780,24208860,217909263,1961271939,17651713170,158866215690,1429798332693,12868192168689,115813751041560,1042323823944120,9380914609207323,84428232063996639,759854090319361950 ★ Second elementary symmetric function of the first n terms of (1,3,9,27,81,...). • a(n) = (3 - 4 * 3 ^ n + 9 ^ n) / 16. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). •

[**A198970**] • 3,39,399,3999,39999,399999,3999999,39999999,399999999,3999999999,39999999999,399999999999,3999999999999,39999999999999,399999999999999,3999999999999999,39999999999999999,399999999999999999 ★ 4*10^n-1. • a(n) = 10 * a(n - 1) + 9, n>0. • a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. •

[**A041347**] • 1,1,3,40,83,123,3281,3404,10089,134561,279211,413772,11037283,11451055,33939393,452663164,939265721,1391928885,37129416731,38521345616,114172107963,1522758749135,3159689606233,4682448355368,124903346845801 ★ Denominators of continued fraction convergents to sqrt(187). • a(n) = 3364 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 16 2013 •

[**A283115**] • 0,0,0,0,0,3,40,242,1038,3504,9998,25158,57410,121023,239148,447552,799764,1373400,2278290,3666036,5742396,8781111,13141326,19287246,27811906 ★ Number of nonequivalent ways (mod D_3) to place 4 points on an n X n X n triangular grid so that no two of them are on the same row, column or diagonal. • a(n) = (5 * n ^ 8 - 100 * n ^ 7 + 810 * n ^ 6 - 3336 * n ^ 5 + 6940 * n ^ 4 - 5120 * n ^ 3 - 4080 * n ^ 2 + 6336 * n) / 11520 + IF(MOD(n, 2) = 1, 4 * n ^ 3 - 38 * n ^ 2 + 144 * n - 207) / 768 + IF(MOD(n, 3) = 1, n ^ 2 - 6 * n + 8) / 18 + IF(MOD(n, 6) = 1, - 1) / 6. •

[**A165386**] • 3,40,305,1622,6868,25036,82224,250208,718536,1972132,5220384,13417184,33652952,82699012,199729888,475260768,1116459752,2593550148,5965976992,13605076608,30787314104,69191005796,154539160288,343241755840 ★ Number of slanted 3 X n (i=1..3) X (j=i..n+i-1) 1..4 arrays with all 1s connected, all 2s connected, all 3s connected, all 4s connected, 1 in the upper left corner, 2 in the upper right corner, 3 in the lower left corner, and 4 in the lower right corner. • a(n) = (- 314880 + 315315 * 2 ^ n - (139264 + 79785 * 2 ^ n) * n + 5 * (- 5248 + 1323 * 2 ^ n) * n ^ 2 - 3280 * n ^ 3 - 160 * n ^ 4 - 16 * n ^ 5) / 240 for n>3. •

[**A002700**] • 3,40,336,2304,14080,79872,430080,2228224,11206656,55050240,265289728,1258291200,5888802816,27246198784,124822487040,566935683072,2555505541120,11441792876544,50921132261376,225399883694080,992858999881728,4354066045992960 ★ Coefficients of Chebyshev polynomials: n(2n+1)2^(2n-2). • a(n) = 12 * a(n - 1) - 48 * a(n - 2) + 64 * a(n - 3). - _ Colin Barker _ , Jun 15 2015 • a(n) = 1 / 2 * Sum _{ k = 0..2 * n } k ^ 2 * binomial(2 * n,k). Cf. A002699. - _ Peter Bala _ , Apr 09 2017 •

[**A155672**] • 1,3,41,603,8081,102003,1240121,14704203,171312161,1970527203,22450640201,253930611003,2855998840241,31980846315603,356873041128281,3971357037321003,44096709674720321,488769846799627203 ★ 11^n-9^n+1^n • a(n)=20 * a(n - 1) - 99 * a(n - 2) + 80 with a(0)=1, a(1)=3 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[**A160873**] • 0,3,42,420,3720,31248,256032,2072640,16679040,133824768,1072169472,8583644160,68694312960,549655154688,4397643866112,35182761492480,281468534292480,2251774043947008,18014295430397952,144114775759257600 ★ Number of isomorphism classes of connected (D_4)-fold coverings of a connected graph with circuit rank n. • a(n) = 2 ^ (n - 2) * (2 ^ n - 1) * (2 ^ (n - 1) - 1) = 8 ^ (n - 1) - 6 * 4 ^ (n - 2) + 2 ^ (n - 2) [Kwak, Chun, and Lee]. - _ Álvar Ibeas _ , Oct 30 2015 • a(n) = 2 ^ (- 3 + n) * (2 - 3 * 2 ^ n + 4 ^ n). • a(n) = 14 * a(n - 1) - 56 * a(n - 2) + 64 * a(n - 3) for n>3. •

[**A003770**] • 3,42,474,5514,63942,741786,8605014,99822138,1157982198,13433121114,155830324182,1807702748538,20970175374006,243263587212186,2821968429343638,32736119315989434 ★ Number of 2-factors in K_4 X P_n. • a(n) = 11a(n - 1) + 8a(n - 2) - 12a(n - 3), n>3. •

[**A097068**] • 0,3,42,576,7896,108240,1483776,20339904,278823552,3822170112,52395087360,718242542592,9845815246848,134968443285504,1850174945009664,25362575456993280,347675356617867264 ★ a(n)=Sum(C(n,2k+1)5^k 3^(2k+1) 7^(n-2k-1), k=0,..,Floor[(n-1)/2]). • a(n)=2 ^ (n - 1)F(4n), where F(n) are Fibonacci numbers A000045 • a(n)= 14 * a(n - 1) - 4 * a(n - 2). G.f.: 3 * x / (1 - 14 * x + 4 * x ^ 2). [From _ R. J. Mathar _ , Feb 06 2010] •

[**A281503**] • 1,3,43,137,1977,6299,90899,289617,4179377,13316083,192160443,612250201,8835201001,28150193163,406227085603,1294296635297,18677610736737,59509495030499,858763866804299,2736142474767657,39484460262261017,125803044344281723 ★ Solutions x to the negative Pell equation y^2 = 33*x^2 - 8 with x,y >= 0. • a(n) = 46 * a(n - 2) - a(n - 4) for n>4. •

[**A060559**] • 3,43,311,1551,6061,19877,57057,147433,349778,773058,1609322,3182842,6021366,10956806,19264366,32851038,54506573,88232485,139667385,216629985,329804475,493596675,727193415,1055862015 ★ One half of sixth column (m=5) of triangle A060556. • a(n)= (8 * n ^ 2 + 72 * n + 135) * binomial(n + 8, 8) / 45. •

[**A173770**] • 3,43,443,4443,44443,444443,4444443,44444443,444444443,4444444443,44444444443,444444444443,4444444444443,44444444444443,444444444444443,4444444444444443,44444444444444443 ★ a(n)=(4*10^n-13)/9. • a(n)=10 * a(n - 1) + 13 (with a(1)=3). •

[**A199020**] • 3,43,483,5323,58563,644203,7086243,77948683,857435523,9431790763,103749698403,1141246682443,12553713506883,138090848575723,1518999334332963,16708992677662603,183798919454288643,2021788113997175083 ★ 4*11^n-1. • a(n) = 11 * a(n - 1) + 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[**A141060**] • 3,43,683,10923,174763,2796203,44739243,715827883,11453246123,183251937963,2932031007403,46912496118443,750599937895083,12009599006321323,192153584101141163,3074457345618258603,49191317529892137643 ★ Fourth quadrisection of Jacobsthal numbers A001045 : a(n)=16a(n-1)-5 . • a(n)= (1 + 8 * 16 ^ n) / 3. [From _ Paolo P. Lava _ , Aug 04 2008] • a(0)=3, a(1)=43, a(n)=17 * a(n - 1) - 16 * a(n - 2). - _ Harvey P. Dale _ , Mar 16 2015 •

[**A133073**] • 0,3,44,279,1104,3275,8028,17199,33344,59859,101100,162503,250704,373659,540764,762975,1052928,1425059,1895724,2483319,3208400,4093803,5164764,6449039,7977024 ★ a(n) = n^5 + n^3 + n^2. • a(n) = n ^ 5 + n ^ 3 + n ^ 2. •

[**A011916**] • 0,3,44,615,8568,119339,1662180,23151183,322454384,4491210195,62554488348,871271626679,12135248285160,169022204365563,2354175612 83

2724,32789436375292575,456697933641263328,6360981634602394019 ⋆ a(n) = ((b(n)-1)+sqrt(3*b(n)^2-4*b(n)+1))/2, where b(n) is A011922(n). • a(n) = + 15 * a(n - 1) - 15 * a(n - 2) + a(n - 3). • a(n) = (- 2 - (7 - 4 * sqrt(3)) ^ n * (- 1 + sqrt(3)) + (1 + sqrt(3)) * (7 + 4 * sqrt(3)) ^ n) / 12. - _ Colin Barker _ , Mar 05 2016 •

[A062346] • 3,45,210,630,1485,3003,5460,9180,14535,21945,31878,44850,61425,82215,107880,139128,176715,221445,274170,335790,407253,489555,583740,690900,812175 ⋆ Consider 2n tennis players; a(n) is the number of matches needed to let every possible pair play each other. • a(n) = n * (4 * n ^ 3 - 12 * n ^ 2 + 11 * n - 3) / 2. - Swapnil P. Bhatia (sbhatia(AT)cs.unh.edu), Jul 20 2006 • a(n + 1) = (2 * n + 2) * (2 * n + 1) * (2 * n) * (2 * n - 1) / 8. - _ James Mahoney _ , Oct 19 2011 • a(n) = binomial(2 * n ^ 2 - 3 * n + 1, 2). - _ Wesley Ivan Hurt _ , Oct 14 2013 •

[A131568] • 0,3,45,630,8925,128898,1891890 ⋆ a(n)=sum in base 10 of numbers which in base 2 contain exactly n digits 1 and not more than n digits 0. • a(n) = (2 * n)! * (2 ^ (2 ^ n) - 1) / (2 * n! * n!) •

[A086683] • 3,45,6579,10763361,169457722083,25015772614247325 ⋆ Number of n X n {-1,0,1} matrices modulo cyclic permutations of the rows. • a(n) = (1 / n) * Sum _{ d divides n } phi(d) * 3 ^ (n ^ 2 / d). •

[A059624] • 3,46,357,1908,7969,27846,84903,232336,582114,1355172,2964494,6147336,12168702,23125508,42389874,75240912,129747485,217979970,357647355,574277340,904081815,1397678490,2124871905,3180733920,4693265460 ⋆ Expansion of (3+10*x+3*x^2)/(1-x)^12. • a(n)= binomial(n + 9, 9) * (8 * n ^ 2 + 80 * n + 165) / (11 * 5). •

[A277388] • 3,47,306,1270,4005,10493,24052,49836,95415,171435,292358,477282,750841,1144185,1696040,2453848,3474987,4828071,6594330,8869070,11763213,15404917,19941276,25540100,32391775 ⋆ Number of nonnegative solutions of a certain system of linear Diophantine equations depending on an odd parameter. • a(n) = n * (- 1 + n) * (3 - 2 * n + n ^ 2 - n ^ 3 + 2 * n ^ 4) / 18. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>8. •

[A199106] • 3,47,575,6911,82943,995327,11943935,143327231,1719926783,20639121407,247669456895,2972033482751,35664401793023,427972821516287,5135673858195455,61628086298345471,739537035580145663,8874444426961747967 ⋆ 4*12^n-1. • a(n) = 12 * a(n - 1) + 11. • a(n) = 13 * a(n - 1) - 12 * a(n - 2). •

[A219056] • 0,3,48,243,768,1875,3888,7203,12288,19683,30000,43923,62208,85683,115248,151875,196608,250563,314928,390963,480000,583443,702768,839523,995328 ⋆ 3*n^4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. •

[A230962] • 3,48,296,721,10072,213785,1958709,7613760,21165597,894454032,12278087704,59926173839,62518379032,3374316625735,58552907681096,416603004343680,1261259807092797,10231862403603888,255781764375436389,2697529798981443601,11543491568219853608 ⋆ Values of x such that x^2 + y^2 = 73^n with x and y coprime and 0 < x < y. • a(n) = min(abs(Re((3 + 8i) ^ n)), abs(Im((3 + 8i) ^ n))). • a(n) = abs(Re(3 + 8i) ^ n) if and only if 1 / 4 < frac(n * arctan(8 / 3) / Pi) < 3 / 4. •

[A073982] • 0,0,3,48,300,1620,9072,48384,262440,1555200,9722592,60466176,367960320,2207761920,13162730688,78399995904,468419708160,2810089946880,16894457846784,101565116448768,609954817881600,3659666929459200,21947538146863104,131621703842267136 ⋆ Number of strings of length n over Z_6 with trace 1 and subtrace 5. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A041523] • 1,1,3,49,101,150,4901,5051,15003,245099,505201,750300,24514801,25265101,75045003,1225985149,2527015301,3753000450,122623029701,126376030151,375375090003,6132377470199,12640130030401,18772507500600,613360370049601 ⋆ Denominators of continued fraction convergents to sqrt(278). • a(n) = 5002 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A167601] • 1,3,49,459,3913,39507,363169,3421083,32375353,303697827,2862955537,26952847467,253686746665,2388861601779,22489001385601,211729323587643,1993409453728537,18767289570726723,176690276990149105 ⋆ G.f.: 1/(1-3*x-40*x^2-192*x^3). • a(n) = 3 * a(n - 1) + 40 * a(n - 2) + 192 * a(n - 3). - _ G. C. Greubel _ , Jun 17 2016 •

[A248341] • 0,3,51,657,7599,83193,882351,9176457,94235199,959646393,9717524751,98022673257,986158712799,9903110989593,99321776927151,995252438490057,9966767069430399,99767369486012793,998371586402089551,9988601104814626857 ⋆ 10^n - 7^n. • a(n) = 17 * a(n - 1) - 70 * a(n - 2). •

[A075869] • 3,51,915,16419,294627,5286867,94868979,1702354755,30547516611,548152944243,9836205479763,176503545691491,3167227616967075,56833593559715859,1019837456457918387,18300240622682815107 ⋆ 5*n^2 - 9 is a square. • a(n) = 3 * sqrt(5) / 10 * ((2 + sqrt(5)) ^ (2 * n - 1) - (2 - sqrt(5)) ^ (2 * n - 1)) = 18 * a(n - 1) - a(n - 2) •

[A202654] • 0,0,3,52,370,1620,5285,14168,33012,69240,133815,242220,415558,681772,1076985,1646960,2448680,3552048,5041707,7018980,9603930,12937540,17184013,22533192,29203100 ⋆ Number of ways to place 3 nonattacking semi-queens on an n X n board. • a(n) = 1 / 6 * (n - 2) * (n - 1) * n * (n ^ 3 - 5 * n ^ 2 + 8 * n - 3). •

[A173802] • 3,53,553,5553,55553,555553,5555553,55555553,555555553,5555555553,55555555553,555555555553,5555555555553,55555555555553,555555555555553,5555555555555553,55555555555555553,555555555555555553 ⋆ a(n)=(5*10^n-23)/9. • a(n)=10 * a(n - 1) + 23, n>1. •

[A003776] • 3,54,1140,24360,521064,11146656,238452456,5101047216,1091231562 48,2334395822496,49938107061384,1068291209653392,22853211220567416,488882861126970624 ⋆ Number of 2-factors in P_5 X P_2n. • a(n) = 24a(n - 1) - 57a(n - 2) + 26a(n - 3), n>3. • a(n)=(2 / 3) * sqrt(3) * [11 + 6 * sqrt(3)] ^ n - (2 / 3) * sqrt(3) * [11 - 6 * sqrt(3)] ^ n + (1 / 3) * 2 ^ n + (4 / 3) * [11 - 6 * sqrt(3)] ^ n + (4 / 3) * [11 + 6 * sqrt(3)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 17 2008 •

[A041155] • 1,3,55,168,3079,9405,172369,526512,9649585,29475267,540204391,1650088440,30241796311,92375477373,1693000389025,5171376644448,94777779989089,289504716611715,5305862678999959,16207092753611592,297033532244008615,907307689485637437 ⋆ Denominators of continued fraction convergents to sqrt(87). • a(n) = 56 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A060483] • 3,57,717,7845,81333,825237,8300757,83202645,832809813,8331237717,83324947797,833299785045,8333199127893,83332796486997,833331185898837,8333324743497045,83333298973791573,833333195894773077,833333278357830587 7,83333331134311650645 ⋆ Number of 5-block tricoverings of an n-set. • a(n)=(1 / 5!) * (10 ^ n - 15 * 4 ^ n + 45 * 2 ^ n - 40); generally, e.g.f. for k - block tricoverings of an n - set is exp(- x + x ^ 2 / 2 + (exp(y) - 1) * x ^ 3 / 3) * Sum _{ k=0..inf } x ^ k / k! * exp(- 1 / 2 * x ^ 2 * exp(k * y)) * exp(binomial(k, 3) * y). •

[A139746] • 0,3,57,819,10545,128283,1509417,17390019,197581665,2223729963,24863682777,276721736019,3069708899985,33972956330043,375351787072137,4142063797326819,45668254886861505,503195228685608523,5541902914982749497,61014975260338690419 ⋆ 11^n-8^n. • a(n) = 19 * a(n - 1) - 88 * a(n - 2); [From Vincenzo Librandi, Jun 02 2011] •

[A041735] • 1,1,3,58,119,177,6845,7022,20889,403913,828715,1232628,4766857 9,48901207,145470993,2812850074,5771171141,8584021215,331963977311,340547998526,1013059974363,19588687511423,40190434997209,5977912250863 2,2311797090325225 ⋆ Denominators of continued fraction convergents to sqrt(387). • a(n) = 6964 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A254653] • 1,3,58,276,6325,30303,695638,3333000,76513801,366599643,8415822418,40322627676,925663952125,4435122444663,101814618911278,487823146285200,11198682416288401,53656110968927283,1231753251172812778,5901684383435715876,13548165894659311712 5 ⋆ Indices of centered heptagonal numbers (A069099) which are also pentagonal numbers (A000326). • a(n) = a(n - 1) + 110 * a(n - 2) - 110 * a(n - 3) - a(n - 4) + a(n - 5). •

[A049661] • 0,3,58,1045,18756,336567,6039454,108373609,1944685512,34895965611,626182695490,11236392553213,201628883262348,3618083506169055,64923874227780646,1165011652593882577,20905285872462105744 ⋆ a(n) = (Fibonacci(6*n+1) - 1)/4. • a(n) = 19 * a(n - 1) - 19 * a(n - 2) + a(n - 3). (End) • a(n) = (- 1 / 4 + 1 / 40 * (9 + 4 * sqrt(5)) ^ (- n) * (5 - sqrt(5) + (5 + sqrt(5)) * (9 + 4 * sqrt(5)) ^ (2 * n))). - _ Colin Barker _ , Mar 03 2016 •

[A046024] • 1,3,59,361139,43922730588128390 ⋆ a(n) = smallest k such that Sum_{ i = 1..k } 1/prime(i) exceeds n. • a(n) = e ^ (e ^ (n + O(1))), see comment in A223037. - _ Jonathan Sondow _ , Apr 17 2013; corrected by _ Charles R Greathouse IV _ , Aug 22 2013 •

[A002738] • 3,60,630,5040,34650,216216,1261260,7001280,37413090,193993800,981608628,4867480800,23728968900,114011377200,540972351000,2538963567360,11802213457650,54396360988200,248812984520100,1130341536324000,5103492036502860,22913637714910800 ⋆ Coefficients for extrapolation. • a(n) = binomial(2 * n + 3,n) * (n ^ 3 + 6 * n ^ 2 + 11 * n + 6) / 2. - _ Charles R Greathouse IV _ , May 02 2011 • a(n) = 3 * binomial(2 * n + 3,n) * binomial(n + 3,n). - _ Alois P. Heinz _ , May 02 2011 •

[A006432] • 0,3,60,650,5352,37681,239752,1421226,7996160,43219990,226309800,1154900708 ⋆ Tree-rooted planar maps. • a(n) seems to be divisible by n + 1. - _ Ralf Stephan _ , Sep 01 2003 •

[A115490] • 3,60,1008,16320,261888,4193280,67104768,1073725440,17179803648,274877644800,4398045462528,70368739983360,1125899890065408,18014398442373120,288230375883276288,4611686017353646080 ⋆ Number of monic irreducible polynomials of degree 4 in GF(2^n)[x]. • a(0)=0, a(1)=3; for n>1, a(n) = 20 * a(n - 1) - 64 * a(n - 2). - _ T. D. Noe _ , Nov 30 2006 • a(n + 1) = 4 * 16 ^ n - 4 ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 16 2008 • a(n) = (16 ^ n - 4 ^ n) / 4. - _ Vincenzo Librandi _ , Jul 25 2014 •

[A081854] • 3,60,2093,13398,47415,123728,268065,512298,894443,1458660,2255253,3340670,4777503,6634488,8986505,11914578,15505875,19853708,25057533,31222950,38461703,46891680,56636913,67827578,80599995 ⋆ (8*n-3)*(4*n-1)*(8*n^2-5*n+1). • a(0)=3, a(1)=60, a(2)=2093, a(3)=13398, a(4)=47415, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Mar 20 2015 •

[A239576] • 0,3,62,683,4015,16989,56196,158271,391917,882683,1836106,3587103,6638267,11747613,19985680,32879339,52490521,81638211,124000342,184440963,269135111,386033453,545007772,758491143,1041639045 ⋆ Number of non-equivalent (mod D_4) binary n X n matrices with 4 pairwise nonadjacent 1's. • a(n) = (n ^ 8 - 30 * n ^ 6 + 24 * n ^ 5 + 352 * n ^ 4 - 576 * n ^ 3 - 1280 * n ^ 2 + 3360 * n - 1536 + IF(n==1 mod 2) * (14 * n ^ 4 - 72 * n ^ 3 + 226 * n ^ 2 - 624 * n + 717)) / 192; n>=3. •

[A046181] • 1,3,63,261,6141,25543,601723,2502921,58962681,245260683,5777740983,24033043981,566159653621,2354993049423,55477868313843,230765285799441,5436264935102961,22612643015295763,532698485771776303,2215808250213185301,52199015340698974701 ⋆ Indices of octagonal numbers which are also triangular. • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = 98 * a(n - 2) - a(n - 4) - 32. • a(n) = 1 / 24 * sqrt(2)((sqrt(6)

- (- 1) ^ n) * (sqrt(3) + sqrt(2)) ^ (2 * n - 1) + (sqrt(6) + (- 1) ^ n) * (sqrt(3) - sqrt(2)) ^ (2 * n - 1) + 4 * sqrt(2)). • a(n) = ceiling(1 / 24 * sqrt(2) * (sqrt(6) - (- 1) ^ n) * (sqrt(3) + sqrt(2)) ^ (2 * n - 1)). •

[A238471] • 3,66,364,1197,2990,6293,11781,20254,32637,49980,73458,104371,144144,194327,256595,332748,424711,534534,664392,816585,993538,1197801,1432049,1699082,2001825 ⋆ C(5n+6, 4)/5 for n >= 0. • a(n) = binomial(5 * n + 6, 4) / 5 = (5 * n + 6) * (5 * n + 3) * (5 * n + 4) * (n + 1) / 4! for n >= 0. •

[A232326] • 3,69,310,1017,36745,214369,966652,11159821,74039764,550021544,4481549430,16543857917,87205978613,476981856953,30989048525367,203786458494160,711639924282497,3174772986229899,29814569078896025,100158574806804154 ⋆ Pierce expansion of 1 to the base Pi. • a(n) = ceiling(Pi / f ^ (n)(- 1)), where f ^ (n)(x) denotes the n - th iterate of the map f(x) = x / Pi * ceiling(Pi / x) - 1, with the convention that f ^ (0)(x) = x. •

[A270869] • 3,69,345,1203,3351,7953,16749,32175,57483,96861,155553,239979,357855,518313,732021,1011303,1370259,1824885,2393193,3095331,3953703,4993089,6240765,7726623,9483291 ⋆ a(n) = n^5 + 4*n^4 + 13*n^3 + 23*n^2 + 25*n + 3. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A086223] • 0,1,3,69,694,6944,69444,694444,6944444,69444444,694444444,6944444444,69444444444,694444444444,6944444444444,69444444444444,694444444444444,6944444444444444,69444444444444444 ⋆ Every integer can be represented uniquely as m = k*2^(j+1)+2^j-1. Sequence gives values of k for m = repunit(n). • a(n) = (125 * 10 ^ (n - 3) - 8) / 18 for n >= 4. - _ Robert Israel _ , Apr 29 2015 • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>5. •

[A248042] • 1,3,72,894348,1703358734191174242 ⋆ Denominators of approximation of cuberoot(2) by Newton's method at n iterations. • a(n) = y(n) / GCD(x(n),y(n)). •

[A259848] • 3,73,173,6173,66173,366173,2366173,12366173,912366173,2912366173,72912366173,372912366173,8372912366173,18372912366173,81837291236 6173,4818372912366173 ⋆ Suffixes of 4818372912366173 (all primes). • a(n) = 4818372912366173 mod 10 ^ n. •

[A041279] • 1,3,73,222,5401,16425,399601,1215228,29565073,89910447,2187415801,6652157850,161839204201,492169770453,11973913695073,36413910855672,885907774231201,2694137233549275,65545201379413801,1993297413717906 78,4849458994302390073 ⋆ Denominators of continued fraction convergents to sqrt(152). • a(n) = 74 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A173807] • 3,73,773,7773,77773,777773,7777773,77777773,777777773,7777777773,77777777773,777777777773,7777777777773,77777777777773,777777777777773,7777777777777773,77777777777777773 ⋆ (7*10^n-43)/9 for n>0. • a(n) = 10 * a(n - 1) + 43 with n>0, a(0)= - 4. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A229852] • 3,75,147,363,507,867,1083,1587,1875,2523,2883,3675,4107,5043,5547,6627,7203,8427,9075,10443,11163,12675,13467,15123,15987 ⋆ 3*h^2, where h is an odd integer not divisible by 3. • a(n) = 3 * (18 * n ^ 2 + 6 * (- 1) ^ n * n - 18 * n - 3 * (- 1) ^ n + 5) / 2. • a(n) = 27 * n ^ 2 - 18 * n + 3 for n even. • a(n) = 27 * n ^ 2 - 36 * n + 12 for n odd. •

[A189805] • 0,1,3,75,245,6615,22869,1288287,4601025,265939245,969738055,28510298817,105468168351,3138933581875,11734782467625,140985029361037 5,5313200518272825,642897262711011825,2438232652696561875,74176455589813182375,282762879579212657625 ⋆ Numerators of coefficients in the series expansion of ((2 - m) EllipticK(m) - 2 EllipticE(m))/(Pi * m). • a(n) is the numerator of the fraction ((2n - 1)!!) ^ 2 / (2 ^ (2n + 1) * (n - 1)! * (n + 1)!). •

[A136328] • 0,3,75,1435,25515,436821,7339332,121782375,2005392675,32835436777,535550923908,8707954925033,141270179732500,2287544190032700,36988236910737360,597341791692978975,9637351741503033075 ⋆ a(n) = Wiener index of the odd graph O_n. • a(n) = binomial(2 * n - 1, n - 1) / 2 * (sum(((2 * j + 1) * n) / (j + 1) * binomial(n - 1, j) ^ 2, { j, 0, floor(n / 2) - 1 }) + sum((2 * (n - 1 - j) * n) / (j + 1) * binomial(n - 1, j) ^ 2, { j, floor(n / 2), n - 2 })). - _ Eric W. Weisstein _ , Sep 08 2017 •

[A123656] • 3,81,811,4353,16251,47953,120051,266241,538003,1010001,1786203,3006721,4855371,7567953,11441251,16842753,24221091,34117201,47176203,64160001,85960603,113614161,148315731,191434753,244531251 ⋆ a(n) = 1 + n^4 + n^6. • a(n) = 1 + n ^ 4 + n ^ 6 = 1010001 (base n). •

[A173811] • 3,83,883,8883,88883,888883,8888883,88888883,888888883,8888888883,88888888883,888888888883,8888888888883,88888888888883,888888888888883,8888888888888883,88888888888888883,888888888888888883 ⋆ (8*10^n-53)/9 for n>0. • a(n) = 10 * a(n - 1) + 53 for n>0, a(0)= - 5. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A140158] • 1,3,84,88,713,719,3120,3128,9689,9699,24340,24352,52913,52927,103552,103568,187089,187107,317428,317448,511929,511951,791792,791816,1182441 ⋆ a(1)=1, a(n)=a(n-1)+n^4 if n odd, a(n)=a(n-1)+ n^1 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 4 +{ [1 + (- 1) ^ n] / 2 }* n, with a(1)=1 a(n)= (- 1 / 8) + (1 / 2) * (- 1) ^ n * n + (1 / 8) * (- 1) ^ n - (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 6) * n ^ 3 + (1 / 4) * n ^ 2 + (7 / 30) * n + (1 / 10) * n ^ 5 - (1 / 4) * (- 1) ^ n * n ^ 4 + (1 / 4) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A073861] • 3,89,887,9551,31397,492113,4652353,47326693,436273009,4302407359,42652618343,738832927927,7177162611713,90874329411493,218209405436543,1693182318746371,80873624627234849,804212830686677669 ⋆ Smaller of pair of successive n-digit primes with maximal difference. • a(n) = max { p in A002386 | nextprime(p) < 10 ^ n } (under the assumption given in the comment). - _ M. F. Hasler _ , Apr 28 2014 •

[A041439] • 1,3,91,276,8371,25389,770041,2335512,70835401,2148417156516086851,19763102268,599409154891,1817990566941,55139126163121,167235369056304,5072200197852241,15383835962613027,466587279076243051,1415145673191342180,42920957474816508451 ⋆ Denominators of continued fraction convergents to sqrt(235). • a(n) = 92 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 17 2013 •

[A142887] • 1,3,94,239,8452,22082,814456,2039996,70397968,188494088,7204148704,17411854064,564493160512,1609094722592,66749699364736,148601207638976,4059354394263808,13738060802150528,679354561023860224 ⋆ Expansion of x*(5510*x^5-395*x^3-146*x^2-3*x-1) / (13340*x^4-52*x^2-1). • a(n) = - 52 * a(n - 2) + 13340 * a(n - 4). - _ Joerg Arndt _ , Mar 17 2013 •

[A094085] • 3,96,768,6144,49152,393216,3145728,25165824,201326592,1610612736,12884901888,103079215104,824633720832,6597069766656,52776558133248,422212465065984,3377699720527872,27021597764222976,216172782113783808 ⋆ Denominator of (3*2^(n-1) - 1)*integral_{x=0 to 1/(4^n)}1-sqrt x dx. • a(n) = 12 * 8 ^ (n - 1) = 12 * A001018 for n>1. •

[A167582] • 3,98,1080,7568,40976,187488,761600,2830848,9821952,32254464,101263360,306229248,897175552,2558058496,7123894272,19434569728,52063567872,137236709376,356550967296,914355126272,2317328842752 ⋆ The third left hand column of triangle A167580. • a(n) = 2 ^ n * (14 * n ^ 5 - 95 * n ^ 4 + 240 * n ^ 3 - 280 * n ^ 2 + 151 * n - 30) / 240. • a(n) = 12 * a(n - 1) - 60 * a(n - 2) + 160 * a(n - 3) - 240 * a(n - 4) + 192 * a(n - 5) - 64 * a(n - 6). • a(n) - 11 * a(n - 1) + 50 * a(n - 2) - 120 * a(n - 3) + 160 * a(n - 4) - 112 * a(n - 5) + 32 * a(n - 6) = 7 * 2 ^ (n - 1). •

[A290027] • 0,0,3,102,900,5160,23520,92736,330624,1094400,3421440,10222080,29432832,82188288,223641600,595230720,1554186240,3990749184,100971970 56,25214976000,62234296320,151993712640,367691563008,881823055872,209820 0576000 ⋆ Number of 4-cycles in the n-halved cube graph. • a(n) = 3 * 2 ^ (n - 5) * binomial(n,3) * (13 * n - 35). • a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 80 * a(n - 3) - 80 * a(n - 4) + 32 * a(n - 5). •

[A094200] • 3,107,699,2547,6803,15003,29067,51299,84387,131403,195803,281427,392499,533627,709803,926403,1189187,1504299,1878267,2318003,2830833,3424347,4106699,4886307,5772003 ⋆ a(n)=16*n^4+32*n^3+36*n^2+20*n+3. • a(0)=3, a(1)=107, a(2)=699, a(3)=2547, a(4)=6803, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jul 23 2013 •

[A041635] • 1,3,109,330,11989,36297,1318681,3992340,145042921,439121103,15953402629,48299328990,1754729246269,5312487067797,193004263686961,584325278128680,21228714276319441,64270468107087003,2334965566131451549,7069167166501441650 ⋆ Denominators of continued fraction convergents to sqrt(336). • a(n) = 110 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A089904] • 0,3,109,2055,30501,404947,5049393,60493839,704938285,8049382731,90493827177,1004938271623,11049382716069,120493827160515,1304938271604961,14049382716049407,150493827160493853 ⋆ Sum of digits of numbers between 0 and (2/9)*(10^n-1). • a(n) = s(2, n - 1) where s(a, k)=a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)). • a(n) = (- 77 * (- 1 + 10 ^ n) + 9 * (14 + 9 * 10 ^ n) * n) / 81. G.f.: x * (80 * x ^ 2 + 43 * x + 3) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 •

[A243464] • 0,0,3,110,657,2172,5375,11178,20685,35192,56187,85350,124553,175860,241527,324002,425925,550128,699635,877662,1087617,1333100,1617903,1946010,2321597 ⋆ Number of ways 2 domicules can be placed on an n X n square. • a(n) = - 43 + 63 * n - 4 * n ^ 2 - 24 * n ^ 3 + 8 * n ^ 4 for n>0, a(0) = 0. •

[A249164] • 1,3,113,331,11121,32483,1089793,3183051,106788641,311906563,10464197073,30563660171,1025384524561,2994926790243,100477219209953,293472261783691,9845742098050881,28757286728011523,964782248389776433,2817920627083345611,94538814600100039601 ⋆ Numbers n such that the triangular number T(n) is equal to the sum of the pentagonal numbers P(m) and P(m+1) for some m. • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). •

[A240441] • 0,0,3,114,969,4773,17415,52125,135375,315675,676200,1352085,2553558,4595934,7937874,13229118,21369330,33579450,51487425,77229900,113571975,164046795,233117313,326362179,450688329 ⋆ Number of ways to place 4 points on a triangular grid of side n so that no three of these points are vertices of an equilateral triangle of any orientation. • a(n) = (n ^ 8 + 4 * n ^ 7 - 14 * n ^ 6 - 56 * n ^ 5 + 61 * n ^ 4 + 220 * n ^ 3 - 84 * n ^ 2 - 240 * n) / 384 + I F(MOD(n, 2) = 1) * (6 * n + 3) / 32. •

[A156001] • 0,0,3,122,776,2704,6987,15206,29224,51680,85339,134114,201792,293776,414995,572558,772656,1024320,1335123,1716234,2176728,2730128,3387131,4163830,5072664 ⋆ Number of cycles of length 4 in the queen's graph associated with an n X n chessboard • a(n) = n * (n - 1) * (21 * n ^ 3 + 526 * n ^ 2 - 1709 * n + 996) / 60 - (3 * n ^ 2 - 12 * n + 4) * floor(n / 2). •

[A041867] • 1,3,127,384,16255,49149,2080513,6290688,266289409,805158915,34082963839,103054050432,4362353081983,13190113296381,558347111529985,1688231447886336,71464067922756097,216080435216154627,9146842347001250431,27656607476219905920 ⋆ Denominators of continued fraction convergents to sqrt(455). • a(n) = 128 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A243213] • 3,128,1062,5160,18591,55113,142005,329045,701160,1395975,2626953,4713723,8120322,13503350,21770766,34153758,52292385,78337890,115072

320,166048850,235753353,329791143,455099307,620189115,835418766 ⋆ Number of ways to place 4 points on a triangular grid of side length n so that no three of them are vertices of an equilateral triangle with sides parallel to the grid. • a(n) = (n ^ 8 + 4 * n ^ 7 - 6 * n ^ 6 - 80 * n ^ 5 - 15 * n ^ 4 + 532 * n ^ 3 - 244 * n ^ 2 - 432 * n) / 384 + IF(MOD(n, 2) = 1) * (- n ^ 2 - n + 12) / 16. •

[A005175] • 0,0,3,131,1830,16990,127953,851361,5231460,30459980,170761503,931484191,4979773890,26223530970,136522672653,704553794621,3611494269120,18415268221960,93516225653403,473366777478651,2390054857197150,12043393363764950,60590148885015753 ⋆ Number of trees of subsets of an n-set. • a(n) = (125 / 24) * 5 ^ n - (64 / 3) * 4 ^ n + (135 / 4) * 3 ^ n - (76 / 3) * 2 ^ n + 209 / 24 proven in McMorris and Zaslavsky, matches Layman's formula with an offset of 1. - _ Sean A. Irvine _ , Apr 12 2016 •

[A051376] • 0,0,3,134,1935,20830,198303,1776894,15402495,130890110,1098087903,9130126654,75412301055,619706950590,5071742430303,41369422556414,336511166127615,2730929153686270,22119108433729503,178853777028618174 ⋆ Number of Boolean functions of n variables and rank 4 from Post class F(5,inf). • a(n) = (8 ^ n - 7 ^ n - 6 * 4 ^ n + 6 * 3 ^ n + 11 * 2 ^ n - 17) / 6. • a(n) = Sum _{ j=1..n } (- 1) ^ (j + 1) * C(n, j) * C(2 ^ (n - j) - 1, k - 1), where k=4. •

[A053527] • 0,0,0,0,3,140,1125,5355,19075,56133,143955,332475,706860,1404975,2640638,4733820,8149050,13543390,21825450,34227018,52388985,78463350,115233195,166252625,236008773 ⋆ Number of bipartite graphs with 4 edges on nodes {1..n}. • a(n) = (n - 3) * (n - 2) * (n - 1) * n * (n + 2) * (n ^ 3 - 5 * n - 36) / 384. •

[A042135] • 1,3,145,438,21169,63945,3090529,9335532,451196065,1362923727,65871534961,198977528610,9616792908241,29049356253333,1403985893068225,4241007035458008,204972323595052609,619157977820615835,2992455525898412689,9039282375477445390 2 ⋆ Denominators of continued fraction convergents to sqrt(592). • a(n) = 146 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A157440] • 3,162,563,1206,2091,3218,4587,6198,8051,10146,12483,15062,17883,20946,24251,27798,31587,35618,39891,44406,49163,54162,59403,64886,70611 ⋆ 121n^2 - 204n + 86. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 29 2012 •

[A202109] • 3,192,3000,24000,128625,526848,1778112,5184000,13476375,31944000,70180968,144685632,282589125,526848000,943296000,1630015488,2729559627,4444632000,7057911000,10956792000,16663911033,24874409472,36501000000,52728000000,75075609375 ⋆ n^3*(n+1)^3*(n+2)^3/72. • a(n) = 3 * sum(k * (k + 1) / 2,k=1..n) ^ 3. •

[A023310] • 3,199,233,709,1361,1367,2137,2879,5519,5987,7283,9719,11699,14983,16417,17881,20939,24481,30467,31663,31741,35107,35863,46811,47869 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 3x + 10. • a(n) == 3 or 9 (mod 14). - _ John Cerkan _ , Oct 04 2016 •

[A140163] • 1,3,246,250,3375,3381,20188,20196,79245,79255,240306,240318,611611,611625,1371000,1371016,2790873,2790891,5266990,5267010,9351111,9351133,15787476,15787500,25553125 ⋆ a(1)=1, a(n)=a(n-1)+n^5 if n odd, a(n)=a(n-1)+ n^1 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 5 +{ [1 + (- 1) ^ n] / 2 }* n, with a(1)=1. a(n)= 1 + 1 / 4 * (- 1) ^ n * n + 5 / 8 * (- 1) ^ n * n ^ 2 + 5 / 24 * n ^ 2 + 1 / 4 * n + 1 / 12 * n ^ 6 - 1 / 4 * (- 1) ^ n * n ^ 5 + 1 / 4 * n ^ 5 - 5 / 8 * (- 1) ^ n * n ^ 4 + 5 / 24 * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A068250] • 3,280,5265,47040,271250,1170288,4105710,12334080,32837805,79365000,177200023,370319040,731732820,1377981920,2488927500,4334174208,7307669895,11972250360,19116135885,29823640000,45562619718,68291480400,100588847450,145809331200 ⋆ 1/24 the number of colorings of a 3 X 3 octagonal array with n colors. • a(n) = (n ^ 9 - 20 * n ^ 8 + 174 * n ^ 7 - 859 * n ^ 6 + 2627 * n ^ 5 - 5082 * n ^ 4 + 6048 * n ^ 3 - 4023 * n ^ 2 + 1134 * n) / 24. (End) •

[A074327] • 3,311,1619,3671,1742537,148948139,16149760533341 ⋆ Smaller of twin primes arising in A074326. • a(n)=p(m) where m=2 ^ x and p(m + 1) - p(m)=2. •

[A086207] • 3,435,704403,15823018515,5272966965638163 ⋆ Sum of rank(M) over all n X n matrices over GF(4). • a(n) = sum r=1..n r * product j=0..(r - 1) (q ^ n - q ^ j) ^ 2 / (q ^ r - q ^ j) with q=4. •

[A140870] • 3,443,8483,44283,141443,347003,721443,1338683,2286083,3664443,5588003,8184443,11594883,15973883,21489443,28323003,36669443,46737083,58747683,72936443,89552003,108856443,131125283,156647483,185725443 ⋆ 8*P_4(2n), 8 times the Legendre Polynomial of order 4 at 2n. • a(n) = 560 * n ^ 4 - 120 * n ^ 2 + 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 13440 for n > 3; a(0)=3, a(1)=443, a(2)=8483, a(3)=44283. •

[A091261] • 1,3,635,2049219,7372235460687 ⋆ Number of orthogonal mates for the cyclic Latin squares of odd order. • a(n) grows at least exponentially in n [Cavenagh, Wanless]. - _ Ian Wanless _ , Jul 30 2010 •

[A119264] • 3,739,2986129,11390851,191103553,387421219,1291469059,2176783633,8303767651,24794914213,34296450499,646990192099,782757798913,2194972636933,3462826006819,14412774469393,27752076894853 ⋆ Primes of the form k^6 + k^2 + 1. • a(n) = A000040 INTERSECTION { n ^ 6 + n ^ 2 + 1 } . •

[A140744] • 4,4,4,4,5,5,6,6,7,8,9,10,11,13,14,16,19,22,26,30,36,43,52,63,77 ⋆ Arises in enumerating iterated point-line configurations. • a(n) = Floor(4 ^ (1.0488 ^ n)). •

[A102126] • 1,4,4,4,6,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ Minimum number of pieces needed to dissect a square into n smaller squares (not necessarily of the same size). • a(n) = n for n > 5 •

[A098525] • 1,1,4,4,4,13,22,58,94,130,247,445,967,1813,2983,5206,9211,17914,34231,61078,107932,190831,352057,660136,1209838 ⋆ Expansion of (1+3x^2)/(1-x-9x^5). • a(n)=a(n - 1) + 9a(n - 5); a(n)=sum { k=0..floor(n / 2), binomial(n - 2k, floor(k / 2))3 ^ k } . •

[A232172] • 0,0,0,4,4,5,5,21,26,27,27,59,59,65,77,157,157,167,167,211,218,219,219,267,274 ⋆ Partial sums of second arithmetic derivative of natural numbers. • a(n) = sum(i'', i=1..n), where i'' is the second arithmetic derivative of i (A068346). •

[A243427] • 4,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27 ⋆ Floored (rational) values of sqrt(xy) such that sqrt(x) + sqrt(y) = sqrt(xy). • a(n) = floor((n + 1) ^ 2 / n). • a(n) = n + 2 for n>1. •

[A019527] • 4,4,5,6,8,11,15,21,30,43,62,90,131,191,279,408,597,874,1280,1875,2747,4025,5898,8643,12666 ⋆ Poincaré series [or Poincare series] for depths of roots in a certain root system. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4), for n>5. •

[A170934] • 4,4,5,7,9,12,17,24,34,49,71,103,150,219,320,468,685,1003,1469,2152,3153,4620,6770,9921,14539 ⋆ a(n) = b(n) + b(n+1) + 2, where b() = A000930(). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4). •

[A107851] • 0,1,1,4,4,5,9,10,18,29,41,68,100,149,233,346,530,813,1225,1876,2852,4325,6601,10026,15250 ⋆ G.f. x*(-1-x-3*x^2-x^3+2*x^5)/((2*x^3+x^2-1)*(x^4+1)). • a(0)=0, a(1)=1, a(2)=1, a(3)=4, a(4)=4, a(5)=5, a(6)=9, a(n)= a(n - 2) + 2 * a(n - 3) - a(n - 4) + a(n - 6) + 2 * a(n - 7). - _ Harvey P. Dale _ , Jul 19 2011 •

[A098821] • 4,4,5,9,21,53,133,325,773,1797,4101,9221,20485,45061,98309,212997,458757,983045,2097157,4456453,9437189,19922949,41943045,88080389,184549381 ⋆ a(n) = (n-2) * 2^(n-1) + 5. • a(n)=5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). (End) •

[A273308] • 0,4,4,6,8,8,10,12,12,14,16,16,18,20,20,22,24,24,26,28,28,30,32,32,34 ⋆ Maximum population of a 2 X n still life in Conway's Game of Life. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>5. •

[A105790] • 1,4,4,6,8,9,11,13,14,16,17,19,21,23,25,26,27,30,31,33,34,36,38,40,41 ⋆ Number of bisections to an inscribed triangle to approximate Pi (A000796) to n decimal digits of accuracy. • a(n) = 3 * 2 ^ n * sqrt(2 - sqrt(2 + sqrt(2 + ... sqrt(2 + sqrt(3))...))). •

[A168233] • 1,4,4,7,7,10,10,13,13,16,16,19,19,22,22,25,25,28,28,31,31,34,34,37,37 ⋆ a(n) = 3*n - a(n-1) - 1 for n>0, a(1)=1. • a(n) = (6 * n + 3 * (- 1) ^ n + 1) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3), for n>3. •

[A238391] • 1,1,1,1,1,4,4,7,7,10,19,22,40,43,70,100,136,220,265,430,565,838,1225,1633,2515 ⋆ Expansion of (1+x)/(1-x^2-3*x^5). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1; a(n) = 3 * a(n - 5) + a(n - 2) for n>4. • a(2n) = Sum _{ j=0..n / 5 } binomial(n - 3j,2j) * 3 ^ (2j) + Sum _{ j=0..(n - 3) / 5 } binomial(n - 2 - 3j,2j + 1) * 3 ^ (2j + 1). • a(2n + 1) = Sum _{ j=0..n / 5 } binomial(n - 3j,2j) * 3 ^{ 2j } + Sum _{ j=0..(n - 2) / 5 } binomial(n - 1 - 3j,2j + 1) * 3 ^ (2j + 1). •

[A185670] • 0,0,0,1,1,4,4,7,9,14,14,21,21,28,34,41,41,52,52,63,71,82,82,97,101 ⋆ Number of pairs (x,y) with 1 <= x < y <= n with at least one common factor. • a(n) = n * (n - 1) / 2 + 1 - Sum _{ i=1..n } phi(i). •

[A109544] • 1,1,1,1,1,4,4,7,10,16,25,37,58,88,136,208,319,490,751,1153,1768,2713,4162,6385,9796 ⋆ Expansion of (1+x-x^3-2x^4)/ (1-x^2-x^3-x^4-x^5). • a(n) = a(n - 2) + a(n - 3) + a(n - 4) + a(n - 5). •

[A187893] • 1,4,4,7,10,16,25,40,64,103,166,268,433,700,1132,1831,2962,4792,7753,12544,20296,32839,53134,85972,139105 ⋆ a(0)=1, a(1)=4, a(n) = a(n-1) + a(n-2) - 1. • a(n)=1 + 3 / 5 * sqrt(5) * ((1 / 2 + 1 / 2 * sqrt(5)) ^ n - (1 / 2 - 1 / 2 * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Jun 06 2011 •

[A293678] • 0,4,4,7,10,16,26,41,66,107,173,280,453,732,1185,1917,3101,5018,8118,13135,21253,34388,55641,90029,145670 ⋆ a(n) is the least integer k such that k/Fibonacci(n) > Pi. • a(n) = ceiling(Pi * Fibonacci(n)). •

[A238389] • 1,1,1,4,4,7,16,19,37,67,94,178,295,460,829,1345,2209,3832,6244,10459,17740,29191,49117,82411,136690 ⋆ Expansion of (1+x)/(1-x^2-3*x^3). • a(0)=1, a(1)=1, a(2)=1; for n>2, a(n) = 3 * a(n - 3) + a(n - 2). • a(2n) = Sum _{ j=0 }^{ n / 3 } binomial(n - j,2j) * 3 ^ (2j) + Sum _{ j=0 }^{ (n - 2) / 3 } Binomial(n - 1 - j,2j + 1) * 3 ^ (2j + 1). • a(2n + 1) = Sum _{ j=0 }^{ n / 3 } binomial(n - j,2j) * 3 ^ (2j) + Sum _{ j=0 }^{ (n - 1) / 3 } binomial(n - j,2j + 1) * 3 ^ (2j + 1). •

[A173324] • 4,4,7,19,73,361,2161,15121,120961,1088641,10886401,119750401,1437004801,18681062401,261534873601,3923023104001,62768369664001,1067062284288001,19207121117184001,364935301226496001,7298706024529920001,153272826515128320001 ⋆ 3*n! + 1. • a(0) = 4, a(n) = n * a(n - 1) - n + 1 for n>0. - _ Sergei N. Gladkovskii _ , Jul 04 2012 •

[A168273] • 0,4,4,8,8,12,12,16,16,20,20,24,24,28,28,32,32,36,36,40,40,44,44,48,48 ⋆ a(n) = 2*n + (-1)^n - 1. • a(n) = 2 * n - 2 * (n mod 2). - _ Wesley Ivan Hurt _ , Jun 30 2013 •

[A014687] • 4,4,8,10,14,16,20,22,30,30,38,40,44,46,54,58,62,66,72,72,80,82,90,96,102 ⋆ In sequence of odd primes add 1 to first prime, 3rd prime, 5th prime, ... then subtract 1 from 2nd prime, fourth prime, sixth prime and so on. • a(n) + a(n - 1) = prime(n) + prime(n + 1) i.e. a(n) = prime(n) + prime(n + 1) - a(n - 1) generates sequence with initial value a(1)=4. - _ Labos Elemer _ , Apr 24 2003; corrected by _ Dean Hickerson _ , Apr 27 2003 •

[A152967] • 0,0,0,1,1,4,4,8,10,15,15,26,26,33,39,50,50,66,66,83,91,102,102,131,135 ⋆ Partial sums of A152770. • a(n) = Sum _{ i=1..n } (i - 1) * floor((n - i) / i). - _ Wesley Ivan Hurt _ , Sep 13 2017 •

[A086663] • 1,4,4,8,12,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68,72,76,80,84,88 ⋆ Number of non-attacking knights on a n*n board with all non-perimeteral

squares removed. • a(n)=4 * (n - 3) for n>5. •

[A022087] • 0,4,4,8,12,20,32,52,84,136,220,356,576,932,1508,2440,3948,6388,10336,16724,27060,43784,70844,114628,185472 ⋆ Fibonacci sequence beginning 0, 4. • a(n) = 4 * F(n) = F(n - 2) + F(n) + F(n + 2), where F = A000045. • a(n) = round(phi ^ n * (8 * phi - 4) / 5) for n>2. - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = F(n + 9) - 17 * F(n + 3), where F=A000045. - _ Manuel Valdivia _ , Dec 15 2009 • a(n) = Fibonacci(n + 3) - Fibonacci(n - 3), where Fibonacci(- 3.. - 1) = 2, - 1,1. [_ Bruno Berselli _ , May 22 2015] •

[A261212] • 1,4,4,8,16,20,25,36,41,48,64,72,81,100,109,120,144,156,173,196,213,228,256,272,300 ⋆ Maximum number of 1's in an fully symmetrical n X n binary matrix with no three 1's adjacent in a line along a row, column or diagonally. • a(3k + 2) >= 4 * (k + 1) ^ 2. •

[A226096] • 1,4,4,9,16,25,36,36,49,64,81,100,100,121,144,169,196,196,225,256,289,324,324,361,400 ⋆ Squares with doubled (4*n+2)^2. • a(n) = 3 * a(n - 5) - 3 * a(n - 10) + a(n - 15). • a(n) = a(n - 1) + 2 * a(n - 5) - 2 * a(n - 6) - a(n - 10) + a(n - 11). [_ Bruno Berselli _ , May 30 2013] • a(n) = (24 * (16 * floor(n / 5) ^ 2 + 8 * floor(n / 5) + 1) - (11 + 24 * floor(n / 5)) * (n - 5 * floor(n / 5)) ^ 4 + 2 * (49 + 104 * floor(n / 5)) * (n - 5 * floor(n / 5)) ^ 3 - 23 * (11 + 24 * floor(n / 5)) * (n - 5 * floor(n / 5)) ^ 2 + 2 * (119 + 280 * floor(n / 5)) * (n - 5 * floor(n / 5))) / 24. - _ Luce ETIENNE _ , May 08 2017 •

[A263727] • 0,1,1,1,1,4,4,9,16,25,49,81,144,225,361,576,961,1521,2500,4096,6724,10816,17689,28561,46225 ⋆ Largest square number less than or equal to the n-th Fibonacci number. • a(n) = floor(sqrt(Fibonacci(n))) ^ 2. •

[A173317] • 4,4,9,29,119,599,3599,25199,201599,1814399,18143999,199583999,2395007999,31135103999,435891455999,6538371839999,104613949439999,1778437140479999,32011868528639999,608225502044159999 ⋆ 5*n! - 1. • a(0)=4, a(n) = n * a(n - 1) + n - 1. - _ Vincenzo Librandi _ , Sep 30 2013 •

[A180964] • 1,4,4,10,13,13,19,22,22,28,31,31,37,40,40,46,49,49,55,58,58,64,67,67,73 ⋆ a(0)=1; for n>0, a(n)=1+3*A117571(n-1). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>3. • a(n) = (n - 1) * (n mod 3) + (n + 1) * (n + 1 mod 3) + n * (n + 2 mod 3). • a(n) = 3 * n + sqrt(3) * cos((4 * n - 3) * pi / 6) - sin((4 * n - 3) * pi / 6). •

[A117881] • 4,4,10,33,106,309,965,3022,9489,29813,93649,294209,924271,2903678,9122173,28658147,90032221,282844574,888582413,2791563955,8769956797,27551631845,86556004193,271923706897,854273519921 ⋆ First semiprime after Pi^n. • a(n) = min { s in A001358 and s > Pi ^ n } . •

[A136485] • 0,0,4,4,12,16,24,32,52,60,76,88,112,120,148,164,192,216,256,276,308,332,376,392,440 ⋆ Number of unit square lattice cells enclosed by origin centered circle of diameter n. • a(n) = 4 * Sum floor(sqrt((n / 2) ^ 2 - k ^ 2)) , k = 1 .... floor(n / 2) •

[A099924] • 4,4,13,22,45,82,152,274,491,870,1531,2676,4652,8048,13865,23798,40713,69446,118144,200510,339559,573894,968183,1630632,2742100 ⋆ Lucas numbers convolved with themselves. • a(n) = (n + 1) * L(n) + 2F(n + 1) = Sum[k=0..n, L(k) * L(n - k)]. • a(0)=4, a(1)=4, a(2)=13, a(3)=22, a(n)=2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Mar 06 2012] •

[A198313] • 0,0,0,1,1,1,4,4,15,23,162,540,18958,389417,50314520,2942196930,1698517018988 ⋆ Number of, not necessarily connected, regular simple graphs on n vertices with girth exactly 3. • a(n) is the sum of the n - th row of A185643. •

[A164906] • 1,4,4,16,16,64,64,256,256,1024,1024,4096,4096,16384,16384,65536,65536,262144,262144,1048576,1048576,4194304,4194304,16777216,16777216 ⋆ a(n) = (3*2^n-(-2)^n)/2. • a(n) = 4 * a(n - 2) for n > 1; a(0) = 1, a(1) = 4. • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Reinhard Zumkeller _ , Mar 04 2011 •

[A156232] • 0,4,4,16,24,64,112,256,480,1024,1984,4096,8064,16384,32512,65536,130560,262144,523264,1048576,2095104,4194304,8384512,16777216,33546240 ⋆ a(n) is the number of induced subgraphs with odd number of edges in the cycle graph C(n). • a(n) = 2 ^ (n - 1) - 2 ^ (n / 2) if n is even, 2 ^ (n - 1) otherwise. •

[A294245] • 0,0,4,4,17,17,29,29,37,46,66,66,103,130,158,158,174,174,192,192,212,212,301,301,374 ⋆ Sum of the larger parts of the partitions of 2n into two parts with larger part nonsquarefree. • a(n) = Sum _{ i=1..n } (2n - i) * (1 - mu(2n - i) ^ 2). •

[A231884] • 0,4,4,20,32,80,180,408,940,2072,4824,10792,24660,55748,126760,287584,652280,1481184,3359900,7627296,17305472,39277688,89131928,202276640,459045772 ⋆ Number of maximal 2-independent sets in the 3-dimensional (2, 2, n) grid graph. • a(n) = 3 * a(n - 2) + 4 * a(n - 3) + 4 * a(n - 4) - 9 * a(n - 6) - 3 * a(n - 7) for n>7. •

[A014433] • 1,4,4,20,52,228,804,3444,13780,59588,253252,1113556,4892276,21860260,98055780,444148020,2021194260,9257373060,42583930500,196811779400,913015265460,4251135572580,19856669967780,93027410579700,436999575464532 ⋆ a(n) = sum(i=0..n-1, a(i)*a(n-i)), a(0) = 1, a(1)=4. • a(n) = (- 3) ^ n * (hypergeom([1 / 2, n + 1],[1],8 / 5) - 5 * hypergeom([1 / 2, n],[1],8 / 5)) * (- 15) ^ (1 / 2) / (10 * (n + 1)) for n>0. - _ Mark van Hoeij _ , Jul 02 2010 • a(n) = (- 2) ^ (n + 1) * C(2 * n,n - 1) * hypergeom([- n - 1, - n + 1],[- n + 1 / 2],5 / 8) / n for n>=1. - _ Peter Luschny _ , May 08 2016 • a(n) = 2 ^ (n + 1) * GegenbauerC(n - 1, - n, - 1 / 4) / n for n>=1. - _ Peter Luschny _ , May 08 2016 •

[A216164] • 4,4,20,100,500,5000,50000,500000,5000000,50000000,500000000,5000000000,50000000000,500000000000,5000000000000,50000000000000,500000000000000,5000000000000000,50000000000000000 ⋆ Period of powers of 7 mod 10^n. • a(n) = 4 * 5 ^ (n - 2), 1 < n < 6. • a(n) = 5 * 10 ^ (n - 3), n >= 6. • a(n) = 2 ^ (n - 3) * 5 ^ (n - 2) for n>4. a(n) = 10 * a(n - 1) for n>5. G.f.: 4 * x * (125 * x ^ 4 + 25 * x ^ 3 + 5 * x ^ 2 + 9 * x - 1) / (10 * x - 1). - _ Colin Barker _ , Sep 22 2013 •

[A189743] • 4,4,32,144,704,3392,16384,79104,381952,1844224,8904704,42995712,207601664,1002389504,4839964672,23369416704,112837525504,544827768832,2630661177344,12701955784704,61330467848192,296129694531584,1429840649519104,6903881376202752 ⋆ a(1)=4, a(2)=4, a(n)=4*a(n-1) + 4*a(n-2) • a(n) = 2 * ((2 + 2 * sqrt(2)) ^ (n - 1) + (2 - 2 * sqrt(2)) ^ (n - 1)) + 1 / 2 * sqrt(2) * ((2 - 2 * sqrt(2)) ^ (n - 1) - (2 + 2 * sqrt(2)) ^ (n - 1)). - Paolo P. Lava , May 24 2011 •

[A271945] • 0,0,4,4,40,72,428,1036,4816,13712,56020,174612,665080,2180568,7991676,26951708,96696224,331269920,1174584228,4059317284,14299305416,49658576744,174293008204,606920893484,2125899390576 ⋆ Expansion of 4*x^2/(1 - x - 9*x^2 + x^3). • a(n) = a(n - 1) + 9 * a(n - 2) - a(n - 3). •

[A088202] • 1,4,5,5,5,7,7,9,10,11,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25 ⋆ Chromatic number of the n X n queen graph. • a(n) = n if n == 1 or 5 (mod 6). • a(n) <= p := nextprime(n), since we can simply take a solution for p and remove the last n - p rows and columns. •

[A238187] • 4,5,5,5,9,25,65,145,289,545,1025,1985,3969,8065,16385,33025,66049,131585,262145,523265,1046529,2095105,4194305,8392705,16785409 ⋆ Gaussian norm of 1+(1+i)^n. • a(n) = 2 ^ n + (1 + i) ^ n + (1 - i) ^ n + 1. [_ Bruno Berselli _ , Feb 20 2014] •

[A075129] • 4,5,5,5,13,50,155,390,861,1805,3850,8640,20167,47520,110780,254450,579149,1316485,3003095,6878765,15790278,36245235,83101760,190322935,435678591 ⋆ Binomial transform of reflected tetranacci numbers A074058: a(n)=Sum((-1)^k Binomial(n,k)*A074058(k),(k=0,..,n)). • a(n)=5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 3a(n - 4), a(0)=4, a(1)=5, a(2)=5, a(3)=5. G.f.: (4 - 15 * z + 20 * z ^ 2 - 10 * z ^ 3) / (1 - 5 * z + 10 * z ^ 2 - 10 * z ^ 3 + 3 * z ^ 4). •

[A157727] • 4,5,5,6,7,9,12,17,25,38,59,93,148,237,381,614,991,1601,2588,4185,6769,10950,17715,28661,46372 ⋆ a(n) = Fibonacci(n) + 4. • a(0) = 4, a(1) = 5, a(n) = a(n - 2) + a(n - 1) - 4. - _ Reinhard Zumkeller _ , Jul 30 2013 •

[A020705] • 4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28 ⋆ n+4 • a(n) = n + 4. a(n) = 2a(n - 1) - a(n - 2). •

[A294237] • 0,0,0,0,0,0,0,4,5,6,7,8,9,10,11,20,22,33,36,39,42,45,48,63,67 ⋆ Sum of the larger parts of the partitions of n into two parts with smaller part nonsquarefree. • a(n) = Sum _{ i=1..floor(n / 2) } (n - i) * (1 - mu(i) ^ 2). •

[A047569] • 0,1,4,5,6,7,8,9,12,13,14,15,16,17,20,21,22,23,24,25,28,29,30,31,32 ⋆ Numbers that are congruent to {0, 1, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7. • a(n) = (24 * n - 15 - 3 * cos(n * Pi) + 4 * sqrt(3) * cos((1 - 4 * n) * Pi / 6) - 12 * sin((1 + 2 * n) * Pi / 6)) / 18. • a(6k) = 8k - 1, a(6k - 1) = 8k - 2, a(6k - 2) = 8k - 3, a(6k - 3) = 8k - 4, a(6k - 4) = 8k - 7, a(6k - 5) = 8k - 8. (End) •

[A047567] • 0,4,5,6,7,8,12,13,14,15,16,20,21,22,23,24,28,29,30,31,32,36,37,38,39 ⋆ Numbers that are congruent to {0, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n > 5. • a(n) = n + 2 + 3 * floor((n - 2) / 5). • a(n) = (8 * n + 4 - 3 * ((n + 3) mod 5)) / 5. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 3, a(5k - 3) = 8k - 4, a(5k - 4) = 8k - 8. (End) •

[A075862] • 4,5,6,7,9,10,13,14,15,19,21,22,26,31,33,34,38,39,43,46,51,57,58,61,62 ⋆ Numbers n such that the least k such that (n-k) divides (n+k) is prime. • a(n) seems to be asymptotic to n * log(n) and a(n)<prime(n) for n>3 •

[A036668] • 1,4,5,6,7,9,11,13,16,17,19,20,23,24,25,28,29,30,31,35,36,37,41,42,43 ⋆ Hati numbers: of form 2^i*3^j*k, i+j even, (k,6)=1. • a(n) = 12 / 7 * n + O(log ^ 2 n). - _ Charles R Greathouse IV _ , Sep 10 2015 •

[A047568] • 1,4,5,6,7,9,12,13,14,15,17,20,21,22,23,25,28,29,30,31,33,36,37,38,39 ⋆ Numbers that are congruent to {1, 4, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n>5. • a(n) = (40 * n - 5 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) + 3 * ((n + 2) mod 5) - 7 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 2, a(5k - 2) = 8k - 3, a(5k - 3) = 8k - 4, a(5k - 4) = 8k - 7. (End) •

[A047260] • 0,1,4,5,6,7,10,11,12,13,16,17,18,19,22,23,24,25,28,29,30,31,34,35,36 ⋆ Numbers that are congruent to {0, 1, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (6n - 5 - i ^ (2n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n) / 4 where i=sqrt(- 1). •

[A080723] • 1,4,5,6,7,10,13,16,17,18,19,20,21,22,23,24,25,28,31,34,37,40,43,46,49 ⋆ a(0) = 1; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) == 1 mod 3". • a(a(n)) = 3 * n + 4, n >= 0. •

[A047312] • 0,4,5,6,7,11,12,13,14,18,19,20,21,25,26,27,28,32,33,34,35,39,40,41,42 ⋆ Numbers that are congruent to {0, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 5 + 3 * i ^ (2 * n) - (3 + 3 * i) * i ^ (- n) - (3 - 3 * i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047566] • 4,5,6,7,12,13,14,15,20,21,22,23,28,29,30,31,36,37,38,39,44,45,46,47,52 ⋆ Numbers that are congruent to {4, 5, 6, 7} mod 8. • a(n) = (1 / 3) *{ 5 * (n mod 4) + 2 * [(n + 1) mod 4] + 2 * [(n + 2) mod 4] + 2 * [(n + 3) mod 4] } + 8 * A002265. - _ Paolo P. Lava _ , Feb 15 2008 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (4 * n + 1 - (- 1) ^ n - (- 1) ^ ((n + 1) / 2) - (- 1) ^ (n / 2) - (- 1) ^ (- (n + 1) / 2) - (- 1) ^ (- n / 2)) / 2. (End) •

[A283775] • 4,5,6,7,12,13,14,19,20,21,22,27,28,29,34,35,36,37,42,43,44,49,50,51,52 ⋆ Numbers k such that floor(k*sqrt(3)) is even. • a(n + 1) - a(n) is in { 1,4,5 } for every n. •

[A233035] • 0,0,0,4,5,6,7,16,18,20,22,36,39,42,45,64,68,72,76,100,105,110,115,144,150 ⋆ a(n) = n * floor(n/4). • a(n) = (n ^ 2 - n * (n mod 4)) / 4. •

[A088720] • 4,5,6,8,9,10,11,12,14,16,17,18,19,20,21,22,23,24,26,28,30,32,33,34,35 ⋆ Unique monotone sequence satisfying a(a(a(n))) = 2n. • a(2n) = 2 * a(n). • a(4n + 1) = a(2n + 1) + 2 * a(n). • a(4n + 3) = 3 * a(2n + 1) - 2 * a(n). •

[A047432] • 0,1,4,5,6,8,9,12,13,14,16,17,20,21,22,24,25,28,29,30,32,33,36,37,38 ⋆ Numbers that are congruent to {0, 1, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 40 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 7 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) - 2 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 2, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A144043] • 4,5,6,8,10,12,14,18,22,24,26,30,34,36,38,42,46,52,58,60,62,68,74,78,82 ⋆ a(2n-1) = 2*prime(n), a(2n) = prime(n) + prime(n+1). • a(2n - 1) = 2 prime(n), a(2n) = prime(n) + prime(n + 1), n = 1,2,... - _ Zak Seidov _ , Jan 15 2014 •

[A047313] • 1,4,5,6,8,11,12,13,15,18,19,20,22,25,26,27,29,32,33,34,36,39,40,41,43 ⋆ Numbers that are congruent to {1, 4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 3 + i ^ (2n) - (3 + i) * i ^ (- n) - (3 - i) * i ^ n) / 8 where i=sqrt(- 1). •

[A047430] • 0,4,5,6,8,12,13,14,16,20,21,22,24,28,29,30,32,36,37,38,40,44,45,46,48 ⋆ Numbers that are congruent to {0, 4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 5 + i ^ (2 * n) - (2 + i) * i ^ (- n) - (2 - i) * i ^ n) / 4 where i=sqrt(- 1). •

[A104626] • 4,5,6,8,19,48,124,323,844,2208,5779,15128,39604,103683,271444,710648,1860499,4870848,12752044,33385283,87403804,228826128,599074579,1568397608,4106118244 ⋆ Numbers having three 1's in their base-phi representation. • a(n) = Lucas(2n - 4) + 1, for n>3. - _ Ralf Stephan _ , Nov 13 2010 •

[A008854] • 0,1,4,5,6,9,10,11,14,15,16,19,20,21,24,25,26,29,30,31,34,35,36,39,40 ⋆ Numbers that are congruent to {0, 1, 4} mod 5. • a(n) = - 1 + Sum _{ k =1..n } (- (k mod 3) + 5 * ((k + 1) mod 3) + 11 * ((k + 2) mod 3)) / 9. - _ Paolo P. Lava _ , Sep 03 2010 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (15 * n - 15 + 6 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 5k - 1, a(3k - 1) = 5k - 4, a(3k - 2) = 5k - 5. (End) •

[A047431] • 1,4,5,6,9,12,13,14,17,20,21,22,25,28,29,30,33,36,37,38,41,44,45,46,49 ⋆ Numbers that are congruent to {1, 4, 5, 6} mod 8. • a(n) = (- 2 - (- i) ^ n - i ^ n + 4n) / 2 where i=sqrt(- 1). - _ Colin Barker _ , Jun 06 2012 • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. •

[A182719] • 4,5,6,9,12,14,17,19,24,26,28,29,33,34,39,40,44,47,49,50,54,59,61,64,68 ⋆ Numbers of the form 5k + 4, 7k + 5, or 11k + 6. • a(n) = a(n - 145) + 385 = a(n - 1) + a(n - 145) - a(n - 146). •

[A047258] • 0,4,5,6,10,11,12,16,17,18,22,23,24,28,29,30,34,35,36,40,41,42,46,47,48 ⋆ Numbers that are congruent to {0, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2n - 2 + ((2n - 2) mod 3). (End) • a(n) = 2 * n - 1 - 2 * sin(2 * n * Pi / 3) / sqrt(3). • a(3k) = 6k - 1, a(3k - 1) = 6k - 2, a(3k - 2) = 6k - 6. (End) •

[A001609] • 1,1,4,5,6,10,15,21,31,46,67,98,144,211,309,453,664,973,1426,2090,3063,4489,6579,9642,14131 ⋆ a(1) = a(2) = 1, a(3) = 4; thereafter a(n) = a(n-1) + a(n-3). • a(n) = trace of successive powers of matrix ({{ 0,0,1 } , { 1,0,0 } , { 0,1,1 }}) ^ n. - _ Artur Jasinski _ , Jan 10 2007 • a(n) = w1 ^ n + w2 ^ n + w3 ^ n, where w1,w2,w3 are the roots of the cubic: (- 1 - x ^ 2 + x ^ 3). - _ Gerry Martens _ , Jun 27 2015 •

[A007606] • 1,4,5,6,11,12,13,14,15,22,23,24,25,26,27,28,37,38,39,40,41,42,43,44,45 ⋆ Take 1, skip 2, take 3, etc. • a(n) = n + m * (m + 1) where m = floor(sqrt(n - 1)). - _ Klaus Brockhaus _ , Mar 26 2004 • a(n + 1) = a(n) + if n=k ^ 2 then 2 * k + 1 else 1; a(1) = 1. - _ Reinhard Zumkeller _ , May 13 2009 •

[A047311] • 4,5,6,11,12,13,18,19,20,25,26,27,32,33,34,39,40,41,46,47,48,53,54,55,60 ⋆ Numbers that are congruent to {4, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n + 3 - 12 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 2, a(3k - 2) = 7k - 3. (End) •

[A047429] • 4,5,6,12,13,14,20,21,22,28,29,30,36,37,38,44,45,46,52,53,54,60,61,62,68 ⋆ Numbers that are congruent to {4, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 3 - 15 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 4. (End) •

[A260107] • 1,4,5,6,13,16,19,20,21,22,23,24,25,40,41,42,49,50,51,58,61,64,67,70,73 ⋆ Lexicographically first increasing sequence of positive integers such that there are exactly a(k) terms less than or equal to 3*a(k), for each k. • a(n) < = 3n - 2, and there are infinitely many indices (namely, all those of the form n = a(k) + 1 for some k) for which equality holds. •

[A221174] • 4,5,6,17,40,97,234,565,1364,3293,7950,19193,46336,111865,270066,651997,1574060,3800117,9174294,22148705,53471704,129092113,311655930,752403973,1816463876 ⋆ a(0)=-4, a(1)=5; thereafter a(n) = 2*a(n-1) + a(n-2). • a(n)=(1 / 4) * (9 * sqrt(2) * ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) - 8 * ((1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n)). - _ Paolo P. Lava _ , Jan 04 2013 •

[A164515] • 1,4,5,7,8,9,10,12,13,14,15,16,17,19,20,21,22,23,24,25,26,28,29,30,31 ⋆ Positive numbers not of the form n^2+2. • a(n) = n + 1 + floor(sqrt(n - 1) + 1 / 2), for n >= 2. •

[A047494] • 0,1,4,5,7,8,9,12,13,15,16,17,20,21,23,24,25,28,29,31,32,33,36,37,39 ⋆ Numbers that are congruent to {0, 1, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6, a(n) = a(n - 5) + 8 for n > 5. • a(n) = (40 * n - 35 - 2 * (n mod 5) + 3 * ((n + 1) mod 5) - 7 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5k) = 8k - 1, a(5k - 1) = 8k - 3, a(5k - 2) = 8k - 4, a(5k - 3) = 8k - 7, a(5k - 4) = 8k - 8. (End) •

[A080712] • 4,5,7,8,9,12,13,15,18,21,22,23,24,27,28,30,31,32,33,34,35,36,39,42,45 ⋆ a(0) = 4; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is a multiple of 3". • a(a(n)) = 3 * (n + 3). •

[A276705] • 4,5,7,8,9,20,55,91,187,247,391,475,667,775,1015,1147,1435,1591,1927,2107,2491,2695,3127,3355,3835 ⋆ Records in A249860. • a(n) = (347 + 27 * (- 1) ^ n) / 2 - 3 * (27 + (- 1) ^ n) * n + 9 * n ^ 2 for n>6. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>11. •

[A159698] • 4,5,7,8,11,12,13,14,15,16,17,18,19,20,21,22,23,24,29,30,32,33,37,38,39 ⋆ Minimal increasing sequence beginning with 4 such that n and a(n) are either both prime or both nonprime. • a(1) = 4; for n>1, a(n) = min { m > a(n - 1) : m is prime iff n is prime } . •

[A191276] • 0,1,4,5,7,8,11,12,13,16,17,19,20,23,24,25,28,29,31,32,35,36,37,40,41 ⋆ Numbers that are congruent to {0, 1, 4, 5, 7, 9, 11} mod 12. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. •

[A047377] • 0,1,4,5,7,8,11,12,14,15,18,19,21,22,25,26,28,29,32,33,35,36,39,40,42 ⋆ Numbers that are congruent to {0, 1, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14 * n - 15 - 3 * i ^ (2 * n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n) / 8, where i=sqrt(- 1). •

[A047492] • 0,4,5,7,8,12,13,15,16,20,21,23,24,28,29,31,32,36,37,39,40,44,45,47,48 ⋆ Numbers that are congruent to {0, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = 2 * n + (1 + i) * (2 * i - 2 + (1 - i) * i ^ (2 * n) - i ^ (- n) + i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A080596] • 1,4,5,7,9,10,11,12,13,15,17,19,21,22,23,24,25,26,27,28,29,31,33,35,37 ⋆ a(1)=1; for n >= 2, a(n) is smallest positive integer which is consistent with sequence being monotonically increasing and satisfying a(a(n)) = 2n+3. • a(1) = 1; then a(6 * 2 ^ k - 3 + j) = 8 * 2 ^ k - 3 + 3j / 2 + |j| / 2 for k > = 0, - 2 ^ (k + 1) <= j < 2 ^ (k + 1). •

[A267027] • 1,4,5,7,9,10,13,16,17,19,21,22,25,28,29,31,33,34,37,40,41,43,45,46,49 ⋆ "Polyrhythmic sequence" P(3,4): numbers congruent to 1 mod 3 (A016777) or 1 mod 4 (A016813). • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. • a(n) = (12 * n - 6 - 3 * cos(n * Pi / 3) - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 6. • a(6k) = 12k - 2, a(6k - 1) = 12k - 3, a(6k - 2) = 12k - 5, a(6k - 3) = 12k - 7, a(6k - 4) = 12k - 8, a(6k - 5) = 12k - 11. (End) •

[A047493] • 1,4,5,7,9,12,13,15,17,20,21,23,25,28,29,31,33,36,37,39,41,44,45,47,49 ⋆ Numbers that are congruent to {1, 4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 3 + i ^ (2 * n) - i ^ (- n) - i ^ n) / 4 where i=sqrt(- 1). •

[A047259] • 1,4,5,7,10,11,13,16,17,19,22,23,25,28,29,31,34,35,37,40,41,43,46,47,49 ⋆ Numbers that are congruent to {1, 4, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4, with a(1)=1, a(2)=4, a(3)=5, a(4)=7. - _ Harvey P. Dale _ , Feb 16 2015 • a(n) = (6 * n - 2 - cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 1, a(3k - 1) = 6k - 2, a(3k - 2) = 6k - 5. (End) •

[A145018] • 4,5,7,10,14,19,25,32,40,49,59,70,82,95,109,124,140,157,175,194,214,235,257,280,304 ⋆ a(1) = 4; then add 1 to the first number, then 2, then 3 and so on. • a(n) = (n ^ 2 - n + 8) / 2. - _ Benoit Cloitre _ . • a(n) = a(n - 1) + n - 1. • a(n) = 4 + C(n,2), n>=1. - _ Zerinvary Lajos _ , Mar 12 2009 •

[A018910] • 4,5,7,10,15,23,36,57,91,146,235,379,612,989,1599,2586,4183,6767,10948,17713,28659,46370,75027,121395,196420 ⋆ Pisot sequence L(4,5). • a(n)=2 + ((5 + 2r5) / 5)((1 + r5) / 2) ^ n + ((5 - 2r5) / 5)((1 - r5) / 2) ^ n, where r5 = sqrt(5). •

[A047375] • 0,4,5,7,11,12,14,18,19,21,25,26,28,32,33,35,39,40,42,46,47,49,53,54,56 ⋆ Numbers that are congruent to {0, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 15 - 3 * cos(2 * n * Pi / 3) - 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 7. (End) •

[A237133] • 4,5,7,11,17,28,44,73,115,191,301,500,788,1309,2063,3427,5401,8972,14140,23489,37019,61495,96917,160996,253732 ⋆ Values of x in the solutions to x^2 - 3xy + y^2 + 19 = 0, where 0 < x < y. • a(n) = 3 * a(n - 2) - a(n - 4). • a(n) = (1 / 2) * (F(n + 4) + (- 1) ^ n * F(n - 5)), n>4, with F the Fibonacci numbers (A000045). - _ Ralf Stephan _ , Feb 05 2014 •

[A047491] • 4,5,7,12,13,15,20,21,23,28,29,31,36,37,39,44,45,47,52,53,55,60,61,63,68 ⋆ Numbers that are congruent to {4, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 9 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 4. (End) •

[A292321] • 0,1,1,1,4,5,7,17,23,38,75,109,190,339,524,917,1563,2519,4360,7305,12056,20621,34407,57452,97423 ⋆ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = 1 - S^2 - S^3. • a(n) = a(n - 2) + 4 * a(n - 3) - a(n - 5) - 3 * a(n - 6) + a(n - 9) for n >= 10. •

[A042948] • 0,1,4,5,8,9,12,13,16,17,20,21,24,25,28,29,32,33,36,37,40,41,44,45,48 ⋆ Congruent to 0 or 1 mod 4. • a(n) = - 1 / 2 + 1 / 2 * (- 1) ^ n + 2 * n. - _ Paolo P. Lava _ , Oct 03 2008 • a(n) = 4 * n - a(n - 1) - 3 with a(0)=0. - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = floor((4 / 3) * floor(3 * n / 2)). - _ Clark Kimberling _ , Jul 04 2012 • a(n) = n + 2 * floor(n / 2) = 2 * n - (n mod 2). - _ Bruno Berselli _ , Apr 30 2016 •

[A267489] • 0,1,4,5,8,9,12,17,24,29,36,41,48,57,68,77,88,97,108,121,136,149,164,177,192 ⋆ a(n) = n^2 - 4*floor(n^2/6). • a(n) = n ^ 2 - 4 * floor(n ^ 2 / 6) f

or n >= 0. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>7. •

[A174396] • 1,4,5,8,10,13,14,17,19,22,23,26,28,31,32,35,37,40,41,44,46,49,50,53,55 ★ Numbers congruent to {1,4,5,8} mod 9. • a(n) = 3 * (n - 1 - floor((n - 1) / 4)) + (- 1) ^ floor((n - 1) / 2). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (18 * n - 9 + 3 * (- 1) ^ n - 2 * (- 1) ^ ((2 * n + 1 - (- 1) ^ n) / 4)) / 8. (End) •

[A190394] • 1,4,5,8,10,16,17,20,21,24,26,32,33,36,39,42,45,48,51,54 ★ Maximum number of nonattacking nightriders on an n X n board. • a(n) >= 24 * floor((n + 4) / 10) - 8, for n>=6. - _ Vaclav Kotesovec _ , Apr 01 2012 •

[A050140] • 1,4,5,8,11,12,15,16,19,22,23,26,29,30,33,34,37,40,41,44,45,48,51,52,55 ★ a(n) = 2*floor(n*phi)-n, where phi = (1+sqrt(5))/2. • a(n) = - n + 2 * floor(n * phi). • a(n) = floor(n * phi) + floor(n * sigma) where phi = (sqrt(5) + 1) / 2 and sigma = (sqrt(5) - 1) / 2. • a(n) = last number in repeating block in continued fraction for n * phi. •

[A047376] • 1,4,5,8,11,12,15,18,19,22,25,26,29,32,33,36,39,40,43,46,47,50,53,54,57 ★ Numbers that are congruent to {1, 4, 5} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 12 - 6 * cos(2 * n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 6. (End) •

[A117573] • 1,1,4,5,8,11,15,18,24,28,34,40,47,53,62,69,78,87,97,106,118,128,140,152,165 ★ Expansion of (1+2x^2)/((1-x)(1-x^2)(1-x^3)). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). • a(n) = sqrt(3) * cos(2 * Pi * n / 3 + Pi / 6) / 9 - sin(2 * Pi * n / 3 + Pi / 6) / 3 + 3 * cos(Pi * n) / 8 + (6n ^ 2 + 20n + 15) / 24. • a(n) = floor((9 * (- 1) ^ n + 6 * n ^ 2 + 20 * n + 23) / 24) . - _ Tani Akinari _ , Nov 09 2012 • a(n) = 1 - n / 4 + n ^ 2 / 4 + 3 / 2 * floor(n / 2) + floor((n + 1) / 3). - _ Vaclav Kotesovec _ , Jun 15 2014 •

[A249669] • 4,5,8,11,17,19,25,27,32,40,42,49,54,56,60,67,74,76,83,87,89,96,100,107,116 ★ a(n) = floor(prime(n)^(1+1/n)). • a(n) = prime(n) + (log(prime(n))) ^ 2 - log(prime(n)) + O(1), see arXiv:1506.03042, Theorem 5. - _ Alexei Kourbatov _ , Nov 26 2015 •

[A130814] • 1,4,5,8,11,20,25,32,39,52,61,72,83,96,113,128,141,164,181,200,219,240,267,288,311 ★ Row sums of A130795. • a(n) =Sum[A130795[n,m], { i, 0, n - 1 }] •

[A047609] • 0,4,5,8,12,13,16,20,21,24,28,29,32,36,37,40,44,45,48,52,53,56,60,61,64 ★ Numbers that are congruent to {0, 4, 5} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 21 - 6 * cos(2 * n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 8. (End) •

[A174398] • 1,4,5,8,13,16,17,20,25,28,29,32,37,40,41,44,49,52,53,56,61,64,65,68,73 ★ Numbers that are congruent to {1, 4, 5, 8} mod 12. • a(n) = 3 * n - 3 + (- 1) ^ floor((n - 1) / 2). • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (1 + i) * (3 * (n - n * i + i - 1) + i ^ (1 - n) - i ^ n) / 2, where i=sqrt(- 1). •

[A030978] • 0,1,4,5,8,13,18,25,32,41,50,61,72,85,98,113,128,145,162,181,200,221,242,265,288 ★ Maximal number of non-attacking knights on an n X n board. • a(n) = 4 if n = 2, n ^ 2 / 2 if n even > 2, (n ^ 2 + 1) / 2 if n odd > 1. • a(n) = 4 if n = 2, (1 + (- 1) ^ (1 + n) + 2 n ^ 2) / 4 otherwise. •

[A087475] • 4,5,8,13,20,29,40,53,68,85,104,125,148,173,200,229,260,293,328,365,404,445,488,533,580 ★ a(n) = n^2 + 4. • a(n) = a(n - 1) + 2 * n - 1 (with a(0)=4). - _ Vincenzo Librandi _ , Nov 22 2010 •

[A019526] • 4,5,8,13,24,44,83,158,303,582,1120,2157,4156,8009,15436,29752,57347,110538,213067,410698,791644,1525941,2941344,5669621,10928544 ★ Poincaré series [or Poincare series] for depths of roots in a certain root system. • a(n) = 2a(n - 1) - a(n - 5). •

[A258935] • 4,5,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432 ★ Independence number of Keller graphs. • a(n) = 2 ^ n except a(1) = 4 and a(2) = 5. •

[A047208] • 0,4,5,9,10,14,15,19,20,24,25,29,30,34,35,39,40,44,45,49,50,54,55,59,60 ★ Numbers that are congruent to {0, 4} mod 5. • a(n)=(1 / 4) * [3 - 3 * (- 1) ^ n + 10 * n], with n>=0. - _ Paolo P. Lava _ , Feb 10 2009 • a(n)=5 * n - a(n - 1) - 6 (with a(1)=0). - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = c((5 / 3) * c(3 * n / 2)), where c = ceiling. - _ Clark Kimberling _ , Jul 04 2012 •

[A189889] • 1,1,1,4,5,9,10,16,18,25,27,36,39,49,52,64,68,81,85,100,105,121,126,144,150 ★ Maximum number of nonattacking kings on an n X n toroidal board. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7). •

[A162698] • 4,5,9,11,14,17,19,23,24,29,34,35,39,41,44,47,49,53,54,59,64,65,69,71,74 ★ Numbers n such that the incidence matrix of the grid n X n has -1 as eigenvalue. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) + 2 * a(n - 7) - 2 * a(n - 8) + 2 * a(n - 9) - a(n - 10) for n>10. •

[A047610] • 1,4,5,9,12,13,17,20,21,25,28,29,33,36,37,41,44,45,49,52,53,57,60,61,65 ★ Positive integers that are congruent to {1, 4, 5} mod 8. • a(n) = a(n - 3) + 8, n > 3, with initial conditions a(1) = 1, a(2) = 4, a(3) = 5. - _ L. Eds on Jeffery _ , May 04 2015 •

[A120740] • 0,4,5,9,14,18,23,27,32,36,41,45,50,54,59,63,68,72,77,81,86,90,95,99,104 ★ Numbers n such that n = Sum_digits[k*abs(n-k)] for some k>=0. • a(n)=9 / 2 * (n - 1) + 4 *{ 1 - [(n + 2) mod (n + 1)] + [n! ^ 2 mod (n + 1)] * [(n + 1)! ^ 2 mod (n + 2)] }+ Sum { j=0..n }{ (- 1) ^ j / 2 } . •

[A000285] • 1,4,5,9,14,23,37,60,97,157,254,411,665,1076,1741,2817,4558,7375,11933,19308,31241,50549,81790,132339,214129 ★ a(0) = 1, a(1) = 4, and a(n) = a(n-1) + a(n-2) for n >= 2. • a(n) = 2 * Fibonacci(n) + Fibonacci(n + 2). - _ Zerinvary Lajos _ , Oct 05 2007 • a(n) = ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) / (2 ^ n * sqrt(5)) + 3 / 2 * ((1 + sqrt(5)) ^ (n - 1) - (1 - sqrt(5)) ^ (n - 1)) / (2 ^ (n - 2) * sqrt(5)). Offset 1. a(3)=5. - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 • a(n) = 3 * Fibonacci(n + 2) - 2 * Fibonacci(n + 1). - _ Gary Detlefs _ , Dec 21 2010 • a(n) = Fibonacci(n) + Lucas(n + 1), see Mathematica field. (End) • a(n) = (9 * F(n) + F(n - 3)) / 2. - _ J. M. Bergot _ , Jul 15 2017 •

[A042765] • 1,4,5,9,14,37,51,88,579,4141,8861,21863,424258,446121,1316500,1762621,8366984,10129605,28626194,38755799,764986375,1568728549,3902443473,28885832860,177217440633 ★ Denominators of continued fraction convergents to sqrt(913). • a(n) = 1031468486160814 * a(n - 32) - a(n - 64) for n>63. - _ Vincenzo Librandi _ , Jan 28 2014 •

[A041823] • 1,1,4,5,9,14,51,65,2651,2716,10799,13515,24314,37829,137801,175630,7163001,7338631,29178894,36517525,65696419,102213944,372338251,474552195,19354426051 ★ Denominators of continued fraction convergents to sqrt(432). • a(n) = 2702 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A042489] • 1,1,4,5,9,14,79,93,172,1297,2766,4063,6829,120156,126985,1643976,1770961,31750313,33521274,65271587,164064448,1213722723,1377787171,2591509894,14335336641 ★ Denominators of continued fraction convergents to sqrt(772). • a(n) = 12448646853698 * a(n - 30) - a(n - 60) for n>59. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A049860] • 0,1,4,5,9,15,29,54,102,190,355,662,1236,2307,4307,8040,15009,28018,52303,97637,182265,340245,635156,1185684,2213388 ★ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A255978] • 0,1,1,4,5,9,16,25,41,68,109,177,288,465,753,1220,1973,3193,5168,8361,13529,21892,35421,57313,92736 ★ a(n) = a(n-1) + a(n-2) + (1+(-1)^(a(n-1) + a(n-2))) with a(0)=0, a(1)=1. • a(n) = a(n - 1) + a(n - 2) + (1 + (- 1) ^ (a(n - 1) + a(n - 2))), a(0)=0, a(1)=1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - a(n - 4) - a(n - 5) for n>4. - _ Colin Barker _ , Mar 28 2015 •

[A240926] • 4,5,9,20,49,125,324,845,2209,5780,15129,39605,103684,271445,710649,1860500,4870849,12752045,33385284,87403805,228826129,599074580,1568397609,4106118245,10749957124 ★ a(n) = 2 + L(2*n) = 2 + A005248(n), n >= 0, with the Lucas numbers (A000032). • a(n) = (2 + (1 / 2 * (3 - sqrt(5))) ^ n + (1 / 2 * (3 + sqrt(5))) ^ n). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = 2 + S(n, 3) - S(n - 2, 3) = 2 + 2 * S(n, 3) - 3 * S(n - 1, 3). • a(n) = 3 * a(n - 1) - a(n - 2) - 2, n >= 1, with a(- 1)= 5 and a(0) = 4 (from the S(n, 3) recurrence or from A005248). •

[A041032] • 4,5,9,23,32,55,472,527,999,2525,3524,6049,51916,57965,109881,277727,387608,665335,5710288,6375623,12085911,30547445,42633356,73180801,628079764 ★ Numerators of continued fraction convergents to sqrt(21). • a(n) = 110 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 4 * x ^ 10 + 5 * x ^ 9 - 9 * x ^ 8 + 23 * x ^ 7 - 32 * x ^ 6 - 55 * x ^ 5 - 32 * x ^ 4 - 23 * x ^ 3 - 9 * x ^ 2 - 5 * x - 4) / ((x ^ 4 - 5 * x ^ 2 + 1) * (x ^ 8 + 5 * x ^ 6 + 24 * x ^ 4 + 5 * x ^ 2 + 1)). - _ Colin Barker _ , Jul 16 2012 •

[A075116] • 4,5,9,23,69,210,627,1846,5405,15809,46254,135382,396327,1160294,3396892,9944688,29113741,85232259,249522603,730492701,2138562494,6260774221,18328804756,53658712275,157089206159 ★ Binomial transform of A073817: a(n)=Sum(Binomial(n,k)*A073817(k),(k=0,..,n)). • a(n)=5a(n - 1) - 8a(n - 2) + 6a(n - 3) - a(n - 4), a(0)=4, a(1)=5, a(2)=9, a(3)=23. G.f.: (4 - 15 * z + 16 * z ^ 2 - 6 * z ^ 3) / (1 - 5 * z + 8 * z ^ 2 - 6 * z ^ 3 + z ^ 4). •

[A041079] • 1,1,4,5,9,23,147,317,464,781,2807,3588,45863,49451,194216,243667,437883,1119433,7154481,15428395,22582876,38011271,136616689,174627960,2232152209 ★ Denominators of continued fraction convergents to sqrt(46). • a(n) = 48670 * a(n - 12) - a(n - 24). G.f.: - (x ^ 22 - x ^ 21 + 4 * x ^ 20 - 5 * x ^ 19 + 9 * x ^ 18 - 23 * x ^ 17 + 147 * x ^ 16 - 317 * x ^ 15 + 464 * x ^ 14 - 781 * x ^ 13 + 2807 * x ^ 12 - 3588 * x ^ 11 - 2807 * x ^ 10 - 781 * x ^ 9 - 464 * x ^ 8 - 317 * x ^ 7 - 147 * x ^ 6 - 23 * x ^ 5 - 9 * x ^ 4 - 5 * x ^ 3 - 4 * x ^ 2 - x - 1) / (x ^ 24 - 48670 * x ^ 12 + 1). [_ Colin Barker _ , Jul 19 2012] •

[A163868] • 4,5,9,25,89,345,1369,5465,21849,87385,349529,1398105,5592409,22369625,89478489,357913945,1431655769,5726623065,22906492249,91625968965,366503875929,1466015503705,5864062014809,23456248059225,93824992236889 ★ a(n) = (4^n + 11)/3. • a(n)= 5 * a(n - 1) - 4 * a(n - 2). •

[A042221] • 1,4,5,9,32,105,1292,3981,13235,17216,30451,139020,6981451,28064824,35046275,63111099,224379572,736249815,9059377352,27914381871,92802522965,120716904836,213519427801,974794616040,48953250229801 ★ Denominators of continued fraction convergents to sqrt(636). • a(n) = 7011902 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 17 2014 •

[A041151] • 1,4,5,9,41,747,3029,3776,6805,30996,564733,2289928,2854661,5144589,23433017,426938895,1731188597,2158127492,3889316089,17715391848,322766369353,1308780869260,1631547238613,2940328107873,13392859670105 ★ Denominators of continued fraction convergents to sqrt(85). • a(n) = 756 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041467] • 1,1,4,5,9,50,59,227,2329,7214,9543,54929,64472,119401,422675,542076,16684955,17227031,68366048,85593079,153959127,855388714,1009347841,3883432237,39843670211 ★ Denominators of continued fraction convergents to sqrt(249). • a(n) = 17107630 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A041627] • 1,4,5,9,77,86,163,738,26731,107662,134393,242055,2070833,2312888,4383721,19847772,718903513,2895461824,3614365337,6509827161,55692982625,62202809786,117895792411,533785979430,19334191051891 ★ Denominators

of continued fraction convergents to sqrt(332). • a(n) = 26894 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A042427] • 1,4,5,9,122,2205,28787,30992,59779,270108,14645611,58852552,73498163,132350715,1794057458,32425384959,423324061925,455749446884,879073508809,3972043482120,215369421543289,865449729655276,1080819151198565,1946268880853841 ★ Denominators of continued fraction convergents to sqrt(741). • a(n) = 14705390 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 22 2014 •

[A047257] • 4,5,10,11,16,17,22,23,28,29,34,35,40,41,46,47,52,53,58,59,64,65,70,71,76 ★ Numbers that are congruent to {4, 5} mod 6. • a(n) = 4 + 6 * floor (n / 2) + n % 2. • a(n) = 6 * n - a(n - 1) - 3 (with a(1)=4). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3 * n - (- 1) ^ n. - _ Wesley Ivan Hurt _ , Mar 20 2015 •

[A116930] • 1,1,4,5,10,14,22,31,44,61,82,111,145,191,245,316,399,506,631,788,973,1200,1468,1792,2174 ★ Sum of parts, counted without multiplicities, in all partitions of n into odd parts. • a(n) = Sum _{ parts k in all partitions of n into distinct parts } phi(k), where phi(k) is the Euler totient function (see A000010). An example is given below. - _ Peter Bala _ , Dec 26 2013 •

[A022309] • 0,4,5,10,16,27,44,72,117,190,308,499,808,1308,2117,3426,5544,8971,14516,23488,38005,61494,99500,160995,260496 ★ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=0, a(1)=4. • a(n) = - 1 + (2 ^ (- 1 - n) * ((1 - t) ^ n * (- 9 + t) + (1 + t) ^ n * (9 + t))) / t, where t=sqrt(5). • a(n) = 2 * a(n - 1) - a(n - 3) for n>2. (End) • a(n) = 5 * F(n) + F(n - 1) - 1, where F = A000045. - _ Bruno Berselli _ , Feb 20 2017 •

[A049867] • 1,1,4,5,10,17,33,61,115,214,400,746,1393,2600,4854,9061,16915,31576,58945,110036,205411,383453,715815,1336255,2494468 ★ a(n)=Sum{a(k): k=0,1,2,...,n-4,n-2,n-1}; a(n-3) is not a summand; 3 initial terms required. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4); 4 initial terms required. •

[A047374] • 4,5,11,12,18,19,25,26,32,33,39,40,46,47,53,54,60,61,67,68,74,75,81,82,88 ★ Numbers that are congruent to {4, 5} mod 7. • a(n) = 7 * n - a(n - 1) - 5, n>1. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = - (5 / 4) * (- 1) ^ (n - 1) + 7 * (n - 1) / 2 + 11 / 4. - _ Viet Quoc Le Tran _ , Jun 14 2014 •

[A053307] • 1,1,4,5,11,14,24,30,45,55,76,91,119,140,176,204,249,285,340,385,451,506,584,650,741 ★ Number of nonnegative integer 2 X 2 matrices with sum of elements equal to n, under row and column permutations. • a(n) = (n + 2) * (2 * n ^ 2 + 8 * n + 15 + 9 * (- 1) ^ n) / 48. - _ Vaclav Kotesovec _ , Mar 16 2014 •

[A066898] • 0,1,1,4,5,11,15,28,38,62,85,131,177,258,346,489,648,890,1168,1572,2042,2699,3475,4532,5783 ★ Total number of even parts in all partitions of n. • a(n) = Sum _{ k=1..floor { n / 2) } tau(k) * numbpart(n - 2 * k). - _ Vladeta Jovovic _ , Jan 26 2002 •

[A001350] • 0,1,1,4,5,11,16,29,45,76,121,199,320,521,841,1364,2205,3571,5776,9349,15125,24476,39601,64079,103680 ★ Associated Mersenne numbers. • a(n) = a(n - 1) + a(n - 2) + 1 - (- 1) ^ n. a(- n) = (- 1) ^ n * a(n). • a(n) = - (1 - ((1 + sqrt(5)) / 2) ^ n - (- (1 + sqrt(5)) / 2) ^ (- n) + (- 1) ^ n). - _ Roger L. Bagula _ and _ Gary W. Adamson _ , Nov 26 2008 • a(n) = n * sum(sum(binomial(i,n - k - i) * binomial(k + i - 1,k - 1),i,ceiling((n - k) / 2),n - k) / k * (- 1) ^ (k + 1),k,1,n), n>0. - _ Vladimir Kruchinin _ , Sep 03 2010 • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4). - _ Colin Barker _ , Apr 11 2014 • a(12n + 6) / a(4n + 2) = [a(6n + 3) / a(2n + 1)] ^ 2. - _ Bob Selcoe _ , Jun 01 2014 • a(n) = sum(k=0..n - 1, C(k - 1, 2 * k - n) * n / (n - k)). - _ Peter Luschny _ , Sep 26 2014 •

[A077238] • 4,5,11,16,40,59,149,220,556,821,2075,3064,7744,11435,28901,42676,107860,159269,402539,594400,1502296,2218331,5606645,8278924,20924284 ★ Combined Diophantine Chebyshev sequences A077236 and A077235. • a(n) = 4 * a(n - 2) - a(n - 4). - _ Colin Barker _ , Feb 06 2014 •

[A259821] • 4,5,11,29,83,245,731,2189,6563,19685,59051,177149,531443,1594325,4782971,14348909,43046723,129140165,387420491,1162261469,3486784403,10460353205,31381059611,94143178829,282429536483 ★ a(n) = floor((3^n+1)^2/3^n). • a(n) = 3 ^ n + 2 for n>0. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>2. •

[A080277] • 1,4,5,12,13,16,17,32,33,36,37,44,45,48,49,80,81,84,85,92,93,96,97,112,113 ★ Partial sums of A038712. • a(n) is conjectured to be asymptotic to n * log(n) / log(2). - _ Klaus Brockhaus _ , Mar 23 2003 [See Bannister et al., 2013. - _ N. J. A. Sloane _ , Nov 26 2013] • a(n) = Sum _{ k=0..log _ 2(n) } 2 ^ k * floor(n / 2 ^ k). • a(2 ^ k) = (k + 1) * 2 ^ k. • a(n)=n + 2 * a(floor(n / 2)). - _ Vladeta Jovovic _ , Aug 06 2003 • a(1)=1, a(2n) = 2a(n) + 2n, a(2n + 1) = 2a(n) + 2n + 1. G.f. 1 / (1 - x) * sum(k>=0, 2 ^ k * t / (1 - t), t=x ^ 2 ^ k). - _ Ralf Stephan _ , Sep 07 2003 •

[A047608] • 4,5,12,13,20,21,28,29,36,37,44,45,52,53,60,61,68,69,76,77,84,85,92,93,100 ★ Numbers that are congruent to {4, 5} mod 8. • a(n) = 8 * n - a(n - 1) - 7 (with a(1)=4). [_ Vincenzo Librandi _ , Aug 06 2010] •

[A266725] • 0,1,4,5,12,13,24,25,40,41,60,61,84,85,112,113,144,145,180,181,220,221,264,265,312 ★ Total number of OFF (white) cells after n iterations of the "Rule 59" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n * (n + (- 1) ^ n + 1) - (- 1) ^ n + 1) / 4. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •

[A131328] • 1,4,5,12,17,32,49,84,133,220,353,576,929,1508,2437,3948,6385,10336,16721,27060,43781,70844,114625,185472,300097 ★ Row sums of triangle A131327. • a(n) = (2 ^ (1 - n) * ((1 + sqrt(5)) ^ (n + 1) - (1 - sqrt(5)) ^ (n + 1))) / sqrt(5) - 3 for n even. • a(n) = (2 ^ (1 - n) * ((1 + sqrt(5)) ^ (n + 1) - (1 - sqrt(5)) ^ (n + 1))) / sqrt(5) for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n>3. •

[A054451] • 1,1,4,5,12,17,33,50,88,138,232,370,609,979,1596,2575,4180,6755,10945,17700,28656,46356,75024,121380,196417 ★ Third column of triangle A054450 (partial row sums of unsigned Chebyshev triangle A049310). • a(n - 2) = Fibonacci(n + 1) - binomial(n - floor(n / 2), floor(n / 2)), or a(n - 2) = sum(i=0, floor(n / 2) - 1, binomial(n - i, i)) - _ Jon Perry _ , Mar 18 2004 • a(n) = sum { k=0..floor(n / 2), binomial(n - k + 2, k) } . - _ Paul Barry _ , Oct 23 2004 •

[A274077] • 4,5,12,31,68,129,220,347,516,733,1004,1335,1732,2201,2748,3379,4100,4917,5836,6863,8004,9265,10652,12171,13828 ★ a(n) = n^3 + 4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A156638] • 4,5,13,14,22,23,31,32,40,41,49,50,58,59,67,68,76,77,85,86,94,95,103,104,112 ★ Numbers n such that n^2 + 2 == 0 (mod 9). • a(n) = a(n - 1) + a(n - 2) - a(n - 3), n>3. • a(n) = 9 * n / 2 - 9 / 4 - 7 * (- 1) ^ n / 4. • a(n) = - a(- n + 1). - _ Bruno Berselli _ , Jan 08 2012 •

[A258281] • 1,1,4,5,13,18,37,56,103,154,279,398,682,1027,1664,2433,3977,5755,8957,13173,19980,29002,43894,62562,92531 ★ Number of partitions of 3 copies of n into distinct parts. • a(n) = 1 / 6 * [(x * y * z) ^ n] Product _{ j>0 } (1 + x ^ j + y ^ j + z ^ j). •

[A005672] • 0,0,0,1,1,4,5,13,18,39,57,112,169,313,482,859,1341,2328,3669,6253,9922,16687,26609,44320,70929 ★ a(n) = Fibonacci(n+1) - 2^floor(n/2). • a(n) = Fibonacci(n - 1) + 2 * a(n - 2), a(- 1)=0, a(1)=0, a(2)=1. - _ Zerinvary Lajos _ , Mar 17 2008 •

[A041669] • 1,1,4,5,14,19,33,52,85,137,222,581,803,2990,3793,139538,143331,569531,712862,1995255,2708117,4703372,7411489,12114861,19526350 ★ Denominators of continued fraction convergents to sqrt(353). • a(n) = 142528 * a(n - 15) + a(n - 30) for n>29. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A041089] • 1,4,5,14,19,90,1279,5206,6485,18176,24661,116820,1660141,6757384,8417525,23592434,32009959,151632270,2154861739,8771079226,10925940965,30622961156,41548902121,196818569640,2797008877081 ★ Denominators of continued fraction convergents to sqrt(52). • a(n) = 1298 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - 4 * x ^ 9 + 5 * x ^ 8 - 14 * x ^ 7 + 19 * x ^ 6 - 90 * x ^ 5 - 19 * x ^ 4 - 14 * x ^ 3 - 5 * x ^ 2 - 4 * x - 1) / ((x ^ 2 - 3 * x - 1) * (x ^ 2 + 3 * x - 1) * (x ^ 4 - 3 * x ^ 3 + 10 * x ^ 2 + 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 10 * x ^ 2 - 3 * x + 1)). [_ Colin Barker _ , Jul 18 2012] •

[A188021] • 0,0,1,1,4,5,14,20,48,75,165,274,571,988,1988,3536,6953,12597,24396,44745,85786,158632,302104,561683,1064945 ★ Expansion of (x^2)/[(1-x)*(1-3*x^2-x^3)]. • a(n)=a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4), for n>=4, with { a(k) } = { 0,0,1,1 } , k=0,1,2,3. •

[A191790] • 0,0,1,1,4,5,14,20,49,76,175,286,637,1078,2353,4081,8788,15521,33098,59279,125476,227239,478192,873885,1830270 ★ Number of base pyramids in all length n left factors of Dyck paths. • a(n) = Sum _{ k=0..n / 2 } ((Sum _{ j=ceiling(n / 2) - k + 1..2 * (n - 2 * k) } (((2 * j + 2 * k - n)) * binomial(n - 2 * k - 1,n - 2 * k - j) / j))). - _ Vladimir Kruchinin _ , Mar 04 2016 •

[A041375] • 1,4,5,14,33,47,221,6235,25161,31396,87953,207302,295255,1388322,39168271,158061406,197229677,552520760,1302271197,1854791957,8721439025,246055084657,992941777653,1238996862310,3470935502273 ★ Denominators of continued fraction convergents to sqrt(202). • a(n) = 6282 * a(n - 7) + a(n - 14). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A182252] • 4,5,14,45,180,905,5466,38297,306376,2757393,27574030,303314341,3639772188,47317038457,662438538482,9936578077425,158985249238800,2702749237059617,48649486267073430,924340239074395189,18486804781487903780 ★ a(0)=4, a(n) = (a(n-1) OR n) * n. • a(0)=4, a(n)=(a(n - 1) OR n) * n, where OR is the bitwise logical inclusive - OR operator •

[A041857] • 1,4,5,14,61,136,197,924,39005,156944,195949,548842,2391317,5331476,7722793,36222648,1529074009,6152518684,7681592693,21515704070,93744408973,209004522016,302748930989,1420000245972,59942759261813 ★ Denominators of continued fraction convergents to sqrt(450). • a(n) = 39202 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A041034] • 4,5,14,61,136,197,1712,1909,5530,24029,53588,77617,674524,752141,2178806,9467365,21113536,30580901,265760744,296341645,858444034,3710117781,8318679596,12048797377,104709058612 ★ Numerators of continued fraction convergents to sqrt(22). • a(n) = 394 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 4 * x ^ 10 + 5 * x ^ 9 - 14 * x ^ 8 + 61 * x ^ 7 - 136 * x ^ 6 - 197 * x ^ 5 - 136 * x ^ 4 - 61 * x ^ 3 - 14 * x ^ 2 - 5 * x - 4) / (x ^ 12 - 394 * x ^ 6 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A000695] • 0,1,4,5,16,17,20,21,64,65,68,69,80,81,84,85,256,257,260,261,272,273,276,277,320 ★ Moser-de Bruijn sequence: sums of distinct powers of 4. • a(n + 1) = (a(n) + 1 / 3) & - 1 / 3, where & is bitwise AND, - 1 / 3 is represented as the infinite dyadic ...010101 (just as - 1 is ...111111 in two's complement) and + 1 / 3 is ...101011. - _ Marc LeBrun _ , Sep 30 2010 •

[A081345] • 1,4,5,16,17,36,37,64,65,100,101,144,145,196,197,256,257,324,325,400,401,484,485,576,577 ★ First row in maze arrangement of natural numbers A081344. • a(n) = n ^ 2 + n + 1 - n * (- 1) ^ n = n ^ 2 + n + 1 + n * (- 1) ^ (n + 1). •

[A024854] • 4,5,16,19,40,46,80,90,140,155,224,245,336,364,480,516,660,705,880,935,1144,1210,1456,1534,1820 ★ a(n) = s(1)t(n) + s(2)t(n-1) + ... + s(k)t(n-k+1), where k = [n/2], s = (natural numbers), t = (natural numbers >= 3). • a(n) = sum _{ i=1..floor(n / 2) } i * (n - i + 3) = - floor(n / 2) * (floor(n / 2) + 1) * (2 * floor(n / 2) - 3n - 8) / 6. - _ Wesley Ivan Hurt _ , Sep 20 2013 • a(n) = (4 * n ^ 3 + 21 * n ^ 2 + 14 * n - 9 + 3 * (n ^ 2 + 6 * n + 3) * (- 1) ^ n) / 48. - _ Luce ETIENNE _ , Nov 14 2014 •

[A092809] • 1,1,4,5,16,21,64,85,256,341,1024,1365,4096,5461,16384,21845,65536,87381,262144,349525,1048576,1398101,4194304,5592405,16777216 ★ Expansion of (1+x-x^2) / ((1-x^2)*(1-4*x^2)). • a(n) = 5 * 2 ^ n / 6 + (- 2) ^ n / 6 + (- 1) ^ n / 6 - 1 / 6. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>3. •

[A058622] • 0,1,1,4,5,16,22,64,93,256,386,1024,1586,4096,6476,16384,26333,65536,106762,262144,431910,1048576,1744436,4194304,7036530 ★ a(n) = 2^(n-1) - ((1+(-1)^n)/4)*binomial(n, n/2). • a(n) = 2 ^ (n - 1) + ((1 + (- 1) ^ n) / 4) * binomial(n, n / 2); • a(n) = Sum _{ i=0..floor((n - 1) / 2) } binomial(n, i). •

[A007837] • 1,1,1,4,5,16,82,169,541,2272,17966,44419,201830,802751,4897453,52275409,166257661,840363296,4321172134,24358246735,183351656650,2762567051857,10112898715063,62269802986835,343651382271526 ★ Number of partitions of n-set with distinct block sizes. • a(n) = Sum _{ k=1..n } (n - 1)! / (n - k)! * b(k) * a(n - k), where b(k) = Sum _{ d divides k } (- d) * (- d!) ^ (- k / d) and a(0) = 1. - _ Vladeta Jovovic _ , Oct 13 2002 •

[A119997] • 1,1,1,4,5,17,32,97,225,628,1573,4225,10880,28769,74849,196708,513765,1347025,3523360,9229441,24154625,63251156,165571781,433507969,1134881280,2971250497 ★ Sum of all matrix elements of n X n matrix M[i,j] = (-1)^(i+j)*Fibonacci[i+j-1]. • a(n) = Sum[Sum[(- 1) ^ (i + j) * Fibonacci[i + j - 1], { i,1,n }], { j,1,n }]. • a(n) = 3 * a(n - 1) + a(n - 2) - 7 * a(n - 3) + 5 * a(n - 4) - a(n - 5) for n>5. - _ Colin Barker _ , Mar 26 2015 •

[A042885] • 1,4,5,19,24,43,67,780,847,5015,15892,132151,148043,280194,428237,708431,21681167,22389598,44070765,66460363,110531128,950709387,2962659289,15764005832,18726665121 ★ Denominators of continued fraction convergents to sqrt(974). • a(n) = 977651490470430 * a(n - 32) - a(n - 64) for n>63. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A042085] • 1,1,4,5,19,24,43,368,411,9410,9821,87978,97799,185777,655130,840907,3177851,4018758,188040719,192059477,764219150,956278627,3633050031,4589333658,8222388689 ★ Denominators of continued fraction convergents to sqrt(566). • a(n) = 191218570 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A041699] • 1,4,5,19,43,320,1323,9581,20485,71036,91521,437120,16702081,67245444,83947525,319088019,722123563,5373952960,22217935403,160899500781,344016936965,1192950311676,1536967248641,7340819306240,2804881008857 61 ★ Denominators of continued fraction convergents to sqrt(369). • a(n) = 16793602 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A041255] • 1,1,4,5,19,138,157,295,747,8512,17771,26283,44054,334661,1048037,1382698,5196131,6578829,149930369,156509198,619457963,775967161,2947359446,21407483283,24354842729 ★ Denominators of continued fraction convergents to sqrt(139). • a(n) = 155126500 * a(n - 18) - a(n - 36) for n>35. [_ Bruno Berselli _ , Dec 14 2013] •

[A080610] • 0,1,4,5,20,21,84,85,340,341,1364,1365,5460,5461,21844,21845,87380,87381,349524,349525,1398100,1398101,5592404,5592405,22369620 ★ Partial sums of Jacobsthal gap sequence. • a(n) = 2 ^ n + (- 2) ^ n / 3 - (- 1) ^ n / 2 - 5 / 6. - _ Paul Barry _ , Apr 22 2004 • a(n) = a(n - 1) * 4 if n even; a(n) = a(n - 1) + 1 if n odd. - _ Philippe Deléham _ , Apr 22 2013 •

[A133632] • 1,4,5,20,25,100,125,500,625,2500,3125,12500,15625,62500,78125,312500,390625,1562500,1953125,7812500,9765625,39062500,48828125,195312500,244140625 ★ a(1)=1, a(n)=(p-1)*a(n-1), if n is even, else a(n)=p*a(n-2), where p=5. • a(n)=p ^ floor((n - 1) / 2) * (p + (p - 2) * (- 1) ^ n) / 2. • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] •

[A163141] • 4,5,20,25,100,125,500,625,2500,3125,12500,15625,62500,78125,312500,390625,1562500,1953125,7812500,9765625,39062500,48828125,195312500,244140625,976562500 ★ a(n) = 5*a(n-2) for n > 2; a(1) = 4, a(2) = 5. • a(n) = (5 - 3 * (- 1) ^ n) * 5 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2. •

[A057781] • 4,5,20,85,260,629,1300,2405,4100,6565,10004,14645,20740,28565,38420,50629,65540,83525,104980,130325,160004,194485,234260,279845,331780 ★ a(n) = n^4+4 = (n^2-2*n+2)*(n^2+2*n+2) = ((n-1)^2+1)*((n+1)^2+1). • a(n) = (n ^ 2) ^ 2 + 2 ^ 2 = (n ^ 2 - 2) ^ 2 + (2 * n) ^ 2. - _ Thomas Ordowski _ , Sep 15 2015 •

[A099578] • 1,1,4,5,21,28,120,165,715,1001,4368,6188,27132,38760,170544,245157,1081575,1562275,6906900,10015005,44352165,64512240,286097760,417225900,1852482996 ★ a(n) = binomial(floor((3n+2)/2), floor(n/2)). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n + k, k). •

[A109452] • 1,1,4,5,21,31,113,177,766,1271,4687,7999,34412,60166,225891,401201,1702653,3064183,11646431,21171246,88894429,162966750,624746839,1153324813,4805206256 ★ Maximum of min(primeimplicants(f),primeimplicants(NOT f)) over all symmetric Boolean functions of n variables. • a(n)=a(ceiling(n / 2) - 1, n), where a(m, n) = trinomial(n, ceiling(m / 2), floor(m / 2), n - m) + binomial(n, ceiling(m / 2 - 1)) + a(ceiling(m / 2) - 2, n). •

[A129346] • 4,5,22,29,128,169,746,985,4348,5741,25342,33461,147704,195025,860882,1136689,5017588,6625109,29244646,38613965,170450288,225058681,993457082,1311738121,5790292204 ★ a(2n) = A100525(n), a(2n+1) = A001653(n+1) a Pellian-related sequence. • a(n) = (- (- 1 - sqrt(2)) ^ (1 + n) + (- 1 + sqrt(2)) ^ (1 + n) + (1 - sqrt(2)) ^ n * (- 4 + 3 * sqrt(2)) + (1 + sqrt(2)) ^ n * (4 + 3 * sqrt(2))) / (2 * sqrt(2)). • a(n) = 6 * a(n - 2) - a(n - 4) for n>3. (End) •

[A042123] • 1,4,5,24,29,53,135,188,511,3765,4276,12317,28910,41227,317499,676225,993724,2663673,3657397,6321070,28941677,35262747,169992665,8194910667,32949635333 ★ Denominators of continued fraction convergents to sqrt(586). • a(n) = 8230173414 * a(n - 23) + a(n - 46) for n>45. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A041531] • 1,1,4,5,24,29,111,140,4591,4731,18784,23515,112844,136359,521921,658280,21586881,22245161,88322364,110567525,530592464,641159989,2454072431,3095232420,101501509871 ★ Denominators of continued fraction convergents to sqrt(282). • a(n) = 4702 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A089499] • 0,1,4,5,24,29,140,169,816,985,4756,5741,27720,33461,161564,195025,941664,1136689,5488420,6625109,31988856,38613965,186444716,225058681,1086679440 ★ a(0)=0; a(1)=1; a(2n)=4*Sum_{k=0...n}a(2k-1); a(2n+1)=a(2n)+a(2n-1). • a(1) = 1, a(2n) = 4 * a(2n - 1) + a(2n - 2); a(2n - 1) = a(2n - 2) + a(2n - 3). Given the 2 X 2 matrix X = [1, 4; 1, 5], [a(2n - 1), a(2n)] = top row of X ^ n. The sequence starting (1, 4, 5, 24, 29,...) = numerators in continued fraction [0; 1, 4, 1, 4, 1, 4,...] = (sqrt(8) - 2) = .828427124... E.g. X ^ 3 = [29, 140; 35, 169], where 29 / 35, 140 / 169 are convergents to (sqrt(8) - 2). - _ Gary W. Adamson _ , Dec 22 2007 • a(n) = product { j = 1..floor(n / 2) } (4 + 4 * cos ^ 2(j * Pi / n)) for n >= 1. (End) •

[A249060] • 1,4,5,24,35,192,315,1920,3465,23040,45045,322560,675675,5160960,11486475,92897280,218243025,1857945600,4583103525,40874803200,105411381075,980995276800,2635284526875,25505877196800,71152682225625 ★ Column 1 of the triangular array at A249057. • a(2 * n) = (2 * n + 3) * (2 * n + 1)!! / 3, for n > 0. - _ Derek Orr _ , Oct 21 2014 • a(2 * n + 1) = (n + 2)! * 2 ^ (n + 1), for n > 0. - _ Derek Orr _ , Oct 21 2014 •

[A002352] • 1,4,5,29,34,63,286,349,635,5429,6064,90325,96389,1054215,2204819,3259034,15240955,186150494,387541943,1348776323,3085094589,4433870912,16386707325,69980700212,86367407537 ★ Numerators of convergents to cube root of 2. • a(n + 1) = c(n) * a(n) + a(n - 1), •

[A041273] • 1,4,5,29,92,305,1617,1922,9305,225242,910273,1135515,6587848,20899059,69285025,367324184,436609209,2113761020,51166873689,206781255776,257948129465,1496521903101,4747513838768,15739063419405,8344283093593 ★ Denominators of continued fraction convergents to sqrt(149). • a(n) = 227164 * a(n - 9) + a(n - 18). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A041907] • 1,1,4,5,34,73,472,545,2107,2652,113491,116143,461920,578063,3930298,8438659,54562252,63000911,243564985,306565896,13119332617,13425898513,53397028156,66822926669,454334588170 ★ Denominators of continued fraction convergents to sqrt(475). • a(n) = 115598 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A152291] • 1,1,1,4,5,36,49,512,729,10000,14641,248832,371293,7529536,11390625,268435456,410338673,11019960576,16983563041,512000000000,794280046581,26559922791424,41426511213649,1521681143169024,2384185791015625 ★ a(n) = (n+1)^floor((n-1)/2). • a(n) = denominator((- 3 + (- 1) ^ n) * ((1 - sqrt(1 + n + 1 / (1 + n))) ^ n - (1 + sqrt(1 + n + 1 / (1 + n))) ^ n) / (8 * sqrt(1 + n + 1 / (1 + n)))). - _ Gerry Martens _ , May 31 2015 •

[A041557] • 1,4,5,39,44,215,7354,29631,36985,288526,325511,1590570,5440489,219210134,273615025,2134515309,2408130334,11767036645,402487376264,1621716541701,2024203917965,15791143967456,17815347885421,8705253550914 0,2977601555196181 ★ Denominators of continued fraction convergents to sqrt(296). • a(n) = 7398 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A189744] • 4,5,40,185,940,4685,23440,117185,585940,2929685,14648440,73242185,366210940,1831054685,9155273440,45776367185,228881835940,1144409179685,5722045898440,28610229492185,143051147460940,715255737304685,3576278686523440,17881393432617185 ★ a(1)=4, a(2)=5, a(n)=4*a(n-1) + 5*a(n-2) • a(n) = 5 / 2 * (- 1) ^ (n - 1) + 3 / 2 * 5 ^ (n - 1). - Paolo P. Lava, May 24 2011 •

[A123304] • 4,5,43,263,1699,10895,69943,448943,2881699,18497135,118730023,762108143,4891844659,31399932335,201550911703,1293721577903,8304182337859,53303156937455,342144045482503,2196165379031663,14096818096762579,90485116626705455,580808823292457143 ★ Number of edge covers for the circular ladder (n-prism graph) C_n X K_2. • a(n) = 5 * a(n - 1) + 9 * a(n - 2) + a(n - 3) - 2 * a(n - 4). •

[A220534] • 4,5,55,322,1802,9888,54152,296677,1626316,8921034,48940217,268458544,1472546593,8077208658,44305328871,243025038817,1333048565463,7312079889715,40108451658226,220004139643941,1206773599084364 ★ Equals one maps: number of nX3 binary arrays indicating the locations of corresponding elements equal to exactly one of their horizontal, diagonal and antidiagonal neighbors in a random 0..1 nX3 array • a(n + 1) / a(n) tends to 5.4852313675984312... - _ Vaclav Kotesovec _ , Dec 16 2012 •

[A041173] • 1,1,4,5,94,99,391,490,9211,9701,38314,48015,902584,950599,3754381,4704980,88444021,93149001,367891024,461040025,8666611474,9127651499,36049565971,45177217470,849239480431 ★ Denominators of continued fraction convergents to sqrt(96). • a(n) = 98 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041409] • 1,1,4,5,144,149,591,740,21311,22051,87464,109515,3153884,3263399,12944081,16207480,466753521,482961001,1915636524,2398597525,69076367224,71474964749,283501261471,354976226220,10222835595631 ★ Denominators of continued fraction convergents to sqrt(219). • a(n) = 148 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A041745] • 1,1,4,5,194,199,791,990,38411,39401,156614,196015,7605184,7801199,31008781,38809980,1505788021,1544598001,6139582024,7684180025,298138422974,305822602999,1215606231971,1521428834970,59029901960831 ★ Denominators of continued fraction convergents to sqrt(392). • a(n) = 198 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A042181] • 1,1,4,5,244,249,991,1240,60511,61751,245764,307515,15006484,15313999,60948481,76262480,3721547521,3797810001,15114977524,18912787525,922928778724,941841566249,3748453477471,4690295043720,228882615576031 ★ Denominators of continued fraction convergents to sqrt(615). • a(n) = 248 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 16 2014 •

[A006185] • 1,4,6,7,7,12,12,19,21,26,26,35,35,46,48,57,57,70,70,85,87,100,100,117,117 ★ Number of pair-coverings with largest block size 3. • a(n) = n * (n - 1) / 6 if n=1 or 3 (mod 6), a(n) = n * (n + 1) / 6 if n = 0 or 2 (mod 6), a(n)

= (n ^ 2 + n + 4) / 6 if n = 4 (mod 6), and a(n) = (n ^ 2 - n + 16) / 6 if n = 5 (mod 6). [From Grannell et al.] - _ Sean A. Irvine _ , Jan 17 2017 •

[A079000] • 1,4,6,7,8,9,11,13,15,16,17,18,19,20,21,23,25,27,29,31,33,34,35,36,37 ⋆ a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is odd". • a(1) = 1, a(2) = 4, then a(9 * 2 ^ k - 3 + j) = 12 * 2 ^ k - 3 + 3 * j / 2 + |j| / 2 for k>=0, - 3 * 2 ^ k <= j <= 3 * 2 ^ k. Also a(3n) = 3 * b(n / 3), a(3n + 1) = 2 * b(n) + b(n + 1), a(3n + 2) = b(n) + 2 * b(n + 1) for n>=2, where b = A079905. - _ N. J. A. Sloane _ and _ Benoit Cloitre _ , Feb 20 2003 • a(n + 1) - 2 * a(n) + a(n - 1) = 1 for n = 9 * 2 ^ k - 3, k>=0, = - 1 for n = 2 and 3 * 2 ^ k - 3, k>=1 and = 0 otherwise. •

[A047509] • 0,1,4,6,7,8,9,12,14,15,16,17,20,22,23,24,25,28,30,31,32,33,36,38,39 ⋆ Numbers that are congruent to {0, 1, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6), for n > 6. •

[A047291] • 0,1,4,6,7,8,11,13,14,15,18,20,21,22,25,27,28,29,32,34,35,36,39,41,42 ⋆ Numbers that are congruent to {0, 1, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (- 13 - (- 1) ^ n + (3 - i) * (- i) ^ n + (3 + i) * i ^ n + 14 * n) / 8 where i=sqrt(- 1). - _ Colin Barker _ , May 14 2012 •

[A047507] • 0,4,6,7,8,12,14,15,16,20,22,23,24,28,30,31,32,36,38,39,40,44,46,47,48 ⋆ Numbers that are congruent to {0, 4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 3 + i ^ (2 * n) - (1 + 2 * i) * i ^ (- n) - (1 - 2 * i) * i ^ n) / 4 where i=sqrt(- 1). •

[A001690] • 4,6,7,9,10,11,12,14,15,16,17,18,19,20,22,23,24,25,26,27,28,29,30,31,32 ⋆ Non-Fibonacci numbers. • a(n - 1) = floor(n + lgg(sqrt(5) * (lgg(sqrt(5) * n) + n) - 5 + 3 / n) - 2) where lgg(x)=log(x) / log((sqrt(5) + 1) / 2), given by Farhi. - _ Jonathan Vos Post _ , May 05 2011 • a(n) = floor(1 / 2 - LambertW(- 1, - log(phi) / (sqrt(5) * phi ^ (n - 3 / 2))) / log(phi)) with phi = (1 + sqrt(5)) / 2 [Nicolas Normand (Nantes)]. - _ Simon Plouffe _ , Nov 29 2017 [abs removed by _ Peter Luschny _ , Nov 30 2017] •

[A144222] • 4,6,7,9,10,11,13,14,15,17,18,19,21,22,23,24 ⋆ Floor of the volumes of the first sixteen Lobell polyhedra. • a(n) = Floor[vol(L(n))]. •

[A069909] • 1,4,6,7,9,10,12,15,17,20,22,23,25,26,28,31,33,36,38,39,41,42,44,47,49 ⋆ Numbers congruent to +-1, +-4, +-6, +-7 mod 16. • a(0)=1, a(1)=4, a(2)=6, a(3)=7, a(4)=9, a(5)=10, a(n)=2 * a(n - 1) - a(n - 2) - a(n - 4) + 2 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Sep 09 2012 •

[A183870] • 1,4,6,7,9,11,12,13,15,16,18,19,20,22,23,24,25,27,28,29,31,32,33,34,35 ⋆ n+floor(sqrt(5n-5)); complement of A183871. • a(n)=n + floor(sqrt(5n - 5)). •

[A047508] • 1,4,6,7,9,12,14,15,17,20,22,23,25,28,30,31,33,36,38,39,41,44,46,47,49 ⋆ Numbers that are congruent to {1, 4, 6, 7} mod 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = (1 + i) * (4 * n - 4 * n * i + i - 1 - i ^ (- n) + i ^ (1 + n)) / 4 where i=sqrt(- 1). •

[A086170] • 1,4,6,7,10,11,12,15,17,18,19,20,23,25,26,29,30,31,32,33,36,38,39,42,43 ⋆ a(1)=1; a(n)=a(n-1)+1 if n is in the sequence; a(n)=a(n-1)+2 if n and (n-1) are not in the sequence; a(n)=a(n-1)+3 if n is not in the sequence but (n-1) is in the sequence. • a(n)=phi * n + O(1) where phi=(1 + sqrt(5)) / 2 •

[A026147] • 1,4,6,7,10,11,13,16,18,19,21,24,25,28,30,31,34,35,37,40,41,44,46,47,49 ⋆ a(n) = position of n-th 1 in A001285 (Thue-Morse sequence). • a(n) = Sum _{ k=0..2n } mod(- 2 + Sum _{ j=0..k } floor(C(k, j) / 2) } , 3). - _ Paul Barry _ , Dec 24 2004 •

[A272632] • 4,6,7,10,11,16,18,26,29,42,47,68,76,110,123,178,199,288,322,466,521,754,843,1220,1364 ⋆ Non-Fibonacci numbers that are both a sum and a difference of two Fibonacci numbers. • a(2 * n - 1) = fibonacci(n + 1) + fibonacci(n + 3) for n >= 1. • a(2 * n) = 2 * fibonacci(n + 3) for n >= 1. •

[A047234] • 0,1,4,6,7,10,12,13,16,18,19,22,24,25,28,30,31,34,36,37,40,42,43,46,48 ⋆ Numbers that are congruent to {0, 1, 4} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (6 * n - 7 + cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(3k) = 6k - 2, a(3k - 1) = 6k - 5, a(3k - 2) = 6k - 6. (End) •

[A047289] • 0,4,6,7,11,13,14,18,20,21,25,27,28,32,34,35,39,41,42,46,48,49,53,55,56 ⋆ Numbers that are congruent to {0, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = Sum _{ i=1..n } 2 ^ (- i mod 3). - _ Wesley Ivan Hurt _ , Jul 08 2014 • a(n) = (21 * n - 12 + 3 * cos(2 * n * Pi / 3) - 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 7. (End) •

[A047506] • 4,6,7,12,14,15,20,22,23,28,30,31,36,38,39,44,46,47,52,54,55,60,62,63,68 ⋆ Numbers that are congruent to {4, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n + 3 - 12 * cos(2 * n * Pi / 3) + 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 4. (End) •

[A213034] • 0,0,0,4,6,7,18,21,24,40,45,49,72,78,84,112,120,127,162,171,180,220,231,241,288 ⋆ [3n/2]*[n/3], where [] = floor. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 6) - a(n - 7) - a(n - 9) + a(n - 10). •

[A084984] • 0,1,4,6,8,9,10,11,14,16,18,19,40,41,44,46,48,49,60,61,64,66,68,69,80 ⋆ Numbers containing no prime digits. • a(n) >> n ^ 1.285. - _ Charles R Greathouse IV _ , Feb 20 2012 • a(n) = ((2 * b _ m(n) + 1) mod 10 + floor((b _ m(n) + 4) / 5) - floor((b _ m(n) + 1) / 5)) * 10 ^ m + sum _{ j=0..m - 1 } ((2 * b _ j(n))) mod 12 + floor(b _ j(n) / 6) - floor((b _ j(n) + 1) / 6) + floor((b _ j(n) + 4) / 6) - floor((b _ j(n) + 5) / 6))) * 10 ^ j, where n>1, b _ j(n)) = floor((n - 1 - 6 ^ m) / 6 ^ j), m = floor(log _ 6(n - 1)). • a(1 * 6 ^ n + 1) = 1 * 10 ^ n. • a(2 * 6 ^ n + 1) = 4 * 10 ^ n. • a(3 * 6 ^ n + 1) = 6 * 10 ^ n. • a(4 * 6 ^ n + 1) = 8 * 10 ^ n. •

[A002808] • 4,6,8,9,10,12,14,15,16,18,20,21,22,24,25,26,27,28,30,32,33,34,35,36,38 ⋆ The composite numbers: numbers n of the form x*y for x > 1 and y > 1. • a(n) = pi(a(n)) + 1 + n, where pi is the prime counting function. •

[A060679] • 4,6,8,9,10,12,14,16,18,20,21,22,24,25,26,27,28,30,32,34,36,38,39,40,42 ⋆ Orders of non-cyclic groups. • a(n) = n + O(n / log log log n). - _ Charles R Greathouse IV _ , Apr 16 2012 •

[A062115] • 0,1,4,6,8,9,10,14,16,18,40,44,46,48,49,60,64,66,68,69,80,81,84,86,88 ⋆ Numbers with no prime substring in their decimal expansion. • a(n) = O(n ^ (log _ 4 10)) = O(n ^ 1.661) because numbers containing only 0,4,6,8 are in this sequence. • a(n) = Omega(n ^ (log _ 13637 1000000)) = Omega(n ^ 1.451) for similar reasons; this bound can be increased by considering longer sequences of digits. •

[A180638] • 4,6,8,9,11,12,14,15,17,18,20,21,23,24,25,27,28,30,31,32,34,35,36,38,39 ⋆ Phan Thành Nam's upper bound on the number of non-relativistic electrons bound to a nucleus of charge n. • a(n) = floor(1.22 * n + 3.1 * n ^ (1 / 3)). •

[A202268] • 1,4,6,8,9,11,14,16,18,19,41,44,46,48,49,61,64,66,68,69,81,84,86,88,89 ⋆ Numbers in which all digits are nonprimes (1, 4, 6, 8, 9). • a(n) = sum _{ j=0..m - 1 } ((2 * b _ j(n) + 1) mod 10 + floor((b _ j(n) + 4) / 5) - floor((b _ j(n) + 1) / 5)) * 10 ^ j, where b _ j(n))=floor((4 * n + 1 - 5 ^ m) / (4 * 5 ^ j)), m=floor(log _ 5(4 * n + 1)). • a(1 * (5 ^ n - 1) / 4) = 1 * (10 ^ n - 1) / 9. • a(2 * (5 ^ n - 1) / 4) = 4 * (10 ^ n - 1) / 9. • a(3 * (5 ^ n - 1) / 4) = 6 * (10 ^ n - 1) / 9. • a(4 * (5 ^ n - 1) / 4) = 8 * (10 ^ n - 1) / 9. • a(5 * (5 ^ n - 1) / 4) = 10 ^ n - 1. •

[A047409] • 0,1,4,6,8,9,12,14,16,17,20,22,24,25,28,30,32,33,36,38,40,41,44,46,48 ⋆ Numbers that are congruent to {0, 1, 4, 6} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8n - 9 - i ^ (2n) + i ^ (- n) + i ^ n) / 4 where i=sqrt(- 1). •

[A079142] • 4,6,8,9,12,15,25,30,35,49,56,63,121,132,143,169,182,195,289,306,323,361,380,399,529 ⋆ Numbers divisible by prime integer parts of their square roots. • a(n) = prime(floor(n / 3 + 1)) * (prime(floor(n / 3 + 1)) + (n mod 3)) •

[A262389] • 4,6,8,9,14,16,18,19,24,26,28,29,34,36,38,39,44,46,48,49,54,56,58,59,64 ⋆ Numbers whose last digit is composite. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (5 * n + 1 - (- 1) ^ n + (3 + (- 1) ^ n) * (- 1) ^ ((2 * n - 3 - (- 1) ^ n) / 4) / 2) / 2. •

[A162738] • 4,6,8,9,20,24,28,30,32,36,40,42,44,48,50,78,81,84,90,96,99,102,105,108,114 ⋆ a(n) = the smallest positive multiple of {the n-th composite} that is > the n-th prime. • a(n) = ceiling(p(n) / c(n)) * c(n), where c(n) is the n - th composite, and p(n) is the n - th prime. •

[A001744] • 0,4,6,8,9,40,44,46,48,49,60,64,66,68,69,80,84,86,88,89,90,94,96,98,99 ⋆ Numbers n such that every digit contains a loop (version 2). • a(n) = ((2 * b _ m(n)) mod 8 + 4 + floor(b _ m(n) / 4) - floor((b _ m(n) + 1) / 4)) * 10 ^ m + sum _{ j=0..m - 1 } ((2 * b _ j(n))) mod 10 + 2 * floor((b _ j(n) + 4) / 5) - floor((b _ j(n) + 1) / 5) - floor(b _ j(n) / 5))) * 10 ^ j, where n>1, b _ j(n)) = floor((n - 1 - 5 ^ m) / 5 ^ j), m = floor(log _ 5(n - 1)). • a(1 * 5 ^ n + 1) = 4 * 10 ^ n. • a(2 * 5 ^ n + 1) = 6 * 10 ^ n. • a(3 * 5 ^ n + 1) = 8 * 10 ^ n. • a(4 * 5 ^ n + 1) = 9 * 10 ^ n. • a(n) = 4 * 10 ^ log _ 5(n - 1) for n=5 ^ k + 1, •

[A029581] • 4,6,8,9,44,46,48,49,64,66,68,69,84,86,88,89,94,96,98,99,444,446,448,449,464 ⋆ All digits are composite. • a(n) = sum _{ j=0..m - 1 } (2 * b(j) mod 8 + 4 + floor(b(j) / 4) - floor((b(j) + 1) / 4)) * 10 ^ j, where m = floor(log _ 4(3 * n + 1)), b(j) = floor((3 * n + 1 - 4 ^ m) / (3 * 4 ^ j)). • a(1 * (4 ^ n - 1) / 3) = 4 * (10 ^ n - 1) / 9. • a(2 * (4 ^ n - 1) / 3) = 2 * (10 ^ n - 1) / 3. • a(3 * (4 ^ n - 1) / 3) = 8 * (10 ^ n - 1) / 9. • a(4 * (4 ^ n - 1) / 3) = 10 ^ n - 1. • a(n) < 4 * (10 ^ log _ 4(3 * n + 1) - 1) / 9, equality holds for n=(4 ^ k - 1) / 3, k>0. •

[A184016] • 4,6,8,10,11,13,14,16,18,19,20,22,23,25,26,28,29,30,32,33,34,36,37,38,40 ⋆ n+floor(3*sqrt(n)); complement of A184017. • a(n)=n + floor(3 * sqrt(n)). •

[A103517] • 1,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50 ⋆ Expansion of (1+2*x-x^2)/(1-x)^2. • a(n) = 2 * n + 2 - 0 ^ n. • a(n) = Sum _{ k=0..n } 0 ^ (k(n - k)) * (n + 1). • a(n) = 2 * a(n - 1) - a(n - 2) for n > 2. - _ Eric W. Weisstein _ , Sep 14 2017 •

[A163300] • 0,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50 ⋆ Zero together with the even nonprimes. • a(n) = 2 *{ n - 1 + [(n + 1) mod n] } , with n>=1. - _ Paolo P. Lava _ , Nov 06 2009 •

[A167179] • 4,6,8,10,12,15,20,25,30,35,40,45,55,60,65,70,75,80,85,90,95,100,105,110,115 ⋆ The number of additional armies one receives in Parker Brothers' (now part of Hasbro) game of Risk for turning in the n-th set of three different or alike cards. • a(n) = 2 * (n + 1) for n<=5, otherwise a(n) = 5 * (n - 3). •

[A074827] • 4,6,8,10,12,16,18,20,22,24,28,30,32,36,40,42,45,46,48,50,52,54,56,58,60 ⋆ Numbers n such that tau(n) > tau(n+1) where tau(x) = A000005(x). • a(n) seems to be asymptotic to d * n with d=2.2... - _ Benoit Cloitre _ , Sep 07 2002 •

[A090169] • 0,1,4,6,8,10,13,14,17,19,21,23,26,27,30,32,34,36,39,40,43,45,47,49,52 ⋆ a(n) = floor(3*n/2) + floor(2*n/3). • a(n) = 2 * n - 1 + floor(n / 2) - floor((n - 1) / 3). - _ Bruno Berselli _ , Jun 15 2016 •

[A294243] • 0,0,0,4,6,8,10,20,33,39,45,63,71,79,87,111,121,149,161,193,207,221,235,273,314 ⋆ Sum of the larger parts of the partitions of 2n into two parts with smaller part nonsquarefree. • a(n) = Sum _{ i=1..n } (2 * n - i) * (1 - mu(i) ^ 2). •

[A047290] • 1,4,6,8,11,13,15,18,20,22,25,27,29,32,34,36,39,41,43,46,48,50,53,55,57 ⋆ Numbers that are congruent to {1, 4, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. (End) • a(n) = (21 * n - 9 - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 3, a(3k - 2) = 7k - 6. (End) •

[A086377] • 1,4,6,8,11,13,16,18,21,23,25,28,30,33,35,37,40,42,45,47,49,52,54,57,59 ★ a(1)=1; a(n)=a(n-1)+2 if n is in the sequence; a(n)=a(n-1)+2 if n and (n-1) are not in the sequence; a(n)=a(n-1)+3 if n is not in the sequence but (n-1) is in the sequence. • a(n) = floor((1 + sqrt(2)) * n - 1 / sqrt(2)). •

[A003662] • 1,4,6,8,11,13,16,18,23,25,28,30,35,37,40,42,47,49,52,54,59,61,64,66,71 ★ a(n) is smallest number != a(j)+a(k), j<k. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>7. - _ Colin Barker _ , Feb 27 2015 •

[A047407] • 0,4,6,8,12,14,16,20,22,24,28,30,32,36,38,40,44,46,48,52,54,56,60,62,64 ★ Numbers that are congruent to {0, 4, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * (12 * n - 9 - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 8. (End) •

[A271346] • 4,6,8,12,14,16,24,26,28,32,34,36,44,46,48,52,54,56,64,66,68,72,74,76,84 ★ Numbers n such that the final digit of n^n is 6. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n > 7. - _ Wesley Ivan Hurt _ , Oct 08 2017 •

[A055670] • 1,4,6,8,12,14,18,20,24,30,32,38,42,44,48,54,60,62,68,72,74,80,84,90,98 ★ a(n) = prime(n) - (-1)^prime(n). • a(n) = prime(n) + (- 1) ^ (prime(n) + 1). - _ Roger L. Bagula _ , Oct 07 2006 •

[A157932] • 0,4,6,8,12,16,18,20,24,28,30,32,36,40,42,44,48,52,54,56,60,64,66,68,72 ★ Numbers n such that 3^(35n)+5^(21n)+7^(15n) mod 105 is prime. • a(n) = (- 6 - (- i) ^ n - i ^ n + 6 * n) / 2, where i = sqrt(- 1). •

[A113709] • 4,6,8,12,16,18,20,24,30,36,40,42,44,48,54,60,66,68,72,78,80,84,96,100,102 ★ a(n) is the composite between p(n) and p(n+1), where p(n) is the n-th prime, which is divisible by (p(n+1)-p(n)). • a(n)=p(n + 1) - (p(n) (mod p(n + 1) - p(n))). •

[A233036] • 0,0,0,4,6,8,12,16,20,24,30,36,42,48,56,64,72,80,90,100,110,120,132,144,156 ★ The maximum number of I-tetrominos that can be packed into an n X n array of squares when rotation is allowed. • a(4 * k) = 4 * k ^ 2. • a(2 * k + 1) = k * (k + 1) for k >= 2. • a(4 * k + 2) = 4 * k * (k + 1). •

[A090989] • 4,6,8,12,16,24,32,48,64,96,128,192,256,384,512,768,1024,1536,2048,3072,4096,6144,8192,12288,16384 ★ Number of meaningful differential operations of the n-th order on the space R^4. • a(k + 2)=2 * a(k). • a(n)= gcdConv(0, { A000079 })[n + 3]. - _ Tilman Neumann _ , Jan 11 2009 •

[A136254] • 4,6,8,12,20,34,56,88,132,190,264,356,468,602,760,944,1156,1398,1672,1980,2324,2706,3128,3592,4100 ★ Generator for the finite sequence A053016. • a(n) = n ^ 3 / 3 - n ^ 2 + 8n / 3 + 4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). (End) •

[A176777] • 1,4,6,8,12,22,46,100,216,458,954,1960,3988,8062,16230,32588,65328,130834,261874,523984,1048236,2096774,4193886,8388148,16776712 ★ 2^n-n*(n-3). • a(n)= + 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). G.f.: (1 - x - 5 * x ^ 2 + 7 * x ^ 3) / ((2 * x - 1) * (x - 1) ^ 3). •

[A256137] • 1,4,6,8,14,18,26,32,42,50,62,72,86,98,114,128,146,162,182,200,222,242,266,288,314 ★ a(2) = 1; a(3) = 4; for n >= 4, a(n) = 2 + Sum_{i=4..n} d(i), where d(i) = i for even i, d(i) = i-3 for odd i. • a(2) = 1; a(3) = 4; for n >= 4, a(n) = 2 + Sum _{ i=4..n } d(i), where d(i) = i for even i, d(i) = i - 3 for odd i. • a(n) = (5 + 3 * (- 1) ^ n - 4 * n + 2 * n ^ 2) / 4 for n>3. • a(n) = (n ^ 2 - 2 * n + 4) / 2 for n even and n>3. • a(n) = (n ^ 2 - 2 * n + 1) / 2 for n odd and n>3. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>6. •

[A055397] • 0,4,6,8,16,18,28,36,43,54,64,76,90,104,119,136,152,171,190,210,232,253,276,301,326 ★ Maximum population of an n X n stable pattern in Conway's Game of Life. • a(n) = (n ^ 2) / 2 + O(n). •

[A191697] • 0,4,6,8,20,28,56,96,168,304,528,944,1664,2944,5216,9216,16320,28864,51072,90368,159872,282880,500480,885504,1566720 ★ a(n) = r1^n + r2^n + r3^n where r1, r2, r3 are the three roots of x^3 - 2*x - 2 = 0. • a(n) = \ hat { F _ 3 ^ n } (0), the Fourier transform evaluated at 0 of the Boolean function F _ 3 ^ n defined by F _ 3 ^ n(x _ 0, ..., x _{ n - 1 }) = \ sum _{ 0<i<=n - 1 } x _ i x _{ i + 1(mod n) } x _{ i + 2(mod n) } . - _ Michael Somos _ , Aug 04 2012 •

[A106366] • 4,6,8,24,48,130,312,834,2192,5934,16104,44368,122640,341802,956632,2690844,7596480,21524542,61171656,174342216,498112272,1426419858,4093181688,11767920118,33891544416 ★ Necklaces with n beads of 4 colors, no 2 adjacent beads the same color. • a(n) = (1 / n) * Sum _{ d | n } totient(n / d) * (3 * (- 1) ^ d + 3 ^ d) for n > 1. - _ Andrew Howroyd _ , Mar 12 2017 •

[A094115] • 0,1,1,4,6,9,9,10,10,19,27,36,42,49,55,64,72,81,81,82,82,85,87,90,90 ★ Partial sums of A093347. • a(3 ^ k)=(9 ^ k - 1) / 8 •

[A051679] • 0,0,1,1,4,6,9,9,16,22,29,33,42,48,55,55,70,84,99,111,128,142,157,165,186 ★ Total number of even entries in first n rows of Pascal's triangle (the zeroth and first rows being 1; 1,1). • a(0)=a(1)=0, a(2n) = 3a(n) + n(n - 1) / 2, a(2n + 1) = 2a(n) + a(n + 1) + n(n + 1) / 2. - _ Ralf Stephan _ , Oct 10 2003 •

[A214068] • 0,1,4,6,9,10,13,15,18,19,22,24,27,28,31,33,36,37,40,42,45,46,49,51,54 ★ a(n) = floor((3/2)*floor((3/2)*n)). • a(n) = (18 * n - 5 + 3 * (- 1) ^ n + (1 - i) * (- i) ^ n + (1 + i) * i ^ n) / 8, where i = sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5). •

[A133234] • 4,6,9,10,15,22,25,33,39,49,55,58,82,86,87,93,111,118,121,122,134,145,185,194,201 ★ a(n) is least semiprime (not already in list) such that no 3-term subset forms an arithmetic progression. • a(1) = 4, a(2) = 6, a(n) = smallest semiprime such that there is no i < j < n with a(n) - a(j) = a(j) - a(i). •

[A060106] • 1,4,6,9,11,13,16,18,21,23,25,28,30,33,35,37,40,42,45,47,49,52,54,57,59 ★ Ebony piano sequence; {1,4,6,9,11} mod 12. • a(n)=a(n - 5) + 12 •

[A189756] • 1,4,6,9,11,14,15,18,20,23,25,28,30,32,35,37,40,42,44,46,49,51,54,56,59 ★ n+[ns/r]+[nt/r]; r=1, s=sin(1), t=cos(1). • a(n)=n + [n * sin(1)] + [n * cos(1)]. •

[A047209] • 1,4,6,9,11,14,16,19,21,24,26,29,31,34,36,39,41,44,46,49,51,54,56,59,61 ★ Numbers that are congruent to {1, 4} mod 5. • a(n) = floor((5n - 2) / 2). - corrected by _ Reinhard Zumkeller _ , Jul 19 2013 • a(1)=1, a(n)=5(n - 1) - a(n - 1). - _ Benoit Cloitre _ , Apr 12 2003 • a(n) = (10 * n + (- 1) ^ n - 5) / 4. • a(n) - a(n - 1) - a(n - 2) + a(n - 3)=0 for n>3. • a(n) = a(n - 2) + 5 for n>2. • a(n) = 5 * floor(n / 2) + (- 1) ^ (n + 1). - _ Gary Detlefs _ , Dec 29 2011 •

[A138812] • 1,1,4,6,9,11,14,16,19,22,24,27,31,33,36,38,42,44,48,51,54,56,60,62,67 ★ a(0)=1, a(n) = sum{k=0 to n-1} floor(n/a(k)). • a(2) = 4, a(n) / n= 2.0000, a(n) / (n * sqrt(log(n)))=2.4022 • a(4)= 9, a(n) / n=2.2500, a(n) / (n * sqrt(log(n)))=1.9110 • a(8)= 19, a(n) / n=2.3750, a(n) / (n * sqrt(log(n)))=1.6470 • a(16)= 42, a(n) / n=2.6250, a(n) / (n * sqrt(log(n)))=1.5765 • a(32)= 91, a(n) / n=2.8438, a(n) / (n * sqrt(log(n)))=1.5275 • a(64)= 196, a(n) / n=3.0625, a(n) / (n * sqrt(log(n)))=1.5017 •

[A190081] • 1,4,6,9,12,13,16,19,21,24,26,28,31,34,36,38,41,43,46,49,50,53,56,58,61 ★ n + [n*r/t] + [n*s/t]; r=1, s=cos(Pi/5), t=sec(Pi/5). • a(n) = n + [n * cos(Pi / 5)] + [n * (cos(Pi / 5)) ^ 2]. •

[A047408] • 1,4,6,9,12,14,17,20,22,25,28,30,33,36,38,41,44,46,49,52,54,57,60,62,65 ★ Numbers that are congruent to {1, 4, 6} mod 8. • a(n) = 3n - 2 - floor(n / 3). - _ Wesley Ivan Hurt _ , Nov 07 2013 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 15 - 3 * cos(2 * n * Pi / 3) - sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 4, a(3k - 1) = 8k - 7. (End) •

[A165897] • 4,6,9,12,18,27,36,54,81,108,162,243,324,486,729,972,1458,2187,2916,4374,6561,8748,13122,19683,26244 ★ a(n) = a(n-1) + largest proper divisor of a(n-1), a(1)=4. • a(1)=4, a(2)=6, a(3)=9, a(n) = 3 * a(n - 3) for n>3. •

[A010737] • 4,6,9,13,19,27,39,55,79,111,159,223,319,447,639,895,1279,1791,2559,3583,5119,7167,10239,14335,20479 ★ a(n) = 2*a(n-2) + 1. • a(2n)=5 * 2 ^ n - 1 and a(2n + 1)=7 * 2 ^ n - 1 or a(n)=(6 - (- 1) ^ n) * 2 ^ floor(n / 2) - 1 - _ Benoit Cloitre _ , May 04 2003 •

[A048625] • 4,6,9,13,19,28,41,60,88,129,189,277,406,595,872,1278,1873,2745,4023,5896,8641,12664,18560,27201,39865 ★ Pisot sequence P(4,6). • a(n) = a(n - 1) + a(n - 3) (Checked up to n = 48000). •

[A257559] • 4,6,9,14,21,33,46,62,82,106,133,161,194,235,278,323,371,422,478,535,597,662,731,802,878 ★ The slowest increasing sequence of semiprimes with strictly increasing difference of successive terms. • a(n) >> n ^ 2. - _ Charles R Greathouse IV _ , Apr 30 2015 •

[A226271] • 1,4,6,9,14,22,35,56,90,145,234,378,611,988,1598,2585,4182,6766,10947,17712,28658,46369,75026,121394,196419 ★ Index of 1/n in the Fibonacci (or rabbit) ordering of the positive rationals. • a(n) = 2 * a(n - 1) - a(n - 3) for n>4. G.f.: - x * (2 * x ^ 3 + 2 * x ^ 2 - 2 * x - 1) / ((x - 1) * (x ^ 2 + x - 1)). - _ Colin Barker _ , Jun 03 2013 • a(n) = 1 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 3 + sqrt(5)) + (1 + sqrt(5)) ^ n * (3 + sqrt(5)))) / sqrt(5) for n> 1. - _ Colin Barker _ , May 11 2016 •

[A020706] • 4,6,9,14,22,35,56,90,145,234,378,611,988,1598,2585,4182,6766,10947,17712,28658,46369,75026,121394,196419,317812 ★ Pisot sequences L(4,6), E(4,6). • a(n) = Fib(n + 4) + 1. • a(n) = 2a(n - 1) - a(n - 3). • a(n) = 1 + (3 / 2) * (1 / 2 + (1 / 2) * sqrt(5)) ^ n + (7 / 10) * (1 / 2 + (1 / 2) * sqrt(5)) ^ n * sqrt(5) - (7 / 10) * sqrt(5) * (1 / 2 - (1 / 2) * sqrt(5)) ^ n + (3 / 2) * (1 / 2 - (1 / 2) * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Jun 10 2008 •

[A065856] • 4,6,9,15,26,48,88,168,323,627,1225,2406,4736,9351,18504,36655,72730,144450,287147,571208,1136971,2264215,4510963,8990492,17923944 ★ The (2^n)-th composite number. • a(n) - pi(a(n)) - 1 = 2 ^ n. •

[A181018] • 1,4,6,9,16,20,26,36,42,52,64,74,86,100,114,130 ★ Maximum number of 1's in an n X n binary matrix with no three 1's adjacent in a line along a row, column or diagonally. • a(n) >= ceiling(n ^ 2 / 2). - _ Juhani Heino _ , Aug 11 2015 •

[A032817] • 1,4,6,9,21,24,31,34,46,49,106,109,121,124,156,159,171,174,231,234,246,249,531,534,546 ★ Numbers whose set of base 5 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 5 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 5 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A190300] • 4,6,9,25,49,169,289,361,529,841,961,1369,1681,1849,2209,2809,3481,3721,4489,5041,5329,6241,6889,7921,9409 ★ Composite numbers that are not Brazilian. • a(1) = 2 ^ 2 = p _ 1 ^ 2, a(2) = 2 * 3 = p _ 1 * p _ 2, a(3) = 3 ^ 2 = p _ 2 ^ 2, a(4) = 5 ^ 2 = p _ 3 ^ 2, a(5) = 7 ^ 2 = p _ 4 ^ 2, a(6) = 13 ^ 2 = p _ 6 ^ 2, ..., for n >= 6, a(n) = p _ n ^ 2, where p _ k is the k - th prime number. - _ Bernard Schott _ , Dec 04 2012 •

[A187331] • 0,1,4,6,10,11,14,16,20,21,24,26,30,31,34,36,40,41,44,46,50,51,54,56,60 ★ a(n) = Sum_{k=1..4} floor(k*n/4). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 4. •

[A120351] • 4,6,10,12,14,16,18,20,22,24,26,28,34,36,38,44,46,48,52,58,62,68,72,74,76 ★ Even numbers such that the number of odd divisors r and the number of even divisors s are both divisors of n. • a(n) = n is even, r = number of odd divisors of n, s = number of even divisors of n, are all divisors of n. •

[A134333] • 4,6,10,12,14,18,22,26,27,30,34,38,42,45,46,58,62,63,66,74,75,78,80,82,86 ★ Numbers n whose number of prime factors (counted with multiplicity) is a prime factor of n. • a(n) << n log n / (log log n) ^ k for any fixed k. - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A166986] • 4,6,10,12,16,18,20,24,26,30,32,36,38,42,44,46,50,52,56,58,62,64,68,70,72 ★ a(n) = 2*floor((n+2)/log(2)) - 4 = 2*Sum_{i=2,..,n+1}(A022934(i)). • a(n) = 2 * floor((n + 2) / log(2)) - 4. • a(n) = a(n - 1) + a(n - 9) - a(n - 10). - _ G. C. Greubel _ , May 30 2016 •

[A047233] • 0,4,6,10,12,16,18,22,24,28,30,34,36,40,42,46,48,52,54,58,60,64,66,70,72 ★ Numbers that are congruent to {0, 4} mod 6. • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0, with n > 3. • a(n) = (6 * n + (- 1) ^ n - 5) / 2. (End) • a(n) = 6 * n - a(n - 1) - 8 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 05 2010 •

[A292794] • 0,4,6,10,12,16,22,24,30,36,40,42,46,52,54,64,66,70,72,82,84,90,94,96,100 ⋆ Numbers not congruent to A000045(k) mod A000045(k+1) for all k > 1. • a(10 ^ 7) = 45721410, a(10 ^ 8) = 457214230, a(10 ^ 9) = 4572142416. - _ Jacques Tramu _ , Feb 26 2018 •

[A073161] • 1,4,6,10,12,20,21,26,28,36,38,46,50,56,57,64,69,80,81,87,92,99,104,112,116 ⋆ Nested floor product of n and fractions (p_k + 1)/p_k where p_k is k-th prime. • a(n)=[...[[[[n(1 + 1 / 2)](1 + 1 / 3)](1 + 1 / 5)]...(1 + 1 / p _ k)]..., where [x] = floor of x and p _ k is the k - th prime; this infinite nested floor product will eventually level - off at a(n). Alternatively, for n>=1, let b(0, n)=n and b(k, n) = floor(b(k - 1, n) * (1 + 1 / p _ k)), for k=1..m, then a(n)=b(m, n) where m is smallest integer such that p _ m > a(n). •

[A079524] • 0,1,4,6,10,13,18,22,28,33,40,46,54,61,70,78,88,97,108,118,130,141,154,166,180 ⋆ Expansion of (x + b x^2 - b x^3)/((1 - x^2)*(1 - x)^2) with b=2. • a(n) = a(n - 2) + n (mod a(n - 1) + n) with n>=2 and initial values (1, 1). • a(0)=0, a(1)=1, a(2)=4, a(3)=6, a(n)=2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Apr 20 2015 • a(n) = (2 * n * (n + 6) - 3 * (1 - (- 1) ^ n)) / 8. - _ Luce ETIENNE _ , Jun 05 2015 •

[A027689] • 4,6,10,16,24,34,46,60,76,94,114,136,160,186,214,244,276,310,346,384,424,466,510,556,604 ⋆ n^2 + n + 4. • a(n)=2 * n + a(n - 1) - 2 (with a(1)=4) - _ Vincenzo Librandi _ , Aug 05 2010 •

[A078642] • 4,6,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314,92736,150050,242786,392836 ⋆ Numbers with two representations as the sum of two Fibonacci numbers. • a(n) = 2F(n + 2), where F(n) is the n - th Fibonacci number. • a(n) = a(n - 1) + a(n - 2), n > 2 ; a(1) = 4, a(2) = 6 . G.f.: 2x * (2 + x) / (1 - x - x ^ 2). - _ Philippe Deléham _ , Nov 19 2008 • a(n) = 2F(n + 2) = F(n) + F(n + 3), where F(1) = F(2) = 1. - _ Alonso del Arte _ , Jul 07 2013 • a(n) = (2 ^ (- n) * ((1 - r) ^ n * (- 3 + r) + (1 + r) ^ n * (3 + r))) / r where r=sqrt(5). - _ Colin Barker _ , Jan 29 2017 •

[A274991] • 4,6,10,64 ⋆ a(n) = 2[n](n+3). • a(n) = A046859 + 3. •

[A180713] • 0,4,6,11,12,16,18,23,24,28,30,35,36,40,42,47,48,52,54,59,60,64,66,71,72 ⋆ If n is even then a(n) = 3n, if n == 1 mod 4 then a(n) = 3n+1, if n == 3 mod 4 then a(n) = 3n+2. • a(n) = (12 * n + i * (i ^ n - (- i) ^ n) - 3 * (- 1) ^ n + 3) / 4, where i is the imaginary unit. • a(n) = + 1 * a(n - 1) + 1 * a(n - 4) - 1 * a(n - 5) for n>=5. [_ Joerg Arndt _ , Jan 25 2011] •

[A047288] • 4,6,11,13,18,20,25,27,32,34,39,41,46,48,53,55,60,62,67,69,74,76,81,83,88 ⋆ Numbers that are congruent to {4, 6} mod 7. • a(n) = 7 * n - a(n - 1) - 4 with n>1, a(1)=4. [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (4 + 2 * x + x ^ 2) / ((1 - x) ^ 2 * (1 + x)). [_ Colin Barker _ , Mar 13 2012] • a(n) = (- 1 - 3 * (- 1) ^ n + 14 * n) / 4. [_ Colin Barker _ , May 14 2012] • a(n) = floor(7 * n / 2) - (- 1) ^ n. - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A144065] • 0,1,4,6,11,14,21,25,34,39,50,56,69,76,91,99,116,125,144,154,175,186,209,221,246 ⋆ Values of n such that the expression sqrt(4!*(n+1) + 1) yields an integer. • a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6). - _ Jaume Oliver Lafont _ , Jan 21 2009 • a(n) = (- 3 + 2 * (- 1) ^ n * n + 3 * (- 1) ^ n + 6 * n ^ 2 + 18 * n) / 16. - _ Alexander R. Povolotsky _ , Jan 27 2009 • a(n) = Sum _{ i=1..n + 3 } numerator(i / 2) - denominator(i / 2). - _ Wesley Ivan Hurt _ , Feb 26 2017 •

[A084263] • 1,1,4,6,11,15,22,28,37,45,56,66,79,91,106,120,137,153,172,190,211,231,254,276,301 ⋆ Modified triangular numbers. • a(n) = (- 1) ^ n / 2 + (n ^ 2 + n + 1) / 2. • a(n) = Sum _{ k=0..n } k + (- 1) ^ k. •

[A266795] • 0,1,4,6,11,15,23,27,39,43,59,63,83,87,111,115,143,147,179,183,219,223,263,267,311 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 61" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n * (n + (- 1) ^ n + 1) - 7 * (- 1) ^ n + 3) / 4 for n>3. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>8. •

[A060577] • 1,1,4,6,11,17,24,32,41,51,62,74,87,101,116,132,149,167,186,206,227,249,272,296,321 ⋆ Number of homeomorphically irreducible general graphs on 2 labeled nodes and with n edges. • a(n) = ceiling((1 / 2) * (3 * n ^ 2 - 10 * n + 9) / (n - 2)) + floor((3 / 2) * (n - 1) ^ 2) - n ^ 2 + 3 * n - 3 with n > 2, a(0) = a(1) = 1, a(2) = 4. • a(n) = n * (n + 3) / 2 - 3 for n > 2. •

[A197985] • 4,6,11,18,27,38,51,66,83,102,123,146,171,198,227,258,291,326,363,402,443,486,531,578,627 ⋆ Round((n+1/n)^2) • a(n) = n ^ 2 + 2, n>1; a(n) = 2 * n + a(n - 1) - 1, n>2. •

[A022318] • 1,4,6,11,18,30,49,80,130,211,342,554,897,1452,2350,3803,6154,9958,16113,26072,42186,68259,110446,178706,289153 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 4. • a(0)=1, a(1)=4, a(2)=6, a(n) = 2 * a(n - 1) - a(n - 3). (End) •

[A291916] • 4,6,11,19,34,60,106,186,325,565,978,1686,2896,4958,8463,14407,24466,41456,70102,118322,199369,335401,563426,945194,1583644 ⋆ Number of (not necessarily maximum) cliques in the n-Fibonacci cube graph. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + a(n - 4) + a(n - 5). • a(n) = (n * Lucas(n + 1) + Lucas(n + 4) - Fibonacci(n - 3)) / 5 + 1. - _ Ehren Metcalfe _ , Oct 16 2017 •

[A154145] • 1,4,6,11,20,33,43,70,121,196,254,411,708,1145,1483,2398,4129,6676,8646,13979,24068,38913,50395,81478,140281 ⋆ Indices k such that 15 plus the k-th triangular number is a perfect square. • a(n)= + a(n - 1) + 6 * a(n - 4) - 6 * a(n - 5) - a(n - 8) + a(n - 9). • a(1..4) = (1,4,6,11); a(n) = 6 * a(n - 2) - a(n - 4) + 2, for n>4. - _ Ctibor O. Zizka _ , Nov 13 2009 •

[A290651] • 4,6,11,26,73,220,675,2070,6317,19184,58039,175114,527361,1586148,4766603,14316158,42981205,129009112,387158367,1161737202,3485735849,10458256076,31376865331,94134790246,282412759293 ⋆ a(n) = 5 - 2^(n - 1) + 3^(n - 1) + n - 2. • a(n) = 7 * a(n - 1) - 17 * (n - 2) + 17 * a(n - 3) - 6 * a(n - 4). •

[A047406] • 4,6,12,14,20,22,28,30,36,38,44,46,52,54,60,62,68,70,76,78,84,86,92,94,100 ⋆ Numbers that are congruent to {4, 6} mod 8. • a(n) = (4 * n - 1 - (- 1) ^ n). - _ Jon E. Schoenfield _ , Jul 05 2010 • a(n) = 8 * n - a(n - 1) - 6 (with a(1)=4). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (8 * ceiling(n / 2) - 4) * (n mod 2) + (8 * ceiling(n / 2) - 2) * (n + 1 mod 2). • a(n) = 8 * ceiling(n / 2) - 3 + (- 1) ^ n. (End) •

[A265225] • 1,4,6,12,15,24,28,40,45,60,66,84,91,112,120,144,153,180,190,220,231,264,276,312,325 ⋆ Total number of ON (black) cells after n iterations of the "Rule 54" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 4 * (n + 1) * (2 * n - (- 1) ^ n + 5). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. • a(n) = n + 1 + (n + 1) * floor((n + 1) / 2). - _ Wesley Ivan Hurt _ , Dec 25 2016 •

[A274221] • 0,0,1,4,6,12,16,25,30,42,49,64,72,90,100,121,132,156,169,196,210,240,256,289,306 ⋆ List of quadruples: 3*n*(3*n-1), 3*n*(3*n+1), (3*n+1)^2, (3*n+2)^2. • a(n) = (18 * n ^ 2 - 18 * n + 1 - 3 * (2 * n - 1) * (- 1) ^ n - 4 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4)) / 32. Therefore: a(2k) = (18 * k ^ 2 - 12 * k + 1 - (- 1) ^ k) / 8, a(2k + 1) = (18 * k ^ 2 + 12 * k + 1 - (- 1) ^ k) / 8. •

[A048641] • 0,1,4,6,12,19,24,28,40,53,68,82,92,103,112,120,144,169,196,222,252,283,312,340,360 ⋆ Partial sums of A003188 (Gray code). • a(n) = sum(XOR nos(j, floor(j / 2)), j=0..n) • a(n) = b(n - 1), with b(2n)=2 * (b(n) + b(n - 1) + ceil(n / 2)), b(2n + 1)=4 * b(n) + n + 1. - _ Ralf Stephan _ , Sep 13 2003 •

[A168674] • 0,4,6,12,20,34,56,92,150,244,396,642,1040,1684,2726,4412,7140,11554,18696,30252,48950,79204,128156,207362,335520 ⋆ a(n) = 2*A001610(n). • a(n) = 2 * a(n - 1) - a(n - 3). [Dec 03 2009] •

[A128034] • 1,1,4,6,12,20,36,63,104,171,280,462,744,1209,1960,3180,5152,8347,13500,21850,35360,57225,92598,149845,242448 ⋆ a(0)=a(1)=1. a(n) = the multiple of n which is > a(n-1)+a(n-2) and is <= a(n-1)+a(n-2)+n. • a(n) = n * (1 + floor[(a(n - 1) + a(n - 2)) / n]). •

[A255843] • 4,6,12,22,36,54,76,102,132,166,204,246,292,342,396,454,516,582,652,726,804,886,972,1062,1156 ⋆ a(n) = 2*n^2 + 4. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A263656] • 0,0,4,6,12,30,70,168,412,1014,2514,6270,15702,39468,99516,251586,637500,1618638,4117102,10488684,26758762,68354250,174810354,447535586,1146836662 ⋆ Number of length-2n central circular binary strings without zigzags (see reference for precise definition). • a(n) = (1 / n) * (3 * (n - 1) * a(n - 1) - 4 * (n - 4) * a(n - 2) + (7 * n - 27) * a(n - 3) - 6 * a(n - 4) + (7 * n - 37) * a(n - 5) - 3 * (n - 6) * a(n - 6)) for n >= 6. - _ Andrew Howroyd _ , Feb 26 2017 •

[A178674] • 4,6,12,30,84,246,732,2190,6564,19686,59052,177150,531444,1594326,4782972,14348910,43046724,129140166,387420492,1162261470,3486784404,10460353206,31381059612,94143178830,282429536484 ⋆ a(n) = 3^n+3. • a(n) = 3 * (a(n - 1) - 2), a(0)=4. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>1. - _ Vincenzo Librandi _ , May 13 2014 •

[A062624] • 1,1,1,4,6,12,40,240,480,1920,6912,20736,76032,253440,608256,4257792,7983360,26611200,88704000,319334400,1277337600,5109350400,19508428800,73156608000,336520396800 ⋆ Number of integers less than A000108(n) relatively prime to A000108(n). • a(n) = phi(binomial(2n, n) / (n + 1)). •

[A137821] • 1,4,6,13,15,18,19,40,42,45,46,54,55,58,60,121,123,126,127,135,136,139,141,162,163 ⋆ Numbers n such that sum(Catalan(k), k=1..2n) = 0 (mod 3). • a(2 ^ j) = 2 a(2 ^ j - 1) + 1 (resp. + 2) for j even (resp. odd). •

[A266665] • 0,1,4,6,13,15,26,28,43,45,64,66,89,91,118,120,151,153,188,190,229,231,274,276,323 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 47" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 + 2 * n + (- 1) ^ n * (n - 1) - 1) / 2 for n>0. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A069061] • 4,6,13,18,48,84,176,258,800,1302,2736,4356,10928,20520,51792,65538,174768,351120,699056,1110276,3100240,5048232,11184816,17041416,49012992 ⋆ Sum of divisors of 2^n+1. • a(n) = sigma(2 ^ n + 1). •

[A136391] • 1,1,4,6,13,23,43,77,138,244,429,749,1301,2249,3872,6642,11357,19363,32927,55861,94566,159776,269469,453721,762793 ⋆ a(n) = n*F(n) - (n-1)*F(n-1), where the F(j)'s are the Fibonacci numbers (F(0)=0, F(1)=1). • a(n) = F(n - 1) + n * F(n - 2). - _ Bruno Berselli _ , Jul 26 2017 •

[A160805] • 4,6,13,27,50,84,131,193,272,370,489,631,798,992,1215,1469,1756,2078,2437,2835,3274,3756,4283,4857,5480 ⋆ a(n) = (2*n^3 + 9*n^2 + n + 24) / 6. • a(n) = (2 * n ^ 3 + 9 * n ^ 2 + n + 24) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>3. (End) •

[A090773] • 4,6,14,16,24,26,34,36,44,46,54,56,64,66,74,76,84,86,94,96,104,106,114,116,124 ⋆ Numbers that are congruent to {4, 6} mod 10. • a(n) = 10 * n - a(n - 1) - 10 (with a(1)=4). [_ Vincenzo Librandi _ , Nov 16 2010] •

[A192782] • 0,0,1,1,4,6,14,26,52,103,201,400,784,1552,3056,6032,11897,23465,46292,91302,180110,355258,700772,1382287,2726609 ⋆ Coefficient of x in the reduction of the n-th Fibonacci polynomial by x^3->x^2+1. • a(n)=a(n - 1) + 3 * a(n - 2) - a(n - 3) - 3 * a(n - 4) + a(n - 5) + a(n - 6). •

[A084214] • 1,1,4,6,14,26,54,106,214,426,854,1706,3414,6826,13654,27306,54614,109226,218454,436906,873814,1747626,3495254,6990506,13981014 ⋆ Inverse binomial transform of a math magic problem. • a(n) = (5 * 2 ^ n - 3 * 0 ^ n + 4 * (- 1) ^ n) / 6. • a(n) = a(n - 1) + 2 * a(n - 2) for n > 2. - _ Klaus Brockhaus _ , Dec 01 2009 •

[A106526] • 4,6,14,30,40,84,176,234,490,1026,1364,2856,5980,7950,16646,34854,46336,97020,203144,270066,565474,1184010,1574060,3295824,6900916 ⋆ Values of b in a^2 - 49 = 2*b^2. • a(n) = 6 * a(n - 3) - a(n - 6), with initial term

s 4, 6, 14, 30, 40, 84. - _ T. D. Noe _ , Nov 04 2013 •

[A106387] • 4,6,15,17,26,28,37,39,48,50,59,61,70,72,81,83,92,94,103,105,114,116,125,127,136 ⋆ Numbers j such that 6j^2 + 6j + 1 = 11k. • a(n) = 11 * n - a(n - 1) - 12 (with a(1)=4). - _ Vincenzo Librandi _ , Nov 13 2010 • a(2k - 1) = 11k - 7, a(2k) = 11k - 5. - _ Ralf Stephan _ , Nov 15 2010 • a(n) = (22 * n - 7 * (- 1) ^ n - 13) / 4. • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0 for n > 3. • a(n) - a(n - 2) = 11 for n > 2. • a(n) - 2 * a(n - 1) + a(n - 2) = - 7 * (- 1) ^ n for n > 2. (End) •

[A266883] • 1,4,6,15,19,34,40,61,69,96,106,139,151,190,204,249,265,316,334,391,411,474,496,565,589 ⋆ Numbers of the form m*(4*m+1)+1, where m = 0,-1,1,-2,2,-3,3,... • a(n) = a(- n - 1) = n * (n + 1) + 1 - ((2 * n + 1) * (- 1) ^ n - 1) / 4 = (2 * n + 1) * floor((n + 1) / 2) + 1. •

[A128620] • 1,1,4,6,15,24,52,84,170,275,534,864,1631,2639,4880,7896,14373,23256,41810,67650,120406,194821,343884,556416,975325 ⋆ Row sums of A128619. • a(n) = floor((n + 2) / 2) * Fibonacci(n + 1). - _ Philippe Deléham _ , Dec 01 2013 •

[A034299] • 1,1,4,6,15,27,58,112,229,453,912,1818,3643,7279,14566,29124,58257,116505,233020,466030,932071,1864131,3728274,7456536,14913085 ⋆ Alternating sum transform (PSumSIGN) of A000975. • a(n) = (2 ^ (n + 5) + (6n + 13)(- 1) ^ n - 9) / 36. - _ Bruno Berselli _ , Apr 04 2012 • a(n) = a(n - 1) + 2 * a(n - 2) + (1 + (- 1) ^ n) / 2. - _ Michael Somos _ , Jan 23 2014 •

[A238411] • 0,4,6,16,20,36,42,64,72,100,110,144,156,196,210,256,272,324,342,400,420,484,506,576,600 ⋆ a(n) = 2*n*floor(n/2). • a(n) = n * (2 * n + (- 1) ^ n - 1) / 2. •

[A120375] • 4,6,16,24,30,54,96,178,274,1332,2766,3060,4204,17736,190062 ⋆ Integers n such that 2*5^n-1 is prime. • a(n) = n - th number k such that 2 * 5 ^ k - 1 that is prime. •

[A162485] • 4,6,16,34,84,198,480,1154,2788,6726,16240,39202,94644,228486,551616,1331714,3215044,7761798,18738640,45239074,109216788,263672646,636562080,1536796802,3710155684 ⋆ a(1) = 4, a(2) = 6; a(n) = 2 a(n - 1) + a(n - 2) - 4 Mod[n - 1, 2] • a(n)=1 - (- 1) ^ n + (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n. G.f.: 2 * x * (2 - x - 2 * x ^ 2 - x ^ 3) / (1 - x) / (1 + x) / (1 - 2 * x - x ^ 2). [_ Colin Barker _ , May 01 2012] •

[A072279] • 1,4,6,16,45,144,440,1440,4680,15600,52344,177840,608160,2095920,7262640,25300032,88517520,310927680,1095923400,3874804560,13737892896,48829153920,173949483240,620963048160,2220904271040 ⋆ Dimension of n-th graded section of a certain Lie algebra. • a(n) = (1 / n) * Sum _{ k|n } moebius(n / k) (t1 ^ k + t2 ^ k), where t1, t2 are the roots of x ^ 2 - 4x + 1. •

[A024305] • 4,6,17,22,43,52,86,100,150,170,239,266,357,392,508,552,696,750,925,990,1199,1276,1522,1612,1898 ⋆ a(n) = s(1)s(n) + s(2)s(n-1) + ... + s(k)s(n+1-k), where k=[(n+1)/2)] and s = (natural numbers >= 2). • a(n) = 1 / 48 * (4 * n ^ 3 + (3 * (- 1) ^ (n + 1) + 39) * n ^ 2 + (18 * (- 1) ^ (n + 1) + 74) * n + 27 * (- 1) ^ (n + 1) + 27). Recurrence: a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). G.f.: x * (4 + 2 * x - x ^ 2 - x ^ 3) / (1 + x) ^ 3 / (1 - x) ^ 4. - _ Vladeta Jovovic _ , Jan 01 2003 • a(n) = sum _{ i=1..ceil(n / 2) } (i + 1) * (n - i + 2) = ceil(n / 2) * (- 2 * ceil(n / 2) ^ 2 + 3n * ceil(n / 2) + 9n + 14) / 6. - _ Wesley Ivan Hurt _ , Sep 20 2013 •

[A219190] • 0,4,6,18,22,42,48,76,84,120,130,174,186,238,252,312,328,396,414,490,510,594,616,708,732 ⋆ Numbers of the form n*(5*n+1), where n = 0,-1,1,-2,2,-3,3,... • a(n) = a(- n + 1) = (10 * n * (n - 1) + 3 * (- 1) ^ n * (2 * n - 1) + 3) / 8. • a(1)=0, a(2)=4, a(3)=6, a(4)=18, a(5)=22, a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a (n - 5). - _ Harvey P. Dale _ , Jan 21 2015 •

[A156096] • 1,1,4,6,18,32,84,164,400,824,1928,4096,9360,20240,45632,99680,223008,489984,1091392,2405952,5345536,11806592,26194048,57917440,128389376 ⋆ Inverse binomial transform of A030186 • a(n)=4 * a(n - 2) + 2 * a(n - 3). G.f.: (1 + x) / (1 - 4x ^ 2 - 2x ^ 3). [From _ R. J. Mathar _ , Feb 10 2009] •

[A051253] • 1,4,6,18,36,80,172,360,760,1576,3264,6720,13776,28160,57376,116640,236608,479104,968640,1955712,3944064,7945856,15993856,32168448,64656640 ⋆ Weights of rotation-symmetric functions in n variables. • a(n + 3) = 2 * a(n + 1) + 2 * a(n) + 2 ^ n. • a(3)=1, a(4)=4, a(5)=6, a(6)=18, a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 4 * a(n - 4). - _ Harvey P. Dale _ , Mar 15 2015 •

[A196570] • 0,4,6,18,48,118,314,806,2082,5402,13946,36102,93378,241518,624810,1616142,4180594,10814158,27973298,72359966,187176434,484177358,1252442706,3239746862,8380393330 ⋆ LAN party numbers. • a(1) = 0; a(2) = 4; a(3) = 6; a(4) = 18. • a(n) = 2 * a(i - 2) + x(n - 2) + m(n). •

[A116383] • 1,1,4,6,19,33,93,175,460,910,2286,4676,11388,23842,56808,120926,283611,611065,1416625,3079635,7078263,15490553,35374519,77805481,176813809 ⋆ Row sums of number triangle A116382. • a(n)=sum { k=0..n, sum { j =0..n, (- 1) ^ (n - j) * C(n,j) * sum { i=0..j, C(j,i - k)C(i,j - i) }}} . •

[A110391] • 1,4,6,19,46,124,321,844,2206,5779,15126,39604,103681,271444,710646,1860499,4870846,12752044,33385281,87403804,228826126,599074579,1568397606,4106118244,10749957121 ⋆ a(n) = L(3*n)/L(n), where L(n) = Lucas number. • a(n) = + 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) = 2 ^ (- n) * (- (- 2) ^ n + (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n). - _ Colin Barker _ , Jun 03 2016 •

[A001683] • 1,1,1,1,4,6,19,49,150,442,1424,4522,14924,49536,167367,570285,1965058,6823410,23884366,84155478,298377508,1063750740,3811803164,13722384546,49611801980 ⋆ Number of one-sided triangulations of the disk; or flexagons of order n; or unlabeled plane trivalent trees (n-2 internal vertices, all of degree 3 and hence n leaves). • a(n) = C(n - 2) / n + C(n / 2 - 1) / 2 + (2 / 3) * C(n / 3 - 1), where C(n) = Catalan(n) (A000108) and terms are omitted if their subscripts are not integers. •

[A227959] • 1,1,4,6,20,38,104,220,556,1244,3024,6944,16576,38536,91216,213280,502864,1178928,2774592,6512864,15315072,35969952,84550912,198634048,466825152 ⋆ Number of tilings using monominoes and L-triominoes in 2 x n chessboard, such that three monominoes cannot occur together in shape of L-triomino. • a(n) = 4 * a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) + 4 * a(n - 5), with a(0)=1, a(1)=1, a(2)=4, a(3)=6, and a(4)=20. •

[A027377] • 1,4,6,20,60,204,670,2340,8160,29120,104754,381300,1397740,5162220,19172790,71582716,268431360,1010580540,3817733920,14467258260,54975528948,209430785460,799644629550,3059510616420 ⋆ Number of irreducible polynomials of degree n over GF(4); dimensions of free Lie algebras. • a(n) = Sum _{ d|n } mu(d) * 4 ^ (n / d) / n. •

[A062940] • 4,6,22,68,217,683,2163,6837,21623,68377,216228,683772,2162278,6837722,21622777,68377223,216227767,683772233,2162277661,6837722339,21622776602,68377223398,216227766017,683772233983,2162277660169 ⋆ Number of squares (including 0) with n digits. • a(n)=ceil(sqrt(10 ^ n)) - ceil(sqrt(10 ^ (n - 1))), n>1. •

[A164532] • 1,4,6,24,36,144,216,864,1296,5184,7776,31104,46656,186624,279936,1119744,1679616,6718464,10077696,40310784,60466176,241864704,362797056,1451188224,2176782336 ⋆ a(n) = 6*a(n-2) for n > 2; a(1) = 1, a(2) = 4. • a(n) = (5 - (- 1) ^ n) * 6 ^ (1 / 4 * (2 * n - 5 + (- 1) ^ n)). • a(n + 3) = a(n + 2) * a(n + 1) / a(n). [_ Reinhard Zumkeller _ , Mar 04 2011] •

[A098660] • 1,1,4,6,24,40,160,280,1120,2016,8064,14784,59136,109824,439296,823680,3294720,6223360,24893440,47297536,189190144,361181184,1444724736,2769055744,11076222976 ⋆ E.g.f. BesselI(0,2*sqrt(2)*x)+BesselI(1,2*sqrt(2)*x)/sqrt(• a(n) = binomial(n, floor(n / 2))2 ^ floor(n / 2). • a(n + 1) = (1 / Pi) * int(x ^ n * (x + 4) / sqrt(8 - x ^ 2),x, - 2 * sqrt(2),2 * sqrt(2)) if n is odd [corrected by _ Vaclav Kotesovec _ , Nov 13 2017]. •

[A032087] • 4,6,24,120,480,2016,8064,32640,130560,523776,2095104,8386560,33546240,134209536,536838144,2147450880,8589803520,34359607296,137438429184,549755289600,2199021158400,8796090925056,35184363700224,140737479966720,562949919866880 ⋆ Number of reversible strings with n beads of 4 colors. If more than 1 bead, not palindromic. • a(2 * n + 1) = 2 ^ (4 * n + 1) - 2 ^ (2 * n + 1), a(2 * n) = 2 ^ (4 * n - 1) - 2 ^ (2 * n) + 2 ^ (2 * n - 1), a(1)=4. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3) for n > 4. • a(n) = 2 ^ (n - 1) * (2 ^ n - 1) for n > 1 and even. • a(n) = 2 ^ (2 * n - 1) - 2 ^ n for n > 1 and odd. •

[A182333] • 1,4,6,25,104,484,2136,11664,71136,451584,3006720,21902400,176774400,1456185600,12758860800,117456998400,1181072793600,12023694950400,130072449024000,1451792885760000,17487355576320000,212389727477760000,2729844680048640000 ⋆ Number of arrangements of n bishops such that every square of the board is controlled by at least one bishop. • a(n) = ((2 * floor(n / 4))!) ^ 2 / 128 * (n ^ 5 + 3 * n ^ 4 + n ^ 3 + 35 * n ^ 2 + 38 * n + 2 - (n ^ 5 - n ^ 4 - 7 * n ^ 3 - n ^ 2 - 10 * n - 30) * (- 1) ^ n - 4 * (n ^ 3 + 2 * n ^ 2 + n - 4) * n * cos(Pi * n / 2) - 2 * (n ^ 5 + n ^ 4 - 11 * n ^ 3 - 7 * n ^ 2 - 2 * n + 2) * sin(Pi * n / 2)), for n>1 •

[A159557] • 4,6,26,80,246,810,2704,9252,32066,112720,400024,1432860,5170604,18784170,68635478,252088496,930138522,3446167860,12815663844,47820447028,178987624514,671825133648,2528212128776,9536895064400 ⋆ Number of elements in the mutation class of a quiver of type D_n. • a(n) = 6 if n = 4; otherwise a(n) = SUM[d|n] (phi(n / d))C(2d,d) / (2n) where phi is the Euler function, when n>4. •

[A087299] • 1,1,4,6,32,60,384,840,6144,15120,122880,332640,2949120,8648640,82575360,259459200,2642411520,8821612800,95126814720,335221286400,3805072588800,14079294028800,167423193907200,647647525324800 ⋆ Ratio of volume of n-dimensional ball to circumscribing n-cube is Pi^floor(n/2) divided by a(n). • a(n) = 2 ^ n * gamma(n / 2 + 1) * Pi ^ floor(n / 2) / Pi ^ (n / 2), n >= 0. - _ Wolfdieter Lang _ , Jul 17 2013 • a(n) = 2 * n * a(n - 2) if n>= 2. - _ Michael Somos _ , Jan 24 2014 •

[A074061] • 1,4,6,39,59,386,584,3821,5781,37824,57226,374419,566479,3706366,5607564,36689241,55509161,363186044,549484046,3595171199,5439331299,35588525946,53843828944,352290088261,532998958141 ⋆ Positive integers n such that 24*n^2-23 is a square. • a(n) = 10 * a(n - 2) - a(n - 4) = a(- 1 - n). • a(2n - 1) = round((1 / 2) * (1 - (1 / 2) / sqrt(6)) * (sqrt(2) + sqrt(3)) ^ (2n)); a(2n)=round(c * (sqrt(2) + sqrt(3)) ^ (2n + 1)) with c = 0.191357750597... - _ Benoit Cloitre _ , Aug 22 2002 •

[A189790] • 1,4,6,64,120,2304,5040,147456,362880,14745600,39916800,2123366400,6227020800,416179814400,1307674368000,106542032486400,355687428096000,34519618525593600,121645100408832000,13807847410237440000 ⋆ Number of ways to place n nonattacking bishops on an n x n toroidal board. • a(n) = 2 ^ n * ((n / 2)!) ^ 2 if n is even and a(n) = n! if n is odd. • a(n) = n * (2 * n - 3) * a(n - 2) - (n - 3) * n * (n - 2) ^ 2 * a(n - 4). [_ Vaclav Kotesovec _ , Sep 26 2012] •

[A105037] • 0,4,6,98,142,2162,3128,47476,68684,1042320,1507930,22883574,33105786,502396318,726819372,11029835432,15956920408,242153983196,350325429614,5316357794890,7691202531110,116717717504394,168856130254816 ⋆ a(0) = 0, a(1) = 4, a(2) = 6, a(3) = 98, for n>3 a(n) = 22*a(n-2) - a(n-4) + 10. • a(n)= - 1 / 2 - 1 / 5 * (11 + 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (- 1) ^ n * (11 + 2 * sqrt(30)) ^ (1 / 2 * n) * (11 + 2 * sqrt(30)) ^ (- 1 / 4) * sqrt(30) + 5 / 4 * (11 + 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (11 + 2 * sqrt(30)) ^ (1 / 2 * n) * (11 + 2 * sqrt(30)) ^ (- 1 / 4) + 5 / 24 * (11 + 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (11 + 2 * sqrt(30)) ^ (1 / 2 * n) * (11 + 2 * sqrt(30)) ^ (- 1 / 4) * sqrt(30) - 5 / 24 * (11 - 2 * sqrt(30)) ^ (- 1 / 4) * sqrt(30) * (11 - 2 *

sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (11 - 2 * sqrt(30)) ^ (1 / 2 * n) + 5 / 4 * (11 - 2 * sqrt(30)) ^ (- 1 / 4) * (11 - 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (11 - 2 * sqrt(30)) ^ (1 / 2 * n) - (11 + 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (- 1) ^ n * (11 + 2 * sqrt(30)) ^ (1 / 2 * n) * (11 + 2 * sqrt(30)) ^ (- 1 / 4) + 1 / 5 * (- 1) ^ n * (11 - 2 * sqrt(30)) ^ (- 1 / 4) * sqrt(30) * (11 - 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (11 - 2 * sqrt(30)) ^ (1 / 2 * n) - (- 1) ^ n * (11 - 2 * sqrt(30)) ^ (- 1 / 4) * (11 - 2 * sqrt(30)) ^ (1 / 4 * (- 1) ^ n) * (11 - 2 * sqrt(30)) ^ (1 / 2 * n), with n>=0 [From _ Paolo P. Lava _ , Aug 28 2009] •

[A061891] • 1,1,4,7,7,10,13,13,16,19,19,22,25,25,28,31,31,34,37,37,40,43,43,46,49 ⋆ a(0)=1; for n>0, a(n)=a(n-1) if n is already in the sequence, a(n)=a(n-1)+3 otherwise. • a(n) = 2n - 1 if n==1 (mod 3), 2n if n == 2 (mod 3), 2n + 1 if n == 0 (mod 3). • a(n) = sum { k=0..n }{ (1 / 3) * (2 * (n mod 3) - ((n + 1) mod 3) + 5 * ((n + 2) mod 3)) }- 2 - _ Paolo P. Lava _ , Jun 25 2007 • a(n) = a(n - 1) + a(n - 3) - a(n - 4). G.f.: (2 * x ^ 3 + 3 * x ^ 2 + 1) / ((x - 1) ^ 2 * (x ^ 2 + x + 1)). - _ Colin Barker _ , Jun 20 2013 •

[A047538] • 0,1,4,7,8,9,12,15,16,17,20,23,24,25,28,31,32,33,36,39,40,41,44,47,48 ⋆ Numbers that are congruent to {0, 1, 4, 7} mod 8. • a(n) = 2 * n - 2 - sin (Pi * (n - 1) / 2). • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. (End) • a(n) = 2 * n - 2 - (1 + (- 1) ^ n) * (- 1) ^ ((2 * n - 3) / 4 - (- 1) ^ n / 4) / 2. - _ Wesley Ivan Hurt _ , Sep 22 2015 • a(n) = (- 4 + (- i) ^ n + i ^ n + 4 * n) / 2, where i = sqrt(- 1). - _ Colin Barker _ , Oct 18 2015 •

[A283767] • 1,4,7,8,10,11,13,14,17,20,21,23,24,26,27,30,33,36,37,39,40,43,46,49,50 ⋆ Numbers k such that U(k) is even, where U = A001950 = upper Wythoff sequence. • a(n + 1) - a(n) is in { 1,2,3 } for every n. •

[A080578] • 1,4,7,8,11,14,15,16,19,22,23,26,29,30,31,32,35,38,39,42,45,46,47,50,53 ⋆ a(1)=1; for n > 1, a(n) = a(n-1) + 1 if n is already in the sequence, a(n) = a(n-1) + 3 otherwise. • a(n) = 2n + O(1); a(2 ^ n) = 2 ^ (n + 1). - _ Benoit Cloitre _ , Oct 12 2003 •

[A047347] • 0,1,4,7,8,11,14,15,18,21,22,25,28,29,32,35,36,39,42,43,46,49,50,53,56 ⋆ Numbers that are congruent to {0, 1, 4} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 7 * n / 3 - 3 + 4 * sin(2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 7k - 3, a(3k - 1) = 7k - 6, a(3k - 2) = 7k - 7. (End) •

[A215458] • 0,1,4,7,8,11,28,71,144,259,484,991,2072,4187,8236,16247,32544,65587,131572,262543,523688,1047179,2096956,4196903,8391600 ⋆ a(n) = 4*a(n-1) - 7*a(n-2) + 8*a(n-3) - 4*a(n-4) starting 0, 1, 4, 7. • a(n) = (2 ^ n - (1 / 2 - (i * sqrt(7)) / 2) ^ n - (1 / 2 + (i * sqrt(7)) / 2) ^ n + 1) / 2 where i = sqrt(- 1). - _ Paul S. Vanderveen _ , Jul 08 2017 • a(n) = 2 ^ (n - 1) - 2 ^ (n / 2) * cos(n * arctan(sqrt(7))) + 1 / 2. - _ Peter Luschny _ , Jul 26 2017 •

[A047536] • 0,4,7,8,12,15,16,20,23,24,28,31,32,36,39,40,44,47,48,52,55,56,60,63,64 ⋆ Numbers that are congruent to {0, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 15 + 6 * cos(2 * n * Pi / 3) - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 8. (End) •

[A291402] • 0,0,1,4,7,8,12,31,71,125,201,367,749,1471,2679,4814,9014,17304,32739,60683,112444,210938,397800,746347,1392898 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S^3 - S^4. • a(n) = a(n - 3) + 4 * a(n - 4) + 7 * a(n - 5) + 7 * a(n - 6) + 4 * a(n - 7) + a(n - 8) for n >= 9. •

[A242660] • 0,1,4,7,9,10,13,16,18,19,22,25,27,28,31,34,36,37,40,43,45,46,49,52,54 ⋆ Nonnegative numbers of the form x^2+xy-2y^2. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A056991] • 1,4,7,9,10,13,16,18,19,22,25,27,28,31,34,36,37,40,43,45,46,49,52,54,55 ⋆ Numbers with digital root 1, 4, 7 or 9. • a(n) = Sum _{ k=0..n } (1 / 8) *{ 5 * (k mod 4) + 5 * [(k + 1) mod 4] + 3 * [(k + 2) mod 4] - [(k + 3) mod 4] }, with n>=0. - _ Paolo P. Lava _ , Feb 15 2008 • a(n) = 3 * (n - floor (n / 4)) - (3 - I ^ n - (- I) ^ n - (- 1) ^ n) / 2. [From _ Gary Detlefs _ , Mar 19 2010] •

[A055047] • 1,4,7,9,10,13,16,19,22,25,28,31,34,36,37,40,43,46,49,52,55,58,61,63,64 ⋆ Numbers of the form 9^i*(3*j+1). • a(n) = 8n / 3 + O(log n). - _ Charles R Greathouse IV _ , Dec 19 2013 •

[A267873] • 1,1,4,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49 ⋆ Number of ON (black) cells in the n-th iteration of the "Rule 235" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) - a(n - 2) for n>2. •

[A007064] • 1,4,7,9,12,14,17,20,22,25,27,30,33,35,38,41,43,46,48,51,54,56,59,62,64 ⋆ Numbers not of form "nearest integer to n*tau", tau=(1+sqrt(5))/2. • a(n) = floor[n * (1 + tau) - tau / 2] =floor[n * 2.6180... - 0.8090...]. - _ Henry Bottomley _ , Sep 03 2001 •

[A279054] • 1,4,7,9,12,14,17,20,22,25,28,30,33,35,38,41,43,46,49,51,54,56,59,62,64 ⋆ Largest integer m for which binomial(m,n-1) > binomial(m-1,n). • a(n) = (3n - 1 + sqrt(5n ^ 2 - 2n + 1)) / 2 - 1 if 5n ^ 2 - 2n + 1 is a perfect square, else a(n) = floor((3n - 1 + sqrt(5n ^ 2 - 2n + 1)) / 2). • a(n) = ceiling((3 * n - 3 + sqrt(5 * n ^ 2 - 2 * n + 1)) / 2). - _ Robert Israel _ , Dec 05 2016 •

[A086824] • 1,4,7,9,12,14,17,20,22,25,28,30,33,36,38,41,44,47,49,52,55,57,60,63,65 ⋆ Least k such that k!>=n^k. • a(n) = e * n + O(log(n)); a(n + 1) - a(n) = 2 or 3. •

[A007066] • 1,4,7,9,12,15,17,20,22,25,28,30,33,36,38,41,43,46,49,51,54,56,59,62,64 ⋆ a(n) = 1 + ceiling((n-1)*phi^2), phi = (1+sqrt(5))/2. • a(1)=1; for n>1, a(n)=a(n - 1) + 2 if n is already in the sequence, a(n)=a(n - 1) + 3 otherwise. - _ Benoit Cloitre _ , Mar 06 2003 •

[A047537] • 1,4,7,9,12,15,17,20,23,25,28,31,33,36,39,41,44,47,49,52,55,57,60,63,65 ⋆ Numbers that are congruent to {1, 4, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 12 + 3 * cos(2 * n * Pi / 3) - sqrt (3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 4, a(3k - 2) = 8k - 7. (End) •

[A184589] • 1,4,7,9,12,15,18,20,23,26,28,31,34,37,39,42,45,47,50,53,56,58,61,64,66 ⋆ floor(n*e-1); complement of A184590. • a(n)=floor(n * e - 1). •

[A180122] • 1,4,7,9,12,15,18,20,23,26,29,31,34,37,39,42,45,48,50,53,56,59,61,64,67 ⋆ First of three "least, sum, least" self-generating sequences. • a(n) = least positive integer not yet used; •

[A035510] • 4,7,9,14,17,22,27,30,35,41,43,48,51,56,62,64,69,75,77,82,85,90,96,98,103 ⋆ 2nd column of Inverse Stolarsky array. • a(n)=round(n * tau) + 1 + floor((round(n * tau) + 1 / 2) * tau) for n>0 with a(0)=4 - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Jan 01 2005 •

[A000414] • 4,7,10,12,13,15,16,18,19,20,21,22,23,25,26,27,28,30,31,33,34,35,36,37,38 ⋆ Numbers that are the sum of 4 nonzero squares. • a(n) = n + O(log n). - _ Charles R Greathouse IV _ , Sep 03 2014 •

[A078633] • 4,7,10,12,15,17,20,22,24,27,29,31,34,36,38,40,43,45,47,49,52,54,56,58,60 ⋆ Smallest number of sticks of length 1 needed to construct n squares with sides of length 1. • a(n) = 2 * n + ceiling(2 * sqrt(n)). •

[A083032] • 0,4,7,10,12,16,19,22,24,28,31,34,36,40,43,46,48,52,55,58,60,64,67,70,72 ⋆ Numbers that are congruent to {0, 4, 7, 10} mod 12. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (12 * n - 9 + (- 1) ^ n + (- 1) ^ ((n + 1) / 2) + (- 1) ^ (- (n + 1) / 2)) / 4. (End) •

[A020965] • 1,4,7,10,12,17,18,23,26,29,30,37,39,41,44,50,54,56,58,63,64,67,73,77,79 ⋆ a(n) = Sum_{k >= 1} floor(n*sqrt(2)^(1-k)). • a(n) = kn + O(log n) where k = 2 + sqrt(2) = 3.414213562.... - _ Charles R Greathouse IV _ , Feb 27 2017 •

[A244713] • 1,4,7,10,13,16,18,19,22,25,27,28,31,34,37,40,43,45,46,49,52,54,55,58,61 ⋆ Positive numbers primitively represented by the binary quadratic form (1, 1, -2). • a(n) = a(n - 1) + a(n - 11) - a(n - 12) for n>12. •

[A016777] • 1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,73 ⋆ a(n) = 3*n + 1. • a(n) = 2 * a(n - 1) - a(n - 2); a(0)=1, a(1)=4. - _ Philippe Deléham _ , Nov 03 2008 • a(n) = 6 * n - a(n - 1) - 1 (with a(0) = 1). - _ Vincenzo Librandi _ , Nov 20 2010 •

[A145289] • 4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,73,76 ⋆ a(n) = number of monomials in n-th power of polynomial x^3+x^2+x+1 • a(1)=4, a(2)=7, a(n)=2 * a(n - 1) - a(n - 2) [From Harvey P. Dale, Mar 31 2012] • a(n)=a(n - 1) + 3 [From Harvey P. Dale, Mar 31 2012] •

[A143458] • 1,4,7,10,13,16,19,22,25,37,58,88,127,175,232,298,373,484,658,922,1303,1828,2524,3418,4537 ⋆ Expansion of 1/(x^k*(1-x-3*x^(k+1))) for k=7. • a(0)=1, a(1)=4, a(2)=7, a(3)=10, a(4)=13, a(5)=16, a(6)=19, a(7)=22, a(n)=a(n - 1) + 3 * a(n - 8). - _ Harvey P. Dale _ , Jul 22 2013 •

[A004084] • 1,4,7,10,13,16,19,22,26,29,32,35,38,41,44,48,51,54,57,60,63,66,70,73,76 ⋆ a(n) = n-th positive integer k such that tan(k-1) <= 0 and tan(k) > 0. • a(n) = ceiling(Pi * (n - 1)) for n>1. - _ Benoit Cloitre _ , Feb 14 2004 •

[A143454] • 1,4,7,10,13,25,46,76,115,190,328,556,901,1471,2455,4123,6826,11239,18604,30973,51451,85168,140980,233899,388252 ⋆ Expansion of 1/(x^k*(1-x-3*x^(k+1))) for k=3. • a(n) = Sum _{ j=0..(n + 3) / 3 } 3 ^ j * C(n - 3 * j + 3,j). - _ Vladimir Kruchinin _ , May 24 2011 •

[A191402] • 1,4,7,10,14,17,20,23,26,30,33,36,40,43,46,49,52,56,59,62,65,68,72,75,78 ⋆ A000201(n)+A000201(n+1). • a(n)=[nr] + [nr + r], where r=(1 + sqrt (5)) / 2 and [ ]=floor. •

[A067497] • 0,4,7,10,14,17,20,24,27,30,34,37,40,44,47,50,54,57,60,64,67,70,74,77,80 ⋆ Smallest power of 2 with n+1 digits (n>=0). Also n such that 1 is the first digit of 2^n. • a(n) = ceiling(n * log _ 2(10)). - _ Vladeta Jovovic _ , Jun 20 2002 •

[A123384] • 1,4,7,10,14,17,20,24,27,30,34,37,40,44,47,50,54,57,60,64,67,70,74,77,80 ⋆ Number of bits in binary expansion of 10^n. • a(n)=1 + floor(n / A007524)=1 + floor(n / log _ 10(2)). - _ R. J. Mathar _ , Nov 12 2006 •

[A138813] • 1,1,4,7,10,14,17,20,24,28,31,35,38,42,45,50,53,57,61,64,67,73,77,80,83 ⋆ a(0) = 1; thereafter, a(n) = Sum_{k=0..n-1} ceiling(n/a(k)). • a(2)= 4, a(n) / n=2.0000, a(n) / (n * sqrt(log(n)))=2.4022 • a(4)= 10, a(n) / n=2.5000, a(n) / (n * sqrt(log(n)))=2.1233 • a(8)= 24, a(n) / n=3.0000, a(n) / (n * sqrt(log(n)))=2.0804 • a(16)= 53, a(n) / n=3.3125, a(n) / (n * sqrt(log(n)))=1.9894 • a(32)= 115, a(n) / n=3.5938, a(n) / (n * sqrt(log(n)))=1.9304 • a(64)= 244, a(n) / n=3.8125, a(n) / (n * sqrt(log(n)))=1.8695 •

[A184625] • 4,7,10,14,17,21,24,27,31,34,38,41,44,48,51,55,58,62,65,68,72,75,79,82,85 ⋆ floor((n-h)*s+h), where s=2+sqrt(2) and h=-1/4; complement of A184624. • a(n)=floor[(n - h) * s + h], where s=2 + sqrt(2) and h= - 1 / 4. •

[A187334] • 0,1,4,7,10,15,16,19,22,25,30,31,34,37,40,45,46,49,52,55,60,61,64,67,70 ⋆ Sum{floor(kn/5), k=1,2,3,4,5}; complement of A187335. • a(n)=sum { floor(kn / 5), k=1,2,3,4,5 } . •

[A064368] • 1,4,7,10,15,18,21,24,29,36,39,42,47,50,53,56,65,68,75,78,83,86,89,92,97 ⋆ Number of 2 X 2 symmetric singular matrices with entries from {0,...,n}. • a(n) = n + 1 + 2 * Sum _{ k=1..n } Sum _{ d ^ 2|k } phi(d), where phi = Euler totient function A000010. •

[A071408] • 0,1,4,7,10,15,20,25,32,39,46,55,64,73,84,95,106,119,132,145,160,175,190,207,224 ⋆ a(n+1) - 2*a(n) + a(n-1) = (2/3)*(1 + w^(n+1) + w^(2*n+2)) with a(1)=0, a(2)=1, and where w is the imaginary cubic root of unity. • a(n) = floor((n - 1) * (n + 1) * (n + 3) / (3 * n + 3)). - _ Gary Detlefs _ , Jul 13 2010 • a(n) = n + floor(n * (n - 1) / 3) - 1. - _ Bruno Berselli _ , Mar 02 2017 •

[A168565] • 4,7,10,16,19,25,28,34,43,46,55,61,64,70,79,88,91,100,106,109,118,124,133,145,151 ⋆ Let p = prime(n); then a(n) = p + (p-1)/2. • a(n) = (3 * prime(n) - 1) / 2. •

[A213484] • 1,4,7,10,16,25,34,43,55,70,85,100,118,139,160,181,205,232,259,286,316,349,382,415,451 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y|+|y-w| >= w+x+y. • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5). •

[A003461] • 4,7,10,16,28,52,100,196,388,772,1540,3076,6148,12292,24580,49156,98308,196612,393220,786436,1572868,3145732,6291460,12582916,25165828 ★ Bode numbers multiplied by 10: 4 + 3*floor(2^(n-1)). • a(n) = 2 * a(n - 1) - 4, n > 1. •

[A084386] • 1,1,1,4,7,10,22,43,73,139,268,487,904,1708,3169,5881,11005,20512,38155,71170,132706,247171,460681,858799,1600312 ★ Number of pairs of rabbits when there are 3 pairs per litter and offspring reach parenthood after 3 gestation periods; a(n) = a(n-1) + 3*a(n-3), with a(0) = a(1) = a(2) = 1. • a(n) = sum { k=0..floor(n / 2), C(n - 2k, k)3 ^ k } - _ Paul Barry _ , Nov 18 2003 •

[A275176] • 1,1,1,1,1,1,4,7,10,22,43,202,370,547,1264,2521,11881,21781,32221,74521,148681,700744,1284667,1900450,4395442 ★ a(n) = (3 * a(n-3) + a(n-1) * a(n-5)) / a(n-6), a(0) = a(1) = ... = a(5) = 1. • a(n) = 60 * a(n - 5) - 60 * a(n - 10) + a(n - 15). •

[A032818] • 1,4,7,10,25,28,43,46,61,64,151,154,169,172,259,262,277,280,367,370,385,388,907,910,925 ★ Numbers whose set of base 6 digits is {1,4}. • a(1)= 1, a(2)=4; a(n) = 6 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 6 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A135262] • 1,4,7,10,40,70,100,400,700,1000,4000,7000,10000,40000,70000,100000,400000,700000,1000000,4000000,7000000,10000000,40000000,70000000,100000000 ★ a(3n)=10^n. a(3n+1)=4*10^n. a(3n+2)=7*10^n. • a(n)=(1 / 3) *{ 10 * (n mod 3) + [(n + 1) mod 3] + [(n + 2) mod 3] }* 10 ^ A002264 - _ Paolo P. Lava _ , Dec 18 2007 • a(n)=10 * a(n - 3). O.g.f.: (1 + 4x + 7x ^ 2) / (1 - 10x ^ 3). - _ R. J. Mathar _ , Jul 22 2008 •

[A091855] • 1,4,7,11,13,16,19,21,25,28,31,35,37,41,44,47,49,52,55,59,61,64,67,69,73 ★ Odious numbers (see A000069) in A003159. • a(n) is asymptotic to 3 * n - _ Benoit Cloitre _ , Mar 22 2004 •

[A081834] • 1,4,7,11,14,17,21,24,27,30,34,37,40,44,47,50,54,57,60,63,67,70,73,77,80 ★ a(1)=1, a(n)=a(n-1)+4 if n is already in the sequence, a(n)=a(n-1)+3 otherwise. • a(n)=floor(rn - (3r - 1) / (r + 1)) where r= (1 / 2) * (3 + sqrt(13)) •

[A078309] • 1,4,7,11,14,17,21,24,27,31,34,37,41,44,47,51,54,57,61,64,67,71,74,77,81 ★ Numbers that are congruent to {1, 4, 7} mod 10. • a(n) = 1 + 3 * mod(n - 1, 3) + 10 * floor((n - 1) / 3). • a(n) = a(n - 3) + 10 for n>4. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 3 * n + floor((n - 1) / 3) - 2. • a(n) = (30 * n - 24 - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 10k - 3, a(3k - 1) = 10k - 6, a(3k - 2) = 10k - 9. (End) •

[A184623] • 4,7,11,14,17,21,24,28,31,34,38,41,45,48,52,55,58,62,65,69,72,75,79,82,86 ★ floor((n-h)*s+h), where s=2+sqrt(2) and h=-1/3; complement of A184622. • a(n)=floor((n - h) * s + h), where s=2 + sqrt(2) and h= - 1 / 3. •

[A083051] • 1,4,7,11,14,18,21,24,28,31,35,38,41,45,48,52,55,59,62,65,69,72,76,79,82 ★ First column of table A083050. • a(n)=floor(n * x / (x - 1)) + 1, x=sqrt(2). •

[A047345] • 0,4,7,11,14,18,21,25,28,32,35,39,42,46,49,53,56,60,63,67,70,74,77,81,84 ★ Numbers that are congruent to {0, 4} mod 7. • a(n) = ceiling(7 * (n - 1) / 2). • a(n) = 7 * n - a(n - 1) - 10 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 7 * n / 2 - 13 / 4 + (- 1) ^ n / 4. • a(n) = 4 * (n - 1) - floor((n - 1) / 2). - _ Wesley Ivan Hurt _ , Jun 14 2013 • a(n) = 2 * (n - 1) + floor((3 * n - 2 - (n mod 2)) / 2). - _ Wesley Ivan Hurt _ , Mar 31 2014 •

[A267049] • 0,1,4,7,11,14,22,25,37,40,56,59,79,82,106,109,137,140,172,175,211,214,254,257,301 ★ Total number of OFF (white) cells after n iterations of the "Rule 91" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (n ^ 2 + (- 1) ^ n * (n - 3) + 5) / 2 for n>1. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>6. •

[A236771] • 0,1,4,7,11,15,21,26,33,40,48,56,66,75,86,97,109,121,135,148,163,178,194,210,228 ★ a(n) = n + floor(n/2 + n^2/3). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). • a(n) = (2 * n * (2 * n + 9) - 2 * (- 1) ^ floor (2 * (n - 1) / 3) + 3 * (- 1) ^ n - 5) / 12. •

[A269132] • 0,1,4,7,11,16,21,28,35,43,52,61,72,83,95,108,121,136,151,167,184,201,220,239,259 ★ a(n) = n + floor(n*(2*n+1)/5). • a(n) = ceiling(((n * (n + 2) + (n + 1) * ceiling(n)) * (n - 1)) / (2 * ceiling(n) + ceiling(ceiling(n) + n) + n) + n) for n>0. •

[A231603] • 0,1,4,7,11,16,22,28,35,43,52,61,70,81,92,103,115,128,141,155,170,185,200,216,233 ★ Floor of the arithmetic-geometric mean of n+n and n*n • a(n) = floor(agm(n + n,n * n)). •

[A134869] • 1,4,7,11,16,22,29,37,46,56,67,79,92,106,121,137,154,172,191,211,232,254,277,301,326 ★ Row sums of triangle A134868. • a(n) = 1, then for n>1, a(n) = T(n) + 1, where A000217 = (1, 3, 6, 10, 15, ...). •

[A171452] • 0,0,1,4,7,11,17,23,30,39,48,58,70,82,95,110,125,141,159,177,196,217,238,260,284 ★ a(n) = C(n,2) + floor(n/3). • a(n)=(3n ^ 2 - n - 2) / 6 + sqrt(3) * cos(2 * pi * n / 3 + pi / 6) / 9 + sin(2 * pi * n / 3 + pi / 6) / 3. •

[A133257] • 4,7,11,17,25,37,53,77,109,157,221,317,445,637,893,1277,1789,2557,3581,5117,7165,10237,14333,20477,28669 ★ The number of edges on a piece of paper that has been folded n times (see comments for more precise definition). • a(n) = 2 * a(n - 2) + 3 for n >= 2. • a(n) = 2 ^ ((n - 2) / 2) * ((7 + 5 * sqrt(2)) + (7 - 5 * sqrt(2)) * (- 1) ^ n) - 3. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3). G.f.: - (4 * x ^ 2 - 3 * x - 4) / ((x - 1) * (2 * x ^ 2 - 1)). - _ Colin Barker _ , Jul 07 2014 •

[A130625] • 1,4,7,11,20,41,85,172,343,683,1364,2729,5461,10924,21847,43691,87380,174761,349525,699052,1398103,2796203,5592404,11184809,22369621 ★ First differences of A130624. • a(n)=3a(n - 1) - 3a(n - 2) + 2a(n - 3). Sequence is identical to its third differences. Binomial transform of 1, 3, 0. - _ Paul Curtz _ , Nov 23 2007 • a(n)= - (1 / 6) * [1 / 2 - (1 / 2) * I * sqrt(3)] ^ n - (1 / 6) * [1 / 2 + (1 / 2) * I * sqrt(3)] ^ n + (4 / 3) * 2 ^ n + (1 / 2) * I * [1 / 2 - (1 / 2) * I * sqrt(3)] ^ n * sqrt(3) - (1 / 2) * I * [1 / 2 + (1 / 2) * I * sqrt(3)] ^ n * sqrt(3), with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 12 2008 •

[A244590] • 0,0,4,7,12,14,18,21,28,28,32,35,40,42,46,49,56,56,60,63,68,70,74,77,84 ★ a(n) = sum(floor(k*n/8), k=1..7). • a(n) = sum(floor(k * n / 8), k=1..7). • a(n) = (gcd(n,8) - (n + 8) + n * 8) / 2. •

[A047535] • 4,7,12,15,20,23,28,31,36,39,44,47,52,55,60,63,68,71,76,79,84,87,92,95,100 ★ Numbers that are congruent to {4, 7} mod 8. • a(n) = 8 * n - a(n - 1) - 5 (with a(1)=4). [_ Vincenzo Librandi _ , Aug 06 2010] • a(n) = 4 * n - (1 + (- 1) ^ n) / 2. - _ Arkadiusz Wesolowski _ , Sep 18 2012 •

[A061503] • 1,4,7,12,15,24,27,34,39,48,51,66,69,78,87,96,99,114,117,132,141,150,153,174,179 ★ Sum_{k<=n} (tau(k^2)), where tau is the number of divisors function A000005. • a(n) = Sum(i=1..n, 2 ^ omega(i) * floor(n / i)) . - _ Enrique Pérez Herrero _ , Sep 15 2012 •

[A076295] • 4,7,12,15,28,55,72,147,304,403,840,1755,2332,4879,10212,13575,28420,59503,79104,165627,346792,461035,965328,2021235,2687092 ★ Consider all Pythagorean triples (Y-7,Y,Z); sequence gives Y values. • a(0)=4, a(1)=7, a(2)=12, a(3)=15, a(4)=28, a(5)=55, a(6)=72, a(n)= a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a (n - 7). - _ Harvey P. Dale _ , Feb 02 2012 •

[A083030] • 0,4,7,12,16,19,24,28,31,36,40,43,48,52,55,60,64,67,72,76,79,84,88,91,96 ★ Numbers that are congruent to {0, 4, 7} mod 12. • a(n) = a(n - 1) + a (n - 3) - a(n - 4) for n>4. • a(n) = 4 * n - (13 + 2 * cos(2 * n * Pi / 3)) / 3. • a(3k) = 12k - 5, a(3k - 1) = 12k - 8, a(3k - 2) = 12k - 12. (End) •

[A232424] • 0,1,4,7,12,16,22,27,34,40,47,54,62,70,78,87,96,105,114,124,134,144,155,165,176 ★ Floor of the half derivative of x^2 at n. • a(n) = floor(8n ^ (3 / 2) / (3 * sqrt(Pi))). •

[A276222] • 4,7,12,17,23,29,35,42,50,58,66,75,84,93,103,113,124,135,146,157,169,181,194,206,219 ★ Position of n^s in the joint ranking of {h} and {k^s}, h >= 1, k >= 2, s = golden ratio = (1+sqrt(5))/2. • a(n) = n + floor(n ^ s), n >= 2; the complement is given by n + floor(n ^ (1 / s)), n >= 1. •

[A074148] • 1,4,7,12,17,24,31,40,49,60,71,84,97,112,127,144,161,180,199,220,241,264,287,312,337 ★ Last term in each group in A074147. • a(n) = (2 * n ^ 2 + 4 * n + (- 1) ^ n - 1) / 4. - _ Vladeta Jovovic _ , Apr 06 2003 • a(n) = + 2 * a(n - 1) - 2 * a(n - 3) + 1 * a(n - 4). - _ Joerg Arndt _ , Apr 02 2011 • a (n) = a(n - 2) + 2 * n, a(0)=0, a(1)=1. - _ Paul Barry _ , Jul 17 2004 • a(n) = floor(n ^ 4 / (2n ^ 2 + 1)) with offset 2..a(2)=1. - _ Gary Detlefs _ , Feb 11 2010 • a(n) = n + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 14 2013 •

[A265431] • 0,1,4,7,12,18,26,34,44,55,68,81,96,112,130,148,168,189,212,235,260,286,314,342,372 ★ Total number of OFF (white) cells after n iterations of the "Rule 188" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 16 * (10 * n ^ 2 + 8 * n + 3 * (- 1) ^ n - 2 * (- i) ^ n - 2 * i ^ n + 1) where i = sqrt(- 1). •

[A020732] • 4,7,12,20,33,54,88,143,232,376,609,986,1596,2583,4180,6764,10945,17710,28656,46367,75024,121392,196417,317810,514228 ★ Pisot sequence T(4,7). • a(n) = Fibonacci(n + 5) - 1. • a(n) = 2 * a(n - 1) - a(n - 3). • a(n) = (- 1 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + 5 * sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + 5 * sqrt(5)))) / sqrt(5)). •

[A228879] • 4,7,12,21,36,63,108,189,324,567,972,1701,2916,5103,8748,15309,26244,45927,78732,137781,236196,413343,708588,1240029,2125764 ★ a(n+2) = 3*a(n), starting 4,7. • a(n) = sqrt(3 * a(n - 1) ^ 2 + (- 3) ^ (n - 1)), a(0) = 4 . •

[A010901] • 4,7,12,21,37,65,114,200,351,616,1081,1897,3329,5842,10252,17991,31572,55405,97229,170625,299426,525456,922111,1618192,2839729 ★ Pisot sequences E(4,7), P(4,7). • a(n) = 2a(n - 1) - a(n - 2) + a(n - 3) for n>=3. (Proved using the PtoRv program of Ekhad - Sloane - Zeilberger.) - _ N. J. A. Sloane _ , Sep 09 2016 •

[A123194] • 4,7,12,23,43,81,150,275,498,893,1587,2799,4904,8543,14808,25555,43931,75261,128538,218923,371934,630457,1066467,1800603,3034828 ★ a(n) = (n+1)*Fibonacci(n+2) + 3. • a(n) = 3 - 2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 5 + 3 * sqrt(5)) - (1 + sqrt(5)) ^ n * (5 + 3 * sqrt(5))) / 5 * (1 + n). • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + a(n - 4) + a(n - 5) for n>4. •

[A243860] • 1,4,7,12,23,48,103,220,463,960,1967,3996,8071,16240,32599,65340,130847,261888,523999,1048252,2096791,4193904,8388167,16776732,33553903 ★ 2^(n+1) - (n-1)^2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ Colin Barker _ , Jun 12 2014 •

[A125758] • 4,7,13,16,22,25,31,34,40,43,49,52,58,61,67,70,76,79,85,88,94,97,103,106,112 ★ Numbers congruent to 4 or 7 mod 9. • a(n) = (11 - 3 * (- 1) ^ n) / 2 + 9 * A004526 - _ Paolo P. Lava _ , Nov 05 2007 • a(n)=9 * n - a(n - 1) - 7 (with a(1)=4). [_ Vincenzo Librandi _ , Sep 30 2010] •

[A061201] • 1,4,7,13,16,25,28,38,44,53,56,74,77,86,95,110,113,131,134,152,161,170,173,203,209 ★ Partial sums of A007425: (tau<=)_3(n). • a(n) = n * (log(n) ^ 2 + (3 * g - 1) * log(n) + 3 * g ^ 2 - 3 * g - 3 * g1 / 2 + 1) + O(sqrt(n)), where g is the Euler - Mascheroni number ~ 0.57721... (see A001620), and g1 is the first Stieltjes constant ~ - 0.072816 (see A082633). The determination of the precise size of the error term is an unsolved problem - see references . - _ Andrew Lelechenko _ , Apr 15 2011 • a(n) = Sum _{ k=1..n } Sum _{ i=1..n } floor(n / (i * k)). - _ Wesley Ivan Hurt _ , Sep 14 2017 •

[A266811] • 1,4,7,13,18,26,35,45,55,69,82,97,113,131,149,170,190,213,237,262,287,316,344,374,405 ★ Total number of ON (black) cells after n iterations of

the "Rule 62" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n>7. •

[A085787] • 0,1,4,7,13,18,27,34,46,55,70,81,99,112,133,148,172,189,216,235,265,286,319,342,378 ★ Generalized heptagonal numbers: n*(5*n-3)/2, n=0, +-1, +-2 +-3, ... • a(n) = 5 * n * (n + 1) / 8 - 1 / 16 + (- 1) ^ n * (2 * n + 1) / 16. - _ R. J. Mathar _ , Jun 29 2009 •

[A111710] • 1,4,7,13,18,27,34,46,55,70,81,99,112,133,148,172,189,216,235,265,286,319,342,378,403 ★ Consider the triangle shown below in which the n-th row contains the n smallest numbers greater than those in the previous row such that the arithmetic mean is an integer. Sequence contains the leading diagonal. • a(1)=1, a(2n) = a(2n - 1) + 3n, a(2n + 1)=a(2n) + 2n + 1. - _ Franklin T. Adams - Watters _ , May 01 2006 • a(n) = (10 * n ^ 2 + 2 * (- 1) ^ n * n + 10 * n + (- 1) ^ n - 1) / 16. • a(n) = (5 * n ^ 2 + 6 * n) / 8 for n even. • a(n) = (5 * n ^ 2 + 4 * n - 1) / 8 for n odd. (End) •

[A194073] • 1,4,7,13,19,28,37,49,61,76,91,109,127,148,169,193,217,244,271,301,331,364,397,433,469 ★ a(n) = 1 + floor((3/4)*n^2). • a(n) = 1 + floor((3 / 4) * n ^ 2). •

[A111314] • 1,1,4,7,13,22,37,61,100,163,265,430,697,1129,1828,2959,4789,7750,12541,20293,32836,53131,85969,139102,225073 ★ a(n) = a(n-1) + a(n-2) + 2 where a(0) = a(1) = 1. • a(n) = 2 * Fib(n + 1) - Fib(n + 2) + Fib(n + 3) - 2 . - _ Robert G. Wilson v _ , Nov 10 2005 • a(n) = F(n - 1) + F(n + 3) - 2, where F(n) is the n - th Fibonacci number. - _ Zerinvary Lajos _ , Jan 31 2008 • a(n) = 3 * Fib(n + 1) - 2. - _ Olivier Pirson _ , Jun 30 2015 •

[A038391] • 1,4,7,13,23,33,48,69,90,118,154,190,235,290,345,411,489,567,658,763,868,988,1124,1260,1413 ★ Expansion of (x^3+2*x+1) / ((x-1)^4*(x^2+x+1)^2). • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). • a(n) = Sum _{ i=1..n + 1 } (1 + floor((n + i + 1) / 3)) * (1 + floor((n - i + 1) / 3)). (End) •

[A000288] • 1,1,1,1,4,7,13,25,49,94,181,349,673,1297,2500,4819,9289,17905,34513,66526,128233,247177,476449,918385,1770244 ★ Tetranacci numbers: a(n) = a(n-1) + a(n-2) + a(n-3) + a(n-4) with a(0)=a(1)=a(2)=a(3)=1. • a(0) = a(1) = a(2) = a(3) = 1, a(4) = 4, a(n) = 2 * a(n - 1) - a(n - 5). - _ Vincenzo Librandi _ , Dec 21 2010 •

[A118334] • 1,1,1,1,1,1,1,1,4,7,13,25,49,94,463,3691,51649,1342825,67140874,6378379789,2959568174113,10926725697533971,56436538227563803725,757844508822251885989584694,508823434362712110957380040519 24943 ★ a(n-1)*a(n-6) + a(n-2)*a(n-7) + a(n-3)*a(n-8) + a(n-4)*a(n-9), with a(k<8) = 1. • a(0) = a(1) = a(2) = a(3) = a(4) = a(5) = a(6) = a(7) = 1; for n>7: a(n) = a(n - 1) * a(n - 6) + a(n - 2) * a(n - 7) + a(n - 3) * a(n - 8) + a(n - 4) * a(n - 9). •

[A004119] • 1,4,7,13,25,49,97,193,385,769,1537,3073,6145,12289,24577,49153,98305,196609,393217,786433,1572865,3145729,6291457,12582913,25165825 ★ a(0)=1; thereafter a(n) = 3*2^(n-1)+1. • a(n) = 3a(n - 1) - 2a(n - 2). •

[A181565] • 4,7,13,25,49,97,193,385,769,1537,3073,6145,12289,24577,49153,98305,196609,393217,786433,1572865,3145729,6291457,12582913,25165825,50331649 ★ a(n) = 3*2^n + 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). (End) • a(n) = 2 * a(n - 1) - 1. - _ Miquel Cerda _ , Aug 16 2016 •

[A293342] • 4,7,13,26,51,101,202,403,805,1609,3217,6434,12868,25736,51472,102944,205888,411775,823550,1647100,3294199,6588398,13176795,26353590,52707179 ★ Least integer k such that k/2^n > Pi. • a(n) = ceiling(Pi * 2 ^ n). •

[A122552] • 1,1,1,4,7,13,28,55,109,220,439,877,1756,3511,7021,14044,28087,56173,112348,224695,449389,898780,1797559,3595117,7190236 ★ a(0)=a(1)=a(2)=1, a(n)=a(n-1)+a(n-2)+2*a(n-3) for n>2. • a(3 * n)=2 * a(3 * n - 1) + 2, a(3 * n + 1)=2 * a(3 * n) - 1, a(3 * n + 2)=2 * a(3 * n + 1) - 1, a(0)=1 . G.f. : (1 - x ^ 2) / (1 - x - x ^ 2 - 2 * x ^ 3). • a(n)=(3 / 7) * 2 ^ n - (1 / 7) * I * sqrt(3) * [(- 1 / 2) + (1 / 2) * I * sqrt(3)] ^ n + (2 / 7) * [(- 1 / 2) - (1 / 2) * I * sqrt(3)] ^ n + (2 / 7) * [(- 1 / 2) + (1 / 2) * I * sqrt(3)] ^ n + (1 / 7) * I * sqrt(3) * [(- 1 / 2) - (1 / 2) * I * sqrt(3)] ^ n, with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Nov 19 2008 •

[A048241] • 1,4,7,14,23,41,56,89,119,164,206,281,335,437,518,626,734,902,1019,1226,1382,1592,1787,2084,2288 ★ Number of colors that can mixed with n >= 0 units of yellow, blue, red. • a(n) = number of triples (i, j, k) with 0 <= i + j + k <= n and gcd(i, j, k) = 1. •

[A094968] • 1,4,7,14,25,48,91,178,349,692,1375,2742,5473,10936,21859,43706,87397,174780,349543,699070,1398121,2796224,5592427,11184834,22369645 ★ Indices of Fibonacci numbers in Stern's diatomic series A049456 regarded as a single linear sequence. • a(n) = 2 ^ n + n + Jacobsthal(n). • a(n) = ((- 1) ^ (1 + n) + 2 ^ (2 + n) + 3 * n) / 3. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4) for n>3. •

[A234576] • 4,7,14,34,73,156,345,754,1640,3585,7832,17091,37318,81490,177913,388448,848149,1851826,4043232,8827953,19274812,42084287,91886190,200622866,438036729 ★ Number of Weyl group elements, not containing s_1 or s_2, which contribute nonzero terms to Kostant's weight multiplicity formula when computing the multiplicity of the zero-weight in the adjoint representation for the Lie algebra of type D and rank n. • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). •

[A281445] • 4,7,15,18,26,29,37,40,48,51,59,62,70,73,81,84,92,95,103,106,114,117,125,128,136 ★ Nonnegative k for which (2*k^2 + 1)/11 is an integer. • a(n) = - a(- n + 1) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = (22 * n - 5 * (- 1) ^ n - 11) / 4. Therefore: a(2 * h) = 11 * h - 4, a(2 * h + 1) = 11 * h + 4. •

[A109622] • 1,1,4,7,15,23,38,53,77,101,136,171,219,267,330,393,473,553,652,751,871,991,1134,1277,1445 ★ Number of different isotemporal classes of diasters with n peripheral edges. • a(n=2k) = 1 + sum _{ i=1 }^{ (n / 2) - 1 } (n * i - i ^ 2 + n + 1) + (1 / 2)((n / 2) ^ 2 + 3(n / 2) + 2) a(n=2k + 1)= 1 + sum _{ i=1 }^{ (n - 1) / 2 } ((n * i - i ^ 2 + n + 1). [Corrected by Sean A. Irvine after private communication with Benjamin de Bivort, Feb 13 2012] •

[A116969] • 4,7,15,27,53,101,199,391,777,1545,3083,6155,12301,24589,49167,98319,196625,393233,786451,1572883,3145749,6291477,12582935,25165847,50331673 ★ If n mod 2 = 0 then 3*2^(n-1)+n-1 else 3*2^(n-1)+n. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4). G.f.: - x * (x ^ 3 - 2 * x ^ 2 - 5 * x + 4) / ((x - 1) ^ 2 * (x + 1) * (2 * x - 1)). - _ Colin Barker _ , Jul 18 2013 •

[A131935] • 4,7,15,31,65,136,285,597,1251,2621,5492,11507,24111,50519,105853 ★ a(n) is the number of Khalimsky-continuous functions with four-point codomain and an n-point range. • a(n) = a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4) for n>4. •

[A173657] • 4,7,15,37,99,277,795,2317,6819,20197,60075,179197,535539,1602517,4799355,14381677,43112259,129271237,387682635,1162785757,3487832979,10462450357,31385253915,94151567437,282446313699 ★ 2+2^n+3^n. • a(n)= 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). •

[A130665] • 1,4,7,16,19,28,37,64,67,76,85,112,121,148,175,256,259,268,277,304,313,340,367,448,457 ★ a(n) = Sum_{k=0..n} 3^wt(k), where wt() = A000120(). • a(2n + 1) = 4a(n) and a(2n) = 3a(n - 1) + a(n). •

[A285998] • 1,4,7,16,22,40,50,80,95,140,161,224,252,336,372,480,525,660,715,880,946,1144,1222,1456,1547 ★ a(n) = Sum_{k=0..floor(n/2)} (n-k)*(k+1). • a(n) = 1 / 16 + 13 * n / 24 + 7 * n ^ 2 / 16 + n ^ 3 / 12 + (- 1) ^ n * (- 1 / 16 + n / 8 + n ^ 2 / 16). - _ Vaclav Kotesovec _ , Jun 25 2017 •

[A259653] • 0,1,4,7,16,25,34,61,88,115,142,223,304,385,466,547,790,1033,1276,1519,1762,2005,2734,3463,4192 ★ a(0)=0, a(1)=1, a(n) = min{3 a(k) + (3^(n-k)-1)/2, k=0..(n-1)} for n>=2. • a(n) = min { 3 * a(k) + (3 ^ (n - k) - 1) / 2 ; k < n } . •

[A164123] • 1,4,7,16,25,52,79,160,241,484,727,1456,2185,4372,6559,13120,19681,39364,59047,118096,177145,354292,531439,1062880,1594321 ★ Partial sums of A162436. • a(n) = 3 * a(n - 2) + 4 for n > 2; a(1) = 1, a(2) = 4. • a(n) = (5 - (- 1) ^ n) * 3 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2 - 2. •

[A133600] • 1,4,7,16,28,64,112,256,448,1024,1792,4096,7168,16384,28672,65536,114688,262144,458752,1048576,1835008,4194304,7340032,16777216,29360128 ★ Row sums of triangle A133599. • a(n) = 4 * a(n - 2) for n > 3; a(1) = 1, a(2) = 4, a(3) = 7. [From _ Klaus Brockhaus _ , Nov 26 2009] •

[A051049] • 1,1,4,7,16,31,64,127,256,511,1024,2047,4096,8191,16384,32767,65536,131071,262144,524287,1048576,2097151,4194304,8388607,16777216 ★ Number of moves needed to solve an (n+1)-ring baguenaudier if two simultaneous moves of the two end rings are counted as one. • a(n) = (2 ^ (n + 1) - (1 + (- 1) ^ (n + 1))) / 2. - _ Paul Barry _ , Apr 24 2003 • a(n + 2) = a(n + 1) + 2 * a(n) + 1, a(0)=a(1)=1. - _ Paul Barry _ , May 01 2003 • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n + 1, 2k). - _ Paul Barry _ , May 27 2003 • a(n) = (Sum _{ k=0..n } binomial(n,k) + (- 1) ^ (n - k)) - 1. - _ Paul Barry _ , Jul 21 2003 • a(n) = sum { k=0..n, sum { j=0..n - k, if(mod(j - k, 2)=0, binomial(n - k, j), 0 }} . - _ Paul Barry _ , Jan 25 2005 • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), a(0)=1=a(1), a(2)=4. Observed by G. Detlefs. See the W. Lang link. [_ Wolfdieter Lang _ , Oct 18 2010] •

[A108122] • 1,1,1,4,7,16,34,73,157,337,724,1555,3340,7174,15409,33097,71089,152692,327967,704440,1513066,3249913,6980485,14993377,32204260 ★ G.f.: (1-2*x^2)/(1-x-2*x^2-x^3). • a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3), starting 1,1,1. • a(n) = sum(m=0..n / 2, sum(i=0..m, 2 ^ i * binomial(n - 2 * m + 1 ,m - i) * binomial(n - 2 * m + i,n - 2 * m))). - _ Vladimir Kruchinin _ , Dec 17 2011 •

[A192800] • 0,0,1,1,4,7,16,35,73,162,344,748,1612,3478,7517,16213,35020,75585,163184,352295,760517,1641880,3544484,7652008,16519388 ★ Coefficient of x^2 in the reduction of the n-th Fibonacci polynomial by x^3->x^2+2. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 4) + a(n - 5) + a(n - 6). •

[A027609] • 4,7,16,35,87,217,549,1412,3678,9621,25296,66736,176536,467997,1242483,3302289,8784053,23380493,62260291,165852147,441922282,1177759339,3139292093,8368647138,22310795824 ★ Least non-partition into positive n-th powers. • a(n) = (partition of 4 ^ n into n - th powers) - 1 •

[A289521] • 4,7,16,43,124,367,1096,3283,9844,29527,88576,265723,797164,2391487,7174456,21523363,64570084,193710247,581130736,1743392203,5230176604,15690529807,47071589416,141214768243,423644304724 ★ Number of vertices in a planar Apollonian graph at iteration n. • a(n) = (5 + 3 ^ n) / 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n>2. • a(n) = a(n - 1) + 3 ^ (n - 1) for n>1. - _ Andrew D. Walker _ , Jul 07 2017 •

[A219754] • 0,0,0,0,1,1,4,7,18,37,84,179,390,833,1784,3791,8042,16989,35804,75243,157774,330105,689344,1436935,2990386 ★ Expansion of x^4*(1-x-x^2)/((1+x)*(1-2*x)*(1-x-2*x^2)). • a(n) = (2 ^ (n - 4) * (3 * n + 5) + (3 * n - 2) * (- 1) ^ n) / 27 for n=1 and n>2, a(0)=a(1)=a(2)=0. [_ Bruno Berselli _ , Nov 29 2012] •

[A289975] • 0,1,1,4,7,18,37,85,183,407,888,1956,4284,9409,20630,45270,99289,217819,477776,1048053,2298912,5042783,11061455,24263687,53223023 ★ p-INVERT of the Fibonacci numbers (A000045, including 0), where p(S) = 1 - S - S^2. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3) - a(n - 4). •

[A100828] • 1,4,7,18,41,100,239,578,1393,3364,8119,19602,47321,114244,275807,665858,1607521,3880900,9369319,22619538,54608393,131836324,318281039,768398402,1855077841 ★ Expansion of (1+2*x-2*x^3-3*x^2)/((x-1)*(x+1)*(x^2+2*x-1)). • a(n) = (u ^ (n + 1) + 1) * (v ^ (n + 1) + 1) / 2 with u = 1 + sqrt(2), v = 1 - sqrt(2). - _ Vladeta Jovovic _ , May 30 2007 •

[A164265] • 4,7,19,28,64,91,199,280,604,847,1819,2548,5464,7651,16399,22960,49204,68887,147619,206668,442864,620011,1328599,1860040,3985804 ★ Partial sums of A162766. • a(n) = 3 * a(n - 2) + 7 for n > 2; a(1) = 4, a(2) = 7. • a(n) = (11 - 4 * (- 1) ^ n) * 3 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2 - 7 / 2. •

[A006130] • 1,1,4,7,19,40,97,217,508,1159,2683,6160,14209,32689,75316,173383,399331,919480,2117473,4875913,11228332,25856071,59541067,137109280,315732481 ⋆ a(n) = a(n-1) + 3*a(n-2) for n > 1, a(0) = a(1) = 1. • a(n) = (((1 + sqrt(13)) / 2) ^ (n + 1) - ((1 - sqrt(13)) / 2) ^ (n + 1)) / sqrt(13). • a(n) = Sum _{ k=0..ceiling(n / 2)] 3 ^ k * C(n - k, k)). - _ Benoit Cloitre _ , _ Philippe Deléham _ , Mar 07 2004 • a(0) = 1; a(1) = 1; for n>=1, a(n + 1) = (a(n) ^ 2 - (- 3) ^ n) / a(n - 1). - _ Philippe Deléham _ , Mar 07 2004 • a(n) = lower right term in the 2 X 2 matrix [0,3; 1,1] ^ n. - _ Gary W. Adamson _ , Mar 02 2008 • a(n) = Product _{ k=1..floor((n - 1) / 2) } (1 + 12 * cos(k * Pi / n) ^ 2). - _ Roger L. Bagula _ and _ Gary W. Adamson _ , Nov 21 2008 • a(n) = (sum { 1<=k<=n + 1, k odd } C(n + 1,k) * 13 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 •

[A133264] • 1,4,7,19,49,79,199,499,799,1999,4999,7999,19999,49999,79999,199999,499999,799999,1999999,4999999,7999999,19999999,49999999,79999999,199999999 ⋆ Smallest number whose sum of digits is 3n+1. • a(n) = a(n - 1) + 10 * a(n - 3) - 10 * a(n - 4). - _ Chai Wah Wu _ , May 25 2016 •

[A253208] • 4,7,19,67,259,1027,4099,16387,65539,262147,1048579,4194307,16777219,67108867,268435459,1073741827,4294967299,17179869187,68719476739,274877906947,1099511627779,4398046511107,17592186044419,70368744177667,281474976710659 ⋆ a(n) = 4^n + 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>1. •

[A066345] • 1,1,4,7,20,39,96,191,432,863,1856,3711,7744,15487,31744,63487,128768,257535,519168,1038335,2085888,4171775,8364032,16728063,33501184 ⋆ Winning binary "same game" templates of length n as defined below. • a(2 * n - 1)= 2 ^ (2 * n - 1) - n * 2 ^ (n - 1), a(2 * n)= 2 * a(2 * n - 1) - 1. •

[A111955] • 0,1,4,7,20,45,112,267,648,1561,3772,9103,21980,53061,128104,309267,746640,1802545,4351732,10506007,25363748,61233501,147830752,356895003,861620760 ⋆ a(n) = A078343(n) + (-1)^n. • a(n) = a(n - 1) + 3 * a(n - 2) + a(n - 3), n >= 3; a(n) = (- 1 / 4 * sqrt(2) + 1) * (1 - sqrt(2)) ^ n + (1 / 4 * sqrt(2) + 1) * (1 + sqrt(2)) ^ n - (- 1) ^ n; •

[A039959] • 1,1,4,7,21,37,85,151,292,490,848,1346,2157,3260,4925,7148,10327,14477,20177,27483,37194,49431,65277,84945,109873 ⋆ Number of ways of numbering the vertices of a cube so sum of the 8 numbers is n. • a(n) = -a(- 8 - n) for all n in Z. - _ Michael Somos _ , Oct 17 2015 •

[A128533] • 0,4,7,22,54,145,376,988,2583,6766,17710,46369,121392,317812,832039,2178310,5702886,14930353,39088168,102334156,267914295,701408734,1836311902,4807526977,12586269024 ⋆ a(n) = F(n)*L(n+2) where F=Fibonacci and L=Lucas numbers. • a(n) = F(2 * (n + 1)) + (- 1) ^ (n + 1), assuming F(0) = 0 and L(0) = 2. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). G.f.: -x * (- 4 + x) / ((1 + x) * (x ^ 2 - 3 * x + 1)). - _ R. J. Mathar _ , Apr 16 2009 •

[A162559] • 4,7,22,58,160,436,1192,3256,8896,24304,66400,181408,495616,1354048,3699328,10106752,27612160,75437824,206099968,563075584,1538351104,4202853376,11482408960,31370524672,85705867264 ⋆ a(n) = ((4+sqrt(3))*(1+sqrt(3))^n + (4-sqrt(3))*(1-sqrt(3))^n)/2. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) for n > 1; a(0) = 4, a(1) = 7. •

[A143608] • 0,1,4,7,24,41,140,239,816,1393,4756,8119,27720,47321,161564,275807,941664,1607521,5488420,9369319,31988856,54608393,186444716,318281039,1086679440 ⋆ A005319 and A002315 interleaved. • a(2 * n) = (a(2 * n - 1) + a(2 * n + 1)) / 2. • a(2 * n + 1) = (a(2 * n) + a(2 * n + 2)) / 4. • a(n) = 6 * a(n - 2) - a(n - 4). • a(n) = (((- 2 - sqrt(2) + (- 1) ^ n * (- 2 + sqrt(2))) * ((- 1 + sqrt(2)) ^ n - (1 + sqrt(2)) ^ n))) / (4 * sqrt(2)). - _ Colin Barker _ , Mar 27 2016 •

[A276288] • 0,1,1,4,7,25,46,163,301,1066,1969,6973,12880,45613,84253,298372,551131,1951765,3605158,12767239,23582713,83515378,154263517,546305929,1009096480 ⋆ a(n) = a(n-1) + 3*a(n-2) if n is even, else a(n) = 3*a(n-1) + a(n-2), a(0)=0, a(1)=1. • a(n) = 7 * a(n - 2) - 3 * a(n - 4). • a(n) = (2 - (- 1) ^ n) * a(n - 1) + (2 + (- 1) ^ n) * a(n - 2) for n>1, a(0)=0, a(1)=1. •

[A117977] • 1,4,7,28,112,196,703,2812,4921,19684,78736,137788,551152,2204608,3858064,13837852,55351408,96864964,387400807,1549603228,2711805649,10847222596,43388890384,75930558172,272342767321 ⋆ Legendre-binomial transform of 3^n for p=3. • a(n)=sum { k=0..n, L(C(n,k) / 3) * 3 ^ k } where L(j / p) is the Legendre symbol of j and p. •

[A080871] • 1,1,4,7,31,55,244,433,1921,3409,15124,26839,119071,211303,937444,1663585,7380481,13097377,58106404,103115431,457470751,811826071,3601659604,6391493137,28355806081 ⋆ a(n)*a(n+3) - a(n+1)*a(n+2) = 3, given a(0)=a(1)=1, a(2)=4. • a(n) = (3 + a(n - 1) * a(n - 2)) / a(n - 3) for n>2. • a(n + 4)=8 * a(n + 2) - a(n) [From _ Richard Choulet _ , Dec 04 2008] • a(n) = (0.25 + sqrt(10) / 20) * (sqrt(4 + sqrt(15))) ^ n + (0.25 + sqrt(10) / 20) * (sqrt(4 - sqrt(15))) ^ n + (- 1 / 20 * 10 ^ (1 / 2) + 1 / 4) * (- sqrt(4 + sqrt(15))) ^ n + (- 1 / 20 * 10 ^ (1 / 2) + 1 / 4) * (- (sqrt(4 - sqrt(15)))) ^ n [From _ Richard Choulet _ , Dec 06 2008] •

[A143547] • 1,1,1,4,7,34,70,368,819,4495,10472,59052,141778,814506,1997688,11633440,28989675,170574723,430321633,2552698720,6503352856,38832808586,99726673130,598724403680,1547847846090 ⋆ G.f. satisfies: A(x) = 1 + x*A(x)^4*A(-x)^3. • a(2n) = C(7 * n,n) / (6 * n + 1); a(2n + 1) = C(7 * n + 3,n) * 4 / (6 * n + 4). •

[A212500] • 1,4,7,36,65,340,615,3220,5825,30500,55175,288900,522625,2736500,4950375,25920500,46890625,245522500,444154375,2325622500,4207090625,22028612500,39850134375,208658012500,377465890625 ⋆ a(n) is the difference between multiples of 5 with even and odd digit sum in base 4 in interval [0,4^n). • a(n) = 0.4 * ((5 + 2 * sqrt(5)) ^ (n / 2) + (5 - 2 * sqrt(5)) ^ (n / 2)) , if n is even, and • a(n) = 0.1 * ((5 + 2 * sqrt(5)) ^ ((n - 1) / 2) * sqrt(30 + 10 * sqrt(5)) + (5 - 2 * sqrt(5)) ^ ((n - 1) / 2) * sqrt(30 - 10 * sqrt(5))), if n is odd. •

[A199404] • 1,4,7,43,76,469,829,5116,9043,55807,98644,608761,1076041,6640564,11737807,72437443,128039836,790171309,1396700389,8619446956,15235664443,94023745207,166195608484,1025641750321,1812916028881 ⋆ x-values in the solution to 13*x^2 - 12 = y^2. • a(n + 4) = 11 * a(n + 2) - a(n) with a(1)=1, a(2)=4, a(3)=7, a(4)=43. •

[A094906] • 1,4,8,9,10,14,16,25,28,32,33,36,40,49,56,57,64,65,71,72,74,78,81,90,100 ⋆ Numbers n such that n^3-k^3 is a square for some k<n. • a(n) seems to be asymptotic to c * n ^ (3 / 2) where c=0.49.... •

[A078137] • 4,8,9,12,13,16,17,18,20,21,22,24,25,26,27,28,29,30,31,32,33,34,35,36,37 ⋆ Numbers which can be written as sum of squares>1. • a(n)=n + 12 for n >= 12. - _ Hieronymus Fischer _ , Nov 11 2007 •

[A047462] • 0,1,4,8,9,12,16,17,20,24,25,28,32,33,36,40,41,44,48,49,52,56,57,60,64 ⋆ Numbers that are congruent to {0, 1, 4} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 33 - 3 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 4, a(3k - 1) = 8k - 7, a(3k - 2) = 8k - 8. (End) •

[A140282] • 0,4,8,9,13,17,18,22,26,27,31,35,36,40,44,45,49,53,54,58,62,63,67,71,72 ⋆ Numbers n such that A000330(n) is multiple of 3. • a(n) = 3 * (n - floor(n / 3)) + n [From _ Gary Detlefs _ , Mar 27 2010] •

[A004756] • 4,8,9,16,17,18,19,32,33,34,35,36,37,38,39,64,65,66,67,68,69,70,71,72,73 ⋆ Binary expansion starts 100. • a(2n) = 2a(n), a(2n + 1) = 2a(n) + 1 + 3[n==0]. • a(2 ^ m + k) = 2 ^ (m + 2) + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 07 2016 •

[A090779] • 1,4,8,9,16,18,25,27,32,36,49,50,54,64,72,81,98,100,108,121,125,128,144,147,162 ⋆ Numbers n such that n divides phi(n)^2. • a(n) seems to be asymptotic to c * n ^ 2 with c=0.1.... •

[A003624] • 4,8,9,16,21,25,27,32,35,36,39,49,50,55,57,63,64,65,75,77,81,85,93,98,100 ⋆ Duffinian numbers: n composite and relatively prime to sigma(n). • a(n) >> n log log log n, see Luca. (Clearly excluding the primes only makes the n - th term larger.) - _ Charles R Greathouse IV _ , Feb 17 2014 •

[A067252] • 4,8,9,16,25,32,36,50,81,121,128,225,256,324,529,576,625,729,841,1058,1089,1296,1681,1682,2025 ⋆ Composite n such that sigma(n)-phi(n) is prime. • a(n) > n ^ 2 / 2. - _ Charles R Greathouse IV _ , Nov 21 2013 •

[A074776] • 4,8,10,11,12,16,18,20,22,24,28,30,32,33,36,40,44,48,50,52,54,55,56,58,60 ⋆ Numbers n such that 2^n-1 and F(n) are not relatively prime, where F(n) denotes the n-th Fibonacci number. • a(n) seems to be asymptotic to c * n with c=2.2... •

[A272299] • 0,1,4,8,11,12,18,19,22,26,29,30,36,37,40,44,47,48,54,55,58,62,65,66,72 ⋆ a(n) = n + 2*floor(n/2) + 3*floor(n/3). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). • a(n) = 3 * n - (n mod 2) - (n mod 3). More generally, it is easy to see that Sum _{ i=1 }^ k i * floor(n / i) = k * n - Sum _{ i=1 }^ k (n mod i). • a(3 * m + r) = 9 * m + r ^ 2 - (1 - (- 1) ^ m) * (- 1) ^ r / 2, with r = 0, 1 or 2. Therefore: for even m, a(3 * m + r) = 9 * m + r ^ 2; otherwise, a(3 * m + r) = 9 * m + r ^ 2 - (- 1) ^ r. •

[A047346] • 1,4,8,11,15,18,22,25,29,32,36,39,43,46,50,53,57,60,64,67,71,74,78,81,85 ⋆ Numbers that are congruent to {1, 4} mod 7. • a(n) = floor((7n - 5) / 2). - _ Santi Spadaro _ , Jul 24 2001 • a(n) = 7 * n - a(n - 1) - 9, n>1. [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) = 4n - 3 - floor(n / 2). - _ Wesley Ivan Hurt _ , Oct 16 2013 •

[A081840] • 0,4,8,11,15,19,23,26,30,34,37,41,45,49,52,56,60,64,67,71,75,79,82,86,90 ⋆ a(1)=0, a(n)=a(n-1)+3 if n is already in th sequence, a(n)=a(n-1)+4 otherwise. • a(n)=floor(r * n - (2 * r + 1) / (r - 1)) where r=2 + sqrt(3) •

[A080055] • 1,4,8,11,15,20,23,30,38,43,49,54,60,65,72,78,85,90,93,100,104,108,111,115,118 ⋆ Greedy powers of log(2): sum_{n>=1} (log(2))^a(n) = 1. • a(n) = sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } = log _ x(x ^ frac(g _ n) - x) (n>0) at x=log(2) and frac(y) = y - floor(y). See A077468 for Mathematica program by _ Robert G. Wilson v _ . •

[A267534] • 4,8,11,16,20,21,23,28,32,35,40,44,45,47,52,56,59,64,68,69,71,76,80,83,88 ⋆ Indices of Lucas numbers that are not of the form x^2 + y^2 + z^2 where x, y and z are integers. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for n>8. •

[A220753] • 1,4,8,11,22,25,50,53,106,109,218,221,442,445,890,893,1786,1789,3578,3581,7162,7165,14330,14333,28666 ⋆ Expansion of (1+4*x+5*x^2-x^3)/((1-x)*(1+x)*(1-2*x^2)). • a(n) = a(n - 1) * 2 if n even. • a(n) = a(n - 1) + 3 if n odd. • a(n) = 3 * a(n - 2) - 2 * a(n - 4) with a(0)=1, a(1)=4, a(2)=8, a(3)=11. • a(n) = 7 * 2 ^ floor(n / 2) - (3 / 2) * (3 + (- 1) ^ n). •

[A032819] • 1,4,8,11,29,32,57,60,78,81,204,207,225,228,400,403,421,424,547,550,568,571,1429,1432,1450 ⋆ Numbers whose set of base 7 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 7 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 7 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A080458] • 4,8,12,12,16,20,24,24,28,32,36,36,40,44,48,48,52,56,60,60,64,68,72,72,76 ⋆ a(1)=4; for n>1, a(n)=a(n-1) if n is already in the sequence, a(n)=a(n-1)+4 otherwise. • a(n) = 4 + 4 * (n - 2 - floor((n - 4) / 4)). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n > 5. • a(n) = (6 * n - (- 1) ^ n - 2 * sqrt(2) * sin(Pi * n / 2 + Pi / 4) + 3) / 2. (End) •

[A008574] • 1,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68,72,76,80,84,88,92,96 ⋆ a(0)=1, thereafter a(n) = 4n. • a(- n)= - a(n) unless n=0. - _ Michael Somos _ , Apr 16 2007 • a(n) = a(n - 1) + 4, n > 1. - _ Vincenzo Librandi _ , Dec 31 2010 •

[A171984] • 4,8,12,16,20,24,28,32,37,41,45,49,53,57,61,65,70,74,78,82,86,90,94,98,103 ⋆ Beatty sequence for sqrt(17). • a(n) = floor(n * sqrt(17)). - _ Jon E. Schoenfield _ , Jun 18 2010 •

[A187385] • 4,8,12,16,20,24,29,33,37,41,45,49,53,58,62,66,70,74,78,82,87,91,95,99,103 ⋆ Floor(r*n), where r=1+sqrt(3)+sqrt(2); complement of A187386. • a(n)=floor(r * n), where r=1 + sqrt(3) + sqrt(2). •

[A164086] • 4,8,12,16,20,25,29,33,37,41,46,50,54,58,62,67,71,75,79,83,87,92,96,100,104 ⋆ Beatty sequence for 4*pi/3 = 4.1887902... . • a(n) = floor(4 * n * pi / 3). •

[A004976] • 0,4,8,12,16,21,25,29,33,38,42,46,50,55,59,63,67,72,76,80,84,88,93,97,101 ⋆ Floor(n*phi^3), where phi=(1+sqrt(5))/2. • a(n) = n + floor(2 * n * phi). [Formula corrected by Clark Kimberling, Mar 22 2008] •

[A190952] • 4,8,12,16,21,26,30,35,40,45,51,56,61,67,72,78,84,89,95,101,107,113,119,125,131 ⋆ Largest integer k for which exp(k) < k^n, n>=3. • a(n) = floor(- n * LambertW(- 1, - 1 / n)). - _ Vaclav Kotesovec _ , Jun 29 2016 •

[A061085] • 4,8,12,16,170,204,238,272,306,340,374,408,442,476,510,544,578,612,646,680,714,748,782,816,850 ⋆ a(n) = A019550(n) / 3. • a(n) = one - third of the number obtained by concatenating n with 2n. •

[A001956] • 4,8,12,17,21,25,30,34,38,43,47,51,55,60,64,68,73,77,81,86,90,94,98,103,107 ⋆ Beatty sequence of (5+sqrt(13))/2. • a(n) = floor(n * beta) with beta = (5 + sqrt(13)) / 2 = 3 + (sqrt(13) - 1) / 2 = 4.30277563773199... •

[A033156] • 1,4,8,12,17,22,27,32,38,44,50,56,62,68,74,80,87,94,101,108,115,122,129,136,143 ⋆ a(1) = 1; for m >= 2, a(n) = a(n-1) + floor(a(n-1)/(n-1)) + 2. • a(n) = n * (floor(log _ 2 n) + 3) - 2 ^ ((floor (log _ 2 n)) + 1). •

[A036573] • 4,8,12,17,22,28,34,41,48,56,64,73,82,92,102,113,124,136,148,161,174,188,202,217,232 ⋆ Size of maximal triangulation of an n-antiprism with regular polygonal base. • a(n) = floor((n ^ 2 + 8n - 16) / 4). - _ Ralf Stephan _ , Oct 13 2003 • a(n) = (- 33 + (- 1) ^ n + 16 * n + 2 * n ^ 2) / 8. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x ^ 3 * (x ^ 3 - 4 * x ^ 2 + 4) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Sep 06 2013 •

[A194274] • 0,1,4,8,12,17,24,32,40,49,60,72,84,97,112,128,144,161,180,200,220,241,264,288,312 ⋆ Concentric square numbers (see Comments lines for definition). • a(n) = n ^ 2 - a(n - 2), with a(0)=0, a(1)=1. - _ Alex Ratushnyak _ , Aug 03 2012 • a(n) = a(- n - 2) = (2 * n * (n + 2) + (1 - (- 1) ^ n) * i ^ (n + 1)) / 4, where i=sqrt(- 1). - _ Bruno Berselli _ , Sep 22 2011 • a(n) = floor(3 * n / 4) + floor((n * (n + 2) + 1) / 2) - floor((3 * n + 1) / 4). - _ Arkadiusz Wesolowski _ , Nov 08 2011 • a(0)=0, a(1)=1, a(2)=4, a(3)=8, a(4)=12, a(n)=3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Sep 11 2013 •

[A111201] • 1,4,8,12,18,25,33,41,51,62,74,86,100,115,131,148,166,184,204,225,247,270,294,319,344 ⋆ a(1)=1 then a(n)=a(n-1)+n if n is already in the sequence, a(n)=a(n-1)+n+1 otherwise. • a(n)=(1 / 2) * (n ^ 2 + 3 * n - sqrt(3 n) - sqrt(n)) + o(n ^ (1 / 2)) •

[A026042] • 4,8,12,19,28,40,56,74,97,124,156,194,236,285,340,402,472,548,633,726,828,940,1060,1191,1332 ⋆ a(n) = (d(n)-r(n))/5, where d = A026040 and r is the periodic sequence with fundamental period (4,0,4,3,4). • a(n)=(n + 4) * (n ^ 2 + 5 * n + 18) / 15 - 3 / 5 - (1 / 2 - 3 / 10 * 5 ^ (1 / 2)) / 5 * cos(2 * n * Pi / 5) + (1 / 10 * (4 * (5 + 5 ^ (1 / 2)) ^ (1 / 2) - (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * 2 ^ (1 / 2)) / 5 * sin(2 * n * Pi / 5) - (3 / 10 * 5 ^ (1 / 2) + 1 / 2) / 5 * cos(4 * n * Pi / 5) + (1 / 10 * ((5 + 5 ^ (1 / 2)) ^ (1 / 2) + 4 * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * 2 ^ (1 / 2)) / 5 * sin(4 * n * Pi / 5) [From _ Richard Choulet _ , Dec 14 2008] •

[A033691] • 4,8,12,20,24,32,40,52,60,72,84,100,112,128,144,164,180,200,220,244,264,288,312,340,364 ⋆ Minimal number of vertices in 1-1 deficient regular graph where minimal degree is 1 and maximal degree is n. • a(2 * i) = 2 * i * (i + 1) i=1, 2, 3, ...; a(4 * i + 3) = 2 * (i + 1) * (4 * i + 4) i=0, 1, 2, ...; a(4 * i + 5) = 4 * (2 * i ^ 2 + 6 * i + 5) i=1, 2, 3, ... •

[A081843] • 0,4,8,13,17,21,25,30,34,38,42,46,51,55,59,63,68,72,76,80,85,89,93,97,102 ⋆ a(1)=0, a(n)=a(n-1)+5 if n is already in th sequence, a(n)=a(n-1)+4 otherwise. • a(n)=floor(r * n - (5 * r - 1) / (r + 1)) where r=2 + sqrt(5) •

[A127264] • 4,8,13,17,22,26,31,36,40,45,49,54,59,63,68,72,77,82,86,91,95,100,105,109,114 ⋆ Nearest integer to 2*(Sum_{i=1..10^n/2} 1/i) - 1. • a(n) = round(2 * (log(m) + Gamma) + 1 / m - ...) - 1 where m = 10 ^ n / 2 and Gamma = 0.57721566490153286... (the Euler - Mascheroni constant A001620). - _ Jon E. Schoenfield _ , Aug 05 2008 •

[A034856] • 1,4,8,13,19,26,34,43,53,64,76,89,103,118,134,151,169,188,208,229,251,274,298,323,349 ⋆ a(n) = binomial(n+1, 2) + n - 1 = n(n + 3)/2 - 1. • a(n) = n(n + 3) / 2 - 1. - _ Omar E. Pol _ , May 18 2008, simplified by _ M . F. Hasler _ , Jan 21 2015 • a(n) = a(n - 1) + n + 1 for n >= 1. • a(n) = n * (n - 1) / 2 + 2n - 1. • a(n) = Hyper2F1([- 2, n - 1], [1], - 1). - _ Peter Luschny _ , Aug 02 2014 • a(n) = floor[1 / (- 1 + Sum _{ m>=n + 1 } 1 / S2(m,n + 1))], where S2 is A008277. - _ Richard R. Forberg _ , Jan 17 2015 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. - _ David Neil McGrath _ , May 23 2015 •

[A183865] • 1,4,8,13,19,27,36,46,57,69,83,98,114,131,149,169,190,212,235,259,285,312,340,369,399 ⋆ n-1+ceiling(3(n+2)/5); complement of A183864. • a(n)=n - 1 + ceiling(3(n + 2) / 5). • a(n) = 2 a(n - 1) - a(n - 2) + a(n - 5) - 2 a(n - 6) + a(n - 7). - R. J. Mathar, Mar 11 2012 •

[A265382] • 1,4,8,13,20,27,37,46,59,70,86,99,118,133,155,172,197,216,244,265,296,319,353,378,415 ⋆ Total number of ON (black) cells after n iterations of the "Rule 158" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 16 * (10 * n ^ 2 + 2 * (- 1) ^ n * n + 34 * n - 3 * (- 1) ^ n + 19). • a(n) = 1 / 16 * (10 * n ^ 2 + 36 * n + 16) for n even. • a(n) = 1 / 16 * (10 * n ^ 2 + 32 * n + 22) for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A056738] • 1,4,8,13,20,28,37,47,59,72,86,101,117,135,154,174,195,217,240,264,290,317,345,374,404 ⋆ Positions where 2's occur in A056731. • a(n + 1) = a(n) + (n + 1) + the number of a(k)'s <= n, 1 <= k <= n and a(1) = 1. •

[A143978] • 1,4,8,13,20,28,37,48,60,73,88,104,121,140,160,181,204,228,253,280,308,337,368,400,433 ⋆ a(n) = floor(2*n*(n+1)/3). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). (End) •

[A157130] • 1,4,8,13,20,29,40,53,68,84,101,120,141,164,189,216,245,276,309,344,380,417,456,497,540 ⋆ Partial sums of A128201. • a(n) = (n - r) ^ 2 + (4 * r ^ 3 + 6 * r ^ 2 + 2 * r) / 3 where r = floor((sqrt(1 + 8 * n) - 1) / 4). - Simplified by _ Gerald Hillier _ , Apr 14 2015 •

[A114997] • 0,0,1,1,1,4,8,13,31,71,144,318,729,1611,3604,8249,18803,42907,98858,228474,528735,1228800,2865180,6693712,15676941 ⋆ Number of ordered trees with n edges and no unary or binary nodes. • a(n) = Sum _{ (n + 3) / 2 <= k <= n } (1 / (n + 1) * binomial(n + 1, k) * binomial(2 * k - n - 3, n - k)). •

[A276221] • 4,8,14,20,27,35,43,52,62,73,84,96,109,122,136,151,166,182,198,215,232,250,268,287,307 ⋆ Position of n^s in the joint ranking of {h} and {k^s}, s = sqrt(3), h >= 1, k >= 2. • a(n) = n + floor(n ^ s), n >= 2; the complement is given by n + floor(n ^ (1 / s)), n >= 1. •

[A265284] • 1,4,8,14,20,28,36,46,56,68,80,94,108,124,140,158,176,196,216,238,260,284,308,334,360 ⋆ Total number of ON (black) cells after n iterations of the "Rule 94" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (2 * n ^ 2 + 12 * n - (- 1) ^ n + 1) / 4 for n>0. • a(n) = (n ^ 2 + 6 * n) / 2 for n>1 and even. • a(n) = (n ^ 2 + 6 * n + 1) / 2 for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A121896] • 1,4,8,14,20,30,37,51,61,76,89,111,120,146,165,187,205,239,255,293,312 ⋆ Let M be the matrix defined in A111490. Sequence gives M(1,1), M(1,2)+M(1,2)+M(2,2), M(1,3)+M(2,3)+M(3,1)+M(3,2)+M(3,3), etc. • a(n) = Sum _{ i=1..n } M(i,n) + M(n,i) - M(n,n) •

[A173290] • 1,4,8,14,20,32,40,52,64,82,94,118,132,156,180,204,222,258,278,314,346,382,406,454,484 ⋆ Partial sums of the Dedekind psi function (A001615). • a(n) = 15 * n ^ 2 / (2 * Pi ^ 2) + O(n * log(n)). - _ Enrique Pérez Herrero _ , Jan 14 2012 •

[A183857] • 1,4,8,14,21,29,39,50,62,76,91,107,125,144,164,186,209,233,259,286,314,344,375,407,441 ⋆ n-1+ceiling((2/3)*n^2); complement of A183874. • a(n)=n - 1 + ceiling((2 / 3)n ^ 2). •

[A027924] • 1,4,8,14,21,30,40,51,64,78,93,110,129,148,170,192,216,242,269,297,327,358,390,424,460 ⋆ a(n) = least k such that 1+2+...+k >= 1^3 + 2^3 + ... + n^3. • a(n)=round(sqrt(1 / 2) * n * (n + 1)). - _ Ralf Stephan _ , Jan 24 2003 •

[A006578] • 0,1,4,8,14,21,30,40,52,65,80,96,114,133,154,176,200,225,252,280,310,341,374,408,444 ⋆ Triangular numbers plus quarter squares: n*(n+1)/2 + floor(n^2/4) (i.e., A000217(n) + A002620(n)). • a(n) = (6 * n ^ 2 + 4 * n - 1 + (- 1) ^ n) / 8. - _ Paul Barry _ , May 30 2003 • a(n) = (3 * n ^ 2 + 2 * n - (n mod 2)) / 4. - _ Ctibor O. Zizka _ , Mar 11 2012 • a(n) = Sum _{ i=1..n } floor(3 * i / 2) = Sum _{ i=0..n } (i + floor(i / 2)). - _ Enrique Pérez Herrero _ , Apr 21 2012 • a(n) = Sum _{ i=1..n } (n - i + 1) * 2 ^ ((i + 1) mod 2). - _ Wesley Ivan Hurt _ , Mar 30 2014 • a(n) = Sum _{ k=1..n } floor((n + k + 1) / 2). - _ Wesley Ivan Hurt _ , Mar 31 2017 •

[A054347] • 0,1,4,8,14,22,31,42,54,68,84,101,120,141,163,187,212,239,268,298,330,363,398,435,473 ⋆ Partial sums of A000201. • a(n) = floor(n * (n + 1) / 2 * phi - n / 2) + 0 or + 1 - _ Benoit Cloitre _ , Oct 03 2003 • a(n) = floor (n * (n + 1) / 2 * phi - n / 2) + 0, + 1, or - 1 (n=7920, 18762, 18851,...), or + 2 (n=12815, 15841, 30358, 30382,...) if n<2000000. - _ Birkas Gyorgy _ , May 06 2011 •

[A003682] • 1,4,8,14,22,32,44,58,74,92,112,134,158,184,212,242,274,308,344,382,422,464,508,554,602 ⋆ Number of Hamiltonian paths in K_2 X P_n. • a(n) = floor((n ^ 3 + 2 * n) / (n + 1)). - _ Gary Detlefs _ , Feb 20 2010 • a(0)=1, a(1)=4, a(2)=8, a(3)=14, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 14 2011 •

[A011897] • 0,0,0,0,1,4,8,14,22,33,48,66,88,114,145,182,224,272,326,387,456,532,616,708,809 ⋆ a(n) = floor(n*(n-1)*(n-2)/15). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8). •

[A063757] • 1,4,8,14,22,34,50,74,106,154,218,314,442,634,890,1274,1786,2554,3578,5114,7162,10234,14330,20474,28666 ⋆ G.f.: (1+3*x+2*x^2)/((1-x)*(1-2*x^2)). • a(0)=1, a(1)=4, a(2)=8, a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) From _ Harvey P. Dale _ , Jun 05 2012 • a(n)=2 ^ ((n - 3) / 2) * ((5 * Sqrt[2] - 7) * (- 1) ^ n + 7 + 5 * Sqrt[2]) - 6 From _ Harvey P. Dale _ , Jun 05 2012 •

[A131831] • 1,4,8,14,24,42,76,142,272,530,1044,2070,4120,8218,16412,32798,65568,131106,262180,524326,1048616,2097194,4194348,8388654,16777264 ⋆ Row sums of triangle A131830. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). G.f.: (3 * x ^ 2 - 1) / ((x - 1) ^ 2 * (2 * x - 1)). - _ Colin Barker _ , Oct 16 2013 •

[A100314] • 4,8,14,24,42,76,142,272,530,1044,2070,4120,8218,16412,32798,65568,131106,262180,524326,1048616,2097194,4194348,8388654,16777264,33554482 ⋆ Number of 2 X n 0-1 matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (01;0), (10;0) and (01;1). • a(n) = 2 ^ n + 2 * n. •

[A024916] • 1,4,8,15,21,33,41,56,69,87,99,127,141,165,189,220,238,277,297,339,371,407,431,491,522 ⋆ a(n) = Sum_{k=1..n} k*floor(n/k); also Sum_{k=1..n} sigma(k) where sigma(n) = sum of divisors of n (A000203). • a(n) = Sum _{ m=1..n } (n - (n mod m)). - _ Roger L. Bagula _ and _ Gary W. Adamson _ , Oct 06 2006 • a(n) = n ^ 2 * Pi ^ 2 / 12 + O(n * log(n) ^ (2 / 3)) [Walfisz]. - _ Charles R Greathouse IV _ , Jun 19 2012 •

[A001182] • 0,1,4,8,15,22,30,41,54,69,83,98,119,139,162,183,208,234,263,294,322,357,390,424,465 ⋆ Number of cells of square lattice of edge 1/n inside quadrant of unit circle centered at 0. • a(n)=sum { k=1..n - 1 } floor(sqrt(n ^ 2 - k ^ 2)) - Horst Kraemer (horst.kraemer(AT)epost.de) Apr 07 2004 •

[A267682] ● 1,1,4,8,15,23,34,46,61,77,96,116,139,163,190,218,249,281,316,352,391,431,474,518,565 ★ Total number of ON (black) cells after n iterations of the "Rule 201" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. ●

[A213035] ● 0,1,4,8,15,24,32,45,60,72,91,112,128,153,180,200,231,264,288,325,364,392,435,480,512 ★ n^2-[n/3]^2, where [] = floor. ● a(n) = a(n - 1) + 2 * a(n - 3) - 2 * a(n - 4) - a(n - 6) + a(n - 7). ●

[A027961] ● 1,4,8,15,26,44,73,120,196,319,518,840,1361,2204,3568,5775,9346,15124,24473,39600,64076,103679,167758,271440,439201 ★ a(n) = Lucas(n+2) - 3. ● a(0) = 0, a(1) = 1, a(n) = a(n - 1) + a(n - 2) + 3. ● a(n) = F(n) + F(n + 2) - 3, n >= 2, where F(n) is the n - th Fibonacci number. - _ Zerinvary Lajos _ , Jan 31 2008 ● a(n) = Sum _{ k=1..n } ((- 1 / phi) ^ k + (phi) ^ k) where phi = 1 / 2 + 1 / 2 * sqrt(5). - _ Dimitri Papadopoulos _ , Jan 07 2016 ● a(n) = 2 * a(n - 1) - a(n - 3) for n>3. - _ Wesley Ivan Hurt _ , Jan 07 2016 ●

[A018921] ● 4,8,15,28,52,96,177,326,600,1104,2031,3736,6872,12640,23249,42762,78652,144664,266079,489396,900140,1655616,3045153,5600910,10301680 ★ Define the generalized Pisot sequence T(a(0),a(1)) by: a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n). This is T(4,8). ● a(n) = 2 * a(n - 1) - a(n - 4). ●

[A123535] ● 4,8,16,17,26,32,33,43,58,59,61,73,74,90,101,102,105,124,125,127,145,146,158,170,171 ★ Recurrence from values at floor of a third and two-thirds. ● a(0) = 1, for n>1: a(floor(n / 3)) + a(floor(2n / 3)) + n + 1. ●

[A092259] ● 4,8,16,20,28,32,40,44,52,56,64,68,76,80,88,92,100,104,112,116,124,128,136,140,148 ★ Numbers that are congruent to {4, 8} mod 12. ● a(n) = 12 * (n - 1) - a(n - 1) (with a(1)=4). - _ Vincenzo Librandi _ , Nov 16 2010 ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. ● a(n) = 6n - 3 - (- 1) ^ n. ●

[A237990] ● 4,8,16,20,40,44,56,64,72,80,92,96,108,116,120,124,132,136,140,144,148,152,156,164,176 ★ Numbers m such that the numbers of primes, even positive integers and odd positive integers less than or equal to m are all even. ● a(n) == 0 (mod 4) ●

[A137932] ● 0,0,0,4,8,16,24,36,48,64,80,100,120,144,168,196,224,256,288,324,360,400,440,484,528 ★ Terms in an n X n spiral that do not lie on its principal diagonals. ● a(n) = (n - 1) ^ 2 when n is odd; a(n) = (n - 1) ^ 2 - 1 when n is even. ●

[A022560] ● 0,1,4,8,16,25,36,48,68,89,112,136,164,193,224,256,304,353,404,456,512,569,628,688,756 ★ a(0)=0, a(2*n) = 2*a(n) +2*a(n-1) +n^2 +n, a(2*n+1) = 4*a(n) +(n+1)^2. ● a(0)=0, a(2n) = 2a(n) + 2a(n - 1) + n ^ 2 + n, a(2n + 1) = 4a(n) + (n + 1) ^ 2. - _ Ralf Stephan _ , Sep 13 2003 ●

[A003451] ● 1,4,8,16,25,40,56,80,105,140,176,224,273,336,400,480,561,660,760,880,1001,1144,1288,1456,1625 ★ Number of nonequivalent dissections of an n-gon into 3 polygons by nonintersecting diagonals up to rotation. ● a(n) = (n - 4) * (2 * n ^ 2 - 4 * n - 3 * (1 - (- 1) ^ n)) / 24, for n>=5. - _ Luce ETIENNE _ , Apr 04 2015 ●

[A180861] ● 1,4,8,16,26,42,61,88,119,160,206,264,328,406,491,592,701,828,964,1120,1286,1474,1673,1896,2131 ★ Wiener index of the n-pan graph. ● a(n) = (1 / 8) * n * (n ^ 2 + 2 * n + 8) if n is even; a(n) = (1 / 8) * (n ^ 3 + 2 * n ^ 2 + 7 * n - 2) if n is odd. ● a(n) = + 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). ● a(n) = (- 2 + 15 * n + 4 * n ^ 2 + 2 * n ^ 3 + (- 1) ^ n * (2 + n)) / 16. - _ Eric W. Weisstein _ , Sep 08 2017 ●

[A030119] ● 1,1,4,8,16,29,51,87,146,242,398,651,1061,1725,2800,4540,7356,11913,19287,31219,50526,81766,132314,214103,346441 ★ a(n) = a(n-1) + a(n-2) + n, a(0) = a(1) = 1. ● a(n) = Lucas(n + 2) + Fibonacci(n + 1) - (n + 3). ● a(0)=1, a(1)=1, a(2)=4, a(3)=8, a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Nov 06 2011 ● a(n) = - 3 + (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 3 + 2 * sqrt(5)) + (1 + sqrt(5)) ^ n * (3 + 2 * sqrt(5)))) / sqrt(5) - n. - _ Colin Barker _ , Mar 11 2017 ●

[A121986] ● 1,1,1,4,8,16,32,61,115,215,399,738,1362,2510,4622,8507,15653,28797,52973,97440,179228,329660,606348,1115257,2051287 ★ Expansion of x*(-1+2*x-3*x^3+x^4)/((x^3+x^2+x-1) * (x-1)^2). ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 4) + a(n - 5). ●

[A196875] ● 1,1,1,1,4,8,16,32,64,125,243,471,911,1759,3394,6546,12622,24334,46910,90427,174309,335997,647661,1248413,2406400 ★ a(n) = a(n-4) + a(n-3) + a(n-2) + a(n-1) + (n-5). ● a(n) = + 3 * a(n - 1) - 2 * a(n - 2) - a(n - 5) + a(n - 6). ●

[A151821] ● 1,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432 ★ Powers of 2, omitting 2 itself. ● a(1) = 1 and a(n) = 3 + Sum _{ k=1..n - 1 } a(k) for n>=2. - _ Joerg Arndt _ , Aug 15 2012 ●

[A020707] ● 4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432,67108864 ★ Pisot sequences E(4,8), L(4,8), P(4,8), T(4,8). ● a(n) = 2 ^ (n + 2). ● a(n) = 2 * a(n - 1). ●

[A089890] ● 0,0,0,4,8,16,32,64,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,10485760 ★ Number of subsets of {1,.., n} containing exactly two squares. ● a(n) = (n ^ (1 / 2) * (n ^ (1 / 2) - 1) * 2 ^ (n - n ^ (1 / 2))) / 2. ●

[A038110] ● 1,1,1,4,8,16,192,3072,55296,110592,442368,13271040,477757440,19110297600,802632499200,1605264998400,6421059993600,12842119987200,770527199232000,50854795149312000,3559835660451840000 ★ Numerator of frequency of integers with smallest divisor prime(n). ● a(n) = numerator of phi(e ^ (psi(p _ n - 1))) / e ^ (psi(p _ n)), where psi(.) is the second Chebyshev function and phi(.) is Euler's totient function. - _ Fred Daniel Kline _ , Jul 17 2014 ●

[A026393] ● 1,4,8,17,24,39,49,70,83,110,126,159,178,217,239,284,309,360,388,445,476,539,573,642,679 ★ a(n) = T(n,n-2), where T is the array in A026386. ● a(n) = (18 * n ^ 2 - 46 * n + (- 1) ^ n * (13 - 6 * n) + 35) / 16. ● a(n) = (9 * n ^ 2 - 26 * n + 24) / 8 for n even. ● a(n) = (9 * n ^ 2 - 20 * n + 11) / 8 for n odd. ●

[A213494] ● 0,0,0,0,0,0,1,4,8,17,25,40,57,81,105,141,177,225,274,337,401,482,562,661,762 ★ (A213493)/12. ● a(n) = a(n - 1) + a(n - 2) - 2a(n - 5) + a(n - 8) + a(n - 9) - a(n - 10). ●

[A215108] ● 0,1,4,8,17,35,66,124,229,414,742,1318,2320,4059,7062,12224,21071,36185,61930,105678,179847,305326,517212,874380,1475472 ★ a(n) = A215082(2*n) ● a(n) = a(n - 1) + 2 * a(n - 2) + a(n - 3) - 2 * a(n - 4) - 3 * a(n - 5) - a(n - 6), a(0) = 0, a(1) = 1, a(2) = 4, a(3) = 8, a(4) = 17, a(5) = 35 . ●

[A077474] ● 1,4,8,18,21,28,31,36,41,44,55,58,71,76,79,84,88,108,125,135,141,148,155,158,164 ★ Greedy powers of (7/10): sum_{n=1..inf} (7/10)^a(n) = 1. ● a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(7 / 10) and frac(y) = y - floor(y). ● a(n) seems to be asymptotic to c * n with c around 6... - _ Benoit Cloitre _ ●

[A008085] ● 1,4,8,18,32,52,74,100,128,162,204,244,286,340,396,450,512,580,650,724,800,882,972,1060,1150 ★ Coordination sequence T2 for Zeolite Code EDI. ● a(12 * m + k) = 288 * m ^ 2 + 48 * k * m + [- 2, 4, 12, 18, 32, 52, 74, 100, 128, 162, 204, 244], 0<=k<12. - _ N. J. A. Sloane _ ●

[A001977] ● 1,1,4,8,18,32,58,94,151,227,338,480,676,920,1242,1636,2137,2739,3486,4370,5444,6698,8196,9926,11963 ★ Number of partitions of 3n into n parts from the set {0, 1,.., 6} (repetitions admissible). ● a(n) is the coefficient of x ^ (3 * n + 3) from the G.f. product[s=1..6] (x ^ s - x ^ (n + 1)) / (1 - x ^ s). - _ Paul Weisenhorn _ , Jun 01 2009 ●

[A008240] ● 1,4,8,18,34,50,68,100,130,160,204,246,286,338,392,448,514,580,648,726,802,878,968,1060,1150 ★ Coordination sequence T3 for Zeolite Code THO. ● a(24 * m + k) = 1152 * m ^ 2 + 96 * k * m + one of 24 numbers depending on k, 0<=k<24. - _ N. J. A. Sloane _ ●

[A056309] ● 0,1,4,8,18,34,70,134,270,526,1054,2078,4158,8254,16510,32894,65790,131326,262654,524798,1049598,2098174,4196350,8390654,16781310 ★ Number of reversible strings with n beads using exactly two different colors. ● a(1)=0, a(2)=1, a(3)=4, a(4)=8, a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4). - _ Harvey P. Dale _ , Feb 18 2012 ● a(n) = 2 ^ (n / 2 - 1) + 2 ^ (n - 1) - 2 for n even. ● a(n) = 2 ^ ((n - 1) / 2) + 2 ^ (n - 1) - 2 for n odd. (End) ●

[A190062] ● 0,1,1,4,8,18,36,71,135,252,462,836,1496,2653,4669,8164,14196,24566,42332,72675,124355,212156,360986,612744,1037808 ★ a(n) = n*Fibonacci(n) - Sum_{i=0..n-1} Fibonacci(i). ● a(n) = (n - 1) * Fibonacci(n) - Fibonacci(n - 1) + 1. ● a(n) = (((2 * n - 1) * r - 5) * (1 + r) ^ n - ((2 * n - 1) * r + 5) * (1 - r) ^ n) / (10 * 2 ^ n) + 1, where r=sqrt(5). ●

[A228231] ● 4,8,18,36,88,176,470,940,2784,5568,18564,37128,140496,280992,1205406,2410812,11625040,23250080,124582172,249164344,1467151632,2934303264,18808816988,37617633976,260504960128 ★ Number of equivalence classes in S_n under the {123, 321} {132, 231}-equivalence. ● a(n) = sum(k=1..l, k! * binomial(n - k - 1,h - 1)) + sum(k=1..h, k! * binomial(n - k - 1,l - 1)) where l = floor(n / 2) and h = ceiling(n / 2). ●

[A175657] ● 1,4,8,18,38,80,166,342,700,1426,2894,5856,11822,23822,47932,96330,193414,388048,778070,1559334,3123836,6256034,12525598,25073088,50181598 ★ Eight bishops and one elephant on a 3 X 3 chessboard: a(n) = 3*2^n - 2*F(n+1), with F(n) = A000045(n). ● a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) with a(0)=1, a(1)=4 and a(2)=8. ●

[A129362] ● 1,1,4,8,19,37,80,160,331,661,1344,2688,5419,10837,21760,43520,87211,174421,349184,698368,1397419,2794837,5591040,11182080,22366891 ★ a(n) = sum{k=floor((n+1)/2)..n, J(k+1)}, J(n) = A001045(n). ● a(n) = a(n - 1) + 3a(n - 2) - a(n - 3) - 2a(n - 5) - 4a(n - 6). ● a(n) = sum { k=0..floor(n / 2), J(n - k + 1) } . ● a(n) = sum { k=0..n, J(k + 1) - J((k + 1) / 2)(1 - (- 1) ^ k) / 2 } . ● a(n) = sum { k=0..n, J(k + 1) }- sum { k=0..floor((n - 1) / 2), J(k + 1) } . ●

[A083579] ● 0,1,1,4,8,19,39,82,166,337,677,1360,2724,5455,10915,21838,43682,87373,174753,349516,699040,1398091,2796191,5592394,11184798 ★ Generalized Jacobsthal numbers. ● a(n) = 2 * 2 ^ n / 3 - 5 * (- 1) ^ n / 12 - (2 * n + 1) / 4. ● a(n + 2) = a(n + 1) + 2 * a(n) + n, a(0)=0, a(1)=1. ●

[A062717] ● 0,4,8,20,28,48,60,88,104,140,160,204,228,280,308,368,400,468,504,580,620,704,748,840,888 ★ Numbers m such that 6*m+1 is a perfect square. ● a(2 * k) = k * (6 * k + 2), a(2 * k + 1) = 6 * k ^ 2 + 10 * k + 4. - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Nov 06 2007 ● a(n) = n ^ 2 + n + 2 * ceiling(n / 2) ^ 2. - _ Gary Detlefs _ , Feb 23 2010 ● a(n) = (6 * n * (n - 1) + (2 * n - 1) * (- 1) ^ n + 1) / 4. ●

[A097164] ● 1,4,8,20,36,84,148,340,596,1364,2388,5460,9556,21844,38228,87380,152916,349524,611668,1398100,2446676,5592404,9786708,22369620,39146836 ★ Expansion of (1+3x)/((1-x)(1-4x^2)). ● a(n) = 5 * 2 ^ n / 2 - (- 2) ^ n / 6 - 4 / 3; ● a(n) = a(n - 1) + 4a(n - 2) - 4a(n - 3). ●

[A032280] ● 1,1,4,8,20,38,76,133,232,375,600,912,1368,1980,2829,3936,5412,7293,9724,12760,16588,21287,27092,34112,42640 ★ Number of bracelets (turn over necklaces) of n beads of 2 colors, 7 of them black. ● a(n)=(3 / 7) * s(n,0,7) + (48 * C(n - 1,6) + 7 * (n - 2) * (n - 4) * (n - 6)) / 672, if n is even; a(n) =(3 / 7) * s(n,0,7) + (48 * C(n - 1,6) + 7 * (n - 1) * (n - 3) * (n - 5)) / 672, if n is odd. ●

[A156303] ● 1,1,4,8,20,38,88,162,336,624,1211,2195,4109,7295,13190,23072,40618,69838,120486,204006,345595,577387,962961,1588483,2613930 ★ G.f.: A(x) = exp(Sum_{n>=1} sigma(n^2)*x^n/n), a power series in x with integer coefficients. ● a(n) = (1 / n) * Sum _{ k=1..n } sigma(k ^ 2) * a(n - k) for n >0, with a(0)=1. ●

[**A115099**] • 4,8,20,56,164,488,1460,4376,13124,39368,118100,354296,1062884,3188648,9565940,28697816,86093444,258280328,774840980,2324522936,6973568804,20920706408,62762119220,188286357656,564859072964 ★ a(0)=4, a(n) = 3*a(n-1) - 4. • a(n) = 2 * 3 ^ n + 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n >1. •

[**A060919**] • 4,8,20,60,204,748,2860,11180,44204,175788,701100,2800300,11193004,44755628,178989740,715893420,2863442604,11453508268,45813508780,183252986540,733009849004,2932035201708,11728132418220,46912512895660 ★ Number of corners in a 4-sided fractal. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: - 4 * x * (5 * x ^ 2 - 5 * x + 1) / ((x - 1) * (2 * x - 1) * (4 * x - 1)). [_ Colin Barker _ , Nov 28 2012] •

[**A097076**] • 0,1,1,4,8,21,49,120,288,697,1681,4060,9800,23661,57121,137904,332928,803761,1940449,4684660,11309768,27304197,65918161,159140520,38419920 0 ★ Expansion of x/(1-x-3x^2-x^3). • a(n) = (1 + sqrt(2)) ^ n / 4 + (1 - sqrt(2)) ^ n / 4 - (- 1) ^ n / 2. • a(n) = a(n - 1) + 3 * a(n - 2) + a(n - 3). [corrected by Paul Curtz, Mar 04 2008] • a(n) = (Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * 2 ^ k) / 2 - (- 1) ^ n / 2. • a(n) = Sum _{ k=0..n } (- 1) ^ k * Pell(n - k). - _ Paul Barry _ , Oct 22 2009 •

[**A175655**] • 1,4,8,22,50,124,290,694,1628,3838,8978,21004,48962,114022,265004,615262,1426658,3305212,7650722,17697430,40911740,94528318,218312114,503994220,1163124866 ★ Eight bishops and one elephant on a 3 X 3 chessboard. G.f.: (1+x-5*x^2)/(1-3*x-x^2+6*x^3). • a(n) = 3 * a(n - 1) + a(n - 2) - 6 * a(n - 3) with a(0)=1, a(1)=4 and a(2)=8. • a(n) = ((10 + 8 * A) * A ^ (- n - 1) + (10 + 8 * B) * B ^ (- n - 1)) / 13 - 2 ^ n with A = (- 1 + sqrt(13)) / 6 and B = (- 1 - sqrt(13)) / 6. •

[**A170938**] • 4,8,22,74,274,1058,4162,16514,65794,262658,1049602,4196354,16781314,67117058,268451842,1073774594,4295032834,17180000258,68719738882,274878431234,1099512676354,4398048608258,17592190238722,70368752566274,281474993487874 ★ 4^n+2^n+2. • a(n)= 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: 2 * (2 - 10 * x + 11 * x ^ 2) / ((1 - x) * (2 * x - 1) * (4 * x - 1)). [From _ R. J. Mathar _ , Feb 15 2010] •

[**A075688**] • 4,8,22,232,596,4016,7277650,1749701948 ★ Pair sums are even interprimes. • a(1)=4; smallest a(n) > a(n - 1): a(1) + a(n), ..., a(n - 1) + a(n) all are even interprimes. •

[**A181688**] • 1,1,4,8,23,55,144,360,921,2329,5924,15024,38159,96847,245888,624176,1584593,4022609,10211940,25924088,65811431,167069767,424126160,1076693080,2733310377 ★ Number of maximal self-avoiding walks from NW to SW corners of a 4-by-n grid • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) + a(n - 4), n > 4. •

[**A212686**] • 0,0,4,8,24,40,76,112,176,240,340,440,584,728,924,1120,1376,1632,1956,2280,2680,3080,3564,4048,4624 ★ Number of (w,x,y,z) with all terms in {1,...,n} and 2|w-x|=n+|y-z|. • a(n)=2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[**A180002**] • 4,8,24,43,179,783,1504,6668,29604,56983,253079,1124043,2163724,9610208,42683904,82164403,364934699,1620864183,3120083464,13857908228,61550154924,118481007103,526235577839,2337285022803,4499158186324 ★ a(n) red and b(n) blue balls in an urn; draw 5 balls without replacement; Probability(5 red balls) = Probability(3 red and 2 blue balls). • a(3 * n + 1) = (14 + (1 + r) * (19 + 6 * r) ^ n + (1 - r) * (19 - 6 * r) ^ n) / 4; • a(3 * n + 2) = (14 + (9 + 3 * r) * (19 + 6 * r) ^ n + (9 - 3 * r) * (19 - 6 * r) ^ n) / 4; • a(3 * n + 3) = (14 + (41 + 13 * r) * (19 + 6 * r) ^ n + (41 - 13 * r) * (19 - 6 * r) ^ n) / 4; • a(n + 9) = 39 * (a(n + 6) - a(n + 3)) + a(n); r:=sqrt(10); •

[**A208901**] • 0,0,4,8,24,48,112,224,480,960,1984,3968,8064,16128,32512,65024,130560,261120,523264,1046528,2095104,4190208,8384512,16769024,33546240 ★ Number of bitstrings of length n (with at least two runs) where the last two runs have different lengths. • a(n) = 2 ^ n - 2 ^ (floor(n / 2) + 1). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3), a(0) = 0, a(1) = 0, a(2) = 4. •

[**A153334**] • 1,1,4,8,24,52,136,296,720,1556,3624,7768,17584,37416,83024,175568,383904,807604,1746280,3657464,7839216,16357496,34812144,72407728,153204064 ★ Number of zig-zag paths from top to bottom of an n X n square whose color is that of the top right corner. • a(n) = (n + 1)2 ^ (n - 2) - 2(n - 1)binomial(n - 2,(n - 2) / 2) for n even, a(n) = (n + 1)2 ^ (n - 2) - (n - 1)binomial(n - 1,(n - 1) / 2) for n odd. •

[**A159612**] • 1,4,8,24,56,152,376,984,2488,6424,16376,42072,107576,275864,706168,1809624,4634296,11872792,30409976,77901144,199541048,511145624,1309309816,3353892312,8591131576 ★ INVERT transform of (1, 3, 1, 3, 1,...). • a(n) = a(n - 1) + 4 * a(n - 2), a(1)=1, a(2)=4. - _ Vincenzo Librandi _ , Mar 11 2011 • a(n) = 2 ^ (- 3 - n) * ((1 - sqrt(17)) ^ n * (- 5 + 3 * sqrt(17)) + (1 + sqrt(17)) ^ n * (5 + 3 * sqrt(17))) / sqrt(17) for n>0. - _ Colin Barker _ , Dec 22 2016 •

[**A291024**] • 0,4,8,24,64,172,456,1200,3136,8148,21064,54216,139008,355196,904840,2298720,5825408,14729636,37168008,93612408,235369664,590852172,1481051720,3707411472,9268764096 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - 2 S^2)^2. • a(n) = 4 * a(n - 1) - 2 a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. • a(n) = ((1 + sqrt(2)) ^ n * (3 * sqrt(2) + 2 * (- 1 + sqrt(2)) * n) - (1 - sqrt(2)) ^ n * (3 * sqrt(2) + 2 * (1 + sqrt(2)) * n)) / 4. - _ Colin Barker _ , Aug 24 2017 •

[**A116556**] • 0,4,8,24,64,176,480,1312,3584,9792,26752,73088,199680,545536,1490432,4071936,11124736,30393344,83036160,226859008,619790336,1693298688,4626178048,12638953472,34530263040 ★ a(n) = 2*a(n-1) + 2*a(n-2), a(0)=0, a(1)=4. • a(n) = (2 / sqrt(3)) * ([1 + sqrt(3)] ^ n - [1 - sqrt(3)] ^ n), n>=0. - _ Paolo P. Lava _ , Jun 10 2008 •

[**A265185**] • 4,8,24,80,272,928,3168,10816,36928,126080,430464,1469696,5017856,17132032,58492416,199705600,681837568,2327939072,7948081152,27136446464,92649623552,316325601280,1080003158016,3687361429504,12589439401984 ★ Non-vanishing traces of the powers of the adjacency matrix for the simple Lie algebra B_4: 2 * ((2 + sqrt(2))^n + (2 - sqrt(2))^n). • a(n) = 2 * ((2 + sqrt(2)) ^ n + (2 - sqrt(2)) ^ n) = Sum _{ k=0..3 } 2 ^ (2n) (cos((2k + 1)Pi / 8)) ^ (2n) = 2 * 2 ^ (2n) (cos(Pi / 8) ^ (2n) + cos(3Pi / 8) ^ (2n)) = 2 Sum _{ k=0..1 } (exp(i(2k + 1)Pi / 8) + exp(- i(2k + 1)Pi / 8)) ^ (2n). •

[**A008950**] • 4,8,24,90,114,524,888,1130,1328,9552,15684,19610,31398,155922,360654,370262,492114,1349534,1357202,2010734,4652354,17051708,20831324,47326694,122164748 ★ Increasing length runs of consecutive composite numbers (starting points). • a(n) <= (n + 1)! + 2. [_ Joerg Arndt _ , May 01 2013] •

[**A000964**] • 0,0,1,1,4,8,25,53,164,348,1077,2285,7072,15004,46437,98521,304920,646920,2002201,4247881,13147084,27892928,86327905,183153773,566856284 ★ The convergent sequence C_n for the ternary continued fraction (3,1;2,2) of period 2. • a(0)=0, a(1)=0, a(2)=1, a(3)=1, a(4)=4, a(5)=8, a(n)=7 * a(n - 2) - 3 * a(n - 4) + a(n - 6). - _ Harvey P. Dale _ , Jun 29 2011 •

[**A099513**] • 1,4,8,27,89,257,784,2421,7336,22324,68147,207549,632177,1926608,5870089,17884476,54493120,166034731,505883825,1541369745,4696373312,14309268413,43598614528,132839740908,404746601923 ★ Row sums of triangle A099512, so that a(n) = Sum_{k=0..n} coefficient of z^k in (1 + 3*z + z^2)^(n-[k/2]), where [k/2] is the integer floor of k/2. • a(0)=1, a(1)=4, a(2)=8, a(3)=27, a(n)=2 * a(n - 1) + a(n - 2) + 7 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Jul 12 2011] •

[**A117864**] • 4,8,28,48,148,248,748,1248,3748,6248,18748,31248,93748,156248,468748,781248,2343748,3906248,11718748,19531248,58593748,97656248,292968748,488281248,1464843748 ★ Number of palindromes (in base 5) below 5^n. • a(n) = 6 * 5 ^ ((n - 1) / 2) - 2 (n odd), 2 * 5 ^ (n / 2) - 2 (n even). • a(1)=4, a(2)=8, a(3)=28, a(n)=a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3). - _ Harvey P. Dale _ , May 30 2012 •

[**A059480**] • 1,1,4,8,28,76,272,880,3328,12128,48736,194272,827840,3547648,15965248,72727616,344136832,1653233920,8191833728,41256512128,213285020416,1120928287232,6026483756800,32928762650368,183590856570368 ★ a(0) = a(1) = 1; a(n) = a(n-1) + (n+1)*a(n-2). • a(n) = a(n - 1) + (n + 1) * a(n - 2); a(0) = a(1) = 1; • a(n) = B(0,n) + B(1,n) + B(2,n) / 2 + Q(1,n) + Q(2,n) + Q(3,n) / 2, n>=4, where B and Q are defined in the Mathematica section below. - _ Benedict W. J. Irwin _ , Apr 11 2017 •

[**A020331**] • 4,8,30,40,50,60,70,80,252,280,308,336,364,392,420,448,476,504,532,560,588,616,644,672,700 ★ Numbers n such that base 3 representation is the juxtaposition of two identical strings. • a(n) = n * 3 ^ floor(log _ 3(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[**A050442**] • 0,4,8,32,48,108,144,256,320,500,600,864,1008,1372,1568,2048,2304,2916,3240,4000,4400,5324,5808,6912,7488 ★ Octahedral torus number: a(n) = n^2+2*sum(k^2,k=1..n-1)-2*(floor((n+1)/2)^2+2*sum(k^2,k=1..floor((n+1)/2)-1))+(1-(-1)^n)/2. • a(n) = (2 * n ^ 3 + n) / 3 - 2 / 3 * (2 * floor((n + 1) / 2) ^ 3 + floor((n + 1) / 2)) + (1 - (- 1) ^ n) / 2. • a(1)=0, a(2)=4, a(3)=8, a(4)=32, a(5)=48, a(6)=108, a(7)=144, a(n)= a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). [_ Harvey P. Dale _ , May 13 2012] •

[**A291938**] • 0,4,8,32,64,192,384,1024,2048,5120,10240,24576,49152,114688,229376,524288,1048576,2359296,4718592,10485760,20971520,46137344,92274688,201326592,402653184 ★ a(n) = 2^(n - 1) (n - mod(n, 2)). • a(n) = 2 ^ (n - 1) (n - mod(n, 2)). • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 8 * a(n - 3). •

[**A094015**] • 1,4,8,32,64,256,512,2048,4096,16384,32768,131072,262144,1048576,2097152,8388608,16777216,67108864,134217728,536870912,1073741824,4294967296,8589934592,34359738368,68719476736 ★ Expansion of (1+4x)/(1-8x^2). • a(n) = 2 ^ (3n / 2)(1 + sqrt(2) + (1 - sqrt(2))(- 1) ^ n) / 2. • a(n) = (1 / 4)(3 + (- 1) ^ n)8 ^ floor((n + 1) / 2). - _ Paul Barry _ , Jul 14 2004 • a(n) = (1 + sqrt(2))(2sqrt(2)) ^ n / 2 + (1 - sqrt(2))(- 2sqrt(2)) ^ n / 2. Third binomial transform is A002315 (NSW numbers). - _ Paul Barry _ , Jul 17 2004 • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Reinhard Zumkeller _ , Mar 04 2011 •

[**A209084**] • 0,4,8,32,96,320,1024,3328,10752,34816,112640,364544,1179648,3817472,12353536,39976960,129368064,418643968,1354760192,4384096256,14187233280,45910851584,148570636288,480784678912,1555851902976 ★ a(n) = 2*a(n-1) + 4*a(n-2) with n>1, a(0)=0, a(1)=4. • a(n) = (2 / sqrt(5)) * ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n). •

[**A241684**] • 0,0,4,8,32,120,464,1848,7312,29240,116624,466488,1864592,7458360,29827984,119311928,477225872,1908903480,7635526544,30542106168,122168075152,488672300600,1954687804304,7818751217208,31274999276432 ★ The total number of rectangles appearing in the Hue-Morse sequence logical matrices after n stages. • a(n) = (8 + 3 * 2 ^ n + 2 * 4 ^ n + (- 1) ^ n * (24 - 2 ^ n)) / 18, n>0. - _ R. J. Mathar _ , May 04 2014 •

[**A103970**] • 1,4,8,32,128,576,2688,13056,65024,330752,1710080,8962048,47497216,254132224,1370849280,7447117824,40707293184,223731253248,1235630948352,6853893292032,38166664839168,213288826699776,1195775593807872 ★ Expansion of (1 - sqrt(1 - 4x - 12x^2))/(2x). • a(n) = Sum _{ k=0..n } 3 ^ (n - k) * C(k) * C(k + 1, n - k). •

[**A039303**] • 1,4,8,33,124,644,3288,18883,108284,642234,3808768,22785833,136315044,817291024,4900153448,29395534383,176340899404,1057996947014,6347691029328,38085710240533,228511646005364,1371065953050204 ★ Number of distinct quadratic residues mod 6^n. • a(n + 8) = 50 a(n + 6) - 553 a(n + 4) + 1800 a(n + 2) - 1296 a(n) for n >= 1. •

[**A249572**] • 1,4,8,48,88,488,888,4888,8888,48888,88888,488888,888888,4888888,8888888,48888888,88888888,488888888,888888888,4888888888,8888888888,4

8888888888,88888888888,488888888888,888888888888 ★ Least positive integer whose decimal digits divide the plane into n regions. ● a(n) = 10 * a(n - 2) + 8 for n >= 4. ● a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) for n > 4. ●

[A231601] ● 1,1,1,4,8,54,162,1536,6144,75000,375000,5598720,33592320,592950960,4150656720,84557168640,676457349120,15620794116480,1405871470483 20,3628800000000000,36288000000000000,1035338990313196800,113887288934 45164800,3559021983729451 00800 ★ Number of permutations of [n] avoiding ascents from odd to even numbers. ● a(n) = ceil(n / 2)! * ceil(n / 2) ^ floor(n / 2). ●

[A120777] ● 1,4,8,64,128,512,1024,16384,32768,131072,262144,2097152,4194304,16777216,33554432,1073741824,2147483648,8589934592,17179869184,137438953472,274877906944,1099511627776,2199023255552 ★ One half of denominators of partial sums of a series for sqrt(2). ● a(n) = denominator(r(n)), with the rationals r(n) defined under A120088. ● a(n) = denom(C(2 * n + 2,n + 1) / 2 ^ (2 * n + 1)). ●

[A105036] ● 0,4,8,116,220,3024,5724,78520,148616,2038508,3858304,52922700,100167300,1373951704,2600491508,35669821616,67512611920,926041410324,1752727418424,24041406846820,45503400267116,624150536607008 ★ a(0) = 0, a(1) = 4, a(2) = 8, a(3) = 116, for n>3 a(n) = 26*a(n-2) - a(n-4) + 12. ● a(n)= - 1 / 2 - 1 / 6 * (- 1) ^ n * (13 + 2 * sqrt(42)) ^ (1 / 2 * n) * (13 + 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) * sqrt(42) * (13 + 2 * sqrt(42)) ^ (- 1 / 4) - (- 1) ^ n * (13 + 2 * sqrt(42)) ^ (1 / 2 * n) * (13 + 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) * (13 + 2 * sqrt(42)) ^ (- 1 / 4) + 5 / 28 * (13 + 2 * sqrt(42)) ^ (1 / 2 * n) * (13 + 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) * sqrt(42) * (13 + 2 * sqrt(42)) ^ (- 1 / 4) + 5 / 4 * (13 + 2 * sqrt(42)) ^ (1 / 2 * n) * (13 + 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) * (13 + 2 * sqrt(42)) ^ (- 1 / 4) + 1 / 6 * (- 1) ^ n * (13 - 2 * sqrt(42)) ^ (- 1 / 4) * (13 - 2 * sqrt(42)) ^ (1 / 2 * n) * (13 - 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) * sqrt(42) + 5 / 4 * (13 - 2 * sqrt(42)) ^ (- 1 / 4) * (13 - 2 * sqrt(42)) ^ (1 / 2 * n) * (13 - 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) - (- 1) ^ n * (13 - 2 * sqrt(42)) ^ (- 1 / 4) * (13 - 2 * sqrt(42)) ^ (1 / 2 * n) * (13 - 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) - 5 / 28 * (13 - 2 * sqrt(42)) ^ (- 1 / 4) * (13 - 2 * sqrt(42)) ^ (1 / 2 * n) * (13 - 2 * sqrt(42)) ^ (1 / 4 * (- 1) ^ n) * sqrt(42), with n>=0 [From _ Paolo P. Lava _ , Aug 28 2009] ●

[A065737] ● 0,1,1,4,9,9,16,25,36,36,49,64,64,81,100,100,121,144,169,169,196,225,225,256,289 ★ Largest square <= Binomial[n,2]. ● a(n)=A048760[C[n, 2]] ●

[A088037] ● 4,9,9,49,225,961,3969,16129,65025,261121,1046529,4190209,16769025,67092481,268402689,1073676289,4294836225,17179607041,68718952449,274876858369,1099509530625,4398042316801,17592177655809 ★ Smallest square k == 1 (mod some n-th power), k > 1. ● a(n) = (2 ^ n - 2) ^ 2 / 4 for n>2. a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>5. G.f.: x * (2 * x + 1) * (32 * x ^ 3 - 56 * x ^ 2 + 27 * x - 4) / ((x - 1) * (2 * x - 1) * (4 * x - 1)). [_ Colin Barker _ , Feb 05 2013] ●

[A266297] ● 0,1,4,9,10,11,14,19,20,21,24,29,30,31,34,39,40,41,44,49,50,51,54,59,60 ★ Numbers whose last digit is a square. ● a(n) = a(n - 1) + (n - 4) - a(n - 5) for n > 5. ● a(n) = (10n - 11 + (- 1) ^ n + (4 + 2(- 1) ^ n) * (- 1) ^ ((2 n - 1 + (- 1) ^ n) / 4)) / 4. ●

[A028837] ● 1,4,9,10,13,18,19,22,27,28,31,36,37,40,45,46,49,54,55,58,63,64,67,72,73 ★ Iterated sum of digits of n is a square. ● a(n) = a(n - 3) + 9. If n is a multiple of 3 then a(n) = 3n, otherwise a(n) = 3n - 2. Numbers of form { 0, 1 , 4 } modulo 9 - _ Henry Bottomley _ , Jun 30 2000 ● a(1)=1, a(2)=4, a(3)=9, a(4)=10, a(n)=a(n - 1) + a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 26 2015 ●

[A140292] ● 4,9,10,14,15,21,22,25,26,35,39,49,51,55,69,82,86,87,91,95,106,115,119,121,122 ★ a(n) is a square mod a(n-1), a(n) > a(n-1) and a(n) semiprime. ● a(n + 1) = MIN { k>a(n) and a(n) is a quadratic residue of a(n + 1) and a (n + 1) is in A001358 } . ●

[A157908] ● 0,1,4,9,10,14,40,44,49,90,91,94,99,100,104,110,111,114,119,140,141,144,190,194,400 ★ Nonprimes whose digits are all square. ● a(n) = Theta(n ^ (log _ 4 10)) ●

[A236652] ● 1,4,9,10,18,19,22,27,28,36,37,40,45,46,54,55,58,63,64,72,73,76,81,82,90 ★ Positive integers n such that n^2 divided by the digital root of n is a square. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6). ●

[A131457] ● 4,9,10,21,22,25,26,33,34,35,46,49,51,55,57,58,65,69,77,82,85,86,87,91,93 ★ Higgs' semiprimes: a(n+1) = next semiprime such that a(n+1)-1 | (a(1)...a(n))^2. ● a(n + 1) = MIN { j in A001358 such that (j - 1) | PRODUCT[i=1..n]a(i) ^ 2. ●

[A197125] ● 1,4,9,10,40,90,100,400,900,1000,1111,1177,1224,1242,1339,1393,1422,1717,1771,1933,2124,2142,2214,2241,2412 ★ Numbers such that sum of digits and sum of the square of digits are both a square. ● a(n) = { A028839 } intersection { A175396 } . ●

[A112652] ● 0,1,4,9,12,13,16,21,24,25,28,33,36,37,40,45,48,49,52,57,60,61,64,69,72 ★ a(n) squared is congruent to a(n) (mod 12). ● a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). ●

[A047461] ● 1,4,9,12,17,20,25,28,33,36,41,44,49,52,57,60,65,68,73,76,81,84,89,92,97 ★ Numbers that are congruent to {1, 4} mod 8. ● a(n) = 8 * floor((n - 1) / 2) + 4 - 3 * (n mod 2). - _ Reinhard Zumkeller _ , Dec 15 2008 ● a(n) = 8 * n - a(n - 1) - 11 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 06 2010 ● a(n) = 4 * n - (7 + (- 1) ^ n) / 2. - _ Arkadiusz Wesolowski _ , Sep 18 2012 ● a(1)=1, a(2)=4, a(3)=9, a(n)=a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Jun 18 2013 ●

[A276885] ● 1,4,9,12,17,22,25,30,33,38,43,46,51,56,59,64,67,72,77,80,85,88,93,98,101 ★ Sums-complement of the Beatty sequence for 1 + phi. ● a(n) = 2[(n - 1)phi] + n, where phi = (1 + sqrt(5)) / 2 (see Example 1 in the paper 'The Frobenius problem for homomorphic embeddings of languages into the integers'). - _ Michel Dekking _ , Dec 21 2017 ●

[A089910] ● 4,9,12,17,22,25,30,33,38,43,46,51,56,59,64,67,72,77,80,85,88,93,98,101,106 ★ Indices n at which blocks (1;1) occur in infinite Fibonacci word, i.e., such that A005614(n) = A005614(n+1) = 1. ● a(n) = floor((2 + sqrt(5)) * n) + 0 or 1; ●

[A124623] ● 1,4,9,12,21,32,37,52,69,80,97,112,137,156,177,208,225,256,293,316,349,384,421,448,489 ★ Number of unit squares having center within inscribed circle of an n X n integer square. ● a(n) = n ^ 2 - 4 * k(n); k(n) = number of exterior centers per quadrant. ●

[A287498] ● 0,4,9,12,30,55,105,212,405,794,1551,3015,5889,11477,22374,43636,85068,165871,323418,630582,1229517,2397289,4674198,9113711,17769780 ★ Number of maximal independent vertex sets (and minimal vertex covers) in the n-web graph. ● a(n) = 2 * a(n - 2) + 3 * a(n - 3) + a(n - 4). ●

[A174911] ● 1,4,9,12,33,36,57,60,65,68,119,122,209,212,217,220,623,626,713,716,721,724,745,748,897 ★ Sequence by greedy construction satisfying Lucier-Sárközy difference set condition. ● a(1) = 1. a(n) = least positive integer k such that the difference between any two elements of [a(1), ..., a(n - 1) } is never one less than a prime. ●

[A032820] ● 1,4,9,12,33,36,73,76,97,100,265,268,289,292,585,588,609,612,777,780,801,804,2121,2124,2145 ★ Numbers whose set of base 8 digits is {1,4}. ● a(1)=1, a(2)=4; a(n) = 8 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 8 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 ●

[A033662] ● 4,9,13,15,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37 ★ Possible digital sums of Smith numbers (conjectural). ● a(n) in { 4, 9, 13, 15 } or a(n) >= 17 ●

[A276855] ● 0,4,9,13,18,23,27,32,36,41,46,50,55,60,64,69,73,78,83,87,92,96,101,106,110 ★ Beatty sequence for (3 + golden ratio). ● a(n) = floor(n * (7 + sqrt(5)) / 2). ●

[A184901] ● 4,9,13,18,24,28,33,37,43,48,52,57,63,67,72,76,82,87,91,96,100,106,111,115,120 ★ n+floor(ns/r)+floor(nt/r), where r=(1+sqrt(5))/2, s=r+1, t=r+2. ● a(n)=n + floor(ns / r) + floor(nt / r), where r=(1 + sqrt(5)) / 2, s=r + 1, t=r + 2. ●

[A184912] ● 4,9,13,19,23,28,34,39,43,49,53,58,63,69,73,79,83,88,93,98,103,109,113,118,122 ★ n+[ns/r]+[nt/r]+[nu/r], where []=floor and r=2^(1/5), s=r^2, t=r^3, u=r^4. ● a(n)=n + [ns / r] + [nt / r] + [nu / r], where []=floor and ●

[A035104] ● 1,4,9,13,19,24,31,37,45,52,61,69,79,88,99,109,121,132,145,157,171,184,199,213,229 ★ First differences give (essentially) A028242. ● a(n) = (5 + 3 * (- 1) ^ n + 28 * n + 2 * n ^ 2) / 8. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: (3 * x ^ 3 - x ^ 2 - 2 * x - 1) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Mar 04 2013 ●

[A022130] ● 4,9,13,22,35,57,92,149,241,390,631,1021,1652,2673,4325,6998,11323,18321,29644,47965,77609,125574,203183,328757,531940 ★ Fibonacci sequence beginning 4,9. ● a(n) = 4 * Fibonacci(n + 2) + Fibonacci(n). ● a(n)= Fibonacci(n - 2) + Fibonacci(n + 5). - _ Gary Detlefs _ , Mar 31 2012 ●

[A042125] ● 1,4,9,13,22,35,57,1346,1403,2749,4152,6901,17954,78717,3796370,15264197,34324764,49588961,83913725,133502686,217416411,5134080139,5351496550,10485576689,15837073239 ★ Denominators of continued fraction convergents to sqrt(587). ● a(n) = 3814324 * a(n - 14) - a(n - 28) for n>27, - _ Vincenzo Librandi _ , Jan 15 2014 ●

[A041905] ● 1,1,4,9,13,22,35,232,267,499,766,2031,6859,8890,380239,389129,1547626,3484381,5032007,8516388,13548395,89806758,103355153,193161911,296517064 ★ Denominators of continued fraction convergents to sqrt(474). ● a(n) = 387098 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 26 2013 ●

[A041323] ● 1,4,9,13,35,153,4013,16205,36423,52628,141679,619344,16244623,65597836,147440295,213038131,573516557,2507104359,65758229891,265540023923,596838277737,862378301660,2321594881057,10148757825888,266189298354145 ★ Denominators of continued fraction convergents to sqrt(175). ● a(n) = 4048 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 15 2013 ●

[A041028] ● 4,9,13,48,61,170,1421,3012,4433,16311,20744,57799,483136,1024071,1507207,5545692,7052899,19651490,164264819,348181128,512445947,1885518969,2397964916,6681448801,55849555324 ★ Numerators of continued fraction convergents to sqrt(19). ● a(n) = 340 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 4 * x ^ 10 + 9 * x ^ 9 - 13 * x ^ 8 + 48 * x ^ 7 - 61 * x ^ 6 - 170 * x ^ 5 - 61 * x ^ 4 - 48 * x ^ 3 - 13 * x ^ 2 - 9 * x - 4) / (x ^ 12 - 340 * x ^ 6 + 1). [_ Colin Barker _ , Jul 16 2012] ●

[A041211] ● 1,1,4,9,13,61,74,209,701,910,18901,19811,78334,176479,254813,1195731,1450544,4096819,13741001,17837820,370497401,388335221,1535503064,3459341349,4994844413 ★ Denominators of continued fraction convergents to sqrt(116). ● a(n) = 19602 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 13 2013 ●

[A042323] ● 1,4,9,13,74,531,1667,12200,62667,74867,212401,924471,48284893,194064043,436412979,630477022,3588798089,25752063645,80844989024,591666986813,3039179923089,3630846909902,10300873742893,44834341881474,2341686651579541 ★ Denominators of continued fraction convergents to sqrt(688). ● a(n) = 48497294 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 20 2014 ●

[A038123] ● 4,9,14,18,23,28,32,37,42,46,51,56,60,65,70,74,79,84,88,93,98,102,107,112,116 ★ Beatty sequence for Feigenbaum's constant. ● a(n)=floor(n * 4.692016609..) ●

[A182778] ● 4,9,14,18,23,28,33,37,42,47,52,56,61,66,70,75,80,85,89,94,99,104,108,113,118 ★ Beatty sequence for 3 + sqrt(3). ● a(n) = floor(n * (3 + sqrt(3))). ●

[A100215] • 4,9,14,18,24,44,104,248,544,1104,2144,4128,8064,16064,32384,65408,131584,263424,525824,1049088,2095104,4189184,8382464,16775168,33562624 ★ Expansion of (4-7*x+2*x^2)/((1-2*x)*(1-2*x+2*x^2)). • a(n) = 4a(n - 1) - 6a(n - 2) + 4a(n - 3). • a(n) = vesseq(.5 'j + .5 'k + .5 j' + .5 k' + 1 'ii' + 1 e), where ves sums over all floretion basis vector coefficients. •

[A016897] • 4,9,14,19,24,29,34,39,44,49,54,59,64,69,74,79,84,89,94,99,104,109,114,119,124 ★ a(n) = 5n + 4. • a(n) = 2 * a(n - 1) - a(n - 2), n>1. - _ Philippe Deléham _ , Nov 03 2008 • a(n) = 10 * n - a(n - 1) + 3, n>0. - _ Vincenzo Librandi _ , Nov 20 2010 •

[A086192] • 1,4,9,14,27,50,91,168,309,568,1045,1922,3535,6502,11959,21996,40457,74412,136865,251734,463011,851610,1566355,2880976,5298941 ★ Tribonacci numbers that start with first three squares. • a(n) = a(n - 1) + a(n - 2) + a(n - 3). •

[A184916] • 4,9,15,19,25,31,35,41,46,51,57,62,67,72,78,83,89,94,98,104,109,115,120,125,131 ★ n+[sn/r]+[tn/r]+[un/r], where []=floor and r=1, s=2^(1/4), t=s^2, u=s^3. • a(n)=n + [sn / r] + [tn / r] + [un / r], where []=floor and •

[A270545] • 1,4,9,15,21,27,33,39,45,51,57,63,69,75,81,87,93,99,105,111,117,123,129,135,141 ★ Number of equilateral triangle units forming perimeter of equilateral triangle. • a(0)=1 and a(1)=4; thereafter a(n) = (n + 1) ^ 2 - (n - 2) ^ 2 = 6 * n - 3. • a(n) = 2 * a(n - 1) - a(n - 2) for n>3. G.f.: (1 + x) * (1 + x + x ^ 2) / (1 - x) ^ 2. - _ Colin Barker _ , Mar 20 2016 •

[A055999] • 0,4,9,15,22,30,39,49,60,72,85,99,114,130,147,165,184,204,225,247,270,294,319,345,372 ★ a(n) = n*(n+7)/2. • a(n) = C(n,2) - 3 * n, n>=7. - _ Zerinvary Lajos _ , Nov 25 2006 • a(n) = n + a(n - 1) + 3 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = Sum _{ k=1..n } (k + 3). - _ Gary Detlefs _ , Aug 10 2010 • a(n) = 4n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 • a(n) = Sum _{ i=4..n + 3 } i. - _ Wesley Ivan Hurt _ , Jun 28 2013 •

[A281026] • 0,1,4,9,15,22,31,42,54,67,82,99,117,136,157,180,204,229,256,285,315,346,379,414,450 ★ a(n) = floor(3*n*(n+1)/4). • a(n) = a(- n - 1) = 3 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4) + a(n - 5) = a(n - 4) + 6 * n - 9. • a(n) = 3 * n * (n + 1) / 4 + (i ^ (n * (n + 1)) - 1) / 4. Therefore: • a(4 * k + r) = 12 * k ^ 2 + 3 * (2 * r + 1) * k + r ^ 2, where 0 <= r <= 3. • a(n) = n ^ 2 - floor((n - 1) * (n - 2) / 4). •

[A184005] • 1,4,9,15,23,32,43,55,69,84,101,119,139,160,183,207,233,260,289,319,351,384,419,455,493 ★ a(n) = n - 1 + ceiling(3*n^2/4); complement of A184004. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + 1 * a(n - 4). • a(n) = (6 * n ^ 2 + 8 * n - (- 1) ^ n - 7) / 8. (End) • a(n) = round((6 * n ^ 2 + 8 * n - 7) / 8). - _ Bruno Berselli _ , Jan 25 2011 • a(n) = n ^ 2 - floor((n - 2) ^ 2 / 4). - _ Bruno Berselli _ , Jan 17 2017 •

[A080819] • 1,4,9,16,16,25,36,36,49,64,81,81,100,121,121,144,169,196,196,225,256,256,289,324,361 ★ Row sums from triangle in A080818. • a(n)=(ceil(sqrt(n * (n + 1) / 2))) ^ 2 - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Dec 19 2004 •

[A234000] • 1,4,9,16,17,25,33,36,41,49,57,64,65,68,73,81,89,97,100,105,113,121,129,132,137 ★ Numbers of the form 4^i*(8*j+1). • a(n) = 6n + O(log n). - _ Charles R Greathouse IV _ , Dec 19 2013 •

[A072903] • 4,9,16,18,20,25,27,32,36,45,48,49,50,52,54,63,64,68,72,75,80,81,84,90,96 ★ Numbers n such that the discriminant of the quadratic field Q(sqrt(n)) < n. • a(n) appears to be asymptotic to C * n with C=3.4..... •

[A246336] • 1,4,9,16,21,32,49,64,69,80,97,116,137,176,225,256,261,272,289,308,329,368,417,452,473 ★ Partial sums of A151548. • a(2 ^ k - 2) = (2 ^ k - 1) ^ 2, if k >= 1. • a(2 ^ k - 1) = 4 ^ k, if k >= 1. • a(2 ^ k) = 4 ^ k + 5, if k >= 1. •

[A027874] • 0,4,9,16,23,30,38,46,54,64,74,84,94,104,114,124,134,144,155,166,177,188,199,210,221 ★ Minimal degree path length of a tree with n leaves. • a(n) = 3 * q * n + 2 * (n - 3 ^ q), if 2 * 3 ^ (q - 1)<=n<=3 ^ q; 3 * q * n + 4 * (n - 3 ^ q), if 3 ^ q<=n<=2 * 3 ^ q. •

[A281151] • 0,1,4,9,16,24,33,44,57,72,88,105,124,145,168,192,217,244,273,304,336,369,404,441,480 ★ a(n) = floor(4*n*(n+1)/5). • a(n) = a(- n - 1) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) = a(n - 5) + 8 * (n - 2). • a(5 * k + r) = 20 * k ^ 2 + 4 * (2 * r + 1) * k + r ^ 2, where 0 <= r <= 4. Example: for r=3, a(5 * k + 3) = (2 * k + 1) * (10 * k + 9), which gives: 9, 57, 145, 273, 441, 649 etc. Also, a(n) belongs to A047462, in fact: for r = 0 or 4, a(n) == 0 (mod 8); for r = 1 or 3, a(n) == 1 (mod 8); for r = 2, a(n) == 4 (mod 8). • a(n) = n ^ 2 - floor((n - 2) ^ 2 / 5). •

[A061077] • 1,4,9,16,25,26,29,34,41,50,52,58,68,82,100,103,112,127,148,175,179,191,211,239,275 ★ a(n) = sum of the products of the digits of the first n odd numbers. • a(n) = Sum _{ k = 1..n } product of the digits of 2k - 1. • a(5 * 10 ^ n) = 25 * 46 ^ n, so a(n) is roughly kn ^ 1.662... where the exponent is log 46 / log 10. - _ Charles R Greathouse IV _ , Sep 20 2012 •

[A004120] • 1,4,9,16,25,35,46,58,71,85,100,116,133,151,170,190,211,233,256,280,305,331,358,386,415 ★ Expansion of (1 + x - x^5) / (1 - x)^3. • a(n) = n * (n + 11) / 2 - 5, n>=3. - _ R. J. Mathar _ , Mar 15 2011 •

[A080151] • 1,4,9,16,25,36,49,64,81,82,85,90,97,106,117,130,145,162,163,166,171,178,187,198,211 ★ Let m = Wonderful Demlo number A002477(n); a(n) = sum of digits of m. • a(n)=(9 ^ 2) * (n / 9 -{ n / 9 }+{ n / 9 }^ 2)=81 * (floor(x / 9) +{ x / 9 }^ 2), where the symbol { x } means fractional part of x. [_ Enrique Pérez Herrero _ , Nov 22 2009] •

[A000290] • 0,1,4,9,16,25,36,49,64,81,100,121,144,169,196,225,256,289,324,361,400,441,484,529,576 ★ The squares: a(n) = n^2. • a(n) = a(- n). • a(0) = 0, a(1) = 1, a(n) = 2 * a(n - 1) - a(n - 2) + 2. - _ Miklos Kristof _ , Mar 09 2005 • a(n) = sum of the odd numbers for i = 1 to n. a(0) = 0 a(1) = 1 then a(n) = a(n - 1) + 2 * n - 1. - _ Pierre CAMI _ , Oct 22 2006 • a(n) = binomial(n + 1, 2) + binomial(n, 2). • a(n) = floor[n * (n + 1) * [Sum _{ i=1..n } 1 / (n * (n + 1))]]. - _ Ctibor O. Zizka _ , Mar 07 2009 • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + 4, n>2. - _ Gary Detlefs _ , Sep 07 2010 •

[A253909] • 1,1,4,9,16,25,36,49,64,81,100,121,144,169,196,225,256,289,324,361,400,441,484,529,576 ★ 1 together with the positive squares. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>=4. - _ David Neil McGrath _ , May 23 2015 •

[A265078] • 1,4,9,16,25,37,52,69,88,109,133,160,189,220,253,289,328,369,412,457,505,556,609,664,721 ★ Partial sums of A072154. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7). - _ Vincenzo Librandi _ , Jan 01 2016 •

[A181640] • 0,0,0,1,4,9,16,25,37,53,73,97,125,158,197,242,293,350,414,486,566,654,750,855,970 ★ Partial sums of floor(n^2/5) (A118015) • a(n) = sum(k=0..n,floor(k ^ 2 / 5)) • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 11 * n - 6) / 30) • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 - 11 * n + 6) / 30) • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 11 * n - 18) / 30) • a(n) = a(n - 5) + (n - 2) ^ 2, n>4 •

[A033616] • 1,4,9,16,25,37,53,74,99,125,151,177,205,238,279,328,381,434,483,528,574,627,690,762,840 ★ Coordination sequence T1 for Zeolite Code TSC. • a(0) = 1, a(1) = 4, a(2) = 9, a(3) = 16, a(4) = 25, a(5) = 37, a(6) = 53, a(7) = 74, a(8) = 99, a(9) = 125, a(10) = 151, a(11) = 177, a(12) = 205, a(13) = 238, a(14) = 279, a(15) = 328, a(16) = 381, a(17) = 434, a(18) = 483, a(19) = 528, a(20) = 574, a(21) = 627 •

[A011895] • 0,0,0,0,1,4,9,16,25,38,55,76,101,132,168,210,258,313,376,447,526,613,710,817,934 ★ a(n) = floor(n*(n-1)*(n-2)/13). • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 13) - 3 * a(n - 14) + 3 * a(n - 15) - a(n - 16). -_ R. J. Mathar _ , Apr 15 2010 •

[A206920] • 0,1,4,9,16,25,40,57,78,105,136,169,214,265,328,393,466,551,644,743,850,969,1096,1225,1378 ★ Sum of the first n binary palindromes; a(n) = sum(k=1..n, A006995(k)). • a(n) = (8 / 7) * ((3 / 4) * (4 - (- 1) ^ m) / (3 + (- 1) ^ m) * 2 ^ (3 * floor(m / 2)) - 1) + (floor(p / 2 ^ floor(m / 2)) mod 2) * p + 2 ^ m + 1 + Sum _{ k = 1..(floor(m / 2) - 1) } (floor(p / 2 ^ k) mod 2) * (2 ^ k + 2 ^ (m - k) + 2 ^ (m - floor(m / 2) + 1) * (4 ^ (floor(m / 2) - k - 1) - 1) + (2 - (- 1) ^ m) + 2 ^ (floor(m / 2) - k) * (p - floor((p mod (2 ^ (m - k + 1))) / 2 ^ k) * 2 ^ k)). (Incorrect: formula returns 102, not 105, for n=10. - _ Gerald Hillier _ , Feb 20 2018. •

[A108612] • 1,4,9,16,25,42,56,72,90,110,143,168,195,224,255,304,340,378,418,460,504,572,621,672,725 ★ Beatty-2 (or nested Beatty) sequence for 1/sin(1). • a(n) = floor(n * floor(n / sin(1))). •

[A036454] • 4,9,16,25,49,64,81,121,169,289,361,529,625,729,841,961,1024,1369,1681,1849,2209,2401,2809,3481,3721 ★ Prime powers with special exponents: q^(p-1) where p > 2 and q are prime numbers. • a(n) = (n log n) ^ 2 + 2n ^ 2 log n log log n + O(n ^ 2 log n). - _ Charles R Greathouse IV _ , Apr 26 2012 •

[A022334] • 1,4,9,16,26,38,52,69,88,109,133,159,187,218,251,286,324,364,406,451,498,547,599,653,709 ★ Index of 5^n within sequence of numbers of form 2^i * 5^j. • a(n) = sum(i=0..n, 1 + floor(log(5 ^ i) / log(2))). - _ Michel Marcus _ , Oct 02 2013 •

[A100216] • 1,4,9,16,26,44,84,176,376,784,1584,3136,6176,12224,24384,48896,98176,196864,393984,787456,1573376,3144704,6288384,12578816,25163776 ★ Relates row sums of Pascal's triangle to expansion of cos(x)/exp(x). • a(n + 3) = 4a(n) - 6a(n + 1) + 4a(n + 2), a(0) = 1, a(1) = 4, a(2) = 9; g.f. (x + 1)(x - 1) / ((2x - 1)(2x ^ 2 - 2x + 1)) (a(n)) = lesseq(.5 'j + .5 'k + .5 j' + .5 k' + 1 'ii' + 1 e) •

[A213495] • 1,4,9,16,27,38,53,70,89,110,135,160,189,220,253,288,327,366,409,454,501,550,603,656,713 ★ Number of (w,x,y) with all terms in {0,...,n} and w = min(|w-x|,|x-y|,|y-w|). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). •

[A109593] • 1,4,9,16,27,40,55,72,91,112,135,160,189,220,253,288,325,364,405,448,493,540,589,640,693 ★ Sequence and first differences include all odd numbers exactly once. • a(n) = n ^ 2 + C * n ^ (3 / 2) + O(n), where C = 5 / 6. According to the simplified model: the sum of n consecutive odd numbers without the odd squares. - _ Thomas Ordowski _ , Sep 24 2014 •

[A132074] • 1,4,9,16,27,46,81,148,279,538,1053,2080,4131,8230,16425,32812,65583,131122,262197,524344,1048635,2097214,4194369,8388676,16777287 ★ Row sums of triangle A132073. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Vincenzo Librandi _ , Jul 06 2012 •

[A110997] • 4,9,16,27,128,196,839056 ★ Powers equal to (sum of first n primes) minus 1. • a(n)=sum(prime(j), j=1..N _ n) - 1 and a(n) is a power. •

[A093175] • 1,4,9,16,30,59,114,219,422,814,1569,3024,5829,11236,21658,41747,80470,155111,298986,576314,1110881,2141292,4127473,7955960,15335606 ★ Tetranacci numbers starting with first four squares. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4). •

[A007679] • 1,1,4,9,16,31,64,129,256,511,1024,2049,4096,8191,16384,32769,65536,131071,262144,524289,1048576,2097151,4194304,8388609,16777216 ★ If n mod 4 = 0 then 2^(n-1)+1 elif n mod 4 = 2 then 2^(n-1)-1 else 2^(n-1). • a(n) = 2 ^ (n - 1) + cos(n * Pi / 2). • a(n) = sum(2 ^ k * C(n - k, 2k) * n / (n - k), k=0..floor(n / 3)). • a(n) = ((- i) ^ n + i ^ n + 2 ^ n) / 2, where i=sqrt(-1). a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3). G.f.: x * (1 - x + 3 * x ^ 2) / ((1 - 2 * x) * (1 + x ^ 2)). [_ Colin Barker _ , May 08 2012] •

[A295720] • 1,4,9,16,33,55,104,171,307,502,873,1423,2424,3943,6623,10758,17893,29035,47952,77755,127755,207046,338897,549015,896104 ★ a(n) = a(n-1) + 3*a(n-2) -2*a(n-3) - 2*a(n-4), where a(0) = 1, a(1) = 4, a(2) = 9, a(3) = 16. • a(n) = a(n - 1) + a(n - 3) + a(n - 4), where a(0) = 1, a(1) = 4, a(2) = 9, a(3) = 16. •

[A023110] • 0,1,4,9,16,49,169,256,361,1444,3249,18496,64009,237169,364816,519841,2079364,4678569,26666896,92294449,341991049,526060096,749609641,2998438564,6746486769 ⋆ Squares which remain squares when the last digit is removed. • a(n) = 1443 * a(n - 7) - 1443 * a(n - 14) + a(n - 21) for n>22. •

[A092464] • 4,9,17,22,30,35,43,48,56,61,69,74,82,87,95,100,108,113,121,126,134,139,147,152,160 ⋆ Numbers n congruent to 4 or 9 mod 13. • a(n) = a(n - 2) + 13 = a(n - 1) + a(n - 2) - a(n - 3) = 13 * n / 2 - 13 / 4 - 3 * (- 1) ^ n / 4. • a(n) = 13 * (n - 1) - a(n - 1), (with a(1)=4). - _ Vincenzo Librandi _ , Nov 17 2010 •

[A173562] • 0,1,4,9,17,26,37,50,66,83,102,123,147,172,199,228,260,293,328,365,405,446,489,534,582 ⋆ a(n) = n^2 + floor(n/4). • a(n) = floor((n + 1 / 8) ^ 2). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) for n>5. • a(n) = (8 * n ^ 2 + 2 * n - 3 + i ^ (2 * n) + (1 + i) * i ^ (- n) + (1 - i) * i ^ n) / 8 where i=sqrt(- 1). - _ Wesley Ivan Hurt _ , Jun 04 2016 •

[A078567] • 0,1,4,9,17,27,41,57,77,100,127,156,191,228,269,314,364,416,474,534,600,670,744,820,904 ⋆ Number of arithmetic subsequences of [1..n] with length > 1. • a(n) = Sum _{ i=1..n - 1 } Sum _{ j=1..floor((n - 1) / i) } (n - i * j). • a(n) = Sum _{ k=1..n - 1 } Sum _{ i=1..n - 1 } floor(k / i). - _ Wesley Ivan Hurt _ , Sep 14 2017 •

[A033617] • 1,4,9,17,28,41,56,73,93,117,146,180,216,253,291,329,369,414,466,524,586,650,712,773,836 ⋆ Coordination sequence T2 for Zeolite Code TSC. • a(0) = 1, a(1) = 4, a(2) = 9, a(3) = 17, a(4) = 28, a(5) = 41, a(6) = 56, a(7) = 73, a(8) = 93, a(9) = 117, a(10) = 146, a(11) = 180, a(12) = 216, a(13) = 253, a(14) = 291, a(15) = 329, a(16) = 369, a(17) = 414, a(18) = 466, a(19) = 524, a(20) = 586, a(21) = 650 } . •

[A008137] • 1,4,9,17,28,42,60,81,105,132,162,196,233,273,316,362,412,465,521,580,642,708,777,849,924 ⋆ Coordination sequence T1 for Zeolite Code LTA and RHO. • a(5 * m + k) = 40 * m ^ 2 + 16 * k * m + one of 5 numbers depending on k, 0<=k<5 (_ N. J. A. Sloane _). •

[A005744] • 0,1,4,9,17,28,43,62,86,115,150,191,239,294,357,428,508,597,696,805,925,1056,1199,1354,1522 ⋆ G.f.: x*(1+x-x^2)/((1-x)^4*(1+x)). • a(n) = n * (n - 1) / 2 + Sum((n - 2 * i + 1) * (n - 2 * i) / 2, i=1..floor((n + 1) / 2)). - _ N. J. A. Sloane _ , Nov 28 2003 • a(n) = 5 * n / 12 - 1 / 16 + 5 * n ^ 2 / 8 + n ^ 3 / 12 + (- 1) ^ n / 16 . a(n)= 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). - _ R. J. Mathar _ , Apr 01 2010 •

[A008066] • 1,4,9,17,29,45,64,85,110,140,173,208,246,289,336,385,437,493,553,616,682,752,825,901,981 ⋆ Coordination sequence T1 for Zeolite Code CHA. • a(20 * m + k) = 680 * m ^ 2 + 68 * k * m + one of 20 numbers depending on k, 0<=k<20 (_ N. J. A. Sloane _). •

[A008123] • 1,4,9,17,29,45,64,86,112,141,173,209,249,292,338,388,441,497,557,621,688,758,832,909,989 ⋆ Coordination sequence T1 for Zeolite Code KFI. • a(7 * m + k) = 84 * m ^ 2 + 24 * k * m + one of 7 numbers depending on k, 0<=k<7 (_ N. J. A. Sloane _). •

[A181286] • 0,0,1,4,9,17,29,45,66,93,126,166,214,270,335,410,495,591,699,819,952,1099,1260,1436,1628 ⋆ Partial sums of floor(n^2/3) (A000212) • a(n) = sum(k=0..n,floor(k ^ 2 / 3)) • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 3 * n) / 18) • a(n) = round((2 * n ^ 3 + 3 * n ^ 2 - 3 * n - 2) / 18) • a(n) = floor((2 * n ^ 3 + 3 * n ^ 2 - 3 * n) / 18) • a(n) = ceil((2 * n ^ 3 + 3 * n ^ 2 - 3 * n - 4) / 18) • a(n) = a(n - 3) + (n - 1) ^ 2 , n>2 •

[A008046] • 1,4,9,17,30,50,74,97,123,158,198,237,281,336,394,447,501,566,638,709,783,868,960,1047,1133 ⋆ Coordination sequence T2 for Zeolite Code AWW. • a(n + 191) - a(n + 128) - 2a(n + 127) + 2a(n + 64) + a(n + 63) - a(n)=0 (_ N. J. A. Sloane _). •

[A157728] • 1,4,9,17,30,51,85,140,229,373,606,983,1593,2580,4177,6761,10942,17707,28653,46364,75021,121389,196414,317807,514225 ⋆ Fibonacci(n) - 4. • a(n)= + 2 * a(n - 1) - a(n - 3). G.f.: x ^ 5 * (1 + x) ^ 2 / ((x - 1) * (x ^ 2 + x - 1)). - _ R. J. Mathar _ , Oct 12 2010 •

[A130785] • 1,4,9,17,32,63,127,256,513,1025,2048,4095,8191,16384,32769,65537,131072,262143,524287,1048576,2097153,4194305,8388608,16777215,33554431 ⋆ Sequence identical to its third differences: a(n+3) = 3a(n+2)-3a(n+1)+2a(n), with a(0)=1, a(1)=4, a(2)=9. • a(n) = - (1 / 2) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n - (1 / 2) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n + 2 * 2 ^ n + (1 / 6) * I *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n * sqrt(3) - (1 / 6) * I *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n * sqrt(3), with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Jun 09 2008 • a(n) = 2 ^ (n + 1) - cos((2 * n + 1) * Pi / 6) * 2 / sqrt(3). - _ Vladimir Reshetnikov _ , Oct 15 2017 •

[A101424] • 4,9,18,28,42,57,76,96,120,145,174,204,238,273,312,352,396,441,490,540,594,649,708,768,832 ⋆ Number of different cuboids with volume p^4 * q^n, where p,q are distinct prime numbers. • a(n) = (29 + 3 * (- 1) ^ n + 36 * n + 10 * n ^ 2) / 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A244096] • 0,4,9,18,30,45,63,84,108,135,166,200,237,277,321,367,417,471,527,587,649,716,785,858,933 ⋆ Rounded down area ratio of a circle inscribed in a congruent triangle of a regular n-gon and a circle inscribed between side of such n-gon and a circumscribed unit circle. • a(n) = floor((r1(n) / r2(n)) ^ 2) where r1(n) = (s(n) / 2) * sqrt((2 - s(n)) / (2 + s(n))) and r2(n) = (2 - c(n)) / 4 with s(n) = 2 * sin(Pi / n), the side length (length unit 1), and c(n) = 2 * cos(Pi / n), the length ratio of the smallest diagonal and the side of a regular n - gon. •

[A111384] • 0,0,0,1,4,9,18,30,48,70,100,135,180,231,294,364,448,540,648,765,900,1045,1210,1386,1584 ⋆ Binomial(n,3) - binomial(floor(n/2),3) - binomial(ceiling(n/2),3) • a(n)= 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). G.f. x ^ 3 * (1 + 2 * x) / ((1 + x) ^ 2 * (x - 1) ^ 4). - _ R. J. Mathar _ , Mar 18 2010 •

[A100037] • 4,9,18,31,48,69,94,123,156,193,234,279,328,381,438,499,564,633,706,783,864,949,1038,1131,1228 ⋆ Positions of occurrences of the natural numbers as second subsequence in A100035. • a(n) = 2 * n ^ 2 - n + 3 (conjectured). - _ Ralf Stephan _ , May 15 2007 •

[A254874] • 1,4,9,18,31,49,73,104,142,189,245,311,388,477,578,693,822,966,1126,1303,1497,1710,1942,2194,2467 ⋆ floor((10*n^3 + 63*n^2 + 126*n + 89) / 72). • a(n) - 2 * a(n + 1) + 2 * a(n + 3) - a(n + 4) = - 1 if n == 1 (mod 3) else - 2 for all n in Z. •

[A008266] • 1,4,9,18,32,48,67,92,120,150,185,224,266,312,361,414,472,532,595,664,736,810,889,972,1058 ⋆ Coordination sequence T1 for Zeolite Code GIS. • a(12 * m + k) = 264 * m ^ 2 + 44 * k * m + [2, 4, 9, 18, 32, 48, 67, 92, 120, 150, 185, 224], 0<=k<12 (_ N. J. A. Sloane _). •

[A008160] • 1,4,9,18,32,49,69,93,121,153,189,228,270,317,368,422,480,541,606,676,749,825,905,989,1077 ⋆ Coordination sequence T1 for Zeolite Code MER. • a(15 * m + k) = 420 * m ^ 2 + 56 * k * m + one of 15 numbers depending on k, 0<=k<15 (_ N. J. A. Sloane _). •

[A190798] • 0,0,1,4,9,18,32,50,75,108,147,196,256,324,405,500,605,726,864,1014,1183,1372,1575,1800,2048 ⋆ Maximum value of k^2 * (n-k). • a(n) = k ^ 2 * (n - k), where k = round(2 * n / 3). • a(3 * n) = 4 * n ^ 3, a(3 * n - 1) = n * (2 * n - 1) ^ 2, a(3 * n + 1) = n * (2 * n + 1) ^ 2. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8) for n >= 8. • a(- n) = - a(n). - _ Michael Somos _ , May 22 2011 •

[A192760] • 0,1,4,9,18,33,58,99,166,275,452,739,1204,1957,3176,5149,8342,13509,21870,35399,57290,92711,150024,242759,392808 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = Sum _{ 1..n } C(n - i + 2,i + 1) + C(n - i,i). - _ Wesley Ivan Hurt _ , Sep 13 2017 •

[A027053] • 1,4,9,18,35,66,123,228,421,776,1429,2630,4839,8902,16375,30120,55401,101900,187425,344730,634059,1166218,2145011,3945292,7256525 ⋆ T(n,n+2), T given by A027052. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 4. [From _ David Bevan _ , Sep 09 2009] •

[A083706] • 1,4,9,18,35,68,133,262,519,1032,2057,4106,8203,16396,32781,65550,131087,262160,524305,1048594,2097171,4194324,8388629,16777238,33554455 ⋆ a(n) = 2^(n+1)+n-1. • a(n) = 2 * a(n - 1) + 3 - n. •

[A229072] • 1,4,9,18,36,72,144,289,578,1156,2312,4624,9248,18496,36992,73984,147969,295938,591876,1183752,2367504,4735008,9470016,18940032,37880064 ⋆ Lexicographically earliest sequence of distinct natural numbers such that, for any number n in the sequence, the positions of the 1s in the binary representation of n are in the sequence, whereas the positions of the 0s are not. • a(n) = Sum _{ a(i)<=n + 1 } 2 ^ (n + 1 - a(i)), for any n>1, with a(1)=1. •

[A199972] • 0,0,4,9,19,29,41,55,71,89,109,131,155,181,209,239,271,305,341,379,419,461,505,551,599 ⋆ a(n) = the sum of GCQ_B(n, k) for 1 <= k <= n (see definition in comments). • a(n) = n * (n - 1) - 1 for n>= 5. •

[A008239] • 1,4,9,19,33,50,74,100,129,165,201,242,290,338,393,453,513,580,650,722,801,883,969,1060,1154 ⋆ Coordination sequence T2 for Zeolite Code THO. • a(24 * m + k) = 1152 * m ^ 2 + 96 * k * m + one of 24 numbers depending on k, 0<=k<24. - _ N. J. A. Sloane _ •

[A008084] • 1,4,9,19,35,52,72,100,131,163,201,244,290,340,393,451,515,580,648,724,803,883,969,1060,1154 ⋆ Coordination sequence T1 for Zeolite Code EDI and THO. • a(12 * m + k) = 288 * m ^ 2 + 48 * k * m + [2, 4, 9, 19, 35, 52, 72, 100, 131, 163, 201, 244], 0<=k<12 (_ N. J. A. Sloane _). •

[A210730] • 0,0,4,9,19,35,62,106,178,295,485,793,1292,2100,3408,5525,8951,14495,23466,37982,61470,99475,160969,260469,421464 ⋆ a(n) = a(n-1) + a(n-2) + n + 2 with n>1, a(0)=a(1)=0. • a(0)=0, a(1)=0, a(2)=4, a(3)=9, a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Jul 24 2013 • a(n) = - 5 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 7 + 5 * sqrt(5)) + (1 + sqrt(5)) ^ n * (7 + 5 * sqrt(5)))) / sqrt(5) - n. - _ Colin Barker _ , Mar 11 2017 •

[A192979] • 1,1,4,9,19,36,65,113,192,321,531,872,1425,2321,3772,6121,9923,16076,26033,42145,68216,110401,178659,289104,467809 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A101353] • 1,4,9,19,38,75,147,288,565,1111,2190,4327,8567,16992,33753,67131,133654,266323,531051,1059520,2114861,4222959,8434974,16852239,33675823 ⋆ a(n) = Sum_{k=0..n} (2^k + Fibonacci(k)). • a(n)= 4 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 2 * a(n - 4). G.f.: (1 - 3 * x ^ 2) / ((1 - x) * (2 * x - 1) * (x ^ 2 + x - 1)). - _ R. J. Mathar _ , Feb 06 2010 • a(n) = (- 2 + 2 ^ (1 + n) + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 3 + sqrt(5)) + (1 + sqrt(5)) ^ n * (3 + sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Nov 03 2016 •

[A153894] • 4,9,19,39,79,159,319,639,1279,2559,5119,10239,20479,40959,81919,163839,327679,655359,1310719,2621439,5242879,10485759,20971519,41943039,83886079 ⋆ a(n) = 5*2^n - 1. • a(n) = 2 * a(n - 1) + 1, n>0. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A073360] • 1,4,9,20,29,44,69,104,121,180,241,284,349,420,521,664,701,860,1009,1184,1301,1540,1789,1964,2181 ⋆ Nested floor product of n and fractions (k+1)/k for all k>0 (mod 3), divided by 3. • a(n)=(1 / 3)[...[[[[n(2 / 1)](3 / 2)](5 / 4)](6 / 5)]...(k + 1) / k]..., k>0 (mod 3), where [x] = floor of x; this infinite nested floor product will eventually level - off at a(n). •

[A059403] • 0,0,0,1,4,9,20,36,64,100,156,225,324,441,600,784,1024,1296,1640,2025,2500,3025,3660,4356,5184 ⋆ Quarter-squared applied twice. • a(4n) = 4n ^ 4; a(4n + 1) = n ^ 2 * (2n + 1) ^ 2; • a(4n + 2) = 2n(n + 1)(2n(n + 1) + 1); a(4n + 3) = (n + 1) ^ 2 * (2n + 1) ^ 2. •

[A060494] • 0,0,0,1,4,9,20,37,64,102,156,228,324,446,600,791,1024,1305,1640,2036,2500,3038,3660,4372,5184 ⋆ floor[n^4/64]. • a(n)= + 4 * a(n - 1) - 6 * a(n

- 2) + 4 * a(n - 3) - a(n - 4) + a(n - 16) - 4 * a(n - 17) + 6 * a(n - 18) - 4 * a(n - 19) + a(n - 20). G.f. - x ^ 3 * (1 - x ^ 2 + 4 * x ^ 3 - 4 * x ^ 4 - 3 * x ^ 6 + 4 * x ^ 7 - 3 * x ^ 8 + 4 * x ^ 9 - 4 * x ^ 10 + 4 * x ^ 11 - x ^ 12 + x ^ 14 + 4 * x ^ 5) / ((1 + x) * (x ^ 2 + 1) * (x ^ 4 + 1) * (x ^ 8 + 1) * (x - 1) ^ 5). - R. J. Mathar, Mar 24 2011 ●

[A023607] ● 0,1,4,9,20,40,78,147,272,495,890,1584,2796,4901,8540,14805,25552,43928,75258,128535,218920,371931,630454,1066464,1800600 ★ n * Fibonacci(n+1) ● a(n) = n * sum { k=0..n, binomial(k, n - k) } . - _ Paul Barry _ , Sep 25 2004 ●

[A084639] ● 0,1,4,9,20,41,84,169,340,681,1364,2729,5460,10921,21844,43689,87380,174761,349524,699049,1398100,2796201,5592404,11184809,22369620 ★ Expansion of x*(1+2*x)/((1+x)*(1-x)*(1-2*x)). ● a(n) = a(n - 1) + 2 * a(n - 2) + 3, a(0)=0, a(1)=1. ● a(n) = 2 ^ (n + 2) / 3 + (- 1) ^ n / 6 - 3 / 2. ● a(n) = 5 * a(n - 2) - 4 * a(n - 4). Cf. A084640, A101622. - _ Paul Curtz _ , Apr 03 2008 ● a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). [_ R. J. Mathar _ , Jun 28 2010] ● a(n) = a(n - 1) + 2 * a(n - 2) + 3, n>1. [_ Gary Detlefs _ , Dec 19 2010] ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) + (- 1) ^ n, n>1. [_ Gary Detlefs _ , Dec 19 2010] ●

[A133095] ● 1,4,9,20,43,90,185,376,759,1526,3061,6132,12275,24562,49137,98288,196591,393198,786413,1572844,3145707,6291434,12582889,25165800,50331623 ★ Row sums of triangle A133094. ● a(n) = 3 * 2 ^ (n - 1) - n, for n >=2. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). ●

[A020708] ● 4,9,20,44,97,214,472,1041,2296,5064,11169,24634,54332,119833,264300,582932,1285697,2835694,6254320,13794337,30424368,67103056,148000449,326425266,719953588 ★ Pisot sequences E(4,9), P(4,9). ● a(n) = 2 * a(n - 1) + a(n - 3) (holds at least up to n = 1000 but is not known to hold in general). ●

[A108870] ● 1,4,9,20,46,103,233,525,1182,2660,5985,13467,30301,68178,153401,345152,776591,1747331,3931496,8845866,19903198,44782196,100759940,226709866,510097200 ★ Tokuda's good set of increments for Shell sort. ● a(n) = ceiling((9 * (9 / 4) ^ n - 4) / 5). ●

[A287143] ● 0,1,4,9,21,35,65,95,155,210,315,406,574,714,966,1170,1530,1815,2310,2695,3355,3861,4719,5369,6461 ★ Expansion of x*(1 + 3*x + x^2)/((1 - x)^5*(1 + x)^4). ● a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). ● a(n) = (2 * n + 3 + (- 1) ^ n) * (2 * n + 7 + (- 1) ^ n) * (5 * (2 * n ^ 2 + 10 * n + 3) - 3 * (2 * n + 5) * (- 1) ^ n) / 3072. - _ Luce ETIENNE _ , Nov 18 2017 ●

[A027973] ● 1,4,9,21,46,99,209,436,901,1849,3774,7671,15541,31404,63329,127501,256366,514939,1033449,2072676,4154701,8324529,16673534,33386671,66837421 ★ a(n) = T(n,n) + T(n,n+1) + ... + T(n,2n), T given by A027960. ● a(n)=2a(n - 1) + Fibonacci(n + 1) - Fibonacci(n - 3) for n>=1; a(0)=1. - _ Emeric Deutsch _ , Nov 29 2006 ● a(n) = 2 ^ n - Lucas(n) for n>1. - _ Vincenzo Librandi _ , May 05 2017 ●

[A084861] ● 1,1,4,9,21,48,108,240,528,1152,2496,5376,11520,24576,52224,110592,233472,491520,1032192,2162688,4521984,9437184,19660800,40894464,84934656 ★ Expansion of (1-3x+4x^2-3x^3+x^4)/(1-2x)^2. ● a(n) = 3(n + 3)2 ^ (n - 4), n>2. ●

[A132750] ● 1,4,9,21,49,113,257,577,1281,2817,6145,13313,28673,61441,131073,278529,589825,1245185,2621441,5505025,11534337,24117249,50331649,104857601,218103809 ★ A132749 * [1, 2, 3, ...] = A007318 * A065190. ● a(n) = n * 2 ^ (n - 1) + 2 ^ n + 1 - 0 ^ n. - _ Tim Smith _ , Sep 25 2014 ● a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Wesley Ivan Hurt _ , Sep 26 2014 ●

[A048582] ● 4,9,21,49,115,270,634,1489,3498,8218,19307,45359,106565,250361,588192,1381884,3246565,7627402,17919636,42099965,98908653,232373629,545933059,1282602102,3013314774 ★ Pisot sequence L(4,9). ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) + a(n - 4) - 2 * a(n - 5) + a(n - 6) - a(n - 7) (conjectured). Recurrence is satisfied for at least 760000 terms. - _ Chai Wah Wu _ , Jul 25 2016 ●

[A041743] ● 1,1,4,9,22,31,53,137,2656,5449,8105,13554,35213,83980,287153,371133,14390207,14761340,58674227,132109794,322893815,455003609,777897424,2010798457,38983068107 ★ Denominators of continued fraction convergents to sqrt(391). ● a(n) = 14677360 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Dec 23 2013 ●

[A041943] ● 1,4,9,22,31,84,115,314,743,3286,145327,584594,1314515,3213624,4528139,12269902,16798041,45865984,108530009,479986020,21227914889,85391645576,192011206041,469414057658,661425263699 ★ Denominators of continued fraction convergents to sqrt(494). ● a(n) = 146070 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 27 2013 ●

[A048654] ● 1,4,9,22,53,128,309,746,1801,4348,10497,25342,61181,147704,356589,860882,2078353,5017588,12113529,29244646,70602821,170450288,411503397,993457082,2398417561 ★ a(n) = 2a(n-1) + a(n-2); a(0)=1, a(1)=4. ● a(n) = [(3 + sqrt(2))(1 + sqrt(2)) ^ n - (3 - sqrt(2))(1 - sqrt(2)) ^ n] / 2 * sqrt(2). ● a(n) = binomial transform of 1, 3, 2, 6, 4, 12, ... - Al Hakanson (hawkuu(AT)gmail.com), Aug 08 2009 ●

[A255876] ● 4,9,24,37,60,81,112,141,180,217,264,309,364,417,480,541,612,681,760,837,924,1009,1104,1197,1300 ★ a(n) = (4*n^2 + 4*n - 3 - 3*(-1)^n)/2. ● a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). ●

[A059507] ● 4,9,24,66,182,501,1376,3771,10314,28158,76744,208839,567484,1539981,4173852,11299386,30556346,82547961,222790424,600753663,1618558734,4357256694,11721125644,31507528971,84637773172 ★ Transform of A059502 applied to sequence 4,5,6,... ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). ● a(n) = ((3 - n) * Fibonacci(2 * n) + (15 + 3 * n) * Fibonacci(2 * n - 1)) / 5. - _ G. C. Greubel _ , Sep 10 2017 ●

[A001248] ● 4,9,25,49,121,169,289,361,529,841,961,1369,1681,1849,2209,2809,3481,3721,4489,5041,5329,6241,6889,7921,9409 ★ Squares of primes. ● a(n) = prime(n) ^ 2. - _ Jon E. Schoenfield _ , Mar 29 2015 ●

[A175627] ● 1,4,9,25,64,144,289,625,1296,2601,5329,10816,21904,44100,88209,177241,355216,710649,1423249,2849344,5702544,11410884,22829284,45670564,91355364 ★ a(1) = 1; a(n) is the smallest square > 2*a(n-1). ● a(n) = (ceiling(sqrt(2 * a(n - 1)))) ^ 2. ●

[A007598] ● 0,1,1,4,9,25,64,169,441,1156,3025,7921,20736,54289,142129,372100,974169,2550409,6677056,17480761,45765225,119814916,313679521,821223649,2149991424 ★ Squared Fibonacci numbers: F(n)^2 where F = A000045. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3), n>2. a(0)=0, a(1)=1, a(2)=1. ● a(- n) = a(n) for all n in Z. ● a(0) = 0, a(1) = 1; a(n) = a(n - 1) + Sum(a(n - i)) + k, 0 <= i < n where k = 1 when n is odd, or k = - 1 when n is even. E.g. a(2) = 1 = 1 + (1 + 1 + 0) - 1, a(3) = 4 = 1 + (1 + 1 + 0) + 1, a(4) = 9 = 4 + (4 + 1 + 1 + 0) - 1, a(5) = 25 = 9 + (9 + 4 + 1 + 1 + 0) + 1. - Sadrul Habib Chowdhury (adil040(AT)yahoo.com), Mar 02 2004 ● a(n) = (2 * Fibonacci(2 * n + 1) - Fibonacci(2 * n) - 2 * (- 1) ^ n) / 5. - _ Ralf Stephan _ , May 14 2004 ● a(n) = (- 1) ^ k * (Fibonacci(n + k) ^ 2 - Fibonacci(k) * Fibonacci(2 * n + k)), for any k, - _ Gary Detlefs _ , Dec 13 2010 ● a(n) = 3 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>1. - _ Gary Detlefs _ , Dec 20 2010 ●

[A216134] ● 0,1,4,9,26,55,154,323,900,1885,5248,10989,30590,64051,178294,373319,1039176,2175865,6056764,12681873,35301410,73915375,205751698,430810379,1199208780 ★ Numbers n such that T_n and 2*T_n + 1 are triangular. ● a(n + 2) = sqrt (8 * a(n) ^ 2 + 8 * a(n) + 9) + 3 * a(n) + 1; a(0) = 0, a(1) = 1. - _ Raphie Frank _ , Feb 02 2013 ● a(n) = (3 / 8 + sqrt(2) / 4) * (1 + sqrt(2)) ^ n + (- 1 / 8 - sqrt(2) / 8) * (- 1 + sqrt(2)) ^ n + (3 / 8 - sqrt(2) / 4) * (1 - sqrt(2)) ^ n + (- 1 / 8 + sqrt(2) / 8) * (- 1 - sqrt(2)) ^ n - 1 / 2. - _ Robert Israel _ , Aug 13 2014 ●

[A113682] ● 1,1,4,9,26,70,197,553,1570,4476,12827,36894,106471,308113,893804,2598313,7567466,22076404,64498427,188689684,552675365,1620567763,4756614062,13974168190,41088418151 ★ Expansion of 2/(sqrt(1-2*x-3*x^2)*(1+x+sqrt(1-2*x-3*x^2))). ● a(n) = Sum _{ k=0..floor(n / 2) } (Sum _{ i=0..n - k } C(n - 2k - i, i) * C(n - k, k + i)). ● a(n) = Sum _{ k=0..n } C(n + 1,k + 1) * C(k,n - k). - _ Paul Barry _ , Aug 21 2007 ● a(n) = (- 1) ^ (n + 1) * (hypergeom([1 / 2, - n - 1], [1], 4) - 1) / 2. - _ Vladimir Reshetnikov _ , Apr 25 2016 ●

[A291064] ● 4,9,26,71,180,433,1006,2283,5096,11237,24546,53215,114652,245721,524246,1114067,2359248,4980685,10485706,22020039,46137284,96468929,201326526,419430331,872415160 ★ a(n) = 2^n*(n + 1) - 3*(n - 1). ● a(n) = 2 ^ n * (n + 1) - 3 * (n - 1). ● a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). ●

[A145855] ● 1,1,4,9,26,76,246,809,2704,9226,32066,112716,400024,1432614,5170604,18784169,68635478,252085792,930138522,3446167834,12815663844,47820414962,178987624514,671825133644,2528212128776 ★ Number of n-element subsets of {1,2,...,2n-1} whose elements sum to a multiple of n. ● a(n) = (1 / (2 * n)) * Sum _{ d|n } (- 1) ^ (n + d) * phi(n / d) * binomial(2 * d,d). Conjectured by _ Vladeta Jovovic _ , Oct 22 2008; proved by _ Max Alekseyev _ , Oct 23 2008 (see link). ●

[A111962] ● 1,1,4,9,27,74,215,619,1808,5293,15579,45986,136141,403937,1200854,3575835,10663105,31836508,95156251,284684303,852427700,2554346249,7659427811,22981483554,68992151795 ★ Expansion of 1/(sqrt(1-2x-3x^2)-x^2). ● a(n)=sum { k=0..floor(n / 2), sum { j=0..n - k, C(n - k, j) * C((j - 1) / 2, (j - k) / 2) * 2 ^ (j - k) * (1 + (- 1) ^ (j - k)) / 2 }} ●

[A000368] ● 1,1,4,9,28,71,202,542,1507,4114,11381,31349,86845,240567,668553,1860361,5188767,14495502,40572216,113743293,319405695,898288484,2530058013,7135848125,20152898513 ★ Number of connected graphs with one cycle of length 4. ● a(n) = Sum _ (P) { g(p,a) } , where P is the set of the partitions p of n with four parts, each p as a vector of nP distinct parts: p[1], p[2], ..., p[nP], with frequencies respectively a[1],a[2], ..., a[nP], a[1] = max(a[i], i = 1..nP). C(,) is a binomial coefficient, f = A000081, and g(p,a) is given below. ●

[A276984] ● 0,0,4,9,29,41,90,119,194,255,384,440,649,765,980,1155,1495,1654,2108,2324,2811,3185,3794,4050,4874 ★ Sum of squares of numbers less than n that do not divide n. ● a(n) = n * (n + 1) * (2 * n + 1) / 6 - sigma _ 2(n). ●

[A295910] ● 4,9,30,61,160,301,718,1305,3000,5377,12190,21733,49024,87237,196446,349345,786232,1397881,3145486,5592141,12582624,22369309,50331310,89478121,201326200 ★ Number of (not necessarily maximum) cliques in the n X n white bishop graph. ● a(n) = ((- 1) ^ (n + 1) + 2 ^ (n + 1) * (17 + (- 1) ^ n) - 6 * n * (n + 4) - 23) / 12. ● a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 10 * a(n - 3) + a(n - 4) + 8 * a(n - 5) - 4 * a(n - 6). ●

[A105865] ● 1,1,4,9,30,94,328,1165,4294,16134,61752,239610,940716,3729324,14908176,60026109,243211206,990897478,4057013080,16683617326,68879236036,285388549188,1186296731376,4945790840338,20675513743900 ★ Expansion of (1/(1-2*x^2))*c(x/(1-2*x^2)), where c(x) is the g.f. of A000108. ● a(n) = Sum _{ k=0..floor(n / 2) } 2 ^ k * C(n - k,k) * C(n - 2 * k). ●

[A230056] ● 1,4,9,30,132,720,4680,35280,302400,2903040,30844800,359251200,4550515200,62270208000,915372057600,14384418048000,240612083712000,4268249137152000,80029671321600000,1581386305314816000,32844177110384640000,715273190403932160000,16298010552775311360000 ★ G.f.: Sum_{n>=0} (n+3)^n * x^n / (1 + (n+3)*x)^n. ● a(n) = (n + 7) * n! / 2 for n>0 with a(0)=1. ●

[A041137] ● 1,1,4,9,31,40,671,711,2804,6319,21761,28080,471041,499121,1968404,4435929,15276191,19712120,330670111,350382231,1381816804,3114015839,10723864321,13837880160,232129946881 ★ Denominators of continued fraction convergents to sqrt(77). ● a(n) = 702 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - x ^ 9 + 4 * x ^ 8 - 9 * x ^ 7 + 31 * x ^ 6 - 40 * x ^ 5 - 31 * x ^ 4 - 9 * x ^

3 - 4 * x ^ 2 - x - 1) / ((x ^ 4 - 9 * x ^ 2 + 1) * (x ^ 8 + 9 * x ^ 6 + 80 * x ^ 4 + 9 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 18 2012] ●

[A111160] ● 0,1,1,4,9,31,91,309,1009,3481,11956,42065,148655,532039,1915369,6950452,25357233,93034813,342888250,1269246437,4715945712,17583623988,65766726906,246694006971,927801717255 ★ G.f.: C - Z; where C is the g.f. for the Catalan numbers (A000108) and Z is the g.f. for A055113 with offset 0. ● a(n) = sum(j=0..n + 1, binomial(n + 2 * j - 1,j) * (- 1) ^ (n + j + 1) * binomial(2 * n + 1,j + n)) / (2 * n + 1). [_ Vladimir Kruchinin _ , Feb 15 2013] ● a(n) = Sum _{ j=0..(n + 1) / 2 } (binomial(n - j,n - 2 * j + 1) * binomial(2 * n + 1,j)) / (2 * n + 1). - _ Vladimir Kruchinin _ , Oct 05 2015 ● a(n) = (- 1) ^ (n + 1) * C(2 * n + 1,n) * hypergeom([- n - 1,n / 2 + 1 / 2,n / 2],[n,n + 1],4) / (2 * n + 1) for n>0. - _ Peter Luschny _ , Oct 06 2015 ●

[A192876] ● 1,1,4,9,31,94,309,989,3212,10373,33595,108670,351729,1138113,3683172,11918737,38570247,124815294,403911805,1307084405,4229816636,13687969901,44295207939,143342292894,463865421721 ★ Constant term in the reduction by (x^2->x+1) of the polynomial p(n,x) given in Comments. ● a(n) =2 * a(n - 1) + 6 * a(n - 2) - 5 * a(n - 3) - 6 * a(n - 4) + 4 * a(n - 5). ●

[A265645] ● 0,0,4,9,32,50,108,147,256,324,500,605,864,1014,1372,1575,2048,2312,2916,3249,4000,4410,5324,5819,6912 ★ a(n) = n^2 * floor(n/2). ● a(n) = n ^ 2 * (2 * n + (- 1) ^ n - 1) / 4. ● a(n) = n ^ 3 / 2 for n even. ● a(n) = n ^ 2 * (n - 1) / 2 for n odd. ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>6. (End) ●

[A005985] ● 0,1,4,9,32,65,192,385,1024,2049,5120,10241,24576,49153,114688,229377,524288,1048577,2359296,4718593,10485760,20971521,46137344,92274689,201326592 ★ Length of longest trail (i.e., path with all distinct edges) on the edges of an n-cube. ● a(n) = (2 * n * 2 ^ n - (1 - (- 1) ^ n) * (2 ^ n - 2)) / 4. - _ Giovanni Resta _ , May 31 2015 ● a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 10 * a(n - 3) - 4 * a(n - 4) + 8 * a(n - 5), n>5. - _ Wesley Ivan Hurt _ , May 31 2015 ●

[A057819] ● 4,9,32,119,444,1657,6184,23079,86132,321449,1199664,4477207,16709164,62359449,232728632,868555079,3241491684,12097411657,45148154944,168495208119,628832677532,2346835502009,8758509330504,32687201820007 ★ a(0)=4, a(1)=9, a(n)=4a(n-1)-a(n-2). ● a(n)= - (1 / 6) * sqrt(3) * [2 - sqrt(3)] ^ n + (1 / 6) * sqrt(3) * [2 + sqrt(3)] ^ n + 2 * [2 - sqrt(3)] ^ n + 2 * [2 + sqrt(3)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 20 2008] ●

[A173659] ● 0,0,0,1,4,9,33,79,250,647,1914,5157,14797,40663,115036,319098,896896,2498663,7002446,19546383,54706009,152839003,427510168,1194858679,3341293220 ★ Linear recurrence of order 9, motivated by the quark structure of the proton. ● a(n) = a(n - 1) + 8a(n - 2) - 3a(n - 3) - 17a(n - 4) + a(n - 5) + 13a(n - 6) + 4a(n - 7) - 6a(n - 8) - a(n - 9). [M. F. Hasler, Nov 24 2010] ●

[A054433] ● 1,4,9,33,80,174,588,1596,3135,9950,28512,56268,196040,496496,888300,3524577,9224880,18118362,63239220,150527400,310190454,1129200138,2971168704,5834056536,18513646430 ★ Numbers formed by interpreting the reduced residue set of every even number as a Zeckendorf Expansion. ● a(n) = A054433 _ as _ sum(2 * n) ●

[A096531] ● 0,0,4,9,34,71,245,543,1835,4223,14167,33279,111279,264191,882015,2105343,7023295,16809983,56055167,134348799,447916799,1074266111,3581236735,8592031743,28641504255 ★ Number of different squares created when a square sheet of paper is folded n times, the first time by one of the diagonal of the square and after by the median of the triangle. ● a(1)=0, a(2)=0, a(3)=4, a(5)=34, a(6)=71, a(7)=245, a(8)=509 are easily computed. If n even > 8 define Y(8)=130, Y(n)=3 * Y(n - 2) and then a(n)=9 * a(n - 2) - 3 * Y(n - 2); if n odd define Y(7)=27, Y(n)=6 * Y(n - 2) - 3 and then a(n)=8 * a(n - 2) + 3 - 6 * Y(n - 2) ●

[A163069] ● 4,9,34,104,344,1104,3584,11584,37504,121344,392704,1270784,4112384,13307904,43065344,139362304,450985984,1459421184,4722786304,15283257344,49457659904,160048349184,517927337984,1676048072704 ★ a(n) = ((4+sqrt(5))*(1+sqrt(5))^n + (4-sqrt(5))*(1-sqrt(5))^n)/2. ● a(n) = 2 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 4, a(1) = 9. ●

[A182144] ● 1,1,4,9,35,104,376,1321,4960,18667,72220,282368,1119791,4481428,18097960,73612825,301377323,1240776848,5133985196,21337546123,89037498752,372879415520,1566706843664,6602445412864,27900411735756 ★ G.f. satisfies: A(x) = A(x^2)^2 + x*A(x)^2. ● a(2 * n + 1) = b(2 * n) for n>=0, ● a(2 * n) = b(2 * n - 1) + b(n) for n>0 with a(0)=1. ●

[A176607] ● 1,4,9,35,143,648,3071,15126,76495,395086,2074699,11044027,59457897,323180520,1771081641,9774955015,54286011887,303138215322,1701016909235,9586701364893,54241695455421,307991483403216,1754468491846461 ★ Sequence defined by the recurrence formula a(n+1)=sum(a(p)*a(n-p)+k,p=0..n)+l for n>=1, with here a(0)=1, a(1)=4, k=0 and l=1. ● a(n) = Sum _{ k=0..n } ((C(k) * Sum _{ l=0..n - k } (binomial(k + 1,l) * 2 ^ l * binomial(n - 2 * l, n - l - k)))), where C(k) is a Catalan number (A000108). - _ Vladimir Kruchinin _ , Mar 15 2016 ●

[A179934] ● 4,9,36,85,352,837,3480,8281,34444,81969,340956,811405,3375112,8032077,33410160,79509361,330726484,787061529,3273854676,7791105925,32407820272,77123997717,320804348040,763448871241,3175635660124 ★ a(n) red balls and b(n) blue balls in an urn; draw 2 balls without replacement; Probability(2 red balls)=6*Probability(2 blue balls); b(n)=A181442(n); ● a(n)=(1 + sqrt(1 + 24 * b(n) + (b(n) - 1)) / 2; this is equivalent to the Pell equation ● a(n + 4)=10 * a(n + 2) - a(n) - 4; a(n + 6)=11 * (a(n + 4) - a(n + 2)) + a(n); ● a(2 * n + 1)=(2 + (7 + 3 * r) * (5 + 2 * r) ^ n + (7 - 3 * r) * (5 - 2 * r) ^ n) / 4; ● a(2 * n + 2)=(2 + (17 + 7 * r) * (5 + 2 * r) ^ n + (17 - 7 * r) * (5 - 2 * r) ^ n) / 4; ● a(n)= + a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: - x * (4 + 5 * x - 13 * x ^ 2 - x ^ 3 + x ^ 4) / ((x - 1) * (x ^ 4 - 10 * x ^ 2 + 1)). [From _ R. J. Mathar _ , Aug 03 2010] ●

[A018224] ● 1,1,4,9,36,100,400,1225,4900,15876,63504,213444,853776,2944656,11778624,41409225,165636900,590976100,2363904400,8533694884,34134779536,124408576656,497634306624,1828114918084 ★ a(n) = C(n, floor(n/2))^2 = A001405(n)^2. ● a(n) = (n! / (floor(n / 2)! * floor((n + 1) / 2)!)) ^ 2. - _ Peter Luschny _ , Apr 29 2014 ● a(n) = 4 ^ n * [x ^ n]((1 + x) * EllipticK(x) / (x * Pi / 2) - 1 / x). - _ Peter Luschny _ , Oct 14 2015 ●

[A239230] ● 0,1,1,4,9,36,112,428,1505,5692,21026,79806,301488,1151866,4403778,16929474,65204353,251947668,975366094,3784197606,14705937794,57242631464,223121176224,870805992278,3402485053664 ★ Expansion of -x*log'(-sqrt(12*x+2*sqrt(1-4*x)+2)/4+sqrt(1-4*x)/4+5/4). ● a(n) = n * sum(k=1..n, sum(j=0..n - k, C(n + 2 * j - 1,j + n - 1) * (- 1) ^ (k + j + n) * C(2 * n - k, j + n)) / (2 * n - k)). ● a(n) = sum(k=1..n, (- 1) ^ (k + n) * C(2 * n - k - 1, n - 1) * hypergeom([k - n, n / 2 + 1 / 2, n / 2], [n, n + 1], 4)). - _ Peter Luschny _ , May 22 2014 ●

[A077211] ● 1,4,9,36,169,900,5476,38416,308025,2775556,27762361,305410576,3664970521,47644848729,667028291524,10005429354496,160086894977025,2721477270128400,48986590869089316,930745227141407161 ★ a(1) = 1; a(n+1) is the smallest square greater than n*a(n). ● a(n + 1)=(floor(sqrt(n * a(n))) + 1) ^ 2 - _ Sam Alexander _ , Mar 02 2005 ●

[A073977] ● 1,4,9,36,180,972,6300,44928,297432,1784592,10349856,60466176,358108128,2145709440,12958657344,78364164096,472093588224,2832129868032,16957996040448,101554796888064,608764662139392,3652587972836352,21926115464435712,131621703842267136 ★ Number of strings of length n over Z_6 with trace 1 and subtrace 0. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A142239] ● 1,4,9,40,89,396,881,3920,8721,38804,86329,384120,854569,3802396,8459361,37639840,83739041,372596004,828931049,3688320200,8205571449,36510605996,81226783441,361417739760,804062262961 ★ Denominators of continued fraction convergents to sqrt(3/2). ● a(n) = 10 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Feb 01 2014 ●

[A238420] ● 0,4,9,40,120,390,1176,3536,10395,30260,87120,248844,705744,1989820,5581485,15586720,43356936,120187026,332134440,915304520,2516113215,6900949484,18888143904,51599794200,140718765600 ★ a(n)=the Wiener index of the Lucas cube L_n. ● a(n) = (1 / 5) * ((4n + 4) * F(2n - 2) + (7n + 7) * F(2n - 1) - 3(n + 1) * (- 1) ^ n). - _ Ralf Stephan _ , Mar 30 2014 ●

[A085110] ● 1,4,9,40,195,1176,8225,65808,592263,5922640,65149029,781788360,10163248667,142285481352,2134282220265,34148515524256,580524763912335,10449445750422048,198539469258018893,3970789385160377880,83386577088367935459,1834504695944094580120 ★ a(1)=1, then add 1 multiply by 2 to get a(2), subtract 1 and multiply by 3 to get a(3), add 1 and multiply by 4 to get a(4) and so on. ● a(1)=1, a(n)=n * a(n - 1) + (- 1) ^ n * n ; a(n)=round(n! * (2 - exp(- 1))) + (- 1) ^ n. - _ Benoit Cloitre _ , Sep 24 2006 ● a(n) = ((n - 2) * n / (n - 1)) * a(n - 1) + n * a(n - 2). - _ Robert Israel _ , Aug 04 2014 ●

[A041229] ● 1,4,9,40,889,3596,8081,35920,798321,3229204,7256729,32256120,716891369,2899821596,6516534561,28965959840,643767651041,2604036564004,5851840779049,26011399680200,578102633743449,2338421934653996,5254946503051441,23358207946859760 ★ Denominators of continued fraction convergents to sqrt(126). ● a(n) = 898 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 13 2013 ●

[A083859] ● 0,1,1,4,9,41,133,673,2737,15130,72181,430739,2320825,14815529,88005541,596681296,3843559137,27515587661,189933449365,1428716457761,10474213334761,82448447397646,637534807917701,5233087759204967,42445677865505425 ★ Main diagonal of generalized Fibonacci array A083856. ● a(n) = (((1 + sqrt(4n + 1)) / 2) ^ n - ((1 - sqrt(4n + 1)) / 2) ^ n) / sqrt(4n + 1). ● a(n) = y(n,n), where y(m + 2,n) = y(m + 1,n) + n * y(m,n), with y(0,n)=0, y(1,n)=1 for all n. - _ Benedict W. J. Irwin _ , Nov 03 2016 ● a(n) = [x ^ n] x / (1 - x - n * x ^ 2). - _ Ilya Gutkovskiy _ , Oct 10 2017 ●

[A024053] ● 1,4,9,44,369,2500,14329,75724,386529,1946564,9755625,48813484,244119889,1220674564,6103477209,30517527500,152587825089,762939369604,3814697160649,19073486197804,95367431480625 ★ 5^n - n^4. ● a(n) = + 10 * a(n - 1) - 35 * a(n - 2) + 60 * a(n - 3) - 55 * a(n - 4) + 26 * a(n - 5) - 5 * a(n - 6) ●

[A081069] ● 4,9,49,324,2209,15129,103684,710649,4870849,33385284,228826129,1568397609,10749957124,73681302249,505019158609,3461452808004,23725150497409,162614600673849,1114577054219524,7639424778862809 ★ Lucas(4n)+2, or Lucas(2n)^2. ● a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). ● a(n) = 2 + [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n, with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 ● a(n) = 2 ^ (4 * n) * (cos(Pi / 5) ^ (2 * n) + cos(3 * Pi / 5) ^ (2 * n)) ^ 2. - _ Gary Detlefs _ , Dec 05 2010 ● a(n) = 7 * a(n - 1) - a(n - 2) - 10, n>1. - _ Gary Detlefs _ , Dec 06 2010 ● a(n) = 5 * sum(fibonacci(4 * k + 2),k=0..n) + 4, with offset - 1. - _ Gary Detlefs _ , Dec 06 2010 ●

[A069507] ● 4,9,55,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111 ★ a(1) = 4; a(n) = smallest palindromic number of the form k*a(n-1) + 1 with k > 1. ● a(n) = { 10 ^ (n - 1) - 1 }/ 9 for n > 3. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 4. ●

[A203464] ● 4,9,56,61,69,74,121,126,134,139,186,191,199,204,251,256,264,269,316,321,329,334,381,386,394 ★ Numbers n such that 65 divides 4n^2 + 1; alternately, numbers which are 4, 9, 56, or 61 mod 65. ● a(n) = - a(- n + 1) = (1 / 8) * (130 * n + 78 * i ^ (n * (n + 1)) - 45 * (- 1) ^ n - 65), where i=sq

rt(- 1). •

[A041597] • 1,1,4,9,76,161,559,720,25039,25759,102316,230391,1945444,4121279,14309281,18430560,640948321,659378881,2619084964,5897548809,49799475436,105496499681,366288974479,471785474160,16406995095919 ★ Denominators of continued fraction convergents to sqrt(316). • a(n) = 25598 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A041030] • 4,9,76,161,1364,2889,24476,51841,439204,930249,7881196,16692641,141422324,299537289,2537720636,5374978561,45537549124,96450076809,817138163596,1730726404001,14662949395604 ★ Numerators of continued fraction convergents to sqrt(20). • a(2n - 1) = ceiling(1 / (4 / (Fibonacci(6n) * sqrt(5) - Lucas(6n) + 2) - 2)), a(2n) = ceiling(1 / (1 - 2 / (Fibonacci(6n + 3) * sqrt(5) - Lucas(6n + 3) + 2)) - 2). - _ Thomas Baruchel _ •

[A042381] • 1,1,4,9,112,121,2048,2169,28076,58321,203039,261360,13793759,14055119,55959116,125973351,1567639328,1693612679,28665442192,3035905487 1,392974100644,816307256159,2841895869121,3658203125280,19306845838368 1 ★ Denominators of continued fraction convergents to sqrt(717). • a(n) = 13 996798 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 21 2014 •

[A111072] • 0,1,4,10,10,15,16,24,30,35,40,46,54,55,60,60,66,69,70,70,70,71,74,80,80 ★ Write the sequence of natural number 0123456789 and repeat it infinite times. Then starting from the first zero on the left side move right one number (1), then two numbers (3), then three numbers (6), four numbers (0), five numbers (5) and so on. Summing all the numbers we get 0, 1, 4, 10, 10, 15, ... • a(n + 1) = a(n) + (a(n) - a(n - 1) + (n + 1) mod 10) mod 10, with a(0)=0, a(1)=1. •

[A074226] • 1,4,10,11,13,14,16,23,25,34,35,37,38,40,44,47,49,52,56,58,59,61,62,64,71 ★ Numbers n such that Kronecker(3,n) = 1. • a(n) seems to be asymptotic to c * n with c=3. - _ Benoit Cloitre _ , Sep 18 2002 •

[A087444] • 1,4,10,13,19,22,28,31,37,40,46,49,55,58,64,67,73,76,82,85,91,94,100,103,109 ★ Numbers that are congruent to {1, 4} mod 9. • a(n) = 9 * n - a(n - 1) - 13 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A079932] • 1,4,10,13,22,27,32,36,40,49,54,62,66,71,80,91,97,102,109,114,120,124,127,138,146 ★ Greedy powers of (1/sqrt(2)): sum_{n=1..inf} (1/sqrt(2))^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(1 / sqrt(2)) and frac(y) = y - floor(y). •

[A032821] • 1,4,10,13,37,40,91,94,118,121,334,337,361,364,820,823,847,850,1063,1066,1090,1093,3007,3010,3034 ★ Numbers whose set of base 9 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 9 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 9 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A146763] • 0,4,10,14,20,24,30,34,40,44,50,54,60,64,70,74,80,84,90,94,100,104,110,114,120 ★ Rank of terms ending in 0 in A061039. • a(n) = 10 * n - a(n - 1) - 6 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = (- 1 + (- 1) ^ n + 10 * n) / 2. a(n)=a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (4 + 6 * x) / ((1 - x) ^ 2 * (1 + x)). - _ Colin Barker _ , May 14 2012 •

[A283234] • 4,10,14,20,26,30,36,40,46,52,56,62,68,72,78,82,88,94,98,104,108,114,120,124,130 ★ 2*A001950. • a(n) = 2 * Floor(n * s), where r = (- 1 + sqrt(5)) / 2. •

[A277570] • 4,10,16,22,24,28,34,40,46,52,58,60,64,70,76,82,88,94,96,100,106,112,118,124,130 ★ Numbers n such that n/6^m == 4 mod 6, where 6^m is the greatest power of 6 that divides n. • a(n) = 5n + O(log n). - _ Charles R Greathouse IV _ , Nov 03 2016 •

[A219239] • 4,10,16,22,28,30,36,40,48,52,56,58,70,78,84,90,100,102,110,128,132,134,146,154,164 ★ Double magic numbers (in physics). • a(n) is the sum of two numbers from [2, 8, 20, 28, 50, 82, 126] (the magic numbers A018226). •

[A016957] • 4,10,16,22,28,34,40,46,52,58,64,70,76,82,88,94,100,106,112,118,124,130,136,142,148 ★ a(n) = 6*n + 4. • a(n) = 2 * (6 * n + 1) - a(n - 1) (with a(0)=4). - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = floor((sqrt(36 * n ^ 2 - 36 * n + 1) + 6 * n + 1) / 2). - _ Srikanth K S _ , Dec 18 2010 • a(n) = 2 * a(n - 1) - a(n - 2). (End) •

[A271911] • 0,4,10,16,24,32,42,52,64,76,90,104,120,136,154,172,192,212,234,256,280,304,330,356,384 ★ Number of ways to choose three distinct points from a 2 X n grid so that they form an isosceles triangle. • a(n) = (- 1 + (- 1) ^ n + 16 * n + 2 * n ^ 2) / 4, or equivalently, a(n) = (n ^ 2 + 8 * n) / 2 if n even, (n ^ 2 + 8 * n - 1) / 2 if n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A073121] • 1,4,10,16,28,40,52,64,88,112,136,160,184,208,232,256,304,352,400,448,496,544,592,640,688 ★ a(n) = r*a(ceiling(n/2))+s*a(floor(n/2)) with a(1)=1 and (r,s)=(2,2). • a(n) = 2 * (a(floor(n / 2)) + a(ceil(n / 2))) for n >= 2; alternatively a(n) = 2 ^ c(n + 2b) where n = 2 ^ c + b, 0 <= b < 2 ^ c •

[A069982] • 0,0,0,0,1,4,10,16,31,40,68,80,125,140,206,224,315,336,456,480,633,660,850,880,1111 ★ Number of 4-gonal compositions of n into positive parts. • a(n) = (2 * n ^ 3 - 3 * n ^ 2 - 23 * n + 3 * (1 + 12 * (- 1) ^ (2 ^ n) + (n ^ 2 - 7 * n + 11) * (- 1) ^ n)) / 24. - _ Luce ETIENNE _ , Jul 02 2015 •

[A056486] • 4,10,16,40,64,160,256,640,1024,2560,4096,10240,16384,40960,65536,163840,262144,655360,1048576,2621440,4194304,10485760,16777216,41943040,67108864 ★ a(n) = (9*2^n + (-2)^n)/4 for n>0. • a(n) = 4 ^ ((n + 1) / 2) for n odd, a(n) = 4 ^ (n / 2) * 5 / 2 for n even. • a(n) = 4 * a(n - 2). •

[A183905] • 1,4,10,17,25,34,44,55,67,80,94,109,125,142,160,179,199,220,242,265,289,314,340,367,395 ★ Number of nondecreasing arrangements of n+2 numbers in 0..2 with each number being the sum mod 3 of two others • a(n)=Triangular number(A000217) - 11. •

[A213398] • 1,4,10,17,27,38,52,67,85,104,126,149,175,202,232,263,297,332,370,409,451,494,540,587,637 ★ Number of (w,x,y) with all terms in {0,...,n} and min(|w-x|,|x-y|) = x. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (n + 1) ^ 2 + floor(n / 2). [_ Wesley Ivan Hurt _ , Jul 15 2013] • a(n) = (4 * n ^ 2 + 10 * n + (- 1) ^ n + 3) / 4. •

[A213497] • 1,4,10,17,29,40,57,73,95,115,143,167,200,229,267,300,344,381,430,472,526,572,632,682,747 ★ Number of (w,x,y) with all terms in {0,...,n} and w = min(|w-x|,|x-y|) • a(n) = 2 * a(n - 2) + a(n - 3) - a(n - 4) - 2 * a(n - 5) + a(n - 7). •

[A113804] • 4,10,18,24,32,38,46,52,60,66,74,80,88,94,102,108,116,122,130,136,144,150,158,164,172 ★ Numbers that are congruent to 4 or 10 mod 14. • a(n)=7n - ((- 1) ^ n + 7) / 2. G.f.: 2x(2 + 3x + 2x ^ 2) / ((1 - x) ^ 2 * (1 + x)). [From _ R. J. Mathar _ , Aug 13 2008] • a(n)=14 * n - a(n - 1) - 14 (with a(1)=4) [From _ Vincenzo Librandi _ , Aug 01 2010] •

[A028552] • 0,4,10,18,28,40,54,70,88,108,130,154,180,208,238,270,304,340,378,418,460,504,550,598,648 ★ a(n) = n*(n+3). • a(n) = a(n - 1) + 2 * (n + 1) for n>0, with a(0)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=0, a(1)=4, a(2)=10. - _ Harvey P. Dale _ , Feb 05 2012 • a(n) = 4 * C(n + 1,2) - 2 * C(n,2) for n>=0. - _ Felix P. Muga II _ , Mar 11 2014 • a(- 3 - n) = a(n) for all n in Z. - _ Michael Somos _ , Mar 18 2014 •

[A217748] • 1,4,10,18,28,40,54,70,88,108,130,154,180,208,238,270,304,340,378,418,460,504,550,598,648 ★ Number of regions with infinite area in the exterior of a regular n-gon with all diagonals drawn. • a(n) = n * (n - 3) for n > 3 •

[A283969] • 1,4,10,18,29,43,59,78,99,123,150,179,211,246,283,323,365,410,458,508,561,616,674,735,798 ★ a(n) = n + 1 + Sum_({k=0..n} floor((n-k)/r, where r = (3+sqrt(5))/2). • a(n) = n + 1 + Sum _ ({ k=0..n } floor((n - k) / r, where r = (3 + sqrt(5)) / 2). •

[A267882] • 1,1,4,10,19,30,43,58,75,94,115,138,163,190,219,250,283,318,355,394,435,478,523,570,619 ★ Total number of ON (black) cells after n iterations of the "Rule 233" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A022785] • 1,4,10,19,30,44,61,81,103,128,156,186,219,255,294,335,379,426,475,527,582,640,700,763,829 ★ Place where n-th 1 occurs in A023123. • a(n)=1 + sum(k=1,n - 1,ceil(r * k)) where r=e [From _ Benoit Cloitre _ , Jan 24 2009] •

[A005448] • 1,4,10,19,31,46,64,85,109,136,166,199,235,274,316,361,409,460,514,571,631,694,760,829,901 ★ Centered triangular numbers: a(n) = 3n(n-1)/2 + 1. • a(n) = C(n + 3, 3) - C(n, 3) = C(n, 0) + 3 * C(n, 1) + 3 * C(n, 2). - _ Paul Barry _ , Jul 01 2003 • a(n) = 1 + Sum _{ j=0..n - 1 } (3 * j). - Xavier Acloque, Oct 25 2003 • a(1 - n) = a(n). - _ Michael Somos _ , Sep 23 2006 • a(n) = binomial(n + 1,n - 1) + binomial(n,n - 2) + binomial(n - 1,n - 3). - _ Zerinvary Lajos _ , Sep 03 2006 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(1)=1, a(2)=4, a(3)=10. - _ Jaume Oliver Lafont _ , Dec 02 2008 • a(n) = a(n - 1) + 3 * n - 3. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A007077] • 1,4,10,19,31,47,68,92,120,153,190,232,279,332,392,454,521,593,670,753,841,936,1036,1141,1252 ★ Optimal cost of search tree for searching an ordered array of n elements with cost k of probing element k. • a(n) = m(n, 0) where m(0, d) = 0 and for n > 0, m(n, d) = min _{ 1 <= r <= n } { (r + d) * n + m(r - 1, d) + m(n - r, r + d) } [from Knight]. - _ Sean A. Irvine _ , Oct 07 2017 •

[A098576] • 1,1,1,1,4,10,19,31,55,109,220,424,793,1489,2845,5473,10480,19954,37963,72391,138259,263989,503608,960400,1831969 ★ a(n) = Sum_{k=0..floor(n/4)} C(n-2*k,2*k) * 3^k. • a(n) = 2 * a(n - 1) - a(n - 2) + 3 * a(n - 4). •

[A173154] • 1,4,10,19,33,52,78,111,153,204,266,339,425,524,638,767,913,1076,1258,1459,1681,1924,2190,2479,2793 ★ n^3/6 + 3*n^2/4 + 7*n/3 + 7/8 + (-1)^n/8. • a(n)= + 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[A022905] • 1,4,10,19,34,55,85,124,178,247,337,448,589,760,970,1219,1522,1879,2305,2800,3385,4060,4846,5743,6781 ★ a(n) = M(n) + m(n) for n >= 2, where M(n) = max{ a(i) + a(n-i): i = 1..n-1 }, m(n) = min{ a(i) + a(n-i): i = 1..n-1 }. • a(n) = a(n - 1) + 1 + a(floor(n / 2)) + a(ceiling(n / 2))) for n>1, a(1) = 1. - _ Alois P. Heinz _ , Sep 17 2013 •

[A251176] • 1,1,1,1,4,10,19,49,154,415,1066,3322,10639,31279,96751,326908,1082065,3514285,12068659,42713311,148480885,523469791,1915394458,7043990266,25840482346 ★ G.f. A(x) satisfies A(x) = 1 + x/(1-9*x^3)^(1/3) * A(x/sqrt(1-9*x^3)^(1/3)). • a(n) = Sum _{ k=0..(n - 1) / 3 } a(n - 3 * k - 1) * binomial(n / 3 - 1,k) * 9 ^ k, for n>0 with a(0)=1. [After _ Vladimir Kruchinin _ in A201169.] •

[A140229] • 1,4,10,20,33,49,68,90,115,143,174,208,245,285,328,374,423,475,530,588,649,713,780,850,923 ★ Binomial transform of [1, 3, 3, 1, -2, 3, -4, 5, ...]. • a(n) = (n + 1)(3n - 4) / 2, for n>=3. - _ Emeric Deutsch _ , May 18 2008 •

[A279015] • 0,0,4,10,20,34,52,73,100,128,162,199,240,285,334,387,444,505,570,639,712,789,870,955,1044 ★ Greatest possible number of diagonals of a polyhedron having n faces. • a(n) = 2 * n ^ 2 - 21 * n + 64 for n=12 or n>=14. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>8. •

[A005893] • 1,4,10,20,34,52,74,100,130,164,202,244,290,340,394,452,514,580,650,724,802,884,970,1060,1154 ★ Number of points on surface of tetrahedron; coordination sequence for sodalite net (equals 2*n^2+2 for n > 0). • a(n) = binomial(n + 3, 3) - binomial(n - 1, 3) for n >= 1. - _ Mitch Harris _ , Jan 08 2008 • a(n) = (n + 1) ^ 2 + (n - 1) ^ 2. - Benjamin Abramowitz, Apr 14 2009 • a(n) = 2 * n ^ 2 - 0 ^ n + 2. - _ Vincenzo Librandi _ , Sep 27 2011 • a(0)=1, a(1)=4, a(2)=10, a(3)=20, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 26 2012 • a(n) = a(- n) for all n in Z. - _ Michael Somos _ , May 14 2014 •

[A008132] • 1,4,10,20,34,52,74,102,136,172,210,252,300,354,410,468,530,600,678,756,834,916,1006,1104,1202 ★ Coordination sequence T1 for Zeolite Code

LOS. • a(10 * m + k) = 208 * m ^ 2 + b(k) * m + c(k), where b(k), c(k) are constants depending on k, 0<=k<10 (_ N. J. A. Sloane _). •

[A008129] • 1,4,10,20,34,53,76,103,135,170,209,252,300,354,410,470,534,602,676,752,833,918,1007,1103,1200 ★ Coordination sequence T1 for Zeolite Code LIO. • a(15 * m + k) = 468 * m ^ 2 + b(k) * m + c(k), where b(k), c(k) are constants depending on k, 0<=k<15 (_ N. J. A. Sloane _). •

[A008013] • 1,4,10,20,34,54,78,104,134,168,210,256,302,352,406,470,538,604,674,748,834,924,1010,1100,1194 ★ Coordination sequence occurring in Zeolite Codes AFG, CAN, LIO, LOS. • a(5m)=52 * m ^ 2 + 2, a(5m + 1)=52 * m ^ 2 + 22 * m + 4, a(5m + 2)=52 * m ^ 2 + 42 * m + 10, a(5m + 3)=52 * m ^ 2 + 62 * m + 20, a(5m + 4)=52 * m ^ 2 + 82 * m + 34 (_ N. J. A. Sloane _). •

[A132152] • 0,0,0,1,4,10,20,34,56,100,200,356,624,1160,2320,4104,7136,13200,26400,46736,81344,150560,301120,533024,927616 ★ a(4n+k) = 4a(4n+k-1)-6a(4n+k-2)+4a(4n+k-3), for k = 0,1,2; 2*a(4n+3) = 7a(4n+2)-8(4n+1)+2a(4n), with a(0) = a(1) = a(2) = 0, a(3) = 1. • a(n)=10 * a(n - 4) + 16 * a(n - 8), n >8. - _ R. J. Mathar _ , Feb 07 2009 •

[A000292] • 0,1,4,10,20,35,56,84,120,165,220,286,364,455,560,680,816,969,1140,1330,1540,1771,2024,2300,2600 ★ Tetrahedral (or triangular pyramidal) numbers: a(n) = C(n+2,3) = n*(n+1)*(n+2)/6. • a(n) = C(n + 2,3) = n * (n + 1) * (n + 2) / 6 (see the name). • a(n) = - a(- 4 - n) for all in Z. • a(n) = (n + 3) * a(n - 1) / n. - _ Ralf Stephan _ , Apr 26 2003 • a(n) = C(1, 2) + C(2, 2) + ... + C(n - 1, 2) + C(n, 2); e.g., for n = 5: a(5) = 0 + 1 + 3 + 6 + 10 = 20. - _ Labos Elemer _ , May 09 2003 • a(n) = Sum _{ k=0..floor((n - 1) / 2) } (n - 2k) ^ 2 [offset 0]; a(n + 1) = Sum _{ k=0..n } k ^ 2 * (1 - (- 1) ^ (n + k - 1)) / 2 [offset 0]. - _ Paul Barry _ , Apr 16 2005 • a(n) = Sum _{ m=1..n } Sum _{ k=1..m } k. - _ Alexander Adamchuk _ , Oct 28 2006 •

[A101552] • 0,0,0,0,0,0,1,4,10,20,35,56,84,120,166,228,322,484,785,1352,2396,4248,7405,12592,20856 ★ C(n-3,3)+C(n-7,7)+...+C(n-(4*floor((n-4)/4)+3),4*floor((n-4)/4)+3). • a(n) = sum { k=0..n, if(mod(k + 1, 4)=0, C(n - k, k), 0) } . • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 8). - _ G. C. Greubel _ , May 17 2016 •

[A266353] • 1,4,10,20,35,57,89,136,205,306,454,671,989,1455,2138,3139,4606,6756,9907,14525,21293,31212,45749,67054,98278 ★ Expansion of b(3)*b(4)/(1 - 2*x + x^2 - x^3 + x^4), where b(k) = (1-x^k)/(1-x). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) for n>5. •

[A139748] • 0,0,0,1,4,10,20,35,57,93,165,330,715,1574,3381,6995,13990,27370,53143,103702,204820,409640,826045,1669801,3368259 ★ a(n) = Sum_{ k >= 0} binomial(n,5*k+3). • a(n) = round((2 / 5) * (2 ^ (n - 1) + phi ^ n * cos(Pi * (n - 6) / 5))), where phi is the golden ratio, round(x) is the integer nearest to x. - _ Vladimir Shevelev _ , Jun 28 2017 • a(n + m) = a(n) * H _ 1(m) + H _ 3(n) * H _ 2(m) + H _ 2(n) * H _ 3(m) + H _ 1(n) * a(m) + H _ 5(n) * H _ 5(m), where H _ 1=A139398, H _ 2=A133476, H _ 3=A139714, H _ 5=A139761. - _ Vladimir Shevelev _ , Jun 28 2017 •

[A140226] • 1,4,10,20,36,60,94,140,200,276,370,484,620,780,966,1180,1424,1700,2010,2356,2740,3164,3630,4140,4696 ★ Binomial transform of [1, 3, 3, 1, 1, -1, 1, -1, 1,...]. • a(n)=n(11 + n ^ 2) / 3 for n>=1. G.f.=(1 + x ^ 4) / (1 - x) ^ 4. - _ Emeric Deutsch _ , Jun 03 2008 •

[A145132] • 0,1,4,10,20,36,61,99,155,236,352,517,750,1077,1534,2171,3057,4287,5992,8353,11620,16138,22383,31012,42932 ★ Expansion of x/((1 - x - x^4)*(1 - x)^3). • a(n) = 4a(n - 1) - 6a(n - 2) + 4a(n - 3) - 3a(n - 5) + 3a(n - 6) - a(n - 7). •

[A000749] • 0,0,0,1,4,10,20,36,64,120,240,496,1024,2080,4160,8256,16384,32640,65280,130816,262144,524800,1049600,2098176,4194304 ★ a(n) = 4a(n-1) - 6a(n-2) + 4a(n-3), n > 3, with a(0)=a(1)=a(2)=0, a(3)=1. • a(n) = Sum _{ k=0..n } binomial(n, 4 * k + 3). • a(n) = 2 ^ n / 4 - 2 ^ (n / 2)sin(Pi * n / 4) / 2 - 0 ^ n / 4. a(n + 1) is the binomial transform of A021913. - _ Paul Barry _ , Aug 30 2004 • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. • a(n) = - (1 / 4) * [(1 + I) * (1 - I) ^ (n - 1) - (1 - I) * (1 + I) ^ (n - 1)] + (1 / 2) * 2 ^ (n - 1),100) - (1 / 4) * (C(2 * n,n) mod 2), with n>=0. - _ Paolo P. Lava _ , Jun 29 2009 •

[A008254] • 1,4,10,20,38,58,80,112,144,180,226,270,320,380,436,500,574,642,720,808,888,980,1082,1174,1280 ★ Coordination sequence T1 for feldspar. • a(3 * m) = 20 * m ^ 2, a(3 * m + 1) = 20 * m ^ 2 + 14 * m + 4, a(3 * m + 2) = 20 * m ^ 2 + 26 * m + 12 (m>0). •

[A279262] • 0,4,10,20,38,68,120,208,358,612,1042,1768,2992,5052,8514,14324,24062,40364,67624,113160,189150,315844,526890,878160,1462368 ★ Number of n X 2 0..1 arrays with no element equal to a strict majority of its horizontal and vertical neighbors, with the exception of exactly one element, and with new values introduced in order 0 sequentially upwards. • a(n) = (1 / 25) * (2 ^ (- n) * (- 25 * 2 ^ (2 + n) + (50 - 6 * sqrt(5)) * (1 - sqrt(5)) ^ n + 50 * (1 + sqrt(5)) ^ n + 6 * sqrt(5) * (1 + sqrt(5)) ^ n - 5 * (1 - sqrt(5)) ^ n * (1 + sqrt(5)) * n + 5 * (- 1 + sqrt(5)) * (1 + sqrt(5)) ^ n * n)). •

[A168673] • 1,4,10,20,38,74,148,298,598,1196,2390,4778,9556,19114,38230,76460,152918,305834,611668,1223338,2446678,4893356,9786710,19573418,39146836 ★ Binomial transform of A169609. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) for n > 2; a(0) = 1, a(1) = 4, a(2) = 10. • a(n) = - (2 / 3) *{ [(1 - I * sqrt(3)) / 2] ^ n + [(1 + I * sqrt(3)) / 2] ^ n } + (7 / 3) * 2 ^ n, with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Dec 03 2009 •

[A100354] • 0,0,0,1,4,10,20,40,70,112,168,252,360,495,661,881,1145,1457,1824,2279,2804,3404,4090,4906,5824 ★ Maximal number of 1432 patterns in a permutation of 1,2,...,n. • a(n) = max(a(k) + k * choose(n - k, 3), 1 <= k < n) •

[A015220] • 4,10,20,56,84,120,220,286,364,560,680,816,1140,1330,1540,2024,2300,2600,3276,3654,4060,4960,5456,5984,7140 ★ Even tetrahedral numbers. • a(n) = a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10) • a(n) = 64 + 3 * a(n - 3) - 3 * a(n - 6) + a(n - 9) •

[A038407] • 1,4,10,21,36,53,76,108,142,173,210,259,310,360,418,482,546,615,692,769,848,940,1036,1127,1224 ★ Coordination sequence for Zeolite Code AWO. • a(n) = - a(n - 2) + a(n - 5) + 3 * a(n - 7) + 2 * a(n - 9) - 2 * a(n - 12) - 3 * a(n - 14) - a(n - 16) + a(n - 19) + a(n - 21) for n>21. •

[A008000] • 1,4,10,21,36,54,78,106,136,173,214,256,306,360,414,477,544,610,686,766,844,933,1026,1116,1218 ★ Coordination sequence T1 for Zeolite Code ABW and ATN. • a(3m)=19m ^ 2 + 2, a(3m + 1)=19m ^ 2 + 13m + 4, a(3m + 2)=19m ^ 2 + 25m + 10, for m>0. [_ N. J. A. Sloane _] •

[A038408] • 1,4,10,21,36,55,79,106,138,175,215,260,309,362,420,482,548,618,693,772,855,943,1034,1130,1231 ★ Coordination sequence for Zeolite Code DFT. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) + a(n - 5) - a(n - 6) - a(n - 8) + a(n - 9) for n>9. •

[A008260] • 1,4,10,21,37,57,81,109,142,180,222,268,318,373,433,497,565,637,714,796,882,972,1066,1165,1269 ★ Coordination sequence for Paracelsian. • a(5 * k) = 55 * k ^ 2 + 2 with k>0 and a(0)=1, • a(5 * k + 1) = 55 * k ^ 2 + 22 * k + 4, • a(5 * k + 2) = 55 * k ^ 2 + 44 * k + 10, • a(5 * k + 3) = 55 * k ^ 2 + 66 * k + 21, • a(5 * k + 4) = 55 * k ^ 2 + 88 * k + 37. (End) • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) for n>7. - _ Colin Barker _ , Feb 15 2018 •

[A253688] • 1,4,10,21,39,64,94,129,171,218,272,331,397,468,546,629,719,814,916,1023,1137,1256,1382,1513,1651 ★ The total number of pentagons in a variant of pentagon expansion (vertex-to-vertex, two consecutive vertices and one isolated vertex) after n iterations. • a(n) = (53 - (- 1) ^ n - 38 * n + 12 * n ^ 2) / 4 for n>5. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>9. •

[A049480] • 1,4,10,21,39,66,104,155,221,304,406,529,675,846,1044,1271,1529,1820,2146,2509,2911,3354,3840,4371,4949 ★ a(n) = (2*n-1)*(n^2 -n +6)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4); a(1)=1, a(2)=4, a(3)=10, a(4)=21. (End) •

[A216172] • 0,0,1,4,10,21,39,66,105,159,231,325,445,595,780,1005,1275,1596,1974,2415,2926,3514,4186,4950,5814 ★ Number of all possible tetrahedra of any size, having reverse orientation to the original regular tetrahedron, formed when intersecting the latter by planes parallel to its sides and dividing its edges into n equal parts. • a(n) = (1 / 72) * (- 6 * n - 5 * n ^ 2 + 2 * n ^ 3 + n ^ 4 + 4 - 4 * (- 1) ^ (n mod 3)). •

[A220907] • 0,1,4,10,21,40,70,119,190,301,455,686,998,1450,2051,2895,4001,5523,7490,10141,13545,18046,23773,31255,40687 ★ a(n) = n*p(n)-spt(n) (= n*A000041(n) - A092269(n)). • a(n) = N _ 2(n) / 2 (where N _ 2(n) is the second rank moment, see relation (1.1) of the Garvan reference). •

[A001891] • 0,1,4,10,21,40,72,125,212,354,585,960,1568,2553,4148,6730,10909,17672,28616,46325,74980,121346,196369,317760,514176 ★ Hit polynomials; convolution of natural numbers with Fibonacci numbers F(2), F(3), F(4),.... • a(n) = F(n + 5) - (5 + 2 * n). - _ Wolfdieter Lang _ • a(n) = a(n - 1) + a(n - 2) + (2n + 1); a(- x)=0. - _ Barry E. Williams _ , Mar 27 2000 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). - Sam Lachterman (slachterman(AT)fuse.net), Sep 22 2003 • a(n) = (- 3 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + 5 * sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + 5 * sqrt(5)))) / sqrt(5) - 2 * (1 + n)). - _ Colin Barker _ , Mar 11 2017 •

[A266355] • 1,4,10,21,40,73,129,224,385,658,1122,1910,3248,5519,9375,15922,27038,45911,77954,132358,224727,381555,647823,1099903,1867461 ★ Expansion of b(2)*b(4)*b(6)/(1-x-x^2-x^4+x^6+x^8), where b(k) = (1-x^k)/(1-x). • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6) - a(n - 8) for n>9. •

[A121497] • 0,0,1,4,10,21,41,78,148,282,537,1013,1882,3446,6267,11468,21416,41209,81771,166042,340994,700570,1429375,2886777,5771828 ★ Binomial transform of the characteristic function of the prime numbers (A010051). • a(n)=sum _{ i=1..pi(n) } binomial(n,prime(i)), where pi(n) is the number of primes <= n. •

[A132925] • 1,4,10,21,41,78,148,283,547,1068,2102,4161,8269,16474,32872,65655,131207,262296,524458,1048765,2097361,4194534,8388860,16777491,33554731 ★ a(n) = 2^n - 1 + n*(n-1)/2. • a(1)=1, a(2)=4, a(3)=10, a(4)=21, a(n)= 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ Harvey P. Dale _ , Jun 19 2011 •

[A264079] • 1,4,10,21,41,79,150,282,527,982,1829,3405,6337,11790,21932,40797,75888,141161,262573,488407,908474,1689830,3143211,5846606,10875117 ★ Expansion of b(2)*b(6)/(1 - 2*x + x^3 - x^4 - x^5 + 2*x^6), where b(k) = (1-x^k)/(1-x). • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 4) + a(n - 5) - 2 * a(n - 6) for n>6. •

[A111927] • 0,0,0,1,4,10,21,42,84,169,340,682,1365,2730,5460,10921,21844,43690,87381,174762,349524,699049,1398100,2796202,5592405 ★ Expansion of x^3 / ((x-1)*(2*x-1)*(x^2-x+1)). • a(n) = 2 ^ n / 3 + 2 * cos((Pi * n) / 3) / 3 - 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 2 * a(n - 4) for n>3. •

[A290998] • 0,0,1,4,10,21,43,92,205,462,1035,2301,5099,11303,25088,55728,123800,274969,610628,1355970,3011157,6686979,14850196,32978725,73237462 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S^3 - S^4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - a(n - 4) for n >= 5. •

[A008255] • 1,4,10,22,38,56,82,112,142,182,226,268,322,380,434,502,574,640,722,808,886,982,1082,1172,1282 ★ Coordination sequence T2 for feldspar. • a(3 * m) = 20 * m ^ 2 + 2, a(3 * m + 1) = 20 * m ^ 2 + 14 * m + 4, a(3 * m + 2) = 20 * m ^ 2 + 26 * m + 10. •

[A061777] • 1,4,10,22,40,70,112,178,268,406,592,874,1252,1822,2584,3730,5260,7558,10624,15226,21364,30574,42856,61282,85852 ★ Start with a single tri-

angle; at n-th generation add a triangle at each vertex, allowing triangles to overlap; sequence gives total population of triangles at n-th generation. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). G.f.: (1 + 2 * x) * (1 + x ^ 2) / ((1 - x) ^ 2 * (1 - 2 * x ^ 2)). - _ Colin Barker _ , May 08 2012 • a(n) = - 20 - 6 * n + (21 + 15 * sqrt(2)) * sqrt(2) ^ (n - 2) + (21 - 15 * sqrt(2)) * (- sqrt(2)) ^ (n - 2). a(n) = 2 * a(n - 2) + ((3 * n - 2) / (3 * n - 5)) * (a(n - 1) - 2 * a(n - 3)). - _ Robert Israel _ , Sep 14 2014 •

[A227327] • 0,1,4,10,22,41,72,116,180,265,380,526,714,945,1232,1576,1992,2481,3060,3730,4510,5401,6424,7580,8892 ⋆ Number of non-equivalent ways to choose two points in an equilateral triangle grid of side n. • a(n) = (n ^ 4 + 2 * n ^ 3 + 8 * n ^ 2 - 8 * n) / 48; if n even. • a(n) = (n ^ 4 + 2 * n ^ 3 + 8 * n ^ 2 - 2 * n - 9) / 48; if n odd. •

[A006001] • 1,4,10,22,43,76,124,190,277,388,526,694,895,1132,1408,1726,2089,2500,2962,3478,4051,4684,5380,6142,6973 ⋆ Number of paraffins. • a(n) = 1 + 5 * n / 2 + n ^ 3 / 2. - _ Enrique Pérez Herrero _ , Mar 19 2012 •

[A004798] • 1,4,10,22,45,88,167,310,566,1020,1819,3216,5645,9848,17090,29522,50793,87080,148819,253610,431086,731064,1237175,2089632,3523225 ⋆ Convolution of Fibonacci numbers 1,2,3,5,... with themselves. • a(n) = a(n - 1) + a(n - 2) + Fibonacci(n + 2). - _ Philippe Deléham _ , Jan 22 2012 •

[A265052] • 1,4,10,22,45,89,172,328,622,1176,2220,4186,7888,14859,27987,52710,99268,186946,352062,663010,1248588,2351350,4428075,8338971,15703984 ⋆ Poincare series for hyperbolic reflection group with Coxeter diagram shown in Comments. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 5) + 2 * a(n - 6) - 2 * a(n - 8) + 3 * a(n - 9) - 3 * a(n - 10) + a(n - 11) for n>11. - _ Vincenzo Librandi _ , Jan 01 2016 •

[A038621] • 1,4,10,22,46,81,129,198,284,392,530,691,883,1114,1374,1674,2022,2405,2837,3326,3856,4444,5098,5799,6567 ⋆ Growth function of an infinite cubic graph (number of nodes at distance <=n from fixed node). • a(0)=1, a(1)=4; for n>=2: if n == 0 (mod 3), a(n) = (4 * n ^ 3 + 6 * n ^ 2 + 15 * n - 9) / 9; if n == 1 (mod 3), a(n) = (4 * n ^ 3 + 6 * n ^ 2 + 18 * n - 10) / 9; if n == 2 (mod 3), a(n) = (4 * n ^ 3 + 6 * n ^ 2 + 15 * n + 4) / 9. •

[A099018] • 4,10,22,46,94,190,382,766,1534,3070,6142,12286,24574,49150,98302,196606,393214,786430,1572862,3145726,6291454,12582910,25165822,50331646,100663294 ⋆ Number of 2 X n 0-1 matrices avoiding simultaneously the right-angled numbered polyomino patterns (ranpp) (00;1), (01;0) and (01;1). • a(n) = 2 * (a(n - 1) + 1) with a(1)=4. - _ Vincenzo Librandi _ , Nov 17 2010 •

[A178452] • 0,0,1,4,10,22,47,98,200,404,813,1632,3270,6546,13099,26206,52420,104848,209705,419420,838850,1677710,3355431,6710874,13421760 ⋆ Partial sums of floor(2^n/5) • a(n) = round((4 * 2 ^ n - 5 * n - 5) / 10). • a(n) = floor((4 * 2 ^ n - 5 * n - 3) / 10). • a(n) = ceil((4 * 2 ^ n - 5 * n - 7) / 10). • a(n) = round((4 * 2 ^ n - 5 * n - 4) / 10). • a(n) = a(n - 4) + 3 * 2 ^ (n - 3) - 2, n>4. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 4) - 3 * a(n - 5) + 2 * a(n - 6) for n>6. (End) •

[A137247] • 0,0,0,1,4,10,22,49,112,256,580,1309,2956,6682,15106,34141,77152,174352,394024,890473,2012404,4547866,10277806,23227033,52491280 ⋆ a(n)=4a(n-1)-6a(n-2)+6a(n-3)-3a(n-4). • a(n)= - (1 / 2) + (1 / 6) *{ 1 + [(1 / 2) * I] * 108 ^ (1 / 6) - (1 / 2) * 2 ^ (1 / 3) }^ n + (1 / 6) * [1 - (1 / 2) * I] * 108 ^ (1 / 6) - (1 / 2) * 2 ^ (1 / 3)) ^ n + (1 / 6) * [1 + 2 ^ (1 / 3)] ^ n, with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A276308] • 1,1,1,1,4,10,22,115,319,736,3886,10816,24991,131989,367405,848947,4483720,12480934,28839196,152314471,423984331,979683706,5174208274,14402986300,33280406797 ⋆ a(n) = (a(n-1)+1)*(a(n-3)+1)/a(n-4) for n > 3, a(0) = a(1) = a(2) = a(3) = 1. • a(n) = 35 * a(n - 3) - 35 * a(n - 6) + a(n - 9) for n>8. •

[A002071] • 1,4,10,23,40,68,108,167,241,345,482,653,869,1153,1502,1930 ⋆ Number of pairs of consecutive integers x, x+1 such that all prime factors of both x and x+1 are at most the n-th prime. • a(n) <= (2 ^ n - 1) * (prime(n) + 1) / 2 is implicit in Lehmer 1964. - _ Charles R Greathouse IV _ , Feb 19 2013 •

[A118645] • 0,0,1,4,10,23,51,109,228,471,964,1960,3967,8003,16107,32362,64941,130200,260866,522415,1045831,2093129,4188408,8379967,16764552 ⋆ Number of binary strings of length n such that there exist three consecutive digits where at least two of them are 1's. • a(n) = 3 * 2 ^ (n - 3) + a(n - 1) + a(n - 3) for n >= 3. - _ Tanya Khovanova _ , Aug 22 2006 •

[A159347] • 1,1,1,4,10,23,53,123,286,665,1546,3594,8355,19423,45153,104968,244021,567280,1318766,3065759,7127025,16568323,38516678,89540413,208156206 ⋆ Transform of the finite sequence (1, 0, -1) by the T_{0,0} transformation. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n>=5, with a(0)=1, a(1)=1, a(2)=1, a(3)=4, a(4)=10. •

[A008258] • 1,4,10,24,40,64,90,120,160,200,244,300,354,412,484,552,624,712,794,880,984,1080,1180,1300,1410 ⋆ Coordination sequence T1 for Moganite. • a(3 * m) = 22 * m ^ 2 + 2, a(3 * m + 1) = 22 * m ^ 2 + 14 * m + 4, a(3 * m + 2) = 22 * m ^ 2 + 30 * m + 12, m>0. - _ N. J. A. Sloane _ •

[A107659] • 1,4,10,24,52,112,232,480,976,1984,4000,8064,16192,32512,65152,130560,261376,523264,1047040,2095104,4191232,8384512,16771072,33546240,67096576 ⋆ Sum 2^max(k,n-k),k=0..n. • a(2n) = 2 ^ n(2 ^ (n + 2) - 3), a(2n + 1) = 2 ^ n(2 ^ (n + 3) - 4). • a(0)=1, a(1)=4, a(2)=10, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3). - _ Harvey P. Dale _ , Nov 10 2013 •

[A266367] • 1,4,10,24,54,116,250,536,1142,2436,5194,11064,23574,50228,107002,227960,485654,1034628,2204170,4695768,10003830,21312116,45403258,96726872,206066486 ⋆ Expansion of b(2)*b(4)/(1 - 2*x - 2*x^3 + 3*x^4), where b(k) = (1-x^k)/(1-x). • a(n) = 2 * a(n - 1) + 2 * a(n - 3) - 3 * a(n - 4) for n>4. •

[A152548] • 1,4,10,24,54,120,260,560,1190,2520,5292,11088,23100,48048,99528,205920,424710,875160,1798940,3695120,7574996,15519504,31744440,64899744,132503644 ⋆ Sum of squared terms in rows of triangle A152547: a(n) = Sum_{k=0..C(n,[n/2])-1} A152547(n,k)^2. • a(n) = Sum _{ k=0..[(n + 1) / 2] } C(n + 1, k) * (n + 1 - 2k) ^ 3 / (n + 1). • a(n) = (- 2) ^ n * hypergeom([- n,3 / 2], [1], 2). - _ Peter Luschny _ , Apr 26 2016 •

[A291727] • 4,10,24,55,116,234,460,879,1640,3006,5424,9650,16964,29510,50852,86893,147360,248198,415440,691428,1144772,1886270,3094292,5055140,8227084 ⋆ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = (1 - S)^4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 8 * a(n - 3) - 13 * a(n - 4) + 12 * a(n - 5) - 10 * a(n - 6) + 12 * a(n - 7) - 6 * a(n - 8) + 4 * a(n - 9) - 4 * a(n - 10) - a(n - 12) for n >= 13. •

[A291224] • 4,10,24,55,120,254,524,1059,2104,4120,7968,15244,28888,54284,101240,187537,345268,632122,1151408,2087485,3768280,6775322,12136940,21666712,38555100 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)^4. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) + 5 * a(n - 4) + 8 * a(n - 5) - 2 * a(n - 6) - 4 * a(n - 7) - a(n - 8) for n >= 9. •

[A087447] • 1,1,4,10,24,56,128,288,640,1408,3072,6656,14336,30720,65536,139264,294912,622592,1310720,2752512,5767168,12058624,25165824,52428800,109051904 ⋆ a(0) = a(1) = 1; for n>1, a(n) = (n+2)*2^(n-2). • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k) * (2k + 1). - _ Paul Barry _ , Nov 29 2004 • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>3. - _ Colin Barker _ , Mar 23 2012 •

[A129953] • 0,1,4,10,24,56,128,288,640,1408,3072,6656,14336,30720,65536,139264,294912,622592,1310720,2752512,5767168,12058624,25165824,52428800,109051904 ⋆ First differences of A129952. • a(0) = 0, a(1) = 1; for n > 1, a(n) = (n + 2) * 2 ^ (n - 2). •

[A079859] • 4,10,24,56,128,288,640,1408,3072,6656,14336,30720,65536,139264,294912,622592,1310720,2752512,5767168,12058624,25165824,52428800,109051904,226492416,469762048 ⋆ a(n) = n*2^(n-4). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>5. - _ Colin Barker _ , Sep 29 2015 •

[A019494] • 4,10,24,57,135,319,753,1777,4193,9893,23341,55069,129925,306533,723205,1706261,4025589,9497589,22407701,52866581,124728341,294272085,694277333,1638011349,3864566869 ⋆ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(4,10). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for n>0. - _ Bruno Berselli _ , Feb 15 2016 •

[A212330] • 0,0,0,0,0,4,10,24,61,148,349,808,1847,4174,9346,20764,45825,100552,219528,477152,1033008,2228480,4792064,10274816,21972224 ⋆ Expansion of x^5*(1 - x)^2*(4 - 14*x + 8*x^2 + 11*x^3 - 6*x^4 - 2*x^5 + 2*x^6 + 5*x^7 - 2*x^8 + x^9)/(1 - 2*x)^4. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>16, n=4, n=11. •

[A291412] • 1,4,10,24,62,156,391,987,2484,6252,15744,39636,99788,251237,632525,1592480,4009326,10094104,25413498,63982496,161086011,405559431,1021059816,2570679048,6472089792 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - S - 2 S^2 + S^3. • a(n) = a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3) - a(n - 4) - 3 * a(n - 5) - a(n - 6) for n >= 7. •

[A001868] • 1,4,10,24,70,208,700,2344,8230,29144,104968,381304,1398500,5162224,19175140,71582944,268439590,1010580544,3817763740,14467258264,54975633976,209430787824,799645010860,3059510616424,11728124734500 ⋆ Number of n-bead necklaces with 4 colors. • a(n) = (1 / n) * Sum _{ d|n } phi(d) * 4 ^ (n / d), n>0. •

[A227712] • 4,10,25,58,127,268,553,1126,2275,4576,9181,18394,36823,73684,147409,294862,589771,1179592,2359237,4718530,9437119,18874300,37748665,75497398,150994867 ⋆ a(n) = 9*2^n - 3*n - 5. • a(0)=4, a(1)=10, a(2)=25, a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Harvey P. Dale _ , Apr 15 2015 •

[A159297] • 1,4,10,25,58,130,286,620,1329,2827,5977,12559,26227,54493,112849,233272,481616,992955,2043238,4194649,8591014,17559133,35833948,73054885,148849186 ⋆ Number of 3D matrices with positive integer entries such that sum of all entries equals n • a(n) = sum(C(n - 1, ijk - 1)) where the sum is over all triples (i, j, k) such that 0 < i, j, k and ijk <= n. [From _ Joel B. Lewis _ , May 07 2009] •

[A279101] • 1,4,10,25,59,142,340,819,1973,4760,11486,27725,66927,161570,390056,941671,2273385,5488428,13250226,31988865,77227939,186444726,450117372,1086679451,2623476253 ⋆ a(n) = Sum_{k=0..n} ceiling((1 + sqrt(2))^k). • a(n) = 3 * a(n - 1) - 4 * a(n - 3) + a(n - 4) + a(n - 5). • a(n) = (4 * (1 + sqrt(2)) ^ n + 2 * sqrt(2) * (1 + sqrt(2)) ^ n - 2 * (- 2 + sqrt(2)) * (1 - sqrt(2)) ^ n + 2 * n - (- 1) ^ n - 3) / 4. •

[A276599] • 1,4,10,25,59,146,344,851,2005,4960,11686,28909,68111,168494,396980,982055,2313769,5723836,13485634,33360961,78600035,194441930,458114576,1133290619,2670087421 ⋆ Values of n such that n^2 + 5 is a triangular number (A000217). • a(n) = 6 * a(n - 2) - a(n - 4) for n>4. •

[A033539] • 1,1,1,4,10,25,61,148,358,865,2089,5044,12178,29401,70981,171364,413710,998785,2411281,5821348,14053978,33929305,81912589,197754484,477421558 ⋆ a(0)=1, a(1)=1, a(2)=1, a(n)=2*a(n-1)+a(n-2)+1. • a(n) = (3 / 4) * (1 + sqrt(2)) ^ (n - 1) + 3 / 4 * (1 - sqrt(2)) ^ (n - 1) - 1 / 2 + 3 * 0 ^ n, with n>=0. [_ Jaume Oliver Lafont _ , Sep 10 2009] • a(0)=1, a(1)=1, a(2)=1, a(3)=4, a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3) [_ Harvey P. Dale _ , Nov 20 2011] • a(n) = - 1 / 2 - 3 / 4 * (1 + sqrt(2)) ^ n - 3 / 4 * sqrt(2) * (1 - sqrt(2)) ^ n - 3 / 4 * (1 - sqrt(2)) ^ n + 3 / 4 * (1 + sqrt(2)) ^ n * sqrt(2) for n >= 1. - _ Alexander R. Povolotsky _ , Mar 05 2013 •

[A020709] • 4,10,25,63,159,401,1011,2549,6427,16205,40859,103021,259755,654941,1651355,4163693,10498251,26470077,66741115,168279693,424297003,1069813853,2697406939,6801187117,17148375179 ⋆ Pisot sequence E(4,10). • a(n)

= 3 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) (holds at least up to n = 1000 but i s not known to hold in general). •

[A097136] • 1,4,10,25,64,166,433,1132,2962,7753,20296,53134,139105,364180,953434,2496121,6534928,17108662,44791057,117264508,307002466,803742889,2104226200,5508935710,14422580929 ⋆ a(n) = 3*Fibonacci(2*n) + 1. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = 1 + 3((3 + sqrt(5)) / 2) ^ n / sqrt(5) - 3((3 - sqrt(5)) / 2) ^ n / sqrt(5). •

[A283958] • 1,1,1,1,4,10,25,139,391,1033,5806,16384,43345,243685,687709,1819441,10228936,28867366,76373161,429371599,1211741635,3205853305,18023378194,50864281276,134569465633 ⋆ a(n) = (Sum_{j=1..h-1} a(n-j) + a(n-1)*a(n-h+1))/a(n-h) with a(1), ..., a(h)=1, where h = 4. • a(3 * k) = 3 * a(3 * k - 1) - a(3 * k - 2) - 1, • a(3 * k + 1) = 3 * a(3 * k) - a(3 * k - 1) - 1, • a(3 * k + 2) = 6 * a(3 * k + 1) - a(3 * k) - 1. •

[A269064] • 0,1,4,10,26,48,87,135,208,293,410,542,714,904,1141,1399,1712,2049,2448,2874,3370,3896,4499,5135,5856 ⋆ At stage 1, start with a unit equilateral triangle. At each successive stage add 3*(n-1) new triangles around outside with vertex-to-vertex contacts. Sequence gives number of triangles at n-th stage. • a(n) = (7 * n ^ 3 - 3 * n ^ 2 + 4 * n) / 2 for n even. • a(n) = (28 * n ^ 3 + 30 * n ^ 2 + 16 * n + 7 + (- 1) ^ n) / 8 for n odd. • a(n) = (14 * n ^ 3 - 12 * n ^ 2 + 23 * n + 6 + 3 * (3 * n - 2) * (- 1) ^ n + 2 * ((- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) - (- 1) ^ ((6 * n - 1 + (- 1) ^ n) / 4))) / 32. •

[A000294] • 1,1,4,10,26,59,141,310,692,1483,3162,6583,13602,27613,55579,110445,217554,424148,820294,1572647,2992892,5652954,10605608,19765082,36609945 ⋆ G.f.: Product_{k >= 1} (1 - x^k)^(-k*(k+1)/2). • a(n) = (1 / (2 * n)) * Sum _{ k=1..n } (sigma[2](k) + sigma[3](k)) * a(n - k). - _ Vladeta Jovovic _ , Sep 17 2002 •

[A285186] • 0,1,4,10,26,64,160,396,984,2440,6056,15024,37280,92496,229504,569440,1412896,3505664,8698240,21582016,53549184,132865920,329666176,817965824,2029532160 ⋆ Expansion of (x+2*x^2) / (1-2*x-2*x^2+2*x^3). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) for n>2. - _ Colin Barker _ , Apr 23 2017 •

[A175658] • 1,4,10,26,66,166,414,1026,2530,6214,15214,37154,90546,220294,535230,1298946,3149506,7630726,18476494,44714786,108168210,261575494,632367774,1528408194,3693378466 ⋆ Eight bishops and one elephant on a 3 X 3 chessboard: a(n) = 2*Pell(n+1)+2*Pell(n)-2^n, with Pell = A000129. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3) with a(0)=1, a(1)=4 and a(2)=10. • a(n) = (1 - sqrt(2)) ^ (1 + n) + (1 + sqrt(2)) ^ (1 + n) - 2 ^ n. - Colin Barker, Aug 29 2017 •

[A277236] • 1,4,10,26,66,170,434,1114,2850,7306,18706,47930,122754,314474,805490,2063386,5285346,13538890,34680274,88835834,227556930,582900266,1493127986,3824729050,9797240994 ⋆ Number of strings of length n composed of symbols from the circular list [1,2,3,4] such that adjacent symbols in the string must be adjacent in the list. No runs of length 2 or more are allowed for symbols 1 and 3. • a(n) = ((13 + 3 * sqrt(17)) * z1 ^ n - (13 - 3 * sqrt(17)) * z2 ^ n) / (4 * sqrt(17)) where z1=(1 + sqrt(17)) / 2 and z2=(1 - sqrt(17)) / 2. •

[A099234] • 1,1,4,10,26,69,181,476,1252,3292,8657,22765,59864,157422,413966,1088589,2862617,7527704,19795288,52054840,136886433,359964521,946583628,2489191330,6545722210 ⋆ A trisection of 1/(1-x-x^4). • a(n)=sum { k=0..n, C(3k,n - k) } =sum { k=0..n, C(n,k)C(4k,n) / C(4k,k) } . - _ Paul Barry _ , Feb 04 2006 •

[A192879] • 0,1,4,10,27,70,184,481,1260,3298,8635,22606,59184,154945,405652,1062010,2780379,7279126,19057000,49891873,130618620,341963986,895273339,2343856030,6136294752 ⋆ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) given in Comments. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) = (2 ^ (- 1 - n) * ((- 1) ^ n * 2 ^ (1 + n) + (3 + sqrt(5)) ^ n * (- 1 + 3 * sqrt(5)) - (3 - sqrt(5)) ^ n * (1 + 3 * sqrt(5)))) / 5. - _ Colin Barker _ , Sep 29 2016 •

[A026150] • 1,1,4,10,28,76,208,568,1552,4240,11584,31648,86464,236224,645376,1763200,4817152,13160704,35955712,98232832,268377088,733219840,2003193856,5472827392,14952042496 ⋆ a(0) = a(1) = 1; a(n+2) = 2*a(n+1) + 2*a(n). • a(n) = (1 / 2) * ((1 + sqrt(3)) ^ n + (1 - sqrt(3)) ^ n). - _ Benoit Cloitre _ , Oct 28 2002 • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k) * 3 ^ k; • a(n) = round((1 + sqrt(3)) ^ n / 2) for n>0. - _ Bruno Berselli _ , Feb 04 2013 • a(n) = (- sqrt(2) * i) ^ n * T(n,sqrt(2) * i / 2), with i = sqrt(- 1) and the Chebyshev T - polynomials (A053120). - _ Wolfdieter Lang _ , Feb 10 2018 •

[A103457] • 1,4,10,28,82,244,730,2188,6562,19684,59050,177148,531442,1594324,4782970,14348908,43046722,129140164,387420490,1162261468,3486784402,10460353204,31381059610,94143178828,282429536482 ⋆ a(n) = 3^n + 1 - 0^n. • a(n) = Sum _{ k=0..n } binomial(n, k) * 0 ^ (k(n - k)) * 3 ^ k. • a(n) = 3 * a(n - 1) - 2, with a(1)=4. - _ Vincenzo Librandi _ , Dec 29 2010 •

[A061639] • 0,1,1,1,4,10,28,85,262,829,2677,8776,29143,97825,331381,1131409,3889381,13450744,46764532,163357807,573064849,2018027719,7131064045,25278463756,89866690732 ⋆ Number of planar planted trees with n non-root nodes and every 2-valent node isolated. • a(n) = Sum _{ m=0..n - 1 } Sum _{ i=0..n - m - 1 } (- 1) ^ i / (m + 1) * binomial(2 * m, m) * binomial(m + i, i) * binomial(m + i + 1, n - m - i - 1). •

[A239577] • 1,4,10,28,91,280,820,2440,7381,22204,66430,199108,597871,1794160,5380840,16140880,48427561,145287604,435848050,1307529388,3922632451,11767941640,35303692060,105910943320,317733228541 ⋆ Expansion of 1/((x-1)*(3*x-1)*(3*x^2+1)). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 12 * a(n - 3) - 9 * a(n - 4) for n > 3, a(0)=1, a(1)=4, a(2)=10, a(3)=16. • a(n) = (- 1 + 3 ^ (2 + n) + (- 1 + (- 1) ^ n) * (- 3) ^ ((1 + n) / 2)) / 8. [_ Bruno Berselli _ , Mar 24 2014] •

[A025179] • 1,4,10,29,81,231,659,1891,5443,15718,45508,132067,384047,1118820,3264642,9539787,27913083,81769236,239794422,703906719,2068153899,6081507831,17896695831,52703944965,155310270101 ⋆ a(n) = number of (s(0), s(1), ..., s(n)) such that s(i) is an integer, s(0) = 0, |s(1)| = 1, |s(i) - s(i-1)| <= 1 for i >= 2, s(n) = 1. Also a(n) = T(n,n-1), where T is the array defined in A025177. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * binomial(2 * k + 1, k + 1). • a(n + 1) = Sum _{ k=0..n } C(n, k) * C(k + 1, k / 2 + 1) * (1 + (- 1) ^ k) / 2 } . (End) •

[A006357] • 1,4,10,30,85,246,707,2037,5864,16886,48620,139997,403104,1160693,3342081,9623140,27708726,79784098,229729153,661478734,1904652103,5484227157,15791202736,45468956106,130922641160 ⋆ Number of distributive lattices; also number of paths with n turns when light is reflected from 4 glass plates. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - a(n - 3) - a(n - 4). • a(n) is asymptotic to z(4) * w(4) ^ n where w(4) = (1 / 2) / cos(4 * Pi / 9) and z(4) is the root 1 < x < 2 of P(4, X) = 1 + 27 * X - 324 * X ^ 2 + 243 * X ^ 3. - _ Benoit Cloitre _ , Oct 16 2002 •

[A006342] • 1,1,4,10,31,91,274,820,2461,7381,22144,66430,199291,597871,1793614,5380840,16142521,48427561,145282684,435848050,1307544151,3922632451,11767897354,35303692060,105911076181 ⋆ Coloring a circuit with 4 colors. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 1, n > 1. - _ Gary Detlefs _ , Jun 21 2010 • a(n) = (3 ^ (n + 1) + 5) / 8 for n even. • a(n) = (3 ^ (n + 1) - 1) / 8 for n odd. • a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) for n > 2. •

[A017936] • 1,4,10,32,100,317,1000,3163,10000,31623,100000,316228,1000000,3162278,10000000,31622777,100000000,316227767,1000000000,3162277661,10000000000,31622776602,100000000000,316227766017,1000000000000 ⋆ Smallest number whose square has n digits. • a(n) = ceiling(10 ^ ((n - 1) / 2)). •

[A033297] • 1,1,4,10,32,100,329,1101,3761,13035,45751,162261,580639,2093801,7601044,27756626,101888164,375750536,1391512654,5172607766,19293659254,72188904386,270870709264,1019033438060,3842912963392 ⋆ Number of ordered rooted trees with n edges such that the rightmost leaf of each subtree is at even level. Equivalently, number of Dyck paths of semilength n with no return descents of odd length. • a(n) = Sum((- 1) ^ i * C(n - 1 - i), i=0..n - 2), where C(n) are the Catalan numbers. • a(n) = Catalan(n - 1) * hypergeom([1, - n], [3 / 2 - n], - 1 / 4) + (- 1) ^ n * 3 / 2. - erroneous formula replaced _ Peter Luschny _ , Nov 22 2016 •

[A137954] • 1,1,1,4,10,32,107,360,1270,4544,16537,61092,228084,860056,3269994,12521488,48250690,186959312,727989318,2847167632,11179394088,44053232012,174160578150,690576010820,2745713062854 ⋆ G.f. satisfies A(x) = 1 + x + x^2*A(x)^4. • a(n) = Sum _{ k=0..n - 1 } C(n - k,k) / (n - k) * C(4 * k, n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A151746] • 1,4,10,32,118,460,1826,7288,29134,116516,466042,1864144,7456550,29826172,119304658,477218600,1908874366,7635497428,30541989674,122167958656,488671834582,1954687338284,7818749353090,31274997412312,125099989649198 ⋆ G.f.: (1-2*x-5*x^2+4*x^3)/((1-4*x)*(1-x)^2). • a(n) = 14 / 9 + 2 * n / 3 + 4 ^ (n + 1) / 9, n>0. [From _ R. J. Mathar _ , Jun 17 2009] •

[A110145] • 0,1,4,10,32,126,472,1716,6400,24310,92504,352716,1351616,5200300,20060016,77558760,300533760,1166803110,4537591960,17672631900,68923172032,269128937220,1052049834576,4116715363800,16123800489472 ⋆ a(n) = Sum_{k=0..n} C(n,k)^2*mod(k,2). • a(n) = Sum _{ k=0..n } C(n, k) ^ 2 * (1 - (- 1) ^ k) / 2. • a(n) = C(2n - 1, n - 1)(1 - (- 1) ^ n) / 2 + (C(2n, n) / 2 - (- 1) ^ (n / 2) * C(n, floor(n / 2)) / 2)(1 + (- 1) ^ n) / 2. • a(n) = (binomial(2 * n, n) - binomial(n, n / 2) * cos(Pi * n / 2)) / 2 = n ^ 2 * hypergeom([1 / 2 - n / 2, 1 / 2 - n / 2, 1 - n / 2, 1 - n / 2], [1, 3 / 2, 3 / 2], 1). - _ Vladimir Reshetnikov _ , Oct 04 2016 •

[A162427] • 1,4,10,33,68,123,226,342,547,778,1071,1412,1901,2392,2997,3762,4391,5534,6645,7632,9045,10546,11983,13870,16011 ⋆ Row 4 of table A162424. • a(n) = Sum _{ m=n(n + 1) / 2..n(n + 1) / 2 + n } [x ^ m] S(x) ^ 4 for n>=0 where S(x) = Sum _{ n>=0 } x ^ ((n + 1)(n + 2) / 2 - 1). •

[A007716] • 1,4,10,33,91,298,910,3017,9945,34207,119369,429250,1574224,5916148,22699830,89003059,356058540,1453080087,6044132794,25612598436,110503627621,485161348047,2166488899642,9835209912767,45370059225318 ⋆ Number of polynomial symmetric functions of matrix of order n under separate row and column permutations. • a(n) is coefficient of x ^ n in cycle index Z(S _ n X S _ n; x _ 1, x _ 2, ...) if we replace x _ i by 1 + x ^ i + x ^ (2 * i) + x ^ (3 * i) + x ^ (4 * i) + ..., where S _ n X S _ n is cartesian product of symmetric groups S _ n of degree n. - _ Vladeta Jovovic _ , Mar 09 2000 •

[A140725] • 0,1,4,10,34,94,298,862,2650,7822,23722,70654,212986,636910,1914826,5736286,17225242,51642958,154994410,464852158,1394818618,4183931566,12552843274,37656432670,112974392314 ⋆ Inverse binomial transform of (0 followed by A037481). • a(n) = a(n - 1) + 6 * a(n - 2) for n>2, a(0)=0, a(1)=1, a(2)=4. - _ Philippe Deléham _ , Nov 17 2013 •

[A283070] • 4,10,34,130,514,2050,8194,32770,131074,524290,2097154,8388610,33554434,134217730,536870914,2147483650,8589934594,34359738370,137438953474,549755813890,2199023255554,8796093022210,35184372088834,140737488355330,562949953421314 ⋆ Sierpinski tetrahedron or tetrix numbers: a(n) = 2*4^n + 2. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n > 1. •

[A196880] • 1,1,4,10,36,94,284,692,1828,4124,9828,20798,45564,91018,186788,355906,692004,1264678,2347716,4138358,7389572,12625938,21804900,36243644,60777212 ⋆ Number of partitions of n^2 into powers of 2. • a(n) = [x ^ (n ^ 2)] 1 / Product _{ j>=0 } (1 - x ^ (2 ^ j)). •

[A088013] • 1,1,4,10,36,116,400,1352,4624,15760,53824,183712,627264,2141504,7311616,24963200,85229824,290992384,993510400,3392055808,11581203456,39540700160,135000395776,460920178688,1573679927296 ⋆ Binomial transform

of A001541 (with interpolated zeros). • a(n)=((sqrt(2)) ^ n + (- sqrt(2)) ^ n + (2 + sqrt(2)) ^ n + (2 - sqrt(2)) ^ n) / 4 •

[A052572] • 1,4,10,36,168,960,6480,50400,443520,4354560,47174400,558835200,7185024000,99632332800,1482030950400,23538138624000,397533007872000,7113748561920000,134449847820288000,2676192208994304000 ⋆ E.g.f. (1+2x-2x^2)/(1-x)^2. • a(n) = (n + 3) * n! for n>0. •

[A079725] • 0,0,4,10,37,49,94,112,175,305,335,505,622,664,799,1049,1329,1389,1709,1916,1988,2368,2611,3041,3692 ⋆ Sum of composite numbers less than n-th prime. • a(n) = prime(n) * (prime(n) + 1) / 2 - sum _{ 1..n } prime(k) - 1. •

[A154152] • 4,10,37,67,220,394,1285,2299,7492,13402,43669,78115,254524,455290,1483477,2653627,8646340,15466474,50394565,90145219,293721052,525404842,1711931749,3062283835,9977869444 ⋆ Indices k such that 26 plus the k-th triangular number is a perfect square. • a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A100307] • 1,4,10,40,82,328,820,3280,6562,26248,65620,262480,538084,2152336,5380840,21523360,43046722,172186888,430467220,1721868880,3529831204,14119324816,35298312040,141193248160,282472589764 ⋆ Modulo 2 binomial transform of 3^n. • a(n) = Sum _{ k=0..n } mod(binomial(n, k), 2) * 3 ^ k. • a(2 ^ n) = 3 ^ (2 ^ n) + 1, n>=0. • a(2 ^ t * n + 2 ^ (t - 1)) = 8 * (3 ^ (2 ^ (t - 1) + 1)) / (3 ^ (2 ^ (t - 1)) - 1) * a(2 ^ t * n + 2 ^ (t - 1) - 2), t>=2. • a(4 * n + 2) = 10 * a(4 * n); • a(8 * n + 4) = 41 / 5 * a(8 * n + 2); • a(16 * n + 8)= 3281 / 410 * a(16 * n + 6), etc. (End) •

[A156798] • 4,10,40,130,340,754,1480,2650,4420,6970,10504,15250,21460,29410,39400,51754,66820,84970,106600,132130,162004,196690,236680,282490,334660 ⋆ n^4 + 5*n^2 + 4. • a(0)=4, a(1)=10, a(2)=40, a(3)=130, a(4)=340, a(n) =5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5) [From Harvey P. Dale, May 04 2011] •

[A032121] • 4,10,40,136,544,2080,8320,32896,131584,524800,2099200,8390656,33562624,134225920,536903680,2147516416,8590065664,34359869440,137439477760,549756338176,2199025352704,8796095119360,35184380477440,140737496743936,562949986975744 ⋆ Number of reversible strings with n beads of 4 colors. • a(n) = (4 ^ m + 3 * 2 ^ m + (- 2) ^ m) / 8, where m = n + 1. - _ Frank Ruskey _ , Jul 14 2002 • a(n) = 2 ^ (n - 2) * (3 + (- 1) ^ (1 + n) + 2 ^ (1 + n)) for n>0. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3) for n>3 . •

[A115327] • 1,1,4,10,46,166,856,3844,21820,114076,703216,4125496,27331624,175849480,1241782816,8627460976,64507687696,478625814544,3768517887040,29614311872416,244419831433696,2021278543778656,17419727924101504 ⋆ E.g.f.: exp(x + 3/2*x^2). • a(n) = a(n - 1) + 3 * (n - 1) * a(n - 2). (End) • a(n) = n! * Sum _{ k=0..floor(n / 2) } 3 ^ k / (2 ^ k * k! * (n - 2 * k)!). - _ Luis Manuel Rivera Martínez _ , Feb 26 2015 •

[A099606] • 1,4,10,48,116,560,1352,6528,15760,76096,183712,887040,2141504,10340096,24963200,120532992,290992384,1405035520,3392055808,16378294272,39540700160,190919389184,460920178688,2225519493120,5372879343616 ⋆ Row sums of triangle A099605, in which row n equals the inverse Binomial transform of column n of the triangle A034870 of even-indexed rows of Pascal's triangle. • a(n) = Pell(n + 1) * 2 ^ [(n + 1) / 2]. a(n) = 12 * a(n - 2) - 4 * a(n - 4) for n>=4. G.f.: (1 + 4 * x - 2 * x ^ 2) / (1 - 12 * x ^ 2 + 4 * x ^ 4). •

[A276123] • 1,1,1,4,10,55,154,868,2449,13825,39025,220324,621946,3511351,9912106,55961284,157971745,891869185,2517635809,14213945668,40124201194,226531261495,639469583290,3610286238244,10191389131441 ⋆ a(0) = a(1) = a(2) = 1; for n>2, a(n) = (a(n-1)+1)*(a(n-2)+1) / a(n-3). • a(n) = (9 - 3 * (- 1) ^ n) / 2 * a(n - 1) - a(n - 2) - 1. • a(n) = 17 * a(n - 2) - 17 * a(n - 4) + a(n - 6) for n>5. •

[A124724] • 4,10,60,455,3876,35420,339300,3362260,34179860,354465254,3735373880,39884521950,430571952300,4691735290080,51534335175776,570003171679020,6343110854237300,70968228417131850,797820661622862900 ⋆ (4/(n+1)) * C(5n,n). • a(n)=C(5n,n) / (4n + 1) + 2 * C(5n + 1,n) / (4n + 2) + 3 * C(5n + 2,n) / (4n + 3) + 4 * C(5n + 3,n) / (4n + 4) •

[A204542] • 1,4,11,14,16,19,26,29,31,34,41,44,46,49,56,59,61,64,71,74,76,79,86,89,91 ⋆ Numbers that are congruent to {1, 4, 11, 14} mod 15. • a(1 - n) = - a(n). • a(n) = 15 + a(n - 4). • a(n) = floor(15 * n / 4) - ((n + 1) mod 4). • a(n) = (30 * n + 10 * i ^ (n * (n + 1)) - 3 * (- 1) ^ n + 1) / 8 - 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Nov 28 2012 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Wesley Ivan Hurt _ , Jun 07 2016 •

[A271508] • 1,4,11,14,21,24,31,34,41,44,51,54,61,64,71,74,81,84,91,94,101,104,111,114,121 ⋆ Numbers that are congruent to {1,4} mod 10. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. • a(n) = 5 * n - 5 - (- 1) ^ n. •

[A032822] • 1,4,11,14,41,44,111,114,141,144,411,414,441,444,1111,1114,1141,1144,1411,1414,1441,1444,4111,4114,4141 ⋆ Numbers whose set of base 10 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 10 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 10 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A022131] • 4,11,15,26,41,67,108,175,283,458,741,1199,1940,3139,5079,8218,13297,21515,34812,56327,91139,147466,238605,386071,624676 ⋆ Fibonacci sequence beginning 4, 11. • a(n) = ((10 + 9 * sqrt(5)) / 5) * ((1 + sqrt(5)) / 2) ^ n + ((10 - 9 * sqrt(5)) / 5) * ((1 - sqrt(5)) / 2) ^ n starting at n=0. - _ Bogart B. Strauss _ , Oct 27 2013 •

[A213479] • 1,4,11,18,30,41,58,73,95,114,141,164,196,223,260,291,333,368,415,454,506,549,606,653,715 ⋆ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y| = w+x+y. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (18 * n ^ 2 + 2 * (- 1) ^ n * n + 42 * n + 5 * (- 1) ^ n + 11) / 16. • a(n) = (9 * n ^ 2 + 22 * n + 8) / 8 for n even. • a(n) = (9 * n ^ 2 + 20 * n + 3) / 8 for n odd. (End) •

[A210464] • 4,11,18,33,48,74,100,140,180,237,294,371,448,548,648,774,900,1055,1210,1397,1584,1806,2028,2288,2548 ⋆ Number of bracelets with 2 blue, 2 red, and n black beads. • a(n) = (25 + 7 * (- 1) ^ n + 3 * (11 + (- 1) ^ n) * n + 14 * n ^ 2 + 2 * n ^ 3) / 16. a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). G.f.: - x * (2 * x ^ 5 - 4 * x ^ 4 - 2 * x ^ 3 + 8 * x ^ 2 - 3 * x - 4) / ((x - 1) ^ 4 * (x + 1) ^ 2). [_ Colin Barker _ , Feb 06 2013] •

[A063215] • 4,11,19,27,35,41,51,57,65,73,81,87,97,103,111,119,127,133,143,149,157,165,173,179,189 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(47). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) for n>6. G.f.: x * (4 + 11 * x + 15 * x ^ 2 + 12 * x ^ 3 + 5 * x ^ 4 - x ^ 5) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). - _ Colin Barker _ , Sep 27 2012 •

[A101418] • 1,4,11,19,30,44,60,78,99,122,148,176,207,240,276,314,354,397,443,491,541,594,649,707,767 ⋆ Floor of the area of a lens constructed using circular arcs of radius n. • a(n) = Floor[(4 * Pi - 3 * Sqrt[3]) / 6 * n ^ 2] •

[A213395] • 1,4,11,19,31,44,62,79,103,125,154,181,216,247,288,324,370,411,463,508,566,616,679,734,803 ⋆ Number of (w,x,y) with all terms in {0,...,n} and max(|w-x|,|x-y|) = w. • a(n) = 2 * a(n - 2) + a(n - 3) - a(n - 4) - 2 * a(n - 5) + a(n - 7). •

[A212959] • 1,4,11,20,33,48,67,88,113,140,171,204,241,280,323,368,417,468,523,580,641,704,771,840,913 ⋆ Number of (w,x,y) such that w,x,y are all in {0,...,n} and |w-x| = |x-y|. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (6 * n ^ 2 + 8 * n + 3 + (- 1) ^ n) / 4. - _ Luce ETIENNE _ , Apr 05 2014 •

[A272042] • 4,11,21,31,47,61,69,87,99,113,127,141,161,171,179,209,219,241,259,275,289,307,315,357,361 ⋆ a(n) = 2*prime(2n) - prime(n). • a(n) = 3n * log n + 3n * log log n - (3 - log 2) * n + O(n log log n / log n). - _ Charles R Greathouse IV _ , Apr 18 2016 •

[A115067] • 0,4,11,21,34,50,69,91,116,144,175,209,246,286,329,375,424,476,531,589,650,714,781,851,924 ⋆ a(n) = (3*n^2-n-2)/2. • a(n) = (3 * n + 2) * (n - 1) / 2. • a(n + 1) = n * (3 * n + 5) / 2. - _ Omar E. Pol _ , May 21 2008 • a(n) = 3 * n + a(n - 1) - 2 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Nov 13 2010 •

[A008014] • 1,4,11,21,35,53,77,105,137,172,212,256,305,357,413,473,539,609,683,760,842,928,1019,1113,1211 ⋆ Coordination sequence T1 for Zeolite Code AFI. • a(10 * m + k) = 210 * m ^ 2 + 42 * k * m + one of 10 numbers depending on k, 0<=k<10 (_ N. J. A. Sloane _). •

[A110611] • 1,4,11,21,37,58,87,123,169,224,291,369,461,566,687,823,977,1148,1339,1549,1781,2034,2311,2611,2937 ⋆ Minimal value of sum(p(i)p(i+1),i=1..n), where p(n+1)=p(1), as p ranges over all permutations of {1,2,...,n}. • a(n) = (n ^ 3 + 3 * n ^ 2 + 5 * n - 6) / 6 if n is even; a(n)=(n ^ 3 + 3 * n ^ 2 + 5 * n - 3) / 6 if n is odd. • a(n) = (2 * n ^ 3 + 6 * n ^ 2 + 10 * n - 9 - 3 * (- 1) ^ n) / 12. - _ Luce ETIENNE _ , Jul 26 2014 •

[A212254] • 0,0,0,1,4,11,21,37,59,88,125,172,228,296,376,469,576,699,837,993,1167,1360,1573,1808,2064 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w=x+2y+3z-n. • a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7). •

[A084849] • 1,4,11,22,37,56,79,106,137,172,211,254,301,352,407,466,529,596,667,742,821,904,991,1082,1177 ⋆ a(n) = 1 + n + 2*n^2. • a(n) - 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3) = 0, with n>2. - _ Bruno Berselli _ , May 24 2010 • a(n) = 4 * n + a(n - 1) - 1 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A008265] • 1,4,11,22,37,59,85,114,147,184,230,280,331,386,445,515,589,662,739,820,914,1012,1107,1206,1309 ⋆ Coordination sequence T1 for Zeolite Code ATO. • a(5m)=57m ^ 2 + 2, a(5m + 1)=57m ^ 2 + 24m + 4, a(5m + 2)=57m ^ 2 + 46m + 11, a(5m + 3)=57m ^ 2 + 68m + 22, a(5m + 4)=57m ^ 2 + 90m + 37 (_ N. J. A. Sloane _). •

[A213759] • 1,4,11,22,39,62,93,132,181,240,311,394,491,602,729,872,1033,1212,1411,1630,1871,2134,2421,2732,3069 ⋆ Principal diagonal of the convolution array A213783. • a(n)= (3 - 3 * (- 1) ^ n - 4 * n - 18 * n ^ 2 + 4 * n ^ 3) / 24. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 6). •

[A008043] • 1,4,11,22,40,64,92,121,157,200,248,297,351,414,484,555,630,709,795,885,980,1081,1187,1297,1414 ⋆ Coordination sequence T1 for Zeolite Code ATV. • a(40 * m + k) = 3920 * m ^ 2 + 196 * k * m + one of 40 numbers depending on k, 0<=k<40 (_ N. J. A. Sloane _). •

[A088003] • 1,4,11,22,40,64,98,140,195,260,341,434,546,672,820,984,1173,1380,1615,1870,2156,2464,2806,3172,3575 ⋆ Take the list t(n,0) = {1,...,n}; denote by t(n,j) this list after rotating to left (or right) by j positions. Calculate inner product of t(n,0) and t(n,j) and denote the value by s(n,j). Compute this inner product for all j = 1..n and choose the smallest. This is a(n). • a(n) = Min { y; y=t(n, 0) * t(n, x)=s(n, x); for x=1..n } . • a(n) = n * (2 * n * (5 * n + 12) - 3 * (- 1) ^ n + 11) / 48. • a(n) = Sum _{ i=0..floor(n / 2) } (n - i) * (n - 2 * i). For n=7, a(7) = 7 * 7 + 6 * 5 + 5 * 3 + 4 * 1 = 98. - _ Bruno Berselli _ , Oct 26 2015 •

[A259574] • 0,1,4,11,22,42,66,104,150,211,280,377,474,604,750,916,1096,1323,1548,1831,2122,2446,2794,3212,3620 ⋆ Sum of numbers in the n-th antidiagonal of the reciprocity array of 0. • a(n) = Sum { m=1..n, Sum(k=0..m - 1, floor(n * k / m)). •

[A008249] • 1,4,11,22,42,67,97,133,176,223,277,335,400,471,547,627,716,809,907,1011,1122,1237,1359,1485,1618 ⋆ Coordination sequence T1 for Banalsite. • a(12 * m + k) = 408 * m ^ 2 + 68 * k * m + one of 12 numbers depending on k, 0<=k<12. - _ N. J. A. Sloane _ •

[A027378] • 1,4,11,23,41,66,99,141,193,256,331,419,521,638,771,921,1089,1276,1483,1711,1961,2234,2531,2853,3201 ⋆ Expansion of (1+x^2-x^3)/(1-x)^4. •

a(n - 3)=binomial(n,3) - 3 * n + 9, n=4,5,6,.... - _ Milan Janjic _ , Dec 28 2007 •

[A092498] • 1,4,11,23,41,67,102,147,204,274,358,458,575,710,865,1041,1239,1461,1708,1981,2282,2612,2972,3364,3789 ★ G.f.: (1+x+2x^2)/((1-x)^3*(1-x^3)). • a(n) = (4 * n ^ 3 + 21 * n ^ 2 + 35 * n + 18 - 6 * floor((n + 2) / 3)) / 18. - _ Luce ETIENNE _ , Apr 18 2014 • a(n) = Sum _{ j=0..floor(2 * n / 3) } ((4 * n + 5 - 6 * j - (- 1) ^ j) / 4) * ((4 * n + 3 - 6 * j + (- 1) ^ j) / 4). - _ Luce ETIENNE _ , Oct 28 2014 •

[A019298] • 0,1,4,11,23,42,69,106,154,215,290,381,489,616,763,932,1124,1341,1584,1855,2155,2486,2849,3246,3678 ★ Number of balls in pyramid with base either a regular hexagon or a hexagon with alternate sides differing by 1 (balls in hexagonal pyramid of height n taken from hexagonal close-packing). • a(n) = floor((n ^ 2 + 1)(2n + 3) / 8). • a(n) = floor((2n ^ 3 + 3n ^ 2 + 2n) / 8); also nearest integer to ((n + 1) ^ 4 - n ^ 4) / 16. • a(n) = (4n ^ 3 + 6n ^ 2 + 4n + 1 - (- 1) ^ n) / 16. - Wesley Petty (Wesley.Petty(AT)mail.tamucc.edu), Mar 06 2004 • a(n) = Sum _{ i=1..n } i ^ 2 - floor(i ^ 2 / 4) = Sum _{ i=1..n } i * (2n - 2i + 1 - floor((n - i + 1) / 2)). - _ Wesley Ivan Hurt _ , Jan 23 2014 •

[A002537] • 1,1,4,11,23,79,148,533,977,3553,6484,23627,43079,157039,286276,1043669,1902497,6936001,12643492,46094987,84025463,306335887,558412276,2035832213,3711069041 ★ a(2n) = a(2n-1) + 3a(2n-2), a(2n+1) = 2a(2n) + 3a(2n-1). • a(n)=8a(n - 2) - 9a(n - 4). - Mario Catalani (mario.catalani(AT)unito.it), Apr 24 2003 • a(n + 1) = x ^ n + (- 1) ^ n * (x - 2) ^ n where x = (1 + sqrt(7)) and the term is divided by 2 for a(2) and a(3), 4 for a(4) and a(5)... 2 ^ n for a(2n) and a(2n + 1). - _ Ben Paul Thurston _ , Aug 30 2006 •

[A008259] • 1,4,11,24,41,62,90,122,157,200,247,296,354,416,479,552,629,706,794,886,977,1080,1187,1292,1410 ★ Coordination sequence T2 for Moganite, also for BGB1. • a(3m) = 22m ^ 2 + 2, a(3m + 1) = 22m ^ 2 + 15m + 4, a(3m + 2)=22m ^ 2 + 29m + 11 (_ N. J. A. Sloane _). •

[A008250] • 1,4,11,24,42,65,97,135,176,221,277,337,400,469,547,629,716,807,907,1013,1122,1235,1359,1487,1618 ★ Coordination sequence T2 for Banalsite. • a(12 * m + k) = 408 * m ^ 2 + 68 * k * m + one of 12 numbers depending on k, 0<=k<12. - _ N. J. A. Sloane _ •

[A006527] • 0,1,4,11,24,45,76,119,176,249,340,451,584,741,924,1135,1376,1649,1956,2299,2680,3101,3564,4071,4624 ★ a(n) = (n^3 + 2*n)/3. • a(0)=0, a(1)=1, a(2)=4, a(3)=11; for n > 3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 13 2011 • a(n) = 2 * binomial(n + 1, 3) + binomial(n, 1). • a(n) = binomial(n + 2, 3) + binomial(n, 3). - _ Thomas Ordowski _ , Jun 15 2014 •

[A167875] • 1,4,11,24,45,76,119,176,249,340,451,584,741,924,1135,1376,1649,1956,2299,2680,3101,3564,4071,4624,5225 ★ One third of product plus sum of three consecutive nonnegative integers; a(n)=(n+1)(n^2+2n+3)/3. • a(n) = (n ^ 3 + 3 * n ^ 2 + 5 * n + 3) / 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 2 for n > 3; a(0)=1, a(1)=4, a(2)=11, a(3)=24. • a(n) - 4 * a(n - 1) + 6 * a(n - 2) - 4 * a(n - 3) + a(n - 4)=0 for n>3. - _ Bruno Berselli _ , May 26 2010 •

[A001752] • 1,4,11,24,46,80,130,200,295,420,581,784,1036,1344,1716,2160,2685,3300,4015,4840,5786,6864,8086,9464,11011 ★ Expansion of 1/((1+x)*(1-x)^5). • a(n) = floor(((n + 3) ^ 2 - 1) * ((n + 3) ^ 2 - 3) / 48). • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * C(k + 4, 4). - _ Paul Barry _ , Jul 01 2003 • a(n) = (3 * (- 1) ^ n + 93 + 168 * n + 100 * n ^ 2 + 24 * n ^ 3 + 2 * n ^ 4) / 96. - Cecilia Rossiter (cecilia(AT)noticingnumbers.net), Dec 14 2004 • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - 2k + 3, 3). • a(n) = Sum _{ k=0..n } binomial(k + 3, 3) * (1 - (- 1) ^ (n + k - 1)) / 2. (End) • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * (n - 4) - 4 * a(n - 5) + a(n - 6). •

[A143075] • 1,4,11,24,47,86,152,262,444,742,1228,2018,3301,5382,8755,14218,23063,37380,60552,98052,158736,256932,415824,672924,1088929 ★ Polynomial expansion sequence: p(x)=1/(1 - 4x + 5x^2 - 6x^4 + 6x^5 - x^6 - 2x^7 + x^8). • a(n) = expansion(1 / (1 - 4x + 5x ^ 2 - 6x ^ 4 + 6x ^ 5 - x ^ 6 - 2x ^ 7 + x ^ 8)) •

[A290707] • 1,4,11,24,47,88,163,304,575,1104,2147,4216,8335,16552,32963,65760,131327,262432,524611,1048936,2097551,4194744,8389091,16777744,33555007 ★ a(n) = 2^(n+1) + n^2 - 1. • a(n) = 2 ^ (n + 1) + n ^ 2 - 1. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). •

[A159349] • 1,1,1,4,11,24,56,129,300,698,1623,3773,8771,20390,47401,110194,256170,595523,1384423,3218393,7481856,17393205,40434296,93998334,218519615 ★ Transform of the finite sequence (1, 0, -1, 0, 1, 0, -1) by the T_{0,0} transformation (see link). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) for n >=9, with a(0)=1, a(1)=1, a(2)=1, a(3)=4, a(4)=11, a(5)=24, a(6)=56, a(7)=129, a(8)=300. •

[A110610] • 1,4,11,25,48,82,129,191,270,368,487,629,796,990,1213,1467,1754,2076,2435,2833,3272,3754,4281,4855,5478 ★ Maximal value of sum(p(i)p(i+1),i=1..n), where p(n+1)=p(1), as p ranges over all permutations of {1,2,...,n}. • a(1)=1; a(n)=(2n ^ 3 + 3n ^ 2 - 11n + 18) / 6 for n>=2. •

[A051462] • 1,4,11,25,48,83,133,200,287,397,532,695,889,1116,1379,1681,2024,2411,2845,3328,3863,4453,5100,5807,6577 ★ Molien series for group G_{1,2}^{8} of order 1536. • a(n) = 1 + n + 2n ^ 2 + 3[(n + 2)((n - 1) ^ 2) / 18] + 2[(n + 1)((n - 2) ^ 2) / 18] + 3[n((n - 3) ^ 2) / 18] (where [..] denotes the floor function). - _ John W. Layman _ , Nov 22 2000 • a(0)=1, a(1)=4, a(2)=11, a(3)=25, a(4)=48, a(5)=83, a(n)=3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). - Harvey P. Dale _ , Jun 06 2011 •

[A006004] • 1,4,11,25,49,86,139,211,305,424,571,749,961,1210,1499,1831,2209,2636,3115,3649,4241,4894,5611,6395,7249 ★ a(n) = C(n+2,3) + C(n,3) + C(n-1,3). • a(n) = (n ^ 3 - 2n ^ 2 + 5n - 2) / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), with a(0)=1, a(1)=4, a(2)=11, a(3)=25. - _ Harvey P. Dale _ , Jun 15 2011 •

[A215052] • 1,4,11,25,50,92,158,257,400,600,873,1237,1713,2325,3100,4069,5266,6729,8500,10625,13155,16145,19655,23750,28500 ★ a(n) = (binomial(n,5) - floor(n/5)) / 5. • a(n) = (1 / 5) *{ binomial(n,5) - floor(n / 5) } . •

[A193912] • 1,4,11,25,50,93,162,272,439,694,1069,1627,2432,3611,5292,7730,11181,16156,23167,33237,47390,67673,96134,136868,193971 ★ Partial sums of A193911. • a(n) = Sum _{ i=1..n } 1 / 8 * (2 ^ (i / 2 + 2) * ((10 - 7 * sqrt(2)) * (- 1) ^ (i) + 10 + 7 * sqrt(2)) - (- 1) ^ (i) - 2 * i * (i + 12) - 79). • a(n) = (1 / 32) * ((- 1 / 2) ^ n + 32 * (41 * sqrt(2) - 58) * (sqrt(2) - 2) ^ n - 32 * (58 + 41 * sqrt(2)) * (- 2 - sqrt(2)) ^ n). •

[A014162] • 0,1,4,11,25,51,97,176,309,530,894,1490,2462,4043,6610,10773,17519,28445,46135,74770,121115,196116,317484,513876,831660 ★ Apply partial sum operator thrice to Fibonacci numbers. • a(n - 2) = sum _{ k=0..floor(n / 2) } binomial(n - k, k + 3); a(n - 2) = sum _{ k=0..n } binomial(k, n - k + 3). - _ Paul Barry _ , Oct 07 2004 • a(n) = Fib(n + 6) - (n ^ 2 + 7n + 16) / 2. • a(n) = sum _{ k=1..n } C(n - k + 3,k + 2), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 •

[A113684] • 0,1,4,11,25,52,102,193,356,645,1153,2040,3580,6241,10820,18671,32089,54956,93826,159745,271300,459721,777409,1312176,2211000 ★ Expansion of x(1-x^2-x^3)/((1-x)(1-x-x^2))^2. • a(n)=4a(n - 1) - 4a(n - 2) - 2a(n - 3) + 4a(n - 4) - a(n - 6); a(n)=sum { k=0..n, (n - k) * C(n - k, k + 1) } ; a(n)=n * (F(n + 2) - 1) - (1 + ((n - 5) * F(n - 1) + (3n - 8) * F(n)) / 5). •

[A266337] • 1,4,11,25,52,104,204,397,769,1486,2868,5532,10667,20565,39644,76420,147308,283949,547333,1055022,2033624,3919940,7555931,14564529,28074036 ★ Expansion of b(3)*b(4)/(1 - 2*x + x^5), where b(k) = (1-x^k)/(1-x). • a(n) = 2 * a(n - 1) - a(n - 5) for n>5. •

[A156127] • 4,11,25,53,109,221,445,893,1789,3581,7165,14333,28669,57341,114685,229373,458749,917501,1835005,3670013,7340029,14680061,29360125,58720253,117440509 ★ 7*2^n - 3. • a(n) = 2 * a(n - 1) + 3 with n>0, a(0)=4. •

[A178742] • 0,0,0,0,1,4,11,25,53,109,222,449,904,1814,3634,7274,14555,29118,58245,116499,233007,466023,932056,1864123,3728258 ★ Partial sums of floor(2^n/9). • a(n) = round((8 * 2 ^ n - 18 * n - 9) / 36). • a(n) = floor((4 * 2 ^ n - 9 * n + 2) / 18). • a(n) = ceil((4 * 2 ^ n - 9 * n - 11) / 18). • a(n) = round((4 * 2 ^ n - 9 * n - 4) / 18). • a(n) = a(n - 6) + 7 * 2 ^ (n - 5) - 3 , n>5. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 4 * a(n - 4) - 5 * a(n - 5) + 2 * a(n - 6). •

[A109414] • 1,4,11,26,54,90,151,232,326,456,612,811,1030,1304,1607,1953,2383,2812,3329,3893,4515,5226,5983,6809,7703 ★ a(n) equals the (n*(n+1)/2)-th partial sum of the self-convolution cube of A010054, which has the g.f.: Sum_{k>=0} x^(k*(k+1)/2). • a(n) = [x ^ (n * (n + 1) / 2)] [Sum _{ k>=0 } x ^ (k * (k + 1) / 2)] ^ 3 / (1 - x). •

[A141534] • 1,4,11,26,55,105,184,301,466,690,985,1364,1841,2431,3150,4015,5044,6256,7671,9310,11195,13349,15796,18561,21670 ★ Derived from the centered polygonal numbers: start with the first triangular number, then the sum of the first square number and the second triangular number, then the sum of first pentagonal number, the second square number and the third triangular number, and so on and so on... • a(n) = (n - 1) * (n ^ 3 + 11 * n ^ 2 - 38 * n + 120) / 24, n>1. - _ R. J. Mathar _ , Sep 12 2008 •

[A192961] • 0,1,4,11,26,55,108,201,360,627,1070,1799,2992,4937,8100,13235,21562,35055,56908,92289,149560,242251,392254,634991,1027776 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A027660] • 1,4,11,26,56,112,210,372,627,1012,1573,2366,3458,4928,6868,9384,12597,16644,21679,27874,35420,44528,55430,68380,83655 ★ a(n) = C(n+2,2) + C(n+2,3) + C(n+2,4) + C(n+2,5). • a(n) = binomial(n,5) + binomial(n,3), n>=3. - _ Zerinvary Lajos _ , Jul 24 2006 •

[A002940] • 1,4,11,26,56,114,223,424,789,1444,2608,4660,8253,14508,25343,44030,76136,131110,224955,384720,656041,1115784,1893216,3205416,5416441 ★ Arrays of dumbbells. • a(n) = sum { k=0..n, sum { i=0..n, C(k, i - k) }* k } . - _ Paul Barry _ , Feb 16 2005 •

[A248425] • 0,0,0,0,1,4,11,26,57,118,235,454,857,1588,2899,5228,9333,16520,29031,50702,88077,152290,262239,449930,769461 ★ Number of "squares" (repeated identical blocks) in the n-th Fibonacci word. • a(n) = (4 / 5)nF(n + 1) - (2 / 5)(n + 6)F(n) - 4F(n - 1) + n + 1 (for n >= 3). •

[A000295] • 0,0,1,4,11,26,57,120,247,502,1013,2036,4083,8178,16369,32752,65519,131054,262125,524268,1048555,2097130,4194281,8388584,16777191 ★ Eulerian numbers (Euler's triangle: column k=2 of A008292, column k=1 of A173018). • a(n) = 2 ^ n - n - 1. • a(0)=0, a(1)=0, a(n)=3 * a(n - 1) - 2 * a(n - 2) + 1. - _ Miklos Kristof _ , Mar 09 2005 • a(0)=0, a(n) = 2 * a(n - 1) + n - 1 for all n in Z. • a(n) = sum(k=2..n, binomial(n, k)). - _ Paul Barry _ , Jun 05 2003 • a(n + 1) = sum(1<=i<=n, sum(1<=j<=i, C(i, j))). - _ Benoit Cloitre _ , Sep 07 2003 • a(n + 1) = 2 ^ n * sum(k=0, n, k / 2 ^ k) . - _ Benoit Cloitre _ , Oct 26 2003 •

[A130103] • 0,1,1,4,11,26,57,120,247,502,1013,2036,4083,8178,16369,32752,65519,131054,262125,524268,1048555,2097130,4194281,8388584,16777191 ★ Expansion of e^(2x)-(1+x)*e^x+x. • a(n) = 2 ^ n - n - 1 + C(1,n) - C(0,n). •

[A125128] • 1,4,11,26,57,120,247,502,1013,2036,4083,8178,16369,32752,65519,131054,262125,524268,1048555,2097130,4194281,8388584,16777191,33554406,67108837 ★ a(n) = 2^(n+1) - n - 2, or partial sums of main diagonal of array A125127 of k-step Lucas numbers. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A192965] • 0,1,1,4,11,27,58,115,215,386,673,1149,1932,3213,5301,8696,14207,23143,37622,61071,99035,160486,259941,420889,681336 ★ Coefficient of x in

the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A160399] • 1,4,11,27,62,137,296,630,1326,2768,5744,11867,24429,50135,102627,209641,427518,870579,1770536,3596614,7298397,14796658,29974913,60681233,122767148 ★ a(n) = Sum_{k=1..n} binomial(n,k) * d(k), where d(k) = the number of positive divisors of k. • a(n) = 2 ^ n * (log(n) + 2 * gamma - log(2)) + O(2 ^ n * n ^ (- 1 / 4)). [Put alpha _ n = beta _ n = 1 / 2 in Thm. 4.2 of Schmidt.] - _ Eric M. Schmidt _ , Feb 03 2018 •

[A047859] • 1,4,11,27,63,143,319,703,1535,3327,7167,15359,32767,69631,147455,311295,655359,1376255,2883583,6029311,12582911,26214399,54525951,113246207,234881023 ★ a(n) = T(2, n), array T given by A047858. • a(0)=1, a(1)=4, a(2)=11, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2011 •

[A080869] • 1,4,11,27,64,149,345,797,1839,4242,9782,22554,52001,119892,276417,637290,1469294,3387506,7810005,18006217,41513909,95711641,220666238,508753041,1172946341 ★ a(n+1) = floor((a(n)+1)^(1+1/n)), with a(1)=1. • a(n) = floor(x ^ n) - 1, where x=2.305531847934805... •

[A137229] • 1,4,11,27,64,150,350,815,1896,4409,10251,23832,55404,128800,299425,696080,1618191,3761839,8745216,20330162,47261894,109870575,255418100,593775045,1380359511 ★ Transform of A000217 without the initial 0 by the T_{0,0} transformation (see link). • a(n) = term (4,1) in the 4x4 matrix [3,1, 0,0; - 2,0,1,0; 1,0,0,0; 1,0,0,1] ^ (n). - _ Alois P. Heinz _ , Jul 24 2008 •

[A003230] • 1,4,11,28,67,152,335,724,1539,3232,6727,13900,28555,58392,118959,241604,489459,989520,1997015,4024508,8100699,16289032,32726655,65705268,131837763 ★ Expansion of 1/((1-x)*(1-2*x)*(1-x-2*x^3)). • a(n + 3) = a(n + 2) + 2 * a(n) + 2 ^ (n + 4) - 1, with a(- 3)=a(- 2)=a(- 1)=0. - _ Manfred Lindemann _ , Nov 11 2015 • a(n) = q(n) + q(n - 1) + 2 * Sum _{ i=0..n - 2 } (q(i)), where q(i)=A003477 and q(- 1)=0. - _ Manfred Lindemann _ , Dec 08 2015 • a(n) = (1 / 2) * (AR * ROR ^- (n + 4) + AC * ROC ^- (n + 4) + conjugate(AC * ROC ^- (n + 4)) + 1 * (1 / 2) ^- (n + 4) + 1 * 1 ^- (n + 4)). •

[A099326] • 1,4,11,28,67,156,354,792,1747,3820,8278,17832,38174,81368,172644,365104,769411,1617228,3389838,7090440,14797546,30828424,64106716,133113168,275967022 ★ Expansion of ((1-2x)sqrt(1+2x)+sqrt(1-2x))/(2(1-2x)^(5/2)). • a(n)=sum { k=0..n, (k + 1)binomial(n, (n - k) / 2)binomial(k + 3, 3)(1 + (- 1) ^ (n - k)) / (n + k + 2) } . • a(n)=sum { k=0..n, C(n,k) * (Floor((abs(n - 2k) + 1) ^ 2 / 4) + Floor((abs(n - 2k + 1) + 1) ^ 2 / 4) } ; - _ Paul Barry _ , Oct 25 2007 •

[A127985] • 0,1,4,11,28,67,156,355,796,1763,3868,8419,18204,39139,83740,178403,378652,800995,1689372,3553507,7456540,15612131,32622364,68040931,141674268 ★ Floor(2^n*(n/3 + 4/9)). • a(n) = (n / 3 + 4 / 9) * 2 ^ n - 1 / 2 + (- 1) ^ n / 18. • a(1)=1, a(2)=4, a(3)=11, a(4)=28, a(n)=4 * a(n - 1) - 3 * a(n - 2) - 4 * a(n - 3) + 4 * a(n - 4). - _ Harvey P. Dale _ , May 15 2011 •

[A005409] • 1,1,4,11,28,69,168,407,984,2377,5740,13859,33460,80781,195024,470831,1136688,2744209,6625108,15994427,38613964,93222357,225058680,543339719,1311738120 ★ Number of polynomials of height n: a(n) = 2a(n-1) + a(n-2) + 2. • a(n) = ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) / (2 * sqrt(2)) - 1 for n>1 , a(1)=1. • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3). - _ Toby Gottfried _ , Mar 08 2013 •

[A290890] • 0,1,4,11,28,72,188,493,1292,3383,8856,23184,60696,158905,416020,1089155,2851444,7465176,19544084,51167077,133957148,350704367,918155952,2403763488,6293134512 ★ p-INVERT of the positive integers, where p(S) = 1 - S^2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A027970] • 1,4,11,29,76,196,487,1148,2552,5353,10636,20120,36425,63415,106630,173821,275603,426242,644593,955207,1389626,1987886,2800249,3889186,5331634 ★ T(n,2n-8), T given by A027960. • a(n) = (- 1169280 + 1119312 * n - 517700 * n ^ 2 + 148092 * n ^ 3 - 26551 * n ^ 4 + 2688 * n ^ 5 - 70 * n ^ 6 - 12 * n ^ 7 + n ^ 8) / 40320. - _ Colin Barker _ , Nov 25 2014 •

[A027972] • 1,4,11,29,76,199,518,1324,3278,7784,17643,38138,78753,155793,296248,543333,964239,1660748,2783499,4550843,7273394,11385571,17485634,26385946,39175444 ★ T(n,2n-10), T given by A027960. • a(n) = - 76 + 183941 * n / 2520 + 386899 * n ^ 3 / 36288 - 1747657 * n ^ 2 / 50400 - 831241 * n ^ 4 / 362880 + 11887 * n ^ 5 / 34560 - 5807 * n ^ 6 / 172800 + 41 * n ^ 7 / 24192 + n ^ 8 / 60480 - n ^ 9 / 145152 + n ^ 10 / 3628800. - R. J. Mathar, Jan 30 2011 •

[A002878] • 1,4,11,29,76,199,521,1364,3571,9349,24476,64079,167761,439204,1149851,3010349,7881196,20633239,54018521,141422324,370248451,969323029,2537720636,6643838879,17393796001 ★ Bisection of Lucas sequence: a(n) = L(2*n+1). • a(n + 1) = 3 * a(n) - a(n - 1). • a(n) = phi ^ (2 * n + 1) - phi ^ (- 2 * n - 1), n >=0. - _ Paolo P. Lava _ , Jan 03 2011 • a(n) = (- 1) ^ n * Sum _{ k=0..n } (- 5) ^ k * binomial(n + k, n - k). - _ Benoit Cloitre _ , May 09 2004 • a(n) = (1 / 2) * [(3 / 2) + (1 / 2) * sqrt(5)] ^ n + (1 / 2) * [(3 / 2) + (1 / 2) * sqrt(5)] ^ n * sqrt(5) - (1 / 2) * [(3 / 2) - (1 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 2) * [(3 / 2) - (1 / 2) * sqrt(5)] ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 21 2008 • a(n) = the numerators of sinh((2 * n - 1) * psi) where the denominators are 2. Psi=log((1 + sqrt5) / 2). Offset 1. a(3)=11. - Al Hakanson (hawkuu(AT)gmail.com), Mar 25 2009 • a(n) = floor(phi ^ (2n + 1)) , where phi is the golden ratio, A001622. - _ Thomas Ordowski _ , Jun 10 2012 •

[A291238] • 4,11,30,79,202,508,1262,3109,7614,18569,45152,109560,265448,642463,1553790,3755843,9075302,21923060,52949458,127869209,308767326,745537309,1800065788,4346043888,10492781068 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)^2 (1 - 2 S). • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 6 * a(n - 3) + 2 * a(n - 4) + 4 * a(n - 5) + a(n - 6) for n >= 7. •

[A021006] • 4,11,30,82,224,612,1672,4568,12480,34096,93152,254496,695296,1899584,5189760,14178688,38736896,105831168,289136128,789934592,2158141440,5896152064,16108587008,44009478144,120236130304 ★ Pisot sequence P(4,11), a(0)=4, a(1)=11, a(n+1) is the nearest integer to a(n)^2/a(n-1). Evidently satisfies a(n) = 2*a(n-1)+2*a(n-2). • a(n) = (7 / 6) * sqrt(3) * ((1 + sqrt(3)) ^ n - (1 - sqrt(3)) ^ n) + 2 * ((1 + sqrt(3)) ^ n + (1 - sqrt(3)) ^ n). [_ Paolo P. Lava _ , Dec 01 2008] •

[A090327] • 1,4,11,30,83,234,671,1950,5723,16914,50231,149670,446963,1336794,4002191,11990190,35937803,107747874,323112551,969075510,2906702243,8719058154,26155077311,78461037630,235374724283 ★ Number of rules of a context-free grammar in Chomsky normal form that generates all permutations of n symbols. • a(n) = ceiling[(5 * 3 ^ (n - 2)) / 2 + 2 ^ (n - 1) - 1 / 2] for n > 1. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n >= 5. - _ Robert Israel _ , Jan 15 2015 •

[A183125] • 0,1,4,11,30,83,236,687,2026,6027,18008,53927,161654,484803,1454212,4362399,13086914,39260411,117780848,353342103,1060025806 ★ Magnetic Tower of Hanoi, total number of moves, generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [NEUTRAL ; NEUTRAL ; NEUTRAL] pre-colored puzzle. • a(n)= + 5 * a(n - 1) - 6 * a(n - 2) - 2 * a(n - 3) + 7 * a(n - 4) - 3 * a(n - 5) • a(n) = 3 * a(n - 1) - 2 * n ^ 2 + 17 * n - 43 ; n even ; n >= 6 • a(n) = 3 * a(n - 1) - 2 * n ^ 2 + 17 * n - 42 ; n odd ; n >= 5 • a(n) = S64(n - 1) + S64(n - 2) + S75(n - 3) + 4 * 3 ^ (n - 3) + 2 ; n >= 3 • a(n) = 0.5 * (197 / 324) * 3 ^ n + n ^ 2 - 5.5 * n + 91 / 8; n even; n >= 4 • a(n) = 0.5 * (197 / 324) * 3 ^ n + n ^ 2 - 5.5 * n + 93 / 8; n odd; n >= 5 •

[A183123] • 0,1,4,11,30,83,236,691,2050,6123,18336,54971,164870,494563,1483636,4450851,13352490,40057403,120172136,360516331,1081548910,3244646643,9733939836,29201819411,87605458130 ★ Magnetic Tower of Hanoi, total number of moves, generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [NEUTRAL ; NEUTRAL ; NEUTRAL] pre-colored puzzle. • a(n)= + 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) + 3 * a(n - 4) for n >6. • a(n) = - 5 - (- 1) ^ n / 8 + (67 * 3 ^ (- 3 + n)) / 8 + (5 * n) / 2 for n >2. - _ Colin Barker _ , Sep 18 2014 •

[A183121] • 0,1,4,11,30,85,244,715,2118,6317,18900,56635,169822,509365,1527972,4583771,13751142,41253229,123759460,371278123,1113834078 ★ Magnetic Tower of Hanoi, total number of moves, generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [RED ; NEUTRAL ; NEUTRAL] or [NEUTRAL ; NEUTRAL ; BLUE] pre-colored puzzle. • a(n) = 3 * a(n - 1) - n ^ 2 + 6 * n - 11; n even; n >= 4 • a(n) = 3 * a(n - 1) - n ^ 2 + 6 * n - 10; n odd; n >= 3 • a(n) = a(n - 1) + 2 * S75(n - 3) + 5 * 3 ^ (n - 3) + 2; n >= 3 • a(n) = 0.5 * (23 / 36) * 3 ^ n + 0.5 * n ^ 2 - 1.5 * n + 17 / 8; n even; n >= 2 • a(n) = 0.5 * (23 / 36) * 3 ^ n + 0.5 * n ^ 2 - 1.5 * n + 19 / 8; n odd; n >= 3 •

[A104743] • 1,4,11,30,85,248,735,2194,6569,19692,59059,177158,531453,1594336,4782983,14348922,43046737,129140180,387420507,1162261486,3486784421,10460353224,31381059631,94143178850,282429536505 ★ Numbers m=n+3^n such that equation x=3^(m-x) has solution x=3^n. • a(n) = n + 3 ^ n. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). G.f.: (1 + x) * (2 * x - 1) / ((3 * x - 1) * (x - 1) ^ 2). - _ Colin Barker _ , Jan 25 2012 •

[A004080] • 0,1,4,11,31,83,227,616,1674,4550,12367,33617,91380,248397,675214,1835421,4989191,13562027,36865412,100210581,272400600,740461601,2012783315,5471312310,14872568831 ★ Least k such that H(k) >= n, where H(k) is the harmonic number sum_{i=1..k} 1/i. • a(n) = exp(n - gamma + o(1)). - _ Charles R Greathouse IV _ , Mar 10 2009 •

[A077995] • 1,1,4,11,31,88,249,705,1996,5651,15999,45296,128241,363073,1027924,2910235,8239391,23327176,66043369,186980481,529374876,1498754083,4243238399,12013359840,34011950561 ★ Expansion of (1-x)/(1-2*x-2*x^2-x^3). • a(n) = sum(m=1..n, sum(i=0..n - m, C(m + i - 1,m - 1) * sum(j=0..m, C(j, n - 3 * m + 2 * j - i) * C(m,j) * 2 ^ (n - 3 * m + 2 * j - i)))), n>0, a(0)=1. - _ Vladimir Kruchinin _ , May 12 2011 • a(0)=1, a(1)=1, a(2)=4, a(n)=2 * a(n - 1) + 2 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Sep 11 2013 •

[A052545] • 1,1,4,11,32,92,265,763,2197,6326,18215,52448,151018,434839,1252069,3605189,10380728,29890115,86065156,247814740,713554105,2054597159,5915976737,17034376106,49048531159 ★ Expansion of (1-x)^2/(1-3*x+x^3). • a(n) = Sum(- 1 / 9 * (- 1 + 2 *_ alpha ^ 2 - 2 *_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(1 - 3 *_ Z +_ Z ^ 3)). •

[A183114] • 0,1,4,11,32,93,272,807,2404,7185,21516,64483,193352,579909,1739496,5218143,15653900,46960889,140881444,422642459,1267924528 ★ Magnetic Tower of Hanoi, total number of moves, optimally solving the [RED ; NEUTRAL ; BLUE] pre-colored puzzle. • a(N) = a(N - 2) + 2 * a(N - 3) + 8 * 3 ^ (N - 3) + 2 ; N 3 ; S727(0) = 0 • a(N) = (4 / 11) * 3 ^ N + AS * 1 ^ N + BS * 2 ^ N + CS * 3 ^ N - 1 •

[A183119] • 0,1,4,11,32,93,276,823,2464,7385,22148,66435,199296,597877,1793620,5380847,16142528,48427569,145282692,435848059,1307544160 ★ Magnetic Tower of Hanoi, total number of moves generated by a certain algorithm, yielding a "forward moving" non-optimal solution of the [RED ; NEUTRAL ; BLUE] pre-colored puzzle. • a(n) = 3 * a(n - 1) - n + 3; n even; n >= 2 • a(n) = 3 * a(n - 1) - n + 2; n odd; n >= 1 • a(n) = a(n - 2) + 3 ^ (n - 1) + 1; n >= 2 • a(n) = 3 ^ (n + 1) / 8 + (n - 1) / 2 + (- 1) ^ n / 8. •

[A199109] • 4,11,32,95,284,851,2552,7655,22964,68891,206672,620015,1860044,5580131,16740392,50221175,150663524,451990571,1355971712,4067915135,12203745404,36611236211,109833708632,329501125895,988503377684 ★ a(n) = (7*3^n + 1)/2. • a(n) = 3 * a(n - 1) - 1. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A179905] • 1,4,11,33,79,158,279,451,683,984,1363,1829,2391,3058,3839,474

3,5779,6956,8283,9769,11423,13254,15271,17483,19899 ★ (1, 4, 7, 10, 13,...) convolved with (1, 0, 4, 7, 10, 13...); given A016777 = (1, 4, 7, 10, 13,...). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 04 2012 •

[**A143787**] • 1,1,4,11,33,95,278,808,2355,6856,19969,58151,169353,493190,1436288,4182793,12181260,35474611,103310209,300862991,876181998,2551642760,7430968523,21640683328,63022629465 ★ Number of compositions of n into floor((3*j)/2) kinds of j's for all j>=1. • a(n) = + 2 * a(n - 1) + 3 * a(n - 2) - 1 * a(n - 3). •

[**A180305**] • 1,1,4,11,34,96,288,833,2456,7175,21054,61633,180674,529220,1550800,4543446,13312552,39004278,114281748,334837511,981059294,2874447292,8421986238,24675963950,72299290794 ★ G.f.: 1/(1 + x*d/dx log(eta(x))), where eta(x) is Dedekind's eta(q) function without the q^(1/24) factor. • a(n) = Sum _{ k=0,n - 1 } sigma(n - k) * a(k) for n>0 with a(0) = 1. •

[**A060925**] • 1,4,11,34,101,304,911,2734,8201,24604,73811,221434,664301,1992904,5978711,17936134,53808401,161425204,484275611,1452826834,4358480501,13075441504,39226324511,117678973534,353036920601 ★ a(n) = 2a(n-1) + 3a(n-2), a(0) = 1, a(1) = 4. • a(n) = (5 * 3 ^ n - (- 1) ^ n) / 4. • a(2n) = 3a(2n - 1) - 1; a(2n + 1) = 3a(2n) + 1. - _ Philippe Deléham _ , Jul 23 2005 •

[**A054577**] • 0,1,4,11,36,115,381,1287,4420,15396,54264,193154,693373,2507287,9124560,33393355,122821380,453756765,1683107800,6265751310,23402516280,87670790155,329337229104,1240292449350,4681874312509 ★ A Catalan-like sequence. • a(n) = Floor(1 / (n + k) * C(pn, n)), where k=2, p=2. •

[**A206687**] • 1,4,11,36,116,376,1216,3936,12736,41216,133376,431616,1396736,4519936,14626816,47333376,153174016,495681536,1604059136,5190844416,16797925376,54359228416,175910158336,569257230336,1842155094016 ★ Number of n X 2 0..3 arrays with no element equal to another within two positions in the same row or column, and new values 0..3 introduced in row major order. • a(n) = ((1 - sqrt(5)) ^ n * (- 5 + 3 * sqrt(5)) + (1 + sqrt(5)) ^ n * (5 + 3 * sqrt(5))) / (16 * sqrt(5)) for n>2. •

[**A282702**] • 4,11,37,122,403,1331,4396,14519,47953,158378,523087,1727639,5706004,18845651,62242957,205574522,678966523,2242474091,7406388796,24461640479,80791310233,266835571178,881298023767,2910729642479,9613486951204 ★ a(n) = 3*a(n-1) + a(n-2), with a(0)=4, a(1)=11. • a(n) = (2 ^ (- n) * ((3 - sqrt(13)) ^ n * (- 5 + 2 * sqrt(13)) + (3 + sqrt(13)) ^ n * (5 + 2 * sqrt(13)))) / sqrt(13). - _ Colin Barker _ , Feb 26 2017 •

[**A106269**] • 1,1,4,11,39,137,501,1853,6936,26163,99314,378879,1451392,5579179,21509692,83137939,322049887,1249941049,4859617537,18922572949,73782881947,288051510169,1125832363807,4404766873969,17249634205357 ★ Expansion of 1/((1-x^2)(2-c(x))), c(x) the g.f. of A000108. • a(n)=(- 1) ^ n * sum { k=0..floor(n / 2), binomial(2k - n, n - 2k) } . •

[**A243760**] • 0,1,1,4,11,40,138,512,1903,7256,27910,108704,426702,1688080,6719252,26895360,108171319,436935544,1771673454,7208637920,29422782282,120436341360,494277785356,2033457590656,8384379887334 ★ Expansion of (sqrt(8*x+1)*(1-4*x)-3)-1)/(2*sqrt(1-4*x)-2). • a(n) = Sum _{ k=0..(n - 1) / 2 } 2 ^ k * binomial(2 * k + 1,k) * binomial(2 * n - 2 * k - 2,n - 1)) / n, n>0, a(0)=0. •

[**A077236**] • 4,11,40,149,556,2075,7744,28901,107860,402539,1502296,5606645,20924284,78090491,291437680,1087660229,4059203236,15149152715,56537407624,211000477781,787464503500,2938857536219,10967965641376 ★ Bisection (even part) of Chebyshev sequence with Diophantine property. • a(n)=4 * a(n - 1) - a(n - 2) with a(0)=4 and a(1)=11. [From _ Philippe Deléham _ , Nov 16 2008] • a(n)= - (1 / 2) * sqrt(3) * [2 - sqrt(3)] ^ n + (1 / 2) * sqrt(3) * [2 + sqrt(3)] ^ n + 2 * [2 - sqrt(3)] ^ n + 2 * [2 + sqrt(3)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 20 2008] • a(n)=((4 + sqrt3)(2 + sqrt3) ^ n + (4 - sqrt3)(2 - sqrt3) ^ n) / 2. Offset 0. a(n)=second binomial transform of 4,3,12,9,36. [From Al Hakanson (hawkuu(AT)gmail.com), Jul 06 2009] •

[**A030981**] • 1,1,4,11,41,146,564,2199,8835,35989,148912,623008,2633148,11222160,48181056,208180847,904593623,3950338043,17328256180,76316518987,337332601513,1495992837550,6654367576732,29681131861564 ★ Number of noncrossing bushes with n nodes; i.e., rooted noncrossing trees with n nodes and no nonroot nodes of degree 1. • a(n) = Sum _{ k=1..n } ((- 1) ^ (n - k) * 2 ^ (n - k) * binomial(n, k) * binomial(3 * k, k - 1)) / n. • a(n) = (- 1) ^ (n + 1) * 2 ^ (n - 1) * hypergeom([4 / 3, 5 / 3, 1 - n], [2, 5 / 2], 27 / 8). - _ Peter Luschny _ , Aug 03 2017 •

[**A278988**] • 0,0,1,1,4,11,41,162,610,2165,7327,23948,76352,239175,739909,2268710,6912430,20966441,63390587,191220048,575888044,1732382363,5207108161,15642295562,46970926394 ★ a(n) is the number of words of length n over an alphabet of size 3 that are in standard order and which have the property that every letter that appears in the word is repeated. • a(n) = (2 * (3 + 3 ^ n) - 3 * (2 + 2 ^ n) * n + 6 * n ^ 2) / 12 for n>3. • a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 82 * a(n - 3) - 91 * a(n - 4) + 52 * a(n - 5) - 12 * a(n - 6) for n>9. •

[**A278989**] • 0,0,1,1,4,11,41,162,715,3425,16777,80928,379347,1726375,7654817,33219630,141692075,596122477,2480969257,10237751324,41963944275,171103765747,694775280993,2812004330666,11352134320523 ★ a(n) is the number of words of length n over an alphabet of size 4 that are in standard order and which have the property that every letter that appears in the word is repeated. • a(n) = 20 * a(n - 1) - 175 * a(n - 2) + 882 * a(n - 3) - 2835 * a(n - 4) + 6072 * a(n - 5) - 8777 * a(n - 6) + 8458 * a(n - 7) - 5204 * a(n - 8) + 1848 * a(n - 9) - 288 * a(n - 10) for n > 14. •

[**A032181**] • 0,1,1,4,11,56,267,1730,11643,93532,804563,7789838,81109107,923080328,11250876171,147433014058,2056359699659,30514968348500,479058943716579,7942752339181286,138576460230586755,2539126631897727808,48733588613803358939 ★ Number of ways to partition n labeled elements into pie slices each of at least 2 elements. • a(n) = n! * sum(k=1..n, sum(j=0..k, binomial(k,j) * stirling2(n - k + j,j) * j! / (n - k + j)! * (- 1) ^ (k - j)) / k). - _ Vladimir Kruchinin _ , Feb 01 2011 •

[**A203577**] • 1,1,4,11,58,212,1304,5567,37734,178148,1284124,6501420,48758648,259775440,2000594288,11080668871,86930955662,496461841956,3947716126292,23113333523180,185660199980696,1109722749130576,8983793097101144,54645629076275356,445109373450545608 ★ Exponential (or binomial) half-convolution of the sequence A000108 (Catalan) with itself. • a(n) = sum(binomial(n,k) * Catalan(k) * Catalan(n - k), k=0..floor(n / 2)), n>=0. •

[**A081073**] • 4,11,58,380,2587,17714,121396,832043,5702890,39088172,267914299,1836311906,12586269028,86267571275,591286729882,4052739537884,27777890035291,190392490709138,1304969544928660,8944394323791467 ★ Fibonacci(4n+2)+3, or Fibonacci(2n-1)*Lucas(2n+3). • a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). • a(n) = 3 + (1 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (3 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[**A134823**] • 4,11,63,409,2818,19669,137725,965065,6763525,47403061,332233597,2328528748,16319989180,114382129186,801671598205,5618686762534,39379767287245,276001517369095,1934415636331069,13557765514528696 ★ Expansion of -x*(x^5+11*x^4+x^3+x^2+21*x-4) / ((x^2+x-1)*(3*x^4+7*x-1)). • a(n) = + 8 * a(n - 1) - 6 * a(n - 2) - 7 * a(n - 3) + 3 * a(n - 4) - 3 * a(n - 5) - 3 * a(n - 6). - _ Colin Barker _ , Mar 17 2013 •

[**A006551**] • 1,1,4,11,66,302,2416,15619,156190,1310354,15724248,162512286,2275172004,27971176092,447538817472,6382798925475,114890380658550,1865385657780650,37307713155613000,679562217794156938,14950368791471452636 ★ Maximal Eulerian numbers. • a(n) = sum _{ 0<=j<=floor(n / 2) } (- 1) ^ j binomial(n + 1,j) (floor(n / 2) - j + 1) ^ n. [_ Peter Luschny _ , Aug 08 2010] • a(n + 1) / a(n) ~ n. - _ Ran Pan _ , Oct 26 2015 •

[**A167418**] • 1,4,11,124,841,3844,23571,159164,903201,5174084,32096731,192836604,1128271161,6758574724,40676603491,241740656444,1439437080721,8616705389764,51443701799851,306634988322684,1830991983267881 ★ G.f.: 1/(1 - 4*x + 5*x^2 - 100*x^3). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 100 * a(n - 3) for n > 2. •

[**A055979**] • 4,11,134,373,4552,12671,154634,430441,5253004,14622323,178447502,496728541,6061962064,16874148071,205928262674,573224305873,6995498968852,19472752251611,237641036678294,661500352248901,8072799748093144,22471539224211023 ★ Solutions (value of r) of the Diophantine equation 2*x^2 + 3*x + 2 = r^2. • a(0)=4, a(1)=11, a(2)=134, a(3)=373, a(n)=34 * a(n - 2) - a(n - 4). - _ Harvey P. Dale _ , Feb 21 2012 •

[**A224785**] • 1,4,12,15,45,48,144,147,441,444,1332,1335,4005,4008,12024,12027,36081,36084,108252,108255,324765,324768,974304,974307,2922921 ★ Expansion of (1+4*x+8*x^2-x^3)/((1-x)*(1+x)*(1-3*x^2)). • a(n) = a(n - 1) + 3 if n odd. • a(n) = a(n - 1) * 3 if n even. • a(2n) = (11 * 3 ^ n - 9) / 2. • a(2n + 1) = (11 * 3 ^ n - 3) / 2. • a(n) = 4 * a(n - 2) - 3 * a(n - 4) with n>3, a(0)=1, a(1)=4, a(2)=12, a(3)=15. • a(n) = (11 * 3 ^ floor(n / 2) - 3(- 1) ^ n) / 2 - 3. [_ Bruno Berselli _ , Apr 27 2013] •

[**A195547**] • 1,4,12,15,80,208,273,1428,3740,4895,25632,67104,87841,459940,1204140,1576239,8253296,21607408,28284465,148099380,387729212,507544127,2657535552,6957518400,9107509825 ★ Denominators a(n) of Pythagorean approximations b(n)/a(n) to 1/2. • a(n) = 2 * F(n) * F(n + 1) / (2 - ((n + 2) ^ 2 mod 3)), where F(n)=Fibonacci(n). - _ Gary Detlefs _ , Oct 15 2011 •

[**A108269**] • 4,12,16,20,28,36,44,48,52,60,64,68,76,80,84,92,100,108,112,116,124,132,140,144,148 ★ Numbers of the form a(m, n) = (2m - 1)*4^n where m >= 1, n >= 1. • a(n) = 3n + O(log n). - _ Charles R Greathouse IV _ , Nov 03 2016 •

[**A134860**] • 4,12,17,25,33,38,46,51,59,67,72,80,88,93,101,106,114,122,127,135,140,148,156,161,169 ★ Wythoff AAB numbers; also, Fib101 numbers: those n for which the Zeckendorf expansion A014417(n) ends with 1,0,1. • a(n) = A(A(B(n))), n>=1, with A=A000201, the lower Wythoff sequence and B=A001950, the upper Wythoff sequence. •

[**A230628**] • 4,12,18,24,30,36,42,48,54,60,66,72,78,84,90,96,102,108,114,120,126,132,138,144,150 ★ Maximum number of colors needed to color a planar map of several empires, each empire consisting of n countries. • a(1)=4; thereafter a(n) = 6 * n (See Jackson & Ringel 1984). • a(n) = 2 * a(n - 1) - a(n - 2) for n > 3. - _ Wesley Ivan Hurt _ , Mar 07 2016 •

[**A017113**] • 4,12,20,28,36,44,52,60,68,76,84,92,100,108,116,124,132,140,148,156,164,172,180,188,196 ★ a(n) = 8*n+4. • a(n) = 16 * n - a(n - 1) with n>0, a(0)=4. - _ Vincenzo Librandi _ , Nov 19 2010 • a(n) = sum((i ^ k + 1) * (i ^ (4n - k) + 1), k=0..4n), where i=sqrt(- 1). - _ Bruno Berselli _ , Mar 19 2012 •

[**A212965**] • 1,4,12,21,37,52,76,97,129,156,196,229,277,316,372,417,481,532,604,661,741,804,892,961,1057 ★ Number of (w,x,y) with all terms in {0,...,n} and w=range{w,x,y}. • a(n) = (14 * n * (n + 1) + (2 * n + 1) * (- 1) ^ n + 7) / 8. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A092285**] • 1,4,12,22,65,116,399,554,2475,3232,14938,20208,101413,130846,691890,924946,4867559,6281552,35154066,46902128 ★ Number of productions of a certain "divide-and-conquer" context-free grammar in Chomsky normal form that generates all permutations of n symbols. • a(n) = Sum(k=1..n, t(n, k) * C(k, ceiling[k / 2])), where t(n, k) is the n - th row in the Pascal - like triangle of A090349 and C(k, i) is the binomial coefficient. •

[**A273315**] • 4,12,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule

643", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>1. • a(n) = 2 * a(n - 1) - a(n - 2) for n>3. •

[A046092] • 0,4,12,24,40,60,84,112,144,180,220,264,312,364,420,480,544,612,684,760,840,924,1012,1104,1200 ⋆ 4 times triangular numbers: a(n) = 2*n*(n+1). • a(n) = C(2n, 2) - n = 4 * C(n, 2). - _ Zerinvary Lajos _ , Feb 15 2005 • a(n)=A028896 - A002378; a(n)=A124080 - A028896; a(n)=A049598 - A033996. - _ Zerinvary Lajos _ , Mar 06 2007 • a(n) = a(n - 1) + 4 * n; o.g.f.:4 * x / (1 - x) ^ 3; e.g.f.: exp(x) * (2 * x ^ 2 + 4 * x). - _ Geoffrey Critzer _ , May 17 2009 • a(n)=1 / int(- (x * n + x - 1) * (step((- 1 + x * n) / n) - 1) * n * step((x * n + x - 1) / (n + 1)),x=0..1) where step(x)=piecewise(x<0,0,0<=x,1) is the Heaviside step function • a(0)=0, a(1)=4, a(2)=12, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 25 2011 • a(n) * (2m + 1) ^ 2 + a(m) = a(n * (2m + 1) + m), for any nonnegative integers n and m. •

[A008253] • 1,4,12,24,42,64,92,124,162,204,252,304,362,424,492,564,642,724,812,904,1002,1104,1212,1324,1442 ⋆ Coordination sequence for diamond. • a(2 * m) = 10 * m ^ 2 + 2, a(2 * m + 1) = 10 * m ^ 2 + 10 * m + 4 (_ N. J. A. Sloane _). • a(n) = 2 * (2 + Sum[Floor[(5 * k + 3) / 2], { k,1,n - 1 }]). - _ Alexander Adamchuk _ , May 23 2006 • a(n) = (5 * n ^ 2 + 4) / 2 for n> 0 and even. • a(n) = (5 * n ^ 2 + 3) / 2 for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A011887] • 0,0,0,1,4,12,24,42,67,100,144,198,264,343,436,546,672,816,979,1162,1368,1596,1848,2125,2428 ⋆ [n(n-1)(n-2)/5]. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8). G.f.: x ^ 3 * (1 + x + 3 * x ^ 2 - x ^ 3 + 2 * x ^ 4) / ((- 1 + x) ^ 4 * (1 + x + x ^ 2 + x ^ 3 + x ^ 4)). [From _ R. J. Mathar _ , Apr 15 2010] •

[A128624] • 1,4,12,24,45,72,112,160,225,300,396,504,637,784,960,1152,1377,1620,1900,2200,2541,2904,3312,3744,4225 ⋆ Row sums of A128623. • a(n) = n * (2 * n ^ 2 + 4 * n - (- 1) ^ n + 1) / 8. • a(n) = (n ^ 3 + 2 * n ^ 2) / 4 for n even. • a(n) = (n ^ 3 + 2 * n ^ 2 + n) / 4 for n odd. •

[A192797] • 4,12,24,48,80,132,196,288,396,540,704,912,1144,1428,1740,2112,2516,2988,3496,4080,4704,5412,6164,7008,7900 ⋆ Molecular topological indices of the cycle graphs • a(n) = n * (2 * n ^ 2 + (- 1) ^ n + 15) / 4. • a(n) = + 2 * a(n - 1) + 1 * a(n - 2) - 4 * a(n - 3) + 1 * a(n - 4) + 2 * a(n - 5) - 1 * a(n - 6). •

[A132477] • 1,4,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824,50331648 ⋆ Row sums of triangle A132476. • a(0) = 1, a(1) = 4, a(n) = 3 * 2 ^ n for n>1. • a(n)=2 * a(n - 1) for n>1. - _ Harvey P. Dale _ , May 31 2017 •

[A143270] • 1,4,12,24,50,72,126,176,252,320,462,552,754,896,1080,1280,1632,1836,2280,2560,2940,3300,3956,4320,5000 ⋆ a(n) = n*A002088. • a(n) = n * A002088, where A002088 = partial sums of phi(n). Equals row sums of triangle A143269. • a(n) = SUM(SUM(0 ^ (GCD(i,j) - 1): 1<=j<=i * n): 1<=i<=n) . [From _ Reinhard Zumkeller _ , Jan 15 2009] •

[A136486] • 0,4,12,24,52,76,112,148,192,256,308,376,440,524,608,688,796,904,1012,1124,1232,1372,1508,1648,1788 ⋆ Number of unit square lattice cells enclosed by origin centered circle of diameter 2n+1. • a(n) = 4 * Sum(floor(sqrt((n + 1 / 2) ^ 2 - k ^ 2))), k = 1 ... n •

[A216244] • 4,12,24,60,84,144,180,264,420,480,684,840,924,1104,1404,1740,1860,2244,2520,2664,3120,3444,3960,4704,5100 ⋆ Numbers a(n) such that a(n)^2 + prime(n)^2 = m^2 for some integer m. • a(n) = (prime(n) ^ 2 - 1) / 2 for n > 1. •

[A218034] • 1,4,12,24,84,240,732,2184,6564,19680,59052,177144,531444,1594320,4782972,14348904,43046724,129140160,387420492,1162261464,3486784404,10460353200,31381059612,94143178824,282429536484 ⋆ Number of ways to seat 4 types of people in n labeled seats around a circle such that no two adjacent people are of the same type. • a(0) = 1, a(1) = 4, a(n) = 3 ^ n + 3 * (- 1) ^ n for n >= 2. • a(n + m) = a(n) * a(m) / 4 + a(n + 1) * a(m + 1) / 12. - _ Yuchun Ji _ , Sep 12 2017 •

[A008044] • 1,4,12,25,42,61,88,122,160,200,246,299,358,417,480,550,628,710,796,887,984,1083,1188,1298,1412 ⋆ Coordination sequence T2 for Zeolite Code ATV. • a(40 * m + k) = 3920 * m ^ 2 + 196 * k * m + one of 40 numbers depending on k, 0<=k<40. - _ N. J. A. Sloane _ •

[A116668] • 1,4,12,25,43,66,94,127,165,208,256,309,367,430,498,571,649,732,820,913,1011,1114,1222,1335,1453 ⋆ a(n) = (5*n^2 + n + 2)/2. • a(n) = 5 * n + a(n - 1) - 2 (with a(0)=1) - _ Vincenzo Librandi _ , Nov 13 2010 •

[A008264] • 1,4,12,25,44,67,96,130,170,214,264,319,380,445,516,592,674,760,852,949,1052,1159,1272,1390,1514 ⋆ Coordination sequence for tridymite and lonsdaleite. • a(4m + k) = 42 * m ^ 2 + 21 * k * m + [2, 4, 12, 25], 0<=k<4 (_ N. J. A. Sloane _). • a(n) = 1 + (42 * n ^ 2 + (1 + (- 1) ^ n) * (3 + 2 * (- 1) ^ ((n - 1) * n / 2)) + 6) / 16 for n>0, a(0)=1. - _ Bruno Berselli _ , Jul 24 2013 •

[A000297] • 0,4,12,25,44,70,104,147,200,264,340,429,532,650,784,935,1104,1292,1500,1729,1980,2254,2552,2875,3224 ⋆ a(n) = (n+1)*(n+3)*(n+8)/6. • a(n) = Sum _{ k=3..n } n * (k + 1) / 3, n>=2. - _ Zerinvary Lajos _ , Jan 29 2008 • a(n) = a(n - 1) + (n ^ 2 + 7n + 8) / 2. •

[A078618] • 1,4,12,25,45,73,112,162,225,302,396,507,637,787,960,1156,1377,1624,1900,2205,2541,2909,3312,3750,4225 ⋆ a(n) = floor(average of first n cubes). • a(n) = floor((1 / n)(Sum _{ i=1..n } i ^ 3) = floor(n * (n + 1) ^ 2 / 4). •

[A264100] • 0,1,4,12,26,50,82,130,188,265,358,473,602,765,944,1151,1386,1657,1948,2284,2642,3048,3490,3972,4480 ⋆ Sum of the lengths of the arithmetic progressions in {1,2,3,...,n}, including trivial arithmetic progressions of lengths 1 and 2. • a(n) = n + Sum _{ k=2..n } k * floor((n - 1) / (k - 1)) * (2 * n - (k - 1) * floor((n + k - 2) / (k - 1))) / 2. •

[A266958] • 1,4,12,27,43,68,92,127,159,204,244,299,347,412,468,543,607,692,764,859,939,1044,1132,1247,1343 ⋆ Numbers m such that 9*m+13 is a square. • a(n) = a(- n + 1) = (18 * (n - 1) * n + (2 * n - 1) * (- 1) ^ n - 7) / 8. •

[A212973] • 1,4,12,27,50,84,131,192,270,367,484,624,789,980,1200,1451,1734,2052,2407,2800,3234,3711,4232,4800,5417 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w<=floor((x+y)/3)). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A047732] • 1,4,12,27,51,86,134,197,277,376,496,639,807,1002,1226,1481,1769,2092,2452,2851,3291,3774,4302,4877,5501 ⋆ First differences are A005563. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 28 2012 • a(n) = (2 * n ^ 3 + 9 * n ^ 2 + 7 * n + 6) / 6. - _ Vincenzo Librandi _ , Jun 28 2012 •

[A104385] • 0,0,1,4,12,27,52,91,147,225,331,469,645,867,1141,1474,1875,2352,2914,3571,4332,5208,6211,7351,8640 ⋆ Number of distinct partitions of triangular numbers n*(n+1)/2 into 3 parts for n>=1. • a(n) = round((3n ^ 4 + 6 n ^ 3 - 33n ^ 2 - 36n + 110) / 144) (conjectured). - _ Ralf Stephan _ , Nov 13 2010. •

[A213760] • 1,4,12,27,52,92,148,230,335,480,656,889,1162,1512,1912,2412,2973,3660,4420,5335,6336,7524,8812,10322,11947 ⋆ Antidiagonal sums of the convolution array A213783. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). • a(n) = (2 * n ^ 4 + 22 * n ^ 3 + 40 * n ^ 2 + 8 * n) / 96 for n even. • a(n) = (2 * n ^ 4 + 22 * n ^ 3 + 34 * n ^ 2 + 26 * n + 12) / 96 for n odd. •

[A007009] • 1,4,12,27,54,96,160,250,375,540,756,1029,1372,1792,2304,2916,3645,4500,5500,6655,7986,9504,11232,13182,15379 ⋆ Number of 3-voter voting schemes with n linearly ranked choices. • a(n) = (1 / 2) * Sum _{ k=1..n + 1 } k * floor(k / 2) * ceil(k / 2). - _ Vladeta Jovovic _ , Apr 29 2006 • a(n) = (n ^ 4 + 6 * n ^ 3 + 12 * n ^ 2 + 8 * n) / 32 for n even; a(n) = (n ^ 4 + 6 * n ^ 3 + 12 * n ^ 2 + 10 * n + 3) / 32 for n odd. - _ Colin Barker _ , Jan 07 2016 •

[A013697] • 1,4,12,27,57,119,245,497,1005,2023,4063,8149,16327,32692,65435,130938,261965,524050,1048259,2096730,4193742,8387859,16776218,33553102,67107091 ⋆ Second term in continued fraction for zeta(n). • a(n) = floor(1 / (zeta(n) - 1)). • a(n) = 2 ^ n - (4 / 3) ^ n + O(1). It appears that a(n) = 2 ^ n - floor((4 / 3) ^ n) - k, where k is usually 2 but is sometimes 1. Up to n=1000, the only values of n where k = 1 are 4, 5, 13, 14, and 17. (End) •

[A212522] • 0,0,0,0,4,12,27,60,112,180,300,450,648,924,1274,1680,2240,2880,3645,4590,5700,6930,8470,10164,12096 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w>=2x and y>3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A112087] • 4,12,28,52,84,124,172,228,292,364,444,532,628,732,844,964,1092,1228,1372,1524,1684,1852,2028,2212,2404 ⋆ 4*(n^2 - n + 1). • a(n) = 8 * n + a(n - 1) - 8 (with a(1)=4). - _ Vincenzo Librandi _ , Nov 13 2010 •

[A184633] • 1,4,12,28,55,96,152,227,324,444,591,768,976,1219,1500,1820,2183,2592,3048,3555,4116,4732,5407,6144,6944 ⋆ Floor(1/{(9+n^4)^(1/4)}), where {} = fractional part. • a(n) = floor(1 /{ (9 + n ^ 4) ^ (1 / 4) }), where {} = fractional part. •

[A006000] • 1,4,12,28,55,96,154,232,333,460,616,804,1027,1288,1590,1936,2329,2772,3268,3820,4431,5104,5842,6648,7525 ⋆ a(n) = (n+1)*(n^2+n+2)/2; g.f.: (1 + 2*x^2) / (1 - x)^4. • a(n) = sum _{ j=1..n + 1 } (binomial(0,0 * j) + binomial(n + 1,2)). - _ Zerinvary Lajos _ , Jul 25 2006 • a(n - 1) = n + (n ^ 3 - n ^ 2) / 2 = n + n * T(n - 1) where T(n - 1) is a triangular number, n>=1. - _ William A. Tedeschi _ , Aug 22 2010 •

[A085622] • 1,4,12,28,56,88,132,180,240,304,380,460,552,648,756,868,992,1120,1260,1404,1560,1720,1892,2068,2256 ⋆ Maximal number of segments (equivalently, corners) in a rook circuit of a 2n X 2n board. • a(n) = 4n ^ 2 - 2n if n is even and 4n ^ 2 - 2n - 2 if n is odd and > 1. • a(n) = - 1 + (- 1) ^ n - 2 * n + 4 * n ^ 2 for n>1. a(n)=2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>5. G.f.: - (4 * x ^ 5 - 7 * x ^ 4 - 6 * x ^ 3 - 4 * x ^ 2 - 2 * x - 1) / ((1 - x) ^ 3 * (1 + x)). [_ Colin Barker _ , Oct 05 2012] •

[A011940] • 0,0,0,0,0,4,12,28,56,100,168,264,396,572,800,1092,1456,1904,2448,3100,3876,4788,5852,7084,8500 ⋆ a(n) = floor(n(n-1)(n-2)(n-3)/30). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 5) - 4 * a(n - 6) + 6 * a(n - 7) - 4 * a(n - 8) + a(n - 9). •

[A223764] • 4,12,28,56,101,169,267,403,586,826,1134,1522,2003,2591,3301,4149,5152,6328,7696,9276,11089,13157,15503,18151,21126 ⋆ Number of n X 2 0..1 arrays with rows, columns and antidiagonals unimodal and diagonals nondecreasing. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[A102653] • 4,12,28,56,112,228,460,920,1840,3684,7372,14744,29488,58980,117964,235928,471856,943716,1887436,3774872,7549744,15099492,30198988,60397976,120795952 ⋆ a(n) = 4 * floor(27*2^n/15). • a(0)=4, a(1)=12, a(2)=28, a(3)=56, a(n)=3 * a(n - 1) - 3 * a(n - 2) + 3 * a(n - 3) - 2 * a(n - 4). - _ Harvey P. Dale _ , Jun 15 2011 •

[A028346] • 1,4,12,28,58,108,188,308,483,728,1064,1512,2100,2856,3816,5016,6501,8316,10516,13156,16302,20020,24388,29484,35399 ⋆ Expansion of 1/((1-x)^4*(1-x^2)^2). • a(n) = (n + 4) * (2 * n ^ 4 + 32 * n ^ 3 + 172 * n ^ 2 + 352 * n + 15 * (- 1) ^ n + 225) / 960. - _ R. J. Mathar _ , Apr 01 2010 • a(n) = C(n + 3, 3) + 2 * C(n + 1, 3) + 3 * C(n - 1, 3) + 4 * C(n - 3, 3) + ... • a(n) = Sum _{ i = 1..z } i * C(n + 5 - 2 * i,3) where z = (2 * n + 3 + (- 1) ^ n) / 4. •

[A179023] • 0,1,4,12,28,60,120,231,432,792,1430,2552,4512,7917,13804,23940,41328,71060,121752,207955,354200,601776,1020074,1725552,2913408 ⋆ a(n)

= n(F(n+2) - 1) where F(n) is defined by A000045. • a(0)=0, a(1)=1 and for n>1, a(n) = a(n - 1) + F(n + 1) + nF(n) - 1. •

[A269712] • 1,4,12,28,60,124,252,508,1020,2044,4092,8188,16380,32764,65532,131068 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 20", based on the 5-celled von Neumann neighborhood. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. •

[A028399] • 0,4,12,28,60,124,252,508,1020,2044,4092,8188,16380,32764,65532,131068,262140,524284,1048572,2097148,4194300,8388604,16777212,33554428,67108860 ★ a(n) = 2^n - 4. • a(n) = a(n - 1) + 2 ^ (n - 1) (with a(2)=0). [_ Vincenzo Librandi _ , Nov 22 2010] •

[A173033] • 1,4,12,28,60,124,252,508,1020,2044,4092,8188,16380,32764,65532,131068,262140,524284,1048572,2097148,4194300,8388604,16777212,33554428,67108860 ★ Second diagonal under the main diagonal in A172119 written in a square (see comment). • a(n) = 2 ^ (n + 2) - 4 for n>=1, a(0)=1. • a(n) = 2 * a(n - 1) + 4 for n>1. - _ J. Conrad _ , Nov 01 2015 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. - _ Colin Barker _ , Nov 03 2015 •

[A014342] • 4,12,29,58,111,188,305,462,679,968,1337,1806,2391,3104,3953,4978,6175,7568,9185,11030,13143,15516,18177,21150,24471 ★ Convolution of primes with themselves. • a(n) = Sum _{ i=1..n } p(i) * p(n + 1 - i), where p(i) is the i - th prime. •

[A086274] • 1,4,12,29,60,111,189,302,459,670,946,1299,1742,2289,2955,3756,4709,5832,7144,8665,10416,12419,14697,17274,20175 ★ Antidiagonal sums of A086272 (and of A086273). • a(n)=n + Sum { (k + 1)C(n + 1 - k, 2): k =1, 2, ..., n } . •

[A174121] • 1,4,12,29,61,118,218,395,715,1308,2432,4601,8841,17202,33782,66775,132567,263928,526396,1051045,2100021,4197614,8392402,16781539,33559331 ★ Partial sums of A001580. • a(n) = (n - 2) * (2 * n ^ 2 + n + 3) / 6 + 2 ^ n. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) for n>5. •

[A128563] • 1,4,12,29,61,120,222,392,669,1109,1792,2838,4413,6751,10184,15169,22332,32538,46955,67162,95288,134173,187593,260562,359682 ★ Column 2 of triangle A128562. • a(n) is the coefficient of q ^ (2n + 6) in the q - binomial coefficient [2n + 5,n + 2]. •

[A192978] • 0,1,4,12,29,62,122,227,406,706,1203,2020,3356,5533,9072,14816,24129,39218,63654,103215,167250,270886,438599,709992,1149144 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A008261] • 1,4,12,30,52,80,116,156,204,258,318,384,458,536,622,714,812,916,1028,1144,1268,1398,1534,1676,1826 ★ Coordination sequence for quartz. • a(6m)=114m ^ 2 + 2, a(6m + 1)=114m ^ 2 + 38m + 4, a(6m + 2)=114m ^ 2 + 76m + 14 (m>0), a(6m + 3)=114m ^ 2 + 114m + 30, a(6m + 4)=114m ^ 2 + 152m + 52, a(6m + 5)=114m ^ 2 + 190m + 80 (_ N. J. A. Sloane _). •

[A099407] • 1,4,12,30,60,96,144,198,308,420,540,720,840,966,1196,1508,1740,1980,2310,2520,2808,3198,3608,4224,4800 ★ Number of points of self-intersection of the path of a billiard ball traveling at a 45-degree angle on a prime(n) X prime(n+1) billiard table. Also equal to 1/2 the number of the lattice points lying within a prime(n) X prime(n+1) rectangle. • a(n) = (prime(n) - 1) * (prime(n + 1) - 1) / 2. •

[A011938] • 0,0,0,0,0,4,12,30,60,108,180,282,424,612,858,1170,1560,2040,2622,3322,4152,5130,6270,7590,9108 ★ a(n) = floor(n*(n-1)*(n-2)*(n-3)/28). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 7) - 4 * a(n - 8) + 6 * a(n - 9) - 4 * a(n - 10) + a(n - 11). - _ Chai Wah Wu _ , May 25 2016 •

[A212519] • 0,0,0,1,4,12,30,63,108,192,300,450,660,936,1260,1715,2240,2880,3672,4617,5670,7000,8470,10164,12144 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w>2x and y>=3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A166213] • 1,4,12,30,64,122,218,364,579,886,1310,1880,2636,3614,4862,6434,8387,10784,13704,17220,21422,26408,32280,39148,47143 ★ Number of 5 X 5 X 5 triangular nonnegative integer arrays, symmetric under 120 degree rotation, with all sums of an element and its neighbors <= n. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - 3 * a(n - 4) + 6 * a(n - 6) - 3 * a(n - 8) - 2 * a(n - 9) + a(n - 10) + 2 * a(n - 11) - a(n - 12) for n>11. •

[A011797] • 0,0,0,0,0,0,0,1,4,12,30,66,132,245,429,715,1144,1768,2652,3876,5537,7752,10659,14421,19228 ★ a(n) = floor(C(n,6)/7). • a(n) = floor(binomial(n + 1,7) / (n + 1)). [_ Gary Detlefs _ , Nov 23 2011] •

[A032192] • 1,1,4,12,30,66,132,246,429,715,1144,1768,2652,3876,5538,7752,10659,14421,19228,25300,32890,42288,53820,67860,84825 ★ Number of necklaces with 7 black beads and n-7 white beads. • a(n) = ceiling(binomial(n, 7) / n)) (conjecture _ Wolfdieter Lang _). • a(n) = (6 / 7) * I(7|n) + (1 / 7) * C(n - 1,6) = (6 / 7) * I(7|n) + (1 / n) * C(n,7), where I(condition) = 1 if the condition holds, and = 0 otherwise. - _ Petros Hadjicostas _ , Dec 08 2017 •

[A097809] • 1,4,12,30,68,146,304,622,1260,2538,5096,10214,20452,40930,81888,163806,327644,655322,1310680,2621398,5242836,10485714,20971472,41942990,83886028 ★ a(n) = 5*2^n-2*n-4. • a(n) = 2 * a(n - 1) + 2 * n, n>0. • a(0)=1, a(1)=4, a(2)=12, a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A272144] • 0,0,1,4,12,30,69,150,316,652,1329,2688,5412,10866,21781,43618,87300,174672,349425,698940,1397980,2796070,5592261,11184654,22369452 ★ Convolution of A000217 and A001045. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 5 * a(n - 4) - 2 * a(n - 5). • a(n + 2) = (- 105 + (- 1) ^ n + 2 ^ (7 + n) - 48 * n - 6 * n ^ 2) / 24. - _ Colin Barker _ , Apr 21 2016 •

[A218009] • 0,1,4,12,30,70,160,364,824,1848,4096,8976,19488,42016,90112,192448,409472,868224,1835008,3866880,8126976,17039872,35651584,74447872,155187200 ★ Binomial transform of A212831(n). • a(n) = 2 ^ (n - 3) * (3 * n + 2) + (1 + i) ^ (n - 4) + (1 - i) ^ (n - 4), where i=sqrt(- 1) and n>1, with a(0) =0, a(1)=1. - _ Bruno Berselli _ , Oct 18 2012 • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 8 * a(n - 4). •

[A162740] • 1,4,12,30,72,168,390,900,2076,4782,11016,25368,58422,134532,309804,713406,1642824,3783048,8711526,20060676,46195260,106377294,244963080,564094968,1298984214 ★ Number of reduced words of length n in Coxeter group on 4 generators S_i with relations (S_i)^2 = (S_i S_j)^3 = I. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3) for n>3. [_ Bruno Berselli _ , Dec 28 2015] • a(n) = - 2 + ((- 7 + 2 * sqrt(13)) * (1 - sqrt(13)) ^ n + (7 + 2 * sqrt(13)) * (1 + sqrt(13)) ^ n) / (3 * sqrt(13) * 2 ^ (n - 1)) for n>0. [_ Bruno Berselli _ , Dec 28 2015] •

[A037255] • 0,1,4,12,31,70,141,259,442,711,1090,1606,2289,3172,4291,5685,7396,9469,11952,14896,18355,22386,27049,32407,38526 ★ For n weights, number of combinations when limited to two weights per pan. • a(n) = (n ^ 4 - 2 * n ^ 3 + 7 * n ^ 2 + 2 * n) / 8. •

[A129707] • 0,0,1,4,12,31,73,162,344,707,1416,2778,5358,10188,19139,35582,65556,119825,217487,392286,703618,1255669,2230608,3946020,6954060 ★ Number of inversions in all Fibonacci binary words of length n. A Fibonacci binary word is a binary word having no 00 subword. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) + F(n), a(0)=a(1)=0, a(2)=1, a(3)=4. •

[A232580] • 0,0,0,1,4,12,31,74,168,369,792,1672,3487,7206,14788,30185,61356,124308,251199,506578,1019920,2050785,4119280,8267216,16580799 ★ Number of binary sequences of length n that contain at least one contiguous subsequence 011. • a(n) = (1 + 2 ^ n - (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (1 + sqrt(5)) ^ n * (2 + sqrt(5)))) / sqrt(5)). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 2 * a(n - 4) for n>3. (End) •

[A273387] • 4,12,32,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 659", based on the 5-celled von Neumann neighborhood. • a(n) = 8 * (1 + n) for n>2. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. •

[A208903] • 0,4,12,32,76,180,412,940,2108,4700,10364,22716,49404,106876,229884,492284,1049596,2229756,4720636,9964540,20975612,44046332,92282876,192950268,402669564 ★ The sum over all bitstrings b of length n with at least two runs of the number of runs in b not immediately followed by a longer run. • a(n) = 2 ^ n * (2 + (n - 1) / 2 - (1 / 2) ^ (n - 1) - 2 (1 - (1 / 2) ^ Floor[n / 2]) + (1 / 2) ^ (Floor[n / 2] + 1) (1 + (- 1) ^ n)) - 2. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 6 * a(n - 3) + 16 * a(n - 4) - 8 * a(n - 5), a(1) = 0, a(2) = 4, a(3) = 12, a(4) = 32, a(5) = 76. •

[A139756] • 0,0,1,4,12,32,80,192,448,1024,2304,5120,11264,24576,53248,114688,245760,524288,1114112,2359296,4980736,10485760,22020096,46137344,96468992 ★ Binomial transform of A004526. • a(n) = 2 * a(n - 1) + 2 ^ (n - 2), n >=2. - _ Philippe Deléham _ , Mar 20 2013 •

[A001787] • 0,1,4,12,32,80,192,448,1024,2304,5120,11264,24576,53248,114688,245760,524288,1114112,2359296,4980736,10485760,22020096,46137344,96468992,201326592 ★ a(n) = n*2^(n-1). • a(n) = sum(k=1, n, k * binomial(n, k)). - _ Benoit Cloitre _ , Dec 06 2002 • a(n) = 2 * a(n - 1) + 2 ^ (n - 1). • a(2 * n) = n * 4 ^ n, a(2 * n + 1) = (2 * n + 1)4 ^ n. • a(n - 1) = sum { k=0..n, 2 ^ (n - k - 1) * C(n - k, k) * C(1,(k + 1) / 2) * (1 - (- 1) ^ k) / 2 }- 0 ^ n / 4. - _ Paul Barry _ , Oct 15 2004 • a(n) = sum { k=0..floor(n / 2), binomial(n, k)(n - 2k) ^ 2 } . - _ Paul Barry _ , May 13 2005 • a(n) = n! * sum { k=0..n , 1 / ((k - 1)!(n - k)!) } . - _ Paul Barry _ , Mar 26 2003 •

[A048776] • 1,4,12,32,81,200,488,1184,2865,6924,16724,40384,97505,235408,568336,1372096,3312545,7997204,19306972,46611168,112529329,271669848,655869048,1583407968,3822685009 ★ First partial sums of A048739; second partial sums of A000129. • a(n)=2 * a(n - 1) + a(n - 2) + n + 1; a(0)=1, a(1)=4. • a(n)=[{ (7 / 2 + (5 / 2) * sqrt(2))(1 + sqrt(2)) ^ n - (7 / 2 - (5 / 2) * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - (n + 3) / 2. • a(n)= 4 * a(n - 1) - 4 * a(n - 2) + a(n - 4). G.f.: - 1 / ((x ^ 2 + 2 * x - 1) * (x - 1) ^ 2). - _ R. J. Mathar _ , Feb 06 2010 •

[A291038] • 4,12,32,84,216,544,1348,3300,8000,19236,45936,109056,257604,605820,1419232,3313396,7711944,17900320,41445764,95746260,220735616,507934276,1166792160,2676017408,6128381316 ★ p-INVERT of (1,0,0,1,0,0,1,0,0,...), where p(S) = (1 - 2 S)^2. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) - a(n - 6) for n >= 7. •

[A120369] • 4,12,32,87,238,649,1769,4820,13128,35744,97295,264783,720465,1960095,5332044,14503451,39447240,107283957,291762849,793424505,2157567407,5866897880,15952911029,43377066302,117942558396 ★ Smallest value of k where n*k^(1/n) >= (n+1)*k^(1/(n+1)). • a(n) = ceiling[((n + 1) / n) ^ ((n + 1) * n)] •

[A066536] • 1,4,12,32,90,312,1288,5504,22608,88660,339064,1297056,5043376,19975256,80027280,321692928,1291650786,5177295432,20748447108,83279292960,335056780464,1351064867328,5456890474248,22063059606912 ★ Number of ways of writing n as a sum of n+1 squares. • a(n) equals the coefficient of x ^ n in the (n + 1) - th power of Jacobi theta _ 3(x) where theta _ 3(x) = 1 + 2 * Sum _{ n>=1 } x ^ (n ^ 2). - _ Paul D. Hanna _ , Oct 26 2009 •

[A104747] • 1,4,12,33,87,222,550,1327,3129,7236,16464,36957,82027,180346,393354,852123,1835181,3932352,8388820,17826025,37748991,79692054,167772462,352321863,738197857 ★ a(n) = (n-3)*2^n + n*(n+3)/2 + 3. • a(n) = + 7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5). G.f. - x * (1 - 3 * x + 3 * x ^ 2) / ((2 * x - 1) ^ 2 * (x - 1) ^ 3). - _ R. J. Mathar _ ,

Oct 30 2011 ● a(n) = Sum _{ i=0..n - 1 } (2 ^ (n - i) - 1) * (2 ^ i - i). - _ J. M. Bergot _ , Sep 13 2017 ● a(n) = Sum _{ k=0..n } Sum _{ i=1..n } (i - k) * C(n - k,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 ●

[A070050] ● 4,12,33,87,223,559,1375,3327,7935,18687,43519,100351,229375,520191,1171455,2621439,5832703,12910591,28442623,62390271,136314879,296747007,643825663,1392508927,3003121663 ★ Number of Bottleneck-Monge matrices with 2 rows. In the formula below, P = 2. ● a(P, N) = 1 + Sum _{ n=1..N, p=1..P } (C(N, n) * C(P, p) * K(p, n)), ● a(n) = (n ^ 2 + 3 * n + 16) * 2 ^ (n - 3) - 1. - _ Vaclav Kotesovec _ , Aug 15 2013 ● a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4) for n>4. ●

[A293064] ● 0,0,0,1,4,12,33,88,232,609,1596,4180,10945,28656,75024,196417,514228,1346268,3524577,9227464,24157816,63245985,165580140,433494436,1134903169 ★ Number of vertices of type B at level n of the hyperbolic Pascal pyramid PP_(4,5). ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n >= 4. ● a(n) = - 1 + (2 ^ (- n) * ((3 - sqrt(5)) ^ n * (2 + sqrt(5)) + (- 2 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / sqrt(5) for n>0. ●

[A027941] ● 0,1,4,12,33,88,232,609,1596,4180,10945,28656,75024,196417,514228,1346268,3524577,9227464,24157816,63245985,165580140,433494436,1134903169,2971215072,7778742048 ★ a(n) = Fibonacci(2n+1) - 1. ● a(n) = Sum _{ i=1..n } binomial(n + i, n - i). - _ Benoit Cloitre _ , Oct 15 2002 ● a(n) = Sum _{ k=1..n } F(2k), i.e., partial sums of A001906. - _ Benoit Cloitre _ , Oct 27 2003 ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3) with n>=2, a(- 1)=0, a(0)=0, a(1)=1. ● a(n) = 3 * a(n - 1) - a(n - 2) + 1 with n>=1, a(- 1)=0, a(0)=0. ● a(n) = 2 * a(n - 1) + (Sum _{ k=1..n - 2 } a(k)) + n. - _ Jon Perry _ , Sep 01 2012 ● a(n) = S(n, 3) - S(n - 1, 3) - 1, n >= 0, with Chebyshev's S - polynomials (see A049310), where S(- 1, x) = 0. - _ Wolfdieter Lang _ , Aug 28 2014 ●

[A219092] ● 1,4,12,33,90,244,665,1808,4914,13359,36315,98715,268337,729416,1982759,5389698,14650719,39824784,108254987,294267566,799902177,2174359553,5910522063,16066464720,43673179097 ★ Floor(e^(n + 1/2)). ● a(n) = [e ^ (n + 1 / 2)]. ●

[A135254] ● 0,0,1,4,12,33,90,252,729,2160,6480,19521,58806,176904,531441,1595052,4785156,14353281,43053282,129146724,387420489,1162241784,3486725352,10460235105,31380882462 ★ Binomial transform of A131666. ● a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 9 * a(n - 3). (End) ●

[A248873] ● 1,4,12,34,93,255,693,1884,5122,13923,37847,102880,279658,760190,2066413,5617093,15268842,41505016,112822331,306682894,833650539,2266097111,6159890600,16744318683,45515777207 ★ a(n) = floor(e^(n+1)-e^n). ● a(n) = floor(e ^ (n + 1) - e ^ n). ●

[A293005] ● 0,1,4,12,34,94,258,706,1930,5274,14410,39370,107562,293866,802858,2193450,5992618,16372138,44729514,122203306,333865642,912137898,2492007082,6808289962,18600594090 ★ Number of associative, quasitrivial, and order-preserving binary operations on the n-element set {1,...,n}. ● a(0) = 0, a(1) = 1, a(n + 2) - 2 * a(n + 1) - 2 * a(n) = 2. ● a(n) = (- 4 - (1 - sqrt(3)) ^ n * (- 2 + sqrt(3)) + (1 + sqrt(3)) ^ n * (2 + sqrt(3))) / 6. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. ●

[A115390] ● 0,0,1,4,12,34,96,272,772,2192,6224,17672,50176,142464,404496,1148480,3260864,9258528,26287616,74638080,211918912,601698560,1708394752,4850622592,13772308480 ★ Binomial transform of tribonacci sequence A000073. ● a(n) = sum(sum(binomial(j - 1,k - 1) * 2 ^ (j - k) * binomial(n - j + k - 1,2 * k - 1),j,k,n - k),k,1,n). - _ Vladimir Kruchinin _ , Aug 18 2010 ●

[A005056] ● 1,4,12,34,96,274,792,2314,6816,20194,60072,179194,535536,1602514,4799352,14381674,43112256,129271234,387682632,1162785754,3487832976,10462450354,31385253912,94151567434,282446313696 ★ a(n) = 3^n + 2^n - 1. ● a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 2 for n > 1, a(0)=1, a(1)=4. - _ Vincenzo Librandi _ , Dec 31 2010 ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n > 2, a(0)=1, a(1)=4, a(2)=12. - _ Rick L. Shepherd _ , Aug 07 2017 ●

[A014143] ● 1,4,12,34,98,294,919,2974,9891,33604,116103,406614,1440025,5147876,18550572,67310938,245716094,901759950,3325066996,12312494462,45766188948,170702447074,638698318850,2396598337950 ★ Partial sums of A014138. ● a(n) = 2 * Sum _{ k=0..n } Sum _{ j=0..k } C(2 * j + 1,j) / (j + 2). - _ Vaclav Kotesovec _ , Oct 27 2012 ●

[A077843] ● 1,1,4,12,34,100,292,852,2488,7264,21208,61920,180784,527824,1541056,4499328,13136416,38353600,111978688,326937408,954539392,2786910976,8136775552,23756451840,69360276736 ★ Expansion of (1-x)/(1-2*x-2*x^2-2*x^3). ● a(n)=sum(k=1..n, sum(i=k..n,(sum(j=0..k, binomial(j, - 3 * k + 2 * j + i) * 2 ^ (- 2 * k + j + i) * binomial(k,j))) * binomial(n + k - i - 1,k - 1))); - _ Vladimir Kruchinin _ , May 05 2011 ●

[A090328] ● 1,4,12,35,103,306,914,2737,8205,24608,73816,221439,664307,1992910,5978718,17936141,53808409,161425212,484275620,1452826843,4358480511,13075441514,39226324522,117678973545,353036920613 ★ Number of rules of a context-free grammar in Chomsky normal form that generates all permutations of n symbols. ● a(n) = (5 * 3 ^ n) / 12 + n / 2 - 3 / 4. ● a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). - _ Colin Barker _ , Jan 15 2015 ●

[A095735] ● 4,12,36,64,72,104,144,180,216,240,276,324,396,420,468,480,504,600,648,672 ★ Mersenne-like sequence factors of complex imaginary square type 2*Prime[m]*n-1. ● a(n) =if (2 ^ n - 1) / (2 * n * Prime[m] - 1)=Integer then n ●

[A063810] ● 1,4,12,36,82,164,294,476,724,1052,1464,1972,2590,3324,4186,5188,6336,7644,9124,10780,12626,14676,16934,19412,22124 ★ Growth series for Heisenberg group. ● a(n) = (c _ n + 31 * n ^ 3 - 57 * n ^ 2 + 105 * n) / 18 where c _ n = - 7, - 14, 9, - 16, - 23, 18, - 7, - 32, 9, 2, - 23, 0 for n>=1, c _{ n + 12 } = c _ n. - _ R. J. Mathar _ , Sep 27 2016 ●

[A261584] ● 1,4,12,36,92,228,540,1236,2748,6004,12876,27252,57036,118308,243564,498564,1015484,2060484,4167804,8409588,16934748,34049940,68378220,137185428,275026476 ★ Expansion of Product_{k>=1} (1 + 2*x^k)/(1 - 2*x^k). ● a(n) = c * 2 ^ n, where c = 1 / (A048651 * A083864) = 2 * Product _{ j>=1 } (2 ^ j + 1) / (2 ^ j - 1) = 16.511975871556500131088281698864546253054003233576460691207505127256745 6... ●

[A291732] ● 4,12,36,104,288,780,2080,5472,14240,36736,94080,239440,606144,1527360,3833024,9584768,23890944,59380160,147207168,364084224,898569216,2213388288,5442392064,13360097536,32746992640 ★ p-INVERT of (1,0,1,0,0,0,0,...), where p(S) = (1 - 2 S)^2. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 8 * a(n - 4) - 4 * a(n - 6) for n >= 7. ●

[A291264] ● 4,12,36,104,292,804,2180,5840,15492,40764,106532,276792,715556,1841748,4722180,12066208,30737924,78088812,197892388,500374024,1262618148,3180066180,7995639940,20071580784,50312160388 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - 2 S)^2. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. ● a(n) = ((1 - sqrt(2)) ^ (1 + n) * (2 - 3 * sqrt(2) + 2 * n) + (1 + sqrt(2)) ^ (1 + n) * (2 + 3 * sqrt(2) + 2 * n)) / 4 . - _ Colin Barker _ , Aug 26 2017 ●

[A290380] ● 1,4,12,36,105,306,889,2584,7515,21880,63778,186132,543855,1590876,4658580,13655472,40065243,117654876,345786396,1017040380,2993498739,8816790906,25984489545,76625467128,226085062525 ★ Analog of Motzkin sums for Coxeter type D. ● a(n) = Sum _{ i=1..n / 2 } (n - 2) / i * binomial(2 * i - 2, i - 1) * binomial(n - 2, 2 * i - 2). ● a(n) = (n - 2) * hypergeom([1 - n / 2, 3 / 2 - n / 2], [2], 4). ● a(n) = (- 1) ^ n (n - 2) * hypergeom([2 - n, 3 / 2], [3], 4). ●

[A052156] ● 1,1,4,12,36,108,324,972,2916,8748,26244,78732,236196,708588,2125764,6377292,19131876,57395628,172186884,516560652,1549681956,4649045868,13947137604,41841412812,125524238436 ★ Number of compositions of n into 2*j-1 kinds of j's for all j>=1. ● a(n) = 4 * 3 ^ (n - 2); n >= 2; a(0) = 1; a(1) = 1. ● a(n) = 3 * a(n - 1) + (- 1) ^ n * C(2, 2 - n). ● a(n) = (- 4 * n + 9) * a(n - 1) + 3 * Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 ●

[A003946] ● 1,4,12,36,108,324,972,2916,8748,26244,78732,236196,708588,2125764,6377292,19131876,57395628,172186884,516560652,1549681956,4649045868,13947137604,41841412812,125524238436,376572715308 ★ Expansion of (1+x)/(1-3*x). ● a(n) = floor(4 * 3 ^ (n - 1)). - _ Michael Somos _ , Jun 18 2002 ● a(n + 1) = (((1 + sqrt(- 11)) / 2) ^ n + ((1 - sqrt(- 11)) / 2) ^ n) ^ 2 - (((1 + sqrt(- 11)) / 2) ^ n - ((1 - sqrt(- 11)) / 2) ^ n) ^ 2. - _ Raphie Frank _ , Dec 07 2015 ●

[A177881] ● 0,0,1,4,12,36,109,328,984,2952,8857,26572,79716,239148,717445,2152336,6457008,19371024,58113073,174339220,523017660,1569052980,4707158941,14121476824,42364430472 ★ Partial sums of round(3^n/10). ● a(n)=round((3 * 3 ^ n - 3) / 20) = round((3 * 3 ^ n - 5) / 20). ● a(n)=floor((3 * 3 ^ n - 1) / 20). ● a(n)=ceil((3 * 3 ^ n - 9) / 20). ● a(n)=a(n - 4) + 4 * 3 ^ (n - 3), n >3. ● a(n)=4 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - 3 * a(n - 4), n>3. ●

[A290899] ● 0,1,4,12,36,110,332,983,2876,8380,24428,71357,208868,612178,1795228,5264684,15436060,45248195,132616392,388652536,1138993032,3338020181,9782903524,28671786116,84032220964 ★ p-INVERT of the positive integers, where p(S) = 1 - S^2 - S^4. ● a(n) = 8 * a(n - 1) - 27 * a(n - 2) + 52 * a(n - 3) - 63 * a(n - 4) + 52 * a(n - 5) - 27 * a(n - 6) + 8 * a(n - 7) - a(n - 8). ●

[A290905] ● 0,1,4,12,36,111,344,1064,3288,10161,31404,97060,299980,927135,2865456,8856144,27371312,84595361,261455316,808068924,2497464564,7718808463,23856195976,73731339384,227878342920 ★ a(n) = (1/2)*A290904(n). ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A279277] ● 1,4,12,37,110,327,968,2864,8469,25040,74029,218856,647008,1912753,5654670,16716883,49420052,146100276,431915561,1276869920,3774804441,11159436284,32990587972,97529916957,288327225550 ★ Composition of Lucas numbers A000032 with Fibonacci numbers A000045. ● a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4), a(1)=1, a(2)=4, a(3)=12, a(4)=46. ●

[A033130] ● 1,4,12,37,112,336,1009,3028,9084,27253,81760,245280,735841,2207524,6622572,19867717,59603152,178809456,536428369,1609285108,4827855324,14483565973,43450697920,130352093760,391056281281 ★ Base-3 digits are, in order, the first n terms of the periodic sequence with initial period 1,1,0. ● a(n) = 3 * a(n - 1) + a(n - 3) - 3 * a(n - 4). ●

[A099098] ● 1,1,4,12,37,114,351,1081,3329,10252,31572,97229,299426,922111,2839729,8745217,26931732,82938844,255418101,786584466,2422362079,7459895657,22973462017,70748973084,217878227876 ★ Quadrisection of a Padovan sequence. ● a(n) = Sum [k=0..n, C(2n - k, 2k)]. ●

[A192907] ● 0,1,4,12,37,116,364,1141,3576,11208,35129,110104,345096,1081625,3390108,10625524,33303293,104381612,327160468,1025410221,3213915568,10073288784,31572437041,98956636912 ★ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. ● a(n)=3 * a(n - 1) + a(n - 3) + a(n - 4). ●

[A280891] ● 1,4,12,37,118,387,1298,4433,15366,53924,191216,684114,2466428,8951945,32683230,119949945,442281030,1637618400,6086481720,22699003830,84918443220,318593346630,1198421583684,4518886787802,17077448924828 ★ Number of certain noncrossing set partitions. ● a(n) = C(n + 1) - C(n - 1) where C(n) is the n - th Catalan number (A000108). - _ Joel B. Lewis _ , Apr 19 2017 ●

[A183159] ● 1,1,4,12,38,90,220,460,1018,2022,4304,8376,17566,33922,70756,136260,283682,545790,1135576,2184112,4543366,8737626,18174764,34951932,72700618 ★ The number of partial isometries (of an n-chain) of fix zero (fix of alpha = 0)). Equivalently, the number of partial derangement isometries (of an n-chain). ● a(2n) = (13 * 4 ^ n - 12 * n ^ 2 - 18 * n - 10) / 3, n>=0. ● a(2n

+ 1) = (25 * 4 ^ n - 12 * n ^ 2 - 30 * n - 22) / 3, n>=0. • a(n) = (51 * 2 ^ n + (- 2) ^ n - 40) / 12 - n * (n + 3). - _ Jean - François Alcover _ , Nov 22 2 017 •

[A289809] • 1,4,12,38,114,354,1076,3311,10120,31043,95044,291284,892242,2 733804,8375092,25659298,78610859,240840496,737856017,2260561368,692563 5380,21217961710,65005083598,199154984626,610147638720 ⋆ p-INVERT of (1,2,1,3,1,4,1,5,...) (A133622), where p(S) = 1 - S - S^2. • a(n) = a(n - 1) + 7 * a(n - 2) + a(n - 3) - 9 * a(n - 4) - 3 * a(n - 5) + 5 * a(n - 6) + a(n - 7) - a(n - 8).. •

[A006192] • 1,4,12,38,125,414,1369,4522,14934,49322,162899,538020,177696 1,5868904,19383672,64019918,211443425,698350194,2306494009,7617832222,2 5159990674,83097804242,274453403399,906458014440 ⋆ Number of nonintersecting (or self-avoiding) rook paths joining opposite corners of 3 X n board. • a(n) = 4a(n - 1) - 3a(n - 2) + 2a(n - 3) + a(n - 4) with a(0) = 0, a(1) = 1, a(2) = 4 and a(3) = 12. - _ Henry Bottomley _ , Sep 05 2001 •

[A122920] • 1,1,4,12,39,129,436,1498,5218,18386,65420,234734,848403,30860 01,11288412,41499354,153247278,568188606,2114334312,7893906144,2956119 5238,111007927386,417918303144,1577061975492,5964172347604 ⋆ Diagonal sums of number triangle A122919. • a(n) = 9 / (16 * (- 2) ^ n) + 3 * (2 * n + 4)! * hypergeom([1,n + 5 / 2,n + 3], [n + 2,n + 5], - 8) / ((n + 1)! * (n + 4)!). • a(n) = 9 / (16 * (- 2) ^ n) + 8 * 2 ^ n * (2 * n + 5)!! * hypergeom([1, n + 7 / 2], [n + 5], - 8) / (n + 4)! - 4 * 2 ^ n * (2 * n + 3)!! * hypergeom([1,n + 5 / 2], [n + 4], - 8) / (n + 3)!. (End) •

[A087206] • 1,4,12,40,128,416,1344,4352,14080,45568,147456,477184,154419 2,4997120,16171008,52330496,169345024,548012032,1773404160,5738856448,18 571329536,60098084864,194481487872,629355315200,2036636581888 ⋆ a(n) = 2*a(n-1) + 4*a(n-2); with a(0)=1, a(1)=4. • a(n) = (1 - sqrt(5)) ^ n * (1 / 2 - 3 * sqrt(5) / 10) + (1 + sqrt(5)) ^ n * (1 / 2 + 3 * sqrt(5) / 10). • a(n) = 2 ^ n * Fibonacci(n + 2). - _ Paul Barry _ , Mar 22 2004 • a(n) = ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) / sqrt(80). Offset 2. a(4)=12. - Al Hakanson (haw kuu(AT)gmail.com), Apr 11 2009 •

[A275863] • 1,1,4,12,40,130,425,1387,4529,14789,48294,157707,515002,1681 772,5491935,17934267,58565504,191249427,624537327,2039466884,666001052 7,21748693527,71021760134,231926134152,757369735715 ⋆ Floor(r*a(n-1)) + floor(r*a(n-2)), where r = 5/2, a(0) = 1, a(1) = 1. • a(n) = floor(r * a(n - 1)) + floor(r * a(n - 2)), where r = 5 / 2, a(0) = 1, a(1) = 1. •

[A100320] • 1,4,12,40,140,504,1848,6864,25740,97240,369512,1410864,540831 2,20801200,80233200,310235040,1202160780,4667212440,18150270600,7069052 7600,275693057640,1076515748880,4208197927440,16466861455200 ⋆ A Catalan transform of (1+2x)/(1-2x). • a(n) = 4 * binomial(2n - 1, n) - 3 * 0 ^ n. • a(n) = binomial(2n, n)(4 * 2 ^ (n - 1) - 0 ^ n) / 2 ^ n. • a(n) = sum { j=0.. n, sum { k=0..n, C(2n, n - k)((2k + 1) / (n + k + 1))C(k, j)(- 1) ^ (j - k) * (4 * 2 ^ (j - 1) - 0 ^ j) }} . • a(n) = [x ^ n] (1 + 2 * x) / (1 - x) ^ (n + 1). - _ Ilya Gutkovskiy _ , Oct 12 2017 •

[A064649] • 1,4,12,40,140,816,5082,40800,363258,3632880,39916910,47905252 8,6227020956,87178936992,1307674429440,20922800222848,355687428096272,6 402373892575992,121645100408832342,2432902011892837920 ⋆ Row sums of the table A047916. • a(n) = Sum _{ d|n } phi(n / d) * (n / d) ^ d * d!. - _ Michel Marcus _ , Mar 06 2016 •

[A028403] • 4,12,40,144,544,2112,8320,33024,131584,525312,2099200,839270 4,33562624,134234112,536903680,2147549184,8590065664,34360000512,13743 9477760,549756862464,2199025352704,8796097216512,35184380477440,14073 7505132544,562949986975744 ⋆ Number of types of Boolean functions of n variables under a certain group. • a(n) = 6 * a(n - 1) - 8 * a(n - 2). G.f.: - 4 * x * (3 * x - 1) / ((2 * x - 1) * (4 * x - 1)). - _ Colin Barker _ , Sep 30 2014 •

[A100217] • 1,1,4,12,42,149,543,2007,7501,28265,107196,408653,1564506,6010 964,23164467,89501021,346588092,1344804060,5227147969,20349230347,79330 194097,309653982738,1210071825851,4733665388134,18535196846866 ⋆ Diagonal sums of a binomial number triangle. • a(n)=sum { k=0..floor(n / 2), bino mial(2n - 3k - 1, n - 2k) } . •

[A220881] • 1,1,4,12,43,143,504,1768,6310,22610,81752,297160,1086601,3991 995,14732720,54587280,202997670,757398510,2834510744,10637507400,400236 36310,150946230006,570534578704,2160865067312,8199711378716 ⋆ Number of nonequivalent dissections of an n-gon into n-3 polygons by nonintersecting diagonals up to rotation. • a(n) = (1 / (2n - 4)) Sum _{ d |(2n - 4, n) } phi(d) * binomial((2n - 4) / d, n / d) for n >= 4. - _ Wouter Meeussen _ , Aug 0 3 2002 •

[A076793] • 0,4,12,44,172,2220,10412,141484,665772,9054380,545925292,2693 408940,140132362412,2339155617964,11135248640172,151872736995500,91590 71991736492,585619824295159980,2891462833508853932 ⋆ a(n) = Sum_{k=1..n} 2^prime(k). • a(n) = a(n - 1) + 2 ^ prime(n). •

[A101225] • 1,4,12,46,194,977,5492,33666,220068,1513371,10833076,8010492 7,608455060,4726881850,37431015268,301327263751,2460711566651,20348625 806080,170149286304116,1436870802519360,12241980697771924,105136072207 222852,909475787902559408,7919305232077304848 ⋆ Numbers formed by the third nesting of pi(10^n). • a(n) = pi(pi(pi(10 ^ n))) where pi(x) is the numb er of primes <= x. •

[A000775] • 1,4,12,46,220,1268,8568,66456,582048,5681952,61174080,7200892 80,9199906560,126783809280,1874605662720,29601115891200,49715599288320 0,88491848868864000,1663990765258752000,3296032301811916800,685968382452 32640000,1496490349337948160000 ⋆ a(n) = n! * (n + 1 + 2*Sum_{k=1...n} 1/k). • a(0)=1, a(n + 1) = (n + 1) * a(n) + (n + 3) * n! for n > 0. - _ Sean A. Irvine _ , Jun 10 2011 •

[A282023] • 1,4,12,48,144,576,1728,6912,20736,82944,248832,995328,298598 4,11943936,35831808,143327232,429981696,1719926784,5159780352,206391214 08,61917364224,247669456896,743008370688,2972033482752,8916100448256 ⋆ Start with 1; multiply alternately by 4 and 3. • a(n) = 2 ^ n * 3 ^ (n / 2) for n even. • a(n) = 2 ^ (n + 1) * 3 ^ ((n - 1) / 2) for n odd. • a(n) = 12 * a(n - 2) for n>1. •

[A019309] • 1,4,12,48,180,720,2832,11328,45132,180528,721392,2885568,1153 9440,46157760,184619712,738478848,2953870260,11815481040,47261743632,18 9046974528,756187176720,3024748706880,12098991941952 ⋆ Number of "bifix-free" words of length n over a four-letter alphabet. • a(2n + 1) = 4a(2n); a(2 n) = 4a(2n - 1) - a(n). •

[A151483] • 1,1,4,12,48,192,832,3712,17152,81152,392192,1928192,9621504,4 8623616,248463360,1282031616,6672285696,34993274880,184793432064,98194 7645952,5247335399424,28185150357504,152104870084608,824404913160192,4 486067252101120 ⋆ Number of walks within N^2 (the first quadrant of Z^2) starting at (0,0), ending on the vertical axis and consisting of n steps taken from {(-1, 0), (-1, 1), (0, -1), (0, 1), (1, -1), (1, 0)}. • a(n) = sqrt(- 1 / 3) * (- 2) ^ n * hypergeom([1 / 2, n + 4],[2],4 / 3) / (n + 1). - _ Mark van Hoeij _ , Aug 23 2014 •

[A034488] • 4,12,50,252,1394,8052,47450,282252,1686434,10097892,6052625 0,362976252,2177317874,13062296532,78368963450,470199366252,28211530197 14,169267887159972,1015603443510 50,609360902796252,3656161927895954,219 36961102828212 ⋆ Sum of n-th powers of divisors of 6. • a(n) = 1 ^ n + 2 ^ n + 3 ^ n + 6 ^ n. •

[A127866] • 4,12,52,172,580,1852,5828,17980,54788,165116,493316,1463036,4 312068,12641276,36887556,107201532,310427652,896045052,2579017732,74038 43580,21205303300,60604891132,172872744964,492233179132,1399272374276 ⋆ Number of L-shaped tiles in all tilings of a 2 X n board with 1 X 1 and L-shaped tiles (where the L-shaped tiles cover 3 squares). • a(n) = 4 (- 1) ^ n - (2 / 9)[(9 - 5 * Sqrt(3))(1 + Sqrt(3)) ^ n + (9 + 5 * Sqrt(3))(1 - Sqrt(3)) ^ n] - (n / 3)[(1 - Sqrt(3))(1 + Sqrt(3)) ^ n + (1 + Sqrt(3))(1 - Sqrt(3)) ^ n]. •

[A277431] • 1,1,4,12,52,260,1568,10976,87824,790416,7904192,86946112,1043 353408,13563594304,189890320384,2848354805760,45573676892416,774752507 171072,13945545129079808,264965357452516352,5299307149050328064,111285 450130056889344,2448279902861251567616 ⋆ E.g.f.: cosh(sqrt(2)*x)/(1-x). • a(n) = (Gamma(n + 1, sqrt(2)) * exp(sqrt(2)) + Gamma(n + 1, - sqrt(2)) / e xp(sqrt(2))) / 2. • a(2 * n + 1) = (2 * n + 1) * a(2 * n). •

[A179607] • 1,4,12,56,208,864,3392,13696,54528,218624,873472,3495936,1397 9648,55926784,223690752,894795776,3579117568,14316601344,57266143232,22 9065097216,916259340288,3665039458304,14660153638912,58640622944256 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+2*x-4*x^2)/(1-2*x-8*x^2). • a(n) = 2 * a(n - 1) + 8 * a(n - 2), for n>=3, with a(0) = 1, a(1) = 4 and a(2) = 12. • a(n) = 5 * (4) ^ (n) / 6 - (- 2) ^ (n) / 3 for n>=1 and a(0) = 1. •

[A054719] • 1,4,12,60,240,1020,4020,16380,65280,262080,1047540,4194300,16 772880,67108860,268419060,1073740740,4294901760,17179869180,6871921056 0,274877906940,1099510578960,4398046494660,17592181850100,703687441776 60,281474959868160 ⋆ Number of 4-ary sequences with primitive period n. • a (n) = Sum _{ d|n } mu(d) * 4 ^ (n / d). •

[A291772] • 4,12,61,316,1304,5223,21557,90404,377863,1572942,6545785,272 62279,113572619,473082153,1970443556,8207168564,34184621296,14238679478 7,593071821262,2470268797246,10289192009129,42856677944829,17850720389 2808,743520516941183 ⋆ Number of minimal dominating sets in the 2n-crossed prism graph. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) + 7 * a(n - 3) + 17 * a(n - 4) + 2 * a(n - 5) for n > 5. •

[A052558] • 1,1,4,12,72,360,2880,20160,201600,1814400,21772800,23950080 0,3353011200,43589145600,697426329600,10461394944000,188305108992000,32 01186852864000,64023737057280000,1216451004088320000,2676192208994304 0000,562000363888803840000 ⋆ n! *((-1)^n +2*n+3)/4. • a(n) = (1 / 4 * (- 1) ^ (- n) + 1 / 2 * n + 3 / 4) * n!. • a(n) = (n + 1)! / 2 if n is odd; a(n) = n!(n + 2) / 2 if n is even. - _ Emeric Deutsch _ , Jul 18 2009 •

[A232325] • 4,12,72,2111,14265,70424,308832,4371476,320218450,110100025 7,14020589841,102772320834,963205851651,5997003656523,50649135127796,64 077290202192 0,210100228432387 0,350296777280706 45,176996397541889098,14 33436623499128186 ⋆ Engel expansion of 1 to the base Pi. • a(n) = ceiling(Pi / f ^ (n)(1)), where f ^ (n)(x) denotes the n - th iterate of the map f(x) = x / Pi * (ceiling(Pi / x)) - 1, with the convention that f ^ (0)(x) = x. •

[A205337] • 0,4,12,82,454,2912,18652,124299,841400,5800725,40506816,28613 7616,2040430976,14670243774,106225269954,773958961125,5670067999156,417 42291894425,308645064367896,2291123920091484,17067970534656790 ⋆ Number of length n+1 nonnegative integer arrays starting and ending with 0 with adjacent elements unequal but differing by no more than 4. • a(n) = Sum _{ i=1..n } ((Sum _{ l=0..i } (binomial(i,l) * (Sum _{ j=0..(4 * (i - l)) / 9 } ((- 1) ^ j * binomial(i - l,j) * binomial(- l + 4 * (- l - 2 * j + i) - j + i - 1,4 * (- l - 2 * j + i) - j))) * (- 1) ^ l)) * a(n - i)) / n, a(0)=1. - _ Vladimir Kruchinin _ , Apr 07 2017 •

[A074930] • 1,1,4,12,96,240,4320,20160,241920,1451520,36288000,15966720 0,5748019200,37362124800,697426329600,10461394944000,334764638208000,21 34124568576000,115242726703104000,973160803270656000 ⋆ Number of integers in {1, 2, ..., n!} that are coprime to n. • a(n) = (n - 1)! * phi(n). - _ Vla deta Jovovic _ , Dec 28 2002 •

[A287596] • 1,1,1,4,12,96,480,5760,8064,645120,5806080,116121600,12773376 00,6131220480,398529331200,11158821273600,167382319104000,535623421132 8000,18211196318515200,327801533733273 6000,6228229140932198 4000,146546 568021934080000,5231712478383046 6560000 ⋆ a(n) is the denominator of r(n),

where r(n) = r(n-1) + r(n-2)/(2*(n-1)) with r(0) = 0, r(1) = 1. • a(n) = denominator(r(n)), where r(n) = r(n - 1) + r(n - 2) / 2 * (n - 2) with r(0)=0 and r(1)=1. •

[A268363] • 1,1,4,12,96,480,5760,40320,645120,5806080,116121600,1277337600,30656102400,398529331200,11158821273600,167382319104000,5356234211328000,91055981592576000,3278015337332736000,62282291409321984000,2491291656372879360000 ★ Number of n X 2 arrays containing 2 copies of 0..n-1 with row sums equal. • a(n) = 2 ^ floor(n / 2) * n!. - _ Joel B. Lewis _ , Aug 11 2016 •

[A077611] • 0,0,4,12,144,720,8640,60480,806400,7257600,108864000,1197504000,20118067200,261534873600,4881984307200,73229764608000,1506440871936000,25609494822912000,576213633515520000,10948059036794880000,267619220899430400000,5620003638888038400000 ★ Number of adjacent pairs of form (odd,odd) among all permutations of {1,2,...,n}. • a(n) = ceiling(n / 2) * ceiling(n / 2 - 1) * (n - 1)!. Proof: There are ceiling(n / 2) * ceiling(n / 2 - 1) pairs (r, s) with r and s odd and distinct. For each pair, there are n - 1 places it can occur in a permutation and (n - 2)! possible arrangements of the other numbers. • a(n) = (n - 1)! * (2 * n * (n - 1) - (2 * n - 1) * (- 1) ^ n - 1) / 8. - _ Bruno Berselli _ , Nov 07 2011 •

[A222393] • 0,4,12,152,424,5180,14420,175984,489872,5978292,16641244,203085960,565312440,6898944364,19203981732,234361022432,652370066464,7961375818340,22161378278060,270452416801144,752834491387592,9187420795420572,25574211328900084 ★ Nonnegative integers m such that 18*m*(m+1)+1 is a square. • a(n) = a(- n + 1) = a(n - 1) + 34 * a(n - 2) - 34 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = - 1 / 2 + ((3 + t * (- 1) ^ n) * (3 - 2 * t) ^ (2 * floor(n / 2)) + (3 - t * (- 1) ^ n) * (3 + 2 * t) ^ (2 * floor(n / 2))) / 12, where t=sqrt(2). •

[A228137] • 1,4,13,16,25,28,37,40,49,52,61,64,73,76,85,88,97,100,109,112,121,124,133,136,145 ★ Numbers that are congruent to {1, 4} mod 12. • a(n) = - 13 / 2 - 3 * (- 1) ^ n / 2 + 6 * n. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A032824] • 1,4,13,16,49,52,157,160,193,196,589,592,625,628,1885,1888,1921,1924,2317,2320,2353,2356,7069,7072,7105 ★ Numbers whose set of base 12 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 12 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 12 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A022132] • 4,13,17,30,47,77,124,201,325,526,851,1377,2228,3605,5833,9438,15271,24709,39980,64689,104669,169358,274027,443385,717412 ★ Fibonacci sequence beginning 4, 13. • a(n) = term (1,1) in the 1x2 matrix [4,9] . [1,1; 1,0] ^ n. (End) •

[A041559] • 1,4,13,17,30,77,107,184,659,2820,96539,388976,1263467,1652443,2915910,7484263,10400173,17884436,64053481,274098360,9383397721,37807689244,122806465453,160614154697,283420620150 ★ Denominators of continued fraction convergents to sqrt(297). • a(n) = 97198 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A041407] • 1,1,4,13,17,489,506,2007,6527,8534,245479,254013,1007518,3276567,4284085,123230947,127515032,505776043,1644843161,2150619204,6186218087 3,64012800077,253900581104,825714543389,1079615124493 ★ Denominators of continued fraction convergents to sqrt(218). • a(n) = 502 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A228138] • 4,13,20,50,63,111,130,196,221,305,336,438,475,595,638,776,825,981,1036,1210,1271,1463,1530,1740,1813 ★ Number of blocks in a Steiner system S(2, 4, A228137(n+1)). • a(n) = (1 - (- 1) ^ n + (- 4 + 6 * (- 1) ^ n) * n + 12 * n ^ 2) / 4. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A155095] • 4,13,21,30,38,47,55,64,72,81,89,98,106,115,123,132,140,149,157,166,174,183,191,200,208 ★ Numbers n such that n^2 == -1 mod (17) • a(n) = 4 * (- 1) ^ (n + 1) + 17 * floor(n / 2). - _ M. F. Hasler _ , Jun 16 2010 • a(n) = a(n) = a(n - 2) + 17 for all n>2. - _ M. F. Hasler _ , Jun 16 2010 • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0 with n>3. • a(n) = (34 * n + (- 1) ^ n - 17) / 4. (End) •

[A063219] • 4,13,21,31,39,47,57,65,73,83,91,99,109,117,125,135,143,151,161,169,177,187,195,203,213 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(53). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>5. •

[A199798] • 4,13,21,132,837,1373,8708,55229,90597,574596,3644277,5978029,37914628,240467053,394459317,2501790852,15867181221,26028336893,165080281604,1046993493533,1717475775621,10892796795012,69085703391957,113327372854093,718759508189188 ★ y-values in the solution to 17*x^2 + 16 = y^2. • a(n) = 66 * a(n - 3) - a(n - 6), a(1)=4, a(2)=13, a(3)=21, a(4)=132, a(5)=837, a(6)=1373. •

[A256390] • 1,4,13,22,55,64,133,172,247,280,469,508,781,868,997,1144,1621,1714,2323,2488,2785,3010,3907,4078,4837 ★ a(n) = number of triples (a,b,c) of natural numbers a,b,c <= n with gcd(a,b)=gcd(b,c)=gcd(c,a)=1. • a(n) = sum _ a sum _ b sum _ c mu(a) mu(b) mu(c) [n / gcd(a,b)][n / gcd(b,c)][n / gcd(c,a)], where mu(.) is Moebius function [x] integer part of x, and a,b,c run through natural numbers. •

[A255840] • 0,1,4,13,24,41,60,85,112,145,180,221,264,313,364,421,480,545,612,685,760,841,924,1013,1104 ★ a(n) = (4*n^2 - 4*n + 1 - (-1)^n)/2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A091823] • 4,13,26,43,64,89,118,151,188,229,274,323,376,433,494,559,628,701,778,859,944,1033,1126,1223,1324 ★ a(n) = 2*n^2 + 3*n - 1. • a(n) = n + 4 * binomial(2 + n, n), with offset 0. - _ Zerinvary Lajos _ , May 12 2006 •

[A212901] • 1,4,13,26,45,66,95,126,163,204,251,300,357,416,481,550,625,702,787,874,967,1064,1167,1272,1385 ★ Number of (w,x,y,z) with all terms in {0,...,n} and equal consecutive gapsizes. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6). •

[A147875] • 0,4,13,27,46,70,99,133,172,216,265,319,378,442,511,585,664,748,837,931,1030,1134,1243,1357,1476 ★ Second heptagonal numbers: a(n) = n*(5*n+3)/2. • a(n) - a(n - 1) = 5 * n - 1. - _ Vincenzo Librandi _ , Nov 26 2010 • a(0)=0, a(1)=4, a(2)=13, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 15 2013 •

[A056107] • 1,4,13,28,49,76,109,148,193,244,301,364,433,508,589,676,769,868,973,1084,1201,1324,1453,1588,1729 ★ Third spoke of a hexagonal spiral. • a(n) = 3 * n ^ 2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. • a(n) = a(n - 1) + 6 * n - 3 for n>0. • a(n) = 2 * a(n - 1) - a(n - 2) + 6 for n>1. • a(n) = 6 * n + a(n - 1) - 3 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A060488] • 4,13,28,50,80,119,168,228,300,385,484,598,728,875,1040,1224,1428,1653,1900,2170,2464,2783,3128,3500,3900 ★ Number of 4-block ordered tri-coverings of an unlabeled n-set. • a(n) = binomial(n + 3, 3) - 6 * binomial(n + 1, 1) + 8 * binomial(n, 0) - 3 * binomial(n - 1, - 1). • a(n) = (n + 9) * binomial(n - 1, 2) / 3. • a(n) = (n - 2) * (n - 1) * (n + 9) / 6. - _ Zak Seidov _ , Jun 15 2006 • a(3)=4, a(4)=13, a(5)=28, a(6)=50, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jul 21 2012 •

[A054968] • 4,13,28,52,91,154,256,421,688,1120,1819,2950,4780,7741,12532,20284,32827,53122,85960,139093,225064,364168,589243,953422,1542676 ★ 3*Fibonacci(n) - 11. • a(n) = 2 * a(n - 1) - a(n - 3). - _ Colin Barker _ , Dec 01 2014 •

[A087035] • 1,4,13,28,53,88,137,200,281,380,501,644,813,1008,1233,1488,1777,2100,2461,2860,3301,3784,4313,4888,5513 ★ Maximum value taken on by f(P)=sum(i=1..n, p(i)*p(n+1-i)) as {p(1),p(2),...,p(n)} ranges over all permutations P of {1,2,3,...n}. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (2 * (n - 1) * (n + 1) * (2 * n + 3) - 3 * (- 1) ^ n + 9) / 12. - _ Bruno Berselli _ , Jun 11 2012 •

[A212578] • 0,1,4,13,28,55,92,147,216,309,420,561,724,923,1148,1415,1712,2057,2436,2869,3340,3871,4444,5083,5768 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|=2|x-y|-|y-z|. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A168559] • 0,4,13,29,54,90,139,203,284,384,505,649,818,1014,1239,1495,1784,2108,2469,2869,3310,3794,4323,4899,5524 ★ a(n) = n^2 + a(n-1), with a(1)=0. • a(n) = n ^ 3 / 3 + n ^ 2 / 2 + n / 6 - 1. - _ Gary Detlefs _ , Jun 30 2010 • a(1)=0, a(2)=4, a(3)=13, a(4)=29, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 07 2013 •

[A212247] • 0,1,4,13,29,56,95,150,222,315,430,571,739,938,1169,1436,1740,2085,2472,2905,3385,3916,4499,5138,5834 ★ Number of (w,x,y,z) with all terms in {1,...,n} and 3w=x+y+z+n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). • a(n) = (2 * n * (10 * n ^ 2 + 3 * n + 2) - 9(- 1) ^ n + 9) / 48. [_ Bruno Berselli _ , May 30 2012] •

[A213801] • 4,13,29,57,96,153,226,323,440,587,759,967,1204,1483,1796,2157,2556,3009,3505,4061,4664,5333,6054,6847,7696 ★ Number of 3 X 3 0..n symmetric arrays with all rows summing to floor(n*3/2). • a(n) = (14 * n ^ 3 + 42 * n ^ 2 + 53 * n + 25 + 3 * (n + 1) * (- 1) ^ n + 2 * ((- 1) ^ ((2 * n + 1 - (- 1) ^ n) / 4) - (- 1) ^ ((6 * n + 5 - (- 1) ^ n) / 4))) / 32. - _ Luce ETIENNE _ , Aug 23 2014 •

[A266891] • 1,1,4,13,29,81,188,456,1030,2405,5295,11611,25246,53552,113332,235685,486011,990840,2006567,4018010,7992003,15768511,30875424,60060509,116042548 ★ Expansion of Product_{k>=1} (1 + k*x^k)^k. • a(0) = 1 and a(n) = (1 / n) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d * (- d) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 18 2017 •

[A041301] • 1,1,4,13,30,43,73,554,627,7451,8078,63997,72075,136072,344219,1168729,3850406,5019135,124309646,129328781,512295989,1666216748,3844729485,5510946233,9355675718 ★ Denominators of continued fraction convergents to sqrt(163). • a(n) = 128160052 * a(n - 18) - a(n - 36) for n>35. [_ Bruno Berselli _ , Dec 15 2013] •

[A071400] • 0,0,4,13,30,59,102,162,241,344,471,627,815,1036,1294,1591,1931,2316,2749,3233,3771,4366,5020,5736,6517 ★ Rounded volume of a regular octahedron with edge length n. • a(n) = round(n ^ 3 * sqrt(2) / 3) •

[A206806] • 1,4,13,30,62,112,190,300,455,660,931,1274,1708,2240,2892,3672,4605,5700,6985,8470,10186,12144,14378,16900,19747 ★ Sum_{0<j<k<=n} s(k)-s(j), where s(j)=A002620(j) is the j-th quarter-square. • a(n) = Sum _{ i=1..n } i * (n - i) * (i - ceiling((i - 1) / 2)). • a(n) = (108 - 36n - n ^ 2 + n ^ 4 + (70n - 266) * ceiling((3 - n) / 2) - (42n - 234) * ceiling((3 - n) / 2) ^ 2 + (8n - 88) * ceiling((3 - n) / 2) ^ 3 + 12 * ceiling((3 - n) / 2) ^ 4 - 4n * floor(n / 2) - (12n - 12) * floor(n / 2) ^ 2 - (8n - 24) * floor(n / 2) ^ 3 + 12 * floor(n / 2) ^ 4) / 12. (End) • a(n) = (n * (1 + 3 * (- 1) ^ n - 2 * n + 2 * n ^ 2 + 2 * n ^ 3)) / 48. - _ Colin Barker _ , Jul 10 2014 •

[A042487] • 1,1,4,13,30,133,163,296,459,755,1969,53918,109805,163723,273528,437251,710779,3280367,7271513,25094906,82556231,107651137,5895717629,6003368766,23905823927 ★ Denominators of continued fraction convergents to sqrt(771). • a(n) = 5978273860 * a(n - 22) - a(n - 44) for n>43. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A116411] • 1,1,1,4,13,31,76,211,589,1597,4351,12046,33496,93094,259351,725089,2031709,5701189,16023181,45104044,127134283,358764613,1013494318,2865933907,8111573416 ★ Coefficient of x^n in the expansion of (1+x+x^3)^n. • a(n) = sum(k=0..floor(n / 3), C(n, 3 * k) * C(3 * k, k)). • a(n) = sum(k=0..n, C(n, k) * C(k, k / 3) * (cos(2 * Pi * k / 3) + 1 / 2) * 2 / 3). • a(n) = coefficient of x ^ (2 * n) in the expansion of (1 + x ^ 2 + x ^ 3) ^ n. • a(n) = 3F2 [1 / 3 - n / 3,2 / 3 - n / 3, - n / 3; 1 / 2,1; - 27 / 4]. - _ Benedict W. J. Irwin _ , Nov 01 2016 •

[A106337] • 1,1,1,4,13,31,82,253,757,2173,6341,18888,56266,167324,499773,1499059,4503557,13546893,40824379,123233868,372472353,1127080252,3414310032,10353722919,31425764410 ⋆ Number of ways of writing n as the sum of n triangular numbers. • a(n) = [x ^ n] Product _{ j=1..n } (1 + x ^ j - x ^ (2 * j) - x ^ (3 * j)) ^ n. - _ Alois P. Heinz _ , Aug 01 2017 •

[A026567] • 1,4,13,31,85,193,517,1165,3109,6997,18661,41989,111973,251941,671845,1511653,4031077,9069925,24186469,54419557,145118821,326517349,870712933,1959104101,5224277605 ⋆ a(n) = Sum{T(i,j)}, 0<=j<=i, 0<=i<=2n, T given by A026552. • a(n) = 6 * a(n - 2) + 7. - _ Philippe Deléham _ , Feb 24 2014 • a(n) = (2 ^ (n / 2 + 2) * 3 ^ (n / 2 + 1) - 7) / 5 for n even. • a(n) = (2 ^ ((n - 1) / 2) * 3 ^ ((n + 5) / 2) - 7) / 5 for n odd. (End) •

[A226839] • 1,1,1,4,13,31,271,1576,6049,55693,573661,3839716,36369301,432793219,3670898323,47260464616,758854978561,8126729609401,106290146259289,1742497711849828,22974498485218621,454423040764317031,8508721270142443351,120131676428508219784,2346431431552540513633 ⋆ E.g.f.: exp(Sum_{n>=1} x^(n*(n+1)/2) / n!). • a(n) == 1 (mod 3) (conjecture - valid up to n=1024; if true for n>=0, why?). •

[A184632] • 1,4,13,32,62,108,171,256,364,500,665,864,1098,1372,1687,2048,2456,2916,3429,4000,4630,5324,6083,6912,7812 ⋆ Floor(1/{(8+n^4)^(1/4)}), where {}=fractional part. • a(n)=floor(1 /{ (8 + n ^ 4) ^ (1 / 4) }), where {} =fractional part. •

[A212747] • 1,4,13,32,63,108,171,256,365,500,665,864,1099,1372,1687,2048,2457,2916,3429,4000,4631,5324,6083,6912,7813 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and 2w=floor((x+y+z)/2)). • a(n)=4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). •

[A037235] • 0,1,1,4,13,32,65,116,189,288,417,580,781,1024,1313,1652,2045,2496,3009,3588,4237,4960,5761,6644,7613,8672 ⋆ a(n) = n*(2*n^2-3*n+4)/3. • a(n) = Sum _{ k=0..n - 1 } 2 * k ^ 2 + 1. - Mike Warburton (mikewarb(AT)gmail.com), Sep 08 2007 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) with n>3, a(0)=0, a(1)=1, a(2)=4, a(3)=13. [_ Yosu Yurramendi _ , Sep 03 2013] •

[A135859] • 1,4,13,34,73,136,229,358,529,748,1021,1354,1753,2224,2773,3406,4129,4948,5869,6898,8041,9304,10693,12214,13873 ⋆ Row sums of triangle A135858. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 29 2012 • a(n) = 5 * n - 2 + n ^ 3 - 3 * n ^ 2. - _ R. J. Mathar _ , Oct 20 2017 •

[A101946] • 1,4,13,34,79,172,361,742,1507,3040,6109,12250,24535,49108,98257,196558,393163,786376,1572805,3145666,6291391,12582844,25165753,50331574,100663219 ⋆ 6*2^n - 3*n - 5. • a(0)=1, a(1)=4, a(2)=13 and for n>2, a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A213578] • 1,4,13,34,80,174,359,712,1371,2580,4768,8684,15629,27852,49225,86390,150704,261530,451795,777360,1332791,2277864,3882048,6599064,11191705 ⋆ Antidiagonal sums of the convolution array A213576. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) - a(n - 6). •

[A271358] • 4,13,35,92,241,631,1652,4325,11323,29644,77609,203183,531940,1392637,3645971,9545276,24989857,65424295,171283028,448424789,1173991339,3073549228,8046656345,21066419807,55152603076 ⋆ a(n) = k*Fibonacci(2*n+1) + (k+1)*Fibonacci(2*n), where k=4. • a(n) = 3 * a(n - 1) - a(n - 2) for n>1. • a(n) = (2 ^ (- 2 - n) * ((11 - sqrt(5)) * (3 + sqrt(5)) ^ (n + 1) - (11 + sqrt(5)) * (3 - sqrt(5)) ^ (n + 1))) / sqrt(5). • a(n) = 5 * Fibonacci(2 * n + 2) - Fibonacci(2 * n + 1). •

[A002727] • 1,4,13,36,87,190,386,734,1324,2284,3790,6080,9473,14378,21323,30974,44159,61898,85440,116286,156240,207446,272432,354162,456097 ⋆ Number of 3 X n binary matrices up to row and column permutations. • a(0)=1, a(1)=4, a(2)=13, a(3)=36, a(4)=87, a(5)=190, a(6)=386, a(7)=734, a(8)=1324, a(9)=2284, a(10)=3790, a(11)=6080, a(12)=9473, a(13)=14378. For n>13, a(n)=4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 2 * a(n - 4) + 4 * a(n - 5) + 3 * a(n - 6) - 12 * a(n - 7) + 3 * a(n - 8) + 4 * a(n - 9) + 2 * a(n - 10) - 2 * a(n - 11) - 4 * a(n - 12) + 4 * a(n - 13) - a(n - 14). - _ Harvey P. Dale _ , Nov 10 2011 • a(n) = - a(- 8 - n) for all n in Z. - _ Michael Somos _ , Aug 22 2016 •

[A221882] • 1,4,13,36,91,218,505,1144,2551,5622,12277,26612,57331,122866,262129,557040,1179631,2490350,5242861,11010028,23068651,48234474,100663273,209715176,436207591 ⋆ Number of order-preserving or order-reversing full contraction mappings of an n-chain. • a(n) = (n + 1) * 2 ^ (n - 1) - n. • a(n) = + 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). •

[A206603] • 0,0,1,4,13,36,94,232,557,1300,2986,6744,15074,33320,73116,159184,344701,742068,1590898,3395320,7222550,15308920,32362276,68213424,143463378 ⋆ Maximal apex value of an addition triangle whose base is a permutation of {k-n/2, k=0..n}. • a(n) = Sum _{ k=0..n } C(n,floor(k / 2)) * (k - n / 2). •

[A271176] • 1,1,4,13,36,94,239,597,1471,3586,8669,20818,49726,118259,280239,662117,1560516,3670321,8617584,20203698,47308391,110659649,258614439,603929562,1409413761 ⋆ Expansion of -(4*x^3-7*x^2+4*x-1)/(2*x^4-5*x^3+8*x^2-5*x+1). • a(n) = (n + 1) * Sum _{ k=0..n } (Sum _{ i=0..n - k } (binomial(i + k,i) * 2 ^ i * binomial(2 * k + 2,n - i - k) * (- 1) ^ (n - i - k)) / (k + 1)). • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - 2 * a(n - 4) for n>3, a(0)=1, a(1)=1, a(2)=4, a(3)=13. •

[A251701] • 1,4,13,36,97,268,765,2236,6625,19764,59149,177268,531585,1594492,4783165,14349132,43046977,129140452,387420813,1162261828,3486784801,10460353644,31381060093,94143179356,282429537057 ⋆ a(n) = 3^n + n^2. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 10 * a(n - 3) - 3 * a(n - 4) for n>3. •

[A003727] • 1,1,1,4,13,36,181,848,3865,23824,140521,871872,6324517,44942912,344747677,2860930816,23853473329,213856723200,1996865965009,19099352929280,193406280000061,2010469524579328,21615227339380357,242177953175506944 ⋆ E.g.f. exp(x * cosh(x)). • a(n) = sum(if n=k then n! else 1 / 2 ^ k * sum(binomial(n,k) * binomial(k,i) * (k - 2 * i) ^ (n - k),i,0,k),k,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 22 2010 • a(n) ^ (1 / n) ~ n * exp(1 / (2 * LambertW(sqrt(n / 2))) - 1) / (2 * LambertW(sqrt(n / 2))). - _ Vaclav Kotesovec _ , Aug 05 2014 •

[A279111] • 0,0,4,13,37,75,147,246,406,610,910,1275,1779,2373,3157,4060,5212,6516,8136,9945,12145,14575,17479,20658,24402 ⋆ Number of non-equivalent ways to place 2 non-attacking kings on an n X n board. • a(n) = (n ^ 4 - 2 * n ^ 2 - 4 * n + IF(MOD(n, 2) = 1, 2 * n ^ 2 - 4 * n + 7)) / 16. • a(n) = (2 * n ^ 4 - 2 * n ^ 2 - 12 * n + 7 - (2 * n ^ 2 - 4 * n + 7) * (- 1) ^ n) / 32. - _ Bruno Berselli _ , Dec 07 2016 • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). • a(n) = n * (n - 2) * (n ^ 2 + 2 * n + 2) / 16 for n even. • a(n) = (n - 1) * (n ^ 3 + n ^ 2 + n - 7) / 16 for n odd. •

[A048474] • 1,4,13,37,97,241,577,1345,3073,6913,15361,33793,73729,159745,344065,737281,1572865,3342337,7077889,14942209,31457281,66060289,138412033,289406977,603979777 ⋆ 3*n*2^(n-1) + 1. • a(0)=1, a(1)=4, a(2)=13, a(n)= 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) [From Harvey P. Dale, Jan 29 2012] •

[A080145] • 0,1,4,13,37,101,269,710,1865,4890,12810,33546,87834,229963,602062,1576231,4126639,10803695,28284455,74049680,193864595,507544116,1328767764,3478759188,9107509812 ⋆ a(n) = Sum_{m=1..n} Sum_{i=1..m} F(i)F(i+1) where F(n)=Fibonacci numbers A000045. • a(n) = (4 * Lucas(2 * n + 3) + (- 1) ^ (n + 1) - 10 * n - 15) / 20. - _ Ehren Metcalfe _ , Aug 21 2017 •

[A095126] • 4,13,37,109,316,922,2683,7816,22759,66283,193027,562144,1637086,4767577,13884268,40434181,117753589,342925453,998677492,2908377754,8469862531,24666180832,71833571503,209195822971,609226179619 ⋆ Expansion of x*(4+5*x-x^2)/ (1-2*x-3*x^2+x^3). • a(n + 3) = 2 * a(n + 2) + 3 * a(n + 1) - a(n); with a(1) = 4, a(2) = 13, a(3) = 37. •

[A108489] • 1,1,4,13,37,130,427,1441,4954,16987,58843,204610,713893,2500183,8778478,30898309,108987427,385136680,1363252603,4832572951,17153677534,60961916965,216887253409,772400234074,2753261490919 ⋆ Expansion of 1/sqrt(1-2x-5x^2-6x^3+9x^4). • a(n)=sum { k=0..n, C(n - k, k) ^ 2 * 3 ^ k } •

[A024450] • 4,13,38,87,208,377,666,1027,1556,2397,3358,4727,6408,8257,10466,13275,16756,20477,24966,30007,35336,41577,48466,56387,65796 ⋆ Sum of squares of the first n primes. • a(n) = sum(prime(i) ^ 2, i=1..n). - _ Walter Kehowski _ , Jun 24 2006 •

[A049611] • 0,1,4,13,38,104,272,688,1696,4096,9728,22784,52736,120832,274432,618496,1384448,3080192,6815744,15007744,32899072,71827456,156237824,338690048,731906048 ⋆ a(n) = T(n,2), array T as in A049600. • a(n) = Sum _{ k=0..n } binomial(n, k)floor((k + 1) ^ 2 / 4). - _ Paul Barry _ , May 27 2003 • a(n) = 2 ^ (n - 4)(n ^ 2 + 5n + 2) - 0 ^ n / 8. - _ Paul Barry _ , Jun 09 2003 • a(n) = Hyper2F1([- n + 1, 3], [1], - 1) for n>0. - _ Peter Luschny _ , Aug 02 2014 •

[A084851] • 1,4,13,38,104,272,688,1696,4096,9728,22784,52736,120832,274432,618496,1384448,3080192,6815744,15007744,32899072,71827456,156237824,338690048,731906048,1577058304 ⋆ Binomial transform of binomial(n+2,2). • a(n) = (n ^ 2 + 7 * n + 8) * 2 ^ (n - 3). • a(n) = sum { k=0..n, C(n, k)C(k + 2, 2) } . •

[A094706] • 0,1,4,13,38,105,280,729,1866,4717,11812,29365,72590,178641,438064,1071153,2613138,6362965,15470140,37565389,91125206,220864377,534951112,1294960905,3133261530 ⋆ Convolution of Pell(n) and 2^n. • a(n)=sum { k=0..n, ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) / (2sqrt(2))2 ^ (n - k) } . • a(n)= (1 + sqrt(2)) ^ n(1 + 3sqrt(2) / 4) + (1 - sqrt(2)) ^ n(1 - 3sqrt(2) / 4) - 2 ^ (n + 1). • a(n)=4a(n - 1) - 3a(n - 2) - 2a(n - 3). • a(n)=sum { k=0..floor(n / 2), binomial(n - k, k + 1)2 ^ (n - 2k - 1) } ; a(n)=sum { k=0..n, binomial(k, n - k + 1)2 ^ k * (1 / 2) ^ (n - k + 1) } . - _ Paul Barry _ , Oct 07 2004 •

[A056014] • 0,0,0,1,4,13,38,106,288,771,2046,5401,14212,37324,97904,256621,672336,1760997,4611642,12075526,31617520,82781215,216732890,567428401,1485570024 ⋆ (Fibonacci(2n-1)-Fibonacci(n+1))/2 . • a(n)=4a(n - 1) - 3a(n - 2) - 2a(n - 3) + a(n - 4), a(0)=a(1)=a(2)=0, a(3)=1. •

[A183112] • 0,1,4,13,38,113,336,1001,2994,8965,26868,80565,241630,724793,2174232,6522465,19567050,58700621,176101052,528301933,1584903926 ⋆ Magnetic Tower of Hanoi, total number of moves, optimally solving the [RED ; BLUE ; NEUTRAL] or [NEUTRAL ; RED ; BLUE] pre-colored puzzle. • a(n) = a(n - 2) + a(n - 3) + 3 ^ (n - 1) + 3 ^ (n - 3) + 2; n >= 3 ; a(0) = 0 • a(n) = (5 / 11) * 3 ^ n + AS * 1 ^ (n - 1) + BS * 2 ^ (n - 1) + CS * 3 ^ (n - 1) - 1. •

[A105693] • 0,1,4,13,39,112,313,859,2328,6253,16687,44320,117297,309619,815656,2145541,5637351,14799280,38826025,101809867,266865720,699311581,1832117599,4799138368,12569491809 ⋆ a(n) = Fibonacci(2n+2)-2^n. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 2 * a(n - 3) for n>2. - _ Colin Barker _ , Sep 12 2016 •

[A215404] • 0,0,1,4,13,39,113,322,910,2561,7192,20175,56563,158535,444276,1244936,3488381,9774440,27387681,76739023,215018609,602469686,1688083894,4729907909,13252910268 ⋆ a(n) = 4*a(n-1) - 3*a(n-2) - a(n-3), with a(0)=0, a(1)=0 and a(2)=1. • a(n) = (1 / 7) * ((c(2) - c(4)) * (1 - c(1)) ^ n + (c(4) - c(1)) * (1 - c(2)) ^ n + (c(1) - c(2)) * (1 - c(4)) ^ n), where c(j):=2 * cos(2 * Pi * j / 7) - this formula is the Binet formula for a(n) (see the Binet formula (3.17) for the respective quasi - Fibonacci number C(n;d) for value d= - 1 in the Witula - Slota - Warzynski paper). •

[A290929] • 1,4,13,39,114,330,948,2703,7655,21554,60389,168468,468199,1296826,3581185,9862749,27096216,74277342,203200986,554869701,1512575195,41

16813032,11188568267,30367047720,82316338381 ⋆ p-INVERT of the positive integers, where p(S) = (1 - S)(1 - S^2). • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 23 * a(n - 3) - 18 * a(n - 4) + 7 * a(n - 5) - a(n - 6). •

[A133409] • 0,0,0,0,1,4,13,39,117,351,1054,3163,9490,28470,85410,256230,7686 91,2306074,6918223,20754669,62264007,186792021,560376064,1681128193,5043384580 ⋆ Zero followed by partial sums of A133405. • a(n)=4a(n - 1) - 3a(n - 2) - a(n - 3) + 4a(n - 4) - 3a(n - 5). •

[A238846] • 1,4,13,40,120,354,1031,2972,8495,24110,68016,190884,533293,1484020,4115185,11375764,31358376,86223942,236540915,647556620,1769374931,4826148314,13142564448,35736448200,97037995225 ⋆ Expansion of (1-2*x)/(1-3*x+x^2)^2. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4) for n>3, a(0)=1, a(1)=4, a(2)=13, a(3)=40. • a(n) = ((3 + sqrt(5)) ^ (1 + n) * (8 - (1 - sqrt(5)) * (13 + 5 * n)) + (3 - sqrt(5)) ^ (1 + n) * (8 - (1 + sqrt(5)) * (13 + 5 * n))) / (25 * 2 ^ (2 + n)). - _ Bruno Berselli _ , Mar 06 2014 •

[A003462] • 0,1,4,13,40,121,364,1093,3280,9841,29524,88573,265720,797161,2391484,7174453,21523360,64570081,193710244,581130733,1743392200,5230176601,15690529804,47071589413,141214768240 ⋆ a(n) = (3^n - 1)/2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2), n > 1. a(0) = 0, a(1) = 1. • a(n) = 3 * a(n - 1) + 1, a(0) = 0. • a(n + 1) = Sum _{ k = 0..n } binomial(n + 1, k + 1) * 2 ^ k. - _ Paul Barry _ , Aug 20 2004 • a(n) = Sum _{ i = 0..n - 1 } 3 ^ i, for n > 0; a(0) = 0. • a(n) = StirlingS2(n + 1, 3) + StirlingS2(n + 1, 2). - _ Ross La Haye _ , Jan 10 2008 • a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 2, n > 1. - _ Gary Detlefs _ , Jun 21 2010 •

[A094628] • 4,13,40,130,400,1300,4000,13000,40000,130000,400000,1300000,4000000,13000000,40000000,130000000,400000000,1300000000,4000000000,13000000000,40000000000,130000000000,400000000000,1300000000000 ⋆ Numbers n with sum of digits(n) = 4. • a(n) = 10 ^ (n / 2) * (13 * sqrt(10) / 20 + 2 - (13 * sqrt(10) / 20 - 2) * (- 1) ^ n). •

[A213496] • 0,4,13,41,82,158,255,403,580,824,1105,1469,1878,2386,2947,3623,4360,5228,6165,7249,8410,9734,11143,12731,14412 ⋆ Number of (w,x,y) with all terms in {0,...,n} and x != max(|w-x|,|x-y|) • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A190214] • 1,1,4,13,41,127,395,1232,3842,11977,37336,116392,362846,1131150,3526285,10992961,34269838,106833983,333047961,1038255251,3236692893,10090178578,31455472326,98060379357,305696824386 ⋆ Expansion of (1-x)/(1-x^6-3*x^5-4*x^4-3*x^3-2*x^2-2*x). • a(n) = Sum _{ m=1..n } Sum _{ r=m..n } (Sum _{ k=m..r } binomial(k,r - k) * Sum _{ j=0..m } binomial(j, - 3 * m + k + 2 * j) * binomial(m,j)))) * binomial(- r + n + m - 1,m - 1). •

[A052529] • 1,1,4,13,41,129,406,1278,4023,12664,39865,125491,395033,1243524,3914488,12322413,38789712,122106097,384377665,1209982081,3808901426,11990037126,37743426307,118812495276,374009739309 ⋆ Expansion of (x-1)^3/(-1+4*x-3*x^2+x^3). • a(n) = Sum _{ a=0..n } (Sum _{ b=0..n } (Sum _{ c=0..n } C(n - b - c,a) * C(n - a - c,b) * C(n - a - b,c))). • a(n) = 4 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>=4. • a(n) = Sum _{ k=0..n } binomial(n + 2 * k - 1, n - k). - _ Vladeta Jovovic _ , Mar 23 2003 •

[A049222] • 0,0,0,1,4,13,41,130,415,1329,4260,13657,43781,140346,449891,1442157,4622932,14819125,47503729,152276498,488132887,1564743865,5015895108,16078800033,51541709869 ⋆ Number of horizontally convex n-ominoes in which the top row has exactly 1 square, which is not above the rightmost square in the second row and the rightmost square in the second row is above the leftmost square in the third row. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 4 * a(n - 3) for n >= 6. •

[A001453] • 1,4,13,41,131,428,1429,4861,16795,58785,208011,742899,2674439,9694844,35357669,129644789,477638699,1767263189,6564120419,24466267019,91482563639,343059613649,1289904147323,4861946401451,18367353072151 ⋆ Catalan numbers - 1. • a(n) = Sum _{ k=1...floor(n / 2) } (C(n,k) - C(n,k - 1)) ^ 2. - _ J. M. Bergot _ , Sep 17 2013 •

[A186202] • 0,1,4,13,41,151,652,2675,10579,59071,711536,6180307,76629775,873676259,7496233396,49493077951,1571673343007,24729597043375,584039297226784,8662254974851091,87570847718549791,1147293660298060507,66175019781864421220,1378758199197350367079 ⋆ The maximal set of disjoint prime cycle permutations on n elements which generate unique subgroups of S(n). • a(n) = n! * Sum _{ p|p prime, p<=n } •

[A109454] • 0,0,0,0,4,13,42,119,330,890,2376,6291,16588,43615,114492,300236,786828,2061233,5398470,14136759,37015990,96917974,253748880,664346375,1739318904 ⋆ Sum of non-Fibonacci numbers between successive Fibonacci numbers: {(F(n) +1),(F(n) +2), +...+ (F(n+1) -1)}. • a(n) = Fibonacci(n + 2) * (Fibonacci(n - 1) - 1) / 2, n>1. - _ Vladeta Jovovic _ , Aug 27 2005 • a(n) = 3 * a(n - 1) + a(n - 2) - 5 * a(n - 3) - a(n - 4) + a(n - 5) for n>6. - _ Colin Barker _ , Mar 26 2015 •

[A287349] • 4,13,42,131,398,1186,3482,10103,29034,82777,234424,660098,1849552,5160001,14341098,39723791,109701122,302131618,830079014,2275509227,6225274794,16999389733,46341292012,126130604546,342800478748 ⋆ Number of matchings in the n-gear graph. • a(n) = Lucas(2 * n) + n * Fibonacci(2 * n) for n > 0. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4) for n>4. - _ Colin Barker _ , Jun 05 2017 •

[A192910] • 0,1,4,13,42,133,418,1311,4110,12883,40380,126563,396684,1243317,3896896,12213937,38281814,119985657,376067806,1178699171,3694364986,11579148423,36292212248,113749700903,356522616120 ⋆ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) defined below at Comments. • a(n)=4 * a(n - 1) - 3 * a(n - 2) + a(n - 3) - a(n - 5). •

[A289807] • 1,4,13,42,133,424,1348,4291,13653,43449,138261,439979,1400101,4455420,14178073,45117606,143573662,456881476,1453892534,4626590576,14722780217,46850970327,149089600359,474434334814,1509749422360 ⋆ p-INVERT of (1,2,2,3,3,4,4,...) (A080513), where p(S) = 1 - S - S^2. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 5 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A175005] • 0,1,4,13,42,137,448,1465,4790,15661,51204,167413,547362,1789617,5851208,19130705,62548430,204504021,668632204,2186113613,7147565882,23369187097,76406277968,249812682345,816770269670 ⋆ Expansion of x/(1 - 4*x + 3*x^2 - 2*x^3). • a(n) = 4a(n - 1) - 3a(n - 2) + 2a(n - 3), starting 0,1,4. •

[A070031] • 1,4,13,42,138,462,1573,5434,19006,67184,239666,861764,3120180,11366370,41630805,153216570,566343030,2101610280,7826451270,29240172780,109566326220,411671536380,1550629453698,5854180360932,22148866939948 ⋆ Expansion of (1+x*C)*C^3, where C = (1-(1-4*x)^(1/2))/(2*x) is g.f. for Catalan numbers, A000108. • a(n) = 2 * (5 * n + 3) * binomial(2 * n + 1, n) / ((n + 2) * (n + 3)). - _ Emeric Deutsch _ , Dec 13 2002 • a(n) = leftmost term of M ^ n * V, M = an infinite tridiagonal matrix with all 1's in the super and subdiagonals and all 2's in the main diagonal; with the rest zeros. V = Vector [1,2,0,0,0,...]. - _ Gary W. Adamson _ , Jun 16 2011 •

[A192802] • 0,1,4,13,42,143,514,1915,7268,27805,106680,409633,1573086,6040587,23193782,89051615,341901032,1312664601,5039704492,19348873781,74285859698,285204660583,1094982340202,4203950929347,16140172668812 ⋆ Coefficient of x in the reduction of the polynomial (x+2)^n by x^3->x^2+x+1. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3). •

[A003688] • 1,4,13,43,142,469,1549,5116,16897,55807,184318,608761,2010601,6640564,21932293,72437443,239244622,790171309,2609758549,8619446956,28468099417,94023745207,310539335038,1025641750321,3387464586001 ⋆ a(n) = 3*a(n-1) + a(n-2), with a(1)=1 and a(2)=4. • a(n) = (1 / 2 - sqrt(13) / 26) * (3 / 2 + sqrt(13) / 2) ^ n + (1 / 2 + sqrt(13) / 26) * (3 / 2 - sqrt(13) / 2) ^ n. - _ Paul Barry _ , Oct 02 2004 •

[A033434] • 1,4,13,43,145,497,1727,6071,21554,77180,278426,1010990,3692213,13553555,49981875,185082495,687923790,2565602160,9598056630,36008860650,135446603370,510706730274,1929930236790,7308166696118,27727426756580 ⋆ Third differences of Catalan numbers A000108. • a(n)=(27 * n ^ 3 + 81 * n ^ 2 + 108 * n + 24) * binomial(2 * n, n) / (n + 1) / (n + 2) / (n + 3) / (n + 4) - _ Benoit Cloitre _ , Jun 11 2004 • a(n) = - binomial(2 * n,n) / (n + 1) * hypergeom([- 3,n + 1 / 2],[n + 2],4). - _ Peter Luschny _ , Aug 15 2012 •

[A291236] • 4,13,44,147,488,1616,5344,17661,58348,192739,636620,2102688,6944828,22937405,75757420,250210275,826389232,2729379568,9014530520,29772975309,98333463212,324773375891,1072653608596,3542734230336,11700856345972 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)(1 - 3 S). • a(n) = 4 * a(n - 1) - a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. •

[A073717] • 0,1,4,13,44,149,504,1705,5768,19513,66012,223317,755476,2555757,8646064,29249425,98950096,334745777,1132436852,3831006429,12960201916,43844049029,148323355432,501774317241,1697490356184 ⋆ a(n)=T(2n+1), where T(n) are the tribonacci numbers A000073. • a(n) = 3 * a(n - 1) + a(n - 2) + a(n - 3), a(0)=0, a(1)=1, a(2)=4. •

[A290907] • 0,1,4,13,44,152,524,1803,6204,21351,73480,252880,870280,2995049,10307396,35472677,122078436,420130248,1445868996,4975926307,17124540796,58933729999,202819133840,697997582240,2402143306640 ⋆ a(n) = (1/3)*A290906(n) • a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A081197] • 1,1,4,13,44,162,643,2724,12259,58423,293902,1555743,8640526,50222288,304792741,1927313470,12673784445,86517541197,612134881624,4482215342305,33919417267456,264951302794510,2133720505175351 ⋆ Diagonal sums of A081130. • a(n)=Sum { k=0..n, k ^ (n - k) Binomial(n - k + 2, 2) } . •

[A005490] • 1,4,13,44,163,666,2985,14550,76497,430746,2582447,16403028,109918745,774289168,5715471605,44087879136,354521950931,2965359744446,25749723493073,231719153184018,2157494726318233,20753996174222510,205985762120971167 ⋆ From expansion of falling factorials. • a(n) = Sum _{ i=1..n } b(n, i) where b(n, 1) = n and b(n + 1, i + 1) = (n - i) * b(n, i) + b(n + 1, i) [From Whitehead]. - _ Sean A. Irvine _ , Jul 01 2016 •

[A285188] • 0,4,13,45,95,203,350,606,930,1430,2035,2899,3913,5285,6860,8908,11220,14136,17385,21385,25795,31119,36938,43850,51350 ⋆ a(n) = Sum_{k=1..n} (k^2*floor(k/2)). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n > 8. • a(n) = n * (n + 1) * (3 * n ^ 2 + n - 1 + 3 * (- 1) ^ n) / 24. - _ Robert Israel _ , Apr 26 2017 •

[A203573] • 4,13,45,152,491,1531,4652,13865,40713,118144,339559,968183,2742100,7721797,21637221,60367976,167787107,464776435,1283571068,3535240289,9713031489,26627195728,72847698655,198929987567,542305383076 ⋆ Bisection of A099924 (convolution of Lucas numbers); even arguments. • a(0)=4, a(1)=13, a(2)=45, a(3)=152, a(n)=6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 11 2014 •

[A214997] • 4,13,45,153,523,1785,6095,20809,71047,242569,828183,2827593,9654007,32960841,112535351,384219721,1311808183,4478793289,15291556791,52208640585,178251448759,608588513865,2077851157943,7094227604041,24221208100279 ⋆ Power ceiling-floor sequence of 2+sqrt(2). • a(n) = floor(x * a(n - 1)) if n is odd, a(n) = ceiling(x * a(n - 1) if n is even, where x = 2 + sqrt(2) and a(0) = ceiling(x). • a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3). • a(n) = (1 / 14) * (2 * (- 1) ^ n + (27 - 19 * sqrt(2)) * (2 - sqrt(2)) ^ n + (2 + sqrt(2)) ^ n * (27 + 19 * sqrt(2))). - _ Colin Barker _ , Nov 13 2017 •

[A180144] • 1,4,13,46,163,580,2065,7354,26191,93280,332221,1183222,4214107,15008764,53454505,190381042,678052135,2414918488,8600859733,30632416174,109098967987,388561736308,1383883144897,4928772907306 ⋆ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1-2*x^2)/(1-4*x+x^2+2*x^3). • a(n) = 4 * a(n - 1) - 1 * a(n - 2) - 2 * a(n - 3) with a(0)=1, a(1)=4 and a(2)=13. • a(n) = (1 / 4) + (21 - 6 * A) * A ^ (- n - 1) / 68 + (21 - 6 * B) * B ^ (- n - 1) / 68 with A=(- 3 + sqrt(17)) / 4 and B=(- 3 - sqrt(17)) / 4. •

[A026641] • 1,1,4,13,46,166,610,2269,8518,32206,122464,467842,1794196,6903352,26635774,103020253,399300166,1550554582,6031074184,23493410758,91638191236,357874310212,1399137067684,5475504511858,21447950506396 ★ Number of nodes of even outdegree (including leaves) in all ordered trees with n edges. • a(n) = sum(binomial(k + n, n - k) * binomial(n - k, k), k=0..floor(n / 2)). - Detlef Pauly (dettodet(AT)yahoo.de), Nov 15 2001 • a(n) = (- 1) ^ n * sum(k=0, n, (- 1) ^ k * C(n + k, k)). - _ Benoit Cloitre _ , Aug 20 2002 • a(n) = sum(binomial(2n - 2j - 1, n - 1), j=0..floor(n / 2)). - _ Emeric Deutsch _ , Jan 28 2004 • a(n) = sum { k=0..n, binomial(2n - k, k) * binomial(k, n - k) } . - _ Paul Barry _ , Jul 25 2005 • a(n) = (- 1 / 2) ^ (n + 2) + (2 / 3) * Sum([(4 ^ n - k) * (binomial(2k,k)) * (1 / (1 - 2 * k)) * (1 - (- 1 / 8) ^ (n - k + 1))],k=0..n). - _ Yalcin Aktar _ , Jul 06 2007 • a(n) = (- 1 / 2) ^ (n + 2) + (3 / 4) * Sum(((- 1 / 2) ^ (n - k)) * (binomial(2k,k)),k=0..n). - _ Yalcin Aktar _ , Jul 06 2007 •

[A087440] • 1,4,13,46,172,664,2608,10336,41152,164224,656128,2622976,10488832,41949184,167784448,671113216,2684403712,10737516544,42949869568,171799085056,687195553792,2748780642304,10995119423488,43980471402496 ★ Expansion of (1-2x-3x^2)/((1-2x)(1-4x)). • a(n)=5 * 4 ^ n / 8 + 3 * 2 ^ n / 4 - 3 * 0 ^ n / 8 • a(n)=6 * a(n - 1) - 8 * a(n - 2), n>2. [From _ Harvey P. Dale _ , Jan 18 2012] •

[A014145] • 0,1,4,13,46,199,1072,6985,53218,462331,4500244,48454957,571411270,7321388383,101249656696,1502852293009,23827244817322,401839065437635,7182224591785948,135607710526966261,2696935204638786574,56349204870460046887,1234002202313888987200 ★ Partial sums of A007489. • a(n) = Sum _{ k=1..n } k * (n + 1 - k)!. - _ Amarnath Murthy _ , Sep 30 2003 • a(n) = (n + 2) * a(n - 1) - (2 * n + 1) * a(n - 2) + n * a(n - 3) for n > 2, a(n) = n ^ 2 for n < 3. - _ Alois P. Heinz _ , Jun 16 2017 •

[A096971] • 1,1,4,13,49,181,685,2605,9988,38479,148879,577930,2249698,8777614,34315012,134377393,526994773,2069403898,8135377102,32014655626,126099239329,497083313908,1960943833567,7740893831005,30576064032568 ★ G.f. satisfies: A(x) = A(x^2*A000108(x^2))*x*A000984(x^2), where A000108(x) is the g.f. for the Catalan sequence and A000984(x) = d/dx x*A000108(x). • a(n) = Sum _{ j=0..[(n + 1) / 2] } C(2 * n - 2 * j - 1, n - 1) * a(j), a(0)=a(1)=1. G.f. satisfies: A(x) = A((1 - sqrt(1 - 4 * x ^ 2)) / 2) * x / sqrt(1 - 4 * x ^ 2), where A(x) = Sum _{ n>=0 } a(n) * x ^ (2 * n - 1). •

[A140660] • 4,13,49,193,769,3073,12289,49153,196609,786433,3145729,12582913,50331649,201326593,805306369,3221225473,12884901889,51539607553,206158430209,824633720833,3298534883329,13194139533313,52776558133249 ★ a(n) = 3*4^n + 1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). (End) •

[A101125] • 1,1,1,4,13,49,233,1240,7201,45521,311225,2285116,17909309,1490807865,13125973611,121800445281,1187400868369,12126952313719242510396977,144018843991220,1667526171728525,20053044685823697,250043383483971193 ★ Row sums of a Chebyshev number triangle. • a(n)=sum { k=0..n, if(k<n, T(n - k, k), if(k=n, 1, 0)) } where T(n, k)=(n / 2)sum { j=0..floor(n / 2), C(n - j, j)(- 1) ^ j * (2k) ^ (n - 2j) } . •

[A230081] • 0,4,13,50,173,613,2149,7557,26543,93264,327657,1151183,4044478,14209634,49923211,175397097,616229093,2165020570,7606447024,26724012524,93890464368,329868851103,1158940469863,4071748539926,14305425173111 ★ Sequence needed for the nonpositive powers of rho(11) = 2*cos(Pi/11) in the power basis of the degree 5 number field Q(rho(11)). Negative of the coefficients of the second power. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - a(n - 4) + a(n - 5) for n >= 0, with a(- 5)=3, a(- 4)=0, a(- 3)=0, a(- 2)= - 1, a(- 1)=0. •

[A105968] • 1,4,13,50,185,692,2581,9634,35953,134180,500765,1868882,6974761,26030164,97145893,362553410,1353067745,5049717572,18845802541,70333492594,262488167833,979619178740,3655988547125,13644335009762,50921351491921 ★ a(n) = 4*a(n-1) - a(n-2) - 2*(-1)^n, a(0) = 1, a(1) = 4. • a(n) = 1 / 6 * sqrt(3) * ((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) + 2 / 3 * ((2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n) - 1 / 3 * (- 1) ^ n. - _ Paolo P. Lava _ , Jul 27 2011 • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3). - _ Colin Barker _ , May 25 2015 •

[A135345] • 1,4,13,51,204,819,3277,13108,52429,209715,838860,3355443,13421773,53687092,214748365,858993459,3435973836,13743895347,54975581389,219902325556,879609302221,3518437208883,14073748835532,56294995342131,225179981368525 ★ a(n) = 3*a(n-1) + 4*a(n-2) - a(n-3) + 3*a(n-4) + 4*a(n-5). • a(n) = (4 ^ (n + 1) / 5) - (2 / 15) * (- 1) ^ n + (1 / 3) * cos(Pi * n / 3) + (sqrt(3) / 3) * cos(Pi * n / 3). - _ Richard Choulet _ , Jan 04 2008 •

[A129147] • 1,1,4,13,52,214,928,4141,18940,88258,417616,2001058,9690184,47348812,233158144,1155900541,5764510060,28898899594,145556001136,736206912982,3737768204344,19042072755124,97313398530496,498737257238482,2562773039735896 ★ Expansion of c(x(1+2x)), c(x) the g.f. of A000108. • a(n)=sum { k=0..n, C(k,n - k) * 2 ^ (n - k) * C(k) } ; • a(n)=(1 / (2 * pi)) * int(x ^ n * sqrt(8 + 4x - x ^ 2) / (x + 2),x,2 - 2 * sqrt(3),2 + 2 * sqrt(3)); •

[A140454] • 4,13,52,259,1595,10548,74914,563533,4387106 ★ Number of primes p less than 10^n such that p^2-2 is prime. • a(n) = #{ p < 10 ^ n in A028870 } . •

[A006604] • 1,1,4,13,53,228,1037,4885,23640,116793,586633,2986616,15377097,79927913,418852716,2210503285,11738292397,62673984492,336260313765,1811960161517,9802082905840,53213718977777,289817858570513,1583076422786096,8670574105626961 ★ Generalized Fibonacci numbers. • a(n) = sum(k=1..n / 2 + 1, (k * sum(j=0..n - 2 * k + 2, (- 1) ^ j * 2 ^ (n - 2 * k - j + 2) * C(n - k + 2,j) * C(2 * n - 3 * k - j + 3,n - k + 1))) / ((n - k + 2))). - _ Vladimir Kruchinin _ , Oct 22 2011 •

[A082570] • 1,4,13,53,266,1597,11180,89441,804970,8049701,88546712,1062560545,13813287086,193386019205,2900790288076,46412644609217,789014958356690,14202269250420421,269843115757988000,5396862315159760001,113334108618354960022,2493350389603809120485 ★ a(1)=1, a(n)=ceiling(n*(a(n-1)+1/a(n-1))). • a(1)=1 and for n>1, a(n)=floor((e - 1 / 2) * n!) •

[A163070] • 4,13,56,237,1004,4253,18016,76317,323284,1369453,5801096,24573837,104096444,440959613,1867934896,7912699197,33518731684,141987625933,601469235416,2547864567597,10792927505804,45719574590813 ★ a(n) = ((4+sqrt(5))*(2+sqrt(5))^n + (4-sqrt(5))*(2-sqrt(5))^n)/2. • a(n) = 4 * a(n - 1) + a(n - 2) for n > 1; a(0) = 4, a(1) = 13. •

[A009300] • 1,1,1,4,13,56,301,1688,11705,84160,698521,6141312,59340997,613282944,6782462597,80158806016,1000434618609,13267800137728,184576848771889,2710082835353600,41577074746699261,669033814167273472 ★ Expansion of exp(x/cos(x)). • a(n) = sum(binomial(n,k) * (if n=k then 1 else if oddp(n - k) then 0 else sum(sum(binomial(m,j) * 2 ^ (1 - j) * sum((- 1) ^ ((n - k) / 2) * binomial(j,i) * (j - 2 * i) ^ (n - k),i,0,floor((j - 1) / 2)) * (- 1) ^ (m - j),j,1,m) * (- 1) ^ m * binomial(k + m - 1,k - 1),m,1,n - k)),k,1,n), n>0. - _ Vladimir Kruchinin _ , Sep 12 2010 •

[A158267] • 1,4,13,59,151,916,1961,12035,35110,166204,384781,3154367,5600323,34384676,124093963,582290595,1235438587,9831378712,18602770421,144738772109,410101237013,1721535323380,4295702988313,40309503022439 ★ Inverse Euler transform of A156305. • a(n) = (1 / n) * Sum _{ d|n } sigma(d) * C(2d - 1,d) * moebius(n / d). •

[A129433] • 1,4,13,66,384,3369,40365,675368,14843787,412444439,14024069358,570883006810,27368160642418,1525274952640101,97766102550401217,7141331463919539567 ★ Number of isomorphism classes of 6-regular multigraphs of order n, loops allowed. • a(n)=N \{ S _ n[S _ 6] * S _{ 3n } [S _ 2] \} [Equation (5.8) of Read 1959] •

[A157311] • 1,1,1,4,13,66,394,2759,22005,198049,1979646,21776107,261287398,3396736175,47553219799,713298307974,11412712029909,194016104508454,3492285524896921,66353424973041500,1327068107226627278 ★ G.f.: exp(Sum_{n>=1} a(n)*x^n/n) = Product_{n>=1} (1 + a(n-1)*x^n). • a(n) = Sum _{ d divides n, 1<=d<=n } - d * (- a(d - 1)) ^ (n / d) for n>0 with a(0)=1. •

[A121452] • 1,1,1,4,13,71,391,2836,21729,198829,1939501,21515836,254169301,3319328299,45979476635,691443303916,10979537304961,186915474027321,3345563762493049,63613875064443796,1266776073045809341 ★ Exponential generating function (1-x^2)^(-1/x). • a(n)=(n! * sum(m=floor((n + 1) / 2)..n, ((- 1) ^ (n - m) * stirling1(m,2 * m - n)) / m!)). [_ Vladimir Kruchinin _ , Mar 09 2013] •

[A012150] • 1,1,1,4,13,76,421,3256,25369,245008,2449801,28441216,346065061,4700478784,67243537453,1047088053376,17192488230961,302112622479616,5593309059948049,109527844826856448,2255588021494237501 ★ exp(tan(arcsin(x))) = 1+x+1/2!*x^2+4/3!*x^3+13/4!*x^4+76/5!*x^5... • a(n) = n! * sum _{ k=1..n } (1 + (- 1) ^ (n - k)) * C((n - 2) / 2,(n - k) / 2) / (2 * k!), n>0. • a(n) = (3 * n ^ 2 - 12 * n + 13) * a(n - 2) - 3 * (n - 4) * (n - 3) ^ 2 * (n - 2) * a(n - 4) + (n - 6) * (n - 5) * (n - 4) ^ 2 * (n - 3) * (n - 2) * a(n - 6). - _ Vaclav Kotesovec _ , Nov 08 2013 •

[A041433] • 1,4,13,95,298,1287,38908,156919,509665,3724574,11683387,50458122,1525427047,6152166310,19981925977,146025648149,458058870424,1978261129845,59805892765774,241201832192941,783411389344597,5725081557605120,17958656062159957 ★ Denominators of continued fraction convergents to sqrt(232). • a(n) = 39206 * a(n - 6) - a(n - 12) for n>7. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A058014] • 1,1,1,4,13,96,541,5888,47545,686080,7231801,130179072,1695106117,36590059520,567547087381,14290429935616,257320926233329,7405376630685696,151856004814953841,4917457306800619520 ★ Number of labeled trees with n+1 nodes such that the degrees of all nodes, excluding the first node, are odd. • a(n) = 2 ^ (- n) * sum(k=0..n, n! / (k! * (n - k)!) * (n + 1 - 2 * k) ^ (n - 1)). •

[A042537] • 1,4,13,173,186,917,3854,4771,65877,202402,875485,49229562,197793733,642610761,8551733626,9194344387,45329111174,190510789083,235839900257,3256429492424,10005128377529,43276943002540,2433513936519769,977733268908161 6 ★ Denominators of continued fraction convergents to sqrt(797). • a(n) = 49431964 * a(n - 11) + a(n - 22) for n>21. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A261547] • 1,1,4,14 ★ The 3 X 3 X ... X 3 dots problem (3, n times): minimal number of straight lines (connected at their endpoints) required to pass through 3^n dots arranged in a 3 X 3 X ... X 3 grid. • a(n) = n + (3 ^ n - 5) / 2, for any n>=2 (conjectured). •

[A168420] • 4,14,14,24,24,34,34,44,44,54,54,64,64,74,74,84,84,94,94,104,104,114,114,124,124 ★ a(n) = 4 + 10*floor(n/2). • a(n) = 10 * n - a(n - 1) - 2, with n>1, a(1)=4. • a(n) = (3 + 5 * (- 1) ^ n + 10 * n) / 2. - _ Paolo P. Lava _ , Nov 27 2009 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Sep 19 2013 •

[A032825] • 1,4,14,17,53,56,183,186,222,225,690,693,729,732,2380,2383,2419,2422,2887,2890,2926,2929,8971,8974,9010 ★ Numbers whose set of base 13 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 13 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 13 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A165721] • 4,14,22,25,35,55,69,74,90,120,140,147,169,209,235,244,272,322,354,365,399,459,497,510,550 ★ Integers of the form k*(k+13)/12. • a(n)= 3 * a(n - 1) - 5 * a(n - 2) + 7 * a(n - 3) - 7 * a(n - 4) + 5 * a(n - 5) - 3 * a(n - 6) + a(n - 7). - R. J. Mathar, Sep 25 2009 •

[A213399] • 1,4,14,23,43,58,88,109,149,176,226,259,319,358,428,473,553,604,694,751,851,914,1024,1093,1213 ★ Number of (w,x,y) with all terms in {0,...,n}

and max(|w-x|,|x-y|) = x. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (8 * n ^ 2 + 2 * (- 1) ^ n * n + 8 * n + (- 1) ^ n + 3) / 4. • a(n) = (4 * n ^ 2 + 5 * n + 2) / 2 for n even. • a(n) = (4 * n ^ 2 + 3 * n + 1) / 2 for n odd. •

[A017317] • 4,14,24,34,44,54,64,74,84,94,104,114,124,134,144,154,164,174,184,194,204,214,224,234,244 ★ a(n) = 10n + 4. • a(n) = 10 * n + 4; a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 29 2011 •

[A289179] • 0,1,4,14,28,55,88,140,200,285,380,506,644,819,1008,1240,1488,1785,2100,2470,2860,3311,3784,4324,4888 ★ Edge count of the n X n white bishop graph. • a(n) = ((- 1 + n) * (- 3 + 3 * (- 1) ^ n - 2 * n + 4 * n ^ 2)) / 12. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A049451] • 0,4,14,30,52,80,114,154,200,252,310,374,444,520,602,690,784,884,990,1102,1220,1344,1474,1610,1752 ★ Twice second pentagonal numbers. • a(n) = n * (3 * n + 1). • a(n) = 6 * n + a(n - 1) - 2, n > 0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0) = 0, a(1) = 4, a(2) = 14. - _ Philippe Deléham _ , Mar 26 2013 • a(n) = (24 / (n + 2)!) * Sum _{ j=0..n } (- 1) ^ (n - j) * binomial(n,j) * j ^ (n + 2). [_ Bruno Berselli _ , Jun 04 2013 - after the similar formula of _ Vladimir Kruchinin _ in A002411] •

[A117109] • 1,4,14,30,69,107,209,295,480,641,1000,1209,1819,2166,2976,3546,4844,5379,7314,8110,10402,11645,14949,15890,20405 ★ Moebius transform of {n+3 choose 4}. • a(n)=| { (x,y,z,w) : 1<=x<=y<=z<=w<=n, gcd(x,y,z,w,n)=1 } | •

[A140063] • 1,4,14,31,55,86,124,169,221,280,346,419,499,586,680,781,889,1004,1126,1255,1391,1534,1684,1841,2005 ★ Binomial transform of [1, 3, 7, 0, 0, 0,...]. • a(n) = 7 * n ^ 2 / 2 - 15 * n / 2 + 5 = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ R. J. Mathar _ , Jul 31 2009 • a(n)=a(n - 1) + 7 * n - 11 (with a(1)=1) [From Vincenzo Librandi, Nov 24 2010] •

[A159920] • 4,14,32,60,100,154,224,312,420,550,704,884,1092,1330,1600,1904,2244,2622,3040,3500,4004,4554,5152,5800,6500 ★ Sums of the antidiagonals of Sundaram's sieve (A159919). • a(n) = (n - 1) * n * (n + 4) / 3. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4). • a(n) = sum _{ i=1..n - 1 } i * (i + 3). - _ Wesley Ivan Hurt _ , Oct 19 2013 •

[A036486] • 0,1,4,14,32,63,108,172,256,365,500,666,864,1099,1372,1688,2048,2457,2916,3430,4000,4631,5324,6084,6912 ★ Ceiling((n^3)/2). • a(n) = (2 * n ^ 3 - (- 1) ^ n + 1) / 4. - _ Bruno Berselli _ , Jun 07 2011 • a(n) = (n ^ 3 + (n mod 2)) / 2. - _ Wesley Ivan Hurt _ , May 21 2014 •

[A228272] • 0,4,14,33,65,113,179,268,381,523,696,904,1150,1436,1767,2144,2572,3053,3591,4188,4849,5575,6370,7238,8181 ★ Volume of sphere (rounded down) with the diameter equal to n. • a(n) = floor((Pi * n ^ 3) / 6)). •

[A011935] • 0,0,0,0,0,4,14,33,67,120,201,316,475,686,960,1310,1747,2284,2937,3720,4651,5745,7022,8500,10200 ★ [n(n-1)(n-2)(n-3)/25]. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 25) - 4 * a(n - 26) + 6 * a(n - 27) - 4 * a(n - 28) + a(n - 29). [From _ R. J. Mathar _ , Apr 15 2010] •

[A295180] • 1,1,4,14,35,96,242,609,1483,3565,8376,19389,44254,99584,221470,486810,1058914,2280519,4866492,10294313,21598679,44966391,92930485,190721585,388828094 ★ Expansion of Product_{k>=1} (1 + x^k)^(3*k*(k-1)/2+1). • a(0) = 1 and a(n) = (1 / n) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d * (3 * d * (d - 1) / 2 + 1) * (- 1) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 16 2017 •

[A213045] • 0,4,14,36,72,128,206,312,448,620,830,1084,1384,1736,2142,2608,3136,3732,4398,5140,5960,6864,7854,8936,10112 ★ Number of (w,x,y) with all terms in {0,...,n} and 2|w-x|>max(w,x,y)-min(w,x,y). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[A079908] • 1,4,14,36,76,140,234,364,536,756,1030,1364,1764,2236,2786,3420,4144,4964,5886,6916,8060,9324,10714,12236,13896 ★ Solution to the Dancing School Problem with 3 girls and n+3 boys: f(3,n). • a(n) = max(1, n ^ 3 + 3 * n), found by elementary counting. •

[A038164] • 1,4,14,36,85,176,344,624,1086,1800,2892,4488,6798,10032,14520,20592,28743,39468,53482,71500,94523,123552,159952,205088,260780 ★ G.f.: 1/((1-x)*(1-x^2))^4. • a(0)=1, a(1)=4, a(2)=14, a(3)=36, a(4)=85, a(5)=176, a(6)=344, a(7)=624, a(8)=1086, a(9)=1800, a(10)=2892, a(11)=4488, a(n)=4 * a(n - 1) - 2 * a(n - 2) - 12 * a(n - 3) + 17 * a(n - 4) + 8 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) + 17 * a(n - 8) - 12 * a(n - 9) - 2 * a(n - 10) + 4 * a(n - 11) - a(n - 12). - _ Harvey P. Dale _ , Jul 02 2011 •

[A027166] • 1,4,14,36,103,248,684,1624,4445,10524,28762,68060,185955,439984,1202072,2844144,7770361,18384884,50228454,118841812,324681887,768205608,2098776772,4965759176,13566706389 ★ a(n) = Sum{T(i,j)}, 0<=j<=i, 0<=i<=n, T given by A027157. • a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 12 * a(n - 3) + 9 * a(n - 4) - 6 * a(n - 5) + 3 * a(n - 6) for n>5. •

[A209399] • 0,0,0,0,4,14,37,83,181,387,824,1728,3584,7360,15032,30571,61987,125339,252883,509294,1024300,2057848,4130724,8285758,16610841 ★ Number of subsets of {1,...,n} containing two elements whose difference is 3. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 3 * a(n - 4) - a(n - 5) - a(n - 6) - 3 * a(n - 7) + a(n - 8) + 2 * a(n - 9). • a(n) = 2 ^ n - Product(i=0 to 2) F(floor((n + i) / 3) + 2) where F(n) is the n - th Fibonacci number. •

[A192974] • 0,1,4,14,37,84,172,329,600,1058,1821,3080,5144,8513,13996,22902,37349,60764,98692,160105,259520,420426,680829,1102224,1784112 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A006071] • 1,4,14,38,76,136,218,330,472,652,870,1134,1444,1808,2226,2706,3248,3860,4542,5302,6140,7064,8074,9178,10376 ★ Maximal length of rook tour on an n X n board. • a(2n)= 2 + 2 * n * (8n ^ 2 - 5) / 3, n>=1. a(2n + 1)= 2n(1 + 8n ^ 2 + 12n) / 3, n>=1. •

[A086954] • 1,1,4,14,38,92,214,490,1108,2474,5462,11948,25942,55978,120148,256682,546134,1157804,2446678,5155498,10835284,22719146,47535446,99265196,206918998 ★ Binomial transform of A061800. • a(n)=0 ^ n + n2 ^ (n - 1) + sum { k=0..floor((n - 1) / 3) C(n - 1, 3k + 2) } •

[A130423] • 4,14,39,88,170,294,469,704,1008,1390,1859,2424,3094,3878,4785,5824,7004,8334,9823,11480,13314,15334,17549,19968,22600 ★ Main diagonal of array A[k,n] = n-th sum of 3 consecutive k-gonal numbers, k>2. • a(n) = A[n + 2,n] = P(k + 2,n) + P(k + 2,n + 1) + P(k + 2,n + 2) where P(k,n) = k * ((n - 2) * k - (n - 4)) / 2. • a(n) = n * (3 * n ^ 2 - 3 * n + 8) / 2. G.f.: x * (4 - 2 * x + 7 * x ^ 2) / (1 - x) ^ 4. [_ Colin Barker _ , Apr 30 2012] • a(1)=4, a(2)=14, a(3)=39, a(4)=88, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 15 2012 •

[A074083] • 0,0,0,0,0,4,14,39,97,224,494,1051,2177,4412,8784,17228,33360,63886,121164,227833,425147,787916,1451198,2657821,4842727 ★ Coefficient of q^3 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2 2))*nu(n-2) with (b,lambda)=(1,1). • a(n)=4a(n - 1) - 2a(n - 2) - 8a(n - 3) + 5a(n - 4) + 8a(n - 5) - 2a(n - 6) - 4a(n - 7) - a(n - 8) for n>=11. •

[A182819] • 1,4,14,39,101,238,533,1131,2314,4566,8763,16376,29939,53612,94302,163112,277953,467064,774943,1270528,2060331,3306771,5256579,8280649,12934125 ★ G.f.: exp(Sum_{n>=1} sigma(3n)*x^n/n). • a(n) = Sum _{ j = 0..3 * n } (Sum _{ k = 0..3 * n - j } w ^ (j + 2 * k) * p(k) * p(j) * p(3 * n - j - k)). (End) •

[A066375] • 1,4,14,40,97,206,394,694,1145,1792,2686,3884,5449,7450,9962,13066,16849,21404,26830,33232,40721,49414,59434,70910,83977 ★ 6*binomial(n,4)+3*binom n+2. • a(n) = (8 - 14 * n + 13 * n ^ 2 - 4 * n ^ 3 + n ^ 4) / 4. G.f.: x * (1 - x + 4 * x ^ 2 + 2 * x ^ 4) / (1 - x) ^ 5. [_ Colin Barker _ , Apr 20 2012] •

[A023003] • 1,4,14,40,105,252,574,1240,2580,5180,10108,19208,35693,64960,116090,203984,353017,602348,1014580,1688400,2778517,4524760,7296752,11658920,18468245 ★ Number of partitions of n into parts of 4 kinds. • a(0)=1, a(n)=1 / n * sum(k=0,n - 1, 4 * a(k) * sigma _ 1(n - k)). - _ Joerg Arndt _ , Feb 05 2011 •

[A001872] • 1,4,14,40,105,256,594,1324,2860,6020,12402,25088,49963,98160,190570,366108,696787,1315072,2463300,4582600,8472280,15574520,28481220,51833600,93914325 ★ Convolved Fibonacci numbers. • a(n) = F'''(n + 3, 1) / 6, i.e., 1 / 6 times the 3rd derivative of the (n + 3)th Fibonacci polynomial evaluated at 1. - _ T. D. Noe _ , Jan 18 2006 • a(n) = (((- i) ^ n) / 3!) * (d ^ 3 / dx ^ 3)S(n + 3,x)| _{ x=i } , where i is the imaginary unit. Third derivative of Chebyshev S(n + 3,x) polynomial evaluated at x=i multiplied by ((- i) ^ (n - 3)) / 3!. See A049310 for the S - polynomials. - _ Wolfdieter Lang _ , Apr 04 2007 • a(n) = Sum _{ i=ceiling(n / 2)..n } (i + 1) * (i + 2) * (i + 3) * binomial(i,n - i) / 6. - _ Vladimir Kruchinin _ , Apr 26 2011 •

[A054443] • 1,4,14,40,109,276,682,1624,3810,8744,19868,44496,98941,217780,476786,1036024,2241814,4823160,10342180,22076080,46994386,99673224,210923364,445000560,937051684 ★ Third convolution of A001405 (central binomial numbers). • a(2 * k)= (2 * k + 7) * 4 ^ (k + 1) - binomial(2 * (k + 2), k + 2) * (4 * k + 9) / 2, a(2 * k + 1)= (k + 4) * 4 ^ (k + 2) - (k + 3) * binomial(2 * (k + 3), k + 3), k >= 0. •

[A072674] • 0,4,14,40,110,304,854,2440,7070,20704,61094,181240,539630,1610704,4815734,14414440,43177790,129402304,387944774,1163310040,3488881550,10464547504,31389448214,94159956040,282463090910 ★ 3^n+2*2^n-3. • a(0)=0, a(1)=4, a(2)=14, a(n)=6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Harvey P. Dale _ , Sep 06 2012 •

[A132357] • 1,4,14,41,122,364,1093,3280,9842,29525,88574,265720,797161,2391484,7174454,21523361,64570082,193710244,581130733,1743392200,5230176602,15690529805,47071589414,141214768240,423644304721 ★ a(n) = 3a(n-1) - a(n-3) + 3a(n-4). • a(n) = 0.5 * 3 ^ (n + 1) + (1 / 6) * (- 1) ^ n - (2 / 3) * cos(Pi * n / 3). Or, a(n)=0.5 * 3 ^ (n + 1) + 0.5 * [- 1; - 1; 1; 1; 1; - 1]. - _ Richard Choulet _ , Jan 02 2008 • a(n)= - (1 / 3) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n + (3 / 2) * 3 ^ n + (1 / 6) * (- 1) ^ n - (1 / 3) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n, with n>=0 and I=sqrt(- 1) - _ Paolo P. Lava _ , Jun 09 2008 •

[A262875] • 0,1,4,14,41,127,400,1297,4520,17064,64857,262286,1156325,5199961,23835336,117674608,609741279,3268286263,18109939168,102866828839,620474818814,4005211833858,25747541532731,166978138395205,1168773990780772 ★ Number of equal-sized disjoint subset combinations from a set of n items. • a(n) = Sum _{ m=2..n } b(n,m), where b(n,m) = Sum _{ k=1..floor(n / m) } (Product _{ j=0..(m - 1) } binomial(n - k * j, k)) / m!. •

[A189052] • 0,0,0,1,4,14,42,118,314,806,2010,4902,11738,27686,64474,148518,338906,767014,1723354,3847206,8539098,18854950,41438170,90682406,197675994 ★ a(n) = number of inversions in all compositions of n. • a(n) = 2 ^ (n - 1) * (1 / 24 * (n + 2) * (n + 1) - 5 / 36 * (n + 1) - 5 / 108) - 2 / 27 * (- 1) ^ n for n>0. • a(n) = + 5 * a(n - 1) - 6 * a(n - 2) - 4 * a(n - 3) + 8 * a(n - 4). •

[A189426] • 0,0,1,4,14,42,119,322,847,2180,5521,13804,34160,83818,204204,494494,1191227,2856666,6823334,16240714,38534657,91175154,215179125,506670394,1190534467 ★ Expansion of (x^2)/(1-2*x-x^2+x^3)^2 • a(n)=4 * a(n - 1) - 2 * a(n - 2) - 6 * a(n - 3) + 3 * a(n - 4) + 2 * a(n - 5) - a(n - 6), n>=6. •

[A007076] • 1,4,14,42,123,351,988,2761,7682,21313,59029,163314,451529,1247842,3447574,9523375,26303825,72646588,200627795,554056162,1530058222,4225290890,11668141901,32221405479,88978639438 ★ Number of irreducible positions of size n in Montreal solitaire. • a(n) = d(n, 3) where d(n, k) is defined in A007046. - _ Sean A. Irvine _ , Oct 06 2017 •

[A212688] • 0,0,4,14,44,98,200,356,600,940,1420,2050,2884,3934,5264,6888,8880,11256,14100,17430,21340,25850,31064,37004,43784 ★ Number of (w,x,y,z)

with all terms in {1,...,n} and 2|w-x|>=n+|y-z|. • a(n)=3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[A007466] • 1,4,14,44,128,352,928,2368,5888,14336,34304,80896,188416,434176,991232,2244608,5046272,11272192,25034752,55312384,121634816,266338304,580911104,1262485504,2734686208 ★ Exponential-convolution of natural numbers with themselves. • a(n) = 2 ^ (n - 1) * n + 1 / 4 * 2 ^ (n - 1) * (n - 1) * (n - 2). • a(n) = Sum _{ k=0..(n + 2) } C(n + 2, k) * floor(k / 2) ^ 2. - _ Paul Barry _ , Mar 06 2003 •

[A062109] • 1,4,14,44,129,360,968,2528,6448,16128,39680,96256,230656,546816,1284096,2990080,6909952,15859712,36175872,82051072,185139200,415760384,929562624,2069889024,4591714304 ★ Expansion of (1-x)^4/(1-2x)^4. • a(n) =(n + 5) * (n ^ 2 + 13n + 18) * 2 ^ (n - 5) / 3 [with a(0)=1]. •

[A006645] • 0,0,1,4,14,44,131,376,1052,2888,7813,20892,55338,145428,379655,985520,2545720,6547792,16777993,42847988,109099078,277040572,701794187,1773851304,4474555476 ★ Self-convolution of Pell numbers (A000129). • a(n)= sum(2 ^ (n - 2) * (n - k - 1) * binomial(n - 2 - k, k) * (1 / 4) ^ k, k=0..floor((n - 2) / 2)), n>=2. • a(n)=F'(n, 2), the derivative of the n - th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[A094309] • 1,4,14,44,132,384,1096,3088,8624,23936,66144,182208,500800,1374208,3766400,10313984,28226304,77211648,211138048,577223680,1577772032,4312088576,11783915520,32200396800,87985401856 ★ Number of (s(0), s(1), ..., s(n)) such that 0 < s(i) < 6 and |s(i) - s(i-1)| <= 1 for i = 1,2,....,n, s(0) = 2, s(n) = 5. • a(n) = (1 / 3) * sum(k=1..5, sin(Pi * k / 3) * sin(5 * Pi * k / 6) * (1 + 2 * cos(Pi * k / 6)) ^ n. •

[A005323] • 1,4,14,44,133,392,1140,3288,9438,27016,77220,220584,630084,1800384,5147328,14727168,42171849,120870324,346757334,995742748,2862099185,8234447672,23713180780,68350541480,197188167735 ★ Column of Motzkin triangle. • a(n) = number of (s(0), s(1), ..., s(n)) such that s(i) is a nonnegative integer and |s(i) - s(i - 1)| <= 1 for i = 1, 2, ..., n, s(0) = 0, s(n) = 3. • a(n) = 4 * (- 3) ^ (1 / 2) * (- 1) ^ n * n * ((- 3 * n ^ 3 - 9 * n ^ 2 - 6 * n - 9) * hypergeom([1 / 2, n],[1],4 / 3) + (2 * n ^ 3 + n ^ 2 - 17 * n - 13) * hypergeom([1 / 2, n + 1],[1],4 / 3)) / (3 * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5)) (for n >= 3). - _ Mark van Hoeij _ , Nov 12 2009 • a(n) = 4 * sum(j=ceiling((n - 3) / 2)..n + 1, C(j,2 * j - n + 3) * C(n + 1,j)) / (n + 1). - _ Vladimir Kruchinin _ , Mar 17 2014 •

[A027831] • 1,4,14,44,134,400,1184,3488,10252,30096,88296,258960,759368,2226560,6528256,19140352,56117392,164528960,482376160,1414257856,4146398048,12156629760,35641443840,104495439360 ★ Expansion of 1/(1-4*x+2*x^2+4*x^3-2*x^4). • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). _ Vincenzo Librandi _ , Jun 20 2012 •

[A097137] • 0,0,1,4,14,44,135,408,1228,3688,11069,33212,99642,298932,896803,2690416,8071256,24213776,72641337,217924020,653772070,1961316220,5883948671,17651846024,52955538084 ★ Convolution of 3^n and floor(n/2). • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 4 * a(n - 3) + 3 * a(n - 4). • a(n) = Sum _{ k=0..n } floor((n - k) / 2) * 3 ^ k = Sum _{ k=0..n } floor(k / 2) * 3 ^ (n - k). • a(n) = round((3 * 3 ^ n - 4 * n - 4) / 16) = floor((3 * 3 ^ n - 4 * n - 3) / 16) = ceiling((3 * 3 ^ n - 4 * n - 5) / 16) = round((3 * 3 ^ n - 4 * n - 3) / 16). • a(n) = a(n - 2) + (3 ^ (n - 1) - 1) / 2, n > 2. (End) •

[A083377] • 1,4,14,44,141,447,1414,4472,14142,44721,141421,447213,1414213,4472135,14142135,44721359,141421356,447213595,1414213562,4472135954,14142135623,44721359549,141421356237,447213595499,1414213562373 ★ a(n) = the largest integer whose square has n digits and first digit 1. • a(n) = floor(sqrt(10 ^ n / 5)). •

[A108765] • 1,4,14,45,139,422,1272,3823,11477,34440,103330,310001,930015,2790058,8370188,25110579,75331753,225995276,677985846,2033957557,6101872691,18305618094,54916854304,164750562935,494251688829 ★ G.f. (1 - x + x^2)/((1-3*x)*(x-1)^2). • a(0) = 1; a(n) = 3 * a(n - 1) + n. • a(n) = (7 * 3 ^ n - 2 * n - 3) / 4. (End) • a(0)=1, a(1)=4, a(2)=14, a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). - _ Harvey P. Dale _ , Dec 11 2012 •

[A005775] • 1,4,14,45,140,427,1288,3858,11505,34210,101530,300950,891345,2638650,7809000,23107488,68375547,202336092,598817490,1772479905,5247421410,15538054455,46019183840,136325212750,403933918375 ★ Number of compact-rooted directed animals of size n having 3 source points. • a(n) = GegenbauerC(n - 4, - n + 1, - 1 / 2) + GegenbauerC(n - 3, - n + 1, - 1 / 2). - _ Peter Luschny _ , May 12 2016 •

[A094688] • 0,1,4,14,45,140,428,1297,3912,11770,35365,106184,318696,956321,2869340,8608630,25826877,77482228,232449268,697351985,2092062720,6276199106,18828615029,56485873744,169457667600 ★ Convolution of Fibonacci(n) and 3^n. • a(0) = 0, a(1) = 1, a(n) = a(n - 1) + a(n - 2) + 3 ^ (n - 1) for n > 1. - _ Ross La Haye _ , Aug 20 2005 • a(n) = (3 ^ (n + 1) - Lucas(n + 2)) / 5, where Lucas = A000032. - _ Vladimir Reshetnikov _ , Sep 27 2016 •

[A068092] • 1,4,14,45,141,447,1414,4472,14142,44721,141421,447214,1414214,4472136,14142136,44721360,141421356,447213595,1414213562,4472135955,14142135624,44721359550,141421356237,447213595500,1414213562373 ★ Index of smallest triangular number with n digits. • a(n) = b where b = floor(sqrt(2 * 10 ^ (n - 1))) and if b(b + 1) / 2 < 10 ^ (n - 1), then b = b + 1. • a(n) = round((2 * 10 ^ (n - 1)) ^ (1 / 2)). - _ Vladeta Jovovic _ , Mar 08 2004 •

[A030267] • 1,4,14,46,145,444,1331,3926,11434,32960,94211,267384,754309,2116936,5914310,16458034,45638101,126159156,347769719,956238170,2623278946,7181512964,19622668679,53522804976,145753273225 ★ COMPOSE natural numbers with themselves. • a(n) = - a(- n) = (2nF(2n + 1) + (2 - n)F(2n)) / 5 with F=A000045 (Fibonacci numbers). • a(n) = (2 / 5)F(2n) + (1 / 5)nL(2n), where F(k) are the Fibonacci numbers (F(0)=0, F(1)=1) and L(k) are the Lucas numbers (L(0)=2, L(1)=1). - _ Emeric Deutsch _ , Jul 21 2008 • a(0)=1, a(1)=4, a(2)=14, a(3)=46, a(n)=6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 01 2011 •

[A027649] • 1,4,14,46,146,454,1394,4246,12866,38854,117074,352246,1058786,3180454,9549554,28665046,86027906,258149254,774578834,2323998646,6972520226,20918609254,62757924914,188277969046 ★ a(n) = 2*(3^n) - 2^n. • a(0) =1, a(n) = 3 * a(n - 1) + 2 ^ (n - 1). • a(n) = Sum _{ k=0..n } binomial(n, k) * (2 ^ (k + 1) - 1). - _ Paul Barry _ , Mar 24 2003 • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } binomial(n,j) * binomial(j + 1,k + 1). - _ Paul Barry _ , Sep 18 2006 • a(n) = 5a(n - 1) - 6a(n - 2), a(0)=1, a(1)=4. - _ Harvey P. Dale _ , Apr 22 2011 •

[A124805] • 1,4,14,46,162,574,2042,7270,25890,92206,328394,1169590,4165554,14835838,52838618,188187526,670239810,2387094478,8501763050,30279478102,107841960402,384084837406,1367938433018,4871984973862 ★ Number of base 4 circular n-digit numbers with adjacent digits differing by 2 or less. • a(n) = 1 + ((3 - sqrt(17)) / 2) ^ n + ((3 + sqrt(17)) / 2) ^ n for n>0. • a(n) = 4 * a(n - 1) - a(n - 2) - 2 * a(n - 3) for n>3. •

[A046718] • 1,4,14,47,152,472,1408,4048,11264,30464,80384,207616,526336,1312768,3227648,7835648,18808832,44695552,105250816,245825536,569901056,1312292864,3003121664,6833569792,15468593152 ★ Number of permutations of [n] with exactly 1 132-pattern and 2 123-patterns. • a(n) = 2 ^ (n - 8) * (n ^ 3 - 11 * n ^ 2 + 54 * n - 88). - _ R. J. Mathar _ , Oct 02 2012 •

[A291385] • 1,4,14,47,152,480,1488,4548,13744,41152,122272,360944,1059584,3095552,9005568,26101824,75404544,217191424,623928832,1788071680,5113137152,14592352256,41569120256,118219097088,335685021696 ★ a(n) = (1/4)*A073388(n • a(n) = 4 * a(n - 1) - 8 * a(n - 3) + 4 * a(n - 4) for n >= 5. •

[A192877] • 0,1,4,14,47,152,496,1601,5192,16786,54351,175836,569100,1841513,5959484,19284934,62407951,201955408,653543000,2114907025,6843987040,22147600586,71671151919,231932702004,750550018452 ★ Coefficient of x in the reduction by (x^2->x+1) of the polynomial p(n,x) given in Comments. • a(n) =2 * a(n - 1) + 6 * a(n - 2) - 5 * a(n - 3) - 6 * a(n - 4) + 4 * a(n - 5). •

[A263622] • 0,1,4,14,47,153,486,1516,4669,14255,43268,130818,394491,1187557,3570850,10728920,32219513,96724059,290303232,871171822,2614039735,7843167761,23531600414,70598995524,211805375157 ★ a(n) = (3^(n+1)-2^(n+2)+2*n+1)/4 • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 17 * a(n - 3) - 6 * a(n - 4) for n>3. •

[A094789] • 1,4,14,47,155,507,1652,5373,17460,56714,184183,598091,1942071,6305992,20475625,66484244,215873462,700937471,2275930827,7389902771,23994866364,77910846021,252974934692,821404463698,2667083556359 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 7 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 1, s(2n+1) = 4. • a(n) = (2 / 7) * Sum _{ k = 1..6 } Sin(Pi * k / 7)Sin(4Pi * k / 7)(2Cos(Pi * k / 7)) ^ (2n + 1). • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + a(n - 3). • a(n) = 2 ^ n * B(n; 1 / 2) = (1 / 7) * ((c(1) - c(4)) * (c(4)) ^ (2n) + (c(2) - c(1)) * (c(1)) ^ (2n) + (c(4) - c(2)) * (c(2)) ^ (2n)), where c(j) := 2 * cos(2Pi * j / 7). Here B(n; d), n in N, d in C denotes the respective quasi - Fibonacci number - see A121449 and Witula - Slota - Warzynski paper for details (see also A052975, A085810, A077998, A006054, A121442). - _ Roman Witula _ , Aug 09 2012 •

[A273714] • 0,1,4,14,47,155,508,1662,5438,17809,58395,191732,630373,2075221,6840140,22571800,74564874,246568051,816099650,2703492238,8963064935,29738123605,98735734915,328034119098,1090509180192 ★ Number of doublerises in all bargraphs having semiperimeter n (n>=2). A doublerise in a bargraph is any pair of adjacent up steps. • a(n) = (y(n + 2) - 2 * y(n + 1) - y(n)) / 2. •

[A082574] • 1,4,14,47,156,516,1705,5632,18602,61439,202920,670200,2213521,7310764,24145814,79748207,263390436,869919516,2873148985,9489366472,31341248402,103513111679,341880583440,1129154862000,3729345169441 ★ a(1)=1, a(n) = ceiling(r(3)*a(n-1)) where r(3) = (1/2)*(3 + sqrt(13)) is the positive root of X^2 = 3*X + 1. • a(1)=1, a(2)=4, a(3)=14, a(n) = 4a(n - 1) - 2a(n - 2) - a(n - 3); a(n) = floor(t(3) * r(3) ^ n) where t(3) = (1 / 6) * (1 + 5 / sqrt(13)) is the positive root of 39 * X ^ 2 = 13 * X + 1. •

[A289780] • 1,4,14,47,156,517,1714,5684,18851,62520,207349,687676,2280686,7563923,25085844,83197513,275925586,915110636,3034975799,10065534960,33382471801,110713382644,367182309614,1217764693607,4038731742156 ★ p-INVERT of the positive integers (A000027), where p(S) = 1 - S - S^2. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 5 * a(n - 3) - a(n - 4). •

[A137284] • 1,4,14,47,157,522,1735,5764,19148,63609,211305,701941,2331798,7746066,25731875,85479439,283956550,943283242,3133519104,10409325148,34579029658,114869050115,381586724811,1267603661786,4210888217270 ★ a(0)=1 and a(n) for n > 0 equals the minimal positive integer such that addition of 2^(-a(n)) to Sum_{k = 0,1,...,n-1} 2^(-a(k)) changes only trailing zeros in its decimal representation. • a(n + 1) = ceiling(a(n) * log _ 2(10)) = ceiling(a(n) * A020862). - Conjectured by _ R. J. Mathar _ , proved by _ Max Alekseyev _ •

[A291254] • 4,14,48,159,512,1618,5036,15491,47192,142624,428144,1277884,3795208,11222716,33060072,97060033,284095940,829298422,2414859016,7016265637,20344112608,58879534286,170117201548,490736173432,1413562889020 ★ p-INVERT of (0,1,0,1,0,1, ...), where p(S) = (1 - 2 S - S^2)^2. • a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 16 * a(n - 3) - 3 * a(n - 4) + 16 * a(n - 5) + 2 * a(n - 6) - 4 * a(n - 7) - a(n - 8) for n >= 9. •

[A007070] • 1,4,14,48,164,560,1912,6528,22288,76096,259808,887040,3028544,10340096,35303296,120532992,411525376,1405035520,4797091328,16378294272,55918994432,190919389184,651839567872 ★ a(n) = 4*a(n-1) - 2*a(n-2) with a(0) = 1, a(1) = 4. • a(n) = ((2 + sqrt(2)) ^ (n + 1) - (2 - sqrt(2)) ^ (n + 1)) / sqrt(8). - Al Hakanson (hawkuu(AT)gmail.com), Dec 27 2008, corrected Mar 28 2011 • a(n) = (2 - sqrt(2)) ^ n * (1 / 2 - sqrt(2) / 2) + (2 + sqrt(2)) ^ n * (1 / 2 + sqrt(2) / 2). - _ Paul Barry _ , May 09 2003 • a(n) = ceil((2 + sq

rt(2)) * a(n - 1)). - _ Benoit Cloitre _ , Aug 15 2003 • a(n) = U(n, sqrt(2)) * sqrt(2) ^ n. - _ Paul Barry _ , Nov 19 2003 • a(n) = (1 / 4) * Sum _{ r=1..7 } sin(r * Pi / 8) * sin(r * Pi / 2) * (2cos(r * Pi / 8)) ^ (2n + 3)). - _ Herbert Kociemba _ , Jun 11 2004 • a(2n) = Sum _{ r=0..n } 2 ^ (2n - 1 - r) * (4 * binomial(2n - 1,2r) + 3 * binomial(2n - 1,2r + 1)) a(2n - 1) = Sum _{ r=0..n } 2 ^ (2n - 2 - r) * (4 * binomial(2n - 2,2r) + 3 * binomial(2n - 2,2r + 1)). - _ Jeffrey Liese _ , Oct 12 2006 •

[A204089] • 1,1,4,14,48,164,560,1912,6528,22288,76096,259808,887040,3028544,10340096,35303296,120532992,411525376,1405035520,4797091328,16378294272,55918994432,190919389184,651839567872,2225519493120 ★ The number of 1 by n Haunted Mirror Maze puzzles with a unique solution ending with a mirror, where mirror orientation is fixed. • a(n) = Sum _{ i=0..n - 1 } a(i) * (2 ^ (n - i) - 1), with a(0)=1. • a(n) = 4 * a(n - 1) - 2 * a(n - 2), a(1)=1, a(2)=4. • a(n) = ((- (2 - sqrt(2)) ^ n + (2 + sqrt(2)) ^ n)) / (2 * sqrt(2)). - _ Colin Barker _ , Dec 06 2015 •

[A094827] • 1,4,14,48,165,571,1988,6953,24396,85786,302104,1064945,3756519,13256712,46796545,165225380,583440086,2060408640,7276716445,25700060995,90770326604,320598127113,1132355884236,3999522488002 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 1, s(2n+1) = 4. • a(n) = (2 / 9) * sum(r=1..8, sin(r * Pi / 9) * sin(4 * r * Pi / 9) * (2 * cos(r * Pi / 9)) ^ (2 * n + 1)). • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 10 * a(n - 3) - a(n - 4). •

[A094667] • 1,4,14,48,165,572,2001,7056,25042,89320,319793,1148184,4131009,14885468,53697270,193862592,700312381,2530902676,9149426897,33083393640,119645675898,432748165304,1565346866889,5662560013488 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 10 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 1, s(2n+1) = 4. • a(n) = (1 / 5) * sum(r=1..9, sin(r * Pi / 10) * sin(2 * r * Pi / 5) * (2 * cos(r * Pi / 10)) ^ (2 * n + 1)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4). •

[A002057] • 1,4,14,48,165,572,2002,7072,25194,90440,326876,1188640,4345965,15967980,58929450,218349120,811985790,3029594040,11338026180,42550029600,160094486370,603784920024,2282138106804,8643460269248,32798844771700 ★ Fourth convolution of Catalan numbers: 4*binomial(2n+3,n)/(n+4). • a(n) = 32 * 4 ^ n * Gamma(5 / 2 + n) * (1 + n) / (sqrt(Pi) * Gamma(5 + n)). - _ Peter Luschny _ , Dec 14 2015 • a(n) = C(n + 1) - 2 * C(n) where C is Catalan number A000108. _ Yuchun Ji _ , Oct 18 2017 [NB: Offset is off by 2] •

[A082590] • 1,4,14,48,166,584,2092,7616,28102,104824,394404,1494240,5692636,21785872,83688344,322494208,1246068806,4825743832,18726622964,72798509728,283443548276,1105144970992,4314388905704,16862208539008,65972020761116 ★ Expansion of 1/((1-2*x)*sqrt(1-4*x)). • a(n) = 2 ^ n * JacobiP(n, 1 / 2, - 1 - n, 3). • a(n) = sum { k=0..n + 1, binomial(2n + 2, k) * sin((n - k + 1) * pi / 2 } - _ Paul Barry _ , Nov 02 2004 • a(n) = sum { k=0..n, 2 ^ (n - k) * binomial(2k, k) } ; a(n)=sum { k=0..n, (2k)!(2(n - k))! / (n!k!(n - k)!) } ; - _ Paul Barry _ , Sep 04 2005 • a(n) = sum { k=0..n, C(2n,n)C(n,k) / C(2n,2k) } - _ Paul Barry _ , Mar 18 2007 • a(n) = 2 ^ (n + 1) * pochhammer(1 / 2, n + 1) * hyper2F1([1 / 2, - n], [3 / 2], - 1) / n!. - _ Peter Luschny _ , Aug 02 2014 •

[A085280] • 1,4,14,48,166,584,2094,7648,28406,107064,408574,1575248,6123846,23963944,94261454,372262848,1474702486,5855763224,23293912734,92788230448,369990660326,1476475856904,5895443074414,23550391238048 ★ Expansion of (1-4x+x^2)/((1-x)(1-3x)(1-4x)). • a(n) = 3 ^ n + 4 ^ n / 3 - 1 / 3. •

[A007851] • 1,4,14,48,167,593,2144,7864,29171,109173,411501,1560089,5943199,22732739,87253604,335897864,1296447899,5015206349,19439895089,75487384829,293595204239,1143532045499,4459774977449,17413705988873 ★ Number of elements w of the Weyl group D(n) such that the roots sent negative by w span an Abelian subalgebra of the Lie algebra. • a(n) = (n + 3) * C(n) / 2 - 1, where C(n) is a Catalan number (see A000108). •

[A278692] • 4,14,49,171,596,2077,7238,25223,87897,306303,1067403,3719680,12962320,45171020,157411717,548547468,1911575138,6661446313,23213770727,80895217952,281903201529,982374694626,3423373822671,11929753885009,41572739387791 ★ Pisot sequence T(4,14). • a(n) = floor(a(n - 1) ^ 2 / a(n - 2)), a(0) = 4, a(1) = 14. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - a(n - 4). (End) •

[A291384] • 1,4,14,49,172,604,2120,7442,26124,91704,321912,1130020,3966752,13924640,48880192,171585992,602324816,2114363648,7422130912,26054187664,91459003200,321052008000,1127001041280,3956154502688,13887439208896 ★ a(n) = (1/2)*A291383(n). • a(n) = 2 * a(n - 1) + 4 * a(n - 2) + 4 * a(n - 3) + 2 * a(n - 4) for n >= 5. •

[A277084] • 4,14,49,172,604,2122,7456,26198,92052,323444,1136489,3993295,14031289,49301911,173232725,608689936,2138761243,7514991434,26405516950,92781386582,326007088306,1145495077635,4024940008834,14142480741305,49692606865991 ★ Pisot sequence L(4,14). • a(n) = ceiling(a(n - 1) ^ 2 / a(n - 2)), a(0) = 4, a(1) = 14. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 4) - a(n - 5) - 2 * a(n - 6) + 2 * a(n - 7) - a(n - 8). (End) •

[A001894] • 1,4,14,49,174,628,2298,8504,31758,119483,452284,1720774,6574987,25214332,96997223,374153699,1446677555,5605337934,21758936146,84604366100,329453055975,1284626463105,5015200610785,19601107218591,76685359017750 ★ Number of permutations of {1,...,n} having n-4 inversions (n>=4). • a(n) = 2 ^ (2 * n - 5) / sqrt(Pi * n) * Q * (1 + O(n ^{- 1 })), where Q is a digital search tree constant, Q = 0.2887880951... (see A048651). - corrected by _ Vaclav Kotesovec _ , Mar 16 2014 •

[A215493] • 0,1,4,14,49,175,637,2352,8771,32928,124166,469567,1779141,6749211,25623472,97329337,369821228,1405502182,5342323441,20307982135,77201862045,293497548512,1115812645899,4242135876440,16128056932078 ★ a(n) = 7*a(n-1) - 14*a(n-2) + 7*a(n-3) with a(0)=0, a(1)=1, a(2)=4. • a(n) * sqrt(7) = s(1) ^ (2n - 1) + s(2) ^ (2n - 1) + s(4) ^ (2n - 1), where s(j) := 2 * Sin(2 * Pi * j / 7) (for the sums of the respective even powers see A215494, see also A094429, A115146). For the proof of these formula see Witula - Slota's paper. •

[A079309] • 1,4,14,49,175,637,2353,8788,33098,125476,478192,1830270,7030570,27088870,104647630,405187825,1571990935,6109558585,23782190485,92705454895,361834392115,1413883873975,5530599237775,21654401079325 ★ a(n) = C(1,1) + C(3,2) + C(5,3) + ... + C(2n-1,n). • a(n) = Sum _{ j=1..n } igcd(binomial(2 * j,j)) / 2. - _ Zerinvary Lajos _ , Oct 25 2006 • a(n) = Sum _{ 0<=i<=j<=n } binomial(i + j,i). - _ Benoit Cloitre _ , Nov 25 2006 •

[A120747] • 0,1,4,14,50,175,616,2163,7601,26703,93819,329615,1158052,4068623,14294449,50221212,176444054,619907431,2177943781,7651850657,26883530748,94450905714,331837870408,1165858298498,4096053203771 ★ Sequence relating to the hendecagon (11-gon). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = T(n,4) with T(n,k) = sum(T(n - 1,k1), k1=6 - k..5), T(1,1) = T(1,2) = T(1,3) = T(1,4) = 0 and T(1,5) = 1, n>=1 and 1 <= k <= 5. [Steinbach] •

[A055099] • 1,4,14,50,178,634,2258,8042,28642,102010,363314,1293962,4608514,16413466,58457426,208199210,741512482,2640935866,9405832562,33499369418,119309773378,424928058970,1513403723666,5390067288938 ★ G.f.: (1+x)/(1-3*x-2*x^2). • a(n) = a * c ^ n - b * d ^ n, a := (5 + sqrt(17)) / (2 * sqrt(17)), b := (5 - sqrt(17)) / (2 * sqrt(17)), c := (3 + sqrt(17)) / 2, d := (3 - sqrt(17)) / 2. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) with a(0) = 1, a(1) = 4. - _ Vincenzo Librandi _ , Dec 08 2010 •

[A153367] • 4,14,50,180,650,2350,8500,30750,111250,402500,1456250,5268750,19062500,68968750,249531250,902812500,3266406250,11817968750,42757812500,154699218750,559707031250,2025039062500,7326660156250,26508105468750 ★ Number of zig-zag paths from top to bottom of a rectangle of width 9 with 2n-1 rows whose color is not that of the top right corner. • a(n) = (2 ^ (- n) * ((5 - sqrt(5)) ^ n * (- 5 + 3 * sqrt(5)) + (5 + sqrt(5)) ^ n * (5 + 3 * sqrt(5)))) / (5 * sqrt(5)) for n>0. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) for n>2. •

[A087945] • 1,4,14,50,182,670,2482,9226,34358,128078,477698,1782202,6650086,24816094,92610194,345616490,1289839382,4813708270,17964928162,67045873306,250218302918,933826814078,3485087904818,13006522708042 ★ Expansion of (1-2x-x^2)/((1-2x)(1-4x+x^2)). • a(0)=1, a(2)=4, a(2)=14, a(n)=6a(n - 1) - 9a(n - 2) + 2a(n - 3), n>2; a(n)=(2 ^ n + (1 - sqrt(3))(2 - sqrt(3)) ^ n + (1 + sqrt(3))(2 + sqrt(3)) ^ n) / 3. •

[A051924] • 1,4,14,50,182,672,2508,9438,35750,136136,520676,1998724,7696444,29716000,115000920,445962870,1732525830,6741529080,26270128500,102501265020,400411345620,1565841089280,6129331763880,24014172955500 ★ a(n) = binomial(2*n,n) - binomial(2*n-2,n-1); or (3n-2)*C(n-1), where C = Catalan numbers (A000108). • a(n + 1) = binomial(2 * n, n) + 2 * sum(i=0, n - 1, binomial(n + i, i) (V's in Pascal's Triangle). - _ Jon Perry _ Apr 13 2004 • a(n) = 2 * (3 * n - 2) * (2 * n - 3) * a(n - 1) / (n * (3 * n - 5)). - _ Alois P. Heinz _ , Apr 25 2014 • a(n) = 2 ^ (- 2 + 2 * n) * Gamma(- 1 / 2 + n) * (3 * n - 2) / (sqrt(Pi) * Gamma(1 + n)). - _ Peter Luschny _ , Dec 14 2015 •

[A076024] • 0,1,4,14,50,186,714,2794,11050,43946,175274,700074,2798250,11188906,44747434,178973354,715860650,2863377066,11453377194,45813246634,183252462250,733008800426,2932033104554,11728128223914,46912504507050 ★ (2^n+4)*(2^n-1)/6. • a(n) = sum { k=0..n, C(n, k)(3 ^ (k - 1) + 1 - 4 * 0 ^ k / 3) / 2 } . • a(n) = sum { k=0..n, C(n, k + 1)(3 ^ k + 1) } . •

[A292463] • 1,1,4,14,51,188,702,2644,10026,38223,146359,562456,2168134,8379539,32459199,125984039,489837300,1907490728,7438346255,29042470132,113522618066,444199913556,1739735079466,6819657196928,26753893533257 ★ Number of partitions of n with n kinds of 1. • a(n) = [x ^ n] 1 / (1 - x) ^ n * 1 / Product _{ j=2..n } (1 - x ^ j). • a(n) is n - th term of the Euler transform of n,1,1,1,... . •

[A165813] • 1,4,14,51,216,1095,6588,46137,369120,3322107,33221100,365432133,4385185632,57007413255,798103785612,11971556784225,191544908547648,3256263445310067,58612742015581260,1113642098296043997 ★ a(n) = n*(a(n-1)+3), a(0)=1. • a(n) = n! + 3 * floor(e * n!) - 3. - _ Gary Detlefs _ , Jun 06 2010 •

[A099486] • 0,1,4,14,52,195,728,2716,10136,37829,141180,526890,1966380,7338631,27388144,102213944,381467632,1423656585,5313158708,19828978246,74002754276,276182038859,1030725401160,3846719565780,14356152861960 ★ Expansion of x/((1+x^2)(1-4x+x^2)). • a(n)=4a(n - 1) - 2a(n - 2) + 4a(n - 3); a(n)=sum { k=0..n, cos(pi * (n - k) / 2)((2 + sqrt(3)) ^ k - (2 - sqrt(3)) ^ k) / (2sqrt(3)) } ; a(n)=sum { k=0..floor(n / 2), C(n - k, k)(- 1) ^ n * (4 ^ (n - 2k) - 0 ^ (n - 2k)) / 4 } . •

[A262594] • 1,4,14,52,203,808,3232,12936,51765,207100,828466,3313964,13255999,53024192,212097028,848388448,3393554217,13574217396,54296870230,217187481700,868749927731,3474999712024,13899998849384,55599995399032,222399981597853 ★ Expansion of (1-2*x)^2/((1-x)^4*(1-4*x)). • a(n) = 8 * a(n - 1) - 22 * a(n - 2) + 28 * a(n - 3) - 17 * a(n - 4) + 4 * a(n - 5) for n>4. • a(n) = (34 + 2 ^ (7 + 2 * n) + 93 * n + 18 * n ^ 2 - 9 * n ^ 3) / 162. •

[A129997] • 0,1,4,14,52,208,884,3952,18460,89648,450892,2341456,12522068,68819920,387978292,2240112368,13228210684,79794191152,491143503500,3081692690128,19693923313012,128082776294096,847127801497588 ★ a(n) = 4*a(n-1) + (n-6)*a(n-2). • a(n) = 4 * a(n - 1) + (n - 6) * a(n - 2). - _ Vaclav Kotesovec _ , Oct 20 2012 •

[A214998] • 4,14,53,197,736,2746,10249,38249,142748,532742,1988221,7420141,27692344,103349234,385704593,1439469137,5372171956,20049218686,748247

02789,279249592469,1042173667088,3889445075882,14515606636441,54172981469881,202176319243084 ⋆ Power ceiling-floor sequence of 2 + sqrt(3). • a(n) = floor(x * a(n - 1)) if n is odd, a(n) = ceiling(x * a(n - 1) if n is even, where x = 2 + sqrt(3) and a(0) = ceiling(x). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3). • a(n) = (- 1) ^ n + 4 * a(n - 1) - a(n - 2) with a(0) = 4 and a(1) = 14. - _ Peter Bala _ , Nov 12 2017 • a(n) = (1 / 12) * (2 * (- 1) ^ n + (23 - 13 * sqrt(3)) * (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n * (23 + 13 * sqrt(3))). - _ Colin Barker _ , Nov 13 2017 •

[A180142] • 1,4,14,54,204,774,2934,11124,42174,159894,606204,2298294,8713494,33035364,125246574,474845814,1800277164,6825368934,25876938294,98106921684,371951579934,1410175504854,5346381254364,20269670277654 ⋆ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1+x-x^2)/(1-3*x-3*x^2). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) for n>=2 with a(0)=1, a(1)=4 and a(2)=14. • a(n) = (6 - 2 * A) * A ^ (- n - 1) / 21 + (6 - 2 * B) * B ^ (- n - 1) / 21 with A=(- 3 + sqrt(21)) / 6 and B=(- 3 - sqrt(21)) / 6. •

[A045501] • 1,1,4,14,54,233,1101,5625,30846,180474,1120666,7352471,50772653,367819093,2787354668,22039186530,181408823710,1551307538185,13756835638385,126298933271289,1198630386463990,11742905240821910 ⋆ Third-from-right diagonal of triangle A121207. • a(n + 1) = Sum _{ k=0..n } binomial(n + 2, k + 2) * a(k). - _ Vladeta Jovovic _ , Nov 10 2003 •

[A162481] • 1,4,14,54,235,1119,5658,29800,161621,896198,5056824,28938519,167548937,979653821,5776252440,34305807512,205039491091,1232333298174,7443336041318,45157243590384,275051410542141,1681362181696823 ⋆ Expansion of (1/(1-x)^3)*c(x/(1-x)^3), c(x) the g.f. of A000108. • a(n)=sum { k=0..n, C(n + 2k + 2,n - k) * A000108 } . •

[A143406] • 1,1,4,14,55,252,1319,7737,50040,351636,2659375,21519027,185279186,1688183135,16206401020,163376811610,1724624368377,19011582728772,218312877627483,2605840967052663,32271957793959066,413991491885677105,5492584623675060620 ⋆ Number of forests of labeled rooted trees of height at most 1, with n labels, where each root contains a nonempty set of labels of equal size, also row sums of A143398. • a(n) = 1 if n=0 and a(n) = n! * Sum _{ k=1..n } Sum _{ i=1..floor(n / k) } i ^ (n - k * i) / ((n - k * i)! * i! * k! ^ i) else. •

[A073155] • 1,1,4,14,56,237,1046,4762,22198,105430,508384,2482297,12248416,60980875,305955356,1545397464,7852100294,40105277640,205798130604,1060467961508,5485199090812,28469067353686,148220323891460 ⋆ Leftmost column sequence of triangle A073153. • a(n + 1) = Sum _{ k=0..n } [a(k) + a(k - 1)] * [a(n - k) + a(n - k - 1)], where a(- 1)=0. • a(n)=sum { k=0..n, C(2k,n - k) * C(k) } . - _ Paul Barry _ , Jul 09 2006 •

[A137956] • 1,1,4,14,64,301,1500,7738,40948,221278,1215284,6765148,38083556,216431253,1240048740,7155236960,41542685352,242513393884,1422608044604,8381507029660,49574494112992,294260899150492,1752288415205896 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^2)^4. • a(n) = Sum _{ k=0..n - 1 } C(4 * (n - k),k) / (n - k) * C(2 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A154407] • 4,14,64,344,1984,11744,70144,420224,2520064,15117824,90701824,544200704,3265183744,19591061504,117546287104,705277558784,4231665025024,25389989494784,152339935657984,914039611326464,5484237662715904 ⋆ a(n) = 5*2^(n-1) + 3*6^n/2. • a(n + 1) = 6 * a(n) - 10 * 2 ^ n. •

[A081891] • 1,4,14,64,830,14704,228734,3136144,39450110,468241264,5338397054,59140070224,641540046590,6850671429424,72282030453374,755587489260304,7840735233590270,80889167950995184,830567232465613694 ⋆ A sum of decreasing powers. • a(n)=10 ^ n - 9 ^ n - 8 ^ n - 7 ^ n + 3 * 6 ^ n. •

[A187742] • 1,1,4,14,66,384,2640,20880,186480,1854720,20321280,243129600,3153427200,44068147200,660064204800,10548573235200,179151388416000,3222109642752000,61178237632512000,1222853377794048000,25667116186263552000,564433265896980480000,12977099311614197760000 ⋆ G.f.: Sum_{n>=0} (n+x)^n * x^n / (1 + n*x + x^2)^n. • a(n) = (n ^ 2 + n + 2) * (n - 1)! / 2, for n>1 with a(0)=a(1)=1. •

[A161132] • 1,1,1,4,14,78,426,3216,24024,229080,2170680,25022880,287250480,3884393520,52370755920,812752093440,12585067447680,220448163358080,3854801333416320,75225258805132800,1465957162768492800,31537353006189676800,677696237345719468800 ⋆ Number of permutations of {1,2,...,n} that have no even fixed points. • a(n) = Sum[(- 1) ^ (j) * binomial(floor(n / 2),j) * (n - j)!, j=0..floor(n / 2)]. •

[A202139] • 1,1,4,14,88,544,4688,41712,459520,5333376,71876352,1027670016,16428530688,278818065408,5167215464448,101437811718144,2140879726411776,47698275298050048,1130276555155243008,28167446673847812096,740796870212763254784 ⋆ E.g.f. log(1/(1-arctanh(x))). • a(n) = n! * sum(m=1..n, ((m - 1)! * sum(k=0..n - m, (stirling1(k + m,m) * 2 ^ k * binomial(n - 1,k + m - 1)) / (k + m)!))). •

[A022133] • 4,15,19,34,53,87,140,227,367,594,961,1555,2516,4071,6587,10658,17245,27903,45148,73051,118199,191250,309449,500699,810148 ⋆ Fibonacci sequence beginning 4, 15. • a(n) = term (1,1) in the 1 X 2 matrix [4,11] . [1,1 ; 1,0] ^ n. (End) •

[A051531] • 1,1,4,15,24,44,81,115,168,247,322,424,561,693,860,1071,1276,1524,1825,2119,2464,2871,3270,3728,4257 ⋆ Molien series for group H_{1,3}^{8} of order 2304. • a(0)=1, a(1)=1, a(2)=4, a(3)=15, a(4)=24, a(5)=44, a(6)=81, a(7)=115, a(n)= 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Jan 12 2013 •

[A017437] • 4,15,26,37,48,59,70,81,92,103,114,125,136,147,158,169,180,191,202,213,224,235,246,257,268 ⋆ a(n) = 11*n + 4. • a(0)=4, a(1)=15, a(n) = 2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , May 19 2012 •

[A270710] • 1,4,15,32,55,84,119,160,207,260,319,384,455,532,615,704,799,900,1007,1120,1239,1364,1495,1632,1775 ⋆ a(n) = 3*n^2 + 2*n - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) = Sum _{ i = n - 1..2 * n - 1 } (2 * i + 1). - _ Bruno Berselli _ , Feb 16 2018 •

[A022265] • 0,4,15,33,58,90,129,175,228,288,355,429,510,598,693,795,904,1020,1143,1273,1410,1554,1705,1863,2028 ⋆ a(n) = n*(7*n + 1)/2. • a(n) = 7 * n + a(n - 1) - 3 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0)=0, a(1)=4, a(2)=15. - _ Philippe Deléham _ , Mar 26 2013 •

[A054556] • 1,4,15,34,61,96,139,190,249,316,391,474,565,664,771,886,1009,1140,1279,1426,1581,1744,1915,2094,2281 ⋆ a(n) = 4*n^2 - 9*n + 6. • a(n) ^ 2 = Sum _{ i = 0..2 * (4 * n - 5) } (4 * n ^ 2 - 13 * n + 9 + i) ^ 2 * (- 1) ^ i = ((n - 1) * (4 * n - 5) + 1) ^ 2. - _ Bruno Berselli _ , Apr 29 2010 • a(n) = 8 * n + a(n - 1) - 13 for n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 07 2010 • a(0)=1, a(1)=4, a(2)=15; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 21 2011 •

[A077414] • 0,4,15,36,70,120,189,280,396,540,715,924,1170,1456,1785,2160,2584,3060,3591,4180,4830,5544,6325,7176,8100 ⋆ a(n) = n*(n - 1)*(n + 2)/2. • a(n) = n * (binomial(n + 1, 2) - 1). • a(n) = n * Sum _{ j=2..n } j. - _ Zerinvary Lajos _ , Sep 12 2006 • a(1)=0, a(2)=4, a(3)=15, a(4)=36; for n>4, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 04 2012 • a(n) = Sum _{ i=1..n - 1 } i * (3 * (n - i) + 1). - _ Bruno Berselli _ , Feb 13 2014 •

[A212974] • 0,4,15,37,75,132,212,320,459,633,847,1104,1408,1764,2175,2645,3179,3780,4452,5200,6027,6937,7935,9024,10208 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w>floor((x+y)/3)). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A033813] • 4,15,37,77,146,262,454,769,1283,2119,3476,5676,9240,15011,24353,39473,63942,103538,167610,271285,439039,710475,1149672,1860312,3010156 ⋆ Convolution of natural numbers n >= 1 with Lucas numbers L(k)(A000032) for k >= 3. • a(n)=L(6) * (F(n + 1) - 1) + L(5) * F(n) - L(4) * n, F(n): Fibonacci (A000045), G.F. x * (4 + 3 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2) • a(0)=4, a(1)=15, a(2)=37, a(3)=77, a(n)=3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) [From Harvey P. Dale, May 23 2011] •

[A209409] • 0,0,0,0,0,4,15,37,87,200,448,992,2160,4628,9823,20699,43335,90246,187068,386192,794560,1629944,3334975,6808073,13870191 ⋆ Number of subsets of {1,...,n} containing {a,a+2,a+4} for some a. • a(n) = 2 ^ n - t[floor(n / 2) + 2] * t[floor((n + 1) / 2) + 2] where t(n) is the n - th tribonacci number . • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) + 2 * a(n - 10). •

[A053698] • 1,4,15,40,85,156,259,400,585,820,1111,1464,1885,2380,2955,3616,4369,5220,6175,7240,8421,9724,11155,12720,14425 ⋆ a(n) = n^3 + n^2 + n + 1. • a(n) = Sum _{ i=0..n } 2 * n * (n - i) + 1. - _ Bruno Berselli _ , Jan 02 2017 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Colin Barker _ , Jan 02 2017 •

[A059140] • 4,15,40,93,202,423,868,1761,3550,7131,14296,28629,57298,114639,229324 ⋆ A hierarchical sequence (S(W2{2}*c) - see A059126). • a(n) = 2 * (- 5 + 7 * 2 ^ n) - 3 * n. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. •

[A031164] • 1,4,15,40,99,212,429,800,1430,2424,3978,6288,9690,14520,21318,30624,43263,60060,82225,110968,148005,195052,254475,328640,420732 ⋆ Irreducible Euler sums of weight 8 and depth 10+2n. • a(n) = [C(n + 8,7) - (n % 2) * C((n + 7) / 2,3)] / 8, where C = binomial, n % 2 = parity of n (=1 if odd, 0 else). - _ M. F. Hasler _ , May 02 2009 • a(0)=1, a(1)=4, a(2)=15, a(3)=40, a(4)=99, a(5)=212, a(6)=429, a(7)=800, a(8)=1430, a(9)=2424, a(10)=3978, a(11)=6288, a(n) = 4 * a(n - 1) - 2 * a(n - 2) - 12 * a(n - 3) + 17 * a(n - 4) + 8 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) + 17 * a(n - 8) - 12 * a(n - 9) - 2 * a(n - 10) + 4 * a(n - 11) - a(n - 12). - _ Harvey P. Dale _ , Jun 20 2011 •

[A011844] • 0,0,0,0,0,0,0,0,1,4,15,41,99,214,429,804,1430,2431,3978,6298,9690,14535,21318,30644,43263 ⋆ [C(n,7)/8]. • a(n) = floor(binomial(n + 1,8) / (n + 1)). [From Gary Detlefs, Nov 23 2011] •

[A100503] • 1,4,15,42,93,176,299,470,697,988,1351,1794,2325,2952,3683,4526,5489,6580,7807,9178,10701,12384,14235,16262,18473 ⋆ Bisection of A000125. • a(n) = (4n ^ 3 + 5n + 3) / 3. - _ Ralf Stephan _ , May 15 2007 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: (1 + 5 * x ^ 2 + 2 * x ^ 3) / (1 - x) ^ 4. - _ Colin Barker _ , Aug 20 2012 •

[A213498] • 0,4,15,43,88,164,267,415,600,844,1135,1499,1920,2428,3003,3679,4432,5300,6255,7339,8520,9844,11275,12863,14568 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w != max(|w-x|,|x-y|,|y-w|) • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (2 * n * (4 * n ^ 2 + 5 * n + 5) - (2 * n + 1) * (- 1) ^ n + 1) / 8. •

[A294259] • 0,1,4,15,43,100,201,364,610,963,1450,2101,2949,4030,5383,7050,9076,11509,14400,17803,21775,26376,31669,37720,44598 ⋆ a(n) = n*(n^3 + 2*n^2 - 5*n + 10)/8. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. • a(n) = 2 * n + Sum _{ i=0..n } i * (i ^ 2 - 3) / 2. •

[A188716] • 1,1,4,15,46,125,316,763,1786,4089,9208,20471,45046,98293,212980,458739,983026,2097137,4456432,9437167,19922926,41943021,88080364,184549355,385875946 ⋆ a(n) = n + (n-1)*(2^n-2). • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). G.f.: (1 - 5 * x + 11 * x ^ 2 - 8 * x ^ 3) / ((1 - x) ^ 2 * (1 - 2 * x) ^ 2). [_ Colin Barker _ , Apr 06 2012] •

[A093967] • 0,1,4,15,48,145,420,1183,3264,8865,23780,63151,166320,434993,1130948,2925375,7533312,19323713,49395780,125877071,319888560,810893265,2050891876,5176349663,13040153280 ⋆ a(n) = n*Pell(n). • a(n) = n((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) / (2sqrt(2)); •

[A052201] ● 4,15,48,175,816,4851,34960,292743,2774040,29251651,339184776,4285584615,58571107168,860622082035,13525670637216,226358825764711,4018390654376520,75413358213752643,1491684815796629080 ★ Equivalent of the Kurepa hypothesis for left factorial. ● a(1)=4, a(2)= 15, a(3)= 48, a(n)=(n + 1) * (a(n - 1) - a(n - 3)) - 3 * a(n - 2) ●

[A178704] ● 0,0,1,4,15,49,153,465,1402,4213,12648,37954,113874,341634,1024915,3074758,9224289,27672883,83018667,249056019,747168076,2241504247,6724512762,20173538308,60520614948 ★ Partial sums of floor(3^n/7). ● a(n) = round((6 * 3 ^ n - 14 * n - 7) / 28). ● a(n) = floor((6 * 3 ^ n - 14 * n + 2) / 28). ● a(n) = ceil((6 * 3 ^ n - 14 * n - 16) / 28). ● a(n) = round((6 * 3 ^ n - 14 * n - 6) / 28). ● a(n) = a(n - 6) + 52 * 3 ^ (n - 5) - 3 , n>5. ● a(n)=5 * a(n - 1) - 7 * a(n - 2) + 2 * a(n - 3) + 5 * a(n - 4) - 7 * a(n - 5) + 3 * a(n - 6). ●

[A099167] ● 1,4,15,49,154,473,1437,4340,13067,39277,117954,354061,1062505,3188036,9564951,28696217,86090858,258276145,774834213,2324511988,6973551091,20920677749,62762072850,188286282629,564858951569 ★ G.f.: (1+x^2)/((1-3x)(1-x-x^2)). ● a(n)=4a(n - 1) - 2a(n - 2) - 3a(n - 3); a(n)=2 * 3 ^ n - Fib(n + 2); a(n)=sum { k=0..n, (L(k) - 0 ^ k)3 ^ (n - k) } . ●

[A053406] ● 1,4,15,49,172,511,1600,4968,15328,40858,82484,106963,114376,116592,117100,117127,117128,117129 ★ Number of stars brighter than visual magnitude n-1. ● a(n) would be proportional to 10 ^ (0.6 * n) in the simplifying hypothesis of a uniform distribution of identical stars in an infinite universe. Any empirical formula matching the actual sequence for n=0 to 10 is welcome. ●

[A132308] ● 1,4,15,50,157,480,1451,4366,13113,39356,118087,354282,1062869,3188632,9565923,28697798,86093425,258280308,774840959,2324522914,6973568781,20920706384,62762119195,188286357630,564859072937 ★ 2*3^n - n - 1. ● a(n) = 2 * 3 ^ n - n - 1. - _ Rolf Pleisch _ , Sep 26 2010 ●

[A014532] ● 1,4,15,50,161,504,1554,4740,14355,43252,129844,388752,1161615,3465840,10329336,30759120,91538523,272290140,809676735,2407049106,7154586747,21263575256,63191778950,187790510700,558069593445 ★ Form array in which n-th row is obtained by expanding (1+x+x^2)^n and taking the 3rd column from the center. ● a(n) = sum _{ i=0 }^ floor((n - 1) / 2) binomial(n + 2,n - 1 - i) * binomial(n - 1 - i,i). - _ Shanzhen Gao _ , Apr 20 2010 ● a(n) = - (1 / (162 * (n + 5) * (n + 3))) * (9 * n + 18) * (- 1) ^ n * (- 3) ^ (1 / 2) * ((n + 7) * hypergeom([1 / 2, n + 5],[1],4 / 3) + hypergeom([1 / 2, n + 4],[1],4 / 3) * (5 * n + 19)). - _ Mark van Hoeij _ , Oct 30 2011 ● a(n) = C(4 + 2 * n, n - 1) * hypergeom([- n + 1, - n - 5], [- 3 / 2 - n], 1 / 4). ● a(n) = GegenbauerC(n - 1, - n - 2, - 1 / 2). (End) ●

[A094705] ● 0,1,4,15,50,161,504,1555,4750,14421,43604,131495,395850,1190281,3576304,10739835,32241350,96767741,290390604,871346575,2614389250,7843866801,23532998504,70601791715,211810967550 ★ Convolution of Jacobsthal(n) and 3^n. ● a(n) = 3 * 3 ^ n / 4 - 2 * 2 ^ n / 3 - (- 1) ^ n / 12. ● a(n) = 4 * a(n - 1) - a(n - 2) - 6 * a(n - 3). ● a(n) = sum { k=0..floor(n / 2), binomial(n - k, k + 1) * 2 ^ (n - k - 1) * (3 / 2) ^ k } ; - _ Paul Barry _ , Oct 25 2004 ●

[A005492] ● 4,15,52,151,372,799,1540,2727,4516,7087,10644,15415,21652,29631,39652,52039,67140,85327,106996,132567,162484,197215,237252,283111,335332 ★ From expansion of falling factorials. ● a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5). ● a(n) = n ^ 4 - 16n ^ 3 + 102n ^ 2 - 300n + 340 . ●

[A003013] ● 1,1,4,15,52,165,486,1351,3592,9225,23050,56331,135180,319501,745486,1720335,3932176,8912913,20054034,44826643,99614740,220200981,484442134,1061158935,2315255832 ★ E.g.f. 1+x*exp(x)+x^2*exp(2*x). ● a(0)=1, a(1)=1, a(2)=4, a(3)=15, a(4)=52, a(5)=165, a(n)= 8 * a(n - 1) - 25 * a(n - 2) + 38 * a(n - 3) - 28 * a(n - 4) + 8 * a(n - 5) [From Harvey P. Dale, Nov 01 2011] ●

[A117202] ● 0,1,4,15,52,170,534,1631,4880,14373,41810,120406,343884,975325,2749852,7713435,21540304,59917826,166094370,458998523,1264919720,3477182961,9536877614,26102772910,71309161752 ★ Binomial transform of n*F(n). ● a(n) = 6a(n - 1) - 11a(n - 2) + 6a(n - 3) - a(n - 4). ● a(n) = Sum _{ k=0..n } C(n,k) * k * F(k). ● a(n) = Sum _ [k=1..n } F(2k) * B(2n - 2k) * binomial(2n,2k) where F=Fibonacci numbers and B=Bernoulli numbers; ● a(n) = n * F(2n - 1). ● a(n) = (2 ^ (- 1 - n) * (- (5 + sqrt(5)) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (5 + sqrt(5))) * n) / 5. - _ Colin Barker _ , Feb 26 2017 ●

[A291011] ● 4,15,52,172,552,1736,5384,16536,50440,153112,463176,1397720,4210568,12668568,38083528,114414424,343587336,1031482904,3095956040,9291013848,27879595144,83652416920,250985562312,753015407192,2259167856392 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S)^2 (1 - 2 S). ● a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 12 * a(n - 3) for n >= 4. ● a(n) = (8 * 3 ^ n - 2 ^ (n - 1) * (8 + n)). - _ Colin Barker _ , Aug 23 2017 ●

[A132894] ● 0,1,4,15,52,175,576,1869,6000,19107,60460,190333,596652,1863745,5804176,18028755,55873872,172818243,533589660,1644921789,5063762220,15568666029,47811348816,146675181975,449538774048 ★ Number of (1,0) steps in all paths of length n with steps U=(1,1), D=(1,-1) and H=(1,0), starting at (0,0), staying weakly above the x-axis (i.e., in all length-n left factors of Motzkin paths). ● a(n) = Sum _{ k=0..n } k * C(n,k) * C(n - k, floor((n - k) / 2)). ● a(n) = Sum _{ k=0..n } k * C(n,k) * C(2 * k,k) * (- 1) ^ (n - k). - _ Wadim Zudilin _ , Oct 11 2010 ● a(n) = (- 1) ^ (n + 1) * JacobiP(n - 1,1, - n + 1 / 2, - 7). - _ Peter Luschny _ , Sep 23 2014 ●

[A289802] ● 1,4,15,53,185,643,2234,7764,26988,93819,326149,1133811,3941521,13702079,47633109,165588965,575643853,2001134880,6956629199,24183622175,84070541130,292257951771,1015988587832,3531923782817,12278174929397 ★ p-INVERT of the quarter-squares (A002620), where p(S) = 1 - S - S^2. ● a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 4 * a(n - 3) + 12 * a(n - 4) - 5 * a(n - 5) - 4 * a(n - 6) + 4 * a(n - 7) - a(n - 8). ●

[A289927] ● 1,4,15,53,187,656,2301,8071,28308,99293,348275,1221603,4284864,15029495,52717114,184909361,648583888,2274958177,7979591823,27989035739,98173708464,344351878525,1207840857737,4236595263812,14860185689435 ★ p-INVERT of A014217 (starting at n=1), where p(S) = 1 - S - S^2. ● a(n) = 3 * a(n - 1) + 4 * a(n - 2) - 7 * a(n - 3) - 5 * a(n - 4) + 7 * a(n - 5) + 4 * a(n - 6) - 3 * a(n - 7) - a(n - 8) for n>7. ●

[A164619] ● 4,15,54,75,132,169,320,459,735,847,1104,1250,1764,2175,2904,3179,3780,4107,5200,6027,7425,7935,9024,9604,11492 ★ Integers of the form A164577(k)/3. ● a(n)= + 2 * a(n - 1) - a(n - 2) - a(n - 3) + 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) - 4 * a(n - 7) + 2 * a(n - 8) + 2 * a(n - 9) - 4 * a(n - 10) + 2 * a(n - 11) - a(n - 12) + 2 * a(n - 13) - a(n - 14) - a(n - 15) + 2 * a(n - 16) - a(n - 17). - _ R. J. Mathar _ , Jan 25 2011 ●

[A090326] ● 1,4,15,54,185,608,1939,6058,18669,57012,173063,523262,1577954,750216,14283387,42915666,128878037,386896220,1161212911,3484687270,10456158921,31372671024,94126401635,282395982074,847221500605 ★ Number of rules of a context-free grammar in Chomsky normal form that generates all permutations of n symbols. ● a(n) = 3 ^ n - 2 ^ (n + 1) + n + 1. ●

[A291032] ● 1,4,15,54,188,645,2208,7570,25982,89190,306095,1050268,3603276,12361763,42409154,145491117,499126660,1712311759,5874263702,2015223448169134134820,237171010852,813636681973,2791253840066,9575645985794 ★ p-INVERT of the positive integers, where p(S) = 1 - S - S^2 - S^3 + S^4. ● a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 68 * a(n - 3) - 87 * a(n - 4) + 68 * a(n - 5) - 33 * a(n - 6) + 9 * a(n - 7) - a(n - 8). ●

[A094821] ● 1,4,15,54,190,660,2276,7816,26776,91600,313104,1069728,3653728,12477504,42606656,145479808,496722304,1695962368,5790470400,19770087936,67499673088,230459040768,786837865472,2686435477504 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 8 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 3, s(2n) = 5. ● a(n)=(1 / 4) * Sum(r, 1, 7, Sin(3 * r * Pi / 8)Sin(5 * r * Pi / 8)(2Cos(r * Pi / 8)) ^ (2n)) a(n)= 6a(n - 1) - 10a(n - 2) + 4a(n - 3), n >=4 G.f.: (1 - 2x + 2x ^ 2) / (4(- 1 + 2x)(- 1 + 4x - 2x ^ 2)) ●

[A071723] ● 1,4,15,54,192,682,2431,8710,31382,113696,414086,1515516,5571750,20569590,76228095,283481670,1057628550,3957577800,14849601090,55859886420,210622646520,795898303668,3013646759910,11432740177564,43448822603452 ★ Expansion of (1+x^2*C^2)*C^4, where C = (1-(1-4*x)^(1/2))/(2*x) is g.f. for Catalan numbers, A000108. ● a(n) = sum(k=0..n, (k + 1) * (k ^ 2 + k + 1) * binomial(2 * n - k,n)) / (n + 1). [From Vladimir Kruchinin, Sep 28 2011] ●

[A291029] ● 1,4,15,55,198,706,2510,8923,31737,112918,401799,1429744,5087461,18102522,64413263,229198253,815544198,2901909494,10325718678,36741486569,130735386073,465189151460,1655259161187,5889825416864,20957469541173 ★ p-INVERT of the positive integers, where p(S) = 1 - S - S^2 - S^3. ● a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 25 * a(n - 3) - 18 * a(n - 4) + 7 * a(n - 5) - a(n - 6). ●

[A094833] ● 1,4,15,55,199,714,2548,9061,32148,113887,403051,1425471,5039254,17809336,62928201,222324436,785402143,2774421135,9800231959,34617003682,122274355596,431893332397,1525507797700,5388281150223 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 3, s(2n) = 5. ● a(n)=(2 / 9) * Sum(r, 1, 8, Sin(r * Pi / 3)Sin(5 * r * Pi / 9)(2Cos(r * Pi / 9)) ^ (2n)) a(n)=6a(n - 1) - 9a(n - 2) + a(n - 3) G.f.: (- x + 2x ^ 2) / (- 1 + 6x - 9x ^ 2 + x ^ 3) ●

[A039717] ● 1,4,15,55,200,725,2625,9500,34375,124375,450000,1628125,5890625,21312500,77109375,278984375,1009375000,3651953125,13212890625,47804687500,172958984375,625771484375,2264062500000,8191455078125 ★ Row sums of convolution triangle A030523. ● a(n) = (1 / 5) * Sum(r, 1, 9, sin(3 * r * Pi / 10)sin(r * Pi / 2)(2 * cos(r * Pi / 10)) ^ (2n)). ● a(n) = 5 * a(n - 1) - 5 * a(n - 2). ● a(n) = Sum _{ k=0..n } Sum _{ i=0..n } binomial(n, i) * binomial(k + i + 1, 2k + 1). - _ Paul Barry _ , Jun 22 2004 ●

[A220948] ● 1,4,15,55,200,726,2638,9604,35037,128061,468809,1718446,6305546,23155863,85089015,312823200,1150506841,4232595095,15574796945,57320990295,210990647105,776707569176,2859475304889,10527898398268,38763003252400 ★ Expansion of (1-x)^2*(1-3*x)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). ● a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 4, a(2) = 15, a(3) = 55, a(4) = 200. ●

[A050183] ● 0,1,4,15,55,200,728,2652,9690,35530,130750,482885,1789515,6653325,24812400,92798375,347993910,1308233790,4929576600,18615637950,70441574000,267058714626,1014283603024,3858687620200,14702930414900 ★ T(2n+5,n), array T as in A051168; a count of Lyndon words. ● a(n) = (1 / (2 * n + 5)) * Sum _{ d|gcd(n,5) } mu(d) * binomial((2 * n + 5) / d, n / d). (This is a special case of A. Howroyd's formula for double array A051168.) ● a(n) = (1 / (2 * n + 5)) * (binomial(2 * n + 5, n) - binomial((2 * n / 5) + 1, n / 5)) if 5|n; = (1 / (2 * n + 5)) * binomial(2 * n + 5, n) otherwise. ●

[A082133] ● 0,1,4,15,56,205,732,2555,8752,29529,98420,324775,1062888,3454373,11160268,35872275,114791264,365897137,1162261476,3680494655,11622614680,36611236221,115063885244,360882185515,1129718145936 ★ Expansion of e.g.f. x*exp(2*x)*cosh(x). ● a(n) = n * (1 ^ (n - 1) + 3 ^ (n - 1)) / 2. ● a(n) = Sum _{ k=1..n } (Sum _{ j=1..3 } Stirling2(n,j)). - _ G. C. Greubel _ , Feb 07 2018 ●

[A291030] ● 1,4,15,56,208,767,2812,10278,37530,137044,500571,1828818,6682264,24416877,89218462,325997507,1191160160,4352355633,15902968338,58107491971,212317732888,775783501558,2834620130881,10357363200392,37844566834330 ★ p-INVERT of the positive integers, where p(S) = 1 - S - S^2 - S^3 - S^4. ● a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 68 * a(n - 3) - 85 * a(n - 4) + 68 * a(n - 5) - 33 * a(n - 6) + 9 * a(n - 7) - a(n - 8). ●

[A217779] • 1,4,15,56,208,768,2821,10320,37639,136972,497652,1805984,6548425,23729916,85953823,311240928,1126753336,4078394080,14760382029,534156426 32,193291233367,699417041844,2530731376540,9156839587776,33131242464913 ★ Expansion of (1-4x+4*x^2)/((1-5x+5*x^2)*(1-3x+x^2)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4) for n>=4, a(0) = 1, a(1) = 4, a(2) = 15, a(3) = 56. •

[A221859] • 1,4,15,56,209,779,2898,10760,39882,147612,545721,2015721,7440251,27448008,101217076,373128151,1375167467,5067236766,18669118971,68774597447,253334948791,933111590565,3436767111783,12657552835178,46616152422035 ★ Expansion of (1-3*x+x^2)*(1-2*x)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 4, a(2) = 15, a(3) = 56, a(4) = 209. •

[A001353] • 0,1,4,15,56,209,780,2911,10864,40545,151316,564719,2107560,7865521,29354524,109552575,408855776,1525870529,5694626340,21252634831,79315912984,296011017105,1104728155436,4122901604639,15386878263120 ★ a(n) = 4*a(n-1) - a(n-2) with a(0) = 0, a(1) = 1. • a(n) = ((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) / (2 * sqrt(3)). • a(- n) = - a(n). - _ Michael Somos _ , Sep 19 2008 • a(n) = S(n - 1, 4) = U(n - 1, 2), S(- 1, x) := 0, Chebyshev's polynomials of the second kind A049310. • a(n + 1) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k)(- 1) ^ k * 4 ^ (n - 2k). - _ Paul Barry _ , Oct 25 2004 • a(n) = Sum _{ k=0..n - 1 } binomial(n + k, 2k + 1)2 ^ k. - _ Paul Barry _ , Nov 30 2004 • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3); a(0)=0, a(1)=1, a(2)=4. - _ Lekraj Beedassy _ , Jul 13 2006 •

[A010905] • 4,15,56,209,780,2911,10864,40545,151316,564719,2107560,7865521,29354524,109552575,408855776,1525870529,5694626340,21252634831,79315912984,296011017105,1104728155436,4122901604639,15386878263120,57424611447841,214311567528244 ★ Pisot sequence E(4,15): a(n) = floor(a(n-1)^2/a(n-2)+1/2) for n>1, a(0)=4, a(1)=15. • a(n) = 2a(n - 1) - a(n - 2) for n>=2. (Proved using the PtoRv program of Ekhad - Sloane - Zeilberger.) - N. J. A. Sloane, Sep 09 2016 •

[A026030] • 1,4,15,56,209,780,2912,10880,40698,152456,572033,2150040,8095425,30535260,115377660,436698240,1655607390,6286707000,23908446510,91057063344,347281885818,1326262602104,5071418015120,19415851639296,74419447792340 ★ a(n) = T(2n,n-1), where T is defined in A026022. • a(n) = C(2n, n - 1) - C(2n, n - 5). G.f.: (1 + x ^ 2C ^ 4) * C ^ 4, where C=(1 - sqrt(1 - 4x)) / (2x). - _ Ralf Stephan _ , Jan 09 2005 •

[A001791] • 0,1,4,15,56,210,792,3003,11440,43758,167960,646646,2496144,9657700,37442160,145422675,565722720,2203961430,8597496600,33578000610,131282408400,513791607420,2012616400080,7890371113950,30957699535776 ★ a(n) = binomial coefficient C(2n, n-1). • a(n) = Sum _{ k=0..n } C(n, k) * C(n, k + 1). - _ Paul Barry _ , May 15 2003 • a(n) = Sum _{ i=1..n } binomial(i + n - 1, n). • a(n) = (1 / (2 * Pi)) * Integral _{ x=0..4 } (x ^ n * (x - 2) / sqrt(x(4 - x))) is the moment sequence representation. - _ Paul Barry _ , Jan 11 2007 • a(n) = Sum _{ i=1..n } ((binomial(2 * i - 2,i - 1) * binomial(2 * (n - i + 1),n - i + 2)) / (n - i + 1)). - _ Vladimir Kruchinin _ , Sep 07 2015 •

[A087438] • 1,4,15,56,212,816,3184,12544,49728,197888,789248,3151872,12596224,50360320,201388032,805437440,3221504000,12885491712,51540852736,206161051648,824639225856,3298546417664,13194163650560,52776608464896 ★ 3*2^(2(n-1))+2^(n-2)(n+1). • a(0)=1, a(1)=4, a(2)=15, a(n)=8 * a(n - 1) - 20 * a(n - 2) + 16 * a(n - 3) [From Harvey P. Dale, May 20 2011] •

[A125145] • 1,4,15,57,216,819,3105,11772,44631,169209,641520,2432187,9221121,34959924,132543135,502509177,1905156936,7222998339,27384465825,103822392492,393620574951,1492328902329,5657848431840,21450532002507 ★ a(n) = 3a(n-1) + 3a(n-2). a(0) = 1, a(1) = 4. • a(n) = (5 * sqrt(21) / 42 + 1 / 2) * (3 / 2 + sqrt(21) / 2)) ^ (n - 1) + (- 5 * sqrt(21) / 42 + 1 / 2) * (3 / 2 - sqrt(21) / 2)) ^ (n - 1). - _ Antonio Alberto Olivares _ , Mar 20 2008 •

[A242781] • 0,0,1,4,15,57,217,828,3169,12165,46827,180701,698867,2708307,10514331,40885356,159216543,620845293,2423825649,9473195889,37061983617,145131715707,568808493081,2231063305461,8757391892965 ★ Expansion of (1-2*x-sqrt(1-4*x))/(4*x^2+sqrt(1-4*x)*(3*x+1)-5*x+1). • a(n) = Sum _{ k=1..ceil((n + 1) / 3) } binomial(2 * n - 3 * k + 1,n - 3 * k + 1)), n>0, a(0)=0. •

[A277924] • 1,4,15,57,219,848,3302,12911,50643,199140,784626,3096514,12236830,48412432,191718188,759852347,3013746563,11960699132,47494802618,188689585982,749961486698,2981943800192,11860758904148,47191458566582 ★ a(n) = Sum_{i=0..n+1} binomial(2*n,n-i+1). • a(n) = 2 ^ (2 * n - 1) - 4 ^ n * (n - 1 / 2)! / (sqrt(Pi) * (n + 1)!) + 3 * 2 ^ (2 * n - 1) * (n - 1 / 2)! / (sqrt(Pi) * n!). - _ Bruno Berselli _ , Nov 04 2016 • a(n) = ((3 * n + 1) * Catalan(n) + 4 ^ n) / 2. - _ Peter Luschny _ , Nov 04 2016 •

[A095930] • 1,4,15,57,220,859,3381,13380,53143,211585,843756,3368259,13455325,53774932,214978335,859595529,3437550076,13748021995,54986385093,219930610020,879683351911,3518631073489,14074256379660,56296324109907,225183460127725 ★ Number of walks of length 2n between two nodes at distance 2 in the cycle graph C_10. • a(n) = 4 ^ n / 10 * Sum _{ r=0..9 } cos(2 * Pi * r / 5) * cos(Pi * r / 5) ^ (2 * n). • a(n) = 7 * a(n - 1) - 13 * a(n - 2) + 4 * a(n - 3). • a(n) = (4 ^ n + Lucas(2 * n - 1)) / 5. With a(0) = 0, binomial transform of A098703. - _ Ross La Haye _ , May 31 2006 • a(n) = (2 ^ (- 1 - n) * (2 ^ (1 + 3 * n) - (3 - sqrt(5)) ^ n * (1 + sqrt(5)) + (- 1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Apr 27 2016 •

[A164589] • 1,4,15,58,221,848,3243,12422,47545,182044,696903,2668114,10214549,39105896,149713635,573168542,2194332529,8400844852,32162017407,123129948778,471394019405,1804697680256,6909153496347,26451190754486,101266455983401 ★ a(n) = ((4 + 3*sqrt(2))*(1 + 2*sqrt(2))^n + (4 - 3*sqrt(2))*(1 - 2*sqrt(2))^n)/8. • a(n) = 2 * a(n - 1) + 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 4. •

[A003126] • 1,4,15,58,226,882,3457,13606,53683,212090,838484,3319596,13159676,52220801,207374051,823906473,3274464556,13019414133,51790661881,206112818880,820583696869,3267935428368,13017497498243,51863262314021 ★ Value of an urn with n balls of type -1 and n+1 balls of type +1. • a(n) = B(n, n + 1) where B(n, m) is defined in A003125. •

[A160156] • 1,4,15,58,229,912,3643,14566,58257,233020,932071,3728274,14913085,59652328,238609299,954437182,3817748713,15270994836,61083979327,244335917290,977343669141,3909374676544,15637498706155,62549994824598 ★ Partial sums of A007583. • a(n)=[3n + 1 + 2 ^ (2n + 3)] / 9. [From _ Emeric Deutsch _ , Jun 20 2009] • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3), n >= 2, a(- 1)=0, a(0)=1, a(1)=4. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 1, n >= 2, a(0)=1, a(1)=4. (End) •

[A199210] • 4,15,59,235,939,3755,15019,60075,240299,961195,3844779,15379115,61516459,246065835,984263339,3937053355,15748213419,62992853675,251971414699,1007885658795,4031542635179,16126170540715,64504682162859 ★ a(n) = (11*4^n+1)/3. • a(n) = 4 * a(n - 1) - 1. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A291244] • 4,15,60,239,952,3792,15104,60161,239628,954465,3801740,15142752,60315260,240242367,956911980,3811486495,15181573232,60469889136,240858271816,959365196977,3821257929948,15220493940369,60624914631700,241475755550400,961824703141876 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - 4 S + S^2. • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3) - a(n - 4) for n >= 5. •

[A290910] • 0,1,4,15,60,240,956,3809,15180,60495,241080,960736,3828664,15257745,60804180,242312895,965649716,3848244944,15335777460,61115150865,243552156060,970588338271,3867926023024,15414209227200,61427712082800 ★ a(n) = (1/5)*A290909(n), n>= 0. • a(n) = 4 * a(n - 1) - a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A007526] • 0,1,4,15,64,325,1956,13699,109600,986409,9864100,108505111,1302061344,16926797485,236975164804,3554627472075,56874039553216,966858672404689,17403456103284420,330665665962403999,6613313319248080000,138879579704209680021,3055350753492612960484 ★ a(n) = n(a(n-1) + 1), a(0) = 0. • a(n) = floor(e * n! - 1). - J. K. Horn • a(n) = Sum { r=1..n } nPr = n! * Sum(1 / k!, k=0..n - 1) = n(a(n - 1) + 1). • a(n) = sum(k=1, n, k! * C(n, k)). - _ Benoit Cloitre _ , Dec 06 2002 • a(n) = Sum[n! / k! { k=0...n - 1 }]. - _ Ross La Haye _ , Sep 22 2004 • a(n) = sum(k=1..n, prod(j=0..k - 1, (n - j))). - _ Joerg Arndt _ , Apr 24 2011 • a(n) = int(((1 + x) ^ n - 1) * exp(- x),x,0,infinity). - _ Paul Barry _ , Feb 06 2008 •

[A102129] • 1,4,15,66,277,1176,4979,21094,89353,378508,1603383,6792042,28771549,121878240,516284507,2187016270,9264349585,39244414612,166242008031,704212446738,2983091794981,12636579626664,53529410301635,226754220833206,960546293634457 ★ Expansion of (1 - x)*(1 + 2*x) / ((1 + x)*(1 - 4*x - x^2)). • a(n) = - (10 * (- 1) ^ n + (2 - sqrt(5)) ^ n * (- 15 + sqrt(5)) - (2 + sqrt(5)) ^ n * (15 + sqrt(5))) / 20. - _ Colin Barker _ , Jun 06 2017 •

[A164310] • 4,15,66,306,1440,6804,32184,152280,720576,3409776,16135200,76352544,361304064,1709709120,8090430336,38284327296,181163381760,857274326784,4056665670144,19196348060160,90838094340096,429850477679616 ★ a(n) = 6*a(n-1) - 6*a(n-2) for n > 1; a(0) = 4, a(1) = 15. • a(n) = ((4 + sqrt(3)) * (3 + sqrt(3)) ^ n + (4 - sqrt(3)) * (3 - sqrt(3)) ^ n) / 2. •

[A125062] • 1,1,4,15,68,370,2364,17388,144864,1349136,13894560,156831840,1925527680,25550778240,364416917760,5559659078400,90349397913600,1558170228787200,28423674336153600,546807873520742400 ★ Number of increasing trees with hills of height 1. • a(n) = 2 * (n - 1) * a(n - 1) - (n ^ 2 - 4 * n + 5) * a(n - 2) - (n - 3) * (n - 2) * a(n - 3). - _ Vaclav Kotesovec _ , Nov 19 2012 •

[A098614] • 1,1,4,15,70,336,1716,9009,48620,267410,1494844,8465184,48466796,280073300,1631408400,9568812015,56466198990,335002137360,1997007404700,11955535480350,71850862117320,433322055191220,2621615826231480 ★ Product of Fibonacci and Catalan numbers: a(n) = A000045(n+1)*A000108(n). • a(n) == 1 (mod 2) iff n = 2 ^ k - 1 for k>=0. •

[A002467] • 0,1,1,4,15,76,455,3186,25487,229384,2293839,25232230,302786759,3936227868,55107190151,826607852266,13225725636255,224837335816336,4047072044694047,76894368849186894,1537887376983737879,32295634916658495460,710503968166486900119 ★ The game of Mousetrap with n cards (given n letters and n envelopes, how many ways are there to fill the envelopes so that at least one letter goes into its right envelope?). • a(n) = (n - 1) * (a(n - 1) + a(n - 2)), n > 1; a(1) = 1. - _ Michael Somos _ , Aug 11 1999 • a(n) = n * a(n - 1) - (- 1) ^ n. - _ Michael Somos _ , Aug 11 1999 • a(0) = 0, a(n) = floor(n!(e - 1) / e + 1 / 2) for n > 0. - _ Michael Somos _ , Aug 11 1999 • a(0) = 0, a(n) = n! * Sum _{ i=1..n } (- 1) ^ (n - 1) / i! for n > 0. lim _{ n - >inf } a(n) / n! = 1 - 1 / e. - _ Gerald McGarvey _ , Jun 08 2004 • a(n) = (n - 1) * (a(n - 1) + a(n - 2)), n > 1. - _ Gary Detlefs _ , Apr 11 2010 • a(n) = n! - floor((n! + 1) / e), n > 0. - _ Gary Detlefs _ , Apr 11 2010 •

[A125307] • 1,1,4,15,80,480,3444,27790,253504,2556792,28382880,343071168,4490999424,63253633872,954133373088,15343385194800,262060291958784,4737396899952384,90370907329842432,1814141041750834560,38229440785429201920,843786230514306621696 ★ Number of increasing trees with branches of height 1. • a(n)=n! * (sum((- 1) ^ (m) * (n - m + 1) / (m - 1)! * sum(k! * stirling1(m - 1,k),k,1,m - 1),m,2,n) + 1). - _ Vladimir Kruchinin _ , Sep 09 2010 •

[A129653] • 1,1,4,15,83,556,4435,40773,423836,4908403,62606297,871421976,13136605577,213122669141,3701085673676,68480774296803,1344611320542931,27917413103561540,611000785570868627,14056645627856206809 ★ Diagonal sums of number triangle A129652. • a(n) = Sum _{ k=0..floor(n / 2) } (((n -

k)! / k!) * sum { i=0..n - 2k } C(n - 2k - 1,i) / (n - 2k - i)!). •

[A151379] • 1,1,4,15,84,420,2640,15015,100100,612612,4232592,27159132,192203088,1274816400,9178678080,62386327575,455053212900,3151664844900,23222793594000,163256238965820,1212760632317520,8629643838226320,64534727833692480,463843356304664700,3488102039411078544 ★ Number of walks within N^2 (the first quadrant of Z^2) starting at (0,0), ending on the vertical axis and consisting of 2 n steps taken from {(-1, 0), (1, -1), (1, 1)}. • a(n) = Catalan(n) * binomial(n, floor(n / 2)). •

[A034496] • 4,15,85,585,4369,33825,266305,2113665,16843009,134480385,1074791425,8594130945,68736258049,549822930945,4398314962945,35185445863425,281479271743489,2251816993685505,18014467229220865 ★ Sum of n-th powers of divisors of 8. • a(n) = (2 ^ (4 * n) - 1) / (2 ^ n - 1) = 1 + 2 ^ n + 4 ^ n + 8 ^ n. Exp(Sum _{ n >= 1 } a(n) * x ^ n / n) = 1 + 15 * x + 155 * x ^ 2 + 1395 * x ^ 3 + ... is the o.g.f. for the 3rd subdiagonal of triangle A022166, essentially A006096. - _ Peter Bala _ , Apr 07 2015 •

[A081011] • 4,15,91,612,4183,28659,196420,1346271,9227467,63245988,433494439,2971215075,20365011076,139583862447,956722026043,6557470319844,44945570212855,308061521170131,2111485077978052,14472334024676223 ★ Fibonacci(4n+3)+2, or Fibonacci(2n+3)*Lucas(2n). • a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). • a(n) = 2 + [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n + (2 / 5) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)) ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n >= 0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A146510] • 1,4,16,19,31,34,46,49,61,64,76,79,91,94,106,109,121,124,136,139,151,154,166,169,181 ★ Numbers congruent to {1, 4} mod 15. • a(2k - 1) = 15 * (k - 1) + 1, a(2k) = 15 * (k - 1) + 4, where k>0. •

[A032827] • 1,4,16,19,61,64,241,244,286,289,916,919,961,964,3616,3619,3661,3664,4291,4294,4336,4339,13741,13744,13786 ★ Numbers whose set of base 15 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 15 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 15 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A234275] • 1,4,16,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192 ★ Expansion of (1+2*x+9*x^2-4*x^3)/(1-x)^2. • a(n) = 8 * n, n>1. • a(n) = 2 * a(n - 1) - a(n - 2) for n>3. •

[A135556] • 1,4,16,25,49,64,100,121,169,196,256,289,361,400,484,529,625,676,784,841,961,1024,1156,1225,1369 ★ Squares of numbers not divisible by 3: a(n) = A001651(n)^2. • a(n) = (18 * n ^ 2 - 6 * (- 1) ^ n * n - 18 * n + 3 * (- 1) ^ n + 5) / 8. • a(n) = (9 * n ^ 2 - 12 * n + 4) / 4 for n even. • a(n) = (9 * n ^ 2 - 6 * n + 1) / 4 for n odd. •

[A295921] • 4,16,25,57,129,289,641,1409,3073,6657,14337,30721,65537,139265,294913,622593,1310721,2752513,5767169,12058625,25165825,52428801,109051905,226492417,469762049 ★ Number of (not necessarily maximum) cliques in the n-folded cube graph. • a(n) = 2 ^ (n - 2) * (n + 2) + 1 for n > 3. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n > 3. •

[A273368] • 0,4,16,28,52,72,108,136,184,220,280,324,396,448,532,592,688,756,864,940,1060,1144,1276,1368,1512 ★ Numbers n such that 10*n+9 is a perfect square. • a(2n) = 10 * n ^ 2 + 6 * n, n>=0. • a(2n - 1) = 10 * n ^ 2 - 6 * n, n>=1. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). (End) •

[A160410] • 0,4,16,28,64,76,112,148,256,268,304,340,448,484,592,700,1024,1036,1072,1108,1216,1252,1360,1468,1792 ★ Number of "ON" cells at n-th stage in simple 2-dimensional cellular automaton (see Comments for precise definition). • a(2 ^ k) = (2 * (2 ^ k)) ^ 2 for k>=0. •

[A173019] • 1,4,16,28,112,448,784,3136,12301,19684,78736,314944,551152,2204608,8818432,15432256,61729024,242132884,387459856,1549839424,6199180549,10848875968,43395503872,173577055372,303766932781 ★ a(n) = value of row n in triangle A083093 seen as ternary number. • a(3 ^ n) = 3 ^ (3 ^ n) + 1. • a(3 ^ n) = (8 * a((3 ^ n) - 1) + 12) / 5. [5 * a(3 ^ n)=1200...0012 (base 3), 8 * a((3 ^ n) - 1)=(22)(1212...2121)=11222...2202 (base 3)] •

[A055808] • 0,1,4,16,36,64,100,144,196,256,324,400,484,576,676,784,900,1024,1156,1296,1444,1600,1764,1936,2116 ★ a(n) and floor(a(n)/4) are both squares; i.e., squares that remain squares when written in base 4 and last digit is removed. • a(n) = 4 * (- 1 + n) ^ 2 for n>1; a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4; G.f.: x * (x ^ 3 - 7 * x ^ 2 - x - 1) / (x - 1) ^ 3. - _ Colin Barker _ , Sep 15 2014 •

[A016742] • 0,4,16,36,64,100,144,196,256,324,400,484,576,676,784,900,1024,1156,1296,1444,1600,1764,1936,2116,2304 ★ Even squares: a(n) = (2n)^2. • a(n) = a(n - 1) + 8 * n - 4 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 19 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0) = 0, a(1) = 4, a(2) = 16. - _ Philippe Deléham _ , Mar 26 2013 •

[A030179] • 0,0,1,4,16,36,81,144,256,400,625,900,1296,1764,2401,3136,4096,5184,6561,8100,10000,12100,14641,17424,20736 ★ Quarter-squares squared: A002620^2. • a(n) = floor(n ^ 2 / 4) ^ 2. • a(n) = (2 * n ^ 4 - 2 * n ^ 2 + 1 + (2 * n ^ 2 - 1) * (- 1) ^ n) / 32. - _ Luce ETIENNE _ , Aug 11 2014 •

[A256322] • 0,4,16,37,65,102,147,200,261,331,408,494,588,690,800,919,1045,1180,1323,1474,1633,1801,1976,2160,2352 ★ Number of partitions of 7n into exactly 3 parts. • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) for n >5. •

[A080855] • 1,4,16,37,67,106,154,211,277,352,436,529,631,742,862,991,1129,1276,1432,1597,1771,1954,2146,2347,2557 ★ a(n) = (9*n^2 - 3*n + 2)/2. • a(n) = 9 * n + a(n - 1) - 6 with n > 0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=4, a(2)=16; for n > 2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 24 2013 •

[A103770] • 1,1,4,16,37,121,376,1072,3289,9889,29404,88672,265885,796537,2392240,7174816,21520369,64574977,193709428,581117680,1743420757,5230158649,15690480040,47071742800,141214610761 ★ A weighted tribonacci sequence, (1,3,9). • a(n) = sum { k=0..n, T(n - k, k)3 ^ k } , T(n, k) = trinomial coefficients (A027907). • a(n)=sum { k=0..n, sum { i=0..floor((n - k) / 2), C(n - k - i, i)C(k, n - k - i) }* 3 ^ (n - k) } ; - _ Paul Barry _ , Apr 26 2005 • a(n) / 3 ^ n converges to 1 / 2. - _ Hieronymus Fischer _ , Feb 02 2006 • a(0)=1, a(1)=1, a(2)=4, a(n) = a(n - 1) + 3 * a(n - 2) + 9 * a(n - 3), n>=3. - _ Hieronymus Fischer _ , Feb 04 2006 •

[A121318] • 0,4,16,38,74,128,204,306,438,604,808,1054,1346,1688,2084,2538,3054,3636,4288,5014,5818,6704,7676,8738,9894 ★ Molecular topological indices of the path graphs P_n • a(1) = 0; a(n) = (2n ^ 3 - 3n ^ 2 + 13n - 18) / 3 - Eric W. Weisstein, Jul 10 2011. •

[A152133] • 4,16,38,78,136,220,330,474,652,872,1134,1446,1808,2228,2706,3250,3860,4544,5302,6142,7064,8076,9178,10378,11676 ★ Maximal length of rook tour on an n X n+2 board. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = 2 * n ^ 3 / 3 + 2 * n ^ 2 + n / 3 + 3 / 2 + (- 1) ^ n / 2. [_ R. J. Mathar _ , Oct 20 2009] •

[A210440] • 0,4,16,40,80,140,224,336,480,660,880,1144,1456,1820,2240,2720,3264,3876,4560,5320,6160,7084,8096,9200,10400 ★ a(n) = 2*n*(n+1)*(n+2)/3. • a(n) = - a(- n - 2) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = sum _{ i=1..n } i * (2n - i + 3). - _ Wesley Ivan Hurt _ , Oct 03 2013 •

[A110477] • 1,4,16,40,110,182,336,480,750,1210,1540,2236,2912,3500,4400,5712,7242,8322,10260,12040,13552,16192,18584,21800,26000 ★ a(n) = Sum_{k=1..n} k*(prime(k) - k). • a(n) = n * (n + 1) * (3 * prime(n) - 2 * n - 1) / 6. •

[A206918] • 0,1,4,16,40,136,328,1096,2632,8776,21064,70216,168520,561736,1348168,4493896,10785352,35951176,86282824,287609416,690262600,2300875336,5522100808,18407002696,44176806472 ★ Sum of binary palindromes p < 2^n. • a(n) = (8 / 7) * ((3 / 4) * ((4 - (- 1) ^ n) / (3 + (- 1) ^ n)) * 2 ^ (3 * floor (n / 2)) - 1). •

[A190090] • 1,1,4,16,42,137,443,1365,4316,13625,42785,134758,424331,1335378,4203927,13233947,41657808,131135696,412803240,1299458257,4090567673,12876698159,40534529294,127598621869,401667591501 ★ Diagonal sums of the triangular matrix A190088. • a(n)=sum(binomial(3 * n - 4 * k + 1,3 * n - 6 * k + 1),k=0..n / 2) • a(0)=1, a(1)=1, a(2)=4, a(3)=16, a(4)=42, a(5)=137, a(n)=2 * a(n - 1) + 2 * a(n - 2) + 6 * a(n - 3) - 3 * a(n - 4) + a(n - 6). - _ Harvey P. Dale _ , Jul 04 2011 •

[A227012] • 1,4,16,43,91,166,275,422,614,857,1158,1521,1953,2460,3049,3724,4492,5359,6332,7415,8615,9938,11391,12978,14706 ★ Floor(M(g(n-1)+1,..,g(n))), where M = harmonic mean and g(n) = n^3. • a(n + 2) = (1 / 8) * (27 - (- 1) ^ n - 2 * cos(n * pi / 2) + 2 * sin(n * pi / 2) + 2 * n * (4 * n ^ 2 + 18 n + 27)) for n >= 1 (conjectured). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7) for n>=10 (conjectured). •

[A034131] • 4,16,43,92,167,275,422,615,858,1158,1521,1954,2461,3049,3724,4493,5360,6332,7415,8616,9939,11391,12978,14707,16582 ★ Decimal part of cube root of a(n) starts with 5: first term of runs. • a(n) = ceiling((n + 1 / 2) ^ 3) - _ Benoit Cloitre _ , Apr 16 2003 •

[A212960] • 0,4,16,44,92,168,276,424,616,860,1160,1524,1956,2464,3052,3728,4496,5364,6336,7420,8620,9944,11396,12984,14712 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x| != |x-y|. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (4 * n ^ 3 + 6 * n ^ 2 + 4 * n + 1 - (- 1) ^ n) / 4. - _ Luce ETIENNE _ , Apr 05 2014 •

[A217873] • 0,4,16,44,96,180,304,476,704,996,1360,1804,2336,2964,3696,4540,5504,6596,7824,9196,10720,12404,14256,16284,18496 ★ 4*n*(n^2+2)/3. • a(0)=0, a(1)=4, a(2)=16, a(3)=44, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 16 2015 •

[A018210] • 1,4,16,44,110,236,472,868,1519,2520,4032,6216,9324,13608,19440,27192,37389,50556,67408,88660,115258,148148,188552,237692,297115 ★ Alkane (or paraffin) numbers l(9,n). • a(2n) = (n + 1)(n + 2)(n + 3) ^ 2(4n ^ 2 + 6n + 5) / 90, a(2n - 1) = n(n + 1)(n + 2)(n + 3)(4n ^ 2 + 6n + 5) / 90. - _ M. F. Hasler _ , May 02 2009 • a(n) = (1 / (2 * 6!)) * (n + 2) * (n + 4) * (n + 6) * ((n + 1) * (n + 3) * (n + 5) + 1 * 3 * 5) - (1 / 2) * (1 / 2 ^ 4) * (n ^ 2 + 7 * n + 11) * (1 / 2) * (1 - (- 1) ^ n). - _ Yosu Yurramendi _ , Jun 23 2013 •

[A054498] • 1,4,16,44,116,260,560,1100,2090,3740,6512,10868,17732,28028,43472,65780,97955,143000,205920,291720,408408,563992,770848,1041352,1394068 ★ Number of symmetric nonnegative integer 8 X 8 matrices with sum of elements equal to 4*n, under action of dihedral group D_4. • a(n) = ((8 + n) * (2835 * (1739 + 309 * (- 1) ^ n) + 576 * (15259 + 1029 * (- 1) ^ n) * n + 36 * (166171 + 3717 * (- 1) ^ n) * n ^ 2 + 448 * (4661 + 27 * (- 1) ^ n) * n ^ 3 + 14 * (29749 + 27 * (- 1) ^ n) * n ^ 4 + 49280 * n ^ 5 + 3416 * n ^ 6 + 128 * n ^ 7 + 2 * n ^ 8)) / 46448640. - _ Colin Barker _ , Jan 15 2017 •

[A213501] • 0,4,16,45,94,172,281,433,626,875,1177,1547,1981,2497,3087,3774,4543,5421,6396,7492,8695,10032,11488,13090,14822 ★ Number of (w,x,y) with all terms in {0,...,n} and w != max(|w-x|,|x-y|) • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8). • a(n) = (6 * n * (n + 1) * (24 * n + 17) - 9 * (2 * n + 1) * (- 1) ^ n + 32 * cos(2 * pi * (n + 2) / 3) + 25) / 144. - _ Bruno Berselli _ , Jul 02 2012 •

[A213480] • 0,4,16,46,95,175,285,439,634,886,1190,1564,2001,2521,3115,3805,4580,5464,6444,7546,8755,10099,11561,13171,14910 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y| != w+x+y. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A159940] • 4,16,46,106,208,364,586,886,1276,1768,2374,3106,3976,4996,6178,7534,9076,10816,12766,14938,17344,19996,22906,26086,29548 ★ The number of trisubstitution products with composition C_n H_(2n-1) X_2 Y. • a(n) = (2 n ^ 3 - 9 n ^ 2 + 19 n - 14) where n is the number of carbons. •

[A000704] • 1,1,1,1,4,16,46,106,316,1324,5356,18316,63856,272416,1264264,5409496,22302736,101343376,507711376,2495918224,11798364736,58074029056,309240315616,1670570920096,8792390355904 ⋆ Number of degree-n even permutations of order dividing 2. • a(n) = sum[i = 0, floor(n / 4), C(n, 4i) * (4i - 1)!!]. - _ Ralf Stephan _ , May 08 2007 [Corrected by _ Sean A. Irvine _ , Mar 01 2011] •

[A006009] • 4,16,48,108,216,384,640,1000,1500,2160,3024,4116,5488,7168,9216,11664,14580,18000,22000,26620,31944,38016,44928,52728,61516 ⋆ Number of paraffins. • a(n) = Sum(i=1, n, i * floor(i ^ 2 / 2)). - _ Enrique Pérez Herrero _ , Mar 10 2012 •

[A058922] • 0,4,16,48,128,320,768,1792,4096,9216,20480,45056,98304,212992,458752,983040,2097152,4456448,9437184,19922944,41943040,88080384,184549376,385875968,805306368 ⋆ a(n) = n*2^n - 2^n. • a(1)=0, a(n) = 2 * a(n - 1) + 2 ^ n for n>1. - _ Philippe Deléham _ , Apr 20 2009 • a(n)= 4 * a(n - 1) - 4 * a(n - 2). •

[A086601] • 1,4,16,49,121,256,484,841,1369,2116,3136,4489,6241,8464,11236,14641,18769,23716,29584,36481,44521,53824,64516,76729,90601 ⋆ Triangular numbers + 1 squared. • a(n) = (binomial(2 + n,2) - binomial(n,1)) ^ 2. - _ Zerinvary Lajos _ , May 30 2006, corrected by _ R. J. Mathar _ , May 14 2014 •

[A173712] • 1,4,16,49,166,499,1666,4999,16666,49999,166666,499999,1666666,4999999,16666666,49999999,166666666,499999999,1666666666,4999999999,16666666666,49999999999,166666666666,499999999999,1666666666666 ⋆ Numbers n such that (n+n+1) divides the decimal concatenation [n, n+1]. • a(n) = 11 * a(n - 2) - 10 * a(n - 4) for n>4. • a(n) = (10 ^ ((n + 1) / 2) - 4) * (1 - (- 1) ^ n) / 12 + (10 ^ (n / 2) - 2) * (1 + (- 1) ^ n) / 4. (End) •

[A085697] • 1,1,4,16,49,169,576,1936,6561,22201,75076,254016,859329,2907025,9834496,33269824,112550881,380757169,1288092100,4357584144,14741602225,49870482489,168710633536,570743986576,1930813074369 ⋆ a(n) = T(n+2)^2, where T(n) = tribonacci numbers (A000073). • a(n + 6) = 2 a(n + 5) + 3 a(n + 4) + 6 a(n + 3) - a(n + 2) - a(n) •

[A100774] • 0,4,16,52,160,484,1456,4372,13120,39364,118096,354292,1062880,3188644,9565936,28697812,86093440,258280324,774840976,2324522932,6973568800,20920706404,62762119216,188286357652,564859072960 ⋆ a(n) = 2*(3^n - 1). • a(n) = 2 * (3 ^ n - 1); • a(0) = 0, a(n) = 4 * Sum _{ i = 0 to n - 1 } 3 ^ i for n > 0; •

[A107767] • 0,1,4,16,52,169,520,1600,4840,14641,44044,132496,397852,1194649,3585040,10758400,32278480,96845281,290545684,871666576,2615029252,7845176329,23535617560,70607118400,211821620920 ⋆ a(n) = (1+3^n-2*3^(n/2))/4 if n even; a(n) = (1+3^n-4*3^((n-1)/2))/4 if n odd. • a(n) = 4 * a(n - 1) - 12 * a(n - 3) + 9 * a(n - 4). - _ Vincenzo Librandi _ , Jun 26 2012 •

[A238419] • 0,1,4,16,54,176,548,1667,4968,14592,42348,121728,347112,983173,2768812,7758928,21648546,60172784,166687436,460356359,1267964496,3483818880,9550754520,26129950080,71356349520 ⋆ a(n) = the Wiener index of the Fibonacci cube G_n. • a(n) = (4 * (n + 1) * F(n) ^ 2 + (9 * n + 2) * F(n) * F(n + 1) + 6 * n * F(n + 1) ^ 2) / 25, where F = A000045 (Fibonacci numbers). • a(n) = sum(F(i) * F(i + 1) * F(n - i + 1) * F(n - i + 2), i=1..n), where F = A000045. • a(n + 3) = (2 * (n + 3) * a(n + 2) + 2 * (n + 4) * a(n + 1) - (n + 5) * a(n)) / (n + 2). - _ Robert Israel _ , Aug 29 2014 • a(n) = (1 / 25) * (n * Lucas(2 * (n + 2)) + 2 * Fibonacci(2 * n + 1) - (n + 2) * (- 1) ^ n). - _ Ehren Metcalfe _ , Mar 26 2016 • a(n) = 4 * a(n - 1) - 10 * a(n - 3) + 4 * a(n - 5) - a(n - 6). - _ G. C. Greubel _ , Mar 27 2016 •

[A267227] • 4,16,54,176,564,1790,5646,17732,55512,173354,540258,1680848,5221740,16200758,50204790,155413724,480622848,1484980802,4584213642,14140323560,43583756436,134239102286,413179757214,1270924525556,3906925144104 ⋆ Number of length-n 0..3 arrays with no following elements greater than or equal to the first repeated value. • a(n) = (- 9 - 9 * 2 ^ n + 11 * 3 ^ (1 + n) + 2 * 3 ^ n * n) / 18 for n>1. •

[A212520] • 0,0,4,16,56,132,279,504,880,1380,2125,3090,4392,6006,8134,10640,13824,17568,22113,27360,33700,40810,49247,58740,69696 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w>=2x and y<3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A115108] • 1,4,16,56,156,248,1584,2248,18512,51856,189440,609664,2023808,6579712,21441536,69575680,225665024,731127808,2367905792,7666302976,24816189440,80321511424,259955621888,841292972032,2722599796736 ⋆ Expansion of -(9520*x^9 -11504*x^8 +2840*x^7 -1040*x^6 +248*x^5 +36*x^4 -1) / ((2*x -1)*(4*x^2 +2*x -1)). • a(n) = + 4 * a(n - 1) - 8 * a(n - 3). - _ Colin Barker _ , Mar 15 2013 •

[A073388] • 1,4,16,56,188,608,1920,5952,18192,54976,164608,489088,1443776,4238336,12382208,36022272,104407296,301618176,868765696,2495715328,7152286720,20452548608,58369409024 ⋆ Convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(binomial(n - k + 1, 1) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). • a(n) = sum { k= 0..floor((n + 2) / 2), k * binomial(n - k + 2, k)2 ^ (n - k + 1) } - _ Paul Barry _ , Oct 15 2004 •

[A255301] • 1,4,16,56,196,680,2348,8096,27892,96056,330748,1138768,3920644,13498088,46471180,159990272,550811156,1896319640,6528602140,22476505520,77381536036,266407155784,917179667500,3157642420064,10871049557044 ⋆ a(n) = A255300(2^k-1). • a(n) = 4 * a(n - 1) - a(n - 2) - 2 * a(n - 3) - 4 * a(n - 4) for n>3. - _ Colin Barker _ , Feb 04 2017 •

[A290908] • 0,4,16,56,208,780,2912,10864,40544,151316,564720,2107560,7865520,29354524,109552576,408855776,1525870528,5694626340,21252634832,79315912984,296011017104,1104728155436,4122901604640,15386878263120,57424611447840 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 4*S^2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A281064] • 4,16,56,284,1004,5096,18016,91444,323284,1640896,5801096,29444684,104096444,528363416,1867934896,9481096804,33518731684,170131379056,601469235416,3052883726204,10792927505804,54781775692616,193671225869056,983019078740884 ⋆ Values of x such that x^2 = 5*y^2 + 11, where x and y are positive integers. • a(n) = ((- 2 - r) ^ n * (r - 5) + (5 + r) * (r - 2) ^ n + (15 + 7 * r) * (r + 2) ^ n + (2 - r) ^ n * (7 * r - 15)) / (4 * r) where r=sqrt(5). • a(n) = 18 * a(n - 2) - a(n - 4) for n>3. •

[A126644] • 4,16,58,196,634,1996,6178,18916,57514,174076,525298,1582036,4758394,14299756,42948418,128943556,387027274,1161475036,3485211538,10457207476,31374768154,94130595916,282404370658,847238277796 ⋆ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3,4,5,6 and at least one of digits 7,8,9. • a(n) = 3 * 3 ^ n - 3 * 2 ^ n + 1. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). G.f.: - 2 * x * (3 * x ^ 2 - 4 * x + 2) / ((x - 1) * (2 * x - 1) * (3 * x - 1)). [_ Colin Barker _ , Dec 10 2012] •

[A267466] • 4,16,58,204,712,2490,8770,31200,112300,409254,1510102,5638956,21290368,81183858,312262954,1210023672,4718194516,18492663102,72787129726,287468548548,1138446338344,4518338475786,17963524388818,71514144464784 ⋆ Number of length-n 0..3 arrays with no following elements larger than the first repeated value. • a(n) = (- 18 - 9 * 2 ^ (1 + n) + 50 * 3 ^ n + 9 * 4 ^ n + 4 * 3 ^ n * n) / 36. •

[A180143] • 1,4,16,58,208,742,2644,9418,33544,119470,425500,1515442,5397328,19222870,68463268,243835546,868433176,3092970622,11015778220,39233275906,139731384160,497660704294,1772444881204,6312656052202 ⋆ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1+x^2)/(1-4*x+x^2+2*x^3). • a(n) = 4 * a(n - 1) - 1 * a(n - 2) - 2 * a(n - 3) with a(0)=1, a(1)=4 and a(2)=16. • a(n) = (- 1 / 2) + (9 + 12 * A) * A ^ (- n - 1) / 34 + (9 + 12 * B) * B ^ (- n - 1) / 34 with A=(- 3 + sqrt(17)) / 4 and B=(- 3 - sqrt(17)) / 4. •

[A123893] • 1,4,16,58,208,750,2708,9772,35256,127210,459012,1656228,5976040,21562946,77804232,280736004,1012961416,3655002994,13188110940,47585806908,171700784680,619536821778,2235434596432,8065973894524,29103931264328 ⋆ G.f.: -(1+x^2)*(1+2*x^2)*(1+3*x^2)/(-1-6*x^2-11*x^4-6*x^6+4*x+18*x^3+22 • a(0)=1, a(1)=4, a(2)=16, a(3)=58, a(4)=208, a(5)=750, a(6)=2708, a(n)= 4 * a(n - 1) - 6 * a(n - 2) + 18 * a(n - 3) - 11 * a(n - 4) + 22 * a(n - 5) - 6 * a(n - 6) + 6 * a(n - 7) _ Harvey P. Dale _ , May 20 2012 •

[A032094] • 4,16,60,160,396,848,1716,3200,5720,9696,15912,25152,38760,58080,85272,122496,173052,240240,328900,443872,592020,780208,1017900,1314560,1682928 ⋆ Number of reversible strings with n-1 beads of 2 colors. 7 beads are black. String is not palindromic. • a(n) = (n ^ 7 - 28 * n ^ 6 + 322 * n ^ 5 - 1960 * n ^ 4 + 6664 * n ^ 3 - 11872 * n ^ 2 + 8448 * n) / 10080 if n is even. • a(n) = (n ^ 7 - 28 * n ^ 6 + 322 * n ^ 5 - 1960 * n ^ 4 + 6769 * n ^ 3 - 13132 * n ^ 2 + 13068 * n - 5040) / 10080 if n is odd. •

[A120926] • 1,4,16,60,216,756,2592,8748,29160,96228,314928,1023516,3306744,10628820,34012224,108413964,344373768,1090516932,3443737680,10847773692,34093003032,106928054964,334731302496,1046035320300,3263630199336 ⋆ Number of isolated 0's in all ternary words of length n on {0,1,2}. • a(n) = (4 / 27)(n + 1)3 ^ n for n>=2. •

[A255303] • 1,4,16,60,216,768,2728,9704,34552,123064,438328,1561176,5560248,19803096,70529656,251194904,894643768,3186321112,11348251384,40417397400,143948695992,512680882776,1825940038264,6503181876248,23161425701176 ⋆ a(n) = A255302(2^n - 1). • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 2 * a(n - 3) + 4 * a(n - 4). - _ Matthew House _ , Jan 15 2017 •

[A273347] • 1,4,16,60,218,778,2744,9600,33391,115638,399137,1374050,4720272,16187632,55434424,189607406,647872199,2211794804,7545239986,25722676402,87641357150,298456587038,1015914399813,3456670564220,11757143968393 ⋆ The sum of the areas of the bargraphs of semiperimeter n (n>=2). • a(n) = ((69 - 115 * n + 28 * n ^ 2) * a(n - 1) - (264 - 265 * n + 52 * n ^ 2) * a(n - 2) + (3 * (29 - 29 * n + 4 * n ^ 2)) * a(n - 3) - (3 * (10 - 21 * n + 4 * n ^ 2)) * a(n - 4) + (4 * n - 9) * (5 * n - 29) * a(n - 5) + (4 * n - 13) * (n - 6) * a(n - 6) + (n - 7) * (4 * n - 9) * a(n - 7)) / (n * (4 * n - 13)) for n>=7. - _ Alois P. Heinz _ , Jun 04 2016 •

[A231896] • 0,4,16,60,224,836,3120,11644,43456,162180,605264,2258876,8430240,31462084,117418096,438210300,1635423104,6103482116,22778505360,85010539324,317263651936,1184044068420,4418912621744,16491606418556,61547513052480 ⋆ a(n) = 4*a(n-1) - a(n-2) with a(0) = 0, a(1) = 4. • a(n) = ((2 * (- (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n))) / sqrt(3). - _ Colin Barker _ , Oct 12 2015 •

[A128650] • 0,4,16,60,224,840,3168,12012,45760,175032,671840,2586584,9984576,38630800,149768640,581690700,2262890880,8815845720,34389986400,134312002440,525129633600,2055166429680,8050465600320,31561484455800 ⋆ Number of polygons on n vertices with exactly three faces. • a(n) = 4 * (n - 2) / (n - 1) * C(2 * n - 4,n - 2). •

[A072335] • 1,4,16,60,225,840,3136,11704,43681,163020,608400,2270580,8473921,31625104,118026496,440480880,1643897025,6135107220,22896531856,85451020204,318907548961,1190179175640,4441809153600,16577057438760,61866420601441 ⋆ Expansion of 1/((1-x^2)*(1-4*x+x^2)). • a(n) = (1 / 12) * ((7 - 4 * sqrt(3)) * (2 - sqrt(3)) ^ n + (7 + 4 * sqrt(3)) * (2 + sqrt(3)) ^ n - 3 + (- 1) ^ n). Recurrence: a(n) = 4 * a(n - 1) - 4 * a(n - 3) + a(n - 4). • a(n)=sum { k=0..floor(n / 2), U(n - 2k, 2) } - _ Paul Barry _ , Nov 15 2003 •

[A123620] • 1,4,16,60,228,864,3276,12420,47088,178524,676836,2566080,9728748,36884484,139839696,530172540,2010036708,7620627744,28891993356,109537863300,415289569968,1574482299804,5969315609316,22631393727360,85802

128010028 ★ Expansion of (1 + x + x^2) / (1 - 3*x - 3*x^2). ● a(0)=1, a(1)=4, a(2)=16, a(n)=3 * a(n - 1) + 3 * a(n - 2) for n>2. - _ Philippe Deléham _ , Sep 18 2009 ● a(n) = ((2 ^ (1 - n) * (- (3 - sqrt(21)) ^ (1 + n) + (3 + sqrt(21)) ^ (1 + n)))) / (3 * sqrt(21)) for n>0. - _ Colin Barker _ , Oct 17 2017 ●

[A133161] ● 1,4,16,61,229,856,3196,11929,44521,166156,620104,2314261,8636941,32233504,120297076,448954801,1675522129,6253133716,23337012736,8709417229,325042656181,1213075707496,4527260173804,16895964987721 ★ Indices of the triangular numbers which are also centered triangular number. ● a(n + 2)=4 * a(n + 1) - a(n) + 1. ● a(n + 1)=2 * a(n) + 0.5 + 0.5 * (12 * a(n) ^ 2 + 12 * a(n) - 15) ^ 0.5. ● a(n)= - (1 / 2) - (1 / 4) * sqrt(3) * [2 - sqrt(3)] ^ n + (1 / 4) * sqrt(3) * [2 + sqrt(3)] ^ n + (3 / 4) * [2 - sqrt(3)] ^ n + (3 / 4) * [2 + sqrt(3)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 30 2008 ●

[A103820] ● 1,4,16,61,232,880,3337,12652,47968,181861,689488,2614048,9910609,37573972,142453744,540083149,2047610680,7763081488,29432076505,111585473980,423052651456,1603914376309,6080901083296,23054446378816 ★ Whitney transform of 3^n. ● a(n) = 4a(n - 1) - 3a(n - 3); ● a(n) = Sum _{ k=0..n } (Sum _{ i=0..n } C(k, i - k)) * 3 ^ k. ● a(n) = 3(a(n - 1) + a(n - 2)) + 1, n > 1. [_ Gary Detlefs _ , Jun 21 2010] ●

[A276042] ● 1,4,16,62,230,812,2728,8752,26944,80000,230144,644096,1759744,4707328,12359680,31920128,81231872,204013568,506331136,1243217920,3022913536,7285243904,17415274496,41321234432,97370767360 ★ Exponential convolution of central polygonal numbers (A000124) with themselves. ● a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 80 * a(n - 3) - 80 * a(n - 4) + 32 * a(n - 5). ● a(n) = 2 ^ (n - 6) * (n ^ 4 + 2 * n ^ 3 + 19 * n ^ 2 + 42 * n + 64). ●

[A084859] ● 1,4,16,62,232,842,2980,10334,35248,118610,394684,1301126,4255624,13825658,44657428,143521838,459230560,1463719586,4649308012,14722502870,46491507256,146447041994,460259735236,1443537130622 ★ Binomial transform of Cullen numbers A002064. ● a(n)=2 ^ n + 2n * 3 ^ (n - 1); a(n)= sum { k=0..n, C(n, k)(1 + k * 2 ^ k) } . ● a(0)=1, a(1)=4, a(2)=16, a(n)=8 * a(n - 1) - 21 * a(n - 2) + 18 * a(n - 3). - _ Harvey P. Dale _ , Mar 31 2015 ●

[A113438] ● 1,4,16,62,237,901,3418,12956,49096,186029,704861,2670692,10119152,38341126,145273353,550436561,2085588866,7902239404,29941371656,113447051497,429847830217,1628681887876,6171031956688,23381874459566,88593294803061 ★ Third row of A113435. ● a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3) - a(n - 4), n>4. ●

[A195339] ● 1,4,16,62,239,920,3540,13620,52401,201604,775636,2984122,11480879,44170640,169938680,653808840,2515413201,9677604804,37232862856,143246816182,551116641919,2120323237160,8157566453420,31384785713660,120747379738401 ★ Expansion of 1/(1-4*x+2*x^3+x^4). ● a(n) = 4 * a(n - 1) - 2 * a(n - 3) - a(n - 4). ●

[A172025] ● 1,4,16,62,239,920,3544,13672,52834,204528,793092,3080226,11980667,46662704,181971248,710454896,2776717742,10863073784,42537035408,166704021596,653827252022,2566222449104,10079023179536,39611016586832 ★ Expansion of (2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=3. ● a(n) = Sum _{ p=0..n } (- 1) ^ (p) * binomial(2 * n + k - p,n - p), with k=3 . ● a(n) = [x ^ n] 1 / ((1 - x ^ 2) * (1 - x) ^ (n + 3)). - _ Ilya Gutkovskiy _ , Oct 25 2017 ●

[A206839] ● 1,4,16,62,241,936,3636,14124,54865,213124,827884,3215930,12492337,48526704,188502840,732242616,2844409393,11049158596,42920651992,166726031798,647650219393,2515808732184,9772703517132,37962239661540,147464991401185 ★ Number of 1 X n 0..3 arrays avoiding the pattern z-2 z-1 z in any row, column, nw-to-se diagonal or ne-to-sw antidiagonal. ● a(n) = 4 * a(n - 1) - 2 * a(n - 3) + a(n - 4). ●

[A257838] ● 0,1,4,16,63,247,967,3785,14820,58060,227612,892926,3505386,13770404,54129602,212904952,837885495,3299264407,12997784803,51230474669,202014314769,796928589755,3145066003589,12416625685891,49037912997003 ★ Main diagonal of iterated partial sums array of Fibonacci numbers (starting with the first partial sums). ● a(n) = F ^{ n + 1 } (n), n >= 0, with the k - th iterated partial sum F ^{ k } of the Fibonacci number A000045. - _ Wolfdieter Lang _ , Jun 03 2015 ●

[A099503] ● 1,4,16,63,248,976,3841,15116,59488,234111,921328,3625824,14269185,56155412,220995824,869714111,3422701032,13469808304,53009519105,208615375388,820991693248,3230957253887,12715213640160,50039862867392 ★ Expansion of 1/(1-4x+x^3). ● a(n)=4a(n - 1) - a(n - 3); a(n)=sum { k=0..floor(n / 3), binomial(n - 2k, k)(- 1) ^ k * 4 ^ (n - 3k) } . ●

[A022030] ● 4,16,63,249,984,3889,15370,60745,240075,948819,3749901,14820274,58572352,231488326,914882931,3615779646,14290202610,56477415835,223208766625,882160643536,3486455360919,13779090092886,54457408494633,215225339261149,850608722312629 ★ For even n, a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n); for odd n, the least integer such that a(n+2)/a(n+1) > a(n+1)/a(n); a(0) = 4, a(1) = 16. ● a(n) = ceiling(a(n - 1) ^ 2 / a(n - 2)) - 1 for even n > 0, a(n) = floor(a(n - 1) ^ 2 / a(n - 2)) + 1 for even n > 0. - _ M. F. Hasler _ , Feb 11 2016 ●

[A135450] ● 0,0,0,1,4,16,63,252,1008,4033,16132,64528,258111,1032444,4129776,16519105,66076420,264305680,1057222719,4228890876,16915563504,67662254017,270649016068,1082596064272,4330384257087 ★ a(n) = 3*a(n-1) + 4*a(n-2) - a(n-3) + 3*a(n-4) + 4*a(n-5). ● a(n + 1) - 4 * a(n) = hexaperiodic 0, 0, 1, 0, 0, - 1, A131531. ● a(n) + a(n + 3) = 1, 4, 16, 64 = 2 ^ 2n = A000302. ● a(n) = (1 / 65) * 4 ^ n + (1 / 15) * (- 1) ^ (n + 1) + (2 / 39) * cos((Pi * n) / 3) - (4 * sqrt(3) / 39) * sin((Pi * n) / 3). Or, a(n) = (1 / 65) * (4 ^ n + [- 1; - 4; - 16; 1; 4; 16]). - _ Richard Choulet _ , Dec 31 2007 ●

[A248088] ● 1,4,16,64,229,808,2800,9472,31705,105004,344416,1121920,3631645,11691472,37466656,119574784,380244721,1205309140,3809636848,12010028224,37773505429,118550674936,371342504848,1161099257344,3624512382793 ★ a(n) = Sum(binom(n-3k,k)*(-3)^{3k}*4^{n-4k}, k=0..floor(n/4)). ● a(n) = 3 ^ n * (3 * n + 5) / 6 - (- 1) ^ n * 3 ^ (n + 1) / 2 * sin((n - 1) * arcsin(sqrt(2 / 3))) / (6 * sqrt(2)). ● a(n) = (1 + 3 / n) * a(n - 1) + (3 + 6 / n) * a(n - 2) + (9 + 9 / n) * a(n - 3). - _ Robert Israel _ , Oct 27 2014 ●

[A077821] ● 1,4,16,64,253,1000,3952,15616,61705,243820,963424,3806848,15042277,59437648,234860320,928020736,3666956113,14489511508,57253465072,226229798080,893918323981,3532204761400,13957058650384,55149545207296,217916425857241 ★ Expansion of (1-x)^(-1)/(1-3*x-3*x^2-3*x^3). ● a(0)=1, a(1)=4, a(2)=16, a(3)=64, a(n)=4 * a(n - 1) - 3 * a(n - 4) [From Harvey P. Dale, May 10 2011] ●

[A294452] ● 0,1,4,16,64,256,1024,4096,16320,64512,252416,976896,3740928,14186496,53330944,198946816,737156096,2715254784,9949593600,36292198400,131845099520,477257695232,1722054197248,6195670220800,22233100238848 ★ Expansion of x*(16*x^6+20*x^4-32*x^3+24*x^2-8*x+1) / ((-1+2*x)^2*(2*x^2-4*x+1)^2). ● a(n) = 12 * a(n - 1) - 56 * a(n - 2) + 128 * a(n - 3) - 148 * a(n - 4) + 80 * a(n - 5) - 16 * a(n - 6) for n>5. - _ Colin Barker _ , Nov 23 2017 ●

[A000302] ● 1,4,16,64,256,1024,4096,16384,65536,262144,1048576,4194304,16777216,67108864,268435456,1073741824,4294967296,17179869184,68719476736,274877906944,1099511627776,4398046511104,17592186044416,70368744177664,281474976710656 ★ Powers of 4: a(n) = 4^n. ● a(n) = 4 ^ n. ● a(0) = 1; a(n) = 4 * a(n - 1). ● a(n) = Sum _{ k=0..n } binomial(2k,k) * binomial(2(n - k),n - k). - _ Benoit Cloitre _ , Jan 26 2003 ● a(n) = Sum _{ j=0..n } 2 ^ (n - j) * binomial(n + j,j). - Peter C. Heinig (algorithms(AT)gmx.de), Apr 06 2007 ● a(n) = 6 * StirlingS2(n + 1,4) + 6 * StirlingS2(n + 1,3) + 3 * StirlingS2(n + 1,2) + 1 = 2 * StirlingS2(2 ^ n,2 ^ n - 1) + StirlingS2(n + 1,2) + 1. - _ Ross La Haye _ , Jun 26 2008 ● a(n) = Sum _{ k=0..n } binomial(2 * n + 1, k). - _ Mircea Merca _ , Jun 25 2011 ●

[A083589] ● 1,4,16,64,257,1028,4112,16448,65793,263172,1052688,4210752,16843009,67372036,269488144,1077952576,4311810305,17247241220,68988964880,275955859520,1103823438081,4415293752324,17661175009296,70644700037184 ★ Expansion of 1/((1-4*x)*(1-x^4)). ● a(0)=1, a(n) = 4 * a(n - 1) if n is not a multiple of 4, otherwise a(n) = 4 * a(n - 1) + 1. - _ Vincenzo Librandi _ , Mar 19 2011 ● a(0)=1, a(1)=4, a(2)=16, a(3)=64, a(4)=257, a(n) = 4 * a(n - 1) + a(n - 4) - 4 * a(n - 5). - _ Harvey P. Dale _ , Sep 13 2011 ● a(n) = floor(64 * (2 ^ (2 * (n + 1)) + 1) / 255). - _ Tani Akinari _ , Jul 09 2013 ●

[A098590] ● 1,4,16,64,257,1032,4144,16640,66817,268300,1077344,4326016,17370881,69751824,280084640,1124664576,4516029185,18133868564,72815558896,292386900160,1174063629825,4714388387864,18930369110352,76013863341568 ★ a(n) = 4^n for n = 0..3; for n > 3, a(n) = 4*a(n-1) + a(n-4). ● a(n) = Sum _{ k=0..floor(n / 3) } binomial(n - 3 * k, k) * 4 ^ (n - 4 * k). ●

[A071357] ● 0,1,4,16,64,260,1072,4480,18944,80928,348800,1515008,6625280,29147456,128918272,572928000,2557100032,11457170944,51514963968,232370167808,1051235287040,4768568354816,21684663148544,98835356778496,451433970008064 ★ Expansion of (1-4*x-(1-2*x)*sqrt(1-4*x-4*x^2))/(8*x^3). ● a(n)= (1 / pi) * Int(x ^ n * sqrt(- x ^ 2 + 4x + 4) * (x - 2) / 8,x,2 - 2sqrt(2),2 + 2sqrt(2)); - _ Paul Barry _ , Sep 16 2006 ●

[A158778] ● 1,4,16,64,320,1344,5440,21824,103744,447808,1840448,7427392,33985856,148624704,619779392,2521191744,11221570880,49269495104,207933019456,853358105920,3726080251200,16339070997824,69569923978560 ★ G.f.: (1+3*x+12*x^2+48*x^3)/(1-x-256*x^4) ● a(n)= + a(n - 1) + 256 * a(n - 4). ●

[A033140] ● 1,4,16,65,260,1040,4161,16644,66576,266305,1065220,4260880,17043521,68174084,272696336,1090785345,4363141380,17452565520,69810262081,279241048324,1116964193296,4467856773185,17871427092740,71485708370960 ★ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0. ● a(n) = + 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). G.f.: x / ((x - 1) * (4 * x - 1) * (1 + x + x ^ 2)). - R. J. Mathar, Jan 08 2011 ●

[A181879] ● 0,1,4,16,65,263,1065,4312,17459,70690,286218,1158873,4692181,18998253,76922356,311452261,1261044460,5105864780,20673224441,83704176903,338911293253,1372223811812,5556020785351,22495868896554,91083913642878 ★ Expansion of x*(1+x)/(1-3*x-4*x^2-x^3). ● a(n) = 3 * a(n - 1) + 4 * a(n - 2) + a(n - 3), n>=2, a(- 1):=1, a(0)=0, a(1)=1. ●

[A052927] ● 1,4,16,65,264,1072,4353,17676,71776,291457,1183504,4805792,19514625,79242004,321773808,1306609857,5305681432,21544499536,87484608001,355244113436,1442520953280,5857568421121,23785517797920,96584592144960,392195937000961 ★ Expansion of 1/(1-4*x-x^3). ● a(n)=sum { k=0..floor(n / 3), binomial(n - 2 * k, k) * 4 ^ (n - 3 * k) } . - _ Paul Barry _ , Oct 20 2004 ●

[A012781] ● 0,1,4,16,65,265,1081,4410,17991,73396,299426,1221537,4983377,20330163,82938844,338356945,1380359512,5631308624,22973462017,93722435101,382349636061,1559831901918,6363483400447,25960439030624 ★ Take every 5th term of Padovan sequence A000931, beginning with the second term. ● a(n + 3) = 5 * a(n + 2) - 4 * a(n + 1) + a(n). ●

[A165201] ● 1,1,4,16,65,267,1105,4597,19196,80380,337284,1417582,5965622,25130844,105954110,447015744,1886996681,7969339643,33670068133,142301618265,601586916703,2543852427847,10759094481491,45513214057191 ★ Expansion of 1/(1-x*c(x)^3), c(x) the g.f. of A000108. ● a(n)=(1 / 2) * sum { k=0..n, C(2k,k) * F(3(n - k) + 1) / (1 - 2k) }+ (1 / 2) * (F(3n - 2) + 2 * 0 ^ n). ●

[A026674] ● 1,4,16,65,267,1105,4597,19196,80380,337284,1417582,5965622,25130844,105954110,447015744,1886996681,7969339643,33670068133,142301618265,601586916703,2543852427847,10759094481491,45513214057191,192560373660245 ★ a(n) = T(2n-1,n-1) = T(2n,n+1), T given by A026725. ● a(n) = the upper left term in M ^ n, where M is the following infinite square production matrix: ● a(n) = 1 / n * Sum _{ k=1..n } k * binomial(2 * n,n - k) * Sum _{

i=0..k / 2 } binomial(k - i,i). - _ Vladimir Kruchinin _ , Apr 28 2016 ●

[A081915] ● 1,4,16,65,272,1184,5376,25344,122880,606208,3014656,15007744,74448896,367001600,1795162112,8707375104,41875931136,199715979264,944892805120,4436701216768,20684562497536,95794950569984,440904162738176 ★ 4^n(n^3-3n^2+2n+384)/384. ● a(n)=4 ^ n(n ^ 3 - 3n ^ 2 + 2n + 384) / 384. G.f.: (1 - 12x + 48x ^ 2 - 63x ^ 3) / (1 - 4x) ^ 4. ●

[A082307] ● 1,4,16,66,280,1208,5248,22816,98944,427392,1838080,7870976,33568768,142637056,604045312,2550276096,10737713152,45097779200,188979871744,790276734976,3298540650496,13743907405824,57174629810176 ★ Expansion of (1+x)exp(3x)cosh(x). ● a(n)=((n + 2) * 2 ^ (n - 1) + (n + 4) * 4 ^ (n - 1)) / 2. ●

[A024551] ● 1,4,16,67,283,1198,5074,21493,91045,385672,1633732,6920599,29316127,124185106,526056550,2228411305,9439701769,39987218380,169388575288,717541519531,3039554653411,12875760133174,54542595186106,231046140877597 ★ a(n) = floor(a(n-1)/(sqrt(5) - 2)) for n > 0 and a(0) = 1. ● a(n) = 5 * a(n - 1) - 3 * a(n - 2) - a(n - 3). - _ Clark Kimberling _ , Aug 16 2012 ●

[A179611] ● 1,4,16,68,280,1168,4848,20160,83776,348224,1447296,6015488,25002240,103917568,431915008,1795179520,7461349376,31011794944,128895102976,535729963008,2226667929600,9254755975168,38465775239168 ★ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+2*x)/(1-2*x-8*x^2-4*x^3). ● a(n) = 2 * a(n - 1) + 8 * a(n - 2) + 4 * a(n - 3) with a(1)=1, a(2)=4 and a(3)=16. ● a(n) = (8 + 3 * z1 - 6 * z1 ^ 2) * z1 ^ (- n) / (z1 * 37) + (8 + 3 * z2 - 6 * z2 ^ 2) * z2 ^ (- n) / (z2 * 37) + (8 + 3 * z3 - 6 * z3 ^ 2) * z3 ^ (- n) / (z3 * 37) with z1, z2 and z3 the roots of f(x) = 1 - 2 * x - 8 * x ^ 2 - 4 * x ^ 3 = 0. ●

[A290912] ● 0,1,4,16,68,287,1208,5088,21432,90273,380236,1601584,6745996,28414655,119684720,504121280,2123397744,8943915201,37672461204,158679314512,668369521108,2815224014047,11857940853032,49946562182048,210378775263272 ★ a(n) = (1/6)*A290911(n). ● a(n) = 4 * a(n - 1) + 4 * a(n - 3) - a(n - 4). ●

[A089979] ● 1,4,16,68,288,1216,5136,21696,91648,387136,1635328,6907904,29180160,123261952,520679424,2199438336,9290801152,39245922304,165781442560,700288974848,2958139588608,12495684124672,52783892398080 ★ Expansion of 1/(1-4x-4x^3). ● a(n) = Sum _{ k=0..floor(n / 2) } C(n - 2 * k, k) * 4 ^ (n - 2 * k). ● a(n) = 4 * a(n - 1) + 4 * a(n - 3). - _ G. C. Greubel _ , Apr 29 2017 ●

[A179191] ● 0,1,4,16,68,296,1312,5888,26672,121696,558464,2574848,11917952,55345408,257741824,1203224576,5629027072,26383656448,123868321792,582414688256,2742116907008,12926036258816,60988951747584 ★ Generating function (1/2)*[-1+(1-4*x-4*x^2)^(-1/2)]. ● a(n) = sum(m=1..n, m * sum(k=m..n, sum(i=k..n, binomial(i - 1,k - 1) * binomial(i,n - i)) * sum(j=0..k, binomial(j,2 * j - m - k) * binomial(k,j)) / k)). - _ Vladimir Kruchinin _ , Mar 11 2011 ● a(n) = sum(k=0..n, 2 ^ (n - k - 1) * binomial(n,k) * binomial(n - k,k)). - _ Vladimir Kruchinin _ , Mar 12 2015 ●

[A006319] ● 1,1,4,16,68,304,1412,6752,33028,164512,831620,4255728,22004292,114781008,603308292,3192216000,16989553668,90890869312,488500827908,2636405463248,14281895003716,77631035881072,423282220216964,2314491475510816,12688544297945348 ★ Royal paths in a lattice (convolution of A006318). ● a(n) = Sum _{ j=0..n } (n - j) * (Sum _{ i=0..j } a(i) * a(j - i)) for n>0, a(0)=1. ● a(n) is the sum of top row terms in M ^ (n - 1), M = an infinite square production matrix as follows: ● a(n) = Sum _{ k=0..n } (2 / (k + 2)) * binomial(n + k,k + 1) * binomial(n - 1,k) for n>=1. - _ David Callan _ , Jul 21 2017 ●

[A059606] ● 0,1,4,16,68,311,1530,8065,45344,270724,1709526,11376135,79520644,582207393,4453142140,35500884556,294365897104,2533900264547,22604669612078,208656457858161,1990060882027600 ★ Expansion of (1/2)*(exp(2*x)-1)*exp(exp(x)-1). ● a(n) = Sum _{ i=0..n } stirling2(n, i) * binomial(i + 1, 2). ● a(n) = (1 / 2) * (Bell(n + 2) - Bell(n + 1) - Bell(n)). - _ Vladeta Jovovic _ , Sep 23 2003 ●

[A180145] ● 1,4,16,70,304,1330,5812,25414,111112,485818,2124124,9287278,40606576,177543394,776269636,3394069270,14839825624,64883892490,283690631212,1240375248574,5423269532992,23712060090418,103675797469204 ★ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1-3*x^2)/(1-4*x-3*x^2+6*x^3). ● a(n) = 4 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) with a(0)=1, a(1)=4 and a(2)=16. ● a(n) = (1 / 4) + (7 + 6 * A) * A ^ (- n - 1) / 44 + (7 + 6 * B) * B ^ (- n - 1) / 44 with A=(- 3 + sqrt(33)) / 12 and B=(- 3 - sqrt(33)) / 12. ●

[A133789] ● 0,1,4,16,70,316,1414,6196,26590,112156,466774,1923076,7863310,31972396,129459334,522571156,2104535230,8460991036,33972711094,136277478436,546270602350,2188566048076,8764718254054,35090241492916,140455083984670 ★ Let P(A) denote the power set of an n-element set A. Then a(n) = the number of pairs of elements {x,y} of P(A) for which either 0) x and y are disjoint and for which x is not a subset of y and y is not a subset of x, 1) x and y are disjoint and for which either x is a subset of y or y is a subset of x, or 2) x and y intersect but for which x is not a subset of y and y is not a subset of x. ● a(n) = (1 / 2)(4 ^ n - 2 * 3 ^ n + 3 * 2 ^ n - 2). ● a(n) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 1,3) + StirlingS2(n + 1,2). - _ Ross La Haye _ , Jan 11 2008 ● a(n) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 1,3) + StirlingS2(n + 1,2). - _ Ross La Haye _ , Jan 11 2008 ● a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). [_ Aaron Meyerowitz _ , Oct 29 2013] ●

[A161797] ● 1,1,4,16,71,336,1660,8464,44207,235306,1271807,6961307,38508659,214950425,1209170536,6848080767,39014400171,223439516338,1285660965508,7428738358924,43087099589998,250766507928988,1464026402082801 ★ G.f. satisfies: A(x) = 1/(1 - x/(1 - x*A(x))^3). ● a(n) = Sum _{ k=0..n } C(n,k) / (n - k + 1) * C(n + 2 * k - 1,n - k). ● a(n,m) = Sum _{ k=0..n } C(n + m - 1,k) * m / (n - k + m) * C(n + 2 * k - 1,n - k). ●

[A158784] ● 1,4,16,72,288,1168,5184,20768,85120,373312,1499392,6194304,26890752,108349696,450216960,1937707520,7834814464,32689300480,139682910208,566806726656,2371481051136,10073319706624,41018592608256 ★ Expansion of (1+4*x+14*x^2)/(1-2*x^2-64*x^3). ● a(n)= 2 * a(n - 2) + 64 * a(n - 3). [From R. J. Mathar, Mar 31 2009] ●

[A180141] ● 1,4,16,72,312,1368,5976,26136,114264,499608,2184408,9550872,41759064,182582424,798301656,3490399512,15261008472,66725422488,291742318296,1275579489816,5577192379224,24385054076568,106618316505048 ★ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1+x-2*x^2)/(1-3*x-6*x^2). ● a(n) = 4 * a(n - 1) - 2 * a(n - 3) with a(0)=2, a(1)=8 and a(2)=31. ● a(n) = 3 * a(n - 1) + 6 * a(n - 2) for n>=3 with a(0)=1, a(1)=4 and a(2)=16. ● a(n) = (6 + 2 * A) * A ^ (- n - 1) / 33 + (6 + 2 * B) * B ^ (- n - 1) / 33 with A=(- 3 - sqrt(33)) / 12 and B=(- 3 + sqrt(33)) / 12 for n>=1 with a(0)=1. ●

[A059371] ● 1,4,16,72,372,2208,14976,115200,996480,9607680,102366720,1195568640,15193785600,208728576000,3081867264000,48659595264000,817953583104000,14581909536768000,274755150544896000,5455208664170496000,113825841809670144000 ★ a(n) = (n-1)! + ((n+1)/2)*a(n-1), a(1)=0. ● a(n) = Sum _{ i=1..n - 1 } i! * (n - i)!. E.g., a(6) = 1! * 5! + 2!4! + 3!3! + 4!2! + 5!1! = 120 + 48 + 36 + 48 + 120 = 372. - _ Jon Perry _ , May 06 2006 ● a(n) = 2 * Integral _{ t>=0 } t ^ n * exp(- t) * (t * exp(- t) * Ei(t) - 1), with Ei the exponential integral function. ● a(n) = - 2 * n! - 2 * (n + 1)! * Re(LerchPhi(2, 1, 2 + n)). - _ Vladimir Reshetnikov _ , Oct 17 2015 ● a(n) = n! * Re(hypergeom([1,1],[n + 2],2) - 1). - _ Vladimir Reshetnikov _ , Oct 19 2015 ●

[A208528] ● 0,4,16,72,384,2400,17280,141120,1290240,13063680,145152000,1756339200,22992076800,323805081600,4881984307200,78460462080000,1339058552832000,24186745110528000,460970906812416000,9245027631071232000,194632160654131200000 ★ Number of permutations of n>1 having exactly 3 points P on the boundary of their bounding square. ● a(n) = (4 * n - 8) * (n - 2)! ●

[A094559] ● 0,0,4,16,76,304,1264,5056,20404,81616,327184,1308736,5237776,20951104,83815744,335262976,1341097036,5364388144,21457733104,85830932416,343324451056,1373297804224,5493194102464,21972776409856,87891117178864 ★ Number of words of length n over an alphabet of size 4 that are not "bifix-free". ● a(0)=a(1)=0, a(2n)=4 ^ n + 4a(2n - 1) - a(n), a(2n + 1)=4a(2n). - _ Emeric Deutsch _ , Feb 04 2006 ●

[A199214] ● 4,16,76,376,1876,9376,46876,234376,1171876,5859376,29296876,146484376,732421876,3662109376,18310546876,91552734376,457763671876,2288818359376,11444091796876,57220458984376,286102294921876,1430511474609376 ★ 3*5^n+1. ● a(n) = 5 * a(n - 1) - 4. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2). ●

[A241023] ● 1,4,16,76,384,2004,10672,57628,314368,1728292,9560016,53144172,296642688,1661529588,9333781872,52566230076,296697618432,1677889961028,9505151782288,53928746972812,306393243712384,1742920028025364,9925790375394096,56584659163097436 ★ Central terms of the triangle in A102413. ● a(n) = 2 * Hyper2F1([- n, n], [1], - 1) for n>0. - _ Peter Luschny _ , Aug 02 2014 ●

[A260949] ● 1,4,16,76,416,2576,17840,137268,1170104,11050940,115885968,1353366864,17640817784,256630492660,4153220868128,74315436120300,1458541231513152,31131651836906752,716862465409883040,17683184383300077828,464519709712796199816 ★ Coefficients in asymptotic expansion of sequence A259871. ● a(k) ~ 4 * exp(- 1) * (k - 1)! / (log(2)) ^ k. ●

[A049426] ● 1,1,4,16,76,436,2776,19384,148576,1226656,10824256,101695936,1010783104,10577428096,116166090496,1334409569536,15985101216256,199216504113664,2577292524107776,34542575915216896,478781761481291776 ★ Row sums of triangle A049410. ● a(n) = n! * sum(k=1..n, sum(j=0..k, binomial(4 * j,n) * (- 1) ^ (k - j) / (4 ^ k * (k - j)! * j!))). - _ Vladimir Kruchinin _ , Feb 07 2011 ●

[A204208] ● 1,4,16,78,404,2208,12492,72589,430569,2596471,15870357,98102191,612222083,3852015239,24408653703,155629858911,997744376239,6427757480074,41590254520410,270163621543421,1761179219680657 ★ Number of length n+1 nonnegative integer arrays starting and ending with 0 with adjacent elements differing by no more than 3. ● a(n) = Sum _{ i=1..n } ((Sum _{ j=0..i } i) / 7 } (binomial(i,j) * binomial(- 7 * j + 4 * i - 1,3 * i - 7 * j) * (- 1) ^ j)) * a(n - i)) / n. - _ Vladimir Kruchinin _ , Apr 06 2017 ●

[A000780] ● 1,4,16,78,456,3120,24480,216720,2136960,23224320,275788800,3552595200,49337164800,734788454400,11681891020800,197458829568000,3535951491072000,66869236482048000,1331693730791424000,27856727993622528000,610658404052336640000 ★ a(n) = (n+1)!/2+(n-1)(n-1)!. ● a(n) = (n - 1)! * (n ^ 2 + 3 * n - 2) / 2. - _ Gary Detlefs _ , May 22 2010 ●

[A221763] ● 1,4,16,79,319,1576,6364,31441,126961,627244,2532856,12513439,50530159,249641536,1008070324,4980317281,20110876321,99356704084,401209456096,1982153764399,8004078245599,39543718583896,159680355455884,788892217913521 ★ Numbers m such that 11*m^2 - 7 is a square. ● a(n) = ((11 + 2 * t * (- 1) ^ n) * (10 - 3 * t) ^ floor(n / 2) + (11 - 2 * t * (- 1) ^ n) * (10 + 3 * t) ^ floor(n / 2)) / 22, where t=sqrt(11). ● a(n) * a(n - 3) - a(n - 1) * a(n - 2) = (3 / 2) * (9 + (- 1) ^ n). ●

[A106568] ● 0,4,16,80,384,1856,8960,43264,208896,1008640,4870144,23515136,113541120,548225024,2647064576,12781158400,61712891904,297976201216,1438756372480,6946930294784,33542746669056,161958707855360 ★ Expansion of 4*x/(1-4*x-4*x^2). ● a(0) = 0, a(1)=4, a(n)=4 * a(n - 1) + 4 * a(n - 2) for n>2. G.f.: 4x / (1 - 4x - 4x ^ 2). [_ Philippe Deléham _ , Sep 19 2009] ●

[A134006] ● 4,16,84,496,3108,20176,134004,903856,6161988,42326416,292299924,2026332016,14085959268,98111307856,684331371444,4778093436976,33385561506948,233393582580496,1632228682596564,11417969833962736 ★ a(n) =

1^n + 3^n + 5^n + 7^n. • a(n) = 15 * a(n - 1) - 71 * a(n - 2) + 105 * a(n - 3) - 48. •

[A090013] • 4,16,84,536,4004,34176,327604,3481096,40585284,514872176,7058605844,103969203576,1637182717924,27442553929696,487806792137844,9164718013496936,181446744138509444,3775570370986139856 ★ Permanent of (0,1)-matrix of size n X (n+d) with d=3 and n-1 zeros not on a line. • a(n) = (n + 2) * a(n - 1) + (n - 2) * a(n - 2), a(1)=4, a(2)=16 •

[A005618] • 4,16,88,520,3112,18664,111976,671848,4031080,24186472,145118824,870712936,5224277608,31345665640,188073993832,1128443962984,6770663777896,40623982667368,243743896004200,1462463376025192 ★ a(n) = 6*a(n-1) - 8. • a(n) = (4 / 5) * (2 + 3 * 6 ^ n), with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A052124] • 1,1,4,16,88,568,4288,36832,354688,3781504,44199424,561823744,7714272256,113769309184,1793341407232,30085661765632,5351708304670720,100606045294440448,1992874235358085 12,41484644277780217856 ★ E.g.f.: exp(-2x)/(1-x)^3. • a(n) = n * a(n - 1) + 2 * (n - 1) * a(n - 2). - Detlef Pauly (dettodet(AT)yahoo.de), Sep 22 2003 • a(n) = (n + 5) * (n + 2) * n! * Sum _{ k=0..n } (- 1) ^ k * 2 ^ (k + 2) * (k + 3) / (k + 5)!. - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A003762] • 1,4,16,92,432,1884,8582,39736,181936,829672,3793850,17366388,79441576,363298928,1661695126,7601017276,34767611570,159026305464,727389859704,3327116203688,15218354613018,69609219627912 ★ Number of spanning trees with degrees 1 and 3 in D_4 X P_n. • a(1) = 1, • a(2) = 4, • a(3) = 16, • a(4) = 92, • a(5) = 432, • a(6) = 1884, •

[A293143] • 4,16,96,688,5280,41584,330720,2639920,21101856,168762352,1349941344,10799058352,86391049632,691124145520,5528980409568,44231805012784,353854325311008,2830834258114288,22646673031792992,181173381154980016 ★ Number of vertex points in a Sierpinski Carpet grid subdivided into squares: a(n+1) = 8*a(n) - 8*(3^n+1), a(0) = 4. • a(n) = 8 * (5 + 11 * 2 ^ (3 * n - 1) + 7 * 3 ^ n) / 35. • a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 24 * a(n - 3) for n > 2. (End) •

[A114023] • 4,16,100,144,33489,82369,41088506209,95056905969,196978855329,4901432910724,6047212155664,26601838343809,247869502464123136 ★ Squares of the form semiprime(n) + n-th triangular number. • a(n) = semiprime(k) + k(k + 1) / 2 when this is a square. •

[A065731] • 1,1,1,4,16,100,676,4900,40000,362404,3625216,39904489,478996996,6226945921,87177877081,1307672296225,20922784184449,355687416544329,6402373660047556,121645099966283776,2432902006216007824 ★ Greatest perfect square that does not exceed n!. • a(n) = floor(sqrt(n!)) ^ 2 •

[A111883] • 1,1,4,16,100,676,5776,53824,583696,6864400,90174016,1274204416,19642583104,323196798016,5714394630400,107112895415296,2135062451773696,44858948563673344,994634863541502976 ★ Unsigned row sums of triangle A111595 (normalized rescaled squared Hermite polynomials). • a(n) = |H _ n (i / sqrt(2))| ^ 2 / 2 ^ n = H _ n(i / sqrt(2)) * H _ n(- i / sqrt(2)) / 2 ^ n, where H _ n(x) is n - th Hermite polynomial, i = sqrt(- 1). - _ Vladimir Reshetnikov _ , Oct 11 2016 •

[A212748] • 1,4,17,20,53,56,117,120,217,220,361,364,557,560,813,816,1137,1140,1537,1540,2021,2024,2597,2600,3273 ★ Number of (w,x,y,z) with all terms in {0,...,n} and w=2*floor((x+y+z)/2)). • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = (2 * n ^ 3 + 3 * ((- 1) ^ n + 5) * n ^ 2 + (15 * (- 1) ^ n + 37) * n + 12) / 12. • a(n) = (n ^ 3 + 9 * n ^ 2 + 26 * n + 6) / 6 for n even. • a(n) = (n ^ 3 + 6 * n ^ 2 + 11 * n + 6) / 6 for n odd. (End) •

[A032828] • 1,4,17,20,65,68,273,276,321,324,1041,1044,1089,1092,4369,4372,4417,4420,5137,5140,5185,5188,16657,16660,16705 ★ Numbers whose set of base 16 digits is {1,4}. • a(1)=1, a(2)=4; a(n) = 16 * a(floor(n / 2)) + 1 for n odd, otherwise a(n) = 16 * a(floor((n - 1) / 2)) + 4. - _ Bruno Berselli _ , May 28 2012 •

[A022134] • 4,17,21,38,59,97,156,253,409,662,1071,1733,2804,4537,7341,11878,19219,31097,50316,81413,131729,213142,344871,558013,902884 ★ Fibonacci sequence beginning 4, 17. • a(n) = term (1,1) in the 1x2 matrix [4,13] . [1,1; 1,0] ^ n. (End) •

[A212756] • 1,4,17,32,71,104,187,247,380,484,685,823,1122,1311,1690,1963,2452,2767,3416,3806,4557,5079,5982,6546,7679 ★ Number of (w,x,y,z) with all terms in {0,...,n} and 2w-x=max{w,x,y,z}-min{w,x,y,z}. • a(n)= - 2 * a(n - 1) + 5 * a(n - 3) + 7 * a(n - 4) - 9 * a(n - 6) - 9 * a(n - 7) + 7 * a(n - 9) + 5 * a(n - 10) - 2 * a(n - 12) - a(n - 13). •

[A273675] • 1,4,17,33,56,85,120,161,208,261,320,385,456,533,616,705,800,901,1008,1121,1240,1365,1496,1633,1776 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 833", based on the 5-celled von Neumann neighborhood. • a(n) = n * (2 + 3 * n) for n>2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>5. •

[A173511] • 0,4,17,37,66,102,147,199,260,328,405,489,582,682,791,907,1032,1164,1305,1453,1610,1774,1947,2127,2316 ★ a(n) = 4*n^2 + floor(n/2). • a(n) = floor((2 * n + 1 / 8) ^ 2). • a(n)= 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x * (4 + 9 * x + 3 * x ^ 2) / ((1 + x) * (x - 1) ^ 3). - _ R. J. Mathar _ , Feb 21 2010 •

[A182868] • 1,4,17,38,67,104,149,202,263,332,409,494,587,688,797,914,1039,1172,1313,1462,1619,1784,1957,2138,2327 ★ a(n) = -1 + n + 4*n^2. • a(n) = 4 * n ^ 2 + n - 1. • a(n) = a(n - 1) - 3 + 8 * n. • a(n) = 2 * a(n) - a(n - 2) + 8. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A178947] • 1,4,17,38,81,138,229,340,497,680,921,1194,1537,1918,2381,2888,3489,4140,4897,5710,6641,7634,8757,9948,11281 ★ Expansion of x*(1+2*x+8*x^2+3*x^3) / ((1+x)^2*(x-1)^4). • a(n) = (- 1 + (- 1) ^ n + (7 - 3 * (- 1) ^ n) * n - 6 * n ^ 2 + 6 * n ^ 3) / 8. • a(n) = (3 * n ^ 3 - 3 * n ^ 2 + 2 * n) / 4 for n even. • a(n) = (3 * n ^ 3 - 3 * n ^ 2 + 5 * n - 1) / 4 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. •

[A041859] • 1,4,17,38,321,6779,54553,115885,518093,2188257,92424887,371887805,1579976107,3531840019,29834696259,630060461458,5070318387923,10770697237304,48153107337139,203383126585860,8590244423943259,345643608223 58896,146847687713378843 ★ Denominators of continued fraction convergents to sqrt(451). • a(n) = 92942980 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A022266] • 0,4,17,39,70,110,159,217,284,360,445,539,642,754,875,1005,1144,1292,1449,1615,1790,1974,2167,2369,2580 ★ a(n) = n*(9*n - 1)/2. • a(n) = C(9 * n,2) / 9 for n>=0. - _ Zerinvary Lajos _ , Jan 02 2007 • a(n) = 9 * n + a(n - 1) - 5 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. • a(n) = (1 / 7) * Sum _{ i=n..(8 * n - 1) } i. (End) •

[A273309] • 1,4,17,40,73,112,161,216,281,352,433,520,617,720,833,952,1081,1216,1361,1512,1673,1840,2017,2200,2393 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 641", based on the 5-celled von Neumann neighborhood. • a(n) = (- 15 + (- 1) ^ n + 8 * n + 8 * n ^ 2) / 2 for n>1. • a(n) = 4 * n ^ 2 + 4 * n - 7 for n>1 and even. • a(n) = 4 * n ^ 2 + 4 * n - 8 for n>1 and odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. •

[A145995] • 1,4,17,40,73,116,169,232,305,388,481,584,697,820,953,1096,1249,1412,1585,1768,1961,2164,2377,2600,2833 ★ a(n) = 8 - 12*n + 5*n^2. • a(n) = a(n - 1) + 10 * n - 17, with a(1)=1. - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3, a(1)=1, a(2)=4, a(3)=17. •

[A212575] • 0,1,4,17,42,85,142,235,346,495,680,911,1172,1505,1872,2305,2798,3365,3978,4699,5470,6335,7284,8335,9448 ★ Number of (w,x,y,z) with all terms in {1,...,n} and 2|w-x|=|x-y|+|y-z|. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) - a(n - 6) + 2 * a(n - 7) + 2 * a(n - 8) - a(n - 10). •

[A162148] • 0,4,17,44,90,160,259,392,564,780,1045,1364,1742,2184,2695,3280,3944,4692,5529,6460,7490,8624,9867,11224,12700 ★ a(n) = n*(n+1)*(5*n+7)/6. • a(n) = 4 * binomial(n + 2,3) + binomial(n + 1,3) • a(0)=0, a(1)=4, a(2)=17, a(3)=44, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , May 20 2014 •

[A147656] • 0,4,17,45,94,170,279,427,620,864,1165,1529,1962,2470,3059,3735,4504,5372,6345,7429,8630,9954,11407,12995,14724 ★ Terms of this sequence are "midpoints" between successive cubes • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , May 06 2012 •

[A095667] • 4,17,45,95,175,294,462,690,990,1375,1859,2457,3185,4060,5100,6324,7752,9405,11305,13475,15939,18722,21850,25350,29250 ★ Fifth column (m=4) of (1,4)-Pascal triangle A095666. • a(n) = sum _{ k=1..n } (sum _{ i=1..k } i * (n - k + 4)). - _ Wesley Ivan Hurt _ , Sep 25 2013 •

[A212577] • 0,1,4,17,46,89,154,251,374,531,736,979,1268,1621,2024,2485,3026,3629,4302,5071,5914,6839,7876,8999,10216 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|=2|x-y|-|y-z|. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). •

[A213499] • 0,4,17,47,96,176,286,439,634,885,1188,1561,1997,2515,3108,3796,4569,5451,6429,7528,8735,10076,11535,13142,14878 ★ Number of (w,x,y) with all terms in {0,...,n} and w != min(|w-x|,|x-y|) • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8). •

[A213502] • 0,4,17,47,98,178,291,445,644,896,1205,1579,2022,2542,3143,3833,4616,5500,6489,7591,8810,10154,11627,13237,14988 ★ Number of (w,x,y) with all terms in {0,...,n} and x != min(|w-x|,|x-y|) • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (2 * n * (2 * n ^ 2 + 4 * n + 1) - (- 1) ^ n + 1) / 4. - _ Bruno Berselli _ , Jul 02 2012 •

[A273334] • 1,4,17,48,80,120,168,224,288,360,440,528,624,728,840,960,1088,1224,1368,1520,1680,1848,2024,2208,2400 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 657", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * n * (1 + n) for n>2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>5. •

[A273766] • 1,4,17,48,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 913", based on the 5-celled von Neumann neighborhood. • a(n) = (1 + 2 * n) ^ 2 for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. •

[A173704] • 0,0,4,17,49,111,219,390,646,1010,1510,2175,3039,4137,5509,7196,9244,11700,14616,18045,22045,26675,31999,38082,44994 ★ Partial sums of floor(n^3/2). • a(n) = Sum _{ k=0..n } floor(k ^ 3 / 2). • a(n) = round ((n ^ 4 + 2 * n ^ 3 + n ^ 2 - 2 * n) / 8). • a(n) = round((n ^ 4 + 2 * n ^ 3 + n ^ 2 - 2 * n - 1) / 8). • a(n) = floor((n ^ 4 + 2 * n ^ 3 + n ^ 2 - 2 * n) / 8). • a(n) = ceiling((n - 1) * (n + 1) * (n ^ 2 + 2 * n + 2) / 8). • a(n) = a(n - 2) + (n - 1) * (2 * n ^ 2 - n + 2) / 2, n>1. •

[A228960] • 1,1,4,17,51,136,393,1233,3865,11851,36301,112520,351352,1098189,3433704,10758609,33794505,106344793,335061790,1056924667,3338026857,10554163533,33402840615,105809430024,335444908176 ★ a(n) = [x^n] (1 + x + x^3 + x^4)^n. • a(n) = [x ^ (3 * n)](1 + x + x ^ 3 + x ^ 4) ^ n. • a(n) = Sum _{ k = 0..floor(n / 3) } binomial(n,k) * binomial(n,3 * k). Applying Maple 's sumrecursion command to this formula gives the above recurrence of Kotesovec. (End) • a(n) = hypergeom([1 / 3 - n / 3, 2 / 3 - n / 3, - n, - n / 3], [1 / 3, 2 / 3, 1], 1). - _ Vladimir Reshetnikov _ , Oct 04 2016 •

[A042051] • 1,4,17,52,147,360,819,1712,3382,6312,11286,19368,32154,51744,81114,124080,185823,272844,393679,558844,781781,1078792,1470261,1980576,2

639676 ⋆ Molien series for 9-dimensional group of structure Z_2 X Z_2 and order 4, corresponding to complete weight enumerators of Hermitian self-dual GF(3)-linear codes over GF(9). • a(n) = ((315 * (857 + 167 * (- 1) ^ n) + 60 * (8347 + 581 * (- 1) ^ n) * n + (384718 + 6930 * (- 1) ^ n) * n ^ 2 + 84 * (2027 + 5 * (- 1) ^ n) * n ^ 3 + 48888 * n ^ 4 + 9240 * n ^ 5 + 1092 * n ^ 6 + 72 * n ^ 7 + 2 * n ^ 8)) / 322560. - _ Colin Barker _ , Jan 16 2017 •

[A213577] • 1,4,17,56,172,498,1395,3820,10307,27534,73064,193012,508341,1336132,3507189,9197732,24107124,63159782,165433895,433246860,1134484871,2970509594,7777554192,20363014056,53312938537 ⋆ Principal diagonal of the convolution array A213576. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 3 * a(n - 3) + 6 * a(n - 4) + a(n - 5) - a(n - 6). •

[A191272] • 0,4,17,63,256,1025,4095,16384,65537,262143,1048576,4194305,16777215,67108864,268435457,1073741823,4294967296,17179869185,68719476775,274877906944,1099511627777,4398046511103,17592186044416,70368744177665 ⋆ Expansion of x*(4+5*x)/((1-4*x)*(1 + x + x^2)). • a(n + 1) = 4 * a(n) + (n - th element of periodic length 3 repeat 4, 1, - 5). • a(0)=0, a(1)=4, a(2)=17, a(n) = 3 * a(n - 1) + 3 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Jun 19 2011 • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * (n - 4) (n>3). - _ Bruno Berselli _ , Jul 04 2011 •

[A119916] • 0,1,4,17,64,233,820,2825,9568,31985,105796,346913,1129312,3653657,11758132,37665881,120172096,382039649,1210689028,3825777329,12058462720,37918780361,118986517684,372650082857,1165021837984 ⋆ Number of runs of 0's of odd length in all ternary words of length n. • a(n) = ((- 1) ^ (n - 1) + (3 + 4 * n) * 3 ^ (n - 1)) / 8. - _ Johannes W. Meijer _ , Aug 01 2010 •

[A102207] • 4,17,65,244,912,3405,12709,47432,177020,660649,2465577,9201660,34341064,128162597,478309325,1785074704,6661989492,24862883265,92789543569,346295291012,1292391620480,4823271190909,18000693143157 ⋆ a(n) = 5a(n-1) - 5a(n-2) + a(n-3) with a(0) = 4, a(1) = 17, a(2) = 65. • a(n)=1 / 12 * ((3 - 7 * Sqrt[3]) * (2 - Sqrt[3]) ^ n + (3 + 7 * Sqrt[3]) * (2 + Sqrt[3]) ^ n - 6). - _ Harvey P. Dale _ , Mar 15 2013 •

[A217539] • 0,0,0,1,4,17,66,252,946,3523,13054,48248,178146,657813,2430962,8995521,33342588,123822171,460772982,1718304786,6421729878,24051429321,90272123682,339522804129,1279556832780 ⋆ Number of Dyck paths of semilength n which satisfy the condition: number of returns + number of hills < number of peaks. • a(n) = C(n) - (n - 1) * M(n - 2) - M(n - 1) for n > 0; C(n) Catalan, M(n) Motzkin numbers. •

[A291394] • 4,17,66,254,968,3679,13962,52957,200812,761396,2886768,10944725,41494856,157319353,596443614,2261290498,8573204920,32503490435,123230092830,467200760741,1771292578424,6715480046152,25460317920096,96527393973769,365963135802988 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - S)(1 - 3 S). • a(n) = 4 * a(n - 1) + a(n - 2) - 6 * a(n - 3) - 3 * a(n - 4) for n > = 5. •

[A244616] • 1,4,17,66,265,1046,4165,16561,66017,263377,1051774,4202363,16797551,67159565,268561326,1074052233,4295730126,17181735211,68724026662,274888965526,1099538433297,4398111321331,17592342396443,70369120593536,281475881240563 ⋆ G.f.: Sum_{n>=0} (3 + x^n)^n * x^n / (1-x)^(n+1). • a(n) - 4 ^ n ~ n / 13 * ((1 + sqrt(13)) / 2) ^ n. - _ Vaclav Kotesovec _ , Jul 02 2014 •

[A081113] • 1,4,17,68,259,950,3387,11814,40503,136946,457795,1515926,4979777,16246924,52694573,170028792,546148863,1747255194,5569898331,17698806798,56076828573,177208108824,558658899825,1757365514652 ⋆ Number of paths of length n-1 a king can take from one side of an n X n chessboard to the opposite side. • a(n) = Sum _{ k=1..n } k * (n - k + 1) * M(n - 1, k - 1) where k * (n - k + 1) is the triangular view of A003991 and M() is the Motzkin triangle A026300. •

[A033114] • 1,4,17,68,273,1092,4369,17476,69905,279620,1118481,4473924,17895697,71582788,286331153,1145324612,4581298449,18325193796,73300775185,293203100740,1172812402961,4691249611844,18764998447377,75059993789508 ⋆ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. • a(n) = floor(4 ^ (n + 1) / 15) = 4 ^ (n + 1) / 15 - 1 / 6 - (- 1) ^ n / 10. - _ Benoit Cloitre _ , Apr 18 2003 • a(n) = Sum _{ k=0..floor(n / 2) } 4 ^ (n - 2 * k); a(n) = Sum _{ k=0..n } Sum _{ j=0..k } (- 1) ^ (j + k) * 4 ^ j. - _ Paul Barry _ , Nov 12 2003 • a(n) = round((8 * 4 ^ n - 5) / 30) = floor((4 * 4 ^ n - 1) / 15) = ceiling((4 * 4 ^ n - 4) / 15) = round((4 * 4 ^ n - 4) / 15); a(n) = a(n - 2) + 4 ^ (n - 1), n > 1. - _ Mircea Merca _ , Dec 28 2010 •

[A096881] • 1,4,17,68,289,1156,4913,19652,83521,334084,1419857,5679428,24137569,96550276,410338673,1641354692,6975757441,27903029764,118587876497,474351505988,2015993900449,8063975601796,34271896307633 ⋆ Expansion of (1+4*x)/(1-17*x^2). • a(n) = 3 * a(n - 1) + 4 * a(n - 2) + 17 ^ floor((n - 2) / 2). • a(n) = sum { k=0..floor(n / 2), binomial(floor(n / 2), k)4 ^ (n - 2k) } . • a(n) = (1 / 5) * (- 1) ^ n * Sum _{ a=2..n }{ 17 ^ floor(- 1 + 1 / 2 * a) * (- 1) ^ a }+ (4 / 5) * Sum _{ a=2..n }{ 17 ^ floor(- 1 + 1 / 2 * a) * (1 / 4) ^ a }* 4 ^ n + 4 ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 12 2008 • a(n) = 17 * a(n - 2), n>1. [_ Harvey P. Dale _ , Jan 21 2012] •

[A033122] • 1,4,17,69,276,1105,4421,17684,70737,282949,1131796,4527185,18108741,72434964,289739857,1158959429,4635837716,18543350865,74173403401,296693613844,1186774455377,4747097821509,18988391286036,75953565144145 ⋆ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). •

[A003127] • 0,1,4,17,70,282,1136,4583,18457,74131,296945,1190344,4773949,19145523,76751393,307503585,1231182078,4929075135,19736248104,79031964989,316476142454,1267191674419,5073155081395,20306187559891,81265371486027 ⋆ Value of an urn with n balls of type -1 and n balls of type +1. • a(n) = B(n, n) where B(n, m) is defined in A003125. - _ Sean A. Irvine _ , Feb 02 2015 •

[A172447] • 1,4,17,70,283,1136,4549,18202,72815,291268,1165081,4660334,18641347,74565400,298261613,1193046466,4772185879,19088743532,76354974145,305419896598,1221679586411,4886718345664,19546873382677,78187493530730,312749974122943 ⋆ (-1+5*2^(2*n+1)-3*n)/9. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). • a(n + 1) - 4 * a(n) = n. •

[A291009] • 4,17,70,284,1144,4592,18400,73664,294784,1179392,4718080,18873344,75495424,301985792,1207951360,4831821824,19327320064,77309345792,309237514240,1236950319104,4947801800704,19791208251392,79164835102720,316659344605184,1266637386809344 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S)(1 - 3 S). • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n >= 3. • a(n) = 2 ^ (n - 1) * (9 * 2 ^ n - 1). •

[A017955] • 1,4,17,70,289,1191,4913,20256,83521,344365,1419857,5854220,24137569,99521746,410338673,1691869691,6975757441,28761784747,118587876497,488950340714,2015993900449,8312155792152 ⋆ Powers of sqrt(17) rounded down. • a(n) = Floor(Sqrt(17 ^ n)); [From Vincenzo Librandi, Jun 24 2011] •

[A188482] • 1,4,17,71,295,1221,5040,20761,85380,350659,1438568,5896098,24145941,98812861,404118745,1651811920,6748282361,27556753703,112482005583,458958881572,1872034052651,7633342954234,31116252892098,126806214027741,516633711969649 ⋆ Diagonal sums of the Riordan matrix (1/(1-4x),(1-sqrt(1-4x))/(2sqrt(1-4x)) (A188481). • a(n) = [x ^ n] 1 / ((1 - x) ^ (n + 1) * (1 - 2 * x - x ^ 2 + x ^ 3)). • a(n) = sum(binomial(k,i) * binomial(2 * n + k - 2 * i + 2,n - k) * (- 1) ^ i,k=0..n,i=0..k). •

[A179606] • 1,4,17,71,298,1249,5237,21956,92053,385939,1618082,6783941,28442233,119246404,499950377,2096083151,8788001338,36844419769,154473265997,647641896836,2715292020493,11384085545659,47728716739442 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+x)/(1-3*x-5*x^2). • a(n) = 3 * a(n - 1) + 5 * a(n - 2) with a(0) = 1 and a(1) = 4. • a(n) = ((29 + 7 * sqrt(29)) * A ^ (- n - 1) + (29 - 7 * sqrt(29)) * B ^ (- n - 1)) / 290 with A = (- 3 + sqrt(29)) / 10 and B = (- 3 - sqrt(29)) / 10 •

[A022031] • 4,17,72,304,1283,5414,22845,96397,406757,1716352,7242319,30559689,128949662,544115986,2295951781,9687997993,40879475731,172495033261,727860031657,3071278144467,12959565068034,54684179957837,230745362360740,973653116715681,4108426630946045 ⋆ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(4,17). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for all n > 0. a(n + 1) / a(n) ~ 4.219599938... as n - > oo. - _ M. F. Hasler _ , Feb 11 2016 •

[A255117] • 1,4,17,72,304,1284,5424,22912,96784,408832,1726976,7295040,30815488,130169856,549859584,2322700288,9811480576,41445360640,175072243712,739534897152,3123921031168,13195973099520,55742031986688,235463812071424,994639140683776 ⋆ Number of n-length words on {0,1,2,3,4} in which 0 appears only in runs of length 2. • a(n + 3) = 4 * a(n + 2) + 4 * a(n) with n >1, a(0) = 1, a(1) = 4, a(2) = 17. •

[A001076] • 0,1,4,17,72,305,1292,5473,23184,98209,416020,1762289,7465176,31622993,133957148,567451585,2403763488,10182505537,43133785636,182717648081,774004377960,3278735159921,13888945017644,58834515230497,249227005939632 ⋆ Denominators of continued fraction convergents to sqrt(5). • a(n) = 4 * a(n - 1) + a(n - 2), n > 1. a(0)=0, a(1)=1. • a(n) = ((2 + sqrt(5)) ^ n - (2 - sqrt(5)) ^ n) / (2 * sqrt(5)). • a(n) = ((- i) ^ (n - 1)) * S(n - 1, 4 * i), with i ^ 2 = - 1 and S(n, x) := U(n, x / 2) Chebyshev's polynomials of the second kind. See A049310. S(- 1, x)=0. • a(n) = Sum _{ i=0..n } Sum _{ j=0..n } Fibonacci(i + j) * n! / (i!j!(n - i - j)!) / 2. - _ Paul Barry _ , Feb 06 2004 • a(n) = F(1) + F(4) + F(7) + ... + F(3n - 2), for n > 0. • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C(n, j)C(j, k)F(j) / 2. - _ Paul Barry _ , Feb 14 2005 •

[A257388] • 1,4,17,72,306,1304,5573,23888,102702,442904,1915978,8314480,36195236,158067312,692475053,3043191200,13415404246,59321085720,263100680926,1170347803440,5221037429948,23356788588752,104772374565666,471214329434208,2124649562373708 ⋆ Number of 4-Motzkin paths of length n with no level steps at odd level. • a(n) = Sum _{ i=0..floor(n / 2) } 4 ^ (n - 2i) * C(i) * binomial(n - i,i), where C(n) is the n - th Catalan number A000108. •

[A113442] • 1,4,17,72,306,1305,5577,23858,102108,437080,1871065,8009866,34289712,146792138,628407994,2690174883,11516466985,49301256865,211055514017,903515089697,3867890010850,16558188448465,70884540117396 ⋆ Third row of A113439. • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 38 * a(n - 3) - 20 * a(n - 4) + a(n - 5). •

[A083330] • 1,4,17,73,311,1309,5447,22453,91871,373789,1514327,6115333,24636431,99073069,397878407,1596280213,6399436991,25640729149,102691925687,411154861093,1645781181551,6586610462029,26356900104167 ⋆ (3*4^n-2*3^n+2^n)/2. • a(n)=(3 * 4 ^ n - 2 * 3 ^ n + 2 ^ n) / 2 G.f. (1 - 5x + 7x ^ 2) / (2(1 - 2x)(1 - 3x)(1 - 4x)) E.g.f. (3exp(4x) - 2exp(3x) + exp(2x)) / 2 •

[A255632] • 1,4,17,73,312,1333,5697,24348,104057,444713,1900592,8122653,34714177,148359668,634051937,2709778633,11580912872,49493911173,211524537857,904002715788,3863480419017,16511544365353,70566191040352 ⋆ Number of n-length words on {0,1,2,3,4} avoiding runs of zeros of length 1 (mod 3). • a(n + 3) = 4 * a(n + 2) + 5 * a(n) with n > 0, a(0) = 1, a(1) = 4, a(2) = 17. •

[A255814] • 1,4,17,73,313,1341,5745,24613,105449,451773,1935521,8292309,35526553,152205613,652091089,2793739205,11969154121,51279178141,219694231041,941231059125,4032495084025,17276328107789,74016584439345,317107590101669 ⋆ Numbers of words on {0,1,2,3,4,} having no isolated zeros. • a(n +

3) = 5 * a(n + 2) - 4 * a(n + 1) + 4 * a(n) with n>=0, a(0) = 1, a(1) = 4, a(2) = 17. •

[A095940] • 0,1,4,17,73,314,1351,5813,25012,107621,463069,1992482,8573203,36888569,158723236,682950473,2938582657,12644061866,54404561359,234090621197,1007239421908,4333925245949,18647907964021,80237764082258 ★ a(n+2) = 5a(n+1) - 3a(n) (n >= 1); a(0) = 0, a(1) = 1, a(2) = 4. • a(n)=(1 / 2) * [5 / 2 - (1 / 2) * sqrt(13)] ^ n - (3 / 26) * [5 / 2 - (1 / 2) * sqrt(13)] ^ n * sqrt(13) + (3 / 26) * sqrt(13) * [5 / 2 + (1 / 2) * sqrt(13)] ^ n + (1 / 2) * [5 / 2 + (1 / 2) * sqrt(13)] ^ n + [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Oct 02 2008] •

[A018902] • 1,4,17,73,314,1351,5813,25012,107621,463069,1992482,8573203,36888569,158723236,682950473,2938582657,12644061866,54404561359,234090621197,1007239421908,4333925245949,18647907964021,80237764082258,345245096519227,1485512190349361 ★ a(n+2) = 5*a(n+1) - 3*a(n). • a(n + 1) * a(n + 1) - a(n + 2) * a(n) = - 3 ^ n for n>0. - D. G. Rogers, Jul 11 2004 • a(n) = 4 * a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) + ... + a(0). - _ Gary W. Adamson _ , Aug 12 2013 • a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(13)) ^ n * (- 3 + sqrt(13)) + (3 + sqrt(13)) * (5 + sqrt(13)) ^ n)) / sqrt(13). - _ Colin Barker _ , Jan 20 2017 •

[A049027] • 1,1,4,17,74,326,1446,6441,28770,128750,576944,2587850,11615932,52167688,234383146,1053386937,4735393794,21291593238,95747347176,430624242942,1936925461644,8712882517188,39195738193836,176335080590442 ★ G.f.: (1-2*x*C)/(1-3*x*C) where C = (1/2-1/2*(1-4*x)^(1/2))/x is the g.f. for Catalan numbers A000108. • a(n + 1) = sum { k=0..n, 2 ^ k * comb(2n + 1, n - k)2(k + 1) / (n + k + 2) } - _ Paul Barry _ , Jun 22 2004 • a(n) = (9 * a(n - 1) - Catalan(n - 1)) / 2, n>1. - _ Vladeta Jovovic _ , Aug 08 2004 • a(n) = upper left term in M ^ (n - 1), M = an infinite square production matrix as follows: • a(n) = 3 ^ (2 * n - 1) / 2 ^ (n + 1) + 2 ^ n * (2 * n - 1)!! * hypergeom([1,n + 1], [n + 2], 8 / 9) / (9 * (n + 1)!) + 0 ^ n * 2 / 3. - _ Vladimir Reshetnikov _ , Oct 08 2016 •

[A218984] • 4,17,75,333,1481,6589,29317,130445,580413,2582541,11490989,51129037,227498125,1012250573,4503998541,20040495309,89169978317,396760903885,1765383572173,7855056096461,34950991530189,155514078313677,691958296315085,3078861341887693 ★ Power floor sequence of 2+sqrt(6). • a(n) = [x * a(n - 1)], where x=2 + sqrt(6), a(0) = [x]. • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3). • a(n) = (1 / 30) * (6 + (57 - 23 * sqrt(6)) * (2 - sqrt(6)) ^ n + (2 + sqrt(6)) ^ n * (57 + 23 * sqrt(6))). - _ Colin Barker _ , Nov 13 2017 •

[A081568] • 1,4,17,75,338,1541,7069,32532,149965,691903,3193706,14745009,68084297,314394980,1451837593,6704518371,30961415074,142980203437,660285858245,3049218769908,14081386948661,65028302171639,300302858766202 ★ Third binomial transform of Fibonacci(n+1). • a(n) = 7 * a(n - 1) - 11 * a(n - 2), a(0)=1, a(1)=4. •

[A026378] • 1,4,17,75,339,1558,7247,34016,160795,764388,3650571,17501619,84179877,406020930,1963073865,9511333155,46169418195,224484046660,1093097083475,5329784874185,26018549129545,127154354598330,622031993807565 ★ a(n) = number of integer strings s(0),...,s(n) counted by array T in A026374 that have s(n)=1; also a(n) = T(2n-1,n-1). • a(n) = coefficient of t ^ n in (1 + t)(1 + 3t + t ^ 2) ^ (n - 1). - _ Emeric Deutsch _ , Jan 30 2004 • a(n) = [2(3n - 2)a(n - 1) - 5(n - 2)a(n - 2)] / n for n>=2; a(0)=0, a(1)=1. - _ Emeric Deutsch _ , Mar 18 2004 • a(n + 1) = sum(k=0, n, binomial(n, k) * sum(i=0, k, binomial(k + i, i))). - _ Benoit Cloitre _ , Aug 06 2004 • a(n + 1) = sum(k=0, n, binomial(n, k) * binomial(2 * k + 1, k + 1)). - _ Benoit Cloitre _ , Aug 06 2004 • a(n) = hypergeom([3 / 2, 1 - n], [2], - 4). - _ Vladimir Reshetnikov _ , Apr 25 2016 • a(n) = (- 1) ^ n * (GegenbauerC(n - 2, - n + 1,3 / 2) - GegenbauerC(n - 1, - n + 1,3 / 2)). - _ Peter Luschny _ , May 13 2016 •

[A290914] • 0,1,4,17,76,336,1484,6559,28988,128111,566184,2502240,11058600,48873265,215994436,954583169,4218761572,18644733936,82400035556,364165339279,1609421566844,7112807014943,31434910948176,138925971735744,613980604384080 ★ a(n) = (1/7)*A290913(n). • a(n) = 4 * a(n - 1) + a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A117439] • 1,4,17,76,337,1496,6641,29480,130865,580924,2578785,11447508,50816737,225581040,1001378849,4445229968,19732860833,87596322228,388849631729,1726145941404,7662550168241,34014896233544,150995835638929 ★ Expansion of (1-x^2)/(1-4x-2x^2+x^4). • a(n)=4a(n - 1) + 2a(n - 2) - a(n - 4); a(n)=sum { k=0..floor(n / 2), C(2n - 3k,k)4 ^ (n - 2) } . •

[A081910] • 1,4,17,76,352,1664,7936,37888,180224,851968,3997696,18612224,85983232,394264576,1795162112,8120172544,36507222016,163208757248,725849473024,3212635537408,14156212207616,62122406969344,271579372060672 ★ 4^n*(n^2-n+32)/32. • a(n) = 4 ^ n * (n ^ 2 - n + 32) / 32. • a(0)=1, a(1)=4, a(2)=17, a(n)=12 * a(n - 1) - 48 * a(n - 2) + 64 * a(n - 3). - _ Harvey P. Dale _ , Jan 18 2014 •

[A026773] • 1,4,17,76,352,1674,8129,40156,201236,1020922,5234660,27089726,141335846,742712598,3927908193,20891799036,111688381228,5998412152 26,3234957053984,17512055200470,95125188934942,518340392855286,2832580291316092,15520177744727766 ★ T(2n-1,n-1), T given by A026769. Also T(2n+1,n+1), T given by A026780. • a(n) = sum { k=0..n, C(n + k + 1, n + 1)C(n + 1, k) / (k + 1) } ; a(n) = sum { k=0..n + 1, C(n + 2, k)C(n + k, n + 1) }/ (n + 2). - _ Paul Barry _ , May 19 2005 •

[A081186] • 1,4,17,76,353,1684,8177,40156,198593,986404,4912337,24502636,122336033,611148724,3054149297,15265963516,76315468673,381534296644,1907542343057,9537324294796,47685459212513,238423809278164 ★ 4th binomial transform of (1,0,1,0,1,.....), A059841. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) with n>1, a(0)=1, a(1)=4. • a(n) = 3 ^ n / 2 + 5 ^ n / 2. • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2 * k) * 4 ^ (n - 2 * k). •

[A239204] • 1,4,17,76,353,1688,8257,41128,207905,1063932,5501073,28695252,150827073,798054000,4247388417,22722717328,122125206977,659101365812,3570473750929,19407758970268,105820555054241,578622868877704,3172136074486337 ★ Expansion of ((x-1)*sqrt(x^2-6*x+1)-x^2-4*x+1)/(8*x^3). • a(n) = (Sum _{ i=0..n + 3 } binomial(n + 1, n - i + 3) * binomial(n + i, n)) / (2 * (n + 1)). • a(n) = hypergeom([- n, - n - 2], [2], 2). - _ Peter Luschny _ , Sep 23 2014 •

[A005572] • 1,4,17,76,354,1704,8421,42508,218318,1137400,5996938,31940792,171605956,928931280,5061593709,27739833228,152809506582,845646470616,4699126915422,26209721959656,146681521121244,823429928805936 ★ Number of walks on cubic lattice starting and finishing on the xy plane and never going below it. • a(0) = 1 and, for n>0, a(n) = 4a(n - 1) + Sum[a(i - 1)a(n - i - 1), i=1, n - 1]. - _ John W. Layman _ , Jan 07 2000 • a(n) = ((2 * n + 1) * a(n - 1) - 3 * (n - 1) * a(n - 2)) * 4 / (n + 2), n>0. • a(n) = sum of top row terms of M ^ n, M = an infinite square production matrix as follows: • a(n) = Sum _{ k=0..[n / 2] } binomial(n,2 * k) * binomial(2k,k) * 4 ^ (n - 2k) / (k + 1). - _ Max Alekseyev _ , Feb 02 2015 • a(n) = Sum _{ k=0..n } binomial(n,k) * 2 ^ (n - k) * binomial(2 * k + 2, k) / (k + 1). • a(n) = [x ^ n] (1 + 4 * x + x ^ 2) ^ (n + 1) / (n + 1). •

[A202879] • 1,4,17,76,355,1724,8671,45028,240809,1323460,7461121,43079084,254388667,1534503676,9445067375,59263320964,378729294481,2463130313348,16290919259569,109500022678540,747527556645971,5180110680154684,36418521410184127,259636520604139556 ★ E.g.f.: exp(4*x + x^2/2). • a(n) = Sum _{ k=0..[n / 2] } 4 ^ (n - 2 * k) / 2 ^ k * n! / ((n - 2 * k)! * k!). •

[A124325] • 0,0,1,4,17,76,362,1842,9991,57568,351125,2259302,15288000,108478124,805037105,6233693772,50257390937,421049519856,3659097742426,32931956713294,306490813820239,2945638599347760,29198154161188501 ★ Number of blocks of size >1 in all partitions of an n-set. • a(n) = B(n + 1) - B(n) - n * B(n - 1), where B(q) are the Bell numbers (A000110). •

[A104455] • 1,4,17,77,371,1890,10095,56040,320795,1881524,11250827,68330773,420314629,2612922694,16389162537,103587298965,659071002195,4217699773140,27129590096595,175303621195647,1137400502295081,7406899253418414,48396105031873197,317180187174490902,2084542632685363221 ★ Expansion of exp(5x)*(BesselI(0,2x)-BesselI(1,2x)). • a(n) = sum { k=0..n, C(n, k) * C(k) * 3 ^ (n - k) } . • a(n) = 3 ^ n + Sum _{ k=0..n - 1 } a(k) * a(n - 1 - k), a(0)=1. - _ Philippe Deléham _ , Dec 12 2009 • a(n) = upper left term of M ^ n, M = an infinite square production matrix as follows: •

[A123952] • 1,4,17,77,371,1891,10123,56503,326699,1945799,11879987,74039167,469266331,3014973511,19581735203,128267231663,845770626539,5605309590679,37293554232307,248855791875007,1664285028373691,11148949376158631,74779855705724483 ★ Sum of first row of the 5 X 5 matrix M^n, where M={5,-1,0,0,0},{-1,5,-1,0,0},{0, -1,5,-1,0},{0,0,-1,5,-1},{0,0,0,-1,5}. • a(n) = 25 * a(n - 1) - 246 * a(n - 2) + 1190 * a(n - 3) - 2828 * a(n - 4) + 2640 * a(n - 5) (follows from the minimal polynomial of M). • a(n) = (2 * 5 ^ n + (5 - sqrt(3)) ^ n * (2 + sqrt(3)) - (- 2 + sqrt(3)) * (5 + sqrt(3)) ^ n) / 6. • a(n) = 15 * a(n - 1) - 72 * a(n - 2) + 110 * a(n - 3) for n>2. •

[A005494] • 1,4,17,77,372,1915,10481,60814,372939,2409837,16360786,116393205,865549453,6713065156,54190360453,454442481041,3952241526188,35590085232519,331362825860749,3185554606447814,31585598272055879,322516283206446897 ★ 3-Bell numbers: E.g.f.: exp(3*z + exp(z) - 1). • a(n) = exp(- 1) * Sum _{ k>=0 } ((k + 3) ^ n) / k!. - _ Gerald McGarvey _ , Jun 03 2004. May be rewritten as a(n) = Sum _{ k>=3 } (k ^ n * (k - 1) * (k - 2) / k!) / exp(1), which is a Dobinski - type relation for this sequence. - _ Karol A. Penson _ , Aug 18 2006 •

[A257072] • 1,4,17,77,374,1959,11085,67500,438485,3004985,21485222,158744467,1202966761,9297312916,72981656937,580105886517,4658713796790,37736326098735,307913254091925,2528335636842300,20875157745756429 ★ Number of 3-colored Schroeder paths of semilength n in which there are no (2,0)-steps at level 1. • a(n) = (3 ^ n + Sum _{ m=1..n } (m * Sum _{ j=0..n - m } (((Sum _{ k=0..j } (binomial(j + m,k) * binomial(j - 1,j - k) * 4 ^ (j - k))) * 3 ^ (n - j - m) * binomial(n - j,m)) / (j + m)))). - _ Vladimir Kruchinin _ , Mar 13 2016 • a(n) = 8 * y(n). •

[A053486] • 1,4,17,78,393,2208,13977,100026,806769,7280604,72865089,801693126,9620848953,125072630712,1751021612937,26265338542962,420245459734113,7144172944620084,128595113390582001,2443307155583319486,48866143115153174121 ★ E.g.f.: exp(3x)/(1-x). • a(n) = Sum[(n! / k!) * 3 ^ k { k=0...n }]. - _ Ross La Haye _ , Sep 21 2004 • a(n) = sum { k=0..n, k! * C(n, k)3 ^ (n - k) } . - _ Paul Barry _ , Apr 22 2005 • a(n) = n * a(n - 1) + 3 ^ n with a(0) = 1. • a(n) = n! * e ^ 3 - sum { k >= 0 } 3 ^ (n + k + 1) / ((n + 1) * ... * (n + k + 1)) • a(n) = exp(3) * Gamma(1 + n,3). - _ Peter Luschny _ , Dec 18 2017 •

[A218134] • 1,4,17,80,369,1700,7841,36160,166753,768996,3546289,16354000,75417809,347795396,1603886913,7396455680,34109360321,157298104900,725393076049,3345209499600,15426707209777,71141522037604,328074947492321,1512944453384000,6977067089461281 ★ Norm of coefficients in the expansion of 1/(1 - 2*x - I*x^2), where I^2=-1. • a(n) = 1 / (2 * sqrt(2)) * (T(n,1 + sqrt(2)) - T(n,1 - sqrt(2))), where T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 1; 1, 2]. Note, the bottom left element of the matrix M ^ n gives the Lucas sequence A000129. • a(n) = U(n - 1,exp(2 * i * Pi / 8)) * U(n - 1,exp(- 2 * i * Pi / 8)) = U(n - 1,(1 + i) / sqrt(2)) * U(n - 1,(1 - i) / sqrt(2)), where U(n,x) denotes the Chebyshev polynomial of the second kind. •

[A089165] • 1,4,17,80,401,2084,11073,59712,325441,1788004,9885457,54932

176,306528145,1716461764,9640310017,54282691840,306337928449,1732172652868,9811489710737,55660919625680,316204733423121,1798580947651044 ★ Partial sums of the central Delannoy numbers (A001850). ● a(n) = sum(0<=j<=n, 0<=j<=2n, C(i, j) * C(j, i - j)). - _ Benoit Cloitre _ , Oct 23 2004 ●

[A093344] ● 0,1,4,17,84,485,3236,24609,210572,2004749,21033900,241237001,3003349124,40345599957,581765196884,8963453118065,146969877361116,2555361954692189,46963373856864092,909707559383702169,18524816853636447380,395634467245613474981 ★ a(n) = n! * Sum_{i=1..n} (1/i)*Sum_{j=0..i-1} 1/j!. ● a(n) = integral(exp(1 - x) * (x ^ n * log(x) - n! / x),x=1..infinity). - Roland Groux, Mar 12 2011 ● a(n) = n! e Sum _{ k=1..n } Gamma(k,1) / k!. - _ Robert Israel _ , Oct 28 2015 ●

[A104979] ● 1,1,4,17,85,459,2614,15454,93947,583568,3687761,23633072,153227250,1003281314,6624658716,44062205158,294938814921,1985330061570,13430612284606,91262392343333,622624395706714,4263163419492661 ★ Semidiagonal sums of triangle A104978: a(n) = Sum_{k=0..[n/2]} A104978(n-k,n-2*k). ● a(n) = Sum _{ k=0..[n / 2] } C(3 * n - 4 * k, 3 * n - 5 * k) * C(3 * n - 5 * k, n - 2 * k) / (2 * n - 3 * k + 1)). ●

[A163071] ● 4,17,86,448,2344,12272,64256,336448,1761664,9224192,48298496,252894208,1324171264,6933450752,36304019456,190090313728,995325804544,5211593572352,27288258215936,142883175006208,748146017173504 ★ a(n) = ((4+sqrt(5))*(3+sqrt(5))^n + (4-sqrt(5))*(3-sqrt(5))^n)/2. ● a(n) = 6 * a(n - 1) - 4 * a(n - 2) for n > 1; a(0) = 4, a(1) = 17. ●

[A056542] ● 0,1,4,17,86,517,3620,28961,260650,2606501,28671512,344058145,4472755886,62618582405,939278736076,15028459777217,255483816212690,4598708691828421,87375465144740000,1747509302894800001 ★ a(n) = n*a(n-1) + 1, a(1) = 0. ● a(n) = floor((e - 2) * n!). ● a(n) = (n - 1) * (a(n - 1) + a(n - 2)) + 2,n>2. - _ Gary Detlefs _ , Jun 22 2010 ●

[A110508] ● 1,1,4,17,87,490,2945,18517,120340,802005,5451651,37652546,263480357,1864065017,13311094644,95816113129,694511157535,5064818563258,37135165923801,273581694291309,2024194855052180,15034769479254861 ★ Expansion of 1/(1-(x+x^2)c(2x)), c(x) the g.f. of A000108. ● a(0)=1; for n>0, a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ j=0..(n - k) } j * C(2n - 2k - j - 1, n - k - j) * C(j, k) * 2 ^ (n - k - j) / (n - k). ●

[A135168] ● 4,17,87,503,3123,20207,134067,903983,6162243,42326927,292300947,2026334063,14085963363,98111316047,684331387827,4778093469743,33385561572483,233393582711567,1632228682858707,11417969834487023,79887637217085603,559022711703937487 ★ a(n) = 7^n + 5^n + 3^n + 2^n. ● a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4). ●

[A058279] ● 1,1,4,17,89,551,3946,32119,293017,2962289,32878196,397500641,5200386529,73202912047,1103244067234,17725107987791,302430079859681,5461466545462049,104070294443638612,2086867355418234289,43928284758226558681,968509132036402525271 ★ a(0)=a(1)=1, a(n)=a(n-2)+(n+1)*a(n-1). ● a(n) is asymptotic to c * n! with c=0.9007... - _ Benoit Cloitre _ , Sep 03 2002 ●

[A143405] ● 1,1,4,17,89,552,3895,30641,265186,2497551,25373097,276105106,3199697517,39297401197,509370849148,6943232742493,99217486649933,1482237515573624,23093484367004715,374416757914118941,6304680593346141746,110063311977033807187 ★ Number of forests of labeled rooted trees of height at most 1, with n labels, where any root may contain >= 1 labels, also row sums of A143395, A143396 and A143397. ● a(n) = Sum _{ k=0..n } Sum _{ t=k..n } C(n,t) * stirling2(t,k) * k ^ (n - t). ● a(n) = Sum _{ k=0..n } Sum _{ t=0..k } C(n,k) * stirling2(k,t) * t ^ (n - k). ● a(n) = Sum _{ k=0..n } Sum _{ t=0..k } C(n,k - t) * stirling2(n - (k - t),t) * t ^ (k - t). ● a(n) = sum(binomial(n,k) * 2 ^ k * bell(k) * S(n - k, - 1),k=0..n), where bell(n) are the Bell numbers (A000110) and S(n,x) = sum(stirling2(n,k) * x ^ k,k=0..n) are the Stirling (or exponential) polynomials. - _ Emanuele Munarini _ , Sep 15 2016 ●

[A024052] ● 1,4,17,98,561,3000,15409,77782,390113,1952396,9764625,48826794,244138897,1220700928,6103512881,30517574750,152587886529,762939448212,3814697259793,19073486321266,95367431632625 ★ 5^n - n^3. ● a(n) = + 9 * a(n - 1) - 26 * a(n - 2) + 34 * a(n - 3) - 21 * a(n - 4) + 5 * a(n - 5) ●

[A041701] ● 1,4,17,650,2617,11118,425101,1711522,7271189,278016704,1119338005,4755368724,181823349517,732048766792,3110018416685,1189127486008022,4787610128199973,20339567998807 14,77769119408287105,313110434433029134,1330210857140403641 ★ Denominators of continued fraction convergents to sqrt(370). ● a(n) = 654 * a(n - 3) + a(n - 6) for n>5. - _ Vincenzo Librandi _ , Dec 23 2013 ●

[A022384] ● 4,18,22,40,62,102,164,266,430,696,1126,1822,2948,4770,7718,12488,20206,32694,52900,85594,138494,224088,362582,586670,949252 ★ Fibonacci sequence beginning 4, 18. ● a(0)=4, a(1)=18, a(n) = a(n - 1) + a(n - 2). - _ Harvey P. Dale _ , Sep 04 2011 ● a(n) = 4 * Fibonacci(n + 2) + 10 * Fibonacci(n) = 4 * Fibonacci(n + 2) + 18 * Fibonacci(n). - _ G. C. Greubel _ , Mar 02 2018 ●

[A130656] ● 1,4,18,32,75,108,196,256,405,500,726,864,1183,1372,1800,2048,2601,2916,3610,4000,4851,5324,6348,6912,8125 ★ Interlacing n^3/2 and n^2(n + 1)/2. ● a(n) = n ^ 2 * floor((n + 1) / 2). ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7), a(1)=1, a(2)=4, a(3)=18, a(4)=32, a(5)=75, a(6)=108, a(7)=196. - _ Harvey P. Dale _ , Feb 18 2015 ●

[A187297] ● 0,4,18,40,70,108,154,208,270,340,418,504,598,700,810,928,1054,1188,1330,1480,1638,1804,1978,2160,2350 ★ Number of 2-step one space leftwards or up, two space rightwards or down asymmetric rook's tours on an n X n board summed over all starting positions ● a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + 1 * a(n - 3). ●

[A213492] ● 0,4,18,48,98,178,290,442,640,890,1196,1568,2008,2524,3122,3808,4586,5466,6450,7546,8760,10098,11564,13168,14912 ★ Number of (w,x,y) with all terms in {0,...,n} and w != min(|w-x|,|x-y|,|y-w|). ● a(n) = 2 * a(n - 1) - a(n - 3) - a(n - 4) + 2 * a(n - 6) - a(n - 7). ●

[A045991] ● 0,0,4,18,48,100,180,294,448,648,900,1210,1584,2028,2548,3150,3840,4624,5508,6498,7600,8820,10164,11638,13248 ★ a(n) = n^3 - n^2. ● a(n) = floor(n ^ 5 / (n ^ 2 + n + 1)). - _ Gary Detlefs _ , Feb 10 2010 ● a(n) = 4 * binomial(n,2) + 6 * binomial(n,3). - _ Gary Detlefs _ , Mar 25 2012 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ● a(n) = Sum _{ k=0..n - 1 } Sum _{ i=n - k - 1..n + k - 1 } i. (End) ●

[A114364] ● 4,18,48,100,180,294,448,648,900,1210,1584,2028,2548,3150,3840,4624,5508,6498,7600,8820,10164,11638,13248,15000,16900 ★ k such that kx^3+x+1 is not prime. ● a(n)=sum(sum(n, j=2..n),k=1..n): seq(a(n), n>=2. - _ Zerinvary Lajos _ , May 11 2007 ●

[A259451] ● 0,1,4,18,48,125,288,637,1344,2754,5500,10769,20736,39377,73892,137250,252672,461533,837216,1509341,2706000,4827186,8572124,15159553,26707968 ★ a(n) = n^2*Fibonacci(n). ● a(n) = 3 * a(n - 1) - 5 * a(n - 3) + 3 * a(n - 5) + a(n - 6). - _ Colin Barker _ , Jun 29 2015 ●

[A027271] ● 1,4,18,48,180,432,1512,3456,11664,25920,85536,186624,606528,1306368,4199040,8957952,28553472,60466176,191476224,403107840,1269789696,2660511744,8344332288,17414258688,54419558400 ★ a(n) = Sum_{k=0..2n} (k+1)*T(n,k), where T is given by A026536. ● a(n) = 4 * b(n) + b(n + 1) + 6 * b(n - 1) with b(n)= 0,1,0,12,0,108,0,864,... (aerated A053469). - _ R. J. Mathar _ , Sep 29 2012 ●

[A073991] ● 0,4,18,48,180,1080,7056,44928,286416,1762560,10349856,60217344,356638464,2145709440,12976433280,78399995904,472093588224,2832561529344,16960580969472,101554796888064,608733733690368,3652526115938304,21926115464435712,131620960833896448 ★ Number of strings of length n over Z_6 with trace 3 and subtrace 2. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A027659] ● 4,18,52,121,246,455,784,1278,1992,2992,4356,6175,8554,11613,15488,20332,26316,33630,42484,53109,65758,80707,98256,118730,142480 ★ Binomial(n+2,2)+binomial(n+3,3)+binomial(n+4,4)+binomial(n+5,5). ● a(0)=4, a(1)=18, a(2)=52, a(3)=121, a(4)=246, a(5)=455, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Aug 18 2012 ●

[A059133] ● 4,18,52,126,280,594,1228,2502,5056,10170,20404,40878,81832,163746,327580 ★ A hierarchical sequence (S(W2{2}c) - see A059126). ● a(n) = 4 * (- 4 + 5 * 2 ^ n) - 6 * n. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. ●

[A212250] ● 0,0,4,18,54,129,262,478,807,1281,1938,2821,3975,5451,7305,9595,12385,15744,19743,24459,29974,36372,43743,52182,61786 ★ Number of (w,x,y,z) with all terms in {1,...,n} and 3w>=x+y+z+n. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) - 4 * a(n - 6) + a(n - 7). ● a(n) = (13 * n ^ 4 + 10 * n ^ 3 - 5 * n ^ 2 + 6 * n + 8 * b) / 72, where b = 0, - 3, 1,0, - 3,1,... (repeated). [_ Bruno Berselli _ , Jun 05 2012] ●

[A212680] ● 0,0,4,18,56,120,228,378,592,864,1220,1650,2184,2808,3556,4410,5408,6528,7812,9234,10840,12600,14564,16698,19056 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |x-y|=|y-z|+1. ● a(n)=2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). ●

[A212521] ● 0,0,4,18,60,138,297,528,912,1440,2200,3180,4536,6174,8330,10920,14144,17928,22599,27900,34300,41580,50094,59664,70848 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w>=2x and y<=3z. ● a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). ●

[A073373] ● 1,4,18,60,195,576,1644,4488,11925,30860,78278,195012,478599,1159080,2774880,6575280,15439065,35955540,83118970,190862860,435601611,988620624,2232236628,5016441240,11224087965 ★ Third convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. ● a(n) = sum(binomial(n - k + 3, 3) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). ●

[A212766] ● 0,4,18,64,150,324,588,1024,1620,2500,3630,5184,7098,9604,12600,16384,20808,26244,32490,40000,48510,58564,69828,82944,97500 ★ Number of (w,x,y,z) with all terms in {0,...,n}, w even and x odd. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). ● a(n) = (2n(n + 2) - (- 1) ^ n + 1)(n + 1) ^ 2 / 8. [_ Bruno Berselli _ , Jun 11 2012] ●

[A100177] ● 1,4,18,64,175,396,784,1408,2349,3700,5566,8064,11323,15484,20700,27136,34969,44388,55594,68800,84231,102124,122728,146304,173125 ★ Structured meta-prism numbers, the n-th number from a structured n-gonal prism number sequence. ● a(n)=(1 / 6) * (3 * n ^ 4 - 9 * n ^ 3 + 12 * n ^ 2). ●

[A005367] ● 4,18,70,270,1054,4158,16510,65790,262654,1049598,4196350,16781310,67117054,268451838,1073774590,4295032830,17180000254,68719738878,274878431230,1099512676350,4398048608254,17592190238718 ★ a(n) = 2*(2^n + 1)*(2^(n+1) - 1). ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). (End) ●

[A159715] ● 4,18,72,270,972,3402,11664,39366,131220,433026,1417176,4605822,14880348,47829690,153055008,487862838,1549681956,4907326194,15496819560,48814981614,153418513644,481176247338,1506290861232,4707158941350 ★ Number of permutations of 2 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. ● a(n)=(copies * n) * (copies + 1) ^ (n - 2) ●

[A290919] ● 4,18,72,271,976,3398,11516,38179,124272,398248,1259240,3935420,12173440,37314700,113452128,342426657,1026711724,3059968146,9069834488,26748151221,78518859336,229505772002,668173273988,1938126895864,56025

02738380 ⋆ p-INVERT of the positive integers, where p(S) = (1 - S)^4. • a(n) = 12 * a(n - 1) - 58 * a(n - 2) + 144 * a(n - 3) - 195 * a(n - 4) + 144 * a(n - 5) - 58 * a(n - 6) + 12 * a(n - 7) - a(n - 8). •

[A117615] • 0,1,4,18,72,290,1160,4642,18568,74274,297096,1188386,4753544,19014178,76056712,304226850,1216907400,4867629602,19470518408,77882073634,311528294536,1246113178146,4984452712584,19937810850338,7975124340 1352 ⋆ a(0)=0, a(1)=1, a(n)=4a(n-1)+2 for n =3,5,7,..., a(n)=4a(n-1) for n =2,4,6,.... • a(n) = 3 * a(n - 1) + 4 * a(n - 2) + 2,n>=3. - _ R. J. Mathar _ , Nov 07 2015 •

[A037497] • 1,4,18,73,292,1170,4681,18724,74898,299593,1198372,4793490,19173961,76695844,306783378,1227133513,4908534052,19634136210,7853654484 1,314146179364,1256584717458,5026338869833,20105355479332,804214219173 30 ⋆ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,2. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). _ Vincenzo Librandi _ , Jun 22 2012 •

[A266753] • 1,4,18,74,298,1194,4778,19114,76458,305834,1223338,4893354,19573418,78293674,313174698,1252698794,5010795178,20043180714,8017272285 8,320690891434,1282763565738,5131054262954,20524217051818,820968682072 74,328387472829098 ⋆ Decimal representation of the n-th iteration of the "Rule 163" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>2. • a(n) = (7 * 4 ^ n - 4) / 6 for n>1. - _ Colin Barker _ , Nov 25 2016 • a(n) = 4 * a(n - 1) + 2, n>1. - _ Yosu Yurramendi _ , Jan 22 2017 •

[A180140] • 1,4,18,74,312,1306,5478,22964,96282,403666,1692408,7095554,29748702,124723876,522915138,2192364794,9191670072,38536834186,16156885 2918,677390729684,2840016453642,11907003009346,49921091296248 ⋆ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1+x+x^2)/(1-3*x-5*x^2). • a(n) = 3 * a(n - 1) + 5 * a(n - 2) for n>=3 with a(0)=1, a(1)=4 and a(2)=18. • a(n) = ((22 + 54 * A) * A ^ (- n - 1) + (22 + 54 * B) * B ^ (- n - 1)) / 145 with A=(- 3 + sqrt(29)) / 10 and B=(- 3 - sqrt(29)) / 10 for n >=1 with a(0)=1. •

[A066259] • 1,4,18,75,320,1352,5733,24276,102850,435655,1845504,7817616,33116057,140281700,594243090,2517253683,10663258432,45170286424,19134440 5725,810547906740,3433536036866,14544692047439,61612304237568 ⋆ a(n) = Fibonacci(n)*Fibonacci(n+1)^2. • a(n) = (1 / 5) { F(3n + 2) - (- 1) ^ nF(n - 1) } . - _ Ralf Stephan _ , Jul 26 2005 •

[A084213] • 1,4,18,76,312,1264,5088,20416,81792,327424,1310208,5241856,20969472,83881984,335536128,1342160896,5368676352,21474770944,8589921484 8,343597121536,1374389010432,5497557090304,21990230458368,879609260277 76 ⋆ Binomial transform of A081250. • a(n) = 5 * 4 ^ n / 4 - 2 ^ n / 2 + 0 ^ n / 4; G.f.: (1 - 2x + 2x ^ 2) / ((1 - 2x)(1 - 4x)); E.g.f.: (5exp(4x) - 2exp(2x) + exp(0)) / 4. • a(n + 1) = 2 ^ n(5 * 2 ^ n - 1) for all n >= 0. - _ M. F. Hasler _ , Nov 03 2012 •

[A291417] • 4,18,76,322,1360,5744,24256,102428,432528,1826456,7712656,32568568,137528704,580748416,2452351488,10355650832,43729255232,1846574198 08,779760883392,3292730050592,13904353779456,58714516845824,2479363329 73056,1046971490364864 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 4 S + 2 S^2. • a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) - 2 * a(n - 4) for n >= 5. •

[A017958] • 1,4,18,76,324,1374,5832,24743,104976,445375,1889568,8016758,34012224,144301645,612220032,2597429617,11019960576,46753733110,198359 290368,841567195983,3570467226624,15148209527700 ⋆ Powers of sqrt(18) rounded down. • a(n) = floor(sqrt(18 ^ n)). - _ Vincenzo Librandi _ , Jun 24 2011 •

[A100069] • 1,4,18,76,326,1384,5892,25036,106438,452344,1922588,8170936,34726940,147589264,627256088,2665837516,11329815878,48151714264,20464480 9932,869740430056,3696396920116,15709686864304,66766169526008,28375622 0309176,1205963937666076 ⋆ Sum(k=0..floor(n/2) binomial(n,k)*4^(n-2*k)). • a(n)=sum { k=0..floor(n / 2), binomial(n, k)4 ^ (n - 2k) } ; a(n)=sum { k= 0..n, binomial(n, (n - k) / 2)(1 + (- 1) ^ (n - k)4 ^ k / 2 } . •

[A177755] • 0,4,18,80,200,468,882,1600,2592,4100,6050,8784,12168,16660,22050,28928,36992,46980,58482,72400,88200,106964,128018,152640,180000 ⋆ Number of ways to place 2 nonattacking bishops on an n X n toroidal board. • a(1)=0, a(2)=4, a(3)=18, a(4)=80, a(5)=200, a(6)=468, a(7)=882, a(8)=1600, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , Mar 06 2013 •

[A037965] • 0,1,4,18,80,350,1512,6468,27456,115830,486200,2032316,8465184,35154028,145608400,601749000,2481880320,10218366630,42004911960,17242 7570700,706905276000,2894777105220,11841673237680 ⋆ a(n) = n*binomial(2*n-2, n-1). • a(n + 1) = Sum _{ k=0..n } C(2k,k) * (4 ^ (n - k) + 0 ^ (n - k)) / 2. (End) •

[A045902] • 1,4,18,80,355,1580,7066,31772,143645,652860,2981910,13682328,63046776,291646860,1353967250,6306552800,29464361530,138045441260,64 8449195350,3053348997200,14409512770575,68143962854836,32288653720506 2,1532716400556220,7288075248828605 ⋆ Catafusenes (see reference for precise definition). • a(n)=(4 / n) * sum(binomial(n, j) * binomial(2j + 3, j - 1), j=1..n) for n>=1. - _ Emeric Deutsch _ , Mar 25 2004 •

[A090017] • 0,1,4,18,80,356,1584,7048,31360,139536,620864,2762528,12291840,54692416,243353344,1082798208,4817899520,21437194496,95384577024,4244 12697088,1888419942400,8402505163776,37386860539904,166352452487168 ⋆ a(n) = 4*a(n-1) + 2*a(n-2) for n>1, a(0)=0, a(1)=1. • a(n) = (- i * sqrt(2)) ^ (n - 1) U(n - 1, i * sqrt(2)) where U is the Chebyshev polynomial of the second kind and i ^ 2 = - 1. • a(n) = ((2 + sqrt(6)) ^ n - (2 - sqrt(6)) ^ n) / (2 sqrt(6)). - Al Hakanson (hawkuu(AT)gmail.com), Jan 05 2009, Jan 07 2009 •

[A100192] • 1,4,18,82,374,1704,7752,35214,159750,723880,3276908,14821668,66991436,302605528,1366182276,6165204102,27811282374,125415953208,565408947756,2548400193852,11483706241044,51739037228688,233070330199296 ⋆ a(n) = Sum_{k=0..n} binomial(2n,n+k)*2^k. • a(n) = sum { k=0..n, binomial(2n, n - k)2 ^ k } . • a(n) = sum { k=0..n, C(2n,k) * 2 ^ (n - k) } ; - _ Paul Barry _ , Jan 11 2007 • a(n) = sum { k=0..n, C(n + k - 1,k)3 ^ (n - k) } ; - _ Paul Barry _ , Sep 28 2007 • a(n) = [x ^ n] 1 / ((1 - x) ^ n * (1 - 3 * x)) . - _ Ilya Gutkovskiy _ , Oct 12 2017 •

[A052913] • 1,4,18,82,374,1706,7782,35498,161926,738634,3369318,15369322,70107974,319801226,1458790182,6654348458,30354161926,138462112714,631602239718,2881086973162,13142230386374,59948977985546,273460429154982,1247404189803818,5690100090709126 ⋆ a(0) = 1, a(1) = 4; a(n+2) = 5*a(n+1) - 2*a(n). • a(n) = Sum((1 / 17) * (3 +_ alpha) *_ alpha ^ (- 1 - n), _ alpha=RootOf(1 - 5 *_ Z + 2 *_ Z ^ 2)). • a(n) = ((17 + 3 * sqrt(17)) / 34) * ((5 + sqrt(17)) / 2) ^ n + ((17 - 3 * sqrt(17)) / 34) * ((5 - sqrt(17)) / 2) ^ n. - _ N. J. A. Sloane _ , Jun 03 2002 •

[A279285] • 0,1,4,18,82,377,1740,8045,37226,172314,797744,3693493,17101128,79180525,366618808,1697509962,7859781454,36392245541,168502887396,780199897985,3612471696230,16726421117538,77446465948772,358591660029577,1660346632032144 ⋆ A self-composition of the Pell numbers: A(x) = G(G(x)), where G(x) = g.f. of A000129. • a(n) = 6 * a(n - 1) - 5 * a(n - 2) - 6 * a(n - 3) - a(n - 4). •

[A187077] • 1,4,18,83,385,1788,8305,38575,179170,832189,3865253,17952864,83385309,387298083,1798875698,8355202169,38807241321,180247221864,837190686169,3888482927823,18060759310562,83886449530197,389625723579965 ⋆ Number of row-convex polyplets with n cells. • a(n) = 7a(n - 1) - 13a(n - 2) + 10a(n - 3) - 2a(n - 4) for n > 4. •

[A218986] • 4,18,83,385,1788,8306,38587,179265,832820,3869074,17974755,83506241,387949228,1802315634,8373110219,38899387777,180716881764,839565690386,3900413406835,18120350698497,84182643014492,391091624153458,1816914425657307,8440932575089601 ⋆ Power floor sequence of 2+sqrt(7). • a(n) = [x * a(n - 1)], where x=2 + sqrt(7), a(0) = [x]. • a(n) = 5 * a(n - 1) - a(n - 2) - 3 * a(n - 3). • a(n) = (14 + (161 - 61 * sqrt(7)) * (2 - sqrt(7)) ^ n + (2 + sqrt(7)) ^ n * (161 + 61 * sqrt(7))) / 84. - _ Colin Barker _ , Sep 02 2016 •

[A290916] • 0,1,4,18,84,387,1784,8228,37944,174981,806940,3721270,1716094 0,79139079,364956336,1683025992,7761412016,35792386313,165059516916,76 1185462362,3510269016516,16187892672139,74651791054120,344262840164460,1587596244438120 ⋆ a(n) = (1/8)*A290915(n). • a(n) = 4 * a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A126020] • 1,4,18,84,394,1836,8468,38632,174426,780156,3460156,15232344,66613828,289609144,1252537704,5391904208,23114020090,98712408732,420134237996,1782630641656,7542431851692,31830492787880,134013965210008,563006802201264,2360517093477284 ⋆ Number of convex permutominoes of size n. • a(n) = 2 * (n + 3) * 4 ^ (n - 2) - n / 2 * binomial(2 * n,n). •

[A086405] • 1,4,18,84,396,1872,8856,41904,198288,938304,4440096,21010752,99423936,470479104,2226331008,10535111424,49852682496,235905426432,1116316463616,5282466223104,24996898556928,118286594002944 ⋆ Row T(n,3) of number array A086404. • a(n)=sum { k=1..floor(n / 2), C(n, 2k)3 ^ (n - k - 1) } - _ Paul Barry _ , Nov 22 2003 • a(n) = (((1 + sqrt(3)) * (3 + sqrt(3)) ^ n) - ((1 - sqrt(3)) * (3 - sqrt(3)) ^ n)) / sqrt(12). [From Al Hakanson (hawkuu(AT)gmail.com), Jun 10 2009] • a(n) = 6 * (a(n - 1) - a(n - 2)), a(0)=1, a(1)=4. - David Nacin, Feb 27 2012 •

[A293490] • 1,4,18,84,400,1932,9436,46512,231066,1155660,5813808,29396952,149305884,761282032,3894953640,19987999696,102847396416,530446714812,2741576339716,14196136939600,73631851898220,382483602131400,1989514312826400,10361255764532400,54020655931542300 ⋆ a(n) = Sum_{k=0..n} binomial(2*k, k)*binomial(2*n-k, n). • a(n) = [x ^ n] 1 / (sqrt(1 - 4 * x) * (1 - x) ^ (n + 1)). • a(n) = [x ^ n] 1 / ((1 - x) ^ (n + 1) * (1 - 2 * x / (1 - x / (1 - x / (1 - x / (1 - ...)))))), a continued fraction. • a(n) = 4 ^ n * Gamma(n + 1 / 2) * 2F1(- n,n + 1; 1 / 2 - n; 1 / 4) / (sqrt(Pi) * Gamma(n + 1)). •

[A010849] • 1,4,18,84,403,1976,9860,49912,255701,1323292,6907830,36331500,192339687,1024140336,5481165832,29469454640,159094662121,8620871359 88,4687164401114,25562520325828,139803777476859,766578879858024 ⋆ Let S(x,y) = number of lattice paths from (0,0) to (x,y) that use the step set {(0,1), (1,0), (2,0), (3,0), ...} and never pass below y = x. Sequence gives S(n-3,n). • a(n) = (4 / n) * sum(binomial(n, k) * binomial(n + k + 3, k - 1), k=1..n) = 4 * hypergeom([1 - n, n + 5], [2], - 1), n>=1, a(0)=1. •

[A085923] • 1,1,4,18,84,440,2670,18732,149912,1349280,13492890,148421900,1781062932,23153818272,324153455990,4862301840060,77796829441200,1322546100506072,23805829809012402,452310766371235980,9046215327424719980,189970521875919120000,4179351481270220640462 ⋆ a(0) = 1, a(n+1) = (n+1)*(a(n) + n). • a(n) = n! * (1 + Sum _{ k=0..n - 2 } 1 / k!), for n>1. - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A110166] • 1,4,18,85,410,1999,9807,48304,238570,1180615,5851253,29033074,144190943,716652070,3564079250,17734184365,88280673770,439625873215,2189988826125,10912480440850,54389237971285,271142650382080 ⋆ Row sums of Riordan array A110165. • a(n) = sum { k=0..n, sum { j=0..n, C(n, j) * C(2 * j, j + k) }} . •

[A055834] • 1,1,4,18,85,413,2044,10248,51876,264550,1357070,6994780,36196706,187938842,978599560,5108177816,26721644973,140050505085,735254208670,3865837887450,20353393741065,107290306033845,566194674179160,2990958274811520,15814562990604300 ⋆ T(2n,n), where T is the array in A055830. • a(n) = Sum _{ k=0..n } binomial(n + k - 1,n) * binomial(k,n - k). - _ Max Alekseyev _ , Jun 17 2007 •

[A082685] • 1,4,18,86,422,2094,10438,52126,260502,1302254,6510758,32552766,162761782,813804814,4069015878,20345063006,101725282262,508626345774,2543131597798,12715657726846,63578288109942,317891439501134 ★ (2*5^n + 2^n)/3. • a(n)=sum { k=0..n, sum { j=0..n, C(n, j)C(j + k, 2k)2 ^ (j - k) }} . - _ Paul Barry _ , Nov 16 2005 • a(0)=1, a(1)=4, a(n)=7 * a(n - 1) - 10 * a(n - 2). - _ Harvey P. Dale _ , Apr 09 2014 •

[A111966] • 1,4,18,86,424,2128,10798,55190,283510,1461730,7557166,39153338,203188892,1055863564,5492668906,28598497610,149012237696,776904940576,4052654604042,21149661562298,110415949871240,576636302495488 ★ Expansion of 1/(sqrt(1-6x+5x^2)-x). • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C((k + 2j - 1) / 2,j) * C(j,n - j - k) * (- 6) ^ (k - n + 2 * j) * 5 ^ (n - k - j). •

[A225887] • 1,4,18,86,426,2162,11166,58438,309042,1648154,8851206,47813790,259585002,1415431266,7747200558,42545600310,234346445154,1294260644906,7165245015510,39754745775886,221009855334426,1230909476804594,6867024985408638,38369226561522086 ★ a(n) = A212205(2*n + 1). • a(n) = Sum _{ k=0..n } ((k + 1) * Sum _{ j=0..n + 1 } (binomial(j,n - k - j) * 3 ^ (- n + k + 2 * j) * 2 ^ (n - k - j) * binomial(n + 1,j))) / (n + 1). - _ Vladimir Kruchinin _ , Mar 13 2016 •

[A153294] • 1,1,4,18,86,427,2180,11373,60380,325259,1773842,9776637,54380144,304905223,1721650832,9782051362,55888463214,320898932595,1850762866662,10717217871255,62287285235230,363212668363520,2124430957852380 ★ G.f.: A(x) = F(x*F(x)^2) = F(F(x)-1) where F(x) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan). • a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(2n,n - k) * k / n for n>0 with a(0)=1. •

[A164045] • 1,4,18,87,431,2150,10744,53713,268557,1342776,6713870,33569339,167846683,839233402,4196166996,20980834965,104904174809,524520874028,2622604370122,13113021850591,65565109252935,327825546264654 ★ a(n+1) = 5*a(n) - n. • a(0)=1; a(n + 1) = 5 * a(n) - n. • a(n) = (11 * 5 ^ n + 4 * n + 5) / 16. • a(n) = 7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3). •

[A178577] • 0,1,4,18,87,434,2170,10851,54254,271268,1356337,6781684,33908420,169542101,847710504,4238552518,21192762587,105963812934,529819064670,2649095323351,13245476616754,66227383083768,331136915418837 ★ Partial sums of round(5^n/9). • a(n)=round((5 * 5 ^ n + 9) / 36). • a(n)=floor((5 * 5 ^ n + 23) / 36). • a(n)=ceil((5 * 5 ^ n - 5) / 36). • a(n)=a(n - 6) + 434 * 5 ^ (n - 5), n>5. • a(n)=6 * a(n - 1) - 5 * a(n - 2) - a(n - 3) + 6 * a(n - 4) - 5 * a(n - 5) , n>4. •

[A199309] • 4,18,88,438,2188,10938,54688,273438,1367188,6835938,34179688,170898438,854492188,4272460938,21362304688,106811523438,534057617188,2670288085938,13351440429688,66757202148438,333786010742188,1668930053710938 ★ (7*5^n+1)/2. • a(n) = 5 * a(n - 1) - 2. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A083325] • 1,4,18,88,450,2344,12258,63928,331650,1710664,8776098,44810968,227894850,1155188584,5839863138,29458185208,148335970050,745888724104,3746365209378,18799770682648,94271406797250,472449572045224 ★ 5^n - 4^n + 3^n. • a(n) = 5 ^ n - 4 ^ n + 3 ^ n. •

[A050146] • 1,1,4,18,88,450,2364,12642,68464,374274,2060980,11414898,63521352,354870594,1989102444,11180805570,63001648608,355761664002,2012724468324,11406058224594,64734486343480,367891005738690,2093292414443164,11923933134635298,67990160422313808 ★ a(n) = T(n,n), array T as in A050143. • a(n + 1) = Jacobi _ P(n, 1, - 1, 3); a(n + 1)=sum { k=0..n, C(n + 1, k)C(n - 1, n - k)2 ^ k } ; - _ Paul Barry _ , Jan 23 2006 • a(n) = n * hypergeometric([1 - n, n], [2], - 1) for n>=1. - _ Peter Luschny _ , Sep 17 2014 •

[A083879] • 1,4,18,88,452,2384,12744,68576,370192,2001472,10829088,58612096,317289536,1717746944,9299922048,50350919168,272608444672,1475954689024,7991119286784,43265588647936,234249039168512,1268274072276992 ★ a(0)=1, a(1)=4, a(n) = 8a(n-1) - 14a(n-2), n>=2. • a(n) = 2 ^ ((n - 2) / 2)(2sqrt(2) - 1) ^ n + 2 ^ ((n - 2) / 2)(2sqrt(2) + 1) ^ n; • a(n) = Sum { k=0..n; C(n, 2k)5 ^ (n - 2k)2 ^ k } ; •

[A081671] • 1,4,18,88,454,2424,13236,73392,411462,2325976,13233628,75682512,434662684,2505229744,14482673832,83940771168,487610895942,2838118247064,16547996212044,96635257790352,565107853947444,3308820294176016,19395905063796312,113814537122646432 ★ E.g.f. exp(4x) * I_0(2x). • a(n) = sum { m=0..n, sum { k=0..m, C(n, m)C(m, k)C(2k, k) }} . • a(n) = sum { k=0..n, 2 ^ (n - k) * C(n, k)C(2k, k) } . - _ Paul Barry _ , Jan 27 2005 • a(n) = 2 ^ n * hypergeom([- n,1 / 2], [1], - 2). - _ Peter Luschny _ , Apr 26 2016 • a(n) = GegenbauerC(n, - n, - 2). - _ Peter Luschny _ , May 09 2016 •

[A006629] • 1,4,18,88,455,2448,13566,76912,444015,2601300,15426840,92431584,558685348,3402497504,20858916870,128618832864,797168807855,4963511449260,31032552351570,194743066471800,1226232861415695 ★ Self-convolution 4th power of A001764, which enumerates ternary trees. • a(n) = 2 * binomial(3 * n + 3,n) / (n + 2). - _ Emeric Deutsch _ •

[A068764] • 1,1,4,18,88,456,2464,13736,78432,456416,2697088,16141120,97632000,595912960,3665728512,22703097472,141448381952,885934151168,5575020435456,35230798994432,223485795258368,1422572226146304,9083682419818496,58169612565614592,373486362257899520 ★ Generalized Catalan numbers. • a(n + 1) = 2 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0) = 1 = a(1). • a(n) = (2 ^ n) * p(n, - 1 / 2) with the row polynomials p(n, x) defined from array A068763. • a(n) = subs(t=1,(d ^ (n - 1) / dt ^ (n - 1))(- 1 + 2 * t ^ 2) ^ n) / n!, n >= 2, due to the Lagrange series for the given implicit o.g.f. equation. This formula holds also for n=1 if no differentiation is used. - _ Wolfdieter Lang _ , Nov 13 2007, Feb 22 2008 • a(n) = sum(binomial(n - 1,k - 1) * 1 / k * sum(binomial(k,j) * binomial(k + j,j - 1),j,1,k),k,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 11 2010 • a(n) = 4 ^ (n - 1) * hypergeom([(1 - n) / 2,1 - n / 2], [2], 1 / 2) + 0 ^ n / sqrt(2). - _ Vladimir Reshetnikov _ , Nov 07 2015 •

[A046984] • 1,4,18,88,468,2672,16072,100064,636368,4097984,26579488,173093760,1129796928,7383588608,48287978624,315921649152,2067346607360,13530037877760,88555066819072,579620448450560,3793872862974976 ★ Number of ways to tile a 4 X 3n rectangle with right trominoes. • a(0)=1, a(1)=4, a(2)=18, a(n)=10 * a(n - 1) - 22 * a(n - 2) - 4 * a(n - 3). - _ Harvey P. Dale _ , Mar 31 2012 •

[A011270] • 1,1,4,18,90,481,2690,15547,92124,556664,3417062,21248966,133576724,847465593,5419399722,34895368578,226050057378,1472170887755,9633297762870,63305402213336,417612181048826,2764492667188504,18358282050480384,122265756020847943 ★ Hybrid binary rooted trees with n nodes whose root is labeled by "n". • a(n) = 2 / (n + 2) * sum(binomial(n + j + 1,n + 1) * binomial(n + j + 2,n - j),j=0...n). [_ Vladimir Kruchinin _ , Dec 24 2010] •

[A172964] • 0,4,18,92,230,522,1022,1808,2970,4610,6842,9792,13598,18410,24390,31712,40562,51138,63650,78320,95382,115082,137678,163440,192650 ★ Number of ways to place 2 nonattacking knights on an n X n cylindrical board. • a(n) = n * (n ^ 3 - 9 * n + 12) / 2, n>=5. •

[A185298] • 0,1,4,18,92,520,3222,21700,157544,1224576,10133450,88843084,821832156,7992373168,81458868974,867700216380,9636146477648,111323478770560,1335253363581330,16598183219157772,213488758730421380,2837046652845555696,38899888173340835894 ★ Expansion of e.g.f. x*exp(x)*exp(x*exp(x)). • a(n) = Sum _{ k=1..n } binomial(n,k) * k ^ (n - k + 1). - _ Vladimir Kruchinin _ , Sep 23 2011 •

[A081923] • 1,4,18,92,536,3552,26608,223456,2085504,21450752,241320704,2949474816,38933066752,552141672448,8374148696064,135274709700608,2318995023429632,42051109758173184,804227474125029376 ★ Expansion of exp(2x)/(1-x)^2. • a(n)=n! * sum(k=0..n, (k + 1) * 2 ^ (n - k) / (n - k)!). [_ Dennis P. Walsh _ , Sep 18 2013] • a(n)=n! * sum(k=0..n, (n - k + 1) * 2 ^ k / k!). [_ Dennis P. Walsh _ , Sep 18 2013] •

[A121584] • 1,4,18,93,569,4074,33336,306035,3111771,34708944,421407314,5533007841,78125977725,1180594364966,19012215609564,325058642549919,5880810783960431,112243265407073100,2254038189505807926 ★ Number of cells in columns 1 and 2 of all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=1, a(2)=4, a(n)=[(2n - 3)a(n - 1) - (n - 1)a(n - 2)] / (n - 2) + (1 / 2)(2n ^ 3 - 9n ^ 2 + 17n - 16)(n - 1)! / (n - 2) for n>=3. •

[A001563] • 0,1,4,18,96,600,4320,35280,322560,3265920,36288000,439084800,5748019200,80951270400,1220496076800,19615115520000,334764638208000,6046686277632000,115242726703104000,2311256907767808000,48658040163532800000,1072909785605898240000 ★ a(n) = n*n! = (n+1)! - n!. • a(0)=0, a(n) = n * a(n - 1) + n!. - _ Benoit Cloitre _ , Feb 16 2003 • a(0) = 0, a(n) = (n - 1) * (1 + Sum _{ i=1..n - 1 } a(i)) for i > 0. - _ Gerald McGarvey _ , Jun 11 2004 • a(n) = 1 / (Sum _{ k>=0 } k! / (n + k + 1)!), n > 0. - _ Vladeta Jovovic _ , Sep 13 2006 •

[A094258] • 1,1,4,18,96,600,4320,35280,322560,3265920,36288000,439084800,5748019200,80951270400,1220496076800,19615115520000,334764638208000,6046686277632000,115242726703104000,2311256907767808000,48658040163532800000,1072909785605898240000,24728016011107368960000,594596384994354462720000 ★ a(1) = 1, a(n+1) = n*n! for n >= 1. • a(n) = n! - (n - 1)! for n >= 2. • a(n) = n! - a(n - 1) - a(n - 2) - ... - a(1). with a(1) = 1. (End) •

[A263688] • 0,1,1,4,18,98,630,4676,39368,370748,3861900,44087008,547360968,7342948312,105848450344,1631635791184,26782838577600,466413214471568,8588795078851344,166747235206457024,3404055687248777120,72895914363584236064,1633918325381940384864 ★ c(n) in (sqrt(2))_n = b(n) + c(n)*sqrt(2), where (x)_n is the Pochhammer symbol, b(n) and c(n) are integers. • a(n) = ((sqrt(2)) _ n - (- sqrt(2)) _ n) / (2 * sqrt(2)). •

[A244309] • 0,0,0,4,18,100,448,2028,8820,38148,163350,697048,2965248,12595048,53440504,226608900,960530634,4070452764,17246835648,73069580980,309555981900,1311374255620,5555264316910,23532984885744,99688652356608 ★ a(n) = F(n)^3 - F(n)^2, where F(n) is the n-th Fibonacci number (A000045). • a(n) = (F(3 * n) - 3 * (- 1) ^ n * F(n)) / 5 - (L(2 * n) - 2 * (- 1) ^ n) / 5, where F=A000045 and L=A000032. - _ Ehren Metcalfe _ , Mar 26 2016 •

[A137958] • 1,1,4,18,100,587,3660,23640,157076,1066281,7363620,51568732,365369868,2614235293,18862816112,137096744232,1002785827620,7376023180645,54525165453672,404858512190316,3018190533410664,22581907465905018 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^3)^4. • a(n) = Sum _{ k=0..n - 1 } C(4 * (n - k),k) / (n - k) * C(3 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A191365] • 1,1,4,18,102,695,5485,49077,490308,5404569,65106103,850535477,11972432846,180605413001,2906109200293,49678357272247,898988818830132,17167497793440977,344991795682802331,7277230501449340417,160765066207998479698 ★ E.g.f. (1/(1-x))^exp(x) • a(n)=sum(k=1..n, sum(i=0..n - k, binomial(n,i) * k ^ i * (- 1) ^ (n - k - i) * stirling1(n - i,k))), n>0, a(0)=1. •

[A144085] • 1,1,4,18,108,780,6600,63840,693840,8361360,110557440,1590351840,24713156160,412393101120,7352537512320,139443752448000,2802408959750400,59479486120454400,1329239028813696000,31194214921732262400,766888191387539020800,19707387644116280908800,528327710066244459571200 ★ a(n) is the number of partial bijections (or subpermutations) of an n-element set without fixed points (also called partial derangements). • a(n) = n! * Sum _{ m=0..n } (- 1 ^ m / m!) * Sum _{ j=0..n - m } binomial(n - m, j) / j!. • a(n) = (2 * n - 1) * a(n - 1) - (n - 1) * (n - 3) * a(n - 2) - (n - 1) * (n - 2) * a(n - 3), a(0)=1, a(n)=0 if n < 0. •

[A053529] • 1,1,4,18,120,840,7920,75600,887040,10886400,152409600,2235340800,36883123200,628929100800,11769069312000,230150688768000,4833164464

128000,105639166144512000,2464913876705280000,59606099200327680000,1525429559126753280000 ★ a(n) = n! * number of partitions of n. ● a(n) = Sum { k=1..n } (((n - 1)! / (n - k)!) * sigma(k) * a(n - k)), n > 0, and a(0)=1. See A274760. - _ Johannes W. Meijer _ , Jul 28 2016 ●

[**A005442**] ● 1,1,4,18,120,960,9360,105840,1370880,19958400,322963200,5748019200,111607372800,2347586841600,53178757632000,1290674601216000,33413695451136000,919096314200064000,26768324463648768000 ★ a(n) = n!*Fibonacci(n+1) ● a(n) = n * a(n - 1) + n * (n - 1) * a(n - 2). - Detlef Pauly (dettodet(AT)yahoo.de), Sep 22 2003 ● a(n) = D ^ n(1 / (1 - x)) evaluated at x = 0, where D is the operator sqrt(1 + 4 * x) * d / dx. Cf. A080599 and A052585. - _ Peter Bala _ , Dec 07 2011 ●

[**A065857**] ● 4,18,133,1197,11374,110487,1084605,10708555,106091745,1053422339,10475688327,104287176419,1039019056246,10358018863853,103307491450820 ★ The (10^n)-th composite number. ● a(n) = 10 ^ (n + n / log n + 2n / log ^ 2 + 4n / log ^ 3 n + O(n / log ^ 4 n)). See Bojarincev for an asymptotic expansion. - _ Charles R Greathouse IV _ , May 30 2013 ●

[**A174663**] ● 1,4,18,192,3000,54480,1234800,32256000,979776000,33477131520 ★ a(n) is the number of solutions to the congruence Sum{k=1, ..., n}x_k==1(mod 2n), where x_k are distinct elements of the set {0, 1, ..., 2n}, k=1, ..., n ● a(n)=((n - 1)! / 2)Sum { d|n } (- 1) ^ (n + d) * mu(n / d) * C(2d,d), where mu(n) is the Mobius function A008683. ●

[**A210374**] ● 0,4,19,40,68,104,149,204,270,348,439,544,664,800,953,1124,1314,1524,1755,2008,2284,2584,2909,3260,3638 ★ Number of 2 X 2 matrices with all terms in {0,1,...,n} and (sum of terms) = n+2. ● a(n) = (- 36 + 47 * n + 12 * n ^ 2 + n ^ 3) / 6 for n>0. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. ●

[**A283394**] ● 4,19,43,76,118,169,229,298,376,463,559,664,778,901,1033,1174,1324,1483,1651,1828,2014,2209,2413,2626,2848 ★ a(n) = 3*n*(3*n + 7)/2 + 4. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ● a(n) = 4 * binomial(n,0) + 15 * binomial(n,1) + 9 * binomial(n,2). ●

[**A162254**] ● 4,19,51,106,190,309,469,676,936,1255,1639,2094,2626,3241,3945,4744,5644,6651,7771,9010,10374,11869,13501,15276,17200 ★ (2n^3 + 5n^2 + n)/2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 04 2012 ●

[**A166808**] ● 4,19,54,124,250,460,790,1285,2000,3001,4366,6186,8566,11626,15502,20347,26332,33647,42502,53128,65778,80728,98278,118753,142504 ★ Number of n X 5 1..2 arrays containing at least one of each value, all equal values connected, rows considered as a single number in nondecreasing order, and columns considered as a single number in nondecreasing order. ● a(n) = binomial(n + 5,5) - 2. - _ Jeffrey Shallit _ , May 30 2012 ●

[**A215862**] ● 0,4,19,55,125,245,434,714,1110,1650,2365,3289,4459,5915,7700,9860,12444,15504,19095,23275,28105,33649,39974,47150,55250 ★ Number of simple labeled graphs on n+2 nodes with exactly n connected components that are trees or cycles. ● a(n) = C(n + 2,3) * (3 * n + 13) / 4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n>4. - _ Harvey P. Dale _ , Sep 10 2012 ● a(n) = 1 / n! * Sum _{ j=0..n } C(n,j) * (- 1) ^ (n - j) * (j) ^ (n + 1) * (j - 1)). - _ Vladimir Kruchinin _ , Jun 06 2013 ●

[**A134507**] ● 0,4,19,57,134,269,486,813,1281,1926,2788,3910,5340,7130,9335,12015,15234,19059,23562,28819,34909,41916,49928,59036,69336 ★ Number of rectangles in a pyramid built with squares. The squares counted in A092498 are excluded. ● a(n) = (3 * n ^ 4 + 5 * n ^ 3 - 3 * n ^ 2 - 5 * n + 6 * floor((n + 1) / 3)) / 18. - _ Luce ETIENNE _ , Jul 31 2015 ●

[**A100185**] ● 1,4,19,68,185,416,819,1464,2433,3820,5731,8284,11609,15848,21155,27696,35649,45204,56563,69940,85561,103664,124499,148328,175425 ★ Structured meta-anti-prism numbers, the n-th number from a structured n-gonal anti-prism number sequence. ● a(n)=(1 / 6) * (3 * n ^ 4 - 8 * n ^ 3 + 9 * n ^ 2 + 2 * n). ●

[**A096978**] ● 0,1,4,19,74,305,1208,4863,19398,77709,310612,1242907,4970722,19884713,79535216,318148151,1272578046,5090341317,20361307020,81445344595,325781145370,1303125047521,5212499258024,20849998896239,833999918566 94 ★ Sum of the areas of the first n Jacobsthal rectangles. ● a(n) = 8 * 4 ^ n / 27 - 2 * (- 2) ^ n / 27 - (n + 2) / 9; ● a(n) = sum { k=0..n, (2 * 4 ^ k / 3 + (- 2) ^ k / 3)(n - k) } . ● a(n) = 4 * a(n - 1) + 3 * a(n - 2) - 14 * a(n - 3) + 8 * a(n - 4). ●

[**A094734**] ● 0,1,1,4,19,76,271,904,2899,9076,27991,85504,259579,784876,2366911,7125304,21425059,64373476,193317031,580344304,1741819339,5227030876,15684238351,47059006504,141189602419 ★ Number of connected 2-element multiantichains on a labeled n-set. ● a(n) = (5 - 3 * 2 ^ n + 3 ^ n) / 2 for n > 0. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n > 3. ●

[**A156760**] ● 4,19,79,319,1279,5119,20479,81919,327679,1310719,5242879,20971519,83886079,335544319,1342177279,5368709119,21474836479,85899345919,343597383679,1374389534719,5497558138879,21990232555519,879609302220 79,351843720888319 ★ 5*4^n-1. ● a(n) = 4a(n - 1) + 3, a(0)=4. ●

[**A122909**] ● 1,4,19,79,338,1427,6053,25628,108583,459931,1948354,8253271,34961561,148099316,627359147,2657535383,11257501522,47687540107,202007664157,855718193164,3624880442591,15355239954179,65045840274434 ★ F(n+1)F(n-2) - F(n)F(n-3). ● a(n)=(sqrt(5) + 2) ^ n(sqrt(5) / 5 + 3 / 5) - 2 ^ (- n - 1)(sqrt(5) - 1) ^ n(sqrt(5) / 5 + 1 / 5) + 2 ^ (- n - 1)(sqrt(5) + 1) ^ n(sqrt(5) / 5 - 1 / 5)(- 1) ^ n + (sqrt(5) - 2) ^ n(3 / 5 - sqrt(5) / 5)(- 1) ^ n; ●

[**A215037**] ● 1,4,19,79,339,1431,6072,25707,108922,461362,1954426,8278978,35070483,148560678,629313573,2665814361,11292572005,47836100785,202636977730,858384007525,3636173014596,15403076054964,65248477252164 ★ a(n) = sum(fibonomial(k+3,3), k=0..n), n>=0. ● a(n) = sum(F(k + 3)F(k + 2) * F(k + 1) / 2, k=0..n), n>=0, with the Fibonacci numbers F = A000045. ●

[**A050914**] ● 1,4,19,82,325,1216,4375,15310,52489,177148,590491,1948618,6377293,20726200,66961567,215233606,688747537,2195382772,6973568803,22082967874,69735688021,219667417264,690383311399,2165293113022,6778308875545 ★ n*3^n+1. ● a(n) = 7 * (a(n - 1) - 15 * a(n - 2) + 9 * a(n - 3). G.f.: - (6 * x ^ 2 - 3 * x + 1) / ((x - 1) * (3 * x - 1) ^ 2). - _ Colin Barker _ , Oct 14 2012 ●

[**A017961**] ● 1,4,19,82,361,1573,6859,29897,130321,568056,2476099,10793065,47045881,205068240,893871739,3896296578,16983563041,74029634996,322687697779,1406563064942,6131066257801,26724698233906 ★ Powers of sqrt(19) rounded down. ● a(n) = Floor(Sqrt(19 ^ n)); [From Vincenzo Librandi, Jun 24 2011] ●

[**A180146**] ● 1,4,19,82,361,1576,6895,30142,131797,576244,2519515,11016010,48165121,210591424,920764999,4025843542,17602120621,76961423116,336496993075,1471259517922,6432760512217,28125838644184,122974079005855 ★ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: 1/(1 - 4*x - 3*x^2 + 6*x^3). ● a(n) = 4 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) with a(- 2)=0, a(- 1)=0, a(0)=1, a(1)=4 and a(2)=19. ● a(n) = (- 1 / 8) + (13 + 30 * A) * A ^ (- n - 1) / 88 + (13 + 30 * B) * B ^ (- n - 1) / 88 with A=(- 3 + sqrt(33)) / 12 and B=(- 3 - sqrt(33)) / 12. ●

[**A291416**] ● 4,19,86,392,1784,8121,36966,168267,765940,3486508,15870352,72240785,328835240,1496836103,6813498210,31014589884,141176346720,642625324009,2925187658218,13315259321575,60610173266216,275893470389144,1255848695053856,5716539585528849 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = 1 - 4 S + S^2. ● a(n) = 4 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n >= 5. ●

[**A084155**] ● 0,1,4,19,88,401,1804,8051,35760,158401,700564,3095731,13673224,60375953,266559388,1176763859,5194762080,22931453953,101225940772,446836798675,1972442421688,8706804701201,38433749994028 ★ A Pell related fourth order recurrence. ● a(n)=8a(n - 1) - 18a(n - 2) + 8a(n - 3) + 7a(n - 4), a(0)=0, a(1)=1, a(2)=4, a(3)=19; a(n)=((3 + sqrt(2)) ^ n + (3 - sqrt(2)) ^ n - (1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) / 4; ●

[**A015530**] ● 0,1,4,19,88,409,1900,8827,41008,190513,885076,4111843,19102600,88745929,412291516,1915403851,8898489952,41340171361,192056155300,892245135283,4145149007032,19257331433977,89464772757004 ★ Expansion of x/(1 - 4*x - 3*x^2). ● a(n) = 4 * a(n - 1) + 3 * a(n - 2). ● a(n) = sum _{ k=0..floor((n - 1) / 2) } C(n - k - 1, k) * 3 ^ k * 4 ^ (n - 2k - 1). - _ Paul Barry _ , Apr 23 2005 ● a(n) = ((2 + sqrt(7)) ^ n - (2 - sqrt(7)) ^ n) / sqrt(28). Off set 1. a(3)=19. - Al Hakanson (hawkuu(AT)gmail.com), Jan 05 2009 ●

[**A256959**] ● 1,4,19,89,385,1601,6529,26369,105985,424961,1701889,6811649,27254785,109035521,436174849,1744764929,6979190785,27917025281,111668625409,446675550209,1786704297985,7146821386241,28587293933569,114349192511489,457396803600385 ★ a(0)=1, a(1)=4; thereafter a(n) = 13*4^n/8-2^(n+1)+1. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Colin Barker _ , Jun 05 2015 ● a(n) = (2 ^ n) ^ 2 + (2 ^ n - 1) ^ 2 - (2 ^ (n - 1)) ^ 2 - 2 * (2 ^ (n - 2)) ^ 2 (see (4) in arXiv link). - _ Michel Marcus _ , Jun 06 2015 ●

[**A181880**] ● 1,4,19,89,417,1954,9156,42903,201034,942001,4414009,20683073,96916320,454128508,2127946065,9971086104,46722311119,218930448853,1025859814873,4806952917170,22524321562152,105544004814991,494555936863590,2317380083461485,10858732149251701 ★ Expansion of 1/(1-4*x-3*x^2-x^3). ● a(n) = 4 * a(n) + 3 * a(n - 2) + a(n - 3), n>=2, a(- 1):=0, a(0)=1, a(1)=4 . ●

[**A291016**] ● 4,19,90,426,2016,9540,45144,213624,1010880,4783536,22635936,107114400,506870784,2398538304,11350005120,53708800896,254152774656,1202663842560,5691066407424,26930415389184,127436093890560,603034071008256,2853587862706176 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 4 S + S^2. ● a(n) = 6 * a(n - 1) - 6 * a(n - 2) n >= 3. ●

[**A004253**] ● 1,4,19,91,436,2089,10009,47956,229771,1100899,5274724,25272721,121088881,580171684,2779769539,13318676011,63813610516,305749376569,1464933272329,7018916985076,33629651653051,161129341280179 ★ a(n) = 5*a(n-1) - a(n-2). ● a(n) = sum { k=0..n, binomial(n + k, 2k) * 3 ^ k } . - _ Paul Barry _ , Jul 26 2004 ● a(n) = (- 1) ^ n * U(2n, I * sqrt(3) / 2), U(n, x) Chebyshev polynomial of second kind, I=sqrt(- 1). - _ Paul Barry _ , Mar 13 2005 ● a(n) = ((sqrt(21) - 3) * ((5 + sqrt(21)) / 2) ^ n + (sqrt(21) + 3) * ((5 - sqrt(21)) / 2) ^ n) / 2 / sqrt(21). - _ Seiichi Kirikami _ , Sep 06 2011 ●

[**A218988**] ● 4,19,91,439,2119,10231,49399,238519,1151671,5560759,26849719,129641911,625966519,3022433719,14593600951,70464138679,340230958519,1642780388791,7932045389239,38299303112119,184925394005431,892898788470199,4311296729902519 ★ Power floor sequence of 2+sqrt(8). ● a(n) = floor(x * a(n - 1)), where x=2 + sqrt(8), a(0) = floor(x). ● a(n) = 5 * a(n - 1) - 4 * a(n - 3). ● a(n) = (1 / 28) * (4 + (54 - 39 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ n + (2 * (1 + sqrt(2))) ^ n * (54 + 39 * sqrt(2))). - _ Colin Barker _ , Nov 13 2017 ●

[**A288687**] ● 1,1,4,19,92,421,1830,7687,31624,128521,518666,2084875,8361996,33497101,134094862,536608783,2146926608,8588754961,34357248018,137433710611,549744803860,2199000186901,8796044787734,35184271425559,140737278640152 ★ Number of n-digit biquanimous strings using digits {0,1,2,3}. ● a(n) = (2 ^ (2 * n - 1) + n - 2 ^ (n - 1) * (1 + n)). ● a(n) = 10 * a(n - 1) - 37 * a(n - 2) + 40 * a(n - 3) - 52 * a(n - 4) + 16 * a(n - 5) for n>5. ●

[**A083065**] ● 1,4,19,94,469,2344,11719,58594,292969,1464844,7324219,36621094,183105469,915527344,4577636719,22888183594,114440917969,572204588944,2861022949219,14305114746094,71525573730469,357627868652344 ★ 4th row of number array A083064. ● a(n) = (3 * 5 ^ n + 1) / 4. ● a(n) = 5 * a(n - 1) - 1 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 ● a(n) = 6 * a(n - 1) - 5 * a(n - 2). - _ Vincenzo Librandi _ , Nov 04 2011 ● a(n) = 5 ^ n - sum(5 ^ i, i=0..n - 1). - _ Bruno Berselli _ , Jun 20 2013 ●

[**A278678**] ● 1,4,19,94,519,3144,20903,151418,1188947,10064924,91426347,887

296422,9164847535,100398851344,1162831155151,14198949045106,182317628906283,2455925711626404,34632584722468115,510251350142181470,7840215226100517191,125427339735162102104 ★ Popularity of left children in treeshelves avoiding pattern T321. • a(n) = (n + 1) * e(n) - e(n + 1), where e(n) is the n - th Euler number (see A000111). •

[A047781] • 0,1,4,19,96,501,2668,14407,78592,432073,2390004,13286043,74160672,415382397,2333445468,13141557519,74174404608,419472490257,2376287945572,13482186743203,76598310928096,435730007006341,2481447593848524,14146164790774359 ★ a(n) = Sum(binomial(n-1,k)*binomial(n+k,k),k=0..n-1). Also a(n) = T(n,n), array T as in A049600. • a(n) = sum(k=0..n T(n, k)), array T as in A008288. • a(n) = sum { k=0..n - 1, C(n,k) * C(n - 1,k) * 2 ^ (n - k - 1) } ; a(n + 1)=2 ^ n * Hypergeometric2F1(- n, - n - 1;1;1 / 2). - _ Paul Barry _ , Feb 08 2011 • a(n) = Hyper2F1([- n, n], [1], - 1) / 2 for n>0. - _ Peter Luschny _ , Aug 02 2014 •

[A083315] • 1,4,19,97,505,2629,13609,69997,357985,1822309,9241849,46731997,235754065,1187152789,5969306089,29980723597,150440439745,754349584069,3780337658329,18936047636797,94817676351025,474638135996149 ★ (2*5^n-(4^n-2^n))/2. • a(n)=(2 * 5 ^ n - (4 ^ n - 2 ^ n)) / 2 •

[A047099] • 1,4,19,98,531,2974,17060,99658,590563,3540464,21430267,130771376,803538100,4967127736,30866224824,192696614730,1207967820099,7600482116932,47981452358201,303820299643138,1929099000980219,12279621797287282,78346444891033856 ★ A047098(n)/2. • a(n) = binomial(3 * n, n) - (1 / 2) * Sum _{ k=0..n } binomial(3 * n, k). - _ Vladeta Jovovic _ , Mar 22 2003 • a(n) is the upper left term in M ^ n, where M is the infinite square production matrix as follows: •

[A177249] • 1,1,1,4,19,99,611,4376,35621,324965,3285269,36462924,440840359,5767387591,81184266631,1223531387056,19657686459529,335404201199049,605693330804240 9,1154171370540048 20,2314399674388138811,48717810299204919851,1074106226256896375531 ★ Number of permutations of [n] having no adjacent transpositions, that is, no cycles of the form (i, i+1). • a(n) = Sum _{ j=0..floor(n / 2) } (- 1) ^ j * (n - j)! / j!. • a(n) - n * a(n - 1) = a(n - 2) if n is odd; a(n) - n * a(n - 1)=a(n - 2) + 2 * (- 1) ^{ n / 2 } if n is even. •

[A083882] • 1,4,19,100,553,3124,17803,101812,583057,3340900,19147459,109747972,629066809,3605810836,20668618171,118473404500,679095199777,3892607339716,22312621120627,127897073548708,733112513821513 ★ a(0)=1, a(1)=4, a(n)=8a(n-1)-13a(n-2), n>=2. • a(n) = ((4 - sqrt(3)) ^ n + (4 + sqrt(3)) ^ n) / 2. • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k)4 ^ (n - 2k)3 ^ k. •

[A007564] • 1,1,4,19,100,562,3304,20071,124996,793774,5120632,33463102,221060008,1473830308,9904186192,67015401391,456192667396,3122028222934,21467769499864,148246598341018,1027656663676600,7148588698592956,49884553176689584 ★ Shifts left when INVERT transform applied thrice. • a(0)=1; for n>=1, a(n) = Sum _{ k=0..n } 3 ^ k * N(n,k) where N(n,k) = (1 / n) * binomial(n, k) * binomial(n, k + 1) are the Narayana numbers (A001263). - _ Benoit Cloitre _ , May 24 2003 • a(n) = (4 * (2n - 1) * a(n - 1) - 4 * (n - 2) * a(n - 2)) / (n + 1) for n>=2, a(0) = a(1) = 1. - _ Philippe Deléham _ , Aug 19 2005 • a(n) = upper left term in M ^ n, M = the production matrix: • a(n) = 2 ^ n / sqrt(3) * LegendreP(n, - 1,2) for n >= 1, where LegendreP is the associated Legendre function of the first kind, in Maple's notation. - _ Robert Israel _ , Mar 24 2015 •

[A188675] • 1,4,19,103,598,3601,22165,138445,873916,5560741,35605756,229142476,1480820176,9603245620,62463474700,407330900284,2662179813931,17433248900656,114359597479261,751343566800961,4943188072606456 ★ Partial sums of the binomial coefficients binomial(3*n,n) (A005809). • a(n) = Sum _{ k=0..n } binomial(3 * k,k). •

[A186997] • 1,1,4,19,104,614,3816,24595,162896,1101922,7580904,52878654,373100272,2658188524,19096607120,138182654595,1006202473888,7367648586954,54214472633064,400698865376842,2973344993337520,22142778865313364 ★ G.f. satisfies: A(x) = 1 + x*A(x)^3 + x^2*A(x)^4. • a(n) = sum(k=0..n, (binomial(k,n - k) * binomial(n + 2 * k,n + k)) / (n + k + 1). - _ Vladimir Kruchinin _ , May 12 2011 •

[A082030] • 1,4,19,106,685,5056,42079,390454,4000441,44881660,547457611,7215589954,102211815589,1548801969976,25000879886935,428332610385166,7633063990141219,148412806214119924,2984692721713278211 ★ Expansion of exp(x)/(1-x)^3. • a(n) = Sum _{ k=0..n } binomial(n, k) * (k + 2)! / 2. - _ Philippe Deléham _ , Jun 19 2004 • a(n) = Sum _{ k=0..n } binomial(n,k) * (k + 1) ^ (k + 1) * (- k) ^ (n - k). - _ Paul D. Hanna _ , Sep 30 2011 • a(n) = hypergeometric([3, - n], [], - 1). - _ Peter Luschny _ , Sep 20 2014 •

[A206227] • 1,1,4,19,108,674,4494,31275,225132,1662894,12541802,96225037,748935563,5900502806,46976736513,377425326138,3056671009814,24930725879856,204623068332997,1688980598900228,14012122025369431,116784468316023069,977437078888272796,8212186058546599006 ★ Number of partitions of n^2+n into parts not greater than n. • a(n) = [x ^ (n ^ 2 + n)] Product _{ k =1..n } 1 / (1 - x ^ k). •

[A199318] • 4,19,109,649,3889,23329,139969,839809,5038849,30233089,181398529,1088391169,6530347009,39182082049,235092492289,1410554953729,8463329722369,50779978334209,304679870005249,1828079220031489,10968475320188929 ★ 3*6^n+1. • a(n) = 6 * a(n - 1) - 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). •

[A004212] • 1,1,4,19,109,742,5815,51193,498118,5296321,60987817,754940848,9983845261,140329768789,2087182244308,32725315072135,539118388888349,9304591246975030,167804098493079547,3155000165773280893 ★ Shifts one place left under 3rd-order binomial transform. • a(n) = the upper left term in M ^ n, M = the following infinite square production matrix: •

[A060905] • 1,1,4,19,110,751,5902,52165,509588,5437729,628283068,78028783 9,10351912276,145944541159,2176931651546,34225419288421,565282627986368,9779830102138945,176776613812205074,3330780287838743575 ★ E.g.f.: exp(x*exp(x) + 1/2*x^2*exp(x)^2). • a(n) = sum(sum(k ^ (n - k) / (n - k)! * binomial(m,k - m) * (1 / 2) ^ (k - m),k,m,n) / m!,m,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 20 2010 •

[A122835] • 1,1,4,19,112,811,7024,70939,818752,10630891,153371344,2433948859,42137351392,790287522571,15962014455664,345424786466779,7973482022972032,195556150543703851,5078301994885267984 ★ Number of topologies on n labeled elements in which no element belongs to any pair of noncomparable members of the topology. • a(n) = 2 ^ (n - 1) - 1 + Sum { C(n,k) * a(n - k), k = 1 ... n } •

[A121681] • 1,1,4,19,131,1136,11670,138727,1864711,27843874,456081803,8114074563,155519173031,3189879446235,69629136671356,1609836360587087,39262941548917619,1006616998791629666,27044968746461571213 ★ a(n) = A121680(n)/(n = [x^n] (1 + x*(1+x)^(n+1))^(n+1) / (n+1). • a(n) = Sum _{ k=0..n + 1 } C(n + 1,k) * C((n + 1) * k,n - k) / (n + 1). •

[A135742] • 1,1,1,4,19,131,1156,12622,166825,2600677,47038456,974165336,22829939089,599668759483,17512623094240,564613124026876,19972670155565761,771019774737952313,32326390781950804048 ★ E.g.f.: A(x) = Sum_{n>=0} exp(n*(n-1)/2 * x) * x^n / n!. • a(n) = Sum _{ k=0..n } C(n,k) * (k * (k - 1) / 2) ^ (n - k). •

[A273791] • 4,20,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 931", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) - a(n - 2) for n>3. •

[A097251] • 0,4,20,24,100,104,120,124,500,504,520,524,600,604,620,624,2500,2504,2520,2524,2600,2604,2620,2624,3000 ★ Numbers whose set of base 5 digits is {0,4}. • a(2n) = 5 * a(n), a(2n + 1) = a(2n) + 4. •

[A259755] • 4,20,28,44,52,68,76,92,100,116,124,140,148,164,172,188,196,212,220,236,244,260,268,284,292 ★ Numbers that are congruent to {4,20} mod 24. • a(n) = 2 * (6 * n + (- 1) ^ n - 3). •

[A181433] • 1,4,20,29,61,76,124,145,209,236,316,349,445,484,596,641,769,820,964,1021,1181,1244,1420,1489,1681 ★ Numbers k such that 11*k is 5 less than a square. • a(n) = (22 * n * (n - 1) - 5 * (2 * n - 1) * (- 1) ^ n + 3) / 8. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5, a(1)=1, a(2)=4, a(3)=20, a(4)=29, a(5)=61. •

[A033579] • 0,4,20,48,88,140,204,280,368,468,580,704,840,988,1148,1320,1504,1700,1908,2128,2360,2604,2860,3128,3408 ★ Four times pentagonal numbers: a(n) = 2*n*(3*n-1). • a(n) = 12 * n + a(n - 1) - 8 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A187274] • 0,4,20,48,160,320,960,1792,5120,9216,25600,45056,122880,212992,573440,983040,2621440,4456448,11796480,19922944,52428800,88080384,230686720,385875968,1006632960 ★ a(n) = n*4^(n/2-1)*(9+(-1)^n). • a(n) = 8 * a(n - 2) - 16 * a(n - 4). - _ Colin Barker _ , Jul 25 2013 • a(2 * n) = 5 * n * 4 ^ n, a(2 * n + 1) = (2 * n + 1) * 4 ^ (n + 1). - _ Andrew Howroyd _ , Mar 28 2016 •

[A108099] • 4,20,52,100,164,244,340,452,580,724,884,1060,1252,1460,1684,1924,2180,2452,2740,3044,3364,3700,4052,4420,4804 ★ a(n) = 8n^2 + 8n + 4. • a(n) = 8 * n ^ 2 + 8 * n + 4. • a(n) = 16 * n + a(n - 1), a(0)=4. - _ Vincenzo Librandi _ , Nov 13 2010 •

[A213485] • 0,4,20,54,109,191,309,469,674,930,1246,1628,2079,2605,3215,3915,4708,5600,6600,7714,8945,10299,11785,13409,15174 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y|+|y-w| != w+x+y. • a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). •

[A002492] • 0,4,20,56,120,220,364,560,816,1140,1540,2024,2600,3276,4060,4960,5984,7140,8436,9880,11480,13244,15180,17296,19600 ★ Sum of the first n even squares: 2*n*(n+1)*(2*n+1)/3. • a(- 1 - n) = - a(n). • a(n) = binomial(2 * n + 2, 3). - _ Lekraj Beedassy _ , Jun 19 2004 • a(n) - a(n - 1) = 4 * n ^ 2. - _ Joerg Arndt _ , Jun 16 2011 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Harvey P. Dale _ , Aug 15 2012 •

[A033488] • 0,4,20,60,140,280,504,840,1320,1980,2860,4004,5460,7280,9520,12240,15504,19380,23940,29260,35420,42504,50600,59800,70200 ★ a(n) = n*(n+1)*(n+2)* • a(n) = n * C(3 + n, 3). - _ Zerinvary Lajos _ , Jan 10 2006 •

[A018211] • 1,4,20,60,170,396,868,1716,3235,5720,9752,15912,25236,38760,58200,85272,122661,173052,240460,328900,444158,592020,780572,1017900,1315015 ★ Alkane (or paraffin) numbers l(10,n). • a(n) = (1 / (2 * 7!)) * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) + (1 / 3) * (1 / 2 ^ 5) * (n + 2) * (n + 4) * (n + 6) * (1 / 2) * (1 + (- 1) ^ n) [_ Yosu Yurramendi _ Jun 23 2013] •

[A131479] • 0,0,4,20,64,156,324,600,1024,1640,2500,3660,5184,7140,9604,12656,16384,20880,26244,32580,40000,48620,58564,69960,82944 ★ a(n) = floor(n^4/4). • a(2 * k) = 4 * k ^ 4. a(2 * k + 1) = 2 * (k ^ 3 * (k + 1) + k * (k + 1) ^ 3). - _ Robert Israel _ , Jun 01 2015 •

[A291526] • 0,0,4,20,68,196,516,1284,3076,7172,16388,36868,81924,180228,393220,851972,1835012,3932164,8388612,17825796,37748740,79691780,167772164,352321540,738197508 ★ a(n) = 2^n*(n - 3) + 4. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). •

[A196508] • 0,4,20,76,252,764,2172,5884,15356,38908,96252,233468,557052,1310716,3047420,7012348,15990780,36175868,81264636,181403644,402653180,889192444,1954545660,4278190076,9328132092 ★ 2^n*(n^2-n+4)-4. • a(n) = 2 * 2 + 4 * 4 + 7 * 8 + 11 * 16 + 16 * 32 + .. (n terms of A000124 * A000079). •

[A082138] • 1,4,20,80,280,896,2688,7680,21120,56320,146432,372736,931840,2293760,5570560,13369344,31752192,74711040,174325760,403701760,928514048,2122317824,4823449600,10905190400,24536678400 ⋆ A transform of C(n,3). • a(n) = (2 ^ (n - 1) + 0 ^ n / 2)C(n + 3, n) = sum { j=0..n, C(n + 3, j + 3)C(j + 3, 3)(1 + (- 1) ^ j) / 2 } . • a(n) = ceil(binomial(n + 3,3) * 2 ^ (n - 1)). - _ Zerinvary Lajos _ , Nov 01 2006 •

[A074358] • 0,0,0,4,20,80,288,976,3184,10112,31488,96576,292672,878336,2614784,7731456,22728448,66482176,193617920,561718272,1624101888,4681535488,13457924096,38592008192,110419341312 ⋆ Coefficient of q^1 in nu(n), where nu(0)=1, nu(1)=b and, for n >= 2, nu(n) = b*nu(n-1) + lambda*(1 + q + q^2 + ... + q^(n-2))*nu(n-2) with (b,lambda)=(2,2). • a(n) = (1 / 18) * ((1 + sqrt(3)) ^ n * (- 9 + 2 * sqrt(3)) - (1 - sqrt(3)) ^ n * (9 + 2 * sqrt(3)) + 3 * ((1 - sqrt(3)) ^ n + (1 + sqrt(3)) ^ n) * n) for n > 0 (conjectured). - _ Colin Barker _ , Nov 17 2017 • a(n) = 4 * a(n - 1) - 8 * a(n - 3) - 4 * a(n - 4) for n > 4 (conjectured). - _ Colin Barker _ , Nov 17 2017 •

[A292540] • 4,20,80,320,1280,5120,20480,81920,327680,1310720,5242880,20971520,83886080,335544320,1342177280,5368709120,21474836480,85899345920,343597383680,1374389534720,5497558138880,21990232555520,879609302220801,351843720888320,1407374883553280 ⋆ Number of 3-cycles in the n-Sierpinski tetrahedron graph. • a(n) = 5 * 4 ^ (n - 1) for n > 1. • a(n) = 4 * a(n - 1) for n > 2. •

[A217482] • 0,0,0,0,4,20,84,220,560,1140,2300,4060,7140,11480,18424,27720,41664,59640,85320,117480,161700,215820,287980,374660,487344 ⋆ Quarter-square tetrahedrals; a(n)= 1/6*(k*(k - 1)*(k - 2)), k = A002620(n). • a(n) = (1 / 6) * floor(n ^ 2 / 4) * (floor(n ^ 2 / 4) - 1) * (floor(n ^ 2 / 4) - 2). •

[A167682] • 1,4,20,84,324,1188,4212,14580,49572,166212,551124,1810836,5904900,19131876,61647156,197696052,631351908,2008846980,6370914708,20145865428,63536960196,199908972324,627621192180,1966546402164,6150687683364 ⋆ Expansion of (1 - 2*x + 5*x^2) / (1 - 3*x)^2. • a(0)=1, a(1)=4, a(2)=20, a(n) = 6 * a(n - 1) - 9 * a(n - 2) for n>2. • a(n) = 3 ^ (n - 2) * (8 * n + 4) for n>0. - _ Colin Barker _ , Jan 21 2017 •

[A080674] • 0,4,20,84,340,1364,5460,21844,87380,349524,1398100,5592404,22369620,89478484,357913940,1431655764,5726623060,22906492244,91625968980,366503875924,1466015503700,5864062014804,23456248059220,93824992236884,375299968947540 ⋆ a(n) = (4/3)*(4^n - 1). • a(n) = Sum _{ i = 1..n } 4 ^ i. - Adam McDougall (mcdougal(AT)stolaf.edu), Sep 29 2004 • a(n) = 4 * a(n - 1) + 4. - _ Alexandre Wajnberg _ , Apr 25 2005 • a(n) = 4 ^ n + a(n - 1) (with a(0) = 0). - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A158608] • 1,4,20,84,404,1748,8212,36180,167572,746452,3427604,15370836,70212500,316145876,1439545876,6497879892,29530613908,133496692180,605986514708,2741933589588,12437717824916,56308655258324,255312140456980 ⋆ a(n)=a(n-1)+16*a(n-2), starting a(0)=1, a(1)=4. • a(n)=(1 / 2) *{ [(1 / 2) - (1 / 2) * sqrt(65)] ^ n + [(1 / 2) + (1 / 2) * sqrt(65)] ^ n } + (7 / 130) * sqrt(65) *{ [(1 / 2) + (1 / 2) * sqrt(65)] ^ n - [(1 / 2) - (1 / 2) * sqrt(65)] ^ n } , [From _ Paolo P. Lava _ , Mar 30 2009] •

[A262768] • 0,0,4,20,85,344,1365,5368,21021,82160,320892,1253240,4896034,19137104,74847175,292929840,1147223325,4496006880,17631691440,69189377400,271676550390,1067383059600,4195964793930,16503454480656,64943823784050 ⋆ a(n) = binomial(2*n+2,n)-2*binomial(2*n,n)+binomial(2*n-2,n). • a(n) = Sum _{ k=0..n } (binomial(k,n - k) * 2 ^ (2 * k - n) * binomial(n - 1,k - 2)). •

[A093357] • 0,4,20,88,368,1504,6080,24448,98048,392704,1571840,6289408,25161728,100655104,402636800,1610579968,6442385408,25769672704,103078952960,412316336128,1649266393088,6597067669504,26388274872320 ⋆ Number of occurrences of pattern 2-1 after n iterations of morphism A007413. • a(1) = 0 , a(n) = { 3 * 4 ^ (n - 1) - 2 ^ n }/ 2. • a(1)=0, a(2)=4, a(3)=20, a(n)=6 * a(n - 1) - 8 * a(n - 2) [From Harvey P. Dale, Apr 04 2012] •

[A017964] • 1,4,20,89,400,1788,8000,35777,160000,715541,3200000,14310835,64000000,286216701,1280000000,5724334022,25600000000,114486680447,512000000000,2289733608959,10240000000000,45794672179195 ⋆ Powers of sqrt(20) rounded down. • a(n) = floor(sqrt(20 ^ n)). - _ Vincenzo Librandi _ , Jun 24 2011 •

[A099025] • 1,4,20,95,456,2184,10465,50140,240236,1151039,5514960,26423760,126603841,606595444,2906373380,13925271455,66719983896,319674648024,1531653256225,7338591633100,35161304909276,168467932913279,807178359657120,3867423865372320 ⋆ Expansion of 1 / ((1+x) * (1-5*x+x^2)). • a(n) = 5 * a(n - 1) - a(n - 2) + (- 1) ^ n, a(0)=1, a(1)=4. - _ Vincenzo Librandi _ , Mar 22 2011 • a(- 3 - n) = - a(n). - _ Michael Somos _ , Jan 25 2013 • a(n) = (2 ^ (- n) * (3 * (- 2) ^ n + (9 - 2 * sqrt(21)) * (5 - sqrt(21)) ^ n + (5 + sqrt(21)) ^ n * (9 + 2 * sqrt(21)))) / 21. - _ Colin Barker _ , Nov 02 2016 •

[A008353] • 1,4,20,96,432,1856,7744,31744,128768,519168,2085888,8364032,33501184,134103040,536625152,2146959360,8588820480,34357379072,137433972736,549745328128,2199001235456,8796046884864,35184275619840,140737287028736,562949533990912 ⋆ 2^n*(2^(n+1) - n - 1). • a(n) = sum { k=0..n + 1, C(2n + 2, 2k) - 2k(n - k + 1) * C(n + 1, k) / n } , n>0. - _ Paul Barry _ , Feb 24 2005 • a(n) = 8 * a(n - 1) - 20 * a(n - 2) + 16 * a(n - 3). - _ Colin Barker _ , Feb 26 2015 •

[A057087] • 1,4,20,96,464,2240,10816,52224,252160,1217536,5878784,28385280,137056256,661766144,3195289600,15428222976,74494050304,359689093120,1736732573696,8385686667264,40489676963840,195501454524416 ⋆ Scaled Chebyshev U-polynomials evaluated at i. Generalized Fibonacci sequence. • a(n) = 4 * (a(n - 1) + a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, 2 * i) * (- 2 * i) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = - (1 / 8) * sqrt(2) * (2 - 2 * sqrt(2)) ^ (n + 1) + (1 / 8) * (2 + 2 * sqrt(2)) ^ (n + 1) * sqrt(2). - _ Paolo P. Lava _ , Nov 20 2008 • a(n) = 4 ^ n * hypergeom([1 / 2 - n / 2, - n / 2], [- n], - 1)) for n>=1. - _ Peter Luschny _ , Dec 17 2015 •

[A178874] • 0,1,4,20,98,489,2442,12208,61036,305177,1525880,7629396,38146974,190734865,953674318,4768371584,23841857912,119209289553,596046447756,2980232238772,14901161193850,74505805969241,372529029846194 ⋆ Partial sums of round(5^n/8) • a(n)=round((5 * 5 ^ n + 4 * n - 1) / 32) = round((5 * 5 ^ n + 4 * n - 5) / 32). • a(n)=floor((5 * 5 ^ n + 4 * n + 3) / 32). • a(n)=ceil((5 * 5 ^ n + 4 * n - 5) / 32). • a(n)=a(n - 2) + (3 * 5 ^ (n - 1) + 1) / 4 , n>1. • a(n)=6 * a(n - 1) - 4 * a(n - 2) - 6 * a(n - 3) + 5 * a(n - 4), n>3. • a(n) = (5 ^ (n + 1) + 4 * n - 4 * (- 1) ^ n - 1) / 32. - Bruno Berselli, Jan 12 2011 •

[A103771] • 1,4,20,100,496,2464,12240,60800,302016,1500224,7452160,37017600,183879936,913398784,4537185280,22537856000,111953760256,556115206144,2762427289600,13721985024000,68162110078976,338586089570304 ⋆ Expansion of 1/(1-4x-4x^2-4x^3). • a(n)=sum { k=0..n, T(n - k, k)4 ^ (n - k) } , T(n, k) = trinomial coefficients (A027907) •

[A005054] • 1,4,20,100,500,2500,12500,62500,312500,1562500,7812500,39062500,195312500,976562500,4882812500,24414062500,122070312500,610351562500,3051757812500,15258789062500,76293945312500 ⋆ a(n) = (4*5^n + 0^n) / 5. • a(0) = 1, a(1) = 4, a(n) = 5 * a(n - 1) for n>=2. - _ Vincenzo Librandi _ , Dec 31 2010 • a(n + 1) = (((1 + sqrt(- 19)) / 2) ^ n + ((1 - sqrt(- 19)) / 2) ^ n) ^ 2 - (((1 + sqrt(- 19)) / 2) ^ n - ((1 - sqrt(- 19)) / 2) ^ n) ^ 2. - _ Raphie Frank _ , Dec 07 2015 •

[A105480] • 1,4,20,100,525,2912,17052,105240,683100,4652340,33168850,246999480,1917186635,15480884720,129811538960,1128494172720,10155257740443,94465951576560,907162152191470,8982422995787780,91603484234843812 ⋆ Number of partitions of {1...n} containing 3 pairs of consecutive integers, where each pair is counted within a block and a string of more than 2 consecutive integers are counted two at a time. • a(n) = binomial(n - 1, 3)Bell(n - 4), the case r = 3 in the general case of r pairs: c(n, r) = binomial(n - 1, r)B(n - r - 1). •

[A155485] • 1,4,20,104,540,2784,14260,72664,368780,1865744,9416100,47430024,238548220,1198333504,6014037140,30159664184,151156234860,757212830064,3791790773380,18981860359144,95000927764700,475371142699424,2378321729000820,11897472707018904 ⋆ 5^n+(1-4^n)/3. • a(n)=10a(n - 1) - 29a(n - 2) + 20a(n - 3), as in A097165. • a(n)=(1 / 3) * (1 + 3 * 5 ^ n - 4 ^ n), with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A155181] • 1,4,20,104,540,2804,14560,75604,392580,2038504,10585100,54964004,285405120,1481989604,7695353140,39958755304,207489129660,1077404403604,5594511147680,29049960142004,150844311857700,783271519430504 ⋆ a(n)=5*a(n-1)+a(n-2), n>2 ; a(0)=1, a(1)=4, a(2)=20 . • a(n)=2 *{ [(5 / 2) + (1 / 2) * sqrt(29)] ^ (n - 1) + [(5 / 2) - (1 / 2) * sqrt(29)] ^ (n - 1) }+ (10 / 29) * sqrt(29) *{ [(5 / 2) + (1 / 2) * sqrt(29)] ^ (n - 1) - [(5 / 2) - (1 / 2) * sqrt(29)] ^ (n - 1) }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A082761] • 1,4,20,104,544,2848,14912,78080,408832,2140672,11208704,58689536,307302400,1609056256,8425127936,44114542592,230986743808,1209462292480,6332826779648,33159111507968,173623361929216,909103725543424 ⋆ Trinomial transform of the Fibonacci numbers (A000045). • a(n) = Sum[Trinomial[n, k] Fibonacci[k + 1], { k, 0, 2n }] where Trinomial[n, k] = trinomial coefficients (A027907). • a(n) = a(- 1 - n) * 2 ^ (2 * n + 1) for all n in Z. - _ Michael Somos _ , Mar 18 2014 •

[A076035] • 1,4,20,104,548,2904,15432,82128,437444,2331128,12426200,66250672,353258536,1883768176,10045773072,53573890464,285714489348,1523763466296,8126565627192,43341046493424,231149891614008,1232790669780816,6574850950474992,35065749759115104 ⋆ G.f.: 1/(1-4*x*C) where C = (1/2-1/2*(1-4*x)^(1/2))/x = g.f. for Catalan numbers A000108. • a(n) = sum { k=0..n, 3 ^ k * C(2n, n - k)(2k + 1) / (n + k + 1) } . - _ Paul Barry _ , Jun 22 2004 • a(n) = if(n=0,1,sum { k=1..n, C(2n - k - 1,n - k) * k * 4 ^ k / n }) . - _ Paul Barry _ , Jan 20 2007 •

[A120978] • 0,4,20,104,552,2892,14908,75952,384080,1933460,9706596,48651000,243609208,1219108828,6098732684,30503229248,152544843936,762810312996,3814309845172,19072324066696,95363944856264,476826697849964 ⋆ 2n+5^n-3^n. • a(0)=0, a(1)=4, a(2)=20, a(3)=104, a(n) = 10 * a(n - 1) - 32 * a(n - 2) + 38 * a(n - 3) - 15 * a(n - 4) [_ Harvey P. Dale _ , Jun 15 2011] •

[A104550] • 1,4,20,104,552,2972,16172,88720,489872,2719028,15157188,84799992,475894200,2677788492,15102309468,85347160608,483183316512,2739851422820,15558315261812,88462135512712,503569008273992,2869602773258884,16368396446913420,93449566652932784,533954950648248752 ⋆ Number of horizontal segments in all Schroeder paths of length 2n (a horizontal segment is a maximal string of horizontal steps). A Schroeder path is a lattice path starting from (0,0), ending at a point on the x-axis, consisting only of steps U=(1,1), D=(1,-1) and H=(2,0) and never going below the x-axis. Schroeder paths are counted by the large Schroeder numbers (A006318). • a(n) = Jacobi _ P(n + 1, - 1, - 2,3). [_ Paul Barry _ , Sep 27 2009] • a(n) = Hyper2F1([- n, n - 1], [1], - 1). - _ Peter Luschny _ , Aug 02 2014 • a(n) = binomial(2 * n - 1,n - 1) + sum(i=0..n - 1, (binomial(n,i) - binomial(n,i + 1)) * binomial(n + i - 1,n - 1)). - _ Vladimir Kruchinin _ , Nov 25 2014. •

[A089382] • 1,4,20,104,553,2984,16272,89440,494681,2749772,15348372,85967112,482927985,2719787856,15351385152,86816721792,491819758417,2790451952660,15854070902964,90187514559208,513619224125657,2928073006131704,16708228671139600,95423104768226144,545408567460801513 ⋆ Total number

of triangles in all the dissections of a convex (n+3)-gon by nonintersecting diagonals. ● a(n) = Sum _{ j=0..n } ((- 1) ^ j * 2 ^ (n - j) * binomial(n + 3, j) * binomial(2 * n - j + 2,n + 2)). - _ Vladimir Kruchinin _ , Apr 08 2016 ●

[A195256] ● 1,4,20,104,568,3296,20576,139840,1044416,8617472,78605824,790252544,8709555200,104581771264,1359831461888,19038714208256,285585008091136,4569377309327360,77679482978041856,1398230968482660352,26566389500682174464 ★ O.g.f.: Sum_{n>=0} 4*(n+4)^(n-1)*x^n/(1+n*x)^n. ● a(n) = (n - 1)! * Sum _{ k=1..n } 4 ^ k / (k - 1)! for n>0, with a(0)=1. ●

[A061709] ● 1,4,20,104,752,5600,44224,350592,2800384,22377984,178990080,1431721984,11453509632,91626496000,733009854464,5864066220032,46912512917504,375300002545664,3002399885885440,24019198281252864,192153585175232512,1537228674957312000 ★ Consider a (hollow) triangle with n cells on each edge, for a total of 3(n-1) cells if n>1, or 1 cell if n=1; a(n) is number of ways of labeling cells with 0's and 1's; triangle may be rotated and turned over. ● a(n) = (1 / 6) * (2 ^ (3 * (n - 1)) + 2 ^ n + 3 * 2 ^ (floor((3 * n - 1) / 2))) for n>1. ● a(2)=4, a(3)=20, a(4)=104, a(5)=752, a(n)=10 * a(n - 1) - 8 * a(n - 2) - 80 * a(n - 3) + 128 * a(n - 4). - _ Harvey P. Dale _ , Apr 22 2013 ●

[A135159] ● 1,4,20,106,560,2914,14960,76066,384320,1933954,9707600,48653026,243613280,1219116994,6098749040,30503261986,152544909440,762810440034,3814310107280,19072324590946,95363945904800,476826699947074,2384154414150320,11920834820287906,59604362362631360 ★ a(n) = 5^n - 3^n + 2^n. ● a(n) = 5 ^ n - 3 ^ n + 2 ^ n. ● a(n) = 10 * a(n - 1) - 31 * a(n - 2) + 30 * a(n - 3). - _ G. C. Greubel _ , Sep 30 2016 ●

[A190724] ● 1,4,20,106,576,3174,17648,98746,555104,3131854,17720880,100507554,571179792,3251459670,18535914480,105803208906,604598535360,3458315246238,19799128470896,113441876080306,650450158678256,3731985710892454,21425304596140080 ★ Row sums of Riordan matrix A118384. ● a(n) = (6 ^ n + d(n) - sum(6 ^ (k - 1) * d(n - k),k=1..n)) / 2, where d(n) = central Delannoy number (A001850). ●

[A243585] ● 1,4,20,106,580,3244,18446,106250,618340,3628600,21438820,127377980,760346350,4556473276,27396081950,165189725326,998492094244,6048338850560,36706629690824,223139239595840,1358475322091620 ★ Expansion of log'(C(C(x)-1)-1), C(x)=(1-sqrt(1-4*x))/(2*x). ● a(n) = sum(k=0..n, binomial(2 * k,k) * binomial(2 * n,n - k)). ●

[A262394] ● 1,4,20,110,637,3808,23256,144210,904475,5722860,36463440,233646504,1504152860,9721421440,63040282096,409972529754,2672860120455,17464206951100,114330456032100,749760805916430 ★ a(n) = Sum_{k=1..n}(k*binomial(n+k-1)*binomial(2*n,n-k))/n. ● a(n) = (n + 2) * binomial(3 * n, n - 1) / (3 * n). - _ Vaclav Kotesovec _ , Sep 21 2015 ●

[A153295] ● 1,1,4,20,110,638,3828,23515,146972,930869,5958094,38462190,250054804,1635421543,10750864640,70987129653,470542935654,3129729034478,20880459397920,139689406647522,936832986074664,6297064070279195 ★ G.f.: A(x) = F(x*G(x)^2) where F(x) = G(x/F(x)) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)) = 1 + x*G(x)^3 is the g.f. of A001764. ● a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(3n - k,n - k) * 2k / (3n - k) for n>0 with a(0)=1. ●

[A014523] ● 1,4,20,111,624,3505,19676,110444,619935,3479776,19532449,109638260,615414276,3454402959,19390027600,108838828241,610926955724,3429215026140,19248644351551,108045225087424,606472354675265,3404210752374756,19108292005806324 ★ Number of Hamiltonian paths in a 4 X (2n+1) grid starting at the lower left corner and finishing in the upper right corner. ● a(n) = 7 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - a(n - 4) = - a(- 2 - n). ●

[A153299] ● 1,1,4,20,111,657,4067,26028,170913,1145446,7804797,53911104,376669462,2657391772,18904566514,135460704648,976795422828,7082951967141,51614974500605,377798933519164,2776363089297553,20476554379564305 ★ G.f.: A(x) = F(x*G(x)) where F(x) = G(x*F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x/G(x)) = 1 + x*G(x)^2 is the g.f. of A000108 (Catalan). ● a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(2n - k,n - k) * k / (2n - k) for n>0 with a(0)=1. ●

[A081335] ● 1,4,20,112,656,3904,23360,140032,839936,5039104,30233600,181399552,1088393216,6530351104,39182090240,235092508672,1410554986496,8463329787904,50779978465280,304679870267392,1828079220555776 ★ (6^n+2^n)/2. ● a(n) = 8 * a(n - 1) - 12 * a(n - 2), a(0)=1, a(1)=4. ● a(n) = sum(k=0..floor(n / 2), C(n,2 * k) * 4 ^ (n - k)) = sum(k=0..n, C(n,k) * 4 ^ (n - k / 2) * (1 + (- 1) ^ k) / 2). - _ Paul Barry _ , Nov 22 2003 ●

[A136783] ● 1,4,20,112,660,3976,24180,147648,903140,5528504,33853220,207325392,1269787060,7777149416,47633751380,291750220768,1786933908740,10944758154264,67035370422020,410583912229872,2514779283989460,15402734618128456,94339983758166580 ★ Number of multiplex juggling sequences of length n, base state <3> and hand capacity 3. ● a(n) = 10 * a(n - 1) - 27 * a(n - 2) + 20 * a(n - 3) for n>3. - _ Colin Barker _ , Aug 31 2016 ●

[A227726] ● 1,4,20,112,660,4004,24752,155040,980628,6249100,40060020,258048960,1668903600,10829900592,70480305440,459823234112,3006465218196,19694758782300,129235131438140,849311959095600,5589126007740660,36825913869817380,242910890642347200 ★ a(n) = [x^n] (1 + x)/(1 - x)^(2*n+1). ● a(n) = binomial(3 * n, n) + binomial(3 * n - 1, n - 1). ● a(n) = Sum _{ r = 0..n - 1 } C(n - 1,r) * C(2 * n,r) + Sum _{ r = 0..n } C(n,r) * C(2 * n,n + r) - _ J. M. Bergot _ , Mar 18 2014 ● a(n) = [x ^ n](1 / C(- x) ^ 4) ^ n, where C(x) = (1 - sqrt(1 - 4 * x)) / (2 * x) is the o.g.f. for the Catalan numbers A000108. Cf. A224274. (End) ●

[A080609] ● 1,4,20,112,664,4064,25376,160640,1027168,6618496,42904960,279503360,1828222720,11999226880,78984381440,521218322432,3447059138048,22840932997120,151607254267904,1007830488424448,6708862677274624 ★ Binomial transform of central Delannoy numbers A001850. ● a(n) = Legendre P _ n(sqrt(2)) * 8 ^ (n / 2). - _ Vladimir Reshetnikov _ , Nov 01 2015 ●

[A003645] ● 1,4,20,112,672,4224,27456,183040,1244672,8599552,60196864,426008576,3042918400,21909012480,158840340480,1158600130560,8496400957440,62605059686400,463277441679360,3441489566760960,25654740406763520,191852841302753280,1438896309770649600 ★ 2^n * C(n+1), where C(n) = A000108(n) Catalan numbers. ● a(n) = 2 ^ n * binomial(2n + 3, n + 1) / (2n + 3). - _ Len Smiley _ ● a(n) = sum of top row terms in M ^ n. Example: top row of M ^ 3 = (40, 40, 24, 8, 0, 0, 0,...), sum = 112 = a(3). - _ Gary W. Adamson _ , Jul 12 2011 ●

[A081085] ● 1,4,20,112,676,4304,28496,194240,1353508,9593104,68906320,500281280,3664176400,27033720640,200683238720,1497639994112,11227634469668,84509490017680,638344820152784,4836914483890112,36753795855173776 ★ Expansion of 1 / AGM(1, 1 - 8*x) in powers of x. ● a(n) = Sum _{ k=0..n } binomial(n, k) * binomial(2 * n - 2 * k, n - k) * binomial(2 * k, k) = binomial(2 * n, n) * hypergeom([- n, - n, 1 / 2], [1, - n + 1 / 2], - 1). - _ Vladeta Jovovic _ , Sep 16 2003 ● a(n) = Sum _{ k=0..[n / 2] } 4 ^ (n - 2 * k) * binomial(n, 2 * k) * binomial(2 * k, k) ^ 2. - _ Seiichi Manyama _ , Apr 02 2017 ●

[A212326] ● 1,4,20,112,676,4312,28704,197600,1397060,10090676,74152456,552666448,4167528000,31736182776,243698432960,1884809367456,14668777816708,114789815231560,902661488046900,7129068237647408,56524456978032904,449752267499647104 ★ G.f. satisfies: A(x) = theta_3(x*A(x))^2, where theta_3(x) is Jacobi's theta_3 function. ● a(n) = [x ^ n] theta _ 3(x) ^ (2 * n + 2) / (n + 1). ●

[A245375] ● 1,4,20,112,736,5632,49024,474112,5017600,57597952,712597504,9446981632,133474877440,2000265674752,31666683510784,527786775150592,9233419259084800,169106747636580352,3234542505882025984,64473076850860490752,1336621867385969704960,28769619371258703511552 ★ G.f.: Sum_{n>=0} x^n / ((1+x)^(n+1) * (1 - 4*(n+1)*x)). ● a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ i=0..k } (- 1) ^ i * binomial(k,i) * 4 ^ (n - k) * (k - i + 1) ^ (n - k). ●

[A108447] ● 1,1,4,20,113,688,4404,29219,199140,1385904,9807820,70364704,510609620,3741212535,27639233548,205660399220,1539916433473,11594310041792,87725707127600,666681174728724,5086601816592432,38948589882247968 ★ Number of paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1),U=(1,2), or d=(1,-1) and have no peaks of the form ud. ● a(n) = (1 / n) * sum(binomial(n, j) * binomial(n + 2j, j - 1), j=0..n) (n>=1); a(0)=1. ● a(n) = hypergeom([1 - n,(n + 3) / 2,(n + 4) / 2],[2,n + 3], - 4) for n>=1. - _ Peter Luschny _ , Oct 30 2015 ●

[A258664] ● 0,0,1,1,4,20,115,787,6184,54888,542805,5916725,70463900,910167596,12672415015,189181881575,3014307220880,51054940726928,9159871740221609,173528889268841897,3461447829153147 40,72517382650744652 20,159193007549552845339,3654204694819144118651 ★ A total of n married couples, including a mathematician M and his wife, are to be seated at the 2n chairs around a circular table, with no man seated next to his wife. After the ladies are seated at every other chair, M is the first man allowed to choose one of the remaining chairs. The sequence gives the number of ways of seating the other men, with no man seated next to his wife, if M chooses the chair that is 3 seats clockwise from his wife's chair. ● a(n) = Sum _{ 0<=k<=n - 1 } (- 1) ^ k * (n - k - 1)! * Sum _{ max(k - n + 2, 0)<=j<=min(k,1) } binomial(2 - j, j) * binomial(2 * n - k + j - 4, k - j). ●

[A106567] ● 0,4,20,116,660,3764,21460,122356,697620,3977524,22678100,129300596,737215380,4203279284,23965257940,136639406836,779058065940,4441847957044,25325472048980,144394752073076,823275648561300 ★ First entry of the vector (M^n)v, where M is the 2 X 2 matrix [[0,4],[1,5]] and v is the column vector [0,1]. ● a(n)=first entry of v[n], where v[n]=Mv[n - 1], M is the 2 X 2 matrix [[0, 4], [1, 5]] and v[0] is the column vector [0,1]. ●

[A077445] ● 4,20,116,676,3940,22964,133844,780100,4546756,26500436,154455860,900234724,5246952484,30581480180,178241928596,1038870091396,6054978619780,35291001627284,205691031143924,1198855185236260 ★ Numbers n such that (n^2 - 8)/2 is a square. ● a(n) = (((3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n) + ((3 + 2 * sqrt(2)) ^ (n - 1) + (3 - 2 * sqrt(2)) ^ (n - 1))) / 2. ● a(n) = (2 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (2 - sqrt(2)) * (3 - 2 * sqrt(2)) ^ n. - _ Antonio Alberto Olivares _ , Feb 23 2006 ●

[A165311] ● 1,4,20,116,724,4660,30356,198644,1302100,8540596,56031764,367636340,2412218836,15827788084,103854591380,681446713076,4471346955604,29338975191220,192509225431316,1263159425822324,8288287225499860 ★ a(0)=1, a(1)=4, a(n)=9*a(n-1)-16*a(n-2) for n>1. ● a(n) = ((17 - sqrt(17)) * (9 + sqrt(17)) ^ n + (17 + sqrt(17)) * (9 - sqrt(17)) ^ n) / (34 * 2 ^ n). [From _ Klaus Brockhaus _ , Sep 26 2009] ●

[A082298] ● 1,4,20,116,740,5028,35700,261780,1967300,15072836,117297620,924612532,7367204260,59240277988,480118631220,3917880562644,32163325863300,265446382860420,2201136740855700,18329850024033012,153225552507991140 ★ G.f.: (1-3*x-sqrt(9*x^2-10*x+1))/(2*x). ● a(0)=1, n>0 a(n) = (1 / n) * Sum _{ k=0..n } 4 ^ k * binomial(n, k) * binomial(n, k - 1). ● a(1)=1, a(n) = 3 * a(n - 1) + Sum _{ i=1..n - 1 } a(i) * a(n - i). - _ Benoit Cloitre _ , Mar 16 2004 ● a(n) = Sum _{ k=0..n } 1 / (n + 1) Binomial(n + 1,k)Binomial(2n - k,n - k)3 ^ k. - _ David Callan _ , Jun 07 2006 ● a(n) = 4 * hypergeom([1 - n, - n], [2], 4)) for n>0. - _ Peter Luschny _ , May 22 2017 ●

[A078944] ● 1,4,20,116,756,5428,42356,355636,3188340,30333492,304716148,3218555700,35618229364,411717043252,4957730174836,62045057731892,805323357485684,10820999695801908,150271018666120564,2153476417340487476 ★ First column of A078939, the fourth power of lower triangular matrix A056857. ● a(n) = exp(- 4) * sum(k>=0, 4 ^ k * k ^ n / k!). - _ Benoit Cloitre _ , Se

p 25 2003 •

[A258666] • 0,0,0,0,4,20,117,791,6204,55004,543595,5922925,70518884,910711076,12678337153,189252394275,3015217877068,51067618521276,916176420499159,17355904074255065,346195849623668420,7252654428822549364,159210363264445218829,3654550887654460566191 ⋆ A total of n married couples, including a mathematician M and his wife, are to be seated at the 2n chairs around a circular table, with no man seated next to his wife. After the ladies are seated at every other chair, M is the first man allowed to choose one of the remaining chairs. The sequence gives the number of ways of seating the other men, with no man seated next to his wife, if M chooses the chair that is 7 seats clockwise from his wife's chair. • a(n)=0, n<=4; for n>=5, a(n) = sum { 0<=k<=n - 1 } (- 1) ^ k * (n - k - 1)!sum { max(k - n + 4, 0)<=j<=min(k,3) } binomial(6 - j, j) * binomial(2 * n - k + j - 8, k - j). •

[A046729] • 0,4,20,120,696,4060,23660,137904,803760,4684660,27304196,159140520,927538920,5406093004,31509019100,183648021600,1070379110496,6238626641380,36361380737780,211929657785304,1235216565974040 ⋆ G.f.: 4x/((1+x)(1-6x+x^2)). • a(n) = ceil((sqrt(2) + 1) ^ (2 * n + 1) - (sqrt(2) - 1) ^ (2 * n + 1) - 2 * (- 1) ^ n) / 4. - Lambert Klasen (Lambert.Klasen(AT)gmx.net), Nov 12 2004 • a(n + 1) = (3 * a(n) + 2 * (- 1) ^ n) + 2 * sqrt(2 * a(n) * (a(n) + (- 1) ^ n) + 1). • a(n - 1) = (3 * a(n) + 2 * (- 1) ^ n) - 2 * sqrt(2 * a(n) * (a(n) + (- 1) ^ n) + 1). • a(n + 1) = 6 * a(n) - a(n - 1) + 4 * (- 1) ^ n; a(n + 1) = 5 * a(n) + 5 * a(n - 1) - a(n - 2). •

[A092055] • 1,4,20,120,816,5984,45760,357760,2829056,22500864,179481600,1433753600,11461636096,91659526144,733141975040,5864598896640,46914643623936,375308558925824,3002434111406080,24019335451770880,192154133857304576 ⋆ C(2+2^n,3). • a(n) = [x ^ 3] 1 / (1 - x) ^ (2 ^ n). - _ Geoffrey Critzer _ , Jul 11 2013 • a(n) = 14 * a(n - 1) - 56 * a(n - 2) + 64 * a(n - 3). - _ Colin Barker _ , Sep 13 2014 •

[A121553] • 1,4,20,122,874,7164,65988,674064,7558416,92276640,1218255840,17293495680,262656570240,4250077896960,72992067321600,1326101675673600,25410150701107200,512158576546713600,10832221231772774400 ⋆ Total area of all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=1; a(n)=n * a(n - 1) + (n - 1)! * [1 + n(n - 1) / 2] for n>=2 (see Barcucci et al. reference, p. 34). • a(n)=n![n(n - 1) / 4 + 1 / 1 + 1 / 2 + ... + 1 / n]. - _ Emeric Deutsch _ , Apr 06 2008 •

[A080795] • 1,1,4,20,128,1024,9856,110720,1421312,20525056,329334784,5812797440,111923560448,2334639652864,52444850814976,1262260748288000,32405895451246592,883950436237705216,25530268718794276864 ⋆ Number of minimax trees on n nodes. • a(n) = (2 * sqrt(2)) ^ (n - 1) * sum { k = 1..n } k! * Stirling2(n,k) * w ^ (k - 1), with w = (sqrt(2) - 1) / 2. • a(p) = (- 1) ^ (p ^ 2 - 1) / 8) (mod p) for odd prime p. •

[A082988] • 0,4,20,148,916,6036,38804,251796,1628052,10540948,68212628,441505684,2857424788,18493790100,119693957012,774676469652,5013809190804,32450060277652,210021188163476,1359285717096340,8797481879000980 ⋆ a(n)=sum(k=0,n,4^k*F(k)) where F(k) is the k-th Fibonacci number. • a(0)=0, a(1)=4, a(2)=20, a(n)=5a(n - 1) + 12a(n - 2) - 16a(n - 3) •

[A042429] • 1,4,21,25,121,993,1114,7677,8791,78005,320811,398816,2314891,9658380,523867411,2105128024,11049507531,13154635555,63668049751,522499033563,586167083314,4039501533447,4625668616761,41044850467535,168805070486901 ⋆ Denominators of continued fraction convergents to sqrt(742). • a(n) = 526182302 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 22 2014 •

[A204557] • 1,4,21,36,85,120,217,280,441,540,781,924,1261,1456,1905,2160,2737,3060,3781,4180,5061,5544,6601,7176,8425 ⋆ Right edge of the triangle A045975. • a(n) = n * (2 * n ^ 2 + (3 - (- 1) ^ n) * n - (- 1) ^ n - 3) / 4. • a(n) = (n ^ 3 + n ^ 2 - 2 * n) / 2 for n even. • a(n) = (n ^ 3 + 2 * n ^ 2 - n) / 2 for n odd. •

[A273417] • 1,4,21,41,72,113,160,217,280,353,432,521,616,721,832,953,1080,1217,1360,1513,1672,1841,2016,2201,2392 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 705", based on the 5-celled von Neumann neighborhood. • a(n) = (- 15 - (- 1) ^ n + 8 * n + 8 * n ^ 2) / 2 for n>2. • a(n) = 4 * (n ^ 2 + n - 2) for n>2 and even. • a(n) = 4 * n ^ 2 + 4 * n - 7 for n>2 and odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>6. •

[A273443] • 1,4,21,41,80,120,168,224,288,360,440,528,624,728,840,960,1088,1224,1368,1520,1680,1848,2024,2208,2400 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 721", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * n * (1 + n) for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. •

[A273405] • 1,4,21,44,77,116,165,220,285,356,437,524,621,724,837,956,1085,1220,1365,1516,1677,1844,2021,2204,2397 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 673", based on the 5-celled von Neumann neighborhood. • a(n) = ((- 1) ^ n + 8 * n + 8 * n ^ 2 - 7) / 2 for n>0. • a(n) = 4 * n ^ 2 + 4 * n - 3 for n>0 and even. • a(n) = 4 * (n ^ 2 + n - 1) for n>0 and odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A273831] • 1,4,21,45,76,117,164,221,284,357,436,525,620,725,836,957,1084,1221,1364,1517,1676,1845,2020,2205,2396 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 961", based on the 5-celled von Neumann neighborhood. • a(n) = (- 7 - (- 1) ^ n + 8 * n + 8 * n ^ 2) / 2 for n>2. • a(n) = 4 * (n ^ 2 + n - 1) for n>2 and even. • a(n) = 4 * n ^ 2 + 4 * n - 3 for n>2 and odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>6. •

[A273847] • 1,4,21,45,76,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 969", based on the 5-celled von Neumann neighborhood. • a(n) = (1 + 2 * n) ^ 2 for n>4. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>7. •

[A273780] • 1,4,21,48,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. • a(n) = (1 + 2 * n) ^ 2 for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. •

[A033569] • 1,4,21,50,91,144,209,286,375,476,589,714,851,1000,1161,1334,1519,1716,1925,2146,2379,2624,2881,3150,3431 ⋆ (2*n - 1)*(3*n + 1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[A131478] • 0,1,4,21,64,157,324,601,1024,1641,2500,3661,5184,7141,9604,12657,16384,20881,26244,32581,40000,48621,58564,69961,82944 ⋆ a(n) = ceil(n^4/4). • a(n) = floor(n ^ 4 / 4 + 3 / 4). - _ Bruno Berselli _ , Dec 21 2017 •

[A212246] • 0,0,4,21,65,155,315,574,966,1530,2310,3355,4719,6461,8645,11340,14620,18564,23256,28785,35245,42735,51359,61226,72450 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w <= x > y <= z. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = (n - 1) * n * (n + 1) * (5 * n + 6) / 24. - _ Bruno Berselli _ , May 31 2012 •

[A095668] • 4,21,66,161,336,630,1092,1782,2772,4147,6006,8463,11648,15708,20808,27132,34884,44289,55594,69069,85008,103730,125580,150930,180180 ⋆ Sixth column (m=5) of (1,4)-Pascal triangle A095666. • a(n) = (n + 20) * binomial(n + 4, 4) / 5. •

[A192429] • 0,1,4,21,76,329,1256,5157,20216,81505,322924,1293189,5144644,20550089,81881168,326756661,1302722672,5196774145,20723304532,82657204533,329642305468,1314745861769,5243461810232,20912613564549,83404589311592 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = 2 * a(n - 1) + 10 * a(n - 2) - 6 * a(n - 3) - 9 * a(n - 4). •

[A017967] • 1,4,21,96,441,2020,9261,42439,194481,891223,4084101,18715701,85766121,393029741,1801088541,8253624572,37822859361,173326116021,794280046581,3639848436450,16679880978201,76436817165460 ⋆ Powers of sqrt(21) rounded down. • a(n) = Floor(Sqrt(21 ^ n)); [From Vincenzo Librandi, Jun 24 2011] •

[A080043] • 1,4,21,100,465,2164,10053,46708,216993,1008100,4683381,21757828,101081457,469599316,2181641637,10135364500,47086382913,218751625156,1016265649365,4721317472932,21934066839825,101900219778100 ⋆ a(n)=floor((2+sq • a(0)=1, a(1)=4, a(2)=21, a(3)=100, a(n)=4 * a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 3 * a(n - 4). - _ Harvey P. Dale _ , Aug 11 2015 •

[A291184] • 4,21,104,507,2452,11808,56732,272229,1305400,6257355,29988140,143701056,688563508,3299237877,15807943688,75741312603,362900797636,1738768378464,8330956025036,39916050834885,191249400483544,916331219497131,4390407398410844 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 4*S + 3*S^2. • a(n) = 8 * a(n - 1) - 17 * a(n - 2) + 8 * a(n - 3) - a(n - 4). •

[A015531] • 0,1,4,21,104,521,2604,13021,65104,325521,1627604,8138021,40690104,203450521,1017252604,5086263021,25431315104,127156575521,635782877604,3178914388021,15894571940104,79472859700521 ⋆ Linear 2nd order recurrence: a(n) = 4*a(n-1) + 5*a(n-2). • a(n) = (5 ^ n - (- 1) ^ n) / 6. • a(n) = Sum _{ k=1..n } binomial(n, k) * (- 1) ^ (n + k) * 6 ^ (k - 1). - _ Paul Barry _ , May 13 2003 • a(n) = 5 ^ (n - 1) - a(n - 1). - _ Emeric Deutsch _ , Apr 01 2004 • a(n) = ((2 + sqrt(9)) ^ n - (2 - sqrt(9)) ^ n) / 6. - Al Hakanson (hawkuu(AT)gmail.com), Jan 07 2009] • a(n) = round(5 ^ n / 6). - _ Mircea Merca _ , Dec 28 2010 •

[A083425] • 1,4,21,104,521,2604,13021,65104,325521,1627604,8138021,40690104,203450521,1017252604,5086263021,25431315104,127156575521,635782877604,3178914388021,15894571940104,79472859700521,397364298502604,1986821492513021,9934107462565104 ⋆ a(n) = (5*5^n+(-1)^n)/6. • a(n) = (5 * 5 ^ n + (- 1) ^ n) / 6. • a(n) = sum { k=0..n, C(n - k,k) * 4 ^ (n - 2k) * 5 ^ k } - _ Paul Barry _ , Jul 29 2004 • a(n) = 4 * a(n - 1) + 5 * a(n - 2). _ Vincenzo Librandi _ , Jun 23 2012 •

[A100237] • 1,4,21,109,566,2939,15261,79244,411481,2136649,11094726,57610279,299146121,1553340884,8065850541,41882593589,217478818486,1129276686019,5863862248581,30448587928924,158106801893201,820982597394929,4263019788867846,22136081541734159 ⋆ Secondary diagonal of triangle A100235 divided by row number: a(n) = A100235(n+1,n)/(n+1) for n>=0. • a(n) = 5 * a(n - 1) + a(n - 2) for n>1, with a(0)=1, a(1)=4. • a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(29)) ^ n * (- 3 + sqrt(29)) + (3 + sqrt(29)) * (5 + sqrt(29)) ^ n)) / sqrt(29). - _ Colin Barker _ , Oct 13 2015 •

[A117381] • 1,4,21,109,575,3047,16192,86171,458972,2445825,13037508,69509558,370634265,1976421031,10539858413,56208784808,299766435277,1598704176149,8526238418811,45472594256564,242517996824355 ⋆ Expansion of 1/((1-4*x*c(x))(1-x^2*c(x))), c(x) the g.f. of A000108. • a(n)=sum { k=0..floor(n / 2), [k<=n - k] * sum { j=0..n - k, (j / (n - k - j)) * C(2n - k - j,n - k - j)[k<=j] * 4 ^ (j - k) }} •

[A010908] • 4,21,110,576,3016,15792,82688,432960,2267008,11870208,62153216,325438464,1704017920,8922353664,46718050304,244618887168,1280841121792,6706571182080,35116062605312,183870090903552,962756295000064,5041057406386176,26395319258316800 ⋆ Pisot sequence E(4,21), a(n) = floor(a(n-1)^2/a(n-2) + 1/2). • a(n) = (((3 - sqrt(5)) ^ n * (- 9 + 4 * sqrt(5)) + (3 + sqrt(5)) ^ n * (9 + 4 * sqrt(5)))) / (2 * sqrt(5)). •

[A136786] • 1,4,21,111,592,3171,17021,91456,491641,2643523,14215596,764485 59,411134641,2211076788,11891207045,63951270079,343932277888,184968148 1203,9947663349453,53498950981392,287719621233865,1547368337500659,832 1812723167356,44755063012476127 ★ Number of primitive multiplex juggling sequences of length n, base state <2,1> and hand capacity 3. • a(n) = 9 * a(n - 1) - 22 * a(n - 2) + 13 * a(n - 3) + 3 * a(n - 4) for n>4. - _ Colin Barker _ , Aug 31 2016 •

[A190089] • 1,4,21,114,616,3329,17991,97229,525456,2839729,15346786,82938 844,448227521,2422362079,13091204281,70748973084,382349636061,206633733 0754,1116713489897 6,60350698792449,326154101090951,1762639037938629,95 25854090667496 ★ Row sums of the triangular matrix A190088. • a(n)=sum(binomial(3 * n - k + 1,3 * n - 3 * k + 1),k=0..n) • a(0)=1, a(1)=4, a(2)=21, a(n)=5 * a(n - 1) + 2 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Sep 18 20 13 •

[A024051] • 1,4,21,116,609,3100,15589,78076,390561,1953044,9765525,488280 04,244140481,1220702956,6103515429,30517577900,152587890369,76293945283 6,3814697265301,19073486327764,95367431640225 ★ 5^n - n^2. • a(n) = + 8 * a(n - 1) - 18 * a(n - 2) + 16 * a(n - 3) - 5 * a(n - 4) •

[A212419] • 1,1,1,4,21,116,713,5030,40301,362852,3628744,39916716,479001 426,6227020536,87178290639,1307674367142,20922789886141,35568742809314 0,6402373705721708,121645100408822276,2432902008176618342,510909421717 09406408,1124000727777607604418 ★ Size of the equivalence class of S_n containing the identity permutation under transformations of positionally adjacent elements of the form abc <–> acb <–> bac <–> cba, where a<b<c. • a(n) = 1 for n<3, otherwise: a(n) = n! - C([(n - 1) / 2] - C([n / 2]), where [x] is the fl oor function and C(n) denotes the n - th Catalan number (A000108). •

[A046090] • 1,4,21,120,697,4060,23661,137904,803761,4684660,27304197,1591 40520,927538921,5406093004,31509019101,183648021600,1070379110497,62386 26641380,36361380737781,211929657785304,1235216565974041 ★ Consider all Pythagorean triples (X,X+1,Z) ordered by increasing Z; sequence gives X+1 values. • a(n) = 1 / 2 + ((1 - 2 ^{ 1 / 2 }) / 4) * (3 - 2 ^{ 3 / 2 }) ^ n + ((1 + 2 ^{ 1 / 2 }) / 4) * (3 + 2 ^{ 3 / 2 }) ^ n. - _ Antonio Alberto Olivares _ , Oct 13 2003 • a(n + 1) = round((1 + (7 + 5 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 2); • a(0)=1, a(1)=4, a(2)=21, a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 13 2012 •

[A182435] • 0,1,4,21,120,697,4060,23661,137904,803761,4684660,27304197,15 9140520,927538921,5406093004,31509019101,183648021600,1070379110497,62 38626641380,36361380737781,211929657785304,1235216565974041,7199369738 058940,41961001862379597 ★ a(n) = 6*a(n-1) - a(n-2) - 2 with n>1, a(0)=0, a(1)=1. • a(n) = 1 / 2 + 1 / 4 * sqrt(2) * ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqr t(2)) ^ n) - 1 / 4 * ((3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n). - _ Paolo P. Lava _ , May 10 2012 •

[A045721] • 1,4,21,120,715,4368,27132,170544,1081575,6906900,44352165,286 097760,1852482996,12033222880,78378960360,511738760544,3348108992991,21 945588357420,144079707346575,947309492837400,6236646703759395 ★ a(n) = binomial(3*n+1,n). • a(n) is asymptotic to c / sqrt(n) * (27 / 4) ^ n with c= 0.73... - _ Benoit Cloitre _ , Jan 27 2003 • a(n + 2) = C(3n + 1,n) = Sum _{ k=0..n } C(3n - k,n - k). - _ Paul Barry _ , May 13 2006 • a(n) = (n + 1) * hypergeometric2F1([- 2 * n, - n], [2], 1). - _ Peter Luschny _ , Sep 04 20 12 • a(n) = Sum _{ r=0..n } C(n,r) * C(2 * n + 1,r). - _ J. M. Bergot _ , M ar 18 2014 • a(n) = binomial(3 * n + 1,n). • a(n) = Sum _{ k = 0..n } 1 / (2 * k + 1) * binomial(3 * n - 3 * k,n - k) * binomial(3 * k, k). •

[A101810] • 1,4,21,120,1365,8568,100947,657800,7888725,163011640,1121099 408,22595200368,266783135710,1889912732400,22512762077400,443643407165 376,8550047575185300,62724534168736440,1206459883091241450 ★ Number of compositions (ordered partitions) of the n-th prime into n nonnegative integers. • a(n) = binomial(prime(n) + n - 1, n - 1). - _ Vladeta Jovovic _ , Apr 25 2 005 •

[A103769] • 1,4,21,123,757,4788,30817,200784,1320093,8740284,58193673,38 9233287,2613338091,17602627006,118892784555,804951501469,546122806154 1,37120212399708,252720891884473,1723088114793535,11763751150648785 ★ Trinomial transform of central binomial coefficients A001405. • a(n) = sum _{ k=0..2n } T(n,k) * C(k,floor(k / 2)), where T(n,k) is given by A027907. • a(n) = sum _{ k=0..n } sum _{ j=0..n } C(n,j) * C(j,k) * C(j + k,floor((j + k) / 2)). •

[A003014] • 1,1,4,21,124,705,3726,18361,85240,376641,1597690,6551721,261 16740,101647585,387634534,1452554265,5360857456,19523426433,7027230270 6,250318462537,883418329660,3091835703201,10739780397214 ★ Expansion of e.g.f.: 1+x*exp(x)+x^2*exp(2*x)+x^3*exp(3*x). • a(n) = n + n * (n - 1) * 2 ^ (n - 2) + n * (n - 1) * (n - 2) * 3 ^ (n - 3). - _ Ralf Stephan _ , Mar 24 200 4 •

[A108404] • 1,4,21,124,761,4724,29421,183404,1143601,7131364,44471301,277 325404,1729418921,10784771924,67254567261,419404046924,2615432135521,16 310012568004,101710347053301,634272638178364,3955367287840601 ★ Expansion of (1-4x)/(1-8x+11x^2). • a(n) = 8a(n - 1) - 11a(n - 2), a(0) = 1, a(1) = 4. • a(n) = ((4 + sqrt(5)) ^ n + (4 - sqrt(5)) ^ n) / 2. • a(n + 1) / a(n) conv erges to 4 + sqrt(5) = 6.236067977499789696 4... = 4 + A002163. •

[A153291] • 1,1,4,21,124,782,5145,34873,241682,1704240,12186900,8816275 3,644058237,4744733614,35210349041,262976828766,1975324849238,149132003 62138,113107780322778,861417424802187,6585224638006020,505150483892657 13 ★ G.f.: A(x) = F(x*F(x)) where F(x) = 1 + x*F(x)^3 is the g.f. of A001764. • a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(3n - 2k,n - k) * k / (3 n - 2k) for n>0 with a(0)=1. •

[A003168] • 1,1,4,21,126,818,5594,39693,289510,2157150,16348960,12564214 6,976789620,7668465964,60708178054,484093913917,3884724864390,31348290 348086,254225828706248,2070856216759478,16936016649259364 ★ Number of blobs with 2n+1 edges. • a(n) = Sum _{ k=1..n } binomial(n, k) * binomial(2 * n + k, k - 1) / n. • a(n) = JacobiP(n - 1,1,n + 1,3) / n for n > 0. - _ Ma rk van Hoeij _ , Jun 02 2010 • a(n) = 1 / (2 * n + 1) * sum((- 1) ^ j * 2 ^ (n - j) * binomial(2 * n + 1,j) * binomial(3 * n - j,2 * n),j=0..n). - _ Vladimir K ruchinin _ , Dec 24 2010 • a(n) = upper left term in M ^ n, M = the product ion matrix: • a(n) = 1 / n * Sum _{ i = 0..n } 2 ^ (n - i - 1) * binomial(2 * n ,i) * binomial(n,i + 1). •

[A185047] • 1,4,21,126,819,5616,40014,293436,2200770,16805880,130245570,1 021926780,8102419470,64819355760,522606055815,4242331511910,3464570734 7265,284459491903860,2346790808206845,19444838125142430,16174569895004 8395 ★ Expansion of 2F1((1, 4/3); (3); 9 x). • a(n) = - 9 ^ (n + 1) * binomia l(n + 1 / 3, n + 2). - _ Karol A. Penson _ , Nov 06 2015 • a(n) = 1 / (6 * sq rt(3) * Pi) * Integrate _{ x = 0..9 } x ^ n * x ^ (1 / 3) * (9 - x) ^ (2 / 3). Cf. A034164. - _ Peter Bala _ , Nov 17 2015 •

[A281581] • 1,4,21,127,807,5179,33111,210067,1321887,8255899,51225351,31 6067107,1941032367,11873549419,72394874391,440204293747,2670669533247,1 6172309991739,97779619272231,590423692897987,3561340764760527,2146231 2506478859 ★ a(n) = (15*2^(2*n+2) + 15*2^(n+2) + 5*2^(n+3)*3^(n+1) - 24*5^(n+1))/120. • a(n) = 6 ^ n + 2 ^ (n - 1) - 5 ^ n + 4 ^ n / 2 . - _ R. J. Mathar _ , Mar 19 2017 •

[A007345] • 1,4,21,127,831,5722,40879,300440,2258455,17291704,134417955,1 058279251,8422155293,67647554826,547699155261,4465275681735,3662721429 7455,302067234113560,2503174651819435,20832888975309257,17405781110805 9017,1459365504991034106 ★ Number of Havender tableaux of height 2 with n columns. • a(n) = Sum _{ q=0..2 * n } Sum _{ j=max(0, n - q)..floor((2 * n - q) / 2) } n! * (4 * n - 2 * q - 2 * j)! / ((2 * n - q - 2 * j)! * (j + 1)! * ((2 * n - q - j)!) ^ 2 * (q - n + j)!) [from Gouyou - Beauchamps]. - _ Sean A. Irvine _ , Dec 28 2017 •

[A255673] • 1,1,4,21,127,833,5763,41401,305877,2309385,17739561,13819787 6,1089276972,8670856834,69606939717,562879492551,4580890678781,37490975 387565,308369889858450,2547741413147700,21133987935358776,175947462569 886786,1469656053534121804 ★ Coefficients of A(x), which satisfies: A(x) = 1 + x*A(x)^3 + x^2*A(x)^6. • a(n) = 1 / (3 * n + 1) * Sum _{ k=0..n } (- 1) ^ k * binomial(3 * n + 1, k) * binomial(6 * n + 2 - 2 * k, n - k). (conjectured) •

[A099250] • 1,4,21,127,835,5798,41835,310572,2356779,18199284,142547559,1 129760415,9043402501,73007772802,593742784829,4859761676391,4000246477 6083,330931069469828,2750016719520991,22944749046030949,19213791810184 1817 ★ Bisection of Motzkin numbers A001006. • a(n) = (2 / Pi) * integral(x = - 1..1, (1 + 2 * x) ^ (2 * n + 1) * sqrt(1 - x ^ 2)). [_ Peter Luschny _ , Se p 11 2011] • a(n) = sum(j=0..3 * n + 4, binomial(j,2 * j - 5 * n - 7) * binomia l(3 * n + 4,j)) / (3 * n + 4). [_ Vladimir Kruchinin _ , Mar 09 2013] •

[A111177] • 4,21,130,913,7176,62629,602806,6356865,72994348,907497301,1 2152572554,174476220241,2674434002800,43603430324133,753581024080126,1 3763517571878529,264919276238885076,5360264479811601685 ★ Number of base n numbers in which each digit appears at most once (all unnecessary 0's deleted). • a(n)=Sum(i=0, n - 1) (i ^ 2 + i + 1)(n - 1)! / (n - 1 - i)!; n>1 •

[A058308] • 0,1,4,21,130,931,7578,69133,698908,7757121,93784360,122695380 1,17271137574,260294017411,4181975416150,71353876091961,12885517450714 48,245538370324 49473,492365292394060908,1036422497730772854 1,228505314 793164088810 ★ a(0)=0, a(1)=1, a(n) = a(n-2) + (n+2)*a(n-1). • a(n) = Sum _ { k = 0..floor((n - 1) / 2) } (n - 2 * k - 1)! * binomial(n - k - 1,k) * binomial (n - k + 2,k + 3). Cf. A058798. - _ Peter Bala _ , Aug 01 2013 • a(n) = (- 4 * BesselI(3 + n, - 2) * BesselK(4,2) + BesselI(3 + n, - 2) * BesselK(5,2) + 4 * BesselI(4,2) * BesselK(3 + n,2) + BesselI(5,2) * BesselK(3 + n,2)) / (BesselI(5,2) * BesselK(4,2) + BesselI(4,2) * BesselK(5,2)). - _ Vaclav Kotesovec _ , Oct 05 2013 • a(n) = (n + 2)! * hypergeometric([1 / 2 - n / 2,1 - n / 2],[4, - n - 2,1 - n],4) / 6 for n >= 2. - _ Peter Luschny _ , Sep 10 2014 • a(n) = (n + 1)! [x ^ (n + 1)] (2 / (1 - x)) * (K(3,2) * I(2,2 * sqrt(1 - x)) + I(3,2) * K(2,2 * sqrt(1 - x))), K and I Bessel functions. - _ Peter Luschny _ , May 01 2017 •

[A131965] • 1,1,4,21,131,943,7701,70409,712891,7921011,95844233,125468814 1,17670191319,266412115271,4281623281141,73073037331473,13198817367997 31,25155393101359579,504505383866156001,1062116597612960002 1,234196709 773657680463,5397676549069062730671 ★ a(n) = 1 + Sum_{i=2..n-1} n * a(i). • a(n) = 1 + sum _{ i=2 }^{ n - 1 } n * a(i); exponential generating function = 4 / (x - 1) ^ 3 * (1 + x) + 1 / (x - 1) ^ 3 * exp(x) * (x - 3) + 1 / 2 * (- 4 - 3 * x ^ 2 + x ^ 3) / (x - 1) ^ 3; asymptotic expansion: a(n) / n! = (5 / 2 + e) n ^ 2 + O(n). Also: (n + 1) * a(n - 1) + a(n - 2) + ... + a(2) e.g.=a(5)=6 * 21 + 4 + 1=131. •

[A001909] • 0,1,4,21,134,1001,8544,81901,870274,10146321,128718044,176465 1461,25992300894,409295679481,6860638482424,121951698034461,2291179503 374234,45361686034627361,943892592746534964,2059289311026589938 1,47003 3715095287415734 ★ a(n) = n*a(n-1) + (n-4)*a(n-2), a(2) = 0, a(3) = 1. • a(n) = hypergeom([5, - n + 3],[],1)) * (- 1) ^ (n + 1) for n>=3. - _ Peter Lusc hny _ , Sep 20 2014 •

[A052852] • 0,1,4,21,136,1045,9276,93289,1047376,12975561,175721140,25812 84541,40864292184,693347907421,12548540320876,241253367679185,49092347 33857696,105394372192969489,238033779559588 5156 ★ E.g.f.: (x/(1-x))*exp(x/(1-x)). • a(n) = Sum _{ m=0..n } n! * binomial(n + 2, n - m) / m!. - _ Wolfdi eter Lang _ , Jun 19 2001 • a(n) = D ^ n(x * exp(x)) evaluated at x = 0, wh ere D is the operator (1 + x) ^ 2 * d / dx. Cf. A000262 and A005493. - _ Pet er Bala _ , Nov 25 2011 • a(n) = (n + 1)! * hypergeom([- n + 1], [3], - 1) /

2 for n>=1. - _ Peter Luschny _ , Oct 18 2014 • a(n) = Sum _{ k=0..n } L(n,k) * k; L(n,k) the unsigned Lah numbers. - _ Peter Luschny _ , Oct 18 201 4 • a(n) = (n - 1)! * LaguerreL(n - 1, 2, - 1) for n>=1. - _ Peter Luschny _ , Apr 08 2015 •

[A180399] • 0,1,4,21,138,999,7683,61542,507663,4281849,36748998,31984559 1,2816007714,25032803841,224355173193,2024955168606,18388543939947,167 882583075453,1540000362501702,14186252492098011,131176523761136568,12 17094112710349731,11327464549934673309 ★ Expansion of (1/3)*(1 - (1-9*x-9*x^2)^(1/3)). • a(n) = sum(m=1..n, binomial(m,n - m) / m * sum(k=0..m - 1, binomial(k,m - 1 - k) * 3 ^ k * (- 1) ^ (m - 1 - k) * binomial(m + k - 1,m - 1))). [From _ Vladimir Kruchinin _ , Feb 08 2011] •

[A087761] • 1,1,4,21,140,1130,10674,115206,1396016,18739080,275712840,440 8612560,76070179272,1408041937848,27816773482848,583970117197320,12978 149959718400,304310928180279360,7506092106055537344 ★ Expansion of (1-x)^(1/(x-1)). • a(n) = (n - 1)! * Sum _{ k=0..n - 1 } (n - k) * H(n - k) * a(k) / k! for n>0 with a(0)=1. (End) •

[A006879] • 0,4,21,143,1061,8363,68906,586081,5096876,45086079,40420497 7,3663002302,33489857205,308457624821,2858876213963,26639628671867,249 393770611256,2344318816620308,22116397130086627,209317712988603747,198 6761935284574233,18906449883457813088,180340017203297174362 ★ Number of primes with n digits. • a(n) = pi(10 ^ n) - pi(10 ^ (n - 1)) where pi(10 ^ (- 1)) := 0 (cf. A000720 and A006880). •

[A228063] • 4,21,143,1063,8371,68785,583436,5069633,44876757,403025174,3 660702622,33550877248,309726969451,2876065468123,26835315229835,251389 798269317,2362887262236150,22272676889496853,210455460654786509,199280 6263723883464 ★ Integer nearest to F[4n](S(n)), where F[4n](x) are Fibonacci polynomials and S(n) = Sum_{i=0..3} (C(i)*(log(log(A*(B+n^2))))^i) (see coefficients A, B, C(i) in comments). • a(n)= round(F[4n](Sum _{ i=0..3 } (C(i) * (log(log(A * (B + n ^ 2)))) ^ i))). •

[A228111] • 4,21,143,1063,8385,68929,584467,5074924,44885325,402777151,3 656032622,33492393634,309106153431,2870123507479,26783122426197,250971 797533095,2359952229466124,22256979400698116,210440626023838163,199408 8284872617955,18931694933036811169 ★ Integer nearest to (S(n)*F(4n)(S(n))), where F(4n)(x) are Fibonacci polynomials of multiple of 4 indices (4n) and S(n) = Sum_{i=0..3} (C(i)*(log(log(A*(B+n^2))))^i) (see coefficients A, B, C(i) in comments). • a(n)= round(S(n) * F(4n)(S(n))), where S(n)=Sum _{ i=0..3 } (C(i) * (log(log(A * (B + n ^ 2)))) ^ i)) •

[A144010] • 1,1,1,4,21,160,1525,17760,243145,3833600,68373225,136126400 0,29925477725,719991897600,18817847565725,530921477363200,160826056901 48625,520603130117939200,17934634668874889425 ★ E.g.f. satisfies: A'(x) = 1/(1 - x*A(x)) with A(0)=1. • a(0) = 1, a(1) = 1, a(n) = Sum _{ 0 < k < n } k * binomial(n - 1, k) * a(k) * a(n - k - 1). - _ Vladimir Reshetnikov _ , M ay 17 2016 •

[A041667] • 1,1,4,21,193,986,3151,4137,152083,156220,620743,3259935,2996 0158,153060725,489142333,642203058,23608452421,24250655479,9636041885 8,506052749769,4650835166779,23760228583664,75931520917771,9969174950 1435,3664834502969431 ★ Denominators of continued fraction convergents to sqrt(352). • a(n) = 155234 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Libra ndi _ , Dec 22 2013 •

[A268924] • 0,1,4,22,22,22,508,508,2695,2695,2695,2695,356989,888430,40770 76,4077076,18425983,18425983,147566146,534986635,534986635,7508555437,28 429261843,28429261843,122572440670 ★ One of the two successive approximations up to 3^n for the 3-adic integer sqrt(-2). These are the numbers congruent to 1 mod 3 (except for n = 0). • a(n) ^ 2 + 2 == 0 (mod 3 ^ n), and a(n) = = 1 (mod 3). Representatives of the complete residue system { 0, 1, ..., 3 ^ n - 1 } are taken. •

[A022385] • 4,22,26,48,74,122,196,318,514,832,1346,2178,3524,5702,9226,1492 8,24154,39082,63236,102318,165554,267872,433426,701298,1134724 ★ Fibonacci sequence beginning 4, 22. • a(n) = 4 * Fibonacci(n + 2) + 14 * Fibonacci(n) = 4 * Fibonacci(n - 1) + 22 * Fibonacci(n). - _ G. C. Greubel _ , Mar 02 20 18 •

[A290709] • 4,22,49,94,169,298,529,958,1777,3370,6505,12718,25081,49738,98 977,197374,394081,787402,1573945,3146926,6292777,12584362,25167409,50333 374,100665169 ★ Number of irredundant sets in the complete tripartite graph K_{n,n,n}. • a(n) = 3 * (2 ^ n + n ^ 2) - 2 for n > 1. - _ Andrew Howroyd _ , Aug 10 2017 • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n > 5. •

[A163433] • 0,4,22,52,94,148,214,292,382,484,598,724,862,1012,1174,1348,153 4,1732,1942,2164,2398,2644,2902,3172,3454 ★ Number of different fixed (possibly) disconnected trominoes bounded tightly by an n*n square • a(n) = 6 * n ^ 2 - 12 * n + 4, n > 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 4. • a(n + 1) = (n * i - 1) ^ 3 - (n * i + 1) ^ 3, where n > 0, i=sqrt(- 1). - _ Bruno Berselli _ , Jan 23 2014 •

[A052149] • 0,4,22,70,170,350,644,1092,1740,2640,3850,5434,7462,10010,13 160,17000,21624,27132,33630,41230,50050,60214,71852,85100,100100 ★ Non-square rectangles on an n X n board. • a(n) = n * (n - 1) * (n + 1) * (3 * n + 2) / 12. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 28 2012 • a(n) = Sum _{ k=1..n } (k - 1) * k ^ 2. - _ Michel Marcus _ , Nov 09 2012 •

[A062966] • 4,22,74,195,441,896,1680,2958,4950,7942,12298,18473,27027,3864 0,54128,74460,100776,134406,176890,229999,295757,376464,474720,593450,735 930 ★ C(3+n,n)+C(4+n,n)+C(5+n,n)+C(6+n,n). • a(0)=4, a(1)=22, a(2)=7 4, a(3)=195, a(4)=441, a(5)=896, a(6)=1680, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [Fro m Harvey P. Dale, May 02 2012] •

[A237530] • 0,4,22,82,231,566,1216,2410,4428,7712,12780,20392,31409,4703 2,68594,97878,136836,187998,254100,338602,445213,578524,743424,945860,119 2126 ★ Number of non-equivalent (mod D_3) ways to choose three points in an nXnXn triangular grid so that they do not form a 2X2X2 subtriangle. • a(n) = (n ^ 6 + 3 * n ^ 5 - 3 * n ^ 4 + 10 * n ^ 3 - 48 * n ^ 2 + IF(n==1 mod 2) * (27 * n ^ 2 - 45 * n - 9) + IF(n==1 mod 3) * 64) / 288. •

[A079272] • 4,22,94,364,1336,4738,16402,55768,186988,620014,2037190,66430 12,21523360,69353050,222408058,710270896,2259952852,7167279046,22664098 606,71479080220,224897593864,706073841202,2212364702434 ★ a(n) = ((2n+1)*3^n - 1)/2. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 9 * a(n - 3). •

[A088581] • 1,4,22,103,427,1642,6016,21325,73813,250960,841450,2790067,91 67359,29893558,96855124,312088729,1000836265,3196219036,10169787838,322 52755711,101988443731,321655860994,1012039172392,3177332285413,9955641 160957 ★ a(n) = n*x^n + (n-1)*x^(n-1) + . . . + x + 1 for x=3. • a(n) = 1 / 4 * ((6 * n - 3) * 3 ^ n + 7). • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 6 * a(n - 3) + 9 * a(n - 4) for n>3. - _ Colin Barker _ , Jun 13 2015 •

[A017970] • 1,4,22,103,484,2270,10648,49943,234256,1098758,5153632,24172 676,113379904,531798888,2494357888,11699575548,54875873536,25739066206 7,1207269217792,5662594565481,26559922791424 ★ Powers of sqrt(22) rounded down. • a(n) = Floor(Sqrt(22 ^ n)); [From Vincenzo Librandi, Jun 24 2011] •

[A099013] • 0,1,4,22,103,508,2452,11929,57856,280930,1363495,6618856,3212 8024,155953777,757013548,3674624638,17836995847,86582609284,4202807904 76,2040085854985,9902784679240,48069126732586,233332442310919 ★ a(n) = Sum_{k=0..n} 3^(k-1)*Fibonacci(k). • a(n) = 4 * a(n - 1) + 6 * a(n - 2) - 9 * a(n - 3). • a(n) = 3 ^ (n - 1) * Sum _{ k=0..n } Fibonacci(n - k) * 3 ^ (- k). • a(n) = (3 / 2 + 3 * sqrt(5) / 2) ^ n * (1 / 22 + 7 * sqrt(5) / 110) + (1 / 22 - 7 * sqrt(5) / 110) * (3 / 2 - 3 * sqrt(5) / 2) ^ n - 1 / 11. •

[A159616] • 1,4,22,110,562,2854,14514,73782,375106,1906982,9694866,49287 446,250571106,1273871494,6476200114,32924174710,167382301826,850950257 638,4326122494162,21993454571478,111811915784610,568437508112710 ★ Expansion of (1-x)/(1-5*x-2*x^2+8*x^3). • a(n) = 5 * a(n - 1) + 2 * a(n - 2) - 8 * a(n - 3) for n > 2 with a(0)=1, a(1)=4, a(2)=22, . - _ Harvey P. Dale _ , Dec 22 2013 •

[A084157] • 0,1,4,22,112,556,2704,13000,62080,295312,1401664,6644320,3147 2896,149017792,705395968,3338614912,15800258560,74772443392,35384016179 2,1674425579008,7923565146112,37494981225472,177428889407488 ★ a(n)=8a(n-1)-16a(n-2)+12a(n-4); a(0)=0, a(1)=1, a(2)=4, a(3)=22. • a(n)=8a(n - 1) - 1 6a(n - 2) + 12a(n - 4); a(0)=0, a(1)=1; • a(n)=((3 + sqrt(3)) ^ n + (3 - sqrt(3)) ^ n - (1 + sqrt(3)) ^ n - (1 - sqrt(3)) ^ n) / 4; •

[A085939] • 0,1,4,22,112,580,2992,15448,79744,411664,2125120,10970464,566 32576,292353088,1509207808,7790949760,40219045888,207621882112,10718018 03776,5532938507776,28562564853760 ★ Horadam sequence (0,1,6,4). • a(n) = s * a(n - 1) + r * a(n - 2); for n > 1, where a(0) = 0, a(1) = 1, s = 4, r = 6. • a(n) = ((2 + sqrt(10)) ^ n - (2 - sqrt(10)) ^ n) / (2 * sqrt(10)). - _ Rolf Pleis ch _ , Jul 06 2009 •

[A291183] • 4,22,116,608,3180,16618,86812,453440,2368292,12369174,646014 28,337397536,1762142540,9203221994,48066074172,251036784256,1311100720 708,6847542588950,35762957380148,186780746599392,975507894703660,50948 27328491242,26608975328086364 ★ p-INVERT of the positive integers, where p(S) = 1 - 4*S + 2*S^2. • a(n) = 8 * a(n - 1) - 16 * a(n - 2) + 8 * a(n - 3) - a (n - 4). •

[A245087] • 0,0,1,4,22,116,716,5034,40314,362874,3628789,39916793,479001 588,6227020788,87178291188,1307674367982,20922789887982,35568742809597 8,6402373705727977,121645100408831983,2432902008176639978,51090942171 709439975,1124000727777607679972 ★ Largest number such that 2^a(n) is a divisor of (n!)!. • a(n) = n! - Hw(n!), Hw being the Hamming weight function . •

[A155596] • 1,4,22,118,610,3094,15562,77998,390370,1952614,9764602,48826 078,244136530,1220694934,6103499242,30517545358,152587825090,762939322 054,3814697003482,19073485803838,95367430592050,476837156105974 ★ 5^n-2^n+1^n • a(n)=7 * a(n - 1) - 10 * a(n - 2) + 4 with a(0)=1, a(1)=4 - _ Vinc enzo Librandi _ , Jul 21 2010 •

[A180034] • 1,4,22,124,700,3952,22312,125968,711184,4015168,22668640,127 981504,722551744,4079347456,23030981248,130027192576,734101192960,4144 552772608,23399114249728,132105579953152,745835251219456 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1-2*x)/(1-6*x+2*x^2). • a(n) = 6 * a(n - 1) - 2 * a(n - 2) with a(0) = 1 and a(1) = 4. • a(n) = ((1 + 4 * A) * A ^ (- n - 1) + (1 + 4 * B) * B ^ (- n - 1)) / 14 with A = (3 + s qrt(7)) / 2 and B = (3 - sqrt(7)) / 2. •

[A136777] • 1,4,22,124,706,4036,23110,132412,758866,4349572,24931318,142 906108,819141730,4695354436,26913992998,154272336316,884296781554,50688 33880324,29054812882390,166543662614908,954636733448194,54720262535917 48,31365932493907462 ★ Number of multiplex juggling sequences of length n, base state <2,1> and hand capacity 2. • a(1)=1, a(2)=4, a(3)=22, a(n) = 8 * a(n - 1) - 13 * a(n - 2). - _ Harvey P. Dale _ , Aug 26 2012 • a(n) = ((4 - sqr t(3)) ^ n * (- 9 + 14 * sqrt(3)) + (4 + sqrt(3)) ^ n * (9 + 14 * sqrt(3))) / (16 9 * sqrt(3)) for n>1. - _ Colin Barker _ , Aug 31 2016 •

[A100525] • 4,22,128,746,4348,25342,147704,860882,5017588,29244646,17045 0288,993457082,5790292204,33748296142,196699484648,1146448611746,668199 2185828,38945504503222,226991034833504,1323000704497802,77110131921533 08,44943078448422046 ★ Bisection of A048654. • a(0)=4, a(1)=22, a(n) = 6 * a(n - 1) - a(n - 2) for n>1. - _ Philippe Deléham _ , Sep 19 2009 • a(n) = ((

3 - 2 * sqrt(2)) ^ n * (- 5 + 4 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (5 + 4 * sqrt(2))) / (2 * sqrt(2)). - _ Colin Barker _ , Oct 13 2015 ●

[A199033] ● 1,4,22,128,771,4744,29618,186880,1188679,7608764,48953224,316283264,2050706932,13336273528,86953633242,568221290496,3720529001823,24403423540348,160314652983158,1054635453261568,6946703172803003,45809043607167328,302395650703501688 ★ Number of ways to place n non-attacking bishops on a 2 x 2n board. ● a(n) = Sum _{ j=0..n } (binomial(2n - j + 1,j) * binomial(n + j + 1,n - j)). ● a(n) = [x ^ n] 1 / ((1 - x ^ 2) * (1 - x) ^ (2 * n + 2)). - _ Ilya Gutkovskiy _ , Oct 25 2017 ●

[A088536] ● 1,4,22,130,791,4900,30738,194634,1241383,7963384,51325352,332095816,2155894508,14035149748,91593941402,599021799242,3924954250975,25760310654100,169322682857430,1114452091832130,7344021912458295,48448974411575280,319942093205166840,2114743632331515480 ★ Number of unimodal functions [1..n]->[1..n]. ● a(n) = Sum _{ k=0..n - 1 } binomial(2k + n - 1,2k). ●

[A066380] ● 1,4,22,130,794,4944,31180,198440,1271626,8192524,53009102,344212906,2241812648,14637774688,95786202688,628002401520,4124304597834,27126202533252,178651732923346,1178005033926998,7776048412324714 ★ a(n) = Sum_{k=0..n} binomial(3*n,k). ● a(0)=1, a(n) = 8 * a(n - 1) - (5 * n ^ 2 + n - 2) * (3 * n - 3)! / ((2 * n - 1)! * n!). - _ Tani Akinari _ , Sep 02 2014 ● a(n) = [x ^ n] 1 / ((1 - 2 * x) * (1 - x) ^ (2 * n)). - _ Ilya Gutkovskiy _ , Oct 25 2017 ●

[A197657] ● 1,4,22,134,866,5812,40048,281374,2006698,14482064,105527060,775113440,5731756720,42628923040,318621793472,2391808860446,18023208400634,136271601087352,1033449449559724,7858699302115444,59906766929537116,457685157123172664 ★ Row sums of A194595. ● a(n) = Sum { k=0..n } Sum { j=0..2 } Sum { i=0..2 } (- 1) ^ (j + i) * C(i,j) * C(n,k) ^ 3 * (n + 1) ^ j * (k + 1) ^ (2 - j) / (k + 1) ^ 2. - Peter Luschny, Nov 02 2011 ● a(n) = Sum _{ k=0..n } h(n,k) * binomial(n,k) ^ 3, where h(n,k) = (1 + k) * (1 - ((n - k) / (1 + k)) ^ 3) / (1 + 2 * k - n) if 1 + 2 * k - n <> 0 else h(n,k) = 3. - Peter Luschny, Nov 24 2011 ●

[A143648] ● 1,4,22,136,868,5584,35992,232096,1496848,9653824,62262112,401558656,2589848128,16703198464,107727106432,694784866816,4481007870208,28900214293504,186391635645952,1202130942232576,7753131181401088 ★ a(n) = ((4 + sqrt 6)^n + (4 - sqrt 6)^n)/2. ● a(n) = 8 * a(n - 1) - 10 * a(n - 2). ●

[A069835] ● 1,4,22,136,886,5944,40636,281488,1968934,13875544,98365972,700701808,5011371964,35961808432,258805997752,1867175631136,13500088649734,97794850668952,709626281415076,5157024231645616,37528209137458516,273431636191026064,1994448720786816712 ★ Define an array as follows: b(i,0)=b(0,j)=1, b(i,j)=2*b(i-1,j-1)+b(i-1,j)+b(i,j-1). Then a(n)=b(n,n). ● a(n) = 2 ^ n * LegendreP(n, 2) = 2 ^ n * hypergeom([- n, n + 1], [1], - 1 / 2) = 2 ^ n * GegenbauerC(n, 1 / 2, 2) = Sum _{ k=0..n } 3 ^ k * binomial(n, k) ^ 2. Recurrence: a(n) = 4 * (2 * n - 1) / n * a(n - 1) - 4 * (n - 1) / n * a(n - 2). G.f.: 1 / sqrt(1 - 8 * x + 4 * x ^ 2). - _ Vladeta Jovovic _ , May 13 2003 ● a(n) = central coefficient of (1 + 4 * x + 3 * x ^ 2) ^ n. - _ Paul D. Hanna _ , Jun 03 2003 ● a(n) = sum(k=0..floor(n / 2), C(n, k) * C(2 * (n - k), n) * (- 1) ^ k * 2 ^ (n - 2 * k)). - _ Paul Barry _ , May 25 2005 ● a(n) = sum(k=0..n, C(n, k) * C(n + k, k) * 2 ^ (n - k)). - _ Paul Barry _ , May 25 2005 ● a(n) = sum(k=0..n, C(n, k) ^ 2 * 3 ^ k). - _ Paul Barry _ , Oct 15 2005 ●

[A142984] ● 1,4,22,136,984,8016,73392,742464,8254080,99838080,1307301120,18407831040,277570298880,4460506444800,76131788544000,1375048700928000,26208041287680000,525597067634688000,11065538390925312000 ★ a(1) = 1, a(2) = 4, a(n+2) = 4*a(n+1) + (n+1)*(n+2)*a(n). ● a(n) = n! * p(n + 1) * sum { k = 1..n } (- 1) ^ (k + 1) / (p(k) * p(k + 1)), where p(n) = n ^ 2. Recurrence: a(1) = 1, a(2) = 4, a(n + 2) = 4 * a(n + 1) + (n + 1) * (n + 2) * a(n). The sequence b(n):= n! * p(n + 1) satisfies the same recurrence with b(1) = 4, b(2) = 18. Hence we obtain the finite continued fraction expansion a(n) / b(n) = 1 / (4 + 1 * 2 / (4 + 2 * 3 / (4 + 3 * 4 / (4 + ... + (n - 1) * n / 4)))), for n >=2. The behavior of a(n) for large n is given by lim n - > infinity a(n) / b(n) = sum { k = 1..inf } (- 1) ^ (k + 1) / (k ^ 2 * (k + 1) ^ 2) = 1 / (4 + 1 * 2 / (4 + 2 * 3 / (4 + 3 * 4 / (4 + ... + n * (n + 1) / (4 + ...))))) = 3 - 4 * log(2), where the final equality follows by a result of Ramanujan (see [Berndt, Chapter 12, Entry 32(i)]). ●

[A097593] ● 0,0,1,4,22,138,998,8174,74898,759634,8451862,102381222,1341503546,18907621562,285259758366,4587192222958,78327809126818,1415429225667234,26987142531214118,541434621007942454,11402270678456333322 ★ Number of increasing runs of even length in all permutations of [n]. ● a(n) = (2 * n - 1) * a(n - 1) - (n - 2) * (n - 1) * a(n - 2) - (n - 2) * (n - 1) * a(n - 3). - _ Vaclav Kotesovec _ , Nov 19 2012 ●

[A025756] ● 1,1,4,22,139,949,6808,50548,384916,2988418,23559826,188061592,1516680130,12337999870,101111413540,833914857316,6916004156083,57638242134229,482444724374734,4053815358183454,34181335453533439 ★ 3rd order Vatalan numbers (generalization of Catalan numbers). ● a(n) = sum(m=1..n - 1, m / n * sum(k=1..n - m, binomial(k,n - m - k) * 3 ^ k * (- 1) ^ (n - m - k) * binomial(n + k - 1,n - 1))) + 1. [_ Vladimir Kruchinin _ , Feb 08 2011] ●

[A200731] ● 1,1,4,22,139,953,6894,51796,400269,3161262,25403536,207043048,1707345547,14219399626,119431172630,1010495472960,8604568715969,73683710894255,634142349130800,5482062214763436,47582484748270453,414503778412715065,3622792181209018168,31758958747482608912 ★ G.f. satisfies: A(x) = (1 + x*A(x)^3) * (1 + x^2*A(x)^6). ● a(n) = 1 / (3 * n + 1) * Sum _{ k = 0..floor(n / 2) } binomial(3 * n + 1,k) * binomial(3 * n + 1,n - 2 * k). ●

[A240586] ● 1,4,22,140,950,6692,48284,354216,2630310,19713188,148817524,1130011896,8621650492,66043991080,507628779896,3913088587472,30240258982662,234210742764964,1817484391184900,14128074297880536 ★ Expansion of (((8-8 / sqrt(1-8*x)) / (2*sqrt(8*x+2*sqrt(1-8*x)+2))+4 / sqrt(1-8*x))*((x*(sqrt(8*x+8*x)+2)-sqrt(1-8*x)-1))-4*x^2)) / (sqrt(8*x+2*sqrt(1-8*x)+2)-sqrt(1-8*x)-1)^2. ● a(n) = Sum _{ m=1..n } (Sum _{ j=0..m } j * (Sum _{ k=1..n } (binomial(k, n - k) * binomial(2 * k + j - 1, k + j - 1)) / (k + j))) * (- 1) ^ (j - m) * binomial(m, j))) * binomial(n - 1, m - 1)). ●

[A002293] ● 1,1,4,22,140,969,7084,53820,420732,3362260,27343888,225568798,1882933364,15875338990,134993766600,1156393243320,9969937491420,86445222719724,753310723010608,6594154339031800,57956002331347120,511238042454541545 ★ Number of dissections of a polygon: binomial(4n,n)/(3n+1). ● a(n) = binomial(4 * n,n - 1) / n, n>=1, a(0)=1. From the Lagrange series of the o.g.f. A(x) with its above given implicit equation. ● a(n) = upper left term in M ^ n, M = the production matrix: ● a(n) = Sum _{ i=0..n - 1, j=0..n - 1 - i, k=0..n - 1 - i - j } a(i)a(j)a(k)a(n - 1 - i - j - k) for n>=1; and a(0) = 1. - _ Robert FERREOL _ , Apr 02 2015 ● a(n + 1) = a(n) * 4 * (4 * n + 3) * (4 * n + 2) * (4 * n + 1) / ((3 * n + 2) * (3 * n + 3) * (3 * n + 4)). - _ Chai Wah Wu _ , Feb 19 2016 ●

[A045744] ● 1,4,22,141,988,7337,56749,452332,3689697,30652931,258465558,2206330790,19029531220,165582392070,1451789520435,12813638048184,113755675163767,1015119850103821,9100463691522759,81923222827031025 ★ Number of noncrossing connected graphs on n nodes on a circle having no four-sided faces. ● a(n) = Sum _{ i=0..floor((n - 2) / 3) } binomial(n - 2 + i, i) * binomial(4 * n - 4 - i, n - 2 - 3 * i) / (n - 1). ●

[A243626] ● 0,1,4,22,142,1006,7570,59410,480910,3986230,33666154,288675322,2506487158,21993277294,194717676514,1737297725602,15604975886110,140999418473830,1280687414193370,11686769594020810,107093513405758342 ★ Expansion of (1-3*x-sqrt(x^2-10*x+1))/(4*x+2). ● a(n) = Sum _{ k=0..(n - 1) } (k + 1) * Sum _{ i=0..(n - k - 1) } 2 ^ i * binomial(n,n - k - i - 1) * binomial(n + i - 1,i))) / n, n>1, a(0)=0. ● a(n) = Sum _{ k=0..n - 1 } binomial(n - 1,k) * hypergeom([k + 1 - n, n], [k + 2], - 2). - _ Peter Luschny _ , Jan 07 2018 ●

[A081002] ● 1,4,22,145,988,6766,46369,317812,2178310,14930353,102334156,701408734,4807526977,32951280100,225851433718,1548008755921,10610209857724,72723460248142,498454011879265,3416454622906708,23416728348467686 ★ Fibonacci(4n)+1, or Fibonacci(2n-1)*Lucas(2n+1). ● a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). ● a(n) = 1 - (1 / 5) * sqrt(5) *{ [(7 / 2) - (3 / 2) * sqrt(5))^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 ●

[A199418] ● 4,22,148,1030,7204,50422,352948,2470630,17294404,121060822,847425748,5931980230,41523861604,290667031222,2034669218548,14242684529830,99698791708804,697891541961622,4885240793731348,34196685556119430 ★ 3*7^n+1. ● a(n) = 7 * a(n - 1) - 6. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). ●

[A039304] ● 1,4,22,151,1051,7354,51472,360301,2522101,17654704,123582922,865080451,6055563151,42388942054,296722594372,2077058160601,14539407124201,101775849869404,712430949085822,4987016643600751,34909116505205251 ★ Number of distinct quadratic residues mod 7^n. ● a(n) = floor((7 ^ n + 3) * 7 / 16). ● a(n) = 7 * a(n - 1) + a(n - 2) - 7 * a(n - 3). _ Vincenzo Librandi _ , Apr 21 2012 ●

[A122704] ● 1,1,4,22,160,1456,15904,202672,2951680,48361216,880405504,17630351872,385148108800,9114999832576,232311251144704,6343764407375872,184778982658539520 ★ a(n) = sum(k=0..n, 3^(n-k)*A123125(n, k)). ● a(n) = A _{ n } (3) where A _{ n } (x) are the Eulerian polynomials. - _ Peter Luschny _ , Aug 03 2010 ● a(n) = sum(k>=0, 2 ^ (n + 1) * k ^ n / 3 ^ (k + 1)). - _ Vaclav Kotesovec _ , Nov 28 2013 ● a(n) = 2 ^ n * log(3) * integral { x >= 0 } (floor(x)) ^ n * 3 ^ (- x) dx. - _ Peter Bala _ , Feb 14 2015 ● a(n) = (2 ^ (n + 1) / 9) * hypergeom([2,2,..2],[1,1,..1],1 / 3), where the sequence in the first square bracket ("upper" parameters) has n elements all equal to 2 whereas the sequence in the second square bracket ("lower" parameters) has n - 1 elements all equal to 1. ● a(n) = (- 1) ^ (n + 1) * (Li _{- n } (sqrt(3)) + Li _{- n } (- sqrt(3))) / 3, where Li _ n(x) is the polylogarithm. - _ Vladimir Reshetnikov _ , Oct 31 2015 ●

[A067369] ● 0,0,4,22,166,1266,11166,106128,1122192,12809520,159451920,2128973760,30594214080,468275713920,7641089769600,131971588761600,2412294180710400,46422407927347200,940023724189132800 ★ Weight of the alternating group (A_n) in transpositions. ● a(n) = a(n - 1) + [(n - 1)! / 2] * [vbar(P _ N - 1) + 1] * [n - 1)] where vbar(P _ N) is the average weight of a permutation in P _ N, the periphery of A _ n. vbar(P _ N - 1) is p(n - 1) / (n - 1)!2 where p(n) is from sequence A067370. ● a(n) = 1 / 2 * ((- 1) ^ (n + 1) * (n - 2)! + n * n! - abs(stirling1(n + 1, 2))), n>1. E.g.f.: 1 / 2 * (- (1 + x) * log(1 + x) + x + x / (1 - x) ^ 2 + log(1 - x) / (1 - x) + 2). - _ Vladeta Jovovic _ , Feb 02 2003 ●

[A169599] ● 4,23,33,52,62,81,91,110,120,139,149,168,178,197,207,226,236,255,265,284,294,313,323,342,352 ★ Numbers that are congruent to {4, 23} mod 29. ● a(n) = (58 * n + 9 * (- 1) ^ n - 33) / 4. - _ Vincenzo Librandi _ , Jan 06 2013, modified Jul 07 2015 ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Jan 06 2013 ●

[A030653] ● 4,23,60,121,212,339,508,725,996,1327,1724,2193,2740,3371,4092,4909,5828,6855,7996,9257,10644,12163,13820,15621,17572 ★ n^3*a(n) is number of circles in complex projective plane tangent to three smooth curves of degree n in general position. ● a(n)=n ^ 3 + 3 * n ^ 2 + 3 * n - 3. ●

[A132112] ● 0,4,23,68,150,280,469,728,1068,1500,2035,2684,3458,4368,5425,6640,8024,9588,11343,13300,15470,17864,20493,23368,26500 ★ a(n) = n*(n+1)*(11*n+1)/ ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 29 2012 ●

[A071246] ● 0,0,4,23,76,190,400,749,1288,2076,3180,4675,6644,9178,12376,16

345,21200,27064,34068,42351,52060,63350,76384,91333,108376 ★ a(n) = n*(n - 1)*(2*n^2 + n + 2)/6. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n > 4, a(0)=0, a(1)=0, a(2)=4, a(3)=23, a(4)=76. [_ Yosu Yurramendi _ , Sep 03 2013] ●

[A082970] ● 4,23,107,464,1950,8063,33033,134576,546312,2212550,8946454,36134656,145831270,588199815,2371435125,9557736480,38511326040,155143873170,624899673690,2516678580000,10134353299980,40805797511622 ★ Number of permutations of length n containing 2 occurrences of 132. ● a(n) = C(2 * n - 6,n - 2) * (n ^ 3 + 17 * n ^ 2 - 80 * n + 80) / (2n(n - 1)). ●

[A017973] ● 1,4,23,110,529,2536,12167,58350,279841,1342070,6436343,30867616,148035889,709955183,3404825447,16328969210,78310985281,375566291832,1801152661463,8638024712142,41426511213649 ★ Powers of sqrt(23) rounded down. ● a(n) = Floor(Sqrt(23 ^ n)); [From Vincenzo Librandi, Jun 24 2011] ●

[A015532] ● 0,1,4,23,120,641,3404,18103,96240,511681,2720404,14463383,76896360,408829121,2173591004,11556167863,61439808480,326652408961,1736688295204,9233320043543,49090098240600,260993633267201,1387605220753004,7377376315882423 ★ a(n) = 4*a(n-1) + 7*a(n-2). ● a(n) = - 7 ^ n * (A ^ n - B ^ n) / (2sqrt(11)) where A = - 1 / (2 + sqrt(11)) and B = 1 / (sqrt(11) - 2). (End) ●

[A024050] ● 1,4,23,122,621,3120,15619,78118,390617,1953116,9765615,48828114,244140613,1220703112,6103515611,30517578110,152587890609,762939453108,3814697265607,19073486328106,95367431640605 ★ a(n) = 5^n - n. ● a(n) = 7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3). ●

[A291026] ● 4,23,128,711,3948,21920,121700,675673,3751296,20826953,115629868,641969344,3564171060,19788040311,109861881472,609945846247,3386378699324,18800948912352,104381615697460,579519775642745,3217455182279552,17863096800262569 ★ p-INVERT of the positive integers, where p(S) = 1 - 4*S + S^2. ● a(n) = 8 * a(n - 1) - 15 * a(n - 2) + 8 * a(n - 3) - a(n - 4). ●

[A038723] ● 1,4,23,134,781,4552,26531,154634,901273,5253004,30616751,178447502,1040068261,6061962064,35331704123,205928262674,1200237871921,6995498968852,40772755941191,237641036678294,1385073464128573 ★ a(n) = 6a(n-1) - a(n-2), n >= 2, a(0)=1, a(1)=4. ● a(n) = ((4 + sqrt(2)) / 8) * (3 + 2 * sqrt(2)) ^ (n - 1) + ((4 - sqrt(2)) / 8) * (3 - 2 * sqrt(2)) ^ (n - 1). - _ Antonio Alberto Olivares _ , Mar 29 2008 ●

[A237362] ● 1,4,23,136,1147,11277,105046,927054,7581063,57507712,405267267,2662585198,16366889904,94486124304,514135539077 ★ Nonzero Hilbert function values for the invariant ring of 3 X 3 X 3 X 3 tensors. ● a(n) = H(3n); H(d) = (1 / d!) sum _{ lambda } C _ lambda * chi(mu,lambda) ^ k. ●

[A162561] ● 4,23,142,914,6016,40052,268168,1800536,12105664,81444848,548123872,3689452064,24835795456,167190009152,1125512591488,7576945713536,51008180122624,343388995528448,2311709992586752,15562542024241664 ★ a(n) = ((4+sqrt(3))*(5+sqrt(3))^nv+v(4-sqrt(3))*(5-sqrt(3))^n)/2. ● a(n) = 10 * a(n - 1) - 22 * a(n - 2) for n > 2; a(0) = 4, a(1) = 23. ●

[A146964] ● 1,4,23,148,977,6484,43079,286276,1902497,12643492,84025463,558412276,3711069041,24662841844,163903113383,1089259330468,7238946623297,48108239012164,319715392487639,2124748988791636,14120553377944337 ★ a(n) = ((4 + sqrt(7))^n + (4 - sqrt(7))^n))/2. ● a(n) = 8 * a(n - 1) - 9 * a(n - 2); a(0)=1, a(1)=4. ●

[A194006] ● 1,1,4,23,149,1122,9895,99017,1095022,13225701,173261337,2444494252,36889309869,592107098533,10063638652228,180435656257819,3401248197894641,67204507885768562,1388196723844580331,29907194746593479677,670590559444043372630 ★ E.g.f.: exp(exp(3*x) - 2*exp(2*x) + 2*exp(x) - 1) ● a(n):=sum(k=1..n, sum(j=k..n, j! * (sum(i=0..(j - k) / 3, (- 1) ^ i * binomial (j - 3 * i - 1,k - 1) * binomial(k,k - i))) * stirling2(n,j)) / k!), n>1, a(0)=1. ●

[A116881] ● 1,4,23,150,1037,7408,54035,399850,2990105,22540260,170991647,1303789534,9983164453,76711854040,591236890667,4568611684306,35382196437041,274564234870732,2134337640202295,16617270658727878 ★ Row sums of triangle A116880 (generalized Catalan C(1,2)). ● a(n) = sum(k=0..n, ((k + 1) ^ 2 * binomial(2 * (n + 1),n - k) * binomial(n + k + 2,n + 1)) / ((n + k + 1) * (n + k + 2))). - _ Vladimir Kruchinin _ , Nov 23 2014 ●

[A246813] ● 1,4,23,152,1085,8156,63579,509136,4161649,34566580,290798551,2471871784,21191824645,182984610220,1589620392835,13881368684128,121767703088377,1072382299895428,9477296423786207,84017470425706040,746903374745524629,6656552616997851036,59459592374756968323 ★ G.f.: Sum_{n>=0} x^n / (1-3*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k] * [Sum_{k=0..n} C(n,k)^2 * 3^k * x^k]. ● a(n) = Sum _{ k=0..[n / 2] } Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 3 ^ j. ●

[A007297] ● 1,1,4,23,156,1162,9192,75819,644908,5616182,49826712,448771622,4092553752,37714212564,350658882768,3285490743987,30989950019532,294031964658430,2804331954047160,26870823304476690,258548658860327880 ★ Number of connected graphs on n labeled nodes on a circle with straight-line edges that don't cross. ● a(n) = (1 / n) * Sum _{ k=0..n } binomial(3n, n - k - 1) * binomial(n + k - 1, k). - _ Paul Barry _ , May 11 2005 ● a(n) = 4 ^ n * (Gamma((3 * n + 1) / 2) / Gamma((n + 3) / 2) / Gamma(n + 1) - Gamma(3 * n / 2 + 1) / Gamma(n / 2 + 1) / Gamma(n + 2)). - _ Mark van Hoeij _ , Aug 27 2005 ● a(n) = (1 / n) * Sum _{ k=0..n } C(3n, k) * C(2n - k - 2, n - 1). - _ Paul Barry _ , Sep 27 2005 ● a(n) = binomial(3 * n,2 * n + 1) * hypergeom([1 - n,n], [2 * n + 2], - 1) / n. - _ Vladimir Reshetnikov _ , Oct 25 2015 ●

[A198916] ● 1,1,4,23,158,1212,10058,88811,826982,8085950,82922624,893003234,10129641140,121552747370,1550460365622,21115793548491,308004022741254,4817224946243142,80703099826887368,1444218797390453282,27501426760092853796,554910390616969332656 ★ G.f. satisfies: A(x) = Sum_{n>=0} n!*x^n*A(x)^(2*n). ● a(n) = [x ^ n] (Sum _{ k>=0 } k! * x ^ k) ^ (2 * n + 1) / (2 * n + 1). ●

[A182969] ● 1,1,4,23,159,1236,10454,94401,899286,8964253,92961432,998600238,11075132605,126489183013,1484601117235,17876874457054,220546820252773,2784446513061287,35940592329823310,473893641259375150 ★ G.f. satisfies: A(x) = 1 + x*A(x)^3*A(x*A(x)). ● a(n)=T(n - 1,1), T(n,m)=m / n * sum(k=1..n - m, sum(i=k..n - m, T(n - m,i) * k / i * binomial(2 * i - k - 1,i - 1)) * binomial(n + k - 1,n - 1)), n>m, T(n,n)=1. [_ Vladimir Kruchinin _ , May 07 2012] ●

[A245110] ● 1,1,4,23,161,1302,11810,117889,1277890,14894043,185226966,2442933979,33998594943,497207012018,7613797641286,121711037138949,2025687745708717,35020194893837462,627586143525936866,11636932722633705392,222893347544826491780,4403534468187986689781 ★ G.f.: Sum_{n>=0} (exp(-1/(1-n*x)) / (1-n*x)^n) / n!. ● a(n) = Sum _{ k=1..n } Stirling2(n, k) * C(n + k - 1, k - 1) for n>0 with a(0)=1. ●

[A139245] ● 4,24,44,64,84,104,124,144,164,184,204,224,244,264,284,304,324,344,364,384,404,424,444,464,484 ★ a(n) = 20*n - 16. ● a(n) = a(n - 1) + 20. ● a(n) = 20 * n - 16, with n>=1. - _ Paolo P. Lava _ , Sep 06 2010 ●

[A128205] ● 0,1,4,24,56,128,384,832,1792,4608,9728,20480,49152,102400,212992,491520,1015808,2097152,4718592,9699328,19922944,44040192,90177536,184549376,402653184 ★ a(n) = 2^(n-1)*A047240(n). ● a(n) = 2 ^ (n - 1) * (cos(2 * Pi * n / 3) + sqrt(3) * sin(2 * Pi * n / 3) / 3 + 2n - 1); ●

[A085250] ● 0,4,24,60,112,180,264,364,480,612,760,924,1104,1300,1512,1740,1984,2244,2520,2812,3120,3444,3784,4140,4512 ★ 4 times hexagonal numbers: a(n) = 4*n*(2*n-1). ● a(n) = 16 * n + a(n - 1) - 12 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 08 2010 ●

[A124350] ● 0,4,24,60,144,260,456,700,1056,1476,2040,2684,3504,4420,5544,6780,8256,9860,11736,13756,16080,18564,21384,24380,27744 ★ a(n) = 4*n*(floor(n^2/2)+1 For n>=3, this is the number of directed Hamiltonian paths on the n-prism graph. ● a(n) = n * (3 + (- 1) ^ n + 2 * n ^ 2). G.f.: 4 * x * (x ^ 2 + 1) * (x ^ 2 + 4 * x + 1) / ((x - 1) ^ 4 * (x + 1) ^ 2). - _ Colin Barker _ , Sep 06 2013 ●

[A181617] ● 0,4,24,72,160,300,504,784,1152,1620,2200,2904,3744,4732,5880,7200,8704,10404,12312,14440,16800,19404,22264,25392,28800 ★ Molecular topological indices of the complete graph K_n. ● a(n) = 2 * n * (n - 1) ^ 2. ●

[A261256] ● 4,24,72,160,432,896,2592,5632,12800,26624,61440,124416,278528,622592,1376256,2949120,5971968,12058624,25690112,60817408,130023424 ★ Let S_k denote the sequence of numbers j such that A001222(j) - A001221(j) = k. Then a(n) is the n-th term of S_n. ● a(n + 1) > 2 * a(n). ● a(n) >= 2 ^ prime(n) for n < 5. ●

[A011915] ● 0,0,0,0,4,24,72,168,336,604,1008,1584,2376,3432,4804,6552,8736,11424,14688,18604,23256,28728,35112,42504,51004 ★ a(n) = floor(n(n-1)(n-2)(n-3)/5). ● a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 5) - 4 * a(n - 6) + 6 * a(n - 7) - 4 * a(n - 8) + a(n - 9). ●

[A112742] ● 0,0,4,24,80,200,420,784,1344,2160,3300,4840,6864,9464,12740,16800,21760,27744,34884,43320,53200,64680,77924,93104,110400 ★ n^2*(n^2-1)/3. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). G.f.: 4 * x ^ 2 * (1 + x) / (1 - x) ^ 5. - _ Colin Barker _ , Jan 26 2012 ●

[A158494] ● 4,24,80,248,768,2360,7200,21848,66048,199160,599520,1802648,5416128,16264760,48827040,146546648,439771008,1319575160,3959249760,11878797848,35638490688,106919666360,320767387680,962318940248,28869903751 68 ★ Boundary area of the T-square fractal. ● a(1)=4, a(2)=24, a(3)=80; for n>3, a(n) = 3 * a(n - 1) + 2 ^ n - 8. ● a(n) = 4 + (92 / 27) * 3 ^ n - 2 * 2 ^ n - (56 / 9) * (binomial(2 * (n - 1),n - 1) mod 2) - (8 / 3) * (binomial(n ^ 2,n + 2) mod 2). - _ Paolo P. Lava _ , Mar 31 2009 ● a(n) = 4 - 2 ^ (n + 1) + 9 2 * 3 ^ (n - 3) for n>2. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>5. (End) ●

[A211071] ● 0,4,24,83,208,384,756,1332,1944,3099,4672,6144,8768,12100,15000,19995,26064,31104,39588,49588,57624,70931,86272,98304,117984 ★ Number of 2 X 2 matrices having all terms in {1,...,n} and determinant = 1 (mod 3). ● a(n) = a(n - 1) + 4 * a(n - 3) - 4 * a(n - 4) - 6 * a(n - 6) + 6 * a(n - 7) + 4 * a(n - 9) - 4 * a(n - 10) - a(n - 12) + a(n - 13) for n > 13. ● a(n) = r ^ 2 * s ^ 2 + 2 * r ^ 2 * s * t + r ^ 2 * t ^ 2 + 2 * r * s ^ 3 + 6 * r * s ^ 2 * t + 6 * r * s * t ^ 2 + 2 * r * t ^ 3 + 2 * s ^ 3 * t + 2 * s * t ^ 3. ●

[A212135] ● 0,0,4,24,84,220,480,924,1624,2664,4140,6160,8844,12324,16744,22260,29040,37264,47124,58824,72580,88620,107184,128524,152904 ★ Number of (w,x,y,z) with all terms in {1,...,n} and median<mean. ● a(n) = n * (n - 1) * (n ^ 2 - n + 2) / 2. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ●

[A005561] ● 1,4,24,84,392,1344,5760,19800,81675,283140,1145144,4008004,16032016,56632576,225059328,801773856,3173688180,11392726800,44986664800,162594659920,641087516256,2331227331840,9183622822400,33577620944400,132211882468575 ★ Number of walks on square lattice. ● a(n) = C(n + 4, ceil(n / 2)) * C(n + 3, floor(n / 2)) - C(n + 4, ceil((n - 1) / 2)) * C(n + 3, floor((n - 1) / 2)). - _ Paul D. Hanna _ , Apr 16 2004 ●

[A212681] ● 0,0,4,24,88,230,504,966,1696,2772,4300,6380,9144,12714,17248,22890,29824,38216,48276,60192,74200,90510,109384,131054,155808 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |x-y|<|y-z|. ● a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). ●

[A054603] ● 0,4,24,96,280,660,1344,2464,4176,6660,10120,14784,20904,28756,38640,50880,65824,83844,105336,130720,160440,194964,234784,280416,332400 ★ Sum_{d|4} phi(d)*n^(4/d). ● a(n) = n ^ 4 + n ^ 2 + 2n. ●

[A091143] • 1,4,24,96,448,1792,7680,30720,126976,507904,2064384,8257536,33292288,133169152,534773760,2139095040,8573157376,34292629504,137304735744,549218942976,2197949513728,8791798054912,35175782154240,140703128616960,562881233944576 ★ Number of Pythagorean triples mod 2^n; i.e., number of solutions to x^2 + y^2 = z^2 mod 2^n. • a(2 * k) = (2 ^ (k + 1) - 1) * 2 ^ (3 * k), a(2 * k - 1) = (2 ^ k - 1) * 2 ^ (3 * k - 1). • a(n) = 4 * a(n - 1) + 8 * a(n - 2) - 32 * a(n - 3). •

[A119920] • 1,4,24,96,480,1728,8064,30720,129024,506880,2095104,8232960,33546240,133152768,536248320,2139095040,8589803520,34285289472,137438429184,549212651520,2198882746368,8791793860608,35184363700224 ★ Number of rationals in [0, 1) having exactly n preperiodic bits, then exactly n periodic bits. • a(n) = 2 ^ (n - 1) * sum _{ d|n } (2 ^ d - 1) * mu(n / d) •

[A052462] • 4,24,99,599,2474,14974,61849,374349,1546224,9358724,38655599,233968099,966389974,5849202474,24159749349,146230061849,603993737324,3655751546224,15099843343099,91393788655599,377496083577474 ★ a(n) is the solution k to Mod[24k,5^n]==1. • a(n) = (1 + (21 + 2 * (- 1) ^ n) * 5 ^ n) / 24 - Bruno Berselli, Apr 04 2011 • a(n) = a(n - 1) + 25 * a(n - 2) - 25 * a(n - 3). - _ Vincenzo Librandi _ , Jul 01 2012 •

[A120908] • 0,4,24,108,432,1620,5832,20412,69984,236196,787320,2598156,8503056,27634932,89282088,286978140,918330048,2927177028,9298091736,29443957164,92980917360,292889889684,920511081864,2887057484028 ★ Sum of the lengths of the drops in all ternary words of length n on {0,1,2}. The drops of a ternary word on {0,1,2} are the subwords 10,20 and 21, their lengths being the differences 1, 2 and 1, respectively. • a(n)=4 * (n - 1) * 3 ^ (n - 2). •

[A145655] • 4,24,108,448,1812,7272,29116,116496,466020,1864120,7456524,29826144,119304628,477218568,1908874332,7635497392,30541989636,122167958616,488671834540,1954687338240,7818749353044,31274997412264 ★ Partial sums of A080674. • a(1)=4, a(2)=24, a(3)=108, a(n)=6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Nov 27 2013 •

[A059153] • 4,24,112,480,1984,8064,32512,130560,523264,2095104,8384512,33546240,134201344,536838144,2147418112,8589803520,34359476224,137438429184,549754765312,2199021158400,8796088827904,35184363700224,140737471578112,562949919866880 ★ a(n) = 2^(n+2)*(2^(n+1)-1). • a(n) = 6 * a(n - 1) - 8 * a(n - 2). •

[A099582] • 0,0,1,4,24,112,560,2688,13056,62976,304384,1469440,7096320,34263040,165441536,798818304,3857055744,18623496192,89922273280,434183077888,2096421666816,10122418978816,48875363631104,235991130439680 ★ Sum C(n-k,k-1)4^(n-k-1), k=0..floor(n/2). • a(0)=0, a(1)=0, a(2)=1, a(3)=4, a(n)=4 * a(n - 1) + 8 * a(n - 2) - 16 * a(n - 3) - 16 * a(n - 4) From _ Harvey P. Dale _ , Jul 19 2012 •

[A017976] • 1,4,24,117,576,2821,13824,67723,331776,1625363,7962624,39008731,191102976,936209559,4586471424,22469029417,110075314176,539256706015,2641807540224,12942160944371,63403380965376 ★ Powers of sqrt(24) rounded down. • a(n) = Floor(Sqrt(24 ^ n)); [From Vincenzo Librandi, Jun 24 2011] •

[A002011] • 4,24,120,560,2520,11088,48048,205920,875160,3695120,15519504,64899744,270415600,1123264800,4653525600,19234572480,79342611480,326704870800,1343120024400,5513861152800,22606830726480,92580354403680,378737813469600 ★ a(n) = 4*(2n+1)!/n!^2. • a(n) = 1 / J(n) where J(n) = Integral _{ t=0..Pi / 4 } (cos(t) ^ 2 - 1 / 2) ^ (2n + 1). - _ Benoit Cloitre _ , Oct 17 2006 •

[A024049] • 0,4,24,124,624,3124,15624,78124,390624,1953124,9765624,48828124,244140624,1220703124,6103515624,30517578124,152587890624,762939453124,3814697265624,19073486328124,95367431640624 ★ a(n) = 5^n-1. • a(n + 1) = 5 * a(n) + 4. [_ Reinhard Zumkeller _ , Nov 22 2009] • a(n) = Sum _{ i =1..n } 4 ^ i * binomial(n,n - i) for n>0, a(0)=0. [_ Bruno Berselli _ , Nov 1 1 2015] •

[A103455] • 1,4,24,124,624,3124,15624,78124,390624,1953124,9765624,48828124,244140624,1220703124,6103515624,30517578124,152587890624,762939453124,3814697265624,19073486328124,95367431640624,476837158203124 ★ 0^n+5^n-1. • a(n) = sum(k=0..n, (2 * 0 ^ (n - k) - 1) * 0 ^ (k * (n - k)) * 5 ^ k). •

[A180222] • 0,1,4,24,128,704,3840,20992,114688,626688,3424256,18710528,102236160,558628864,3052404736,16678649856,91133837312,497964548096,2720928890880,14867431948288,81237158920192,443888091267072,2425449636429824,13252903275855872 ★ a(n) = 4*a(n-1) + 8*a(n-2), with a(1)=0 and a(2)=1. • a(n) = 2 ^ (n - 3) * ((1 + sqrt(3)) ^ (n - 1) - (1 - sqrt(3)) ^ (n - 1)) / sqrt(3). - _ Rolf Pleisch _ , May 14 2011 •

[A153337] • 1,4,24,136,720,3624,17584,83024,383904,1746280,7839216,34812144,153204064,669108496,2903267040,12526343584,53779871552,229895033832,978965187184,4154438114480,17575883030496,74150192517808 ★ Number of zig-zag paths from top to bottom of a 2n-1 by 2n-1 square whose color is that of the top right corner • a(n) = n * 2 ^ (2n - 2) - 2(n - 1) * binomial(2n - 2,n - 1). •

[A122690] • 1,4,24,136,776,4424,25224,143816,819976,4675144,26655624,151978696,866515976,4940494664,28168537224,160604664776,915697472776,5220906022984,29767320006024,169720224122056,967670400634376 ★ a(0)=1, a(1)=4, a(n)=5*a(n-1)+4*a(n-2) for n>1. • a(n)=(1 / 2) * [5 / 2 - (1 / 2) * sqrt(41)] ^ n + (3 / 82) * sqrt(41) * [5 / 2 + (1 / 2) * sqrt(41)] ^ n - (3 / 82) * sqrt(41) * [5 / 2 - (1 / 2) * sqrt(41)] ^ n + (1 / 2) * [5 / 2 + (1 / 2) * sqrt(41)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 07 2008 •

[A262376] • 1,1,1,4,24,139,853,5886,46198,409069,4037859,43954648,522956236,6749977023,93928268209,1401602636194,22324392524178,378011820620161,6780385526348143,128425485935180124,2561327494111820104,53652269665821260083,1177652997443428940061 ★ a(n) = Sum_{k=0..n} (k! - k). • a(n) = Sum _{ k=0..n } k! - k. •

[A005319] • 0,4,24,140,816,4756,27720,161564,941664,5488420,31988856,186444716,1086679440,6333631924,36915112104,215157040700,1254027132096,7309005751876,42600007379160,248291038523084,1447146223759344,8434586304032980 ★ a(n) = 6a(n-1) - a(n-2). • a(n) = [(3 + 2 * Sqrt(2)) ^ n - (3 - 2 * Sqrt(2)) ^ n] / Sqrt(2) - _ Gregory V. Richardson _ , Oct 06 2002 •

[A155119] • 1,4,24,140,820,4800,28100,164500,963000,5637500,33002500,193200000,1131012500,6621062500,38760375000,226907187500,1328337812500,7776225000000,45552814062500,266495195312500,1540090046875000 ★ a(n)=5*a(n-1)+5*a(n-2), n>2 ; a(0)=1, a(1)=4, a(2)=24 . • a(n)=(14 / 15) * sqrt(5) *{ [(5 / 2) + (3 / 2) * sqrt(5)] ^ (n - 1) - [(5 / 2) - (3 / 2) * sqrt(5)] ^ (n - 1) }+ 2 *{ [(5 / 2) + (3 / 2) * sqrt(5)] ^ (n - 1) + [(5 / 2) - (3 / 2) * sqrt(5)] ^ (n - 1) }+ (1 / 5) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A077613] • 0,1,4,24,144,1080,8640,80640,806400,9072000,108864000,1437004800,20118067200,305124019200,4881984307200,83691159552000,1506440871936000,28810681675776000,576213633515520000 ★ Number of adjacent pairs of form (even,odd) among all permutations of {1,2,...,n}. Also, number of adjacent pairs of form (odd,even). • a(n) = floor(n / 2) * ceiling(n / 2) * (n - 1)!. Proof: There are floor(n / 2) * ceiling(n / 2) pairs (r, s) with r even and s odd. For each pair, there are n - 1 places it can occur in a permutation and (n - 2)! possible arrangements of the other numbers. •

[A104531] • 1,4,24,148,920,5736,35808,223668,1397496,8732920,54575888,341082504,2131706864,13322959888,83267756400,520420803060,3252620324280,20328841669080,127055130786960,794094089779800,4963086293860560,31019282772508080,193870492861908480 ★ Expansion of (1+sqrt(1-4*x))/(5*sqrt(1-4*x)-3). • a(n) = 0 ^ n + sum { k=0..n, 4 ^ (k + 1) * C(2n - 1, n - k - 1) * 2 * (k + 1) / (n + k + 1) } •

[A225050] • 1,4,24,148,920,5754,36204,229128,1458072,9325030,59905274,386368008,2500651244,16234450288,105680341560,689579733648,4509096746904,29539804567230,193843622021910,1273932593379600,8383551165082170,55238332546851630,364364231864557080 ★ Number of shortest paths from one vertex of a cube (side = n units) to farthest vertex, along the grid on 3 surfaces meeting at another vertex. • a(n) = 2 * binomial(3n,n) - binomial(2n,n). •

[A045738] • 1,4,24,148,925,5838,37128,237576,1527867,9867000,63946740,415683216,2709186844,17697136408,115833872400,759517409424,4987999112007,32804320226580,216018805979760,1424151150922500,9398957079664845,62090203617715350,410536632908307360 ★ Number of branches in all noncrossing rooted trees on n nodes on a circle. • a(n) = binomial(3n - 3, n - 2) - 2 * binomial(3n - 6, n - 3). •

[A192806] • 1,1,4,24,149,927,5768,35890,223317,1389537,8646064,53798080,334745777,2082876103,12960201916,80641778674,501774317241,3122171529233,19426970897100,120879712950776,752145307699165,4680045560037375,29120472094716576 ★ Constant term in the reduction of (x^2+x+1)^n by x^3->x^2+x+1. See Comments. • a(n) = 7 * a(n - 1) - 5 * a(n - 2) + a(n - 3). •

[A084130] • 1,4,24,160,1088,7424,50688,346112,2363392,16138240,110198784,752484352,5138284544,35086401536,239584935936,1635988275200,11171226714112,76281907511296,520885446377472,3556828310929408,24287542916418488 ★ a(n) = 8a(n-1)-8a(n-2), a(0)=1, a(1)=4. • a(n) = (4 + sqrt(8)) ^ n / 2 + (4 - sqrt(8)) ^ n / 2. •

[A059304] • 1,4,24,160,1120,8064,59136,439296,3294720,24893440,189190144,1444724736,11076222976,85201715200,657270374400,5082890895360,39392404439040,305870434467840,2378992268083200,18531097667174400 ★ a(n) = 2^n * (2*n)! / (n!)^2. • a(n) = C(2 * n,n) * 2 ^ n. • a(n) = a(n - 1) * (8 - 4 / n). • a(n) = Sum _{ k = 0..2 * n } (- 1) ^ (n + k) * binomial(2 * n,k) * binomial(3 * n - 2 * k,n) * binomial(n + k,n). - _ Peter Bala _ , Aug 04 2016 •

[A069722] • 0,4,24,160,1120,8064,59136,439296,3294720,24893440,189190144,1444724736,11076222976,85201715200,657270374400,5082890895360,39392404439040,305870434467840,2378992268083200,18531097667174400 ★ Number of rooted unicursal planar maps with n edges and exactly one vertex of valency 1 (unicursal means that exactly two vertices are of odd valency; there is an Eulerian path). • a(n) = 2 ^ (n - 1) * binomial(2n - 2, n - 1), n>1. •

[A214377] • 1,4,24,168,1280,10296,86016,739024,6488064,57946200,524812288,4808643120,44493176832,415146189360,3901709352960,36902658748320,350980432461824,3354743017001880,32207616155320320,310446853795570800,3003167577200394240,29146910264615460240 ★ G.f. satisfies: A(x) = 1 + 4*x*A(x)^(3/2). • a(n) = 2 ^ (2 * n + 1) * binomial(3 * n / 2, n) / (n + 2). •

[A246423] • 1,4,24,168,1286,10440,88112,764368,6766278,60828024,553529808,5086837680,47127896444,439608960656,4124536224864,38891699480992,368326082421446,3501654020899800,33403335855108368,319612386771594608,3066480362268978804,29493401582426082032,284301304326376855200 ★ G.f.: Sum_{n>=0} x^n / (1-3*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * 2^k * x^k] * [Sum_{k=0..n} C(n,k)^2 * 3^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 2 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 3 ^ j. •

[A188913] • 1,4,24,168,1300,10896,97734,928752,9262116,96091440,1029267888,11311712352,126921365298,1448378629600,16760687848890,196237061599008,2320532776851972,27676644749022672,332568471941572944,4022574792189178080 ★ Binomial convolution of the binomial coefficients bin(3n,n) (A005809) and bin(3n,n)/(2n+1) (A001764). • a(n) = sum(binomial(n,k) * binomial(3 * k,k) * binomial(3 * n - 3 * k,n - k) / (2 * n - 2 * k + 1),k=0..n). •

[A032349] • 1,4,24,172,1360,11444,100520,911068,8457504,80006116,7684643

12,7474561164,73473471344,728745517972,7284188537672,73301177482172,742009157612608,7550599410874820,77193497566719320,792498588659426924 ★ Number of paths from (0,0) to (3n,0) that stay in first quadrant (but may touch horizontal axis), where each step is (2,1),(1,2) or (1,-1) and start with (2,1). • a(n) = 2 * Sum _{ i=0,.,n - 1 } (2 * n + i - 1)! / (i! * (n - i - 1)! * (n + i + 1)!). - _ Vladimir Kruchinin _ , Oct 18 2011 •

[A000309] • 1,1,4,24,176,1456,13056,124032,1230592,12629760,133186560,1436098560,15774990336,176028860416,1990947110912,22783499599872,263411369705472,3073132646563840,36143187370967040,428157758086840320 ★ Number of rooted planar bridgeless cubic maps with 2n nodes. • a(n) = 4 * a(n - 1) * binomial(3n, 3) / binomial(2n + 2, 3); a(n) = 2 ^ n * (3 * n)! / ((n + 1) ! * (2 * n + 1)!). •

[A111556] • 1,4,24,184,1664,17024,192384,2366144,31362304,444907264,6720628224,107674883584,1823884857344,32575705493504,612054254936064,12071987619713024,249477777420304384,5392386599983366144 ★ Column 3 of triangle A111553. • a(n + 1) is the moment of order n for the density 6 * x ^ 3 * exp(- x) / ((x ^ 3 * exp(- x) * Ei(x) - x ^ 2 - x - 2) ^ 2 + Pi ^ 2 * x ^ 6 * exp(- 2 * x)) over the interval 0..infinity [Roland Groux, Dec 10 2010] •

[A141013] • 0,4,24,250,3096,40834,554664,7647250,106237176,1481554114,20701400904,289537131250,4051542498456,56707753666594,793811662272744,11112685048647250,155572843119354936 ★ E.g.f. Sum_{d|M} (exp(d*x)-1)/d, M=14. • a(n) = sum _{ d|14 } d ^ (n - 1) = 1 + 2 ^ (n - 1) + 7 ^ (n - 1) + 14 ^ (n - 1). • a(n)= 24 * a(n - 1) - 163 * a(n - 2) + 336 * a(n - 3) - 196 * a(n - 4), n>4. •

[A141014] • 0,4,24,260,3528,51332,762744,11406980,170939688,2563287812,38445332184,576660215300,8649804864648,129746582562692,1946196290656824,29192932133689220,437893920912786408 ★ E.g.f. Sum_{d|M} (exp(d*x)-1)/d, M=15. • a(n) = sum _{ d|15 } d ^ (n - 1) = 1 + 3 ^ (n - 1) + 5 ^ (n - 1) + 15 ^ (n - 1). G.f.: - 4 * x * (- 1 + 18 * x - 79 * x ^ 2 + 90 * x ^ 3) / ((x - 1) * (15 * x - 1) * (3 * x - 1) * (5 * x - 1)). a(n) = 24 * a(n - 1) - 158 * a(n - 2) + 360 * a(n - 3) - 225 * a(n - 4). - _ R. J. Mathar _ , Mar 05 2010 •

[A042889] • 1,4,25,29,83,278,361,1722,3805,13137,30079,133453,163532,624049,1411630,2035679,13625704,56538495,3519012394,14132588071,88314540820,102447128891,293208798602,982073524697,1275282323299 ★ Denominators of continued fraction convergents to sqrt(976). • a(n) = 3532638098 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A169600] • 4,25,35,56,66,87,97,118,128,149,159,180,190,211,221,242,252,273,283,304,314,335,345,366,376 ★ Numbers that are congruent to {4, 25} mod 31. • a(n) = (62 * n + 11 * (- 1) ^ n - 35) / 4. - _ Vincenzo Librandi _ , Jan 06 2013, modified Jul 07 2015 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Jan 06 2013 •

[A199772] • 1,4,25,41,260,1649,2705,17156,108809,178489,1132036,7179745,11777569,74697220,473754361,777141065,4928884484,31260608081,51279532721,325231678724,2062726378985,3383672018521,21460361911300,136108680404929,223271073689665 ★ x-values in the solution to 17*x^2 - 16 = y^2. • a(n) = 66 * a(n - 3) - a(n - 6), a(1)=1, a(2)=4, a(3)=25, a(4)=41, a(5)=260, a(6)=1649. •

[A016790] • 1,4,25,64,121,196,289,400,529,676,841,1024,1225,1444,1681,1936,2209,2500,2809,3136,3481,3844,4225,4624,5041 ★ a(n) = (3n+2)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) • a(n) = a(n - 1) + 3 * (6 * n + 1). - _ Miquel Cerda _ , Oct 25 2016 •

[A212893] • 1,4,25,64,169,324,625,1024,1681,2500,3721,5184,7225,9604,12769,16384,21025,26244,32761,40000,48841,58564,70225,82944,97969 ★ Number of (w,x,y,z) with all terms in {0,...,n} and w-x, x-y, and y-z all have the same parity. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A180569] • 4,25,72,154,280,459,700,1012,1404,1885,2464,3150,3952,4879,5940,7144,8500,10017,11704,13570,15624,17875,20332,23004,25900 ★ The Wiener index of the P_3 x P_n grid, where P_m is the path graph on m nodes. The Wiener index of a connected graph is the sum of distances between all unordered pairs of nodes in the graph. • a(n) = (1 / 2) * n * (n + 3) * (3n - 1). •

[A041991] • 1,1,4,25,79,104,4655,4759,18932,118351,373985,492336,22036769,22529105,89624084,560273609,1770444911,2330718520,104322059791,106652778311,424280394724,2652335146655,8381285834689,11033620981344,493860609013825 ★ Denominators of continued fraction convergents to sqrt(518). • a(n) = 4734 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 11 2014 •

[A027764] • 4,25,90,245,560,1134,2100,3630,5940,9295,14014,20475,29120,40460,55080,73644,96900,125685,160930,203665,255024,316250,388700,473850,573300 ★ a(n) = (n+1)*binomial(n+1,4). • a(3)=4, a(4)=25, a(5)=90, a(6)=245, a(7)=560, a(8)=1134, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Jun 14 2013 • a(n) = 10 * C(n + 2,2) * C(n + 2,5) / (n + 2) ^ 2. - _ Gary Detlefs _ , Aug 20 2013 •

[A195509] • 1,1,1,4,25,96,481,3368,20721,141760,1146721,9098112,77652169,726208640,6891125697,69344336896,738718169569,8076031881216,92647353941569,1106883171037184,13616813607795321,174298975125127168,2304515271134124577 ★ E.g.f.: (exp(x*exp(x)) + exp(x/exp(x)))/2. • a(n) = sum(m=0..floor((n) / 2), binomial(n + 1,2 * m) * (n - 2 * m + 1) ^ (2 * m)). [_ Vladimir Kruchinin _ , Mar 10 2013] •

[A027949] • 1,4,25,97,309,894,2462,6610,17519,46135,121115,317484,831660,2177872,5702389,14929789,39087537,102333450,267913514,701407870,1836310955,4807525939,12586267895,32951278872,86267569944 ★ T(2n,n+1), T given by A027948. • a(1)=1, a(2)=4, a(3)=25, a(4)=97, a(5)=309, a(6)=894, a(n)= 6 * a(n - 1) - 13 * a(n - 2) + 13 * a(n - 3) - 6 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 20 2012 •

[A082044] • 1,4,25,100,289,676,1369,2500,4225,6724,10201,14884,21025,28900,38809,51076,66049,84100,105625,131044,160801,195364,235225,280900,332929 ★ Main diagonal of A082043. • a(n) = n ^ 4 + 2n ^ 2 + 1. • a(0)=1, a(1)=4, a(2)=25, a(3)=100, a(4)=289, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Feb 27 2015 •

[A167889] • 0,0,1,4,25,100,481,1924,8425,33700,141361,565444,2320825,9283300,37664641,150658564,607417225,2429668900,9761722321,39046889284,156574977625,626299910500,2508686426401,10034745705604,40170363882025 ★ a(n) = (-7*3^n+(-3)^n+6*4^n) / 42. • a(n) = 4 * a(n - 1) + 9 * a(n - 2) - 36 * a(n - 3). •

[A110051] • 1,4,25,119,599,2887,14039,67767,327607,1581751,7638967,36883895,178097591,859930039,4152135095,20048276919,96801746359,467400158647,2256808013239,10896832949687,52614565424567,254045594545591 ★ Expansion of (1-x+2*x^3+x^2)/((1-x)*(2*x+1)*(2*x-1)*(4*x^2+4*x-1)). • a(0)=1, a(1)=4, a(2)=25, a(3)=119, a(4)=599, a(n)=5 * a(n - 1) + 4 * a(n - 2) - 24 * a(n - 3) + 16 * a(n - 5). - _ Harvey P. Dale _ , Sep 07 2012 • a(n)=1 / 112 * (- 2 * (7 * (- 2) ^ n + 7 * 2 ^ (n + 1) - 8) + (13 - 9 * Sqrt[2]) * (2 - 2 * Sqrt[2]) ^ n + 9 * 2 ^ (n + 1 / 2) * (1 + Sqrt[2]) ^ n + 13 * (2 * (1 + Sqrt[2])) ^ n). - _ Harvey P. Dale _ , Sep 07 2012 •

[A156701] • 4,25,136,481,1300,2929,5800,10441,17476,27625,41704,60625,85396,117121,157000,206329,266500,339001,425416,527425,646804,785425,945256,1128361,1336900 ★ a(n) = 4*n^4 + 17*n^2 + 4. • a(n) = (2 * (n ^ 2 - 1)) ^ 2 + (5 * n) ^ 2. •

[A015533] • 0,1,4,25,136,769,4300,24121,135184,757825,4247956,23812249,133480600,748232641,4194255964,23511117625,131792774176,738771155329,4141219588900,23213818753561,130126251314344,729429374039425,4088853757986796,22920279398302009 ★ a(n) = 4*a(n-1) + 9*a(n-2). • a(n) = - 9 ^ n * (A ^ n - B ^ n) / (2 * sqrt(13)) where A = - 1 / (2 + sqrt(13)) and B = 1 / (sqrt(13) - 2). (End) •

[A079291] • 0,1,4,25,144,841,4900,28561,166464,970225,5654884,32959081,192099600,1119638521,6525731524,38034750625,221682772224,1292061882721,7530688524100,43892069261881,255821727047184,1491038293021225 ★ Squares of Pell numbers. • a(n) = (r ^ n + (1 / r) ^ n - 2 * (- 1) ^ n) / 8, with r=3 + sqrt(8). • a(n + 3) = 5 * a(n + 2) + 5 * a(n + 1) - a(n). • a(n) = rightmost term of M ^ n * [1 0 0] where M = the 3 X 3 matrix [4 4 1 / 2 1 0 / 1 0 0]. a(n + 1) = leftmost term. E.g. a(6) = 4900, a(5) = 841 since M ^ 5 * [1 0 0] = [4900 2030 841]. - _ Gary W. Adamson _ , Oct 31 2004 • a(n) = ((((1 - Sqrt[2]) ^ n + (1 + Sqrt[2]) ^ n) / 2) ^ 2 + (- 1) ^ (n + 1)) / 2 - Antonio Pane (apane1(AT)spc.edu), Dec 15 2007 •

[A072221] • 1,4,25,148,865,5044,29401,171364,998785,5821348,33929305,197754484,1152597601,6717831124,39154389145,228208503748,1330096633345,7752371296324,45184131144601,263352415571284,1534930362283105,8946229758127348,52142448186480985 ★ a(n) = 6*a(n-1) - a(n-2) + 2, with a(0)=1, a(1)=4. • a(n)= - 1 / 2 + (3 / 4) * ((3 + sqrt(8)) ^ n + (3 - sqrt(8)) ^ n) for n>=0. a(n)=floor((3 / 4) * (3 + sqrt(8)) ^ n) for n>0. - _ Franz Vrabec _ , Aug 21 2006 •

[A055846] • 1,4,25,150,900,5400,32400,194400,1166400,6998400,41990400,251942400,1511654400,9069926400,54419558400,326517350400,1959104102400,11754624614400,70527747686400,423166486118400,2538998916710400 ★ a(n) = 25*6^(n-2), with a(0)=1 and a(1)=4. • a(n) = 25 * 6 ^ (n - 2), a(0)=1, a(1)=4. a(n) = 6a(n - 1) + ((- 1) ^ n) * binomial(2, 2 - n); g.f.(x)=(1 - x) ^ 2 / (1 - 6x). •

[A079750] • 0,4,25,156,1099,8800,79209,792100,8713111,104557344,1359245485,19029436804,285441552075,4567064833216,77640102164689,1397521838964420,26552914940323999,531058298806480000,11152224274936080021 ★ Operation count to create all permutations of n distinct elements using the "streamlined" version of Algorithm L (lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of comparisons required to find j in step L2.2'. • a(3)=0, a(n) = n * a(n - 1) + n for n >= 4. • a(n) = Sum _{ j=3..n } (n + 1)! / j!. - _ Zerinvary Lajos _ , Oct 20 2006 •

[A128419] • 1,4,25,168,1181,8524,62609,465616,3495013,26423604,200920985,1534936440,11771854381,90578698396,698921030945,5406132020128,41905249405301,325434733291396,2531523208218665,19721766268370248,153847524455503421,1201601094053039596,9395224234956935345 ★ Expansion of 8/(sqrt(1-8*x)*(sqrt(1-8*x)+4*x+7)). • a(n) = Sum _{ k=0..floor(n / 2) } 2 ^ (n - 2k) * C(2n - 2k,n - 2k). •

[A225137] • 4,25,168,1228,9592,78529,664614,5761262,50847534,455065829,4118207819,37608740621,346064579205,3204855540243,29843276960952,279224843911465,2623449162422369,24739367527714285,234057667278287556,2208736760610637 55 ★ Integer nearest to (4*((S(n))^(n-1))), where S(n) = Sum_{i=0..2} (C(i)*(log(log(A*(B+n^(8/3)))))^(2i)) (see coefficients A, B, C(i) in comments). • a(n)= round(4 * ((Sum _{ i=0..2 } (C(i) * (log(log(A * (B + n ^ (8 / 3))))) ^ (2i))) ^ (n - 1))). •

[A229255] • 4,25,168,1229,9592,78488,664356,5761311,50857532,455110791,4117706679,37598394076,345973354409,3204537723387,29847287869987,279317953220125,2624541016148480,24747919106286414,234089443816438414,2220530456953251916,21119025631088169139,201358809736398135352,1924434871799161020533,18434884359943473267194,176994218822287711757127 ★ Integer nearest to (2^(n-1)+3^(n-1))^(2*b(n)) where b(n) = (C1*n^(Pi)*exp(C2*n)*cos(C3*n+ (see coefficients in comments). • a(n)= round((2 ^ (n - 1) + 3 ^ (n - 1)) ^ (2

* (C1 * n ^ (Pi) * exp(C2 * n) * cos(C3 * n + C4) + C5) * (C6 * n ^ C7 + (Pi / 2)))) •

[**A227693**] • 4,25,168,1229,9595,78527,664408,5759130,50833725,455019102,4118498801,37616575907,346165453783,3205869110911,29851888456753,279286334215803,2623780688311969,24739953477533166,234041108830344356,2220562531262307905,21124612016460745383,201448482556532026684,1925296277838503159171,184378326967895590157 11,1769012809098200320144 22 ⋆ Integer nearest to (F[2n+1](S(n)))^2, where F[2n+1](x) are Fibonacci polynomials of odd indices [2n+1] and S(n) = Sum_{i=0..2} (C(i)*(log(log(A*(B+n^2))))^(2i)) (see coefficients A, B, C(i) in comments). • a(n) = round((F[2n + 1](Sum _{ i=0..2 } (C(i) * (log(log(A * (B + n ^ 2)))) ^ (2i)))) ^ 2). •

[**A081068**] • 1,4,25,169,1156,7921,54289,372100,2550409,17480761,119814916,821223649,5628750625,38580030724,264431464441,1812440220361,12422650078084,85146110326225,583600122205489,4000054745112196,27416783093579881 ⋆ a(n) = (Lucas(4*n+2) + 2)/5, or Fibonacci(2*n+1)^2, or A081067(n)/5. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = (2 / 5) + (3 / 10) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = Fibonacci(2 * n) * Fibonacci(2 * n + 2) + 1. - _ Gary Detlefs _ , Apr 01 2012 •

[**A163072**] • 4,25,170,1200,8600,62000,448000,3240000,23440000,169600000,1227200000,8880000000,64256000000,464960000000,3364480000000,24345600000000,176166400000000,1274752000000000,9224192000000000,66746880000000000 ⋆ a(n) = ((4+sqrt(5))*(5+sqrt(5))^n + (4-sqrt(5))*(5-sqrt(5))^n)/2. • a(n) = 10 * a(n - 1) - 20 * a(n - 2) for n > 1; a(0) = 4, a(1) = 25. •

[**A034494**] • 1,4,25,172,1201,8404,58825,411772,2882401,20176804,141237625,988663372,6920643601,48444505204,339111536425,2373780754972,16616465284801,116315256993604,814206798955225,5699447592686572 ⋆ a(n) = (7^n+1)/2. • a(n) = 7a(n - 1) - 3, a(0) = 1. • a(n) = 8 * a(n - 1) - 7 * a(n - 2), a(0)=1, a(1)=4. [_ Philippe Deléham _ , Nov 15 2008] • a(n) = ((4 + sqrt(9)) ^ n + (4 - sqrt(9)) ^ n) / 2. [Al Hakanson (hawkuu(AT)gmail.com), Dec 08 2008] •

[**A006348**] • 0,1,4,25,174,1393,12536,125361,1378970,16547641,215119332,3011670649,45175059734,722800955745,12287616247664,221177092457953,4202364756701106,84047295134022121,1764993197814464540,38829850351918219881,893086558094119057262 ⋆ a(n) = (n+2)*a(n-1) + (-1)^n. • a(n) = (n + 1)(a(n - 1) + a(n - 2)). - _ Gary Detlefs _ , Dec 17 2009 • a(n) = Gamma(n + 3, - 1) / e - (n + 2)! / 3. •

[**A246539**] • 1,4,25,184,1489,12796,114241,1047568,9796057,92989876,893250193,8663461000,84697699297,833616713164,8251811812465,82088310375904,820140832103881,8225191769615620,82768982623011841,835404195075128536,8454743911307336857,85775961307556225596,872156269935215409577 ⋆ G.f.: Sum_{n>=0} 3^n * x^n / (1-x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k]^2. • a(n) = Sum _{ k=0..[n / 2] } 3 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 3 ^ j. •

[**A064063**] • 1,1,4,25,190,1606,14506,137089,1338790,13403950,136846144,1419257434,14911016596,158363649640,1697452010230,18338919413425,199496184219910,2183295941440150,24021874198331080,265559590979820910,2948253066186839140,32857382497018933060 ⋆ Generalized Catalan numbers C(3; n). • a(n) = upper left term in M ^ n, M = the infinite square production matrix: • a(n) = hypergeometric([1 - n, n], [- n], 3) for n>0. - _ Peter Luschny _ , Nov 30 2014 •

[**A199494**] • 4,25,193,1537,12289,98305,786433,6291457,50331649,402653185,3221225473,25769803777,206158430209,1649267441665,13194139533313,105553116266497,844424930131969,6755399441055745,54043195528445953 ⋆ 3*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[**A051500**] • 1,4,25,196,1681,14884,133225,1196836,10764961,96864964,871725625,7845353476,70607649841,635467254244,5719200505225,51472790198116,463255068736321,4169295489486724,37523659017960025,337712929999378756,3039416366507624401 ⋆ a(n) = (3^n+1)^2/4. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3) for n>2. •

[**A182953**] • 1,1,4,25,197,1797,18178,198937,2318858,28487593,366129764,4896068759,67843403960,971032668429,14319735032679,217136949146091,3379973833321141,53936100582832901,881318215466710693,14731508761600217914 ⋆ G.f. satisfies: A(x) = 1 + x*A(x) * A(x*A(x))^3. • a(n,m) = Sum _{ k=0.. n } m * C(n + m,k) / (n + m) * a(n - k,3k). •

[**A120955**] • 1,1,1,4,25,206,2060,23920,314065,4582300,73393490,1278859176,24073541260,486806278752,10525038917720,242318610557760,5919811842140945,152974724047702626,4169576527021400852 ⋆ G.f. A(x) satisfies: Series_Reversion(x/A(x)) / x = 2*A(x) - (1+x). • a(n) = [x ^ n] A(x) ^ n / (2 * n) for n>1; i.e., a(n) equals the coefficient of x ^ n in A(x) ^ n divided by 2 * n. •

[**A022386**] • 4,26,30,56,86,142,228,370,598,968,1566,2534,4100,6634,10734,17368,28102,45470,73572,119042,192614,311656,504270,815926,1320196 ⋆ Fibonacci sequence beginning 4, 26. • a(n) = 4 * Fibonacci(n + 2) + 18 * Fibonacci(n) = 4 * Fibonacci(n - 1) + 26 * Fibonacci(n). - _ G. C. Greubel _ , Mar 02 2018 •

[**A273981**] • 1,4,26,56,98,152,218,296,386,488,602,728,866,1016,1178,1352,1538,1736,1946,2168,2402,2648,2906,3176,3458 ⋆ Erroneous version of A005897. • a(n) = n ^ 3 - (n - 2) ^ 3 for n > 2. - _ Joerg Arndt _ , Jun 06 2016 •

[**A142962**] • 4,26,81,184,350,594,931,1376,1944,2650,3509,4536,5746,7154,8775,10624,12716,15066,17689,20600,23814,27346,31211,35424,40000 ⋆ Scaled convolution of (n^3)*A000984(n) with A000984(n). A000984(n) = binomial(2*n,n) (central binomial coefficients). • a(n) = n ^ 2 * (3 + 5 * n) / 2. a(0)=0. • a(n) = (2 ^ 3) * S(3,n) / 4 ^ n with the convolution S(3,n) defined above. •

[**A172123**] • 0,4,26,92,240,520,994,1736,2832,4380,6490,9284,12896,17472,23170,30160,38624,48756,60762,74860,91280,110264,132066,156952,185200 ⋆ Number of ways to place 2 nonattacking bishops on an n X n board. • a(n) = n(n - 1)(3n ^ 2 - n + 2) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 29 2013 •

[**A101166**] • 0,4,26,94,251,555,1079,1911,3154,4926,7360,10604,14821,20189,26901,35165,45204,57256,71574,88426,108095,130879,157091,187059,221126 ⋆ a(n) = (15*n^4 + 22*n^3 + 45*n^2 + 14*n) / 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(0)=0, a(1)=4, a(2)=26, a(3)=94, a(4)=251. - _ Harvey P. Dale _ , Oct 12 2012 •

[**A267847**] • 1,4,26,122,506,2042,8186,32762,131066,524282,2097146,8388602,33554426,134217722,536870906,2147483642,8589934586,34359738362,137438953466,549755813882,2199023255546,8796093022202,35184372088826,140737488355322,562949953421306 ⋆ Decimal representation of the n-th iteration of the "Rule 227" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. • a(n) = 2 * (4 ^ n - 3) for n >1. - _ Colin Barker _ , Nov 26 2016 •

[**A100236**] • 1,4,26,139,726,3774,19601,101784,528526,2744419,14250626,73997554,384238401,1995189564,10360186226,53796120699,279340789726,1450500069334,7531841136401,39109705751344,203080369893126 ⋆ Main diagonal of triangle A100235. • a(n) = 5 * a(n - 1) + a(n - 2) + 5 for n>1, with a(0)=1, a(1)=4. G.f.: Sum _{ n>=1 } a(n) * x ^ n / n = log((1 - x) / (1 - 5 * x - x ^ 2)). •

[**A229278**] • 0,4,26,144,736,3584,16896,77824,352256,1572864,6946816,30408704,132120576,570425344,2449473536,10468982784,44560285696,188978561024,798863917056,3367254360064,14156212207616,59373627899904,248489627877376,1037938976620544 ⋆ Number of ascending runs in {1,...,4}^n. • a(n) = 2 ^ (2 * n - 3) * (5 * n + 3) for n>0, a(0) = 0. •

[**A180226**] • 0,1,4,26,144,836,4784,27496,157824,906256,5203264,29875616,171535104,984896576,5654937344,32468715136,186424233984,1070384087296,6145778689024,35286955629056,202605609406464,1163291993916416,6679224069730304,38349816218085376 ⋆ a(n) = 4*a(n-1) + 10*a(n-2), with a(1)=0 and a(2)=1. • a(n) = ((2 + sqrt(14)) ^ (n - 1) - (2 - sqrt(14)) ^ (n - 1)) / (2 * sqrt (14)). - _ Rolf Pleisch _ , May 14 2011 •

[**A092167**] • 4,26,154,926,5554,33326,199954,1199726,7198354,43190126,259140754,1554844526,9329067154,55974402926,335846417554,2015078505326,12090471031954,72542826191726,435256957150354,2611541742902126 ⋆ Let M = 2 X 2 matrix [1 2 / 5 4]; a(n) = (2,2) entry of M^n. • a(n) = (5 * 6 ^ n + 2 * (- 1) ^ n) / 7. • a(n) = 5 * a(n - 1) + 6 * a(n - 2). •

[**A145840**] • 1,4,26,164,1031,6480,40728,255984,1608914,10112368,63558392,399478064,2510804924,15780945024,99186608832,623409013632,3918258753416,24627092844352,154786536605216,972866430709568,6114673231661936,38432026791933696,241553493927992448 ⋆ Number of 4-compositions of n. • a(n + 4) = 8 * a(n + 3) - 12 * a(n + 2) + 8 * a(n + 1) - 2 * a(n). • a(n) = sum(k>=0, C(n + 4 * k - 1,n) / 2 ^ (k + 1)). - _ Vaclav Kotesovec _ , Dec 31 2013 •

[**A199490**] • 4,26,180,1258,8804,61626,431380,3019658,21137604,147963226,1035742580,7250198058,50751386404,355259704826,2486817933780,17407725536458,121854078755204,852978551286426,5970849859004980,41795949013034858 ⋆ (11*7^n+1)/3. • a(n) = 7 * a(n - 1) - 2. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[**A084134**] • 1,4,26,184,1316,9424,67496,483424,3462416,24798784,177615776,1272133504,9111373376,65258185984,467397247616,3347628865024,23976647434496,171727406285824,1229959365679616,8809310487721984 ⋆ a(n)=8a(n-1)-6a(n-2), a(0)=1,a(1)=4. • a(n)=(4 + sqrt(10)) ^ n / 2 + (4 - sqrt(10)) ^ n / 2; G.f.: (1 - 4x) / (1 - 8x + 6x ^ 2); E.g.f. : exp(4x)cosh(sqrt(10)x). •

[**A098443**] • 1,4,26,184,1366,10424,80996,637424,5064166,40528984,326251276,2638751504,21426682876,174563719984,1426219233416,11681133293024,95877105146246,788433553532824,6494463369141116,53576199709855184 ⋆ Expansion of 1/sqrt(1-8x-4x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(2(n - k), n) * 2 ^ (n - 2k) } . •

[**A137964**] • 1,1,4,26,184,1451,12020,103734,921132,8364877,77317704,725029730,6880482816,65955731874,637703938860,6211709281162,60900108419200,600486291654444,5950951929703520,59242473406384472,592166933647780576 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^5)^4. • a(n) = Sum _{ k=0..n - 1 } C(4 * (n - k),k) / (n - k) * C(5 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[**A114496**] • 1,4,26,190,1462,11584,93536,765314,6323270,52638760,440815036,3709445084,31340292076,265683004240,2258793820988,19251776923210,164440378882630,1407266585304760,12063701803046300,103571977632247076 ⋆ a(n) = Sum of binomial(n,k)*binomial(2n+k,k) over all k. • a(n) = Sum _{ k =0..n } (binomial(n,k) * binomial(2n + k,k)). • a(n) = Sum _{ i = 0..n } 2 ^ (n - i) * binomial(2 * n,i) * binomial(n,i). •

[**A246509**] • 1,4,26,200,1694,15224,141972,1359120,13264246,131384536,1316769196,13323636208,135885868780,1395157192624,14406117404584,149489132177440,1557898906160806,16297193704008856,171058624529373116,1800860588158214960,19010177617892704204,201164103801453466896 ⋆ G.f.: Sum_{n>=0} x^n / (1-3*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * 3^k * x^k] * [Sum_{k=0..n} C(n,k)^2 * 4^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 4 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 3 ^ j. •

[**A118971**] • 1,4,26,204,1771,16380,158224,1577532,16112057,167710664,1772645420,18974357220,205263418941,2240623268512,24648785802336,272994644359580,3041495503591365,34064252968167180,383302465665133014 ⋆ a(n) =

4*binomial(5*n+3,n)/(4*n+4). • a(n) = (4 / 5) * binomial(5 * (n + 1),n + 1) / (5 * (n + 1) - 1). [_ Bruno Berselli _ , Jan 17 2014] •

[A078111] • 4,27,64,115,182,263,359,470,596,736,891,1061,1246,1445,1660,1889,2132,2391,2664,2953,3256,3573,3906,4253,4615 ⋆ a(n) = floor((n+2)^(n+2)/n^n) • a(n) - e ^ 2(n + 1) ^ 2 is bounded. Conjecture: there's a constant c = 2.462 ... such that a(n) = floor(e ^ 2 * (n + 1) ^ 2 - c). •

[A180576] • 4,27,69,148,255,417,616,888,1206,1615,2079,2652,3289,4053,4890,5872,6936,8163,9481,10980,12579,14377,16284,18408,20650 ⋆ Wiener index of the n-web graph. • a(2n) = n * (9 * n ^ 2 + 20 * n - 2); a(2n + 1) = (2 * n + 1) * (9 * n ^ 2 + 29 * n + 8) / 2. • a(n) = n * (2 * n * (9 * n + 40) + 9 * (- 1) ^ n - 25) / 16. - _ Bruno Berselli _ , Oct 31 2012 •

[A158186] • 1,4,27,70,133,216,319,442,585,748,931,1134,1357,1600,1863,2146,2449,2772,3115,3478,3861,4264,4687,5130,5593 ⋆ 10*n^2 - 7*n + 1. • a(n) = (2 * n - 1) * (5 * n - 1). • a(n) = a(n - 1) + 20 * n - 17 (with a(0)=1). [From Vincenzo Librandi, Dec 03 2010] •

[A092364] • 0,4,27,96,250,540,1029,1792,2916,4500,6655,9504,13182,17836,23625,30720,39304,49572,61731,76000,92610,111804,133837,158976,187500 ⋆ a(n) = n^2*binomial(n,2). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Eric W. Weisstein _ , Sep 14 2017 •

[A063262] • 4,27,104,305,756,1667,3368,6354,11340,19327,31680,50219,77324,116055,170288,244868,345780,480339,657400,887589,1183556,1560251,2035224,2628950,3365180 ⋆ Eighth column (k=7) of sextinomial array A063260. • a(n) = 4 * C(n + 2,2) + 15 * C(n + 2,3) + 20 * C(n + 2,4) + 15 * C(n + 2,5) + 6 * C(n + 2,6) + C(n + 2,7) (see comment in A213888). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A267685] • 1,4,27,119,495,2015,8127,32639,130815,523775,2096127,8386559,33550335,134209535,536854527,2147450879,8589869055,34359607295,137438691327,549755289599,2199022206975,8796090925055,35184367894527,140737479966719,562949936644095 ⋆ Decimal representation of the n-th iteration of the "Rule 203" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A268598] • 0,0,0,0,0,4,27,120,440,1440,4368,12544,34560,92160,239360,608256,1517568,3727360,9031680,21626880,51249152,120324096,280166400,647495680,1486356480 ⋆ Expansion of x^5*(4 - 5*x)/(1 - 2*x)^4. • a(n) = 2 ^ (n - 7) * (n - 4) * (n - 3) * (n + 3) for n>2. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>3. (End) •

[A267886] • 1,4,27,127,511,2047,8191,32767,131071,524287,2097151,8388607,33554431,134217727,536870911,2147483647,8589934591,34359738367,137438953471,549755813887,2199023255551,8796093022207,35184372088831,140737488355327,562949953421311 ⋆ Decimal representation of the n-th iteration of the "Rule 235" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>4. • a(n) = 2 ^ (2 * n + 1) - 1 for n>2. - _ Colin Barker _ , Nov 26 2016 •

[A015534] • 0,1,4,27,152,905,5292,31123,182704,1073169,6302420,37014539,217384776,1276699033,7498028668,44035804035,258621531488,1518879970337,8920356727716,52389106584571,307680350343160 ⋆ Expansion of x/(1 - 4*x - 11*x^2). • a(n) = 4 * a(n - 1) + 11 * a(n - 2). • a(n) = (1 / 30) * (2 + sqrt(15)) ^ n * sqrt(15) - (1 / 30) * sqrt(15) * (2 - sqrt(15)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Aug 06 2008 •

[A010910] • 4,27,182,1227,8272,55767,375962,2534607,17087452,115197747,776623742,5235731187,35297505832,237963690927,1604269674722,10815436502967,72913967391412,491560986863307,3313935758136902,22341419483137947,150618195689512192,1015416271552762887 ⋆ Pisot sequence E(4,27): a(n) = floor(a(n-1)^2/a(n-2)+1/2) for n>1, a(0)=4, a(1)=27. • a(n) = (((3 - sqrt(14)) ^ n * (- 15 + 4 * sqrt(14)) + (3 + sqrt(14)) ^ n * (15 + 4 * sqrt(14)))) / (2 * sqrt(14)). • a(n) = 6 * a(n - 1) + 5 * a(n - 2) for n>1. •

[A164311] • 4,27,192,1413,10620,80811,619272,4764501,36738036,283627899,2191179600,16934434533,130904287596,1012015111563,7824339848088,60495579495477,467743738958820,3616570744155099,27963305544220128,216212831973523269 ⋆ a(n) = 12*a(n-1) - 33*a(n-2) for n > 1; a(0) = 4, a(1) = 27. • a(n) = ((4 + sqrt(3)) * (6 + sqrt(3)) ^ n + (4 - sqrt(3)) * (6 - sqrt(3)) ^ n) / 2. •

[A026005] • 1,4,27,208,1700,14364,123970,1085760,9612108,85795600,770755843,6960408624,63127818572,574609830760,5246348656500,48027225765120,440671237120764,4051508174260272,37315784743418332 ⋆ a(n) = T(4*n,n), where T = Catalan triangle (A008315). • a(n) = (2n + 2) / (3n + 2) * C(4n + 1, n). - _ Ralf Stephan _ , Apr 30 2004 • a(n) = Sum _{ k=0..n } ((n + k + 1) * binomial(n + k,k) * binomial(3 * n - k,n - k)) / (2 * n + 1). - _ Vladimir Kruchinin _ , Dec 02 2016 •

[A190738] • 1,4,27,212,1785,15630,140287,1280592,11833389,110360150,1036670272,9794291556,92972640761,886023463122,8471878678545,81236546627920,780898417097733,7522708492892214,72607180401922894,701969331508141900,6796919869909393140 ⋆ Central coefficients of the Riordan matrix A104259. • a(n) = sum(k=0..n, binomial(2 * n,n + k) * binomial(n + 2 * k,k) * (n + 1) / (n + k + 1)). •

[A275607] • 1,4,27,216,1890,17496,168399,1667952,16888014,173997720,1818276174,19225409616,205299909828,2210922105840,23984556773175,261854925711840,2874948871877910,31722346066169880,351589335566716170,3912422681494285200,43694647856506630620,489597172255515289680 ⋆ a(n) = 2*12^n*Gamma(n+1/2)*(n+1)/(sqrt(Pi)*Gamma(n+3)). • a(n) = 2 * 3 ^ n * binomial(2n + 1, n - 1) * (n + 1) / (2n ^ 2 + n). - _ Charles R Greathouse IV _ , Nov 14 2016 •

[A161120] • 0,1,4,27,240,2625,34020,509355,8648640,164189025,3445942500,79222218075,1979900722800,53443570205025,1549547301802500,48028060502296875,1584712538529120000,55458748565165570625 ⋆ Number of cycles with entries of opposite parities in all fixed-point-free involutions of {1,2,...,2n}. • a(n)=n ^ 2 * (2n - 3)!! •

[A085001] • 4,28,70,130,208,304,418,550,700,868,1054,1258,1480,1720,1978,2254,2548,2860,3190,3538,3904,4288,4690,5110,5548 ⋆ a(n) = (3*n+1)*(3*n+4). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 •

[A153784] • 0,4,28,72,136,220,324,448,592,756,940,1144,1368,1612,1876,2160,2464,2788,3132,3496,3880,4284,4708,5152,5616 ⋆ 4 times heptagonal numbers: 2n(5n-3). • a(n)=20 * n + a(n - 1) - 16 (with a(0)=0) - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=4, a(2)=28, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 19 2015 •

[A187452] • 0,4,28,96,244,516,968,1664,2680,4100,6020,8544,11788,15876,20944,27136,34608,43524,54060,66400,80740,97284,116248,137856,162344 ⋆ Number of right isosceles triangles that can be formed from the n^2 points of n X n grid of points (or geoboard). • a(n) = (3 - 3 * (- 1) ^ n - 16 * n ^ 2 + 10 * n ^ 4) / 24. • a(n) = (5 * n ^ 4 - 8 * n ^ 2) / 12 for n even. • a(n) = (5 * n ^ 4 - 8 * n ^ 2 + 3) / 12 for n odd. •

[A201243] • 0,4,28,102,268,580,1104,1918,3112,4788,7060,10054,13908,18772,24808,32190,41104,51748,64332,79078,96220,116004,138688,164542,193848 ⋆ Number of ways to place 2 non-attacking ferses on an n X n board. • a(n) = 1 / 2 * (n - 1) * (n ^ 3 + n ^ 2 - 4n + 4) by C. Poisson, 1990. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 30 2013 •

[A058227] • 4,28,112,352,972,2484,6040,14200 ⋆ Number of edges in all simple (loopless) paths, connecting any node with all the remaining ones in optimal graphs degree 4. • a(n)=d(V) * Sum('n * (2 ^ n - 1)', 'n'=1..d(G)); d(V) - graph degree, d(G) - diameter a(n)=d(V) * array(1..d(G)) * array(1..(2 ^ d(G) - 1)); •

[A212900] • 0,4,28,122,340,786,1558,2814,4690,7404,11130,16140,22652,30992,41416,54310,69968,88830,111234,137674,168526,204344,245542,292728,346360 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and distinct consecutive gapsizes. • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) + a(n - 5) + 3 * a(n - 6) - a(n - 7) - 2 * a(n - 8) + a(n - 9). •

[A196514] • 0,4,28,124,444,1404,4092,11260,29692,75772,188412,458748,1097724,2588668,6029308,13893628,31719420,71827452,161480700,360710140,801112060,1769996284,3892314108,8522825724,18589155324 ⋆ Partial sums of A100381. • a(0)=0, a(1)=4, a(2)=28, a(3)=124, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Harvey P. Dale _ , Jan 12 2016 •

[A249629] • 0,0,4,28,124,532,2164,8788,35284,141628,567004,2269948,9081724,36334492,145345564,581412508,2325680284,9302841652,37211487124,148846430068,595386201844,2381546731732,9526188851284,38104763100628,152419060098004 ⋆ Number of strings of length n over a 4-letter alphabet that begin with a nontrivial palindrome. • a(0) = 0; a(1) = 0; a(n + 1) = 4 * a(n) + 4 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)). •

[A270218] • 1,4,28,140,620,2604,10668,43180,173740,697004,2792108,11176620,44722860,178924204,715762348,2863180460 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 129", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * (1 - 3 * 2 ^ n + 2 ^ (1 + 2 * n)) / 3. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A273565] • 1,4,28,141,625,2625,10753,43521,175105,702465,2813953,11264001,45072385,180322305,721354753,2885550081 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 793", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A123520] • 4,28,152,744,3436,15284,66224,281424,1178196,4874444,19973192,81189688,327817404,1316035940,5257118560,20909651104,82849544868,327163551612,1288036695544,5057236343176,19807689093644,77408388584724 ⋆ Number of vertical dominoes in all possible tilings of a 2n X 3 grid by dominoes. • a(n) = Sum _{ k=0..n } 2 ^ (k + 1) * k * C(n + k,2 * k). • a(n) = (2 + sqrt(3)) ^ n * ((1 + sqrt(3)) * n + 1 / sqrt(3)) / 3 + (2 - sqrt(3)) ^ n * ((1 - sqrt(3)) * n - 1 / sqrt(3)) / 3. - _ Vaclav Kotesovec _ , Nov 29 2012 •

[A053524] • 0,1,4,28,160,976,5824,35008,209920,1259776,7558144,45349888,272097280,1632587776,9795518464,58773127168,352638730240,2115832446976,12694994550784,76169967566848,457019804876800,2742118830309376,16452712979759104 ⋆ (6^n - (-2)^n)/8. • a(n) = (3 ^ n - (- 1) ^ n) * 2 ^ n / 8. • a(n) = 4 * a(n - 1) + 12 * a(n - 2); a(0)=0, a(1)=1. •

[A182190] • 0,4,28,168,984,5740,33460,195024,1136688,6625108,38613964,225058680,1311738120,7645370044,44560482148,259717522848,1513744654944,8822750406820,51422757785980,299713796309064 ⋆ a(n) = 6*a(n-1) - a(n-2) + 4 with n>1, a(0)=0, a(1)=4. • a(n) = - 1 + (1 / 4) * sqrt(2) * ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n) + (1 / 2) * ((3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n). - _ Paolo P. Lava _ , May 10 2012. •

[A125687] • 4,28,172,1036,6220,37324,223948,1343692,8062156,48372940,290237644,1741425868,10448555212,62691331276,376147987660,2256887925964,13541327555788,81247965334732,487487792008396,2924926752050380,17549560512302284,105297363073813708 ⋆ The base 6 numbers 4 44 444 4444 44444 ... converted to base 10. • a(n) = (6 ^ n - 1) * 4 / 5. •

[A223166] • 4,28,175,1244,9628,78625,664916,5762207,50849233,455055612,4118066398,37607950279,346065645808,3204942065690,29844571475285,279238344248555,2623557165610820,24739954309690413,234057667376222380,2220819602783663481 ⋆ Integer nearest to Li(10^n) - Li(3), where Li(x) = integral(0..x, dt/log(t)). • a(n) = round(Li(10 ^ n) - Li(3)). •

[A216211] • 1,4,28,178,1008,5493,29879,163357,895519,4911542,26932856,147666219,809584243,4438588016,24334993398,133419407518,731487440774,4010463570150,21987820817522,120550714106036,660932932241338,3623639639745022,19867014703421770,108923158026586497,597183548915194615 ★ Number of self-avoiding walks of any length from NW to SW corners of a grid or lattice with n rows and 4 columns. • a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 124 * a(n - 3) - 133 * a(n - 4) - 16 * a(n - 5) + 175 * a(n - 6) - 94 * a(n - 7) - 69 * a(n - 8) + 40 * a(n - 9) + 12 * a(n - 10) - 4 * a(n - 11) - a(n - 12) for n>12. •

[A155611] • 1,4,28,190,1216,7534,45928,277750,1673056,10058014,60407128,362619910,2176250896,13059099694,78359381128,470170635670,2821066860736,16926530304574,101559569247928,609358577749030,3656154953278576 ★ 6^n - 3^n + 1. • a(n)=9 * a(n - 1) - 18 * a(n - 2) + 10 with a(0)=1, a(1)=4 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[A270471] • 1,4,28,196,1372,9604,67228,470596,3294172,23059204,161414428,1129900996,7909306972,55365148804,387556041628,2712892291396,18990246039772,132931722278404,930522055948828,6513654391641796,45595580741492572,319169065190448004 ★ Expansion of (1-3*x)/(1-7*x). • a(n) = 7 * a(n - 1) for n>1. • a(n) = 4 * 7 ^ (n - 1) for n>0. •

[A198630] • 1,4,28,208,1540,11344,83188,607408,4416580,31986064,230784148,1659338608,11892395620,84983496784,605698755508,4306834677808,30560156566660 ★ Alternating sums of powers of 1,2,...,7. • a(n)=sum(((- 1) ^ (j + 1)) * j ^ n,j=1..7), n>=0. •

[A090965] • 1,4,28,208,1552,11584,86464,645376,4817152,35955712,268377088,2003193856,14952042496,111603564544,833020346368,6217748512768,46409906716672,346408259682304,2585626450591744,19299378566004736 ★ a(0) = 1, a(1) = 4, a(n+1) = 8a(n) - 4a(n-1). • a(n)=1 / 2 *{ [4 - 2 * sqrt(3)] ^ n + [4 + 2 * sqrt(3)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •

[A182432] • 1,4,28,217,1705,13420,105652,831793,6548689,51557716,405913036,3195746569,25160059513,198084729532,1559517776740,12278057484385,96664942098337,761041479302308,5991666892320124,47172293659258681,371386682381749321 ★ Recurrence a(n)*a(n-2) = a(n-1)*(a(n-1)+3) with a(0) = 1, a(1) = 4. • a(n) = 1 / 2 + 1 / 2 * sum _{ k = 0..n } 6 ^ k * binomial(n + k, 2 * k). • a(n) = R(n,3) where R(n,x) denotes the row polynomials of A211955 . • a(n) = 1 / u * T(n,u) * T(n + 1,u) with u = sqrt(5 / 2) and T(n,x) the Chebyshev polynomial of the first kind. • a(0)=1, a(1)=4, a(2)=28, a(n) = 9 * a(n - 1) - 9 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 14 2012 •

[A243116] • 1,4,28,220,1816,15424,133456,1169872,10354528,92331904,828204928,7464652672,67547774464,613295870464,5584367987968,50974595472640,466307503244800,4273832891668480,39237007284226048,360768875975526400,3321625537178669056,30619908430235828224,282578914501599305728 ★ a(n) = Sum_{k=0..n} C(n + 2*k, 3*k) * C(3*k, 2*k). • a(n) = - (- 2) ^ n + 2 * Sum _{ k=0..[n / 2] } C(n + 4 * k, 6 * k) * C(6 * k, 4 * k). •

[A005810] • 1,4,28,220,1820,15504,134596,1184040,10518300,94143280,847660528,7669339132,69668534468,635013559600,5804731963800,53194089192720,488526937079580,4495151581425648,41432089765583440,382460951663844400 ★ a(n) = binomial(4n,n). • a(n) is asymptotic to c * sqrt(n) * (256 / 27) ^ n with c = 0.46... - _ Benoit Cloitre _ , Jan 26 2003 • a(n) is asymptotic to c * (256 / 27) ^ n / sqrt(n) with c = sqrt(2 / (3 Pi)) = 0.460658865961780639... - _ Benoit Cloitre _ , Jan 26 2003; corrected by _ Charles R Greathouse IV _ , Dec 14 2006 • a(n) = Sum _{ k=0..2n } binomial(2n,k) * binomial(2n,k - n) } . - _ Paul Barry _ , Mar 08 2011 • a(n) = binomial(4 * n,n - 1) * (3 * n + 1) / n. - _ Gary Detlefs _ , Apr 03 2013 • a(n) = C(4 * n - 1,n - 1) * C(16 * n ^ 2,2) / (3 * n * C(4 * n + 1,3)), n>0. - _ Gary Detlefs _ , Jan 02 2014 • a(n) = Sum _{ i,j,k=0..n } binomial(n,i) * binomial(n,j) * binomial(n,k) * binomial(n,i + j + k). - _ Peter Bala _ , Dec 28 2014 •

[A121203] • 0,4,28,224,1784,13692,102036,745432,5374192,38400500,272709644,1928498640,13597146600,95668307308,672119557252,4717043931848,33080342679008,231867574534116,1624598900644860,11379821699045056 ★ 2n+7^n-5^n. • a(n) = 14 * a(n - 1) - 60 * a(n - 2) + 82 * a(n - 3) - 35 * a(n - 4). - _ Vincenzo Librandi _ , Feb 26 2013 •

[A152599] • 1,4,28,232,1984,17056,146752,1262848,10867456,93520384,804794368,6925699072,59599458304,512886194176,4413668442112,37982050091008,326856479604736,2812780194955264,24205524194295808,208301879603494912 ★ a(n)=10*a(n-1)-12*a(n-2), n>1 ; a(0)=1, a(1)=4 . • a(n)=(1 / 26) * sqrt(13) *{ [5 - sqrt(13)] ^ n - [5 + sqrt(13)] ^ n }+ (1 / 2) *{ [5 - sqrt(13)] ^ n + [5 + sqrt(13)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Dec 12 2008] •

[A035610] • 1,4,28,232,2092,19864,195352,1970896,20275660,211823800,2240795848,23951289520,258255469816,2805534253552,30675477376432,337306474674592,3727578443380492,41376874025687032,461121792658583272,5157384457905440752,57869888433073055272,651266142688270063312,7349148747954997832272 ★ G.f.: 3/(1+2*sqrt(1-12*x)). • a(0) = 1; a(n) = 4 / n * Sum _{ j= 0..n - 1 } C(2 * n,j) * (n - j) * 3 ^ j for n>0. • a(n) = upper left term in M ^ n, M = an infinite square production matrix as follows: • a(n) are special values of the hypergeometric function 2F1, in Maple notation: a(n) = 3 * 12 ^ n * GAMMA(n + 1 / 2) * hypergeom([1,n + 1 / 2],[n + 2],3 / 4) / (4 * sqrt(Pi) * (n + 1)!), n=0,1,... . - _ Karol A. Penson _ , Jul 06 2015 •

[A199561] • 4,28,244,2188,19684,177148,1594324,14348908,129140164,1162261468,10460353204,94143178828,847288609444,7625597484988,68630377364884,617673396283948,5559060566555524,50031545098999708,450283905890997364 ★ 3*9^n+1 • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A103211] • 1,4,28,244,2380,24868,272188,3080596,35758828,423373636,5092965724,62071299892,764811509644,9511373563492,119231457692284,1505021128450516,19112961439180588,244028820862442116,3130592301487969948,40333745806536135028,521655330655122923980 ★ a(n) = (1/n) * Sum_{i=0..n-1} C(n,i)*C(n,i+1)*3^i*4^(n-i), a(0)=1. • a(n) = Sum _{ k=0..n } C(n + k,2k) 3 ^ k * C(k), C(n) given by A000108. - _ Paul Barry _ , May 21 2005 • a(0) =1, a(n) = a(n - 1) + 3 * Sum _{ k=0..n - 1 } a(k) * a(n - 1 - k). - _ Philippe Deléham _ , Oct 23 2007 • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) binomial(n,k) * hypergeom([k - n, n + 1], [k + 2], 4). - _ Peter Luschny _ , Jan 08 2018 •

[A064340] • 1,1,1,4,28,256,2704,31168,380608,4840960,63458560,851399680,11635096576,161396604928,2266669453312,32166082822144,460531091685376,6644185553305600,96498260064403456,1409750653282287616 ★ Generalized Catalan numbers C(2,2; n). • a(n)= ((4 ^ (n - 1)) / (n - 1)) * sum((m + 1) * (m + 2) * binomial(2 * (n - 2) - m, n - 2 - m) * ((1 / 2) ^ (m + 1)), m=0..n - 2), n >= 2, a(0) := 1=: a(1). •

[A042379] • 1,1,1,4,29,62,91,153,1009,10243,11252,21495,97232,215959,313191,3974251,4287442,12549135,54483982,67033117,121517099,1282204107,7814741741,9096945848,16911687589,42920321026 ★ Denominators of continued fraction convergents to sqrt(716). • a(n) = 70231439376398 * a(n - 28) - a(n - 56) for n>55. - _ Vincenzo Librandi _ , Jan 21 2014 •

[A192025] • 4,29,84,178,320,519,784,1124,1548,2065,2684,3414,4264,5243,6360,7624,9044,10629,12388,14330,16464,18799,21344,24108,27100 ★ The Wiener index of the double-comb graph \/_\/_\/...\/_\/ with 3n (n>=1) nodes. The Wiener index of a connected graph is the sum of the distances between all unordered pairs of vertices in the graph. • a(n) = n * (3 * n ^ 2 + 12 * n - 7) / 2. •

[A024394] • 4,29,93,214,410,699,1099,1628,2304,3145,4169,5394,6838,8519,10455,12664,15164,17973,21109,24590,28434,32659,37283,42324,47800 ★ a(n) = sum of squares of first n positive integers congruent to 2 mod 3. • a(n) = 3 * n ^ 3 + 3 * n ^ 2 / 2 - n / 2. G.f. x * (4 + 13 * x + x ^ 2) / (x - 1) ^ 4 . - R. J. Mathar, Oct 08 2011 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). _ Vincenzo Librandi _ , Jun 19 2012 •

[A211545] • 0,4,29,99,238,470,819,1309,1964,2808,3865,5159,6714,8554,10703,13185,16024,19244,22869,26923,31430,36414,41899,47909,54468 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+x+y>0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = (n * (3 - 3 * n + 8 * n ^ 2)) / 2. •

[A200069] • 1,4,29,168,1049,6380,39157,239568,1467313,8983636,55009613,336825720,2062427849,12628445756,77325345061,473471175072,2899114186081,17751582020260,108694812500093,665549816263752,4075231827556217,24953074921653644,152790313444845397 ★ a(n) = 4*a(n-1) + 13*a(n-2) for n>2, a(1)=1, a(2)=4. • a(n) = ((2 + sqrt(17)) ^ n - (2 - sqrt(17)) ^ n) / (2 * sqrt(17)). •

[A198794] • 4,29,179,1079,6479,38879,233279,1399679,8398079,50388479,302330879,1813985279,10883911679,65303470079,391820820479,2350924922879,14105549537279,84633297223679,507799783342079,3046798700052479,18280792200314879 ★ 5*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A288913] • 4,29,199,1364,9349,64079,439204,3010349,20633239,141422324,969323029,6643838879,45537549124,312119004989,2139295485799,14662949395604,100501350283429,688846502588399,4721424167835364,32361122672259149,221806434537978679,1520283919093591604 ★ a(n) = Lucas(4*n + 3). • a(n) = 7 * a(n - 1) - a(n - 2) for n>1, with a(0)=4, a(1)=29. • a(n) = ((sqrt(5) + 1) ^ (4 * n + 3) - (sqrt(5) - 1) ^ (4 * n + 3)) / (8 * 16 ^ n). • a(n) = Fibonacci(4 * n + 4) + Fibonacci(4 * n + 2). • a(n + 1) * a(n + k) - a(n) * a(n + k + 1) = 15 * Fibonacci(4 * k). Example: for k=6, a(n + 1) * a(n + 6) - a(n) * a(n + 7) = 15 * Fibonacci(24) = 695520. •

[A100022] • 1,4,29,205,1412,9688,66416,455237,3120256 ★ Number of digits in A090162(n). • a(n + 1) / a(n) - > Phi ^ 4 = 6.8541... - _ Robert G. Wilson v _ , Nov 23 2004 •

[A079756] • 0,0,4,29,215,1734,15630,156327,1719637,20635688,268264004,3755696121,56335441899,901367070474,15323240198170,275818323567179,5240548147776545,104810962955531052,2201030222066152272 ★ Operation count to create all permutations of n distinct elements using the "streamlined" version of Algorithm L (lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of interchanges in reversal step. • a(3)=0, a(4)=0, a(n) = n * a(n - 1) + (n - 1) * (floor((n - 1) / 2) - 1) for n>=5. •

[A022387] • 4,30,34,64,98,162,260,422,682,1104,1786,2890,4676,7566,12242,19808,32050,51858,83908,135766,219674,355440,575114,930554,1505668 ★ Fibonacci sequence beginning 4, 30. • a(n) = 4 * Fibonacci(n + 2) + 22 * fibonacci(n) = 4 * Fibonacci(n - 1) + 30 * Fibonacci(n). - _ G. C. Greubel _ , Mar 02 2018 •

[A211624] • 0,4,30,104,245,485,837,1339,1998,2858,3920,5234,6795,8659,10815,13325,16172,19424,23058,27148,31665,36689,42185,48239,54810 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+2x+2y>0. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (64 * n ^ 3 - 14 * n ^ 2 + 12 * n) / 16 for n even. • a(n) = (64 * n ^ 3 - 14 * n ^ 2 + 24 * n - 10) / 16 for n odd. (End) •

[A211628] • 0,4,30,105,249,487,846,1346,2012,2871,3943,5253,6828,8688,10858,13365,16229,19475,23130,27214,31752,36771,42291,48337,54936 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and 3w+x+y>0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6) for n>5. •

[A213824] • 4,30,114,310,690,1344,2380,3924,6120,9130,13134,18330,24934,33180,43320,55624,70380,87894,108490,132510,160314,192280,228804,270300,317200 ★ Antidiagonal sums of the convolution array A213822. • a(n) = (2 * n +

5 * n ^ 2 + 6 * n ^ 3 + 3 * n ^ 4) / 4 = n * (1 + n) * (2 + 3 * n + 3 * n ^ 2) / 4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = Sum _{ i=1..n } i * (3 * i ^ 2 + 1). - _ Bruno Berselli _ , Feb 0 9 2017 •

[A027789] • 4,30,120,350,840,1764,3360,5940,9900,15730,24024,35490,50960,71400,97920,131784,174420,227430,292600,371910,467544,581900,717600,877500,1064700 ★ a(n) = 2*(n+1)*binomial(n+3,4). • a(n) = C(n + 1, 2) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(1)=4, a(2)=30, a(3)=120, a(4)=350, a(5)=840, a(6)=1764. - _ Harvey P. Dale _ , Jan 20 2015 • a(n) = Sum _{ k=1..n + 1 } Sum _{ i=1..n + 1 } (n - i + 1) * C(k + 1,k - 1). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A130424] • 4,30,125,365,854,1724,3135,5275,8360,12634,18369,25865,35450,47480,62339,80439,102220,128150,158725,194469,235934,283700,338375,400595,471024 ★ Main diagonal of array A[k,n] = n-th sum of k consecutive k-gonal numbers, k>2. • a(n) = A[n + 2,n] = P(k + 2,n) + P(k + 2,n + 1) + P(k + 2,n + 2) + ... P(k + 2,n + k - 1) where P(k,n) = k * ((n - 2) * k - (n - 4)) / 2 . • a(n) = (n + 2) * (7 * n ^ 3 - 8 * n ^ 2 + 12 * n - 3) / 6. [_ R. J. Mathar _ , Oct 30 2008] •

[A005715] • 4,30,126,393,1016,2304,4740,9042,16236,27742,45474,71955,110448,165104,241128,344964,484500,669294,910822,1222749,1621224,2125200,2756780,3541590,4509180 ★ Coefficient of x^7 in expansion of (1+x+x^2)^n. • a(n) = binomial(n, 4) * (n ^ 3 + 27 * n ^ 2 + 116 * n - 120) / 210, n >= 4. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). _ Vincenzo Librandi _ , Jun 16 2012 • a(n) = 4 * binomial(n,4) + 10 * binomial(n,5) + 6 * binomial(n,6) + binomial(n,7) (see our comment in A026729). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(n) = GegenbauerC(N, - n, - 1 / 2) where N = 7 if 7<n else 2 * n - 7. - _ Peter Luschny _ , May 10 2016 •

[A113450] • 0,4,30,192,1160,6860,40222,235008,1371120,7994836,46605438,271656000,1583374520,9228697244,53789065150,313506312192,1827250301280,10649999100580,62072753005662,361786539945408,2108646537394280 ★ Difference between the square root of n-th square triangular number and n-th lambda number given by the recurrence f(n) = 2f(n-1) + f(n-2), f(1) = 1, f(2)= 2. • a(n) = 8 * a(n - 1) - 12 * a(n - 2) - 4 * a(n - 3) + a(n - 4). •

[A094567] • 1,4,30,203,1394,9552,65473,448756,3075822,21081995,144498146,990405024,6788337025,46527954148,318907342014,2185823439947,14981856737618,102687173723376,703828359326017,4824111341558740,33064951031585166,226630545879537419 ★ Associated with alternating row sums of array in A094566. • a(n) = F(4n + 1) - a(n - 1) for n >= 1, with a(0) = 1. • a(n) = (Fib(4n + 3) + (- 1) ^ n) / 3. - _ Ralf Stephan _ , Dec 04 2004 • a(n) = 6 * a(n - 1) + 6 * a(n - 2) - a(n - 3), with a(0)=1, a(1)=4, a(2)=30. - _ Harvey P. Dale _ , Jul 13 2011 • a(n) = (- 1) ^ n * sum((- 1) ^ k * Fibonacci(4 * k + 1), k=0..n). - _ Gary Detlefs _ , Jan 22 2013 • a(n) = (2 ^ (- n) * (5 * (- 2) ^ n + (7 - 3 * sqrt(5)) ^ n * (5 - 2 * sqrt(5)) + (5 + 2 * sqrt(5)) * (7 + 3 * sqrt(5)) ^ n)) / 15. - _ Colin Barker _ , Mar 05 2016 •

[A134093] • 1,4,30,215,1729,15176,143814,1462995,15876410,182811992,2223580281,28458251185,381943459065,5359649816728,78430018675440,1194057733357517,18873870914263424,309154787519651284,5238840625331179517 ★ Column 3 of triangle A134090. • a(n) = [x ^ n] Sum _{ k=0..n + 3 } C(n + 3,k) * x ^ k / (1 - k * x) ^ 3 / [Product _{ i=1..k } (1 - i * x)]. •

[A000313] • 0,0,0,1,4,30,220,1855,17304,177996,2002440,24474285,323060540,4581585866,69487385604,1122488536715,19242660629360,348933579412440,6673354706262864,134252194678935321,2834212998777523380,62651024183503148470,1447238658638922729580 ★ Number of permutations of length n with 3 consecutive ascending pairs. • a(n) = (n * (n + 1)! / 6) * sum((- 1) ^ k / k!, k=0..n). • a(n) = round((exp(- 1) * (n + 1)! + (- 1) ^ n) * n / 6). - _ Mark van Hoeij _ , Oct 25 2011 •

[A082144] • 1,4,30,224,1680,12672,96096,732160,5601024,42997760,331082752,2556051456,19778969600,153363087360,1191302553600,9268801044480,72219408138240,563445537177600,4401135695953920,34414895667609600 ★ A subdiagonal of number array A082137. • a(n) = (2 ^ (n - 1) + 0 ^ n / 2) * C(2 * n + 2, n). •

[A137971] • 1,1,4,30,232,2037,18720,179454,1770380,17864490,183510672,1912621814,20175123732,214980182783,2310645275932,25021270486830,272717638241172,2989549949264304,32938634975109864,364566094737276708 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^6)^4. • a(n) = Sum _{ k=0..n - 1 } C(4 * (n - k),k) / (n - k) * C(6 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A086452] • 1,4,30,250,2236,20979,203748,2031054,20662980,213679114,2239507936,23735786529,253964904550,2739547645735,29761236016632,325318710375558,3575517449089572,39489206184518220,438032736572732520 ★ Number of maximal triangulations (using all 2(n+2) points) of a convex polygon having (n+2) sides and an interior point in the middle of each side. • a(n) = sum(k=0..n + 2, binomial(n + 2, k) * (- 1) ^ k * binomial(2 * (2 * n + 2 - k), 2 * n + 2 - k) / (2 * n + 3 - k)); (by inclusion - exclusion) •

[A091527] • 1,4,30,256,2310,21504,204204,1966080,19122246,187432960,1848483780,18320719872,182327718300,1820797698048,18236779032600,183120225632256,1842826521244230,18581317012684800,187679234340049620 ★ a(n) = ((3n)!/n!^2)(gamma(1+n/2)/gamma(1+3n/2)). • a(n) = Sum _{ i = 0..n } binomial(3 * n,i) * binomial(2 * n - i - 1,n - i). • a(n) = [x ^ n] ((1 + x) ^ 3 / (1 - x)) ^ n. • a(n) = Sum _{ k = 0..floor(n / 2) } binomial(4 * n,n - 2 * k) * binomial(n + k - 1,k). •

[A201200] • 1,4,30,256,2356,22384,215640,2090176,20315536,197702464,1925042400,18749072896,182629124416,1779030655744,17330352562560,168824779580416,1644626142474496,16021353180980224,156074394613317120,1520422660926324736 ★ Total number of round trips of length n on the closed Laguerre graph Lc_4 divided by 4. • a(n) = 16 * a(n - 1) - 68 * a(n - 2) + 64 * a(n - 3) + 44 * a(n - 4) for n>3. • a(n) = ((2 - sqrt(6)) ^ n + (2 + sqrt(6)) ^ n + (6 - sqrt(14)) ^ n + (6 + sqrt(14)) ^ n) / 4. •

[A172392] • 1,4,30,280,2940,33264,396396,4907760,62573940,816621520,10861066216,146738321184,2008917492400,27815780664000,388924218927000,5484594083378400,77926940934668100,1114620641232714000 ★ a(n) = C(2n,n)*C(2n+2,n+1 • a(n) = 4 ^ n * [x ^ n]hypergeom([3 / 2, - 2 * n], [3], - x). - _ Peter Luschny _ , Feb 03 2015 • a(n) = a(n - 1) * (4 * (4 * n ^ 2 - 1) / (n * (n + 2))) for n >=1. - _ Peter Luschny _ , Feb 04 2015 •

[A145348] • 1,1,4,30,312,3965,57824,933998,16346728,305539046,6037780164,125227212342,2711254371568,61021656441091,1423063422363676,34297379607790288,852463916004336464,21812807282389353798 ★ G.f. satisfies: A(x/A(x)^2) = 1 + x*A(x)^2. • a(n) = [x ^ (n - 1)] 2 * A(x) ^ (2 * n + 2) / (n + 1) for n >=1 with a(0)=1; i.e., a(n) equals the coefficient of x ^ (n - 1) in 2 * A(x) ^ (2 * n + 2) / (n + 1) for n>=1 (see comment). •

[A216302] • 4,31,46,64,88,109,130,367,400,493,523,550,823,829,886,946,1033,1117,1369,1390,1408,1432,1825,1999,2161 ★ Numbers n such that 10n+9 is composite but 10n+1, 10n+3, 10n+7 are all prime. • a(n) >> n log ^ 3 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A210377] • 0,0,4,31,80,146,224,315,420,540,676,829,1000,1190,1400,1631,1884,2160,2460,2785,3136,3514,3920,4355,4820 ★ Number of 2 X 2 matrices with all terms in {0,1,...,n} and (sum of terms) = n + 5. • a(n) = (- 504 + 146 * n + 21 * n ^ 2 + n ^ 3) / 6 for n>3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. •

[A211629] • 0,4,31,105,252,492,851,1353,2024,2884,3959,5273,6852,8716,10891,13401,16272,19524,23183,27273,31820,36844,42371,48425,55032 ★ Number of ordered triples (w,x,y) with all terms in {-n, ..., -1, 1, ..., n} and 4w + x + y > 0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7) for n > 6. •

[A001091] • 1,4,31,244,1921,15124,119071,937444,7380481,58106404,457470751,3601659604,28355806081,223244789044,1757602506271,13837575261124,108942999582721,857706421400644,6752708371622431,53163960551578804 ★ a(n) = 8a(n-1) - a(n-2); a(0) = 1, a(1) = 4. • a(n) = ((4 + sqrt(15)) ^ n + (4 - sqrt(15)) ^ n) / 2. • a(n) = 4 * S(n - 1, 8) - S(n - 2, 8) = (S(n, 8) - S(n - 2, 8)) / 2, n>=1; S(n, x) := U(n, x / 2) with Chebyshev's polynomials of the 2nd kind, A049310, with S(- 1, x) := 0 and S(- 2, x) := - 1. • a(n) = T(n, 4) with Chebyshev's polynomials of the first kind; see A053120. • a(n)a(n + 3) - a(n + 1)a(n + 2) = 120. - _ Ralf Stephan _ , Jun 06 2005 •

[A039306] • 1,4,31,274,2461,22144,199291,1793614,16142521,145282684,1307544151,11767897354,105911076181,953199685624,8578797170611,77209174535494,694882570819441,6253943137374964,56285488236374671,506569394127372034 ★ Number of distinct quadratic residues mod 9^n. • a(n) = floor((9 ^ n + 3) * 3 / 8). • a(n) = 9 * a(n - 1) + a(n - 2) - 9 * a(n - 3). - _ Vincenzo Librandi _ , Apr 22 2012 • a(n) = (5 + 3 ^ (2n + 1)) / 8 = a(n - 1) + 3 ^ (2n - 1). - _ Danny Rorabaugh _ , Dec 15 2015 •

[A199683] • 4,31,301,3001,30001,300001,3000001,30000001,300000001,3000000001,30000000001,300000000001,3000000000001,30000000000001,300000000000001,3000000000000001,30000000000000001,300000000000000001 ★ 3*10^n+1. • a(n) = 10 * a(n - 1) - 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A129271] • 1,1,1,4,31,347,4956,85102,1698712,38562309,980107840,27559801736,849285938304,28459975589311,1030366840792576,40079074477640850,1666985134587145216 ★ Number of labeled n-node connected graphs with at most one cycle. • a(n) = ((n - 1) * e ^ n * GAMMA(n - 1,n) + n ^ (n - 2) * (3 - n)) / 2 for n>=1. - _ Peter Luschny _ , Jan 18 2016 •

[A290809] • 0,4,32,32,1404,13409,97444,215093,3509265,15038867,257160509,1669536754,5624190240,19465477441,310132508662,310132508662,28795501568320,228193084985926,1623976168909168,8137630560550964,76531001672789822,555284599458461828 ★ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(-5). These are the numbers congruent to 4 mod 7 (except for the initial 0). • a(0) = 0 and a(1) = 4, a(n) = a(n - 1) + 6 * (a(n - 1) ^ 2 + 5) mod 7 ^ n for n > 1. •

[A153794] • 0,4,32,84,160,260,384,532,704,900,1120,1364,1632,1924,2240,2580,2944,3332,3744,4180,4640,5124,5632,6164,6720 ★ 4 times octagonal numbers: a(n) = 4*n*(3*n-2). • a(n) = 24 * n + a(n - 1) - 20 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=4, a(2)=32, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 14 2011 •

[A211625] • 0,4,32,104,250,492,845,1349,2021,2871,3949,5267,6830,8698,10878,13370,16244,19502,23139,27235,31787,36785,42319,48381,54956 ★ Number of ordered triples (w,x,y) with all terms in {-n,...,-1,1,...,n} and w+3x+3y>0. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). •

[A211630] • 0,4,32,106,252,495,855,1359,2029,2891,3970,5286,6866,8732,10913,13425,16297,19553,23215,27309,31860,36888,42420,48478,55088 ★ Number of ordered triples (w,x,y) with all terms in {-n, ..., -1, 1, ..., n} and 5w + x + y > 0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8) for n > 7. •

[A211626] • 0,4,32,108,250,492,854,1360,2021,2885,3965,5285,6849,8719,10901,13419,16270,19530,23198,27298,31820,36854,42392,48458,55035 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+4x+4y>0. • a

(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 4) - 4 * a(n - 5) + 2 * a(n - 6) - a(n - 8) + 2 * a(n - 9) - a(n - 10) for n>9. •

[A211627] • 0,4,32,108,256,492,854,1360,2034,2900,3965,5285,6869,8741,10925,13419,16297,19559,23229,27331,31854,36890,42430,48498,55118 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+5x+5y>0. • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 5) - 4 * a(n - 6) + 2 * a(n - 7) - a(n - 10) + 2 * a(n - 11) - a(n - 12) for n>11. •

[A123854] • 1,4,32,128,2048,8192,65536,262144,8388608,33554432,268435456,1073741824,17179869184,68719476736,549755813888,2199023255552,1407374883553 28,562949953421312,4503599627370496,18014398509481984,2882303761517117 44,1152921504606846976 ★ Denominators in asymptotic expansion of cubic recurrence sequence A123851. • a(n) = denominator(binomial(1 / 4,n)). - _ Peter Luschny _ , Apr 07 2016 •

[A270287] • 1,4,32,157,689,2881,11777,47617,191489,768001,3076097,12312577,49266689,197099521,788463617,3153985537 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 145", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A290026] • 0,0,4,32,160,640,2240,7168,21504,61440,168960,450560,1171456,2981888,7454720,18350080,44564480,106954752,254017536,597688320,1394606080,3229614080,7428112384,16978542592,38587596800 ★ Number of 3-cycles in the n-halved cube graph. • a(n) = 2 ^ (n - 1) * binomial(n,3). • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). •

[A083299] • 1,4,32,160,1088,6016,38144,220672,1356800,8009728,48582656,289398784,1744781312,10435133440,62745018368,375933239296,2257746919424,13537891581952,81261709230080,487432816427008,2925146654375936 ★ (4*6^n+(-4)^n)/5. • a(n)=(4 * 6 ^ n + (- 4) ^ n) / 5 •

[A269811] • 1,4,32,164,732,3084,12692,51604,208492,839324,3371652,13526244,54217052,217190764,869703412,3481580084 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 33", based on the 5-celled von Neumann neighborhood. • a(n) = - 2 + (- 1) ^ n / 3 - (5 * 2 ^ (1 + n)) / 3 - 5 * 3 ^ (- 2 + n) + 13 * 4 ^ (- 1 + n) for n>1. • a(n) = (117 * 2 ^ (2 * n) - 15 * 2 ^ (n + 3) - 20 * 3 ^ n - 60) / 36 for n>1 and even. • a(n) = (117 * 2 ^ (2 * n) - 15 * 2 ^ (n + 3) - 20 * 3 ^ n - 84) / 36 for n>1 and odd. •

[A271804] • 1,4,32,164,744,3196,13376,55220,226200,922156,3747248,15191396,61473672,248391004,1002403616,4040994836 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 401", based on the 5-celled von Neumann neighborhood. • a(n) = (1 - 2 ^ (2 + n) + 4 ^ (1 + n) + (2 ^ (- 1 - n) * (- (3 - sqrt(17)) ^ n * (- 7 + sqrt(17)) - (3 + sqrt(17)) ^ n * (7 + sqrt(17)))) / sqrt(17)) for n>0. •

[A099133] • 0,1,4,32,192,1280,8192,53248,344064,2228224,14417920,93323264,603979776,3909091328,25300041728,163745628160,1059783180288,6859062771712,44392781971456,287316132233216,1859549040476160,12035254277636096,77893801758162944 ★ 4^(n-1)*Fibonacci(n). • a(n) = 4 * a(n - 1) + 16 * a(n - 2). • a(n) = (2 + 2 * sqrt(5)) ^ n / (4 * sqrt(5)) - (2 - sqrt(5)) ^ n / (4 * sqrt(5)). • a(- n) = - (- 1) ^ n * a(n) / 16 ^ n for all n in Z. - _ Michael Somos _ , Mar 18 2014 •

[A248216] • 0,4,32,208,1280,7744,46592,279808,1679360,10077184,60465152,362795008,2176778240,13060685824,78364147712,470184951808,2821109841920,16926659313664,101559956406272,609359739486208,3656158439014400,21936950638280704 ★ 6^n - 2^n. • a(n) = 8 * a(n - 1) - 12 * a(n - 2). •

[A133642] • 1,4,32,208,1472,10048,69632,479488,3310592,22832128,157540352,1086803968,7498022912,51728171008,356873142272,2462055989848,16985686802432,117183866994688,808449204027392,5577474156003328 ★ a(n)=4*a(n-1)+20*a(n-2) for n>=3, a(0)=1, a(1)=4, a(2)=32 . • a(n)= - [2 - 2 * sqrt(6)] ^ (n - 1) * sqrt(6) + sqrt(6) * [2 + 2 * sqrt(6)] ^ (n - 1) + 2 * [2 - 2 * sqrt(6)] ^ (n - 1) + 2 * [2 + 2 * sqrt(6)] ^ (n - 1) + 1 / 5 * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] •

[A098981] • 0,0,4,32,212,1184,6256 ★ Total number of self-intersections of all walks on the square lattice starting at the origin. • a(n) = r * a(n - 1) + w(n) - b(n); a(0)=0; or a(n) = r * a(n - 1) + Sum _{ m=0 }^{ n - 1 } b(m) q(n - m); a(0)=0; •

[A125823] • 0,4,32,228,1600,11204,78432,549028,3843200,26902404,188316832,1318217828,9227524800,64592673604,452148715232,3165041006628,22155287046400,155087009324804,1085609065273632,7599263456915428 ★ Numbers whose base 7 representation is 4444....4. • a(n)=7 * a(n - 1) + 4 (with a(1)=0) [From _ Vincenzo Librandi _ , Sep 30 2010] •

[A273053] • 0,4,32,252,1984,15620,122976,968188,7622528,60012036,472473760,3719778044,29285750592,230566226692,1815244062944,14291386276860,112515846151936,885835382938628,6974167217357088,54907502355918076,432285851629987520,3403379310683982084 ★ Numbers n such that 15*n^2 + 16 is a square. • a(n) = 8 * a(n - 1) - a(n - 2) for n>2. • a(n) = - (2 * ((4 - sqrt(15)) ^ n * (4 + sqrt(15)) + (- 4 + sqrt(15)) * (4 + sqrt(15)) ^ n)) / sqrt(15). - _ Colin Barker _ , May 14 2016 • a(n + 2) - a(n + 1) = 4 * 070997(n) for n>0. - _ Wesley Ivan Hurt _ , May 14 2016 •

[A213413] • 4,32,253,1970,15109,114302,854473,6323090,46390429,337896422,2446208593,17618827610,126352826149,902840120942,6431323577113,45694024938530,323937251540269,2292187810495862,16193839911208033,114251845502143850 ★ Half the number of nX3 binary arrays with no 3X3 submatrix formed with any three rows and columns equal to J-I • a(n) = (5 ^ n - 3 * 6 ^ n + 3 * 7 ^ n) / 2 • a(n) = 18 * a(n - 1) - 107 * a(n - 2) + 210 * a(n - 3) •

[A092811] • 1,4,32,256,2048,16384,131072,1048576,8388608,67108864,536870912,4294967296,34359738368,274877906944,2199023255552,17592186044416,140737488355328,1125899906842624,9007199254740992,72057594037927936 ★ Expansion of (1-4*x)/(1-8*x). • a(n) = 8 ^ n / 2 + 0 ^ n / 2. • a(n) = 4 * 8 ^ (n - 1), a(0)=1. - _ Vincenzo Librandi _ , Jun 16 2011 •

[A013731] • 4,32,256,2048,16384,131072,1048576,8388608,67108864,536870912,4294967296,34359738368,274877906944,2199023255552,17592186044416,140737488355328,1125899906842624,9007199254740992,72057594037927936,576460752303423488 ★ a(n) = 2^(3*n+2). • a(n) = 8 * a(n - 1), n>0 ; a(0)=4. G.f.: 4 / (1 - 8x). - _ Philippe Deléham _ , Nov 23 2008 •

[A199566] • 4,32,284,2552,22964,206672,1860044,16740392,150663524,1355971712,12203745404,109833708632,988503377684,8896530399152,80068773592364,720618962331272,6485570660981444,58370135948832992,525331223539496924 ★ (7*9^n+1)/2. • a(n) = 9 * a(n - 1) - 4. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A294592] • 1,4,32,304,3072,32024,340352,3666016,39878656,437091892,4819567552,53401892240,594093969408,6631726263608,74242911364864,833237193123104,9371924860764160,105614054423502408,1192210691317862048,13478559927485340144,152589996020498655232,1729590806617202662528 ★ a(n) = [x^n] (theta_3(x)/theta_4(x))^n, where theta_() is the Jacobi theta function. • a(n) = [x ^ n] Product _{ k>=0 } ((1 + x ^ (2 * k + 1)) / (1 - x ^ (2 * k + 1))) ^ (2 * n). •

[A052704] • 0,1,4,32,320,3584,43008,540672,7028736,93716480,1274544128,17611882496,246566354944,3489862254592,49855175065600,717914520944640,10409760553697280,151860036312760320 ★ Apart from the leading term, a(n) = Catalan(n-1)*4^(n-1). • a(n) = 16 ^ n * GAMMA(n + 1 / 2) / GAMMA(n + 2) / Pi ^ (1 / 2). • a(n) = 8 * (2 - 3 / n) * a(n - 1), n>1. • a(0)=0, a(1)=1 a(n)=4 * sum(i=1, n - 1, a(i) * a(n - i)). - _ Benoit Cloitre _ , Mar 16 2004 • a(n + 1) = (1 / (8 * Pi)) * integrate(x=0..16, x ^ n * sqrt(x * (16 - x)) / x); a(n + 1)=(1 / (8 * Pi)) * integrate(x= - 4..4, x ^ (2 * n) * sqrt(4 - x) * sqrt(4 + x)). - _ Paul Barry _ , Oct 01 2007 • a(n) = upper left term of M ^ (n - 1), where M is an infinite matrix as follows: • a(n) = 4 * Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 •

[A034663] • 4,32,500,9632,196964,4101152,85884500,1801914272,37828630724,794320419872,16680163512500,350279478046112,7355841353205284,154472474629724192,3243920610749364500,68122323330527541152 ★ Sum of n-th powers of divisors of 21. • a(n) = (1 + 3 ^ n) * (1 + 7 ^ n). - _ Bruno Berselli _ , Apr 17 2014 •

[A102557] • 4,32,512,4096,131072,1048576,16777216,134217728,8589934592,68719476736,1099511627776,8796093022208,281474976710656,2251799813685248,36028797018963968,288230376151711744 ★ Denominator of the probability that 2n-dimensional Gaussian random triangle has an obtuse angle. • a(n) is the denominator of p(n) = Sum _{ k=n..2n - 1 } binomial(2n - 1,k) 3 ^ (2n - k) / 4 ^ (2n - 1). •

[A066645] • 0,4,33,113,268,523,904,1436,2144,3053,4188,5575,7238,9202,11494,14137,17157,20579,24429,28730,33510,38792,44602,50965,57905 ★ a(n) = floor((4/3)*Pi*n^3). • a(n) = floor((4 / 3) * Pi * n ^ 3). •

[A152041] • 0,4,33,129,355,795,1554,2758,4554,7110,10615,15279,21333,29029,38640,50460,64804,82008,102429,126445,154455,186879,224158,266754,315150 ★ A008893/2. • a(n) = n * (n + 1) * (7 * n ^ 2 + 7 * n + 2) / 8. • a(0)=0, a(1)=4, a(2)=33, a(3)=129, a(4)=355, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Jul 20 2011] •

[A095671] • 4,33,153,525,1485,3663,8151,16731,32175,58630,102102,171054,277134,436050,668610,1001946,1470942,2119887,3004375,4193475,5772195,7844265,10535265,13996125,18407025 ★ Ninth column (m=8) of (1,4)-Pascal triangle A095666. • a(0)=4, a(1)=33, a(2)=153, a(3)=525, a(4)=1485, a(5)=3663, a(6)=8151, a(7)=16731, a(8)=32175, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jul 07 2015 •

[A273676] • 1,4,33,161,705,2945,12033,48641,195585,784385,3141633,12574721,50315265,201293825,805240833,3221094401 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 833", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A097705] • 1,4,33,200,1361,8844,58513,384400,2532321,16664084,109705793,722112600,4753448881,31289709724,205967469873,1355794944800,8924626767041,58747021129764,386706739558753,2545526317441000 ★ a(n) = 4a(n-1) + 17a(n-2), a(0)=0, a(1)=1. • a(n)= - (1 / 42) * [2 - sqrt(21)] ^ n * sqrt(21) + (1 / 42) * sqrt(21) * [2 + sqrt(21)] ^ n, with n>=0. [_ Paolo P. Lava _ , Oct 02 2008] •

[A081007] • 0,4,33,232,1596,10945,75024,514228,3524577,24157816,165580140,1134903169,7778742048,53316291172,365435296161,2504730781960,17167680177564,117669030460993,806515533049392,5527939700884756,37889062373143905,259695496911122584 ★ Fibonacci(4n+1)-1, or Fibonacci(2n)*Lucas(2n+1). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 1 + (1 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = sum _{ i=1..2n } binomial(2n + i, 2n - i). - _ Wesley Ivan Hurt _ , Oct 06 2013 •

[A088317] • 1,4,33,268,2177,17684,143649,1166876,9478657,76996132,625447713,5080577836,41270070401,335241141044,2723199198753,22120834731068,179689877047297,1459639851109444 ★ a(n) = 8*a(n-1) + a(n-2), starting with a(0) = 1 and a(1) = 4. • a(n) = (((8 + sqrt(68)) / 2) ^ n + ((8 - sqrt(68)) / 2) ^ n) / 2. • a(n) = 1 / 2 * ((33 + 8 * sqrt(17)) * (4 - sqrt(17)) ^ (n + 2) - (- 33 + 8 * sqrt(17)) * (4 + sqrt(17)) ^ (n + 2)). - _ Harvey P. Dale _ , May 07 2012 •

[A041024] • 4,33,268,2177,17684,143649,1166876,9478657,76996132,625447713,5080577836,41270070401,335241141044,2723199198753,22120834731068,179689877047297,1459639851109444,11856808685922849,96314109338492236 ★ Numerators of continued fraction convergents to sqrt(17). • a(n) = ((- i) ^ (n + 1)) * T(n + 1, 4 * i) with T(n, x) Chebyshev's polynomials of the first kind (see A053120) and i ^ 2= - 1. • a(n) = 8 * a(n - 1) + a(n - 2), n>1. [_ Philippe Deléham _ , Nov 20 2008] • a(n) = (1 / 2) * sqrt(17) *{ [4 + sqrt(17)] ^ n - [4 - sqrt(17)] ^ n }+ 2 *{ [4 + sqrt(17)] ^ n + [4 - sqrt(17)] ^ n } , with n >=0. [_ Paolo P. Lava _ , Nov 28 2008] • a(n) = ((4 + sqrt(17)) ^ n + (4 - sqrt(17)) ^ n) / 2. [_ Sture Sjöstedt _ , Dec 08 2011] •

[A198900] • 1,4,33,380,4801,62004,804833,10459180,135958401,1767426404,22976444833,298693487580,3883014452801,50479185229204,656229400008033,8530982176189580,110902768218720001,1441735986628126404 ★ Number of n X 2 0..4 arrays with values 0..4 introduced in row major order and no element equal to any horizontal or vertical neighbor. • a(n) = (26 + 13 * 3 ^ n + 13 ^ n) / 78. •

[A049293] • 0,0,4,34,220,1330,7924,47194,281740,1685410,10095844,60522154,362968060,2177301490,13062263764,78368897914,470199235180,2821152757570,16926788191684,101560343302474,609360900699100 ★ Number of subgroups of index 3 in fundamental group of a closed surface of characteristic -n. • a(n) = 6 ^ (n + 1) + 3 ^ (n + 1) - 3 * 2 ^ (n + 1) + 1. • a(- 2)=0, a(- 1)=0, a(0)=4, a(1)=34, a(n)=12 * a(n - 1) - 47 * a(n - 2) + 72 * a(n - 3) - 36 * a(n - 4) [From Harvey P. Dale, Mar 03 2012] •

[A198687] • 4,34,244,1714,12004,84034,588244,4117714,28824004,201768034,1412376244,9886633714,69206436004,484445052034,3391115364244,23737807549714,166164652848004,1163152569936034,8142067989552244,56994475926865714 ★ 5*7^n-1. • a(n) = 7 * a(n - 1) + 6 = 8 * a(n - 1) - 7 * a(n - 2), n>1. •

[A216239] • 0,0,1,4,34,260,2275,21784,228676,2614296,32372805,431971100,6182204006,94495208444,1536740258599,26498747241680,482990781797000,9279452377499504,187442757190618761,3971627425918503156,88084356619901450410,2040857112777615061300 ★ Total number of inversions in all derangement permutations of [n]. • a(n) = SUM(k=0..n - 2, (- 1) ^ k * n! / k! * (3 * n + k) * (n - k - 1)) / 12. - _ Max Alekseyev _ , Aug 13 2013 •

[A155628] • 1,4,34,280,2146,15784,113554,807160,5699266,40091464,281426674,1973132440,13824509986,96821901544,677954637394,4746487768120,33228635602306,232613334118024,1628344878433714,11398620307466200 ★ 7^n-4^n+1^n • a(n)=11 * a(n - 1) - 28 * a(n - 2) + 18 with a(0)=1, a(1)=4 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A005569] • 4,34,308,3024,31680,349206,4008004,47530912,579058896,7215393640,91644262864,1183274479040,15497363512800,205519758825150,2755739674246500,37314861293793600,509727100259638800 ★ Number of walks on square lattice. • a(n)(n - 1)(n + 2)(n + 3)(5n + 2)=a(n - 1)4n(2n - 1)(2n + 1)(5n + 7), n>1. - _ Michael Somos _ , Mar 04 2003 •

[A208215] • 1,4,34,322,3164,31484,314662,3149674,31544384,315981452,3165414034,31710994234,317682195692,3182564368244,31883205466534,319408833724882,3199866987994304,32056562443839284,321145602837871522,3217266324544621714,32230871396722195484 ★ Number of ways of dividing a 3 X n rectangle into rectangles of integer side lengths. • a(n) = 18 * a(n - 1) - 100 * a(n - 2) + 216 * a(n - 3) - 153 * a(n - 4) with n>4 (see paper in Link lines, p. 1). • a(n) = 15 * a(n - 1) - 55 * a(n - 2) + 51 * a(n - 3) with n>3. [_ Bruno Berselli _ , Apr 24 2012] •

[A093137] • 1,4,34,334,3334,33334,333334,3333334,33333334,333333334,3333333334,33333333334,333333333334,3333333333334,33333333333334,333333333333334,3333333333333334,33333333333333334,333333333333333334 ★ Expansion of (1-7*x)/((1-x)(1-10*x)). • a(n) = 3 * 10 ^ n / 9 + 6 / 9. • a(n) = 10 * a(n - 1) - 6 with a(0)=1. - _ Vincenzo Librandi _ , Aug 02 2010 •

[A199752] • 4,34,364,3994,43924,483154,5314684,58461514,643076644,7073843074,77812273804,855935011834,9415285130164,103568136431794,1139249500749724,12531744508246954,137849189590716484,1516341085497881314 ★ 3*11^n+1 • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A264607] • 1,1,4,34,364,4269,52844,679172,8976188,121223668,1665558544,23207619274,327167316436,4657884819670,66875794530120,967202289590280,14077773784645980,206058395118133932,3031188276557963312,44789055557553810152 ★ Degeneracies of entanglement witness eigenstates for spin 3/2 particles. • a(n) = (1 / Pi) * int((sin(4x) / sin(x)) ^ (2n) * (sin(x)) ^ 2,x,0,2 Pi). - _ Thomas Curtright _ , Jun 24 2016 • a(n) = Catalan(3 * n) * 2F1(- 1 - 3 * n, - 2 * n;1 / 2 - 3 * n;1 / 2). - _ Benedict W. J. Irwin _ , Sep 27 2016 •

[A198976] • 1,4,34,481,8731,174454,3603244,75251971,1577395861,33105096904,695065679254,14595390246661,306496273473391,6436373295247354,135163500079092064,2838431127851480551,59607037068329713321 ★ Number of n X 2 0..5 arrays with values 0..5 introduced in row major order and no element equal to any horizontal or vertical neighbor. • a(n) = (189 + 56 * 3 ^ n + 18 * 7 ^ n + 21 ^ n) / 504. •

[A257600] • 4,35,100,210,380,627,970,1430,2030,2795,3752,4930,6360,8075,10110,12502,15290,18515,22220,26450,31252,36675,42770,49590,57190 ★ Expansion of (4+15*x-35*x^2+20*x^3-2*x^5)/(1-x)^5. • a(n) = (24 + 250 * n + 125 * n ^ 2 + 20 * n ^ 3 + n ^ 4) / 12 for n>0. - _ Colin Barker _ , Apr 15 2016 •

[A211612] • 0,4,35,117,274,530,909,1435,2132,3024,4135,5489,7110,9022,11249,13815,16744,20060,23787,27949,32570,37674,43285,49427,56124 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+x+y>=0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = (n * (- 3 + 3 * n + 8 * n ^ 2)) / 2. •

[A228887] • 4,35,120,286,560,969,1540,2300,3276,4495,5984,7770,9880,12341,15180,18424,22100,26235,30856,35990,41664,47905,54740,62196,70300 ★ a(n) = binomial(3*n + 1,3). • a(n) = - a(- n) = binomial(3 * n + 1,3) = 1 / 6 * (3 * n + 1) * (3 * n) * (3 * n - 1). •

[A128811] • 1,4,35,240,3003,26880,415701,4435200,79676025,968647680,19535112675,263472168960,5837993287875,85816649318400,2058476433304725,32567418416332800,836589039864843825,14112547980410880000 ★ A113551(n)/A006882(n • a(n) = n * (n + 2) * ... * ((3 * n) - 2) / n!!. •

[A145607] • 0,4,35,279,2200,17324,136395,1073839,8454320,66560724,524031475,4125691079,32481497160,255726286204,2013328792475,15850904053599,124793903636320,982500325036964,7735208696659395,60899169248238199 ★ Numbers a(n)=k such that (3*(2k+1)^2+2)/5 is A070997(n)^2 • a(n + 2) =8 * a(n + 1) - a(n) + 3. • a(n)= - (1 / 2) + (1 / 4) *{ [4 - sqrt(15)] ^ n + [4 + sqrt(15)] ^ n }- (1 / 12) * sqrt(15) *{ [4 - sqrt(15)] ^ n - [4 + sqrt(15)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Nov 25 2008] •

[A188527] • 4,35,313,2813,25309,227765,2049853,18448613,166037389,1494336245,13449025693,121041230213,1089371069869,9804339624725,88239056614333,794151509512613,7147363585580749,64326272270161205,578936450431319773,5210428053881615813,46893852484934018029 ★ a(n) = A188526(n) / 7. • a(n) = (3 ^ (2 * n + 3) + 2 ^ n) / 7. •

[A215541] • 1,4,35,350,3705,40480,451269,5101360,58261125,670609940,7766844470,90404916420,1056658719675,12393263030400,145787921878840,1719353829326880,20322351313767965,240674861588534100,2855214354095519625,33924757188414045330,403641797464597415570 ★ a(n) = binomial(5*n,n)*(3*n+1)/(4*n+ • a(n) = C(5 * n,n) * (3 * n + 1) / (4 * n + 1). • a(n) = [x ^ n] ((1 - sqrt(1 - 4 * x)) / (2 * x)) ^ (3 * n + 1). - _ Ilya Gutkovskiy _ , Nov 01 2017 •

[A152760] • 0,4,36,96,184,300,444,616,816,1044,1300,1584,1896,2236,2604,3000,3424,3876,4356,4864,5400,5964,6556,7176,7824 ★ 4 times 9-gonal numbers: a(n) = 2*n*(7*n-5). • a(n) = a(n - 1) + 28 * n - 24 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A016826] • 4,36,100,196,324,484,676,900,1156,1444,1764,2116,2500,2916,3364,3844,4356,4900,5476,6084,6724,7396,8100,8836,9604 ★ a(n) = (4n + 2)^2. • a(n) = a(n - 1) + 32 * n (with a(0)=4). - _ Vincenzo Librandi _ , Dec 15 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=4, a(1)=36, a(2)=100. - _ Harvey P. Dale _ , Nov 24 2011 •

[A060783] • 0,0,4,36,132,340,720,1344,2296,3672,5580,8140,11484,15756,21112,27720,35760,45424,56916,70452,86260,104580,125664,149776,177192 ★ Number of conics which pass through 3 points and are bitangent to a general curve of order n. • a(n) = (n - 1) * n * (n ^ 2 + 3 * n - 6) / 2. •

[A173961] • 4,36,140,364,756,1364,2236,3420,4964,6916,9324,12236,15700,19764,24476,29884,36036,42980,50764,59436,69044,79636,91260,103964,117796 ★ Averages of two consecutive even cubes: (n^3+(n+2)^3)/2. • a(n) = 8n ^ 3 - 12n ^ 2 + 12n - 4. - _ Charles R Greathouse IV _ , Jan 02 2012 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 02 2012 •

[A035287] • 0,4,36,144,400,900,1764,3136,5184,8100,12100,17424,24336,33124,44100,57600,73984,93636,116964,144400,176400,213444,256036,304704,360000 ★ Number of ways to place a non-attacking white and black rook on n X n chessboard. • a(n) = n ^ 2 * (n - 1) ^ 2. • a(n) = limit(n! * (2 * n + 1) / ((d ^ n / dx ^ n)(1 + polylog(2,x) - polylog(2,x) / x), x=0); •

[A083223] • 1,4,36,144,1296,5184,46656,186624,1679616,6718464,60466176,241864704,2176782336,8707129344,78364164096,313456656384,2821109907456,11284439629824,101559956668416,406239826673664,3656158440062976 ★ (5*6^n+(-6)^n)/6. • a(n) = (5 * 6 ^ n + (- 6) ^ n) / 6. •

[A270084] • 1,4,36,188,876,3788,15756,64268,259596,1043468,4184076,16756748,67067916,268353548,1073577996,4294639628 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 65", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A220436] • 4,36,196,1444,9604,66564,454276,3118756,21362884,146458404,1003749124,6880038916,47155859716,323212716324,2215328606404,15184099435684,104073336269956,713329336067076,4889231802533764,33511293841053604,229689823620354244,1574317475335503396,10790532493690424836 ★ a(n) = A127546(n)^2. • a(n) = 4 * (4 * ((- 1) ^ (n + 1) * Lucas(2 * (n + 1)) + Lucas(4 * (n + 1))) + 9) / 25. - _ Ehren Metcalfe _ , Feb 18 2017 •

[A257888] • 4,36,224,1200,5940,28028,128128,572832,2519400,10943240,47070144,200880160,851809140,3592795500,15085939200,63102895680,263083395960,1093683448440,4535210472000 ★ Number of nonintersecting (or self-avoiding) rook paths of length 2n+2 joining opposite corners of an n X n grid. • a(n) = 2 * (n - 1) * C(2 * n - 2,n - 3) •

[A176097] • 1,4,36,272,2150,16992,134848,1072192,8536914,68036600,542607560,4329671040,34561892560,275979195520,2204266118400,17609217372416,140698273234634,1124340854572296,8985828520591912,71822662173752800 ★ Degree of the hyperdeterminant of the cubic format (k+1) X (k+1) X (k+1). • a(k) = Sum _{ j=0..k / 2 } ((j + k + 1)! 2 ^ (k - 2j)) / ((j!) ^ 3 (k - 2j)!). •

[A173429] • 0,4,36,276,1152,3920,10568,25348,53848,106292,194732,339416,562652,899796,1388008,2083908,3044992,4356344,6102144,8404204,11380564,15199100,20019856,26067112,33551812 ★ Number of ways to place 3 nonattacking nightriders on an n X n board. • a(n) = 1 / 6 * n ^ 6 - 5 / 6 * n ^ 5 + 4031 / 1440 * n ^ 4 - 621 / 100 * n ^ 3 + 3313 / 288 * n ^ 2 - 2623 / 150 * n + 8232 1 / 43200 + (1 / 4 * n ^ 3 - 25 / 32 * n ^ 2 + 77 / 50 * n - 43 / 64) * (- 1) ^ n - (1 + (- 1) ^ n) / 8 * cos(Pi * n / 2) + 8 / 27 * (- 1) ^ n * cos(Pi * n / 3) + (- 4 * (- 1) ^ n + (sqrt(5) + 3 + (1 - sqrt(5) / 5) * (- 1) ^ n) * n) * 4 / 25 * cos(Pi * n / 5) + (sqrt(58 * sqrt(5) + 130) - sqrt(50 - 22 * sqrt(5)) * (- 1) ^

n / 5) * 16 / 25 * sin(Pi * n / 5) + (- 4 + (sqrt(5) / 5 + 1 + (3 - sqrt(5)) * (- 1) ^ n) * n) * 4 / 25 * cos(2 * Pi * n / 5) + (sqrt(22 * sqrt(5) + 50) / 5 - sqrt(130 - 58 * sqrt(5)) * (- 1) ^ n) * 16 / 25 * sin(2 * Pi * n / 5). •

[A098916] • 0,4,36,288,2400,21600,211680,2257920,26127360,326592000,4390848000,63228211200,971415244800,15866448998400,274611617280000,5021469573120000,96746980442112000,1959126353952768000 ⋆ Permanent of the n X n (0,1)-matrices with ij-th entry equal to zero iff (i=1,j=1),(i=1,j=n),(i=n,j=1) and (i=n,j=n). • a(n)=(n - 2) * (n - 3) * (n - 2)!. - Herman Jamke (hermanjamke(AT)fastmail.fm), May 13 2007 •

[A108019] • 0,4,36,292,2340,18724,149796,1198372,9586980,76695844,613566756,4908534052,39268272420,314146179364,2513169434916,20105355479332,160842843834660,1286742750677284,10293942005418276,82351536043346212 ⋆ a(n) = (8^n - 1)*4/7. • a(n) = 8 * a(n - 1) + 4 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[A270473] • 1,4,36,324,2916,26244,236196,2125764,19131876,172186884,1549681956,13947137604,125524238436,1129718145924,10167463313316,91507169819844,823564528378596,7412080755407364,66708726798666276,600378541187996484,5403406870691968356 ⋆ Expansion of (1-5*x)/(1-9*x). • a(n) = 9 * a(n - 1) for n>1. • a(n) = 4 * 9 ^ (n - 1) for n>0. •

[A189334] • 1,4,36,340,3220,30500,288900,2736500,25920500,245522500,2325622500,22028612500,208658012500,1976437062500,18721080562500,177328620312500,1679680800312500,15910164901562500,150703245014062500,1427481625632812500 ⋆ Expansion of (1-6*x+x^2)/(1-10*x+5*x^2) • a(n)=10 * a(n - 1) - 5 * a(n - 2), n>2, a(0)=1, a(1)=4, a(2)=36. • a(n)=(1 / 5) * Sum _{ k=1..5) ((w _ k) ^ 3 - 2 * w _ k) ^ (2 * n), w _ k=2 * cos((2 * k - 1) * Pi / 10). •

[A168595] • 1,4,36,358,3748,40404,443886,4941654,55555236,629285416,7170731236,82108083204,943960439086,10889085499348,125974782200478,1461030555025458,16981658850393252,197757344280343968 ⋆ a(n) = Sum_{k=0..2n} C(2n,k)*A027907(n,k) where A027907 is the triangle of trinomial coefficients. • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * binomial(n,k) * cb(n + k) with cb(n) = binomial(2n,n). - _ Peter Luschny _ , Aug 15 2017 •

[A163455] • 1,4,36,364,3876,42504,475020,5379616,61523748,708930508,8217822536,95722852680,1119487075980,13136858812224,154603005527328,1824010149372864,21566576904406820,255485622301674660,3031718514166879020,36030431772522503316 ⋆ a(n) = binomial(5*n-1,n). • a(n) = (5n - 1)! / (n!(4n - 1)!). •

[A002894] • 1,4,36,400,4900,63504,853776,11778624,165636900,2363904400,34134779536,497634306624,7312459672336,108172480360000,1609341595560000,24061445010950400,361297635242552100 ⋆ a(n) = binomial(2n,n)^2. • a(n) = binomial(2 * n,n) * binomial(2 * n,n) = ([x ^ n](1 + x) ^ (2 * n)) * ([x ^ n](1 + x) ^ (2 * n)) = [x ^ n](F(x) ^ (4 * n)), where F(x) = 1 + x + x ^ 2 + 4 * x ^ 3 + 20 * x ^ 4 + 120 * x ^ 5 + 798 * x ^ 6 + 5697 * x ^ 7 + ... appears to have integer coefficients. For similar results see A000897, A002897, A006480, A008977, A186420 and A188662. - _ Peter Bala _ , Jul 14 2016 •

[A131765] • 1,4,36,404,5076,68324,963396,14046964,210062196,3204118724,49656709476,779690085204,12376867734036,198301332087204,3202580085625476,52080967814444724,852103170531254196,14016301507253656964 ⋆ Series reversion of x(1-5x)/(1-x) . • a(n) = Sum _{ k=0..n } (- 1) ^ k * binomial(n, k) * hypergeom([k - n, n + 1], [k + 2], - 4]. - _ Peter Luschny _ , Jan 08 2018 •

[A145401] • 0,1,4,37,154,1072,5320,32675,175294,1024028,5668692,32463802,181971848,1033917350,5824476298,32989068162,186210666468,1053349394128,5950467515104,33643541208290,190115484271760,1074685815276400,6073680777522430,34330607094625734 ⋆ Number of Hamilton cycles in P_6 X P_n. • a(2) = 1, • a(3) = 4, • a(4) = 37, • a(5) = 154, • a(6) = 1072, • a(7) = 5320, •

[A063418] • 4,37,180,640,1876,4809,11152,23905,48070,91652,167024,292747,495950,815390,1305328,2040374,3121472,4683215,6902700,10010154,14301584,20153727,28041600,38558975,52442130 ⋆ Tenth column (k=9) of septinomial array A063265. • a(n) = 4 * C(n + 2,2) + 25 * C(n + 2,3) + 56 * C(n + 2,4) + 70 * C(n + 2,5) + 56 * C(n + 2,6) + 28 * C(n + 2,7) + 8 * C(n + 2,8) + C(n + 2,9) (see comment in A213889). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A162649] • 1,1,1,4,37,276,2221,26888,397097,6055696,103023481,2047621632,44856857101,1051415079872,26792169643877,743266588537216,22085066412427729,698048232173484288,23495515539312273265 ⋆ E.g.f. satisfies: A(x) = exp(x*cosh(x*A(x))). • a(n) = Sum _{ k=0..n } C(n,k) * (n - k + 1) ^ (k - 1) * Sum _{ j=0..k } C(k,j) * (2j - k) ^ (n - k) / 2 ^ k. • a(n,m) = Sum _{ k=0..n } C(n,k) * m * (n - k + m) ^ (k - 1) * Sum _{ j=0..k } C(k,j) * (2j - k) ^ (n - k) / 2 ^ k. •

[A199690] • 4,37,367,3667,36667,366667,3666667,36666667,366666667,3666666667,36666666667,366666666667,3666666666667,36666666666667,366666666666667,3666666666666667,36666666666666667,366666666666666667,3666666666666666667,36666666666666666667,366666666666666666667 ⋆ (11*10^n+1)/3. • a(n) = 10 * a(n - 1) - 3. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A073237] • 1,4,37,1340164183006357436 ⋆ Ceiling of Pi^Pi^...^Pi (n times). • a(n) = ceiling(Pi ^ Pi ^ ... ^ Pi), where Pi occurs n times, a(0) = 1 (=Pi ^ 0). •

[A020865] • 0,4,38,328,2686,21224,163982,1249784,9447102,71056840,532854638,3988597144,29822927134,222836912744,1664351910350,12427793513528,92784673372542,692656225953544,5170521713987630,38595421782328024,288089831076277726,2150375933904641960 ⋆ Number of forests in Moebius ladder M_n. • a(n) = (4 + sqrt(12)) ^ n + (4 - sqrt(12)) ^ n + 2 ^ n - (5 / 2 + 1 / 2 * sqrt(17)) ^ n - (5 / 2 - 1 / 2 * sqrt(17)) ^ n - 1. •

[A155859] • 4,38,377,3766,37655,376544,3765433,37654322,376543211,3765432100,37654320989,376543209878,3765432098767,37654320987656,376543209876545,3765432098765434,37654320987654323,376543209876543212,3765432098765432101,37654320987654320990 ⋆ (1/162)*(61*10^n + 18*n + 20). • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). [_ Bruno Berselli _ , Oct 15 2013] •

[A024212] • 4,39,159,445,1005,1974,3514,5814,9090,13585,19569,27339,37219,49560,64740,83164,105264,131499,162355,198345,240009,287914,342654,404850,475150 ⋆ 2nd elementary symmetric function of first n+1 positive integers congruent to 1 mod 3. • a(n) = n * (n + 1) * (9 * n ^ 2 + 9 * n - 2) / 8. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Clark Kimberling _ , Aug 18 2012 •

[A112460] • 4,39,207,795,2475,6633,15873,34749,70785,135850,247962,433602,730626,1191870,1889550,2920566,4412826,6532713,9493825,13567125,19092645,26492895,36288135,49113675,65739375 ⋆ Absolute value of coefficient of term [x^(n-4)] in characteristic polynomial of maximum matrix A of size n X n, where n >= 4. Maximum matrix A(i,j) is MAX(i,j), where indices i and j run from 1 to n. • a(n) = (n - 3) * (n - 2) * (n - 1) * n * (n + 1) * (n + 2) * (n + 3) * (7 * n + 4) / 8!. •

[A290559] • 0,4,39,235,235,12240,79468,667713,3961885,15491487,15491487,15491487,7924798459,77131234464,561576286499,4630914723593,23621160763365,189785813611370,1352938383547405,4609765579368303,4609765579368303,403571097067428308 ⋆ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(2). These are the numbers congruent to 4 mod 7 (except for the initial 0). • a(0) = 0 and a(1) = 4, a(n) = a(n - 1) + 6 * (a(n - 1) ^ 2 - 2) mod 7 ^ n for n > 1. •

[A059945] • 0,0,4,39,280,1815,11284,68859,416560,2509455,15086764,90610199,543928840,3264374295,19588645444,117539063499,705255937120,4231600258335,25389795391324,152339353740819,914037866361400,5484232429393575,32905410268988404,197432508689714139 ⋆ Number of 4-block bicoverings of an n-set. • a(n)=(1 / 4!) * (6 ^ n - 4 * 3 ^ n - 3 * 2 ^ n + 12). E.g.f. for m - block bicoverings of an n - set is exp(- x - 1 / 2 * x ^ 2 * (exp(y) - 1)) * Sum _{ i =0..inf } x ^ i / i! * exp(binomial(i, 2) * y). • a(0)=0, a(1)=0, a(2)=4, a(3)=39, a(n)=12 * a(n - 1) - 47 * a(n - 2) + 72 * a(n - 3) - 36 * a(n - 4) [From Harvey P. Dale, Aug 10 2011] •

[A198853] • 4,39,319,2559,20479,163839,1310719,10485759,83886079,671088639,5368709119,42949672959,343597383679,2748779069439,21990232555519,175921860444159,1407374883553279,11258999068426239,90071992547409919 ⋆ 5*8^n-1 • a(n) = 8 * a(n - 1) + 7. a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. •

[A199757] • 4,39,424,4659,51244,563679,6200464,68205099,750256084,8252816919,90780986104,998590847139,10984499318524,120829492503759,1329124417541344,14620368592954779,160824054522502564,1769064599747528199 ⋆ (7*11^n+1)/2. • a(n) = 11 * a(n - 1) - 5. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A238328] • 4,40,180,544,1280,2592,4732,7968,12636,19120,27808,39168,53716,71960,94500,121984,155040,194400,240844,295120,358092,430672,513728,608256,715300 ⋆ Sum of all the parts in the partitions of 4n into 4 parts. • a(n) = 16 / 9 * n ^ 4 + 4 / 3 * n ^ 3 + O(n). - _ Ralf Stephan _ , May 29 2014 •

[A271286] • 1,4,40,200,872,3624,14760,59560,239272,959144,3840680,15370920,61500072,246033064,984197800,3936922280 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 337", based on the 5-celled von Neumann neighborhood. • a(n) = (11 * 4 ^ n) / 3 - 8 / 3 - 2 ^ (2 + n) for n>0. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A273310] • 1,4,40,216,952,3960,16120,65016,261112,1046520,4190200,16769016,67092472,268402680,1073676280,4294836216 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 641", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A270088] • 1,4,40,225,961,3969,16129,65025,261121,1046529,4190209,16769025,67092481,268402689,1073676289,4294836225 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 73", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A115286] • 0,4,40,228,960,3200,8904,21560,46848,93420,173800,305404,511680,823368,1279880,1930800,2837504,4074900,5733288,7920340,10763200,14410704,19035720,24837608,32044800 ⋆ a(n) = (1/6)*(n^6+3*n^4+12*n^3+8*n^2). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 6. •

[A212699] • 4,40,300,2000,12500,75000,437500,2500000,14062500,78125000,429687500,2343750000,12695312500,68359375000,366210937500,1953125000000,10375976562500,54931640625000,289916992187500,1525878906250000 ⋆ Main transitions in systems of n particles with spin 2. • a(n) = n * (b - 1) * b ^ (n - 1) where b=5. • a(0)=a(1)=4, a(2)=40, a(n)=10 * a(n - 1) - 25 * a (n - 2). - _ Harvey P. Dale _ , Aug 19 2014 •

[A190541] • 0,4,40,316,2320,16564,116920,821356,5758240,40333924,282416200,1977149596,13840755760,96887416084,678218289880,4747547161036,33232887522880,232630384847044,1628413210489960,11398894023111676 ⋆ 7^n - 3^n. • a(n) = 10 * a(n - 1) - 21 * a(n - 2). •

[A145730] • 0,4,40,332,2672,21396,171192,1369564,10956544,87652388,701219144,5609753196,44878025616,359024204980,2872193639896,22977549119228,183820392953888,1470563143631172,11764505149049448,94116041192395660 ⋆ Partial sums of A108019. • a(0)=0, a(1)=4, a(2)=40, a(n)=10 * a(n - 1) - 17 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Aug 08 2013 •

[**A069721**] • 0,0,4,40,336,2688,21120,164736,1281280,9957376,77395968,601968640,4686094336,36515020800,284817162240,2223764766720,17379001958400,135942415319040,1064286014668800,8338993950228480,65388301768458240,513094808135270400,4028909667357818880 ⋆ Number of rooted unicursal planar maps with n edges and no vertices of valency 1 (unicursal means that exactly two vertices are of odd valency; there is an Eulerian path). • a(n) = 2 ^ (n - 2) * (n - 2) * binomial(2n - 2, n - 1) / n, n>1. • a(n + 1) = (4 * (n - 1) * (2 * n - 1) / ((n + 1) * (n - 2))) * a(n). •

[**A191681**] • 0,4,40,364,3280,29524,265720,2391484,21523360,193710244,1743392200,15690529804,141214768240,1270932914164,11438396227480,102945566047324,926510094425920,8338590849833284,75047317648499560,675425858836496044 ⋆ a(n) = (9^n - 1)/2. • a(0)=0, a(1)=4, a(n) = 10 * a(n - 1) - 9 * a(n - 2). - _ Harvey P. Dale _ , Jun 19 2011 •

[**A155641**] • 1,4,40,388,3472,29644,246520,2019028,16386592,132264604,1063976200,8541106468,68475336112,548535110764,4391942995480,35153854510708,281322388820032,2251036874232124,18010583812216360,144096114589527748 ⋆ 8^n-5^n+1^n. • a(n)=13 * a(n - 1) - 40 * a(n - 2) + 28 with a(0)=1, a(1)=4 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A122652**] • 0,4,40,396,3920,38804,384120,3802396,37639840,372596004,3688320200,36510605996,361417739760,3577666791604,35415250176280,350574834971196,3470333099535680,34352756160385604,340057228504320360,3366219528882817996,33322138060323859600 ⋆ a(0)=0, a(1)=4; for n>1, a(n) = 10*a(n-1) - a(n-2). • a(n) = (1 / 6) * (5 + 2 * sqrt(6)) ^ n * sqrt(6) - (1 / 6) * sqrt(6) * (5 - 2 * sqrt(6)) ^ n, with n>=0. - _ Paolo P. Lava _ , Oct 02 2008 • a(n) = (2 * arcsinh(sqrt(2)) * sinh(2 * n * arcsinh(sqrt(2))) / log(sqrt(2) + sqrt(3))) / sqrt(6). - _ Artur Jasinski _ , Aug 09 2016 •

[**A093141**] • 1,4,40,400,4000,40000,400000,4000000,40000000,400000000,4000000000,40000000000,400000000000,4000000000000,40000000000000,400000000000000,4000000000000000,40000000000000000 ⋆ Expansion of (1-6x)/(1-10x). • a(n) = 4 * 10 ^ n / 10 + 6 * 0 ^ n / 10. • a(n) = phi(10 ^ n). - _ Paul Barry _ , Jul 02 2007 • a(n) = 4 * 10 ^ (n - 1), n>0. - _ Vincenzo Librandi _ , Aug 02 2010 •

[**A075878**] • 4,40,544,8320,131584,2099200,33562624,536903680,8590065664,137439477760,2199025352704,35184380477440 ⋆ Sum of coefficients of (x1)^(2i(1))*(x2)^(2i(2))*(x3)^(2i(3))*(x4)^(2i(4)) for {(i1),(i2),(i3),(i4)}=0,1,2,... : sum(i)=2n in the expansion of (x1+x2+x3+x4)^(2n) where n=1,2,3,... • a(n, 4) = 2 ^ (1 - 4) * (sum(r=0 to Floor((4 - 1) / 2))Binomial(4, r) * (4 - 2 * r) ^ 2n a(n, k) = 2 ^ (1 - k) * (sum(r=0 to Floor((k - 1) / 2))Binomial(k, r) * (k - 2 * r) ^ 2n for k=1, 2, 3, 4, ... •

[**A092812**] • 1,4,40,544,8320,131584,2099200,33562624,536903680,8590065664,137439477760,2199025352704,35184380477440,562949986975744,9007199388958720,144115188612726784,2305843011361177600 ⋆ Number of closed walks on the 4-cube. • a(n) = 3 * 0 ^ n / 8 + 16 ^ n / 8 + 4 ^ n / 2. • a(0) = 1, a(1) = 4, a(2) = 40, a(n) = 20 * a(n - 1) - 64 * a(n - 2). [_ Harvey P. Dale _ , Aug 23 2011] •

[**A294972**] • 1,4,41,127,295,1012,10415,32257,74929,257044,2645369,8193151,19031671,65288164,671913311,2081028097,4833969505,16582936612,170663335625,528572943487,1227809222599,4212000611284,43347815335439,134255446617601,311858708570641 ⋆ Numerators of continued fraction convergents to sqrt(7)/2. • a(n) = 254 * a(n - 4) - a(n - 8) for n > 7. •

[**A213823**] • 4,41,147,358,710,1239,1981,2972,4248,5845,7799,10146,12922,16163,19905,24184,29036,34497,40603,47390,54894,63151,72197,82068,92800 ⋆ Principal diagonal of the convolution array A213822. • a(n) = (- n - 3n ^ 2 + 12 * n ^ 3) / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A273418**] • 1,4,41,217,953,3961,16121,65017,261113,1046521,4190201,16769017,67092473,268402681,1073676281,4294836217 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 705", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[**A231653**] • 0,0,4,41,244,1029,3485,9926,25030,57126,120570,238330,446344,797825,1370684,2274259,3660612,5734776,8771181,13127940,19270240,27789713,39435814,55142010,76066910 ⋆ Number of non-equivalent ways to choose 4 points in an equilateral triangle grid of side n. • a(n) = (n ^ 8 + 4 * n ^ 7 - 6 * n ^ 6 - 32 * n ^ 5 + 84 * n ^ 4 - 32 * n ^ 3 - 16 * n ^ 2 - 192 * n + B + C) / 2304 •

[**A109109**] • 1,4,41,414,4181,42224,426421,4306434,43490761,439214044,4435631201,44795526054,452390891741,4568704443464,46139435326381,465963057707274,4705770012399121,47523663181698484,479942401829383961,4846947681475538094,48949419216584764901 ⋆ a(0)=1, a(1)=4, a(n) = 10a(n-1) + a(n-2). • a(n) = (1 / 2 / sqrt(26))((sqrt(26) - 1)(5 + sqrt(26)) ^ n + (sqrt(26) + 1)(5 - sqrt(26)) ^ n). •

[**A136045**] • 1,4,42,660,12810,281736,6727644,170316432,4504487130,123255492360,3465702008340,99645553785960,2918768920720380,86852063374902000,2619552500788984200,79939673971478231760 ⋆ Bisection of A138546. • a(n) = hypergeom([1 / 2, - n, - n],[1,2],4) * binomial(2 * n,n) - _ Mark van Hoeij _ , May 13 2013 •

[**A193448**] • 4,44,124,244,404,604,844,1124,1444,1804,2204,2644,3124,3644,4204,4804,5444,6124,6844,7604,8404,9244,10124,11044,12004 ⋆ a(n) = 4*(5*n^2 - 5*n + 1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. - _ Wesley I van Hurt _ , Nov 21 2015 •

[**A053314**] • 4,44,144,4144,14144,414144,1414144,41414144,441414144,1441414144,11441414144,411441414144,4411441414144,44411441414144,444411441414144,4444114414141414144,44444114414141414144 ⋆ a(n) contains n digits (either '1' or '4') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (4 - 3 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 2, if not then n - th term begins with a 7. •

[**A269907**] • 1,4,44,220,956,3964,16124,65020,261116,1046524,4190204,16769020,67092476,268402684,1073676284,4294836220 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 1", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * (4 ^ n - 2 ^ n - 1) for n>0. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[**A270130**] • 1,4,44,225,961,3969,16129,65025,261121,1046529,4190209,16769025,67092481,268402689,1073676289,4294836225 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 89", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>5. •

[**A081078**] • 4,44,319,2204,15124,103679,710644,4870844,33385279,228826121568397604,10749957119,73681302244,505019158604,3461452807999,23725150497404,162614600673844,1114577054219519,7639424778862804 ⋆ Lucas(4n) - 3, or Lucas(2n-1)*Lucas(2n+1). • a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). • a(n) = - 3 + (7 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (3 / 2) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = Lucas(2 * n) ^ 2 - 5. Sum _{ n >= 1 } 1 / a(n) = (5 - sqrt(5)) / 10. - _ Peter Bala _ , Nov 30 2013 •

[**A035014**] • 4,44,344,3344,33344,433344,3433344,33433344,333433344,3334333344,43333433344,343333433344,3343333433344,33343333433344,43334333433344,3433343333433344,43433343333433344,443433343333433344,3443343334333433344,43443433343333433344 ⋆ a(n) contains n digits (either '3' or '4') and is divisible by 2^n. • a(n) = a(n - 1) + 10 ^ (n - 1) * (4 - [a(n - 1) / 2 ^ (n - 1) mod 2]), i.e., a(n) ends with a(n - 1). - _ Henry Bottomley _ , Feb 14 2000 •

[**A198962**] • 4,44,404,3644,32804,295244,2657204,23914844,215233604,1937102444,17433922004,156905298044,1412147682404,12709329141644,114383962274804,1029455660473244,9265100944259204,83385908498332844,750473176484995604 ⋆ 5*9^n-1. • a(n) = 9 * a(n - 1) + 8, n>0. • a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[**A002754**] • 0,0,4,44,408,3688,33212,298932,2690416,24213776,217924020,1961316184,17651844156,158866597244,1429799528428,12868195755908,115813761816232,1042323856229152,9380914706062436,84428232354561996,759854091191058040 ⋆ Related to coefficient of m in Jacobi elliptic function cn(z, m). • a(n) = (9 ^ n - 8 * n - 1) / 16. (End) •

[**A105038**] • 0,4,44,440,4360,43164,427284,4229680,41869520,414465524,4102785724,40613391720,402031131480,3979697923084,39394948099364,389969783070560,3860302882606240,38213059042991844,378270287547312204,3744489816430130200,37066627876753989800 ⋆ Nonnegative n such that 6*n^2 + 6*n + 1 is a square. • a(0)=0, a(1)=4, a(2)=44, a(n)=11 * a(n - 1) - 11 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Sep 29 2013 • a(n) = (- 6 - (5 - 2 * sqrt(6)) ^ n * (- 3 + sqrt(6)) + (3 + sqrt(6)) * (5 + 2 * sqrt(6)) ^ n) / 12. - _ Colin Barker _ , Mar 05 2016 •

[**A002278**] • 0,4,44,444,4444,44444,444444,4444444,44444444,444444444,4444444444,44444444444,444444444444,4444444444444,44444444444444,444444444444444 ⋆ a(n) = 4*(10^n - 1)/9. • a(n) =10 * a(n - 1) + 4, with a(0)=0. - _ Paolo P. Lava _ , Jan 23 2009 • a(n) = a(n - 1) + 4 * 10 ^ (n - 1) with a(0)=0; • a(n) = 11 * a(n - 1) - 10 * a(n - 2) with a(0)=0, a(1)=4. (End) •

[**A053315**] • 4,44,544,4544,44544,444544,4444544,54444544,454444544,5454444544,45454444544,545454444544,5545454444544,55545454444544,555545454444544,4555545454444544,44555545454444544,544555545454444544 ⋆ a(n) contains n digits (either '4' or '5') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (4 + [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 2, if not then n - th term begins with a 7. •

[**A053332**] • 4,44,744,7744,47744,447744,4447744,44447744,444447744,4444447744,74444447744,474444447744,4474444447744,44474444447744,444474444447744,7444474444447744,77444474444447744,774444474444447744 ⋆ a(n) contains n digits (either '4' or '7') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (4 + 3 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 4, if not then n - th term begins with a 7. •

[**A053333**] • 4,44,944,4944,94944,994944,4994944,94994944,494994944,9494994944,49494994944,449494994944,9449494994944,99449494994944,499449494994944,9499449494994944,49499449494994944,949499449494994944 ⋆ a(n) contains n digits (either '4' or '9') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (4 + 5 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 4, if not then n - th term begins with a 9. •

[**A273832**] • 1,4,45,221,957,3965,16125,65021,261117,1046525,4190205,16769021,67092477,268402685,1073676285,4294836221 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 961", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[**A123650**] • 4,45,280,1105,3276,8029,17200,33345,59860,101101,162504,250705,373660,540765,762976,1052929,1425060,1895725,2483320,3208401,4093804,5164765,6449040,7977025,9781876 ⋆ a(n) = 1 + n^2 + n^3 + n^5. • a(n) = 1 + n ^ 2 + n ^ 3 + n ^ 5 = 101101 (base n) = +/- (n + 1) * (n ^ 2 - n + 1) * (n ^ 2 + 1). •

[**A122910**] • 1,4,45,302,2636,20184,165040,1305952,10504896,83809664,671394560,5367485952,42954566656,343577810944,2748857364480,21989919383552,1

75923113148416,1407369872769024,11259019111628800,90071912374730752 ★ Expansion of (1-2x-3x^2)/((1-2x)(1+4x)(1-8x)). ● a(0)=1, a(1)=4, a(2)=45, a(n)=6 * a(n - 1) + 24 * a(n - 2) - 64 * a(n - 3). - _ Harvey P. Dale _ , Jun 21 2011 ●

[A117644] ● 4,45,369,2961,23697,189585,1516689,12133521,97068177,776545425,6212363409,49698907281,397591258257,3180730066065,25445840528529,203566724228241,1628533793825937,13028270350607505,104226162804860049,833809302438880401,6670474419511043217,53363795356088345745 ★ Number of distinct pairs a < b with nonzero decimal digits such that a + b = 10^n. ● a(n) = 9 * a(n - 1) - 8 * a(n - 2) for n > 3. ● a(n) = 9 * (9 * 8 ^ n - 16) / 112 for n>1. - _ Colin Barker _ , Sep 22 2016 ●

[A232729] ● 4,45,405,4095,40500,405450,4050000,40504500,405000000,4050045000,40500000000,405000450000,4050000000000,40500004500000,405000000000000,40500000045000000,405000000000000,4050000000450000000,40500000000000000,405000000045000000000,4050000000000000000000 ★ Number of n-digit numbers that yield an n-digit number after Reverse and Add. ● a(1) = 4, a(3) = 405, a(2k + 1) = 100 * a(2k - 1), k > 1. ● a(2) = 45, a(4) = 4095, a(2k) = 110 * a(2k - 2) - 1000 * a(2k - 4), k > 2. ● a(n) = 10 * a(n - 1) + 10 * a(n - 2) - 100 * a(n - 3) for n>4. ●

[A055602] ● 0,4,45,432,4200,43200,476280,5644800,71850240,979776000,14270256000,221298739200,3642807168000,63465795993600,1167099373440000,22596613079040000,459548157100032000,9795631769763840000 ★ Number of n X n binary matrices with no zero rows or columns and with n+1 ones. ● a(n) = n * (n - 1) * (n + 2) * n! / 4. - _ Vladeta Jovovic _ , Mar 25 2006 ●

[A155652] ● 1,4,46,514,5266,51274,484786,4503034,41367106,377342794,3426318226,31018262554,280252754146,2528805134314,22798428290866,205420947110074,1850199078944386,16660255040221834,149993075340330706 ★ 9^n-6^n+1. ● a(n)=15 * a(n - 1) - 54 * a(n - 2) + 40 with a(0)=1, a(1)=4 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A192418] ● 4,48,180,448,900,1584,2548,3840,5508,7600,10164,13248,16900,21168,26100,31744,38148,45360,53428,62400,72324,83248,95220,108288,122500 ★ Molecular topological indices of the complete bipartite graphs K_{n,n} ● a(n) = 4 * n ^ 2 * (2 * n - 1). ●

[A162673] ● 0,4,48,204,580,1320,2604,4648,7704,12060,18040,26004,36348,49504,65940,86160,110704,140148,175104,216220,264180,319704,383548,456504,539400 ★ Number of different fixed (possibly) disconnected trominoes bounded (not necessarily tightly) by an n*n square ● a(n)=n * (n - 1) * (3 * n ^ 2 - 3 * n - 2) / 2. ●

[A273335] ● 1,4,48,224,960,3968,16128,65024,261120,1046528,4190208,16769024,67092480,268402688,1073676288,4294836224 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 657", based on the 5-celled von Neumann neighborhood. ● a(n) = 2 ^ (n + 2) * (2 ^ n - 1) for n>1. ● a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>3. ●

[A273767] ● 1,4,48,225,961,3969,16129,65025,261121,1046529,4190209,16769025,67092481,268402689,1073676289,4294836225 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 913", based on the 5-celled von Neumann neighborhood. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>5. ●

[A292074] ● 1,4,48,240,1000,3300,9114,21952,47520,94500,175450,307824,515112,828100,1286250,1939200,2848384,4088772,5750730,7942000,10789800,14443044,19074682,24884160,32100000 ★ Number of minimum dominating sets in the n X n rook complement graph. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 10. ● a(n) = 6 * binomial(n, 3) ^ 2 + n ^ 2 * (n - 1) ^ 2 for n > 3. - _ Andrew Howroyd _ , Sep 13 2017 ●

[A127211] ● 4,48,256,1792,11264,73728,475136,3080192,19922944,128974848,834666496,5402263552,34963718144,226291089408,1464583847936,9478992822272,61349312856064,397061136580608,2569833552019456,16632312393367552 ★ a(n) = 4^n*Lucas(n), where Lucas = A000204. ● a(n) = Trace of matrix [({ 4,4 } , { 4,0 }) ^ n]. ● a(n) = 4 ^ n * Trace of matrix [({ 1,1 } , { 1,0 }) ^ n]. ● a(n) = 4 * a(n - 1) + 16 * a(n - 2). ●

[A129002] ● 4,48,288,1280,4800,16128,50176,147456,414720,1126400,2973696,7667712,19382272,48168960,117964800,285212672,681836544,1613758464,3785359360,8808038400,20346568704,46690992128,106501767168,241591910400 ★ (n^3+n^2)*2^n. ● a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 ●

[A291623] ● 1,4,48,320,1610,6012,17948,45488,101970,207920,393272,699888,1184378,1921220,3006180,4560032,6732578,9706968,13704320,18988640,25872042,34720268,45958508,60077520,77640050 ★ Number of maximal irredundant sets in the n X n rook complement graph. ● a(n) = 2 * n + 6 * binomial(n,3) ^ 2 + n ^ 2 * (n - 1) ^ 2 + 12 * binomial(n,4) * binomial(n,2) for n > 2. ● a(n) = (5 * n ^ 6 - 33 * n ^ 5 + 89 * n ^ 4 - 99 * n ^ 3 + 38 * n ^ 2 + 24 * n) / 12 for n > 2. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 9. ●

[A091904] ● 0,1,4,48,320,2816,21504,176128,1392640,11206656,89391104,716177408,5725224960,45818576896,366481506304,2932120485888,23455890145280,187651416129536,1501194149167104,12009621912813568,96076700424601600 ★ Expansion of x/((1+4x)(1-8x)). ● a(n)=8 ^ n / 12 - (- 4) ^ n / 12 ● a(0)=0, a(1)=1, a(n)=4 * a(n - 1) + 32 * a(n - 2). - _ Harvey P. Dale _ , May 06 2014 ●

[A192831] ● 4,48,360,2304,13600,76032,407680,2113536,10658304,52531200,254003200,1208549376,5672083456,26309885952,120803328000,549772591104,2482528976896,11132640165888,49615651471360,219902744985600,969770180542464,4257311052791808 ★ Molecular topological indices of the hypercube graphs. ● a(n) = 2 ^ n * n ^ 2 * (1 + 2 ^ (n - 1)). - _ Andrew Howroyd _ , May 11 2017 ● a(n) = 18 * a(n - 1) - 132 * a(n - 2) + 504 * a(n - 3) - 1056 * a(n - 4) + 1152 * a(n - 5) - 512 * a(n - 6). - _ Eric W. Weisstein _ , May 27 2017 ●

[A158681] ● 4,48,368,2304,12864,66816,330496,1579008,7353344,33583104,151056384,671219712,2953068544,12885491712,55835820032,240520790016,1030797656064,4398058045440,18691721789440,79164887531520,334251639701504,1407375101657088,5910974963908608 ★ Wiener indexes of the complete binary trees with n levels, root being at level 0. ● a(n) = (n + 4)2 ^ (n + 1) + (n - 2)2 ^ (2n + 2), n>0. ●

[A283049] ● 0,4,48,480,4560,42504,393120,3624768,33390720,307618740,2835722032,26162863584,241614915360,2233533229200,20667453710400,191422799835264,1774573628661504,16465220088660432,152894968403313600,1420856831349155200,13213537097286612240 ★ Numbers of configurations of A'Campo forests with co-dimension 1 and degree n>0. ● a(n) = 4 * binomial(4n,n - 2), for n>1. ●

[A099671] ● 4,48,492,4936,49380,493824,4938268,49382712,493827156,4938271600,49382716044,493827160488,4938271604932,49382716049376,493827160493820,4938271604938264,49382716049382708,493827160493827152 ★ Partial sums of repdigits of A002278. ● a(n) = (4 / 81) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 ● a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3) for n > 3. ●

[A003774] ● 4,48,672,8496,106944,1349760,17032800,214925952,2712031104,34221651456,431824387584,5448956749824,68757417818112,867612411420672,10947928532312064,138145948088696832 ★ Number of spanning trees with degrees 1 and 3 in K_4 X P_n. ● a(n) = 12a(n - 1) + 4a(n - 2) + 48a(n - 3), n>7. ●

[A016874] ● 4,49,144,289,484,729,1024,1369,1764,2209,2704,3249,3844,4489,5184,5929,6724,7569,8464,9409,10404,11449,12544,13689,14884 ★ (5n+2)^2. ● a(0)=4, a(n) = a(n - 1) + 50 * n - 5. [From Vincenzo Librandi, Jun 07 2011] ●

[A041065] ● 1,4,49,200,2449,9996,122401,499600,6117601,24970004,305757649,1248000600,15281764849,62375059996,763782484801,3117504999200,38173842475201,155812874900004,1907928341275249,7787526240001000,95358243221287249,389220499125149996 ★ Denominators of continued fraction convergents to sqrt(39). ● a(n) = 50 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 10 2013 ●

[A163944] ● 0,4,49,246,834,2250,5214,10829,20696,37044,62875,102124,159834,242346,357504,514875,725984,1004564,1366821,1831714,2421250,3160794,4079394,5210121,6590424 ★ Fourth left hand column of triangle A163940. ● a(n) = (10 * n ^ 2 + 107 * n ^ 3 + 61 * n ^ 4 + 13 * n ^ 5 + n ^ 6) / 48. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ●

[A000596] ● 4,49,273,1023,3003,7462,16422,32946,61446,108031,180895,290745,451269,679644,997084,1429428,2007768,2769117,3757117,5022787,6625311,8632866,11123490,14185990,17920890 ★ Central factorial numbers. ● a(n) = 1 / 360 * n * (n - 1) * (n - 2) * (2 * n - 1) * (2 * n - 3) * (5 * n + 1). ● a(n) = s(n,n - 2) ^ 2 - 2 * s(n,n - 3) * s(n,n - 1) + 2 * s(n,n - 4), where s(n,k) are Stirling numbers of the first kind, A048994. - _ Mircea Merca _ , Apr 03 2012 ●

[A067474] ● 4,49,400,4096,40000,400689,4000000,40005625,400000000,4000056516,40000000000,400000591936,4000000000000,40000008597136,400000000000000,4000000100766916,40000000000000000,400000001222314089 ★ Smallest n-digit square starting with 4. ● a(n) = ceiling(sqrt(4 * 10 ^ (n - 1))) ^ 2 - _ Rick L. Shepherd _ , Feb 18 2002 ●

[A198971] ● 4,49,499,4999,49999,499999,4999999,49999999,499999999,4999999999,49999999999,499999999999,4999999999999,49999999999999,499999999999999,4999999999999999,49999999999999999,499999999999999999 ★ 5*10^n-1. ● a(n) = 10 * a(n - 1) + 9. a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. ●

[A199028] ● 4,49,544,5989,65884,724729,7972024,87692269,964614964,10610764609,116718410704,1283902517749,14122927695244,155352204647689,1708874251124584,18797616762370429,206773784386074724,2274511628246821969 ★ (9*11^n-1)/2. ● a(n) = 11 * a(n - 1) + 5. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2). ●

[A055793] ● 0,1,4,49,676,9409,131044,1825201,25421764,354079489,4931691076,68689595569,956722646884,13325427460801,185599261804324,2585064237799729,36005300067391876,501489136705686529,6984842613812219524,97286307456665386801 ★ Numbers n such that n and floor[n/3] are both squares; i.e., squares which remain squares when written in base 3 and last digit is removed. ● a(n) = 14 * a(n - 1) - a(n - 2) - 6, with a(0)=1, a(1)=4. (See Brown and Shiue) ●

[A232731] ● 4,50,450,4590,45405,454950,4544550,45454500,454495500,4545045000,45449955000,454500450000,4544999550000,45450004500000,454499995500000,4545000045000000,45449999955000000,454500000450000000,4544999999550000000,45450000004500000000 ★ Number of numbers that yield an n-digit number after Reverse and Add!. ● a(n) = 10 * a(n - 1) + 10 * a(n - 2) - 100 * a(n - 3) for n>5. ●

[A114480] ● 4,50,650,8500,111250,1456250,19062500,249531250,3266406250,42757812500,559707031250,7326660156250,95907226562500,1255441894531250,16433947753906250,215123168945312500,2815998840332031250 ★ Kekulé numbers for certain benzenoids. ● a(n) = 2 * ((sqrt(5) + 2)((15 + 5sqrt(5)) / 2) ^ (n - 1) + (sqrt(5) - 2)((15 - 5sqrt(5)) / 2) ^ (n - 1)) / sqrt(5). ● a(n) = 15 * a(n - 1) - 25 * a(n - 2). ●

[A233474] ● 1,4,52,169,1993,6436,75700,244417,2874625,9281428,109160068,352449865,4145207977,13383813460,157408743076,508232461633,5977387028929,19299449728612,226983298356244,732870857225641,8619387950508361,278

29793124845764 ★ Numbers m such that 5*T(m)-1 is a square, where T = A000217. • a(n) = a(n - 1) + 38 * a(n - 2) - 38 * a(n - 3) - a(n - 4) + a(n - 5) for n>5, a(1)=1, a(2)=4, a(3)=52, a(4)=169, a(5)=1993. • a(n) = - 1 / 2 + ((15 + 4 * sqrt(10) * (- 1) ^ n) * (19 - 6 * sqrt(10)) ^ floor(n / 2) + (15 - 4 * sqrt(10) * (- 1) ^ n) * (19 + 6 * sqrt(10)) ^ floor(n / 2)) / 20. •

[A071953] • 4,52,292,1092,3192,7896,17304,34584,64284,112684,188188,301756,467376,702576,1028976,1472800,2065908,2845668,3856468,5150068,6786472,8834760,11373960,14493960,18296460 ★ Diagonal T(n,n-2) of triangle in A071951. • a(n)=(n - 2)(n - 1)n(n + 1)(5n ^ 2 - 11n + 3) / 90. • a(0)=4, a(1)=52, a(2)=292, a(3)=1092, a(4)=3192, a(5)=7896, a(6)=17304, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jul 03 2011 •

[A155661] • 1,4,52,658,7600,83194,882352,9176458,94235200,959646394,9717524752,98022673258,986158712800,9903110989594,99321776927152,995252438490058,9966767069430400,99767369486012794,998371586402089552 ★ 10^n-7^n+1. • a(n)=17 * a(n - 1) - 70 * a(n - 2) + 54 with a(0)=1, a(1)=4 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=4, a(2)=52, a(n)=18a(n - 1) - 87a(n - 2) + 70a(n - 3) [From Harvey P. Dale, May 05 2011] •

[A241872] • 4,53,429,2748,15342,78339,376159,1728458,7689744,33393393,142376385,598555320,2489143090,10264270175,42048021027,171366151974,695585112660,2814484154445,11359684937605,45759869226260,184050366838134,739376299832763,2967455421451239 ★ Number of ascent sequences of length n with exactly two descents. • a(n) = 4 ^ n / 6 - 3 ^ (n - 1) * (2 * n + 1) / 4 + 2 ^ (n - 4) * (n + 2) * (n - 1) + 1 / 12. - _ Vaclav Kotesovec _ , May 03 2014 •

[A001545] • 4,54,154,304,504,754,1054,1404,1804,2254,2754,3304,3904,4554,5254,6004,6804,7654,8554,9504,10504,11554,12654,13804,15004 ★ (5n+1)(5n+4). • a(n) = 50 * n + a(n - 1) with a(0)=4. - _ Vincenzo Librandi _ , Jan 20 2011 •

[A199022] • 4,54,604,6654,73204,805254,8857804,97435854,1071794404,11789738454,129687123004,1426558353054,15692141883604,172613560719654,1898749167916204,20886240847078254,229748649317860804,2527235142496468854 ★ 5*11^n-1. • a(n) = 11 * a(n - 1) + 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[A133218] • 0,1,4,55,154,1885,5248,64051,178294,2175865,6056764,73915375,205751698,2510946901,6989500984,85298279275,237437281774,2897630548465,8065878079348,98434140368551,274002417416074,3343863141982285,9308016314067184,113592912687029155 ★ Indices of triangular numbers (A000217) that are also decagonal (A001107). • a(n) = floor(1 / 8 * (4 + sqrt(2) * (- 1) ^ n) * (1 + sqrt(2)) ^ (2 * n - 3)). •

[A190441] • 0,1,4,55,376,3649,29260,259351,2178544,18828865,160278676,1375440439,11752630120,100652697601,860963365084,7369308666775,63054845905376,539622261625729,4617626476812580,39515774110653751,338150529038305624,2893717306468718785 ★ a(n) = 4*a(n-1) + 39*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((2 + sqrt(43)) ^ n - (2 - sqrt(43)) ^ n) / (2 * sqrt(43)). •

[A073352] • 1,4,55,868,13825,220324,3511351,55961284,891869185,14213945668,226531261495,3610286238244,57538048550401,916998490568164,14614437800540215,232914006318075268,3712009663288664065 ★ Positive integers making n^2(n-1)(2n-1)^2(7n-1)/36 a square. • a(n)=4 / 7 + (3 / 14) * [8 - 3 * sqrt(7)] ^ n + (3 / 14) * [8 + 3 * sqrt(7)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 19 2008 •

[A192845] • 4,56,180,400,740,1224,1876,2720,3780,5080,6644,8496,10660,13160,16020,19264,22916,27000,31540,36560,42084,48136,54740,61920,69700 ★ Molecular topological indices of the sun graphs • a(n) = 4 * n * (- 3 + 3 * n + n ^ 2). •

[A144138] • 0,4,56,204,496,980,1704,2716,4064,5796,7960,10604,13776,17524,21896,26940,32704,39236,46584,54796,63920,74004,85096,97244,110496 ★ Chebyshev polynomial of the second kind U(3,n). • a(n) = 4 * n * (2 * n ^ 2 - 1). - _ Vincenzo Librandi _ , May 29 2014 •

[A006592] • 0,4,56,216,544,1100,1944,3136,4736,6804,9400,12584,16416,20956,26264,32400,39424,47396,56376,66424,77600,89964,103576,118496,134784 ★ 10*n^3-6*n^2. • a(0)=0, a(1)=4, a(2)=56, a(3)=216, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 13 2012 •

[A077122] • 0,4,56,460,2976,16884,88392,438940,2101232,9794884,44755608,201359340,894850368,3937184404,17180131304,74446624060,320691939984,1374391631844,5864066209080,24922271951500,105553133043680,445668746679604,1876499911846536 ★ Let M_n be the n X n matrix M_(i,j) = 2^i-2^j then the characteristic polynomial of M_n = x^n-a(n)*x^(n-2). • a(n) = 1 / 3 * [(n - 2)4 ^ (n + 2) + 3 * 2 ^ (n + 4) - 4(n - 4)]. - _ Ralf Stephan _ , May 09 2004 • a(n) = 12 * a(n - 1) - 53 * a(n - 2) + 106 * a(n - 3) - 96 * a(n - 4) + 32 * a(n - 5) for n>4. •

[A020540] • 4,56,496,4064,32704,262016,2096896,16776704,134216704,1073739776,8589930496,68719468544,549755797504,4398046478336,35184372023296,281474976579584,2251799813423104,18014398508957696,144115188074807296 ★ a(n) = 8^(n+1) - 2^(n+2). • a(0)=4, a(1)=56, a(n) = 10 * a(n - 1) - 16 * a(n - 2). - _ Harvey P. Dale _ , Feb 27 2013 •

[A026740] • 0,0,4,56,560,4960,41664,341376,2763520,22238720,178433024,1429559296,11444858880,91592417280,732873539584,5863525154816,46910348656640,375291379056640,3002365391929344,24019060573863936,192153034345676800 ★ a(n) = 2^n*(2^n-1)*(2^n-2)/6. • a(n) = binomial(2 ^ n, 3). • a(0)=0, a(1)=0, a(2)=4, a(n)=14 * a(n - 1) - 56 * a(n - 2) + 64 * a(n - 3). - _ Harvey P. Dale _ , Jun 20 2012 •

[A191466] • 0,4,56,604,5936,55924,515816,4704844,42656096,385467364,3477018776,31332231484,282185395856,2540645125204,22870688939336,205860614516524,1852867600961216,16676418760213444,150090820599733496,1350832644186663964 ★ 9^n - 5^n. • a(n) = 14 * a(n - 1) - 45 * a(n - 2). •

[A155668] • 1,4,58,820,10546,128284,1509418,17390020,197581666,2223729964,24863682778,276721736020,3069708899986,33972956330044,375351787072138,4142063797326820,45668254886861506,503195228685608524 ★ 11^n-8^n+1. • a(n)=19 * a(n - 1) - 88 * a(n - 2) + 70 with a(0)=1, a(1)=4 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A245827] • 4,59,216,526,1040,1809,2884,4316,6156,8455,11264,14634,18616,23261,28620,34744,41684,49491,58216,67910,78624,90409,103316,117396,132700 ★ Szeged index of the grid graph P_3 X P_n. • a(n) = (1 / 2) * n * (17 * n ^ 2 - 9). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: x * (4 * x ^ 2 + 43 * x + 4) / (x - 1) ^ 4. - _ Colin Barker _ , Aug 07 2014 •

[A200048] • 4,59,220,581,1162,2105,3370,5171,7384,10319,13744,18089,22990,29021,35662,43655,52300,62531,73444,86189,99634,115169,131410,150011,169312 ★ Number of real singularities on a family of degree-3n algebraic surfaces. • a(n) = (1 / 12) * (135 * n ^ 3 - 126 * n ^ 2 + 45 * n - 6) if n is odd; a(n) = (1 / 12) * (135 * n ^ 3 - 117 * n ^ 2 + 54 * n - 12) if n is even. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>7. •

[A199107] • 4,59,719,8639,103679,1244159,14929919,179159039,2149908479,25798901759,309586821119,3715041853439,44580502241279,534966026895359,6419592322744319,77035107872931839,924421294475182079,11093055533702184959 ★ 5*12^n-1. • a(n) = 12 * a(n - 1) + 11. • a(n) = 13 * a(n - 1) - 12 * a(n - 2). •

[A098630] • 1,4,60,1624,66240,3711200,269670208,24435113216,2682916389632,349223324753408,52965538033020928 ★ Consider the family of multigraphs enriched by the species of parts. Sequence gives number of those multigraphs with n loops and arcs • a(n) = 2 ^ n * Bell(2 * n). - _ Vladeta Jovovic _ , Aug 22 2006 •

[A118005] • 1,4,61,424,4441,36844,347221,3046864,27812401,248358484,2244991981,20156099704,181649037961,1633620638524,14708689262341,132347685782944,1191281759937121,10720772899980964,96490770797094301 ★ a(n) = ((-1)^n*5^(n+1) + 9^(n+1))/14. • a(n) = 4 * a(n - 1) + 45 * a(n - 2). •

[A132064] • 1,4,61,442,8671,48643,275491,4691011,44046781,421781671,4866217861,44417846491,469583176771,4807072338781,42155398282291,461921395126861,4447050855867481,42996432430288771,480551127927589171,486653017154022291,4619806164860216649 1 ★ Numbers multiplied by 4 and written backwards. • a(n) = reverse(4 * a(n - 1)) where a(1) = 1 •

[A286438] • 0,4,63,494,2247,7396,19739,45518,94259,179732,321031,543774,881423,1376724,2083267,3067166,4408859,6205028,8570639,11641102,15574551,20554244,26791083,34526254,44033987 ★ Number of ways to tile an n X n X n triangular area with three 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-12) of 1 X 1 X 1 tiles. • a(n) = (n ^ 6 - 9 * n ^ 5 + 6 * n ^ 4 + 153 * n ^ 3 - 361 * n ^ 2 - 564 * n + 1848) / 6 for n>=4. •

[A141046] • 0,4,64,324,1024,2500,5184,9604,16384,26244,40000,58564,82944,114244,153664,202500,262144,334084,419904,521284,640000,777924,937024,1119364,1327104 ★ a(n) = 4*n^4. • a(n) = 4 * n ^ 4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A249483] • 1,4,64,361,6241,35344,611524,3463321,59923081,339370084,5871850384,33254804881,575381414521,3258631508224,56381506772644,319312633001041,5524812282304561,31289379402593764,541375222159074304,3066039868821187801,53049246959306977201 ★ Squares (A000290) which are also centered triangular numbers (A005448). • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). •

[A165516] • 4,64,361,6241,35344,611524,3463321,59923081,339370084,5871850384,33254804881,575381414521,3258631508224,56381506772644,319312633001041,5524812282304561,31289379402593764,541375222159074304,30660398688211878 01,530492469593069772 01,300440617765073810704,5198284826789924691364 ★ Perfect squares (A000290) that can be expressed as the sum of three consecutive triangular numbers (A000217). • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = 98 * a(n - 2) - a(n - 4) - 30. - _ Ant King _ , Dec 09 2010 • a(n) = (1 / 32) * (10 - 3 * (sqrt(6) - 3) * (5 - 2 * sqrt(6)) ^ n + (2 + sqrt(6)) * (- 5 - 2 * sqrt(6)) ^ n - (sqrt(6) - 2) * (2 * sqrt(6) - 5) ^ n + 3 * (3 + sqrt(6)) * (5 + 2 * sqrt(6)) ^ n). •

[A154021] • 0,4,64,1020,16256,259076,4128960,65804284,1048739584,16714029060,266375725376,4245297576956,67658385505920,1078288870517764,17184963542778304,273881127813935100,4364913081480183296 ★ a(n+2) = 16*a(n+1) - a(n), with a(1)=0, a(2)=4. • a(n) = (2 / 21) * sqrt(7) * ((8 + 3 * sqrt(7)) ^ (n - 1) - (8 - 3 * sqrt(7)) ^ (n - 1)). - _ Paolo P. Lava _ , Jan 15 2009 •

[A013709] • 4,64,1024,16384,262144,4194304,67108864,1073741824,17179869184,274877906944,4398046511104,70368744177664,1125899906842624,18014398509481984,288230376151711744,4611686018427387904 ★ a(n) = 4^(2n+1). • a(n) = 16 * a(n - 1), n > 0; a(0) = 4. G.f.: 4 / (1 - 16 * x). [_ Philippe Deléham _ , Nov 23 2008] • a(n) = 4 ^ (2 * n + 1) = 2 ^ (4 * n + 2). - _ Alonso del Arte _ , Sep 03 2012 •

[A208357] • 4,64,1764,68644,3341584,190992400,12310790116,871343837764,66469126179600,5391179227622500 ★ Number of meanders of order 2n+1 (4*n+2 crossings of the infinite line) with central 1-1 cut. • a(n) = b(n) ^ 2 where b(n) = A005315 (with a different offset). •

[A041119] • 1,4,65,264,4289,17420,283009,1149456,18674305,75846676,1232221121,5004731160,81307919681,330236409884,5365090477825,21790598321184,354014663616769,1437849252788260,23359602708228929,94876260085703976,1541379764079492545 ★ Denominators of continued fraction convergents to

sqrt(68). • a(n) = 66 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A272134] • 0,4,68,282,736,1520,2724,4438,6752,9756,13540,18194,23808,30472,38276,47310,57664,69428,82692,97546,114080,132384,152548,174662,198816 ⋆ a(n) = n*(15*n^2 - 15*n + 4). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), for n>3. •

[A141032] • 0,4,68,1092,17476,279620,4473924,71582788,1145324612,18325193796,293203100740,4691249611844,75059993789508,1200959900632132,19215358410114116,307445734561825860,4919131752989213764 ⋆ 4*(16^n-1)/15. • a(n) = 16 * a(n - 1) + 4. •

[A192826] • 4,72,448,2400,13824,72128,389120,1949184,9932800,47950848,234160128,1098559488,5200642048,23876812800,110456995840,498763431936,2266990903296,10103408033792,45289255731200,199725155352576,885321097019392 ⋆ Molecular topological indices of the folded cube graphs. • a(n) = 2 ^ (n - 2) * n ^ 2 * (2 + 2 ^ (n - 1) - binomial(n - 1,floor((n - 1) / 2))) for n>2. - _ Andrew Howroyd _ , May 11 2017 •

[A190398] • 0,4,72,496,2100,6708,17640,40384,83376,158900,284108,482160,783484,1227156,1862400,2750208,3965080,5596884,7752836,10559600,14165508,18742900,24490584,31636416,40440000 ⋆ Number of ways to place 3 nonattacking grasshoppers on a toroidal chessboard of size n x n. • a(n) = 1 / 6 * n ^ 2 * (n ^ 4 - 3 * n ^ 2 - 24 * n + 74), n>3. •

[A003752] • 4,72,584,4016,24656,140624,761960,3976704,20173280,100097008,488003448,2345542720,11142878992,52426883056,244682331976,1134222633280,5227498311360,23975219772016,109500177006104,498322800625728,2260840364623472,10230065398683632 ⋆ Number of Hamiltonian paths in C_4 X P_n. • a(1) = 4, • a(2) = 72, • a(3) = 584, • a(4) = 4016, • a(5) = 24656, • a(6) = 140624, •

[A192830] • 0,4,72,672,4800,30240,178752,1017856,5640192,30528000,161694720,839393280,4277944320,21442011136,105877094400,515867934720,2483703250944,11831408197632,55825060331520,261152938393600,1212257811824640,5587829998485504 ⋆ Molecular topological indices of the halved cube graphs. • a(n) = 2 ^ (n - 3) * n ^ 2 * (n - 1) * (n - 1 + 2 ^ (n - 2)). - _ Andrew Howroyd _ , May 11 2017 • a(n) = 26 * a(n - 1) - 296 * a(n - 2) + 1936 * a(n - 3) - 8016 * a(n - 4) + 21792 * a(n - 5) - 38912 * a(n - 6) + 44032 * a(n - 7) - 28672 * a(n - 8) + 8192 * a(n - 9). - _ Eric W. Weisstein _ , May 27 2017 •

[A139745] • 0,4,72,988,12240,144244,1653912,18663628,208594080,2317594084,25654949352,283334343868,3124587089520,34425823133524,379071610510392,4172500607905708,45916496933002560,505214397985306564,5558288898943 21032,61147691553229173148 ⋆ 11^n-7^n. • a(n) = 18 * a(n - 1) - 77 * a(n - 2); [From Vincenzo Librandi, Jun 02 2011] •

[A060645] • 0,4,72,1292,23184,416020,7465176,133957148,2403763488,43133785636,774004377960,13888945017644,249227005939632,4472197161895732,80250321908183544,1440033597185408060,25840354427429161536 ⋆ a(0) = 0, a(1) = 4, then a(n) = 18*a(n-1) - a(n-2). • a(n) may be computed either as i) the denominator of the (2n - 1) - th convergent of the continued fraction [2;4, 4, 4, ...] = sqrt(5), or ii) as the coefficient of sqrt(5) in { 9 + sqrt(5) }^ n. • a(n) = 17 * (a(n - 1) + a(n - 2)) - a(n - 3), a(n) = 19 * (a(n - 1) - a(n - 2)) + a(n - 3). - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Sep 20 2006 • a(n)= - (1 / 10) * [9 - 4 * sqrt(5)] ^ n * sqrt(5) + (1 / 10) * sqrt(5) * [9 + 4 * sqrt(5)] ^ n, with n>=0. - _ Paolo P. Lava _ , Oct 02 2008 • a(n)= fibonacci(6 * n) / 2. - _ Gary Detlefs _ , Apr 02 2012 • a(n) = 4 * S(n - 1, 18), with Chebyshev's S - polynomials. See A049310. S(- 1, x)= 0. - _ Wolfdieter Lang _ , Aug 24 2014 •

[A114878] • 0,4,74,1024,12750,150952,1739556,19740728,222003850,2483142420,27682969578,307999242192,3422552275480,38003214330588,421781012676970,4679808933074296,51914858228808470,575847287536870136 ⋆ Difference in the Fibonacci 3's cycle and 5's cycle (A000045). • a(n) = F[5 * (n + 1)] / F[5] - F[4 * (n + 1)] / F[4] •

[A072373] • 1,4,75,384,1805,8100,35287,150528,632025,2620860,10759331,43804800,177105253,711809364,2846259375,11330543616,44929049777,177540878700,699402223099,2747583822720,10766828545725,42095796462852,164244726238343 ⋆ Complexity of doubled cycle (regarding case n = 2 as a graph). • a(n)=10a(n - 1) - 35a(n - 2) + 52a(n - 3) - 35a(n - 4) + 10a(n - 5) - a(n - 6), n>8. •

[A094160] • 0,4,76,344,936,1980,3604,5936,9104,13236,18460,24904,32696,41964,52836,65440,79904,96356,114924,135736,158920,184604,212916,243984,277936 ⋆ Column 4 of A048790. • a(n) = 64 / 3 n ^ 3 - 30 n ^ 2 + 38 / 3 n. - _ Joshua Zucker _ , Aug 14 2006 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A045996] • 0,4,76,516,2148,6768,17600,40120,82608,157252,280988,477012,775172,1214768,1844512,2725000,3930384,5550844,7692300,10482124,14066996,18619128,24337056,31449200,40212160 ⋆ Number of triangles in an n X n grid (or geoplane). • a(n) = ((n - 1) ^ 2 * n ^ 2 * (n + 1) ^ 2) / 6 - 2 * Sum(Sum((n - k + 1) * (n - l + 1) * gcd(k - 1, l - 1), k, 2, n), l, 2, n). •

[A210519] • 0,4,78,399,1263,3084,6395,11848,20212,32377,49348,72250,102328,140942,189575,249824,323407,412159,518035,643108,789568,959725,1156007,1380959,1637248 ⋆ a(n) = floor(volume of 4-sphere of radius n). • a(n) = floor(1 / 2 * Pi ^ 2 * n ^ 4). •

[A279437] • 0,4,78,528,2200,6900,17934,40768,83808,159300,284350,482064,782808,1225588,1859550,2745600,3958144,5586948,7739118,10541200,14141400,18711924,24451438,31587648,40380000 ⋆ Number of ways to place 3 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 6 - 5 * n ^ 4 + 6 * n ^ 3 - 2 * n ^ 2) / 6 . • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A192790] • 4,80,336,880,1820,3264,5320,8096,11700,16240,21824,28560,36556,45920,56760,69184,83300,99216,117040,136880,158844,183040,209576,238560,270100 ⋆ Molecular topological index of the Andrasfai graphs • a(n) = 2 * n * (3 * n - 2) * (3 * n - 1). • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4). •

[A192834] • 0,4,80,800,6248,43424,283880,1793600,11110088,68008544,413290280,2500208000,15081582728,90806120864,546088834280,3281497784000,19708713860168,118330793948384,710297609395880,4263033439001600,25583180948198408,153518974465539104 ⋆ Molecular topological indices of the Mycielski graphs • a(1) = 0; a(n) = - (1 / 36) * (- 8 + 3 * 2 ^ n) * (- 18 + 27 * 2 ^ n - 14 * 3 ^ n). •

[A132584] • 0,4,80,1444,25920,465124,8346320,149768644,2687489280,48225038404,865363202000,15528312597604,278644263554880,5000068431390244,89722587501469520,1610006506595061124,28890394531209630720 ⋆ a(0)=0, a(1)=4; for n>1, a(n) = 18*a(n-1) - a(n-2) + 8. • a(n) = - (1 / 2) + (1 / 4) * (9 - 4 * sqrt(5)) ^ n + (1 / 4) * (9 + 4 * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Oct 07 2008 •

[A041189] • 1,4,81,328,6641,26892,544481,2204816,44640801,180768020,3660001201,14820772824,300075457681,1215122603548,24602527528641,996252327 18112,2017107181890881,8168053960281636,165378186387523601,66968079951 0376040 ⋆ Denominators of continued fraction convergents to sqrt(105). • a(n) = 82 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A123198] • 1,4,81,400,1225,2916,5929,10816,18225,28900,43681,63504,89401,122500,164025,215296,277729,352836,442225,547600,670761,813604,978121,1166400,1380625 ⋆ a(n)=[(n+1)(2n-1)]^2. • a(n)=Sum((4k - 1)(4k ^ 2 - 2k - 1),k=0..n) (n>=0). •

[A289224] • 0,4,82,670,3028,9780,25574,57862,117800,221268,390010,652894,1047292,1620580,2431758,3553190,5072464,7094372,9743010,13163998,17526820,23027284,29890102,38371590,48762488 ⋆ Number of ways to select 3 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = (n ^ 6 - 6 * n ^ 5 - 24 * n ^ 4 + 208 * n ^ 3 - 67 * n ^ 2 - 1684 * n + 2712) / 6. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>9. •

[A172138] • 0,4,84,452,1772,5596,14888,34640,72712,140716,255036,437968,718980,1136092,1737376,2582576,3744848,5312620,7391572,10106736,13604716,18056028,23657560,30635152,39246296 ⋆ Number of ways to place 3 nonattacking zebras on an n X n board. • a(n) = (n ^ 6 - 27n ^ 4 + 120n ^ 3 + 74n ^ 2 - 1608n + 2976) / 6, n >=6. •

[A178208] • 0,4,84,560,2300,7140,18424,41664,85320,161700,287980,487344,790244,1235780,1873200,2763520,3981264,5616324,7775940,10586800,14197260,18779684,24532904,31684800,40495000 ⋆ Number of ways to choose three points in an (n X n)-grid (or geoplane). • a(n) = binomial(n ^ 2,3) = 1 / 6 * n ^ 2 * (n ^ 2 - 1) * (n ^ 2 - 2). - _ Martin Renner _ , May 23 2010 • a(1)=0, a(2)=4, a(3)=84, a(4)=560, a(5)=2300, a(6)=7140, a(7)=18424, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Nov 09 2012 •

[A122209] • 4,87,1556,13275,65796,239087,710844,1789395,4083404,8384727,16156884,29194283,50363460,82888311,132264452,204330315,306450780,450504551,647579748,913503459,1262033828,1725350295,2318488092,3072687971 ⋆ Sum of squares of the first n^2 primes = A024450[n^2]. • a(n) = Sum[Prime[k] ^ 2, { k,1,n ^ 2 }]. a(n) = A024450[n ^ 2]. •

[A254652] • 1,4,88,421,9661,46288,1062604,5091241,116876761,559990204,12855381088,61593831181,1413975042901,6774761439688,155524399338004,745162164534481,17106269952137521,81961063337353204,1881534170335789288,9014971804944317941 ⋆ Indices of pentagonal numbers (A000326) which are also centered heptagonal numbers (A069099). • a(n) = a(n - 1) + 110 * a(n - 2) - 110 * a(n - 3) - a(n - 4) + a(n - 5). •

[A248041] • 1,4,91,1126819,2146097524939083451 ⋆ Numerators of approximation of cuberoot(2) by Newton's method at n iterations. • a(n) = x(n) / GCD(x(n),y(n)). •

[A041275] • 1,4,97,392,9505,38412,931393,3763984,91267009,368832020,8943235489,36141773976,876345810913,3541525017628,85872946233985,347033309953568,8414672385119617,34005722850432036,824552020795488481 ⋆ Denominators of continued fraction convergents to sqrt(150). • a(n) = 98 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A129435] • 4,101,12782,8584767,20104116089,122644465172798 ⋆ Number of isomorphism classes of 7-regular multigraphs of order 2n, loops allowed. • a(n)=N \{ S _{ 2n } [S _ 7] * S _{ 7n } [S _ 2] \} •

[A128865] • 4,108,1372,13500,119164,1000188,8193532,66325500,533731324,4282396668,34309431292,274676629500,2198218047484,17588965015548,140724603846652,1125848368021500,9006993097883644,72056769407352828,576457453774831612 ⋆ Number of n-tuples where each entry is chosen from the subsets of {1,2,3,4} such that the intersection of all n entries contains exactly one element. • a(n)=4 * (2 ^ n - 1) ^ 3 •

[A041377] • 1,4,113,456,12881,51980,1468321,5925264,167375713,675428116,19079362961,76992879960,2174880001841,8776512887324,247917240846913,1000445476274976,28260390576546241,114042007782459940,3221436608485424561,12999788441724158184 ⋆ Denominators of continued fraction convergents to sqrt(203). • a(n) = 114 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A064204] • 0,0,4,120,1140,6525,27580,94724,279160,730930,1741300,3839660,7937644,15535975,29012620,52014200,89976240,150801764,245731940,390

446960,606440100,922712945,1377845084,2022497180,2922412200 ★ a(n) = 280*binomial(n+4,9) + 280*binomial(n+4,8) + 105*binomial(n+3,7) + 77*binomial(n+3,6) + 43*binomial(n+2,5) - 16*binomial(n+2,4) + 20*binomial(n+1,3) - floor(n*(n^2 - 1)*(n^2 - 4)*(n-3)/360). ● a(n) = (n * (- 720 + 1080 * n + 404 * n ^ 2 - 1098 * n ^ 3 + 282 * n ^ 4 + 9 * n ^ 5 + 33 * n ^ 6 + 9 * n ^ 7 + n ^ 8)) / 1296. ● a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>9. ●

[A054644] ● 4,120,1140,6545,27720,95284,280840,735130,1750540,3858140,7971964,15596035,29112720,52174360,90223760,151173044,246274580,391222160,607525380,924205205,1379864024,2025189100,2925954200,4166590350 ★ Number of labeled pure 2-complexes on n nodes with 3 2-simplexes. ● a(n) = binomial(binomial(n, 3), 3) = 4 * binomial(n, 4) + 100 * binomial(n, 5) + 480 * binomial(n, 6) + 945 * binomial(n, 7) + 840 * binomial(n, 8) + 280 * binomial(n, 9) = n * (n - 1) * (n - 2) * (n - 3) * (n ^ 2 + 2) * (n ^ 3 - 3 * n ^ 2 + 2 * n - 12) / 1296. ●

[A017186] ● 4,121,400,841,1444,2209,3136,4225,5476,6889,8464,10201,12100,14161,16384,18769,21316,24025,26896,29929,33124,36481,40000,43681,47524 ★ (9*n+2)^2. ● a(0)=4, a(1)=121, a(2)=400, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 16 2013 ●

[A073351] ● 0,4,125,1078,5220,18150,50869,122500,263568,519840,956725,1664234,2762500,4407858,6799485,10186600,14876224,21241500,29730573,40876030,55304900,73749214,97057125,126204588,162307600 ★ n^2(n+1)(2n+1)^2(7n+1)/36. ● a(n)=sum(i=1, n, i ^ 2) * sum(i=n + 1, 2 * n, i ^ 2). ●

[A041495] ● 1,4,129,520,16769,67596,2179841,8786960,283362561,1142237204,36834953089,148482049560,4788260539009,19301524205596,622437035118081,2509049664677920,80912026304811521,326157154883924004,10517940982590379649,42397921085245442600 ★ Denominators of continued fraction convergents to sqrt(264). ● a(n) = 130 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 18 2013 ●

[A017294] ● 4,144,484,1024,1764,2704,3844,5184,6724,8464,10404,12544,14884,17424,20164,23104,26244,29584,33124,36864,40804,44944,49284,53824,58564 ★ a(n) = (10*n+2)^2. ● a(n) = a(n - 1) + 200n - 60, n>0 ; a(0)=4. - _ Miquel Cerda _ , Oct 30 2016 ●

[A134631] ● 0,4,144,1152,4960,15300,38304,83104,162432,293220,497200,801504,1239264,1850212,2681280,3787200,5231104,7085124,9430992,12360640,15976800,20393604,25737184,32146272,39772800 ★ a(n) = 5*n^5 - 3*n^3 + 2*n^2. Coefficients and exponents are the prime numbers in decreasing order. ● a(n) = 5 * n ^ 5 - 3 * n ^ 3 + 2 * n ^ 2. ●

[A289231] ● 0,4,159,1644,9548,38872,125367,342831,829052,1822785,3714519,7113539,12935256,22511616,37728563,61194888,96446684,148191316,222597315,327633979,473466444,672912717,941968139,1300402591,1772439504 ★ Number of nonequivalent ways to select 4 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. ● a(n) = (n ^ 8 - 8 * n ^ 7 - 50 * n ^ 6 + 556 * n ^ 5 + 261 * n ^ 4 - 12724 * n ^ 3 + 19088 * n ^ 2 + 86016 * n - 201024) / 144 + IF(MOD(n, 2) = 1, - 2 * n + 5) / 4 + IF(MOD(n, 3) = 1, - n ^ 2 + 2 * n + 12) / 9. ●

[A041779] ● 1,4,161,648,26081,104972,4224961,17004816,684417601,2754675220,110871426401,446240380824,17960486659361,72288187018268,29094879673990081,117102400565785 92,4713190902305337 61,18969866009786136 36,76350783129379079201 ★ Denominators of continued fraction convergents to sqrt(410). ● a(n) = 162 * a(n - 2) - a(n - 4). G.f.: - (x ^ 2 - 4 * x - 1) / (x ^ 4 - 162 * x ^ 2 + 1). [_ Colin Barker _ , Jul 16 2012] ●

[A278124] ● 4,168,512,1200,2576,5328,10832,21840,43856,87888,175952,352080,704336,1408848,2817872,5635920,11272016,22544208,45088592,90177360,180354896,360709968,721420112,1442840400,2885680976 ★ a(n) = 172*2^n - 176. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2). ●

[A017414] ● 4,169,576,1225,2116,3249,4624,6241,8100,10201,12544,15129,17956,21025,24336,27889,31684,35721,40000,44521,49284,54289,59536,65025,70756 ★ (11n+2)^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 ●

[A017546] ● 4,196,676,1444,2500,3844,5476,7396,9604,12100,14884,17956,21316,24964,28900,33124,37636,42436,47524,52900,58564,64516,70756,77284,84100 ★ (12n+2)^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 ●

[A144044] ● 1,4,196,2304,55696,906304,18181696,325730304,6199357696,114211554304,2141141533696,39766241378304,742275639709696,13817991215202304,257604225193885696,4798702283133026304,89428432275804061696 ★ a(n) = ((1+sqrt(11))^n-(1-sqrt(11))^n)^2/44. ● a(n) = 14 * a(n - 1) + 140 * a(n - 2) - 1000 * a(n - 3). ●

[A283101] ● 0,0,4,344,8760,157504,2388204,32737984,419969088,5141235840,60795581132,700024311536,7892352548080 ★ Numbers of A'Campo forests of degree n>2 and co-dimension 3. ● a(n) is obtained by using the generating function N _{ 1 } =1 + yN _{ 2 }^ 4 and (1 - N _{ 2 } + 2yN _{ 2 }^ 4 - yN _{ 2 }^{ 5 } + xyN _{ 2 }^{ 6 } + y ^{ 2 } N _{ 2 }^{ 8 })(1 + yN _{ 2 }^{ 4 }- xyN _{ 2 }^{ 5 }) + x ^ 3y ^{ 2 } N _{ 2 }^{ 9 } =0, where N _{ 1 } (x,y)= \ sum _{ n } N _{ 1 } '(3,n)x ^{ 3 } y ^{ n } and N _{ 1 } '(3,n) is the number of A'Campo forests with co - dimension 3; N _{ 3 } (x,y)= \ sum _{ n } N _{ 3 } '(3,n)x ^{ 3 } y ^{ n } where N _{ 3 } '(3,n) is the number of partial configurations. ●

[A052391] ● 0,0,4,349,9985,213230,4000444,69940479,1170549895,19024433560,302846958634,4748624978009,73628721516805,1132119741733890,17298702716660824,263082403948681939,3986935934969727715 ★ Number of 4-element intersecting families (of distinct sets) whose union is an n-element set. ● a(n) = (15 ^ n - 6 * 11 ^ n + 12 * 9 ^ n - 8 ^ n - 22 * 7 ^ n + 15 * 6 ^ n + 12 * 5 ^ n - 17 * 4 ^ n + 17 * 3 ^ n - 11 * 2 ^ n - 6) / 4!. ●

[A051181] ● 0,0,0,4,365,11770,278455,5715094,108498285,1963243930,34404675635,589459538734,9933916068505,165358097339890,2726894329246815,44648990949187174 ★ Number of 4-element intersecting families of an n-element set. ● a(n) = (1 / 4!) * (16 ^ n - 6 * 12 ^ n + 12 * 10 ^ n - 9 ^ n - 22 * 8 ^ n + 15 * 7 ^ n + 12 * 6 ^ n - 17 * 5 ^ n + 17 * 4 ^ n - 11 * 3 ^ n - 6 * 2 ^ n + 6). ●

[A123657] ● 4,593,20494,266497,1969376,10125649,40473658,134483969,387958492,1001010001,2359733894,5162787073,10609354744,20668614737,38454800626,68736319489,118612097588,198393407569,322734873982,512064160001 ★ a(n) = 1 + n^4 + n^6 + n^9. ● a(n) = 1 + n ^ 4 + n ^ 6 + n ^ 9 = 1001010001 (base n). ●

[A160737] ● 0,4,743,6732,30046,94100,237429,517468,1014332,1834596,3115075,5026604,7777818,11618932,16845521,23802300,32886904,44553668,59317407,77757196,100520150,128325204,161966893,202319132,250338996 ★ 4*P_5(n), 4 times the Legendre Polynomial of order 5 at n. ● a(n) = n * (63 * n ^ 4 - 70 * n ^ 2 + 15) / 2. - _ Vaclav Kotesovec _ , Jul 31 2013 ●

[A176186] ● 4,832,22708,312956,2716096,17117832,84871680,349093856,1239869972,3905117168,11139611892,29224290600,71402912960,164029487484,357164398040,741835920276,1477798367368,2836053660668,5263672510684 ★ Number of ways to place 6 nonattacking queens on an n X n board ● a(n)=1 / 720 * n ^ 12 - 5 / 72 * n ^ 11 + 77 / 48 * n ^ 10 - 73339 / 3240 * n ^ 9 ● a(6) = 4 ● a(7) = 832, ● a(8) = 22708, ● a(9) = 312956, ● a(10) = 2716096, ●

[A283103] ● 0,0,0,4,1380,75600,2340744,54275296,1055436228,18230184752,289150871152,4300858168200,60843411796440 ★ Number of A'Campo forests of degree n and co-dimension 5. ● a(n) is obtained by using the generating function N _{ 1 } =1 + yN _{ 2 }^ 4 and (1 - N _{ 2 } + 2yN _{ 2 }^ 4 - yN _{ 2 }^{ 5 } + xyN _{ 2 }^{ 6 } + y ^{ 2 } N _{ 2 }^{ 8 })(1 + yN _{ 2 }^{ 4 }- xyN _{ 2 }^{ 5 }) + x ^ 3y ^{ 2 } N _{ 2 }^{ 9 } =0, where N _{ 1 } (x,y)= \ sum _{ n } N _{ 1 } '(5,n)x ^{ 5 } y ^{ n } and N _{ 1 } '(5,n) is the number of A'Campo forests with co - dimension 5; N _{ 2 } (x,y)= \ sum _{ n } N _{ 2 } '(5,n)x ^{ 5 } y ^{ n } where N _{ 2 } '(5,n) is the number of partial configurations. ●

[A132639] ● 1,1,4,3125,11112006825558016 ★ Catalan number C(n) raised to power C(n). ● a(n) = (C(n)) ^ (C(n)). ●

[A266200] ● 0,0,1,4,7625597484987 ★ Herbert-Ackermann numbers: a(n) = Hack(n,n,n) = H_{n+1}(n,n), where Hack is the Herbert-Ackermann function. ● a(- 1) = 0; ● a(n) = Hack(n,n,n), n >= 0. ● a(n) = H _{ n + 1 } (n,n) = n[n + 1]n, n >= - 1. ●

[A098526] ● 1,1,5,5,5,21,37,117,197,277,613,1205,3077,6229,10661,20469,39749,88981,188645,359221,686725,1322709,2746405,5764725,11512261 ★ Expansion of (1+4x^2)/(1-x-16x^5). ● a(n)=a(n - 1) + 16a(n - 5); a(n)=sum { k=0. .floor(n / 2), binomial(n - 2k, floor(k / 2))4 ^ k } . ● a(0)=1, a(1)=1, a(2)=5, a(3)=5, a(4)=5, a(n)=a(n - 1) + 16 * a(n - 5). - _ Harvey P. Dale _ , Jun 15 2014 ●

[A019528] ● 5,5,6,8,11,16,25,38,59,93,148,235,376,602,966,1550,2491,4003,6436,10348,16643,26766,43052,69247,111387 ★ Poincaré series [or Poincare series] for depths of roots in a certain root system. ● a(n + 1) = sum _{ i=n - 11 }^ n v(i) * a(i), where v = [0,0, - 1, - 1, - 2, - 1,0,2,2,1,0]. ●

[A163980] ● 1,5,5,9,9,13,13,17,17,21,21,25,25,29,29,33,33,37,37,41,41,45,45,49,49 ★ a(n) = 2*n + (-1)^n. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ● a(n) = 4 * n - 2 - a(n - 1), with a(1)=1. - _ Vincenzo Librandi _ , Nov 30 2010 ●

[A173322] ● 5,5,9,25,97,481,2881,20161,161281,1451521,14515201,159667201,1916006401,24908083201,348713164801,5230697472001,83691159552001,1427749712384001,25609494822912001,486580401635328001,9731608032706560001,204363768686837760001 ★ 4*n! + 1. ● a(0) = 5, a(n) = n * a(n - 1) - n + 1. - _ Sergei N. Gladkovskii _ , Jul 04 2012 ●

[A168284] ● 0,5,5,10,10,15,15,20,20,25,25,30,30,35,35,40,40,45,45,50,50,55,55,60,60 ★ a(n) = (10*n + 5*(-1)^n - 5)/4. ● a(n) = 5 * n - a(n - 1) - 5, with n>1, a(1)=0. ●

[A022088] ● 0,5,5,10,15,25,40,65,105,170,275,445,720,1165,1885,3050,4935,7985,12920,20905,33825,54730,88555,143285,231840 ★ Fibonacci sequence beginning 0, 5. ● a(n) = round((2 * phi - 1) * phi ^ n) for n>3. - _ Thomas Baruchel _ , Sep 08 2004 ● a(n) = 5 * F(n) = L(n - 1) + L(n + 1) = F(n + 3) + F(n - 1) + F(n - 4), n>3. ●

[A082450] ● 5,5,10,20,35,55,80,110,145,185,230,280,335,395,460,530,605,685,770,860,955,1055,1160,1270,1385 ★ a(n) = 5*(n^2-n+2)/2. ● a(n) = 5 * n + a(n - 1) - 5 for n>0, a(0)=5. - _ Vincenzo Librandi _ , Aug 08 2010 ● a(0)=5, a(1)=5, a(2)=10; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 23 2013 ●

[A173316] ● 5,5,11,35,143,719,4319,30239,241919,2177279,21772799,239500799,2874009599,37362124799,523069747199,7846046207999,125536739327999,2134124568575999,38414242234367999,729870602452991999 ★ 6*n! - 1. ● a(0)=5, a(n) = n * a(n - 1) + n - 1. - _ Vincenzo Librandi _ , Sep 30 2013 ●

[A275016] ● 0,0,0,5,5,15,35,55,135,255,495,1055,2015,4095,8255,16255,32895,65535,130815,262655,523775,1048575,2098175,4192255,8390655 ★ a(n) = (2^n - (-1+i)^n - (-1-i)^n)/4 - 1 where i is the imaginary unit. ● a(n) = a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) for n>4. - _ Colin Barker _ , Nov 12 2016 ● a(n) = - 2 ^ (n - 2) * a(4 - n) for all n in Z. - _ Michael Somos _ , Nov 13 2016 ●

[A189316] ● 5,5,15,35,95,245,645,1685,4415,11555,30255,79205,207365,542885,1421295,3720995,9741695,25504085,66770565,174807605,457652255,1198149155,3136795215,8212236485,21499914245 ★ Expansion of 5*(1-x-x^2)/((1+x)*(1-3*x+x^2)) ● a(n)=2 * a(n - 1) + 2 * a(n - 2) - a(n - 3), n>2, a(0)=5, a(1)=5,

a(2)=15. • a(n)=Sum _{ k=1..5) ((w _ k) ^ 2 - 1) ^ n, w _ k=2 * cos((2 * k - 1) * Pi / 10); hence • a(n)=(- 1) ^ n + 2 * (1 / tau ^ (2 * n) + tau ^ (2 * n)), tau=(1 + Sqrt(5)) / 2=1.618033.... •

[A095342] • 1,1,5,5,17,25,61,109,233,449,917,1813,3649,7273,14573,29117,58265,116497,233029,466021,932081,1864121,3728285,7456525,14913097 ★ Number of elements in n-th string generated by a Kolakoski(5,1) rule starting with a(1)=1. • a(1) = a(2) = 1, a(n) = a(n - 1) + 2 * a(n - 2) - 2 * (- 1) ^ n. •

[A100745] • 0,1,1,5,5,17,27,85,85,257,427,1285,1455,4369,7279,21845,21845,65537,109227,327685,371375,1114129,1856879,5570645,5614335 ★ Modulo 2 binomial transform of the Jacobsthal numbers J(n). • a(n)=sum { k=0..n, mod (binomial(n, k), 2)J(k) } . •

[A099921] • 5,5,20,45,125,320,845,2205,5780,15125,39605,103680,271445,710645,1860500,4870845,12752045,33385280,87403805,228826125,599074580,1568397605,4106118245,10749957120,28143753125 ★ a(n) = 5*Fibonacci(n)^2. • a(n) = Lucas(n) ^ 2 - 4(- 1) ^ n. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for n > 3. - _ Matthew House _ , Jan 13 2017 • a(n) = ((3 - sqrt(5)) / 2) ^ n + ((3 + sqrt(5)) / 2) ^ n - 2 * (- 1) ^ n. - _ Colin Barker _ , Jan 14 2017 • a(n) = 2 * Fibonacci(2 * n + 1) - Fibonacci(2 * n) - 2 * (- 1) ^ n. - _ Vincenzo Librandi _ , Sep 14 2017 •

[A175713] • 1,1,5,5,23,25,107,125,499,621,2331,3069,10907,15101,51115,74029,239899,361757,1127467,1762957,5305595,8571069,24996555,41584365,117897499 ★ Expansion of 1/(1 - x - 4*x^2 + 4*x^3 - 2*x^4). • a(0)=1, a(1)=1, a(2)=5, a(3)=5; for n>3, a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). - _ Harvey P. Dale _ , Oct 10 2014 •

[A162962] • 1,5,5,25,25,125,125,625,625,3125,3125,15625,15625,78125,78125,390625,390625,1953125,1953125,9765625,9765625,48828125,48828125,244140625,244140625 ★ a(n) = 5*a(n-2) for n > 2; a(1) = 1, a(2) = 5. • a(n) = 5 ^ ((1 / 4) * (2 * n - 1 + (- 1) ^ n)). •

[A189318] • 5,5,25,65,225,705,2305,7425,24065,77825,251905,815105,2637825,8536065,27623425,89391105,289275905,936116225,3029336065,9803137025,31723618305,102659784705,332214042625,1075067224065,3478990618625 ★ Expansion of 5*(1-2*x)/(1-3*x-2*x^2+4*x^3) • a(n)=3 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3), n>3, a(0)=5, a(1)=5, a(2)=25, a(3)=65. • a(n)=Sum _{ k=1..5 } ((w _ k) ^ 4 - 3 * (w _ k) ^ 2 + 1) ^ n, w _ k=2 * cos((2 * k - 1) * Pi / 10). • a(n)=1 + 2 * (1 - Sqrt(5)) ^ n + 2 * (1 + Sqrt(5)) ^ n. •

[A284182] • 1,1,5,5,29,61,117,213,381,509,2037,4053,8061,16381,32757,65493,130941,262141,524277,1048533,2097021,4194301,8388597,16777173,33554301 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 813", based on the 5-celled von Neumann neighborhood. • a(n) = 2 * a(n - 1) + a(n - 4) - 2 * a(n - 5) for n>10. •

[A189749] • 5,5,50,275,1625,9500,55625,325625,1906250,11159375,65328125,382437500,2238828125,13106328125,76725781250,449160546875,2629431640625,15392960937500,90111962890625,527524619140625,3088182910156250,18078537646484375,105833602783203125 ★ a(1)=5, a(2)=5, a(n)=5*a(n-1) + 5*a(n-2). • a(n) = 5 / 2 * ((5 / 2 + 3 / 2 * sqrt(5)) ^ (n - 1) + (5 / 2 - 3 / 2 * sqrt(5)) ^ (n - 1)) + 1 / 2 * sqrt(5) * ((5 / 2 - 3 / 2 * sqrt(5)) ^ (n - 1) - (5 / 2 + 3 / 2 * sqrt(5)) ^ (n - 1)). - Paolo P. Lava, May 24 2011 •

[A157729] • 5,6,6,7,8,10,13,18,26,39,60,94,149,238,382,615,992,1602,2589,4186,6770,10951,17716,28662,46373 ★ a(n) = Fibonacci(n) + 5. • a(0)=5, a(1)=6, a(2)=6, a(n)=2 * a(n - 1) + 0 * a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Aug 17 2012 • a(0) = 5, a(1) = 6, a(n) = a(n - 2) + a(n - 1) - 5. - _ Reinhard Zumkeller _ , Jul 30 2013 •

[A020710] • 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29 ★ n+5. • a(n) = n + 5. a(n) = 2a(n - 1) - a(n - 2). •

[A047577] • 0,1,5,6,7,8,9,13,14,15,16,17,21,22,23,24,25,29,30,31,32,33,37,38,39 ★ Numbers that are congruent to {0, 1, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = a(n - 5) + 8 for n>5. • a(n) = (40 * n - 25 + 3 * (n mod 5) + 3 * ((n + 1) mod 5) - 12 * ((n + 2) mod 5) + 3 * ((n + 3) mod 5) + 3 * ((n + 4) mod 5)) / 25. • a(5 * k) = 8 * k - 1, a(5 * k - 1) = 8 * k - 2, a(5 * k - 2) = 8 * k - 3, a(5 * k - 3) = 8 * k - 7, a(5 * k - 4) = 8 * k - 8. (End) •

[A293481] • 5,6,7,8,9,15,16,17,18,19,25,26,27,28,29,35,36,37,38,39,45,46,47,48,49 ★ Numbers with last digit greater than or equal to 5 (in base 10). • a(n) = a(n - 1) + a(n - 5) - a(n - 6). •

[A174138] • 5,6,7,8,9,15,16,17,18,19,30,31,32,33,34,40,41,42,43,44,55,56,57,58,59 ★ Numbers congruent to {5,6,7,8,9,15,16,17,18,19} mod 25. • a(10 + n) = a(n) + 25 for n >= 1. • a(n) = a(n - 1) + a(n - 10) - a(n - 11). G.f.: x * (5 + x + x ^ 2 + x ^ 3 + x ^ 4 + 6 * x ^ 5 + x ^ 6 + x ^ 7 + x ^ 8 + x ^ 9 + 6 * x ^ 10) / ((1 + x) * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x ^ 4 - x ^ 3 + x ^ 2 - x + 1) * (x - 1) ^ 2). - _ R. J. Mathar _ , Oct 08 2011 • a(n) = n + 9 + 5 * floor((floor((n - 1) / 5) - 1) / 2) + 10 * floor(floor((n - 1) / 5) / 2). - _ Wesley Ivan Hurt _ , Mar 22 2015 •

[A294239] • 0,0,0,0,5,6,7,8,9,20,22,24,39,42,45,48,51,54,57,60,84,88,92,96,100 ★ Sum of the parts in the partitions of n into two parts with larger part nonsquarefree. • a(n) = n * Sum _{ i=1..floor(n / 2) } (1 - mu(n - i) ^ 2). •

[A128427] • 5,6,7,8,10,11,13,14,15,17,18,20,21,23,24,26,27,28,30,31,33,34,36,37,39 ★ Last point where sum of n consecutive n-th powers does not exceed the next n-th power. • a(n) is the largest integer for which the sum of the n consecutive n - th powers from (a(n) - n) ^ n to (a(n) - 1) ^ n inclusive does not exceed a(n) ^ n. •

[A047322] • 0,1,5,6,7,8,12,13,14,15,19,20,21,22,26,27,28,29,33,34,35,36,40,41,42 ★ Numbers that are congruent to {0, 1, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (14n - 11 - 3 * I ^ (2n) + (3 - 3 * I) * I ^ (- n) + (3 + 3 * I) * I ^ n) / 8 where I=sqrt(- 1). •

[A047575] • 0,5,6,7,8,13,14,15,16,21,22,23,24,29,30,31,32,37,38,39,40,45,46,47,48 ★ Numbers that are congruent to {0, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (4 * n - 1 + i ^ (2 * n) - (1 + i) * i ^ (- n) - (1 - i) * i ^ n) / 2 where i=sqrt(- 1). •

[A014097] • 1,1,1,5,6,7,8,13,19,26,34,47,66,92,126,173,239,331,457,630,869,1200,1657,2287,3156 ★ a(n) = a(n-1)+a(n-4). • a(n) = Sum _{ j=0..(n - 1) / 3 } (binomial(n - 3 * j,n - 4 * j) * n / (n - 3 * j)). - _ Vladimir Kruchinin _ , Mar 25 2016 •

[A241203] • 5,6,7,9,12,15,19,23,29,37,46,58,72,90,113,142,177,222,277,346,433,542,677,847,1058 ★ Floor(5^n/4^(n-1)). • a(n) = floor(5 ^ n / 4 ^ (n - 1)), n >= 1. •

[A047576] • 1,5,6,7,9,13,14,15,17,21,22,23,25,29,30,31,33,37,38,39,41,45,46,47,49 ★ Numbers that are congruent to {1, 5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (8 * n - 1 + i ^ (2 * n) - (2 + i) * i ^ (- n) - (2 - i) * i ^ n) / 4 where i=sqrt(- 1). •

[A047266] • 0,1,5,6,7,11,12,13,17,18,19,23,24,25,29,30,31,35,36,37,41,42,43,47,48 ★ Numbers that are congruent to {0, 1, 5} mod 6. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Wesley Ivan Hurt _ , Nov 09 2015 • a(n) = 2 * n - 2 + cos(2 * n * Pi / 3) + sin(2 * n * Pi / 3) / sqrt(3). • a(3k) = 6k - 1, a(3k - 1) = 6k - 5, a(3k - 2) = 6k - 6. (End) •

[A064615] • 1,5,6,7,11,13,17,19,23,25,29,30,31,35,36,37,41,42,43,47,49,53,55,59,61 ★ Numbers of the form m * 6^k for k >= 0 and m > 0 with gcd(m, 6) = 1. • a(n) = 5n / 2 + O(log n). - _ Charles R Greathouse IV _ , Sep 02 2016 •

[A047320] • 0,5,6,7,12,13,14,19,20,21,26,27,28,33,34,35,40,41,42,47,48,49,54,55,56 ★ Numbers that are congruent to {0, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 9 - 8 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 2, a(3k - 2) = 7k - 7. (End) •

[A047574] • 5,6,7,13,14,15,21,22,23,29,30,31,37,38,39,45,46,47,53,54,55,61,62,63,69 ★ Numbers that are congruent to {5, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (8 * n - 10 * sin(2 * Pi * (n + 1) / 3) / sqrt(3) + 2) / 3. - _ Ilya Gutkovskiy _ , May 30 2016 • a(n) = 8 * floor((n - 1) / 3) + ((n - 1) mod 3) + 5. - _ David A. Corneth _ , May 30 2016 • a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 3. - _ Wesley Ivan Hurt _ , Jun 10 2016 •

[A221175] • 5,6,7,20,47,114,275,664,1603,3870,9343,22556,54455,131466,317387,766240,1849867,4465974,10781815,26029604,628410231,517116503,6662643238,84824029 6,2134744915 ★ a(0)=-5, a(1)=6; thereafter a(n) = 2*a(n-1) + a(n-2). • a(n)=(1 / 4) * (11 * sqrt(2) * ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n) - 10 * ((1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n)). - _ Paolo P. Lava _ , Jan 04 2013 •

[A057854] • 5,6,8,9,10,12,13,14,15,16,17,19,20,21,22,23,24,25,26,27,28,30,31,32,33 ★ Non-Lucas numbers: the complement of A000032. • a(n) = floor(1 / 2 - LambertW(- 1, - log(phi) / phi ^ (n + 1 / 2)) / log(phi)) with phi = (1 + sqrt(5)) / 2. - Nicolas Normand (nicolas.normand (at) polytech.univ - nantes.fr) •

[A047439] • 0,1,5,6,8,9,13,14,16,17,21,22,24,25,29,30,32,33,37,38,40,41,45,46,48 ★ Numbers that are congruent to {0, 1, 5, 6} mod 8. • a(n) = Sum _{ i=1..n } gcd(i + 2, i - 2). - _ Wesley Ivan Hurt _ , Jan 23 2014 • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = 2n + (1 + i) * (4i - 4 - (1 - i) * i ^ (2n) - i ^ (1 - n) + i ^ n) / 4 where i=sqrt(- 1). •

[A074819] • 1,5,6,8,10,13,22,24,27,37,44,46,48,49,58,61,63,65,69,73,75,77,80,82,98 ★ Numbers n such that mu(n)+mu(n+1) = 0. • a(n) seems to be asymptotic to c * n with c=3.7.... •

[A262161] • 1,5,6,8,11,14,17,20,24,28,32,36,40,44,49,54,59,64,69,74,79,85,91,97,103 ★ a(n) is the largest term in the continued fraction for a(n-1) + n^2/a(n-1), where a(1)=1. • a(n) = n * (sqrt(2 * n / 3) - 1 / 5) + O(sqrt(n)) and this is sharp (see link). •

[A290744] • 5,6,8,11,15,19,24,30,37,45,53,62,72,83,95,107,120,134,149,165,181,198,216,235,255 ★ Maximum number of distinct Lyndon factors that can appear in words of length n over an alphabet of size 5. • a(n) = binomial(n + 1, 2) - (s - p) * binomial(m + 1,2) - p * binomial(m + 2,2) + s where s=5, m=floor(n / s), p=n - m * s. - _ Andrew Howroyd _ , Aug 14 2017 • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) for n>6. •

[A169622] • 5,6,8,11,16,24,37,58,92,147,236,380,613,990,1600,2587,4184,6768,10949,17714,28660,46371,75028,121396,196421 ★ a(n) = a(n-1) + Fibonacci(n), a(1)=5. • a(n) = 3 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 3 + sqrt(5)) + (1 + sqrt(5)) ^ n * (3 + sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Apr 20 2017 •

[A047321] • 1,5,6,8,12,13,15,19,20,22,26,27,29,33,34,36,40,41,43,47,48,50,54,55,57 ★ Numbers that are congruent to {1, 5, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 6 - 3 * cos(2 * n * Pi / 3) - 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 2, a(3k - 2) = 7k - 6. (End) •

[A140504] • 5,6,8,12,20,36,68,132,260,516,1028,2052,4100,8196,16388,32772,65540,131076,262148,524292,1048580,2097156,4194308,8388612,16777220 ★ a(n) = 2^n + 4. • a(n) = 2 * a(n - 1) - 4 (with a(0)=5). [_ Vincenzo Librandi _ , Nov 24 2009] •

[A047437] • 0,5,6,8,13,14,16,21,22,24,29,30,32,37,38,40,45,46,48,53,54,56,61,62,64 ★ Numbers that are congruent to {0, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 15 - 3 * cos(2 * n * Pi / 3) - 7 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 8. (End) •

[A227006] • 5,6,9,10,11,12,13,14,16,17,18,19,20,21,23,24,25,26,27,28,29,30,31,32,33 ★ Numbers n such that n-1 is not squarefree or a prime divisor of n-1 is in

the sequence. • a(n) = n + 16 for n > 1791. - _ Charles R Greathouse IV _ , Jun 27 2013 •

[A047438] • 1,5,6,9,13,14,17,21,22,25,29,30,33,37,38,41,45,46,49,53,54,57,61,62,65 ⋆ Numbers that are congruent to {1, 5, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 2 * (12 * n - 6 - 3 * cos(2 * n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 2, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 7. (End) •

[A218735] • 5,6,9,13,22,33,57,86,149,225,390,589,1021,1542,2673,4037,6998,10569,18321,27670,47965,72441,125574,189653,328757 ⋆ Values of x in the solutions to x^2 - 3xy + y^2 + 29 = 0, where 0 < x < y. • a(n) = 3 * a(n - 2) - a(n - 4). •

[A117951] • 5,6,9,14,21,30,41,54,69,86,105,126,149,174,201,230,261,294,329,366,405,446,489,534,581 ⋆ a(n) = n^2 + 5. • a(n) = 2 * n + a(n - 1) - 1 (with a(0)=5). - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A265188] • 0,1,5,6,10,11,12,16,17,21,22,23,27,28,32,33,34,38,39,43,44,45,49,50,54 ⋆ Nonnegative m for which 3*floor(m^2/11) = floor(3*m^2/11). • a(n) = a(n - 1) + a(n - 5) - a(n - 6), n>6. •

[A008851] • 0,1,5,6,10,11,15,16,20,21,25,26,30,31,35,36,40,41,45,46,50,51,55,56,60 ⋆ Congruent to 0 or 1 mod 5. • a(n) = 5 * n - a(n - 1) - 4 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = floor((5 / 3) * floor(3 * (n - 1) / 2)). - _ Clark Kimberling _ , Jul 04 2012 • a(n) = (5 * n - 13 - 3 * (- 1) ^ n) / 4. - _ Robert Israel _ , Nov 17 2014 •

[A093509] • 0,5,6,10,12,15,18,20,24,25,30,35,36,40,42,45,48,50,54,55,60,65,66,70,72 ⋆ Multiples of 5 or 6. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) + 2 * a(n - 7) - 2 * a(n - 8) + 2 * a(n - 9) - a(n - 10) for n>10. • a(n) = 5 * floor((n + 9) / 10) * (- 1) ^ n / 2 + 5 * floor((n + 9) / 10) / 2 - n * (- 1) ^ n / 4 - (- 1) ^ n + 11 * n / 4 - 4. (End) •

[A164095] • 5,6,10,12,20,24,40,48,80,96,160,192,320,384,640,768,1280,1536,2560,3072,5120,6144,10240,12288,20480 ⋆ a(n) = 2*a(n-2) for n > 2; a(1) = 5, a(2) = 6. • a(n) = (4 - (- 1) ^ n) * 2 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)). •

[A075156] • 5,6,10,24,70,216,664,2008,5998,17808,52770,156360,463492,1374392,4076222,12090144,35859742,106359928,315460168,935639768,2775057510,8230670416,24411730298,72403913480,214746249796 ⋆ Binomial transform of pentanacci numbers A074048: a(n) = Sum_{k=0..n} binomial(n,k)*A074048(k). • a(n) = 6a(n - 1) - 13a(n - 2) + 14a(n - 3) - 7a(n - 4) + 2a(n - 5), a(0)=5, a(1)=6, a(2)=10, a(3)=24, a(4)=70. • a(n) = term (1,5) in the 1 X 5 matrix [70,24,10,6,5]. [6,1,0,0,0; - 13,0,1,0,0; 14,0,0,1,0; - 7,0,0,0,1; 2,0,0,0,0] ^ n. - _ Alois P. Heinz _ , Jul 25 2008 •

[A047264] • 0,5,6,11,12,17,18,23,24,29,30,35,36,41,42,47,48,53,54,59,60,65,66,71,72 ⋆ Numbers that are congruent to 0 or 5 mod 6. • a(n) = 3 * n + (- 1) ^ n - 2. • a(n) = 6 * n - a(n - 1) - 7 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 05 2010 •

[A022095] • 1,5,6,11,17,28,45,73,118,191,309,500,809,1309,2118,3427,5545,8972,14517,23489,38006,61495,99501,160996,260497 ⋆ Fibonacci sequence beginning 1, 5. • a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=5. • a(n) = 4 * Fibonacci(n) + Fibonacci(n + 1), n>=1. - _ Zerinvary Lajos _ , Oct 05 2007, corrected by _ R. J. Mathar _ , Apr 07 2011 • a(n - 1) = ((1 + sqrt5) ^ n - (1 - sqrt5) ^ n) / (2 ^ n * sqrt5) + 2 * ((1 + sqrt5) ^ (n - 1) - (1 - sqrt5) ^ (n - 1)) / (2 ^ (n - 2) * sqrt5). - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 • a(n) = 4 * Fibonacci(n + 2) - 3 * Fibonacci(n + 1). - _ Gary Detlefs _ , Dec 21 2010 • a(n) = (L(n - 2) + 8 * L(n - 1) + 4 * L(n) + 2 * L(n + 1)) / 5 for the Lucas numbers L(n). - _ J. M. Bergot _ , Oct 22 2012 • a(n) = ((2 * sqrt(5) - 1) * (((1 + sqrt(5)) / 2) ^ (n + 1)) + (2 * sqrt(5) + 1) * (((1 - sqrt(5)) / 2) ^ (n + 1))) / (sqrt(5)). - _ Bogart B. Strauss _ , Jul 19 2013 •

[A042531] • 1,5,6,11,17,28,45,73,118,191,1073,60279,302468,362747,665215,1027962,1693177,2721139,4414316,7135455,11549771,64884310,3645071131,18290239965,21935311096 ⋆ Denominators of continued fraction convergents to sqrt(794). • a(n) = 60470 * a(n - 11) + a(n - 22)for n>21. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A042839] • 1,1,5,6,11,17,28,45,118,163,281,444,725,1169,5401,6570,399601,406171,2024285,2430456,4454741,6885197,11339938,18225135,47790208 ⋆ Denominators of continued fraction convergents to sqrt(950). • a(n) = 405002 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 30 2014 •

[A042881] • 1,5,6,11,17,130,797,927,3578,4505,66648,71153,280107,351260,2387667,17064929,19452596,36517525,55970121,316368130,19670794181,98670339035,118341133216,217011472251,335352605467 ⋆ Denominators of continued fraction convergents to sqrt(972). • a(n) = 19726764302 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A042493] • 1,1,5,6,11,28,39,67,307,374,20503,20877,104011,124888,228899,582686,811585,1394271,6388669,7782940,426667429,434450369,2164468905,2598919274,4763388179 ⋆ Denominators of continued fraction convergents to sqrt(774). • a(n) = 20810 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A041355] • 1,1,5,6,11,39,89,217,2910,6037,14984,50989,65973,116962,533821,650783,17454179,18104962,89874027,107978989,197853016,701538037,1600929090,3903396217,52345079911 ⋆ Denominators of continued fraction convergents to sqrt(191). • a(n) = 17988000 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 16 2013] •

[A041227] • 1,5,6,11,61,1353,6826,8179,15005,83204,1845493,9310669,11156162,20466831,113490317,2517253805,12699759342,15217013147,27916772489,154800875592,3433536035513,17322481053157,20756017088670,38078498141827,211148507797805 ⋆ Denominators of continued fraction convergents to sqrt(125). • a(n) = 1364 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A041939] • 1,5,6,11,116,127,243,1342,59291,297797,357088,654885,6905938,7560823,14466761,79894628,3529830393,17729046593,21258876986,3898792357 9,411138112776,450126036355,861264149131,4756446782010,210144922557571 ⋆ Denominators of continued fraction convergents to sqrt(492). • a(n) = 5953 4 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A047319] • 5,6,12,13,19,20,26,27,33,34,40,41,47,48,54,55,61,62,68,69,75,76,82,83,89 ⋆ Numbers that are congruent to {5, 6} mod 7. • a(n) = 7 * n - a(n - 1) - 3 (with a(1)=5). [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) = 1 / 4 + 7 * n / 2 - 5 * (- 1) ^ n / 4. G.f. x * (5 + x + x ^ 2) / ((1 + x) * (x - 1) ^ 2). - R. J. Mathar, Oct 08 2011 •

[A022310] • 0,5,6,12,19,32,52,85,138,224,363,588,952,1541,2494,4036,6531,10568,17100,27669,44770,72440,117211,189652,306864 ⋆ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=0, a(1)=5. • a(n) = 6 * F(n) + F(n - 1) - 1, where F = A000045. - _ Bruno Berselli _ , Feb 20 2017 • a(n) = - 1 + (2 ^ (- 1 - n) * ((1 - t) ^ n * (- 11 + t) + (1 + t) ^ n * (11 + t))) / t where t=sqrt(5). • a(n) = 2 * a(n - 1) - a(n - 3) for n>2. (End) •

[A047436] • 5,6,13,14,21,22,29,30,37,38,45,46,53,54,61,62,69,70,77,78,85,86,93,94,101 ⋆ Numbers that are congruent to {5, 6} mod 8. • a(n) = 8 * n - a(n - 1) - 5, n > 1. - _ Vincenzo Librandi _ , Aug 06 2010 •

[A084381] • 5,6,13,32,69,130,221,348,517,734,1005,1336,1733,2202,2749,3380,4101,4918,5837,6864,8005,9266,10653,12172,13829 ⋆ a(n) = n^3 + 5. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jun 09 2016 •

[A266304] • 0,1,5,6,14,15,27,28,44,45,65,66,90,91,119,120,152,153,189,190,230,231,275,276,324 ⋆ Total number of OFF (white) cells after n iterations of the "Rule 15" elementary cellular automaton starting with a single ON (black) cell. • a(n) = n * (n + (- 1) ^ n + 2) / 2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. • a(n) = Sum _{ i=1..n } (n - i - 1) mod 2. - _ Wesley Ivan Hurt _ , Sep 15 2017 •

[A282466] • 5,6,14,48,216,1200,7920,60480,524160,5080320,54432000,638668800,8143027200,112086374400,1656387532800,26153487360000,439378587648000,7825123418112000,147254595231744000,2919482409811968000,60822550204416000000,1328364496464445440000 ⋆ a(n) = n*a(n-1) + n!, with n>0, a(0)=5. • a(n) = (n + 5) * n!. •

[A030533] • 1,1,5,6,15,19,35,44,69,85,121,146,195,231,295,344,425,489,589,670,791,891,1035,1156,1325 ⋆ Expansion of Molien series for 4-D extraspecial group 2^{1+2*2}. • a(n) = n * (2 * n ^ 2 - 9 * (- 1) ^ n + 13) / 24. [_ Bruno Berselli _ , Jan 31 2013] •

[A081283] • 0,1,1,5,6,16,20,40,50,85,105,161,196,280,336,456,540,705,825,1045,1210,1496,1716,2080,2366 ⋆ An interleaved sequence of pyramidal and polygonal numbers. • a(n) = (2 * n + 1 - (- 1) ^ n) * (2 * n + 5 - (- 1) ^ n) * (2 * n ^ 2 + 2 * (5 + (- 1) ^ n) * n + 27 - 11 * (- 1) ^ n) / 1536. - _ Luce ETIENNE _ , Mar 11 2015 •

[A041773] • 1,5,6,17,23,132,5303,26647,31950,90547,122497,703032,28243777,141921917,170165694,482253305,652418999,3744348300,150426350999,755876103295,906302454294,2568481011883,3474783466177,19942398342768,801170717176897 ⋆ Denominators of continued fraction convergents to sqrt(407). • a(n) = 5326 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A041054] • 5,6,17,23,247,270,787,1057,11357,12414,36185,48599,522175,570774,1663723,2234497,24008693,26243190,76495073,102738263,1103877703,1206615966,3517109635,4723725601,50754365645 ⋆ Numerators of continued fraction convergents to sqrt(33). • a(n) = 46 * a(n - 4) - a(n - 8). G.f.: - (x ^ 7 - 5 * x ^ 6 + 6 * x ^ 5 - 17 * x ^ 4 - 23 * x ^ 3 - 17 * x ^ 2 - 6 * x - 5) / (x ^ 8 - 46 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A041747] • 1,1,5,6,17,74,91,165,256,421,5308,5729,11037,16766,27803,127978,283759,411737,1930707,2342444,90943579,93286023,464087671,557373694,1578835059 ⋆ Denominators of continued fraction convergents to sqrt(393). • a(n) = 92874286 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A192727] • 0,0,0,0,1,1,5,6,18,24,57,81,169,250,482,732,1341,2073,3669,5742,9922,15664,26609,42273,70929 ⋆ a(n) = Fibonacci(n-2) + 2*a(n-2) - (n mod 2). • a(n) = Fibonacci(n - 2) + 2 * a(n - 2) - n mod 2 for all n >= 2, with a(0) = a(1) = 0. •

[A129722] • 0,0,1,1,5,6,19,25,65,90,210,300,654,954,1985,2939,5911,8850,17345,26195,50305,76500,144516,221016,411900 ⋆ Number of 0's in even position in all Fibonacci binary words of length n. A Fibonacci binary word is a binary word having no 00 subword. • a(2 * n + 1) = a(2 * n) + a(2 * n - 1) (n>=1). •

[A231181] • 1,1,5,6,20,27,75,110,275,429,1001,1637,3639,6172,13243,23104,48280,86090,176341,319792,645150,1185305,2363596,4386331,8669142 ⋆ Expansion of 1/(1 - x - 4*x^2 + 3*x^3 + 3*x^4 - x^5). • a(n) = a(n - 1) + 4 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + a(n - 5) for n>=0, with a(- 5)=1, a(- 4)=a(- 3)=a(- 2)=a(- 1)=0. •

[A060423] • 0,0,0,0,0,5,6,21,24,54,60,110,120,195,210,315,336,476,504,684,720,945,990,1265,1320 ⋆ Number of obtuse triangles made from vertices of a regular n-gon. • a(n) = n * (n - 1) * (n - 3) / 8 when n odd; n * (n - 2) * (n - 4) / 8 when n even. • a(n) = n * (2 * n - 3 - (- 1) ^ n) * (2 * n - 7 - (- 1) ^ n) / 32. - _ Wesley Ivan Hurt _ , Dec 31 2013 •

[A095308] • 1,1,5,6,21,28,84,121,331,507,1300,2093,5110,8568,20129,34885,79477,141494,314489,572264,1246784,2309385,4950751,9303411,19684692 ⋆ Number of walks of length n between two nodes at distance 3 in the cycle graph

C_7. • a(n)= 2 ^ n / 7 * Sum(r, 0, 6, Cos(6Pi * r / 7)Cos(2Pi * r / 7) ^ n) G.f.: x ^ 3 / ((- 1 + 2x)(- 1 - x + 2x ^ 2 + x ^ 3)) a(n)=a(n - 1) + 4a(n - 2) - 3a(n - 3) - 2a(n - 4) •

[A135301] • 1,5,6,22,23,59,60,124,125,225,226,370,371,567,568,824,825,1149,1150,1550,1551,2035,2036,2612,2613 ⋆ a(1)=1, a(n)=a(n-1)+n^0 if n odd, a(n)=a(n-1)+ n^2 if n is even. • a(1)=1, a(2)=5, a(3)=6, a(4)=22, a(5)=23, a(6)=59, a(7)=60, a(n)=a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a (n - 7). - _ Harvey P. Dale _ , Jul 16 2014 • a(n) = ((2 * n + 1) * (n ^ 2 + n + 3) + 3 * (n ^ 2 + n - 1) * (- 1) ^ n) / 12. - _ Luce ETIENNE _ , Jul 26 2014 •

[A192917] • 0,5,6,22,51,140,360,949,2478,6494,16995,44500,116496,304997,798486,2090470,5472915,14328284,37511928,98207509,257110590,673124270,1762262211,4613662372,12078724896 ⋆ Coefficient of x in the reduction by (x^2->x+1) of the polynomial C(n)*x^n, where C=A022095. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) = - 3 * a(n - 1) + a(n - 2) = 9 * (- 1) ^ (n + 1). - _ R. J. Mathar _ , May 08 2014 • a(n) = (2 ^ (- 1 - n) * (- 9 * (- 1) ^ n * 2 ^ (1 + n) - (3 - sqrt(5)) ^ n * (- 9 + sqrt(5)) + (3 + sqrt(5)) ^ n * (9 + sqrt(5)))) / 5. - _ Colin Barker _ , Oct 01 2016 •

[A042283] • 1,1,5,6,23,167,1359,2885,24439,173958,546313,720271,3427397,4147668,210810797,214958465,1070644657,1285603122,4927454023,3577778128 3,291149704287,618077189857,5235767223143,37268447751858,1170411104787 17 ⋆ Denominators of continued fraction convergents to sqrt(667). • a(n) = 2 14238194 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A160529] • 1,5,6,25,26,30,31,50,51,55,56,75,76,80,81,100,101,105,106,125,126,130,131,150,151 ⋆ a(1) = 1; for n>1, a(n) = a(n-1) + d1 + d2 where d1 = 4 if n is even. d1 = 1 if n is odd, d2 = 15 if n mod 4 = 0, d2 = 0 if n mod 4 != 0. • a(n) = 25 * floor(n / 4) + [0,1,5,6](n mod 4). • a(n) = (- 1 - 21 * (- 1) ^ n + (15 - i * 15) * (- i) ^ n + (15 + 15 * i) * i ^ n + 50 * n) / 8 where i=sqrt(- 1). - _ Colin Barker _ , Oct 16 2015 •

[A033042] • 0,1,5,6,25,26,30,31,125,126,130,131,150,151,155,156,625,626,630,631,650,651,655,656,750 ⋆ Sums of distinct powers of 5. • a(n) = Sum _{ i=0..m } d(i) * 5 ^ i, where Sum _{ i=0..m } d(i) * 2 ^ i is the base 2 representation of n. • a(2n) = 5 * a(n), a(2n + 1) = a(2n) + 1. •

[A249222] • 1,5,6,25,31,125,156,625,781,3125,3906,15625,19531,78125,97656,390625,488281,1953125,2441406,9765625,12207031,48828125,61035156,244140625,305175781 ⋆ Expansion of x*(1+5*x-5*x^3)/(1-6*x^2+5*x^4). • a(n) = 6 * a(n - 2) - 5 * a(n - 4). •

[A249221] • 1,5,6,28,34,158,192,892,1084,5036,6120,28432,34552,160520,195072,906256,1101328,5116496,6217824,28886464,35104288,163085792,198190080,920741824,1118931904 ⋆ Expansion of x*(1+5*x-2*x^3)/(1-6*x^2+2*x^4). • a(n) = 6 * a(n - 2) - 2 * a(n - 4). •

[A041011] • 0,1,1,5,6,29,35,169,204,985,1189,5741,6930,33461,40391,195025,235416,1136689,1372105,6625109,7997214,38613965,46611179,225058681,271669860 ⋆ Denominators of continued fraction convergents to sqrt(8). • a(n) = 6 * a(n - 2) - a(n - 4). Also: • a(2n) = a(2n - 1) + a(2n - 2), a(2n + 1)=4 * a(2n) + a(2n - 1). • a(n) = (1 / 4) * (3 - 2 * sqrt(2)) ^ (- 1 / 4) * (3 - 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 - 2 * sqrt(2)) ^ (1 / 2 * n) + (1 / 4) * (3 + 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 + 2 * sqrt(2)) ^ (1 / 2 * n) * (3 + 2 * sqrt(2)) ^ (- 1 / 4) - (1 / 4) * (- 1) ^ n * (3 + 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 + 2 * sqrt(2)) ^ (1 / 2 * n) * (3 + 2 * sqrt(2)) ^ (- 1 / 4) - (1 / 4) * (3 - 2 * sqrt(2)) ^ (- 1 / 4) * (- 1) ^ n * (3 - 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 - 2 * sqrt(2)) ^ (1 / 2 * n) + (3 / 16) * (3 + 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 + 2 * sqrt(2)) ^ (1 / 2 * n) * (3 + 2 * sqrt(2)) ^ (- 1 / 4) * sqrt(2) - (1 / 16) * (- 1) ^ n * (3 + 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 + 2 * sqrt(2)) ^ (1 / 2 * n) * (3 + 2 * sqrt(2)) ^ (- 1 / 4) * sqrt(2) - (3 / 16) * (3 - 2 * sqrt(2)) ^ (- 1 / 4) * sqrt(2) * (3 - 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 - 2 * sqrt(2)) ^ (1 / 2 * n) + (1 / 16) * (3 - 2 * sqrt(2)) ^ (- 1 / 4) * (- 1) ^ n * sqrt(2) * (3 - 2 * sqrt(2)) ^ ((1 / 4) * (- 1) ^ n) * (3 - 2 * sqrt(2)) ^ (1 / 2 * n). - _ Paolo P. Lava _ , Feb 19 2009 • a(n) = product { k = 1..floor((n - 1) / 2) } (4 + 4 * cos ^ 2(k * Pi / n)) for n >= 1. (End) • a(n) = ((- (- 1 - sqrt(2)) ^ n - 3 * (1 - sqrt(2)) ^ n + (- 1 + sqrt(2)) ^ n + 3 * (1 + sqrt(2)) ^ n)) / (8 * sqrt(2)). - _ Colin Barker _ , Mar 27 2016 •

[A152118] • 1,1,1,5,6,29,35,169,204,985,1189,5741,6930,33461,40391,195025,235416,1136689,1372105,6625109,7997214,38613965,46611179,225058681,271669860 ⋆ a(n) = product(4 +4*cos(k*Pi/n)^2, k=1..(n-1)/2). • a(n) = 6 * a(n - 2) - a(n - 4) for n>4. • a(n) = ((- (- 1 - sqrt(2)) ^ n - 3 * (1 - sqrt(2)) ^ n + (- 1 + sqrt(2)) ^ n + 3 * (1 + sqrt(2)) ^ n)) / (8 * sqrt(2)) for n>0. - _ Colin Barker _ , Mar 28 2016 •

[A041056] • 5,6,29,35,379,414,2035,2449,26525,28974,142421,171395,1856371,2027766,9967435,11995201,129919445,141914646,697578029,839492675,9092504779,9931997454,48820494595,58752492049 ⋆ Numerators of continued fraction convergents to sqrt(34). • a(n) = 70 * a(n - 4) - a(n - 8). G.f.: - (x ^ 7 - 5 * x ^ 6 + 6 * x ^ 5 - 29 * x ^ 4 - 35 * x ^ 3 - 29 * x ^ 2 - 6 * x - 5) / (x ^ 8 - 70 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A042643] • 1,5,6,29,64,477,541,4264,9069,40540,49609,288585,16787539,84226280,101013819,488281556,1077576931,8031320073,9108897004,71793599101,152696095206,682577979925,835274075131,4858948355580,282654278698771 ⋆ Denominators of continued fraction convergents to sqrt(851). • a(n) = 168371 48 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A166023] • 1,5,6,30,36,180,216,1080,1296,6480,7776,38880,46656,233280,279936,1399680,1679616,8398080,10077696,50388480,60466176,302330880,362797056,1813985280,2176782336 ⋆ a(n) = 6*a(n-2) for n > 2; a(1) = 1, a(2) = 5. • a(n) = 6 ^ (1 / 4 * (2 * n + 3 + (- 1) ^ n)) * (11 - (- 1) ^ n) / 72. •

[A273050] • 0,5,6,45,54,365,438,2925,3510,23405,28086,187245,224694,1497965,1797558,11983725,14380470,95869805,115043766,766958445,920350134,6135667565,7362801078,49085340525,58902408630 ⋆ Numbers n such that ror(n) XOR rol(n) = n, where ror(x)=A038572(x) is x rotated one binary place to the right, rol(x)=A006257(x) is x rotated one binary place to the left, and XOR is the binary exclusive-or operator. • a(n) = (- 11 + (- 1) ^ n + 2 ^ (- 1 / 2 + (3 * n) / 2) * (3 - 3 * (- 1) ^ n + 5 * sqrt(2) + 5 * (- 1) ^ n * sqrt(2))) / 14. • a(n) = 5 * (2 ^ (3 * n / 2) - 1) / 7 for n even. • a(n) = 3 * (2 ^ ((3 * n) / 2 - 1 / 2) - 2) / 7 for n odd. • a(n) = 9 * a(n - 2) - 8 * a(n - 4) for n>4. •

[A269908] • 1,5,6,50,51,167,168,388,389,745,746,1270,1271,1995,1996,2952,2953,4173,4174,5690,5691,7535,7536,9740,9741 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 1", based on the 5-celled von Neumann neighborhood. • a(n) = (3 + 9 * (- 1) ^ n - 2 * (1 + 12 * (- 1) ^ n) * n - 12 * (- 2 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) / 12. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 - 13 * n + 6) / 6 for n even. • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 11 * n - 3) / 6 for n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>6. •

[A041057] • 1,1,5,6,65,71,349,420,4549,4969,24425,29394,318365,347759,1709401,2057160,22281001,24338161,119633645,143971806,1559351705,1703323511,8372645749,10075969260,109132338349 ⋆ Denominators of continued fraction convergents to sqrt(34). • a(n) = 70 * a(n - 4) - a(n - 8). G.f.: - (x ^ 2 - x - 1) * (x ^ 4 + 6 * x ^ 2 + 1) / (x ^ 8 - 70 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A041058] • 5,6,65,71,775,846,9235,10081,110045,120126,1311305,1431431,15625615,17057046,186196075,203253121,2218727285,2421980406,26438531345,28860511751,315043648855,343904160606,3754085254915 ⋆ Numerators of continued fraction convergents to sqrt(35). • a(n) = 12 * a(n - 2) - a(n - 4). G.f.: (5 + 6 * x + 5 * x ^ 2 - x ^ 3) / (1 - 12 * x ^ 2 + x ^ 4). [_ Colin Barker _ , Apr 17 2012] •

[A041139] • 1,1,5,6,101,107,529,636,10705,11341,56069,67410,1134629,1202039,5942785,7144824,120259969,127404793,629879141,757283934,12746422085,13503706019,66761246161,80264952180,1351000481041 ⋆ Denominators of continued fraction convergents to sqrt(78). • a(n) = 106 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041257] • 1,1,5,6,137,143,709,852,19453,20305,100673,120978,2762189,2883167,14294857,17178024,392211385,409389409,2029769021,2439158430,55691254481,58130412911,288212906125,346343319036 ⋆ Denominators of continued fraction convergents to sqrt(140). • a(n) = 142 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 13 2013 •

[A041411] • 1,1,5,6,173,179,889,1068,30793,31861,158237,190098,5480981,5671079,28165297,33836376,975583825,1009420201,5013264629,6022684830,173648439869,179671124699,892332938665,1072004063364 ⋆ Denominators of continued fraction convergents to sqrt(220). • a(n) = 178 * a(n - 4) - a(n - 8). G.f.: - (x ^ 2 - x - 1) * (x ^ 4 + 6 * x ^ 2 + 1) / (x ^ 8 - 178 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A041601] • 1,1,5,6,209,215,1069,1284,44725,46009,228761,274770,9570941,9845711,48953785,58799496,2048136649,2106936145,10475881229,12582817374,438291671945,450874489319,2241789629221,2692664118540,93792369659581 ⋆ Denominators of continued fraction convergents to sqrt(318). • a(n) = 214 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A041827] • 1,1,5,6,245,251,1249,1500,61249,62749,312245,374994,15312005,15686999,78060001,93747000,3827940001,3921687001,19514688005,23436375006,956969688245,980406063251,4878593941249,5859000004500,239238594121249 ⋆ Denominators of continued fraction convergents to sqrt(434). • a(n) = 250 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A042089] • 1,1,5,6,281,287,1429,1716,80365,82081,408689,490770,22984109,23474879,116883625,140358504,6573374809,6713733313,33428308061,40142041374,1879962211265,1920104252639,9560379221821,11480483474460,537662619046981 ⋆ Denominators of continued fraction convergents to sqrt(568). • a(n) = 286 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A047479] • 0,1,5,7,8,9,13,15,16,17,21,23,24,25,29,31,32,33,37,39,40,41,45,47,48 ⋆ Numbers that are congruent to {0, 1, 5, 7} mod 8. • a(n) = (- 7 - (- 1) ^ n + (2 - i) * (- i) ^ n + (2 + i) * i ^ n + 8 * n) / 4 where i=sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Vincenzo Librandi _ , May 16 2012 •

[A080720] • 5,7,8,10,11,12,13,15,18,19,21,24,27,30,31,33,34,35,36,39,40,42,43,44,45 ⋆ a(0) = 5; for n>0, a(n) is taken to be the smallest positive integer greater than a(n-1) which is consistent with the condition "n is a member of the sequence if and only if a(n) is a multiple of 3". • a(a(n)) = 3 * (n + 4). •

[A047384] • 0,1,5,7,8,12,14,15,19,21,22,26,28,29,33,35,36,40,42,43,47,49,50,54,56 ⋆ Numbers that are congruent to {0, 1, 5} mod 7. • a(n) = Sum _{ i=0..n - 2 } 2 ^ (- i mod 3). - _ Wesley Ivan Hurt _ , Jul 08 2014 • a(n) = 3 + floor((n - 2) / 3) + 2 * floor((n - 4) / 3) + 4 * floor(n / 3). - _ Wesley Ivan Hurt _ , Jul 13 2014 • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 24 + 6 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 2, a(3k - 1) = 7k - 6, a(3k - 2) = 7k - 7. (End) •

[A047477] • 0,5,7,8,13,15,16,21,23,24,29,31,32,37,39,40,45,47,48,53,55,56,61,63,64 ⋆ Numbers that are congruent to {0, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , May 16 2012 • a(n) = (24 * n - 12 + 3 * cos(2 * n * Pi / 3) - 7 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3 * k) = 8 * k - 1, a(3 * k - 1) = 8 * k - 3, a(3 * k - 2) = 8 * k - 8. (End) •

[A160811] • 5,7,9,10,11,13,14,15,16,17,18,19,20,21,22,23,25,26,27,28,29,30,31,32,33 ⋆ Numbers not dividing 24. • a(n) = n + 8 for n > 16. [_ Charles R Gr

eathouse IV _ , Oct 26 2011] •

[A184110] • 5,7,9,10,12,13,15,17,18,19,21,22,24,25,27,28,29,31,32,33,35,36,37,39,40 ★ n + floor(3*sqrt(n+1)). • a(n) = n + floor(3 * sqrt(n + 1)) •

[A080353] • 5,7,9,11,12,14,15,17,18,20,21,22,24,25,26,28,29,30,32,33,34,35,37,38,39 ★ a(1)=5; for n>1, a(n)=a(n-1)+1 if n is already in the sequence, a(n)=a(n-1)+2 otherwise. • a(n) = n + floor(sqrt(6 * n)) + O(1). •

[A184108] • 1,5,7,9,11,12,14,15,17,19,20,21,23,24,26,27,29,30,31,33,34,35,37,38,39 ★ n + floor(3*sqrt(n-1)); complement of A184109. • a(n) = n + floor(3 * sqrt(n - 1)) •

[A279289] • 5,7,9,11,13,14,15,16,17,19,20,21,22,23,25,26,27,28,29,31,32,33,34,35,36 ★ Numbers n such that phi(n) > tau(n). • a(n) = n + 11 for n >= 20. •

[A267872] • 1,1,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49 ★ Number of ON (black) cells in the n-th iteration of the "Rule 237" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 * a(n - 1) - a(n - 2) for n>3. •

[A020735] • 5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53 ★ Odd numbers >= 5. • a(n) = 2 * n + 3. •

[A086398] • 1,5,7,9,11,15,17,21,23,27,29,33,35,37,39,43,45,49,51,53,55,59,61,65,67 ★ a(1)=1; a(n)=a(n-1)+2 if n is in the sequence; a(n)=a(n-1)+2 if n and (n-1) are not in the sequence; a(n)=a(n-1)+4 if n is not in the sequence but (n-1) is in the sequence. • a(n)=(1 + sqrt(3)) * n + O(1) •

[A283771] • 5,7,9,11,18,20,22,24,31,33,35,37,44,46,48,50,57,59,61,63,68,70,72,74,76 ★ Numbers k such that L(k) = 2 mod 3, where L = A000201 = lower Wythoff sequence. • a(n + 1) - a(n) is in { 2,5,7 } for every n. •

[A188793] • 1,5,7,9,11,29,31,89,91,269,271,809,811,2429,2431,7289,7291,21869,21871,65609,65611,196829,196831,590489,590491 ★ Start with 1 and 5, then repeatedly adjoin the smallest number that is greater than the last term and not equal to the sum of a subset of the existing terms. • a(2h) = 10 * 3 ^ (h - 2) - 1 for h >= 2. • a(2h + 1) = 10 * 3 ^ (h - 2) + 1 for h >= 2. (End) •

[A184102] • 5,7,9,12,13,15,17,19,21,22,24,25,27,28,30,32,33,34,36,37,39,40,42,43,45 ★ n+floor(4*sqrt(n)); complement of A184103. • a(n)=n + floor(4 * sqrt(n)). •

[A047478] • 1,5,7,9,13,15,17,21,23,25,29,31,33,37,39,41,45,47,49,53,55,57,61,63,65 ★ Numbers that are congruent to {1, 5, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , May 16 2012 • a(n) = (24 * n - 9 - 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 3, a(3k - 2) = 8k - 7. (End) •

[A079523] • 1,5,7,9,13,17,21,23,25,29,31,33,37,39,41,45,49,53,55,57,61,65,69,71,73 ★ Utterly odd numbers: numbers whose binary representation ends in an odd number of ones. • a(n) is asymptotic to 3n. •

[A097280] • 5,7,9,13,19,29,45,71,113,181,291,469,757,1223,1977,3197,5171,8365,13533,21895,35425,57317,92739,150053,242789 ★ Perimeter of integer triangle (A001611(n), A001611(n+1), A001611(n+2)). • a(n) = 2 * a(n - 1) - a(n - 3). •

[A278579] • 5,7,10,11,14,15,17,19,20,21,22,28,30,33,34,37,38,40,42,43,44,45,51,53,56 ★ Quadratic non-residues of 23: numbers n such that Jacobi(n,23) = -1. • a(n + 11) = a(n) + 23. •

[A123122] • 0,5,7,10,12,14,15,17,19,20,21,22,24,25,26,27,28,29,30,31,32,33,34,35,36 ★ Numbers of the form 5i + 7j for some nonnegative integers i and j. • a(n) = n + 11 for n > 12. - _ Charles R Greathouse IV _ , Oct 26 2011 •

[A256680] • 0,1,5,7,10,12,15,17,20,22,25,27,30,32,35,37,40,42,45,47,50,52,55,57,60 ★ Minimal most likely sum for a roll of n 4-sided dice. • a(n) = floor(5 * n / 2), for n>=2; a(0)=0 and a(1)=1. • a(n) = (- 1 + (- 1) ^ n + 10 * n) / 4 for n>1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A179196] • 1,5,7,10,13,15,17,19,20,25,26,28,31,35,36,39,41,42,49,50,51,52,53,56,57 ★ Number of primes up to the n-th Ramanujan prime: A000720(A104272(n)). • a(n) = rho(n) in the paper by Sondow, Nicholson, and Noe. •

[A089061] • 5,7,10,13,17,22,29,39,54,77,113,170,261,407,642,1021,1633,2622,4221,6807,10990,17757,28705,46418,75077 ★ a(0) = 5, a(1) = 7; for n>1, a(n) = a(n-1)+a(n-2)-(2n-2). • a(n) = Fibonacci(n + 1) + 2n + 4. - _ Ralf Stephan _ , Feb 24 2004 •

[A022441] • 1,5,7,10,14,17,20,23,25,28,31,34,37,40,43,46,50,53,56,59,62,65,68,71,74 ★ a(n) = c(n) + c(n-1) where c (A055562) is the sequence of numbers not in a. • a(n) + a(n - 1) = 3n + 2 - (floor(log _ 2 n) mod 2) for n >= 1 - _ Jeffrey Shallit _ , Jun 08, 2000. •

[A070875] • 5,7,10,14,20,28,40,56,80,112,160,224,320,448,640,896,1280,1792,2560,3584,5120,7168,10240,14336,20480 ★ Binary expansion is 1x100...0 where x = 0 or 1. • a(n) = (6 - (- 1) ^ n) * 2 ^ ((2 * n + (- 1) ^ n - 1) / 4). Therefore: a(n) = 5 * 2 ^ (n / 2) for n even, otherwise a(n) = 7 * 2 ^ ((n - 1) / 2). • a(n) = 2 * a(n - 2) for n>1. (End) • a(n) = sqrt(2 * a(n - 1) - (- 2) ^ (n - 1)). - _ Richard R. Forberg _ , Sep 06 2013 • a(n + 3) = a(n + 2) * a(n + 1) / a(n). - _ Richard R. Forberg _ , Sep 06 2013 • a(n) = 2 ^ ((n - 3) / 2) * (5 * sqrt(2) * (1 + (- 1) ^ n) + 7 * (1 - (- 1) ^ n)). (End) •

[A091522] • 5,7,10,14,20,28,40,57,81,115,163,231,327,463,655,927,1311,1854,2622,3708,5244,7416,10488,14832,20976 ★ Graham-Pollak sequence with initial term 5. • a(n) = floor(sqrt(2) * (a(n - 1) + 1 / 2)). •

[A020711] • 5,7,10,14,20,29,42,61,89,130,190,278,407,596,873,1279,1874,2746,4024,5897,8642,12665,18561,27202,39866 ★ Pisot sequences E(5,7), P(5,7). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A048584] • 5,7,10,15,23,36,57,91,146,235,379,612,989,1599,2586,4183,6767,10948,17713,28659,46370,75027,121395,196420,317813 ★ Pisot sequence L(5,7). • a(n) = Fib(n + 4) + 2. a(n) = 2a(n - 1) - a(n - 3). • a(n)=2 + (3 / 2) * [1 / 2 + (1 / 2) * sqrt(5)] ^ n + (7 / 10) * [1 / 2 + (1 / 2) * sqrt(5)] ^ n * sqrt(5) - (7 / 10) * sqrt(5) * [1 / 2 - (1 / 2) * sqrt(5)] ^ n + (3 / 2) * [1 / 2 - (1 / 2) * sqrt(5)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 10 2008 •

[A007310] • 1,5,7,11,13,17,19,23,25,29,31,35,37,41,43,47,49,53,55,59,61,65,67,71,73 ★ Numbers congruent to 1 or 5 mod 6. • a(n) = (6 * n + (- 1) ^ n - 3) / 2. - Antonio Esposito (antonio.b.esposito(AT)italtel.it), Jan 18 2002 • a(n) = a(n - 1) + a(n - 2) - a(n - 3), n >= 4. - _ Roger L. Bagula _ • a(n) = 3 * n - 1 - (n mod 2). - _ Zak Seidov _ , Jan 18 2006 • a(1) = 1 then alternatively add 4 and 2. a(1) = 1, a(n) = a(n - 1) + 3 + (- 1) ^ n. - _ Zak Seidov _ , Mar 25 2006 • a(n) = 6 * floor(n / 2) - 1 + 2 * (n mod 2). - _ Reinhard Zumkeller _ , Oct 02 2008 • a(n) = 6 * n - a(n - 1) - 6 for n>1, a(1) = 1. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A101635] • 5,7,11,13,17,19,23,31,41,43,47,61,71,73,83,97,101,103,107,109,113,127,131,139,149 ★ Increasing primes of alternating congruences modulo 6. • a(2n) == 1 (mod 6) & a(2n + 1) == - 1 (mod 6). •

[A037141] • 5,7,11,14,18,22,27,33,41,52,68,92,129,187,279,426,662,1042,1655,2645,4245,6832,11016,17784,28733 ★ Convolution of natural numbers n >= 1 with Fibonacci numbers F(k), for k >= -5, with F(-n)=(-1)^(n+1)*F(n);. • a(n) = F(n - 1) + (4 + 3 * n); G.f.: (5 - 8 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2) •

[A075317] • 1,5,7,11,15,17,21,23,27,31,33,37,41,43,47,49,53,57,59,63,65,69,73,75,79 ★ Pair the odd numbers such that the k-th pair is (r, r+2k) where r is the smallest odd number not included earlier: (1,3),(5,9),(7,13),(11,19),(15,25),(17,29),(21,3 This is the sequence of the first member of pairs. • a(n) = 2 * floor(n * phi) - 1, where phi=(1 + sqrt(5)) / 2. - _ Michel Dekking _ , Sep 05 2016 •

[A046133] • 5,7,11,17,19,29,31,41,47,59,61,67,71,89,97,101,127,137,139,151,167,179,181,199,211 ★ p and p+12 are both prime. • a(n) >> n log ^ 2 n. \\ _ Charles R Greathouse IV _ , Apr 28 2015 •

[A027690] • 5,7,11,17,25,35,47,61,77,95,115,137,161,187,215,245,277,311,347,385,425,467,511,557,605 ★ a(n) = n^2 + n + 5. • a(n) = 2 * n + a(n - 1) for n >0, a(0)=5. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A218394] • 1,5,7,11,25,27,31,35,37,51,55,57,61,125,127,131,135,137,151,155,157,161,175,177,181 ★ Numbers such that sum(i<=n) binomial(n,i)*binomial(2*n-2*i, n-i) is not divisible by 5. • a(n)=2 * n - 1 + 2 * sum { i=1,n } 5 ^ (i - 1) * floor((2 * n - 1) / 3 ^ i). •

[A047382] • 0,5,7,12,14,19,21,26,28,33,35,40,42,47,49,54,56,61,63,68,70,75,77,82,84 ★ Numbers that are congruent to {0, 5} mod 7. • a(n) = 7 * n - a(n - 1) - 9 for n>1, with a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (14 * n + 3 * (- 1) ^ n - 11) / 4. • a(n) = ceiling((7 / 3) * ceiling(3 * n / 2)). - _ Clark Kimberling _ , Jul 04 2012 •

[A263536] • 5,7,12,17,19,24,29,31,36,41,43,48,53,55,60,65,67,72,77,79,84,89,91,96,101 ★ Row sum of an equilateral triangle tiled with the 3,4,5 Pythagorean triple. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. •

[A047550] • 5,7,13,15,21,23,29,31,37,39,45,47,53,55,61,63,69,71,77,79,85,87,93,95,101 ★ Numbers that are congruent to {5, 7} mod 8. • a(n) = 8 * n - a(n - 1) - 4 (with a(1)=5). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 4 * n - (- 1) ^ n. - _ Rolf Pleisch _ , Nov 02 2010 • a(1)=5, a(2)=7, a(3)=13; for n>3, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Jun 04 2012 •

[A236204] • 1,5,7,13,17,19,23,25,29,31,35,37,41,43,47,49,53,59,61,65,67,71,73,79,83 ★ Numbers not divisible by 2, 3 or 11. • a(n) = a(n - 1) + a(n - 20) - a(n - 21). - _ Charles R Greathouse IV _ , Mar 26 2014 •

[A108719] • 5,7,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97,101,103,107 ★ Primes which can be partitioned into a sum of distinct primes in more than one way. • a(n) = prime(n + 3) for n > 2. [_ Charles R Greathouse IV _ , Feb 09 2012] •

[A178218] • 1,5,7,13,17,25,31,41,49,61,71,85,97,113,127,145,161,181,199,221,241,265,287,313,337 ★ Numbers of the form 2k^2-2k+1 or 2k^2-1. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: x * (1 + 3 * x - 3 * x ^ 2 + x ^ 3) / ((1 - x) ^ 3 * (1 + x)). [_ Colin Barker _ , Apr 04 2012] • a(n) = (2n(n + 2) + 3(- 1) ^ n + 1) / 4. [_ Bruno Berselli _ , Apr 04 2012] • a(1)=1, a(n) = n * (n + 1) - a(n - 1). [_ Alex Ratushnyak _ , Aug 03 2012] •

[A117249] • 5,7,13,19,37,43,61,71,89,113,131,163,181,193,223,251,281,293,337,359,373,409,433,463,521 ★ Prime numbers n for which the number of prime numbers smaller than n is also a prime number. • a(n) = prime(1 + prime(n)). - _ T. D. Noe _ , Apr 05 2011 •

[A022319] • 1,5,7,13,21,35,57,93,151,245,397,643,1041,1685,2727,4413,7141,11555,18697,30253,48951,79205,128157,207363,335521 ★ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=1, a(1)=5. • a(n) = Fibonacci(n) + Fibonacci(n + 6) - 1, n>= - 2 - _ Zerinvary Lajos _ , Feb 01 2008 •

[A155757] • 5,7,13,25,45,75,117,173,245,335,445,577,733,915,1125,1365,1637,1943,2285,2665,3085,3547,4053,4605,5205 ★ (n^3 - n + 15)/3. • a(n)=n(n - 1) + a(n - 1), with a(1)=5. •

[A027674] • 1,1,1,1,1,5,7,13,25,49,89,169,319,601,1129,2129,4009,7549,14215,26773,50417,94945,178801,336721,634111 ★ Numerical distance between m-th and (m+n)-th spheres in loxodromic sequence of spheres in which each 5 consecutive spheres are in mutual contact. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5). - corrected by _ Harvey P. Dale _ , Apr 12 2013 •

[A168609] • 5,7,13,31,85,247,733,2191,6565,19687,59053,177151,531445,1594327,4782973,14348911,43046725,129140167,387420493,1162261471,3486784405,10460353207,31381059613,94143178831,282429536485 ★ a(n) = 3^n + 4. • a(n) = 3 * a(n - 1) - 8, with n>0, a(0)=5. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n >1. - _ Vincenzo Librandi _ , May 13 2014 •

[A105638] • 0,1,5,7,14,17,27,31,44,49,65,71,90,97,119,127,152,161,189,199,230,241,275,287,324 ★ Maximum number of intersections in self-intersecting n-gon. • a(n) = n(n - 3) / 2 if n odd, n(n - 4) / 2 + 1 if n even. • a(n) = a(n - 1) + 2a(n - 2) - 2a(n - 3) - a(n - 4) + a(n - 5). •

[A079360] • 1,5,7,15,19,35,43,75,91,155,187,315,379,635,763,1275,1531,2555,3067,5115,6139,10235,12283,20475,24571 ⋆ Sequence of sums of alternating increasing powers of 2. • a(2n)=6 * 2 ^ n - 5, a(2n - 1)=5 * 2 ^ n - 5. - _ Benoit Cloitre _ , Feb 16 2003 • a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3). G.f.: (1 + 4 * x) / ((1 - x) * (1 - 2 * x ^ 2)). [_ Colin Barker _ , Sep 19 2012] •

[A279875] • 1,1,5,7,16,23,84,125,257,383,1344,2015,4096,6143,21504,32255,65536,98303,344064,516095,1048576,1572863,5505024,8257535,16777216 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 211", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 2) + 16 * a(n - 4) - 16 * a(n - 6) for n>10. •

[A092242] • 5,7,17,19,29,31,41,43,53,55,65,67,77,79,89,91,101,103,113,115,125,127,137,139,149 ⋆ Numbers that are congruent to {5, 7} mod 12. • a(n) = 12 * n - a(n - 1) - 12 (with a(1)=5). - _ Vincenzo Librandi _ , Nov 16 2010 • a(n) = 6 * n - 3 - 2 * (- 1) ^ n. •

[A048700] • 1,5,7,17,21,27,31,65,73,85,93,99,107,119,127,257,273,297,313,325,341,365,381,387,403 ⋆ Binary palindromes of odd length (written in base 10). • a(n) = (2 ^ (floor _ log _ 2(n))) * n + sum('bit _ i(n, i) * (2 ^ (floor _ log _ 2(n) - i)))', 'i'=1..floor _ log _ 2(n)); •

[A164120] • 5,7,17,21,41,49,89,105,185,217,377,441,761,889,1529,1785,3065,3577,6137,7161,12281,14329,24569,28665,49145 ⋆ Partial sums of A162396. • a(n) = 2 * a(n - 2) + 7 for n > 2; a(1) = 5, a(2) = 7. • a(n) = (19 - 5 * (- 1) ^ n) * 2 ^ ((2 * n - 1 + (- 1) ^ n) / 4) / 2 - 7. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3). - _ G. C. Greubel _ , Sep 12 2017 •

[A214345] • 5,7,17,23,37,47,65,79,101,119,145,167,197,223,257,287,325,359,401,439,485,527,577,623,677 ⋆ Interleaved reading of A073577 and A053755. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (2 * n * (n + 4) + 3 * (- 1) ^ n + 7) / 2. •

[A290471] • 1,5,7,17,31,52,99,169,301,536,947,1698,3043,5482,9919,17993,32743,59713,109099,199634,365719,670605,1230547,2259286,4149841 ⋆ Number of minimal edge covers in the n-wheel graph. • a(n) = a(n - 1) + 3 * a(n - 2) + a(n - 3) - 5 * a(n - 4) - 5 * a(n - 5) + 4 * a(n - 7) + 3 * a(n - 8) + a(n - 9) for n>10. •

[A166977] • 0,1,5,7,17,31,65,127,257,511,1025,2047,4097,8191,16385,32767,65537,131071,262145,524287,1048577,2097151,4194305,8388607,16777217 ⋆ Jacobsthal-Lucas numbers A014551, except a(0) = 0. • a(n) = a(n - 1) + 2 * a(n - 2), n >2. • a(n) = (- 1) ^ n + 2 ^ n for n>0. - _ Colin Barker _ , Jun 06 2012 •

[A153192] • 5,7,18,22,39,45,68,76,105,115,150,162,203,217,264,280,333,351,410,430,495,517,588,612,689 ⋆ Numbers such that the numerator of floor(sqrt(n))/n, when reduced to its lowest terms, is equal to 2. • a(n) = (2 * n + 3) * (2 * n - (- 1) ^ n + 1) / 4. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A162268] • 5,7,19,45,109,263,635,1533,3701,8935,21571,52077,125725,303527,732779,1769085,4270949,10310983,24892915,60096813,145086541,350269895,845626331,2041522557,4928671445 ⋆ a(n) = ((5+sqrt(2))*(1+sqrt(2))^n + (5-sqrt(2))*(1-sqrt(2))^n)/2. • a(n) = 2 * a(n - 1) + a(n - 2) for n > 1; a(0) = 5, a(1) = 7. • a(n) = (5 / 2) * ((1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n) + (1 / 2) * sqrt(2) * ((1 + sqrt(2)) ^ n - (1 - sqrt(2)) ^ n), with n >= 0. - _ Paolo P. Lava _ , Jul 15 2009 •

[A258282] • 1,1,5,7,20,31,75,118,266,401,841,1345,2581,4023,7758,11932,21543,33941,59099,91816,159059,242955,407523,634827,1032202 ⋆ Number of partitions of 4 copies of n into distinct parts. • a(n) = 1 / 4! * [(x * y * z * u) ^ n] Product _{ j>0 } (1 + x ^ j + y ^ j + z ^ j + u ^ j). •

[A192422] • 0,1,1,5,7,20,35,83,161,355,720,1541,3185,6733,14027,29500,61663,129403,270865,567911,1189440,2492905,5222449,10943813,22928815 ⋆ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = n * Sum _{ i=0..(n - 1) / 2 } ((binomial(n - i - 1,i)) / (n - 2 * i) * f(n - 2 * i)), where f(n) - Fibonacci numbers (A000045). - _ Vladimir Kruchinin _ , Mar 20 2016 •

[A097038] • 0,1,1,5,7,21,35,85,155,341,651,1365,2667,5461,10795,21845,43435,87381,174251,349525,698027,1398101,2794155,5592405,11180715 ⋆ A Jacobsthal variant. • a(n) = 2 * 2 ^ n / 3 + (- 1) ^ n / 3 - 2 ^ (n / 2) * (1 + (- 1) ^ n) / 2; • a(n) = sum { k=0..floor((n + 1) / 2), binomial(n - k + 1, k - 1)2 ^ k } ; •

[A049114] • 1,1,5,7,21,37,89,173,383,777,1665,3441,7277,15159,31885,66645,139865,292757,613823,1285585,2694433,5644609,11828501,24782311,51928773 ⋆ 2-ranks of difference sets constructed from Glynn type II hyperovals. • a(n + 1) = a(n) + 3 * a(n - 1) - a(n - 2) - a(n - 3) + 1. •

[A036498] • 0,5,7,22,26,51,57,92,100,145,155,210,222,287,301,376,392,477,495,590,610,715,737,852,876 ⋆ Numbers of the form m*(6*m-1) and m*(6*m+1), where m is an integer. • a(n) = n(n + 1) / 6 for n=0 or 5 (mod 6). • a(n) = 1 / 8 * (- 1 + (- 1) ^ n + 2 * n) * (- 3 + (- 1) ^ n + 6 * n) (see MATHEMATICA code). • a(1)=0, a(2)=5, a(3)=7, a(4)=22, a(5)=26, a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 13 2012 •

[A167936] • 0,1,1,5,7,23,37,101,175,431,781,1805,3367,7463,14197,30581,58975,124511,242461,504605,989527,2038103,4017157,8211461,16245775 ⋆ 2^n - A108411(n). • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3). •

[A077242] • 5,7,23,37,133,215,775,1253,4517,7303,26327,42565,153445,248087,894343,1445957,5212613,8427655,30381335,49119973,177075397,286292183,1032071047,1668633125,6015350885 ⋆ Combined Diophantine Chebyshev sequences A077240 and A077239. • a(n) = 6 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Feb 18 2014 • a(n) = ((6 - 5 * sqrt(2)) * (1 - sqrt(2)) ^ n - (- 1 - sqrt(2)) ^ n * (- 4 + sqrt(2)) + 4 * (- 1 + sqrt(2)) ^ n + sqrt(2) * (- 1 + sqrt(2)) ^ n + 6 * (1 + sqrt(2)) ^ n + 5 * sqrt(2) * (1 + sqrt(2)) ^ n) / 4. - _ Colin Barker _ , Mar 27 2016 •

[A100095] • 0,1,1,5,7,25,41,125,225,625,1195,3125,6227,15625,32059,78125,163727,390625,831505,1953125,4206145,9765625,21215481,48828125,106782837 ⋆ An inverse Chebyshev transform of the Fibonacci numbers. • a(n) = sum(k=0..floor(n / 2), binomial(n, k)Fib(n - 2k)). • a(n) = sum(j=0..(n - 1) / 2, 4 ^ (j) * binomial((n - 1) / 2,j)). - _ Vladimir Kruchinin _ , May 31 2014 • a(2 * n) = 5 ^ n / sqrt(5) - 2 ^ n * (2 * n - 1)!! * hypergeom([1, n + 1 / 2], [n + 1], 4 / 5) / (5 * n!), a(2 * n + 1) = 5 ^ n. - _ Vladimir Reshetnikov _ , Oct 13 2016 •

[A104683] • 1,1,5,7,29,41,169,239,985,1393,5741,8119,33461,47321,195025,275807,1136689,1607521,6625109,9369319,38613965,54608393,225058681,318281039,1311738121 ⋆ Interlaces "2*n^2 - 1 is a square" with NSW numbers. • a(n) = ((1 + 2 * sqrt(2) + (- 1) ^ n) * (1 + sqrt(2)) ^ n - (1 - 2 * sqrt(2) + (- 1) ^ n) * (1 - sqrt(2)) ^ n) / (4 * sqrt(2)). [_ Bruno Berselli _ , Apr 04 2012] •

[A243019] • 1,1,5,7,33,51,233,379,1697,2851,12585,21627,94449,165075,714873,1266027,5445441,9746883,41687369,75275227,320420753,582881971,2471008281,4523575371,19108837601 ⋆ Expansion of -(2*x*sqrt(1-8*x^2)-2*x) / (16*x^3+sqrt(1-8*x^2)*(4*x^2+2*x-1)-8*x^2-2*x+1). • a(n) = sum(i=0..floor(n / 2), 2 ^ i * binomial(n,i)). •

[A154148] • 5,7,40,50,237,295,1384,1722,8069,10039,47032,58514,274125,341047,1597720,1987770,9312197,11585575,54275464,67525682 ⋆ Indices n such that 21 plus the n-th triangular number is a perfect square. • a(n)= + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A167205] • 1,1,5,7,41,61,365,547,3281,4921,29525,44287,265721,398581,2391485,3587227,21523361,32285041,193710245,290565367,1743392201,2615088301,15690529805,23535794707,141214768241 ⋆ a(n) = (3^n+1)/(3-(-1)^n). • a(n) = 10 * a(n - 2) - 9 * a(n - 4). • a(n) = numerator((1 / 4) ^ n + (3 / 4) ^ n), n > 0. •

[A234040] • 1,1,5,7,42,66,429,715,4862,8398,58786,104006,742900,1337220,9694845,17678835,129644790,238819350,1767263190,3282060210,24466267020,45741281820,343059613650,644952073662,4861946401452 ⋆ a(n) = binomial(2*(n+1),n) * gcd(n,2)/(2*(n+1)). • a(n) = binomial(2 * (n + 1),n) * gcd(n,2) / (2 * (n + 1)) for n >= 0. •

[A100832] • 1,5,8,9,12,13,16,17,20,21,24,25,28,29,32,33,36,37,40,41,44,45,48,49,52 ⋆ Amenable numbers: n such that there exists a multiset of integers (s(1), ..., s(n)) whose size, sum and product are all n. • a(n)=a(n - 1) + a(n - 2) - a(n - 3), n>4. G.f.: x * (1 + 3 * x) * (1 + x - x ^ 2) / (1 - x - x ^ 2 + x ^ 3). [Colin Barker, Jan 26 2012] •

[A047616] • 0,1,5,8,9,13,16,17,21,24,25,29,32,33,37,40,41,45,48,49,53,56,57,61,64 ⋆ Numbers that are congruent to {0, 1, 5} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 30 + 3 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 3, a(3k - 1) = 8k - 7, a(3k - 2) = 8k - 8. (End) •

[A164682] • 5,8,10,16,20,32,40,64,80,128,160,256,320,512,640,1024,1280,2048,2560,4096,5120,8192,10240,16384,20480 ⋆ a(n) = 2*a(n-2) for n > 2; a(1) = 5, a(2) = 8. • a(n) = (9 - (- 1) ^ n) * 2 ^ (1 / 4 * (2 * n - 5 + (- 1) ^ n)). •

[A001954] • 1,5,8,11,15,18,22,25,29,32,35,39,42,46,49,52,56,59,63,66,69,73,76,80,83 ⋆ Wythoff game. • a(n) = floor[(n + 1 / 2) * (2 + sqrt(2))]. •

[A079896] • 5,8,12,13,17,20,21,24,28,29,32,33,37,40,41,44,45,48,52,53,56,57,60,61,65 ⋆ Discriminants of indefinite binary quadratic forms. • a(2 * k ^ 2 + 2 * k) = 4 * (k + 1) ^ 2 + 1 for k >= 0. - _ Gheorghe Coserea _ , Nov 07 2016 • a(2 * k ^ 2 + 4 * k + 1 + (k + 1) * (- 1) ^ k) = (2 * k + 3) * (2 * k + 3 + (- 1) ^ k) for k >= 0. - _ Bruno Berselli _ , Nov 10 2016 •

[A214858] • 5,8,12,15,19,22,26,29,32,36,39,43,46,49,53,56,60,63,67,70,73,77,80,84,87 ⋆ Natural numbers missing from A214857. • a(n + 1) - a(n) = 3 or 4. •

[A047383] • 1,5,8,12,15,19,22,26,29,33,36,40,43,47,50,54,57,61,64,68,71,75,78,82,85 ⋆ Numbers that are congruent to {1, 5} mod 7. • a(n) = Ceiling[(7n + 2) / 2]. • a(n) = 7 * n - a(n - 1) - 8 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = (1 / 4) * [(- 1) ^ n + 14 * n - 9], with n>=1. • a(n) = - 2 + Sum _{ k=1..n } { (1 / 2) * [7 + (- 1) ^ k] } . (End) • a(1)=1, a(2)=5, a(3)=8, a(n)=a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Dec 24 2012 • a(n) = 4n - floor((n - 1) / 2) - 3. a(2n - 1) = 7n - 6. a(2n) = 7n - 2. - _ Wesley Ivan Hurt _ , Nov 10 2013 •

[A247060] • 1,5,8,12,16,17,21,24,28,32,33,37,40,44,48,49,53,56,60,64,65,69,72,76,80 ⋆ Dynamic Betting Game D(n,4,1). • a(n) = floor(8 * n / 5) + 2 * floor(4 * n / 5). • a(n) = a(n - 1) + a(n - 5) - a(n - 6). - _ Colin Barker _ , Sep 11 2014 •

[A001043] • 5,8,12,18,24,30,36,42,52,60,68,78,84,90,100,112,120,128,138,144,152,162,172,186,198 ⋆ Numbers that are the sum of 2 successive primes. • a(n) = prime(n) + prime(n + 1). •

[A020749] • 5,8,12,18,27,40,59,87,128,188,276,405,594,871,1277,1872,2744,4022,5895,8640,12663,18559,27200,39864,58424 ⋆ Pisot sequence T(5,8), a(n) = floor(a(n-1)^2/a(n-2)). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A220885] • 5,8,12,19,28,40,56,77,105,142,191,256,342,456,607,807,1072,1423,1888,2504,3320,4401,5833,7730,10243 ⋆ a(3)=5, a(4)=8, a(5)=12; thereafter a(n) = a(n-1) + A000931(n+7). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) for n>8. G.f.: x ^ 3 * (x ^ 5 + 2 * x ^ 4 - x ^ 3 - x ^ 2 + 3 * x + 5) / ((x - 1) * (x ^ 3 + x ^ 2 - 1)). [_ Colin Barker _ , Jan 04 2013] •

[A047615] • 0,5,8,13,16,21,24,29,32,37,40,45,48,53,56,61,64,69,72,77,80,85,88,93,96 ⋆ Numbers that are congruent to {0, 5} mod 8. • a(n) = 8 * n - a(n - 1)

- 11 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 06 2010 ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ● a(n) = (8n + 1 - (- 1) ^ n) / 2. ●

[A101345] ● 5,8,13,18,21,26,29,34,39,42,47,52,55,60,63,68,73,76,81,84,89,94,97,102,107 ★ a(n) = Knuth's Fibonacci (or circle) product "2 o n". ● a(n) = floor(phi ^ 3 * (n + 1)) - 3 - floor(2 * phi * (n + 1)) + 2 * floor(phi * (n + 1)) where phi = (1 + sqrt(5)) / 2. - _ Benoit Cloitre _ , Jan 11 2014 ●

[A020712] ● 5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,10946,17711,28657,46368,75025,121393,196418,317811,514229 ★ Pisot sequences E(5,8), P(5,8). ● a(n) = Fib(n + 5). a(n) = a(n - 1) + a(n - 2). ● a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + 5 * sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + 5 * sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Jun 05 2016 ●

[A182506] ● 0,1,5,8,13,21,42,63,105,170,291,465,772,1253,2037,3300,5337,8637,13974,22611,36625,59270,95895,155169,251064 ★ a(0)=0, a(1)=1, a(n) = ((a(n-1)+a(n-2)) XOR n) + n. ● a(0)=0, a(1)=1, a(n) = ((a(n - 1) + a(n - 2)) XOR n) + n, where XOR is the bitwise exclusive - or operator. ●

[A020736] ● 5,8,13,22,38,66,115,201,352,617,1082,1898,3330,5843,10253,17992,31573,55406,97230,170626,299427,525457,922112,1618193,2839730 ★ Pisot sequence L(5,8). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). ●

[A253195] ● 5,8,14,17,23,26,32,35,41,44,50,53,59,62,68,71,77,80,86,89,95,98,104,107,113 ★ Numbers congruent to 5 or 8 mod 9. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3), n >= 4. ● a(n) = a(n - 2) + 9. ● a(n) = 9 * n - a(n - 1) - 5. ● a(n) = 4 * n + 2 * ceiling(n / 2) - floor(n / 2) - 1. ● a(n) = (9 * n - (3 / 2) * (1 + (- 1) ^ n) + 1) / 2. ●

[A124011] ● 5,8,14,23,35,50,68,89,113,140,170,203,239,278,320,365,413,464,518,575,635,698,764,833,905 ★ Add three, add six, add nine..... ● a(n) = 3 * n + a(n - 1) - 3 with a(1)=5. - Vincenzo Librandi, Nov 28 2009 ●

[A065905] ● 5,8,16,17,18,25,27,28,30,33,34,35,36,45,46,47,51,56,57,58,63,66,67,68,69 ★ Integers i > 1 for which there are two primes p such that i is a solution mod p of x^4 = 2. ● a(n) = n - th integer i such that i ^ 4 - 2 has two prime factors > i. ●

[A001082] ● 0,1,5,8,16,21,33,40,56,65,85,96,120,133,161,176,208,225,261,280,320,341,385,408,456 ★ Generalized octagonal numbers: k*(3*k-2), k=0, +- 1, +- 2, +-3.... ● a(n) = n * (3 * n - 4) / 4 if n even, (n - 1) * (3 * n + 1) / 4 if n odd. ● a(n) = n ^ 2 - n - floor(n / 2) ^ 2. ● a(n) = n ^ 2 + n - ceiling(n / 2) ^ 2 with offset 0 and a(0)=0. [_ Gary Detlefs _ , Feb 23 2010] ● a(n) = (6 * n ^ 2 - 6 * n - 1 - (2 * n - 1) * (- 1) ^ n) / 8. - _ Luce ETIENNE _ , Dec 11 2014 ●

[A246638] ● 5,8,17,41,104,269,701,1832,4793,12545,32840,85973,225077,589256,1542689,4038809,10573736,27682397,72473453,189737960,496740425,1300483313,3404709512,8913645221,23336226149 ★ Sequence a(n) = 2 + 3*A001519(n+1) appearing in a certain four circle touching problem together with A246639. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n >=1, a(- 2) = 8, a(- 1) = 5, a(0) = 5. ● a(n) = (2 ^ (- 1 - n) * (5 * 2 ^ (2 + n) - 3 * (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + 3 * (3 + sqrt(5)) ^ n * (5 + sqrt(5)))) / 5. - _ Colin Barker _ , Nov 02 2016 ●

[A155086] ● 5,8,18,21,31,34,44,47,57,60,70,73,83,86,96,99,109,112,122,125,135,138,148,151,161 ★ Numbers n such that n^2 == -1 (mod 13). ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ● a(n) = 13 * (n - 1 / 2) / 2 - 7 * (- 1) ^ n / 4. ● a(n) = a(n - 2) + 13. - _ M. F. Hasler _ , Jun 16 2010 ●

[A245534] ● 1,5,8,18,23,39,46,68,77,105,116,150,163,203,218,264,281,333,352,410,431,495,518,588,613 ★ a(n) = n^2 + floor(n/2)*(-1)^n. ● a(n) = (4 * n ^ 2 + 1 + (2 * n - 1) * (- 1) ^ n) / 4. ●

[A084568] ● 1,5,8,20,32,80,128,320,512,1280,2048,5120,8192,20480,32768,81920,131072,327680,524288,1310720,2097152,5242880,8388608,20971520,33554432 ★ a(0)=1, a(1)=5, a(n+2)=4a(n), n>0. ● a(n)=(9 * 2 ^ n - (- 2) ^ n) / 4 - 0 ^ n. ●

[A198635] ● 5,8,20,56,164,488,1460,4376,13124,39368,118100,354296,1062884,3188648,9565940,28697816,86093444,258280328,774840980,2324522936,6973568804,20920706408,62762119220,188286357656,564859072964 ★ Total number of round trips, each of length 2*n on the graph P_5 (o-o-o-o-o). ● a(n) = w(5,2 * n), n >= 0, with w(5,l) the total number of closed walks on the graph P _ 5 (the simple path with 5 points (vertices) and 4 lines (or edges)). ● a(n) = 3 * a(n - 1) - 4, n > 1. - _ Vincenzo Librandi _ , Jan 02 2012 ● a(n) = 2 * 3 ^ n + 2 for n > 0. - _ Andrew Howroyd _ , Mar 18 2017 ●

[A178675] ● 5,8,20,68,260,1028,4100,16388,65540,262148,1048580,4194308,16777220,67108868,268435460,1073741828,4294967300,17179869188,68719476740,274877906948,1099511627780,4398046511108,17592186044420,70368744177668,281474976710660 ★ 4^n+4. ● a(n) = 4 * (a(n - 1) - 3) with n>0, a(0)=5. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2). - _ Vincenzo Librandi _ , Jun 18 2013 ●

[A277369] ● 5,8,21,50,121,292,705,1702,4109,9920,23949,57818,139585,336988,813561,1964110,4741781,11447672,27637125,66721922,161080969,388883860,938848689,2266581238,5472011165 ★ a(0) = 5, a(1) = 8; for n>1, a(n) = 2*a(n-1) + a(n-2). ● a(n) = (((1 - sqrt(2)) ^ n * (- 3 + 5 * sqrt(2)) + (1 + sqrt(2)) ^ n * (3 + 5 * sqrt(2)))) / (2 * sqrt(2)). ●

[A192651] ● 0,0,1,1,5,8,23,47,113,252,578,1316,2994,6832,15545,35445,80711,183928,418973,954571,2174681,4954436,11287336,25715016,58584744 ★ Coefficient of x^2 in the reduction of the n-th Fibonacci polynomial by x^3->x^2+x+1. See Comments. ● a(n) = a(n - 1) + 4 * a(n - 2) - a(n - 3) - 4a(n - 4) + a(n - 5) + a(n - 6). ●

[A140113] ● 1,5,8,24,29,65,72,136,145,245,256,400,413,609,624,880,897,1221,1240,1640,1661,2145,2168,2744,2769 ★ a(1)=1, a(n)=a(n-1)+n if n odd, a(n)=a(n-1)+ n^2 if n is even. ● a(n) = a(n - 1) + ((1 - (- 1) ^ n) / 2) + ((1 + (- 1) ^ n) / 2) * n ^ 4, with a(1)=1. ● a(n) = (1 / 8) - (1 / 8) * (- 1) ^ n + (1 / 6) * n ^ 3 + (1 / 4) * (- 1) ^ n * n ^ 2 + (1 / 2) * n ^ 2 + (1 / 3) * n. (End) ●

[A069959] ● 1,5,8,25,61,164,425,1117,2920,7649,20021,52420,137233,359285,940616,2462569,6447085,16878692,44188985,115688269,302875816,792939185,2075941733,5434886020,14228716321 ★ Define C(n) by the recursion C(0)=2*I where I^2=-1, C(n+1)=1/(1+C(n)); then a(n)=2*(-1)^n/Im(C(n)) where Im(z) denotes the imaginary part of the complex number z. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). G.f.: - (x - 1) * (4 * x + 1) / ((x + 1) * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Jun 14 2013 ● a(n) = (2 ^ (- 1 - n) * (- 3 * (- 1) ^ n * 2 ^ (2 + n) - (3 - sqrt(5)) ^ n * (- 11 + sqrt(5)) + (3 + sqrt(5)) ^ n * (11 + sqrt(5)))) / 5. - _ Colin Barker _ , Sep 28 2016 ●

[A192920] ● 0,5,8,26,63,170,440,1157,3024,7922,20735,54290,142128,372101,974168,2550410,6677055,17480762,45765224,119814917,313679520,821223650,2149991423,5628750626,14736260448 ★ Coefficient of x in the reduction by (x^2->x+1) of the polynomial F(n+4)*x^n, where F=A000045 (Fibonacci sequence). ● a(n)=2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). ●

[A162562] ● 5,8,26,68,188,512,1400,3824,10448,28544,77984,213056,582080,1590272,4344704,11869952,32429312,88598528,242055680,661308416,1806728192,4936073216,13485602816,36843352064,100657909760 ★ a(n) = ((5+sqrt(3))*(1+sqrt(3 + (5-sqrt(3))*(1-sqrt(3))^n)/2. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) for n > 1; a(0) = 5, a(1) = 8. ● a(n) = 2 * (a(n - 1) + a(n - 2)), with a(0)=5 and a(1)= 8. - _ Paolo P. Lava _ , Jul 15 2009 ●

[A228472] ● 5,8,30,49,185,302,1140,1861,7025,11468,43290,70669,266765,435482,1643880,2683561,10130045,16536848,62424150,101904649,384674945,627964742,2370473820,3869693101,14607517865 ★ a(n) = 6*a(n-2) + a(n-4), where a(0) = 5, a(1) = 8, a(2) = 30, a(3) = 49. ● a(n) = (3 + sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) * (13 / 4 + sqrt(10) * (1 - 1 / 4 * (- 1) ^ n) - 3 / 4 * (- 1) ^ n) + (3 - sqrt(10)) ^ (1 / 4 * ((- 1) ^ n - 1) + 1 / 2 * n) * (13 / 4 - sqrt(10) * (1 - 1 / 4 * (- 1) ^ n) - 3 / 4 * (- 1) ^ n). - _ Paolo P. Lava _ , Sep 12 2013 ●

[A275571] ● 1,5,8,45,121,320,841,2205,5776,15125,39601,103680,271441,710645,1860496,4870845,12752041,33385280,87403801,228826125,599074576,1568397605,4106118241,10749957120,28143753121 ★ Number of spanning trees in the wheel graph G consisting of an n-cycle with a central vertex connected to each vertex of the cycle. ● a(n) = Sum _{ i=1..n - 1 } (Fibonacci(2n - 2i) * i ^ 2) + n ^ 2. ● a(n) = ((3 - sqrt(5)) / 2) ^ n + ((3 + sqrt(5)) / 2) ^ n - 2 for n>3. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3) for n>6. ●

[A117474] ● 5,8,48,65,297,396,1748,2325,10205,13568,59496,79097,346785,461028,2021228,2687085,11780597,15661496,68662368,91281905,400193625,532029948,2332499396,3100897797,13594802765 ★ The values of 'a' in a^2 + b^2 = c^2 where b - a = 7 and gcd(a,b,c)=1. ● a(1)=5, a(2)=8, a(3)=48, a(4)=65, a(n) = 6 * a(n - 2) - a(n - 4) + 14. ●

[A063213] ● 1,5,9,11,15,19,21,25,29,31,35,39,41,45,49,51,55,59,61,65,69,71,75,79,81 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(45). ● a(n) = 4 * n - 2 * floor(n / 3 - 1 / 3) - 3. This formula follows from Mathar's generating function. - _ Bruno Berselli _ , Feb 16 2016 ●

[A080455] ● 1,5,9,13,13,17,21,25,25,29,33,37,37,41,45,49,49,53,57,61,61,65,69,73,73 ★ a(1)=1; for n>1, a(n) = a(n-1) if n is already in the sequence, a(n) = a(n-1) + 4 otherwise. ● a(n) = a(n - 1) + a(n - 4) - a(n - 5). ●

[A016813] ● 1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61,65,69,73,77,81,85,89,93,97 ★ a(n) = 4n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2); a(0)=1, a(1)=5. a(n) = 4 + a(n - 1). - _ Philippe Deléham _ , Nov 03 2008 ● a(n) = 8 * n - 2 - a(n - 1) for n>0, a(0)=1. - _ Vincenzo Librandi _ , Nov 20 2010 ●

[A004766] ● 5,9,13,17,21,25,29,33,37,41,45,49,53,57,61,65,69,73,77,81,85,89,93,97,101 ★ Numbers whose binary expansion ends 01. ● a(n) = 8 * n - a(n - 1) - 2 (with a(1)=5). [_ Vincenzo Librandi _ , Nov 18 2010] ● a(n) = 2 * a(n - 1) - a(n - 2). G.f.: - x * (x - 5) / (x - 1) ^ 2. - _ Colin Barker _ , Jun 24 2013 ●

[A247128] ● 5,9,13,17,22,27,31,35,39,44,49,53,57,61,66,71,75,79,83,88,93,97,101,105,110 ★ Positive numbers that are congruent to {0,5,9,13,17} mod 22. ● a(n) = a(n - 1) + a(n - 5) - a(n - 6). - _ Colin Barker _ , Nov 20 2014 ●

[A079497] ● 1,5,9,13,17,89,161,233,305,1597,2889,4181,5473,28657,51841,75025,98209,514229,930249,1346269,1762289,9227465,16692641,24157817,31622993 ★ a(1)=1; for n > 2, a(n) is the smallest integer > a(n-1) such that frac(sqrt(5)*a(n)) < frac(sqrt(5)*a(n-1)). ● a(1)=1, a(2)=5, a(3)=9, a(4)= 13; for n > 4, if n == 1 (mod 4) then a(n) = 6a(n) - a(n - 1); otherwise, a(n) = 2a(n) - a(n - 1). ●

[A081835] ● 1,5,9,13,18,22,26,30,35,39,43,47,52,56,60,64,68,73,77,81,85,90,94,98,102 ★ a(1)=1, a(n)=a(n-1)+5 if n is already in the sequence, a(n)=a(n-1)+4 otherwise. ● a(n)=floor(rn - (4r - 1) / (r + 1)) where r=2 + sqrt(5) ●

[A087461] ● 5,9,13,20,25,30,36,42,50,55,63,71,75,80,92,99,106,115,122,127,136,141,156,163,170 ★ Arithmetic mean of n-th and 2n-th primes. ● a(n) = (n - th prime + 2n - th prime) / 2 ●

[A257171] ● 1,5,9,13,27,36,62,78,120,145,207,243,329,378,492,556,702,783,965,1065,1287,1408,1674,1818,2132 ★ Sum of numbers on n-th segment of Ulam's spiral. ● a(0) = 1; a(1) = 5; a(2) = 9; for n >= 3, a(n) = a(n - 1) + ((n - 1) / 2 + 1) ^ 2, if n = even; otherwise a(n) = a(n - 1) + 2 * ((n - 1) ^ 2 / 4 + (n - 1) + 7 / 4). ● a(n) = (n ^ 3 + 5 * n ^ 2 + 14 * n + 16) / 8 for n even and n> 1. ● a(n) = (n ^ 3 + 4 * n ^ 2 + 11 * n + 8) / 8 for n odd and n>1. ●

[A089977] ● 1,1,1,5,9,13,33,69,121,253,529,1013,2025,4141,8193,16293,32857,65629,130801,262229,524745,1047949,2096865,4195845,8387641 ★ Expansion of 1/((1-2*x)*(1+x+2*x^2)). ● a(n) = Sum _{ k=0..floor(n / 2) } C(n - 2 * k, k) * 4 ^ k. ● a(n) = 2 ^ (n - 1) + 2 ^ (n / 2) * (cos((n + 2) * arctan(sqrt(7) / 7) + Pi * n / 2) / 4 + 5 * sqrt(7) * sin((n + 2) * arctan(sqrt(7) / 7) + Pi * n / 2) / 28). ● a(n) = Sum _{ k=0..n } C(k, floor((n - k) / 2))2 ^ (n - k) * (1

+ (- 1) ^ (n - k)) / 2. - _ Paul Barry _ , Jan 12 2006 ● a(n) = a(n - 1) + 4 * a(n - 3) for n>=3, a(0)=1, a(1)=1, a(2)=1. - _ Michal Kaczmarczyk _ , Apr 24 2006 ● a(n) = hypergeom([1 / 3 - n / 3,2 / 3 - n / 3, - n / 3],[1 / 2 - n / 2, - n / 2], - 27). - _ Peter Luschny _ , Feb 07 2015 ●

[A130877] ● 0,5,9,14,18,23,27,32,36,41,45,50,54,59,63,68,72,77,81,86,90,95,99,104,108 ⋆ Numbers that are congruent to {0, 5} mod 9. ● a(n) = a(n - 2) + 9 for n >= 3. ● a(n) = 9 / 2 * (n + 1) - 4 + Sum { j=0..n } (- 1) ^ j / 2. ● a(n) = 5n - 5 - floor((n - 1) / 2). - _ Wesley Ivan Hurt _ , Oct 25 2013 ●

[A226724] ● 5,9,14,19,24,28,34,38,43,48,53,57,63,67,71,77,81,86,91,96,100,106,110,115,120 ⋆ Positions of the numbers 5^n, for n >=0, in the joint ranking of all the numbers 2^h, 3^k, 5^k, for h >= 0, k >= 1. ● a(n) = 1 + n + floor(n * log _ 2(5)) + floor(n * log _ 3(5). ●

[A063093] ● 0,5,9,15,19,25,29,35,39,45,49,55,59,65,69,75,79,85,89,95,99,105,109,115,119 ⋆ Dimension of the space of weight 2n cusp forms for Gamma_0(25). ● a(n) = 10 * n - a(n - 1) - 16 for n>2, with a(1)=0, a(2)=5. [_ Vincenzo Librandi _ , Aug 07 2010] ● a(n) = ((- 1) ^ n + 10 * n - 11) / 2 for n>1. a(n)=a(n - 1) + a(n - 2) - a(n - 3) for n>3. G.f.: x ^ 2 * (5 + 4 * x + x ^ 2) / ((1 - x) ^ 2 * (1 + x)). [_ Colin Barker _ , Sep 26 2012] ●

[A294020] ● 0,1,5,9,15,23,27,41,65,81,103,111,115,129,153,169,191,199,203,217,241,257,279,287,291 ⋆ Total number of elements after n-th stage of a hybrid cellular automaton formed by D-toothpicks and toothpicks (see Comments lines for precise definition). ● a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>10. ●

[A020750] ● 5,9,16,28,49,85,147,254,438,755,1301,2241,3860,6648,11449,19717,33955,58474,100698,173411,298629,514265,885608,1525092,2626337 ⋆ Pisot sequence T(5,9), a(n) = floor(a(n-1)^2/a(n-2)). ● a(n) = 2 * a(n - 1) - 2 * a(n - 4) + a(n - 5) (holds at least up to n = 40000 but is not known to hold in general). ●

[A020713] ● 5,9,16,28,49,86,151,265,465,816,1432,2513,4410,7739,13581,23833,41824,73396,128801,226030,396655,696081,1221537,2143648,3761840 ⋆ Pisot sequences E(5,9), P(5,9). ● a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) (holds at least up to n = 1000 but is not known to hold in general). ●

[A090990] ● 5,9,16,29,52,94,169,305,549,990,1783,3214,5790,10435,18801,33881,61048,110009,198224,357194,643633,1159797,2089869,3765830,6785771 ⋆ Number of meaningful differential operations of the n-th order on the space R^5. ● a(k + 3) = a(k + 2) + 2 * a(k + 1) - a(k). ●

[A225605] ● 5,9,16,29,53,97,178,327,601,1105,2032,3737,6873,12641,23250,42763,78653,144665,266080,489397,900141,1655617,3045154,5600911,10301681 ⋆ (1) = least k such that 1/3 < H(k) - 1/3; a(2) = least k such that H(a(1)) - H(3) < H(k) -H(a(1)), and for n > 2, a(n) = least k such that H(a(n-1)) - H(a(n-2) > H(k) - H(a(n-1)), where H = harmonic number. ● a(n) = 2 * a(n - 1) - a(n - 4) (conjectured). ●

[A276194] ● 5,9,17,23,27,29,33,39,43,45,51,53,57,65,71,75,77,83,85,89,95,99,101,105,111 ⋆ Odd numbers whose binary representation contains an even number of 1's and at least one 0. ● a(2 ^ n - floor(n / 2)) = 4 * 2 ^ n + 1, for all n>= 0. - _ Gheorghe Coserea _ , Oct 24 2016 ●

[A210978] ● 0,1,5,9,17,24,36,46,62,75,95,111,135,154,182,204,236,261,297,325,365,396,440,474,522 ⋆ A186029 and positive terms of A001106 interleaved. ● a(n) = (3 * (- 1 + (- 1) ^ n) + 2 * (5 + (- 1) ^ n) * n + 14 * n ^ 2) / 16. a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: - x * (2 * x ^ 2 + 4 * x + 1) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Sep 15 2013 ●

[A211434] ● 1,1,5,9,17,25,33,45,57,73,89,105,125,145,169,193,217,245,273,305,337,369,405,441,481 ⋆ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and w+2x+5y=0. ● a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 5) - 2 * a(n - 6) + a(n - 7) for n>6. ●

[A182388] ● 1,1,5,9,17,25,37,41,41,41,45,49,73,81,109,113,113,113,117,121,129,169,213,217,217 ⋆ a(0)=1, a(n) = (a(n-1) XOR n) + n. ● a(0)=1, a(n)=(a(n - 1) XOR n) + n, where XOR is the bitwise exclusive - OR operator. ●

[A080335] ● 1,5,9,17,25,37,49,65,81,101,121,145,169,197,225,257,289,325,361,401,441,485,529,577,625 ⋆ Diagonal in maze arrangement of natural numbers. ● a(n) = (3 + 4 * n + 2 * n ^ 2 - (- 1) ^ n) / 2. ● a(0)=1, a(1)=5, a(2)=9, a(3)=17, a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Jan 29 2012 ● a(n) = (n + 1) ^ 2 when n is even; a(n) = (n + 1) ^ 2 + 1 when n is odd. ●

[A294774] ● 5,9,17,29,45,65,89,117,149,185,225,269,317,369,425,485,549,617,689,765,845,929,1017,1109,1205 ⋆ a(n) = 2*n^2 + 2*n + 5. ● a(n) = a(- 1 - n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A192746] ● 1,5,9,17,29,49,81,133,217,353,573,929,1505,2437,3945,6385,10333,16721,27057,43781,70841,114625,185469,300097,485569 ⋆ Constant term of the reduction by x^2 -> x+1 of the polynomial p(n,x) defined below in Comments. ● a(n) = 4 * Fibonacci(n + 2) - 3. - _ Gerry Martens _ , Jul 04 2015 ●

[A081295] ● 1,1,5,9,17,29,65,137,261,497,1025,2085,4097,8129,16405,32905,65537,130845,262145,524793,1048645,2096129,4194305,8390821,16777233 ⋆ a(n) = (-1)^(n+1)* coefficient of x^n in sum(k>=1,x^k/(1+2*x^k)). ● a(p)=2 ^ (p - 1) - 1 p prime. ●

[A020737] ● 5,9,17,33,65,129,257,513,1025,2049,4097,8193,16385,32769,65537,131073,262145,524289,1048577,2097153,4194305,8388609,16777217,33554433,67108865 ⋆ Pisot sequence L(5,9). ● a(n) = 2 ^ (n + 2) + 1. a(n) = 3a(n - 1) - 2a(n - 2). ●

[A110349] ● 1,5,9,18,25,39,49,68,81,105,121,150,169,203,225,264,289,333,361,410,441,495,529,588,625 ⋆ a(n) = n + (n+1) + (n-1) + (n+2) + (n-2) ... n terms. ● a(2n - 1) = (2n - 1) ^ 2; a(2n)=4n ^ 2 + n. - _ Emeric Deutsch _ , Aug 03 2005 ● a(n) = n(4n + (- 1) ^ n + 1) / 4. - _ Bruno Berselli _ , Mar 19 2012 ●

[A113805] ● 5,9,19,23,33,37,47,51,61,65,75,79,89,93,103,107,117,121,131,135,145,149,159,163,173 ⋆ Numbers that are congruent to {5, 9} mod 14. ● a(n) = 14 * n - a(n - 1) - 14 (with a(1)=5). [From _ Vincenzo Librandi _ , Nov 13 2010] ● a(n) = 7 * n - (7 + 3 * (- 1) ^ n) / 2. ●

[A061202] ● 1,5,9,19,23,39,43,63,73,89,93,133,137,153,169,204,208,248,252,292,308,324,328,408,418 ⋆ (tau<=)_4(n). ● a(n) = Sum _{ k = 1..n } tau _{ 3 } (k) * floor (n / k), where tau _{ 3 } is A007425. - _ Enrique Pérez Herrero _ , Jan 23 2013 ●

[A060161] ● 1,5,9,19,37,73,143,281,553,1091,2157,4273,8479,16849,33521,66755,133045,265337,529455,1056937,2110681,4216195,8424029,16834529,33647167 ⋆ 2^n - 1 + 2*fibonacci(n - 1). ● a(n)=4 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 2 * a(n - 4). G.f.: - x * (1 + x - 7 * x ^ 2 + 4 * x ^ 3) / ((x - 1) * (2 * x - 1) * (x ^ 2 + x - 1)) [From _ R. J. Mathar _ , Jul 07 2009] ●

[A253951] ● 0,1,5,9,20,23,42,52,69,77,113,119,165,177,190,214,279,291,366,379,399,422,517,533,599 ⋆ A partial double sum of integers: a(n) = Sum_{x=1..n} Sum_{y=1..n} T(x,y), where T is the matrix product: T = A051731*A127093*Transpose(A054524) and T(n,1)=0 (* stands for matrix multiplication). ● a(n) = Sum _{ x=1..n } Sum _{ y=1..n } T(x,y), where T is the matrix product: T=A051731 * A127093 * Transpose(A054524) and T(n,1)=0. (* stands for matrix multiplication) ●

[A092387] ● 5,9,20,49,125,324,845,2209,5780,15129,39605,103684,271445,710649,1860500,4870849,12752045,33385284,87403805,228826129,599074580,1568397609,4106118245,10749957124,28143753125 ⋆ a(n) = Fibonacci(2*n+1) + Fibonacci(2*n-1) + 2. ● a(1)=5, a(2)=9, a(3)=20, a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). ● a(n) = 3 + floor((1 + phi) ^ n) where phi = (1 + sqrt(5)) / 2. ●

[A097074] ● 1,1,5,9,21,41,85,169,341,681,1365,2729,5461,10921,21845,43689,87381,174761,349525,699049,1398101,2796201,5592405,11184809,22369621 ⋆ Expansion of (1-x+2x^2)/((1-x)(1-x-2x^2)). ● a(n) = a(n - 1) + 2 * a(n - 2) + 2, a(0)=1, a(1)=1. ● a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), a(0)=1=a(1), a(2)=5. Observed by G. Detlefs. See the W. Lang link. (End) ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 4 * (- 1) ^ n [From _ Gary Detlefs _ Dec 19 2010] ●

[A163607] ● 5,9,23,55,133,321,775,1871,4517,10905,26327,63559,153445,370449,894343,2159135,5212613,12584361,30381335,73347031,177075397,427497825,1032071047,2491639919,6015350885 ⋆ a(n) = ((5 + 2*sqrt(2))*(1 + sqrt(2))^n + (5 - 2*sqrt(2))*(1 - sqrt(2))^n)/2. ● a(n) = 2 * a(n - 1) + a(n - 2) for n > 1; a(0) = 5, a(1) = 9. ●

[A132354] ● 0,5,9,24,32,57,69,104,120,165,185,240,264,329,357,432,464,549,585,680,720,825,869,984,1032 ⋆ Integers m such that 7*m + 1 is a square. ● a(2 * k) = k * (7 * k + 2), a(2 * k + 1) = 7 * k ^ 2 + 12 * k + 5. ● a(n) = n ^ 2 + n + 3 * ceiling(n / 2) ^ 2. - _ Gary Detlefs _ , Feb 23 2010 ●

[A116520] ● 0,1,5,9,25,29,45,61,125,129,145,161,225,241,305,369,625,629,645,661,725,741,805,869,1125 ⋆ a(0) = 0, a(1) = 1; a(n) = max { 4*a(k)+a(n-k) | 1 <= k <= n/2 }, for n>1. ● a(0) = 1, a(1) = 1; thereafter a(2n)=5a(n) and a(2n + 1)=4a(n) + a(n + 1). ●

[A234277] ● 0,0,0,0,0,0,0,1,5,9,25,35,75,95,175,210,350,406,630,714,1050,1170,1650,1815,2475 ⋆ a(n) = binomial(floor(n/2),4)+(ceil(n/2)-3)*binomial(floor(n/2),3). ● a(n) = (2 * n - 1 + (- 1) ^ n) * (2 * n - 5 + (- 1) ^ n) * (2 * n - 9 + (- 1) ^ n) * (10 * n - 57 - 3 * (- 1) ^ n) / 6144. - _ Luce ETIENNE _ , Nov 18 2017 ●

[A259665] ● 0,1,5,9,25,41,57,121,185,249,313,569,825,1081,1337,1593,2617,3641,4665,5689,6713,7737,11833,15929,20025 ⋆ a(0)=0, a(1)=1, a(n) = min{4 a(k) + (4^(n-k)-1)/3, k=0..(n-1)} for n>=2. ● a(n) = min { 4 * a(k) + (4 ^ (n - k) - 1) / 3 ; k < n } . ●

[A284285] ● 5,9,25,45,61,189,289,489,7065,42229 ⋆ Numbers k such that (2^k + 3)/5 is prime. ● a(n) == 1 (mod 4). ●

[A276918] ● 1,5,9,25,49,113,225,481,961,1985,3969,8065,16129,32513,65025,130561,261121,523265,1046529,2095105,4190209,8384513,16769025,33546241,67092481 ⋆ a(2n) = A060867(n+1), a(2n+1) = A092440(n+1). ● a(n) = 1 + 2 ^ (n + 2) - 2 ^ (1 + n / 2) + (- 1) ^ (n + 1) * 2 ^ (1 + n / 2) - 2 ^ ((n + 1) / 2) + (- 1) ^ (n + 2) * 2 ^ ((n + 1) / 2). ● a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 4 * a(n - 4) for n>3. ●

[A127976] ● 1,1,5,9,25,53,125,273,609,1325,2885,6217,13353,28517,60685,128641,271857,572829,1203925,2524345,5281721,11029461,22991005,47846129,99420545 ⋆ Numbers of the form ((6*n + 10)/27)*2^(n-1) + ((-1)^(n-1))*(6*n + 5)/27. ● a(n) = ((6 * n + 10) / 27) * 2 ^ (n - 1) + (- 1) ^ (n - 1) * (6 * n + 5) / 27 ● a(n) = + 2 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - 4 * a(n - 4); g.f.: x * (1 - x) / ((1 + x) ^ 2 * (1 - 2 * x) ^ 2). [Joerg Arndt, May 27 2011] ●

[A137199] ● 1,1,1,5,9,25,57,141,337,817,1969,4757,11481,27721,66921,161565,390049,941665,2273377,5488421,13250217,31988857,77227929,186444717,450117361 ⋆ a(n)=a(n-1)+3a(n-2)+a(n-3). ● a(n)= - (- 1) ^ n + [1 + sqrt(2)] ^ n + (1 / 2) * sqrt(2) * [1 - sqrt(2)] ^ n + [1 - sqrt(2)] ^ n - (1 / 2) * [1 + sqrt(2)] ^ n * sqrt(2), with n>=0 - _ Paolo P. Lava _ , Jun 09 2008 ●

[A006131] ● 1,1,5,9,29,65,181,441,1165,2929,7589,19305,49661,126881,325525,833049,2135149,5467345,14007941,35877321,91909085,235418369,603054709,1544728185,3956947021 ⋆ a(n) = a(n-1) + 4*a(n-2), a(0) = a(1) = 1. ● a(n) = (((1 + sqrt(17)) / 2) ^ (n + 1) - ((1 - sqrt(17)) / 2) ^ (n + 1)) / sqrt(17). ● a(n + 1) = sum(k=0, ceil(n / 2), 4 ^ k * binomial(n - k, k)). - _ Benoit Cloitre _ , Mar 06 2004 ● a(n) = sum { k=0..n, binomial((n + k) / 2, (n - k) / 2)(1 + (- 1) ^ (n - k))2 ^ (n - k) / 2 } . - _ Paul Barry _ , Aug 28 2005 ● a(n) = Product _{ k=1..floor((n - 1) / 2) } (1 + 16 * cos(k * Pi / n) ^ 2). - _ Roger L. Bagula _ , Nov 21 2008 ● a(n) = (sum { 1<=k<=n + 1, k odd } C(n + 1,k) * 17 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 ●

[A270595] • 1,1,5,9,29,81,265,881,3065,10897,39533,145561,542645,2043745,7764497,29719521,114495985,443623521,1727552085,6757763753,26541775821,104626427441,413800025625,1641535159889,6529945089769 ★ a(n) = (n+1)*Sum_{i=0..n} (binomial(2*i,i)*binomial(2*(n-2*i),(n-2*i))/(n-2*i+1)^2). • a(n) = (2 - y1(n) - y1(n + 2) + (- 1) ^ n * (y2(n) + y2(n + 2) - 2)) / 4. •

[A242329] • 5,9,29,129,629,3129,15629,78129,390629,1953129,9765629,48828129,244140629,1220703129,6103515629,30517578129,152587890629,762939453129,3814697265629,19073486328129,95367431640629,476837158203129 ★ a(n) = 5^n + 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2) for n>1. •

[A049602] • 0,1,1,5,9,30,68,195,483,1309,3355,8900,23112,60813,158717,416325,1088661,2852242,7463884,19546175,51163695,133962621,350695511,918170280,2403740304 ★ a(n) = (Fibonacci(2*n)-(-1)^n*Fibonacci(n))/2. • a(n)=Sum { T(2i + 1, n - 2i - 1): i=0, 1, ..., [(n + 1) / 2] } , array T as in A049600. • a(n)=sum { k=0..floor(n / 2), C(n, 2k)Fib(n - 2k) } ; - _ Paul Barry _ , May 01 2005 • a(n)=2a(n - 1) + 3a(n - 2) - 4a(n - 3) + a(n - 4). - _ Paul Curtz _ , Jun 16 2008 •

[A116390] • 1,1,5,9,33,73,233,569,1693,4353,12477,32985,92637,248673,690549,1869513,5158881,14033161,38587193,105246041,288818305,788939769,2162574513,5912375033,16196093881 ★ Expansion of 1/(2*sqrt(1-4*x^2)-x-1). • a(n) = sum(k=0..n, sum(j=0..k, C(k,j) * (- 1) ^ (k - j) * sum(i=0..floor(n / 2), C(i + (j - 1) / 2,i) * C(j,n - 2 * i) * 4 ^ i))). •

[A098477] • 1,1,5,9,37,89,325,905,3109,9337,31173,97449,321445,1027225,3374405,10920649,35855909,116937145,384340421,1259728873,4147000229,13639616473,44978045765,148314302473,489879442469 ★ Expansion of 1/sqrt(1-2*x-7*x^2+8*x^3). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(2 * k,k) * binomial(n - k, n - 2k) * 2 ^ k. •

[A243762] • 1,5,9,37,113,261,505,869,1377,2053,2921,4005,5329,6917,8793,10981,13505,16389,19657,23333,27441,32005,37049,42597,48673 ★ 4*n^3 + 5. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[A226065] • 0,1,1,5,9,44,114,564,1882,9665,39083,211025,993803,5686104,30342060,184813048,1095555260,7118824417,46199135453,320295658577,2250749112381,16626717667348,125452246988974,985178854556524 ★ Sum of all the smaller parts raised to their corresponding larger parts of the partitions of n into exactly two parts. • a(n) = Sum _{ i = 1..floor(n / 2) } i ^ (n - i). •

[A121724] • 1,1,5,9,45,97,485,1145,5725,14289,71445,185193,925965,2467137,12335685,33563481,167817405,464221105,2321105525,6507351113,32536755565,92236247841,461181239205,1319640776249,6598203881245 ★ Generalized central binomial coefficients for k=2. • a(n)=8 * 4 ^ n * INT(x ^ n * sqrt(1 - x ^ 2) / (5 - 4x),x, - 1,1) / pi •

[A100305] • 1,1,5,9,45,113,469,1369,5117,16065,56997,185513,641485,2125585,7257461,24262137,82321821,276418913,934993477,3146344777,10626292589,35797050801,120807391509,407183797913,1373642929981 ★ Expansion of (1-x-4x^2)/(1-2x-7x^2+8x^3). • a(n)=2a(n - 1) + 7a(n - 2) - 8a(n - 3); a(n)=1 / 2 + ((sqrt(33) + 1) ^ (n + 1) + (sqrt(33) - 1) ^ (n + 1)(- 1) ^ n)sqrt(33)2 ^ (- n) / 132. •

[A080872] • 1,1,5,9,49,89,485,881,4801,8721,47525,86329,470449,854569,4656965,8459361,46099201,83739041,456335045,828931049,4517251249,8205571449,44716177445,81226783441,442644523201 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 4, given a(0)=a(1)=1, a(2)=5. • a(n) = (3 + sqrt(3)) / 12 * (sqrt(3) - sqrt(2)) ^ n + (3 - sqrt(3)) / 12 * (- sqrt(3) + sqrt(2)) ^ n + (3 + sqrt(3)) / 12 * (sqrt(3) + sqrt(2)) ^ n + (3 - sqrt(3)) / 12 * (- sqrt(3) - sqrt(2)) ^ n. [_ Richard Choulet _ , Dec 03 2008] • a(n + 4) = 10 * a(n + 2) - a(n). [_ Richard Choulet _ , Dec 04 2008] •

[A173776] • 5,9,49,449,4449,44449,444449,4444449,44444449,444444449,4444444449,44444444449,444444444449,4444444444449,44444444444449,444444444444449,4444444444444449,44444444444444449 ★ (4*10^n+41)/9. • a(n) = 10 * a(n - 1) - 41 with n>0, a(0)=5. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A143554] • 1,1,1,5,9,55,117,775,1785,12350,29799,211876,527085,3818430,9706503,71282640,184138713,1366368375,3573805950,26735839650,70625252863,531838637759,1416298046436,10723307329700,28748759731965 ★ G.f. satisfies: A(x) = 1 + x*A(x)^5*A(-x)^4. • a(2n) = C(9 * n,n) / (8 * n + 1); a(2n + 1) = C(9 * n + 4,n) * 5 / (8 * n + 5). •

[A145400] • 0,5,9,222,1140,13903,99051,972080,7826275,71053230,599141127,5285091303,45349095730,395755191515,3418116104881,29709767180643,257232791130155,2232466696767889,19346930092499853,167813061128260612,1454798219804865516,12616086588695738786 ★ Number of 2-factors in P_6 X P_n. • a(n) = 5 * a(n - 1) + 49 * a(n - 2) - 116 * a(n - 3) - 363 * a(n - 4) + 627 * a(n - 5) + 544 * a(n - 6) - 1061 * a(n - 7) + 133 * a(n - 8) + 264 * a(n - 9) - 47 * a(n - 10) - 26 * a(n - 11) + 3 * a(n - 12) + a(n - 13) for n > 13. •

[A004757] • 5,10,11,20,21,22,23,40,41,42,43,44,45,46,47,80,81,82,83,84,85,86,87,88,89 ★ Binary expansion starts 101. • a(2n) = 2a(n), a(2n + 1) = 2a(n) + 1 + 4[n==0]. • a(2 ^ m + k) = 5 * 2 ^ m + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 08 2016 •

[A192336] • 5,10,13,14,17,20,21,25,26,29,30,34,35,37,38,39,40,41,42,45,46,49,50,51,52 ★ Sums of two or more distinct squares. • a(n) = n + 37 for n >= 92. •

[A224448] • 5,10,13,14,17,21,25,26,29,30,34,35,37,38,41,42,45,46,49,50,53,54,58,59,61 ★ Nonnegative numbers that have a representation as a sum of three primitive and distinct squares (square 0 allowed). • a(n) is the n - th largest number m satisfying m = a ^ 2 + b ^ 2 + c ^ 2, with a, b, and c integers, 0 <= a < b < c, and gcd(a,b,c) = 1. •

[A073503] • 5,10,13,15,16,17,20,25,26,29,30,32,34,35,37,39,40,41,45,48,50,51,52,53,55 ★ Numbers n such that the number of solutions to x^4 == 1 (mod n) is twice the number of solutions of x^2 == 1 (mod n). • a(n) seems to be asymptotic to 2n. •

[A001925] • 5,10,14,18,22,27,31,35,40,44,48,53,57,61,65,70,74,78,83,87,91,96,100,104 ★ Wythoff game. • a(n) = floor((n + 1 / 3) * (5 + sqrt(13)) / 2). - R. J. Mathar, Feb 14 2011 •

[A224692] • 1,5,10,14,28,32,64,68,136,140,280,284,568,572,1144,1148,2296,2300,4600,4604,9208,9212,18424,18428,36856 ★ Expansion of (1+5*x+7*x^2-x^3)/((1-2*x^2)*(1-x)*(1+x)). • a(n) = a(n - 1) + 4 if n odd. • a(n) = a(n - 1) * 2 if n even. • a(n) = 3 * a(n - 2) - 2 * a(n - 4) with n>3, a(0)=1, a(1)=5, a(2)=10, a(3)=14. • a(n) = 9 * 2 ^ floor(n / 2) - 2 * (- 1) ^ n - 6. [_ Bruno Berselli _ , Apr 27 2013] •

[A179123] • 5,10,14,49,80,355,599,2764,4685,21730,36854,171049,290120,1346635,2284079,10602004,17982485,83469370,141575774,657152929,1114623680,5173754035,8775413639,40732879324,69088685405 ★ a(n) red and b(n) blue balls in an urn; draw 6 balls without replacement; Probability(6 red balls)=Probability(4 red and 2 blue balls); binomial(a(n),6)=binomial(a(n),4)*binomial(b(n),2); • a(n + 4)=8 * a(n + 2) - a(n) - 27; r15=sqrt(15); • a(n)=((1 + r15) * (4 + r15) ^ ((n - 1) / 2) + (1 - r15 * (4 - r15) ^ ((n - 1) / 2) + 18) / 4 n odd • a(n)=((11 + 3 * r15) * (4 + r15) ^ ((n - 2) / 2) + (11 - 3 * r15) * (4 - r15) ^ ((n - 2) / 2) + 18) / 4 n even • a(n)=a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: - x * (4 * x ^ 4 - 5 * x ^ 3 - 36 * x ^ 2 + 5 * x + 5) / ((x - 1) * (x ^ 4 - 8 * x ^ 2 + 1)). [_ Colin Barker _ , Jan 01 2013] •

[A081839] • 0,5,10,15,19,24,29,34,39,43,48,53,58,63,67,72,77,82,86,91,96,101,106,110,115 ★ a(1)=0, a(n)=a(n-1)+4 if n is already in th sequence, a(n)=a(n-1)+5 otherwise. • a(n)=floor(r * n - (3 * r + 1) / (r - 1)) where r= (1 / 2) * (5 + sqrt(21)) =4.79128784747792... •

[A104356] • 1,5,10,15,20,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216 ★ Smallest m such that A104350(m) has exactly n trailing zeros in decimal representation. • a(n) = if n=0 then 1 else (if n<5 then 5 * n else 2 ^ n). •

[A115181] • 5,10,15,21,26,31,36,42,47,52,57,63,68,73,78,84,89,94,100,105,110,115,121,126,131 ★ Beatty sequence for (Cc/(Cc-1)) with Cc = 1.234567891011121314... = 10*(Champernowne constant). • a(n) = floor(n * 5.26315808...). •

[A020332] • 5,10,15,68,85,102,119,136,153,170,187,204,221,238,255,1040,1105,1170,1235,1300,1365,1430,1495,1560,1625 ★ Numbers n such that base 4 representation is the juxtaposition of two identical strings. • a(n) = n * 4 ^ floor (log _ 4(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[A276853] • 0,5,10,16,21,27,32,38,43,48,54,59,65,70,76,81,86,92,97,103,108,114,119,125,130 ★ Beatty sequence for 2*e. • a(n) = floor(2 * e * n). •

[A178181] • 0,5,10,16,21,27,32,38,43,49,54 ★ Minute with hour hand overlap problem on analog clock. • a(n)= floor((720 / 11) * n) (mod 60), n=0..10. See the solution in Loyd's book with (65 + 5 / 11)m = 720 / 11 m. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n=4..10. - _ Colin Barker _ , Aug 19 2014 • a(n) = (- 3 - (- 1) ^ n + 22 * n) / 4 for n=1..10. - _ Colin Barker _ , Aug 19 2014 •

[A277645] • 5,10,16,21,27,32,38,43,49,54,59,65,70,76,81,87,92,98,103,108,114,119,125,130,136 ★ Beatty sequence for 3+sqrt(6). • a(n) = floor(n * (3 + sqrt(6))). •

[A052905] • 1,5,10,16,23,31,40,50,61,73,86,100,115,131,148,166,185,205,226,248,271,295,320,346,373 ★ a(n) = (n^2 + 7*n + 2)/2. • a(n) = n + a(n - 1) + 3, with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 06 2010 •

[A194275] • 0,1,5,10,16,25,35,46,60,75,91,110,130,151,175,200,226,255,285,316,350,385,421,460,500 ★ Concentric pentagonal numbers of second kind: a(n) = floor(5*n*(n+1)/6). • a(n) = floor(5 * n * (n + 1) / 6). - _ Arkadiusz Wesolowski _ , Aug 23 2011 •

[A054514] • 1,1,1,5,10,16,45,109,222,540,1341,3065,7328,18112,43530,105390,260254,639244,1570257,3893805,9669236,24014264,59903650,149806494,374982790 ★ Number of ways to place non-crossing diagonals in convex (n+4)-gon so as to create no triangles or quadrilaterals. • a(n) = Sum _{ j=0..(n - 1) / 3 } binomial[n - 2j - 1, n - 3j - 1] binomial[n + 3 + j, n + 2] / (n + 3). This counts the polygon dissections above by number j of diagonals. - _ David Callan _ , Jul 15 2004 •

[A098021] • 5,10,17,22,29,34,39,46,51,58,63,68,75,80,87,92,99,104,109,116,121,128,133,138,145 ★ Positions of 0's in the zero-one sequence [nr+2r]-[nr]-[2r], where r=sqrt(2) and [ ]=floor; see A187967. • a(n) = 7 * floor(n * (sqrt(2) - 1)) + 5 * floor(n * (2 - sqrt(2))) + 5. - _ Miko Labalan _ , Dec 14 2015 •

[A276382] • 1,5,10,17,25,35,46,59,73,89,106,125,145,167,190,215,241,269,298,329,361,395,430,467,505 ★ a(1) = 1, and a(n) = a(n-1) + floor(3*n/2) + 1 for n >= 2. • a(n) = ((- 1) ^ n + 12 * n + 6 * n ^ 2 - 9) / 8 for n > 0. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 4. • a(n) = - 1 + Sum _{ k=1..n } floor((n + k + 3) / 2). - _ Wesley Ivan Hurt _ , Apr 01 2017 •

[A080341] • 1,5,10,17,27,38,51,67,84,103,125,148,173,201,230,261,295,330,367,407,448,491,537,584,633 ★ Sum of the n first terms that are congruent to 1, 4 or 5 mod 6 (A047259). • a(n) = n ^ 2 + (n + 1) / 3 with integer division, that is n mod 3 = 0 : n ^ 2 + n / 3 n mod 3 = 1 : n ^ 2 + (n - 1) / 3 n mod 3 = 2 : n ^ 2 + (n + 1) / 3. •

[A086653] • 5,10,17,28,47,82,149,280,539,1054,2081,4132,8231,16426,32813,65584,131123,262198,524345,1048636,2097215,4194370,8388677,16777288,33554507 ★ 2^n + 3*n. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). G.f.: x * (5 - 10 * x + 2 * x ^ 2) / ((1 - x) ^ 2 * (1 - 2 * x)). [_ Colin Barker _ , Sep 05 2012] •

[A284703] • 1,5,10,17,51,98,211,457,964,2095,4489,9638,20723,44469,95550,205225,440777,946808,2033571,4367947,9381928,20151345,43283195,92967814,199685501 ★ Number of maximal matchings in the n-prism graph. • a(n) = a(n

- 1) + 2 * a(n - 2) + a(n - 3) - a(n - 4) + 2 * a(n - 5) + a(n - 6) - a(n - 7) - a(n - 8) for n>8. •

[A035608] • 0,1,5,10,18,27,39,52,68,85,105,126,150,175,203,232,264,297,333,370,410,451,495,540,588 ★ Expansion of x*(1 + 3*x)/((1 + x)*(1 - x)^3). • a(n) = n ^ 2 + n - 1 - floor((n - 1) / 2). • a(n) = floor((n + 1 / 4) ^ 2). - _ Reinhard Zumkeller _ , Jan 27 2010 • a(n) = (- 1) ^ n * Sum _{ i=0..n } (- 1) ^ i * (2 * i ^ 2 + 3 * i + 1). Omits the leading 0. - _ William A. Tedeschi _ , Aug 25 2010 • a(n) = n ^ 2 + floor(n / 2), from Mathematica section. - _ Vladimir Joseph Stephan Orlovsky _ , Apr 12 2011 • a(0)=0, a(1)=1, a(2)=5, a(3)=10; for n>3, a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Feb 21 2013 •

[A164004] • 0,5,10,18,28,40,54,70,88,108,130,154,180,208,238,270,304,340,378,418,460,504,550,598,648 ★ Zero together with row 4 of the array in A163280. • a(n) = n * (3 + n) for n > 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 4. •

[A053311] • 1,5,10,19,33,56,93,153,250,407,661,1072,1737,2813,4554,7371,11929,19304,31237,50545,81786,132335,214125,346464,560593 ★ Partial sums of A000285. • a(n) = 4F(n + 1) + F(n) - 4, where F(k) is the (k + 1)st Fibonacci number(A000045). •

[A072703] • 5,10,20,25,35,40,50,55,65,70,80,85,95,100,110,115,125,130,140,145,155,160,170,175,185 ★ Indices of Fibonacci numbers whose last digit is 5. • a(n)=15 * (n - 1) - a(n - 1), with a(1)=5. - _ Vincenzo Librandi _ , Aug 08 2010] • a(1)=5, a(2)=10, a(3)=20, a(n)=a(n - 1) + a(n - 2) - a(n - 3). - Harvey P. Dale, May 15 2011 • a(n)= - (5 / 4) * (3 + (- 1) ^ n - 6 * n). - Harvey P. Dale, May 15 2011 •

[A210677] • 1,1,5,10,20,36,63,107,179,296,486,794,1293,2101,3409,5526,8952,14496,23467,37983,61471,99476,160970,260470,421465 ★ a(n)=a(n-1)+a(n-2)+n+1,a(0)=a(1)=1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: (1 - 2 * x + 4 * x ^ 2 - 2 * x ^ 3) / ((1 - x) ^ 2 * (1 - x - x ^ 2)). [_ Colin Barker _ , Jun 30 2012] •

[A146523] • 1,5,10,20,40,80,160,320,640,1280,2560,5120,10240,20480,40960,81920,163840,327680,655360,1310720,2621440,5242880,10485760,20971520,41943040 ★ Binomial transform of A010685. • a(n) = 5 * 2 ^ (n - 1) for n>=1, a(0)=1. •

[A020714] • 5,10,20,40,80,160,320,640,1280,2560,5120,10240,20480,40960,81920,163840,327680,655360,1310720,2621440,5242880,10485760,20971520,41943040,83886080 ★ a(n) = 5 * 2^n. • a(n) = 5 * 2 ^ n. a(n) = 2a(n - 1). •

[A106367] • 5,10,20,70,204,700,2340,8230,29140,104968,381300,1398500,5162220,19175140,71582940,268439590,1010580540,3817763740,14467258260,54975633976,209430787820,799645010860,3059510616420,11728124734500 ★ Necklaces with n beads of 5 colors, no 2 adjacent beads the same color. • a(n) = (1 / n) * Sum _{ d | n } totient(n / d) * (4 * (- 1) ^ d + 4 ^ d) for n > 1. - _ Andrew Howroyd _ , Mar 12 2017 •

[A132174] • 1,5,10,21,44,92,189,385,778,1565,3141,6294,12602,25219,50454,100926,201871,403763,807548,1615119,3230263,6460552,12921132,25842293,51684616 ★ Index of starting position of n-th generation of terms in A063882. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 5) - 3 * a(n - 6) + 2 * a(n - 7) for n > 8. •

[A132461] • 1,1,5,10,21,51,122,295,725,1792,4455,11133,27930,70305,177483,449160,1139157,2894625,7367720,18781387,47941271,122524216,313484385,802877055,2058184346 ★ Row squared sums of triangle of Lucas polynomials (A034807) for n>0: Sum_{k=0..floor(n/2)} A034807(n,k)^2, with a(0)=1. • a(n) = Sum _{ k=0..floor(n / 2) } (C(n - k, k) + C(n - k - 1, k - 1)) ^ 2. •

[A064694] • 1,5,10,22,34,58,80,120,155,215,266,350,420,532,624,768,885,1065,1210,1430,1606,1870,2080,2392,2639 ★ Add column entries of the table with rows (1,2,0,0...), (0,3,4,5,0,0...), (0,0,6,7,8,9,0,0...), (0,0,0,10,11,12,13,14,0,0...), ... • a(2n - 1) = n * (n + 1) * (7 * n - 4) / 6 (see A007584), a(2n) = n * (n + 1) * (7 * n + 8) / 6. • a(n) = sum { k=0..floor((n + 1) / 2), (n - k + 1)ceiling((n - k + 1) / 2) + k + if(mod(n - k + 1, 2) =0, ceiling((n - k + 1) / 2), 0) }. - _ Paul Barry _ , Aug 25 2004 • a(n) = sum { k=0..floor(n / 2), C(n - k + 1,2) + k } ; - _ Paul Barry _ , Jul 23 2008 • a(n) = (2 * n + 1 - (- 1) ^ n) * (2 * n + 5 - (- 1) ^ n) * (14 * n + 15 + 17 * (- 1) ^ n) / 384. - _ Luce ETIENNE _ , Feb 17 2015 • a(n) = (7 * n ^ 3 + 30 * n ^ 2 + 32 * n) / 48 for n even. • a(n) = (7 * n ^ 3 + 27 * n ^ 2 + 17 * n - 3) / 48 for n odd. •

[A175661] • 1,5,10,23,49,104,217,449,922,1883,3829,7760,15685,31637,63706,128111,257353,516536,1036033,2076857,4161466,8335475,16691245,33415328,66883789 ★ Eight bishops and one elephant on a 3 X 3 chessboard: a(n) = 2^(n+2)-3*F(n+1), with F(n) = A000045(n). • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) with a(0)=1, a(1)=5 and a(2)=10. •

[A106729] • 5,10,25,65,170,445,1165,3050,7985,20905,54730,143285,375125,982090,2571145,6731345,17622890,46137325,120789085,316229930,827900705,2167472185,5674515850,14856075365,38893710245 ★ Sum of two consecutive squares of Lucas numbers (A001254). • a(n) = 3 * a(n - 1) - a(n - 2). - _ T. D. Noe _ , Dec 11 2006 • a(n) = (5 / 2) * ((3 / 2) + (1 / 2) * sqrt(5)) ^ n + (1 / 2) * ((3 / 2) + (1 / 2) * sqrt(5)) ^ n * sqrt(5) - (1 / 2) * ((3 / 2) - (1 / 2) * sqrt(5)) ^ n * sqrt(5) + (5 / 2) * ((3 / 2) - (1 / 2) * sqrt(5)) ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 19 2008 • a(n) = Fibonacci(n - 2) ^ 2 + Fibonacci(n + 3) ^ 2. - _ Gary Detlefs _ , Dec 28 2010 • a(n) = L(2n) + L(2n + 2). - _ Richard R. Forberg _ , Nov 23 2014 •

[A290055] • 0,1,5,10,26,40,80,110,190,245,385,476,700,840,1176,1380,1860,2145,2805,3190,4070,4576,5720,6370,7826 ★ Expansion of x*(1 + 4*x + x^2)/((1 - x)^5*(1 + x)^4). • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n) = (2 * n + 3 + (- 1) ^ n) * (2 * n + 7 + (- 1) ^ n) * (6 * n ^ 2 + 30 * n + 5 - (2 * n + 5) * (- 1) ^ n) / 1536. - _ Luce ETIENNE _ , Nov 18 2017 •

[A005514] • 1,1,5,10,29,57,126,232,440,750,1282,2052,3260,4950,7440,10824,15581,21879,30415,41470,56021,74503,98254,127920,165288 ★ Number of n-bead bracelets (turn over necklaces) with 8 red beads. • a(n) = ((n + 4) / 32) * s(n,0,8) + ((n - 4) / 32) * s(n,4,8) + (48 * C(n - 1,7) + (n + 1) * (n - 2) * (n - 4) * (n - 6)) / 768, if n is even; a(n) = (48 * C(n - 1,7) + (n - 1) * (n - 3) * (n - 5) * (n - 7)) / 768, if n odd. •

[A069921] • 1,5,10,29,73,194,505,1325,3466,9077,23761,62210,162865,426389,1116298,2922509,7651225,20031170,52442281,137295677,359444746,941038565,2463670945,6449974274,16886251873 ★ Define C(n) by the recursion C(0) = 1 + I where I^2 = -1, C(n+1) = 1/(1+C(n)); then a(n) = (-1)^n/Im(C(n)) where Im(z) is the imaginary part of the complex number z. • a(n) = ceiling(3 / 5 * (g / 2) ^ (n + 1)) - (1 + (- 1) ^ n) / 2, with g = 3 + sqrt(5). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). - _ Vladeta Jovovic _ , May 06 2002 • a(n) = F(n) ^ 2 + F(n + 2) ^ 2. - _ Ron Knott _ , Aug 02 2004 • a(n) = 2 * F(n) * F(n + 2) + F(n + 1) ^ 2 = F(n + 1) * F(n + 3) + F(n) ^ 2 + (- 1) ^ (n - 1). - _ J. M. Bergot _ , Sep 15 2012 •

[A294286] • 0,0,5,10,30,46,91,124,204,260,385,470,650,770,1015,1176,1496,1704,2109,2370,2870,3190,3795,4180,4900 ★ Sum of the squares of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 2 + (n - i) ^ 2. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n > 7. •

[A133629] • 1,5,10,30,55,155,280,780,1405,3905,7030,19530,35155,97655,175780,488280,878905,2441405,4394530,12207030,21972655,61035155,109863280,305175780,549316405 ★ a(1)=1, a(n) = a(n-1)+(p-1)*p^(n/2-1) if n is even, else a(n) = a(n-1)+p^((n-1)/2), where p=5. • a(n) = (p / (p - 1)) * (p ^ (n / 2) - 1) if n is even, else a(n)=(p / (p - 1)) * ((2p - 1) * p ^ ((n - 3) / 2) - 1). • a(n) = (p / (p - 1)) * (p ^ floor(n / 2) + p ^ floor((n - 1) / 2) - p ^ floor((n - 2) / 2) - 1). • a(n) = p ^ floor(n / 2) + (p ^ floor((n + 1) / 2) - p) / (p - 1). • a(n) = 5 * (5 ^ (n / 2) - 1) / 4 for n even. • a(n) = (9 * 5 ^ (n / 2 - 1 / 2) - 5) / 4 for n odd. • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) for n>3. •

[A156302] • 1,1,5,10,30,57,152,289,676,1304,2809,5335,10961,20487,40329,74476,141914,258094,479638,860025,1563716,2767982,4940567,8636563,15173805 ★ G.f.: A(x) = exp(Sum_{n>=1} sigma(n)^2*x^n/n), a power series in x with integer coefficients. • a(n) = (1 / n) * Sum _{ k=1..n } sigma(k) ^ 2 * a(n - k) for n>0, with a(0) = 1. •

[A002571] • 1,5,10,30,74,199,515,1355,3540,9276,24276,63565,166405,435665,1140574,2986074,7817630,20466835,53582855,140281751,367262376,961505400,2517253800,6590256025,17253514249 ★ From a definite integral. • a(n) = (- 1) ^ n * Sum[(- 1) ^ (i + 1) * (Fibonacci[i] * Fibonacci[i + 1]), { i,1,n + 1 }] - _ Alexander Adamchuk _ , Jun 16 2006 • a(n) = 8 * a(n - 2) - 8 * a(n - 4) + a(n - 6) + 2(- 1) ^ n, n>6. - _ Sean A. Irvine _ , Apr 09 2014 • a(n) - a(n - 2) = Fibonacci(n + 1) ^ 2. - _ Peter Bala _ , Aug 30 2015 •

[A189315] • 5,10,30,100,350,1250,4500,16250,58750,212500,768750,2781250,10062500,36406250,131718750,476562500,1724218750,6238281250,22570312500,81660156250,295449218750,1068945312500,3867480468750,13992675781250,50625976562500 ★ Expansion of 5*(1-3*x+x^2)/(1-5*x+5*x^2). • a(n) = 5 * a(n - 1) - 5 * a(n - 2), n>2, a(0)=5, a(1)=10, a(2)=30. • a(n) = Sum _{ k=1..5) (w _ k) ^ (2 * n), w _ k=2 * cos((2 * k - 1) * Pi / 10). • a(n) = 2 ^ (1 - n) * ((5 - Sqrt(5)) ^ n + (5 + Sqrt(5)) ^ n), for n>0, with a(0)=5. •

[A052648] • 0,5,10,30,120,600,3600,25200,201600,1814400,18144000,199584000,2395008000,31135104000,435891456000,6538371840000,104613949440000,1778437140480000,32011868528640000,608225502044160000 ★ Expansion of e.g.f. 5*x/(1-x). • a(n) = 5 * n!, n>0. •

[A189732] • 1,5,10,35,85,260,685,1985,5410,15335,42385,119060,330985,926285,2581210,7212635,20118685,56181860,156775285,437684585,1221561010,3409983935,9517788985,26567708660,74156653585 ★ a(1)=1, a(2)=5, a(n)=a(n-1) + 5a(n-2). • a(n) = 1 / 2 * ((1 / 2 + 1 / 2 * sqrt(21)) ^ (n - 1) + (1 / 2 - 1 / 2 * sqrt(21)) ^ (n - 1) + 3 / 14 * sqrt(21) * ((1 / 2 + 1 / 2 * sqrt(21)) ^ (n - 1) - (1 / 2 - 1 / 2 * sqrt(21)) ^ (n - 1)). - Paolo P. Lava, May 24 2011 •

[A117865] • 5,10,40,70,250,430,1510,2590,9070,15550,54430,93310,326590,559870,1959550,3359230,11757310,20155390,70543870,120932350,423263230,725594110,2539579390,4353564670,15237476350 ★ Number of palindromes (in base 6) below 6^n. • a(n) = 7 * 6 ^ ((n - 1) / 2) - 2 (n odd), 2 * 6 ^ (n / 2) - 2 (n even). •

[A163305] • 0,5,10,40,120,400,1280,4160,13440,43520,140800,455680,1474560,4771840,15441920,49971200,161710080,523304960,1693450240,5480120320,17734041600,57388564480,185713295360,600980848640,1944814878720 ★ Numerators of fractions in the approximation of the square root of 5 satisfying: a(n)= (a(n-1)+ c)/(a(n-1)+1); with c=5 and a(1)=0. Also product of the powers of two and five times the Fibonacci numbers. • a(n) = 2 * a(n - 1) + 4 * a(n - 2). •

[A001692] • 1,5,10,40,150,624,2580,11160,48750,217000,976248,4438920,20343700,93900240,435959820,2034504992,9536718750,44878791360,211927516500,1003867701480,4768371093720,22706531339280 ★ Number of irreducible polynomials of degree n over GF(5); dimensions of free Lie algebras. • a(n) = Sum _{ d|n } mu(d) * 5 ^ (n / d) / n, for n>0. •

[A103971] • 1,5,10,45,190,930,4660,24445,131190,719830,4013260,22684370,129661740,748252580,4353379560,25508284445,150392391590,891549228430,5310994644060,31775749689670,190860711108740,1150473009844380 ★ Expansion of (1 - sqrt(1 - 4x - 16x^2))/(2x). • a(n) = Sum _{ k=0..n } 4 ^ (n - k) * C(k) * C(k + 1, n - k). •

[A270085] • 1,5,10,46,55,151,168,356,377,689,714,1182,1211,1867,1900,2776,2

813,3941,3982,5394,5439,7167,7216,9292,9345 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 65", based on the 5-celled von Neumann neighborhood. • a(n) = 1 / 4 * (- 45 + (- 1) ^ n) + (35 * n) / 6 - (- 1 + (- 1) ^ n) * n ^ 2 + (2 * n ^ 3) / 3 for n>3. • a(n) = (4 * n ^ 3 + 35 * n - 66) / 6 for n>3 and even. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 35 * n - 69) / 6 for n>3 an d odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>8. •

[A216390] • 1,1,5,10,47,200,842,4698 ⋆ Number of values of k for which sigma(k) is a permutation of decimal digits of k, for 10^(n-1) < k < 10^n. • a(n) = # { k in A115920 | 10 ^ (n - 1) < k < 10 ^ n } . - _ M. F. Hasler _ , Feb 24 2014 •

[A270089] • 1,5,10,50,50,171,171,396,396,757,757,1286,1286,2015,2015,2976,2976,4201,4201,5722,5722,7571,7571,9780,9780 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 73", based on the 5-celled von Neumann neighborhood. • a(n) = (- 87 - 9 * (- 1) ^ n + (22 - 24 * (- 1) ^ n) * n - 12 * (- 2 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) / 12 for n>2. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 - n - 48) / 6 for n>2 and even. • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 23 * n - 39) / 6 for n>2 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>9. •

[A032088] • 5,10,50,300,1500,7750,38750,195000,975000,4881250,24406250,122062500,610312500,3051718750,15258593750,76293750000,381468750000,1907347656250,9536738281250,47683710937500 ⋆ Number of reversible strings with n beads of 5 colors. If more than 1 bead, not palindromic. • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - 25 * a(n - 3) for n > 4. • a(n) = 5 ^ (n / 2) * (5 ^ (n / 2) - 1) / 2 for n > 1 and even. • a(n) = - 5 * (5 ^ (n / 2 - 1 / 2) - 5 ^ (n - 1)) / 2 f or n > 1 and odd. •

[A081076] • 5,10,50,325,2210,15130,103685,710650,4870850,33385285,228826130,1568397610,10749957125,73681302250,505019158610,3461452808005,23725150497410,162614600673850,1114577054219525,7639424778862810 ⋆ Lucas(4n)+3, or 5*Fibonacci(2n-1)*Fibonacci(2n+1). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 3 + ((7 / 2) - (3 / 2) * sqrt(5)) ^ n + ((7 / 2) + (3 / 2) * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Dec 01 2008 •

[A277247] • 1,1,5,10,53,126,662,1716,8885,24310,124130,352716,1778966,5200300,25947612,77558760,383358645,1166803110,5719519850,17672631900,85990654178,269128937220,1300866635172,4116715363800,19780031677718 ⋆ a(n) = Sum_{k=0..floor(n/2)} binomial(n, k)^2. • a(n) = (binomial(2 * n, n) + (binomial(n, n / 2) * cos(Pi * n / 2)) ^ 2) / 2. •

[A270131] • 1,5,10,54,54,175,175,400,400,761,761,1290,1290,2019,2019,2980,2980,4205,4205,5726,5726,7575,7575,9784,9784 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 89", based on the 5-celled von Neumann neighborhood. • a(n) = 1 / 12 * (- 39 - 9 * (- 1) ^ n + (22 - 24 * (- 1) ^ n) * n - 12 * (- 2 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) for n>2. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 - n - 24) / 6 for n>2 and n even. • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 23 * n - 15) / 6 for n>2 and n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>9. •

[A227146] • 5,11,13,14,19,29,35,37,38,43,53,59,61,62,67,77,83,85,86,91,101,107,109,110,115 ⋆ Numbers that are congruent to {5, 11, 13, 14, 19} modulo 24. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = (120 * n - 50 - (n mod 5) + 19 * ((n + 1) mod 5) + 14 * ((n + 2) mod 5) - 6 * ((n + 3) mod 5) - 26 * ((n + 4) mod 5)) / 25. (End) •

[A206547] • 1,5,11,13,17,19,23,25,29,31,37,41,43,47,53,55,59,61,65,67,71,73,79,83,85 ⋆ Positive odd numbers relatively prime to 21. • a(n) = a(n - 12) + 42, n>=13. • a(n) = a(n - 1) + a(n - 12) - a(n - 13), n>=13, with a(0)= - 1. • a(n) = 2 * n - 1 + 2 * sum(F21[j] * floor((n + (j - 1)) / 12),j=1..12), with F21 =[1,2,0,1,0,1,0,1,0,2,1,0], n>=1. For n=0 this becomes - 1, but the following o .g.f. has a(0)=0 if it starts with x ^ 0. •

[A230288] • 0,5,11,13,17,26,35,44,53,62,71,79,97,105,111,113,117,125,131,133,137,145,151,153,157 ⋆ Sum of two digits touching a comma = difference between the two terms separated by that comma; start with a(0)=0, a(1)=5. If there is a choice, choose the smaller value for a(n). • a(n + 1) - a(n) = lsd(a(n)) + msd(a(n + 1)), where •

[A206581] • 5,11,13,19,23,37,43,47,61,67,73,79,103,151,157,163,191,193,211,223,271,277,283,313,331 ⋆ Odd primes p such that p+1 is a prime times a power of two. • a(n) >> n log ^ 2 n is implicit in Broughan & Qizhi, see A192869. - _ Charles R Greathouse IV _ , Sep 15 2015 •

[A269819] • 5,11,13,19,29,35,37,43,53,59,61,67,77,83,85,91,101,107,109,115,125,131,133,139,149 ⋆ Numbers that are congruent to {5, 11, 13, 19} mod 24. • a(n) = a(n - 4) + 24. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>4. • a(n) = 6 * n - 3 - (1 - i) * i ^ (- n) - (1 + i) * i ^ n for i=sqrt(- 1). (End) •

[A228706] • 1,1,1,5,11,14,18,30,45,55,67,91,119,140,164,204,249,285,325,385,451,506,566,650,741 ⋆ Expansion of (1-3*x+5*x^2-3*x^3+x^4)/((1-x)^4*(1+x^2)^2) • a(n) = (n + 2) * (2 * (n + 1) * (n + 3) + 9 * (1 + (- 1) ^ n) * i ^ (n * (n + 1))) / 48, where i=sqrt(- 1). [_ Bruno Berselli _ , Sep 07 2013] •

[A217585] • 0,1,5,11,15,19,23,27,31,35,39,43,47,51,55,59,63,67,71,75,79,83,87,91,95 ⋆ Number of triangles with endpoints of the form (x,x^2), x in {-n,...,n}, having at least one angle of 45°. • a(n) = 4n - 1 for n>2. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. G.f.: - x * (2 * x ^ 3 - 2 * x ^ 2 - 3 * x - 1) / (x - 1) ^ 2. - _ Colin Barker _ , Sep 20 2014 •

[A187715] • 1,5,11,15,21,25,31,35,41,45,51,55,61,65,71,75,81,85,91,95,101,105,111,115,121 ⋆ 5*n -(9+(-1)^n)/2. • a(n) = a(n - 1) + 4 if n is even, a(n) = a(n - 1) + 6 if n is odd. • a(n) = 2 * a(n - 1) - a(n - 2) - 2 * (- 1) ^ n. •

[A276037] • 1,5,11,15,51,55,111,115,151,155,511,515,551,555,1111,1115,1151,1155,1511,1515,1551,1555,5111,5115,5151 ⋆ Numbers using only digits 1 and 5. • a(2n + 1) = 10 a(n) + 1. • a(2n + 2) = 10 a(n) + 5. •

[A022136] • 5,11,16,27,43,70,113,183,296,479,775,1254,2029,3283,5312,8595,13907,22502,36409,58911,95320,154231,249551,403782,653333 ⋆ Fibonacci sequence beginning 5, 11. • a(n) = 2 * Lucas(n - 1) + 7 * Fibonacci(n + 1). - _ Lechoslaw Ratajczak _ , May 01 2017 •

[A041117] • 1,5,11,16,27,205,232,437,1106,5967,96578,488857,1074292,1563149,2637441,20025236,22662677,42687913,108038503,582880428,9434125351,47753507183,104941139717,152694646900,257635786617 ⋆ Denominators of continued fraction convergents to sqrt(67). • a(n) = 97684 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A042121] • 1,5,11,16,75,91,257,1376,66305,332901,732107,1065008,4992139,6057147,17106433,91589312,4413393409,22158556357,48730506123,70889062480,332286756043,403175818523,1138638393089,6096367783968,293764292023553 ⋆ Denominators of continued fraction convergents to sqrt(585). • a(n) = 66562 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A187387] • 5,11,17,22,28,34,39,45,51,56,62,68,73,79,85,90,96,102,108,113,119,125,130,136,142 ⋆ Floor(r*n), where r=1+sqrt(6)+sqrt(5); complement of A187388. • a(n)=floor(r * n), where r=1 + sqrt(6) + sqrt(5). •

[A190334] • 5,11,17,22,28,34,40,45,51,57,63,68,74,80,85,91,97,103,108,114,120,126,131,137,143 ⋆ a(n) = n + floor(nr/t) + floor(ns/t) where r=1, s=sqrt(3), t=1/s. • a(n) = 4n + floor(n * sqrt(3)). •

[A277571] • 5,11,17,23,29,30,35,41,47,53,59,65,66,71,77,83,89,95,101,102,107,113,119,125,131 ⋆ Numbers n such that n/6^m == 5 mod 6, where 6^m is the greatest power of 6 that divides n. • a(n) = 5n + O(log n). - _ Charles R Greathouse IV _ , Nov 03 2016 •

[A059538] • 5,11,17,23,29,35,41,47,53,59,65,71,77,83,89,95,101,107,113,118,124,130,136,142,148 ⋆ Beatty sequence for zeta(3)/(zeta(3)-1). • a(n) = floor(n * zeta(3) / (zeta(3) - 1)). - _ Michel Marcus _ , Jan 05 2015 •

[A016969] • 5,11,17,23,29,35,41,47,53,59,65,71,77,83,89,95,101,107,113,119,125,131,137,143,149 ⋆ a(n) = 6n + 5. • a(0) = 5; for n > 0, a(n) = a(n - 1) + 6. • a(n) = floor((12n - 1) / 2) with offset 1..a(1)=5. - _ Gary Detlefs _ , Mar 07 2010 • a(n) = 4 * (3 * n + 1) - a(n - 1) (with a(0)=5). - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = floor(1 / (1 / sin(1 / n) - n)). - _ Clark Kimberling _ , Feb 19 2010 • a(n) = 3 * Sum _{ k=0..n } binomial(6 * n + 5, 6 * k + 2) * bernoulli(6 * k + 2). - _ Michel Marcus _ , Jan 11 2016 •

[A023489] • 5,11,17,25,38,57,87,135,213,337,537,860,1382,2226,3591,5800,9372,15151,24501,39629,64106,103710,167790,271473,439235 ⋆ a(n) = b(n) + d(n), where b(n) = (n-th Lucas number > 3) and d(n) = (n-th number that is 1 or is not a Fibonacci number). • a(n) = phi ^ (n + 2) + n + log _ phi(n) + O(1). [_ Charles R Greathouse IV _ , Jan 17 2012] •

[A184822] • 5,11,18,24,30,37,42,49,55,61,68,74,79,86,92,99,105,111,117,123,130,136,142,149,154 ⋆ a(n) = n + floor(n*t) + floor(n*t^2), where t is the tribonacci constant. • a(n) = n + floor(n * q / p) + floor(n * r / p), where p =t, q=t ^ 2, r=t ^ 3, and t is the tribonacci constant (see Clark Kimberling's formula in A184812). •

[A056000] • 0,5,11,18,26,35,45,56,68,81,95,110,126,143,161,180,200,221,243,266,290,315,341,368,396 ⋆ a(n) = n*(n+9)/2. • a(n) = binomial(n,2) - 4 * n, n >= 9. - _ Zerinvary Lajos _ , Nov 25 2006 • a(n) = n + a(n - 1) + 4. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = Sum _{ k=1..n } (k + 4). - _ Gary Detlefs _ , Aug 10 2010 • a(n) = 5n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A240438] • 0,1,5,11,18,28,40,53,69,87,106,128,152,177,205,235,266,300,336,373,413,455,498,544,592 ⋆ Greatest minimal difference between numbers of adjacent cells in a regular hexagonal honeycomb of order n with cells numbered from 1 through the total number of cells, the order n corresponding to the number of cells on one side of the honeycomb. • a(n) = n * (n - 1) - floor((n + 1) / 3). • a(n + 3) = a(n) + 6 * n + 5. - _ Paul Curtz _ , Nov 11 2014 •

[A089270] • 1,5,11,19,29,31,41,55,59,61,71,79,89,95,101,109,121,131,139,145,149,151,155,179,181 ⋆ Positive numbers represented by the integer binary quadratic form x^2 + x*y - y^2 with x and y relatively prime. • a(n) = x ^ 2 + x * y - y ^ 2 with relatively prime integers x and y (proper solutions of the Diophantine equation). •

[A028387] • 1,5,11,19,29,41,55,71,89,109,131,155,181,209,239,271,305,341,379,419,461,505,551,599,649 ⋆ a(n) = n + (n+1)^2. • a(0) = 1, a(1) = 5, a(n) = (n + 1) * a(n - 1) - (n + 2) * a(n - 2) for n > 1. - _ Gerald McGarvey _ , Sep 24 2004 • a(n) = a(n - 1) + 2 * (n + 1), with n>0, a(0) = 1. - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = lower right term in M ^ 2, M = the 2 X 2 matrix [1, n; 1, (n + 1)]. - _ Gary W. Adamson _ , Jun 29 2011 •

[A274946] • 0,5,11,19,30,46,70,106,160,241,363,547,824,1241,1869,2815,4240,6386,9618,14486,21818,32861,49493,74543,112272 ⋆ Boyd's Pisot-like sequence F(0,5,11). • a(n) = a(n - 1) + a(n - 3) + a(n - 5) - a(n - 6) for n>5. •

[A032527] • 0,1,5,11,20,31,45,61,80,101,125,151,180,211,245,281,320,361,405,451,500,551,605,661,720 ⋆ Concentric pentagonal numbers: floor(5*n^2 / 4). • a(n) = 5 * n ^ 2 / 4 + ((- 1) ^ n - 1) / 8. - _ Omar E. Pol _ , Sep 28 2011 • a(n) = a(- n); a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>0, a(- 1) = 1, a(0) = 0, a(1) = 1, a(2) = 5, n >= 3. (See the _ Bruno Berselli _ recurrence and a general comment for primes 1 (mod 4) under A227541). - _ Wolfdieter Lang _ , Aug 08 2013 • a(n) = Sum _{ j=1..n } Sum { i=1..n } ceiling((i + j - n + 1) / 2). - _ Wesley Ivan Hurt _ , Mar 12 2015 •

[A212978] • 1,5,11,20,32,46,63,83,105,130,158,188,221,257,295,336,380,426,475,527,581,638,698,760,825 ⋆ Number of (w,x,y) with all terms in {0,...,n} and

range = 2*n-w-x. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). •

[A080957] • 5,11,20,34,55,85,126,180,249,335,440,566,715,889,1090,1320,1581,1875,2204,2570,2975,3421,3910,4444,5025 ★ Expansion of (5 - 9*x + 6*x^2)/(1-x)^4. • a(n) = 3!(C(n + 1, 1) - C(n + 2, 2) / 2 + C(n + 3, 3) / 3) = (2n ^ 3 + 3n ^ 2 + 31n + 30) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>3. - _ Vincenzo Librandi _ , Sep 07 2015 •

[A118375] • 1,5,11,20,35,57,85,120,165,221,287,364,455,561,681,816,969,1141,1331,1540,1771,2025,2301,2600,2925 ★ Minimum over all permutations b of 1..n of sum b(i)*b^{-1}(i). • a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). - _ Vincenzo Librandi _ , Jun 27 2012 •

[A164096] • 5,11,21,33,53,77,117,165,245,341,501,693,1013,1397,2037,2805,4085,5621,8181,11253,16373,22517,32757,45045,65525 ★ Partial sums of A164095. • a(n) = 2 * a(n - 2) + 11 for n > 2; a(1) = 5, a(2) = 11. • a(n) = (27 - 5 * (- 1) ^ n) * 2 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2 - 11. •

[A166863] • 1,5,11,21,37,63,105,173,283,461,749,1215,1969,3189,5163,8357,13525,21887,35417,57309,92731,150045,242781,392831,635617 ★ a(1)= 1; a(2)= 5; thereafter a(n)= a(n-1) + a(n-2) + 5. • a(n) = 2 * a(n - 1) - a(n - 3). •

[A131898] • 1,5,11,21,39,73,139,269,527,1041,2067,4117,8215,16409,32795,65565,131103,262177,524323,1048613,2097191,4194345,8388651,16777261,33554479 ★ a(n) = 2^(n+1)+2*n-1. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A168642] • 1,5,11,21,43,85,171,341,683,1365,2731,5461,10923,21845,43691,87381,174763,349525,699051,1398101,2796203,5592405,11184811,22369621,44739243 ★ a(n) = (8*2^n + (-1)^n)/3 for n > 0; a(0) = 1. • a(n) = a(n - 1) + 2 * a(n - 2) for n > 2; a(0) = 1, a(1) = 5, a(2) = 11. •

[A234597] • 5,11,21,48,107,229,501,1099,2394,5225,11417,24923,54409,118808,259403,566361,1236597,2699975,5895058,12871185,28102765,61359099,133970477,292509056,638659595 ★ Number of Weyl group elements, not containing an s_1 factor, which contribute nonzero terms to Kostant's weight multiplicity formula when computing the multiplicity of the zero-weight in the adjoint representation for the Lie algebra of type D and rank n. • a(n) = a(n - 1) + a(n - 2) + 3 * a(n - 3) + a(n - 4). G.f.: - x ^ 4 * (x ^ 3 + 5 * x ^ 2 + 6 * x + 5) / (x ^ 4 + 3 * x ^ 3 + x ^ 2 + x - 1). - _ Colin Barker _ , Dec 30 2013 •

[A184552] • 0,5,11,22,28,33,39,50,56,61,67,78,84,89,95,106,112,117,123,134,140,145,151,162,168 ★ Super-birthdays (falling on the same weekday), version 4 (birth in the year preceding a February 29). • a(n) = + 1 * a(n - 1) + 1 * a(n - 4) - 1 * a(n - 5). (End) •

[A222548] • 1,5,11,22,32,52,66,92,115,147,169,219,245,289,333,390,424,496,534,612,672,740,786,898,957 ★ a(n) = sum_{k=1..n} floor(n/k)^2. • a(n) = zet a(2) * n ^ 2 + O(n log n). •

[A024921] • 1,5,11,22,33,52,67,93,117,149,174,219,250,293,339,392,434,500,546,619,680,748,804,903,969 ★ a(n) = sum of [(n/k)*[n/k]], k = 1,2,3,...,n. • a(n) = n ^ 2 Pi ^ 2 / 6 + O(n log n) as n - > infinity. - _ Robert Israel _ , Aug 05 2016 •

[A192761] • 0,1,5,11,22,40,70,119,199,329,540,882,1436,2333,3785,6135,9938,16092,26050,42163,68235,110421,178680,289126,467832 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: x * (2 * x ^ 2 - 2 * x - 1) / ((x - 1) ^ 2 * (x ^ 2 + x - 1)). [_ Colin Barker _ , Dec 08 2012] •

[A210731] • 0,0,5,11,23,42,74,126,211,349,573,936,1524,2476,4017,6511,10547,17078,27646,44746,72415,117185,189625,306836,496488 ★ a(n) = a(n-1)+a(n-2)+n+3 with n>1, a(0) = a(1) = 0. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: x ^ 2 * (5 - 4 * x) / ((1 - x) ^ 2 * (1 - x - x ^ 2)). [_ Colin Barker _ , Jun 29 2012] •

[A192954] • 1,1,5,11,23,43,77,133,225,375,619,1015,1657,2697,4381,7107,11519,18659,30213,48909,79161,128111,207315,335471,542833 ★ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[A052940] • 1,5,11,23,47,95,191,383,767,1535,3071,6143,12287,24575,49151,98303,196607,393215,786431,1572863,3145727,6291455,12582911,25165823,50331647 ★ a(0) = 1; a(n) = 3*2^n - 1, for n > 0. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A084640] • 0,1,5,11,25,51,105,211,425,851,1705,3411,6825,13651,27305,54611,109225,218451,436905,873811,1747625,3495251,6990505,13981011,27962025 ★ Generalized Jacobsthal numbers. • a(n) = a(n - 1) + 2a(n - 2) + 4, a(0)=0, a(1)=1. • a(n) = (5 * 2 ^ n + (- 1) ^ n - 6) / 3. • a(n + 1) - 2 * a(n) = period 2: repeat 1, 3. - _ Paul Curtz _ , Apr 03 2008 • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3), a(0)=0, a(1)=1, a(2)=5. Observed by G. Detlefs. See the W. Lang link. - _ Wolfdieter Lang _ , Oct 18 2010 •

[A274681] • 0,5,11,26,38,63,81,116,140,185,215,270,306,371,413,488,536,621,675,770,830,935,1001,1116,1188 ★ Numbers k such that 4*k + 1 is a triangular number. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. • a(n) = (1 - (- 1) ^ n + 2 * (- 4 + (- 1) ^ n) * n + 8 * n ^ 2) / 4. • a(n) = (4 * n ^ 2 - 3 * n) / 2 for n even, a(n) = (4 * n ^ 2 - 5 * n + 1) / 2 for n odd. •

[A287350] • 5,11,26,63,155,386,971,2463,6290,16151,41651,107778,279635,727031,1893266,4936383,12883115,33647426,87928091,229874703,601171730,1572591911,4114506851,10766734338,28177307555 ★ Number of independent vertex sets and vertex covers in the n-gear graph. • a(n) = 2 ^ n + Lucas(2 * n). • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 2 * a(n - 3) for n>3. • a(n) = 2 ^ (- n) * (4 ^ n + (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n). •

[A048655] • 1,5,11,27,65,157,379,915,2209,5333,12875,31083,75041,181165,437371,1055907,2549185,6154277,14857739,35869755,86597249,209064253,504725755,1218515763,2941757281 ★ Generalized Pellian with second term equal to 5. • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1, a(1)=5. • a(n) = ((4 + sqrt(2))(1 + sqrt(2)) ^ n - (4 - sqrt(2))(1 - sqrt(2)) ^ n) / 2 * sqrt(2). • a(n) = P(n) - 3 * P(n + 1) + 2 * P(n + 2). - _ Creighton Dement _ , Jan 18 2005 • a(n) = 3 * Pell(n) + Pell(n + 1), where Pell = A000129. - _ Vladimir Reshetnikov _ , Sep 27 2016 •

[A041671] • 1,1,5,11,27,497,1021,2539,11177,13716,504953,518669,2579629,5677927,13935483,256516621,526968725,1310454071,5768785009,7079239080,260621391889,267700630969,1331423915765,2930548462499,7192520840763 ★ Denominators of continued fraction convergents to sqrt(354). • a(n) = 516130 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A059508] • 5,11,29,79,216,590,1609,4381,11911,32339,87690,237496,642509,1736399,4688081,12645655,34080924,91775426,246948241,663999649,1784138875,4790751131,12856028814,34478744044,92416515221 ★ Transform of A059502 applied to sequence 5,6,7,... • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). • a(n) = ((3 - n) * Fibonacci(2 * n) + (20 + 3 * n) * Fibonacci(2 * n - 1)) / 5. - _ G. C. Greubel _ , Sep 10 2017 •

[A114688] • 1,5,11,30,71,175,421,1020,2461,5945,14351,34650,83651,201955,487561,1177080,2841721,6860525,16562771,39986070,96534911,233055895,562646701,1358349300,3279345301 ★ Expansion of (-1-3*x+x^2)/((1-x)*(x+1)*(x^2+2*x-1)); a Pellian-related sequence. • a(0)=1, a(1)=5, a(2)=11, a(3)=30, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 18 2012 • a(n) = (- 6 - 6 * (- 1) ^ n - 5 * sqrt(2) * ((1 - sqrt(2)) ^ (1 + n) - (1 + sqrt(2)) ^ (1 + n))) / 8. - _ Colin Barker _ , May 26 2016 •

[A023259] • 5,11,31,59,61,71,149,179,269,439,499,541,571,719,761,1049,1091,1181,1319,1451,1489,1579,1601,1831,1861 ★ Numbers n such that n remains prime through 2 iterations of function f(x) = 7x + 6. • a(n) = 1 or 9 (mod 10) for n > 1. - _ John Cerkan _ , Sep 14 2016 •

[A038580] • 5,11,31,59,127,179,277,331,431,599,709,919,1063,1153,1297,1523,1787,1847,2221,2381,2477,2749,3001,3259,3637 ★ Primes with indices that are primes with prime indices. • a(n) = prime(prime(prime(n))). •

[A077446] • 1,5,11,31,65,181,379,1055,2209,6149,12875,35839,75041,208885,437371,1217471,2549185,7095941,14857739,41358175,86597249,241053109,504725755,1404960479,2941757281 ★ Numbers n such that 2*n^2 + 14 is a square. • a(2 * k - 1) = [2 * [(3 + 2 * Sqrt(2)) ^ n - (3 - 2 * Sqrt(2)) ^ n] - [(3 + 2 * Sqrt(2)) ^ (n - 1) - (3 - 2 * Sqrt(2)) ^ (n - 1)] + [(3 + 2 * Sqrt(2)) ^ (n - 2) - (3 - 2 * Sqrt(2)) ^ (n - 2)]] / (4 * Sqrt(2)) a(2 * k) = [5 * [(3 + 2 * Sqrt(2)) ^ n - (3 - 2 * Sqrt(2)) ^ n] + [(3 + 2 * Sqrt(2)) ^ (n - 1) - (3 - 2 * Sqrt(2)) ^ (n - 1)]] / (4 * Sqrt(2)). • a(n) = 6 * a(n - 2) - a(n - 4). • a(n) = 6 * a(n - 2) - a(n - 4) with a(1)=1, a(2)=5, a(3)=11, a(4)=31. - _ Sture Sjöstedt _ , Oct 08 2012 •

[A023276] • 5,11,31,71,281,521,911,1181,2371,2521,3391,3701,4211,4931,5051,7211,7411,8221,8431,8461,8501,8641,8951,9601,9871 ★ Numbers n such that n remains prime through 3 iterations of function f(x) = 2x + 9. • a(n) == 1 (mod 10) for n > 1. - _ John Cerkan _ , Sep 16 2016 •

[A236428] • 1,1,5,11,31,79,209,545,1429,3739,9791,25631,67105,175681,459941,1204139,3152479,8253295,21607409,56568929,148099381,387729211,1015088255,2657535551,6957518401 ★ a(n) = F(n+1)^2 + F(n+1)*F(n) - F(n)^2, where F = A000045. • a(n) = (2 * Lucas(2 * n + 1) + 3 * (- 1) ^ n) / 5. - _ Ralf Stephan _ , Feb 27 2014 • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). - _ Colin Barker _ , Dec 20 2014 • a(n) = F(n - 1) * F(n + 2) + F(n) * F(n + 1). - _ J. M. Bergot _ , Dec 20 2014 • a(n) = 2 * F(n) * F(n + 1) + (- 1) ^ n. - _ Bruno Berselli _ , Oct 30 2015 • a(n) = F(2 * n + 1) - F(n - 1) ^ 2 + (- 1) ^ n for n>0. - _ J. M. Bergot _ , Jan 19 2016 • a(n) = (2 ^ (- n) * (3 * (- 2) ^ n - (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Sep 28 2016 •

[A127864] • 1,1,5,11,33,87,241,655,1793,4895,13377,36543,99841,272767,745217,2035967,5562369,15196671,41518081,113429503,309895169,846649343,2313089025,6319476735,17265131521 ★ Number of tilings of a 2xn board with 1x1 and L-shaped tiles (where the L-shaped tiles cover 3 squares). • a(n) = a(n - 1) + 4 a(n - 2) + 2 a(n - 3); a(n) = (- 1) ^ n + (1 / Sqrt(3)) * ((1 + Sqrt(3)) ^ n - (1 - Sqrt(3)) ^ n). •

[A194589] • 0,0,1,1,5,11,34,92,265,751,2156,6194,17874,51702,149941,435749,1268761,3700391,10808548,31613474,92577784,271407896,796484503,2339561795,6877992334 ★ a(n) = A194588(n) - A005043(n); complementary Riordan numbers. • a(n) = PSUMSIGN([0,0,1,2,6,16,45,..] = PSUMSIGN([0,0,A005717]) where PSUMSIGN is from Sloane's "Transformations of integer sequences" . - Peter Luschny, Jan 17 2012 • a(n) = Sum _{ k=0..n / 2 } C(n + 2,k) * C(n - k,k). - _ Vladimir Kruchinin _ , Sep 28 2015 • a(n) = hypergeom([1 - n / 2, - n,3 / 2 - n / 2],[1,2 - n],4) for n>=3. - _ Peter Luschny _ , Mar 07 2017 •

[A164560] • 1,5,11,35,71,215,431,1295,2591,7775,15551,46655,93311,279935,559871,1679615,3359231,10077695,20155391,60466175,120932351,362797055,725594111,2176782335,4353564671 ★ Partial sums of A164532. • a(n) = 6 * a(n - 2) + 5 for n > 2; a(1) = 1, a(2) = 5. • a(n) = (3 - (- 1) ^ n) * 6 ^ (1 / 4 * (2 * n - 1 + (- 1) ^ n)) / 2 - 1. •

[A054854] • 1,1,5,11,35,93,269,747,2115,5933,16717,47003,132291,372157,1047181,2946251,8289731,23323853,65624397,184640891,519507267,1461688413,4112616845,11571284395,32557042499 ★ Number of ways to tile a 4 X n region with 1 X 1 and 2 X 2 tiles. • a(n) = a(n - 1) + 4 * a(n - 2) + 2 * (a(n - 3) + a(n - 4) + ... + a(0)). • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3). - Keith Schneider (kschneid(AT)bulldog.unca.edu), Apr 02 2006 • a(n) = Term (2,2) of matrix [5,1,1; 1,1,0; 1,0,1 / 2] * [2,1,0; 3,0,1; - 2,0,0] ^ n. - _ Alois P. Heinz _ , May 18 2008 •

[A188161] • 5,11,35,131,515,2051,8195,32771,131075,524291,2097155,838861

1,33554435,134217731,536870915,2147483651,8589934595,34359738371,137438953475,549755813891,2199023255555,8796093022211,35184372088835,140737488355331 ★ 2*4^n + 3. • a(n) = + 5 * a(n - 1) - 4 * a(n - 2). [_ Joerg Arndt _ , Apr 09 2011] • a(n) = a(n - 1) + 6 * 4 ^ (n - 1) for n > 0, a(0)=5. - _ Felix P. Muga II _ , Mar 19 2014 • a(n) = a(n - 1) + 12 * a(n - 2) - 36 for n > 1 , a(0)=5, a(1)=11. - _ Felix P. Muga II _ , Mar 19 2014 •

[A005178] • 0,1,1,5,11,36,95,281,781,2245,6336,18061,51205,145601,413351,1174500,3335651,9475901,26915305,76455961,217172736,616891945,1752296281,4977472781,14138673395 ★ Number of domino tilings of 4 X (n-1) board. • a(n) = a(n - 1) + 5 * a(n - 2) + a(n - 3) - a(n - 4). • a(n) = (5 * sqrt(29) / 145) * (((1 + sqrt(29) + sqrt(14 + 2 * sqrt(29))) / 4) ^ n + ((1 + sqrt(29) - sqrt(14 + 2 * sqrt(29))) / 4) ^ n - ((1 - sqrt(29) + sqrt(14 - 2 * sqrt(29))) / 4) ^ n - ((1 - sqrt(29) - sqrt(14 - 2 * sqrt(29))) / 4) ^ n). - _ Tim Monahan _ , Jul 30 2011 • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = (1 + sqrt(29)) / 4 and beta = (1 - sqrt(29)) / 4 and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 7 / 4; 1, 1 / 2]. • a(n) = U(n - 1,i * (1 + sqrt(5)) / 4) * U(n - 1,i * (1 - sqrt(5)) / 4), where U(n,x) denotes the Chebyshev polynomial of the second kind. •

[A042719] • 1,1,5,11,38,49,87,1006,2099,3105,11414,219971,231385,451356,682741,1134097,7487323,8621420,50594423,59215843,228241952,1885151459,5883696329,7768847788,44727935269 ★ Denominators of continued fraction convergents to sqrt(889). • a(n) = 26463694435607314430 * a(n - 42) - a(n - 84) for n>83. - _ Vincenzo Librandi _ , Jan 27 2014 •

[A141355] • 1,1,5,11,43,85,341,683,2731,5461,21845,43691,174763,349525,1398101,2796203,11184811,22369621,89478485,178956971,715827883,1431655765,5726623061,11453246123,45812984491 ★ The Jacobsthal sequence, dropping each third term. • a(4n + 1)=2a(4n) - 1. a(4n + 2)=4a(4n + 1) + 1. a(4n + 3)=2a(4n + 2) + 1. a(4n + 4)=4a(4n + 3) - 1. • a(n)=7 * a(n - 2) + 8 * a(n - 4). G.f.: (1 + x - 2 * x ^ 2 + 4 * x ^ 3) / ((1 - 8 * x ^ 2) * (1 + x ^ 2)). - R. J. Mathar, Feb 23 2009 •

[A041213] • 1,1,5,11,49,60,1249,1309,6485,14279,63601,77880,1621201,1699081,8417525,18534131,82554049,101088180,2104317649,2205405829,10925940965,24057287759,107155092001,131212379760 ★ Denominators of continued fraction convergents to sqrt(117). • a(n) = 1298 * a(n - 6) - a(n - 12). G.f.: - (x ^ 10 - x ^ 9 + 5 * x ^ 8 - 11 * x ^ 7 + 49 * x ^ 6 - 60 * x ^ 5 - 49 * x ^ 4 - 11 * x ^ 3 - 5 * x ^ 2 - x - 1) / ((x ^ 2 - 3 * x - 1) * (x ^ 2 + 3 * x - 1) * (x ^ 4 - 3 * x ^ 3 + 10 * x ^ 2 + 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 10 * x ^ 2 - 3 * x + 1)). [_ Colin Barker _ , Jul 19 2012] •

[A109546] • 5,11,53,203,821,3275,13109,52427,209717,838859,3355445,13421771,53687093,214748363,858993461,3435973835,13743895349,54975581387,219902325557,879609302219,3518437208885,14073748835531,56294995342133 ★ (4^(n+1)-(-1)^n 9)/5. • a(0)= - 1, a(n)=4 * a(n - 1) - (- 1) ^ n * 9, n >=1. •

[A083860] • 0,1,1,5,11,55,176,937,3781,21571,102455,624493,3356640,21752431,129055681,884773585,5696734715,41129090011,283908657880,2149818248341,15765656131765,124759995175751,965186517474191,7956847444317049 ★ First sub-diagonal of generalized Fibonacci array A083856. • a(n)=(((1 + sqrt(4n + 5)) / 2) ^ n - ((1 - sqrt(4n + 5)) / 2) ^ n) / sqrt(4n + 5). •

[A141496] • 1,5,11,55,275,1375,6875,34375,171875,859375,4296875,21484375,107421875,537109375,2685546875,13427734375,67138671875,335693359375,1678466796875,8392333984375,41961669921875,209808349609375 ★ a(0)=1; a(1)=5; a(2)=11; a(n)=a(1)*a(n-1). • a(n) = 11 * 5 ^ (n - 2) for n>1. a(n) = 5 * a(n - 1) for n>2. G.f.: (1 - 14 * x ^ 2) / (1 - 5 * x). [_ Colin Barker _ , Oct 13 2012] •

[A041697] • 1,5,11,60,2291,11515,25321,138120,5273881,26507525,58288931,317952180,12140471771,61020311035,134181093841,731925780240,27947360742961,140468729495045,308884819733051,1684892828160300,64334812289824451,323358954277282555 ★ Denominators of continued fraction convergents to sqrt(368). • a(n) = 2302 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A161852] • 1,5,11,79,175,1259,2789,20065,44449,319781,708395,5096431,11289871,81223115,179929541,1294473409,2867582785,20630351429,45701395019,328791149455,728354737519,5240028039851,11607974405285,83511657488161,184999235747041 ★ Solutions to the simultaneous equations m(n)+1=a(n)^2 and 7*m(n)+1=b(n)^2. • a(n) = ((7 + (- 1) ^ n * t) * (8 - 3 * t) ^ floor(n / 2) + (7 - (- 1) ^ n * t) * (8 + 3 * t) ^ floor(n / 2)) / 14 with t=sqrt(7). (End) • a(n) = 16 * a(n - 2) - a(n - 4) with a(1)=1, a(2)=5, a(3)=11, a(4)=79. - _ Sture Sjöstedt _ , Nov 18 2011 •

[A120778] • 1,5,11,93,193,793,1619,26333,53381,215955,436109,3518265,7088533,28539857,57414019,1846943453,3711565741,14911085359,29941580393,240416274739,482473579583,1936010885087,3883457090629,62306843256889 ★ Numerators of partial sums of Catalan numbers scaled by powers of 1/4. • a(n) = numerator(1 - ((n + 1 / 2)!) / (sqrt(Pi) * (n + 1)!)). • a(n) = 2 ^ (2 * (n + 1) - HammingWeight(n + 1)) * (1 - ((n + 1 / 2)!) / (sqrt(Pi) * (n + 1)!)). (End) •

[A041909] • 1,1,5,11,115,241,1079,1320,56519,57839,287875,633589,6623765,13881119,62148241,76029360,3255381361,3331410721,16581024245,3649345921,381515616355,799524691921,3579614384039,4379139075960,18750345557435 9 ★ Denominators of continued fraction convergents to sqrt(476). • a(n) = 57598 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A214067] • 0,5,12,17,25,30,37,42,50,55,62,67,75,80,87,92,100,105,112,117,125,130,137,142,150 ★ [(5/2)*[(5/2)*n]], where [ ] = floor. • a(n) = (50 * n - 7 + 5 * (- 1) ^ n + (1 + i) * (- i) ^ n + (1 - i) * i ^ n) / 8, where i = sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5). •

[A290494] • 5,12,17,25,44,76,131,219,376,645,1107,1894,3245,5564,9539,16351,28027,48047,82367,141200,242054,414949,711342,1219443,2090471 ★ Number of irredundant sets in the n-wheel graph. • a(n)=2 * a(n - 1) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7). •

[A022137] • 5,12,17,29,46,75,121,196,317,513,830,1343,2173,3516,5689,9205,14894,24099,38993,63092,102085,165177,267262,432439,699701 ★ Fibonacci sequence beginning 5, 12. • a(n) = Lucas(n + 4) - Fibonacci(n - 3). - _ Ehren Metcalfe _ , Oct 16 2017 •

[A294143] • 1,5,12,18,29,43,60,72,84,106,131,147,176,208,243,265,304,328,371,397,444,494,547,579,611 ★ Sum of the larger parts of the partitions of 2n into two parts with smaller part squarefree. • a(n) = Sum _{ i=1..n } (2n - i) * mu(i) ^ 2. •

[A017041] • 5,12,19,26,33,40,47,54,61,68,75,82,89,96,103,110,117,124,131,138,145,152,159,166,173 ★ a(n) = 7*n + 5. • a(n) = 7 * n + 5, n >= 0 (see the name). •

[A086570] • 1,5,12,20,28,36,44,52,60,68,76,84,92,100,108,116,124,132,140,148,156,164,172,180,188 ★ Expansion of (1 + 3x + 5x^2 + 7x^3...) / (1 - 2x + 3x^2 - 4x^3...). • a(0) = 1, a(1) = 5, a(2) = 12; then a(n + 1) = a(n) + 8, n >2. •

[A270079] • 1,5,12,20,32,44,68,72,100,112,156,160,204,216,276,280,340,352,428,432,508,520,612,616,708 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 62", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n>10. •

[A028347] • 0,5,12,21,32,45,60,77,96,117,140,165,192,221,252,285,320,357,396,437,480,525,572,621,672 ★ a(n) = n^2 - 4. • a(n + 2) = n * (n + 4). G.f.: x ^ 3 * (5 - 3 * x) / (1 - x) ^ 3. - _ Barry E. Williams _ , Jun 16 2000, _ R. J. Mathar _ , Aug 06 2009 • a(n) = 2 * n + a(n - 1) - 1. - _ Vincenzo Librandi _ , Aug 02 2010 • a(n) = x, the solution of k = (sqrt(x) + n) / 2 and k + (1 / k) = n (also valid for a(0) = - 4 and a(1) = - 3). - _ Charles L. Hohn _ , Apr 16 2011 •

[A256320] • 0,1,5,12,21,33,48,65,85,108,133,161,192,225,261,300,341,385,432,481,533,588,645,705,768 ★ Number of partitions of 4n into exactly 3 parts. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>4. • a(n) = 2 * (6 * n ^ 2 + cos((2 * Pi * n) / 3) - 1) / 9. - _ Colin Barker _ , Jun 06 2016 •

[A293502] • 0,1,5,12,22,35,50,69,90,114,141,171,203,239,277,318,362,408,458,510,565,623,684,748,814 ★ Greatest integer k such that k/n^2 < sqrt(2). • a(n) = floor(r * n ^ 2), where r = sqrt(2). •

[A000326] • 0,1,5,12,22,35,51,70,92,117,145,176,210,247,287,330,376,425,477,532,590,651,715,782,852 ★ Pentagonal numbers: a(n) = n*(3*n-1)/2. • a(n) = n * (3 * n - 1) / 2. • a(n) = binomial(3 * n, 2) / 3. - _ Paul Barry _ , Jul 20 2003 • a(0) = 0, a(1) = 1; for n >= 2, a(n) = 2 * a(n - 1) - a(n - 2) + 3. - _ Miklos Kristof _ , Mar 09 2005 • a(n) = Sum _{ k=1..n } (2 * n - k). - _ Paul Barry _ , Aug 19 2005 • a(n) = binomial(n + 1, 2) + 2 * binomial(n, 2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(0) = 0, a(1) = 1, a(2) = 5. - _ Jaume Oliver Lafont _ , Dec 02 2008 •

[A034971] • 5,12,22,36,53,73,97,124,154,187,223,263,306,352,402,454,510,569,632,697,766,838,914,992,1074 ★ floor[E_(n+1)/E_(n)] where E_n is n-th Euler number (see A028296 and A000364). • a(n)=[E(n + 1) / E(n)] where E(n) is n - th coefficient in expansion of sec(x). •

[A130624] • 0,1,5,12,23,43,84,169,341,684,1367,2731,5460,10921,21845,43692,87383,174763,349524,699049,1398101,2796204,5592407,11184811,22369620 ★ Binomial transform of A101000. • a(0) = 0, a(1) = 1, a(2) = 5; for n > 2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3). • a(n)= - (2 / 3) * [1 / 2 - (1 / 2) * I * sqrt(3)] ^ n - (2 / 3) * [1 / 2 + (1 / 2) * I * sqrt(3)] ^ n + (4 / 3) * 2 ^ n - (1 / 3) * I * [1 / 2 - (1 / 2) * I * sqrt(3)] ^ n * sqrt(3) + (1 / 3) * I * [1 / 2 + (1 / 2) * I * sqrt(3)] ^ n * sqrt(3), with n>=0 and I=sqrt(- 1) [From _ Paolo P. Lava _ , Oct 06 2008] •

[A270681] • 1,5,12,24,32,52,60,88,96,132,140,184,192,244,252,312,320,388,396,472,480,564,572,664,672 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 190", based on the 5-celled von Neumann neighborhood. • a(n) = 3 / 2 * (- 1 + (- 1) ^ n) - (- 5 + (- 1) ^ n) * n + n ^ 2 for n>1. • a(n) = n ^ 2 + 4 * n for n>1 and even. • a(n) = n ^ 2 + 6 * n - 3 for n>1 and odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. •

[A101425] • 5,12,24,38,57,78,104,132,165,200,240,282,329,378,432,488,549,612,680,750,825,902,984,1068,1157 ★ Number of different cuboids with volume p^5 X q^n, where p,q are distinct prime numbers. • a(n) = (37 + 3 * (- 1) ^ n + 48 * n + 14 * n ^ 2) / 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A289586] • 1,5,12,25,60,125,300,625,1500,3125,7500,15625,37500,78125,187500,390625,937500,1953125,4687500,9765625,23437500,48828125,117187500,244140625,585937500 ★ Numbers k whose smallest multiple that is a Fibonacci number is Fibonacci(k). • a(2 * k) = 5 ^ k for k >= 1. • a(2 * k - 1) = 12 * 5 ^ (k - 2) for k >= 2. •

[A212561] • 0,0,1,5,12,26,45,75,112,164,225,305,396,510,637,791,960,1160,1377,1629,1900,2210,2541,2915,3312 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w + x = 2y + 2z. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (2 * n ^ 3 - 2 * n ^ 2 + n - 1 - (n - 1) * (- 1) ^ n) / 8 = (n - 1) * (2 * n ^ 2 + 1 - (- 1) ^ n) / 8. - _ Luce ETIENNE _ , Jul 26 2014 •

[A200252] • 5,12,26,45,75,112,164,225,305,396,510,637,791,960,1160,1377,1629,1900,2210,2541,2915,3312,3756,4225,4745 ★ Number of 0..n arrays x(0..2) of 3 elements with each no smaller than the sum of its previous elements modulo

(n+1). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (n ^ 3 + 5 * n ^ 2 + 8 * n + 4) / 4 for n even. • a(n) = (n ^ 3 + 5 * n ^ 2 + 9 * n + 5) / 4 for n odd. •

[A176448] • 5,12,26,54,110,222,446,894,1790,3582,7166,14334,28670,57342,114686,229374,458750,917502,1835006,3670014,7340030,14680062,29360126,58720254,117440510 ⋆ 7*2^n-2 • a(n)=2 * (a(n - 1) + 1) with a(0)=5 • a(n)= + 3 * a(n - 1) - 2 * a(n - 2). G.f.: (5 - 3 * x) / ((2 * x - 1) * (x - 1)). [From _ R. J. Mathar _ , May 02 2010] •

[A128439] • 1,5,12,27,55,107,203,375,684,1229,2189,3863,6773,11801,20460,35311,60707,104003,177631,302539,513996,871265,1473817,2488367,4194025 ⋆ a(n) = floor(n*t^n), where t=golden ratio=(1+sqrt(5))/2. • a(n) = n * F(n - 1) + floor(n * t * F(n)), where F=A000045, the Fibonacci numbers. •

[A038376] • 0,0,0,0,1,5,12,28,50,90,140,220,315,455,616,840,1092,1428,1800,2280,2805,3465,4180,5060,6006 ⋆ a(n) = (n-3)*A006918(n)/2. • a(n) = (n ^ 4 - 3 * n ^ 3 - 4 * n ^ 2 + 12 * n) / 48 for n even. • a(n) = (n ^ 4 - 3 * n ^ 3 - n ^ 2 + 3 * n) / 48 for n odd. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>7. •

[A055245] • 1,1,5,12,28,61,127,257,507,982,1872,3523,6557,12089,22105,40128,72380,129809,231611,411337,727455,1281578,2249856,3936935,6868537 ⋆ Numerator sequence of mean length of certain stackings of n+1 squares on a double staircase. • a(0)=1, a(1)=1, a(2)=5, a(3)=12, a(4)=28, a(5)=61, a(n)=3 * a(n - 1) - 5 * a(n - 3) + 3 * a(n - 5) + a(n - 6). - _ Harvey P. Dale _ , Aug 24 2014 •

[A069306] • 5,12,29,70,169,408,985,2378,5741,13860,33461,80782,195025,470832,1136689,2744210,6625109,15994428,38613965,93222358,225058681,543339720,1311738121,3166815962,7645370045 ⋆ Number of 2 X n binary arrays with a path of adjacent 1's from upper left corner to anywhere in right hand column. • a(n) = 2 * a(n - 1) + a(n - 2). [_ Philippe Deléham _ , Nov 20 2008] •

[A277088] • 5,12,29,71,174,427,1048,2573,6318,15514,38095,93544,229702,564045,1385042,3401044,8351444,20507414,50357044,123654396,303639937,745603993,1830870208,4495799044,11039673351 ⋆ Pisot sequences L(5,12), S(5,12). • a(n) = ceiling(a(n - 1) ^ 2 / a(n - 2)), a(0) = 5, a(1) = 12. • a(n) = floor(a(n - 1) ^ 2 / a(n - 2) + 1), a(0) = 5, a(1) = 12. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) + a(n - 6) - a(n - 7) - a(n - 9). (End) •

[A094125] • 5,12,30,78,210,582,1650,4758,13890,40902,121170,360438,1075170,3213222,9615090,28796118,86290050,258673542,775627410,2326095798,6976714530,20926997862,62774702130,188311523478,564909404610 ⋆ a(n) = 3*2^n + 2*3^n. • a(n) = 5 * a(n - 1) - 6 * a(n - 2). •

[A066280] • 5,12,32,90,260,762,2252,6690,19940,59562,178172,533490,1598420,4791162,14365292,43079490,129205700,387551562,1162523612,3487308690,10461401780,31383156762,94147373132,282437925090,847305386660 ⋆ 1^n + 2^(n+1) + 3^(n+2). • a(n)= 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). G.f.: (- 18 * x + 15 * x ^ 2 + 5) / ((1 - x) * (3 * x - 1) * (2 * x - 1) * x). [From _ R. J. Mathar _ , Feb 19 2010] •

[A192243] • 1,1,5,12,34,88,233,609,1597,4180,10946,28656,75025,196417,514229,1346268,3524578,9227464,24157817,63245985,165580141,433494436,1134903170,2971215072,7778742049 ⋆ 0-sequence of reduction of Lucas sequence by x^2 -> x+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). • a(n) = (- 1) * (2 ^ (- 1 - n) * (5 * ((- 2) ^ n + 2 ^ n) + (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n - (3 - sqrt(5)) ^ n * (5 + sqrt(5)))) / 5. - _ Colin Barker _ , Dec 22 2017 •

[A050189] • 0,5,12,35,64,126,200,330,480,715,980,1365,1792,2380,3024,3876,4800,5985,7260,8855,10560,12650,14872,17550,20384 ⋆ T(n,4), array T as in A050186; a count of aperiodic binary words. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n > 11 (conjectured). •

[A122299] • 0,1,1,5,12,38,107,316,915,2671,7771,22640,65922,191993,559112,1628281,4741905,13809541,40216516,117119750,341079507,993301748,2892722267,8424270271,24533405595 ⋆ Expansion of -x*(-1+x) / (1-2*x-3*x^2+x^3). • a(n)= + 2 * a(n - 1) + 3 * a(n - 2) - a(n - 3). •

[A162269] • 5,12,38,128,436,1488,5080,17344,59216,202176,690272,2356736,8046400,27472128,93795712,320238592,1093362944,3732974592,12745172480,43514740736,148568617984,507244990464,1731842725888,5912880922624 ⋆ a(n) = ((5+sqrt(2))*(2+sqrt(2))^n + (5-sqrt(2))*(2-sqrt(2))^n)/2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n>1; a(0) = 5, a(1) = 12. •

[A164737] • 5,12,40,96,320,768,2560,6144,20480,49152,163840,393216,1310720,3145728,10485760,25165824,83886080,201326592,671088640,1610612736,5368709120,12884901888,42949672960,103079215104,343597383680 ⋆ a(n) = 8*a(n-2) for n > 2; a(1) = 5, a(2) = 12. • a(n) = (13 - 7 * (- 1) ^ n) * 2 ^ (1 / 4 * (6 * n - 11 + 3 * (- 1) ^ n)). •

[A179994] • 0,1,5,12,55,124,565,1268,5775,12956,59005,132372,602855,1352444,6159365,13817908,62930175,141177436,642957005,1442408532,6569085655,14737074364,67116286165,150568549748,685726462575 ⋆ Linear homogeneous recurrence a(n) = 11*a(n-2)-8*a(n-4), starting a(0)=0, a(1)=1, a(2)=5, a(3)=12. • a(n) = 5 * a(n - 1) - a(n - 2) if n is even. a(n) = 4 * a(n - 1) - 8 * a(n - 2) if n is odd. - _ R. J. Mathar _ , Jun 18 2014 •

[A290804] • 0,5,12,306,306,2707,69935,658180,4775895,10540696,10540696,575491194,4530144680,59895293484,544340345519,1900786491217,20891032530989,87356893670191,319987407657398,1009046899512009 2,4428715455123952 1,203871687146463523 ⋆ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(-3). These are the numbers congruent to 5 mod 7 (except for the initial 0). • a(0) = 0 and a(1) = 5, a(n) = a(n - 1) + 2 * (a(n - 1) ^ 2 + 3) mod 7 ^ n for n > 1. •

[A235337] • 1,5,13,13,25,41,41,61,85,113,113,145,181,181,221,265,313,313,365,421,421,481,545,545,613 ⋆ Number of integer lattice points inside the square ABCD with side length n>0 with A(-n*sqrt(2)/2| 0), B(n*sqrt(2)/2| 0), C(0| n*sqrt(2)/2) and D(-n*sqrt(2)/2| 0) • a(n) := 2 * z ^ 2 - 2 * z + 1, where z = ceil(n * sqrt(2) / 2). - _ Giovanni Resta _ , Jan 10 2014 •

[A292565] • 5,13,14,25,26,27,41,42,43,44,61,62,63,64,65,85,86,87,88,89,90,113,114,115,116 ⋆ Take 0, skip 3 * 1 + 1, take 1, skip 3 * 2 + 1, take 2, skip 3 * 3 + 1, ... • a(n) = n + 4 + (3k ^ 2 + 11k) / 2 where k = floor((sqrt(2 * n) - 1 / 2)). - _ Jon E. Schoenfield _ , Sep 30 2017 •

[A087445] • 1,5,13,17,25,29,37,41,49,53,61,65,73,77,85,89,97,101,109,113,121,125,133,137,145 ⋆ Numbers that are congruent to {1, 5} mod 12. • a(n) = 6 * (n - 1) - (- 1) ^ n. - _ Rolf Pleisch _ , Aug 04 2009 • a(n) = 12 * n - a(n - 1) - 18 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = a(n - 1) + a(n - 2) - a(n - 3), with a(0)=1, a(1)=5, a(2)=13. - _ Harvey P. Dale _ , Jun 13 2011 •

[A245906] • 5,13,17,33,37,61,65,97,101,141,145,193,197,253,257,321,325,397,401,481,485,573,577,673,677 ⋆ Numbers of the form 4n^2 + 1 or 4n^2 + 8n + 1. • a(n) = n ^ 2 + O(n). - _ Charles R Greathouse IV _ , Nov 20 2014 • a(n) = (2 * n * (n + 5) - (2n + 1) * (- 1) ^ n + 11) / 2. [_ Bruno Berselli _ , Dec 02 2014] •

[A195549] • 1,5,13,17,89,233,305,1597,4181,5473,28657,75025,98209,514229,1346269,1762289,9227465,24157817,31622993,165580141,433494437,567451585,2971215073,7778742049,10182505537 ⋆ Hypotenuses of primitive Pythagorean triples in A195547 and A195548. • a(n) = (F(n) ^ 2 + F(n + 1) ^ 2) / (2 - ((n + 2) ^ 2 mod 3)), F(n)= Fibonacci(n). [From Gary Detlefs, Oct 14 2011] •

[A082093] • 5,13,19,32,73,89,140,199,294,468,1072,1072,1072,2161,2976,32805,32806,65732,65732 ⋆ a(n) is the least number m such that (m+n)!/m!=(m+1)(m+2)...(divides LCM[1,...,m]. • a(n) = Min { x: LCM[x] is divisible by (x + n)! / x! } . •

[A055045] • 5,13,20,21,29,37,45,52,53,61,69,77,80,84,85,93,101,109,116,117,125,133,141,148,149 ⋆ Numbers of the form 4^i*(8*j+5). • a(n) = 6n + O(log n). - _ Charles R Greathouse IV _ , Dec 19 2013 •

[A184825] • 5,13,20,27,34,42,49,56,63,71,77,85,92,99,105,113,120,127,134,142,149,156,163,171,177 ⋆ a(n) = n + floor(n*t) + floor(n*t^2) + floor(n/t), where t is the tetranacci constant. • a(n) = n + floor(n * p / q) + floor(n * r / q) + floor(n * s / q), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, and t is the tetranacci constant. •

[A184837] • 5,13,20,29,36,44,51,59,66,74,81,90,97,105,111,120,127,135,142,151,158,166,172,181,188 ⋆ a(n) = n + floor(n*t) + floor(n*t^2) + floor(n/t) + floor(n/t^2), where t is the pentanacci constant. • a(n) = n + floor(n * p / r) + floor(n * q / r) + floor(n * s / r) + floor(n * u / r), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, u=t ^ 5, and t is the pentanacci constant. •

[A004770] • 5,13,21,29,37,45,53,61,69,77,85,93,101,109,117,125,133,141,149,157,165,173,181,189,197 ⋆ Numbers of form 8n+5; or, numbers whose binary expansion ends in 101. • a(n) = 8 * n - 3; G.f. x * (5 + 3 * x) / (x - 1) ^ 2. - _ R. J. Mathar _ , Mar 14 2011 • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 28 2011 •

[A143988] • 5,13,23,31,41,49,59,67,77,85,95,103,113,121,131,139,149,157,167,175,185,193,203,211,221 ⋆ Numbers congruent to (5,13) mod 18. • a(n)=18 * (n - 1) - a(n - 1), (with a(1)=5) [From Vincenzo Librandi, Nov 25 2010] •

[A108195] • 5,13,23,35,49,65,83,103,125,149,175,203,233,265,299,335,373,413,455,499,545,593,643,695,749 ⋆ a(n) = n^2 + 5*n - 1. • a(n) = 2 * n + a(n - 1) + 4, with n>1, a(1)=5. - _ Vincenzo Librandi _ , Nov 13 2010 •

[A074798] • 1,5,13,23,36,52,72,94,119,147,178,211,248,288,331,376,425,476,531,588,649,712,778,847,919 ⋆ Floor of S*n^2, where S equals sum of reciprocal terms of this same sequence. • a(n) = floor(S * n ^ 2), where S = sum _{ k= 1..inf } 1 / a(k). •

[A213483] • 1,5,13,23,38,55,78,103,135,169,211,255,308,363,428,495,573,653,745,839,946,1055,1178,1303,1443 ⋆ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y| >= w+x+y. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A140090] • 0,5,13,24,38,55,75,98,124,153,185,220,258,299,343,390,440,493,549,608,670,735,803,874,948 ⋆ a(n) = n*(3*n+7)/2. • a(n) = (3 * n ^ 2 + 7 * n) / 2. • a(n) = a(n - 1) + 3 * n + 2 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 •

[A271937] • 1,5,13,24,39,57,79,104,133,165,201,240,283,329,379,432,489,549,613,680,751,825,903,984,1069 ⋆ a(n) = (7/4)*n^2 + (5/2)*n + (7 + (-1)^n)/8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(2 * k) = k * (7 * k + 5) + 1, a(2 * k + 1) = (k + 1) * (7 * k + 5). • a(n) = Sum _{ j=0..n } floor((2n + 3j + 2) / 2). •

[A001844] • 1,5,13,25,41,61,85,113,145,181,221,265,313,365,421,481,545,613,685,761,841,925,1013,1105,1201 ⋆ Centered square numbers: 2n(n+1)+1. Sums of two consecutive squares. Also, consider all Pythagorean triples (X, Y, Z=Y+1) ordered by increasing Z; then sequence gives Z values. • a(n) = 2 * n ^ 2 + 2 * n + 1 = n ^ 2 + (n + 1) ^ 2. • a(n) = a(n - 1) + 4n. • a(- n) = a(n - 1). • a(n) = 1 + Sum _{ j=0..n } 4 * j. - Xavier Acloque, Oct 08 2003 • a(n) = Sum _{ k=0..n + 1 } (- 1) ^ k * binomial(n, k) * Sum _{ j=0..n - k + 1 } binomial(n - k + 1, j) * j ^ 2. - _ Paul Barry _ , Dec 22 2004 • a(n) = ceiling((2n + 1) ^ 2 / 2). - _ Paul Barry _ , Jul 16 2006 •

[A099776] • 5,13,25,41,61,85,113,145,181,221,265,313,365,421,481,545,613,685,761,841,925,1013,1105,1201,1301 ⋆ Length of the hypotenuse of an integer right triangle with the hypotenuse being one more than the longer side. The shorter sides are just consecutive odd numbers 3, 5, 7, ... • a(n) = ((2 * n + 1) ^ 2 - 1) / 2 + 1. • a(n) = 4 * n + a(n - 1) for n>1, a(1)=5. - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = 1 + 2 * n + 2 * n ^ 2. a(n) = 3 * a(n - 1) -

3 * a(n - 2) + a(n - 3). G.f.: x * (5 - 2 * x + x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Nov 03 2012 •

[A098483] • 1,1,1,1,5,13,25,41,85,205,473,985,2021,4365,9785,21673,46965,101581,222745,492665,1087237,2388749,5251065,11587529,25633045 ★ Expansion of 1/sqrt((1-x)^2-8x^4). • a(n)=sum { k=0..floor(n / 2), binomial(n - 2k, k)binomial(n - 3k, k)2 ^ k } . •

[A102724] • 5,13,25,43,67,97,133,175,227,287,355,433,517,607,707,819,939,1067,1205,1349,1501,1663,1835,2021,2219 ★ Sum of the first n pairs of consecutive primes (for example, a(3) = (2+3) + (3+5) + (5+7) = 25). • a(n) = 2sum(prime(i), i = 1 .. n) - (2 + prime(n)). - _ Alonso del Arte _ , Apr 21 2016 •

[A249513] • 1,5,13,25,51,125,295,625,1345,3125,7173,15625,34269,78125,177153,390625,864315,1953125,4401655,9765625,21706831,48828125,109676283,244140625,544031251 ★ Expansion of -(4*x*sqrt(4*x^2+1)+8*x^2+1)/((2*x^2-1)*sqrt(4*x^2+1) +4*x^3+x). • a(n) = sum(k = 0..n, 4 ^ (n - k) * binomial((n + 1) / 2,n - k)). • a(n) = 5 ^ ((n + 1) / 2) if n is odd else a(n) = (4 ^ n * binomial(n / 2 + 1 / 2, n) * hypergeometric([1, - n], [- n / 2 + 3 / 2], - 1 / 4)). # _ Peter Luschny _ , Oct 31 2014 •

[A066885] • 5,13,25,61,85,145,181,265,421,481,685,841,925,1105,1405,1741,1861,2245,2521,2665,3121,3445,3961,4705,5101 ★ a(n) = (prime(n)^2 + 1)/2. • a(n) mod 4 = 1. - _ Altug Alkan _ , Apr 08 2016 •

[A098480] • 1,1,1,5,13,25,65,181,445,1113,2945,7685,19821,51865,136513,358229,942109,2487385,6573825,17387045,46066253,122213913,324512833,862511605,2294698109 ★ Expansion of 1/sqrt((1-x)^2-8x^3). • a(n)=sum { k=0..floor(n / 2), binomial(n - k, k)binomial(n - 2k, k)2 ^ k } . •

[A008778] • 1,5,13,26,45,71,105,148,201,265,341,430,533,651,785,936,1105,1293,1501,1730,1981,2255,2553,2876,3225 ★ a(n) = (n+1)*(n^2+8n+6)/6. Number of n-dimensional partitions of 4. Number of terms in 4th derivative of a function composed with itself n times. • a(n) = dot _ product(n, n - 1, ...2, 1) * (2, 3, ..., n, 1) for n = 2, 3, 4, ... [i.e., a(2) = (2, 1) * (2, 1), a(3) = (3, 2, 1) * (2, 3, 1)]. - _ Clark Kimberling _ • a(n) = Sum { 0<=k, l<=n; k + l|n } k * l. - _ Ralf Stephan _ , May 06 2005 •

[A180671] • 0,5,13,26,47,81,136,225,369,602,979,1589,2576,4173,6757,10938,17703,28649,46360,75017,121385,196410,317803,514221,832032 ★ a(n) = Fibonacci(n+6) - Fibonacci(6). • a(n) = F(n + 6) - F(6) with F = A000045. • a(n) = a(n - 1) + a(n - 2) + 8 for n>1, a(0)=0, a(1)=5, and where 8 = F(6). • a(n) = 2 * a(n - 1) - a(n - 3). • a(n) = (- 8 + (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 9 + 4 * sqrt(5)) + (1 + sqrt(5)) ^ n * (9 + 4 * sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Apr 20 2017 •

[A008580] • 1,5,13,27,45,67,95,125,163,201,249,295,353,407,475,537,615,685,773,851,949,1035,1143,1237,1355 ★ Crystal ball sequence for planar net 3.6.3.6. • a(n) = (18 * n ^ 2 + 2 * (- 1) ^ n * n + 18 * n - 7 * (- 1) ^ n - 1) / 8 for n >0. • a(n) = (9 * n ^ 2 + 10 * n - 4) / 4 for n>0 and even. • a(n) = (9 * n ^ 2 + 8 * n + 3) / 4 for n odd. (End) •

[A212151] • 0,0,0,1,5,13,27,47,75,112,156,214,278,358,444,552,660,796,930,1099,1259,1457,1649,1885,2101 ★ Number of 2 X 2 matrices M of positive integers such that permanent(M) < n. • a(n) = Sum _{ k=1..n - 1 } Sum _{ i=1..n - 1 } d(k) * floor((n - k - 1) / i), where d(k) is the number of divisors of k (A000005). - _ Wesley Ivan Hurt _ , Nov 16 2017 •

[A123326] • 1,5,13,27,47,77,114,165,226,302,391,502,622,768,933,1120,1325,1564,1819,2112,2424 ★ Let M be the matrix defined in A111490. Sequence gives the sum of the elements of the sub-matrices (from the upper left element): M(1,1); M(1,1)+M(1,2)+M(1,2)+M(2,2); M(1,1)+M(1,2)+M(1,3)+M(2,1)+M(2,2)+M(2,3)+M(3,1)+M(3,2)+M(3,3), etc. • a(n)= Sum _{ i=1..n } [Sum _{ j=1..n } M(i,j)] a(n)= a(n - 1) + A121896 with a(0)=0 •

[A002717] • 0,1,5,13,27,48,78,118,170,235,315,411,525,658,812,988,1188,1413,1665,1945,2255,2596,2970,3378,3822 ★ a(n) = floor(n(n+2)(2n+1)/8). • a(n) = (1 / 16) * [2n(2n + 1)(n + 2) + cos(Pi * n) - 1]. - Justin C. Bozonier (justinb67(AT)excite.com), Dec 05 2000 • a(m + 1) - 2a(m) + 2a(m - 2) - a(m - 3) = 3. - _ Len Smiley _ , Oct 08 2001 • a(n) = (2n(2n + 1)(n + 2) + (- 1) ^ n - 1) / 16. - Wesley Petty (Wesley.Petty(AT)mail.tamucc.edu), Oct 25 2003 • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * k * binomial(k + 1,2). • a(0)=0, a(1)=1, a(2)=5, a(3)=13, a(4)=27, a(n)=3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Jan 20 2013 •

[A079989] • 1,1,1,1,5,13,27,51,103,221,498,1064,2240,4728,10076,21559,46075,98085,208759,444727,948151,2021335,4307861,9179111,19560273 ★ Number of permutations satisfying -k<=p(i)-i<=r and p(i)-i not in I, i=1..n, with k=3, r=3, I={1,2}. • a(n) = a(n - 1) + a(n - 2) + 2 * a(n - 3) + a(n - 4) + 3 * a(n - 5) + 4 * a(n - 6) - 7 * a(n - 7) - 7 * a(n - 8) - 6 * a(n - 9) + 6 * a(n - 10) - 2 * a(n - 11) - a(n - 12) + a(n - 13) + 4 * a(n - 14) + a(n - 15) - 3 * a(n - 16) + a(n - 18) - a(n - 19) - a(n - 20). •

[A175254] • 1,5,13,28,49,82,123,179,248,335,434,561,702,867,1056,1276,1514,1791,2088,2427,2798,3205,3636,4127,4649 ★ a(n) = Sum_{k<=n} A000203(k) * (n-k+1), where A000203(m) = sum of divisors of m. • a(n) = Sum _{ k=1..n } Sum _{ i=1..k } k - (k mod i). - _ Wesley Ivan Hurt _ , Sep 13 2017 •

[A023537] • 1,5,13,28,54,98,171,291,487,806,1324,2164,3525,5729,9297,15072,24418,39542,64015,103615,167691,271370,439128,710568,1149769 ★ a(n) = Lucas(n+4) - (3*n+7). • a(n) = 7 * (F(n + 1) - 1) + 4 * F(n) - 3 * n; F(n) = A000045 (Fibonacci), G.F. x * (1 + 2 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2) - _ Wolfdieter Lang _ . • a(n) = - 4 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 15 + 7 * sqrt(5)) + (1 + sqrt(5)) ^ n * (15 + 7 * sqrt(5)))) / sqrt(5) - 3 * (1 + n). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>4. •

[A178854] • 0,1,1,5,13,29,29,93,221,221,733,1757,3805,7901,7901,24285,57053,122589,122589,384733,384733,384733,2481885,2481885,10870493 ★ Asymptotic value of odd Catalan numbers mod 2^n. • a(n) = remainder(Catalan(2 ^ m - 1),2 ^ n) for any m >= n - 1. •

[A129371] • 0,1,5,13,29,50,86,126,190,255,355,451,595,728,924,1100,1356,1581,1905,2185,2585,2926,3410,3818,4394 ★ a(n)=sum{k=0..floor(n/2), (n-k)^2}. • a(n)= + a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). a(n) = 7 * n ^ 3 / 24 + 9 * n ^ 2 / 16 + 7 * n / 48 + n * (- 1) ^ n * (n - 1) / 16 . [From _ R. J. Mathar _ , Apr 21 2010] •

[A078370] • 5,13,29,53,85,125,173,229,293,365,445,533,629,733,845,965,1093,1229,1373,1525,1685,1853,2029,2213,2405 ★ a(n) = 4*(n+1)*n + 5. • a(n) = 4 * (n + 1) * n + 5 = 8 * binomial(n + 1, 2) + 5, hence subsequence of A004770 (5 (mod 8) numbers). • a(n) = 8 * n + a(n - 1) (with a(0)=5). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A247903] • 1,5,13,29,53,93,149,237,357,541,789,1165,1669,2429,3445,4973,7013,10077,14165,20301,28485,40765,57141,81709,114469 ★ Start with a single square; at n-th generation add a square at each expandable vertex (this is the "vertex to side" version); a(n) is the sum of all label values at n-th generation. (See comment for construction rules.) • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). - _ Colin Barker _ , Sep 26 2014 •

[A240130] • 5,13,29,53,137,173,293,397,593,857,977,1373,1697,1913,2213,2909,3517,3821,4493,5077,5333,6257,7213,7937,9413 ★ Least prime of the form prime(n)^2 + k^2, or 0 if none. • a(n) == 1 (mod 4) if a(n) > 0. • a(n) > 0 if Bunyakovsky's conjecture is true. • a(n) <> a(m) if n <> m and a(n) > 0, by uniqueness in Fermat's 4n + 1 Theorem. •

[A023619] • 1,5,13,29,60,118,225,419,767,1385,2474,4380,7697,13441,23345,40357,69480,119186,203793,347455,590851,1002385,1696918,2867064,4835425 ★ Convolution of Lucas numbers and (F(2), F(3), F(4), ...). • a(n) = (n + 1) * sum(k=1..n + 1, C(k,n + 1 - k) * (k - 1) / k). - _ Vladimir Kruchinin _ , Sep 26 2011 •

[A113914] • 1,5,13,29,61,131,271,569,1381,2789,5581,11171,22369,44741,89491,185543,373273,766229,1532701,3065411,6130849,12261701,24700549,49401101,98802211 ★ (1,2,3) Jasinski-like positive power sequence. • a(1) = 1, a(n + 1) = the least prime p such that p = 2 * a(n) + 3 ^ k for integer k>0. •

[A239367] • 1,5,13,29,69,197,669,2509,9813,38965,155501,621565,2485733,9942309,39768509,159073197,636291829,2545166229,10180663693,40722653405,162890612101,651562446725,2606249785053,10424999138189 ★ The bisection of A238315 that remains constant with changes in the offset of the exponent of the second term. • a(n) = (- 1 + 4 ^ n - 12 * n + 36 * n ^ 2) / 27. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 2 * a(n - 3) + 9 * a(n - 4) - 4 * a(n - 5). •

[A124698] • 1,5,13,29,73,185,481,1265,3361,8993,24193,65345,177025,480641,1307137,3559169,9699841,26452481,72173569,196989953,537802753,1468536833,4010582017,10954043393,29920862209 ★ Number of base 5 circular n-digit numbers with adjacent digits differing by 1 or less. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) for n>4. •

[A271997] • 5,13,31,49,81,113,163,213,285,357,455,553,681,809,971,1133,1333,1533,1775,2017,2305,2593,2931,3269,3661 ★ The icosagen sequence : a(n) = A018227(n)-5, for n >= 2. • a(n) = n * ((n + 3) ^ 2 + 2) / 6 + (n + 2) * (1 + (- 1) ^ n) / 4 - 6, for n >= 2. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A023261] • 5,13,31,61,101,103,163,191,233,241,251,433,461,643,751,761,821,863,983,1021,1153,1193,1283,1291,1531 ★ Numbers n such that n remains prime through 2 iterations of function f(x) = 8x + 3. • a(n) = 1 or 3 (mod 10) for n > 1. - _ John Cerkan _ , Sep 14 2016 •

[A118346] • 1,3,5,13,32,71,159,346,739,1559,3258,6756,13922,28547,58300,118668,240880,487835,986085,1990025,4010658,8073786,16237521,32629241 ★ a(n) is the number of binary strings of length n such that there exists a subsequence of length 4 containing 3 or more ones. • a(n) = a(n - 1) + a(n - 2) + a(n - 4) - a(n - 6) + 13 * 2 ^ (n - 6). • a(n)= + 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) + a(n - 4) - 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7). •

[A141025] • 1,1,1,5,13,33,73,157,325,665,1345,2709,5437,10897,21817,43661,87349,174729,349489,699013,1398061,2796161,5592361,11184765,22369573 ★ a(n) = (2^(2+n)-(-1)^n)/3 - 2*n. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4). • a(n + 1) - 2 * a(n)= 2 * (n - 1) + (- 1) ^ n = - 1, - 1, 3, 3, 7, 7, 11, 11,... duplicated A004767. •

[A100227] • 1,1,5,13,33,81,197,477,1153,2785,6725,16237,39201,94641,228485,551613,1331713,3215041,7761797,18738637,45239073,109216785,263672645,636562077,1536796801 ★ Main diagonal of triangle A100226. • a(n) = 2 * a(n - 1) + a(n - 2) + 2 for n>1, with a(0)=1, a(1)=1. • a(n) = n * sum(k=1..n, sum(i=0..n - k, binomial(k, i) * binomial(n - i - 1, k - 1)) / k), n>0, a(0)=1. - _ Vladimir Kruchinin _ , May 13 2011 • a(n) = (- 1 + (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n). - _ Colin Barker _ , Mar 16 2016 •

[A278764] • 5,13,33,83,208,521,1305,3268,8183,20490,51306,128467,321673,805448,2016788,5049902,12644616,31661270,79277695,198506027,497045767,1244569236,3116317824,7803050645,19538315026 ★ Pisot sequence T(5,13). • a(n) = floor(a(n - 1) ^ 2 / a(n - 2)), a(0) = 5, a(1) = 13. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 3 * a(n - 3) - 3 * a(n - 4) + a(n - 5) - a(n - 6). (End) •

[A109786] • 1,1,1,1,1,5,13,33,85,225,589,1541,4033,10561,27649,72385,189505,496133,1298893,3400545,8902741,23307681,61020301,159753221,418239361 ★ Expansion of -(x+2*x^2+3*x^3-1+5*x^4)/((x+1)*(x^2-3*x+1)*(1+x^2)). • a(0)=1, a(1)=1, a(2)=1, a(3)=1, a(4)=1, a(n)=2 * a(n - 1) + a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Apr 14 2015 •

[A283959] • 1,1,1,1,1,5,13,33,85,561,1597,4229,11089,73393,209089,553873,1452529,9613829,27388957,72553041,190270165,1259338113,3587744173,9503894405,24923939041 ★ a(n) = (Sum_{j=1..h-1} a(n-j) + a(n-1)*a(n-h+1))/a(n-h) with a(1), ..., a(h)=1, where h = 5. • a(4 * k - 1) = 3 * a(4 * k - 2) - a(4 * k -

3) - 1, • a(4 * k) = 3 * a(4 * k - 1) - a(4 * k - 2) - 1, • a(4 * k + 1) = 3 * a(4 * k) - a(4 * k - 1) - 1, • a(4 * k + 2) = 7 * a(4 * k + 1) - a(4 * k) - 1. •

[A055426] • 1,5,13,33,89,221,485,953,1713,2869,4541,6865,9993,14093,19349,25961,34145,44133,56173,70529,87481,107325,130373,156953,187409 ⋆ Number of points in Z^n of norm <= 2. • a(n) = (3 + 2 * n + 16 * n ^ 2 - 8 * n ^ 3 + 2 * n ^ 4) / 3. - corrected by _ Colin Barker _ , Jul 07 2013 • a(0)=1, a(1)=5, a(2)=13, a(3)=33, a(4)=89, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Feb 09 2015 •

[A283329] • 1,1,1,1,5,13,33,217,617,1633,10813,30805,81601,540401,1539601,4078401,27009205,76949213,203838433,1349919817,3845921017,10187843233,67468981613,192219101605,509188323201 ⋆ a(n) = (1 + Sum_{j=1..K-1} a(n-j) + a(n-1)*a(n-K+1))/a(n-K) with a(1),...,a(K)=1, where K=4. • a(3 * n) = 3 * a(3 * n - 1) - a(3 * n - 2) - 1, • a(3 * n + 1) = 3 * a(3 * n) - a(3 * n - 1) - 1, • a(3 * n + 2) = 7 * a(3 * n + 1) - a(3 * n) - 1. (End) •

[A167710] • 1,5,13,35,79,185,397,875,1831,3905,8053,16835,34399,70985,144157,294875,596311,1212305,2444293,4947635,9954319,20085785,40348717,81228875,162989191 ⋆ a(n) = 10*2^n - 3*A083658(n+2). • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3). •

[A264080] • 1,5,13,35,91,239,625,1637,4285,11219,29371,76895,201313,527045,1379821,3612419,9457435,24759887,64822225,169706789,444298141,1163187635,3045264763,7972606655,20872555201 ⋆ a(n) = 6*F(n)*F(n+1) + (-1)^n, where F = A000045. • a(n) = - a(- n - 1) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for all n in Z. • a(n) = (2 ^ (- n) * (- (- 2) ^ n - 3 * (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + 3 * (1 + sqrt(5)) * (3 + sqrt(5)) ^ n)) / 5. - _ Colin Barker _ , Sep 28 2016 •

[A290588] • 5,13,35,113,355,1105,3435,10625,32723,100433,307323,937985,2856547,8682897,26349835,79850241,241679859,730700881,2207155867,6661493633,20090908803,60555714705,182419600683,549259559297,1653098625555 ⋆ Number of irredundant sets in the n-helm graph. • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5). •

[A238460] • 5,13,37,41,101,113,157,173,181,197,229,241,281,313,337,349,353,373,409,421,433,509,541,617,677 ⋆ Primes p for which x! + (p-1)!/x!==0 (mod p) has only two solutions 1<=x<=p-2 following from Wilson theorem: x = 1 and x = p-2. • a(n) == 1 (mod 4). •

[A269803] • 1,5,13,37,99,265,701,1849,4861,12761,33463,87697,229737,601693,1575629,4125661,10802107,28281881,74045509,193857841,507533181,1328750065,3478730543,9107463457,23843695249 ⋆ F(n+1)F(n+2) - F(n), where F = A000045 (Fibonacci numbers). • a(n) = F(n + 1)F(n + 2) - F(n), F = A000045 (Fibonacci numbers). • a(n) = 3 * a(n - 1) + a(n - 2) - 5 * a(n - 3) - a(n - 4) + a(n - 5). •

[A071100] • 5,13,37,109,313,905,2617,7561,21853,63157,182525,527509,1524529,4405969,12733489,36800465,106355317,307372573,888323221,2567301757,7419639785,21443156953,61971873769,179102039257,517614500173 ⋆ Expansion of (5 + 3*x + x^2 - x^3) / (1 - 2*x - 2*x^2 - 2*x^3 + x^4) in powers of x. • a(- n) = a(- 5 + n). a(- 1) = a(- 2) = 1. a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). - _ Michael Somos _ , Dec 15 2011 •

[A199108] • 5,13,37,109,325,973,2917,8749,26245,78733,236197,708589,2125765,6377293,19131877,57395629,172186885,516560653,1549681957,4649045869,13947137605,41841412813,125524238437,376572715309,1129718145925 ⋆ 4*3^n+1. • a(n) = 3 * a(n - 1) - 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A080143] • 0,5,13,39,102,272,712,1869,4893,12815,33550,87840,229968,602069,1576237,4126647,10803702,28284464,74049688,193864605,507544125,1328767775,3478759198,9107509824,23843770272 ⋆ a(n) = F(3)*F(n)*F(n+1) + F(4)*F(n+1)^2 - F(4) if n even, F(3)*F(n)*F(n+1) + F(4)*F(n+1)^2 if n odd, where F(n) is the n-th Fibonacci number (A000045). • a(n) = (2 * Lucas(2 * n + 5) + 7 * (- 1) ^ (n + 1) - 15) / 10. - _ Ehren Metcalfe _ , Aug 21 2017 •

[A054856] • 1,1,5,13,40,117,348,1029,3049,9028,26738,79183,234502,694476,2056692,6090891,18038173,53420041,158203433,468519406,1387520047,4109140098,12169216863,36039131181,106729873498 ⋆ Number of ways to tile a 4 X n region with 1 X 1, 2 X 2, 3 X 3 and 4 X 4 tiles. • a(n) = a(n - 1) + 4 * a(n - 2) + 4 * a(n - 3) + 3 * a(n - 4) + 2 * (a(n - 5) + a(n - 6) + ... + a(0)), a(0) =a(1)=1, a(2)=5, a(3)=13 • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - a(n - 4) - a(n - 5). G.f.=(1 - z) / ((1 + z) * (1 - 3 * z + z ^ 4)). - _ Emeric Deutsch _ , Oct 16 2006 •

[A283456] • 5,13,40,136,490,1828,6970,26956,105250,413668,1633450,6471676,25703410,102269908,407460730,1625010796,6485595970,25899140548,103467028810,413479908316,1652755798930,6607533265588,26419666417690,105647272028236,422494919768290 ⋆ Row n=4 of A144048. • a(n) = 1 + (9 * 2 ^ (2 * n + 2) + 9 * 2 ^ (n + 2) + 8 * 3 ^ (n + 1)) / 24. • a(n) = (2 + 3 * 2 ^ n + 2 * 3 ^ n + 3 * 4 ^ n) / 2. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4) for n>3. (End) •

[A046717] • 1,1,5,13,41,121,365,1093,3281,9841,29525,88573,265721,797161,2391485,7174453,21523361,64570081,193710245,581130733,1743392201,5230176601,15690529805,47071589413,141214768241 ⋆ a(n) = 2*a(n-1) + 3*a(n-2), a(0) = a(1) = 1. • a(n) = (3 ^ n + (- 1) ^ n) / 2. • a(n) = Sum _{ k=0..n } binomial(n, 2k)2 ^ (2k). - _ Paul Barry _ , Feb 26 2003 • a(n) = ceiling(3 ^ n / 4) + floor(3 ^ n / 4) = ceiling(3 ^ n / 4) ^ 2 - floor(3 ^ n / 4) ^ 2. - _ Paul Barry _ , Jan 17 2005 • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C(n,j)C(n - j,k) * (1 + (- 1) ^ (j - k)) / 2. - _ Paul Barry _ , May 21 2006 • a(n) = (3 ^ n + (- 1) ^ n) / 2. - _ M. F. Hasler _ , Mar 20 2008 •

[A080925] • 0,1,5,13,41,121,365,1093,3281,9841,29525,88573,265721,797161,2391485,7174453,21523361,64570081,193710245,581130733,1743392201,5230176601,15690529805,47071589413,141214768241 ⋆ Binomial transform of Jacobsthal gap sequence (A080924). • a(n)=Sum { k=1..n, Binomial(n, 2k - 2)2 ^ (2k - 2) } • a(n)=(3 ^ n - 2 * 0 ^ n + (- 1) ^ n) / 2; G.f.: x(1 + 3x) / ((1 + x)(1 - 3x)); E.g.f.: (exp(3x) - 2exp(0) + exp(- x)) / 2. - _ Paul Barry _ , May 19 2003 •

[A164907] • 1,5,13,41,121,365,1093,3281,9841,29525,88573,265721,797161,2391485,7174453,21523361,64570081,193710245,581130733,1743392201,5230176601,15690529805,47071589413,141214768241,423644304721 ⋆ a(n) = (3*3^n-(-1)^n)/2. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) for n > 1; a(0) = 1, a(1) = 5. • a(n) = 3 * a(n - 1) + 2 * (- 1) ^ n. - _ Carmine Suriano _ , Mar 21 2014 •

[A085601] • 5,13,41,145,545,2113,8321,33025,131585,525313,2099201,8392705,33562625,134234113,536903681,2147549185,8590065665,34360000513,137439477761,549756862465,2199025352705,8796097216513,35184380477441 ⋆ a(n) = 2 * (4^n + 2^n) + 1. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). •

[A052899] • 1,1,5,13,45,141,461,1485,4813,15565,50381,163021,527565,1707213,5524685,17878221,57855181,187223245,605867213,1960627405,6344723661,20531956941,66442808525,215013444813,695798123725 ⋆ Expansion of g.f.: (1-2*x) / ((x-1)*(4*x^2+2*x-1)). • a(n) / a(n - 1) tends to (1 + sqrt(5)) = 3.236067... - _ Gary W. Adamson _ , Mar 01 2008 • a(n) = (1 / 5) * Sum _{ k=1..5 } ((x _ k) ^ 4 - 3 * (x _ k) ^ 2 + 1), x _ k=2 * cos((2 * k - 1) * Pi / 10). Also, a(n) / a(n - 1) - > spectral radius of matrix A _ (10,4) above. - _ L . Edson Jeffery _ , Apr 19 2011 •

[A162563] • 5,13,47,175,653,2437,9095,33943,126677,472765,1764383,6584767,24574685,91713973,342281207,1277410855,4767362213,17792037997,66400789775,247811121103,924843694637,3451563657445,12881410935143,48074080083127 ⋆ a(n) = ((5+sqrt(3))*(2+sqrt(3))^n + (5-sqrt(3))*(2-sqrt(3))^n)/2. • a(n) = 4 * a(n - 1) - a(n - 2) for n > 1; a(0) = 5, a(1) = 13. • a(n) = 4 * a(n - 1) - a(n - 2), with a(0)=5 and a(1)=13. - _ Paolo P. Lava _ , Jul 15 2009 •

[A084601] • 1,1,5,13,49,161,581,2045,7393,26689,97285,355565,1305745,4808545,17760965,65753693,243954113,906758785,3375949829,12587460557,46995614449,175669746209,657370655045,2462383495357,9232029156001 ⋆ Coefficients of 1/(1-2x-7x^2)^(1/2); also, a(n) is the central coefficient of (1+x+2x^2)^n. • a(n)=sum { k=0..floor(n / 2), binomial(n - k, k)binomial(n, k)2 ^ k } . - _ Paul Barry _ , Aug 26 2004 • a(n) is also the central coefficient of (2 + x + x ^ 2) ^ n; a(n)=sum _{ k=0..n } C(n,k) T(k,n), where T(k,n) is the triangle of trinomial coefficients = coefficient of x ^ n of (1 + x + x ^ 2) ^ k : A027907 - _ N - E. Fahssi _ , Feb 05 2008 • a(n + 2)=((2 * n + 3) * a(n + 1) + 7 * (n + 1) * a(n)) / (n + 2); a(0)=a(1)=1 - Sergei N. Gladkovskii, Aug 01 2012 •

[A084136] • 1,1,5,13,57,201,797,2997,11569,44113,169205,647197,2478825,9488025,36327821,139071813,532438369,2038379425,7803827429,29876310829,114379413657,437893003113,1676441901821,6418134825429,24571362963601 ⋆ Binomial transform of cosh(sqrt(2)x)^2. • a(n)=(1 + sqrt(8)) ^ n / 4 + (1 - sqrt(8)) ^ n / 4 + 1 / 2; E.g.f.: exp(x)cosh(sqrt(2)x) ^ 2. •

[A091147] • 1,1,5,13,57,201,861,3445,14897,63313,278389,1223069,5465065,24513945,111037005,505298565,2314343265,10645982625,49202944485,228253816365,1062783893145,4964167491945,23256852644925,109249893866133,514494575459217 ⋆ Expansion of (1-x-sqrt(1-2x-15x^2))/(8x^2). • a(n) = sum { k=0..n, C(n, 2k)C(k)4 ^ k } . - _ Paul Barry _ , May 16 2005 • a(n) = integral(x = - 2..2, (2 * x + 1) ^ n * sqrt((2 - x) * (2 + x))) / (2 * Pi). [_ Peter Luschny _ , Sep 11 2011] • a(n) = (2 ^ n / (n + 1)) * [x ^ n] (1 + x / 2 + x ^ 2) ^ (n + 1). [_ Emanuele Munarini _ , Apr 27 2012] • a(n) = hypergeom([- n / 2, (1 - n) / 2], [2], 16). - _ Peter Luschny _ , May 28 2014 • a(n) = 2 ^ n * GegenbauerC(n, - n - 1, - 1 / 4) / (n + 1). - _ Peter Luschny _ , May 08 2016 •

[A201805] • 1,1,5,13,61,221,1001,4145,18733,82381,375745,1703945,7858225,36279985,168992045,789433013,3707816333,17467638925,82599195809,391645961993,1862242702201,8875355178521,42394598106965,202903189757053 ⋆ Number of arrays of n integers in -2..2 with sum zero and equal numbers of elements greater than zero and less than zero. • a(n) appears to be the constant term of (1 + X + 1 / X + Y + 1 / Y) ^ n, which has o.g.f. hypergeom([1 / 2, 1 / 2], [1],16 * x ^ 2 / (1 - x) ^ 2) / (1 - x). - _ Mark van Hoeij _ , May 07 2013 • a(n) is exactly the constant term of (1 + X + 1 / X + Y + 1 / Y) ^ n since this generates closed walks on the square lattice with self - loops. Non constant terms generate walks to the neighbors of a vertex. Removing the 1 is equivalent to removing the self - loops. • a(n) = 3F2([1 / 2, 1 / 2 - n / 2, - n / 2], [1, 1], 16). • a(n) = Sum _{ k=0..n } C(n,2k) * C(2k,k) ^ 2. •

[A115329] • 1,1,5,13,73,281,1741,8485,57233,328753,2389141,15539261,120661465,866545993,7140942173,55667517781,484124048161,4046845186145,36967280461093,328340133863533,3137853448906601,29405064157989241 ⋆ E.g.f.: exp(x + 2*x^2). • a(n) = Sum _{ k=0..floor(n / 2) } C(n - k,k)2 ^ k * n! / (n - k)! = Sum _{ k=0..n } C(n,k)2 ^ k * (n - k)! / (n - 2k)!. - _ Paul Barry _ , Nov 07 2008 • a(n) = D ^ n(exp(x)) evaluated at x = 0, where D is the operator sqrt(1 + 8 * x) * d / dx. Cf. A000085 and A047974. - _ Peter Bala _ , Dec 07 2011 • a(n) = i ^ (1 - n) * 2 ^ (3 * (n - 1) / 2) * KummerU((1 - n) / 2, 3 / 2, - 1 / 8). - _ Peter Luschny _ , Nov 21 2017 •

[A294208] • 0,0,1,5,13,77,77,599,1303,4189,4189,48599,48599,659507,659507,659507,1364059,23909723,23909723,466536977,466536977,466536977,466536977,10963143031,10963143031 ⋆ a(n) = reduced numerator of Sum_{p <= n} Sum_{k=1..floor(log(n)/log(p))} 1/p^k, where p runs over the primes. • a(n) = reduced numerator of Sum _{ p <= n } (p ^ floor(log(n) / log(p)) - 1) / p ^ floor(log(n) / log(p)) / (p - 1), where p runs over the primes. •

[A027457] • 0,1,5,13,77,87,669,1443,4609,4861,55991,58301,785633,811373,835397,1715839,29889983,30570663,593094837,604734465,615819825,626401305,14640022575,14863115445,75386423001 ⋆ a(n) = (H(n) - 1)*lcm{1,...,n}, where H(n) is the n-th harmonic number. • a(n) = (Psi(n + 1) - 1 + gamma) * LCM(n), LCM(n) = lcm { 1..n } . - _ Peter Luschny _ , Dec 01 2011 •

[A190949] • 1,5,13,89,233,1597,4181,28657,75025,514229,1346269,9227465,24157817,165580141,433494437,2971215073,7778742049,53316291173,139583862445,956722026041,2504730781961,17167680177565,44945570212853,308061521170129,806515533049393 ★ Odd Fibonacci numbers with odd index. • a(n) = 18 * a(n - 2) - a(n - 4), with a(1)=1, a(2)=5, a(3)=13, and a(4)=89. • a(n) = (- (2 - sqrt(5)) ^ n + (- 2 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + 2 * (- 2 + sqrt(5)) ^ n + sqrt(5) * (- 2 + sqrt(5)) ^ n + (2 + sqrt(5)) ^ n) / (2 * sqrt(5)) for n >0. - _ Colin Barker _ , Mar 27 2016 •

[A228280] • 5,13,112,587,3631,21166,126119,745178,4416695,26150120,154877307,917205757,5431915952,32169045631,190512481196,1128258633821,6681806858103,39571194265886,234349700556332,1387872742075595 ★ Number of nX5 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or nw-se diagonally. • a(n) = a(n - 1) + 21 * a(n - 2) + 48 * a(n - 3) + 14 * a(n - 4) - 69 * a(n - 5) - 38 * a(n - 6) + 68 * a(n - 7) + 13 * a(n - 8) - 57 * a(n - 9) + 37 * a(n - 10) - 8 * a(n - 11) - 2 * a(n - 12) + a(n - 13) •

[A022139] • 5,14,19,33,52,85,137,222,359,581,940,1521,2461,3982,6443,10425,16868,27293,44161,71454,115615,187069,302684,489753,792437 ★ Fibonacci sequence beginning 5, 14. • a(0)=5, a(1)=14, a(n)=a(n - 1) + a(n - 2). - _ Harvey P. Dale _ , Apr 15 2015 •

[A063223] • 5,14,24,34,44,52,64,72,82,92,102,110,122,130,140,150,160,168,180,188,198,208,218,226,238 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(59). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) for n>6. G.f.: x * (5 + 14 * x + 19 * x ^ 2 + 15 * x ^ 3 + 6 * x ^ 4 - x ^ 5) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A014106] • 0,5,14,27,44,65,90,119,152,189,230,275,324,377,434,495,560,629,702,779,860,945,1034,1127,1224 ★ a(n) = n*(2*n+3). • a(n) = a(n - 1) + 4 * n + 1, n>0. - _ Vincenzo Librandi _ , Nov 19 2010 •

[A073347] • 5,14,28,46,69,97,130,168,211,259,311,368,430,497,569,646,728,815,907,1004,1105,1211,1322,1438,1559 ★ a(1)=1; a(n+1) is the smallest integer > a(n) such that sum(k=a(n),a(n+1),1/sqrt(k))>Pi. • a(n) is asymptotic to Pi ^ 2 * n ^ 2 / 4 •

[A134238] • 1,5,14,28,47,71,100,134,173,217,266,320,379,443,512,586,665,749,838,932,1031,1135,1244,1358,1477 ★ Row sums of triangle A134237. • a(n)= a(n - 1) + 5 * n - 6 (with a(1)=1). - _ Vincenzo Librandi _ , Nov 23 2010 •

[A005586] • 0,5,14,28,48,75,110,154,208,273,350,440,544,663,798,950,1120,1309,1518,1748,2000,2275,2574,2898,3248 ★ a(n) = n(n+4)(n+5)/6. • a(n) = C(5 + n, 3) - C(5 + n, 2). - _ Zerinvary Lajos _ , Jan 09 2006 • a(n) = C(n,3) - C(n,1), n>=4. - _ Zerinvary Lajos _ , Nov 25 2006 •

[A212678] • 0,0,0,0,5,14,28,53,87,130,191,265,353,465,595,743,922,1123,1347,1608,1896,2211,2570,2960,3382 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x+y=|x-y|+|y-z|. • a(n)=a(n - 1) + a(n - 2) + a(n - 3) - 2 * a(n - 4) - 2 * a(n - 5) + a(n - 6) + a(n - 7) + a(n - 8) - a(n - 9). •

[A005918] • 1,5,14,29,50,77,110,149,194,245,302,365,434,509,590,677,770,869,974,1085,1202,1325,1454,1589,1730 ★ Number of points on surface of square pyramid: 3*n^2 + 2 (n>0). • a(- n) = a(n) for all n in Z. - _ Michael Somos _ , Aug 07 2014 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. - _ Colin Barker _ , Aug 07 2014 •

[A256666] • 0,5,14,29,51,82,123,176,242,323,420,535,669,824,1001,1202,1428,1681,1962,2273,2615,2990,3399,3844,4326 ★ a(n) = (2*n*(2*n^2 + 11*n + 26) - (-1)^n + 1)/16. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. - _ Colin Barker _ , Apr 07 2015 •

[A000330] • 0,1,5,14,30,55,91,140,204,285,385,506,650,819,1015,1240,1496,1785,2109,2470,2870,3311,3795,4324,4900 ★ Square pyramidal numbers: a(n) = 0^2 + 1^2 + 2^2 + ... + n^2 = n*(n+1)*(2*n+1)/6. • a(n) = n * (n + 1) * (2 * n + 1) / 6 = binomial(n + 2, 3) + binomial(n + 1, 3). • a(n) = - a(- 1 - n) for all n in Z. • a(n) = binomial(2 * (n + 1), 3) / 4. - _ Paul Barry _ , Jul 19 2003 • a(n) = (((n + 1) ^ 4 - n ^ 4) - ((n + 1) ^ 2 - n ^ 2)) / 12. - Xavier Acloque, Oct 16 2003 • a(n) = sqrt(sum(sum[(i * j) ^ 2, { i, 1, n }), { j, 1, n })). a(n) = sum(sum(sum((i * j * k) ^ 2, { i, 1, n }), { j, 1, n }), { k, 1, n }) ^ (1 / 3). - _ Alexander Adamchuk _ , Oct 26 2004 • a(n) = Sum _{ i = 1 ..n } i * (2 * n - 2 * i + 1); sum of squares gives 1 + (1 + 3) + (1 + 3 + 5) + ... - _ Jon Perry _ , Dec 08 2004 •

[A023652] • 1,5,14,31,61,112,197,337,566,939,1545,2528,4121,6701,10878,17639,28581,46288,74941,121305,196326,317715,514129,831936,1346161 ★ Convolution of (F(2), F(3), F(4), ...) and odd numbers. • a(n) = Fibonacci(n + 6) - 4 * n - 8. - _ Ralf Stephan _ , Feb 15 2004 •

[A064412] • 1,5,14,32,60,103,160,238,335,459,606,786,994,1241,1520,1844,2205,2617,3070,3580,4136,4755,5424,6162,6955 ★ At stage 1, start with a unit equilateral equiangular triangle. At each successive stage add 3*(n-1) new triangles around outside with edge-to-edge contacts. Sequence gives number of triangles (regardless of size) at n-th stage. • a(2n + 1) = (7n ^ 3 + 12n ^ 2 + 7n + 2) / 2; a(2n) = (28n ^ 3 + 6n ^ 2 + 4n + 1 + (- 1) ^ (n + 1)) / 8. - _ Len Smiley _ , Oct 07 2001 • a(n) = (14 * n ^ 3 + 6 * n ^ 2 + 5 * n + 7 + 3 * (n - 1) * (- 1) ^ n - 2 * ((- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) + (- 1) ^ ((6 * n - 1 + (- 1) ^ n) / 4))) / 32. - _ Luce ETIENNE _ , Jun 27 2014 •

[A180668] • 0,0,1,5,14,32,67,133,256,484,905,1681,3110,5740,10579,19481,35856,65976,121377,223277,410702,755432,1389491,2555709,4700720 ★ a(n) = a(n-1)+a(n-2)+a(n-3)+4*n-8 with a(0)=0, a(1)=0 and a(2)=1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 4 * n - 8 with a(0)=0, a(1)=0 and a(2)=1. • a(n) = 2 * a(n - 1) - a(n - 4) + 4 for n>4. • a(n) - 3 * a(n - 1) + 2a(n - 2) + a(n - 4) - a(n - 5) = 0 for n>4. (End) •

[A053209] • 1,5,14,32,68,140,284,572,1148,2300,4604,9212,18428,36860,73724,147452,294908,589820,1179644,2359292,4718588,9437180,18874364,37748732,75497468 ★ Row sums of A051598. • a(0) = 1, a(1) = 5, a(n + 1) = 2 * a(n) + 4, for n >= 1; a(n) = 9 * 2 ^ (n - 1) - 4, n >= 1. • a(n) = 4 * n + Sum[i = 0, n - 1] a(i). - _ Jon Perry _ , Nov 20 2012 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) with a(0)=1, a(1)=5, a(2)=14. - _ Philippe Deléham _ , Apr 15 2013 •

[A274324] • 1,1,5,14,33,63,109,172,257,365,501,666,865,1099,1373,1688,2049,2457,2917,3430,4001,4631,5325,6084,6913 ★ Number of partitions of n^3 into at most two parts. • a(n) = (3 + (- 1) ^ n + 2 * n ^ 3) / 4. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. •

[A188589] • 1,1,5,14,33,72,151,310,629,1268,2547,5106,10225,20464,40943,81902,163821,327660,655339,1310698,2621417,5242856,10485735,20971494,41943013 ★ Expansion of (1-3*x+6*x^2-3*x^3)/((1-x)^2*(1-2*x)). • a(n) = 5 * 2 ^ (n - 1) - n - 3, n>0. •

[A094002] • 1,5,14,33,72,151,310,629,1268,2547,5106,10225,20464,40943,81902,163821,327660,655339,1310698,2621417,5242856,10485735,20971494,41943013,83886052 ★ a(n+3) = 3*a(n+2)-2*a(n+1)+1 with a(0)=1, a(1)=5. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). G.f.: (1 + x - x ^ 2) / ((1 - x) ^ 2 * (1 - 2 * x)). - _ Colin Barker _ , Apr 23 2012 •

[A105082] • 5,14,33,80,193,466,1125,2716,6557,15830,38217,92264,222745,537754,1298253,3134260,7566773,18267806,44102385,106472576,257047537,620567650,1498182837,3616933324,8732049485 ★ G.f. (5+4x)/(1-2x-x^2). • a(n)=((9 + 5 * sqrt(2)) * (1 + sqrt(2)) ^ n - (9 - 5 * sqrt(2)) * (1 - sqrt(2)) ^ n) / (2 * sqrt(2)) - Lambert Herrgesell (zero815(AT)googlemail.com), Jan 26 2007 •

[A192957] • 0,1,1,5,14,34,72,141,261,465,806,1370,2296,3809,6273,10277,16774,27306,44368,71997,116725,189121,306286,495890,802704 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A094584] • 1,5,14,34,74,152,299,571,1066,1956,3540,6336,11237,19777,34582,60134,104062,179320,307855,526775,898706,1529160,2595624,4396224,7431049 ★ Dot product of (1,2,...,n) and first n distinct Fibonacci numbers. • a(n) = F(2) + 2 * F(3) + 3 * F(4) + ... + n * F(n + 1) = (n + 1) * F(n + 3) - F(n + 5) + 3. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + a(n - 4) + a(n - 5) . • a(n) = sum _{ i=1..n + 2 } (n - i + 1) * F(n - i + 2). • a(n) = (30 * (- 1 - sqrt(5)) ^ n + (- 15 + 7 * sqrt(5)) * 2 ^ n - (15 + 7 * sqrt(5)) * (- 3 - sqrt(5)) ^ n + 2n * ((5 - 2 * sqrt(5)) * 2 ^ n + (5 + 2 * sqrt(5)) * (- 3 - sqrt(5)) ^ n)) / (10 * (- 1 - sqrt(5)) ^ n). (End) •

[A047860] • 1,5,14,34,78,174,382,830,1790,3838,8190,17406,36862,77822,163838,344062,720894,1507326,3145726,6553598,13631486,28311550,58720254,121634814,251658238 ★ a(n) = T(3,n), array T given by A047858. • a(0)=1, a(1)= 5, a(2)=14, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2011 •

[A027974] • 1,5,14,35,81,180,389,825,1726,3575,7349,15020,30561,61965,125294,252795,509161,1024100,2057549,4130225,8284926,16609455,33282989,66669660,133507081 ★ Sum{T(i,j)}, 0<=j<=i, 0<=i<=n, T given by A027960. • a(n) = 8 * 2 ^ n - Fibonacci(n + 5) - Fibonacci(n + 3). •

[A048745] • 1,5,14,36,89,217,526,1272,3073,7421,17918,43260,104441,252145,608734,1469616,3547969,8565557,20679086,49923732,120526553,290976841,702480238,1695937320,4094354881 ★ Partial sums of A048654. • a(n)=2 * a(n - 1) + a(n - 2) + 3; a(0)=1, a(1)=5. • a(n)=[{ (4 + (5 / 2) * sqrt(2))(1 + sqrt(2)) ^ n - (4 - (5 / 2) * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - 3 / 2. • a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3), n>2 ; a(0)=1, a(1)=5, a(2)=14. - _ Philippe Deléham _ , Dec 16 2008 •

[A054486] • 1,5,14,37,97,254,665,1741,4558,11933,31241,81790,214129,560597,1467662,3842389,10059505,26336126,68948873,180510493,472582606,1237237325,3239129369,8480150782,22201322977 ★ Expansion of (1+2x)/(1-3x+x^2). • a(n) = 3a(n - 1) - a(n - 2), a(0)=1, a(1)=5. • a(n) = - 2 * F(n) ^ 2 + 6 * F(n) * F(n + 1) + F(n + 1) ^ 2 for all n in Z where F = Fibonacci. - _ Michael Somos _ , Mar 17 2015 • a(n) = 3 * F(2 * n) + F(2 * n + 1) for all n in Z where F = Fibonacci. - _ Michael Somos _ , Mar 17 2015 •

[A072130] • 0,1,5,14,37,99,260,681,1785,4674,12237,32039,83880,219601,574925,1505174,3940597,10316619,27009260,70711161,185124225,484661514,1268860317,3321919439,8696898000 ★ a(n+1) -3*a(n) + a(n-1) = (2/3)*(1+w^(n+1)+w^(2*n+ a(1) = 0, a(2) = 1; where w is the cubic root of unity. • a(1)=0, a(2)=1, a(3) =5, a(4)=14, a(5)=37, a(n)=3 * a(n - 1) - a(n - 2) + a(n - 3) - 3 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 19 2012 •

[A225865] • 0,1,5,14,38,83,191,401,849,1740,3600,7285,14845,29938,60486,121686,245046,492090,988782,1983945,3981105,7982802,16006686,32080696,64292920 ★ a(n) = 2^m minus (the total number of distinct subsets of length-(m-n) binary words that can appear as the factor of a word of length m, for 0 <= n < m/2). • a(n) = sum(i = 1..n + 1, (i - 1) * L(i)), where L(i) is the number of Lyndon words of length i (sequence A001037). •

[A119996] • 1,5,14,39,103,272,713,1869,4894,12815,33551,87840,229969,602069,1576238,4126647,10803703,28284464,74049689,193864605,507544126,1328767775,3478759199,9107509824,23843770273 ★ Numerator of sum(k=1..n, 1 / (Fibonacci(k) * Fibonacci(k+2))). • a(0)=1, a(1)=5, a(2)=14, a(3)=39, a(n) =3 * a(n - 1) - 3 * a(n - 3) + a(n - 4) [From Harvey P. Dale, Aug 22 2011] • a(n) = Fibonacci(n + 1) * Fibonacci(n + 2) - 1. - Gary Detlefs, Mar 31 2012. •

[A266941] • 1,1,5,14,42,103,289,690,1771,4206,10142,23449,54786,123528,279480,619206,1366405,2969071,6425534,13727775,29187555,61439660,128620370,267044222,551527679 ★ Expansion of Product_{k>=1} 1 / (1 - k*x^k)^k. • a(0) = 1 and a(n) = (1 / n) * Sum _{ k=1..n } (Sum _{ d|k } d ^ (2 + k / d)) * a(n - k) for n > 0. - _ Seiichi Manyama _ , Nov 02 2017 •

[A140796] • 1,5,14,44,128,392,1160,3512,10472,31544,94376,283640,849896,2551736,7651112,22961528,68868200,206637368,619846568,1859670776,5578750184,16736774840,50209275944,150629924984,451885580648 ★ a(n)=a(n-1)+6a(n-2), n>2. • a(n) = (- 1) ^ (n + 1) * 2 ^ n / 10 + 8 * 3 ^ n / 5, n>0. - _ R. J.

Mathar _ , Jul 29 2008 ●

[A100059] ● 1,5,14,45,139,434,1351,4209,13110,40837,127203,396226,1234207,3844441,11975078,37301261,116189979,361921042,1127350583,3511592833,10938286998,34071752661,106130359315,330586256610 ★ First differences of A052911. ● a(n) = rightmost term in M ^ 5 * [1 1 1], where M = the 3 X 3 upper triangular matrix [2 1 2 / 1 1 0 / 1 0 0]. ●

[A270062] ● 1,1,5,14,45,140,438,1371,4287,13413,41956,131249,410572,1284352,4017713,12568213,39315905,122988066,384731445,1203517448,3764844982,11777193395,36841433019,115247422841,360517151000 ★ Number of tilings of a 2 X n rectangle using monominoes and trominoes of any shape. ● a(n) = a(n - 1) + 5 * (a(n - 2) + a(n - 3)) + a(n - 4) - a(n - 5) - a(n - 6). ●

[A236043] ● 5,14,45,141,447,1414,4472,14142,44721,141421,447214,1414214,4472136,14142136,44721360,141421356,447213595,1414213562,4472135955,14142135624,44721359550,141421356237,447213595500,1414213562373,4472135955000 ★ Number of triangular numbers <= 10^n. ● a(n) = floor(sqrt(2 * 10 ^ n + 1 / 4) + 1 / 2), adapted from Tanton (see Links section). - _ Chris Boyd _ , Jan 19 2014 ●

[A077335] ● 1,1,5,14,46,107,352,789,2314,5596,14734,34572,92715,210638,531342,1250635,3042596,6973974,16973478,38399806,91301956,207992892,483244305,1089029008,2533640066 ★ Sum of products of squares of parts in all partitions of n. ● a(n) = S(n,1), where S(n,m) = n ^ 2 + Sum _{ k=m..n / 2 } k ^ 2 * S(n - k,k), S(n,n) = n ^ 2, S(n,m) = 0 for m > n. - _ Vladimir Kruchinin _ , Sep 07 2014 ●

[A176640] ● 0,1,5,14,46,111,303,688,1712,3761,8881,19122,43698,92851,207539,436916,961204,2009781,4369077,9087670,19573430,40544951,86682295,178956984,380283576 ★ Partial sums of A005985. ● a(0)=0, a(1)=1, a(2)=5, a(3)=14, a(4)=46, a(5)=111, a(n)=3 * a(n - 1) + 3 * a(n - 2) - 15 * a(n - 3) + 6 * a(n - 4) + 12 * a(n - 5) - 8 * a(n - 6). - _ Harvey P. Dale _ , Jun 11 2015 ●

[A163608] ● 5,14,46,156,532,1816,6200,21168,72272,246752,842464,2876352,9820480,33529216,114475904,390845184,1334428928,4556025344,15555243520,53108923392,181325206528,619082979328,2113681504256,7216560058368 ★ a(n) = ((5 + 2*sqrt(2))*(2 + sqrt(2))^n + (5 - 2*sqrt(2))*(2 - sqrt(2))^n)/2. ● a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n > 1; a(0) = 5, a(1) = 14. ●

[A081496] ● 5,14,46,160,574,2100,7788,29172,110110,418132,1595620,6113744,23505356,90633800,350351640,1357278300,5268292830,20483876820,79765662900,311038321440,1214362277700,4746455801880,18570960418920,72728638093800 ★ Start with Pascal's triangle; a(n) is the sum of the numbers on the periphery of the n-th central rhombus containing exactly 4 numbers. ● a(n) = (9 * n - 4) * Catalan(n - 1) = (9 * n - 4) * binomial(2 * (n - 1), (n - 1)) / n. - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Dec 20 2004 ●

[A107242] ● 0,0,1,5,14,50,194,723,2659,9884,36780,136636,507517,1885793,7006962,26034006,96728470,359395319,1335332919,4961420008,18434129192,68491926888,254481427113,945524491213,3513091674982 ★ Sum of squares of tetranacci numbers (A001630). ● a(n)= 3 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) + 6 * a(n - 4) - 16 * a(n - 5) - 2 * a(n - 6) + 6 * a(n - 7) - 2 * a(n - 8) + 2 * a(n - 9) + a(n - 10) - a(n - 11). G.f.: x ^ 2 * (1 + x) * (x ^ 6 - x ^ 5 - 4 * x ^ 2 + x + 1) / ((x - 1) * (x ^ 4 + x ^ 3 - 3 * x ^ 2 - 3 * x + 1) * (x ^ 6 - x ^ 5 + 2 * x ^ 4 -\ 2 * x ^ 3 - 2 * x ^ 2 - x - 1)). [_ R. J. Mathar _ , Aug 11 2009] ●

[A262247] ● 5,14,55,140,506,819,1785,2470,4324,8555,10416,17575,23821,27434,35720,51039,70210,77531,102510,121836,132349,167480,194054,238965,308945 ★ Number of squares formed from a square composed of p^2 unit squares where p is n-th prime. ● a(n) = prime(n) * (prime(n) + 1) * (2 * prime(n) + 1) / 6. ●

[A279511] ● 5,14,55,252,1221,6034,30035,149912,749041,3744174,18718815,93589972,467941661,2339691914,11698426795,58492068432,292460211081,1462300793254,7311503441975,36557516161292,182787578709301,913937889352194,4569689438372355,22848447175084552 ★ Sierpinski square-based pyramid numbers: a(n) = 5*a(n-1) - (2^(n+1)+7). ● a(n) = 5 * a(n - 1) - (2 ^ (n + 1) + 7). ● a(n) = 8 * a(n - 1) - 17 * a(n - 2) + 10 * a(n - 3) for n > 2. ●

[A281698] ● 5,14,55,269,1465,8369,48865,288449,1713025,10210049,60993025,364899329,2185181185,13094268929,78498422785,470721937409,2823257554945,16935249707009,101594317062145,609497180274689,3656708198498305,21939149668876289,131630499945775105 ★ a(n) = 5*2^(n-1) + 2^(2*n-1) + 6^n + 1. ● a(n) = 13 * a(n - 1) - 56 * a(n - 2) + 92 * a(n - 3) - 48 * a(n - 4) for n >3. ●

[A165517] ● 0,5,14,63,152,637,1518,6319,15040,62565,148894,619343,1473912,6130877,14590238,60689439,144428480,600763525,1429694574,5946945823,14152517272,58868694717,140095478158,582740001359,1386802264320 ★ Indices of the least triangular numbers (A000217) for which three consecutive triangular numbers sum to a perfect square (A000290) ● a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5). ● a(n) = 10 * a(n - 2) - a(n - 4) + 12. - _ Zak Seidov _ , Sep 25 2009 ●

[A007838] ● 1,1,1,5,14,74,474,3114,24240,219456,2231280,23753520,288099360,3692907360,51677246880,775999798560,12364465397760,208583679951360,3770392002048000,71251563061002240,1421847102467635200,29861872557056870400,655829140087057305600 ★ Number of permutations of n elements with distinct cycle lengths. ● a(n) = Sum _{ k=1..n } (n - 1)! / (n - k)! * b(k) * a(n - k), where b(k) = Sum _{ d divides k } (- d) ^ (1 - k / d) and a(0) = 1. - _ Vladeta Jovovic _ , Oct 13 2002 ●

[A024167] ● 1,1,5,14,94,444,3828,25584,270576,2342880,29400480,312888960,4546558080,57424792320,948550176000,13869128448000,256697973504000,4264876094976000,87435019510272000,1627055289796608000 ★ a(n) = n!*(1 - 1/2 + 1/3 - ... + c/n), where c = (-1)^(n+1). ● a(n) = a(n - 1) + a(n - 2) * (n - 1) ^ 2, n>1. - _ Michael Somos _ , Oct 29, 2002 ● a(n) = 1 / 2 * n! * ((- 1) ^ n * (digamma((n + 1) / 2) - digamma((n + 2) / 2)) + log(4)). - _ Daniel Suteu _ , Dec 03 2016 ●

[A077262] ● 0,5,14,99,260,1785,4674,32039,83880,574925,1505174,10316619,27009260,185124225,484661514,3321919439,8696898000,59609425685,156059502494,1069647742899,2800374146900,19194049946505,50250675141714,344423251294199,901711778403960 ★ Second member of the Diophantine pair (m,k) that satisfies 5*(m^2 + m) = k^2 + k; a(n) = k. ● a(n) = (- 1 + sqrt(8 * b(n) + 1)) / 2 where b(n) are the entries in A077261. ●

[A166621] ● 5,15,15,25,25,35,35,45,45,55,55,65,65,75,75,85,85,95,95,105,105,115,115,125,125 ★ a(n) = 10*n - a(n-1), with n>1, a(1)=5. ● a(n) = (5 / 2) * (2 * n + (- 1) ^ n + 1). - _ Paolo P. Lava _ , Nov 10 2009 ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). (End) ●

[A017329] ● 5,15,25,35,45,55,65,75,85,95,105,115,125,135,145,155,165,175,185,195,205,215,225,235,245 ★ a(n) = 10n + 5. ● a(n) = 20 * n - a(n - 1) (with a(0)=5). - _ Vincenzo Librandi _ , Nov 19 2010 ●

[A268581] ● 5,15,29,47,69,95,125,159,197,239,285,335,389,447,509,575,645,719,797,879,965,1055,1149,1247,1349 ★ a(n) = 2*n^2 + 8*n + 5. ● a(n) = 2 * (n + 2) ^ 2 - 3. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) ●

[A028895] ● 0,5,15,30,50,75,105,140,180,225,275,330,390,455,525,600,680,765,855,950,1050,1155,1265,1380,1500 ★ 5 times triangular numbers: a(n) = 5*n*(n+1)/2. ● a(n + 1) = 5 * n + a(n). - _ Vincenzo Librandi _ , Aug 05 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Wesley Ivan Hurt _ , Nov 27 2015 ●

[A056108] ● 1,5,15,31,53,81,115,155,201,253,311,375,445,521,603,691,785,885,991,1103,1221,1345,1475,1611,1753 ★ Fourth spoke of a hexagonal spiral. ● a(n) = 3 * n ^ 2 + n + 1. ● a(n) = a(n - 1) + 6 * n - 2 = 2 * a(n - 1) - a(n - 2) + 6 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ● a(n) = 6 * n + a(n - 1) - 2 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 07 2010 ●

[A055831] ● 5,15,31,54,85,125,175,236,309,395,495,610,741,889,1055,1240,1445,1671,1919,2190,2485,2805,3151,3524,3925 ★ T(n,n-4), where T is the array in A055830. ● a(n) = (n - 3) * (n ^ 2 + 6 * n - 10) / 6, n>3. ●

[A073361] ● 1,5,15,31,65,105,151,275,420,631,695,1050,1411,1685,2385,2941,3425,4410,5326,6995,7350,9316,10880 ★ Nested floor product of n and fractions (k+1)/k for all k>0 (mod 4), divided by 4. ● a(n)=(1 / 3)[...[[[[n(2 / 1)](3 / 2)](4 / 3)](6 / 5)]...(k + 1) / k]..., k>0 (mod 4), where [x] = floor of x; this infinite nested floor product will eventually level - off at a(n). ●

[A260918] ● 0,1,5,15,33,60,100,154,224,313,423,555,713,898,1112,1358,1638,1953,2307,2701,3137,3618,4146,4722,5350 ★ Number of squares of all sizes in polyominoes obtained by union of two pyramidal figures (A092498) with intersection equals A002623. ● a(n) = (1 / 8) * (Sum { j=0...floor(2 * n / 3) } (4 * n + 1 - 6 * i - (- 1) ^ i) * (4 * n - 1 - 6 * i + (- 1) ^ i) - (Sum { j=0...(2 * n - 1 + (- 1) ^ n) / 4 } (2 * n + 1 - (- 1) ^ n - 4 * j) * (2 * n + 1 + (- 1) ^ n - 4 * j)). ● a(n) = (52 * n ^ 3 + 90 * n ^ 2 + 20 * n - 3 * (32 * floor((n + 1) / 3) + 3 * (1 - (- 1) ^ n)) / 144. ● a(n) = (52 * n ^ 3 + 90 * n ^ 2 + 20 * n - 3 * (32 * floor((n + 1) / 3) + 3 * (1 - (- 1) ^ n))) / 144. ●

[A212983] ● 1,5,15,33,62,104,162,238,335,455,601,775,980,1218,1492,1804,2157,2553,2995,3485,4026,4620,5270,5978,6747 ★ Number of (w,x,y) with all terms in {0,...,n} and w<=x+y and x<=y. ● a(n)=3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). ●

[A238340] ● 1,5,15,34,64,108,169,249,351,478,632,816,1033,1285,1575,1906,2280,2700,3169,3689,4263,4894,5584,6336,7153 ★ Number of partitions of 4n into 4 parts. ● a(n) = 4 / 9 * n ^ 3 + 1 / 3 * n ^ 2 + O(1). - _ Ralf Stephan _ , May 29 2014 ●

[A006003] ● 0,1,5,15,34,65,111,175,260,369,505,671,870,1105,1379,1695,2056,2465,2925,3439,4010,4641,5335,6095,6924 ★ a(n) = n*(n^2 + 1)/2. ● a(n) = binomial(n, 3) + binomial(n - 1, 3) + binomial(n - 2, 3). ● a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Dec 24 2011 ● a(n) = Sum _{ k = 1..n } A(k - 1, k - 1 - n) where A(i, j) = i ^ 2 + i * j + j ^ 2 + i + j + 1. - _ Michael Somos _ , Jan 02 2012 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), with a(0)=0, a(1)=1, a(2)=5, a(3)=15. - _ Harvey P. Dale _ , May 16 2012 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 3. - _ Ant King _ , Jun 13 2012 ● a(n) = T(n) + T(n - 1) + T(n - 2), where T means the tetrahedral - numbers, A000292. - _ Heinz Dabrock _ , Jun 03 2016 ●

[A111385] ● 0,0,0,0,1,5,15,34,68,120,200,310,465,665,931,1260,1680,2184,2808,3540,4425,5445,6655,8030,9636 ★ a(n) = binomial(n,4) - binomial(floor(n/2),4) - binomial(ceiling(n/2),4). ● a(n) = + 2 a(n - 1) + 2 a(n - 2) - 6 a(n - 3) + 6 a(n - 5) - 2 a(n - 6) - 2 a(n - 7) + a(n - 8). - _ R. J. Mathar _ , Mar 11 2012 ● a(n) = n ^ 2 * (7 * n ^ 2 - 36 * n + 44) / 192 for n even. ● a(n) = (7 * n ^ 4 - 36 * n ^ 3 + 38 * n ^ 2 + 36 * n - 45) / 192 for n odd. ●

[A083049] ● 1,5,15,34,68,127,225,387,652,1084,1787,2927,4775,7769,12616,20462,33160,53709,86962,140769,227834,368711,596658,965488,1562270 ★ Antidiagonal sums of table A083047. ● a(n) = Sum _{ k=0..n } T(k, n - k), where T(n, 0) = floor(n * x / (x - 1)) + 1, T(n, k + 1) = ceiling(x * T(n, k)), for n >=0, k>=0, with x = (sqrt(5) + 1) / 2. ●

[A005894] ● 1,5,15,35,69,121,195,295,425,589,791,1035,1325,1665,2059,2511,3025,3605,4255,4979,5781,6665,7635,8695,9849 ★ Centered tetrahedral numbers. ● a(n) = (2 * n + 1) * (n ^ 2 + n + 3) / 3. ● a(n) = C(n, 0) + 4 * C(n, 1) + 6 * C(n, 2) + 4 * C(n, 3). - _ Paul Barry _ , Jul 01 2003 ● a(n) = binomial(n + 3,n) + binomial(n + 2,n - 1) + binomial(n + 1,n - 2) + binomial(n,n - 3). (modified by _ G. C. Greubel _ , Nov 30 2017) ● a(n) = a(n - 1) + 2 * n ^ 2 + 2, n>=1 (first differences A005893). - _ Vincenzo Librandi _ , Mar 27 2011 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4); a(0)=1, a(1)=5, a(2)=15, a(3)=35. - _ Harvey P. Dale _ , Nov 03 2011 ●

[A008487] • 1,5,15,35,70,125,205,315,460,645,875,1155,1490,1885,2345,2875,3480,4165,4935,5795,6750,7805,8965,10235,11620 ★ Expansion of (1-x^5) / (1-x)^5. • a(n) = binomial(n + 7, n + 4) + binomial(n + 6, n + 3) + binomial(n + 5, n + 2) + binomial(n + 4, n + 1) + binomial(n + 3, n) for n>3. - _ Zerinvary Lajos _ , Sep 03 2006 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. - _ Colin Barker _ , Jan 06 2017 •

[A000332] • 0,0,0,0,1,5,15,35,70,126,210,330,495,715,1001,1365,1820,2380,3060,3876,4845,5985,7315,8855,10626 ★ Binomial coefficient binomial(n,4) = n*(n-1)*(n-2)*(n-3)/24. • a(n) = n * (n - 1) * (n - 2) * (n - 3) / 24. • a(n) = n * a(n - 1) / (n - 4). - _ Benoit Cloitre _ , Apr 26 2003, _ R. J. Mathar _ , Jul 07 2009 • a(n) = Sum _{ k=1..n - 3 } Sum _{ i=1..k } i * (i + 1) / 2. - _ Benoit Cloitre _ , Jun 15 2003 • a(4n + 2) = Pyr(n + 4, 4n + 2) where the polygonal pyramidal numbers are defined for integers A>2 and B>=0 by Pyr(A, B) = B - th A - gonal pyramid number = [(A - 2) * B ^ 3 + 3 * B ^ 2 - (A - 5) * B] / 6; For all positive integers i and the pentagonal number function P(x) = x * (3 * x - 1) / 2: a(3i - 2) = P(P(i)) and a(3i - 1) = P(P(i) + i); 1 + 24 * a(n) = (n ^ 2 + 3 * n + 1) ^ 2. - _ Jonathan Vos Post _ , Nov 15 2004 • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=1, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 22 2011 • a(n) = (binomial(n - 1,2) ^ 2 - binomial(n - 1,2)) / 6. - _ Gary Detlefs _ , Nov 20 2011 •

[A139761] • 0,0,0,0,1,5,15,35,70,127,220,385,715,1430,3004,6385,13380,27370,54740,107883,211585,416405,826045,1652090,3321891 ★ a(n) = Sum_{ k >= 0} binomial(n,5*k+4). • a(n) = round((2 / 5) * (2 ^ (n - 1) + phi ^ n * cos(Pi * (n - 8) / 5))), where phi is the golden ratio, round(x) is the integer nearest to x. - _ Vladimir Shevelev _ , Jun 28 2017 • a(n + m) = a(n) * H _ 1(m) + H _ 4(n) * H _ 2(m) + H _ 3(n) * H _ 3(m) + H _ 2(n) * H _ 4(m) + H _ 1(n) * a(m), where H _ 1=A139398, H _ 2=A133476, H _ 3=A139714, H _ 4=A139748. - _ Vladimir Shevelev _ , Jun 28 2017 •

[A049016] • 1,5,15,35,70,127,220,385,715,1430,3004,6385,13380,27370,54740,107883,211585,416405,826045,1652090,3321891,6690150,13455325,26985675,53971350 ★ Expansion of 1/((1-x)^5-x^5). • a(n)=5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + 2a(n - 5). - _ Paul Curtz _ , May 24 2008 •

[A100355] • 0,0,0,0,1,5,15,35,70,140,252,420,660,990,1485,2145,3003,4095,5460,7280,9520,12240,15504,19381,24226 ★ Maximal number of 15432 patterns in a permutation of 1,2,...,n. • a(n) = max(a(k) + k * choose(n - k, 4), 1 <= k < n) •

[A145133] • 0,1,5,15,35,71,132,231,386,622,974,1491,2241,3318,4852,7023,10080,14367,20359,28712,40332,56470,78853,109865,152797 ★ Expansion of x/((1 - x - x^4)*(1 - x)^4). • a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 4a(n - 4) - 3a(n - 5) + 6a(n - 6) - 4a(n - 7) + a(n - 8). •

[A270784] • 1,5,15,35,71,135,255,495,992,2028,4186,8710,18335,39151,84711,185079,406994,899374,1996676,4453904,9980570,22454570,50688170,114750090,260454417 ★ Expansion of (1-sqrt(1-4*x^4/(1-x)^4))/(2*x^4*(1-x)). • a(n) = ((n + 4) / 4) * Sum _{ k=0..(n + 4) / 4 } (binomial(2 * k,k) * binomial(n + 3,n - 4 * k) / (k + 1) ^ 2). •

[A213580] • 1,5,15,35,74,146,277,511,925,1651,2916,5108,8889,15385,26507,45491,77806,132678,225645,382835,648121,1095075,1846920,3109800,5228209 ★ Principal diagonal of the convolution array A213579. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) + a(n - 5). •

[A105720] • 5,15,36,67,112,169,240,323,424,539,662,803,964,1133,1312,1523,1746,1987,2246,2519,2808,3119,3436,3787,4154 ★ Triangular matchstick numbers in the class of prime numbers: sum of n-th and next n primes. • a(n)=p(n) + p(n + 1) + ... + p(2n - 1) + p(2n), p(k)=k - th prime • a(1)=5; n>1: a(n)=a(n - 1) - prime(n - 1) + prime(2 * n - 1) + prime(2 * n). [From _ Zak Seidov _ , Oct 18 2009] •

[A184631] • 1,5,15,36,71,123,196,292,416,571,760,987,1255,1568,1928,2340,2807,3332,3919,4571,5292,6084,6952,7899,8928 ★ Floor(1/{(7+n^4)^(1/4)}), where {}=fractional part. • a(n)=floor(1 /{ (7 + n ^ 4) ^ (1 / 4) }), where {} =fractional part. •

[A006008] • 0,1,5,15,36,75,141,245,400,621,925,1331,1860,2535,3381,4425,5696,7225,9045,11191,13700,16611,19965,23805,28176 ★ Number of inequivalent ways to color vertices of a tetrahedron using <= n colors. • a(n) = (n ^ 4 + 11 * n ^ 2) / 12. (Replace all x _ i's in the cycle index with n.) • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(0)=0, a(1)=1, a(2)=5, a(3)=15, a(4)=36. - _ Harvey P. Dale _ , Aug 11 2011 • a(n) = C(n,1) + 3C(n,2) + 3C(n,3) + 2C(n,4). Each term indicates the number of tetrahedra with exactly 1, 2, 3, or 4 colors. • a(n) = binomial(n + 3,4) + binomial(n,4). - _ Collin Berman _ , Jan 26 2016 •

[A163250] • 0,0,1,5,15,36,76,148,273,485,839,1424,2384,3952,6505,10653,17383,28292,45964,74580,120905,195885,317231,513600,831360 ★ The number of nonisomorphic complete simple games with n voters of two different types. • a(n) = F(n + 6) - (n ^ 2 + 4 * n + 8), where F(n) are the Fibonacci numbers. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). • a(n) = Sum _{ k=0..n - 1 } Sum _{ i=0..n - 1 } i ^ 2 * C(n - k - 1,k - i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A053808] • 1,5,15,36,76,148,273,485,839,1424,2384,3952,6505,10653,17383,28292,45964,74580,120905,195885,317231,513600,831360,1345536,2177521 ★ Partial sums of A001891. • a(n) = a(n - 1) + a(n - 2) + (n + 1) ^ 2, a(- n)=0. • a(n) = F(n + 6) - (n ^ 2 + 4 * n + 8), n >= 2 (see p. 184 of FQ reference). • a(n - 2) = sum(i=0..n, F(i) * (n - i) ^ 2) - _ Benoit Cloitre _ , Mar 06 2004 •

[A111926] • 0,0,0,0,1,5,15,36,78,162,331,671,1353,2718,5448,10908,21829,43673,87363,174744,349506,699030,1398079,2796179,5592381 ★ Expansion of x^4/((1-2*x)*(x^2-x+1)*(x-1)^2). • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=1, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 11 * a(n - 3) - 7 * a(n - 4) + 2 * a(n - 5). - _ Harvey P. Dale _ , Feb 24 2016 •

[A213487] • 1,5,15,37,77,138,223,338,489,679,911,1191,1525,1916,2367,2884,3473,4137,4879,5705,6621,7630,8735,9942,11257 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y|+|y-w| <= w+x+y. • a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). •

[A005491] • 1,5,15,37,77,141,235,365,537,757,1031,1365,1765,2237,2787,3421,4145,4965,5887,6917,8061,9325,10715,12237,13897 ★ n^3 + 3n + 1. • a(0)=1, a(1)=5, a(2)=15, a(3)=37, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 01 2014 •

[A050488] • 0,1,5,15,37,83,177,367,749,1515,3049,6119,12261,24547,49121,98271,196573,393179,786393,1572823,3145685,6291411,12582865,25165775,50331597 ★ a(n) = 3*(2^n-1) - 2*n. • a(n) = 2 * a(n - 1) + (2n - 1). - _ Gary W. Adamson _ , Sep 30 2007 • a(n) = 4a(n - 1) - 5a(n - 2) + 2a(n - 3) for n>2 with a(0) = 0, a(1) = 1, a(2) = 5. • a(n) = 2 * n + 2 * a(n - 1) - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A142964] • 1,5,15,37,83,177,367,749,1515,3049,6119,12261,24547,49121,98271,196573,393179,786393,1572823,3145685,6291411,12582865,25165775,50331597,100663243 ★ One half of second column (m=1) of triangle A142963. • a(n) = 4a(n - 1) - 5a(n - 2) + 2a(n - 3) for n > 2 with a(0) = 1, a(1) = 5, a(2) = 15. •

[A099035] • 1,5,15,39,95,223,511,1151,2559,5631,12287,26623,57343,122879,262143,557055,1179647,2490367,5242879,11010047,23068671,48234495,100663295,209715199,436207615 ★ a(n) = (n+1)*2^(n-1) - 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). •

[A034182] • 1,5,15,39,97,237,575,1391,3361,8117,19599,47319,114241,275805,665855,1607519,3880897,9369317,22619535,54608391,131836321,318281037,768398399,1855077839,4478554081 ★ Number of not-necessarily-symmetric n X 2 crossword puzzle grids. • a(n) = 2a(n - 1) + a(n - 2) + 4. • a(n) = - 2 + (3 / 2) * (1 + sqrt(2)) ^ (n - 1) - sqrt(2) * (1 - sqrt(2)) ^ (n - 1) + (3 / 2) * (1 - sqrt(2)) ^ (n - 1) + (1 + sqrt(2)) ^ (n - 1) * sqrt(2), with n>=1 - _ Paolo P. Lava _ , Jun 10 2008 • a(n) = (- 4 + (1 - sqrt(2)) ^ (1 + n) + (1 + sqrt(2)) ^ (1 + n)) / 2. G.f.: x * (1 + x) ^ 2 / ((1 - x) * (1 - 2 * x - x ^ 2)). - _ Colin Barker _ , May 22 2012 •

[A291225] • 5,15,40,100,236,535,1175,2515,5270,10846,21980,43950,86850,169840,329042,632135,1205205,2281925,4293270,8030558,14940700,27659095,50968455,93518940,170905555 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)^5. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 10 * a(n - 3) + 15 * a(n - 4) + 11 * a(n - 5) - 15 * a(n - 6) - 10 * a(n - 7) + 5 * a(n - 8) + 5 * a(n - 9) + a(n - 10) for n >= 11. •

[A201157] • 0,5,15,40,105,275,720,1885,4935,12920,33825,88555,231840,606965,1589055,4160200,10891545,28514435,74651760,195440845,511670775,1339571480,3507043665,9181559515,24037634880 ★ y-values in the solution to 5*x^2 - 20 = y^2. • a(n) = 3 * a(n - 1) - a(n - 2), n>2. • a(n) = 5 * Fibonacci(2 * n - 2) = Lucas(2 * n - 1) + Lucas(2 * n - 3) with Lucas(- 1) = - 1. - _ Bruno Berselli _ , Feb 15 2017 •

[A113861] • 0,1,5,15,41,103,249,583,1337,3015,6713,14791,32313,70087,151097,324039,691769,1470919,3116601,6582727,13864505,29127111,61050425,127693255,266571321 ★ a(n) = (1/9)*((6*n - 7)*2^(n-1) - (-1)^n). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + (- 1) ^ (n + 1), n>2. - _ Gary Detlefs _ , Dec 19 2010 • a(n) = 3 * a(n - 1) - 4 * a(n - 3), n>3. - _ Gary Detlefs _ , Dec 19 2010 •

[A080870] • 1,5,15,41,107,276,708,1811,4629,11827,30214,77182,197159,503632,1286495,3286264,8394533,21443246,54775263,139919550,357414628,912990471,2332169791,5957363305,15217664544 ★ a(n+1) is smallest number with a(n+1)^n > (a(n)+1)^(n+1), with a(1)=1. • a(n) = floor(x ^ n) - 1, where x =2.554429495392724... •

[A102620] • 1,5,15,41,113,313,867,2401,6649,18413,50991,141209,391049,1082929,2998947,8304961,22998865,63690581,176377839,488441801,1352638145,3745850473,10373355075,28726852897,79553054089 ★ Number of legal Go positions on a 1 X n board (for which 3^n is a trivial upper bound). • a(n)=sum((2 ^ k) * (binomial(n + k + 1,3 * k + 2) + 2 * binomial(n + k,3 * k + 2) + binomial(n + k - 1,3 * k + 2)),k=0..(n - 1) / 2) [_ Emanuele Munarini _ , Apr 17 2013] •

[A211380] • 0,1,5,15,42,94,189,340,572,903,1365,1981,2790,3820,5117,6714,8664,11005,13797,17083,20930,25386,30525,36400,43092 ★ Number of pairs of intersecting diagonals in the interior and exterior of a regular n-gon. • a(n) = 1 / 8 * n * (n ^ 3 - 11 * n ^ 2 + 43 * n - 58) for n even; • a(n) = 1 / 8 * n * (n - 3) * (n ^ 2 - 8 * n + 19) for n odd. •

[A005665] • 0,1,5,15,43,119,327,895,2447,6687,18271,49919,136383,372607,1017983,2781183,7598335,20759039,56714751,154947583,423324671,1156544511,3159738367,8632565759,23584608255 ★ Tower of Hanoi with 3 pegs and cyclic moves only (clockwise). • a(n) = ((sqrt(3) + 1) ^ (n + 1) + (sqrt(3) - 1) ^ (n + 1) * (- 1) ^ n) * sqrt(3) / 6 - 1. (End) • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 3. - _ John W. Layman _ • a(n) = (1 / (2 * s3)) * ((1 + s3) ^ (n + 1) - (1 - s3) ^ (n + 1)) - 1 where s3 = sqrt(3). • a(n) = 3 * a(n - 1) - 2 * a(n - 3), a(0)=0, a(1)=1, a(2)=5 (from the given o.g.f.). Observed by _ Gary Detlefs _ . See the W. Lang link. - _ Wolfdieter Lang _ , Oct 18 2010 •

[A271180] • 1,1,5,15,45,125,342,921,2461,6535,17282,45567,119898,315020,826830,2168583,5684731,14896459,39024899,102216045,267693813,700997144,1835543565,4806092673,12583591525 ★ Expansion of (4*x^3-7*x^2+4*x-1)/(x^6-4*x^5+4*x^4+x^3-7*x^2+5*x-1). • a(n) = (n + 1) * Sum _{ k=0..n } (Sum _{ i=0..n - k } (binomial(i + k,i) * 2 ^ i * binomial(2 * k + 2,n - i - k) * (- 1) ^ (n - i - k)) / (k + 1) * F(k + 1)), where F = A000045 (Fibonacci numbers

). • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + a(n - 3) + 4 * a(n - 4) - 4 * a(n - 5) + a(n - 6) for n>3, a(0)=1, a(1)=1, a(2)=5, a(3)=15. •

[A001869] • 1,5,15,45,165,629,2635,11165,48915,217045,976887,4438925,20346485,93900245,435970995,2034505661,9536767665,44878791365,211927736135,1003867701485,4768372070757,22706531350485,108372083629275,518301258916445 ★ Number of n-bead necklaces with 5 colors. • a(n) = (1 / n) * Sum _{ d|n } phi(d) * 5 ^ (n / d), n > 0. •

[A077841] • 1,1,5,15,47,149,469,1479,4663,14701,46349,146127,460703,1452485,4579333,14437527,45518023,143507293,452443709,1426445343,4497236399,14178696245,44701992373,140934546279,444332462167 ★ Expansion of (1-x)/(1-2*x-3*x^2-2*x^3). • a(n)=sum(k=1..n, sum(i=k..n,(sum(j=0..k, binomial(j, - 3 * k + 2 * j + i) * 3 ^ (- 3 * k + 2 * j + i) * 2 ^ (k - j) * binomial(k,j))) * binomial(n + k - i - 1,k - 1))), n>0, a(0)=1. [From _ Vladimir Kruchinin _ , May 05 2011] •

[A029609] • 1,5,15,50,175,630,2310,8580,32175,121550,461890,1763580,6760390,26001500,100291500,387793800,1502700975,5834015550,22687838250,88363159500,344616322050,1345644686100,5260247409300,20583576819000 ★ Central numbers in the (2,3)-Pascal triangle A029600. • a(n) = 5 / 2 * binomial(2 * n,n) for n >= 1. •

[A255442] • 1,5,15,51,153,477,1431,4347,13041,39285,117855,354051,1062153,3187917,9563751,28695627,86086881,258273765,774821295,2324503251,6973509753,20920647357,62761942071,188286180507,564858541521 ★ a(n) = A255304(2^n-1). • a(n) = 2 * 3 ^ n - 3 ^ ((n - 1) / 2) / 2 * (1 - (- 1) ^ n + sqrt(3) + (- 1) ^ n * sqrt(3)). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3) for n>2. •

[A123011] • 1,5,15,55,185,645,2215,7655,26385,91045,314015,1083255,3736585,12889445,44461815,153370855,529050785,1824955845,6295165615,21715110455,74906048985,258387650245,891305545415,3074549342055 ★ a(n) = 2*a(n-1)+5*a(n-2) for n > 1; a(0) = 1, a(1) = 5. • a(n) = ((3 + 2 * sqrt(6)) * (1 + sqrt(6)) ^ n + (3 - 2 * sqrt(6)) * (1 - sqrt(6)) ^ n) / 6. - _ Klaus Brockhaus _ , Aug 15 2009 •

[A006358] • 1,5,15,55,190,671,2353,8272,29056,102091,358671,1260143,4427294,15554592,54648506,191998646,674555937,2369942427,8326406594,29253473175,102777312308,361091343583,1268635610806,4457144547354 ★ Number of distributive lattices; also number of paths with n turns when light is reflected from 5 glass plates. • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) is asymptotic to z(5) * w(5) ^ n where w(5) = (1 / 2) / cos(5 * Pi / 11) and z(5) is the root 1 < x < 2 of P(5, X) = - 1 + 55 * X + 847 * X ^ 2 - 5324 * X ^ 3 - 14641 * X ^ 4 + 14641 * X ^ 5. - _ Benoit Cloitre _ , Oct 16 2002 •

[A054108] • 1,5,15,55,197,727,2705,10165,38455,146301,559131,2145025,8255575,31861025,123256495,477823895,1855782325,7219352975,28125910825,109720617995,428537256445,1675561707275,6557869020325,25689734662775 ★ a(n)=(-1)^(n+1)*sum(k=0,n+1,(-1)^k*binomial(2*k,k)). • a(n) = C(2n, n) - a(n - 1) with a(0)=1. - _ Labos Elemer _ , Apr 26 2003 • a(n) = sum(k=0..n, (- 1) ^ (k + n) * ((2k)! / (k!) ^ 2)). - _ Alexander Adamchuk _ , Jul 05 2006 •

[A137959] • 1,1,1,5,15,55,220,876,3645,15485,66735,292155,1293456,5782320,26071435,118402495,541150155,2487204315,11488482130,53302256250,248293549685,1160794446445,5444674773325,25614768620105,120837493137460 ★ G.f. satisfies A(x) = 1 + x + x^2*A(x)^5. • a(n) = Sum _{ k=0..n - 1 } C(n - k,k) / (n - k) * C(5 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A001552] • 5,15,55,225,979,4425,20515,96825,462979,2235465,10874275,53201625,261453379,1289414505,6376750435,31605701625,156925970179,780248593545,3883804424995,19349527020825,96470431101379,481245667164585,2401809362313955,11991391850823225 ★ 1^n + 2^n + ... + 5^n. • a(n) = sum(k ^ n ,k=1..5), n>=0. •

[A110614] • 1,5,15,57,215,841,3319,13193,52599,210057,839543,3356809,13424503,53692553,214759287,859015305,3436017527,13743982729,54975756151,219902675081,879610001271,3518438606985,14073751631735,56295000934537,225179992553335 ★ a(n+3) = 5*a(n+2) - 2*a(n+1) - 8*a(n), a(0) = 1, a(1) = 5, a(2) = 15. • a(n) = (- 7 * (- 1) ^ n + 5 * 2 ^ (1 + n) + 3 * 4 ^ (1 + n)) / 15 . - _ Colin Barker _ , Feb 05 2017 •

[A066886] • 5,15,65,175,671,1105,2465,3439,6095,12209,14911,25345,34481,39775,51935,74465,102719,113521,150415,178991,194545,246559,285935,352529,456385 ★ Sum of the elements in any transversal of a prime(n) by prime(n) array containing the numbers from 1 to prime(n)^2 in standard order. • a(n) = prime(n) * (prime(n) ^ 2 + 1) / 2, where prime(n) is the n - th prime. •

[A247281] • 0,5,15,65,255,1025,4095,16385,65535,262145,1048575,4194305,16777215,67108865,268435455,1073741825,4294967295,17179869185,68719476735,274877906945,1099511627775,4398046511105,17592186044415 ★ 4^n -(-1)^n. • a(n + 1) = 4 * a(n) + 5 * (- 1) ^ n. • a(n) = 3 * a(n - 1) + 4 * a(n - 2). - _ Colin Barker _ , Sep 11 2014 •

[A101553] • 1,5,15,75,225,1125,3375,16875,50625,253125,759375,3796875,11390625,56953125,170859375,854296875,2562890625,12814453125,38443359375,192216796875,576650390625,2883251953125,8649755859375,43248779296875 ★ A modular recurrence. • a(2n) = 15 ^ n, a(2n + 1) = 5 * 15 ^ n. - _ Ralf Stephan _ , May 16 2007 •

[A032122] • 5,15,75,325,1625,7875,39375,195625,978125,4884375,24421875,122078125,610390625,3051796875,15258984375,76294140625,381470703125,1907349609375,9536748046875,47683720703125 ★ Number of reversible strings with n beads of 5 colors. • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - 25 * a(n - 3). - _ Vincenzo Librandi _ , Jan 31 2012 •

[A173736] • 5,15,115,1115,11115,111115,1111115,11111115,111111115,1111111115,11111111115,111111111115,1111111111115,11111111111115,111111111111115,1111111111111115,11111111111111115,111111111111111115 ★ (10^n+35)/9 for n>0. • a(n) = a(n - 1) + 10 ^ (n - 1) = 10 * a(n - 1) - 35 with n>0, a(0)=4. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A004130] • 1,1,5,15,195,663,4641,16575,480675,1762475,13042315,48612265,729183975,2748462675,20809788825,79077197535,4823709049635,18443593425075,141400882925575,543277076503525,8366466978154285,32270658344309385 ★ Numerators in expansion of (1-x)^{-1/4}. • a(n) = 2 ^ (e _ 2((2n)!) - n) / n! Product[4k + 1, { k,0,n - 1 }], where e _ 2((2n)!) is the highest power of 2 that divides (2n)! (sequence A005187). - _ Emanuele Munarini _ , Jan 25 2011 •

[A168463] • 5,16,16,27,27,38,38,49,49,60,60,71,71,82,82,93,93,104,104,115,115,126,126,137,137 ★ a(n) = 5 + 11*floor(n/2). • a(n) = 11 * n - a(n - 1) - 1, with n>1, a(1)=5. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Sep 19 2013 • a(n) = (22 * n + 11 * (- 1) ^ n + 9) / 4. •

[A151980] • 0,1,5,16,20,21,25,36,40,41,45,56,60,61,65,76,80,81,85,96,100,101,105,116,120 ★ Numbers n such that n^2 - n is divisible by 20. • a(n) = a(n - 1) + a(n - 4) - a(n - 5). [_ Colin Barker _ , Nov 29 2012] •

[A124865] • 5,16,21,24,40,45,48,72,96,112,117,120,144,160,165,168,192,240,260,280,285,288,312,336,352 ★ Numbers of the form p^2-q^2 with p > q prime. • a(n) >> n log n, see Luca. - _ Charles R Greathouse IV _ , Feb 17 2014 •

[A077469] • 1,5,16,21,29,35,39,52,57,63,68,76,82,88,93,99,106,113,118,127,134,150,155,160,167 ★ Greedy powers of (3/4): sum_{n=1..inf} (3/4)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(3 / 4) and frac(y) = y - floor(y). • a(n) seems to be asymptotic to c * n with c around 8.0... - _ Benoit Cloitre _ •

[A041855] • 1,5,16,21,37,58,443,501,2948,15241,18189,142564,160753,303317,464070,1695527,8941705,377247137,1895177390,6062779307,7957956697,14020736004,21978692701,167871584911,189850277612 ★ Denominators of continued fraction convergents to sqrt(449). • a(n) = 378942664 * a(n - 17) + a(n - 34) for n>33. - _ Vincenzo Librandi _ , Dec 26 2013 •

[A041107] • 1,1,5,16,21,58,137,195,722,3083,3805,56353,60158,296985,951113,1248098,3447309,8142716,11590025,42912791,183241189,226153980,3349396909,3575550889,17651600465 ★ Denominators of continued fraction convergents to sqrt(61). • a(n) = 59436 * a(n - 11) + a(n - 22). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A225539] • 5,16,23,34,41,52,59,70,77,88,95,106,113,124,131,142,149,160,167,178,185,196,203,214,221 ★ Numbers n where 2^n and n have the same digital root. • a(n) = 9 * n - 3 + (- 1) ^ n. • a(n) = a(n - 1) + 7 (odd n), a(n) = a(n - 1) + 11 (even n) with a(1) = 5. •

[A063232] • 5,16,24,36,44,56,64,76,84,96,104,116,124,136,144,156,164,176,184,196,204,216,224,236,244 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(77). • a(n) = 5 + 10 * (n - 1) + (- 1) ^ n +{ C[2 * (n - 1),n - 1] mod 2 } , with n>=1. - _ Paolo P. Lava _ , Nov 20 2009 • a(n) = - 5 + (- 1) ^ n + 10 * n for n>1. a(n)=a(n - 1) + a(n - 2) - a(n - 3) for n>4; G.f.: x * (x ^ 3 + 3 * x ^ 2 + 11 * x + 5) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Sep 08 2013 •

[A063290] • 1,5,16,28,40,52,64,76,88,100,112,122,136,148,160,170,184,194,208,218,232,242,256,264,280 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(17). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A134594] • 5,16,29,44,61,80,101,124,149,176,205,236,269,304,341,380,421,464,509,556,605,656,709,764,821 ★ n^2 + 10n + 5: coefficients of the irrrational part of (1+sqrt(n))^5. • a(n)=((1 + Sqrt[n]) ^ 5 - (5n ^ 2 + 10n + 1)Sqrt[n]) / Sqrt[n] • a(n)=2 * n + a(n - 1) + 9 (with a(0)=5) [From Vincenzo Librandi , Nov 23 2010] •

[A132479] • 1,5,16,32,64,128,256,512,1024,2048 ★ Row sums of triangle A132478. • a(0) = 1, a(2) = 5, a(n) = 2 ^ (n + 2) for n>1. •

[A045944] • 0,5,16,33,56,85,120,161,208,261,320,385,456,533,616,705,800,901,1008,1121,1240,1365,1496,1633,1776 ★ Rhombic matchstick numbers: a(n) = n*(3*n+2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=0, a(1)=5, a(2)=16. - _ Harvey P. Dale _ , May 06 2011 • a(n) = a(n - 1) + 6 * n - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 18 2010 •

[A227719] • 5,16,33,56,86,121,162,209,263,322,387,458,536,619,708,803,905,1012,1125,1244,1370,1501,1638,1781,1931 ★ Floor(1/s(n)), where s(n) = n*log(1+1/n) - (2n-1)/(2n). • a(n) = - 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) (conjectured). •

[A172166] • 5,16,33,62,99,140,193,252,319,390,487,588,715,864,1043,1234,1457,1684,1935,2192,2461,2768,3079,3410,3757 ★ Partial sums of A028388 good primes (version 2). • a(n) = SIM[i=1..n] { p _ n such that (p _ n) ^ 2 > p _{ n - i } p _{ n + i } for all 1 <= i <= n - 1 } . •

[A227720] • 5,16,34,57,86,121,163,210,263,322,388,459,536,619,709,804,905,1012,1126,1245,1370,1501,1639,1782,1931 ★ Round(1/s(n)), where s(n) = n*log(1+1/n) - (2n-1)/(2n). • a(n) = - 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) (conjectured). •

[A077415] • 0,5,16,35,64,105,160,231,320,429,560,715,896,1105,1344,1615,1920,2261,2640,3059,3520,4025,4576,5175,5824 ★ a(n) = n*(n+2)*(n-2)/3. • a(n) = Sum _{ i=0..floor((n - 1) / 2) } (- 1) ^ i * 2 ^ (n - 2 * i - 1) * binomial(n - i - 1, i) * (n - 2 * i - 2). - _ John M. Campbell _ , Jan 08 2016 •

[A184635] • 5,16,36,64,100,144,196,256,324,400,484,576,676,784,900,1024,1156,1296,1444,1600,1764,1936,2116,2304,2500 ★ a(n) = floor(1/{(n+n^4)^(1/4)}),

where {} = fractional part. • a(n) = floor(1 /{ (n + n ^ 4) ^ (1 / 4) }), wher e {} = fractional part. •

[A055232] • 1,5,16,36,69,117,184,272,385,525,696,900,1141,1421,1744,2112,25 29,2997,3520,4100,4741,5445,6216,7056,7969 ★ Expansion of (1+2*x+3*x^2)/((1- x)^3*(1-x^2)). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). [_ Clark Kimberling _ , Jun 02 2012] • a(n) = (7 + (- 1) ^ n + 1 6 * n + 14 * n ^ 2 + 4 * n ^ 3) / 8. [_ Eric W. Weisstein _ , Apr 04 2013] • a(n) = ((n + 1) ^ 3 + ceiling((n + 1) / 2) ^ 2 + floor((n + 1) / 2) ^ 2) / 2. - _ Wesley Ivan Hurt _ , Apr 15 2016 •

[A274248] • 1,5,16,37,72,124,197,294,419,575,766,995,1266,1582,1947,2364,28 37,3369,3964,4625,5356,6160,7041,8002,9047 ★ Row sums of A273751. • a(n) = (14 n ^ 3 - 3 n ^ 2 + 10 n + 3 mod(n, 2)) / 24. •

[A041044] • 5,16,37,127,1307,4048,9403,32257,331973,1028176,2388325,819 3151,84319835,261152656,606625147,2081028097,21416906117,66331746448,1 54080399013,528572943487,5439809833883,16848002445136 ★ Numerators of continued fraction convergents to sqrt(28). • a(n) = 254 * a(n - 4) - a(n - 8). G.f.: - (x ^ 7 - 5 * x ^ 6 + 16 * x ^ 5 - 37 * x ^ 4 - 127 * x ^ 3 - 37 * x ^ 2 - 16 * x - 5) / ((x ^ 4 - 16 * x ^ 2 + 1) * (x ^ 4 + 16 * x ^ 2 + 1)). [_ Colin Bark er _ , Jul 16 2012] •

[A174723] • 1,5,16,38,75,131,210,316,453,625,836,1090,1391,1743,2150,2616,3 145,3741,4408,5150,5971,6875,7866,8948,10125 ★ a(n) = n*(4*n^2 - 3*n + 5)/6. • a(1)=1, a(2)=5, a(3)=16, a(4)=38; for n > 4, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 16 2012 •

[A131283] • 0,0,1,5,16,38,85,185,396,838,1748,3609,7400,15097,30681,62154,1 25588,253246,509850,1025153,2059159,4132679,8288643,16615051,33291367 ★ a(n) is the number of binary strings of length n such that there exist 3 or more ones in a subsequence of length 5 or less. • a(n) = 2 ^ n - A120118. • a(n)= + 3 * a(n - 1) - 2 * a(n - 2) + a(n - 3) - 2 * a(n - 4) + 2 * a(n - 5) - 4 * a(n - 6) - a(n - 8) + 2 * a(n - 9) - a(n - 10) + 2 * a(n - 11). •

[A155965] • 0,5,16,39,80,145,240,371,544,765,1040,1375,1776,2249,2800,343 5,4160,4981,5904,6935,8080,9345,10736,12259,13920 ★ a(n) = n*(n^2+4). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , May 03 2014 •

[A216173] • 1,5,16,39,80,147,249,396,600,874,1232,1690,2265,2975,3840,488 1,6120,7581,9289,11270,13552,16164,19136,22500,26289 ★ Number of all possible tetrahedra of any size and orientation, formed when intersecting the original regular tetrahedron by planes parallel to its sides and dividing its edges into n equal parts. • a(n) = (1 / 18) * (1 - (- 1) ^ (n mod 3) + 3 * n + 7 * n ^ 2 + 5 * n ^ 3 + n ^ 4). •

[A011863] • 0,1,5,16,39,81,150,256,410,625,915,1296,1785,2401,3164,4096,522 0,6561,8145,10000,12155,14641,17490,20736,24414 ★ Nearest integer to (n/2)^4. • a(n) = + 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). • a(n) = n ^ 4 / 16 + n ^ 3 / 4 + 3 * n ^ 2 / 8 + n / 4 + 1 / 32 - (- 1) ^ n / 3 2. - _ R. J. Mathar _ , Dec 07 2010] • a(n) = floor((n + 1) ^ 4 / 8) / 2. - _ Gary Detlefs _ , Feb 19 2011 •

[A006007] • 0,1,5,16,40,85,161,280,456,705,1045,1496,2080,2821,3745,4880,62 56,7905,9861,12160,14840,17941,21505,25576,30200 ★ 4-dimensional analog of centered polygonal numbers: a(n) = n(n+1)*(n^2+n+4)/12. • a(n) = 2 * bin omial(n + 2, 4) + binomial(n + 1, 2). • a(0)=0, a(1)=1, a(2)=5, a(3)=16, a(4)=40, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Sep 30 2011 •

[A001753] • 1,5,16,40,86,166,296,496,791,1211,1792,2576,3612,4956,6672,88 32,11517,14817,18832,23672,29458,36322,44408,53872,64883 ★ Expansion of 1/((1+x)*(1-x)^6). • a(n) = Sum { k=0..n } (- 1) ^ (n - k) * binomial(k + 5, 5); a(n) = (4 * n ^ 5 + 70 * n ^ 4 + 460 * n ^ 3 + 1400 * n ^ 2 + 1936 * n + 945) / 960 + (- 1) ^ n / 64. - _ Paul Barry _ , Jul 01 2003 • a(n) = a(n - 2) + (n * (n + 1) * (n + 2) * (n - 1)) / 24, a(1) = 0, a(2) = 1; (15 * (- 1) ^ n - 15 * (- 1) ^ (2 * n) + 96 * n - 160 * (- 1) ^ (2 * n) * n + 200 * n ^ 2 - 20 0 * (- 1) ^ (2 * n) * n ^ 2 + 140 * n ^ 3 - 80 * (- 1) ^ (2 * n) * n ^ 3 + 40 * n ^ 4 - 10 * (- 1) ^ (2 * n) * n ^ 4 + 4 * n ^ 5) / 960. - Cecilia Rossiter (cecili a(AT)noticingnumbers.net), Dec 14 2004 •

[A014166] • 0,1,5,16,41,92,189,365,674,1204,2098,3588,6050,10093,16703,2747 6,44995,73440,119575,194345,315460,511576,829060,1342936,2174596 ★ Apply partial sum operator 4 times to Fibonacci numbers. • a(n) = (1 / 6) * (6 * F ib(n + 8) - (n ^ 3 + 12 * n ^ 2 + 59 * n + 126)). • a(n) = sum _{ k=1..n } C(n - k + 4,k + 3), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 •

[A097810] • 1,5,16,41,94,203,424,869,1762,3551,7132,14297,28630,57299,1146 40,229325,458698,917447,1834948,3669953,7339966,14679995,29360056,587201 81,117440434 ★ a(n) = 7*2^n - 3n - 6. • a(n) = 2a(n - 1) + 3n, n>0, a(0)=1. • a(n) = 4a(n - 1) - 5a(n - 2) + 2a(n - 3). •

[A187004] • 1,5,16,41,101,254,638,1609,4048,10185,25631,64502,162319,40847 6,1027931,2586793,6509675,16381622,41224415,103741401,261065639,65697269 5,1653274340,4160471302,10469842201 ★ Expansion of A(x) = (1+2*x^2+6*x^3+3*x^4+2*x^5)/ (1-x-2*x^2-3*x^3-3*x^4-2*x^5-x^6). • a(n) = n * sum(m=1..n, sum(k=m..n , binomial(m, k - m) * sum(j=0..k, binomial(k,j) * binomial(j, n - 3 * k + 2 * j))) / m). • a(1)=1, a(2)=5, a(3)=16, a(4)=41, a(5)=101, a(6)=254, a(n)=a(n - 1) + 2 * a(n - 2) + 3 * a(n - 3) + 3 * a(n - 4) + 2 * a(n - 5) + a(n - 6). - _ Harvey P. Dale _ , Jun 14 2011 •

[A055796] • 1,5,16,42,98,210,420,792,1419,2431,4004,6370,9828,14756,21624,3 1008,43605,60249,81928,109802,145222,189750,245180,313560,397215 ★ T(2n+3,n), array T as in A055794. • a(n) = (n + 1)(n + 2)(n + 3)(n + 4)(n ^ 2 - n + 30) / 720. • a(n - 4) = binomial(n,6) + binomial(n,4) for n>3. - _ Zerinvary La jos _ , Jul 24 2006 •

[A002662] • 0,0,0,1,5,16,42,99,219,466,968,1981,4017,8100,16278,32647,6539 9,130918,261972,524097,1048365,2096920,4194050,8388331,16776915 ★ a(n) = 2^n - 1 - n*(n+1)/2. • a(n) = Sum _{ k=0..n } binomial(n,k + 3) = Sum _{ k=3..n } binomial(n,k). - _ Paul Barry _ , Jul 30 2004 • a(n + 1) = 2 * a(n) + binomial(n,2). - _ Paul Barry _ , Aug 23 2004 • a(n) = n - 2 + 3 * a(n - 1) - 2 * a(n - 2), for n >= 2. - _ Richard R. Forberg _ , Jul 11 2013 • a(n) = Sum _{ k=1..n - 2 } Sum _{ i=1..n } (n - k - 1) * C(k,i). - _ Wesley Ivan H urt _ , Sep 19 2017 •

[A053221] • 1,5,16,43,106,249,568,1271,2806,6133,13300,28659,61426,13105 7,278512,589807,1245166,2621421,5505004,11534315,24117226,50331625,10485 7576,218103783,452984806 ★ Row sums of triangle A053218. • a(n) = (n + 2) * 2 ^ (n - 1) - n - 1. - _ Vladeta Jovovic _ , Feb 28 2003 • a(n) = (1 / 2) * S um _{ k=1..n } Sum _{ i=1..n } C(k,i) + C(n,k). - _ Wesley Ivan Hurt _ , Sep 22 2017 •

[A137221] • 0,0,0,1,5,16,43,107,256,597,1365,3072,6827,15019,32768,70997,15 2917,327680,699051,1485483,3145728,6640981,13981013,29360128,61516459 ★ a(n) = 5*a(n-1) - 9*a(n-2) + 8*a(n-3) - 4*a(n-4). • a(n) = (1 / 6) *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n + (1 / 6) *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n - (1 / 3) * 2 ^ n + [(1 / 18) * I] *{ 1 / 2 - (1 / 2) * I * sqrt(3) }^ n * sqrt(3) + (1 / 6) * 2 ^ n * n - [(1 / 18) * I] *{ 1 / 2 + (1 / 2) * I * sqrt(3) }^ n * sqrt(3), wit h n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Jun 09 2008 •

[A271359] • 5,16,43,113,296,775,2029,5312,13907,36409,95320,249551,65333 3,1710448,4478011,11723585,30692744,80354647,210371197,550758944,1441905 635,3774957961,9882968248,25873946783,67738872101 ★ a(n) = k*Fibonacci(2*n+1) + (k+1)*Fibonacci(2*n), where k=5. • a(n) = 3 * a(n - 1) - a(n - 2) for n>1. • a(n) = (2 ^ (- 2 - n) * ((13 - sqrt(5)) * (3 + sqrt(5)) ^ (n + 1) - (13 + sqrt(5)) * (3 - sqrt(5)) ^ (n + 1))) / sqrt(5). •

[A053220] • 1,5,16,44,112,272,640,1472,3328,7424,16384,35840,77824,16793 6,360448,770048,1638400,3473408,7340032,15466496,32505856,68157440,14260 6336,297795584,620756992 ★ (3n-1)2^(n-2). • a(n + 1) = det(f(i - j + 1)) _{ 1<=i,j<=n } , where f(0)=1, f(1)=5 and for k>0, we have f(k + 1)=9 and f(- k)=0. [From _ Mircea Merca _ , Jun 23 1012] •

[A048777] • 1,5,16,44,113,281,688,1672,4049,9789,23648,57108,137889,3329 13,803744,1940432,4684641,11309749,27304176,65918140,159140497,38419917 7,927538896,2239277016,5406092977 ★ First partial sums of A005409; second partial sums of A001333. • a(n)=2 * a(n - 1) + a(n - 2) + 2 * n + 1; a(0)=1, a(1)=5. • a(n)=[{ (5 + (7 / 2) * sqrt(2))(1 + sqrt(2)) ^ n - (5 - (7 / 2) * sqr t(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - (2 * n + 5) / 2. • a(n)=4 * a(n - 1) - 4 * a(n - 2) + a(n - 4). G.f.: (1 + x) / ((1 - x) ^ 2 * (1 - 2 * x - x ^ 2)). - _ Col in Barker _ , Sep 20 2012 •

[A189390] • 0,1,5,16,45,116,286,680,1581,3604,8106,18008,39650,86568,18780 4,404944,868989,1856180,3950194,8376056,17708310,37329016,78499620,16468 2416,344789970 ★ The maximum possible value for the apex of a triangle of numbers whose base consists of a permutation of the numbers 0 to n, and each number in a higher row is the sum of the two numbers directly below it. • a(n) = Sum _{ k=0..floor((n - 1) / 2) } (4 * k + 1) * C(n,k) + (n + 1 mod 2) * n * C(n,n / 2). • a(n) = Sum _{ k=0..n } k * C(n,floor(k / 2)). - _ Alois P. Heinz _ , Feb 02 2012 •

[A099327] • 1,5,16,45,117,291,700,1646,3799,8647,19448,43330,95738,21009 4,458216,994204,2146955,4617439,9893376,21128058,44982486,95510090,20227 8376,427425860,901236582 ★ Expansion of ((1-x)sqrt(1+2x)+(1+x)sqrt(1-2x))/(2(1- 2x)^(5/2)). • a(n)=sum { k=0..n, (k + 1)binomial(n, (n - k) / 2)binomial(k + 4, 4)(1 + (- 1) ^ (n - k)) / (n + k + 2) } . •

[A004146] • 0,1,5,16,45,121,320,841,2205,5776,15125,39601,103680,271441,71 0645,1860496,4870845,12752041,33385280,87403801,228826125,599074576,1568 397605,4106118241,10749957120 ★ Alternate Lucas numbers - 2. • a(n + 1) = 3 * a(n) - a(n - 1) + 2. • a(n) = 2 * (T(n, 3 / 2) - 1)with Chebyshev's polyn omials T(n, x) of the first kind. See their coefficient triangle A053120. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=5. • a(n) = ((3 + sqrt(5)) / 2) ^ n + ((3 - sqrt(5)) / 2) ^ n - 2. - Felix Goldberg (felixg (AT)tx.technion.ac.il), Jun 09 2001 • a(n) = n * Sum _{ k=1..n } binomial(n + k - 1,2 * k - 1) / k, n>0. - _ Vladimir Kruchinin _ , Sep 03 2010 • a(n) = floor(tau ^ (2 * n) * (tau ^ (2 * n) - floor(tau ^ (2 * n)))), where tau = (1 + s qrt(5)) / 2. - _ L. Edson Jeffery _ , Aug 26 2013 •

[A071101] • 5,16,45,130,377,1088,3145,9090,26269,75920,219413,634114,183 2625,5296384,15306833,44237570,127848949,369490320,1067846845,308613465 8,8919094697,25776662080,74495936025,215297250946,622220603405 ★ Expansion of (5 + 6*x + 3*x^2 - 2*x^3) / (1 - 2*x - 2*x^2 - 2*x^3 + x^4) in powers of x. • a(- n) = a(- 6 + n). a(- 1) = 2, a(- 2) = 1, a(- 3) = 0. a(n) = 2 * a (n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). - _ Michael Somos _ , Dec 15 2011 •

[A094586] • 1,5,16,47,131,356,953,2529,6676,17567,46135,121016,317201,8310 73,2176712,5703036,14926171,39081404,102323209,267896585,701380076,18362 65535,4807451951,12586147632,32951083681 ★ Central numbers of the triangle T of all positive differences of distinct Fibonacci numbers. • a(n)=F(2n + 2) - F(n + 2)=T(2n - 1, n), T as in A094585. •

[A166868] • 1,5,16,48,133,357,932,2392,6057,15189,37800,93520,230301,5650 45,1382236,3373208,8216033,19980037,48525632,117730352,285384437,6912954 29,1673567700,4049615640,9795168601 ★ Convolution of Jacobsthal(n+2) and Pell(n+1). • a(n) = 3 * a(n - 1) + a * (n - 2) - 5 * a(n - 3) - 2 * a(n - 4). •

[A052909] • 1,5,16,49,148,445,1336,4009,12028,36085,108256,324769,974308,2 922925,8768776,26306329,78918988,236756965,710270896,2130812689,639243 8068,19177314205,57531942616,172595827849,517787483548 ★ Expansion of (1+x-x^2)/((1-x)*(1-3*x)). • a(n) = - 1 / 2 + 11 / 6 * 3 ^ n. • a(n) = 4 * a(

n - 1) - 3 * a(n - 2). - _ Vincenzo Librandi _ , Jun 22 2012 ● a(n) = Sum _{ k=1..3 } floor((3 ^ n) / k). - _ Lechoslaw Ratajczak _ , Jul 31 2016 ●

[A037480] ● 1,5,16,50,151,455,1366,4100,12301,36905,110716,332150,996451,2989355,8968066,26904200,80712601,242137805,726413416,2179240250,6537720751,19613162255,58839486766,176518460300,529555380901 ★ Base-3 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. ● a(n) = (5 * 3 ^ n + (- 1) ^ n - 6) / 8 . - _ Paul D. Hanna _ , Sep 23 2007 ● a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3). G.f.: x * (2 * x + 1) / ((x - 1) * (x + 1) * (3 * x - 1)). - _ Colin Barker _ , Apr 30 2014 ●

[A077840] ● 1,1,5,16,50,163,524,1687,5435,17503,56372,181558,584741,1883272,6065441,19534921,62915981,202633048,652618802,2101884691,6769524932,21802560343,70219349555,226154954935,728375639564 ★ Expansion of (1-x)/(1-2*x-3*x^2-3*x^3). ● a(0)=1 and, for n>=1, a(n)=sum(k=1..n, sum(i=k..n,(sum(j=0..k, binomial(j, - 3 * k + 2 * j + i) * 3 ^ (- 2 * k + j + i) * binomial(k,j))) * binomial(n + k - i - 1,k - 1))); [From _ Vladimir Kruchinin _ , May 05 2011] ● a(0)=1, a(1)=1, a(2)=5, a(n)=2 * a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3). - _ Harvey P. Dale _ , Aug 19 2014 ●

[A147536] ● 5,16,52,172,580,1996,7012,25132,91780,340876,1284772,4902892,18902980,73486156,287567332,1131137452,4467154180,17696429836,70269158692,279526952812,1113458765380 ★ A counting vertex substitution vector matrix Markov 2x2 with characteristic polynomial:12 - 7 x + x=^2 ● a(n)=7 * a(n - 1) - 12 * a(n - 2) = 4 * 3 ^ n + 4 ^ n. G.f.: (5 - 19x) / ((1 - 4x)(1 - 3x)). [From _ R. J. Mathar _ , Nov 09 2008] ●

[A108300] ● 1,5,16,53,175,578,1909,6305,20824,68777,227155,750242,2477881,8183885,27029536,89272493,294847015,973813538,3216287629,10622676425,35084316904,115875627137,382711198315,1264009222082,4174738864561 ★ a(n+2) = 3*a(n+1) + a(n), a(0) = 1, a(1) = 5. ● a(n)= - (7 / 26) * [3 / 2 - (1 / 2) * sqrt(13)] ^ n * sqrt(13) + (7 / 26) * sqrt(13) * [3 / 2 + (1 / 2) * sqrt(13)] ^ n + (1 / 2) * [3 / 2 - (1 / 2) * sqrt(13)] ^ n + (1 / 2) * [3 / 2 + (1 / 2) * sqrt(13)] ^ n, with n>=0. - _ Paolo P. Lava _ , Sep 19 2008 ● a(n) * a(n - 2) = a(n - 1) ^ 2 + 9 * (- 1) ^ n. - _ Roger L. Bagula _ , May 17 2010 ●

[A041469] ● 1,1,5,16,53,228,281,8658,8939,44414,142181,470957,2026009,2496966,76934989,79431955,394662809,1263420382,4184923955,18003116202,22188040157,683644320912,705832361069,3506973765188,11226753656633 ★ Denominators of continued fraction convergents to sqrt(250). ● a(n) = 8886 * a(n - 7) + a(n - 14) for n>13. - _ Vincenzo Librandi _ , Dec 18 2013 ●

[A098912] ● 1,5,16,54,180,607,2098,7397,26452,95821,350554,1292634,4797694,17904220,67125898,252679320,954505718,3616951513,13744169104,52358244166,199912298266,764879838343,2932035371786,11259007784430,43303859981236 ★ Number of ways angles from Pi/n to (n-1)Pi/n can tile around a vertex, where rotations and reflections of an angle sequence are not counted. ● a(n) = 2 ^ (n - 2) - 2 ^ (floor(n / 2)) - 2 ^ (floor((n - 1) / 2)) + (1 / (4 * n)) * (Sum _{ d | 2 * n } phi(2 * n / d) * 2 ^ d). ●

[A057553] ● 1,5,16,56,203,749,2795,10517,39832,151658,579956,2225964,8570330,33086030,128028650,496432760,1928418395,7503144365,29235705215,114064338335,445552419545,1742264571605,6819546853625,26717004445325 ★ Rank of (1,1,...,1) (n 1's) when {0,1,2,...}^n is lexicographically ordered. ● a(n)=C(2n - 1, n) + b(n - 2) + 1, where b=A057552. ●

[A077235] ● 5,16,59,220,821,3064,11435,42676,159269,594400,2218331,8278924,30897365,115310536,430344779,1606068580,5993929541,22369649584,83484668795,311569025596,1162791433589,4339596708760,16195595401451,60442784897044,225575544186725 ★ Bisection (odd part) of Chebyshev sequence with Diophantine property. ● a(n) = 4 * a(n - 1) - a(n - 2) with a(0)=5 and a(1)=16. - _ Philippe Deléham _ , Nov 16 2008 ● a(n) = - sqrt(3) * [2 - sqrt(3)] ^ n + sqrt(3) * [2 + sqrt(3)] ^ n + (5 / 2) * [2 - sqrt(3)] ^ n + (5 / 2) * [2 + sqrt(3)] ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 ●

[A098347] ● 1,5,16,60,213,771,2772,9990,35973,129573,466668,1680804,6053697,21803499,78529176,282836934,1018687833,3668986773,13214513016,47594435868,171419886333,617399427555,2223674634060,8008962525846 ★ A sequence derived from a Ferrers graph partition of 16. ● a(1)=1, a(2)=5, a(3)=16, a(n)= 3a(n - 1) + 3a(n - 2) - 3a(n - 3). ●

[A042087] ● 1,1,5,16,69,85,3979,4064,20235,64769,279311,344080,16106991,16451071,81911275,262184896,1130650859,1392835755,65201095589,66593931344,331576820965,1061324394239,4576874397921,5638198792160,26393401883728 1 ★ Denominators of continued fraction convergents to sqrt(567). ● a(n) = 4048 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 14 2014 ●

[A160739] ● 5,16,10159,143824,867211,3415120,10373071,26425744,59271739,120704656,227860495,404631376,683245579,1106013904,1727242351,2615311120,3854919931,5549499664,7823790319,10826585296,14733641995,19750758736,26117017999 ★ 16*P_6(n), 16 times the Legendre Polynomial of order 6 at n. ● a(n) = 231 * n ^ 6 - 315 * n ^ 4 + 105 * n ^ 2 - 5. - _ Vaclav Kotesovec _ , Jul 31 2013 ●

[A237437] ● 5,17,17,17,83,167,167,227,2273,5297,5297,69467,69467,116387,348563,348563,2004917,5472953,8062073,8062073 ★ Least prime p > prime(n+1) such that p is not a square mod the first n odd primes 3, 5, 7, 11, ..., prime(n+1). ● a(n) = a(n + 1) if and only if Legendre (a(n)|prime(n + 2)) = - 1. ●

[A117635] ● 1,5,17,25,47,79,165 ★ Royal elements sequence from A018226 plus closed next shell at 168: H,B,Cl,Mn,Ag,Au,X(Unknown). ● a(n) = Abs[A018226[n] - 3] ●

[A023258] ● 5,17,29,37,89,127,199,229,269,347,359,379,397,499,769,809,929,947,977,1049,1087,1129,1277,1279,1367 ★ Numbers n such that n remains prime through 2 iterations of function f(x) = 6x + 7. ● a(n) = 7 or 9 (mod 10) for n > 1. - _ John Cerkan _ , Sep 14 2016 ●

[A017581] ● 5,17,29,41,53,65,77,89,101,113,125,137,149,161,173,185,197,209,221,233,245,257,269,281,293 ★ a(n) = 12*n + 5. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>1, a(0)=5, a(1)=17. - _ Vincenzo Librandi _ , Jun 08 2011 ●

[A075695] ● 1,5,17,29,45,61,81,97,109,145,157,177,185,201,245,269,285,329,345,353,381,397,421,445,469 ★ a(1)=1, then "jump over two primes": a(n) = 2*nextprime(nextprime(a(n-1))) - a(n-1). ● a(1)=1, a(n) = 2 * nextprime(nextprime(a(n - 1))) - a(n - 1). ●

[A220082] ● 1,5,17,29,53,73,109,137,185,221,281,325,397,449,533,593,689,757,865,941,1061,1145,1277,1369,1513 ★ Numbers k such that 10*k-1 is a square. ● a(n) = a(- n + 1) = (10 * n * (n - 1) - (2 * n - 1) * (- 1) ^ n + 3) / 4. ●

[A083364] ● 1,5,17,32,71,105,187,248,389,485,701,840,1147,1337,1751,2000,2537,2853,3529,3920,4751,5225,6227,6792,7981 ★ Antidiagonal sums of table A083362. ● a(2n) = n(n + 1)(4n + 3) + (2n + 1), a(2n + 1) = ((n + 1) ^ 2)(4n + 3) + (2n + 2), for n>=0. - _ Paul D. Hanna _ , Apr 30 2003 ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). - _ Colin Barker _ , Sep 26 2014 ● a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 18 * n + 9 + (2 * n ^ 2 + 2 * n - 1) * (- 1) ^ n) / 8. - _ Wesley Ivan Hurt _ , Sep 26 2014 ●

[A026394] ● 1,5,17,34,75,114,202,272,425,535,771,930,1267,1484,1940,2224,2817,3177,3925,4370,5291,5830,6942,7584,8905 ★ a(n) = T(n,n-3), where T is the array in A026386. ● a(n) = (18 * n ^ 3 - 9 * (- 1) ^ n * n ^ 2 - 111 * n ^ 2 + 53 * (- 1) ^ n * n + 243 * n - 75 * (- 1) ^ n - 181) / 32. ● a(n) = (9 * n ^ 3 - 60 * n ^ 2 + 148 * n - 128) / 16 for n even. ● a(n) = (9 * n ^ 3 - 51 * n ^ 2 + 95 * n - 53) / 16 for n odd. ●

[A004538] ● 1,5,17,35,59,89,125,167,215,269,329,395,467,545,629,719,815,917,1025,1139,1259,1385,1517,1655,1799 ★ 3*n^2 + 3*n - 1. ● a(n)=a(n - 1) + 6 * n with a(0)= - 1. - _ Vincenzo Librandi _ , Nov 18 2010 ●

[A186029] ● 0,5,17,36,62,95,135,182,236,297,365,440,522,611,707,810,920,1037,1161,1292,1430,1575,1727,1886,2052 ★ a(n) = n*(7*n+3)/2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0)=0, a(1)=5, a(2)=17. - _ Philippe Deléham _ , Mar 26 2013 ●

[A083048] ● 1,5,17,36,80,164,300,575,1020,1884,3426,5921,10568,18697,31850,55716,94332,163579,282388,474625,814328,1363979,2328358,3963781,6609951 ★ Main diagonal of table A083047. ● a(n)=T(n, n), where T(n, 0)=floor(n * x / (x - 1)) + 1, T(n, k + 1)=ceil(x * T(n, k)), for n>=0, k>=0, with x=(sqrt(5) + 1) / 2. ●

[A119456] ● 1,5,17,37,47,59,61,67,71,73,79,85,101,107,127,137,139,149,163,167,185,197,199,223,227 ★ Numbers n such that the Bernoulli number B_{10n} has denominator 66. ● a(n) = A051230[n] / 10. a(n) = A051229[n] / 5. ●

[A053755] ● 1,5,17,37,65,101,145,197,257,325,401,485,577,677,785,901,1025,1157,1297,1445,1601,1765,1937,2117,2305 ★ a(n) = 4n^2 + 1. ● a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3). (End) ● a(n) = 8 * n + a(n - 1) - 4. with a(0)=1. - _ Vincenzo Librandi _ , Aug 06 2010 ● a(n) = ((2 * n - 1) ^ 2 + (2 * n + 1) ^ 2) / 2. - _ J. M. Bergot _ , May 31 2012 ● a(n) = 2 * a(n - 1) - a(n - 2) + 8 with a(0)=1, a(1)=5. - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A212968] ● 1,5,17,38,75,127,203,300,429,585,781,1010,1287,1603,1975,2392,2873,3405,4009,4670,5411,6215,7107,8068,9125 ★ Number of (w,x,y) with all terms in {0,...,n} and w>=range{w,x,y}. ● a(n) = (n + 1) * (14 * n * (n + 2) + 3 * (- 1) ^ n + 21) / 24. ● a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). ●

[A011931] ● 0,0,0,0,1,5,17,40,80,144,240,377,565,817,1144,1560,2080,2720,3497,4429,5537,6840,8360,10120,12144 ★ [n(n-1)(n-2)(n-3)/21]. ● a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 7) - 4 * a(n - 8) + 6 * a(n - 9) - 4 * a(n - 10) + a(n - 11). [From _ R. J. Mathar _ , Apr 15 2010] ●

[A139545] ● 1,1,1,5,17,41,88,190,421,935,2051,4445,9562,20476,43681,92837,196613,415073,873820,1835002,3844765,8039075,16777223,34952549,72701278 ★ Binomial transform of [1, 0, 0, 4, 0, 0, 7, 0, 0, 10,...]. ● a(n)=Sum((3k + 1)binom(n,3k), k=0..n / 3) - _ Emeric Deutsch _ , May 03 2008 ●

[A168617] ● 0,5,17,43,97,207,429,875,1769,3559,7141,14307,28641,57311,114653,229339,458713,917463,1834965,3669971,7339985,14680015,29360077,58720203,117440457 ★ a(n) = 7*2^(n-1) - 2*n - 5. ● a(n) = 2 * a(n - 1) + 2 * n + 1 (with a(1)=0). ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). ●

[A046916] ● 1,5,17,43,97,211,457,995,2177,4771,10441,22771,49441,106835,229769,491971,1049089,2228803,4719241,9962195,20972321,44041075,92275657,192939043,402654337 ★ n*2^n+2*n^2+1. ● a(0)=1, a(1)=5, a(2)=17, a(3)=43, a(4)=97, a(n)=7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5). - _ Harvey P. Dale _ , Dec 06 2012 ●

[A294102] ● 1,1,5,17,44,127,332,866,2182,5412,13119,31292,73516,170136,388829,877653,1959111,4327221,9464856,20511598,44067446,93901142,198539477,416696608,868448305 ★ Expansion of Product_{k>=1} (1 + x^k)^(k*(3*k-1)/2). ● a(0) = 1 and a(n) = (1 / (2 * n)) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d ^ 2 * (3 * d - 1) * (- 1) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 14 2017 ●

[A133252] ● 1,5,17,45,100,196,350,582,915,1375,1991,2795,3822,5110,6700,8636,10965,13737,17005,20825,25256,30360,36202,42850,50375 ★ Partial sums of A006000. ● a(n) = (n + 1) * (n + 2) * (3 * n ^ 2 + 5 * n + 12) / 24. - _ Alois P. Heinz _ , Apr 28 2013 ●

[A247618] ● 1,5,17,45,105,229,481,989,2009,4053,8145,16333,32713,65477,131009,262077,524217,1048501,2097073,4194221,8388521,16777125,33554337,67108765,134217625 ★ Start with a single square; at n-th generation add a square at each expandable vertex; a(n) is the sum of all label values at n-th generation. (See comment for construction rules.) ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). ● a(n) = (- 7 + 2 ^ (3 + n) - 4 * n). ●

[**A269962**] • 1,5,17,45,105,237,537,1229,2825,6493,14905,34189,78409,179837,412505,946221,2170473,4978653,11420025,26195213,60086537,137826493,316146457,725176813,1663410601 ★ Start with a square; at each stage add a square at each expandable vertex so that the ratio between the side of the squares at stage n+1 and at stage n is the golden ratio phi=0.618...; a(n) is the number of squares at n-th stage. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) + 4. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) - 2 * a(n - 5). •

[**A213767**] • 1,5,17,47,114,254,533,1071,2083,3951,7348,13452,24313,43481,77077,135615,237094,412234,713325,1229155,2110151,3610655,6159912,10481112,17790769 ★ Antidiagonal sums of the convolution array A213765. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) - a(n - 6). •

[**A136303**] • 1,5,17,48,123,300,714,1679,3925,9149,21296,49537,115192,267824,622653,1447533,3365149,7823068,18186475,42278476,98285586,228486323,531166317,1234811937,2870589548 ★ Transform of 0 by the reciprocal transformation to T_{1,1} (see link). • a(n + 5) = 5 * a(n + 4) - 9 * a(n + 3) + 8 * a(n + 2) - 4 * a(n + 1) + a(n) (n>=0). [_ Richard Choulet _ , Apr 07 2009] •

[**A273384**] • 1,5,17,49,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 659", based on the 5-celled von Neumann neighborhood. • a(n) = (1 + 2 * n) ^ 2 for n>2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>5. •

[**A006457**] • 1,5,17,49,125,297,669,1457,3093,6457,13309,27201,55237,111689,225101,452689,908885,1822809,3652701,7315553,14645349,29311081,58650733,117342321,234741877 ★ Number of elements in Z[i] whose 'smallest algorithm' is <= n. • a(n + 5) - 4 * a(n + 4) + 3 * a(n + 3) + 6 * a(n + 2) - 10 * a(n + 1) + 4 * a(n)=0. • a(2k) = 14 * 4 ^ k - 34 * 2 ^ k + 8 * k + 21. • a(2k + 1) = 28 * 4 ^ k - 48 * 2 ^ k + 8 * k + 25. •

[**A083091**] • 1,5,17,49,128,321,790,1924,4664,11282,27262,65843,158988,383863,926761,2237435,5401685,13040863,31483472,76007871,183499282,443006506,1069512368,2582031320,6233575089 ★ Antidiagonal sums of table A083087. • a(n) = Sum _{ k=0..n } T(k, n - k), where T(n, 0) = floor(n * x / (x - 1)) + 1, T(n, k + 1) = ceiling(x * T(n, k)), for n>=0, k>=0, with x = 1 + sqrt(2). •

[**A000337**] • 0,1,5,17,49,129,321,769,1793,4097,9217,20481,45057,98305,212993,458753,983041,2097153,4456449,9437185,19922945,41943041,88080385,184549377,385875969 ★ a(n) = (n-1)*2^n + 1. • a(n) = Sum _{ k=1..n } k * 2 ^ (k - 1), partial sums of A001787. - _ Zerinvary Lajos _ , Oct 19 2006 • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3), n>2. - _ Harvey P. Dale _ , Jun 21 2011 • a(n) = Sum _{ k=1..n } Sum _{ i=1..n } i * C(k,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[**A054452**] • 0,0,1,5,17,50,138,370,979,2575,6755,17700,46356,121380,317797,832025,2178293,5702870,14930334,39088150,102334135,267914275,701408711,1836311880,4807526952 ★ Partial sums of A027941(n-1) with a(-1) = 0. • a(n) = + 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - 1 * a(n - 4). • a(n) = Sum _{ k=0..n - 2 } binomial(2 * n - k - 1, k). - _ Johannes W. Meijer _ , Aug 12 2013 • a(n) = Sum _{ i=1..n - 1 } Sum _{ j=1..n - 1 } binomial(i + j, i - j). - _ Wesley Ivan Hurt _ , Mar 25 2015 • a(n) = Sum _{ k=0..n } (binomial(n + 1,k + 2) * Fibonacci(k)). - _ Vladimir Kruchinin _ , Oct 21 2016 • a(n) = (- ((3 - sqrt(5)) / 2) ^ n + ((3 + sqrt(5)) / 2) ^ n) / sqrt(5) - n. - _ Colin Barker _ , Jan 28 2017 •

[**A116521**] • 0,0,0,1,5,17,51,148,429,1250,3655,10701,31336,91752,268623,786414,2302262,6739984,19731685,57765711,169112717,495088023,1449400960,4243211207,12422263776 ★ Binomial transform of tetranacci sequence A000078. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 6 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Nov 03 2016 •

[**A290900**] • 0,1,5,17,51,149,439,1308,3916,11728,35093,104943,313773,938199,2805439,8389163,25086356,75016104,224321012,670787533,2005857561,5998122649,17936209267,53634716681,160384099011 ★ p-INVERT of the positive integers, where p(S) = 1 - S^2 - S^3. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 19 * a(n - 3) - 14 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[**A137500**] • 0,0,1,5,17,51,149,439,1309,3927,11797 ★ Binomial transform of b(n)= (0, 0, A007910). • a(n + 1) - 3a(n)=0, 1, 2, 2, 0, - 4, - 8, - 8, 0, ... =A009545. •

[**A190173**] • 0,1,5,17,52,148,408,1101,2937,7777,20504,53912,141520,371113,972573,2547825,6672876,17473996,45754280,119797205,313650865,821177281,2149916400,5628629232,14736064032 ★ a(n) = Sum_{1 <= i < j <= n} F(i)*F(j), where F(k) is the k-th Fibonacci number. • a(n) = F(n + 1) ^ 2 - F(n + 2) + (1 - (- 1) ^ n) / 2. •

[**A178703**] • 0,0,1,5,17,52,156,468,1405,4217,12653,37960,113880,341640,1024921,3074765,9224297,27672892,83018676,249056028,747168085,2241504257,6724512773,20173538320,60520614960 ★ Partial sums of round(3^n/7). • a(n)=round((3 * 3 ^ n - 7) / 14). • a(n)=floor((3 * 3 ^ n - 1) / 14). • a(n)=ceil((3 * 3 ^ n - 13) / 14). • a(n)=a(n - 6) + 52 * 3 ^ (n - 5), n>5. • a(n)=5 * a(n - 1) - 8 * a(n - 2) + 7 * a(n - 3) - 3 * a(n - 4), n>3. •

[**A186254**] • 5,17,53,149,449,1289,3761,11261,33773,101117,302681,907757,2723069,8169137,24506597,73519793,220559369,661677761,1985001917,5955003077,17865008333,53595020201,160785060361,482355180761,1447065541373 ★ a(n) = 2*b(n)+1, where b(n) lists the zeros of the sequence u(n)=abs(u(n-1)-gcd(u(n-1),2*n-1)), u(1)=1. • a(n + 1) <= 3 * a(n) + 2 for all n. - See the wiki link for a sketch of a proof that a(n) ~ c * 3 ^ n with c = 1.7078779... - _ M. F. Hasler _ , Aug 22 2015 •

[**A135344**] • 1,1,1,1,5,17,53,157,469,1405,4217,12653,37961,113881,341641,1024921,3074765,9224297,27672893,83018677,249056029,747168085,2241504257,6724512773,20173538321 ★ a(n) = 3*a(n-1) - a(n-3) + 3*a(n-4). • a(n) = (1 / 14) * 3 ^ n + (1 / 6) * (- 1) ^ n + (16 / 21) * cos(Pi * n / 3) + (8 * sqrt(3) / 21) * sin(Pi * n / 3). • a(n) = (1 / 14) * 3 ^ n + (1 / 14) * [13; 11; 5; - 13; - 11; - 5]. (End) •

[**A048473**] • 1,5,17,53,161,485,1457,4373,13121,39365,118097,354293,1062881,3188645,9565937,28697813,86093441,258280325,774840977,2324522933,6973568801,20920706405,62762119217,188286357653,564859072961 ★ a(0)=1, a(n) = 3*a(n-1) + 2; a(n) = 2*3^n - 1. • a(0)=1, a(n) = a(n - 1) + 3 ^ n + 3 ^ (n - 1). - Lee Reeves, May 10 2004 • a(n) = (3 ^ n + 3 ^ (n + 1) - 2) / 2. - _ Creighton Dement _ , Jul 31 2004 • a(0)=1, a(1)=5, a(n) = 4 * a(n - 1) - 3 * a(n - 2). - _ Harvey P. Dale _ , Mar 06 2012 •

[**A178828**] • 0,0,1,5,17,53,162,490,1474,4426,13283,39855,119571,358719,1076164,3228500,9685508,29056532,87169605,261508825,784526485,2353579465,7060738406,21182215230,63546645702 ★ Partial sums of floor(3^n/10)/2. • a(n)= a(n - 4) + 2 * 3 ^ (n - 3) - 1 , n>4 • a(n)=5 * a(n - 1) - 8 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 3 * a(n - 5), n>5. •

[**A242429**] • 1,5,17,53,167,550,1899,6809,25067,93902,355775,1358208,5212573,20082860,77607895,300638481,1166999699,4537960846,17673418311,68924837252,269132082925,1052055773292,4116727946687,16123827007348,63205353550497 ★ Length of longest chain of nonempty proper subsemigroups of the monoid of partial injective order-preserving functions of a chain with n elements. • a(n) = binomial(2 * n,n) / 2 + 3 * 2 ^ (n - 1) - n - 2. - _ Gheorghe Coserea _ , May 16 2016 •

[**A183712**] • 5,17,54,174,559,1797,5776,18566,59677,191821,616574,1981866,6370351,20476345,65817520,211558554,680016837,2185791545,7025832918,22583273462,72589861759,233327025821,749987665760,2410700161342,7748761123965 ★ 1/20 of the number of (n+1) X 3 0..4 arrays with every 2 X 2 subblock strictly increasing clockwise or counterclockwise with one decrease. • a(n) = 3 * a(n - 1) + a(n - 2) - a(n - 3). •

[**A081495**] • 1,5,17,55,189,681,2519,9451,35765,136153,520695,1998745,7696467,29716025,115000947,445962899,1732525861,6741529113,26270128535,102501265057,400411345659,1565841089321,6129331763923,24014172955545 ★ Start with Pascal's triangle; form a rhombus by sliding down n steps from top on both sides then sliding down inwards to complete the rhombus and then deleting the inner numbers; a(n) = sum of entries on perimeter of rhombus. • a(0)=1 for n >0 a(n)=binomial(2 * n, n) - binomial(2 * n - 2, n - 1) + 2 * n - 3 - _ Benoit Cloitre _ , Sep 10 2003 •

[**A033538**] • 1,1,5,17,57,189,625,2065,6821,22529,74409,245757,811681,2680801,8854085,29243057,96583257,318992829,1053561745,3479678065,11492595941,37957465889,125364993609,414052446717,1367522333761 ★ a(0)=1, a(1)=1, a(n)=3*a(n-1)+a(n-2)+1. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) - a(n - 3), a(0)= 1=a(1), a(2)=5. Observed by G. Detlefs. See the W. Lang link. [From Wolfdieter Lang, Oct 18 2010] • a(n) = - 1 / 3 + 2 / 39 * (3 / 2 - 1 / 2 * sqrt(13)) ^ n * sqrt(13) - 2 / 39 * sqrt(13) * (3 / 2 + 1 / 2 * sqrt(13)) ^ n + 2 / 3 * (3 / 2 - 1 / 2 * sqrt(13)) ^ n + 2 / 3 * (3 / 2 + 1 / 2 * sqrt(13)) ^ n, with n>=0 [From Paolo P. Lava, Sep 01 2008] •

[**A098184**] • 1,1,5,17,57,193,653,2209,7473,25281,85525,289329,978793,3311233,11201821,37895489,128199521,433695873,1467182629,4963443281,16791208345,56804250945,192167404461,650097672673,2199264673425 ★ a(n) = 3a(n-1)+a(n-2)+a(n-3), a(0)=1, a(1)=1, a(2)=5. • a(n) / a(n - 1) tends to 3.38297576..., the square of the tribonacci constant A058265. - _ Gary W. Adamson _ , Feb 28 2006 •

[**A009229**] • 1,1,1,5,17,57,337,1661,9697,68529,451809,3570613,29324913,247557481,2348275633,22399292077,229227939521,2476740370529,27378158737089,323000223133285,3912000089144273,49350756905258905 ★ Expansion of e.g.f. exp(sinh(x)*cosh(x)). • a(n) = sum(k=1..n, ((sum(i=0..k, (- 1) ^ i * (k - 2 * i) ^ n * binomial(k,i))) * 2 ^ (n - 2 * k)) / k!), n>0, a(0)=1. - _ Vladimir Kruchinin _ , May 29 2011 •

[**A010914**] • 5,17,58,198,676,2308,7880,26904,91856,313616,1070752,3655776,12481600,42614848,145496192,496755072,1696027904,5790601472,19770350080,67500197376,230460089344,786839962624,2686439671808,9172078761984,31315435704320 ★ Pisot sequence E(5,17), a(n) = floor(a(n-1)^2 / a(n-2) + 1/2). • a(n) is the 3rd subdiagonal of array A228405. - _ Richard R. Forberg _ , Sep 02 2013 •

[**A287804**] • 1,5,17,59,205,713,2481,8635,30057,104629,364225,1267923,4413861,15365465,53490097,186209299,648230545,2256616133,7855718641,27347281995,95201200637,331413874569,1153716087665,4016309864843,13981555011321 ★ Number of quinary sequences of length n such that no two consecutive terms have distance 1. • a(n) = 5 * a(n - 1) - 5a(n - 2) - a(n - 3), a(0)=1, a(1)=5, a(2)=17. •

[**A007483**] • 1,5,17,61,217,773,2753,9805,34921,124373,442961,1577629,5618809,20011685,71272673,253841389,904069513,3219891317,11467812977,40843221565,145465290649,518082315077,1845177526529,6571697209741 ★ a(n) = 3*a(n-1) + 2*a(n-2), with a(0)=1, a(1)=5. • a(n)=(3 / 2 + sqrt(17) / 2) ^ n * (1 / 2 + 7 * sqrt(17) / 34) + (1 / 2 - 7 * sqrt(17) / 34) * (3 / 2 - sqrt(17) / 2) ^ n. - _ Paul Barry _ , Dec 08 2004 • a(n) = upper left term in the 2 X 2 matrix [1,2; 2,2] ^ (n + 1). Also [a(n), a(n + 1)] = the 2 X 2 matrix [0,1; 2,3] ^ (n + 1) * [1,1]. Example: [0,1; 2,3] ^ 4 * [1,1] = [61, 217]. - _ Gary W. Adamson _ , Mar 16 2008 •

[**A051736**] • 1,5,17,63,227,827,2999,10897,39561,143677,521721,1894607,6879979,24983923,90725999,329460929,1196397873,4344577397,15776816033,57291635519,208047769363,755500774443,2743511349031,9962735709201,36178491743225 ★ Number of 3 X n (0,1)-matrices with no consecutive 1's in any row or

column. • a(n) = 2 * a(n - 1) + 6 * a(n - 2) - a(n - 4). •

[A120893] • 1,1,5,17,65,241,901,3361,12545,46817,174725,652081,2433601,9082321,33895685,126500417,472105985,1761923521,6575588101,24540428881,91586127425,341804080817,1275630195845,4760716702561,17767236614401 ★ a(n) = 3*a(n-1) + 3*a(n-2) - a(n-3); a(0)=1, a(1)=1, a(2)=5. • a(n)=[(- 1) ^ n + (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n] / 3. - _ Emeric Deutsch _ , Jul 24 2006 •

[A092896] • 1,1,5,17,65,257,1025,4097,16385,65537,262145,1048577,4194305,16777217,67108865,268435457,1073741825,4294967297,17179869185,68719476737,274877906945,1099511627777,4398046511105,17592186044417,70368744177765 ★ Related to random walks on the 4-cube. • a(n) = 1 + 4 ^ n / 4 - 0 ^ n / 4 + Sum _{ k=0..n } binomial(n, k) * k * (- 1) ^ k. • a(n) = 4 ^ (n - 1) + 1 for n>1. - _ Colin Barker _ , Nov 25 2016 •

[A162270] • 5,17,67,283,1229,5393,23755,104779,462389,2040881,9008563,39765211,175531325,774831473,3420269563,15097797067,66644895461,294184793297,1298594491555,5732273396251,25303478936621,111694959845969 ★ a(n) = ((5+sqrt(2))*(3+sqrt(2))^n + (5-sqrt(2))*(3-sqrt(2))^n)/2. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 5, a(1) = 17. •

[A096980] • 1,5,17,69,257,997,3793,14565,55681,213317,816401,3126021,11966849,45815845,175399633,671510181,2570817793,9842206853,37680138257,144255724485,552272416769,2114334904933,8094576727249,30989497789029 ★ Expansion of (1+3x)/(1-2x-7x^2). • a(n) = (1 + sqrt(2))(1 + 2sqrt(2)) ^ n / 2 + (1 - sqrt(2))(1 - 2sqrt(2)) ^ n / 2. • a(n) = 3 * sum { k=0..floor((n - 1) / 2) C(n - k - 1, k)(7 / 2) ^ k * 2 ^ (n - k - 1) }+ sum { k=0..floor(n / 2), C(n - k, k) * (7 / 2) ^ k * 2 ^ (n - k) } . •

[A272743] • 1,5,17,69,277,1109,4437,17749,70997,283989,1135957,4543829,18175317,72701269,290805077,1163220309 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 526", based on the 5-celled von Neumann neighborhood. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>4. •

[A249015] • 1,1,5,17,69,339,1677,9321,55137,343659,2285289,15910857,116120781,886308147,7033465989,58008074409,495792941337,4381170220251,39980186877537,376025841184329,3640077999981189,36224841818288547,370112212444620861,3878334404076375657 ★ A binomial convolution. • a(n) = 0 ^ 0 + sum(bin(n,k) * b(k) * c(n - k - 1),k=0..n - 1), •

[A146511] • 5,17,71,83,137,149,203,215,269,281,335,347,401,413,467,479,533,545,599,611,665,677,731,743,797 ★ Numbers congruent to {5, 17} modulo 66. • a(2k - 1) = 66 * (k - 1) + 5, a(2k) = 66 * (k - 1) + 17, where k>0. •

[A179605] • 1,5,17,81,325,1413,5913,25193,106429,451421,1911089,8097825,34298293,145299189,615478665,2607246617,11044399597,46784976077,198184041761,839521667409,3556269662821,15064602415845,63814675131897 ★ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+3*x-2*x^2)/(1-2*x-9*x^2-2*x^3). • a(n) = 2 * a(n - 1) + 9 * a(n - 2) + 2 * a(n - 3) with a(0)=1, a(1)=5 and a(2)=17. • a(n) = (- 4 / 11) * (- 1 / 2) ^ (- n) + ((17 + 41 * A) * A ^ (- n - 1) + (17 + 41 * B) * B ^ (- n - 1)) / 110 with A = (- 2 + sqrt(5)) and B =(- 2 - sqrt(5)). •

[A023253] • 5,17,83,101,131,251,257,263,389,419,461,467,521,587,797,809,1217,1319,1511,1721,1847,1907,2141,2531,2579 ★ Numbers n such that n remains prime through 2 iterations of function f(x) = 5x + 4. • a(n) == 5 mod 6. - _ John Cerkan _ , Sep 13 2016 •

[A038183] • 1,5,17,85,257,1285,4369,21845,65537,327685,1114129,5570645,16843009,84215045,286331153,1431655765,4294967297,21474836485,73014444049,365072220245,1103806595329,5519032976645,18764712120593,93823560602965 ★ One-dimensional cellular automaton 'sigma-minus' (Rule 90): 000,001,010,011,100,101,110,111 -> 0,1,0,1,1,0,1,0. • a(n) = Product(((bit _ n(n, i) * (2 ^ (2 ^ (i + 1)))) + 1), i=0..inf); # A direct algebraic formula! • a(n) = sum { k=0..n, (C(2 * n, 2 * k) mod 2) * 4 ^ (n - k) } . - _ Paul Barry _ , Jan 03 2005 • a(2 * n + 1) = 5 * a(2n); a(n + 1) = a(n) XOR 4 * a(n) where XOR is binary exclusive OR operator. - _ Philippe Deléham _ , Jun 18 2005 •

[A212291] • 1,1,1,5,17,89,529,3709,29665,266993,2669921,29369141,352429681,4581585865,64142202097,962133031469,15394128503489,261700184559329,4710603322067905,89501463119290213,1790029262385804241,37590614510101889081,826993519222241559761 ★ Number of permutations of n elements with at most one fixed point. • a(n) = 2 / e * n! + O(n). • a(n) = 2 * !n - (- 1) ^ n, where !n is the subfactorial. - _ Eric W. Weisstein _ , Dec 30 2017 •

[A262862] • 1,5,17,93,273,1501,4369,24029,69905,384477,1118481,6151645,17895697,98426333,286331153,1574821341,4581298449,25197141469,73300775185,403154263517,1172812402961,6450468216285,18764998447377,103207491460573,300239975158033 ★ Decimal representation of the n-th iteration of the "Rule 147" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>3. •

[A254759] • 5,17,97,565,3293,19193,111865,651997,3800117,22148705,129092113,752403973,4385331725,25559586377,148972186537,868273532845,5060669010533,29495740530353,171913774171585,1001986904499157 ★ Part of the positive proper solutions y of the Pell equation x^2 - 2*y^2 = - 7^2 based on the fundamental solution (x0, y0)= (1, 5). • a(n) = irrational part of z(n), where z(n) = (1 + 5 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n, n >= 0. • a(n) = 6 * a(n - 1) - a(n - 2), n >= 1, with a(- 1) = 13 and a(0) = 5. • a(n) = 5 * S(n, 6) - 13 * S(n - 1, 6), n >= 0, with Chebyshev's S - polynomials evaluated at x = 6 (see A049310). •

[A234797] • 1,1,5,17,109,649,5285,44513,448861,4836601,58743125,766520657,10939702669,167136559849,2746173173765,48016925121473,893361709338301,17582667488919001,365487998075525045,7994319232001122097,183644125043688405229,4418905413530661307849 ★ E.g.f. satisfies: A'(x) = 1 + A(x) + 2*A(x)^2, where A(0)=0. • a(n) = 2 ^ n * A(n, 1 / 2) where A(n,x) are the André polynomials. - _ Peter Luschny _ , May 05 2016 •

[A012259] • 1,1,1,5,17,121,721,6845,58337,698161,7734241,111973685,1526099057,25947503401,419784870961,8200346492525,153563504618177,3389281372287841,72104198836466881,1774459993676715365,42270463533824671697,1147649139272698443481 ★ E.g.f. exp(arctanh(tan(x))) = 1 + x + 1/2!*x^2 + 5/3!*x^3 + 17/4!*x^4 + 121/5!*x^5 + ... • a(n)= 2 ^ n * Z(n,1 / 2), where Z(n,x) is the n - th zigzag polynomial as defined in A147309. •

[A249520] • 1,5,17,134,1333,14890,178394,2240268,29101197,387793090,5271628846,72818272852,1019157450818,14421479205284,205978607191508,2965567162041368,42994130150806077,627124332791860146,9196734644381065510 ★ Expansion of: G.f.: 2-(2*x)/(1-sqrt(sqrt(1-16*x)+1)/sqrt(2)). • a(n) = Sum _{ i=0..n } 2 ^ i * binomial(2 * (n - 1) + i - 1,i) * binomial(2 * n - i - 2,n - i)) / (n - 1),n>1, a(0)=1, a(1)=5. •

[A286307] • 0,1,1,5,17,151,823,10631,15871,1344097,12731713,266731133,3061359593,15281334539,1030023060151,29833932429263,461929309281059,1522924688343283 3,532576131933710 21,9845267571825141941,191853269052081088769,4624229909381130145 67,1689220731459479679757 99 ★ a(n) is the numerator of r(n), where r(n) = r(n-1) + r(n-2)/(2*(n-1)) with r(0) = 0, r(1) = 1. • a(n) = numerator(r(n)). See the name for the recurrence of r(n). (End) •

[A182066] • 1,1,5,17,158,741,4062,22193,223831,1335126,9060774,56864949,385073172,2564432294,16901547638,112676217841,937204012264,6501855139871,48016961289750,334280249251750,2491679096609658,17706521277052782,128014129417240852,907908731566219349 ★ a(n) = sum of the squares of the coefficients of x^(2*k) in A(x^2)^{2*(n-2*k+1)}, as k varies from 0 to floor(n/2), with a(0)=1. • a(n) = Sum _{ k=0..n \ 2 } ([x ^ (2 * k)] A(x ^ 2) ^{ 2 * (n - 2 * k + 1) }) ^ 2 for n>0 with a(0)=1. •

[A281504] • 5,17,247,787,11357,36185,522175,1663723,24008693,76495073,1103877703,3517109635,50754365645,161710548137,2333596941967,7435168104667,107294704964837,341856022266545,4933222831440535,15717941856156403,226820955541299773,722683469360927993 ★ Solutions y to the negative Pell equation y^2 = 33*x^2 - 8 with x,y >= 0. • a(n) = 46 * a(n - 2) - a(n - 4) for n>4. •

[A155450] • 5,18,28,41,51,64,74,87,97,110,120,133,143,156,166,179,189,202,212,225,235,248,258,271,281 ★ Numbers equal to 5 or 18 mod 23. • a(n) = a(n - 1) + a(n - 2) - a(n - 3), with a(1)=5, a(2)=18, a(3)=28. • a(n) = (1 / 4) * (23 - 3 * (- 1) ^ (n - 1) + 46 * (n - 1)). - _ Paolo P. Lava _ , Jan 26 2009 •

[A287894] • 1,5,18,30,33,94,136,186,225,268,348,413,502,682,792,938,1098,1254,1441,1529,1647,1905,2148,2392,2674 ★ Sum of the digit sums of the n-th powers of the first n positive integers. • a(n) = Sum _{ k=1..n } digsum(k ^ n), n >= 1. •

[A154609] • 5,18,31,44,57,70,83,96,109,122,135,148,161,174,187,200,213,226,239,252,265,278,291,304,317 ★ a(n) = 13*n + 5. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 26 2012 •

[A007742] • 0,5,18,39,68,105,150,203,264,333,410,495,588,689,798,915,1040,1173,1314,1463,1620,1785,1958,2139,2328 ★ a(n) = n*(4*n+1). • a(n) = floor((n + 1 / 4) ^ 2). - _ Reinhard Zumkeller _ , Feb 20 2010 • a(n) = 8 * n + a(n - 1) - 3. - _ Vincenzo Librandi _ , Nov 21 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0)=0, a(1)=5, a(2)=18. - _ Philippe Deléham _ , Mar 26 2013 •

[A276819] • 1,5,18,40,71,111,160,218,285,361,446,540,643,755,876,1006,1145,1293,1450,1616,1791,1975,2168,2370,2581 ★ a(n) = a(n-1) + 9*n - 5 with a(0) = 1. • a(n) = (9 * n ^ 2 - n) / 2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A236364] • 1,5,18,40,80,135,217,320,459,625,836,1080,1378,1715,2115,2560,3077,3645,4294,5000,5796,6655,7613,8640,9775 ★ Sum of all the middle parts in the partitions of 3n into 3 parts. • a(n) = n(n + 1)(2n + 1) / 6 - floor((n - 1) / 2) * (4 * floor((n - 1) / 2) ^ 2 + 3(n + 2) * floor((n - 1) / 2) - 6n ^ 2 + 3n + 2) / 6. • a(n) = (n * (3 - 3 * (- 1) ^ n + 10 * n ^ 2)) / 16. - _ Colin Barker _ , Jan 23 2014 • a(n) = (n ^ 3 + ceiling(n / 2) ^ 3 + floor(n / 2) ^ 3) / 2. - _ Wesley Ivan Hurt _ , Apr 15 2016 •

[A000338] • 5,18,42,75,117,168,228,297,375,462,558,663,777,900,1032,1173,1323,1482,1650,1827,2013,2208,2412,2625,2847 ★ Expansion of (5-2x)(1-x^3)/(1-x)^4. • a(n) = (9 / 2) * n ^ 2 - (15 / 2) * n, n>2. - Barbara Haas Margolius (margolius(AT)math.csuohio.edu), Feb 17 2001 •

[A212343] • 0,0,5,18,42,80,135,210,308,432,585,770,990,1248,1547,1890,2280,2720,3213,3762,4370,5040,5775,6578,7452 ★ a(n) = (n+1)*(n-2)*(n-3)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>7. - _ Colin Barker _ , Jul 10 2015 •

[A056640] • 1,5,18,42,83,143,228,340,485,665,886,1150,1463,1827,2248,2728,3273,3885,4570,5330,6171,7095,8108,9212,10413 ★ At stage 1, start with a unit square. At each successive stage add 4*(n-1) new squares around outside with edge-to-edge contacts. Sequence gives number of squares (regardless of size) at n-th stage. • a(n) = (8 * n ^ 3 - 2 * n + 3 - 3 * (- 1) ^ n) / 12. - _ Luce ETIENNE _ , Aug 21 2014 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). - _ Colin Barker _ , Sep 29 2014 •

[A213397] • 1,5,18,43,83,144,229,341,486,667,887,1152,1465,1829,2250,2731,3275,3888,4573,5333,6174,7099,8111,9216,10417 ★ Number of (w,x,y) with all terms in {0,...,n} and 2*w >= |x+y-z|. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). • a(n) = floor(2 * n ^ 3 / 3) + 2 * n * (n + 1) + 1. - _ Bruno Berselli _ , Dec 22 2017 •

[A037140] • 5,18,44,91,172,308,533,902,1504,2483,4072,6648,10821,17578,28516,46219,74868,121228,196245,317630,514040,831843,1346064,2178096,3524357 ★ Convolution of natural numbers n >= 1 with Fibonacci numbers F(k), for

k >= 5. • a(n) = F(n + 9) - (29 + 8 * n); G.f.: (5 + 3 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2); 29=L(7), Lucas number; •

[A081435] • 1,5,18,46,95,171,280,428,621,865,1166,1530,1963,2471,3060,3736,4505,5373,6346,7430,8631,9955,11408,12996,14725 ★ Diagonal in array of n-gonal numbers A081422. • a(n) = (2 * n ^ 3 + 3 * n ^ 2 + 3 * n + 2) / 2. •

[A176145] • 0,1,5,18,49,110,216,385,638,999,1495,2156,3015,4108,5474,7155,9196,11645,14553,17974,21965,26586,31900,37973,44874 ★ a(n) = n*(n-3)*(n^2-7*n+14)/8. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(3)= 0, a(4)= 1, a(5)=5, a(6)= 18, a(7) = 49. [_ Bobby Milazzo _ , Jun 24 2013] • a(n) = Sum _{ k=(n - 3)..(n - 2) * (n - 3) / 2 } k. - _ J. M. Bergot _ , Jan 21 2015 •

[A125641] • 1,5,18,52,125,261,490,848,1377,2125,3146,4500,6253,8477,11250,14656,18785,23733,29602,36500,44541,53845,64538,76752,90625 ★ Square of the modulus of the (3,1)-entry of the 3 X 3 matrix M^n, where M=[1,0,0; 1,1,0, 1,i,1]. • a(n) = |(b(n)| ^ 2, where b(n)=3b(n - 1) - 3b(n - 2) + b(n - 3) for n>=4; b(1)=1, b(2)=2 + i, b(3)=3 + 3i (the recurrence relation follows from the minimal polynomial t ^ 3 - 3t ^ 2 + 3t - 1 of the matrix M). • a(n) = n ^ 2(n ^ 2 - 2n + 5) / 4. - _ T. D. Noe _ , Feb 09 2007 • a(n) = binomial(n,2) ^ 2 + n ^ 2, n>1. - _ Gary Detlefs _ , Nov 23 2011 •

[A127983] • 1,5,18,52,137,339,808,1874,4263,9553,21158,46416,101029,218447,469668,1004878,2140835,4543821,9611938,20272460,42642081,89478475,187345568,391468362,816491167 ★ Numbers of the form (n - 2/3)2^(n) - n/2 + 3/4 - (-1)^n/12. • a(n) = (n - 2 / 3)2 ^ (n) - n / 2 + 3 / 4 - (- 1) ^ n / 12 •

[A226903] • 5,18,53,102,197,306,491,684,989,1290,1745,2178,2813,3402,4247,5016,6101,7074,8429,9630,11285,12738,14723,16452,18797 ★ Shiraishi numbers: a parametrized family of solutions c to the Diophantine equation a^3 + b^3 + c^3 = d^3 with d = c+1. • a(2n - 1) = 9n ^ 3 - 6n ^ 2 + 3n - 1. • a(2n) = 9n ^ 3 + 6n ^ 2 + 3n. • a(n) = (18 * n ^ 3 + 27 * n ^ 2 + 27 * n + 1 - (3 * n ^ 2 + 3 * n + 1) * (- 1) ^ n) / 16. [_ Bruno Berselli _ , Jun 22 2013] •

[A271771] • 1,5,18,53,140,347,826,1913,4344,9719,21494,47093,102388,221171,475122,1015793,2162672,4587503,9699310,20447213,42991596,90177515,188743658,394264553,822083560 ★ Maximum total Hamming distance between pairs of consecutive elements in any permutation of all 2^n binary words of length n. • a(n) = n * 2 ^ n - 2 ^ (n - 1) - n + 1. •

[A081492] • 1,5,18,54,135,291,560,988,1629,2545,3806,5490,7683,10479,13980,18296,23545,29853,37354,46190,56511,68475,82248,98004,115925 ★ Sum of terms in n-th row of A081491. • a(n) = n / 6 * (2n ^ 3 - 6n ^ 2 + 13n - 3). •

[A263318] • 0,1,5,18,55,143,333,715,1430,2700,4862,8398,13995,22610,35530,54477,81719,120175,173583,246675,345345,476901,650325,876525,1168695 ★ Number of aperiodic necklaces (Lyndon words) with 9 black beads and n white beads. • a(n) = (1 / (n + 9)) * Sum _{ d divides gcd(n + 9,9) } mu(d) * binomial((n + 9) / d, 9 / d). •

[A011845] • 0,0,0,0,0,0,0,0,0,1,5,18,55,143,333,715,1430,2701,4862,8398,13996,22610,35530,54479,81719 ★ a(n) = floor(binomial(n,8)/9). • a(n) = floor(binomial(n + 1,9) / (n + 1)). [_ Gary Detlefs _ , Nov 23 2011] •

[A001793] • 1,5,18,56,160,432,1120,2816,6912,16640,39424,92160,212992,487424,1105920,2490368,5570560,12386304,27394048,60293120,132120576,288358400,627048448,1358954496,2936012800 ★ a(n) = n*(n+3)*2^(n-3). • a(n) = Sum _{ k=0..floor((n + 4) / 2) } C(n + 4, 2k) * C(k, 2). - _ Paul Barry _ , May 15 2003 • a(n) = Sum _{ k=0..n + 2 } C(n + 2, k) * floor(k ^ 2 / 4). - _ Paul Barry _ , May 27 2003 • a(n) = Sum _{ i=0..j } binomial(i + 1, 2) * binomial(j, i). - _ Jon Perry _ , Feb 26 2004 • a(n) = Sum _{ k=0..n + 1 } (- 1) ^ (n - k + 1) * C(k, n - k + 1) * k * C(2k, k) / 2. - _ Paul Barry _ , Oct 07 2005 • a(n) = (1 / n) * Sum _{ k=0..n } binomial(n,k) * k ^ 3. - _ Gary Detlefs _ , Nov 26 2011 •

[A093374] • 1,5,18,57,168,472,1280,3376,8704,22016,54784,134400,325632,780288,1851392,4354048,10158080,23527424,54132736,123797504,281542656,637009920,1434451968,3215982592,7180648448 ★ Number of 1-2-3-avoiding permutations with exactly thrice the 1-3-2 pattern. • a(n) = C(n - 3, 1)2 ^ (n - 4) + C(n - 3, 1)2 ^ (n - 5) + C(n - 3, 2)2 ^ (n - 7) for n<4, a(n) = 0. • a(n) = 2 ^ (n - 8) * (- 120 + 38 * n - 3 * n ^ 2 + n ^ 3) / 3 for n>3. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>7. •

[A258109] • 1,5,18,57,169,482,1341,3669,9922,26609,70929,188226,497845,1313501,3459042,9096393,23895673,62721698,164531565,431397285,1130708866,2962826465,7761964833,20331456642,53249182309 ★ Number of balanced parenthesis expressions of length 2n and depth 3. • a(n) = 2 ^ (n - 3) + 3 * a(n - 1) - a(n - 2). • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 2 * a(n - 3) for n>5. - _ Colin Barker _ , May 24 2015 • a(n) = 2 ^ (- 1 - n) * (- 5 * 4 ^ n - (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (5 + sqrt(5))) / 5. - _ Colin Barker _ , Jun 05 2017 •

[A000340] • 1,5,18,58,179,543,1636,4916,14757,44281,132854,398574,1195735,3587219,10761672,32285032,96855113,290565357,871696090,2615088290,7845264891,23535794695,70607384108,211822152348,635466457069 ★ a(0)=1, a(n) = 3*a(n-1) + n + 1. • a(n) = (3 ^ (n + 2) - 2 * n - 5) / 4. • a(n) = Sum _{ k=0..n + 1 } (n - k + 1) * 3 ^ k = Sum _{ k=0..n + 1 } k * 3 ^ (n - k + 1). - _ Paul Barry _ , Jul 30 2004 • a(n) = Sum _{ k=0..n } binomial(n + 2, k + 2) * 2 ^ k. - _ Paul Barry _ , Jul 30 2004 • a(- 1)=0, a(0)=1, a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 1. - _ Miklos Kristof _ , Mar 09 2005 • a(n) = right term of M ^ (n + 1) * [1,0,0], where M = the 3 X 3 matrix [1,0,0; 1,1,0; 1,1,3]. E.g., a(4) = 179 since M ^ 5 = [1, 5, 179]. - _ Gary W. Adamson _ , Dec 28 2006 • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3) with a(0)=1, a(1)=5 and a(2)=18. - _ Johannes W. Meijer _ , Feb 20 2009 •

[A284968] • 0,1,5,18,59,190,618,2047,6908,23703,82488,290499,1033398,3707837,13402681,48760350,178405139,656043838,2423307027,8987427446,33453694465,124936258104,467995871753,1757900019076,6619846420527 ★ Least hairpin family matchings with n edges that are both L&P and C&C whose leftmost edge is part of a hairpin. • a(n) = (Sum _{ k=1..n } Catalan(k)) - n. - _ Peter Luschny _ , Jul 22 2017 •

[A099449] • 1,5,18,60,197,650,2153,7140,23682,78545,260498,863945,2865282,9502740,31515953,104523050,346651997,1149675660,3812913618,12645575405,41939208002,139091904605,461300030418,1529907284460,5073956524397 ★ An Alexander sequence for the knot 7_6. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 5 * a(n - 3) - a(n - 4) for n>4. - _ Colin Barker _ , Feb 10 2014 •

[A104630] • 0,1,5,18,60,198,655,2171,7200,23880,79200,262669,871145,2889162,9581940,31778622,105394195,349541159,1159257600,3844692240,12750969600,42288749161,140251162205,465144722658,1542658254060 ★ Expansion of x/(1-5x+7x^2-5x^3+x^4). • a(n)=5a(n - 1) - 7a(n - 2) + 5a(n - 3) - a(n - 4); a(n)=sum { k=0..n, binomial(n + k + 1, 2k + 1)F(k) } . •

[A113301] • 0,1,5,18,62,211,715,2420,8188,27701,93713,317030,1072506,3628263,12274327,41523752,140473848,475219625,1607656477,5438662906,18398864822,62242913851,210566269283,712340586524,2409830942708 ★ Sum of odd-indexed terms of tribonacci numbers. • a(0)=0, a(1)=1, a(2)=5, a(3)=18, a(n)=4 * a(n - 1) - 2 * a(n - 2) - a(n - 4). - _ Harvey P. Dale _ , Apr 12 2013 •

[A111567] • 1,5,18,62,212,724,2472,8440,28816,98384,335904,1146848,3915584,13368640,45643392,155836288,532058368,1816560896,6202126848,2117538600,72297288704,246838383616,842758957056,2877359060992 ★ Binomial transform of A048654: generalized Pellian with second term equal to 4. • a(n)=((2 + sqrt18) * (2 + sqrt2) ^ n) + (2 - sqrt18) * (2 - sqrt2) ^ n) / 4 offset 0. [From Al Hakanson (hawkuu(AT)gmail.com), Aug 08 2009] • a(n)=((5 + sqrt32)(2 + sqrt2) ^ n + (5 - sqrt32)(2 - sqrt2) ^ n) / 2 offset 0. [From Al Hakanson (hawkuu(AT)gmail.com), Aug 15 2009] •

[A121050] • 0,0,0,0,0,1,5,18,62,226,892,3835,17910,90401,490421,2844970,17570207,115078228,796630963,5811215750,44551231383,358087648032,3010990488143,26433752431402,241852566790848 ★ Partial sums of floor(n!/e^n). • a(n) = SUM[i=1..n] floor(i! / exp(i)). •

[A147535] • 5,18,64,228,820,2988,11044,41388,157060,602508,2332324,9095148,35676100,140586828,555986404,2204846508,8762055940,34876167948,138988373284,554404335468,2212969344580 ★ A counting vertex substitution vector matrix Markov 3x3 with characteristic polynomial:24 - 26 x + 9 x^2 - x^3 • a(n) = 9 * a(n - 1) - 26 * a(n - 2) + 24 * a(n - 3) = 2 * 4 ^ n + 4 * 3 ^ n - 2 ^ n. G.f.: (5 - 27x + 32x ^ 2) / ((1 - 2x)(1 - 3x)(1 - 4x)). [From _ R. J. Mathar _ , Nov 09 2008] •

[A166677] • 1,5,18,66,280,1420,8544,59836,478720,4308516,43085200,473937244,5687246976,73934210740,1035078950416,15526184256300,248418948100864,4223122117714756,76016198118865680,1444307764258447996 ★ a(n)= n*(a(n-1)+4), a(0)=1. • a(n) = n! + 4 * floor(e * n!) - 4, n>0 [From _ Gary Detlefs _ , Jun 06 2010] • a(n) = n! * (1 + Sum _{ k=0..n - 1 } 4 / k!) = n! + 4 e n Gamma(n,1). •

[A158879] • 1,5,18,67,260,1029,4102,16391,65544,262153,1048586,4194315,16777228,67108877,268435470,1073741839,4294967312,17179869201,68719476754,274877906963,1099511627796,4398046511125,17592186044438,70368744177787 ★ 4^n + n. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4a(n - 3). - _ R. J. Mathar _ , Mar 29 2009 •

[A164051] • 5,18,68,264,1040,4128,16448,65664,262400,1049088,4195328,16779264,67112960,268443648,1073758208,4295000064,17179934720,68719607808,274878169088,1099512152064,4398047559680,17592188141568,70368748371968,281474985099264 ★ a(n) = 2^(2n) + 2^(n-1). • a(n) = 6 * a(n - 1) - 8 * a(n - 2). •

[A052926] • 1,1,5,18,74,299,1216,4941,20083,81625,331760,1348416,5480549,22275332,90536629,367980201,1495631437,6078896062,24707275082,100421102079,408154995212,1658919257681,6742568719699,27404729150841 ★ Expansion of (1-3*x)/(1 - 4*x - x^2 + 3*x^3). • a(n) = Sum(- 1 / 761 * (17 - 278 * r + 15 * r ^ 2) * r ^ (- 1 - n) where r=RootOf(1 - 4 *_ Z -_ Z ^ 2 + 3 *_ Z ^ 3)) . •

[A227451] • 0,1,5,18,77,306,1229,4914,19661,78642,314573,1258290,5033165,20132658,80530637,322122546,1288490189,5153960754,20615843021,82463372082,329853488333,1319413953330,5277655813325,21110623253298,84442493013197 ★ Number whose binary expansion encodes via runlengths the partition that is at the top of the main trunk of Bulgarian solitaire game tree drawn for the deck with n(n+1)/2 cards. • a(n) = (1 / 10) * (3 * 4 ^ n + 7 * (- 1) ^ n - 5). • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3), n>3. •

[A162814] • 5,18,78,360,1692,7992,37800,178848,846288,4004640,18950112,89672832,424336320,2007980928,9501867648,44963320320,212768716032,1006832374272,4764381949440,22545297451008,106685493009408,504841173350400 ★ a(n) = 6*a(n-1)-6*a(n-2) for n > 1; a(0) = 5, a(1) = 18. • a(n) = ((5 + sqrt(3)) * (3 + sqrt(3)) ^ n + (5 - sqrt(3)) * (3 - sqrt(3)) ^ n) / 2. •

[A156305] • 1,1,5,18,87,290,1553,5015,25436,94500,431464,1519749,8024004,26746757,125190249,498138920,2221127601,8020960187,38836436844,138444409552,655009491676,2512996318026,10775473291178,40824090856703 ★ G.f.: A(x) = exp(Sum_{n>=1} sigma(n)*C(2*n-1,n)*x^n/n), a power series in x with integer coefficients. • a(n) = (1 / n) * Sum _{ k=1..n } sigma(k) * C(2 * k - 1,k) * a(n - k) for n>0, with a(0) = 1. •

[A213190] • 1,1,5,18,87,489,3195,23832,200241,1873665,19337373,218332098,2677997295,35468961129,504599447691,7675398598752,124320175923105,2136469186489041,38829405884572053,744168119366336130,14999850604980438759,317229367062688222329 ★ a(0)=1, a(1)=1, a(n) = n*a(n-1) + 3*a(n-2). • a(0)=1, a(1)=1, a(n) = Sum _{ k=0..floor(n / 2 + 1) } ((n - k - 2)! * binomi

al(n - k,k + 2) * 3 ^ (k + 1) / k!) + Sum _{ k=0..floor((n + 1) / 2) } (n - k)! * binomial(n - k - 1,k) * 3 ^ k / (k + 1)!), n>1. • a(n) = 2 * sqrt(3) ^ (n + 1) * (BesselI(0, 2 * sqrt(3)) * BesselK(n + 1, 2 * sqrt(3)) - BesselK(0, 2 * sqrt(3)) * Bessel(n + 1, - 2 * sqrt(3))), n >= 0. See Q(n,3) from A084950. - _ Wolf dieter Lang _ , Mar 06 2013 • a(n) = Sum _{ k=0..floor(n / 2) } (((n - k)! / k!) * binomial(n - k,k) * 3 ^ k). - _ Gary Detlefs _ and _ Wolfdieter Lang _ , Mar 06 2013 •

[A212153] • 0,5,19,19,1048,15454,82682,82682,3376854,14906456,135967277,700917775,4655571261,18496858462,406052900090,3797168264335,22787414304107,188952067152112,654213095126526,654213095126526,57648689021992241 ★ Approximations up to 7^n for one of the three 7-adic integers (-1)^(1/3). • a(n) == 5 ^ (7 ^ (n - 1)) (mod 7 ^ n) == 5 (mod 7), n>= 1. •

[A074229] • 1,5,19,23,25,29,43,47,49,53,67,71,73,77,91,95,97,101,115,119,121,125,139,143,145 ★ Numbers n such that Kronecker(6,n)==mu(gcd(6,n)). • a(n) = (3 / 2 + (3 * i) / 2) * (i ^ n - i * (- i) ^ n) - (- 1) ^ n + 6 * (n + 1) - 9 where i = sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[A146509] • 1,5,19,23,37,41,55,59,73,77,91,95,109,113,127,131,145,149,163,167,181,185,199,203,217 ★ Numbers that are congruent to {1, 5} mod 18. • a(2k - 1) = 18 * (k - 1) + 1, a(2k) = 18 * (k - 1) + 5, where k>0. • a(n) = (18 * n - 5 * (- 1) ^ n + 21) / 2. - _ Bruno Berselli _ , Jul 12 2012 • a(1)=1, a(n) = 18 * n - a(n - 1) - 30. - _ Vincenzo Librandi _ , Jul 12 2012 •

[A022143] • 5,19,24,43,67,110,177,287,464,751,1215,1966,3181,5147,8328,13475,21803,35278,57081,92359,149440,241799,391239,633038,1024277 ★ Fibonacci sequence beginning 5, 19. • a(n) = term (1,1) in the 1x2 matrix [5,14] . [1,1;1,0] ^ n. (End) •

[A239831] • 5,19,39,67,101,143,191,247,308,379,454,539,628,727,830,942,1060,1186,1318,1458,1604,1758,1917,2086,2259 ★ Floor(7n^2/2) + floor(5n/2) + floor(3n/7). • a(n) = + a(n - 1) + a(n - 2) - a(n - 3) + a(n - 7) - a(n - 8) - a(n - 9) + a(n - 10). [_ Bruno Berselli _ , Mar 28 2014] •

[A262997] • 0,5,19,40,69,107,152,205,267,336,413,499,592,693,803,920,1045,1179,1320,1469,1627,1792,1965,2147,2336 ★ a(n+3) = a(n) + 24*n + 40, a(0)=0, a(1)=5, a(2)=19. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) - a(n - 5), n> 4. • a(- n) = e(n). • a(- n) + a(n) = 8 * n ^ 2. • a(n + 2) - 2 * a(n + 1) + a(n) = period 3:repeat 9, 7, 8. • a(n + 3) - a(n - 3) = 8 * (1 + 6 * n). • a(n + 7) - a(n - 7) = 40 * (2 + 3 * n). •

[A125202] • 1,5,19,41,71,109,155,209,271,341,419,505,599,701,811,929,1055,1189,1331,1481,1639,1805,1979,2161,2351 ★ a(n) = 4*n^2 - 6*n + 1. • a(1) = - 1, a(n) = a(n - 1) + 8 * n - 10. • a(n) = 2 * a(n - 1) - a(n - 2) + 8 with a(1) = - 1 and a(2) = 5. •

[A033622] • 1,5,19,41,109,209,505,929,2161,3905,8929,16001,36289,64769,146305,260609,587521,1045505,2354689,4188161,9427969,16764929,37730305,67084289,150958081 ★ Good sequence of increments for Shell sort (best on big values). • a(n) = 9 * 2 ^ n - 9 * 2 ^ (n / 2) + 1 if n is even; • a(n) = 8 * 2 ^ n - 6 * 2 ^ ((n + 1) / 2) + 1 if n is odd. • a(0)=1, a(1)=5, a(2)=19, a(3)=41, a(4)=109, a(n)=a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - 8 * a(n - 4) + 8 * a(n - 5). - _ Harvey P. Dale _ , Mar 02 2015 •

[A022267] • 0,5,19,42,74,115,165,224,292,369,455,550,654,767,889,1020,1160,1309,1467,1634,1810,1995,2189,2392,2604 ★ a(n) = n*(9*n + 1)/2. • a(n) = 9 * n + a(n - 1) - 4 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 •

[A172043] • 1,5,19,43,77,121,175,239,313,397,491,595,709,833,967,1111,1265,1429,1603,1787,1981,2185,2399,2623,2857 ★ 5n^2 - n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 06 2012 •

[A024191] • 5,19,47,95,170,280,434,642,915,1265,1705,2249,2912,3710,4660,5780,7089,8607,10355,12355,14630,17204,20102,23350,26975 ★ [(3rd elementary symmetric function of 3,4,...,n+4)/(3+4+...+n+4)]. • a(1)=5, a(2)=19, a(3)=47, a(4)=95, a(5)=170, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 28 2014 •

[A100104] • 1,1,5,19,49,101,181,295,449,649,901,1211,1585,2029,2549,3151,3841,4625,5509,6499,7601,8821,10165,11639,13249 ★ a(n) = n^3 - n^2 + 1. • a(0)=1, a(1)=1, a(2)=5, a(3)=19, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A060100] • 1,5,19,55,140,316,660,1284,2370,4170,7062,11550,18348,28380,42900,63492,92235,131703,185185,256685,351208,474760,634712,839800,1100580 ★ Fifth column (m=4) of triangle A060098. • a(n) = (315 * (3797 + 299 * (- 1) ^ n) + 12 * (204347 + 4165 * (- 1) ^ n) * n + 2 * (970241 + 4095 * (- 1) ^ n) * n ^ 2 + 28 * (28457 + 15 * (- 1) ^ n) * n ^ 3 + 189168 * n ^ 4 + 26936 * n ^ 5 + 2268 * n ^ 6 + 104 * n ^ 7 + 2 * n ^ 8) / 1290240. - _ Colin Barker _ , Jan 17 2017 •

[A109415] • 1,5,19,58,152,309,585,1046,1666,2601,3871,5508,7680,10423,13835,17984,23168,29225,36431,45000,54780,66299,79637,94546,111612 ★ a(n) equals the (n*(n+1)/2)-th partial sum of the self-convolution 4th power of A010054, which has the g.f.: Sum_{k>=0} x^(k*(k+1)/2). • a(n) = [x ^ (n * (n + 1) / 2)] [Sum _{ k>=0 } x ^ (k * (k + 1) / 2)] ^ 4 / (1 - x). •

[A092442] • 0,1,5,19,59,161,405,967,2231,5029,11153,24443,53091,114505,245549,524047,1113839,2358989,4980393,10485379,22019675,46136881,96468485,201326039,419429799 ★ Sequence arising from enumeration of domino tilings of Aztec Pillow-like regions. • a(n)=(n + 1)(2 ^ n - 1) - n ^ 2. •

[A135266] • 0,1,5,19,60,182,546,1639,4919,14761,44286,132860,398580,1195741,3587225,10761679,32285040,96855122,290565366,871696099,2615088299,7845264901,23535794706,70607384120,211822152360 ★ Partial sums of A132357. • a(n + 1) - 3a(n) = 0, 1, 2, 4, 3, 2,... (periodically extended with period length 6) = partial sums of A132367. • a(n) = (1 / 4) * 3 ^ (n + 1) - (1 / 12) * (- 1) ^ n + (1 / 3) * cos(Pi * n / 3) - (sqrt(3) / 3) * sin (Pi * n / 3) - 1. Or, a(n) = (1 / 4) * 3 ^ (n + 1) + (1 / 4) * [- 3; - 5; - 7; - 5; - 3; - 1] for n>=0. - _ Richard Choulet _ , Jan 02 2008 •

[A189427] • 0,0,1,5,19,61,180,502,1349,3529,9050,22854,57014,140832,345036,839530,2030757,4887423,11710757,27951471,66486128,157661282,372840407,879510801,2070045268 ★ Expansion of (x^2)/((1-x)*(1-2*x-x^2+x^3)^2) • a(n)=5 * a(n - 1) - 6 * a(n - 2) - 4 * a(n - 3) + 9 * a(n - 4) - a(n - 5) - 3 * a(n - 6) + a(n - 7), n>=7, a { m } = { 0,0,1,5,19,61,180 } , m=0..6. •

[A143131] • 1,5,19,63,157,321,575,939,1433,2077,2891,3895,5109,6553,8247,10211,12465,15029,17923,21167,24781,28785,33199,38043,43337 ★ Binomial transform of [1, 4, 10, 20, 0, 0, 0,...]. • a(n) = (- 39 + 77 n - 45 n ^ 2 + 10 n ^ 3) / 3. [From _ T. D. Noe _ , Aug 22 2008] •

[A053545] • 0,1,5,19,63,191,543,1471,3839,9727,24063,58367,139263,327679,761855,1753087,3997695,9043967,20316159,45350911,100663295,222298111,488636415,1069547519,2332033023 ★ Comparisons needed for Batcher's sorting algorithm applied to 2^n items. • a(n) = 2 ^ (n - 2) * (n ^ 2 - n + 4) - 1. • a(0)=0, a(1)=1, a(2)=5, a(3)=19, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Harvey P. Dale _ , Apr 03 2013 •

[A049612] • 0,1,5,19,63,192,552,1520,4048,10496,26624,66304,162560,393216,940032,2224128,5214208,12124160,27983872,64159744,146210816,331350016,747110400,1676673024,3746562048 ★ a(n) = T(n,3), array T as in A049600. • a(n) = Sum _{ k=0..floor((n + 3) / 2) } C(n + 3, 2k)C(k + 1, 3). - _ Paul Barry _ , May 15 2003 • a(n + 1) = 2 ^ n * n ^ 3 / 48 + 5 * 2 ^ n * n ^ 2 / 16 + 7 * 2 ^ n * n / 6 + 2 ^ n, n=1,2,... - _ Milan Janjic _ , Nov 18 2007 •

[A001870] • 1,5,19,65,210,654,1985,5911,17345,50305,144516,411900,1166209,3283145,9197455,25655489,71293590,197452746,545222465,1501460635,4124739581,11306252545,30928921224,84451726200,230204999425 ★ Expansion of (1-x)/(1-3*x+x^2)^2. • a(n) = sum(k * binom(n + k + 1, 2k), k=1..n + 1). - _ Emeric Deutsch _ , Jun 11 2003 • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 10 2012 •

[A001047] • 0,1,5,19,65,211,665,2059,6305,19171,58025,175099,527345,1586131,4766585,14316139,42981185,129009091,387158345,1161737179,3485735825,10458256051,31376865305,94134790219,282412759265 ★ a(n) = 3^n - 2^n. • a(n) = 5 * a(n - 1) - 6 * a(n - 2). • a(n) = 3 * a(n - 1) + 2 ^ (n - 1). - _ Jon Perry _ , Aug 23 2002 • a(n) = Sum _{ k=0..n - 1 } binomial(n, k) * 2 ^ k. - _ Ross La Haye _ , Aug 20 2005 • a(n) = 2 * a(n - 1) + 3 ^ (n - 1). - _ Toby Gottfried _ , Mar 28 2013 •

[A124806] • 1,5,19,65,247,955,3733,14649,57583,226505,891219,3507047,13801285,54313277,213745019,841177105,3310392415,13027820227,51270096661,201769982673,794052091767,3124938240153,12297982928987,48397879544975 ★ Number of base 5 circular n-digit numbers with adjacent digits differing by 2 or less. • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - 5 * a(n - 3) + a(n - 4) + a(n - 5) for n>5. •

[A059509] • 1,5,19,66,216,679,2075,6211,18299,53244,153366,438095,1242709,3504161,9830371,27454614,76375860,211732471,585157679,1612689439,4433421131,12160156560,33284285874,90931830431 ★ Main diagonal of the array A059503. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). • a(n) = ((3 - n) * Fibonacci(2 * n) - (5 - 8 * n) * Fibonacci(2 * n - 1)) / 5. - _ G. C. Greubel _ , Sep 10 2017 •

[A005021] • 1,5,19,66,221,728,2380,7753,25213,81927,266110,864201,2806272,9112264,29587889,96072133,311945595,1012883066,3288813893,10678716664,34673583028,112584429049,365559363741,1186963827439,3854047383798 ★ Random walks (binomial transform of A006054). • a(n) = 5a(n - 1) - 6a(n - 2) + a(n - 3). - _ Emeric Deutsch _ , Apr 02 2004 • a(n) = Sum _{ j= - infinity..infinity } (binomial(5 + 2k, 7j + k - 2) - binomial(5 + 2k, 7j + k - 1)) (a finite sum). • a(n - 2) = 2 ^ n * C(n;1 / 2)=(1 / 7) * ((c(2) - c(4)) * (c(4)) ^ (2n) + (c(4) - c(1)) * (c(1)) ^ (2n) + (c(1) - c(2)) * (c(2)) ^ (2n)), where a(- 2)=a(- 1):=0, c(j):=2 * cos(2Pi * j / 7). This formula follows from the Binet formula for C(n;d) – one of the quasi - Fibonacci numbers (see comments in A121449 and the formula (3.17) in the Witula - Slota - Warzynski paper). - _ Roman Witula _ , Aug 09 2012 •

[A163872] • 1,5,19,67,227,751,2445,7869,25107,79567,250793,786985,2460397,7667921,23832931,73902627,228692115,706407903,2178511449,6708684009,20632428249,63380014845,194486530791,596213956023,1826103432573 ★ Inverse binomial transform of the beta numbers 1/beta(n+1,n+1) (A002457). • a(n) = (- 1) ^ n * hypergeom([- n,3 / 2], [1], 4). - _ Peter Luschny _ , Apr 26 2016 •

[A035344] • 1,5,19,67,231,791,2703,9231,31519,107615,367423,1254463,4283007,14623103,49926399,170459391,581984767,1987020287,6784111615,23162405887,79081400319,270000789503,921840357375 ★ Expansion of 1/((1 - x)*(1 - 4*x + 2 * x^2)). • a(- 1)=0, a(0)=1, a(n) = 4 * a(n - 1) - 2 * a(n - 2) + 1. - _ Miklos Kristof _ , Mar 09 2005 •

[A114277] • 1,5,19,67,232,804,2806,9878,35072,125512,452388,1641028,5986993,21954973,80884423,299233543,1111219333,4140813373,15478839553,58028869153,218123355523,821908275547,3104046382351,11747506651599 ★ Sum of the lengths of the second ascents in all Dyck paths of semilength n+2. • a(n) = 4 * sum(binomial(2 * j + 3, j) / (j + 4), j=0..n). • a(n)=c(n + 3) - [c(0) + c(1) + ...c(n + 2)], where c(k)=binomial(2k,k) / (k + 1) is a Catalan number (A000108). - _ Emeric Deutsch _ , Feb 27 2007 • a(n) = exp((2 * I * Pi) / 3) - 4 * binomial(2 * n + 5,n + 1) * hypergeom([1,3 + n,n + 7 / 2],[n + 2,n + 6],4) / (n + 5). - _ Peter Luschny _ , Feb 26 2017 •

[A070857] • 1,5,19,68,240,847,3003,10712,38454,138890,504526,1842392,6760390,24915555,92196075,342411120,1275977670,4769563590,17879195130,67197912600,253172676120,955992790038,3617431679934,13714878284368 ★ Expansion of (1+x*C)*C^4, where C = (1-(1-4*x)^(1/2))/(2*x) is g.f. for Catalan

numbers, A000108. • a(n) = (Sum _{ k=0..n } (k + 1) ^ 3 * C(2 * n - k,n)) / (n + 1). - _ Vladimir Kruchinin _ , Apr 27 2017 •

[**A240525**] • 5,19,68,268,1040,4144,16448,65728,262400,1049344,4195328,16780288,67112960,268447744,1073758208,4295016448,17179934720,68719673344,274878169088,1099512414208,4398047559680,17592189190144,70368748371968,281474989293568,1125899923619840 ★ 2^(n-2)*(2^(n+4)-(-1)^n+5). • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3) with n>2, a(0)=5, a(1)=19, a(2)=68. •

[**A055991**] • 1,5,19,69,250,907,3292,11949,43371,157422,571388,2073943,7527704,27322992,99173120,359964521,1306548149,4742323107,17213011605,62477347458,226771411939,823102698260,2987581397893,10843899100203 ★ a(n) is its own 4th difference. • a(n) = sum _{ k=1..n } binomial(n + 3 * k - 1, n - k). - _ Vladeta Jovovic _ , Mar 23 2003 • a(n) = sum { k=0..n, binomial(4n - 3k - 1,k) } . - _ Paul Barry _ , Feb 02 2006 •

[**A030662**] • 1,5,19,69,251,923,3431,12869,48619,184755,705431,2704155,10400599,40116599,155117519,601080389,2333606219,9075135299,35345263799,137846528819,538257874439,2104098963719,8233430727599,32247603683099,126410606437751 ★ Number of combinations of n things from 1 to n at a time, with repeats allowed. • a(n) = 2 * (2 * n - 1)! / (n! * (n - 1)!) - 1. • a(n) = Sum _{ k=1..n } binomial(n, k) ^ 2. - _ Benoit Cloitre _ , Aug 20 2002 • a(n) = Sum _{ j=0..n } Sum _{ i=j..n + j } binomial(i, j). - Klaus Strassburger (strass(AT)ddfi.uni - duesseldorf.de), Jul 23 2003 • a(n) = Sum _{ i=0..n - 1 } Sum _{ j=0..n - 1 } binomial(i + j, i). - _ N. J. A. Sloane _ , Jan 31 2009 • a(n) = Sum[Sum[(2n - i - j)! / (n - i)! / (n - j)!, { i,1,n }], { j,1,n }]. - _ Alexander Adamchuk _ , Jul 04 2006 •

[**A001834**] • 1,5,19,71,265,989,3691,13775,51409,191861,716035,2672279,9973081,37220045,138907099,518408351,1934726305,7220496869,26947261171,100568547815,375326930089,1400739172541,5227629760075,19509779867759,72811489710961 ★ a(0) = 1, a(1) = 5, a(n) = 4a(n-1) - a(n-2). • a(n) = ((1 + sqrt(3)) ^ (2 * n + 1) + (1 - sqrt(3)) ^ (2 * n + 1)) / 2 ^ (n + 1). - _ N. J. A. Sloane _ , Nov 10 2009 • a(n) = (1 / 2) * ((1 + sqrt(3)) * (2 + sqrt(3)) ^ n + (1 - sqrt(3)) * (2 - sqrt(3)) ^ n). - _ Dean Hickerson _ , Dec 01 2002 • a(n) = ((1 + sqrt[3]) ^ (2 * n + 1) + (1 - sqrt[3]) ^ (2 * n + 1)) / 2 ^ (n + 1). - Anton Vrba, Feb 14 2007 • a(n) = 2 ^ (- n) * Sum _{ k>=0 } binomial(2 * n + 1, 2 * k) * 3 ^ k; see A091042. - _ Philippe Deléham _ , Mar 01 2004 • a(n) = Jacobi _ P(n,1 / 2, - 1 / 2,2) / Jacobi _ P(n, - 1 / 2,1 / 2,1). - _ Paul Barry _ , Feb 03 2006 • a(- 1 - n) = - a(n). - _ Michael Somos _ , Sep 19 2008 •

[**A099393**] • 1,5,19,71,271,1055,4159,16511,65791,262655,1049599,4196351,16781311,67117055,268451839,1073774591,4295032831,17180000255,68719738879,274878431231,1099512676351,4398048608255,17592190238719 ★ 4^n + 2^n - 1. • a(n) = 2 ^ (2 * n - 1) + 2 * a(n - 1) + 1 - _ Roger L. Bagula _ , Aug 08 2007 •

[**A083588**] • 1,5,19,71,273,1081,4367,17835,73165,300317,1230795,5031439,20509577,83366913,337984903,1367085683,5518563909,22239268069,89495156291,359724017367,1444513666561,5796069718985,23241810818559,931502994552 91 ★ Binomial transform of A083587. • a(n)=4 * 4 ^ n / 3 - 5 / 6 - n3 ^ (n - 1) + 3 ^ n / 2. •

[**A212403**] • 5,19,74,291,1150,4558,18100,71971,286454,1140954,4547020,18129294,72309164,288493756,1151300584,4595507491,18346672294,73257044386,292550538844,1168434892186,4667175448324,18644235526276,74485459541464 ★ Number of binary arrays of length 2*n+1 with no more than n ones in any length 2n subsequence (=50% duty cycle). • a(n) = 4 ^ n + C(2 * n - 1, n). - _ Vaclav Kotesovec _ , Oct 28 2012 •

[**A098913**] • 1,5,19,75,287,1053,3859,14089,51463,188697,695155,2573235,9571195,35759799,134154259,505163055,1908619755,7233118641,27486768415,104713346699,399818311219,1529747101965,5864045590035,22517965253595,86607619323751 ★ Number of different ways angles from Pi/n to (n-1)Pi/n can tile around a vertex, where rotations of an angle sequence are not counted, but reflections that are different are counted. • a(n) = (Sum _{ d | 2 * n } phi(2 * n / d) * 2 ^ d) / (2 * n) - 1 - 2 ^ n. •

[**A126392**] • 1,5,19,75,295,1161,4569,17981,70763,278483,1095951,4313041,16973681,66798773,262882051,1034554523,4071419319,16022795225,63056626377,248155086189,976597549531,3843333571747,15125179200799,59524119253665 ★ Number of base 5 n-digit numbers with adjacent digits differing by two or less. • a(n) = 4 * a(n - 1) - a(n - 3). G.f.: - (x ^ 2 - x - 1) / (x ^ 3 - 4 * x + 1) . [_ Colin Barker _ , Nov 25 2012] •

[**A206373**] • 5,19,75,299,1195,4779,19115,76459,305835,1223339,4893355,19573419,78293675,313174699,1252698795,5010795179,20043180715,80172722859,320690891435,1282763565739,5131054262955,20524217051819,82096868207275,328387472829099,1313549891316395 ★ (14*4^n + 1)/3. • a(n) = (14 * 4 ^ n + 1) / 3. • a(n + 1) = 4 * a(n) - 1 with a(0) = 5. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) with a(0) = 5 and a(1) = 19. •

[**A275859**] • 1,1,5,19,76,304,1220,4898,19667,78971,317103,1273309,5112902,20530578,82439414,331030964,1329236757,5337477605,21432349833,86060430295,345570957936,1387621309348,5571917587224,22373730779190,89840494074695 ★ a(n) = floor(c*s*a(n-1)) + floor(d*r*a(n-2)), where r = 1 + sqrt(2), s = r/(r-1), c = 2, d = 1, a(0) = 1, a(1) = 1. • a(n) = floor(s * a(n - 1)) + floor(r * a(n - 2)), where r = 1 + sqrt(2), s = r / (r - 1). •

[**A108981**] • 1,5,19,77,307,1229,4915,19661,78643,314573,1258291,5033165,20132659,80530637,322122547,1288490189,5153960755,20615843021,82463372083,329853488333,1319413953331,5277655813325,21110623253299 ★ a(n) = 3a(n-1) + 4a(n-2), a(0) = 1, a(1) = 5. • a(2n) = 4a(2n - 1) - 1; a(2n + 1) = 4a(2n) + 1. • a(n) = 3 * 2 ^ (2 * n - 1) - a(n - 1), with a(0) = 1; also a(n) = abs((3 * Sum _{ i=1..n } (- 1) ^ i * 2 ^ (2 * i - 1)) + 1), with a(0) = 1. - _ Paolo P. Lava _ and _ Giorgio Balzarotti _ , May 28 2007 •

[**A160702**] • 1,1,1,5,19,79,333,1441,6351,28451,129185,593373,2752427,12876343,60684533,287857209,1373286375,6584979659,31719337353,153416338549,744777567043,3627787084319 ★ Sequence such that the Hankel transform of a(n+1) satisfies a generalized Somos-4 recurrence. • a(n)=if(n=0,1,if(n=1,1,if(n=2,1,a(n - 1) + 2 * sum { k=0..n - 2, a(k) * a(n - 1 - k) }))) •

[**A163609**] • 5,19,79,341,1493,6571,28975,127853,564293,2490787,10994671,48532517,214232405,945666811,4174374031,18426576509,81338840837,359047009459,1584910170895,6996131959157,30882420558677,136321599637963 ★ a(n) = ((5 + 2*sqrt(2))*(3 + sqrt(2))^n + (5 - 2*sqrt(2))*(3 - sqrt(2))^n)/2. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 5, a(1) = 19. •

[**A240688**] • 1,1,5,19,81,351,1553,6959,31489,143551,658305,3033471,14034177,65147135,303285505,1415422719,6620053505,31021657087,145613977601,684537354239,3222408929281,15187861143551,71663163121665 ★ Expansion of -(x*sqrt(-4*x^2-4*x+1)-2*x^2-3*x) / ((x+1)*sqrt(-4*x^2-4*x+1)+ 4*x^3+8*x^2+3*x-1). • a(n) = Sum _{ k=0..n } Sum _{ i=0..(n - k) } binomial(k,n - k - i) * binomial(k + i - 1,i)) * binomial(n,k)). • a(n) = sum(i=0..n / 2, binomial(n,i) * binomial(2 * n - 2 * i - 1,n - 2 * i)). - _ Vladimir Kruchinin _ , Mar 10 2015 •

[**A094726**] • 1,5,19,83,337,1421,5875,24539,101953,424757,1767091,7356995,30617809,127448573,530457427,2207952011,9190020865,38251609829,159213407443,662691303347,2758303273681,11480828277485,47786386018099 ★ Let M = the 2 X 2 matrix [0 3 / 3 2]. Take (M^n * [1 1])/3 = [p q]; then a(n) = p. • a(n) = 2 * a(n - 1) + 9 * a(n - 2). •

[**A005191**] • 1,1,5,19,85,381,1751,8135,38165,180325,856945,4091495,19611175,94309099,454805755,2198649549,10651488789,51698642405,251345549849,1223798004815,5966636799745,29125608152345,142330448514875,696235630761115 ★ Central pentanomial coefficients: largest coefficient of (1 + x + ... + x^4)^n. • a(n) = Sum _{ k=0..floor(2n / 5) } binomial(n,k) * binomial(- n, 2n - 5k); a(n) = (5 ^ n + Sum _{ j=1..2n - 1 } (sin(5j * Pi / (2n)) / sin(j * Pi / (2n))) ^ n) / (2n) - 2. - _ Max Alekseyev _ , Mar 04 2005 •

[**A275027**] • 1,1,5,19,85,401,1931,9605,48469,248365,1286605,6726875,35441275,187935775,1002122525,5369287019,28889315669,156015203845,845330354321,4593724615175,25029614166685,136704935601785,748273234994675,4103928115592365,22549175326327675 ★ a(n) = Sum_{k=0..n} C(n,k)^2*C(n-k,k), where C(n,k) denotes the binomial coefficient n!/(k!*(n-k)!). • a(n) = Sum _{ k=0..n } C(n,k) * C(n,2k) * C(2k,k). •

[**A263245**] • 1,5,19,95,319,1535,5119,24575,81919,393215,1310719,6291455,20971519,100663295,335544319,1610612735,5368709119,25769803775,858993459 19,412316860415,1374389534719,6597069766655,21990232555519,105553116266495,351843720888319 ★ Decimal representation of the n-th iteration of the "Rule 155" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + 16 * a(n - 2) - 16 * a(n - 3) for n>3. • a(n) = (11 * 4 ^ n - (- 4) ^ n - 8) / 8 for n>0. - _ Colin Barker _ , Nov 25 2016 •

[**A005165**] • 0,1,1,5,19,101,619,4421,35899,326981,3301819,36614981,442386619,5784634181,81393657019,1226280710981,19696509177019,335990918918981,6066382786809019,115578717622022981,2317323290554617019,48773618881154822981 ★ Alternating factorials: n! - (n-1)! + (n-2)! - ... 1!. • a(0) = 0, a(n) = n! - a(n - 1) for n > 0; also a(n) = n * a(n - 2) + (n - 1) * a(n - 1) for n > 1. Sum _{ n>=1 } Pi ^ n / a(n) ~ 30.00005. - _ Gerald McGarvey _ , Jun 19 2004 •

[**A199480**] • 1,1,5,19,113,701,5269,42883,393441,3887065,42013381,484389731,6008730001,78857557013,1101462510485,16168488228691,250664264773825,4061840593263921,69116855497839109,1223722811124319219,22651504652950552241 ★ E.g.f. exp(x*(1+log(1+x))/(1-log(1+x))) • a(n)=sum(m=1..n, binomial(n,m) * sum(k=1..n - m, k! * (sum(i=0..k, binomial(m,k - i) * binomial(m + i - 1,m - 1))) * stirling1(n - m,k))) + 1. •

[**A187018**] • 1,1,5,19,145,851,7741,58605,600769,5420035,61026901,628076153,7648488145,87388647373,1138801242125,14182492489651,196218339243777,2628971539313875,38377805385510181,547815690902283225,8395817775835635601 ★ Coefficient of x^n in (1 + x + n*x^2)^n. • a(n) = [x ^ n] (1 + x + n * x ^ 2) ^ n. • a(n) = n ^ (n / 2) * GegenbauerPoly(n, - n, - 1 / (2 * sqrt(n))). - _ Emanuele Munarini _ , Oct 20 2016 • a(n) = sum(binomial(n, k) * binomial(n - k, n - 2 * k) * n ^ k, k=0..floor(n / 2)). • a(n) = [x ^ n] 1 / sqrt(1 - 2 * x - (4 * n - 1) * x ^ 2). - _ Paul D. Hanna _ , Dec 12 2014 •

[**A122150**] • 1,1,5,19,305,1219,19505,78019,1248305,79891519,3195660772045 2228927,327235662833,1308942651331,20943082421297,1340357274963007,85782865597632449,343131462390529795,2196041359299390688 1 ★ Numerator of Sum[(-1)^(k+1) * 1/2^Prime[k], {k,1,n}]. • a(n) = Numerator[Sum[(- 1) ^ (k + 1) * 1 / 2 ^ Prime[k], { k,1,n }]]. •

[**A178977**] • 5,20,44,77,119,170,230,299,377,464,560,665,779,902,1034,1175,1325,1484,1652,1829,2015,2210,2414,2627,2849 ★ (3*n+2)*(3*n+5)/2. • a(n) = a(n - 1) + 6 + 9 * n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 19 2013 •

[**A033429**] • 0,5,20,45,80,125,180,245,320,405,500,605,720,845,980,1125,1280,1445,1620,1805,2000,2205,2420,2645,2880 ★ a(n) = 5*n^2. • a(n) = a(n - 1) + 5 * (2 * n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = a(n - 1) + 10 * n - 5, with a(0)=0. - _ Jean - Bernard François _ , Oct 04 2013 •

[**A160749**] • 5,20,46,83,131,190,260,341,433,536,650,775,911,1058,1216,1385,1565,1756,1958,2171,2395,2630,2876,3133,3401 ★ a(n) = (11*n^2 + 19*n + 10)/2. • a(n) = a(n - 1) + 11 * n + 4 for n>0, a(0)=5. - _ Vincenzo Librandi _ , Sep 18 2011 •

[**A005287**] • 5,20,49,98,174,285,440,649,923,1274,1715,2260,2924,3723,4674,5795,7105,8624,10373,12374,14650,17225,20124,23373,26999 ★ Number of permu-

tations of [n] with four inversions. • a(n) = n * (n + 1) * (n ^ 2 + n - 14) / 24. •

[A134481] • 1,5,20,50,100,175,280,420,600,825,1100,1430,1820,2275,2800,3400,4080,4845,5700,6650,7700,8855,10120,11500,13000 ★ Row sums of triangle A134480. • a(n) = 5 * binomial(n + 2,3) for n>0. - _ Milan Janjic _ , Dec 28 2007 • a(n) = sum(i=0..n, (n + i) * (1 + i)) for n>0. [_ Bruno Berselli _ , Dec 16 2013] •

[A006504] • 5,20,51,105,190,315,490,726,1035,1430,1925,2535,3276,4165,5220,6460,7905,9576,11495,13685,16170,18975,22126,25650,29575 ★ Coefficient of x^4 in (1-x-x^2)^(-n). • a(n) = n * (n + 1) * (n + 3) * (n + 14) / 4!. - _ Alois P. Heinz _ , Jan 21 2017 •

[A173034] • 1,5,20,52,116,244,500,1012,2036,4084,8180,16372,32756,65524,131060,262132,524276,1048564,2097140,4194292,8388596,16777204,33554420,67108852,134217716 ★ Sequence whose G.f is f such that: f(z)=8/(1-2*z)-12/(1-z)+z+5. • a(n) = 8 * 2 ^ n - 12, n>=2. - R. J. Mathar, Apr 20 2011 •

[A226639] • 1,1,1,5,20,56,126,246,435,715,1111,1651,2366,3290,4460,5916,7701,9861,12445,15505,19096,23276,28106,33650,39975 ★ a(n) = n^4/8 + (5*n^3)/12 - n^2/8 - (5*n)/12 + 1. • a(n) = stirling2(n + 2,n) - (n + 2) * stirling2(n + 1,n) + ((n + 1) * (n + 2)) / 2. • a(n) = Sum _{ j=0..n } (j - 1) ^ (n + 2) * (- 1) ^ (n - j) * binomial(n,j)) / n!. • a(n) = Sum _{ k=1..n + 2 } Sum _{ i=1..k } (n - i + 1) * (n - k + 1). - _ Wesley Ivan Hurt _ , Sep 12 2017 •

[A001873] • 1,5,20,65,190,511,1295,3130,7285,16435,36122,77645,163730,339535,693835,1399478,2790100,5504650,10758050,20845300,40075630,76495450,145052300,273381350,512347975 ★ Convolved Fibonacci numbers. • a(n) = Sum _{ m=0.. floor(n / 2) } binomial(4 + n - m, 4) * binomial(n - m, m). • a(n) = F''''(n + 4, 1) / 24, i.e., 1 / 24 times the 4th derivative of the (n + 4)th Fibonacci polynomial evaluated at 1. - _ T. D. Noe _ , Jan 18 2006 •

[A120297] • 1,5,20,65,193,544,1489,4005,10660,28193,74273,195200,512257,1343077,3519412,9219105,24144289,63224096,165544721,433437125,1134810436,2971065025,7778499265,20364618240,53315655553 ★ Sum of all matrix elements of n X n matrix M[i,j] = Fibonacci[i+j-1]. • a(n) = Sum[Sum[Fibonacci[i + j - 1], { i,1,n }], { j,1,n }]. • a(n) = Fibonacci(2 * n + 3) - 2 * Fibonacci(n + 3) + 2. - _ Vladeta Jovovic _ , Jul 21 2006 •

[A291288] • 1,5,20,70,210,546,1260,2640,5115,9295,16016,26390,41860,64260,95880,139536,198645,277305,380380,513590,683606,898150,1166100,1497600,1904175 ★ a(n) = binomial(n+3, 3)*(1 + binomial(n+2, 3)/4). • a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n ^ 2 - n + 6) / 144. •

[A080930] • 1,5,20,70,224,672,1920,5280,14080,36608,93184,232960,573440,1392640,3342336,7938048,18677760,43581440,100925440,232128512,530579456,1205862400,2726297600,6134169600,13740539904 ★ 2^(n-3)*(n+2)*(n+3)*(n+4)/3. • a(n) = binomial(n + 3,3) * 2 ^ (n - 3). - _ Zerinvary Lajos _ , Oct 29 2006 • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>3, a(0)=1, a(1)=5, a(2)=20, a(3)=70. - _ Bruno Berselli _ , Aug 06 2013 •

[A169792] • 1,5,20,70,225,681,1970,5500,14920,39520,102592,261760,657920,1632000,4001280,9708544,23336960,55623680,131563520,309002240,721092608,1672806400,3859415040,8859156480,20240138240 ★ Expansion of ((1-x)/(1-2x))^5. • a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 80 * a(n - 3) - 80 * a(n - 4) + 32 * a(n - 5), n>=6. - Vincenzo Librandi, Mar 14 2011 • a(n) =2 ^ n * (n + 4) * (n ^ 3 + 26 * n ^ 2 + 171 * n + 186) / 768, n>0. - R. J. Mathar, Mar 14 2011 •

[A005324] • 1,5,20,70,230,726,2235,6765,20240,60060,177177,520455,1524120,4453320,12991230,37854954,110218905,320751445,933149470,2714401580,7895719634,22969224850,66829893650,194486929650,566141346225 ★ Column of Motzkin triangle A026300. • a(n) = (- 5 * I * (- 1) ^ n * (n ^ 4 - 6 * n ^ 3 - 43 * n ^ 2 - 24 * n + 36) * 3 ^ (1 / 2) * hypergeom([1 / 2, n + 2],[1],4 / 3) + 15 * I * (- 1) ^ n * (n ^ 4 + 6 * n ^ 3 + 17 * n ^ 2 + 24 * n - 12) * 3 ^ (1 / 2) * hypergeom([1 / 2, n + 1],[1],4 / 3)) / (6 * (n + 3) * (n + 2) * (n + 4) * (n + 5) * (n + 6)). - _ Mark van Hoeij _ , Oct 29 2011 • a(n) (n + 9) (n - 1) = (n + 3) (3 n + 6) a(n - 2) + (n + 3) (2 n + 7) a(n - 1). - _ Simon Plouffe _ , Feb 09 2012 • a(n) = 5 * sum(j=ceiling((n - 4) / 2)..(n + 1), binomial(j,2 * j - n + 4) * binomial(n + 1,j)) / (n + 1). - _ Vladimir Kruchinin _ , Mar 17 2014 •

[A243869] • 1,5,20,70,231,735,2290,7040,21461,65065,196560,592410,1782691,5358995,16098830,48340180,145107921,435498525,1306845100,3921234350,11765101151,35298099655,105899891370,317710858920,953154946381 ★ Expansion of x^4/[(1+x)*Product_{k=1..3} (1-k*x)]. • a(n) = (3 ^ n - 4 * 2 ^ n + (- 1) ^ n + 6) / 24. (End) •

[A054444] • 1,5,20,71,235,744,2285,6865,20284,59155,170711,488400,1387225,3916061,10996580,30737759,85573315,237387960,656451269,1810142185,4978643596,13661617195,37409025455,102238082976,278920277425 ★ Even indexed members of A001629(n), n >= 2, (Fibonacci convolution). • a(n)=sum(k * binom(2n - 2k + 2, k), k=1..n + 1) - _ Emeric Deutsch _ , Jun 11 2003 •

[A122695] • 0,0,1,5,20,71,236,755,2360,7271,22196,67355,203600,613871,1847756,5555555,16691240,50122871,150466916,451597355,1355185280,4066342271,12200599676,36604944755,109821125720 ★ Number of edges in the n-th Mycielski graph. • a(n) = 3 * a(n - 1) + 3 * 2 ^ (n - 2) - 1. • a(n) = (18 - 27 * 2 ^ n + 14 * 3 ^ n) / 36 for n>1. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>4. •

[A066822] • 1,5,20,71,238,770,2436,7590,23397,71566,217646,659022,1988885,5986176,17980968,53922096,161492571,483149385,1444245936,4314214443,12880107548,38436170366,114657076900,341926185770,1019435748435 ★ The fourth column of A038622, triangular array that counts rooted polyominoes. • a(0)=0; a(1)=1; (n + 7) * n * a(n)=2 * (n + 4) * (n + 3) * a(n - 1) + 3 * (n + 3) * (n + 2) * a(n - 2). • a(n) = ((- 3) ^ (1 / 2) / 9) * (- 2 * (n + 7) ^ (- 1) * (n + 4) * (- 1) ^ n * hypergeom([3 / 2, n + 6],[2],4 / 3) - (n + 6) ^ (- 1) * (- 1) ^ n * (5 * n + 18) * hypergeom([3 / 2, n + 5],[2],4 / 3)). - _ Mark van Hoeij _ , Oct 31 2011 • a(n) = GegenbauerC(n, - n + 1 - 4, - 1 / 2) + GegenbauerC(n - 1, - n - 3, - 1 / 2)). - _ Peter Luschny _ , May 12 2016 •

[A137212] • 0,0,1,5,20,72,245,805,2584,8160,25465,78773,242060,740040,2253581,6841525,20719600,62629632,189025585,569820965,1716088004,5164258440,15531389285,46687390213,140287229320 ★ a(n)=5a(n-1)-5a(n-2)-3a(n-3). • a(n)=(1 / 2) * 3 ^ n - (1 / 4) * [1 + sqrt(2)] ^ n + (1 / 4) * sqrt(2) * [1 - sqrt(2)] ^ n - (1 / 4) * [1 - sqrt(2)] ^ n - (1 / 4) * [1 + sqrt(2)] ^ n * sqrt(2), with n>=0 - _ Paolo P. Lava _ , Jun 09 2008 •

[A270080] • 1,5,20,72,280,1080,4216,16632,66040,263160,1050616,4198392,16785400,67125240,268468216,1073807352 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 62", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>5. •

[A094806] • 1,5,20,74,264,924,3200,11016,37792,129392,442496,1512224,5165952,17643456,60250112,205729920,702452224,2398414592,8188884992,27958972928,95458646016,325917686784,1112755552256,3799191029760,12971261403136 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 8 and |s(i) - s(i-1)| = 1 for i = 1,2,...,2n, s(0) = 1, s(2n) = 5. • a(n) = (1 / 4) * Sum _{ k=1..7 } sin(Pi * k / 8)sin(5 * Pi * k / 8)(2 * cos(Pi * k / 8)) ^ (2n). • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3). • a(n) = (- 2 ^ n + (- (2 - sqrt(2)) ^ n + (2 + sqrt(2)) ^ n) / sqrt(2)) / 4. - _ Colin Barker _ , Apr 27 2016 •

[A094828] • 1,5,20,75,274,988,3536,12597,44745,158632,561683,1987154,7026408,24835744,87763945,310088381,1095490524,3869911659,13670143618,48287147300,170561502896,602454835293,2127962632993,7516243783216 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 1, s(2n) = 5. • a(n) = (2 / 9) * sum(r=1..8, sin(r * Pi / 9) * sin(5 * r * Pi / 9) * (2 * cos(r * Pi / 9)) ^ (2 * n)). • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 10 * a(n - 3) - a(n - 4). •

[A093131] • 0,1,5,20,75,275,1000,3625,13125,47500,171875,621875,2250000,8140625,29453125,106562500,385546875,1394921875,5046875000,18259765625,66064453125,239023437500,864794921875,3128857421875,11320312500000 ★ Binomial transform of Fibonacci(2n). • a(n) = (((5 + sqrt(5)) / 2) ^ n - ((5 - sqrt(5)) / 2) ^ n) / sqrt(5); • a(n) = Sum _{ k=0..n } Sum _{ j=0..n } C(n, j)C(j, k)F(j - k). - _ Paul Barry _ , Feb 15 2005 • a(n) = Sum _{ k=0..n } C(n, k)F(n - k)2 ^ k = Sum _{ k=0..n } C(n, k)F(k)2 ^ (n - k). - _ Paul Barry _ , Apr 22 2005 •

[A030191] • 1,5,20,75,275,1000,3625,13125,47500,171875,621875,2250000,8140625,29453125,106562500,385546875,1394921875,5046875000,18259765625,66064453125,239023437500,864794921875,3128857421875,11320312500000,4095725590625 ★ Scaled Chebyshev U-polynomial evaluated at sqrt(5)/2. • a(n) = (sqrt(5)) ^ n * U(n, sqrt(5) / 2). • a(2 * k + 1) = 5 ^ (k + 1) * F(2 * k + 2), F(n) = Fibonacci (A000045). • a(2 * k) = 5 ^ k * L(2 * k + 1), L(n) = Lucas (A000032). • a(n - 1) = sum(k=0, n, C(n, k) * F(2 * k)). - _ Benoit Cloitre _ , Jun 21 2003 • a(n) = 5 * a(n - 1) - 5 * a(n - 2). - _ Benoit Cloitre _ , Oct 23 2003 • a(n - 1) = ((5 / 2 + sqrt(5) / 2) ^ n - (5 / 2 - sqrt(5) / 2) ^ n) / sqrt(5) is the 2nd binomial transform of Fib(n), the first binomial transform of Fib(2n) and its n - th term is the n - th term of the third binomial transform of Fib(3n) divided by 2 ^ n. - _ Paul Barry _ , Mar 23 2004 •

[A224422] • 1,5,20,75,275,1001,3639,13243,48280,176341,645150,2363596,8669142,31825005,116914020,429737220,1580244061,5812839156,21387636101,78708626396,289699273501,1066406842677,3925882147566,14453780545834,53216783798234 ★ Expansion of (1-x)*(1-3*x)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 5, a(2) = 20, a(3) = 75, a(4) = 275. •

[A290922] • 1,5,20,75,279,1040,3881,14485,54060,201755,752959,2810080,10487361,39139365,146070100,545141035,2034494039,7592835120,28336846441,105754550645,394681356140,1472970873915,5497202139519,20515837684160,76566148597121 ★ p-INVERT of the positive integers, where p(S) = 1 - S - 2*S^2. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - a(n - 4). •

[A275909] • 1,5,20,75,288,1094,4171,15897,60565,230816,879521,3351544,12771524,48667365,185453453,706693601,2692945820,10261812539,39103937948,149010523846,567823518619,2163763618201,8245296020629,31419747421972,119728937140293 ★ Expansion of (1+4*x+8*x^2+8*x^3+7*x^4+4*x^5+2*x^6) / (1-x-7*x^2-12*x^3-6*x^4-7*x^5-4*x^6-2*x^7). • a(n) = 2 * a(n - 1) + 6 * a(n - 2) + 5 * a(n - 3) - 6 * a(n - 4) + a(n - 5) - 3 * a(n - 6) - 2 * a(n - 7) - 2 * a(n - 8) for n>6. - _ Colin Barker _ , Aug 26 2016 •

[A275908] • 1,5,20,75,288,1105,4234,16226,62188,238340,913452,3500857,13417236,51422337,197079099,755317101,2894796675,11094476468,42520225774,162961236161,624558407329,2393656389397,9173827208656,35159225871899,134749776270503 ★ Expansion of (1+2*x+4*x^2+4*x^3+6*x^4+4*x^5+x^6) / (1-3*x-x^2-6*x^3-7*x^4-7*x^5-5*x^6-x^7). • a(n) = 3 * a(n - 1) + a(n - 2) + 6 * a(n - 3) + 7 * a(n - 4) + 7 * a(n - 5) + 5 * a(n - 6) + a(n - 7) for n>6. - _ Colin Barker _ , Aug 26 2016 •

[A290909] • 0,5,20,75,300,1200,4780,19045,75900,302475,1205400,4803680,19143320,76288725,304020900,1211564475,4828248580,19241224720,76678887300,305575754325,1217760780300,4852941691355,19339630115120,77071046136000,307138560414000 ★ p-INVERT of the positive integers, where p(S) = 1 - 5*S^2. • a(n) = 4 * a(n - 1) - a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A061278] • 0,1,5,20,76,285,1065,3976,14840,55385,206701,771420,2878980,10744501,40099025,149651600,558507376,2084377905,7779004245,29031639076,108347552060,404358569165,1509086724601,5631988329240,21018866592360 ★ a(n) = 5*a(n-1) - 5*a(n-2) + a(n-3) with a(1) = 1 and a(k) = 0 if k <= 0. •

a(n) = 4 * a(n - 1) - a(n - 2) + 1. • a(n + 2) = 4 * a(n + 1) - a(n) + 1 for a(0)=0, a(1)=1. • a(n) = (1 / 12) * (- 3 - sqrt(3)) * (2 - sqrt(3)) ^ n + (3 + sqrt(3)) * (2 + sqrt(3)) ^ n). (End) • a(n + 1) = Sum _{ k=0..n } U(k, 2) } = Sum _{ k=0..n } S(k, 4). - _ Paul Barry _ , Nov 14 2003 • a(n) * a(n - 2) = a(n - 1) * (a(n - 1) - 1) for n>1. - _ Bruno Berselli _ , Nov 29 2016 •

[A005283] • 1,5,20,76,285,1068,4015,15159,57486,218895,836604,3208036,12337630,47572239,183856635,712033264,2762629983,10736569602,41788665040,162869776650,635562468075,2482933033659,9710010151831,38008957336974,148912655255315 ★ Number of permutations of (1,...,n) having n-5 inversions (n>=5). • a(n) = 2 ^ (2 * n - 6) / sqrt(Pi * n) * Q * (1 + O(n ^{- 1 })), where Q is a digital search tree constant, Q = 0.2887880951... (see A048651). - corrected by _ Vaclav Kotesovec _ , Mar 16 2014 •

[A057552] • 1,5,20,76,286,1078,4081,15521,59279,227239,873885,3370029,13027729,50469889,195892564,761615284,2965576714,11563073314,45141073924,176423482324,690215089744,2702831489824,10593202603774,41550902139550 ★ a(n) = Sum_{k=0..n} C(2k+2,k). • a(n) = Sum _{ k=1..n + 1 } Sum _{ i =1..k } C(i + k - 1,k). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[A269708] • 1,5,20,76,292,1132,4420,17356,68452,270892,1074820,4273036,17013412,67817452,270561220,1080119116 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 14", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * 3 ^ (n - 2) + 4 ^ n for n>1. • a(n) = 7 * a(n - 1) - 12 * a(n - 2) for n>3. •

[A270985] • 1,5,20,76,300,1212,4900,19740,79284,317836,1272804,5094204,20382868,81543660,326199108,1304845468 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 238", based on the 5-celled von Neumann neighborhood. • a(n) = (320 - 27 * 2 ^ (3 + n) + 175 * 4 ^ n + 384 * n) / 144 for n>2. • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 22 * a(n - 3) - 8 * a(n - 4) for n>6. •

[A289786] • 1,5,20,77,291,1098,4149,15689,59332,224369,848447,3208370,12132345,45878109,173486772,656035301,2480778763,9380993978,35473960589,134143768193,507260826084,1918192318185,7253589435975,27429241169378,103722891648049 ★ p-INVERT of the odd positive integers (A005408), where p(S) = 1 - S - S^2. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) + a(n - 4). •

[A129869] • 1,1,5,20,77,294,1122,4290,16445,63206,243542,940576,3640210,14115100,54826020,213286590,830905245,3241119750,12657425550,4948336932 0,193641552390,758454277620,2973183318300,11664026864100,4579159723000 2 ★ Number of positive clusters of type D_n. • a(n) = (3 * n - 4) / n * C(2 * n - 3,n - 1). • a(n) = (1 / 8) * 4 ^ n * Gamma(n - 1 / 2) * (3 * n - 4) / (sqrt(Pi) * Gamma(1 + n)) - 0 ^ (n - 1) / 2. - _ Peter Luschny _ , Dec 14 2015 •

[A028814] • 1,5,20,78,307,1219,4862,19428,77685,310705,1242776,4971050,19884135,79536463,318145762,1272582944,5090331657,20361326493,8144530582 0,325781223110,1303124892251,5212499568795,20849998274950,833999930995 48,333599972397917 ★ Expansion of (1-2*x)/((1-x)^3*(1-4*x)). • a(n) = (- 1 0 + 4 ^ (3 + n) + 15 * n + 9 * n ^ 2) / 54. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 2 * a(n - 3) + 9 * a(n - 4) - 4 * a(n - 5) for n>3. •

[A275907] • 1,5,20,79,317,1274,5121,20583,82728,332503,1336407,5371332,21588639,86769787,348748058,1401699971,5633759855,22643397846,9100910922 9,365786884945,1470182999606,5909009156125,23749689131575,954555525204 74,383658179966447 ★ Expansion of (1+x-x^3) / (1-4*x-x^4-x^5). • a(n) = 4 * a(n - 1) + a(n - 4) + a(n - 5) for n>4. - _ Colin Barker _ , Aug 26 2016 •

[A269696] • 1,5,20,80,320,1280,5120,20480,81920,327680,1310720,5242880,20971520,83886080,335544320,1342177280 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 6", based on the 5-celled von Neumann neighborhood. • a(n) = 5 * 4 ^ (n - 1) for n>0. • a(n) = 4 * a(n - 1) for n>1. •

[A003947] • 1,5,20,80,320,1280,5120,20480,81920,327680,1310720,5242880,20971520,83886080,335544320,1342177280,5368709120,21474836480,8589934592 0,343597383680,1374389534720,5497558138880,21990232555520,879609302220 80,351843720888320 ★ Expansion of (1+x)/(1-4*x). • a(n) = (5 * 4 ^ n - 0 ^ n) / 4; G.f.: (1 + x) / (1 - 4 * x); E.g.f.: (5 * exp(4 * x) - exp(0)) / 4. - _ Paul Barry _ , May 19 2003 • a(n) = 4 * a(n - 1), n>1. [_ Vincenzo Librandi _ , Dec 31 2010] •

[A033131] • 1,5,20,81,325,1300,5201,20805,83220,332881,1331525,5326100,21304401,85217605,340870420,1363481681,5453926725,21815706900,8726282760 1,349051310405,1396205241620,5584820966481,22339283865925,893571354637 00 ★ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,1,0. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). • a(n) = floor((20 / 63) * 4 ^ n). - _ Tani Akinari _ , Jul 16 2014 •

[A022021] • 5,20,81,329,1337,5434,22086,89767,364852,1482917,6027219,24497237,99567416,404685244,1644816681,6685249720,27171759829,110437838993,448867366641,1824392026070,7415121953942,30138277741915,122495056843392,497873139253657,2023572780632275 ★ Define the sequence S(a(0),a(1)) by a(n+2) is the least integer such that a(n+2)/a(n+1) > a(n+1)/a(n) for n >= 0. This is S(5,20). • a(n + 1) = floor(a(n) ^ 2 / a(n - 1)) + 1 for all n > 0. - _ M. F. Hasler _ , Feb 10 2016 •

[A006231] • 0,1,5,20,84,409,2365,16064,125664,1112073,10976173,119481284,1421542628,18348340113,255323504917,3809950976992,60683990530208,1027542662934897,18430998766219317,349096664728623316,6962409983976703316,145841989688186383337 ★ a(n) = Sum_{k=2..n} n(n-1)...(n-k+1)/k. • a(n) = n * (3F1(1,1,1 - n; 2; - 1) - 1). - _ Jean - François Alcover _ , Mar 29 2011 •

[A152187] • 1,5,20,85,355,1490,6245,26185,109780,460265,1929695,8090410,33919705,142211165,596232020,2499751885,10480415755,43940006690,184222098845,772366329985,3238209484180,13576460102465,56920427728295 ★ a(n) = 3*a(n-1)+5*a(n-2), with a(0)=1, a(1)=5 . • a(n) = (1 / 2) * (((3 / 2) + (1 / 2) * sqrt(29)) ^ n + ((3 / 2) - (1 / 2) * sqrt(29)) ^ n) + (7 / 58) * sqrt(29) * (((3 / 2) + (1 / 2) * sqrt(29)) ^ n - ((3 / 2) - (1 / 2) * sqrt(29)) ^ n). - _ Paolo P. Lava _ , Dec 01 2008 •

[A045499] • 1,1,5,20,85,400,2046,11226,65676,407787,2675410,18475311,133843405,1014271763,8019687099,66011609670,564494701167,5005880952390,45958055208576,436161412834300,4273045478169842,43160044390231165 ★ Fourth-from-right diagonal of triangle A121207. • a(n + 1) = Sum _{ k=0..n } binomial(n + 3, k + 3) * a(k). - _ Vladeta Jovovic _ , Nov 10 2003 •

[A099014] • 0,1,5,20,87,365,1552,6565,27825,117844,499235,2114729,8958240,37947545,160748653,680941780,2884516383,12219006325,51760543280,219261176861,928805254905,3934482189716,16666734024715,70601418270865 ★ a(n) = Fibonacci(n)*(Fibonacci(n-1)^2 + Fibonacci(n+1)^2). • a(n) = ((- 1) ^ n * Fib(n) + 3 * Fib(3 * n)) / 5. - _ Ehren Metcalfe _ , May 21 2016 •

[A219672] • 0,1,5,20,87,405,1924,9225,44625,217528,1066725,5256087,26001000,129053365,642376709,3205403100,16029187391,80309053285,403040543420,2025751379997,10195547237235,51376594943136,259180112907875,1308811957775785,6615383878581072 ★ a(n) = Sum_{k=0..n} binomial(n,k)^2*Fibonacci(k). • a(n) = (hypergeom([- n, - n], [1], phi) - hypergeom([- n, - n], [1], 1 - phi)) / sqrt(5) = ((1 - phi) ^ n * P _ n(- sqrt(5) - 2) - phi ^ n * P _ n(sqrt(5) - 2)) / sqrt(5), where phi = (1 + sqrt(5)) / 2, P _ n(x) is the Legendre polynomial. - _ Vladimir Reshetnikov _ , Sep 28 2016 •

[A269716] • 1,5,20,88,368,1504,6080,24448,98048,392704,1571840,6289408,25161728,100655104,402636800,1610579968 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 22", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (n - 1) * (3 * 2 ^ n - 2) for n>1. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>3. •

[A137961] • 1,1,5,20,105,575,3306,19760,121035,757230,4815530,31039402,202335855,1331569725,8834918160,59035907480,396937508816,2683518356850,18230570856710,124390574548960,852074529347120,5857453791938135 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^2)^5. • a(n) = Sum _{ k=0..n - 1 } C(5 * (n - k),k) / (n - k) * C(2 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A258665] • 0,0,0,1,5,20,116,791,6203,55000,543576,5922813,70518113,910704988,12678282940,189251856883,3015212009143,51067548545968,916175515710896,17355891466436025,346195661281979133,7252651426282955236,159210312386078554436,3654549974493252076175 ★ A total of n married couples, including a mathematician M and his wife, are to be seated at the 2n chairs around a circular table, with no man seated next to his wife. After the ladies are seated at every other chair, M is the first man allowed to choose one of the remaining chairs. The sequence gives the number of ways of seating the other men, with no man seated next to his wife, if M chooses the chair that is 5 seats clockwise from his wife's chair. • a(n) = Sum _{ 0<=k<=n - 1 } (- 1) ^ k * (n - k - 1)! * Sum _{ max(k - n + 3, 0)<=j<=min(k,2) } binomial(4 - j, j) * binomial(2 * n - k + j - 6, k - j). •

[A081067] • 5,20,125,845,5780,39605,271445,1860500,12752045,87403805,599074580,4106118245,28143753125,192900153620,1322157322205,9062201101805,62113250390420,425730551631125,2918000611027445,20000273725560980 ★ Lucas(4n+2)+2, or 5*Fibonacci(2n+1)^2. • a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). • a(n) = 2 + (3 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 2) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A205338] • 0,5,20,160,1130,8927,71630,594405,5025740,43243674,377127756,3327001441,29634744950,266164547110,2407763862342,21918167505714,200631620380132,1845576127894008,17052050519557200,158176470846492722 ★ Number of length n+1 nonnegative integer arrays starting and ending with 0 with adjacent elements unequal but differing by no more than 5. • a(n) = Sum _{ i=1..n } ((Sum _{ l=0..i } (binomial(i,l) * (Sum _{ j=0..(5 * (i - l)) / 1 1 } ((- 1) ^ j * binomial(i - l,j) * binomial(- l + 5 * (- l - 2 * j + i) - j + i - 1 ,5 * (- l - 2 * j + i) - j))) * (- 1) ^ l)) * a(n - i)) / n, a(0)=1. - _ Vladimir Kruchinin _ , Apr 07 2017 •

[A189317] • 5,20,180,1700,16100,152500,1444500,13682500,129602500,1227612500,11628112500,110143062500,1043290062500,9882185312500,93605402812500,886643101562500,8398404001562500,79550824507812500,753516225070312500,7137408128164062500 ★ Expansion of 5*(1-6*x+x^2)/(1-10*x+5*x^2) • a(n)=10 * a(n - 1) - 5 * a(n - 2), n>2, a(0)=5, a(1)=20, a(2)=180. • a(n)=Sum _{ k=1..5) ((w _ k) ^ 3 - 2 * w _ k) ^ (2 * n), w _ k=2 * cos((2 * k - 1) * Pi / 10). • a(n)=2 * ((5 - 2 * Sqrt(5)) ^ n + (5 + 2 * Sqrt(5)) ^ n), for n>0, with a(0)=5. •

[A228141] • 1,5,21,25,41,45,61,65,81,85,101,105,121,125,141,145,161,165,181,185,201,205,221,225,241 ★ Numbers that are congruent to {1, 5} mod 20. • a(n) = - 3 * (4 + (- 1) ^ n) + 10 * n. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A170837] • 0,1,5,21,37,53,69,85,101,117,133,149,165,181,197,213,229,245,261,277,293,309,325,341,357 ★ a(0)=0, a(1)=1 and a(n) = 16n-27 for n >= 2. • a(n) = 2 * a(n - 1) - a(n - 2), n>=4. •

[A265056] • 1,5,21,45,77,117,165,221,285,357,437,525,621,725,837,957,1085,1221,1365,1517,1677,1845,2021,2205,2397 ★ Partial sums of A234275. • a(n) = 4 * n ^ 2 + 4 * n - 3 for n>0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A078371] • 5,21,45,77,117,165,221,285,357,437,525,621,725,837,957,1085,1221,1365,1517,1677,1845,2021,2205,2397,2597 ★ a(n) = (2*n+5)*(2*n+1). • a(n) = (2 * n + 5) * (2 * n + 1) = 8 * (binomial(n + 2, 2) - 1) + 5, hence subsequence of A004770 (5 (mod 8) numbers). • a(n) = 8 * (n + 1) + a(n - 1) for n >0, a(0)=5. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A041825] • 1,1,5,21,47,115,162,601,7975,8576,16551,25127,41678,566941,1742501,2309442,6361385,15032212,66490233,280993144,347483377,14180328224,14527811601,72291574628,303694110113 ⋆ Denominators of continued fraction convergents to sqrt(433). • a(n) = 14461321368 * a(n - 21) + a(n - 42) for n> 41. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A022268] • 0,5,21,48,86,135,195,266,348,441,545,660,786,923,1071,1230,1400,1581,1773,1976,2190,2415,2651,2898,3156 ⋆ a(n) = n*(11*n - 1)/2. • a(n) = 11 * n + a(n - 1) - 6 for n>0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. • a(n) = (1 / 9) * Sum _{ i =n..10n - 1 } i. (End) •

[A147834] • 1,1,5,21,53,197,661,2085,7093,23365,76757,255333,842741,2785157,9220117,30473637,100775989,333311941,1102099541,3644659173,12052800629,39856631813,131803744405,435863879205,1441358438581 ⋆ Coefficient expansion of the characteristic polynomial of the {3,4,5} simplex matrix: M = {{0, 3, 0}, {0, 0, 4}, {1, 1, 1}}; p(x)=12 + 4 x + x^2 - x^3. • a(n) = a(n - 1) + 4 * a(n - 2) + 12 * a(n - 3) for n>2. •

[A160378] • 0,0,5,21,54,110,195,315,476,684,945,1265,1650,2106,2639,3255,3960,4760,5661,6669,7790,9030,10395,11891,13524 ⋆ a(n) = n^3 - n*(n+1)/2. • a(n) = (2 * n ^ 3 - n ^ 2 - n) / 2. [_ Vincenzo Librandi _ , Dec 12 2010; edited by _ Klaus Brockhaus _ , Dec 12 2010] •

[A096942] • 5,21,55,115,210,350,546,810,1155,1595,2145,2821,3640,4620,5780,7140,8721,10545,12635,15015,17710,20746,24150,27950,32175 ⋆ Fifth column of (1,5)-Pascal triangle A096940. • a(n) = sum _{ k=1..n } (sum _{ i=1..k) i * (n - k + 5)). - _ Wesley Ivan Hurt _ , Sep 26 2013 •

[A033275] • 0,5,21,56,120,225,385,616,936,1365,1925,2640,3536,4641,5985,7600,9520,11781,14421,17480,21000,25025,29601,34776,40600 ⋆ Number of diagonal dissections of an n-gon into 3 regions. • a(n) = binomial(n + 1, 2) * binomial(n - 3, 2) / 3. •

[A166464] • 1,5,21,57,121,221,365,561,817,1141,1541,2025,2601,3277,4061,4961,5985,7141,8437,9881,11481,13245,15181,17297,19601 ⋆ a(n) = (3+2n+6n^2+4n^3)/3. • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3) + 8 or a(n) - 3a(n - 1) + 3a(n - 2) - a(n - 3)=8 =A010731. •

[A059859] • 0,0,1,5,21,57,138,282,538,938,1563,2463,3759,5523,7924,11060,15156,20340,26901,35001,45001,57101,71742,89166,109902 ⋆ Sum of squares of first n quarter-squares (A002620). • a(n) = 3 * a(n - 1) - 8 * a(n - 3) + 6 * a(n - 4) + 6 * a(n - 5) - 8 * a(n - 6) + 3 * a(n - 8) - a(n - 9). • a(n) = Sum _{ i =1..n } floor(i ^ 2 / 4) ^ 2). - _ Enrique Pérez Herrero _ , Mar 20 2012 • a(n) = (2 * n * (2 * n ^ 4 + 5 * n ^ 3 - 5 * n + 3) + 5 * (2 * n * (n + 1) - 1) * (- 1) ^ n + 5) / 320. - _ Bruno Berselli _ , Mar 21 2012 •

[A203233] • 1,5,21,60,216,540,1836,4320,14256,32400,104976,233280,746496,1632960,5178816,11197440,35271936,75582720,236825856,503884800,1572120576,3325639680,10339716096,21767823360,67480252416 ⋆ (n-1)-st elementary symmetric function of the first n terms of the periodic sequence (3,2,3,2,3,2,...). • a(n) = (5 / 12) * n * 6 ^ (n / 2) if n is even, (5 * n - 1) * 6 ^ ((n + 1) / 2) / 24 if n is odd. - _ Robert Israel _ , May 04 2017 •

[A287617] • 1,1,1,1,5,21,61,141,309,766,2191,6436,18041,48348,128311,347166,960197,2674883,7413514,20411986,56130675,154907229,429349768,1192532452,3312339849 ⋆ Main diagonal of A045847. • a(n) = [x ^ n] (1 + theta _ 3(x)) ^ n / 2 ^ n, where theta _ () is the Jacobi theta function. - _ Ilya Gutkovskiy _ , Jan 17 2018 •

[A186948] • 1,1,5,21,73,233,717,2173,6545,19665,59029,177125,531417,1594297,4782941,14348877,43046689,129140129,387420453,1162261429,3486784361,10460353161,31381059565,94143178781,282429536433 ⋆ 3^n-2*n. • a(n) = 3 * a(n - 1) + 2 * (2n - 3). - Vincenzo Librandi, Mar 13 2011 • a(0)=1, a(1)=1, a(2)=5, a(n)=5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3) [From Harvey P. Dale, Nov 24 2011] •

[A126645] • 5,21,77,261,845,2661,8237,25221,76685,232101,700397,2109381,6344525,19066341,57264557,171924741,516036365,1548633381,4646948717,13942943301,41833024205,125507461221,376539160877,1129651037061,3389020220045 ⋆ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3,4 and 5, at least one of digits 6,7 and at least one of digits 8,9. • a(n) = 4 * 3 ^ n - 4 * 2 ^ n + 1. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Colin Barker _ , Feb 22 2015 •

[A014533] • 1,5,21,77,266,882,2850,9042,28314,87802,270270,827190,2520336,7651632,23162976,69954048,210859245,634569201,1907165337,5725520801,17172595110,51465297950,154135675070,461366154990,1380317174145 ⋆ Form array in which n-th row is obtained by expanding (1 + x + x^2)^n and taking the 4th column from the center. • a(n) = C(6 + 2 * n, n - 1) * hypergeom([- n + 1, - n - 7], [- 5 / 2 - n], 1 / 4). • a(n) = GegenbauerC(n - 1, - n - 3, - 1 / 2). (End) •

[A186244] • 0,0,1,5,21,79,281,963,3217,10547,34089,108955,345137,1085331,3392377,10549739,32667201,100782787,309946697,950599131,2908512145,8880484019,27064776729,82350874699,250212362465 ⋆ Number of ternary strings of length n containing 00. • a(n) = 3 * a(n - 1) + 2 * (3 ^ (n - 3) - a(n - 3)) • a(n) = - (1 / 3) * (1 + sqrt(3)) ^ n * sqrt(3) - (1 / 2) * (1 + sqrt(3)) ^ n + 3 ^ n - (1 / 2) * (1 - sqrt(3)) ^ n + (1 / 3) * sqrt(3) * (1 - sqrt(3)) ^ n. - _ Alexander R. Povolotsky _ , Feb 18 2011 •

[A231430] • 0,0,0,1,5,21,81,295,1037,3555,11961,39667,130049,422403,1361385,4359115,13880129,43984227,138795849,436367131,1367434577,4272615603,13315096089,41397076939,128429930465 ⋆ Number of ternary sequences which contain 000. • a(n) = 3 * a(n - 1) + 2 * (3 ^ (n - 4) - a(n - 4)). •

[A081038] • 1,5,21,81,297,1053,3645,12393,41553,137781,452709,1476225,4782969,15411789,49424013,157837977,502211745,1592728677,5036466357,15884240049,49977243081,156905298045,491636600541,1537671920841 ⋆ 3rd binomial transform of (1,2,0,0,0,0,0,0....). • a(n) = 6 * a(n - 1) - 9 * a(n - 2), with a(0) =1, a(1)=5. • a(n) = (2 * n + 3) * 3 ^ (n - 1). • a(n) = Sum _{ k=0..n } (k + 1) * 2 ^ k * binomial(n, k). •

[A292878] • 1,5,21,81,313,1213,4701,18217,70593,273557,1060069,4107905,15918665,61686893,239044717,926329305,3589646289,13910345285,53904393461,208886521137,809462381657,3136771792413,12155397830269,47103744291977,182533122922465 ⋆ Number of ascending ballistic random walks of length n in 3-dimensions. • a(n) = a(n - 1) + 4(2 ^ n - 1) + 4 Sum _{ k=2..n } (2 ^ (k - 1) - 1) * a(n - k) for n > 0. • a(n) = 4a(n - 1) - a(n - 2) + 2a(n - 3). •

[A094834] • 1,5,21,82,308,1131,4096,14705,52497,186733,662630,2347680,8309143,29388368,103895601,367187437,1297452581,4583924154,16193659132,57204089987,202065531888,713750040577,2521114546457,8905002445437 ⋆ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 3, s(2n+1) = 6. • a(n) = (2 / 9) * Sum(r, 1, 8, Sin(r * Pi / 3)Sin(2 * r * Pi / 3)(2Cos(r * Pi / 9)) ^ (2n + 1)). • a(n) = 6a(n - 1) - 9a(n - 2) + a(n - 3). •

[A217783] • 1,5,21,83,318,1196,4445,16389,60097,219527,799734,2907800,10558041,38297573,138819053,502925211,1821362830,6594366404,23870720757,86396702117,312668994969,1131463798415,4094241931526,14814592074288,53603587025713 ⋆ Expansion of (1-x)*(1-2x)/((1-5x+5*x^2)*(1-3x+x^2)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4) for n>=4, a(0) = 1, a(1) = 5, a(2) = 21, a(3) = 83. •

[A221862] • 1,5,21,83,319,1208,4535,16932,62986,233702,865513,3201026,11826582,43660921,161090910,594092895,2190225106,8072519511,29746921227,109599320930,403758993204,1487294628182,5478244777582,20177275278559,74313150143975 ⋆ Expansion of (1-3*x+x^2)*(1-x)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 5, a(2) = 21, a(3) = 83, a(4) = 319. •

[A216271] • 1,5,21,83,319,1209,4549,17051,63783,238337,890077,3322995,12403551,46296905,172791861,644886923,2406788599,8982333009,33522674509,125108627171,466912358463,1742541855257,6503257159717,24270490977915,90578715140551 ⋆ Expansion of (1-x)/((1-2x)(1-4x+x^2)). • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 2 * a(n - 3), a(0) = 1, a(1) = 5, a(2) = 21. •

[A132310] • 1,5,21,83,319,1209,4551,17085,64125,240995,907741,3428655,12990121,49370963,188229489,719805987,2760498351,10615101273,40920439119,158106581157,612166272291,2374756691313,9228369037659,35918537840577 ⋆ a(n) = 3^n*Sum_{ k=0..n } binomial(2*k,k)/3^k. • a(n) = C(2n,n) * sum _{ k=0..2n } trinomial(n,k) / C(2n,k) where trinomial(n,k) = [x ^ k] (1 + x + x ^ 2) ^ n, where [x ^ k] denotes "coefficient of x ^ k in ...". • a(n) = sum _{ k =0..2n } trinomial(n,k) * k! * (2 * n - k)! / (n!) ^ 2. •

[A083319] • 1,5,21,83,321,1235,4761,18443,71841,281315,1106601,4369403,17304561,68694995,273202041,1088057963,4337948481,17308878275,69106635081,276039644123,1102997363601,4408504767155,17623562909721,70462878968983 ⋆ 4^n+3^n-2^n. • a(n)=4 ^ n + 3 ^ n - 2 ^ n. •

[A215008] • 0,1,5,21,84,329,1274,4900,18767,71687,273371,1041348,3964051,15083082,57374296,218205281,829778397,3155194917,11996903828,45614046737,173428037986,659377938380,2506951364015,9531364676687 ⋆ a(n) = 7*a(n-1) - 14*a(n-2) + 7*a(n-3), a(0)=0, a(1)=1, a(2)=5. • a(n + 1) - 2 * a(n) = (1 / sqrt(7)) * Sum _{ k=0,1,2 } cot(2 ^ k * alpha) * (2 * sin(2 ^ k * alpha)) ^ (2n), where alpha = 2 * Pi / 7. - _ Roman Witula _ , May 16 2014 •

[A002054] • 1,5,21,84,330,1287,5005,19448,75582,293930,1144066,4457400,17383860,67863915,265182525,1037158320,4059928950,15905368710,62359143990,244662670200,960566918220,3773655750150,14833897694226,58343356817424,229591913401900 ⋆ Binomial coefficient C(2n+1, n-1). • a(n) = Sum(binomial(2 * i, i) * binomial(2 * n - 2 * i, n - i - 1) / (i + 1), i=0..n - 1). - Yong Kong (ykong(AT)curagen.com), Dec 26 2000 • a(n + 1) = a(n) * (2 * n + 3) * (2 * n + 2) / (n * (n + 3)). - _ Chai Wah Wu _ , Jan 26 2016 •

[A289797] • 1,5,21,84,330,1291,5052,19784,77500,303608,1189372,4659245,18252027,71500068,280092848,1097230105,4298267549,16837948391,65960645632,258392925744,1012223324455,3965263584006,15533444957104,60850409347588,238374187312038 ⋆ p-INVERT of the triangular numbers (A000217), where p(S) = 1 - S - S^2. • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 23 * a(n - 3) - 16 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A246986] • 1,5,21,84,331,1300,5111,20144,79611,315420,1252351,4980904,19837091,79086740,315557991,1259856864,5032285771,20107685260,80366302031,321271760024,1284506433651,5136283390980,20539905484471,82143935602384,328528679208731 ⋆ Expansion of (1-5*x+6*x^2-x^3)/((1-x)*(1-2*x)*(1-3*x)*(1-4*x)). • a(n) = (3 ^ (n + 1) + 7 * 4 ^ n - 3 * 2 ^ n - 1) / 6. - _ Todd Silvestri _ , Nov 16 2014 •

[A002450] • 0,1,5,21,85,341,1365,5461,21845,87381,349525,1398101,5592405,22369621,89478485,357913941,1431655765,5726623061,22906492245,91625968981,366503875925,1466015503701,5864062014805,23456248059221,93824992236885 ⋆ a(n) = (4^n - 1)/3. • a(n + 1) = 4 * a(n) + 1, with a(0) = 0. - _ Philippe Deléham _ , Feb 25 2004 • a(n) = Sum _{ i=0..n - 1 } C(2 * n - 1 - i, i) * 2 ^ i. - Mario Catalani (mario.catalani(AT)unito.it), Jul 23 2004 • a(n + 1) = Sum _{ k=0..n } binomial(n + 1, k + 1) * 3 ^ k. - _ Paul Barry _ , Aug 20 2004 • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3) = 5 * a(n - 1) - 4 * a(n - 2), a(0)=0, a(1)=1, a(2)=5. - _ Wolfdieter Lang _ , Oct 18 2010 • a(0) = 0, a(n + 1) = a(n) + 2 ^ (2 * n). - _ Washington Bomfim _ , Jan 21 2011 • a(n) = Sum _{ k=1..floor((n + 2) / 3) } C(2 * n + 1,n + 2 - 3 * k). - _ Mircea Merca _ , Jun 25 2011 •

[A273489] • 1,5,21,85,413,1765,7325,30085,122813,499045,2020445,8156485,32854013,132108325,530526365,2128417285 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 758",

based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4) for n>6. •

[A097113] • 1,5,21,85,421,1445,8181,24565,155461,417605,2904981,7099285,53578981,120687845,977951541,2051693365,17698918021,34878787205,318061475541,592939382485,5681922991141,10079969502245,100990737360501 ⋆ Expansion of (1+5x-12x^2-80x^3)/(1-33x^2+272x^4). • a(0)=1, a(1)=5, a(2)=21, a(3)=85, a(n)=33 * a(n - 2) - 272 * a(n - 4) [From Harvey P. Dale, Jul 19 2011] •

[A265939] • 1,5,21,86,349,1410,5682,22860,91869,368906,1480486,5938740,23813746,95462996,382594884,1533053976,6141910749,24603000666,98541647454,394644228516,1580344177254,6327940829436,25336229584764,101436400902696,406088663224434 ⋆ Central terms of triangle A102363. • a(n) = (3 * 4 ^ n - binomial(2 * n, n)) / 2. - _ Vaclav Kotesovec _ , Feb 21 2016 •

[A012814] • 0,1,5,21,86,351,1432,5842,23833,97229,396655,1618192,6601569,26931732,109870576,448227521,1828587033,7459895657,30433357674,124155792775,506505428836,2066337330754,8429820731201 ⋆ Take every 5th term of Padovan sequence A000931, beginning with the third term. • a(n + 3) = 5 * a(n + 2) - 4 * a(n + 1) + a(n). •

[A039919] • 0,1,5,21,86,355,1488,6335,27352,119547,528045,2353791,10575810,47849685,217824285,996999525,4585548680,21182609875,98236853415,457211008415,2134851575050,9997848660345,46949087361550,221022160284101,1042916456739696 ⋆ Related to enumeration of edge-rooted catafusenes. • a(n) = sum { k=0..n, C(n,k) * (C(k + 1) - C(k)) } ; - _ Paul Barry _ , Feb 16 2006 •

[A292494] • 1,5,21,88,362,1470,5940,23996,97028,392592,1588840,6430088,26021472,105301184,426118816,1724362608,6977946160,28237566352,114268643984,462409605552,1871227376592,7572272759344,30642622403664,124001121308400,501793808163600 ⋆ p-INVERT of the odd positive integers, where p(S) = 1 - S - S^2 - S^3. • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 23 * a(n - 3) + 12 * a(n - 4) + 6 * a(n - 5) + 2 * a(n - 6) for n >= 7. •

[A015448] • 1,1,5,21,89,377,1597,6765,28657,121393,514229,2178309,9227465,39088169,165580141,701408733,2971215073,12586269025,53316291173,225851433717,956722026041,4052739537881,17167680177565,72723460248141,308061521170129 ⋆ a(0)=1, a(1)=1, and a(n) = 4*a(n-1) + a(n-2) for n>=2. • a(n) = Fibonacci(3n - 1) = ((1 + sqrt(5)) * (2 - sqrt(5)) ^ n - (1 - sqrt(5)) * (2 + sqrt(5)) ^ n) / (2 * sqrt(5)). • a(n) = upper left term in the 2 X 2 matrix [1,2; 2,3] ^ n. - _ Gary W. Adamson _ , Mar 02 2008 • a(n) = Fibonacci(3n + 1) mod Fibonacci(3n), n>0 • a(n) = (5 * F(n) ^ 3 + 5 * F(n - 1) ^ 3 + 3 * (- 1) ^ n * F(n - 2)) / 2, • a(n) = (F(n + 1) ^ 3 + 2 * F(n) ^ 3 - F(n - 2) ^ 3) / 2, n >= 0, with F(- 1) = 1 and F(- 2) = - 1. Second line from first one with 3 * (- 1) ^ n * F(n - 2) = F(n - 1) ^ 3 - 4 * F(n - 2) ^ 3 - F(n - 3) ^ 3 (in Koshy's book, p. 89, 32. (with a - sign) and 33. For the Koshy reference see A000045) and the F ^ 3 recurrence (see row n=4 of A055870, or Koshy p. 87, 1.). First line from the preceding _ R. J. Mathar _ formula with F(3 * n) = 5 * F(n) ^ 3 + 3 * (- 1) ^ n * F(n) (Koshy p. 89, 46.) and the above mentioned formula, Koshy's 32. and 33., with n - > n + 2 in order to eliminate F(n + 1) ^ 3. (End) •

[A273796] • 1,5,21,89,385,1649,6961,29009,119665,489809,1993201,8075729,32613745,131391569,528384241,2122007249 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 942", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4) for n>5. •

[A164037] • 5,21,91,399,1757,7749,34195,150927,666197,2940693,12980779,57299823,252933485,1116502149,4928478499,21755355951,96032786213,423909225621,1871225850235,8259990522063,36461362180733,160948239429957 ⋆ Expansion of (5-9*x)/(1-6*x+7*x^2). • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 5, a(1) = 21. • a(n) = ((5 + 3 * sqrt(2)) * (3 + sqrt(2)) ^ n + (5 - 3 * sqrt(2)) * (3 - sqrt(2)) ^ n) / 2. •

[A125784] • 1,5,21,91,433,2307,13804,92433,688611,5670713,51291468,506502769,5430460072,62894124926,783259655434,10445143907067,148592182641759,2247301621235992,36021020633412788,610161098104988668 ⋆ Column 4 of table A125781. • a(n) = Sum _{ k=0..n } [A091351 ^ 2](n + 1,k + 1) where A091351 ^ 2 is the matrix square of A091351. •

[A154964] • 1,1,5,21,93,405,1773,7749,33885,148149,647757,2832165,12383037,54142101,236724525,1035026181,4525425693,19786434165,86511856653,378254174949,1653833664765,7231026043989,31616080120557,138234396625605,604399670600157 ⋆ a(n) = 3*a(n-1) + 6*a(n-2), n>2, a(0)=1, a(1)=1, a(2)=5. • a(n) = (1 / 2) * (((3 / 2) - (1 / 2) * sqrt(33)) ^ (n - 1) + ((3 / 2) + (1 / 2) * sqrt(33)) ^ (n - 1)) + (7 / 66) * sqrt(33) * (((3 / 2) + (1 / 2) * sqrt(33)) ^ (n - 1) - ((3 / 2) - (1 / 2) * sqrt(33)) ^ (n - 1)) + (2 / 3) * (C(2 * n,n) mod 2). - _ Paolo P. Lava _ , Jan 20 2009 •

[A273570] • 1,5,21,93,429,1869,7821,32013,129549,521229,2091021,8376333,33529869,134168589,536772621,2147287053 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 798", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A103519] • 1,5,21,94,485,2931,20545,164396,1479609,14796145,162757661,1953092010,25390196221,355462747199,5331941208105,85311059329816,1450288008607025,26105184154926621,495998498943605989,9919969978872119990 ⋆ a(1) = 1, a(n) = sum of n successive numbers starting with a(n-1) + 1. • a(n + 1) = k(k + 1) / 2 - a(n) * (a(n) + 1) / 2, where k = a(n) + n + 1. • a(n) = n * a(n - 1) + n(n + 1) / 2. - _ Emeric Deutsch _ , Mar 16 2008 •

[A159289] • 5,21,95,433,1975,9009,41095,187457,855095,3900561,17792615,81161953,370224535,1688798769,7703544775,35140126337,160293542135,731187458001,3335350205735,15214376112673,69401180151895,316577148534129 ⋆ a(n+1) = 5*a(n) - 2*a(n-1) • a(n)=(5 / 2) *{ [(5 / 2) + (1 / 2) * sqrt(17)] ^ n + [(5 / 2) - (1 / 2) * sqrt(17)] ^ n } + (1 / 2) * sqrt(17) *{ [(5 / 2) + (1 / 2) * sqrt(17)] ^ n - [(5 / 2) - (1 / 2) * sqrt(17)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Jul 31 2009] •

[A199215] • 5,21,101,501,2501,12501,62501,312501,1562501,7812501,39062501,195312501,976562501,4882812501,24414062501,122070312501,610351562501,3051757812501,15258789062501,76293945312501,381469726562501,1907348632812501 ⋆ 4*5^n+1. • a(n) = 5 * a(n - 1) - 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A100284] • 1,1,5,21,105,521,2605,13021,65105,325521,1627605,8138021,40690105,203450521,1017252605,5086263021,25431315105,127156575521,635782877605,3178914388021,15894571940105,79472859700521,397364298502605 ⋆ Expansion of (1-4x-x^2)/((1-x)(1-4x-5x^2)). • a(n)=5a(n - 1) + a(n - 2) - 5a(n - 3); a(n)=1 / 2 + 5 ^ n / 6 + (- 1) ^ n / 3. • a(x)=(15 - 10 * (- 1) ^ x + 5 ^ x) / 30. - _ Harvey P. Dale _ , Apr 01 2013 •

[A041321] • 1,5,21,110,2881,14515,60941,319220,8360661,42122525,176850761,926376330,24262635341,122239553035,513220847481,2688343790440,70410159398921,354739140785045,1489366722539101,7801572753480550,2043302583130 33401,1029452864318647555 ⋆ Denominators of continued fraction convergents to sqrt(174). • a(n) = 2902 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A213009] • 1,1,1,5,21,125,825,6133,49925,439417,4142945,41544161,440710117,4924691541,57766255689,709205703565,9090541134373,121389729560633,1685431945085489,24289856880005441,362776874949660485,5606980244843123077,89560387072919814553 ⋆ G.f. A(x) satisfies: A(A(x)) = x+x^2 + x*A(A(A(A(x)))). • a(n) == 1 (mod 4). •

[A049452] • 0,5,22,51,92,145,210,287,376,477,590,715,852,1001,1162,1335,1520,1717,1926,2147,2380,2625,2882,3151,3432 ⋆ Pentagonal numbers with even index. • a(n) = n * (6 * n - 1). • a(n) = C(6 * n,2) / 3. - _ Zerinvary Lajos _ , Jan 02 2007 • a(n) = 12 * n + a(n - 1) - 7 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0)=0, a(1)=5, a(2)=22. - _ Harvey P. Dale _ , Mar 07 2012 •

[A273677] • 1,5,22,55,111,196,316,477,685,946,1266,1651,2107,2640,3256,3961,4761,5662,6670,7791,9031,10396,11892,13525,15301 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 833", based on the 5-celled von Neumann neighborhood. • a(n) = (2 * n ^ 3 + 5 * n ^ 2 + 3 * n + 2) / 2 for n>1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. •

[A050533] • 0,5,22,59,124,225,370,567,824,1149,1550,2035,2612,3289,4074,4975,6000,7157,8454,9899,11500,13265,15202,17319,19624 ⋆ Thickened pyramidal numbers: a(n) = sum(4*i*(i-1)+1, i=1..n) + 2*(n+1)*n. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). _ Vincenzo Librandi _ , Apr 27 2012 •

[A273311] • 1,5,22,62,135,247,408,624,905,1257,1690,2210,2827,3547,4380,5332,6413,7629,8990,10502,12175,14015,16032,18232,20625 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 641", based on the 5-celled von Neumann neighborhood. • a(n) = (57 + 3 * (- 1) ^ n - 58 * n + 48 * n ^ 2 + 16 * n ^ 3) / 12 for n>0. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 29 * n + 30) / 6 for n>0 and even. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 29 * n + 27) / 6 for n>0 and odd. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>5. •

[A288534] • 1,5,22,63,140,265,450,707,1048,1485,2030,2695,3492,4433,5530,6795,8240,9877,11718,13775,16060,18585,21362,24403,27720 ⋆ a(n) = n*(2*n^2 + 3), n >= 1; a(0)=1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 4. •

[A273336] • 1,5,22,70,150,270,438,662,950,1310,1750,2278,2902,3630,4470,5430,6518,7742,9110,10630,12310,14158,16182,18390,20790 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 657", based on the 5-celled von Neumann neighborhood. • a(n) = 2 / 3 * (2 * n ^ 3 + 6 * n ^ 2 + 4 * n - 15) for n>1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. •

[A273768] • 1,5,22,70,151,272,441,666,955,1316,1757,2286,2911,3640,4481,5442,6531,7756,9125,10646,12327,14176,16201,18410,20811 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 913", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 11 * n - 39) / 3 for n>2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>6. •

[A011846] • 0,0,0,0,0,0,0,0,0,0,1,5,22,71,200,500,1144,2431,4862,9237,16796,29393,49742,81719,130750 ⋆ a(n) = floor(binomial(n,9)/10). • a(n) = floor(binomial(n + 1,10) / (n + 1)). [_ Gary Detlefs _ , Nov 23 2011] •

[A191008] • 1,5,22,86,319,1139,3964,13532,45517,151313,498226,1627538,5281195,17039327,54705208,174877304,556916953,1767605981,5593383310,17651846030,55570626391,174557144075,547207226932,1712229064916,5348509347109 ⋆ Another renewal type of sequence. Let X, X(1), X(2),... denote random variables with pdf P(X = 1) = P(X = 4) = 1/4 and P(X = 2) = 1/2. Let N(x) denote the first value of k such that X(1)*X(2)*...*X(k) > x and let H(x)= E(N(x)). The sequence is given by a(n) = 3^(n+1)*H(2^n)/4. • a(n) = (n * 3 ^ (n + 1) + ((5 * 3 ^ (n + 1) + (- 1) ^ (n)) / 4)) / 4. • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - 9 * a(n - 3) for n>2. •

[A081892] • 1,5,22,90,351,1323,4860,17496,61965,216513,747954,2558790,8680203,29229255,97785144,325241892,1076168025,3544180029,11622614670,37967207922,123587135991,400980206115,1297083797172,4184141281200 ⋆ Second binomial transform of C(n+2,2). • a(n)=3 ^ (n - 2)(n + 2)(n + 9) / 2 = 3 ^ n (n ^ 2 + 11n + 18) / 18 G.f.(1 - 2x) ^ 2 / (1 - 3x) ^ 3 •

[A097138] • 0,0,1,5,22,90,363,1455,5824,23300,93205,372825,1491306,5965230,23860927,95443715,381774868,1527099480,6108397929,24433591725,97734366910,390937467650,1563749870611,6254999482455,25019997929832 ★ Convolution of 4^n and floor(n/2). • a(n) = Sum _{ k=0..n } floor((n - k) / 2)4 ^ k = Sum _{ k=0..n } floor(k / 2) * 4 ^ (n - k). • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - 5 * a(n - 3) + 4 * a(n - 4). • a(n) = a(n - 2) + (4 ^ (n - 1) - 1) / 3, n>1. (End) • a(n) = (4 ^ (n + 2) - 30 * n + 9 * (- 1) ^ n - 25) / 180. - _ Bruno Berselli _ , Dec 27 2010 •

[A208736] • 0,0,0,1,5,22,91,361,1392,5265,19653,72694,267179,977593,3565600,12975457,47142021,171075606,620303547,2247803785,8141857808,29481675889,106728951109,386314552438,1398132674955 ★ Number of nonisomorphic graded posets with 0 and 1 and non-uniform Hasse graph of rank n, with exactly 2 elements of each rank level between 0 and 1. • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4), a(2) = 0, a(3) = 1, a(4) = 5, a(5) = 22. •

[A085812] • 1,5,22,91,366,1454,5748,22691,89590,354010,1400268,5544334,21973420,87158972,345977832,1374249251,5461704870,21717305762,86391846492,343800647066,1368639516420,5450093895812,21708897213912,86492537630606 ★ Sum(sum(binomial(i,j),i=n..2*n),j=0..n). • a(n) = 4 ^ n - 2 ^ n + C(2 * n + 2, n + 1) / 2. - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A172061] • 1,5,22,91,367,1461,5776,22748,89402,350974,1377174,5403193,21201211,83211277,326703424,1283211208,5042294926,19822108582,77958648604,306739666198,1207433301046,4754874514690,18732340230592,73827134976216 ★ Expansion of (2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=4. • a(n)=sum('(- 1) ^ (p) * binomial(2 * n + k - p,n - p)',p=0..n) (with k =4). •

[A053297] • 1,5,22,92,372,1468,5688,21728,82064,307088,1140320,4206912,15434048,56350912,204875648,742104064,2679197952,9644109056,34623075840,124001176576,443136848896,1580464036864,5626501838848,19996918849536 ★ Row sums of array T in A053199. • a(n) = 8 * a(n - 1) + 20 * a(n - 2) - 16 * a(n - 3) + 4 * a(n - 4) for all n in Z. - _ Michael Somos _ , Nov 03 2016 • a(n) = - a(- n) * 2 ^ n for all n in Z. - _ Michael Somos _ , Nov 03 2016 •

[A010036] • 1,5,22,92,376,1520,6112,24512,98176,392960,1572352,6290432,25163776,100659200,402644992,1610596352,6442418176,25769738240,103079084032,412316598272,1649266917376,6597068718080,26388276969472,105553112072192,422212456677376 ★ Sum of 2^n, ..., 2^(n+1) - 1. • a(n) = 3 * 2 ^ (2 * n - 1) - 2 ^ (n - 1). - Daniele Parisse (daniele.parisse(AT)t - online.de), Jun 10 2007 • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 5. •

[A095932] • 1,5,22,93,385,1574,6385,25773,103702,416405,1669801,6690150,26789257,107232053,429124630,1717012749,6869397265,27481113638,109933682017,439758885885,1759098789526,7036560738245,28146676447417,112587840692838,450354333986425 ★ Number of walks of length 2n+1 between two nodes at distance 3 in the cycle graph C_10. • a(n) = 4 ^ n / 5 * Sum _{ r=0..9 } cos(3 * Pi * r / 5) * cos(Pi * r / 5) ^ (2 * n + 1). • a(n) = 7 * a(n - 1) - 13 * a(n - 2) + 4 * a(n - 3). • a(n) = (2 ^ (1 + 2 * n) - (1 / 2 * (3 - sqrt(5))) ^ n - (1 / 2 * (3 + sqrt(5))) ^ n) / 5. - _ Colin Barker _ , Apr 27 2016 •

[A000346] • 1,5,22,93,386,1586,6476,26333,106762,431910,1744436,7036530,28354132,114159428,459312152,1846943453,7423131482,29822170718,119766321572,480832549478,1929894318332,7744043540348,31067656725032,124613686513778,499744650202436 ★ a(n) = 2^(2*n+1) - binomial(2*n+1, n+1). • a(n) = Sum _{ k=0..n + 1 } binomial(n + k, k - 1)2 ^ (n - k + 1). - _ Paul Barry _ , Nov 13 2004 • a(n) = Sum _{ i=0..n } binomial(2n + 2, i). See A008949. - Ed Catmur (ed(AT)catmur.co.uk), Dec 09 2006 • a(n) = Sum _{ k=0..n + 1, C(2n + 2,k) } - C(2n + 2,n + 1). - _ Paul Barry _ , Jan 21 2007 • a(n) = Sum _{ 0<=i<j<=n + 1 } binomial(n + 1, i) * binomial(n + 1, j). - _ Mircea Merca _ , Apr 05 2012 • a(n) = Sum _{ m = n + 2..2 * (n + 1) } binomial (2 * (n + 1), m), n >= 0. - _ Wolfdieter Lang _ , May 22 2015 •

[A289798] • 1,5,22,93,387,1602,6623,27377,113174,467877,1934315,7996978,33061703,136686153,565097958,2336269341,9658775347,39932014114,165089847535,682526498529,2821750872886,11665888441301,48229967585083,199395852702354,824356889826903 ★ p-INVERT of (-1 + 2^n), where p(S) = 1 - S - S^2. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 14 * a(n - 3) - 4 * a(n - 4). •

[A049652] • 0,1,5,22,94,399,1691,7164,30348,128557,544577,2306866,9772042,41395035,175352183,742803768,3146567256,13329072793,56462858429,239180506510,1013184884470,4291920044391,18180865062035 ★ a(n) = (F(3*n+2) - 1)/4, where F=A000045 (the Fibonacci sequence). • a(0) = 0, a(1) = 1; a(n) = ceiling(r(4) * a(n - 1)) where r(4) = 2 + sqrt(5) is the positive root of X ^ 2 = 4 * X + 1. More generally the sequence a(1) = 1, a(n) = ceiling(r(z) * a(n - 1)) where r(z) = (1 / 2) * (z + sqrt(z ^ 2 + 4)) is the positive root of X ^ 2 = z * X + 1 satisfies the linear recurrence : n>3 a(n) = (z + 1) * a(n - 1) - (z - 1) * a(n - 2) - a(n - 3) and the closed form formula : a(n) = floor(t(z) * r(z) ^ n) where t(z) = 1 / (2 * z) * (1 + (z + 2) / sqrt(z ^ 2 + 4)) is the positive root of z * (z ^ 2 + 4) * X ^ 2 = (z ^ 2 + 4) * X + 1. - _ Benoit Cloitre _ , May 06 2003 • a(0) = 0, a(1) = 1, a(2) = 5, a(3) = 22, a(n) = 5a(n - 1) - 3a(n - 2) - a(n - 3); a(n) = floor(t(4) * r(4) ^ n) where t(4) = 1 / 8 * (1 + 3 / sqrt(5)) is the positive root of 80 * X ^ 2 = 20 * X + 1. - _ Benoit Cloitre _ , May 06 2003 • a(n + 2) = 4 * a(n + 1) + a(n) + 1. - _ Anant Godbole _ , Apr 27 2006 •

[A053154] • 0,1,5,22,95,406,1715,7162,29615,121486,495275,2009602,8124935,32761366,131834435,529712842,2125993055,8525430046,34166159195,136858084882,548012945975,2193794127526,8780404589555,35137304693722 ★ Number of 2-element intersecting families (with not necessary distinct sets) of an n-element set. • a(n) = (4 ^ n - 3 ^ n + 2 ^ n - 1) / 2. • a(n) = 3 * StirlingS2 (n + 1,4) + 2 * StirlingS2(n + 1,3) + StirlingS2(n + 1,2). - _ Ross La Haye _ , Jan 11 2008 •

[A141222] • 1,5,22,95,406,1722,7260,30459,127270,529958,2200276,9111830,37650172,155266100,639191160,2627302995,10784089350,44208873390,181025067300,740483276610,3026059513620,12355464845100 ★ Expansion of -1/(2*x)+(2*x-1)^2/(2*x*(1-4x)^(3/2)). • a(n)=sum { k=0..n, (1 + (k + 1)2 ^ (k - 1) - 0 ^ k / 2) * C(2n - k,n - k) } ; a(n)=sum { k=0..n, C(2n,k) * C(n + 1,2n - k) } ; • a(n) = (1 + 3 * n + n ^ 2) * C(2 * n,n) / (n + 1). •

[A116415] • 1,5,22,95,409,1760,7573,32585,140206,603275,2595757,11168960,48057529,206780765,889731238,3828313895,16472375761,70876937120,304967558317,1312206980225,5646132226174,24294040190195,104531804272453 ★ a(n) = 5a(n-1) - 3a(n-2). • a(n) = sum _{ k=0..n } sum { j=0..n } C(n - j,k) C(k + j,j)3 ^ j. • a(n) = (1 / sqrt(13)) * (((5 + sqrt(13)) / 2) ^ n - ((5 - sqrt(13)) / 2) ^ n). - _ Sergio Falcon _ , Nov 23 2007 • a(n) = 4 * a(n - 1) + a(n - 2) + a(n - 3) + ... + a(0) + 1. These expansions with the partial sums on one side can be generated en masse by taking the g.f. of the partial sum and its partial fraction, 1 / (1 - x) / (1 - 5x + 3x ^ 2) = - 1 / (1 - x) + (2 - 3x) / (1 - 5x + 3x ^ 2) and reading this as a(0) + a(1) + ... + a(n) = - 1 + 2 * a(n) - 3 * a(n - 1). - _ Gary W. Adamson _ , Feb 18 2011 •

[A083586] • 0,1,5,22,96,419,1819,7824,33302,140317,585873,2427146,9989068,40886295,166600967,676368388,2737758594,11055063953,44553867901,179280877950,720513441080,2892804682891,11605214879475,46528078138232 ★ Binomial transform of A083580. • a(n) = 2 * 4 ^ n / 3 - 5 / 12 - n * 3 ^ (n - 1) / 2 - 3 ^ n / 4. •

[A129164] • 1,5,22,97,436,1994,9241,43257,204052,968440,4619011,22120630,106300507,512321437,2475395302,11986728457,58156146652,282640193312,1375737276787,6705522150972,32724071280517,159878425878847,781910419686412,3827639591654862,18753350784435811 ★ Sum of pyramid weights in all skew Dyck paths of semilength n. • a(n) = n * Sum _ (m=1..n, Sum _ (k=m..n,(binomial(- m + 2 * k - 1,k - 1) * binomial(n - 1,k - 1)) / k)). - _ Vladimir Kruchinin _ , Oct 07 2011 • a(n) = n * hypergeometric([1, 3 / 2, 1 - n], [2, 2], - 4). - _ Peter Luschny _ , Sep 16 2014 • a(n) = Sum _{ k=1..n } (binomial(n,k) * binomial(2 * k,k)) / 2. - _ Vladimir Kruchinin _ , Oct 11 2016 •

[A087439] • 1,5,22,98,451,2135,10312,50468,249061,1235465,6147802,30650438,152986471,764135195,3818284492,19084248008,95399716681,476934013325,2384476356382,11921800651178,59607259863691,298031069141855 ★ Expansion of (1-4x)/((1-x)(1-3x)(1-5x)). • a(n)=5 * 5 ^ n / 8 + 3 * 3 ^ n / 4 - 3 / 8. •

[A033452] • 0,1,5,22,99,471,2386,12867,73681,446620,2856457,19217243,135610448,1001159901,7714225057,61904585510,516347066551,4468588592739,40058673825258,371421499686007,3556976106133821 ★ "STIRLING" transform of squares A000290. • a(n) = Bell(n + 2) - 2 * Bell(n + 1). - _ Vladeta Jovovic _ , Jul 28 2003 •

[A179602] • 1,5,22,101,457,2078,9433,42845,194566,883613,4012801,18223694,82760689,375847925,1706868598,7751541269,35202703993,159868900862,726025630537,3297159197645,14973657006694,68001085403597,308818855257649 ★ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+2*x)/(1-3*x-7*x^2). • a(n) = 3 * a(n - 1) + 7 * a(n - 2) with a(0) = 1 and a(1) = 5. • a(n) = ((37 + 4 * 37 ^ (1 / 2)) * A ^ (- n - 1) + (37 - 4 * 37 ^ (1 / 2)) * B ^ (- n - 1)) / 259 with A = (- 3 + sqrt(37)) / 14 and B = (- 3 - sqrt(37)) / 14. •

[A008485] • 1,1,5,22,105,506,2492,12405,62337,315445,1605340,8207563,42124380,216903064,1119974875,5796944357,30068145905,156250892610,813310723925,4239676354650,22130265931900,115654632452535,605081974091875,3168828466966388,16610409114771900 ★ Coefficient of x^n in Product_{k>=1} 1/(1-x^k)^n. • a(n) = Sum _{ pi } Product _{ i=1..n } binomial(k _ i + n - 1, k _ i) where pi runs through all nonnegative solutions of k _ 1 + 2 * k _ 2 + ... + n * k _ n=n. a(n) = b(n, n) where b(n, m)= m / n * Sum _{ i=1..n } sigma(i) * b(n - i, m) is recurrence for number of partitions of n into parts of m kinds. - _ Vladeta Jovovic _ , Sep 08 2002 •

[A213684] • 1,5,22,105,511,2534,12720,64449,328900,1688115,8705060,45064110,234054198,1219053680,6364813192,33302104593,174570695175,916628799380,4820160541350,25381091113455,133808636072595,706211862466500,3730964595817680,19729042153581150 ★ Logarithmic derivative of A001002. • a(n) = n * Sum _{ r=1..n } binomial(r + n - 1,n) * binomial(r,n - r) / r. • a(n) = Sum _{ k=0..n } (- 1) ^ floor((n - k) / 2) [x ^ k] G(n,n,x / 2), where G(n,a,x) denotes the n - th Gegenbauer polynomial; row sums of A298610. - _ Peter Luschny _ , Jan 26 2018 •

[A082297] • 0,1,5,22,105,551,3125,18901,120785,809956,5669525,41253125,310968905,2421594449,19434554165,160416509794,1359425390625,11809173506531,105013666399445,954781355707373,8865807366284825,83996265859375000 ★ Main diagonal of array A083861. • a(n)=(((5 + sqrt(4n + 1)) / 2) ^ n - ((5 - sqrt(4n + 1)) / 2) ^ n) / sqrt(4n + 1) •

[A162271] • 5,22,106,540,2836,15128,81320,438768,2371664,12830560,69441184,375901632,2035036480,11017668992,59650841216,322959363840,1748563133696,9467073975808,51256707934720,277514627816448 ★ a(n) = ((5+sqrt(2))*(4+sqrt(2)sqrt(2))*(4-sqrt(2))^n)/2. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 5, a(1) = 22. •

[A164593] • 5,22,108,520,2512,12128,58560,282752,1365248,6592000,31828992,153683968,742051840,3582943232,17299980288,83531694080,403326697472,1947433566208,9403041054720,45401898483712,219219758153728 ★ a(n) = ((5 + sqrt(18))*(2 + sqrt(8))^n + (5 - sqrt(18))*(2 - sqrt(8))^n)/2. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 5, a(1) = 22. •

[A213167] • 1,5,22,114,696,4920,39600,357840,3588480,39553920,475372800,6187104000,86699289600,1301447347200,20835611596800,354379753728000,6381450915840000,121289412980736000,2426499634470912000 ★ a(n) = n! - (n-2)!. • a(n) = n! - (n - 2)!. •

[A129437] • 1,5,22,181,2183,47773,1689841,90972682,6948008975,721121538

707,98626660242232,17361164959413148 ⋆ Number of isomorphism classes of 8-regular multigraphs of order n, loops allowed. • a(n)=N \{ S _ n[S _ 8] * S _{ 4n } [S _ 2] \} [From _ Jason Kimberley _ , Nov 09 2009] •

[A231002] • 5,23,33,51,61,79,89,107,117,135,145,163,173,191,201,219,229,247,257,275,285,303,313,331,341 ⋆ Number of years after which it is possible to have a date falling on same day of the week, but the entire year does not have the same calendar, in the Julian calendar. • a(n + 1) = a(n - 1) + 28, for all n > 1. - _ M. F. Hasler _ , Apr 14 2015 • a(2n) = 28n - 5 (n>0), a(2n + 1) = 28n + 5 (n>=0), a(n) = 28 * floor(n / 2) - 5 * (- 1) ^ n. - _ M. F. Hasler _ , Apr 14 2015 •

[A140811] • 1,5,23,53,95,149,215,293,383,485,599,725,863,1013,1175,1349,1535,1733,1943,2165,2399,2645,2903,3173,3455 ⋆ 6n^2 - 1. • a(n) = 2 * a(n - 1) - a(n - 2) + 12. • a(n) = a(n - 1) + 12n - 6. - _ Vincenzo Librandi _ , Feb 05 2012 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 05 2012 •

[A098499] • 1,5,23,57,109,169,246,334,439,555,688,832,993,1165,1354,1554,1771,1999,2244,2500,2773,3057,3358,3670,3999 ⋆ Number of squares on infinite half chessboard at <=n knight moves from a fixed point on the diagonal. • a(n) = (1 / 4) [28n ^ 2 - 6n + 9 + 3(- 1) ^ n], for n>3. •

[A098498] • 1,5,23,60,110,172,248,338,442,560,692,838,998,1172,1360,1562,1778,2008,2252,2510,2782,3068,3368,3682,4010 ⋆ Number of squares on infinite half chessboard at <=n knight moves from a fixed point on the edge. • a(n) = 7 * n ^ 2 - n + 2, for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >6. G.f.: - (2 * x ^ 6 - x ^ 5 - 6 * x ^ 4 + 5 * x ^ 3 + 11 * x ^ 2 + 2 * x + 1) / (x - 1) ^ 3. - _ Colin Barker _ , Jul 14 2013 •

[A241765] • 0,5,23,65,145,280,490,798,1230,1815,2585,3575,4823,6370,8260,10540,13260,16473,20235,24605,29645,35420,41998,49450,57850 ⋆ a(n) = n*(n + 1)*(n + 2)*(3*n + 17)/24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = Sum _{ j=0..n + 2 } (- 1) ^ (n - j) * binomial(- j, - n - 2) * S1(j,n), S1 Stirling cycle numbers A132393. - _ Peter Luschny _ , Apr 10 2016 •

[A113946] • 1,5,23,81,367,1297,5871,20753,93935,332049,1502959,5312785,24047343,85004561,384757487,1360072977,6156119791,21761167633,98497916655,348178682129,1575966666479,5570858914065,25215466663663,89133742625041 ⋆ Series expansion of Farey rational polynomial based on A112627. • a(n) = (5 * (- 4) ^ n + 4 * (- 1) ^ n + 81 * 4 ^ n) / 60 for n>0. G.f.: - (2 * x + 1) ^ 3 / ((x + 1) * (4 * x - 1) * (4 * x + 1)). [_ Colin Barker _ , Dec 03 2012] •

[A283114] • 0,0,0,1,5,23,82,230,560,1208,2392,4405,7673,12733,20320,31326,46914,68460,97698,136635,187737,253813,338240,444818,578038 ⋆ Number of nonequivalent ways (mod D_3) to place 3 points on an n X n X n triangular grid so that no two of them are on the same row, column or diagonal. • a(n) = (n ^ 6 - 9 * n ^ 5 + 27 * n ^ 4 - 20 * n ^ 3 - 24 * n ^ 2 + 24 * n) / 288 + IF(MOD(n, 2) = 1, n ^ 2 - 3 * n - 5) / 32 + IF(MOD(n, 3) = 1, 2) / 9. • a(n) = (2 * n ^ 6 - 18 * n ^ 5 + 54 * n ^ 4 - 40 * n ^ 3 - 39 * n ^ 2 + 21 * n - 45 - 9 * (n ^ 2 - 3 * n - 5) * (- 1) ^ n + 128 * ((n mod 3) mod 2)) / 576. - _ Bruno Berselli _ , Mar 01 2017 •

[A290938] • 5,23,83,291,1015,3539,12339,43043,150239,524723,1833771,6412467,22437095,78553491,275180323,964534339,3382685743,11869824179,41673547291,146387820371,514484547639,1809077492883,6364347723667,22400458807139,78878848178815 ⋆ Number of dominating sets in the n-gear graph. • a(n) = 7 * a(n - 1) - 12 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) + 3 * a(n - 5) + 2 * a(n - 6). •

[A283224] • 1,5,23,90,317,1036,3192,9358,26336,71542,188440,483007,1208275,2956941,7093531,16709523,38706389,88281394,198474497,440263342,964424210,2087882510,4470194335,9471079495,19868723042 ⋆ Expansion of exp(Sum_{n>=1} sigma_2(2*n)*x^n/n) in powers of x. • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 2(2 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 04 2017 •

[A255457] • 1,5,23,93,359,1335,4873,17535,62601,222181,785855,2772717,9768351,34378167,120910529,425062511,1493898001,5249371781,18443445415,64795091709,227625068503,799619495287,2808906276921,9866994688223,34659998140825 ⋆ a(n) = A255456(2^n-1). • a(n) = 5 * a(n - 1) - 24 * a(n - 3) + 15 * a(n - 4) + 17 * a(n - 5) for n>4. - _ Colin Barker _ , Feb 03 2017 •

[A140529] • 5,23,95,383,1535,6143,24575,98303,393215,1572863,6291455,25165823,100663295,402653183,1610612735,6442450943,25769803775,103079215103,412316860415,1649267441663,6597069766655,26388279066623,105553116266495 ⋆ 6*4^n-1 • a(n)=4a(n - 1) + 3, a(0)=5. •

[A268400] • 1,5,23,99,413,1691,6842,27464,109631,435887,1728018,6835668,26996393,106486529,419639903,1652533719,6504159137,25589302163,100646529977,395775842389,1556107102849,6117771240251,24050813530815,94550689834203,371715533473021 ⋆ Number of North-East lattice paths from (0,0) to (n,n) that bounce off the diagonal y = x to the right exactly twice. • a(n) = ((Sum _{ m=1..n - 3 } ((m + 2) * (Sum _{ k=0..m / 2 } ((m ^ 2 + (3 - 2 * k) * m + k ^ 2 - 3 * k + 2) * binomial(m - k,k))) * binomial(2 * n - m - 5,n - m - 3))) + 2 * binomial(2 * n - 4,n - 2)) / (2 * n - 2), n>2. - _ Vladimir Kruchinin _ , Feb 28 2016 •

[A049674] • 0,0,1,5,23,100,428,1820,7721,32725,138655,587400,2488344,10540920,44652257,189150325,801254167,3394167980,14377927684,60905881300,258001457065,1092911716325,4629648333311,19611505067280 ⋆ a(n) = (F(3*n) - 2*F(n))/6, where F=A000045 (the Fibonacci sequence). • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 5 * a(n - 3) - a(n - 4), n>=4, a(0)=a(1)=0, a(2)=1, a(3)=5. (End) •

[A085350] • 1,5,23,101,431,1805,7463,30581,124511,504605,2038103,8211461,33022991,132623405,532087943,2133134741,8546887871,34230598205,137051532983,548593552421,2195536471151,8785632669005,35152991029223 ⋆ Binomial transform of poly-Bernoulli numbers A027649. • a(n) = 2 * 4 ^ n - 3 ^ n . • a(n) = 4 * a(n - 1) + 9 * a(n - 2) - 36 * a(n - 3); •

[A113443] • 1,5,23,101,436,1871,8014,34309,146868,628708,2691401,11521603,49323052,211148530,903912916,3869592721,16565477544,70915744968,303585747088,1299631069856,5563637060865,23817572559345,101961496787621 ⋆ Fourth row of A113439. • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 38 * a(n - 3) - 20 * a(n - 4) + a(n - 5). •

[A124999] • 1,5,23,101,467,2165,10055,46709,216995,1008101,4683383,21757829,101081459,469599317,2181641639,10135364501,47086382915,218751625157,1016265649367,4721317472933,21934066839827,101900219778101,473403079631879,2199312977861813 ⋆ Number of base 5 circular n-digit numbers with adjacent digits differing by 3 or less. • a(n) = 1 + (2 - sqrt(7)) ^ n + (2 + sqrt(7)) ^ n for n>0. • a(n) = 5 * a(n - 1) - a(n - 2) - 3 * a(n - 3) for n>3. •

[A258431] • 0,1,5,23,102,443,1898,8054,33932,142163,592962,2464226,10209620,42190558,173962532,715908428,2941192472,12065310083,49428043442,202249741418,826671597572,3375609654698,13771567556012,56138319705908,228669994187432 ⋆ Sum over all peaks of Dyck paths of semilength n of the arithmetic mean of the x and y coordinates. • a(n) = ((8 * n - 10) * a(n - 1) - (16 * n - 24) * a(n - 2)) / (n - 1) for n>2, a(0)=0, a(1)=1, a(2)=5. • a(n) = (4 ^ (n - 1) + (2 * n - 1)! / (n - 1)! ^ 2) / 2 for n>0, a(0)=0. •

[A054441] • 0,1,5,23,103,455,1993,8679,37633,162643,701075,3015563,12948083,55513327,237705547,1016736115,4344766607,18550920063,79149527249,337482635279,1438155203665,6125448713739,26077796587441,110974892937943,472081467302933 ⋆ Convolution of (shifted) A026671 with A000984 (central binomial coefficients of even order). • a(n) = sum(a(k - 1) * binomial(2 * (n - k), n - k), k=1..n) + 4 ^ (n - 1), n >= 1. • a(n) = Sum _{ k=1..n } binomial (2 * n,n - k) * F(k), where F denotes a Fibonacci number (A000045). - _ Vladimir Kruchinin _ , Mar 19 2016 •

[A289803] • 1,5,23,103,456,2009,8833,38803,170399,748176,3284833,14421533,63314735,277968871,1220356440,5357681369,23521603225,103265890987,453363808127,1990383615264,8738295434881,38363361811637,168425013526727,739429075564711,3246283590352104 ⋆ p-INVERT of the even bisection (A001906) of the Fibonacci numbers, where p(S) = 1 - S - S^2. • a(n) = 7 * a(n - 1) - 13 * a(n - 2) + 7 * a(n - 3) - a(n - 4). •

[A102285] • 1,5,23,103,457,2021,8927,39415,174001,768101,3390599,14966887,66067129,291634565,1287337487,5682582967,25084135393,110726731589,488771441783,2157541529575,9523849084969,42040303802789 ⋆ G.f. (1-x)/(7*x^2-6*x+1). • a(n)=((1 + sqrt(2))(3 + sqrt(2)) ^ n + (1 - sqrt(2))(3 - sqrt(2)) ^ n) / 2 offset 0. a(n)=third binomial transform of 1,2,2,4,4. - Al Hakanson (hawkuu(AT)gmail.com), Jul 25 2009 • a(0)=1, a(1)=5, a(n)=6 * a(n - 1) - 7 * a (n - 2) for n>1. - _ Philippe Deléham _ , Sep 19 2009 •

[A218985] • 5,23,103,459,2043,9091,40451,179987,800851,3563379,15855219,70547635,313900979,1396699187,6214598707,27651793203,123036370227,547449067315,2435869009715,10838374173491,48225234713395,214577687200563,954761218229043,4248200247317299 ⋆ Power ceiling sequence of 2+sqrt(6). • a(n) = [x * a(n - 1)], where x=2 + sqrt(6), a(0) = [x]. • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3). • a(n) = (1 / 15) * (- 3 + (39 - 16 * sqrt(6)) * (2 - sqrt(6)) ^ n + (2 + sqrt(6)) ^ n * (39 + 16 * sqrt(6))). - _ Colin Barker _ , Nov 13 2017 •

[A290924] • 1,5,23,104,469,2115,9539,43024,194053,875245,3947651,17805240,80307649,362214635,1633710407,7368586016,33234813001,149900237685,676100727791,3049442757256,13754017334317,62035266076915,279800013602699,1261992614249520,5692013155802701 ⋆ a(n) = (1/2)*A290923(n). • a(n) = 6 * a(n - 1) - 8 * a(n - 2) + 6 * a(n - 3) - a(n - 4). •

[A107839] • 1,5,23,105,479,2185,9967,45465,207391,946025,4315343,19684665,89792639,409593865,1868384047,8522732505,38876894431,177339007145,808941246863,3690028220025,16832258606399,76781236591945,350241665746927 ⋆ a(n) = 5a(n-1) - 2a(n-2); a(0)=1, a(1)=5. • a(k) = [M ^ k] _ 1,2, where M is the 3 X 3 matrix defined as follows: M = [2,1,2;1,1,1;2,1,2]. - _ Simone Severini _ , Jun 12 2006 • a(n) = (((5 + s) / 2) ^ (n + 1) - ((5 - s) / 2) ^ (n + 1)) / s with s = 17 ^ (1 / 2). - David Pasino (davepasino(AT)yahoo.com), Jan 09 2009 •

[A126473] • 1,5,23,107,497,2309,10727,49835,231521,1075589,4996919,23214443,107848529,501037445,2327695367,10813893803,50238661313,233396326661,1084301290583,5037394142315,23402480441009,108722104190981 ⋆ Number of strings over a 5 symbol alphabet with adjacent symbols differing by three or less. • a(n) = 4 * a(n - 1) + 3 * a(n - 2) with a(0) = 1 and a(1) = 5. • a(n) = ((1 + 3 / sqrt(7)) / 2) * (A) ^ (- n) + ((1 - 3 / sqrt(7)) / 2) * (B) ^ (- n) with A = (- 2 + sqrt(7)) / 3 and B = (- 2 - sqrt(7)) / 3. •

[A238112] • 0,0,1,5,23,107,509,2473,12235,61463,312761,1609005,8355423,43741635,230614773,1223414481,6525975315,34981856303,188341400945,1018043304661,5522585343271,30056208280091,164066282507501,898029800045945,4927810473507803 ⋆ G.f.: (1-5*x+2*x^2+(2*x-1)*sqrt(x^2-6*x+1))/(4*x). • a(n) = (2 * GegenbauerC(n, - 1 / 2,3) - GegenbauerC(n + 1, - 1 / 2,3)) / 4, n>1. - _ Benedict W. J. Irwin _ , Sep 26 2016 •

[A179598] • 1,5,23,109,511,2405,11303,53149,249871,1174805,5523383,25968589,122092831,574027205,2698824263,12688690429,59656665391,280479519605,1318691881943,6199911802669,29149270463551,137047105812005 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+2*x)/(1-3*x-8*x^2). • a(n) = 3 * a(n - 1) + 8 * a(n - 2) with a(0) = 1 and a(1) = 5. • a(n) = ((41 + 5 * sqrt(41)) * A ^ (- n - 1) + (41 - 5 * sqrt(41)) * B ^ (- n - 1)) / 328 with A = (- 3 + sqrt(41)) / 16 and B = (- 3 - sqrt(41)) / 16. •

[A192810] • 0,1,5,23,109,527,2565,12503,60957,297183,1448821,7063207,3443

4061,167870511,818390501,3989759863,19450597117,94824185471,46228021179 7,2253676033863,10986963179245,53562871542735,261125950919109,12730229 03354903 ★ Coefficient of x^2 in the reduction of the polynomial (x^2+2)^n by x^3->x^2+2. • a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). •

[A278677] • 1,5,23,109,544,2876,16113,95495,597155,3929243,27132324,19612 2796,1480531285,11647194573,95297546695,809490850313,7126717111964,6493 0685865768,61133750678606 1,5940420217001199,59502456129204083,61368927 1227219015,6510381400140132872 ★ Popularity of left children in treeshelves avoiding pattern T231. • a(n) = (n + 1) * b(n) - b(n + 1) where b(n) is the n - th Bell number (see A000110). •

[A178873] • 0,1,5,23,112,558,2790,13951,69755,348773,1743862,8719308,43 596540,217982701,1089913505,5449567523,27247837612,136239188058,68119 5940290,3405979701451,17029898507255,85149492536273 ★ Partial sums of round(5^n/7). • a(n) = round((5 * 5 ^ n + 7) / 28). • a(n) = floor((5 * 5 ^ n + 19) / 28). • a(n) = ceiling((5 * 5 ^ n - 5) / 28). • a(n) = a(n - 6) + 5 58 * 5 ^ (n - 5), n>5. • a(n) = 5 * a(n - 1) + a(n - 6) - 5 * a(n - 7), n>6. • a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 11 * a(n - 3) - 5 * a(n - 4), n>3. •

[A199312] • 5,23,113,563,2813,14063,70313,351563,1757813,8789063,4394531 3,219726563,1098632813,5493164063,27465820313,137329101563,68664550781 3,3433227539063,17166137695313,85830688476563,429153442382813,21457672 11914063 ★ (9*5^n+1)/2. • a(n) = 5 * a(n - 1) - 2. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A005393] • 0,0,1,5,23,118,710,4980,39902,359536,3598695,39615625,475687 486,6187239475,86661001740,1300430722199,20814114415223,35394832866610 0,6372804626194309,121112786592293963,2422786846761133393,508886173255 09644403 ★ Leading term of Stirling's approximation to n!, sqrt(2*Pi)*n^(n+(1/2))/e^n, rounded down. • a(n) = floor(sqrt(2 * Pi) * n ^ (n + (1 / 2)) / e ^ n). - _ W esley Ivan Hurt _ , Jun 11 2016 •

[A162815] • 5,23,119,653,3677,20927,119615,684869,3923957,22488359,12889 5431,738814781,4234877645,24274429007,139142022671,797568604277,4571702 539493,26205228460343,150209694669335,861009587370221 ★ a(n) = 8*a(n-1)- 13*a(n-2) for n > 1; a(0) = 5, a(1) = 23. • a(n) = ((5 + sqrt(3)) * (4 + sqrt(3)) ^ n + (5 - sqrt(3)) * (4 - sqrt(3)) ^ n) / 2. •

[A033312] • 0,0,1,5,23,119,719,5039,40319,362879,3628799,39916799,479001 599,6227020799,87178291199,1307674367999,20922789887999,35568742809599 9,6402373705727999,121645100408831999,2432902008176639999 ★ a(n) = n! - 1. • a(n) = Sum _{ k = 1 .. n } (k - 1) * (k - 1)!. • a(n) = a(n - 1) * (n - 1) + a(n - 1) + n - 1, a(0) = 0. - _ Reinhard Zumkeller _ , Feb 03 2003 • a(0) = a(1) = 0, a(n) = a(n - 1) * n + (n - 1) for n >= 2. - _ Jaroslav Krizek _ , Jan 23 2010 •

[A151881] • 1,5,23,120,724,5012,39332,345832,3371976,36135792,422379792,5 349561984,72996193152,1067779243008,16670798231040,276718772067840,486 6610479828480,90401487246167040,1768784607499944960,36360467544043008 000,783508616506603008000 ★ Sum (number of cycles)^2 over all n! permutations of [1..n]. • a(n) = (- 1) ^ (n + 1) * (Stirling1(n + 1,2) - 2 * Stirling1(n + 1,3)). - _ Vladeta Jovovic _ , Jul 22 2009 • a(n) = n! * (H(n) + H(n) ^ 2 - H2(n)), where H(n)=sum(k=1..n,1 / k), H2(n)=sum(k=1..n,1 / k ^ 2). - _ Vladimir Reshetnikov _ , Oct 20 2015 •

[A121636] • 0,1,5,23,122,754,5364,43308,391824,3929616,43287840,51971184 0,6755460480,94527008640,1416783432960,22646604153600,384576130713600,6 914404440115200,131217341055897600,2621176954176614400 ★ Number of 2-cell columns starting at level 0 in all of deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=0, a(2)=1, a(n)=n(n - 2)! + (n - 1)a(n - 1) for n >=3. • a(n)=(n - 1)!(n ^ 2 - 2n - 1) / n + (n - 1)!(1 / 1 + 1 / 2 + ... + 1 / n) (n>=2). [From _ Emeric Deuts ch _ , Oct 22 2008] • a(n)= (n - 1)! * (h(n - 1) + n - 2), n>1, where h(n)= s um(1 / k,k=1..n) [From _ Gary Detlefs _ , Oct 24 2010] •

[A077240] • 5,23,133,775,4517,26327,153445,894343,5212613,30381335,17707 5397,1032071047,6015350885,35060034263,204344854693,1191009093895,6941 709708677,40459249158167,235813785240325,1374423462283783,801072698846 2373,46689938468490455 ★ Bisection (even part) of Chebyshev sequence with Diophantine property. • a(n) = 6 * a(n - 1) - a(n - 2), a(- 1) = 7, a(0) = 5. • a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 4 + 5 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (4 + 5 * sqrt(2)))) / (2 * sqrt(2)). - _ Colin Barker _ , Oct 12 2015 •

[A007836] • 1,1,1,5,23,151,1141,10205,103823,1190191,15151981,212222405,3 242472023,53670028231,956685677221,18271360434605,372221031054623,8056 751598834271,184647141575344861,4466900836910758805 ★ Springer numbers associated with symplectic group. • a(m) = P _ n(1) - Q _ n(1) (see A15510 0 and A104035), defining Q _{- 1 } = 0. Cf. A156142. •

[A023275] • 5,23,293,593,953,2063,3323,4133,4583,8243,8783,9173,9203,1472 3,15383,16103,16763,18413,19163,20123,25733,29453,37223,38783,39443 ★ Numbers n such that n remains prime through 3 iterations of function f(x) = 2x + 7. • a(n) == 23 (mod 30) for n > 1. - _ John Cerkan _ , Sep 16 2016 •

[A121546] • 5,24,56,100,156,225,307,401,508,627,759,904,1061,1231,1413,160 7,1815,2035,2267,2512,2770,3040,3323,3618,3926 ★ a(n) = dimension of the space in which the sphere of radius n is of maximum volume. • a(n) >= 6.283 5n ^ 2 - 0.009903n - 0.9212 is a lower bound on the real value of the dimensio n. •

[A135703] • 0,5,24,57,104,165,240,329,432,549,680,825,984,1157,1344,1545,17 60,1989,2232,2489,2760,3045,3344,3657,3984 ★ a(n) = n*(7*n-2). • a(n) = 5 * n + 14 * binomial(n,2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) • a(n) = a(n - 1) + 14 * n - 9 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 •

[A006328] • 5,24,79,223,579,1432,3434,8071,18714,42991,98127,222965,50500 8,1141236,2574845,5802636,13065935,29403439,66141015,148734156,33439135 4,751675943,1689494650,3797059555,8533209055 ★ Total preorders. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 4 * a(n - 3) + 4 * a(n - 4) + a(n - 5) - a(n - 6) for n >8. •

[A213766] • 1,5,24,83,263,776,2201,6077,16488,44211,117615,311232,820641,2 158645,5669096,14872483,38989367,102165928,267628569,700924525,18354930 16,4806144675,12583939679,32947361088,86260987393 ★ Principal diagonal of the convolution array A213765. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 3 * a(n - 3) + 6 * a(n - 4) + a(n - 5) - a(n - 6). •

[A268587] • 0,0,0,0,5,24,85,264,760,2080,5488,14080,35328,87040,211200,505 856,1198080,2809856,6533120,15073280,34537472,78643200,178061312,4010803 20,899153920 ★ Expansion of 2*x^4*(5 - 16*x + 13*x^2)/(1 - 2*x)^4. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>6. • a(n) = 2 ^ (n - 7) * (n - 3) * (n + 4) * (n + 11) / 3 for n>2. •

[A270682] • 1,5,24,88,312,1144,4344,16888,66552,264184,1052664,4202488,16 793592,67141624,268500984,1073872888 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 190", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A074085] • 0,0,0,0,5,24,91,308,978,2978,8802,25440,72251,202316,559941,153 4548,4170256,11250630,30158900,80389600,213204513,562896832,1480086111,3 877337556,10123000126 ★ Coefficient of q^2 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(2,1). • a(n)=6a(n - 1) - 9a(n - 2) - 4a(n - 3) + 9a(n - 4) + 6a(n - 5) + a(n - 6) for n>=8. •

[A180354] • 0,5,24,93,272,645,1320,2429,4128,6597,10040,14685,20784,2861 3,38472,50685,65600,83589,105048,130397,160080,194565,234344,279933,33187 2 ★ a(n) = n^4 + 4*n. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. •

[A270126] • 1,5,24,96,384,1536,6144,24576,98304,393216,1572864,6291456,25 165824,100663296,402653184,1610612736 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 86", based on the 5-celled von Neumann neighborhood. • a(n) = 4 * a(n - 1) for n >2. • a(n) = 3 * 2 ^ (2 * n - 1) for n>1. •

[A276139] • 1,5,24,97,411,1718,7209,30217,126696,531173,2226999,9336862,3 9145581,164121053,688091064,2884878457,12095090691,50709664358,2126044 46529,891361661377,3737107216776,15668129957213,65689925955519,2754104 27652622,1154680912735461 ★ Series expansion of (1 + 2x + 4x^2)/(1 - 3x - 5x^2). • a(0)=1, a(1)=5, a(2)=24, a(n) = 3 * a(n - 1) + 5 * a(n - 2) for n>2. •

[A291395] • 5,24,103,425,1704,6715,26153,101052,388303,1486337,5673840,2 1616915,82244873,312603348,1187325847,4507385921,17104894344,648935555 47,246150297257,933554883084,3540272085535,13424640644225,509033707550 40,193007618806051,731797403031305 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - 2 S)(1 - 3 S). • a(n) = 5 * a(n - 1) - a(n - 2) - 12 * a(n - 3) - 6 * a (n - 4) for n >= 5. •

[A273622] • 1,5,24,105,451,1920,8149,34545,146376,620125,2626999,1112832 0,47140601,199691245,845906424,3583318305,15179181851,64300049280,27237 9384749,1153817597625,4887649790376,20704416783605,87705316964399,3715 25684705280 ★ a(n) = (1/3)*(Lucas(3*n) - Lucas(n)). • a(n) = (1 / 3) * ((2 + sqrt(5)) ^ n + (2 - sqrt(5)) ^ n - ((1 + sqrt(5)) / 2) ^ n - ((1 - sqrt(5)) / 2) ^ n). • a(n) = - a(- n). • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 5 * a(n - 3) - a(n - 4). •

[A291010] • 5,24,108,468,1980,8244,33948,138708,563580,2280564,9200988,37 040148,148869180,597602484,2396787228,9606280788,38482518780,1541022620 04,616925608668,2469252116628,9881657512380,39540577187124,15820415016 1308,632942124883668 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - 2 S)(1 - 3 S). • a(n) = 7 * a(n - 1) - 12 * a(n - 2) for n >= 3. • a(n) = 9 * 4 ^ n - 4 * 3 ^ n. - _ Colin Barker _ , Aug 23 2017 •

[A079028] • 1,5,24,112,512,2304,10240,45056,196608,851968,3670016,157286 40,67108864,285212672,1207959552,5100273664,21474836480,90194313216,377 957122048,1580547964928,6597069766656,27487790694400 ★ a(0) = 1, a(n) = (n+4)*4^(n-1) for n >= 1. • a(n) = 8 * a(n - 1) - 16 * a(n - 2), a(0) = 1, a(1) = 5. - _ Paul Barry _ , Mar 07 2003 • a(n)=(1 / 4) * (n - 1) * 4 ^ (n - 1) + 4 ^ (n - 1), with n>=1 - _ Paolo P. Lava _ , Jul 08 2008 •

[A218987] • 5,24,112,521,2421,11248,52256,242769,1127845,5239688,2434228 8,113088217,525379733,2440783584,11339273536,52679444897,244735600197,1 136980735480,5282129742512,24539461176489,114004233933493,529635319263 440,2460553978854240 ★ Power ceiling sequence of 2+sqrt(7). • a(n) = ceiling (x * a(n - 1)), where x=2 + sqrt(7), a(0) = ceiling(x). • a(n) = 5 * a(n - 1) - a(n - 2) - 3 * a(n - 3). • a(n) = (- 14 + (217 - 83 * sqrt(7)) * (2 - sqrt(7)) ^ n + (2 + sqrt(7)) ^ n * (217 + 83 * sqrt(7))) / 84. - _ Colin Barker _ , Sep 02 2016 •

[A141223] • 1,5,24,113,526,2430,11166,51105,233190,1061510,4822984,21879 786,99135076,448707992,2029215114,9170247393,41416383366,186957126702,8 43575853984,3804927658878,17156636097156,77339426905812 ★ Expansion of 1/(sqrt(1-4*x)*(1-3*x*c(x))), where c(x) is the g.f. of A000108. • a(n)=sum { k=0..n, C(2n - k,n - k) * 3 ^ k } • a(n) = [x ^ n] 1 / ((1 + x) ^ (n + 1) * (1 - 3x)). • a(n) = 3 ^ (2n + 1) / 2 ^ (n + 2) + (1 / 4) * sum(binomial(2k,k) * (9 / 2) ^ (n - k),k=0..n). •

[A289783] • 1,5,24,113,527,2446,11325,52369,242008,1117997,5163891,23849 270,110142089,508652653,2349005592,10847859961,50095958215,23134524793 4,1068361195173,4933730638937,22784141325656,105217952251285,485900111

176779,2243903303473318 ★ p-INVERT of the (3^n), where p(S) = 1 - S - S^2. ● a(n) = 7 * a(n - 1) - 11 * a(n - 2). ● a(n) = (2 ^ (- n - 1) * ((7 - sqrt(5)) ^ (n + 1) * (- 4 + sqrt(5)) + (4 + sqrt(5)) * (7 + sqrt(5)) ^ (n + 1))) / (11 * sqrt(5)). - _ Colin Barker _ , Aug 11 2017 ●

[A140766] ● 1,5,24,114,540,2556,12096,57240,270864,1281744,6065280,28701216,135815616,642686400,3041224704,14391229824,68100030720,322252805376,1524916647936,7215983055360,34146398444544,161582492335104,764616563343360,3618204426049536 ★ a(n) = 6*a(n-1) - 6*a(n-2). ● a(n) = 6 * a(n - 1) - 6 * a(n - 2); a(1) = 1, a(2) = 5. ● a(n)=(1 / 2) * [3 - sqrt(3)] ^ n + (1 / 3) * sqrt(3) * [3 + sqrt(3)] ^ n + (1 / 2) * [3 + sqrt(3)] ^ n - (1 / 3) * [3 - sqrt(3)] ^ n * sqrt(3), with n>=0 - _ Paolo P. Lava _ , Jun 25 2008 ●

[A026388] ● 1,5,24,114,541,2573,12275,58747,282003,1357407,6549906,31675020,153481299,745011075,3622111560,17635418730,85975792075,419644943495,2050493623760,10029194506990,49098707209695,240568930012575 ★ a(n) = number of integer strings s(0),...,s(n) counted by array T in A026386 that have s(n)=2; also a(n) = T(2n,n-1). ● a(n) = hypergeom([3 / 2, 2, 1 - n], [1, 3], - 4). - _ Vladimir Reshetnikov _ , Apr 25 2016 ●

[A057969] ● 1,5,24,115,551,2542,11193,46547,182164,670476,2325506,7624434,23716419,70253721,198905506,540079754,1410786483,3555443969,8667153126,20484365167,47037898503,105143200252,229178029000 ★ 5 x n binary matrices without unit columns up to row and column permutations. ● a(n)=(1 / 5!) * (Z(S _ n; 27, 27, ...) + 10 * Z(S _ n; 13, 27, 13, 27, ...) + 15 * Z(S _ n; 7 , 27, 7, 27, ...) + 20 * Z(S _ n; 6, 6, 27, 6, 6, 27, ...) + 20 * Z(S _ n; 4, 6, 13, 6, 4, 27, 4, 6, 13, 6, 4, 27, ...) + 30 * Z(S _ n; 3, 7, 3, 27, 3, 7, 3, 27, ...) + 24 * Z(S _ n; 2, 2, 2, 2, 27, 2, 2, 2, 2, 27, ...)), where Z(S _ n; x _ 1, x _ 2, ..., x _ n) is cycle index of symmetric group S _ n of degree n. G.f. : 1 / 120 * (1 / (1 - x ^ 1) ^ 27 + 10 / (1 - x ^ 1) ^ 13 / (1 - x ^ 2) ^ 7 + 15 / (1 - x ^ 1) ^ 7 / (1 - x ^ 2) ^ 10 + 20 / (1 - x ^ 1) ^ 6 / (1 - x ^ 3) ^ 7 + 20 / (1 - x ^ 1) ^ 4 / (1 - x ^ 2) ^ 1 / (1 - x ^ 3) ^ 3 / (1 - x ^ 6) ^ 2 + 30 / (1 - x ^ 1) ^ 3 / (1 - x ^ 2) ^ 2 / (1 - x ^ 4) ^ 5 + 24 / (1 - x ^ 1) ^ 2 / (1 - x ^ 5) ^ 5). ●

[A004254] ● 0,1,5,24,115,551,2640,12649,60605,290376,1391275,6665999,31938720,153027601,733199285,3512968824,16831644835,80645255351,386394631920,1851327904249,8870244889325,42499896542376,203629237822555,975646292570399,4674602225029440 ★ a(n) = 5*a(n-1) - a(n-2) for n>1, a(0) = 0, a(1) = 1. ● a(n) = ((5 + sqrt(21)) / 2) ^ n - ((5 - sqrt(21)) / 2) ^ n) / sqrt(21). - _ Barry E. Williams _ , Aug 29 2000 ● a(n) = S(2 * n - 1, sqrt(7)) / sqrt(7) = S(n - 1, 5); S(n, x)=U(n, x / 2), Chebyshev polynomials of 2nd kind, A049310 . ● a(n) = sum(k=0..n - 1, binomial(n + k, 2 * k + 1) * 2 ^ k). - _ Paul Barry _ , Nov 30 2004 ● a(n + 1) = sum { k=0..n, Gegenbauer _ C(n - k,k + 1, 2) } . - _ Paul Barry _ , Apr 21 2009 ● a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Jan 22 2017 ●

[A086347] ● 1,5,24,116,560,2704,13056,63040,304384,1469696,7096320,34264064,165441536,798822400,3857055744,18623512576,89922273280,434183143424,2096421666816,10122419240960 ★ On a 3 X 3 board, number of n-move routes of chess king ending in a given side square. ● a(n) = (Sqrt[2] / 32)((2 + Sqrt[8]) ^ (n + 2) - (2 - Sqrt[8]) ^ (n + 2)) ● a(n) = 4 * a(n - 1) + 4 * a(n - 2). - _ Tanya Khovanova _ , Jan 11 2007 ●

[A235115] ● 5,24,116,564,2756,13524,66596,328884,1628036,8074644,40111076,199506804,993339716,4949921364,24682497956,123144054324,614646529796,3068937681684,15327508539236,76568823219444,382569238190276,1911746679323604,9554335350106916,47754084564490164,238700054078273156 ★ Number of independent vertex subsets of the graph obtained by attaching two pendant edges to each vertex of the star graph S_n (having n vertices; see A235114). ● a(n) = 4 * 5 ^ (n - 1) + 2 ^ (2 * n - 2) for n>=1. ● a(n) = 9 * a (n - 1) - 20 * a(n - 2) for n>1. - _ Colin Barker _ , Jul 31 2017 ●

[A110190] ● 0,1,5,24,116,568,2820,14184,72180,371112,1925380,10068728,530238 60,280969560,1497072132,8016213960,43114424308,232817773640,1261793848836,6861179441880,37421756333172,204671007577464,1122275850740996,6168352091629864,33977333521770996 ★ Number of (1,0)-steps on the lines y=0 and y=1 in all Schroeder paths of length 2n (a Schroeder path of length 2n is a path from (0,0) to (2n,0), consisting of steps U=(1,1), D=(1,-1) and H=(2,0) and never going below the x-axis). ● a(n) = Sum _{ k=0..n } ((k + 1) * Sum _{ i=0..n - k } (binomial(n + 1,n - k - i) * binomial(n + i,n)) / (n + 1) * a113127(k)). - _ Vladimir Kruchinin _ , Mar 13 2016 ●

[A291245] ● 5,24,120,599,2990,14925,74500,371876,1856265,9265776,46251265,230868900,1152410620,5752399899,28713814350,143328549649,715442152480,3571217840400,17826174791885,88981552487776,444162405876285,2217091490069376,11066885918992400 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - 5 S + S^2. ● a(n) = 5 * a(n - 1) + a(n - 2) - 5 * a(n - 3) - a(n - 4) for n >= 5. ●

[A163610] ● 5,24,122,640,3412,18336,98920,534656,2892368,15653760,84736928,458742784,2483625280,13446603264,72802072192,394164131840,2134084044032,11554374506496,62557819435520,338701312393216,1833801027048448 ★ a(n) = ((5 + 2*sqrt(2))*(4 + sqrt(2))^n + (5 - 2*sqrt(2))*(4 - sqrt(2))^n)/2. ● a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 5, a(1) = 24. ●

[A193668] ● 1,1,5,24,134,866,6392,53198,493628,5057522,56741240,692118422,9122245508,129220379978,1958059133552,31607140330670,541515698082332,9814691158604258,187629572002767848,3773371262361852422,79636835475910932020 ★ a(n) = Sum_{i=0..n-1} (n+i)*a(n-1-i) for n>1, a(0)=1, a(1)=1. ● a(n) = (n - n ^ 2 - 1) * Gamma(n) + e * (n * Gamma(n + 1,1) - (n - 1) * Gamma(n,1)) for n>0. - _ Peter Luschny _ , May 30 2014. ●

[A256325] ● 0,0,1,5,24,136,933,7589,71376,760796,9051353,118784325,1703388648,26486926720,443732646029,7965563713781,152504645563072,3101366761047860,66753627906345057,1515914174890163541,36218232449903567992,908098606824551207384,23839591584412453131765 ★ a(n) = Sum_{k=0..n-1} (n-k)!*exp(-k/2)*M_{k-n,1/2}(k), where M is the Whittaker function. ● a(n) = Sum _{ k=0..n - 1 } k * (n - k)! * hypergeom([k - n + 1],[2], - k). ● a(n) = Sum _{ k=0..n - 1 } (Sum _{ j=0.. n - k } ((n - k - j)! * C(n - k,j) * C(n - k - 1,j - 1) * k ^ j)). ●

[A201952] ● 1,1,5,24,139,945,7377,65016,638418,6910650,8174766510490894701451609600921541983635934128898855715749220373432010261219822134801934264226676068038399563168056123480079151240045479980175020604366224762038,4000551483475536398178 ★ A diagonal of irregular triangle A201949. ● a(n) = [x ^ n] Product _{ k=0..n } (1 + k * x + x ^ 2). ●

[A111766] ● 0,5,24,145,840,4901,28560,166465,970224,5654885,32959080,192099601,1119638520,6525731525,38034750624,221682772225,1292061882720,7530688524101,43892069261880,255821727047185,1491038293021224,8690408031080165,50651409893459760 ★ Numbers occurring in three Pythagorean triples of the form: odd: a, (a^2-1)/2, (a^2+1)/2 or even: a, a^2/4-1, a^2/4+1. ● a(n) = (6 * (- 1) ^ n + (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n) / 8 for n>0. ● a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3) for n>3. ●

[A084967] ● 5,25,35,55,65,85,95,115,125,145,155,175,185,205,215,235,245,265,275,295,305,325,335,355,365 ★ Multiples of 5 whose GCD's with 6 is 1. ● a(n) = 5 * (- 3 + (- 1) ^ n + 6 * n) / 2. a(n)=a(n - 1) + a(n - 2) - a(n - 3). G.f.: 5 * x * (x ^ 2 + 4 * x + 1) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Feb 24 2013 ●

[A273789] ● 1,5,25,49,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ★ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 931", based on the 5-celled von Neumann neighborhood. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. ●

[A290700] ● 1,5,25,49,141,389,1009,2761,7441,19925,53769,144721,389325,1048325,2821665,7594761,20444065,55029413,148124153,398713969,1073231821,2888859781,7776063377,20931130057,56341150641 ★ Number of minimal edge covers in the n-prism graph. ● a(n) = a(n - 1) + 2 * a(n - 2) + 6 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. ●

[A152734] ● 0,5,25,60,110,175,255,350,460,585,725,880,1050,1235,1435,1650,1880,2125,2385,2660,2950,3255,3575,3910,4260 ★ 5 times pentagonal numbers: 5*n*(3*n-1)/2. ● a(n) = a(n - 1) + 15 * n - 10 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 ●

[A080856] ● 1,5,25,61,113,181,265,365,481,613,761,925,1105,1301,1513,1741,1985,2245,2521,2813,3121,3445,3785,4141,4513 ★ a(n) = 8*n^2 - 4*n + 1. ● a(n) = C(n,0) + 4 * C(n,1) + 16 * C(n,2). - _ Reinhard Zumkeller _ , Jun 17 2009 ● a(n) = 16 * n + a(n - 1) - 12 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 ●

[A060820] ● 5,25,61,113,181,265,365,481,613,761,925,1105,1301,1513,1741,1985,2245,2521,2813,3121,3445,3785,4141,4513,4901 ★ (2*n-1)^2 + (2*n)^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (5 + 10 * x + x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 22 2012 ●

[A154286] ● 5,25,75,175,350,630,1050,1650,2475,3575,5005,6825,9100,11900,15300,19380,24225,29925,36575,44275,53130,63250,74750,87750,102375 ★ a(n) = E(k)C(n+k,k) = Euler(k)*Pascal(n+k,k) for k=4. ● a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * 5 / 24. ● a(n) = a(n - 1) * (n + 4) / n (n>0), a(0)=5. ●

[A171272] ● 1,5,25,77,177,341,585,925,1377,1957,2681,3565,4625,5877,7337,9021,10945,13125,15577,18317,21361,24725,28425,32477,36897 ★ a(n)=1+4*n*(1+2*n^2)/ ● a(n)=4a(n - 1) - 6a(n - 2) + 4a(n - 3) - a(n - 4). ●

[A062989] ● 0,5,25,80,205,456,917,1708,2994,4995,7997,12364,18551,27118,38745,54248,74596,100929,134577,177080,230209,295988,376717,474996,593750 ★ C(n+6,6) - n - 1. ● a(0)=0, a(1)=5, a(2)=25, a(3)=80, a(4)=205, a(5)=456, a(6)=917, a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Aug 08 2013 ●

[A122679] ● 0,5,25,80,225,605,1600,4205,11025,28880,75625,198005,518400,1357205,3553225,9302480,24354225,63760205,166926400,437019005,1144130625,2995372880,7841988025,20530591205,53749785600 ★ Related to number of n-circum-C_5 H_5 systems. ● a(1)=0, a(2)=5, a(3)=25, a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 21 2015 ● a(n) = - 5 * 2 ^ (- 1 - n) * (2 ^ (2 + n) - (3 - sqrt(5)) ^ n * (3 + sqrt(5)) + (- 3 + sqrt(5)) * (3 + sqrt(5)) ^ n). - _ Colin Barker _ , Nov 03 2016 ●

[A018212] ● 1,5,25,85,255,651,1519,3235,6470,12190,21942,37854,63090,101850,160050,245322,367983,541035,781495,1110395,1554553,2146573,2927145,3945045,5260060 ★ Alkane (or paraffin) numbers l(11,n). ● a(n) = (1 / (2 * 8!)) * (n + 2) * (n + 4) * (n + 6) * (n + 8) * ((n + 1) * (n + 3) * (n + 5) * (n + 7) + 1 * 3 * 5 * 7) - (1 / 3) * (1 / 2 ^ 6) * (n ^ 3 + (27 / 2) * n ^ 2 + 56 * n + (279 / 4)) * (1 / 2) * (1 - (- 1) ^ n) [_ Yosu Yurramendi _ Jun 23 2013] ●

[A083090] ● 1,5,25,90,247,766,2258,5860,16526,45639,124043,313327,837221,2216256,5545541,14524810,37810204,97907017,242993558,625252309,1602714963,3962518559,10109705767,25718726896,63402237401 ★ Main diagonal of table A083087. ● a(n)=T(n, n), where T(n, 0)=floor(n * x / (x - 1)) + 1, T(n, k + 1)=ceil(x * T(n, k)), for n>=0, k>=0, where x=1 + sqrt(2). ●

[A073374] ● 1,5,25,95,340,1106,3430,10130,28915,80035,216143,571225,1482110,3783640,9522740,23665300,58149845,141435985,340854645,814589475,1931900376,4549699950,10645737330,24761578470 ★ Fourth convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. ● a(n) = sum(binomial(n - k + 4, 4) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). ●

[A255459] ● 1,5,25,101,361,1205,3865,12101,37321,114005,346105,1046501,3155881,9500405,28566745,85831301,257756041,773792405,2322425785,6969374501,20912317801,62745342005,188252803225,564791964101,1694443001161 ★

a(n) = A255458(2^n-1). • a(n) = (3 - 2 ^ (3 + n) + 2 * 3 ^ (1 + n)). • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>2. •

[A083877] • 1,5,25,101,385,1397,4921,16949,57409,191909,634777,2081477,6775873,21921941,70548793,225995285,721032577,2292237893,7264134169,229546639 73,72350776321,227512682165,713919106105,2235900497141,6990131027905 ★ Absolute value of determinant of n X n matrix where the element a(i,j) = if i + j > n then 2*(i + j -n) - 1, else 2*(n + 1 - i - j). • a(n) = 1 / 12 * [(4n - 1)3 ^ n - 3(- 1) ^ n]. • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - 9 * a(n - 3). G.f.: x * (3 * x ^ 2 + 1) / ((x + 1) * (3 * x - 1) ^ 2). - _ Colin Barker _ , Sep 28 2014 •

[A272762] • 1,5,25,105,417,1657,6689,27353,112513,462969,1899873,7766041,31617089,128250041,518623777,2091988569 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 822", based on the 5-celled von Neumann neighborhood. • a(n) = 12 * a(n - 1) - 55 * a(n - 2) + 120 * a(n - 3) - 124 * a(n - 4) + 48 * a(n - 5) for n > 4 (conjectured). • a(n) = 5 - 2 ^ (1 + n) + 2 ^ (1 + 2 * n) - 4 * 3 ^ n + 2 ^ (2 + n) * n (conjectured). - _ Colin Barker _ , Apr 28 2017 •

[A245551] • 1,5,25,105,420,1596,5880,21120,74415,258115,883883,2994355,10051860,33479460,110750580,364177332,1191186855,3877914915,12571302975,40598200335,130657125984,419173385400,1340928798300,4278305877300,13617034683525 ★ G.f.: 1/(1-2*x-3*x^2)^(5/2). • a(n) = (2 + 3 / n) * a(n - 1) + (3 + 9 / n) * a(n - 2) for n >= 2. - _ Robert Israel _ , Aug 01 2014 •

[A275903] • 1,5,25,109,465,1989,8521,36509,156417,670133,2871033,12300301,52697905,225772453,967271849,4144061053,17754307681,76064381589,325880921433,1396164311533,5981555398289,25626643431045,109791652808201,470377911909981,2015229522041281 ★ Expansion of (1+4*x^2) / (1-5*x+4*x^2-4*x^3). • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + 4 * a(n - 3) for n>2. - _ Colin Barker _ , Aug 26 2016 •

[A282077] • 0,5,25,110,350,1001,2485,5720,12120,24310,46126,83980,146860,248710,408430,653752,1021240,1562275,2343055,3453450,5007002,7153575,10079355,14024400,19282640 ★ Number of 9-element subsets of [n+9] having an even sum. • a(n) = ((384 + 400 * n + 140 * n ^ 2 + 20 * n ^ 3 + n ^ 4) * (- 945 * (- 1 + (- 1) ^ n) + 3378 * n + 1900 * n ^ 2 + 460 * n ^ 3 + 50 * n ^ 4 + 2 * n ^ 5)) / 1451520. - _ Colin Barker _ , Feb 06 2017 •

[A290920] • 5,25,110,450,1746,6505,23465,82435,283270,955258,3169520,10368490,33497790,107028120,338582738,1061557195,3301399385,10191612315,31250047480,95226980516,288523285450,869559080385,2607834545025,7785230674580,23142279699355 ★ p-INVERT of the positive integers, where p(S) = (1 - S)^5. • a(n) = 15 * a(n - 1) - 95 * a(n - 2) + 330 * a(n - 3) - 685 * a(n - 4) + 873 * a(n - 5) - 695 * a(n - 6) + 330 * a(n - 7) - 95 * a(n - 8) + 15 * a(n - 9) - a(n - 10). •

[A267228] • 5,25,110,470,1980,8274,34396,142474,588596,2426738,9989292,41065818,168636772,691859842,2836150748,11617837802,47559474708,194575978386,795613053964,3251559375226,13282278193604,54232112235170 ★ Number of length-n 0..4 arrays with no following elements greater than or equal to the first repeated value. • a(n) = (2 * (- 3 * 2 ^ (1 + n) - 8 * 3 ^ n + 41 * 4 ^ n - 8) + 3 * 4 ^ n * n) / 48 for n>1. •

[A092440] • 1,5,25,113,481,1985,8065,32513,130561,523265,2095105,8384513,33546241,134201345,536838145,2147418113,8589803521,34359476225,137438429185,549754765313,2199021158401,8796088827905,35184363700225 ★ a(n) = 2^(2n+1) - 2^(n+1) + 1. • a(n)=2 ^ (2n + 1) - 2 ^ (n + 1) + 1 • a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: - (4 * x ^ 2 - 2 * x + 1) / ((x - 1) * (2 * x - 1) * (4 * x - 1)). - _ Colin Barker _ , Nov 22 2012 •

[A267467] • 5,25,115,515,2285,10119,44901,200119,897301,4052183,18444197,84651063,391805877,1828676887,8604122053,40793238647,194778656213,936040595031,4524410973669,21981448319671,107275320299509,525571712299415 ★ Number of length-n 0..4 arrays with no following elements larger than the first repeated value. • a(n) = (- 80 - 15 * 2 ^ (2 + n) - 80 * 3 ^ n + 335 * 4 ^ n + 48 * 5 ^ n) / 240 + 4 ^ (- 2 + n) * n. •

[A200781] • 1,5,25,115,530,2425,11100,50775,232275,1062500,4860250,22232375,101698250,465201250,2127983750,9734098125,44526969375,203681015625,931704015625,4261920875000,19495429065625,89178510250000,407931862578125,1866014626609375,8535765175875000 ★ G.f.: 1/(1-5*x+10*x^3-5*x^4). • a(n) = 5 * a(n - 1) - 10 * a(n - 3) + 5 * a(n - 4). •

[A089927] • 1,5,25,120,576,2760,13225,63365,303601,1454640,6969600,33393360,159997201,766592645,3672966025,17598237480,84318221376,403992869400,1935646125625,9274237758725,44435542668001,212903475581280 ★ Expansion of 1/((1-x^2)(1-5x+x^2)). • a(n)=5a(n - 1) - 5a(n - 3) + a(n - 4). • a(n) =((5 - sqrt(21)) ^ n((23 - 5sqrt(21)) / 21 + (5 + sqrt(21)) ^ n((23 + 5sqrt(21)) / 21)2 ^ (- 1 - n) + (- 1) ^ n / 14. • a(n)=sum { k=0..floor(n / 2), U(n - 2k, 5 / 2) } •

[A123871] • 1,5,25,120,580,2800,13520,65280,315200,1521920,7348480,35481600,171320320,827207680,3994112000,19285278720,93117562880,449611366400,2170915717120,10482108334080,50612096204800,244376818155520,1179955657441280,5697329902387200 ★ G.f.: (1+x+x^2)/(1-4*x-4*x^2). • a(n)=4 * a(n - 1) + 4 * a(n - 2) for n>2. [From _ Philippe Deléham _ , Sep 19 2009] •

[A218989] • 5,25,121,585,2825,13641,65865,318025,1535561,7414345,35799625,172855881,834622025,4029911625,19458134601,93952184905,453641278025,2190373851721,10576060518985,51065737482825,246567192007241,1190531717960265,5748395639870025 ★ Power ceiling sequence of 2+sqrt(8). • a(n) = ceiling(x * a(n - 1)), where x=2 + sqrt(8), a(0) = ceiling(x). • a(n) = 5 * a(n - 1) - 4 * a(n - 3). • a(n) = (1 / 7) * (- 1 + (18 - 13 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ n + (2 * (1 + sqrt(2))) ^ n * (18 + 13 * sqrt(2))). - _ Colin Barker _ , Nov 13 2017 •

[A275906] • 1,5,25,121,589,2865,13937,67797,329801,1604329,7804317,37964385,184679137,898378405,4370194553,21258970969,103415040493,503066240401,2447184094545,11904416380277,57909468139689,281702722174409,1370353177636669,6666133067384001,32427647702257089 ★ Expansion of (1+x+x^2) / (1-4*x-4*x^2-x^3). • a(n) = 4 * a(n - 1) + 4 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Aug 26 2016 •

[A099504] • 1,5,25,124,615,3050,15126,75015,372025,1844999,9149980,45377875,225044376,1116071900,5534981625,27449863749,136133246845,675131252600,3348206399251,16604898749410,82349362494450,408398606072999 ★ Expansion of 1/(1-5x+x^3). • a(n) = 5a(n - 1) - a(n - 3). • a(n) = sum { k=0..floor(n / 3), binomial(n - 2k, k)(- 1) ^ k * 5 ^ (n - 3k) } . •

[A267780] • 1,5,25,125,505,2045,8185,32765,131065,524285,2097145,8388605,33554425,134217725,536870905,2147483645,8589934585,34359738365,137438953465,549755813885,2199023255545,8796093022205,35184372088825,140737488355325,562949953421305 ★ Decimal representation of the n-th iteration of the "Rule 211" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3) for n>3. •

[A126642] • 5,25,125,601,2765,12265,52925,223801,932525,3844105,15722525,63936601,258902285,1045109545,4209004925,16921851001,67945160045,272554432585,1092540156125,4377129999001,17529432313805,70180474597225,280910151192125 ★ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3,4 and 5 and at least one of digits 6,7,8,9. • a(n) = 4 * 4 ^ n - 6 * 3 ^ n + 4 * 2 ^ n - 1. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). - _ Colin Barker _ , Feb 22 2015 •

[A163844] • 1,5,25,125,621,3065,15051,73645,359485,1752125,8532591,41537105,202200415,984526275,4795673085,23372376525,113978687085,556205251325,2716129289775,13273197773125,64909884686595,317652752793975,1555587408645225,7623031579626625 ★ Row sums of triangle A163841. • a(n) = Sum _{ k=0..n } Sum _{ i=k..n } binomial(n - k,n - i) * (2i) $ where i $ denotes the swinging factorial of i (A056040). •

[A206451] • 5,25,125,625,3124,15615,78050,390125,1950000,9746876,48718765,243515775,1217188750,6083993750,30410221874,152002390605,759768437250,3797624997500,18982040993750,94879794746876,474246971343775 ★ Number of 0..4 arrays of length n avoiding the consecutive pattern 0..4 • a(n) = [1 1 1 1 1] M ^ n [1 0 0 0 0] ^ T, where •

[A102169] • 5,25,125,625,3125,15625,78005,384550,1829850,8209410,34219650,131875900,470597480,1562441800,4855374080,14208711350,39381411950,103917328350,262270328730,635683810740,1484963848500,3353799866500 ★ a(n) = the number of sequences of n integers such that each integer is in the range 0..4 and the sum of the integers is in the range 0..24. • a(n) is the sum of the coefficients of 1, x, x ^ 2, ..., x ^ 24 in (1 + x + x ^ 2 + x ^ 3 + x ^ 4) ^ n = (1 - x ^ 5) ^ n / (1 - x) ^ n. •

[A000351] • 1,5,25,125,625,3125,15625,78125,390625,1953125,9765625,48828125,244140625,1220703125,6103515625,30517578125,152587890625,762939453125,3814697265625,19073486328125,95367431640625,476837158203125,2384185791015625,11920928955078125 ★ Powers of 5: a(n) = 5^n. • a(n) = 5 ^ n. • a(0) = 1; a(n) = 5 * a(n - 1) for n > 0. •

[A083590] • 1,5,25,125,625,3126,15630,78150,390750,1953750,9768751,48843755,244218775,1221093875,6105469375,30527346876,152636734380,763183671900,3815918359500,19079591797500,95397958987501,476989794937505 ★ Expansion of 1/((1-5*x)*(1-x^5)). • a(n) = floor(625 * (5 ^ (n + 1) + 1) / 3124). - _ Tani Akinari _ , Jul 09 2013 •

[A111993] • 1,5,25,125,630,3206,16470,85350,445775,2344595,12408903,66042795,353259900,1898119100,10240583420,55454182716,301307002605,1642192132625,8975693643525,49186242980105,270186765784210 ★ Fifth convolution of Schroeder's (second problem) numbers A001003(n), n>=0. • a(n)= (5 / n) * Sum _{ k=1,..,n } binomial(n,k) * binomial(n + k + 4,k - 1), a(0)=1. • a(n) = 5 * hypergeom([1 - n, n + 6], [2], - 1), n>=1, a(0)=1. •

[A033141] • 1,5,25,126,630,3150,15751,78755,393775,1968876,9844380,49221900,246109501,1230547505,6152737525,30763687626,153818438130,769092190650,3845460953251,19227304766255,96136523831275,480682619156376 ★ Base-5 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0. • a(n) = + 5 * a(n - 1) + a(n - 3) - 5 * a(n - 4). G.f.: x / ((x - 1) * (5 * x - 1) * (1 + x + x ^ 2)). - R. J. Mathar, Jan 08 2011 •

[A099524] • 1,5,25,126,635,3200,16126,81265,409525,2063751,10400020,52409625,264111876,1330959400,6707206625,33800145001,170331684405,858365628650,4325628288251,21798473125660,109850731256950,553579284573001 ★ Expansion of 1/(1-5*x-x^3). • a(n) = 5 * a(n - 1) + a(n - 3). • a(n) = Sum _(k=0..floor(n / 3)) binomial(n - 2 * k, k) * 5 ^ (n - 3 * k). •

[A081916] • 1,5,25,126,645,3375,18125,100000,565625,3265625,19140625,113281250,673828125,4013671875,23876953125,141601562500,836181640625,4913330078125,28717041015625,166931152343750,965118408203125 ★ 5^n(n^3-3n^2+2n+750)/750. • a(n)=5 ^ n(n ^ 3 - 3n ^ 2 + 2n + 750) / 750. G.f.: (1 - 15x + 75x ^ 2 - 124x ^ 3) / (1 - 5x) ^ 4. •

[A082308] • 1,5,25,127,657,3449,18281,97395,519841,2773741,14776377,78538343,416367665,2201517153,11610231433,61078202971,320570884929,1678897264085,8775159682649,45780628812879,238431945108433 ★ Expansion of (1+x)exp(4x)cosh(x). • a(n)=((n + 3) * 3 ^ (n - 1) + (n + 5) * 5 ^ (n - 1)) / 2 G.f.: ((1 - 4x) / (1 - 5x) ^ 2 + (1 - 2x) / (1 - 3x) ^ 2) / 2 E.g.f. (1 + x)exp(4x)cosh(x)=(1 + x)(exp(5x) + exp(3x)) / 2 •

[A060928] • 1,5,25,129,665,3425,17641,90865,468025,2410689,12416905,63956625,329425881,1696797025,8739811625,45016761649,231870996345,1194314228225,6151638187721,31685674923985,163205631532825 ★ Expansion of 1/(1-

5*x-4*x^3). • a(n)=5 * a(n - 1) + 4 * a(n - 3), n >= 3; a(n)=5 ^ n, n=0, 1, 2 . •

[**A002002**] • 0,1,5,25,129,681,3653,19825,108545,598417,3317445,18474633,103274625,579168825,3256957317,18359266785,103706427393,586889743905,3326741166725,18885056428537,107347191941249,610916200215241 ⋆ a(n) = Sum_{k=0..n-1} binomial(n,k+1) * binomial(n+k,k). • a(n) = Sum _{ k=0..n - 1 } binomial(n - 1, k) * binomial(n + k, k + 1). - _ Paul Barry _ , Sep 20 2004 • a(n) = n * hypergeom([n + 1, - n + 1], [2], - 1) = (n + 1) * LegendreP(n + 1,3) - (5 * n + 3) * LegendreP(n,3)) / (2 * n) for n>0. - _ Mark van Hoeij _ , Jul 12 2010 • a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Aug 09 2011 • a(n) = (- 1) ^ (n - 1) * Sum _{ k=0..n - 1 } (- 2) ^ k * binomial(n - 1,k) * binomial(n + k,k) and n ^ 3 * a(n) = Sum _{ k=0..n - 1 } (4 * k ^ 3 + 4 * k ^ 2 + 4 * k + 1) * binomial(n - 1,k) * binomial(n + k,k). For each of the two equalities, both sides satisfy the same recurrence - this follows from the Zeilberger algorithm. - _ Zhi - Wei Sun _ , Aug 30 2014 • a(n) = hypergeom([1 - n, - n], [1], 2) for n>=1. - _ Peter Luschny _ , Nov 19 2014 • a(n + 1) = (1 / 2 ^ (n + 1)) * Sum _{ k = 0..inf } (1 / 2 ^ k) * binomial(n + k, n) * binomial(n + k, n + 1). - _ Peter Bala _ , Mar 02 2017 •

[**A272706**] • 1,5,25,137,649,2825,11785,48137,194569,782345,3137545,12566537,50298889,201261065,805175305,3220963337 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 515", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[**A275905**] • 1,5,25,137,757,4181,23089,127505,704125,3888413,21473113,118581689,654847621,3616286885,19970341825,110282885537,609018861517,3363205196141,18572740363369,102564864314825,566397375191125,3127835138929013,17272948436630353,95386979953377329,526758704688230941 ⋆ Expansion of (1-x-2*x^2) / (1-6*x+3*x^2-2*x^3). • a(n) = 6 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) for n>2. - _ Colin Barker _ , Aug 26 2016 •

[**A094094**] • 1,5,25,139,871,6131,48161,419399,4025071,42359239,486703009,6081751259,82345132871,1203618149579,18920122802881,318578240878351,5722495974697951,109204791111380879,2205128748183225281 ⋆ Define x[1]...x[n] by the equations Sum_{j=1..n} x[j]^i = i, i=1..n; a(n) = n! * Sum_{j=1..n} x[j]^(n+1). • a(n) = n! * (n + 1 - LaguerreL(n,1,1)) = Sum _{ k=1..n } (- 1) ^ (k + 1) * n! / k! * binomial(n + 1,k + 1). - _ Vladeta Jovovic _ , Apr 27 2006 • a(n) = (3 * n - 1) * a(n - 1) - n * (3 * n - 4) * a(n - 2) + (n - 2) * (n - 1) * n * a(n - 3). - _ Vaclav Kotesovec _ , Nov 13 2017 •

[**A199319**] • 5,25,145,865,5185,31105,186625,1119745,6718465,40310785,241864705,1451188225,8707129345,52242776065,313456656385,1880739938305,11284439629825,67706637778945,406239826673665,2437438960041985,14624633760251905 ⋆ 4*6^n+1. • a(n) = 6 * a(n - 1) - 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). •

[**A049427**] • 1,1,5,25,145,1025,8245,72745,704705,7424065,83940805,1012504505,12972555025,175624847425,2501468566325,37364323364425,583569693556225,9504040277271425,161021013457176325,2832196631069755225,51619359912771959825 ⋆ Row sums of triangle A049424. • a(n) = n! * sum(k=0..n, sum(j=0..k, binomial(5 * j,n) * (- 1) ^ (k - j) / (5 ^ k * (k - j)! * j!))). - _ Vladimir Kruchinin _ , Feb 07 2011 •

[**A121639**] • 0,1,5,25,147,996,7668,66264,635976,6717600,77482080,969338880,13076778240,189261999360,2925629280000,48111515827200,8387313806592000,154515446055936000,2999607984221184000,61205053814231040000 ⋆ Number of 2-cell columns in all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=0, a(2)=1, a(3)=5, a(n)=na(n - 1) + (n - 1)! - (n - 3)! for n>=4. •

[**A098212**] • 5,25,149,865,5045,29401,171365,998785,5821349,33929305,197754485,1152597601,6717831125,39154389145,228208503749,1330096633345,7752371296325,45184131144601,263352415571285,1534930362283105,8946229758127349,52142448186480985 ⋆ Expansion of (5-x^2)/((1+x)*(1-6*x+x^2)). • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3), a(0) = 5, a(1) = 25, a(2) = 149. - _ Robert G. Wilson v _ , Nov 05 2004 • a(n) = (1 / 2) * (- 1) ^ n - (3 / 2) * sqrt(2) * ((3 - 2 * sqrt(2)) ^ n - (3 + 2 * sqrt(2)) ^ n) + (9 / 4) * ((3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n), with n>=0. - _ Paolo P. Lava _ , Nov 28 2008 •

[**A002050**] • 0,1,5,25,149,1081,9365,94585,1091669,14174521,204495125,3245265145,56183135189,1053716696761,21282685940885,460566381955705,10631309363962709,260741534058271801,6771069326513690645 ⋆ Number of simplices in barycentric subdivision of n-simplex. • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k)k! * S2(n, k)(2 ^ k - 1). - _ Paul Barry _ , Apr 20 2005 • a(n) = 1 + 2 * Sum _{ k=2..n } k! * Stirling2(n,k), n > 0, a(0)=1. - _ Vladimir Kruchinin _ , Sep 27 2013 •

[**A106565**] • 0,5,25,150,875,5125,30000,175625,1028125,6018750,35234375,206265625,1207500000,7068828125,41381640625,242252343750,1418169921875,8302111328125,48601406250000,284517587890625,1665594970703125 ⋆ Let M={{0, 5}, {1, 5}}, v[n]=M.v[n-1]; then a(n) =v[n][[1]]. • a(n)=5 * a(n - 1) + 5 * a(n - 2), n>1 ; a(0)=0, a(1)=5 . G.f.: 5x / (1 - 5x - 5x ^ 2). [From _ Philippe Deléham _ , Nov 19 2008] •

[**A216689**] • 1,1,5,25,153,1121,9373,87417,898033,10052353,121492341,1573957529,21729801481,318121178337,4917743697805,79981695655801,1364227940101857,24335561350365953,452874096174214117,8772713803852981785,176541611843378273401,3684142819311127955041,79596388271096140589949 ⋆ E.g.f. exp(x * exp(x)^2). • a(n) = Sum _{ k=0..n } binomial(n,k) * (2 * k) ^ (n - k) for n>=0. - _ Paul D. Hanna _ , Aug 02 2014 •

[**A092166**] • 5,25,155,925,5555,33325,199955,1199725,7198355,43190125,259140755,1554844525,9329067155,55974402925,335846417555,2015078505325,12090471031955,72542826191725,435256957150355,2611541742902125 ⋆ Let M = 2 X 2 matrix [1 2 / 5 4]; a(n) = (2,1) entry of M^n. • a(n) = (5 * 6 ^ n - 5 * (- 1) ^ n) / 7. • a(n) = 5 * a(n - 1) + 6 * a(n - 2). •

[**A204209**] • 1,5,25,155,1025,7167,51945,387000,2944860,22791189,178840639,1419569398,11377983292,91957314063,748575327757,6132254500856,50514620902564,418174191239443,3477075679541185,29026557341147912,243184916545458556 ⋆ Number of length n+1 nonnegative integer arrays starting and ending with 0 with adjacent elements differing by no more than 4. • a(n) = Sum _{ i=1..n } ((Sum _{ j=0..(4 * i) / 9 } (binomial(i,j) * binomial(- 9 * j + 5 * i - 1,4 * i - 9 * j) * (- 1) ^ j)) * a(n - i)) / n. - _ Vladimir Kruchinin _ , Apr 06 2017 •

[**A090014**] • 5,25,155,1135,9545,90445,952175,11016595,138864365,1893369505,27756952355,435287980375,7269934161905,128812336516885,2413131201408695,47652865538001595,989254278781162325 ⋆ Permanent of (0,1)-matrix of size n X (n+d) with d=4 and n-1 zeros not on a line. • a(n) = (n + 3) * a(n - 1) + (n - 2) * a(n - 2), a(1)=5, a(2)=25. •

[**A137963**] • 1,1,5,25,160,1075,7671,56760,431865,3357790,26558520,213032988,1728808700,14168337265,117096909495,974842628790,8167462511193,68813778610350,582675107162175,4955767502292960,42318868510894860 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^3)^5. • a(n) = Sum _{ k=0..n - 1 } C(5 * (n - k),k) / (n - k) * C(3 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[**A134007**] • 5,25,165,1225,9669,79225,665445,5686825,49208709,429746905,3779084325,33407391625,296515495749,2639977136185,23561123826405,210669225531625,1886405750358789,16910575282247065,151726863979595685 ⋆ 1^n + 3^n + 5^n + 7^n + 9^n. • a(n) = 24 * a(n - 1) - 206 * a(n - 2) + 744 * a(n - 3) - 945 * a(n - 4) + 384 •

[**A184958**] • 0,0,0,0,5,25,269,1883,20103,180927,2172149,23893639,326640467,4246326071,65675585793,985133786895,17069814958319,290186854291423,5579050805341613,106001965301490647,2241684406438644939,47075372535211543719 ⋆ Number of nonincreasing even cycles in all permutations of {1,2,...,n}. A cycle (b(1), b(2), ...) is said to be increasing if, when written with its smallest element in the first position, it satisfies b(1)<b(2)<b(3)<... . A cycle is said to be even if it has an even number of entries. • a(n) = (n! * H(n) - 2F0(1, - n;; - 1) + (- 1) ^ (n + 1) * 2F0(1, - n;;1) + n! * (2 + (- 1) ^ n * LerchPhi(- 1,1,n + 1) - log(2))) / 2, where H(n) is the n - th harmonic number. - _ Benedict W. J. Irwin _ , May 30 2016 •

[**A007185**] • 5,25,625,625,90625,890625,2890625,12890625,212890625,8212890625,18212890625,918212890625,9918212890625,59918212890625,259918212890625,6259918212890625,56259918212890625,256259918212890625,2256259918212890625,9225625991821289062 5 ⋆ a(n) = 5^(2^n) mod 10^n. • a(n + 1) = a(n) ^ 2 mod 10 ^ (n + 1). - _ Eric M. Schmidt _ , Jul 28 2012 •

[**A042883**] • 1,5,26,57,482,1021,5587,28956,1800859,9033251,46967114,102967479,870706946,1844381371,10092613801,52307450376,3253154537113,16318080135941,84843555216818,186005190569577,1572885079773434,3331775350116445,18231761830355659 ⋆ Denominators of continued fraction convergents to sqrt(973). • a(n) = 1806446 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 31 2014 •

[**A139273**] • 0,5,26,63,116,185,270,371,488,621,770,935,1116,1313,1526,1755,2000,2261,2538,2831,3140,3465,3806,4163,4536 ⋆ a(n) = n*(8*n - 3). • a(n) = 8 * n ^ 2 - 3 * n. • a(n) = 16 * n + a(n - 1) - 11 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=5, a(2)=26, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 02 2012 •

[**A185939**] • 5,26,65,122,197,290,401,530,677,842,1025,1226,1445,1682,1937,2210,2501,2810,3137,3482,3845,4226,4625,5042,5477 ⋆ a(n) = 9*n^2 - 6*n + 2. • a(n) = a(n - 1) + 18 * n - 15, a(1) = 5. - _ Vincenzo Librandi _ , Feb 07 2011 • a(n) = (2 * n - 1) ^ 2 + (2 * n) ^ 2 + (n - 1) ^ 2. - _ Bruno Berselli _ , Feb 06 2012 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ G. C. Greubel _ , Feb 25 2017 •

[**A273419**] • 1,5,26,67,139,252,412,629,909,1262,1694,2215,2831,3552,4384,5337,6417,7634,8994,10507,12179,14020,16036,18237,20629 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 705", based on the 5-celled von Neumann neighborhood. • a(n) = (111 - 3 * (- 1) ^ n - 58 * n + 48 * n ^ 2 + 16 * n ^ 3) / 12 for n>1. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 29 * n + 54) / 6 for n>1 and even. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 29 * n + 57) / 6 for n>1 and odd. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>6. •

[**A273447**] • 1,5,26,67,147,267,435,659,947,1307,1747,2275,2899,3627,4467,5427,6515,7739,9107,10627,12307,14155,16179,18387,20787 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 721", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 8 * n - 39) / 3 for n>2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>6. •

[**A273406**] • 1,5,26,70,147,263,428,648,933,1289,1726,2250,2871,3595,4432,5388,6473,7693,9058,10574,12251,14095,16116,18320,20717 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 673", based on the 5-celled von Neumann neighborhood. • a(n) = (9 + 3 * (- 1) ^ n - 10 * n + 48 * n ^ 2 + 16 * n ^ 3) / 12. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 5 * n + 6) / 6 for n even. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 5 * n + 3) / 6 for n odd. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. •

[**A273833**] • 1,5,26,71,147,264,428,649,933,1290,1726,2251,2871,3596,4432,5389,6473,7694,9058,10575,12251,14096,16116,18321,20717 ⋆ Partial sums of the

number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 961", based on the 5-celled von Neumann neighborhood. • a(n) = (16 * n ^ 3 + 48 * n ^ 2 - 10 * n - 3 * ((- 1) ^ n - 5)) / 12 for n>1. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 5 * n + 6) / 6 for n>1 and even. • a(n) = (8 * n ^ 3 + 24 * n ^ 2 - 5 * n + 9) / 6 for n>1 and odd. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>6. •

[A273849] • 1,5,26,71,147,268,437,662,951,1312,1753,2282,2907,3636,4477,5438,6527,7752,9121,10642,12323,14172,16197,18406,20807 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 969", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 11 * n - 51) / 3 for n>3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>7. •

[A273781] • 1,5,26,74,155,276,445,670,959,1320,1761,2290,2915,3644,4485,5446,6535,7760,9129,10650,12331,14180,16205,18414,20815 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. • a(n) = (n - 1) * (4 * n ^ 2 + 16 * n + 27) / 3 for n>2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>6. •

[A048395] • 0,5,26,75,164,305,510,791,1160,1629,2210,2915,3756,4745,5894,7215,8720,10421,12330,14459,16820,19425,22286,25415,28824 ⋆ Sum of consecutive nonsquares. • a(n) = 2 * n ^ 3 + 2 * n ^ 2 + n. • a(n) = Sum _{ j=0..n } ((n + j + 2) ^ 2 - j ^ 2 + 1). - _ Zerinvary Lajos _ , Sep 13 2006 • a(0)=0, a(1)=5, a(2)=26, a(3)=75, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Nov 01 2013 •

[A081530] • 1,5,26,77,522,669,5772,13827,48610,55991,699612,785633,11359222,12530955,13726712,29889983,550271934,593094837,12094689300,12932216325,13780828710,14640022575,356714770680,376932115005,1986818142426 ⋆ a(n) = running sum of the first n harmonic numbers, multiplied by the LCM of 1..n. • a(n) = lcm(1..n) * (n + 1) * (H(n + 1) - 1), where H(n) is the n - th harmonic number. - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Dec 19 2004 •

[A096943] • 5,26,81,196,406,756,1302,2112,3267,4862,7007,9828,13468,18088,23868,31008,39729,50274,62909,77924,95634,116380,140530,168480,200655 ⋆ Sixth column of (1,5)-Pascal triangle A096940. • a(0)=5, a(1)=26, a(2)=81, a(3)=196, a(4)=406, a(5)=756, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Jan 11 2014 •

[A079909] • 1,5,26,90,246,566,1146,2106,3590,5766,8826,12986,18486,25590,34586,45786,59526,76166,96090,119706,147446,179766,217146,260090,309126 ⋆ Solution to the Dancing School Problem with 4 girls and n+4 boys: f(4,n). • a(0)=1, a(1)=5, a(n)=n ^ 4 - 2 * n ^ 3 + 9 * n ^ 2 - 8 * n + 6 (n>=2) found by applying theorem 7.2.1 of Brualdi, Ryser: Combinatorial Matrix Theory. •

[A211606] • 0,0,1,5,26,110,490,2086,9240,40776,185820,855580,4048616,19455800,95773496,479581480,2454041920,12776826816,67849286160,366455145936,2015621873440,11268605368160,64074235576736,370040657037920,2171138049287296 ⋆ Total number of inversions over all involutions of length n. • a(n) = (n * (n - 2) * (9 * n - 7) * a(n - 1) + n * (n - 1) * (9 * n ^ 2 - 13 * n + 2) * a(n - 2)) / ((n - 2) * (9 * n ^ 2 - 31 * n + 24)) for n>=3; a(n) = n * (n - 1) / 2 for n<3. •

[A247491] • 0,0,0,0,1,5,26,126,624,3193,17119,96668,576104,3621982,23980620,166805068,1215842905,9263445775,73599067250,608471202527,5224252803246,46499854580107,428369819029085,4078345518655015,40073659206668916 ⋆ Crossing partitions of {1,2,...,n} that contain no singletons. • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * C(n,k) * (Bell(k) - Catalan(k)). •

[A244617] • 1,5,26,127,636,3153,15727,78406,391494,1955563,9772721,48847892,244196337,1220857221,6103941997,30518746918,152591088797,762948154799,3814720881833,19073550187976,95367603900506,476837621600990,2384187034951204,11920932287085421,59604653684027019 ⋆ G.f.: Sum_{n>=0} (4 + x^n)^n * x^n / (1-x)^(n+1). • a(n) - 5 ^ n ~ n / 17 * ((1 + sqrt(17)) / 2) ^ n. - _ Vaclav Kotesovec _ , Jul 02 2014 •

[A033115] • 1,5,26,130,651,3255,16276,81380,406901,2034505,10172526,50862630,254313151,1271565755,6357828776,31789143880,158945719401,794728597005,3973642985026,19868214925130,99341074625651,496705373128255 ⋆ Base-5 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. • a(n) = 5 * a(n - 1) + a(n - 2) - 5 * a(n - 3). - _ Joerg Arndt _ , Jan 08 2011 • a(n) = floor(5 ^ (n + 2) / 24); • a(n) = Sum _{ k=0..floor(n / 2) } 5 ^ (n - 2 * k); • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } (- 1) ^ (j + k) * 5 ^ j. • a(n) = 4 * a(n - 1) + 5 * a(n - 2) + 1. (End) • a(n) = (1 / 3) * floor(5 ^ (n + 1) / 8) = floor((5 * 5 ^ n - 1) / 24) = round((5 * 5 ^ n - 3) / 24) = round((5 * 5 ^ n - 5) / 24) = ceiling((5 * 5 ^ n - 5) / 24); •

[A033123] • 1,5,26,131,655,3276,16381,81905,409526,2047631,10238155,51190776,255953881,1279769405,6398847026,31994235131,159971175655,799855878276,3999279391381,19996396956905,99981984784526,499909923922631,2499549619613155,12497748098065776 ⋆ Base-5 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. • a(n) = 5 * a(n - 1) + a(n - 3) - 5 * a(n - 4). •

[A022032] • 5,26,135,700,3629,18813,97527,505582,2620947,13587040,70435478,365138879,1892887004,9812762803,50869551972,263708740319,1367071205166,7086923541985,36738748574433,190454382472052,987319198674433,5118281802804775,26533271760636405,137548993480193164 ⋆ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(5,26). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for all n > 0. - _ M. F. Hasler _ , Feb 11 2016 •

[A255118] • 1,5,26,135,700,3630,18825,97625,506275,2625500,13615625,70609500,366175000,1898953125,9847813125,51069940625,264844468750,1373461409375,7122656750000,36937506093750,191554837515625,993387471328125,5151624887109375,26715898623125000 ⋆ Number of n-length words on {0,1,2,3,4,5} in which 0 appears only in runs of length 2. • a(n + 3) = 5 * a(n + 2) + 5 * a(n) with n>1, a(0) = 1, a(1) = 5, a(2) = 26. •

[A052918] • 1,5,26,135,701,3640,18901,98145,509626,2646275,13741001,71351280,370497401,1923838285,9989688826,51872282415,269351100901,1398627786920,7262490035501,37711077964425,195817879857626 ⋆ a(0)=1, a(1)=5, a(n+1) = 5*a(n) + a(n-1). • a(n - 1) = (((5 + sqrt(29)) / 2) ^ n - ((5 - sqrt(29)) / 2) ^ n) / sqrt(29). - _ Gary W. Adamson _ , Jul 01 2003 • a(n)= U(n, 5 * I / 2) * (- I) ^ n with I ^ 2= - 1 and Chebyshev's U(n, x / 2)=S(n, x) polynomials. See triangle A049310. • a(n)=F(n, 5), the n - th Fibonacci polynomial evaluated at x=5. - _ T. D. Noe _ , Jan 19 2006 • a(n) = (1 / 5) * [A ^ (n + 2) - A ^ (n + 1)] _ (1,1); • a(n) = [A ^ (n + 1)] _ (1,2); • a(n) = (1 / 5) * [A ^ (n + 1)] _ (2,1); •

[A255633] • 1,5,26,136,710,3706,19346,100990,527186,2752006,14365970,74992966,391476866,2043580150,10667858546,55688153926,290702250530,1517518403926,7921720943186,41352818219110 ⋆ Number of n-length words on {0,1,2,3,4,5} avoiding runs of zeros of length 1 (mod 3). • a(n + 3) = 5 * a(n + 2) + 6 * a(n) with n > 0, a(0) = 1, a(1) = 5, a(2) = 26. •

[A255815] • 1,5,26,136,711,3716,19421,101501,530481,2772486,14490016,75730071,395792776,2068556381,10811024761,56502330541,295301641346,1543353319176,8066123361031,42156481777036,220325040452941,1151498450637621 ⋆ Numbers of words on {0,1,2,3,4,5} having no isolated zeros. • a(n + 3) = 6 * a(n + 2) - 5 * a(n + 1) + 5 * a(n) with n>=0, a(0) = 1, a(1) = 5, a(2) = 26. •

[A018903] • 1,5,26,136,712,3728,19520,102208,535168,2802176,14672384,76825600,402264064,2106281984,11028635648,57746685952,302365573120,1583206694912,8289777876992,43405840482304,227275931385856,1190032226385920,6231089632772096,32626408891088896 ⋆ Define the sequence S(a(0),a(1)) by a(n+2) is the least integer such that a(n+2)/a(n+1) > a(n+1)/a(n) for n >= 0. This is S(1,5). • a(n) = (a(1) + 1) * a(n - 1) - (a(1) - 1) * a(n - 2) = 6 * a(n - 1) - 4 * a(n - 2). • a(n) = ((3 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (2 + sqrt(5)) * (3 + sqrt(5)) ^ n) / (2 * sqrt(5)). - _ Colin Barker _ , Jan 20 2017 •

[A083331] • 1,5,26,137,722,3785,19706,101897,523682,2677385,13629386,69136457,349699442,1764742985,8889229466,44709799817,224608392002,1127293880585,5653520131946,28335932715977,141953379225362,710862920970185 ⋆ (3*5^n-2*4^n+3^n)/2. • a(n)=(3 * 5 ^ n - 2 * 4 ^ n + 3 ^ n) / 2 G.f. (1 - 7x + 13x ^ 2) / (2(1 - 3x)(1 - 4x)(1 - 5x)) E.g.f. (3exp(5x) - 2exp(4x) + exp(3x)) / 2 •

[A076025] • 1,1,5,26,137,726,3858,20532,109361,582782,3106550,16562668,8831463 4,470942044,2511443268,13393472616,71428622337,380940866574,2031641406798,10835261623356,57787472903502,308197667445204,1643712737618748,8766437439778776,46754218658948922 ⋆ G.f.: (1-3*x*C)/(1-4*x*C) where C = (1/2-1/2*(1-4*x)^(1/2))/x = g.f. for Catalan numbers A000108. • a(n + 1) = Sum _{ k=0..n } 3 ^ k * binomial(2n + 1, n - k) * 2 * (k + 1) / (n + k + 2). - _ Paul Barry _ , Jun 22 2004 •

[A288785] • 1,5,26,137,750,4307,25996,164825,1096217,7633650,55549664,421599778,3331027887,27349472297,232967157736,2055635993935,18762063976810,176896220650029,1720762736285790,17249873608817569,178010337967774511,1889129778601708612 ⋆ Number of blocks of size >= three in all set partitions of n. • a(n) = Bell(n + 1) - Sum _{ j=0..2 } binomial(n,j) * Bell(n - j). • a(n) = Sum _{ j=0..n - 3 } binomial(n,j) * Bell(j). •

[A161731] • 1,5,26,138,740,3988,21544,116520,630544,3413072,18476960,100032672,541583936,2932214080,15875537536,85953303168,465368899840,2519604954368,13641675037184,73858930936320,399887996969984 ⋆ Expansion of (1-3*x)/(1-8*x+14*x^2). • a(n) = ((2 + sqrt(2)) * (4 + sqrt(2)) ^ n + (2 - sqrt(2)) * (4 - sqrt(2)) ^ n) / 4. • a(n)=8 * a(n - 1) - 14 * a(n - 2). - _ R. J. Mathar _ , Jun 18 2009 •

[A035029] • 1,5,26,138,743,4043,22180,122468,679757,3789297,21199998,118973550,669447123,3775577367,21336790152,120795829128,684962855705,3889578815453,22115533878178,125892252068498,717400693313471 ⋆ a(n) = Sum{k=0..n, (k+1) * Sum[l=0..n, 2^l*C(n,l)*C(n-k,l)]}. • a(n) = T(n + 1, n + 2), array T as in A049600. •

[A081569] • 1,5,26,139,757,4172,23165,129217,722818,4050239,22718609,127512940,715962889,4020920141,22584986378,126867394723,712691811325,4003745802188,22492567804517,126361939999081,709898671705906 ⋆ Fourth binomial transform of F(n+1). • a(n) = 9 * a(n - 1) - 19 * a(n - 2), a(0)=1, a(1)=5. • a(n) = (1 / 2 - sqrt(5) / 10) * (9 / 2 - sqrt(5) / 2) ^ n + (sqrt(5) / 10 + 1 / 2) * (sqrt(5) / 2 + 9 / 2) ^ n. •

[A005573] • 1,5,26,139,758,4194,23460,132339,751526,4290838,24607628,141648830,817952188,4736107172,27487711752,159864676803,931448227590,5435879858958,31769632683132,185918669183370,1089302293140564 ⋆ Number of walks on cubic lattice (starting from origin and not going below xy plane). • a(n) = sum((- 1) ^ i * 6 ^ (n - i) * binomial(n, i) * binomial(2 * i, i) / (i + 1), i=0..n); g.f. A(x) satisfies x(1 - 6x)A ^ 2 + (1 - 6x)A - 1=0. - _ Emeric Deutsch _ ; corrected by _ Roland Bacher _ , Jan 09 2003 • a(n) = sum _{ k=0..n } binomial(n, k) * binomial(2 * k + 1, k) * 2 ^ (n - k). • a(n) = sum _{ k=0..n } (- 1) ^ k * binomial(n, k) * Catalan(k) * 6 ^ (n - k). • a(n) = 2 ^ n * hypergeom([- n, 3 / 2], [2], - 2). - _ Peter Luschny _ , Apr 26 2016 •

[A081911] • 1,5,26,140,775,4375,25000,143750,828125,4765625,27343750,156250000,888671875,5029296875,28320312500,158691406250,885009765625,4913330078125,27160644531250,149536132812500,820159912109375 ⋆ 5^n(n^2-n+50)/50. • a(n)=5 ^ n(n ^ 2 - n + 50) / 50 G.f.: (1 - 10x + 26x ^ 2) / (1 - 5x) ^ 3 • a(0)=1, a(1)=5, a(2)=26, a(n)=15 * a(n - 1) - 75 * a(n - 2) + 125 * a(n - 3) [From Harvey P. Dale, Jul 22 2011] •

[A081187] • 1,5,26,140,776,4400,25376,148160,872576,5169920,30757376,183495680,1096779776,6563901440,39316299776,235629363200,1412702437376,8471919656960,50814338072576,304817308958720,1828628975845376 ★ 5th binomial transform of (1,0,1,0,1,.....), A059841. • a(n) = 10 * a(n - 1) - 24 * a(n - 2) with n>1, a(0)=1, a(1)=5. • a(n) = 4 ^ n / 2 + 6 ^ n / 2. • a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2k) * 5 ^ (n - 2k). •

[A182401] • 1,5,26,140,777,4425,25755,152675,919139,5606255,34578292,215322310,1351978807,8550394455,54419811354,348309105300,2240486766555,14476490777175,93914850905862,611489638708140,3994697746533171,26175407271617955,171991872078871311 ★ Number of paths from (0,0) to (n,0), never going below the x-axis, using steps U=(1,1), H=(1,0) and D=(1,-1), where the H steps come in five colors. • a(n) = [x ^ n] (1 + 5 * x + x ^ 2) ^ (n + 1) / (n + 1). • a(n) = sum(binomial(n,2 * k) * binomial(2 * k,k) / (k + 1) * 5 ^ (n - 2 * k),k=0..n / 2). •

[A104498] • 0,1,5,26,141,798,4706,28820,182461,1188406,7926102,53910828,372671250,2610977388,18498911268,132310178472,953981219997,6926326243110,50593306470542,371528742549692,2741187564459910,20310150708154564 ★ Expansion of (1/2)(1-sqrt(1-8x)/sqrt(1-4x)). • a(n + 1) = (1 / pi) * int(x ^ n * sqrt(8 - x) / (2 * sqrt(x - 4)),x,4,8); • a(n + 1) = 4 ^ n * F(- n,1 / 2;2; - 1). [From _ Paul Barry _ , Oct 09 2010] • a(n) = upper left term of M ^ (n - 1), M = an infinite square production matrix as follows: •

[A045379] • 1,5,26,141,799,4736,29371,190497,1291020,9131275,67310847,516369838,4116416797,34051164985,291871399682,2588914083065,23733360653955,224592570163192,2191466128865567,22024934452712437,227771488390279260 ★ E.g.f.: exp(4*z + exp(z) - 1). • a(n) = exp(- 1) * Sum _{ k>=0 } ((k + 4) ^ n) / k!. - _ Gerald McGarvey _ , Jun 03 2004 •

[A053487] • 1,5,26,142,824,5144,34960,261104,2154368,19651456,197563136,2177388800,26145442816,339957865472,4759678552064,71396252022784,1142344327331840,19419870744510464,349557742120665088,6641597375170543616,132831948602922500096 ★ E.g.f.: exp(4x)/(1-x). • a(n) = exp(4) * Gamma(n + 1,4). - _ Gerry Martens _ , Jul 24 2015 •

[A001705] • 0,1,5,26,154,1044,8028,69264,663696,6999840,80627040,1007441280,13575738240,196287356160,3031488633600,49811492505600,867718162483200,15974614352793600,309920046408806400,6320046028584960000,135153868608460800000,3024476051557847040000 ★ Generalized Stirling numbers: a(n) = n! * Sum_{k=0..n-1} (k+1)/(n-k). • a(n) = Sum _{ k=0,..,n - 1 } ((- 1) ^ (n - 1 + k) * (k + 1) * 2 ^ k * stirling1(n, k + 1)). - Borislav Crstici (bcrstici(AT)etv.utt.ro), Jan 26 2004 • a(n) = Sum _{ k=1,..,n } (k * StirlingCycle[n + 1,k + 1]). - _ David Callan _ , Sep 25 2006 • a(n) = (2 * n + 1) * a(n - 1) - n ^ 2 * a(n - 2). - _ Gary Detlefs _ , Nov 27 2009 • a(n) = (n + 1)! * (h(n + 1) - 1) where h(n) is the n - th harmonic number. - _ Gary Detlefs _ , Dec 18 2009 • a(n) = n! * Sum _{ k=1..n } (((- 1) ^ (k + 1) * binomial(n + 1,k + 1)) / k). - _ Vladimir Kruchinin _ , Oct 10 2016 •

[A185108] • 0,1,5,26,157,1100,8801,79210,792101,8713112,104557345,1359245486,19029436805,285441552076,4567064833217,77640102164690,1397521838964421,26552914940324000,531058298806480001,11152224274936080022 ★ a(0)=0; for n>0, a(n) = (n+2)*a(n-1) + 1. • a(n) = e * Gamma(n + 3,1) - (5 / 2) * (n + 2)!, where Gamma(a,x) is the incomplete gamma function. [_ Bruno Berselli _ , Dec 24 2012] • a(n) = floor((n + 2)! * (e - 5 / 2)). •

[A090226] • 1,5,26,169,1230,9593,78499,664580,5761456,50847535,455052512,4118054814,37607912019,346065536840,3204941750803,29844570422670,279238341033926,2623557157654234,24739954287740861,234057667276344608 ★ Least k such that prime(k) has n digits. Index of least n-digit prime. • a(1)= 1; a(n)=pi(10 ^ (n - 1)) + 1 for n>1 where pi(x) is the number of primes less than x - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Dec 26 2004 •

[A007286] • 1,1,5,26,205,1936,22265,297296,4544185,78098176,1491632525,31336418816,718181418565,17831101321216,476768795646785,13658417358350336,417370516232719345,13551022195053101056 ★ E.g.f.: (sin x + cos 2x) / cos 3x. • a(n) = Re(2 * ((1 - I) / (1 + I)) ^ n * (1 + sum _{ j=0..n } (binomial(n,j) * Li _{- j } (I) * 3 ^ j))). - _ Peter Luschny _ , Apr 28 2013 •

[A181890] • 5,27,65,119,189,275,377,495,629,779,945,1127,1325,1539,1769,2015,2277,2555,2849,3159,3485,3827,4185,4559,4949 ★ 8n^2 + 14n + 5. • a(n) = (2 * n + 1) * (4 * n + 5). • a(n) = a(n - 1) + 16 * n + 6; • a(n) = 2 * a(n - 1) - a(n - 2) + 16. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A135713] • 0,5,27,78,170,315,525,812,1188,1665,2255,2970,3822,4823,5985,7320,8840,10557,12483,14630,17010,19635,22517,25668,29100 ★ a(n) = n*(n+1)*(4*n+7)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Bruno Berselli _ , Nov 19 2010 •

[A085740] • 0,0,5,27,84,200,405,735,1232,1944,2925,4235,5940,8112,10829,14175,18240,23120,28917,35739,43700,52920,63525,75647,89424 ★ T(n)^2-n^2, where T(n) is a triangular number. • a(n) = n ^ 2 * (n ^ 2 + 2 * n - 3) / 4. •

[A129868] • 0,5,27,119,495,2015,8127,32639,130815,523775,2096127,8386559,33550335,134209535,536854527,2147450879,8589869055,34359607295,137438691327,549755289599,2199022206975,8796090925055,35184367894527,140737479966719,562949936644095 ★ Binary palindromic numbers with only one 0 bit. • a(n) = 2 ^ (2n + 1) - 2 ^ n - 1 = 2 * 4 ^ n - 2 ^ n - 1 = (2 ^ n - 1)(2 * 2 ^ n + 1). • a(n) = (1 / 2) * (7 + 8 * a(n - 1) + sqrt(9 + 8 * a(n - 1))), a(0) = 0; • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 3, a(0) = 0, a(1) = 5; • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3), a(0) = 0, a(1) = 5, a(2) = 27. •

[A249995] • 1,5,27,121,539,2289,9619,39737,162987,663553,2690051,10865673,43783195,176086097,707220723,2837479129,11375770763,45580514721,182554616035,730915611305,2925754935291,11709295114225,46856010770387,187480525633401,750091566966379 ★ Expansion of 1/((1+2*x)*(1-3*x)*(1-4*x)). • a(n) = ((- 1) ^ n * 2 ^ (1 + n) + 5 * 2 ^ (3 + 2 * n) - 3 ^ (3 + n)) / 15. - _ Colin Barker _ , Dec 29 2014 • a(n) = 5 * a(n - 1) + 2 * a(n - 2) - 24 * a(n - 3). - _ Colin Barker _ , Dec 29 2014 •

[A198771] • 5,27,137,687,3437,17187,85937,429687,2148437,10742187,53710937,268554687,1342773437,6713867187,33569335937,167846679687,839233398437,4196166992187,20980834960937,104904174804687,524520874023437,2622604370117187 ★ (11*5^n-1)/2. • a(n) = 5 * a(n - 1) + 2. a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. •

[A084177] • 0,1,5,27,137,691,3465,17347,86777,433971,2170025,10850467,54253017,271266451,1356334985,6781680387,33908412857,169542086131,847710474345,4238552459107,21192762470297,105963812701011,529819064204105 ★ Binomial transform of Jacobsthal oblongs. • a(n) = (2 * 5 ^ n - (- 1) ^ n - 2 ^ n) / 9. • a(n) = + 6 * a(n - 1) - 3 * a(n - 2) - 10 * a(n - 3). •

[A015535] • 0,1,5,27,145,779,4185,22483,120785,648891,3486025,18727907,100611585,540513739,2903791865,15599986803,83807517745,450237562331,2418802847145,12994489360387,69810052496225,375039241201899,2014816311001945,10824160037413523 ★ Expansion of x/(1-5*x-2*x^2). • a(n) = 5 * a(n - 1) + 2 * a(n - 2) with n>1, a(0)=0, a(1)=1. • a(n) = (1 / 33) * sqrt(33) * (((5 / 2) + (1 / 2) * sqrt(33)) ^ n - ((5 / 2) - (1 / 2) * sqrt(33)) ^ n). - _ Paolo P. Lava _ , Jan 13 2009 •

[A100193] • 1,5,27,146,787,4230,22686,121476,649731,3472382,18546922,99023292,528535726,2820451964,15048601308,80283276936,428271193827,2284478396334,12185310873138,64993897108236,346655914156602 ★ a(n) = Sum_{k=0..n} binomial(2n,n+k)*3^k. • a(n) = sum { k=0..n, binomial(2n, n - k)3 ^ k } . • a(n) = sum { k=0..n, binomial(2n, n - k) * sum { j=0..n, binomial(n, j)(- 1) ^ (n - j)4 ^ j }} . • a(n) = sum { k=0..n, C(2n,k)3 ^ (n - k) } ; - _ Paul Barry _ , Jan 11 2007 • a(n) = sum { k=0..n, C(n + k - 1,k)4 ^ (n - k) } ; - _ Paul Barry _ , Sep 28 2007 • a(n) = [x ^ n] 1 / ((1 - x) ^ n * (1 - 4 * x)). - _ Ilya Gutkovskiy _ , Oct 12 2017 •

[A158869] • 1,5,27,147,801,4365,23787,129627,706401,3849525,20977947,114319107,622980801,3394927485,18500622507,100818952587,549411848001,2994014230245,16315849837467,88913056334067 ★ Number of ways of filling a 2 by 3 by 2*n hole with 1 by 2 by 2 bricks. • a(0)=1, a(1)=5 and a(n)=6 * a(n - 1) - 3 * a(n - 2) for n>1. • a(n) can be expressed in terms of Gauss' hypergeometric function as a(n)=(3 ^ n) * 2F1[- ((n + 1) / 2), - (n / 2),1 / 2,2 / 3]. • a(n) =(1 / 6) * ((3 + Sqrt[6]) ^ (n + 1) + (3 - Sqrt[6]) ^ (n + 1)). (End) •

[A162557] • 1,5,27,151,857,4893,28003,160415,919281,5268853,30200171,173106279,992248009,5687602445,32601595443,186873931759,1071170713313,6140004593637,35194817476027,201738480090935,1156375213539129,6628401467130877,37994333961038339,217785452615605311 ★ a(n) = ((3+sqrt(3))*(4+sqrt(3))^n+(3-sqrt(3))*(4-sqrt(3))^n)/6. • a(n) = 8 * a(n - 1) - 13 * a(n - 2) for n > 1; a(0) = 1, a(1) = 5. •

[A134425] • 1,5,27,151,861,4969,28911,169187,994329,5862925,34658691,205305423,1218183669,7238062641,43055682327,256365292443,1527728176305,9110460044821,54362600841963,324557242893191,1938584147698701 ★ Number of paths of length n in the first quadrant, starting at the origin and consisting of 2 kinds of upsteps U=(1,1) (U1 and U2), 3 kinds of flatsteps F=(1,0) (F1, F2 and F3) and 1 kind of downsteps D=(1,-1). • a(n) = Sum _{ k=0..n } ((k + 1) * Sum _{ j=0..n + 1 } (binomial(j,n - k - j) * 3 ^ (- n + k + 2 * j) * 2 ^ (n - j) * binomial(n + 1,j))) / (n + 1). - _ Vladimir Kruchinin _ , Mar 13 2016 •

[A098409] • 1,5,27,155,931,5775,36645,236325,1542195,10153775,67313377,448691985,3004182349,20188647185,136094684907,919884469275,6232016686995,42305974804575,287706424085745,1959685788407025,13367193276457881,91295551930615005,624255065007468207 ★ Expansion of 1/(sqrt(1-3*x)*sqrt(1-7*x)). • a(n) = sum { k=0..n, C(n, k)C(2k, k)3 ^ (n - k) } . - _ Paul Barry _ , Mar 08 2005 • a(n) = [x ^ n] (1 + 5 * x + x ^ 2) ^ n. - _ Emanuele Munarini _ , Apr 27 2012 •

[A052227] • 1,5,27,156,935,5733,35700,224808,1427679,9126975,58659315,378658800,2453288292,15944020316,103897691640,678610095504,4441369072335,29120107628115,191233066114545,1257635016353100 ★ a(n) = (4*n+1)*binomial(3*n,n)/(2*n+1). • a(n) = binomial(3 * n + 1, n) + binomial(3 * n, n - 1) for n>=0. - _ Paul D. Hanna _ , Jul 22 2013 • a(n) is the coefficient of [x ^ n] in (1 + x) / (1 - x) ^ (2n + 2) and forms the main diagonal in the following table of coefficients: •

[A101386] • 5,27,157,915,5333,31083,181165,1055907,6154277,35869755,209064253,1218515763,7102030325,41393666187,241259966797,1406166134595,8195736840773,47768254910043,278413792619485,1622714500806867,9457873212222512452477252523435 ★ G.f.: (5-3x)/(x^2-6x+1). • a(n)=6 * a(n - 1) - a(n - 2), a(0)=5, a(1)=27. [_ Philippe Deléham _ , Nov 17 2008] • a(n)=((5 + sqrt18)(3 + sqrt8) ^ n + (5 - sqrt18)(3 - sqrt8) ^ n) / 2 offset 0. a(n)=third binomial transform of 5,12,40,96,320,768... [Al Hakanson (hawkuu(AT)gmail.com), Aug 17 2009] • a(n) = rational part of z(n), with z(n) = (5 + 3 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n), n >= 0, the general positive solutions of the second class of proper solutions. See the preceding formula. - _ Wolfdieter Lang _ , Feb 05 2015 •

[A081924] • 1,5,27,159,1029,7353,58095,506691,4860297,51023277,583097859,7215769575,96210083853,1375803720801,21012273704151,341449444105227,5883436565417745,107162594556721749,2057521815411573483 ★ E.g.f.: exp(3*x)/(1-x)^2. • a(n) + (- n - 4) * a(n - 1) + 3 * (n - 1) * a(n - 2) = 0. - _ R. J. Mathar _ , Nov 24 2012 •

[A138772] • 0,1,5,27,168,1200,9720,88200,887040,9797760,117936000,1536796800,21555072000,323805081600,5187108326400,88268019840000,1590132031488000,30233431388160000,605024315191296000,12711912992722944000,279783730940313600000,6437458713635389440000 ★ Number of entries in the second cycles of all permutations of {1,2,...,n}; each cycle is written with the smallest element first and cycles are arranged in increasing order of their first elements.

• a(n) = (1 / 4) * (n - 1)! * (n - 1) * (n + 2). • a(n) = (n + 1) * a(n - 1) + (n - 2)!. • a(n) = (n - 1) * a(n - 1) + n! / 2. •

[**A275709**] • 0,5,28,81,176,325,540,833,1216,1701,2300,3025,3888,4901,6076,7425,8960,10693,12636,14801,17200,19845,22748,25921,29376 ★ a(n) = 2*n^3 + 3*n^2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[**A257093**] • 0,5,28,82,180,355,560,868,1272,1785,2420,3190,4108,5187,6440,7880,9520,11373,15770,18340,21175,24288,27692,31400,35425 ★ a(n) = n*(n+1)*(13*n+25)/6. • a(n) = Sum _{ j=0..n - 1 } (n - j) * (5 * n - 2 * j). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Apr 16 2015 •

[**A027016**] • 1,5,28,98,291,806,2164,5729,15072,39542,103615,271370,710568,1860413,4870756,12751946,33385179,87403694,228826012,599074457,1568397480,4106118110,10749956983,28143752978,73681302096 ★ T(2n+1,n+1), T given by A027011. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - a(n - 4) for n >4. •

[**A124133**] • 0,5,28,123,506,2041,8184,32759,131062,524277,2097140,8388595,33554418,134217713,536870896,2147483631,8589934574,34359738349,137438953452,549755813867,2199023255530,8796093022185,35184372088808 ★ a(n)=(-1/2)*sum_{i1+i2+i3=2n} ((2*n)!/(i1! i2! i3!))*B(i1) where B are the Bernoulli numbers. • a(n)=2 ^ (2 * n - 1) - n - 1 • a(n)=6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). G.f.: x ^ 2 * (2 * x - 5) / ((x - 1) ^ 2 * (4 * x - 1)). [_ Colin Barker _ , Dec 01 2012] •

[**A164537**] • 5,28,154,840,4564,24752,134120,726432,3933776,21300160,115328416,624425088,3380802880,18304471808,99104534144,536573667840,2905125864704,15728975567872,85160042437120,461074681546752 ★ a(n) = 8*a(n-1) - 14*a(n-2) for n > 1; a(0) = 5, a(1) = 28. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 5, a(1) = 28. • a(n) = ((5 + 4 * sqrt(2)) * (4 + sqrt(2)) ^ n + (5 - 4 * sqrt(2)) * (4 - sqrt(2)) ^ n) / 2. •

[**A015536**] • 0,1,5,28,155,859,4760,26377,146165,809956,4488275,24871243,137821040,763718929,4232057765,23451445612,129953401355,720121343611,3990466922120,22112698641433,122534893973525,679012565791924,3762667510880195,20850375251776747 ★ Expansion of x/(1-5*x-3*x^2). • a(n) = 5 * a(n - 1) + 3 * a(n - 2) with n > 1, a(0)=0, a(1)=1. • a(n) = (5 / 2 + sqrt(37) / 2) ^ n / sqrt(37) - (5 / 2 - sqrt(37) / 2) ^ n / sqrt(37). • a(n) = Sum _{ k=0..floor((n - 1) / 2) } binomial(n - k - 1, k)3 ^ k * 5 ^ (n - 2k - 1). (End) •

[**A090040**] • 1,5,28,164,976,5840,35008,209984,1259776,7558400,45349888,272098304,1632587776,9795522560,58773127168,352638746624,2115832446976,12694994616320,76169967566848,457019805138944,2742118830309376 ★ (3*6^n + 2^n)/4. • a(n) = 8 * a(n - 1) - 12 * a(n - 2), a(0)=1, a(1)=5. • a(n) = (3 * 6 ^ n + 2 ^ n) / 4. • a(n)=6 * a(n - 1) - 2 ^ (n - 1). - _ Paul Curtz _ , Jan 09 2009 • a(n) = A019590 (mod 4), proof via a(n)=8 * a(n - 1) - 12 * a(n - 2). - _ R. J. Mathar _ , Feb 25 2009 •

[**A025174**] • 0,1,5,28,165,1001,6188,38760,245157,1562275,10015005,64512240,417225900,2707475148,17620076360,114955808528,751616304549,4923689695575,32308782859535,212327989773900,1397281501935165 ★ a(n) = binomial(3n-1, n-1). • a(n) = sum(k=1..n, binomial(n - 1,n - k) * binomial(2 * n,n - k)). - _ Vladimir Kruchinin _ , Nov 12 2014 • a(n) = [x ^ n] C(x) ^ n for n >= 1, where C(x) = (1 - sqrt(1 - 4 * x)) / (2 * x) is the generating function for A000108 (Ramanujan). - _ Peter Bala _ , Jun 24 2015 •

[**A083316**] • 1,5,28,167,1024,6335,39208,241967,1487584,9110975,55612888,338471567,2054977744,12451139615,75314797768,454933369967,2744837485504,16545254288255,99652801745848,599823577977167,3608476467634864 ★ (2*6^n-(5^n-3^n))/2. • a(n)=(2 * 6 ^ n - (5 ^ n - 3 ^ n)) / 2. •

[**A069731**] • 1,5,28,168,1056,6864,45760,311168,2149888,15049216,106502144,760729600,5477253120,39710085120,289650032640,2124100239360,15651264921600,115819360419840,860372391690240 ★ Number of unicursal planar maps with n edges rooted at a vertex of odd valency (unicursal means that exactly two vertices are of odd valency; there is an Eulerian path). • a(n) = 2 ^ (n - 2) * C _ (n + 1), where C _ n stands for the Catalan numbers (A000108). •

[**A143647**] • 1,5,28,170,1084,7100,47152,315320,2115856,14221520,95666368,643790240,4333242304,29169037760,196359046912,1321871638400,8898817351936,59906997474560,403295993003008,2715005985589760,18277548009831424 ★ a(n) = ((5 + sqrt(3))^n + (5 - sqrt(3))^n)/2. • a(n) = 10 * a(n - 1) - 22 * a(n - 2), a(0)=1, a(1)=5. •

[**A082031**] • 1,5,28,176,1240,9752,85120,819296,8639872,99209600,1233416704,16517058560,237137769472,3634932675584,59263206154240,1024222802014208,18706559855656960,360062627304341504,7285354765603176448 ★ Expansion of exp(2x)/(1-x)^3. • a(n) = 1 / 2 * (sum { k = 0..n } (k + 2)! * binomial(n,k) * 2 ^ (n - k)). •

[**A070779**] • 1,5,28,185,1426,12607,125882,1401409,17209234,231033431,3365440882,52855452817,890097287834,15996379554079,305519496498106,6178746162639617,131885301216119842 ★ E.g.f.: (exp(x/(1-x))-1)/(1-x). • a(n) = (n + 1)! * (LaguerreL(n + 1, - 1) - 1). - _ Vladeta Jovovic _ , Oct 24 2003 •

[**A189487**] • 1,1,5,28,185,1456,13267,135598,1528193,18805240,250522451,3585332554,54774501025,888739031116,15249006695483,275641537989766,5231788966650113,103968303762747472,2157673505603964643,4665657455845979552,10490307051211541521121 ★ E.g.f. exp(x*exp(x)+x^2*exp(2*x)) • a(n)=n! * sum(m=1..n, sum(k=m..n, (k ^ (n - k) * binomial(m,k - m)) / (n - k)!) / m!), n>0, a(0)=1. •

[**A081116**] • 5,29,42,75,132,134,140,152,159,162,163,201,206,215,241,256,277,301,314,347,404,406,412,424,431 ★ Numbers n such that 17 divides 3^n-n. • a(n + 1) - a(n) is the 16 - periodic sequence (24, 13, 33, 57, 2, 6, 12, 7, 3, 1, 38, 5, 9, 26, 15, 21) •

[**A108928**] • 5,29,69,125,197,285,389,509,645,797,965,1149,1349,1565,1797,2045,2309,2589,2885,3197,3525,3869,4229,4605,4997 ★ a(n) = 8*n^2 - 3. • a(n) = 2 * (2 * n - 1) * (2 * n + 1) - 1. • a(1)=5, a(2)=29, a(3)=69, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 21 2012 •

[**A087348**] • 5,29,73,137,221,325,449,593,757,941,1145,1369,1613,1877,2161,2465,2789,3133,3497,3881,4285,4709,5153,5617,6101 ★ a(n) = 10n^2-6n+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (5 + 14 * x + x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Jun 30 2012 •

[**A025109**] • 0,5,29,86,190,355,595,924,1356,1905,2585,3410,4394,5551,6895,8440,10200,12189,14421,16910,19670,22715,26059,29716,33700 ★ Truncated square pyramid numbers: a(n) = Sum_{k = n..2*n} k^2. • a(n) = n * (n + 1) * (14 * n + 1) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 22 2012 •

[**A264750**] • 5,29,99,259,574,1134,2058,3498,5643,8723,13013,18837,26572,36652,49572,65892,86241,111321,141911,178871,223146,275770,337870,410670,495495 ★ Number of sequences of 5 throws of an n-sided die (with faces numbered 1, 2, ..., n) in which the sum of the throws first reaches or exceeds n on the 5th throw. • a(n) = (n - 4) * (n - 3) * (n - 2) * (n - 1) * (4 * n + 5) / 120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>10. •

[**A057721**] • 1,5,29,109,305,701,1405,2549,4289,6805,10301,15005,21169,29069,39005,51301,66305,84389,105949,131405,161201,195805,235709,281429,333505 ★ n^4 + 3*n^2 + 1. • a(n) = Denominator of Integral(sin(n * x) / (exp((n ^ 2 + 1) * x)),x=0..infinity). [_ Francesco Daddi _ , Jul 07 2013] •

[**A119494**] • 5,29,109,347,857,1627,2999,4931,7759,11677,16111,22229,29269,37717,48527,61057,75503,91463,110567,131671,155509,183587,214189,248597,286073 ★ a(n) = smallest prime number p_k such that 1/p_n + 1/p_{n+1} + ... + 1/p_k > 1. • a(n) is approximately p(n) ^ e. •

[**A000352**] • 5,29,118,418,1383,4407,13736,42236,128761,390385,1179354,3554454,10696139,32153963,96592972,290041072,870647517,2612991141,7841070590,23527406090,70590606895,211788597919,635399348208,1906265153508 ★ One half of the number of permutations of [n] such that the differences have three runs with the same signs. • a(n) = (3 ^ n - 4 * 2 ^ n - 2 * n + 11) / 4, n>=4. - _ Tim Monahan _ , Jul 14 2011 •

[**A267921**] • 1,5,29,125,509,2045,8189,32765,131069,524285,2097149,8388605,33554429,134217725,536870909,2147483645,8589934589,34359738365,137438953469,549755813885,2199023255549,8796093022205,35184372088829,140737488355325,562949953421309 ★ Decimal representation of the n-th iteration of the "Rule 243" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>2. • a(n) = 2 ^ (2 * n + 1) - 3 for n>0. - _ Colin Barker _ , Nov 25 2016 •

[**A272921**] • 1,5,29,149,669,2837,11709,47669,192669,775637,3115389,12495989,50079069,200585237,803115069,3214717109 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 555", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4) for n>5. •

[**A198764**] • 5,29,149,749,3749,18749,93749,468749,2343749,11718749,58593749,292968749,1464843749,7324218749,36621093749,183105468749,915527343749,4577636718749,22888183593749,114440917968749,572204589843749,2861022949218749 ★ 6*5^n-1. • a(n) = 5 * a(n - 1) + 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. •

[**A098780**] • 1,5,29,157,1437,13725,128413,1176989,20051357,355595677,6261175709,109340390813,1896046785949,32682372363677,560447953696157,9567647208437149,315812421869630877,10692105963331253661 ★ First n numbers in binary representation concatenated in reverse order. • a(n) = n * 2 ^ (1 + floor(log _ 2(a(n - 1)))) + a(n - 1); a(1) = 1. •

[**A015537**] • 0,1,5,29,165,941,5365,30589,174405,994381,5669525,32325149,184303845,1050819821,5991314485,34159851709,194764516485,1110461989261,6331368012245,36098688018269,205818912140325,1173489312774701,6690722212434805 ★ Expansion of x/(1-5*x-4*x^2). • a(n) = 5 * a(n - 1) + 4 * a(n - 2). • a(n) = Sum _{ k=0..floor((n - 1) / 2) } C(n - k - 1, k)4 ^ k * 5 ^ (n - 2 * k - 1). - _ Paul Barry _ , Apr 23 2005 • a(n)=(1 / 41) * sqrt(41) * (((5 / 2) + (1 / 2) * sqrt(41)) ^ n - ((5 / 2) - (1 / 2) * sqrt(41)) ^ n), with n>=0. - _ Paolo P. Lava _ , Jan 13 2009 •

[**A182017**] • 1,5,29,165,1020,6606,44805,314299,2266834,16714004,125501364,956725836,7387322749,57669478609,454492588153,3611698593169,28911762536992,232949503809562,1887883708627582,15380196764853214,125893997550676627,1034945699861044243 ★ Row square-sums of triangle A182013. • a(n) = sum(sum(M(i),i=k..n)) ^ 2,k=0..n), where the M(n)'s are the Motzkin numbers. •

[**A291017**] • 5,29,168,973,5635,32634,188993,1094513,6338640,36708889,212591743,1231179978,7130117645,41292563669,239137122168,1384911909493,8020423511275,46448581212474,268997103908393,1557839658871433,9021897884741280,52248407581088929 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 5 S + S^2. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) n >= 3. •

[**A001653**] • 1,5,29,169,985,5741,33461,195025,1136689,6625109,38613965,225058681,1311738121,7645370045,44560482149,259717522849,1513744654945,8822750406821,51422757785981,299713796309065,1746860020068409,10181446324101389,59341817924539925 ★ Numbers n such that 2*n^2 - 1 is a square. • a(n) = 6 * a(n - 1) - a(n - 2) with a(1)=1, a(2)=5. • a(n) = (((3 + 2 * sqrt(2)) ^ (n + 1) - (3 - 2 * sqrt(2)) ^ (n + 1)) - ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n)) / (4 * sqrt(2)). Lim. n - >Inf. a(n) / a(n - 1) = 3 + 2 * sqrt(2). - _ Gregory V. Richardson _ , Oct 12 2002 • a(n)a(n + 3) = 24 + a(n + 1)a(n + 2). - _ Ralf Stephan _ , May 29 2004 • a(n) = Sum { k=0..n, binomial(n + k , 2k)4 ^ k } . - _ Paul Barry _ , Aug 30 2004 • a(n) = Sum { k=0..n, binomial(2n + 1, 2k + 1)2 ^ k } . - _ Paul Barry _ , Sep 30 2004 • a(n) = (- 1) ^ n

* U(2n, I * sqrt(4) / 2)=(- 1) ^ n * U(2n, I), U(n, x) Chebyshev polynomial of second kind, I=sqrt(- 1). - _ Paul Barry _ , Mar 13 2005 •

[A083066] • 1,5,29,173,1037,6221,37325,223949,1343693,8062157,48372941,290237645,1741425869,10448555213,62691331277,376147987661,2256887925965,13541327555789,81247965334733,487487792008397,2924926752050381 ★ 5th row of number array A083064. • a(n) = (4 * 6 ^ n + 1) / 5. • a(n) = 6 * a(n - 1) - 1 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = 7 * a(n - 1) - 6 * a(n - 2). - _ Vincenzo Librandi _ , Nov 04 2011 • a(n) = 6 ^ n - sum(6 ^ i, i=0..n - 1) for n>0. [_ Bruno Berselli _ , Jun 20 2013] •

[A163611] • 5,29,175,1083,6805,43141,274895,1756707,11244485,72040589,461782735,2960893803,18987935125,121778793781,781065429935,5009742042387,32132915535365,206105088378749,1321993826474095,8479521232029723 ★ a(n) = ((5 + 2*sqrt(2))*(5 + sqrt(2))^n + (5 - 2*sqrt(2))*(5 - sqrt(2))^n)/2. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 5, a(1) = 29. •

[A160906] • 1,5,29,176,1093,6885,43796,280600,1807781,11698223,75973189,494889092,3231947596,21153123932,138712176296,911137377456,5993760282021,39481335979779,260377117268087,1719026098532296,11360252318843933 ★ Row sums of A159841. • a(n) = C(3 * n + 1,n) * Hyper2F1([1, - n],[2 * n + 2], - 1). - _ Peter Luschny _ , May 19 2015 • a(n) = [x ^ n] 1 / ((1 - 2 * x) * (1 - x) ^ (2 * n + 1)). - _ Ilya Gutkovskiy _ , Oct 25 2017 •

[A163073] • 1,5,29,177,1097,6829,42565,265401,1654993,10320533,64359341,401348865,2502838169,15607867837,97331722837,606967236489,3785088940705,23604071924261,147196597046333,917927985203793,5724261314120681 ★ a(n) = ((5+sqrt(5))*(4+sqrt(5))^n + (5-sqrt(5))*(4-sqrt(5))^n)/10. • a(n) = 8 * a(n - 1) - 11 * a(n - 2) for n > 1; a(0) = 1, a(1) = 5. •

[A190802] • 5,29,177,1245,9629,78627,664917,5762208,50849234,455055614,4118066400,37607950280,346065645809,3204942065691,29844571475287,279238344248556,2623557165610821,24739954309690414,234057667376222381,2220819602783663483 ★ Gauss' approximation for the number of primes below 10^n. • a(n) = round(integral(dt / log(t),t=2..10 ^ n)). •

[A139174] • 5,29,179,1259,10079,90719,907199,9979199,119750399,1556755199,21794572799,326918591999,5230697471999,88921857023999,1600593426431999,30411275102207999,608225502044159999 ★ a(n) = (n!-4)/4. • a(n)= numerator(((n + 2)! - 4) / (7 * (n + 2)!)), with offset 2 [From _ Gary Detlefs _ , Nov 07 2010] •

[A153296] • 1,1,5,29,180,1162,7698,51950,355531,2460224,17178755,120861710,855828960,6094211829,43610311298,313449094851,2261820356684,16379528485200,119003715014955,867198605427231,6336861345197670 ★ G.f.: A(x) = F(x*G(x)^3) = F(G(x)-1) where F(x) = G(x/F(x)) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)) = 1 + x*G(x)^3 is the g.f. of A001764. • a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(3n,n - k) * k / n for n>0 with a(0)=1. •

[A194723] • 1,1,5,29,181,1181,7941,54573,381333,2699837,19319845,139480397,1014536117,7426790749,54669443141,404388938349,3004139083221,22402851226749,167640057210981,1258340276153229,9471952718661621,71481616200910749,540715584181142661 ★ Number of ternary words either empty or beginning with the first character of the alphabet, that can be built by inserting n doublets into the initially empty word. • a(0) = 1, a(n) = 1 / n * Sum _{ j =0..n - 1 } C(2 * n,j) * (n - j) * 2 ^ j for n>0. • a(n + 1) = (16 / 9) * 8 ^ n * GAMMA(n + 3 / 2) * hypergeom([1, n + 3 / 2], [n + 3],8 / 9) / (sqrt(Pi) * (n + 2)!), n=0,1,... . •

[A153391] • 1,1,5,29,183,1223,8525,61366,453003,3412077,26124599,202748728,1591450129,12612760009,100790253764,811227147197,6570431009209,53512143110041,437976298197769,3600504527707557,29716593448484673 ★ G.f.: A(x) = F(x*G(x)^2) where F(x) = G(x*F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x/G(x)) = 1 + x*G(x)^2 is the g.f. of A000108 (Catalan). • a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(2n,n - k) * k / n for n>0 with a(0)=1. •

[A081336] • 1,5,29,185,1241,8525,59189,412865,2885681,20186645,141267149,988751945,6920909321,48445302365,339113927909,2373787929425,16616486808161,116315321563685,814206992665469,5699448173817305,39896134892198201 ★ a(n) = (7^n + 3^n)/2. • a(n) = 10 * a(n - 1) - 21 * a(n - 2), a(0)=1, a(1)=5. •

[A127846] • 0,1,5,29,185,1257,8925,65445,491825,3768209,29324405,231153133,1841801065,14810069497,120029657805,979470140661,8040831465825,66361595715105,550284185213925,4582462506008253,38306388126997785 ★ Series reversion of x/(1+5x+4x^2). • a(n) = hypergeom([1 - n, - n], [2], 4) for n>0. - _ Peter Luschny _ , Sep 23 2014 •

[A059231] • 1,1,5,29,185,1257,8925,65445,491825,3768209,29324405,231153133,1841801065,14810069497,120029657805,979470140661,8040831465825,66361595715105,550284185213925,4582462506008253,38306388126997785,321327658068506121,2703929400812702 05 ★ Number of different lattice paths running from (0,0) to (n,0) using steps from S = {(k,k) or (k,-k): k positive integer} that never go below the x-axis. • a(n) = Sum _{ k=0..n } 4 ^ k * N(n, k) where N(n, k) = (1 / n) * binomial(n, k) * binomial(n, k + 1) are the Narayana numbers (A001263). - _ Benoit Cloitre _ , May 10 2003 • a(n) = 3 ^ n / 2 * LegendreP(n, - 1, 5 / 3). - _ Vladeta Jovovic _ , Sep 17 2003 • a(n) = (5(2n - 1)a(n - 1) - 9(n - 2)a(n - 2)) / (n + 1) for n>=2; a(0)=a(1)=1. - _ Emeric Deutsch _ , Mar 20 2004 • a(n) = upper left term in M ^ n, M = the production matrix: • a(n) is the sum of top row terms of Q ^ (n - 1), where Q = the following infinite square production matrix: •

[A188143] • 1,5,29,193,1453,12209,113237,1149241,12675661,151095569,1937411429,26614052617,390244490749,6087782363009,100728768290645,1762767028074937,32542231109506285,632202858036492593,12895661952702667205 ★ Binomial transform of A187848. • a(n) = int(x ^ n * exp(x - 2) / ((Ei(x - 2)) ^ 2 + Pi ^ 2), x=2..infinity). •

[A199419] • 5,29,197,1373,9605,67229,470597,3294173,23059205,161414429,1129900997,7909306973,55365148805,387556041629,2712892291397,18990246039773,132931722278405,930522055948829,6513654391641797,45595580741492573 ★ 4*7^n+1. • a(n) = 7 * a(n - 1) - 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A105277] • 0,1,5,29,203,1680,16058,173865,2099957,27952999,406125305,6389713034,108157272720,1958821525361,37779732341077,772829270394685,16708083353842267,380563529091632760,9106983116342966818 ★ Let b(n) denote the Fibonacci numbers, A000045: a(n) = Sum{k=0..n}C(n,k)^2*(n-k)!*b(k). • a(n) = (4 * n - 3) * a(n - 1) - 2 * (n - 1) * (3 * n - 5) * a(n - 2) + (n - 2) ^ 2 * (4 * n - 7) * a(n - 3) - (n - 3) ^ 2 * (n - 2) ^ 2 * a(n - 4). - _ Vaclav Kotesovec _ , Nov 13 2017 •

[A134752] • 5,29,245,2189,19685,177149,1594325,14348909,129140165,1162261469,10460353205,94143178829,847288609445,7625597484989,68630377364885,617673396283949,5559060566555525,50031545098999709,450283905890997365,4052555153018976269 ★ a(n) = 3^(2*n-1) + 2. • a(1)=5, a(2)=29, a(n)=10 * a(n - 1) - 9 * a(n - 2). - _ Harvey P. Dale _ , Dec 08 2015 •

[A097252] • 0,5,30,35,180,185,210,215,1080,1085,1110,1115,1260,1265,1290,1295,6480,6485,6510,6515,6660,6665,6690,6695,7560 ★ Numbers whose set of base 6 digits is {0,5}. • a(2n) = 6 * a(n), a(2n + 1) = a(2n) + 5. •

[A169610] • 5,30,42,67,79,104,116,141,153,178,190,215,227,252,264,289,301,326,338,363,375,400,412,437,449 ★ Numbers that are congruent to {5, 30} mod 37. • a(n) = (74 * n + 13 * (- 1) ^ n - 41) / 4 . - _ Bruno Berselli _ , Jan 05 2013 •

[A152745] • 0,5,30,75,140,225,330,455,600,765,950,1155,1380,1625,1890,2175,2480,2805,3150,3515,3900,4305,4730,5175,5640 ★ 5 times hexagonal numbers: 5*n*(2*n-1). • a(n) = a(n - 1) + 20 * n - 15 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 •

[A187275] • 0,5,30,75,300,625,2250,4375,15000,28125,93750,171875,562500,1015625,3281250,5859375,18750000,33203125,105468750,185546875,585937500,1025390625,3222656250,5615234375,17578125000 ★ a(n) = (n/4)*5^(n/2)*((1+sqrt(5))^2-1)^n*(1-sqrt(5))^2). • a(n) = 10 * a(n - 2) - 25 * a(n - 4). - _ Colin Barker _ , Jul 25 2013 • a(2 * n) = 6 * n * 5 ^ n, a(2 * n + 1) = (2 * n + 1) * 5 ^ (n + 1). - _ Andrew Howroyd _ , Mar 28 2016 •

[A273480] • 1,5,30,79,160,281,450,675,964,1325,1766,2295,2920,3649,4490,5451,6540,7765,9134,10655,12336,14185,16210,18419,20820 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 737", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 11 * n - 12) / 3 for n>0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A164015] • 5,30,80,155,255,380,530,705,905,1130,1380,1655,1955,2280,2630,3005,3405,3830,4280,4755,5255,5780,6330,6905,7505 ★ 5 times centered pentagonal numbers: 5*(5*n^2 + 5*n + 2)/2. • a(n) = a(n - 1) + 25 * n (with a(0)=5). - _ Vincenzo Librandi _ , Nov 30 2010 • a(0)=5, a(1)=30, a(2)=80, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 08 2011 •

[A258582] • 0,5,30,91,204,385,650,1015,1496,2109,2870,3795,4900,6201,7714,9455,11440,13685,16206,19019,22140,25585,29370,33511,38024 ★ a(n) = n*(2*n + 1)*(4*n + 1)/3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Nov 18 2015 • a(n) = Sum _{ k=1..2 * n } k ^ 2 (see the first comment). E.g.f. exp(x) * (5 * x + 20 * x ^ 2 / 2 + 16 * x ^ 3 / 3!). - _ Wolfdieter Lang _ , Mar 13 2017 •

[A071252] • 0,0,5,30,102,260,555,1050,1820,2952,4545,6710,9570,13260,17927,23730,30840,39440,49725,61902,76190,92820,112035,134090,159252 ★ a(n) = n*(n - 1)*(n^2 + 1)/2. • a(n) = floor(n ^ 5 / (n + 1)) / 2. - _ Gary Detlefs _ , Mar 31 2011 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) n>4, a(0)=0, a(1)=0, a(2)=5, a(3)=30, a(4)=102. - _ Yosu Yurramendi _ , Sep 03 2013 •

[A174002] • 0,5,30,105,280,630,1260,2310,3960,6435,10010,15015,21840,30940,42840,58140,77520,101745,131670,168245,212520,265650,328900,403650,491400 ★ a(n) = n*binomial(n+4, 4). • a(n) = (n ^ 5 + 10 * n ^ 4 + 35 * n ^ 3 + 50 * n ^ 2 + 24 * n) / 24. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(0)=0, a(1)=5, a(2)=30, a(3)=105, a(4)=280, a(5)=630. - _ Harvey P. Dale _ , Dec 03 2011 •

[A030506] • 5,30,106,283,640,1286,2366,4068,6628,10333,15531,22631,32111,44525,60504,80766,106117,137460,175799,222244,278014,344448,423007,515276,622978 ★ Graham-Sloane-type lower bound on the size of a ternary (n,3,6) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[A018213] • 1,5,30,110,365,1001,2520,5720,12190,24310,46252,83980,147070,248710,408760,653752,1021735,1562275,2343770,3453450,5008003,7153575,10080720,14024400,19284460 ★ Alkane (or paraffin) numbers l(12,n). • a(n) = (1 / (2 * 9!)) * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) + (1 / 6) * (1 / 2 ^ 7) * (n + 2) * (n + 4) * (n + 6) * (n + 8) * (1 / 2) * (1 + (- 1) ^ n). [_ Yosu Yurramendi _ , Jun 23 2013] •

[A282078] • 0,5,30,140,490,1491,3976,9696,21816,46126,92252,176232,323092,571802,980232,1633984,2655224,4217499,6560554,10014004,15021006,22174581,32253936,46278336,65560976 ★ Number of 10-element subsets of [n+10] having an even sum. • a(n) = (- 2735775 * (- 1 + (- 1) ^ n) - 45 * (- 344851 + 56595 * (- 1) ^ n) * n + (22908402 - 803250 * (- 1) ^ n) * n ^ 2 - 50 * (- 325607 + 2079 * (- 1) ^ n) * n ^ 3 + (6781885 - 4725 * (- 1) ^ n) * n ^ 4 + 1802220 * n ^ 5 + 315546 * n ^ 6 + 36300 * n ^ 7 + 2640 * n ^ 8 + 110 * n ^ 9 + 2 * n ^ 10) / 14515200. - _ Colin Barker _ , Feb 06 2017 •

[A080951] • 1,5,30,140,560,2016,6720,21120,63360,183040,512512,1397760,3727360,9748480,25067520,63504384,158760960,392232960,958791680,2321285

120,5571084288,13264486400,31352422400,73610035200,171756748800 ⋆ Sequence associated with recurrence a(n) = 2*a(n-1)+k(k+2)*a(n-2). • a(n) = ceiling(binomial(n + 4,4) * 2 ^ (n - 1)). - _ Zerinvary Lajos _ , Nov 01 2006 •

[A104891] • 0,5,30,155,780,3905,19530,97655,488280,2441405,12207030,61035155,305175780,1525878905,7629394530,38146972655,190734863280,953674316405,4768371582030,23841857910155,119209289550780,596046447753905,2980232238769530,14901161193847655 ⋆ a(0) = 0; a(n) = 5*a(n-1) + 5. • a(n) = (5 ^ (n + 1) - 5) / 4. - _ Max Alekseyev _ , Jan 23 2006 • a(n) = 5 ^ n + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 6 * a(n - 1) - 5 * a(n - 2). G.f.: 5 * x / ((x - 1) * (5 * x - 1)). - _ Colin Barker _ , Jul 25 2014 •

[A122995] • 1,5,30,155,905,4780,27405,146905,832030,4504655,25305405,137921780,770556905,4218601405,23482524030,128947559155,716010659905,3939699638780,21839966136405,120332457105905,666331610516030,3674643038163655,20332933301064405,112199009255155780 ⋆ Expansion of x*(1+4*x)/(1-x-25*x^2). • a(n) = a(n - 1) + 25 * a(n - 2). [_ Philippe Deléham _ , Mar 26 2009] • a(n) = (1 / 2 + 9 * sqrt(101) / 202) * (1 / 2 + sqrt(101) / 2) ^ (n - 1) + (1 / 2 - 9 * sqrt(101) / 202) * (1 / 2 - sqrt(101) / 2) ^ (n - 1). [_ Antonio Alberto Olivares _ , Jun 07 2011] •

[A003731] • 1,5,30,160,850,4520,24040,127860,680040,3616880,19236840,102313600,544168000,2894227280,15393318880,81871340160,435443220000,2315960597120,12317733383040,65513444349760,348441653760640,1853231611930880,9856649945242240,52423856531251200 ⋆ Number of Hamilton cycles in C_5 X P_n. • a(n) = 6a(n - 1) - 4a(n - 2) + 2a(n - 3), n>3. •

[A084158] • 0,1,5,30,174,1015,5915,34476,200940,1171165,6826049,39785130,231884730,1351523251,7877254775,45912005400,267594777624,1559656660345,9090345184445,52982414446326,308804141493510,1799842434514735 ⋆ a(n) = A000129(n)*A000129(n+1)/2. • a(n) = ((sqrt(2) + 1) ^ (2 * n + 1) - (sqrt(2) - 1) ^ (2 * n + 1) - 2(- 1) ^ n) / 16. • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3). - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Sep 02 2006; corrected by _ Antonio Alberto Olivares _ , Mar 29 2008 • a(n) = (- 1 / 8) * (- 1) ^ n + ((sqrt(2) + 1) / 16) * (3 + 2 * sqrt(2)) ^ n + ((- sqrt(2) + 1) / 16) * (3 - 2 * sqrt(2)) ^ n. - _ Antonio Alberto Olivares _ , Mar 30 2008 • a(n) = 6 * a(n - 1) - a(n - 2) - (- 1) ^ n. a(n)=7 * (a(n - 1) - a(n - 2)) + a(n - 3) - 2 * (- 1) ^ n. - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Aug 30 2008 • a(n) = sum of squares of first n Pell numbers A000129 (A079291). - _ N. J. A. Sloane _ , Jun 18 2012 •

[A276598] • 0,5,30,175,1020,5945,34650,201955,1177080,6860525,39986070,233055895,1358349300,7917039905,46143890130,268946300875,1567533915120,9136257189845,53250009223950,310363798153855,1808932779699180,10543232880041225,61450464500548170 ⋆ Values of n such that n^2 + 3 is a triangular number (A000217). • a(n) = - (5 * ((3 - 2 * sqrt(2)) ^ n * (3 + 2 * sqrt(2)) + (- 3 + 2 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n)) / (4 * sqrt(2)). • a(n) = 6 * a(n - 1) - a(n - 2) for n>2. •

[A057088] • 1,5,30,175,1025,6000,35125,205625,1203750,7046875,41253125,241500000,1413765625,8276328125,48450468750,283633984375,1660422265625,9720281250000,56903517578125,333118994140625,1950112558593750,11416157763671875,66831351611328125,391237546875000000 ⋆ Scaled Chebyshev U-polynomials evaluated at i*sqrt(5)/2. Generalized Fibonacci sequence. • a(n) = 5 * (a(n - 1) + a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, i * sqrt(5)) * (- i * sqrt(5)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = (1 / 3) * Sum _{ k=0..n } binomial(n, k) * Fibonacci(k) * 3 ^ k. - _ Benoit Cloitre _ , Oct 25 2003 • a(n) = ((5 + 3 * sqrt(5)) / 2) ^ n(1 / 2 + sqrt(5) / 6) + (1 / 2 - sqrt(5) / 6)((5 - 3 * sqrt(5)) / 2) ^ n. - _ Paul Barry _ , Sep 22 2004 • a(2 * n - 1) = 5 ^ n * F(4 * n) / 3 = (5 ^ (n - 1 / 2) * L(4 * n) - 2 * 5 ^ (n - 1 / 2) * beta ^ (4 * n)) / 3. • a(2 * n) = 5 ^ n * L(4 * n + 2) / 3 = (5 ^ (n + 1 / 2) * F(4 * n + 2) + 2 * 5 ^ n * beta ^ (4 * n + 2)) / 3. •

[A105481] • 1,5,30,175,1050,6552,42630,289410,2049300,15120105,116090975,926248050,7668746540,65793760060,584151925320,5360347320420,50776288702215,495946245776940,4989391837053085,51648932225779735,549620905409062872 ⋆ Number of partitions of {1...n} containing 4 pairs of consecutive integers, where each pair is counted within a block and a string of more than 2 consecutive integers are counted two at a time. • a(n) = binomial(n - 1, 4)Bell(n - 5), the case r = 4 in the general case of r pairs: c(n, r) = binomial(n - 1, r)B(n - r - 1). •

[A052934] • 1,5,30,180,1080,6480,38880,233280,1399680,8398080,50388480,302330880,1813985280,10883911680,65303470080,391820820480,2350924922880,14105549537280,84633297223680,507799783342080 ⋆ Expansion of (1-x)/(1-6x). • a(n) = 6 * a(n - 1), n>=2. • a(n) = 5 * 6 ^ (n - 1), n>=1. - _ Vincenzo Librandi _ , Sep 15 2011 •

[A136785] • 1,5,30,182,1110,6786,41530,254278,1557190,9536994,58411370,357758662,2191219510,13420938626,82201632730,503475374598,3083728434790,18887481888354,115683658636170,708549144071942,4339782295309910,26580669235880066,162803553266871930 ⋆ Number of multiplex juggling sequences of length n, base state <2,1> and hand capacity 3. • a(n) = 10 * a(n - 1) - 27 * a(n - 2) + 20 * a(n - 3) for n>4. - _ Colin Barker _ , Aug 31 2016 •

[A155195] • 1,5,30,185,1140,7025,43290,266765,1643880,10130045,62424150,384674945,2370473820,14607517865,90015581010,554701003925,3418221604560,21064030631285,129802405392270,799878462984905,4929073183301700 ⋆ a(n)=6*a(n-1)+a(n-2), n>2 ; a(0)=1, a(1)=5, a(2)=30 . • a(n)=(3 / 4) * sqrt(10) *{ [3 + sqrt(10)] ^ (n - 1) - [3 - sqrt(10)] ^ (n - 1) }+ (5 / 2) *{ [3 + sqrt(10)] ^ (n - 1) + [3 - sqrt(10)] ^ (n - 1) }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A147837] • 1,5,30,185,1145,7090,43905,271885,1683670,10426265,64565505,399827210,2475962945,15332604565,94948417230,587975897785,3641089198345,22547744899490,139628768304705,864662653635485,5354494733924870 ⋆ a(n)=7*a(n-1)-5*a(n-2), a(0)=1, a(1)=5 . • a(n)=(1 / 2) * [(7 / 2) - (1 / 2) * sqrt(29)] ^ n - (3 / 58) * [(7 / 2) - (1 / 2) * sqrt(29)] ^ n * sqrt(29) + (3 / 58) * sqrt(29) * [(7 / 2) + (1 / 2) * sqrt(29)] ^ n + 1 / 2 * [(7 / 2) + (1 / 2) * sqrt(29)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] • a(n)= ((29 + 7 * sqrt(29)) / 58) * (3.5 + 0.5 * sqrt(29) ^ n + ((29 - 7 * sqrt(29)) / 58) * (3.5 - 0.5 * sqrt(29) ^ n [From _ Richard Choulet _ , Nov 20 2008] •

[A195257] • 1,5,30,185,1180,7845,54850,407225,3241200,27882725,260710150,2655929625,29459366500,354733101125,4617633830250,64677391201625,970313455915000,15525778234093125,263942044676848750,4750975877669605625,90268637043154147500 ⋆ O.g.f.: Sum_{n>=0} 5*(n+5)^(n-1)*x^n/(1+n*x)^n. • a(n) = (n - 1)! * Sum _{ k=1..n } 5 ^ k / (k - 1)! for n>0, with a(0)=1. •

[A034164] • 1,5,30,198,1386,10098,75735,580635,4528953,35819901,286559208,2314516680,18846778680,154543585176,1274984577702,10574872085646,88123934047050,737458184920050,6194648753328420,52212039492339540 ⋆ Related to triple factorial numbers 2*A034000(n+1). • a(n) = 3 ^ (2 * n + 1) * GAMMA(n + 5 / 3) / ((n + 2) * GAMMA(2 / 3) * GAMMA(n + 2)). - _ Vaclav Kotesovec _ , Feb 09 2014 •

[A103433] • 0,1,5,30,190,1355,9276,63565,435665,2986074,20466835,140281751,961505400,6590256025,45170286749,309601751190,2122041971551,14544692049635,99690802375860,683290924581349,4683345669693545 ⋆ Sum[i=1..n, Fibonacci(2i-1)^2]. • a(n)=(1 / 5) * (Fibonacci(4n) + 2n). • a(n)=(floor(5 * n * phi) + 4 * Fibonacci(4 * n)) / 20, where phi =(1 + sqrt(5)) / 2. - _ Gary Detlefs _ , Mar 10 2011 • a(n)= (8 * (n + 2) * sum(1 / (2 * k ^ 2 + 6 * k + 4),k=1..n) + Fibonacci(4 * n)) / 5. [From Gary Detlefs, Dec 07 2011] •

[A081015] • 5,30,200,1365,9350,64080,439205,3010350,20633240,141422325,969323030,6643838880,45537549125,312119004990,2139295485800,14662949395605,100501350283430,688846502588400,4721424167835365,32361122672259150 ⋆ Lucas(4n+3)+1, or 5*Fibonacci(2n+1)*Fibonacci(2n+2). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = 1 + 2 *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A090139] • 1,5,30,200,1400,10000,72000,520000,3760000,27200000,196800000,1424000000,10304000000,74560000000,539520000000,3904000000000,28249600000000,204416000000000,1479168000000000,10703360000000000 ⋆ a(n)=10a(n-1)-20a(n-2), a(0)=1,a(1)=5. • a(n)=(5 - sqrt(5)) ^ n / 2 + (5 + sqrt(5)) ^ n / 2; a(n)=sum { k=0..floor(n / 2), C(n, 2k)5 ^ (n - k) } =sum { k=0..n, C(n, k)5 ^ (n - k / 2)(1 + (- 1) ^ k) / 2 } . •

[A107265] • 1,5,30,200,1425,10625,81875,646875,5211875,42659375,353725000,2965031250,25083859375,213894609375,1836516718750,15863968750000,137767560546875,1202116083984375,10534061644531250,92664360625000000,817975366904296875,7243402948779296875 ⋆ Expansion of (1-5*x-sqrt((1-5*x)^2-4*5*x^2))/(2*5*x^2). • a(n) = sum { k=0..n, (1 / (k + 1)) * C(k + 1,n - k + 1) * C(n, k) * 5 ^ k } . •

[A165312] • 1,5,30,205,1505,11430,88105,683405,5314830,41378005,322287305,2510710230,19560629905,152399173205,1187375157630,9251147403805,72078242501105,561581982417030,4375445744059705,34090353624231005 ⋆ a(0)=1, a(1)=5, a(n)=11*a(n-1)-25*a(n-2) for n>1. • a(n) = ((21 - sqrt(21)) * (11 + sqrt(21)) ^ n + (21 + sqrt(21)) * (11 - sqrt(21)) ^ n) / (42 * 2 ^ n). [From _ Klaus Brockhaus _ , Sep 26 2009] •

[A082301] • 1,5,30,205,1530,12130,100380,857405,7503330,66931030,606337380,5563370130,51594699780,482860844580,4554484964280,43252833007005,413224841606130,3968768817574030,38297678538914580,371128975862945030 ⋆ G.f.: (1 - 4*x - sqrt(16*x^2 - 12*x + 1))/(2*x). • a(0)=1; for n > 0, a(n) = (1 / n) * Sum _{ k=0..n } 5 ^ k * C(n, k) * C(n, k - 1). • a(n) = if(n=0, 1, if(n =1, 5, 6 * ((2n - 1) / (n + 1)) * a(n - 1) - 16 * ((n - 2) / (n + 1)) * a(n - 2))). • a(n) = 5 * hypergeom([1 - n, - n], [2], 5) for n > 0. - _ Peter Luschny _ , May 22 2017 •

[A222050] • 1,1,5,30,209,1573,12478,102714,869193,7514445,66083025,589294500,5316256278,48431659786,444928748618,4117185679310,38340948482745,359047299072777,3379057486089649,31942315551724102,303158909307122141,2887629443604011421,27595392738011189028 ⋆ G.f. satisfies: A(x) = sqrt(1 + 2*x*A(x)^4 + 3*x^2*A(x)^6). • a(n) = [x ^ n] sqrt(1 / (1 - 2 * x - 3 * x ^ 2) ^ (2 * n + 1)) / (2 * n + 1). •

[A137965] • 1,1,5,30,220,1725,14356,124020,1102770,10023680,92722620,870039474,8261024380,79225392830,766302511445,7466883915800,73227699088806,722228333119200,7159117292177840,71284856957207030,712673042497175750 ⋆ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^4)^5. • a(n) = Sum _{ k=0..n - 1 } C(5 * (n - k),k) / (n - k) * C(4 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A110521] • 1,1,5,30,224,1871,16771,157668,1533970,15314626,156008660,1615147014,16944659846,179746651907,1924700759635,20776060271760,225838715259574,2469974866825150,27160344857205806,300101157823582668 ⋆ Expansion of 1/(1 - (x + x^2)c(3x)), c(x) the g.f. of A000108. • a(0) = 1, a(n) = Sum _{ k=0..floor(n / 2) } Sum _{ j=0..(n - k) } j * C(2 * n - 2 * k - j - 1, n - k - j) * C(j, k) * 3 ^ (n - k - j) / (n - k), n > 0. •

[A167892] • 1,5,30,226,1990,19414,203455,2248355,25887399,307993015,3763786811,47032778955,598933188955,7751562502555,101741582076580,1351906409905480,18159677984049580,246298405721739580,3369517588450715680,46457194476711692080 ⋆ a(n) = Sum_{k=1..n} Catalan(k)^2. • a(n) = Sum _{ k=1..n } Catalan(k) ^ 2. • a(n) = Sum _{ k=1..n } ((2k)! / k! / (k + 1)!) ^ 2

. ●

[A115519] ● 0,5,31,96,218,415,705,1106,1636,2313,3155,4180,5406,6851,8533,10470,12680,15181,17991,21128,24610,28455,32681,37306,42348 ★ n*(1+3*n+6*n^2)/2. ● a(0) = 0, a(1) = 5, a(2) = 31, a>2: a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 18; G.f. = (5 * x + 11 * x ^ 2 + 2 * x ^ 3) / (1 - x) ^ 4 - _ Zak Seidov _ , Mar 10 2006 ●

[A212523] ● 0,0,5,31,106,270,575,1085,1876,3036,4665,6875,9790,13546,18291,24185,31400,40120,50541,62871,77330,94150,113575,135861,161276 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x<y+z. ● a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5). ●

[A053699] ● 1,5,31,121,341,781,1555,2801,4681,7381,11111,16105,22621,30941,41371,54241,69905,88741,111151,137561,168421,204205,245411,292561,346201 ★ a(n) = n^4 + n^3 + n^2 + n + 1. ● a(n) = n ^ 4 + n ^ 3 + n ^ 2 + n + 1 =(n ^ 5 - 1) / (n - 1). ●

[A152122] ● 1,1,1,5,31,121,605,2911,13361,64255,302621,1428031,6770555,31965701,151200251,715034375,3380212751,15984722176,75579365455,357361263031,1689760311371,7989708622205,37778247366211,178629122366311,844620446404405 ★ a(n) = Product_{k=1..(n-1)/2} 1 + 4*cos(k*Pi/n)^2 + 16*cos(k*Pi/n)^4 + 64*cos(k*Pi/n)^6 + 256*cos(k*Pi/n)^8. ● a(n) = Product _{ k=1..(n - 1) / 2 } Sum _{ j=0..4 } (2 * cos(k * Pi / n)) ^ (2 * j). ●

[A267938] ● 1,5,31,127,511,2047,8191,32767,131071,524287,2097151,8388607,33554431,134217727,536870911,2147483647,8589934591,34359738367,137438953471,549755813887,2199023255551,8796093022207,35184372088831,140737488355327,562949953421311 ★ Decimal representation of the n-th iteration of the "Rule 251" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. ● a(n) = 2 ^ (2 * n + 1) - 1 for n>1. - _ Colin Barker _ , Nov 25 2016 ●

[A041303] ● 1,1,5,31,129,160,3969,4129,20485,127039,528641,655680,16264961,16920641,83947525,520605791,2166370689,2686976480,66653806209,69340782689,344016936965,2133442404479,8877786554881,11011228959360,273147281579521 ★ Denominators of continued fraction convergents to sqrt(164). ● a(n) = 4098 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 15 2013 ●

[A005826] ● 1,5,31,141,659,3005,13739,62669,285931,1304285,5949691,27139821,123799979,564720125,2576001179,11750565389,53600825611,244502996765,1115313334651,5087560678701,23207176728299,105860762282045 ★ Worst case of a Jacobi symbol algorithm. ● a(n) = 5 * a(n - 1) - 10a(n - 3) + 4a(n - 4) by definition [_ R. J. Mathar _ , Mar 11 2009] ●

[A255236] ● 5,31,181,1055,6149,35839,208885,1217471,7095941,41358175,241053109,1404960479,8188709765,47727298111,278175078901,1621323175295,9449763972869,55077260661919,321013799998645,1871005539329951,10905019435981061,63559111076556415 ★ All positive solutions x of the second class of the Pell equation x^2 - 2*y^2 = -7. ● a(n) = 6 * a(n - 1) - a(n - 2), n >= 2, with a(- 1) = - 1 and a(0) = 5. ● a(n) = ((3 - 2 * sqrt(2)) ^ n * (- 8 + 5 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (8 + 5 * sqrt(2))) / (2 * sqrt(2)). - _ Colin Barker _ , Oct 13 2015 ●

[A015540] ● 0,1,5,31,185,1111,6665,39991,239945,1439671,8638025,51828151,310968905,1865813431,11194880585,67169283511,403015701065,2418094206391,14508565238345,87051391430071,522308348580425 ★ a(n) = 5*a(n-1) + 6*a(n-2), a(0) = 0, a(1) = 1. ● a(n) = 5 * a(n - 1) + 6 * a(n - 2). ● a(n) = (6 ^ n - (- 1) ^ n) / 7. ● a(n) = 6 ^ (n - 1) - a(n - 1). - _ Emeric Deutsch _ , Apr 01 2004 ● a(n + 1) = sum { k=0..n, binomial(n - k, k) * 5 ^ (n - 2 * k) * 6 ^ k } - _ Paul Barry _ , Jul 29 2004 ● a(n) = round(6 ^ n / 7). - _ Mircea Merca _ , Dec 28 2010 ●

[A108079] ● 1,5,31,195,1231,7798,49596,316767,2031535,13079352,84504355,547707394,3559971156,23197272140,151495214536,991348425879,6498704675439,42669773400220,280567674704625,1847219933032320,12176178948740895,80346934651630500 ★ a(n) = Sum_{i=0..n} C(2n+i,n+i). ● a(n) = binomial(3 * n + 1,n + 1) - binomial(2 * n,n - 1). - _ Zerinvary Lajos _ , May 11 2006, corrected by _ Robert Israel _ , Oct 01 2015 ●

[A164038] ● 5,31,195,1237,7885,50399,322635,2067173,13251125,84966271,544886835,3494644117,22414043965,143763624959,922113238395,5914569009893,37937085615845,243335768930911,1560804720144675,10011324516035797 ★ Expansion of (5-19*x)/(1-10*x+23*x^2). ● a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 5, a(1) = 31. ● a(n) = ((5 + 3 * sqrt(2)) * (5 + sqrt(2)) ^ n + (5 - 3 * sqrt(2)) * (5 - sqrt(2)) ^ n) / 2. ●

[A002469] ● 0,0,1,5,31,203,1501,12449,114955,1171799,13082617,158860349,2085208951,29427878435,444413828821,7151855533913,122190894996451,2209057440250799,42133729714051825,845553296311189109,17810791160738752207,392911423093684031099 ★ The game of Mousetrap with n cards: the number of permutations of n cards in which 2 is the only hit. ● a(n)= (n - 3) * floor((n - 2)! + 1) / e) + (n - 4) * floor(((n - 3)! + 1) / e), for n>2. - _ Gary Detlefs _ , Apr 10 2010 ●

[A178792] ● 1,5,31,209,1471,10625,78079,580865,4361215,32978945,250806271,1916280833,14698053631,113104519169,872801042431,6751535300609,52337071357951,406468580343809,3162019821780991,24634626678980609,192179216026959871 ★ Dot product of the rows of triangle A046899 with vector (1,2,4,8,...) (= A000079). ● a(n) = (2 ^ n) * binomial(2 + 2 * n,1 + n) * 2F1(1, 2 + 2 * n; 2 + n)(- 1). - _ Olivier Gérard _ , Aug 19 2012 ● a(n) = Sum _{ k = 0..n } binomial(k + n,n) * binomial(2 * n + 1,n - k). - _ Vladimir Kruchinin _ , Oct 28 2016 ● a(n) = 1 / 2 * (n + 1) * binomial(2 * n + 2,n + 1) * Sum _{ k = 0..n } binomial(n,k) / (n + k + 1). - _ Peter Bala _ , Feb 21 2017 ● a(n) = binomial(2 * n + 2,n + 1) * hypergeom([- n, n + 1], [n + 2], - 1) / 2. - _ Peter Luschny _ , Feb 21 2017 ●

[A153292] ● 1,1,5,31,211,1516,11295,86423,675051,5361323,43171480,351709926,2894115003,24022408477,200918146461,1691749323232,14329850844625,122028162988698,1044131083377287,8972696721635997,77408293908402336 ★ a(n) = A(x) = F(x*F(x)^2) where F(x) = 1 + x*F(x)^3 is the g.f. of A001764. ● a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(3n - k,n - k) * 2k / (3 n - k) for n>0 with a(0)=1. ●

[A146962] ● 1,5,31,215,1561,11525,85591,636935,4743121,35329445,263175151,1960492055,14604592681,108796577765,810478516711,6037650189575,44977410078241,335058747180485,2496016680318271,18594050606753495 ★ a(n) = 10*a(n-1)-19*a(n-2); a(0)=1, a(1)=5. ● a(n) = ((5 + sqrt(6)) ^ n + (5 - sqrt(6)) ^ n) / 2. ●

[A269730] ● 1,5,31,215,1597,12425,99955,824675,6939769,59334605,513972967,4501041935,39784038517,354455513105,3179928556219,28701561707675,260447708523505,2374690737067925,21744508765633327,199877846477679815,1843718766426242221,17060955558786455705,158333204443000060291 ★ Dimensions of the 2-polytridendriform operad TDendr_2. ● a(n) = P _ n(2), where P _ n(x) is the polynomial associated with row n of triangle A126216 in order of decreasing powers of x. ●

[A153232] ● 1,1,5,31,217,1637,12985,106767,901857,7779321,68238029,606829087,5458425065,49575244557,454002681969,4187624605215,38868943003201,362779053190001,3402660186792277,32055797319184735,303189929508106169,2877922441328068981,27406770566397160361 ★ a(n) = Sum((-1)^(n-i)*binomial(3i,i)*binomial(2i,i) ● a(n) = (- 1) ^ n * 3F2(- n, 1 + n / 2, (n + 1) / 2; 1, 3 / 2; 2). - _ Vaclav Kotesovec _ , Oct 27 2012 ●

[A287899] ● 1,1,5,31,217,1661,13721,121703,1157857,11826121,129877645,1535504015,19546846441,267633414517,3932330905361,61806788736551,1035452546213441,18421374554192017,346790652640704725,6885640002624595007,143771244649798115257 ★ Number of permutations of [2n] with exactly n cycles such that the elements of each cycle form an integer interval. ● a(n) = [x ^ n] (1 / (1 - x / (1 - x / (1 - 2 * x / (1 - 2 * x / (1 - 3 * x / (1 - 3 * x / (1 - ...))))))) ^ n, a continued fraction. - _ Ilya Gutkovskiy _ , Sep 29 2017 ●

[A143020] ● 1,5,31,218,1658,13293,110675,947870,8297926,73924162,668038006,6108962580,56426393268,525673683069,4933634156571,46604425575734,442753710351950,4227598589181750,40549714320544770,390522305786747820 ★ Sum of the distances from a fixed node (root) to the next node in all non-crossing graphs on n nodes on a circle. ● a(n) = Sum _{ k=1..n - 1 } k * T(n, k), where T(n,k) = k * L(n - k - 1,3n - k - 4,n - 1) / (n - 1) (n >= 2, 1 <= k <= n - 1), with L(p,q,r)=[u ^ p](1 + u) ^ q / (1 - u) ^ r = Sum[binomial(q,i) binomial(r + p - 1 - i,r - 1), i=0..min(p,q)] (T(n,k) is A143018). ●

[A058309] ● 0,1,5,31,222,1807,16485,166657,1849712,22363201,292571325,4118361751,62067997590,997206323191,17014575491837,307259565176257,5854946313840720,117406185841990657,2471384848995644517,54487872863746170031,1255692460715175555230 ★ a(0)=0, a(1)=1, a(n) = a(n-2)+(n+3)*a(n-1). ● a(n) = sum { k = 0..floor((n - 1) / 2) } (n - 2 * k - 1)! * binomial(n - k - 1,k) * binomial(n - k + 3,k + 4). Cf. A058798. - _ Peter Bala _ , Aug 01 2013 ● a(n) = (I(n + 4, - 2) * (5 * K _ 5 - K _ 6) + K(n + 4,2) * (5 * I _ 5 + I _ 6)) / (I _ 6 * K _ 5 + I _ 5 * K _ 6), where I _ n and K _ n are the Bessel functions of the first respectively the second kind, all evaluated at x=2. - _ Peter Luschny _ , Sep 11 2014 ● a(n) = (n + 3)! * hypergeometric([1 / 2 - n / 2 , 1 - n / 2], [5, - n - 3, 1 - n], 4) / 24 for n >= 2. - _ Peter Luschny _ , Sep 12 2014 ● a(- 8 - n) = a(n) for all n in Z. - _ Michael Somos _ , Sep 13 2014 ●

[A192950] ● 0,1,5,31,224,1844,17028,174284,1958176,23959760,317128240,4514617360,68784608640,1116787186240,19248968150720,351024831699520,6752328440253440,136640443206206720,2901703626188801280,64522443639953657600 ★ (A192942)/2. ● a(n) = 1 / 10 * sqrt(5) * GAMMA(n + 2 + sqrt(5)) / GAMMA(sqrt(5) + 2) - 1 / 10 * sin(Pi * (sqrt(5) + 3)) * GAMMA(sqrt(5) + 1) * GAMMA(n + 2 - sqrt(5)) / (Pi * (sqrt(5) - 1)). - _ Vaclav Kotesovec _ , Oct 26 2012 ●

[A001910] ● 0,1,5,31,227,1909,18089,190435,2203319,27772873,378673901,5551390471,87057596075,1453986832381,25762467303377,482626240281739,9530573107600319,197850855756232465,4307357140602486869,98125321641110663023,2334414826276390013171 ★ a(n) = n*a(n-1) + (n-5)*a(n-2). ● a(n) = hypergeometric([6, - n + 4],[],1) * (- 1) ^ n for n >=4. - _ Peter Luschny _ , Sep 20 2014 ●

[A056541] ● 0,1,5,31,249,2491,29893,418503,6696049,120528883,2410577661,53032708543,1272785005033,33092410130859,926587483664053,27797624509921591,889523984317490913,30243815466794691043 ★ a(n) = 2n*a(n-1) + 1 with a(0)=0. ● a(n) = Sum[P(n, k) * 2 ^ k { k=0 to n - 1 }] - _ Ross La Haye _ , Sep 15 2004 ● a(n) = 2 ^ n * n! * Sum _{ k=1..n }{ 1 / (k! * 2 ^ k) } , with n>=0. - _ Paolo P. Lava _ , Apr 26 2010 ●

[A140154] ● 1,5,32,48,173,209,552,616,1345,1445,2776,2920,5117,5313,8688,8944,13857,14181,21040,21440,30701,31185,43352,43928,59553 ★ a(1)=1, a(n)=a(n-1)+n^3 if n odd, a(n)=a(n-1)+ n^2 if n is even. ● a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 3 +{ [1 + (- 1) ^ n] / 2 }* n ^ 2, with a(1)=1 a(n)= (- 1 / 16) + (1 / 4) * (- 1) ^ n * n + (1 / 16) * (- 1) ^ n - (1 / 4) * (- 1) ^ n * n ^ 3 + (5 / 12) * n ^ 3 - (1 / 8) * (- 1) ^ n * n ^ 2 + (3 / 8) * n ^ 2 + (1 / 12) * n + (1 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 ● a(n)=a(n - 1) + 4a(n - 2) - 4a(n - 3) - 6a(n - 4) + 6a(n - 5) + 4a(n - 6) - 4a(n - 7) - a(n - 8) + a(n - 9). G.f.: - x * (x ^ 2 + 1) * (x ^ 4 - 4 * x ^ 3 + 22 * x ^ 2 + 4 * x + 1) / ((1 + x) ^ 4 * (x - 1) ^ 5). [From _ R. J. Mathar _ , Feb 22 2009] ●

[A184536] ● 5,32,108,256,500,864,1372,2048,2916,4000,5324,6912,8788,10976,13500,16384,19652,23328,27436,32000,37044,42592,48668,55296,62500 ★ a(n) = floor(1/{(1+n^4)^(1/4)}), where {} = fractional part. ● a(n)=floor[1 /{ (1 + n ^ 4) ^ (1 / 4) }], where {} =fractional part. ●

[A273623] ● 1,5,32,135,605,2560,10933,46305,196384,831875,3524489,14929

920,63245753,267913165,1134902560,4807524015,20365009477,86267563520,365435291981,1548008735625,6557470308896,27777889982155,1176690304323 37,498454011740160,2111485077903025 ⋆ a(n) = Fibonacci(3*n) - (2 + (-1)^n)*Fibonacci(n). • a(n) = Fibonacci(3 * n) - 2 * Fibonacci(n) + Fibonacci(- n). • a(2 * n) = 5 * Fibonacci(2 * n) ^ 3; • a(2n + 1) = Fibonacci(2 * n + 1) * (5 * Fibonacci(2 * n + 1) ^ 2 - 4) = Fibonacci(2 * n + 1) * Lucas(2 * n + 1) ^ 2. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 12 * a(n - 3) - 4 * a(n - 4) + 4 * a(n - 5) + a(n - 6). - _ G. C. Greubel _ , Jun 02 2016 •

[A015541] • 0,1,5,32,195,1199,7360,45193,277485,1703776,10461275,64232807,394392960,2421594449,14868722965,91294775968,560554940595,344183813475 1,211330752579 20,1297582432328 57,7967227429697 25,48919214174786 24,300366662881 95 ⋆ Expansion of x/(1 - 5*x - 7*x^2). • a(n) = 5 * a(n - 1) + 7 * a(n - 2). • a(n) = (1 / 53) * sqrt(53) *{ ((5 / 2) + (1 / 2) * sqrt(53)) ^ n - ((5 / 2) - (1 / 2) * sqrt(53)) ^ n } , with n>=0. - _ Paolo P. Lava _ , Jan 13 2009 •

[A024064] • 1,5,32,207,1280,7751,46620,279887,1679552,10077615,60466076,362796935,2176782192,13060693847,78364163900,470184984351,2821109907200,16926659444447,101559956668092,609359740010135 ⋆ 6^n-n^2. • a(0)=1, a(1)=5, a(2)=32, a(3)=207, a(n)=9 * a(n - 1) - 21 * a(n - 2) + 19 * a(n - 3) - 6 * a(n - 4). - _ Harvey P. Dale _ , Mar 26 2014 •

[A164594] • 5,32,216,1472,10048,68608,468480,3198976,21843968,149159936,1018527744,6954942464,47491317760,324291002368,2214397476864,15120851795968,103251634552832,705046262054912,4814357020016640,32874486063693824,224481032349417472 ⋆ a(n) = ((5 + sqrt(18))*(4 + sqrt(8))^n + (5 - sqrt(18))*(4 - sqrt(8))^n)/2. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 5, a(1) = 32. •

[A199486] • 5,32,221,1544,10805,75632,529421,3705944,25941605,181591232,1271138621,8897970344,62285792405,436000546832,3052003827821,21364026794744,149548187563205,1046837312942432,7327861190597021,51295028334179144 ⋆ (9*7^n+1)/2. • a(n) = 7 * a(n - 1) - 3. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A153396] • 1,1,5,32,228,1726,13587,109923,907499,7609898,64609346,554108863,4792190298,41739160686,365746143064,3221723465187,28509044813580,253295607463902,2258539046009268,20203103111671575,181242298665210280 ⋆ G.f.: A(x) = F(x*G(x)^3) where F(x) = G(x/F(x)^2) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)^2) = 1 + x*G(x)^4 is the g.f. of A002293. • a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(4n - k,n - k) * 3k / (4n - k) for n>0 with a(0)=1. •

[A146965] • 1,5,32,230,1724,13100,99968,763880,5839376,44643920,341330432,2609713760,19953189824,152557050560,1166413088768,8918103977600,68185604178176,521330170184960,3985960826642432,30475665203095040 ⋆ a(n) = 10*a(n-1) - 18*a(n-2); a(0)=1, a(1)=5. • a(n) = ((5 + sqrt(7)) ^ n + (5 - sqrt(7)) ^ n) / 2. •

[A053157] • 1,5,32,235,1816,14055,107052,800315,5886416,42739855,307295572,2193374595,15571898616,110121224855,776543100092,5464689616075,38398915520416,269529406433055,1890416947176612,13251578251332755 ⋆ Number of 3-element intersecting families (with not necessary distinct sets) whose union is an n-element set. • a(n) = (7 ^ n - 3 * 5 ^ n + 3 * 4 ^ n + 2 * 3 ^ n - 3 * 2 ^ n + 2) / 6. •

[A185212] • 1,5,33,85,161,261,385,533,705,901,1121,1365,1633,1925,2241,2581,2945,3333,3745,4181,4641,5125,5633,6165,6721 ⋆ a(n) = 12*n^2 - 8*n + 1. • a(0)=1, a(1)=5, a(2)=33, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 07 2015 •

[A292000] • 5,33,117,322,745,1515,2793,4772,7677,11765,17325,24678,34177,46207,61185,79560,101813,128457,160037,197130,240345,290323,347737,413292,487725 ⋆ Number of (undirected) paths in the n-gear graph. • a(n) = n * (- 21 + 58 * n - 15 * n ^ 2 + 8 * n ^ 3) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A270222] • 1,5,33,161,705,2945,12033,48641,195585,784385,3141633,12574721,50315265,201293825,805240833,3221094401 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 131", based on the 5-celled von Neumann neighborhood. • a(n) = 1 - 2 ^ (2 + n) + 3 * 4 ^ n. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A050915] • 1,5,33,193,1025,5121,24577,114689,524289,2359297,10485761,46137345,201326593,872415233,3758096385,16106127361,68719476737,292057776129,1236950581249,5222680231937,21990232555521,92358976733185 ⋆ n*4^n+1. • a(n) = 9 * a(n - 1) - 24 * a(n - 2) + 16 * a(n - 3). G.f.: - (12 * x ^ 2 - 4 * x + 1) / ((x - 1) * (4 * x - 1) ^ 2). [_ Colin Barker _ , Oct 14 2012] •

[A091056] • 0,0,1,5,33,193,1169,6993,42001,251921,1511697,9069841,54419729,326517009,1959104785,11754623249,70527750417,423166480657,2538998927633,15233993478417,91403961045265,548423765922065 ⋆ Expansion of x^2/((1-x)(1+2x)(1-6x)). • a(n)=6 ^ n / 40 + (- 2) ^ n / 24 - 1 / 15 • a(0)=0, a(1)=0, a(2)=1, a(n)=5 * a(n - 1) + 8 * a(n - 2) - 12 * a(n - 3). - _ Harvey P. Dale _ , Apr 02 2015 •

[A015544] • 0,1,5,33,205,1289,8085,50737,318365,1997721,12535525,78659393,493581165,3097180969,19434554165,121950218577,765227526205,4801739379641,30130517107845,189066500576353,1186376639744525,7444415203333449,46713089134623445 ⋆ Lucas sequence U(5,-8): a(n+1) = 5*a(n) + 8*a(n-1), a(0)=0, a(1)=1. • a(n) = 5 * a(n - 1) + 8 * a(n - 2). • a(n) = (1 / 57) * sqrt(57) * [5 / 2 + (1 / 2) * sqrt(57)] ^ n - (1 / 57) * sqrt(57) * [5 / 2 - (1 / 2) * sqrt(57)] ^ n, with n>=0. - _ Paolo P. Lava _ , Aug 05 2008 •

[A155597] • 1,5,33,209,1281,7745,46593,279809,1679361,10077185,60465153,362795009,2176778241,13060685825,78364147713,470184951809,2821109841921,16926659313665,101559956406273,609359739486209,3656158439014401 ⋆ 6^n - 2^n + 1. • a(n)=8 * a(n - 1) - 12 * a(n - 2) + 5 with a(0)=1, a(1)=5 [From _ Vincenzo Librandi _ , Jul 21 2010] • a(0)=1, a(1)=5, a(2)=33, a(n)=9 * a(n - 1) - 20 * a(n - 2) + 12 * a(n - 3) [From Harvey P. Dale, Jul 13 2011] •

[A164538] • 5,33,215,1391,8965,57657,370375,2377639,15257765,97891953,627990935,4028394431,25840152805,165748456137,1063161046855,6819395977399,43741255696325,280566449483073,1799615613815255,11543127800041871 ⋆ a(n) = 10*a(n-1) - 23*a(n-2) for n > 1; a(0) = 5, a(1) = 33. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 5, a(1) = 33. • a(n) = ((5 + 4 * sqrt(2)) * (5 + sqrt(2)) ^ n + (5 - 4 * sqrt(2)) * (5 - sqrt(2)) ^ n) / 2. •

[A083076] • 1,5,33,229,1601,11205,78433,549029,3843201,26902405,188316833,1318217829,9227524801,64592673605,452148715233,3165041006629,22155287046401,155087009324805,1085609065273633,7599263456915429,53194844198408001 ⋆ Third row of number array A083075. • a(n) = (2 * 7 ^ n + 1) / 3. • a(n) = sum(trinomial(n,k) * Fibonacci(k + 1), k=0..2 * n), where trinomial(n, k) are the trinomial coefficients (A027907). - Paul Barry, Sep 10 2007 • a(n) = 7 * a(n - 1) - 2, a(n) = 8 * a(n - 1) - 7 * a(n - 2). - Vincenzo Librandi, Nov 06 2011 •

[A162816] • 5,33,231,1683,12573,95337,729135,5603499,43180533,333250929,2574053559,19891362051,153752577165,1188615978297,9189556693119,71050353033627,549348865530597,4247524736257473,32841784272579975,253933094974463091 ⋆ a(n) = 12*a(n-1)-33*a(n-2) for n > 1; a(0) = 5, a(1) = 33. • a(n) = ((5 + sqrt(3)) * (6 + sqrt(3)) ^ n + (5 - sqrt(3)) * (6 - sqrt(3)) ^ n) / 2. •

[A142989] • 1,5,33,240,1992,18360,187416,2093760,25462080,334592640,4728412800,71488811520,1151817408000,19699405286400,356504125824000,6805868977152000,136702533123072000,2881808345235456000 ⋆ a(1) = 1, a(2) = 5, a(n+2) = 5*a(n+1)+(n+1)*(n+3)*a(n). • a(n) = (n + 2)! * p(n + 2) * sum { k = 1..n } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2) * p(k + 1) * p(k + 2)), where p(n) = (2 * n - 1) / 3. Recurrence: a(1) = 1, a(2) = 5, a(n + 2) = 5 * a(n + 1) + (n + 1) * (n + 3) * a(n). The sequence b(n) := 1 / 2 * (n + 2)! * p(n + 2) satisfies the same recurrence with b(1) = 5, b(2) = 28. Hence we obtain the finite continued fraction expansion a(n) / b(n) = 1 / (5 + 1 * 3 / (5 + 2 * 4 / (5 + 3 * 5 / (5 + ... + (n - 1) * (n + 1) / 5)))), for n >=2. Lim n -> infinity a(n) / b(n) = 1 / (5 + 1 * 3 / (5 + 2 * 4 / (5 + 3 * 5 / (5 + ... + (n - 1) * (n + 1) / (5 + ...))))) = 2 * sum { k = 1..inf } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2) * p(k + 1) * p(k + 2)) = 17 / 2 - 12 * log(2). •

[A084131] • 1,5,33,245,1889,14725,115137,901045,7053121,55213445,432231393,3383685365,26488919969,207366548485,1623353845377,12708307129525,99486055923841,778819338036485,6096930429659553,47729375549975285 ⋆ a(n)=10a(n-1)-17a(n-2), a(0)=0,a(1)=5. • a(n)=(5 + sqrt(8)) ^ n / 2 + (5 - sqrt(8)) ^ n / 2; G.f.: (1 - 5x) / (1 - 10x + 17x ^ 2); E.g.f.: exp(5x)cosh(sqrt(8)x). •

[A084771] • 1,5,33,245,1921,15525,127905,1067925,9004545,76499525,653808673,5614995765,48416454529,418895174885,3634723102113,31616937184725,275621102802945,2407331941640325,21061836725455905,184550106298084725 ⋆ Coefficients of expansion of 1/sqrt(1-10*x+9*x^2); also, a(n) is the central coefficient of (1+5*x+4*x^2)^n. • a(n) = sum(k=0..n, sum(j=0..n - k, C(n,j) * C(n - j,k) * C(2 * n - 2 * j,n - j))). - _ Paul Barry _ , May 19 2006 • a(n) = sum(k=0..n, 4 ^ k * (C(n,k)) ^ 2) [From heruneedollar (heruneedollar(AT) gmail.com), Mar 20 2010] • a(n) = hypergeom([- n,1 / 2], [1], - 8). - _ Peter Luschny _ , Apr 26 2016 • a(n) = - 3 * 9 ^ n * a(- 1 - n) for all n in Z. •

[A153398] • 1,1,5,33,245,1941,16023,136075,1179833,10392981,92701411,835271032,7589337123,69444928453,639280878401,5915683250220,5499163609076 1,513257729193329,4807619948647095,45177320023095160,425766248463523359 ⋆ G.f.: A(x) = F(x*G(x)^2) where F(x) = G(x/F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x*G(x)) = 1 + x*G(x)^4 is the g.f. of A002293. • a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(4n - 2k,n - k) * k / (2 n - k) for n>0 with a(0)=1. •

[A242522] • 0,0,0,0,1,5,33,245,2053,19137,196705,2212037,27029085,356723177,5058388153,76712450925,1239124984693,21241164552785,385159565775633,7365975246680597,148182892455224845,3128251523599365177,69149857480654157545,1597343462243140957757 ⋆ Number of cyclic arrangements of S={1,2,...,n} such that the difference between any two neighbors is at least 2. • a(n) = (n - 1)! / 2 + sum _{ i=1..n - 1 } ((- 1) ^ i * (n - i - 1)! * sum _{ j =0..i - 1 } (2 ^ j * C(i - 1,j) * C(n - i,j + 1))), for n>=5. - _ Andrew Woods _ , Jan 08 2015 • a(n) = n a(n - 1) - (n - 5) a(n - 2) - (n - 4) a(n - 3) + (n - 4) a(n - 4), for n>6. - _ Jean - François Alcover _ , Oct 07 2017 •

[A034015] • 1,5,33,249,2033,17485,156033,1431281,13412193,127840085,1235575201,12080678505,119276490193,1187542872989,11909326179841,120191310803937,1219780566014657,12440630635406245,127446349676475425,1310820823328281561,13530833791486094769 ⋆ a(n) = A027307(n+1)/2. • a(n) = Sum _{ i=0..n } Sum _{ j=0..i } (- 2) ^ (n - i) * binomial(i,j) * binomial(2i + j, n) * binomial(n + 1,i) / (n + 1) (conjectured). - _ Michael D. Weiner _ , May 25 2017 •

[A199552] • 5,33,257,2049,16385,131073,1048577,8388609,67108865,536870913,4294967297,34359738369,274877906945,2199023255553,17592186044417,140737488355329,1125899906842625,9007199254740993,72057594037927937 ⋆ 4*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[A061253] • 5,33,261,2241,19845,177633,1595781,14353281,129153285,1162300833,10460471301,94143533121,847289672325,7625600673633,68630386930821,617673424981761,5559060652648965,50031545357280033,450283906665838341 ⋆ Let G_n be the elementary Abelian group G_n = (C_3)^n; a(n) is the number of times the number 1 appears in the character table of G_n. • a(n) = 3 ^ (n - 1) * (3 ^ n + 2) •

[A284850] • 0,5,34,171,776,3361,14190,58967,242452,989517,4017146,1624576

3,65514528,263652473,1059392902,4251920559,17050729004,68332056229,273715645458,1096024843355,4387586157880,17560804984785,70274600998814,281192547174151,1125052618233156 ★ a(n) = 4^n - 3^n - n. ● a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 31 * a(n - 3) - 12 * a(n - 4) for n>4. ●

[A024063] ● 1,5,34,213,1292,7771,46650,279929,1679608,10077687,60466166,362797045,2176782324,13060694003,78364164082,470184984561,2821109907440,169266594447 19,1015599566839 8,609359740010477 ★ 6^n-n. ● a(n) = 8 * a(n - 1) - 13 * a(n - 2) + 6 * a(n - 3). - _ Vincenzo Librandi _ , Jun 16 2013 ●

[A015545] ● 0,1,5,34,215,1381,8840,56629,362705,2323186,14880275,95310049,610472720,3910154041,25045024685,160416509794,1027487771135,6581187443821,42153327159320,269997322790989,1729366558388825,11076808697063026,70948342510814555 ★ Expansion of x/(1 - 5*x - 9*x^2). ● a(n) = 5 * a(n - 1) + 9 * a(n - 2). ● a(n) = (1 / 61) * sqrt(61) * (((5 / 2) + (1 / 2) * sqrt(61)) ^ n - ((5 / 2) - (1 / 2) * sqrt(61)) ^ n), with n>=0. - _ Paolo P. Lava _ , Jan 13 2009 ●

[A102436] ● 1,5,34,223,1469,9672,63685,419329,2761042,18179883,119704137,788183312,5189736537,34171448333,224999452834,1481492773799,9754783005797,64229669677144,422915657312253,2784657839576297,18335379997029650 ★ Number of matchings of the corona L'(n) of the ladder graph L(n)=P_2 X P_n. and the complete graph K(1); in other words, L'(n) is the graph constructed from L(n) by adding for each vertex v a new vertex v' and the edge vv'. ● a(n) = 6 * a(n - 1) + 4 * a(n - 2) - a(n - 3) for n>=3. ●

[A291027] ● 5,34,226,1501,9968,66195,439582,2919134,19385099,128730656,854861845,5676882210,37698479330,250344342349,1662462010576,11039913707011,73312769785118,486848208799710,3233013554202907,21469477452590144,142572387761274149,946780646936461346 ★ p-INVERT of the positive integers, where p(S) = 1 - 5*S + S^2. ● a(n) = 9 * a(n - 1) - 17 * a(n - 2) + 9 * a(n - 3) - a(n - 4). ●

[A033889] ● 1,5,34,233,1597,10946,75025,514229,3524578,24157817,165580141,1134903170,7778742049,53316291173,365435296162,2504730781961,17167680177565,117669030460994,806515533049393,5527939700884757,37889062373143906,259695496911122585,1779979416004714189 ★ a(n) = Fibonacci(4*n + 1). ● a(n) = 7 * a(n - 1) - a(n - 2). - _ Floor van Lamoen _ , Dec 10 2001 ● a(n) = (1 / 2) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n - (1 / 10) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n * sqrt(5) + (1 / 10) * sqrt(5) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n + (1 / 2) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Jun 25 2008 ● a(n) = sqrt(1 + 2 * Fibonacci(2 * n) * Fibonacci(2 * n + 1) + 5 * (Fibonacci(2 * n) * Fibonacci(2 * n + 1)) ^ 2). - _ Artur Jasinski _ , Feb 06 2010 ● a(n) = Fibonacci(2 * n) ^ 2 + Fibonacci(2 * n) * Fibonacci(2 * n + 2) + 1. - _ Gary Detlefs _ , Apr 18 2012 ● a(n) = Fibonacci(2n) ^ 2 + Fibonacci(2n + 1) ^ 2. - _ Bruno Berselli _ , Apr 19 2012 ●

[A073279] ● 1,1,1,5,34,250,2058,18661,185695,2017527,23804069,303413813,4157895295,60989187252,953766105164,15844435971349,278704524938621,5175632136205088,101198102131888304,2078318050691940125,44731639502987747576,1006917859088311808499 ★ Number of digits of n!^n! (ultrafactorial numbers). ● a(n) = floor(log(n! ^ n!) / log(10)) + 1. ●

[A081342] ● 1,5,34,260,2056,16400,131104,1048640,8388736,67109120,536871424,4294968320,34359740416,274877911040,2199023263744,17592186060800,140737488388096,1125899906908160,9007199254872064,72057594038190080,576460752303947776,4611686018428436480 ★ (8^n+2^n)/2. ● a(n)=(8 ^ n + 2 ^ n) / 2. a(n)=10 * a(n - 1) - 16 * a(n - 2), a(0)=1, a(1)=5. ●

[A248055] ● 1,5,34,265,2219,19490,177119,1651405,15707416,151791375,1485814989,14697965770,146673432721,1474490991635,14915914368896,151701887367585,1550083118902041,15903333300738320,163749905809635219,1691449817705302875,17521670544878571584,181972459046153912945 ★ G.f.: Sum_{n>=0} x^n / (1-4*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k] * [Sum_{k=0..n} C(n,k)^2 * 4^k * x^k]. ● a(n) = Sum _{ k=0..[n / 2] } Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 4 ^ j. ●

[A243659] ● 1,5,34,267,2279,20540,192350,1853255,18252079,182924645,1859546968,19127944500,198725331588,2082256791048,21979169545670,233495834018591,2494624746580655,26786319835972799,288915128642169250,3128814683222599331,34007373443388857999 ★ Number of Sylvester classes of 3-packed words of degree n. ● a(n) = (1 / n) * Sum _{ i=1..n } (Sum _{ j=0..3 * i } (2 ^ (j - 2 * i) * (- 1) ^ (i - j) * binomial(i,3 * i - j) * binomial(i + j - 1,i - 1)) * a(n - i)). - _ Vladimir Kruchinin _ , Apr 09 2017 ●

[A014632] ● 1,5,35,51,117,145,247,287,425,477,651,715,925,1001,1247,1335,1617,1717,2035,2147,2501,2625,3015,3151,3577 ★ Odd pentagonal numbers. ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). ● a(n) = 48 + 2 * a(n - 2) - a(n - 4). - _ Ant King _ , Aug 16 2011 ● a(n) = (3 * (- 1) ^ n + 12 * n + 1) * ((- 1) ^ n + 4 * n + 1) / 8. - _ Ant King _ , Aug 16 2011 ●

[A117793] ● 0,5,35,70,145,210,330,425,590,715,925,1080,1335,1520,1820,2035,2380,2625,3015,3290,3725,4030,4510,4845,5370 ★ Pentagonal numbers divisible by 5. ● a(2 * n + 1) = 5 * n * (15 * n - 1) / 2, a(2 * n + 2) = 5 * (5 * n + 2) * (3 * n + 1) / 2. - _ Robert Israel _ , Jun 01 2014 ●

[A145920] ● 0,1,5,35,70,210,330,715,1001,1820,2380,3876,4845,7315,8855,12650,14950,20475,23751,31465,35960,46376,52360,66045,73815 ★ List of numbers that are both pentagonal (A000326) and binomial coefficients C(n,4) (A000332). ● a(n) = (27x ^ 4 - 18x ^ 3 - 3x ^ 2 + 2x) / 8 where x = floor(n / 2) * (- 1) ^ n, for n >= 1. - _ William A. Tedeschi _ , Aug 16 2010 ●

[A153785] ● 0,5,35,90,170,275,405,560,740,945,1175,1430,1710,2015,2345,2700,3080,3485,3915,4370,4850,5355,5885,6440,7020 ★ 5 times heptagonal numbers: a(n) = 5*n*(5*n-3)/2. ● a(n) = 25 * n + a(n - 1) - 20 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A162540] ● 5,35,105,231,429,715,1105,1615,2261,3059,4025,5175,6525,8091,9889,11935,14245,16835,19721,22919,26445,30315,34545,39151,44149 ★ a(n) = (2*n+1)*(2*n+3)*(2*n+5)/3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. G.f.: (5 + 15 * x - 5 * x ^ 2 + x ^ 3) / (x - 1) ^ 4. - _ R. J. Mathar _ , Jul 16 2009 ● a(n) = 5 * Pochhammer(7 / 2,n) / Pochhammer(1 / 2,n). Hence e.g.f. is 5 * 1F1(7 / 2;1 / 2;x), with 1F1 being the confluent hypergemetric function (also known as Kummer's). - _ Stanislav Sykora _ , May 26 2016 ●

[A161199] ● 1,5,35,105,1155,3003,15015,36465,692835,1616615,7436429,16900975,152108775,339319575,1502700975,3305942145,115707975075,2518350045 75,1091285019825,2354878200675,20251952525805 ★ Numerators in expansion of (1-x)^(-5/2) ● a(n) = numer(((3 + 8 * n + 4 * n ^ 2) / 3) * binomial(2 * n, n) / (4 ^ n)) ● a(n) = denominator((3 / 2) * integral(x ^ n * sqrt(1 - x),x=0.1)), where the integral is sqrt(Pi) * n! / Gamma(n + 5 / 2) = n! / ((n + 3 / 2) * (n + 1 / 2) * (n - 1 / 2) * .. * (1 / 2)). - Roland Groux, Feb 23 2011 ●

[A111877] ● 1,5,35,105,1155,15015,15015,255255,4849845,4849845,111546435,557732175,1673196525,48522699225,1504203675975,1504203675975,1504203675975,55655536011075,55655536011075,2281876976454075,98120709987525225 ★ Sequence related to f(n) = 1/1 + 1/3 + ... + 1/(2n+1). ● a(n)=denominator(digamma(n + 5 / 2) / 2 + log(2) + euler _ gamma / 2) / 3; a(n)=denominator(f(n + 1) / 3). ●

[A179337] ● 5,35,107,197,341,491,707,917,1205,1475,1835,2165,2597,2987,3491,3941,4517,5027,5675,6245,6965,7595,8387,9077,9941 ★ Positive integers of the form (6*m^2+1)/11. ● a(n) = (66 * n * (n - 1) - 3 * (2 * n - 1) * (- 1) ^ n + 17) / 4. ● a(n) = a(- n + 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A053126] ● 5,35,126,330,715,1365,2380,3876,5985,8855,12650,17550,23751,31465,40920,52360,66045,82251,101270,123410,148995,178365,211876,249900,292825 ★ Binomial coefficients binomial(2*n-3,4). ● a(n) = binomial(2 * n - 3, 4) if n >= 4 else 0; G.f.: (5 + 10 * x + x ^ 2) / (1 - x) ^ 5. ●

[A005562] ● 1,5,35,140,720,2700,12375,45375,196625,715715,3006003,10930920,45048640,164105760,668144880,2441298600,9859090500,36149998500,145173803500,534239596880,2136958387520,7892175863000,31479019635375,116657543354625,464342770607625 ★ Number of walks on square lattice. ● a(n) = C(n + 5, ceil(n / 2)) * C(n + 4, floor(n / 2)) - C(n + 5, ceil((n - 1) / 2)) * C(n + 4, floor((n - 1) / 2)). - _ Paul D. Hanna _ , Apr 16 2004 ●

[A124793] ● 1,5,35,157,1123,5021,35939,160669,1150051,5141405,36801635,164524957,1177652323,5264798621,37684874339,168473555869,1205915978851,5391153787805,38589311323235,172516921209757,1234857962343523 ★ Numbers in a perpendicular plane intersecting a 3D clockwise spiral produced by powers of 2. ● a(n) = 2 ^ (1 / 4 * (10 * n - 7 - (- 1) ^ n)) + 2 ^ (1 / 4 * (10 * n - 1 + (- 1) ^ n)) - a(n - 1), with a(0)=1. ● a(n) = - a(n - 1) + 32 * a(n - 2) + 32 * a(n - 3). G.f.: x * (1 + 2 * x) * (1 + 4 * x) / ((1 + x) * (1 - 32 * x ^ 2)). [_ Colin Barker _ , Jul 07 2012] ● a(n) = (- 1984 + 248 * sqrt(2)) ^ (- 1) * (- (4 * sqrt(2)) ^ (n - 1) * (936 + 472 * sqrt(2)) + (- 4 * sqrt(2)) ^ (n - 1) * (744 * sqrt(2) - 1240) + (- 1) ^ (n - 1) * (192 - 24 * sqrt(2))). [_ Paolo P. Lava _ , Jul 10 2012] ● a(2n) = 3 / 31 + 19 * 32 ^ n / 124, a(2n + 1) = - 3 / 31 + 136 * 32 ^ n / 124. [_ R. J. Mathar _ , Jul 10 2012] ●

[A048515] ● 1,5,35,160,577,1816,5245,14288,37313,94384,232861,563080,1339249,3141464,7282493,16711456,38010625,85786336,192282301,428342936,948960881,2091908680,4590665245,10032774640,21843934657 ★ a(n) = T(n,n), array T given by A048505. ● a(n) = (9 * n ^ 2 + n) * 2 ^ (n - 2) - n ^ 2 + 1. - _ Ralf Stephan _ , Feb 05 2004 ●

[A123008] ● 1,5,35,195,1265,7405,46435,277995,1716865,10383605,63688835,386967795,2366156465,14406507805,87966927235,536096549595,3271366280065,19945146300005,121674449601635,741977556703395,4525816353447665 ★ Expansion of -x * (3*x+1) / (25*x^2+2*x-1). ● a(n) = 2 * a(n - 1) + 25 * a(n - 2) for n>2. G.f.: - x * (3 * x + 1) / (25 * x ^ 2 + 2 * x - 1). [_ Colin Barker _ , Oct 19 2012] ●

[A024062] ● 0,5,35,215,1295,7775,46655,279935,1679615,10077695,60466175,362797055,2176782335,13060694015,78364164095,470184984575,2821109907455,16926659444735,101559956668415,609359740010495 ★ a(n) = 6^n-1. ● a(n + 1) = 6 * a(n) + 5. - _ Reinhard Zumkeller _ , Nov 22 2009 ● a(n) = Sum _{ i=1..n } 5 ^ i * binomial(n,n - i) for n>0, a(0)=0. - _ Bruno Berselli _ , Nov 11 2015 ●

[A180250] ● 0,1,5,35,225,1475,9625,62875,410625,2681875,17515625,114396875,747140625,4879671875,31869765625,208145546875,1359425390625,8878582421875,57987166015625,378721654296875,2473479931640625,16154616201171875,105507880322265625 ★ a(n) = 5*a(n-1) + 10*a(n-2), with a(1)=0 and a(2)=1. ● a(n) = ((5 + sqrt(65)) ^ (n - 1) - (5 - sqrt(65)) ^ (n - 1)) / (2 ^ (n - 1) * sqrt(65)). - _ Rolf Pleisch _ , May 14 2011 ●

[A187444] ● 1,5,35,231,1716,12155,92378,676039,5200300,38779380,300540195,2268783825,17672631900,134564468610,1052049481860,8061900920775,63205303218876,486734856412028,3824345300380220,29566145391215356,232714176627630544,1804857108504066435 ★ A trisection of A001405 (central binomial coefficients): binomial(3n+2,floor((3n+2)/2))/2, n>=0. ● a(n) = binomial(3 * n + 2,floor((3 * n + 2) / 2)) / 2, n>=0. ●

[A091928] ● 1,5,35,235,1585,10685,72035,485635,3273985,22072085,148802435,1003175035,6763062385,45594249485,307380808835,2072256100435,13970440646785,94183924382885,634955749531235,4280654119101835 ★ a(0)=1, a(1)=5; a(n) = 6*a(n-1) + 5*a(n-2) for n>1. ● a(n)=(3 + sqrt(14)) ^ n(1 / sqrt(14) + 1 / 2) + (3 - sqrt(14)) ^ n(1 / 2 - 1 / sqrt(14)) ●

[A290903] ● 5,35,240,1645,11275,77280,529685,3630515,24883920,170556925,1169014555,8012544960,54918800165,376419056195,2580014593200,17683683

096205,121205767080235,830756686465440,5694091038177845,39027880580779475,267501073027278480 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 5*S. • a(n) = 7 * a(n - 1) - a(n - 2). •

[A155127] • 1,5,35,240,1650,11340,77940,535680,3681720,25304400,173916720,1195326720,8215460640,56464724160,388081108800,2667274997760,18332136639360,125996469822720,865971638772480,5951808651571200 ⋆ a(n)=6*a(n-1)+6*a(n-2), n>2 ; a(0)=1, a(1)=5, a(2)=35 . • a(n)=(2 / 3) * sqrt(15) *{ [3 + sqrt(15)] ^ (n - 1) - [3 - sqrt(15)] ^ (n - 1) }+ (5 / 2) *{ [3 + sqrt(15)] ^ (n - 1) + [3 - sqrt(15)] ^ (n - 1) }+ (1 / 6) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A193577] • 5,35,245,1715,12005,84035,588245,4117715,28824005,201768035,1412376245,9886633715,69206436005,484445052035,3391115364245,23737807549715,166164652848005,1163152569936035,8142067989552245,5699447592686 5715 ⋆ 5*7^n • a(n) = 7 * a(n - 1), a(0)=5. •

[A196661] • 1,5,35,245,1715,12005,84035,588245,4117715,28824005,201768035,1412376245,9886633715,69206436005,484445052035,3391115364245,23737807549715,166164652848005,1163152569936035,8142067989552245,5699447592686 5715,398961331488060005 ⋆ Expansion of (1-2x)/(1-7x). • a(0) = 1, a(n) = 5 * 7 ^ (n - 1) for n>0. •

[A104532] • 1,5,35,250,1795,12910,92910,668820,4815075,34667110,249598330,1797091180,12938997710,93160575500,670755400700,4829436210600,34771931021475,250357867996950,1802576519933250,12978550465880700,93445561587077850,672808036862840100,4844217840946181700 ⋆ Expansion of (1+sqrt(1-4*x))/(6*sqrt(1-4*x)-4). • a(n) = 0 ^ n + sum { k=0..n, 5 ^ (k + 1) * C(2n - 1, n - k - 1) * 2 * (k + 1) / (n + k + 1) } . •

[A084135] • 1,5,35,275,2225,18125,147875,1206875,9850625,80403125,656271875,5356671875,43722640625,356876328125,2912923671875,23776091796875,194067062890625,1584029251953125,12929286576171875,105532426982421875 ⋆ a(n)=10a(n-1)-15a(n-2), a(0)=1,a(1)=5. • a(n)=(5 + sqrt(10)) ^ n / 2 + (5 - sqrt(10)) ^ n / 2; G.f.: (1 - 5x) / (1 - 10x + 15x ^ 2); E.g.f. : exp(5x)cosh(sqrt(10)x). •

[A138233] • 5,35,275,2315,20195,179195,1602515,14381675,129271235,1162785755,10462450355,94151567435,847322163875,7625731702715,68630914235795,617675543767595,5559069156490115,50031579458738075,450284043329950835 ⋆ 2^(2*n+1) + 3^(2*n+1). • a(n + 1) = 4 * a(n) + 5 * 3 ^ (2 * n + 1), a(0) = 5. •

[A248053] • 1,5,35,285,2519,23545,228715,2284365,23294551,241366025,2532599675,26845322925,286946021495,3088651368025,33443864305675,363983410742925,3979005075583255,43667580737050025,480884378835323675,5311978947724802925,58839469859529979319,653372409529941364345 ⋆ G.f.: Sum_{n>=0} x^n / (1-4*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * 2^k * x^k] * [Sum_{k=0..n} C(n,k)^2 * 4^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 2 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 4 ^ j. •

[A002294] • 1,1,5,35,285,2530,23751,231880,2330445,23950355,250543370,2658968130,28558343775,309831575760,3390416787880,37377257159280,414741863546285,4628362722856425,51912988256282175,584909606696793885,6617078646960613370 ⋆ a(n) = binomial(5n,n)/(4n+1). • a(n) = binomial(5 * n,n - 1) / n, n>=1, a(0)=1. From the Lagrange series of the o.g.f. A(x) with its above given implicit equation. • a(n) = upper left term in M ^ n, M = the production matrix: • a(0) = 1; a(n) = Sum _{ i1 + i2 + ..i5=n - 1 } a(i1)a(i2)...a(i5) for n>=1. - _ Robert FERREOL _ , Apr 03 2015 •

[A051406] • 1,5,35,287,2501,22265,199655,1794707,16145801,145292525,1307573675,11767985927,105911341901,953200482785,8578799562095,77209181709947,694882592342801,6253943201945045,56285488430084915,506569394708502767,4559124548889740501 ⋆ a(n) = (3^n+1) * (3^(n+1)+1) / 8. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). G.f.: - (1 - 8 * x + 9 * x ^ 2) / ((x - 1) * (3 * x - 1) * (9 * x - 1)). [_ R. J. Mathar _ , Jul 25 2009] •

[A262248] • 0,0,5,35,330,715,2380,3876,8855,23751,31465,66045,101270,123410,178365,292825,455126,521855,766480,971635,1088430,1502501,1837620,2441626,3464840 ⋆ Number of intersections of diagonals in the interior of a regular p-gon where p is the n-th prime. • a(n) = (prime(n) ^ 4 - 6 * prime(n) ^ 3 + 11 * prime(n) ^ 2 - 6 * prime(n)) / 24. •

[A096945] • 5,36,148,456,1170,2640,5412,10296,18447,31460,51480,81328,124644,186048,271320,387600,543609,749892,1019084,1366200,1808950,2368080,3067740,3935880,5004675 ⋆ Eighth column of (1,5)-Pascal triangle A096940. • a(0)=5, a(1)=36, a(2)=148, a(3)=456, a(4)=1170, a(5)=2640, a(6)=5412, a(7)=10296, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Aug 16 2014 •

[A063417] • 5,36,149,470,1251,2954,6371,12789,24210,43637,75438,125801,203294,319545,490058,735182,1081251,1561914,2219675,3107664,4291661,5852396,7888149,10517675,13883480 ⋆ Ninth column (k=8) of septinomial array A063265. • a(n) = 5 * C(n + 2,2) + 21 * C(n + 2,3) + 35 * C(n + 2,4) + 35 * C(n + 2,5) + 21 * C(n + 2,6) + 7 * C(n + 2,7) + C(n + 2,8) (see comment in A213889). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(0)=5, a(1)=36, a(2)=149, a(3)=470, a(4)=1251, a(5)=2954, a(6)=6371, a(7)=12789, a(8)=24210, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Aug 22 2012 •

[A271254] • 1,5,36,188,876,3788,15756,64268,259596,1043468,4184076,16756748,67067916,268353548,1073577996,4294639628 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 323", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A271055] • 1,5,36,212,948,3956,16116,65012,261108,1046516,4190196,16769012,67092468,268402676,1073676276,4294836212 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 259", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A212329] • 0,5,36,217,1272,7421,43260,252145,1469616,8565557,49923732,290976841,1695937320,9884647085,57611945196,335787024097,1957110199392,11406874172261,66484134834180,387497934832825,2258503474162776,13163522910143837,76722633986700252 ⋆ Expansion of x*(5+x)/(1-7*x+7*x^2-x^3). • a(n) = + 7 * a(n - 1) - 7 * a(n - 2) + 1 * a(n - 3). • a(n) = (- 6 + (5 - 3 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n * (5 + 3 * sqrt(2))) / 4. •

[A015547] • 0,1,5,36,235,1571,10440,69481,462245,3075516,204622751361420 51,905795280,6026538961,40096442885,266774142996,1774931586715,11809173506531,78570114986520,522751483504441,3478028682373925,231404097304184 76 ⋆ Expansion of x/(1 - 5x - 11x^2). • a(n) = 5 a(n - 1) + 11 a(n - 2). • a(n) = (1 / 69) * sqrt(69) * [5 / 2 + (1 / 2) * sqrt(69)] ^ n - (1 / 69) * [5 / 2 - (1 / 2) * sqrt(69)] ^ n * sqrt(69), with n>=0. - _ Paolo P. Lava _ , Aug 06 2008 •

[A098305] • 0,1,5,36,245,1681,11520,78961,541205,3709476,25425125,174266401,1194439680,8186811361,56113239845,384605867556,2636127833045,18068288963761,123841894913280,848824975429201,5817932933091125 ⋆ Unsigned member r=-5 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 7 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 6 * a(n - 1) + 6 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=5. •

[A055270] • 1,5,36,252,1764,12348,86436,605052,4235364,29647548,207532836,1452729852,10169108964,71183762748,498286339236,3488004374652,24416030622564,170912214357948,1196385500505636,8374698503539452 ⋆ a(n) = 7a(n-1) + (-1^n)*binomial(2,2-n); a(-1)=0. • a(n) = (6 ^ 2) * (7 ^ (n - 2)), n >= 2; a(0)=1, a(1)=5. •

[A164110] • 5,36,262,1920,14132,104304,771160,5707584,42271568,313200960,2321178208,17205305856,127543611200,945542935296,7010032442752,51971929512960,385322051101952,2856819009782784,21180878379927040 ⋆ a(n) = 12*a(n-1) - 34*a(n-2) for n > 1; a(0) = 5, a(1) = 36. • a(n) = ((5 + 3 * sqrt(2)) * (6 + sqrt(2)) ^ n + (5 - 3 * sqrt(2)) * (6 - sqrt(2)) ^ n) / 2. •

[A285392] • 1,5,36,264,1944,14328,105624,778680,5740632,42321528,312006168,2300197176,16957700568,125016939000,921660044184,6794737129656,50092713636696,369297577174392,2722565630929176,20071519752269880,147972890199278808,1090897774766270712 ⋆ Start with a single cell at coordinates (0, 0), then iteratively subdivide the grid into 3 X 3 cells and remove the cells whose sum of modulo 2 coordinates is 0; a(n) is the number of cells after n iterations. • a(0) = 1, a(1) = 5, a(2) = 36, a(n) = 9 * a(n - 1) - 12 * a(n - 2). • a(n) = (2 ^ (- 3 - n) * ((9 - sqrt(33)) ^ n * (- 13 + 3 * sqrt(33)) + (9 + sqrt(33)) ^ n * (13 + 3 * sqrt(33)))) / sqrt(33) for n>0. - _ Colin Barker _ , Apr 18 2017 •

[A253470] • 1,5,36,280,2201,17325,136396,1073840,8454321,66560725,5240314764125691080,32481497161,255726286205,2013328792476,15850904053600,124793903636321,982500325036965,7735208696659396,60899169248238200,479458145289246201,3774765993065731405 ⋆ Indices of centered triangular numbers (A005448) which are also centered pentagonal numbers (A005891). • a(n) = 9 * a(n - 1) - 9 * a(n - 2) + a(n - 3). • a(n) = (6 - (4 - sqrt(15)) ^ n * (3 + sqrt(15)) + (- 3 + sqrt(15)) * (4 + sqrt(15)) ^ n) / 12. - _ Colin Barker _ , Mar 03 2016 •

[A052203] • 1,5,36,286,2380,20349,177100,1560780,13884156,124403620,1121099408,10150595910,92263734836,841392966470,7694644696200,70539987842520,648045936942300,5964720367660956,54991682779774384,507749884105448600,4694436188839116720 ⋆ a(n) = (4n+1)*binomial(4n,n)/(3n+1). • a(n) = C(4n + 1, n); a(n) is asymptotic to c / sqrt(n) * (256 / 27) ^ n with c=0.614... - _ Benoit Cloitre _ , Jan 27 2003 • a(n) = [x ^ n] 1 / (1 - x) ^ (3 * n + 2). - _ Ilya Gutkovskiy _ , Oct 03 2017 •

[A246510] • 1,5,36,305,2821,27690,282699,2967285,31785786,345815975,3808549531,42360017130,474990254821,5362633500755,60897115958286,695012481567465,7966829676299139,91674042449673960,1058486539560201051,12258669983923625475,142359286920427682046,1657287004720545992505 ⋆ G.f.: Sum_{n>=0} x^n / (1-4*x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * 3^k * x^k] * [Sum_{k=0..n} C(n,k)^2 * 4^k * x^k]. • a(n) = Sum _{ k=0..[n / 2] } 3 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 4 ^ j. •

[A249861] • 1,5,37,101,229,485,2533,6629,23013,88549,219621,481765,1006053,3103205,7297509,24074725,158292453,1232034277,3379517925,7674485221,282552392165,1382064019941,5780110531045,14576203553253,84944947730917 ⋆ a(n) are values of k that yield "record-breaking" integer sequence lengths for the recursion: b(i) = 3*(b(i-1) + b(i-2))/2, with b(0) = 1 and b(1) = k. • a(n) = a(n - 1) + 2 ^ (Nmax(a(n - 1)) - 1), where Nmax at a(n - 1) (i.e., the prior record - breaking k value) must be found by calculation of b(i) and "observation". •

[A023289] • 5,37,127,347,977,2017,3607,5477,9137,10487,13687,14057,14107,19037,19697,19727,20507,22157,23887,24097,25237,25307,26717,26777,27107 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 6x + 7. • a(n) == 7 (mod 10), for n > 1. - _ John Cerkan _ , Sep 21 2016 •

[A273251] • 1,5,37,181,789,3285,13397,54101,217429,871765,3491157,13972821,55907669,223663445,894719317,3579008341 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 619", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A269815] • 1,5,37,185,817,3425,14017,56705,228097,914945,3664897,14669825,58699777,234840065,939442177,3757932545 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule

35", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A273539] • 1,5,37,197,901,3845,15877,64517,260101,1044485,4186117,16760837,67076101,268369925,1073610757,4294705157 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 779", based on the 5-celled von Neumann neighborhood. • a(n) = 5 - 2 ^ (3 + n) + 4 ^ (1 + n). • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>2. •

[A088582] • 1,5,37,229,1253,6373,30949,145637,669925,3029221,13514981,59652325,260978917,1133394149,4891490533,20997617893,89717094629,381774870757,1618725452005,6841405683941,28831638239461,121190614972645,508218707949797,2126699824036069 ★ a(n) = n*x^n + (n-1)*x^(n-1) + . . . + x + 1 for x=4. • a(n) = (13 + (3n - 1) * 4 ^ (n + 1)) / 9 = 9 * a(n - 1) - 24 * a(n - 2) + 16 * a(n - 3). G.f.: (1 - 4x + 16x ^ 2) / ((1 - x)(1 - 4x) ^ 2). - _ R. J. Mathar _ , Jul 22 2009 •

[A015548] • 0,1,5,37,245,1669,11285,76453,517685,3505861,23741525,160777957,1088788085,7373275909,49931836565,338138493733,2289874507445,15507034462021,105013666399445,711152745541477,4815927724500725,32613471569001349 ★ Expansion of x/(1-5*x-12*x^2). • a(n) = 5 a(n - 1) + 12 a(n - 2). • a(n) = (1 / 73) * [5 / 2 + (1 / 2) * sqrt(73)] ^ n * sqrt(73) - (1 / 73) * [5 / 2 - (1 / 2) * sqrt(73)] ^ n * sqrt(73), with n>=0. - _ Paolo P. Lava _ , Aug 06 2008 •

[A054417] • 1,5,37,249,1657,11037,73533,489905,3263921,21745397,144875541,965212201,6430585769,42842841485,285434194093,1901663763041,12669557966433,84409085446373,562363243040517,3746663234776665 ★ Number of connected 3 X n binary matrices with rightmost column [1,0,0]'. • a(n)=7 * a(n - 1) - 3 * a(n - 2) + 5 * a(n - 3). •

[A083232] • 1,5,37,257,1801,12605,88237,617657,4323601,30265205,211856437,1482995057,10380965401,72666757805,508667304637,3560671132457,24924697927201,174472885490405,1221310198432837,8549171389029857 ★ a(n) = (3*7^n+(-1)^n)/4. • a(n) = (3 * 7 ^ n + (- 1) ^ n) / 4. •

[A089303] • 1,5,37,277,2222,18518,158730,1388888,12345679,111111111,1010101010,9259259259,85470085470,793650793650,7407407407407,69444444444444,653594771241830,6172839506172839,58479532163742690,555555555555555555 ★ Floor((10^n - 1) / (9*n)). • a(n) = Floor[(10 ^ n - 1) / (9n)]. •

[A164595] • 5,37,285,2221,17365,135893,1063725,8327069,65187365,510313477,3994949565,31274166541,244827522805,1916614396853,15004076080845,117458316061949,919513867245125,7198347299398117,56351737250814045,441145468418372461,3453475150919885845 ★ a(n) = 10*a(n-1) - 17*a(n-2) for n > 1; a(0) = 5, a(1) = 37. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 5, a(1) = 37. • a(n) = ((5 + sqrt(18)) * (5 + sqrt(8)) ^ n + (5 - sqrt(18)) * (5 - sqrt(8)) ^ n) / 2. •

[A046636] • 1,5,37,293,2341,18725,149797,1198373,9586981,76695845,613566757,4908534053,39268272421,314146179365,2513169434917,20105355479333,160842843834661,1286742750677285,10293942005418277,82351536043346213 ★ Number of cubic residues mod 8^n. • a(n)=8 * a(n - 1) - 3 (with a(0)=1) [_ Vincenzo Librandi _ , Nov 18 2010] •

[A066381] • 1,5,37,299,2517,21700,190051,1683218,15033173,135142796,1221246132,11083374659,100946732307,922205369324,8446802334994,77542088287444,713250450657109,6572130378649468,60652194138406780,560522209086365852 ★ a(n) = Sum_{k=0..n} C(4*n,k). • a(0) = 1, a(n) = 16 * a(n - 1) - 2 * (44 * n ^ 3 - 34 * n ^ 2 - 2 * n + 3) * (4 * n - 4)! / (n! * (3 * n - 1)!). - _ Tani Akinari _ , Sep 02 2014 • a(n) are special values of the hypergeometric function 2F1, in Maple notation: a(n)=16 ^ n - binomial(4 * n,n + 1) * hypergeom([1, - 3 * n + 1],[n + 2], - 1), n=0,1,... . - _ Karol A. Penson _ , Jun 03 2015 • a(n) = [x ^ n] 1 / ((1 - 2 * x) * (1 - x) ^ (3 * n)). - _ Ilya Gutkovskiy _ , Oct 25 2017 •

[A006442] • 1,5,37,305,2641,23525,213445,1961825,18205345,170195525,1600472677,15122515985,143457011569,1365435096485,13033485491077,124715953657025,1195966908404545,11490534389896325,110584004488276645,1065853221648055025 ★ Expansion of 1/sqrt(1-10*x+x^2). • a(n) = central coefficient of (1 + 5 * x + 6 * x ^ 2) ^ n. - _ Paul D. Hanna _ , Jun 03 2003 • a(n) equals the (n + 1) - th term of the binomial transform of 1 / (1 - 2x) ^ (n + 1). - _ Paul D. Hanna _ , Sep 29 2003 • a(n)=sum(k=0, n, 2 ^ k * binomial(n, k) * binomial(n + k, k)) - _ Benoit Cloitre _ , Apr 13 2004 • a(n) = Sum _{ k=0..n } binomial(n,k) ^ 2 * 2 ^ k * 3 ^ (n - k). - _ Paul D. Hanna _ , Feb 04 2012 • a(n) = hypergeom([- n, n + 1], [1], - 2). - _ Peter Luschny _ , May 23 2014 • a(n) = Sum _{ k=0..n } 2 ^ k * C(2 * k, k) * C(n + k, n - k). - _ Paul D. Hanna _ , Aug 17 2014 •

[A199562] • 5,37,325,2917,26245,236197,2125765,19131877,172186885,1549681957,13947137605,125524238437,1129718145925,10167463313317,91507169819845,823564528378597,7412080755407365,66708726798666277,600378541187996485 ★ 4*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A246540] • 1,5,37,325,3125,31925,339077,3700645,41200981,465736725,5328229797,61552244485,716791570549,8403794763125,99096946864325,1174370518273125,13977636401394069,167001257979441365,2002052157653251557,24073717683854557125,290261630170911545525,3508332484300450371125 ★ G.f.: Sum_{n>=0} 4^n * x^n / (1-x)^(2*n+1) * [Sum_{k=0..n} C(n,k)^2 * x^k]^2. • a(n) = Sum _{ k=0..[n / 2] } 4 ^ k * Sum _{ j=0..n - 2 * k } C(n - k, k + j) ^ 2 * C(k + j, j) ^ 2 * 4 ^ j. •

[A158266] • 1,1,5,38,352,3659,41012,484739,5959417,75523708,980470867,12980840984,174675568464,2382923659387,32890264803521,458576476085929,6450351908991558,91437202854436755,1305115286958337403 ★ G.f.: A(x) = exp(Sum_{n>=1} C(2n-1,n)^2*x^n/n). • a(n) = (1 / n) * Sum _{ k=1..n } C(2k - 1,k) ^ 2 * a(n - k) for n>0, with a(0)=1. •

[A219086] • 0,5,39,150,410,915,1785,3164,5220,8145,12155,17490,24414,33215,44205,57720,74120,93789,117135,144590,176610,213675,256289,304980,360300 ★ a(n) = floor((n + 1/2)^4). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = (2 * n ^ 4 + 4 * n ^ 3 + 3 * n ^ 2 + n) / 2. - _ J. M. Bergot _ , Apr 05 2014 • a(n) = Sum _{ i=0..n } i * (4 * i ^ 2 + 1) = n * (n + 1) * (2 * n ^ 2 + 2 * n + 1) / 2. - _ Bruno Berselli _ , Feb 09 2017 • a(n) = lcm((2 * n + 1) ^ 2 - 1, (2 * n + 1) ^ 2 + 1) / 8 for n>=1. - _ Lechoslaw Ratajczak _ , Mar 26 2017 •

[A202391] • 5,39,237,1391,8117,47319,275805,1607519,9369317,54608391,318281037,1855077839,10812186005,63018038199,367296043197,2140758220991,12477253282757,72722761475559,423859315570605,2470433131948079 ★ Indices of the smallest of four consecutive triangular numbers summing up to a square. • a(n + 2) = 6 * a(n + 1) - a(n) + 8; a(n + 3) = 7 * a(n + 2) - 7 * a(n + 1) + a(n); a(n + 1) = (- 4 + (7 + 5 * r) * (3 + 2 * r) ^ n + (7 - 5 * r) * (3 - 2 * r) ^ n) / 2 where r = sqrt(2). - _ Paul Weisenhorn _ , Jan 13 2013 •

[A053573] • 1,5,39,265,1871,13065,91519,640505,4483791,31386025,219703199,1537920345,10765446511,75358117385,527506838079,3692547833785,25847834902031,180934844183145,1266543909544159,8865807366284825,62060651565042351 ★ a(n) = 5*a(n-1) + 14*a(n-2), a(0)=1, a(1)=5. • a(n) = ((7 ^ (n + 1)) - (- 2) ^ (n + 1)) / 9. • a(n) = 5 * a(n - 1) + 14 * a(n - 2), a(0)=1, a(1)=5. •

[A003482] • 0,5,39,272,1869,12815,87840,602069,4126647,28284464,193864605,1328767775,9107509824,62423800997,427859097159,2932589879120,20100270056685,137769300517679,944284833567072,6472224534451829,44361286907595735,304056783818718320 ★ a(n) = 7*a(n-1) - a(n-2) + 4. • a(n) = Fibonacci(2 * n) * Fibonacci(2 * n + 3). • a(n) = Fibonacci(2 * n + 2) ^ 2 - Fibonacci(2 * n + 1) ^ 2. - _ Gary Detlefs _ , Oct 12 2011 • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). - _ Vladimir Joseph Stephan Orlovsky _ and _ Vincenzo Librandi _ , Jan 22 2012 • a(n) = - 4 / 5 + (sqrt(5) / 5 + 2 / 5) * (7 / 2 + 3 * sqrt(5) / 2) ^ n - (sqrt(5) / 5 - 2 / 5) * (7 / 2 - 3 * sqrt(5) / 2) ^ n. - _ Antonio Alberto Olivares _ , May 29 2013 •

[A135849] • 1,5,39,297,2259,17181,130671,993825,7558587,57487221,437222007,3325314393,25290849123,192350849805,1462934251071,11126421459153,84622568920011,643601286982629,4894942589100999,37228736851860105,283145067047577843,2153474325825042429 ★ a(n) is the ratio of the sum of the bends (curvatures) of the circles in the n-th generation of an Apollonian packing to the sum of the bends in the initial four-circle configuration. • a(n) = 31 * sqrt(13) * (A ^ n - B ^ n) / 234 - 7 * (A ^ n + B ^ n) / 18 for n>1 where A=3 / (4 - sqrt(13)) and B=3 / (4 + sqrt(13)). - _ R. J. Mathar _ , Apr 24 2008 •

[A105426] • 1,5,39,307,2417,19029,149815,1179491,9286113,73109413,575589191,4531604115,35677243729,280886345717,2211413522007,17410421830339,137071961120705,1079165267135301,8496250175961703,66890836140558323 ★ a(0)=1, a(1)=5, a(n)=8*a(n-1)-a(n-2). • a(n)=(1 / 2) * [4 - sqrt(15)] ^ n - (1 / 30) * [4 - sqrt(15)] ^ n * sqrt(15) + (1 / 2) * [4 + sqrt(15)] ^ n + (1 / 30) * sqrt(15) * [4 + sqrt(15)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 08 2008 •

[A182954] • 1,1,5,39,381,4284,53163,710810,10085621,150326044,2336828792,37687170215,628069684439,10782885724300,190248852445782,3442896376032300,63804661588968521,1209314277690837796 ★ G.f. satisfies: A(x) = 1 + x*A(x) * A(x*A(x))^4. • a(n,m) = Sum _{ k=0..n } m * C(n + m,k) / (n + m) * a(n - k,4k). •

[A253920] • 1,5,39,760,6494,55518,1095199,9363623,80056197,1579275478,13502337152,115440979836,2277314143357,19470360808841,166465812866595,3283885415444596,28076246784010850,240043586712649434,4735360491756963355,40485928392182836139 ★ Indices of centered octagonal numbers (A016754) which are also heptagonal numbers (A000566). • a(n) = a(n - 1) + 1442 * a(n - 3) - 1442 * a(n - 4) - a(n - 6) + a(n - 7). •

[A153795] • 0,5,40,105,200,325,480,665,880,1125,1400,1705,2040,2405,2800,3225,3680,4165,4680,5225,5800,6405,7040,7705,8400 ★ 5 times octagonal numbers: a(n) = 5*n*(3*n-2). • a(n) = 30 * n + a(n - 1) - 25 for n > 0, a(0) = 0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A244725] • 0,5,40,135,320,625,1080,1715,2560,3645,5000,6655,8640,10985,13720,16875,20480,24565,29160,34295,40000,46305,53240,60835,69120 ★ a(n) = 5*n^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[A272586] • 1,5,40,200,872,3624,14760,59560,239272,959144,3840680,15370920,61500072,246033064,984197800,3936922280 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 507", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A271092] • 1,5,40,216,952,3960,16120,65016,261112,1046520,4190200,1676916,67092472,268402680,1073676280,4294836216 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 275", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[A273653] • 5,40,220,1040,4550,19040,77448,308640,1209450,4668400,17766892,66718288,247397150,906584000,3285842960,11788924992,41902786770,147668053200,516315206260,1792304871280,6180666260230,21184488791840,72205377800600,244837696095200 ★ Number of forests of labeled rooted trees of height at most 1, with n labels, three of which are used for root nodes and any root may contain >= 1 labels. • a(n) = C(n,3) * Sum _{ j=0..3 } Stirling2(3, j) * j ^ (n - 3). •

[A054604] • 0,5,40,255,1040,3145,7800,16835,32800,59085,100040,161095,248880,371345,537880,759435,1048640,1419925,1889640,2476175,3200080,408418

5,5153720,6436435,7962720 ★ Sum_{d|5} phi(d)*n^(5/d). ● a(n) = n ^ 5 + 4 n. ●

[A157794] ● 1,5,40,259,1727,11677,78887,532826,3599266,24313336,164238089,1109439854,7494345348,50624835011,341974359592 ★ a(n) = term (1,1) in M^n * [1,0,0,0,...]; M = parity check matrix for the binary Golay code. ● a(n) = term (1,1) in M ^ n * [1,0,0,0,...]; M = parity check matrix for the binary Golay code. ●

[A001656] ● 1,5,40,260,1820,12376,85085,582505,3994320,27372840,187628376,1285992240,8814405145,60414613805,414088493560,2838203264876,19453338487220,133335155341960,913892777190965,6263914210945105 ★ Fibonomial coefficients. ● a(n) = product(Fibonacci(k + 4) / Fibonacci(k), k=1..n). - _ Gary Detlefs _ , Feb 06 2011 ● a(n) = (F(n + 3) ^ 2 - F(n + 2) ^ 2) * F(n + 3) * F(n + 2) / 6, where F(n) is the n - th Fibonacci number. - _ Gary Detlefs _ , Oct 12 2011 ● a(n) = a(- 5 - n) for all n in Z. - _ Michael Somos _ , Sep 19 2014 ●

[A229279] ● 0,5,40,275,1750,10625,62500,359375,2031250,11328125,62500000,341796875,1855468750,10009765625,53710937500,286865234375,1525878906250,8087158203125,42724609375000,225067138671875,1182556152343750,6198883056640625,32424926757812500 ★ Number of ascending runs in {1,...,5}^n. ● a(n) = 5 ^ (n - 1) * (3 * n + 2) for n>0, a(0) = 0. ●

[A125729] ● 0,5,40,285,2000,14005,98040,686285,4804000,33628005,235396040,1647772285,11534406000,80740842005,565185894040,3956301258285,27694108808000,193858761656005,1357011331592040,9499079321144285 ★ Numbers whose base 7 representation is 555....5. ● a(n) = 7 * a(n - 1) + 5 for n > 1. - _ Vincenzo Librandi _ , Sep 30 2010 ●

[A145841] ● 1,5,40,310,2395,18501,142920,1104060,8528890,65885880,508970002,3931805460,30373291380,234634403620,1812556389540,14002041536004,108166106338760,835585763004880,6454920038905520,49864411953151840,385203777033190008,2975708406629602400 ★ Number of 5-compositions of n. ● a(n + 5) = 10 * a(n + 4) - 20 * a(n + 3) + 20 * a(n + 2) - 10 * a(n + 1) + 2 * a(n). ● a(n) = sum(k>=0, C(n + 5 * k - 1,n) / 2 ^ (k + 1)). - _ Vaclav Kotesovec _ , Dec 31 2013 ●

[A123943] ● 0,1,5,40,315,2490,19681,155563,1229604,9719061,76821600,607214857,4799560053,37936780428,299860673343,2370164848026,18734305316497,148080078051971,1170457572108040,9251554605638681,73126326541645648,578006601205833441 ★ The (1,5)-entry in the 5 X 5 matrix M^n, where M={{5, 3, 2, 1, 1}, {3, 2, 1, 1, 0}, {2, 1, 1, 0, 0}, {1, 1, 0, 0, 0}, {1, 0, 0, 0, 0}}. ● a(n) = 8 * a(n - 1) - 6 * a(n - 3) + a(n - 5) for n>=5 (follows from the minimal polynomial of the matrix M). ●

[A137973] ● 1,1,5,40,355,3495,36251,391650,4355810,49550130,573811635,6742112506,80175836395,963137138105,11670425726255,142471372540290,1750641388279500,21634966222174020,268734270298502640 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^6)^5. ● a(n) = Sum _{ k=0..n - 1 } C(5 * (n - k),k) / (n - k) * C(6 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 ●

[A219560] ● 1,5,40,364,2897,21369,148257,970246,6032341,35850410,204646488,1126463948,5999145787,30999381232,155798366059,763194776551,3650648583934,17079277343463,78262895082681,351708874155894,1551843168854346 ★ Number of tripartite partitions of (n,n,n) into distinct triples. ● a(n) = [(x * y * z) ^ n] 1 / 2 * Product _{ i,j,k>=0 } (1 + x ^ i * y ^ j * z ^ k). ●

[A220673] ● 5,40,376,3560,33720,319400,3025400,28657000,271443000,2571145000,24354235000,230686625000,2185095075000,20697517625000,196049700875000,1857009420625000,17589845701875000,166613409915625000,1578184870646875000 ★ Coefficients of formal series in powers of (tan(x))^2 for tan(5*x)/tan(x). ● a(n) = delta(n,0) / 5 - 8 * b(n) + 24 * b(n + 1) / 5, n>=0, ●

[A130564] ● 1,5,40,385,4095,46376,548340,6690585,83615350,1064887395,13770292256,180320238280,2386316821325,31864803599700,428798445360120,5809228810425801,79168272296871450,1084567603590147950 ★ Member k=5 of a family of generalized Catalan numbers. ● a(n) = binomial((k + 1) * n - 2,n) / (k * n - 1), with k=5. ● a(n) = (5 / 6) * binomial(6 * n,n) / (6 * n - 1). [_ Bruno Berselli _ , Jan 17 2014] ●

[A041599] ● 1,1,5,41,46,133,312,445,3872,15933,19805,689303,709108,3525735,28914988,32440723,93796434,220033591,313830025,2730673791,11236525189,13967198980,486121290509,500088489489,2486475248465 ★ Denominators of continued fraction convergents to sqrt(317). ● a(n) = 705236 * a(n - 11) + a(n - 22) for n>21. - _ Vincenzo Librandi _ , Dec 21 2013 ●

[A276916] ● 1,5,41,61,145,181,313,365,545,613,841,925,1201,1301,1625,1741,2113,2245,2665,2813,3281,3445,3961,4141,4705 ★ Subsequence of centered square numbers obtained by adding four triangles from A276914 and a central element, a(n) = 4*A276914(n) + 1. ● a(n) = 4 * n * (2 * n + (- 1) ^ n) + 1. ● a(n) = 4 * n * (2 * n + 1) + 1 for n even. ● a(n) = 4 * n * (2 * n - 1) + 1 for n odd. ● a(n) is sum of two squares; a(n) = k ^ 2 + (k + 1) ^ 2 where k = 2n - (n mod 2). - _ David A. Corneth _ , Sep 27 2016 ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n > 4. ●

[A271017] ● 1,5,41,185,761,3065,12281,49145,196601,786425,3145721,12582905,50331641,201326585,805306361,3221225465 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 251", based on the 5-celled von Neumann neighborhood. ● a(n) = 3 * 4 ^ n - 7 for n>0. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>2. ●

[A270165] ● 1,5,41,197,849,3489,14145,56961,228609,915969,3666945,14673921,58707969,234856449,939474945,3757998081 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 107", based on the 5-celled von Neumann neighborhood. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>6. ●

[A273313] ● 1,5,41,217,953,3961,16121,65017,261113,1046521,4190201,16769017,67092473,268402681,1073676281,4294836217 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 643", based on the 5-celled von Neumann neighborhood. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. ●

[A083300] ● 1,5,41,269,1937,13397,94265,658397,4613153,32278949,225992009,1581825965,11073136049,77510889461,542579414873,3798046338173,26586353065025,186104385361733,1302730955812457,9119115915846221 ★ (4*7^n+(-3)^n)/5. ● a(n)=(4 * 7 ^ n + (- 3) ^ n) / 5 ●

[A155455] ● 0,1,5,41,285,2081,14965,108121,780045,5630161,40631525,293240201,2116305405,15273370241,110227737685,795512612281,5741206864365,41434236118321,299030490421445,2158100230000361,15574988996744925 ★ a(n)=5*a(n-1)+16*a(n-2), n>1 ; a(0)=1, a(1)=1. ● a(n) = - (1 / 89 ^ (1 / 2)) * 32 ^ n * ((- 1) ^ n * (5 + 89 ^ (1 / 2)) ^ (- n) - (- 5 + 89 ^ (1 / 2)) ^ (- n)). [From _ Paolo P. Lava _ , Jan 26 2009, adapted Apr 01 2011] ●

[A198688] ● 5,41,293,2057,14405,100841,705893,4941257,34588805,242121641,1694851493,11863960457,83047723205,581334062441,4069338437093,28485369059657,199397583417605,1395783083923241,9770481587462693,68393371112238857 ★ 6*7^n-1. ● a(n) = 7 * a(n - 1) + 6. a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>1. ●

[A155612] ● 1,5,41,317,2321,16565,116921,821357,5758241,40333925,282416201,1977149597,13840755761,96887416085,678218289881,4747547161037,33232887522881,232630384847045,1628413210489961,11398894023111677 ★ 7^n - 3^n + 1. ● a(n) = 10 * a(n - 1) - 21 * a(n - 2) + 12 with a(0)=1, a(1)=5. - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A083884] ● 1,5,41,365,3281,29525,265721,2391485,21523361,193710245,1743392201,15690529805,141214768241,1270932914165,11438396227481,102945566047325,926510094425921,8338590849833285,75047317648499561,675425858836496045,6078832729528464401 ★ a(n) = (3^(2*n) + 1) / 2. ● a(0) = 1, a(n) = 9 * a(n - 1) - 4. ● a(n) = sum { k=0..n } binomial(2 * n, 2 * k) * 4 ^ k. ● a(n) = (3 ^ n + 1 ^ n + (- 1) ^ n + (- 3) ^ n) / 4. ●

[A199684] ● 5,41,401,4001,40001,400001,4000001,40000001,400000001,4000000001,40000000001,400000000001,4000000000001,40000000000001,400000000000001,4000000000000001,40000000000000001,400000000000000001 ★ 4*10^n+1. ● a(n) = 10 * a(n - 1) - 9. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2). ●

[A064087] ● 1,1,5,41,413,4641,55797,702297,9137549,121909457,1658755685,22929591433,321111942781,4546112358529,64958195967957,935566629270201,13567825195172973,197957440018622769,2903721563443327557,42796201522669935081,633443408407612143453 ★ Generalized Catalan numbers C(4; n). ● a(n) = hypergeometric([1 - n, n], [- n], 4) for n>0. - _ Peter Luschny _ , Nov 30 2014 ●

[A115257] ● 1,5,41,441,5341,68845,922621,12701245,178338145,2542242545,36677022081,534311328705,7846771001041,116019251361041,1725360846921041,25786805857871441,387084441100423541,5832802431123111941 ★ Partial sums of binomial(2n,n)^2. ● a(n) = Sum _{ k=0..n } ((2k)! / (k!) ^ 2) ^ 2. a(n) = Sum _{ k=0..n } A000984[k] ^ 2. - _ Alexander Adamchuk _ , Jul 05 2006 ● a(n) = (2 / Pi) * K(16) - ((16 ^ (n + 1) * Gamma(n + 3 / 2) ^ 2) / (Pi * Gamma(n + 2) ^ 2)) * hypergeometric (1,n + 3 / 2,n + 3 / 2;n + 2,n + 2;16). ●

[A062021] ● 0,5,42,151,548,1185,2542,4403,7608,13621,20834,32535,47980,65609,88278,119947,162368,208869,269194,340007,416580,512305,622286,756003,925432 ★ Let P(n) = { 2,3,5,7,...,p(n) } where p(n) is n-th prime; then a(1) =0 and a(n) = Sum [mod{p(i)^2 - p(j)^2}], for all i and j from 1 to n. ● a(n) = 2 * a(n - 1) + (n - 1) * (p(n) ^ 2 - p(n - 1) ^ 2) - a(n - 2) ●

[A082145] ● 1,5,42,336,2640,20592,160160,1244672,9674496,75246080,585761792,4564377600,35602145280,277970595840,2172375244800,16992801914880,133035751833600,1042374243778560,8173537721057280,64136851016908800 ★ A subdiagonal of number array A082137. ● a(n) = (2 ^ (n - 1) + (0 ^ n) / 2) * binomial(2 * n + 3, n). ●

[A024492] ● 1,5,42,429,4862,58786,742900,9694845,129644790,1767263190,24466267020,343059613650,4861946401452,69533550916004,1002242216651368,14544636039226909,212336130412243110,3116285494907301262 ★ Catalan numbers with odd index: a(n) = binomial(4*n+2, 2*n+1)/(2*n+2). ● a(n) = 4 ^ n * binomial(2n + 1 / 2, n) / (n + 1). - _ Paul Barry _ , May 10 2005 ● a(n) = binomial(4n + 1,2n + 1) / (n + 1). - _ Paul Barry _ , Nov 09 2006 ● a(n) = (1 / (2 * Pi) * integral(x= - 2..2, (2 + x) ^ (2 * n) * sqrt((2 - x) * (2 + x))). - _ Peter Luschny _ , Sep 12 2011 ● a(n) = sum(k=0..n, (k + 1) ^ 2 * binomial(2 * (n + 1),n - k) ^ 2) / (n + 1) ^ 2. - _ Vladimir Kruchinin _ , Oct 14 2014 ●

[A221874] ● 1,5,43,191,1633,7253,62011,275423,2354785,10458821,89419819,397159775,3395598337,15081612629,128943316987,572704120127,4896450447169,21747674952197,185936173675435,825838944063359,7060678149219361,31360132199455445 ★ Numbers m such that 10*m^2 + 6 is a square. ● a(n) = ((- 5 * (- 1) ^ n + 2 * t) * (3 + t) ^ (2 * floor(n / 2)) - (5 * (- 1) ^ n + 2 * t) * (3 - t) ^ (2 * floor(n / 2))) / 10, where t=sqrt(10). ● a(n) * a(n - 3) - a(n - 1) * a(n - 2) = - 36 + 12(- 1) ^ n. ●

[A182191] ● 1,5,43,265,1559,9101,53059,309265,1802543,10506005,61233499,356895001,2080136519,12123924125,70663408243,411856525345,2400475743839,13990997937701,81545511882379,475282073356585,2770146928257143,16145599496186285,94103450048860579 ★ a(n) = 6*a(n-1) - a(n-2) + 12 with n>1, a(0)=-1, a(1)=5. ● a(n) = (- 3 - 1 / 4 * (3 - 2 * sqrt(2)) ^ n * (- 4 + sqrt(2))

+ 1 / 4 * (4 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n). - _ Colin Barker _ , Mar 05 2016 •

[A178826] • 0,5,43,309,2176,15248,106752,747285,5231019,36617157,256320128,1794240928,12559686528,87917805733,615424640171,4307972481237,30155807368704,211090651580976,1477634561066880,10343441927468213,72404093492277547,506828654445942885,3547800581121600256,24834604067851201856,173842228474958413056 ★ Partial sums of floor(7^n/9). • a(n) = round((7 * 7 ^ n - 24 * n - 16) / 54). • a(n) = floor((7 * 7 ^ n - 24 * n - 7) / 54). • a(n) = ceil((7 * 7 ^ n - 24 * n - 25) / 54). • a(n) = round((7 * 7 ^ n - 24 * n - 7) / 54). • a(n) = a(n - 3) + (19 * 7 ^ (n - 2) - 4) / 3 , n>3. • a(n) = 8 * a(n - 1) - 7 * a(n - 2) + a(n - 3) - 8 * a(n - 4) + 7 * a(n - 5), n>5. •

[A082311] • 1,5,43,341,2731,21845,174763,1398101,11184811,89478485,715827883,5726623061,45812984491,366503875925,2932031007403,23456248059221,187649984473771,1501199875790165,12009599006321323,96076792050570581 ★ A Jacobsthal sequence trisection. • a(n)=7 * a(n - 1) + 8 * a(n - 2). G.f.: (1 - 2 * x) / ((1 + x)(1 - 8 * x)). - _ R. J. Mathar _ , Feb 23 2009 •

[A156886] • 1,5,43,416,4239,44485,475780,5156548,56437231,622361423,6904185523,76964141600,861408728964,9673849095708,108954068684616,1230185577016156,13920106205444335,157814104889538739 ★ a(n) = Sum_{k=0..n} C(n,k)*C(3*n+k,k) • a(n) = Sum _{ k = 0..n } (- 1) ^ (n - k) * C(n,k) * C(3 * n + k,n) * 2 ^ k. • a(n) = Sum _{ k = 0..n } C(n,k) * C(3 * n,k) * 2 ^ (n - k), • a(n) = P _ n(0,2 * n,3) where P _ n(a,b,x) is the n - th Jacobi polynomial with parameters a and b. - _ Robert Israel _ , Feb 11 2018 •

[A188365] • 1,1,5,43,505,7421,130501,2668975,62197073,1626103225,47116726021,1498191224531,51855200633545,1940384578283893,78042911672096645,3357060094366363351 ★ Expansion of exp(A001519(x)-1) • a(n) = n! * sum(k =1..n, T188137(n,k) / k!), n>0, a(0)=1. •

[A109984] • 0,5,44,321,2184,14325,91860,580097,3622928,22437477,138049020,844881345,5148375192,31258302933,189199514532,1142148091905,6878977097760,41347348295877,248082231062988,1486116788646977 ★ a(n) = number of steps in all Delannoy paths of length n. • a(n) = sum _{ k=n..2 * n } k * binomial(n, 2 * n - k) * binomial(k, n). •

[A003185] • 5,45,117,221,357,525,725,957,1221,1517,1845,2205,2597,3021,3477,3965,4485,5037,5621,6237,6885,7565,8277,9021,9797 ★ a(n) = (4*n+1)(4*n+5). • a(n) = 32 * n + a(n - 1) + 8 (with a(0)=5). - _ Vincenzo Librandi _ , Nov 12 2010 • a(0)=5, a(1)=45, a(2)=117, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jan 27 2013 •

[A027801] • 5,45,210,700,1890,4410,9240,17820,32175,55055,90090,141960,216580,321300,465120,658920,915705,1250865,1682450,2231460,2922150,3782350,4843800,6142500,7719075 ★ a(n) = 5*(n+1)*binomial(n+4,5)/2. • a(n) = C (n + 1, 2) * C(n + 4, 4) - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[A269911] • 1,5,45,221,957,3965,16125,65021,261117,1046525,4190205,16769021,67092477,268402685,1073676285,4294836221 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 3", based on the 5-celled von Neumann neighborhood. • a(n) = 4 ^ (1 + n) - 2 ^ (2 + n) - 3 for n>0. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. •

[A249638] • 0,0,5,45,245,1305,6605,33405,167405,838845,4196045,20989245,104955245,524820945,2624149445,13120970445,65605075445,328026491505,1640133571805,8200673428605,41003372712605,205016891401905,1025084484848405,5125422563427405 ★ Number of strings of length n over a 5-letter alphabet that begin with a nontrivial palindrome. • a(0) = 0; a(1) = 0; a(n + 1) = 5 * a(n) + 5 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)). •

[A241275] • 0,0,5,45,305,1905,11585,69825,419585,2518785,15115265,906967055,544190465,3265163265,19591020545,117546205185,705277394945,4231664697345,25389988839425,152339934347265,914039608705025,5484237657473025,32905425955323905,197432555752914945,1184595334559432705 ★ a(n) = 6*a(n-1) + 5*(2^(n-1)-1) for n > 0, a(0) = 0. • a(n) = 9 * 6 ^ (n - 2) - 5 * 2 ^ (n - 2) + 1. • a(n) = (4 - 5 * 2 ^ n + 6 ^ n) / 4. G.f.: - 5 * x ^ 2 / ((x - 1) * (2 * x - 1) * (6 * x - 1)). - _ Colin Barker _ , Apr 18 2014 •

[A081070] • 0,5,45,320,2205,15125,103680,710645,4870845,33385280,228826125,1568397605,10749957120,73681302245,505019158605,3461452808000,23725150497405,162614600673845,1114577054219520,7639424778862805 ★ Lucas(4n)-2, or 5*Fibonacci(2n)^2. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 2 + [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n, with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A247494] • 0,0,0,0,0,5,45,322,2086,13092,82060,523116,3429481,23279555,164244262,1206458632,9228941572,73471779239,608000100209,5222503739340,46493341311706,428345495309624,4078254436854598,40073317276815681,405883920183989049 ★ Crossing partitions of {1,2,...,n} that contain singletons. • a(n) = Sum _{ k = 0..n - 1 } (- 1) ^ (n - k + 1) * binomial(n,k) * (Bell(k) - Catalan(k)). •

[A190540] • 0,5,45,335,2385,16775,117585,823415,5764545,40353095,282474225,1977324695,13841283105,96889002215,678223056465,4747561477175,33232930504065,232630513856135,1628413597648305,11398895184848855 ★ 7^n - 2^n. • a(n) = 9 * a(n - 1) - 14 * a(n - 2). •

[A125836] • 0,5,45,365,2925,23405,187245,1497965,11983725,95869805,766958445,6135667565,49085340525,392682724205,3141461793645,25131694349165,201053554793325,1608428438346605,12867427506772845,102939420054182765 ★ Numbers whose base 8 or octal representation is 555555555.....5. • a(n)=8 * a(n - 1) + 5 (with a(1)=0) [From _ Vincenzo Librandi _ , Sep 30 2010] •

[A022022] • 5,45,406,3664,33067,298425,2693244,24306152,219359637,1979690177,17866428166,161242026212,1455186832835,13132858524565,1185222 19370436,1069646525028644,9653410934956277,87120689404042085,786252089896134534,7095815621924558952,64038747861388870507 ★ Define the sequence S(a(0),a(1)) by a(n+2) is the least integer such that a(n+2)/a(n+1) > a(n+1)/a(n) for n >= 0. This is S(5,45). • a(n + 1) = floor(a(n) ^ 2 / a(n - 1)) + 1 for all n > 0. - _ M. F. Hasler _ , Feb 10 2016 •

[A005979] • 5,45,420,4130,42480,453350,4986860,56251230,648055650,7601584050,90556803600,1093417607850,13359234113250,164935358510470,2055350730457020,25827268868350690,326989527294142480,4168165020885948440,5346209270459680472 0 ★ Number of Hamiltonian rooted triangulations with n internal nodes and 5 external nodes. • a(n) = f(n, 5) where f(n, k) is defined in A003122. - _ Sean A. Irvine _ , Feb 02 2015 •

[A165225] • 1,5,45,425,4025,38125,361125,3420625,32400625,306903125,2907028125,27535765625,260822515625,2470546328125,23401350703125,221660775390625,2099601000390625,19887706126953125,188379056267578125 ★ a(0)=1, a(1)=5, a(n)=10*a(n-1)-5*a(n-2) for n>1 . • a(n) = ((5 - 2 * sqrt(5)) ^ n + (5 + 2 * sqrt(5)) ^ n) / 2. [From _ Klaus Brockhaus _ , Sep 25 2009] •

[A054318] • 1,5,45,441,4361,43165,427285,4229681,41869521,414465525,4102785725,40613391721,402031131481,3979697923085,39394948099365,389969783070561,3860302882606241,38213059042991845,378270287547312205 ★ a(n)-th star number (A003154) is a square. • a(n) = 11 * (a(n - 1) - a(n - 2)) + a(n - 3). • a(n) = 1 / 2 + (3 - sqrt(6)) / 12 * (5 + 2 * sqrt(6)) ^ n + (3 + sqrt(6)) / 12 * (5 - 2 * sqrt(6)) ^ n. • a(n + 1) = 1 + 1 / 2 * sum { k = 1..n } 8 ^ k * binomial(n + k,2 * k). a(n + 1) = R(n,4), where R(n,x) is the n - th row polynomial of A211955. a(n + 1) = 1 / u * T(n,u) * T(n + 1,u) with u = sqrt(3) and T(n,x) the Chebyshev polynomial of the first kind. Sum { k = 0..inf } 1 / a(k) = sqrt(3 / 2). - _ Peter Bala _ , May 01 2012 • a(n) = (4 * a(n - 1) + a (n - 1) ^ 2) / a(n - 2), n >= 3. - _ Seiichi Manyama _ , Aug 11 2016 •

[A093140] • 1,5,45,445,4445,44445,444445,4444445,44444445,444444445,4444444445,44444444445,444444444445,4444444444445,44444444444445,444444444444445,4444444444444445,44444444444444445 ★ Expansion of (1-6x)/((1-x)(1-10x)). • a(n) = 4 * 10 ^ n / 9 + 5 / 9. • a(n) = 10 * a (n - 1) - 5 with a(0)=1. - _ Vincenzo Librandi _ , Aug 02 2010 •

[A137233] • 5,45,450,4500,45000,450000,4500000,45000000,450000000,4500000000,45000000000,450000000000,4500000000000,45000000000000,450000000000000,4500000000000000,45000000000000000,450000000000000000 ★ Number of n-digit even numbers. • a(n)=9 * 10 ^ (n - 1) / 2 if n > 1. - _ R. J. Mathar _ , May 23 2008 •

[A001449] • 1,5,45,455,4845,53130,593775,6724520,76904685,886163135,10272278170,119653565850,1399358844975,16421073515280,193253756909160,2280012686716080,26958221130508525 ★ Binomial coefficients binomial(5n,n). • a(n) = (5 * n)! / ((4 * n)! * (n)!). • a(n) is asymptotic to c * (3125 / 256) ^ n / sqrt(n), with c = sqrt(5 / (8 * Pi)) = 0.4460310290381927786347159... - _ Benoit Cloitre _ , Jan 23 2008 • a(n) = C(5 * n - 1,n - 1) * C(25 * n ^ 2,2) / (3 * n * C(5 * n + 1,3)), n>0. - _ Gary Detlefs _ , Jan 02 2014 •

[A199753] • 5,45,485,5325,58565,644205,7086245,77948685,857435525,9431790765,103749698405,1141246682445,12553713506885,138090848575725,1518999334332965,16708992677662605,183798919454288645,2021788113997175085 ★ 4*11^n+1. • a(n) = 5 * A083077 • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A130976] • 1,5,45,485,5725,71445,925965,12335685,167817405,2321105525,32536755565,461181239205,6598203881245,95157851939285,1381842797170125,20187779510360325,296499276685062525,4375281190871356725,64836419120040890925 ★ G.f.: 8/(3+5*sqrt(1-16*x)). • a(0) = 1; a(n) = 5 / n * Sum _{ j=0..n - 1 } C(2 * n,j) * (n - j) * 4 ^ j for n>0. • a(n) = upper left term in M ^ n, M = an infinite square production matrix as follows: • a(n) = 4 * 16 ^ n * GAMMA(n + 1 / 2) * hypergeom([1, n + 1 / 2], [n + 2], 16 / 25) / (5 * sqrt(Pi) * (n + 1)!), n=0,1,... •

[A232730] • 5,45,495,4905,49500,494550,4950000,49495500,495000000,4949955000,49500000000,494999550000,4950000000000,49499995500000,495000000000000,4949999955000000,49500000000000000,494999999550000000,4950000000000000000 ★ Number of n-digit numbers that yield an (n+1)-digit number after Reverse and Add. • a(1) = 5, a(3) = 495, a(2 * k + 1) = 100 * a(2 * k - 1), k > 1. • a(2) = 45, a(4) = 4905, a(2 * k) = 110 * a(2 * k - 2) - 1000 * a(2 * k - 4), k > 2. • a(n) = - 45 * (10 ^ (n / 2 - 2) - 11 * 10 ^ (n - 3)) for n>2 even. • a(n) = 99 * 2 ^ (n - 3) * 5 ^ (n - 2) for n>2 odd. • a(n) = 10 * a(n - 1) + 10 * a(n - 2) - 100 * a(n - 3) for n>4. •

[A248586] • 1,5,45,521,6733,92385,1316865,19274925,287694285,4359037985,66837293545,1034774126325,16149186405025,253737607849445,4009771017244485,63681603585696321,1015763347140335565,16264070907887454465 ★ a(n)= Sum_{i=0..n} C(n,i)*C(2i,i)^2. • a(n) = hypergeometric(1 / 2,1 / 2, - n;1,1; - 16). •

[A042533] • 1,5,46,235,13206,66265,609591,3114220,175005911,878143775,8078299886,41269643205,2319178319366,11637161240035,107053629479681,546905308638440,30733750913232321,154215659874800045,1418674689786432726,7247589108806963675 ★ Denominators of continued fraction convergents to sqrt(795). • a(n) = 13252 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A169963] • 5,46,452,4504,45008,450016,4500032,45000064,450000128,4500000256,45000000512,450000001024,4500000002048,45000000004096,450000000008192,4500000000016384,45000000000032768,450000000000065536,4500000000000131072,45000000000000262144 ★ Number of (2n+1)-digit squares in carryless arithmetic mod 10. • a(n) = 12 * a(n - 1) - 20 * a(n - 2). G.f.: - (14 * x - 5) / ((2 * x - 1) * (10 * x - 1)). - _ Colin Barker _ , May 11 2013 •

[A198854] • 5,47,383,3071,24575,196607,1572863,12582911,100663295,805306

367,6442450943,51539607551,412316860415,3298534883327,26388279066623,211106232532991,1688849860263935,13510798882111487,108086391056891903 ★ 6*8^n-1. ● a(n) = 8 * a(n - 1) + 7. a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. ●

[A215543] ● 0,5,48,154,350,663,1120,1748,2574,3625,4928,6510,8398,10619,13200,16168,19550,23373,27664,32450,37758,43615,50048,57084,64750 ★ Number of standard Young tableaux of shape [3n,3]. ● a(n) = (3 * n - 2) * (3 * n + 2) * (n + 1) for n>0, a(0) = 0. ●

[A273385] ● 1,5,49,225,961,3969,16129,65025,261121,1046529,4190209,16769025,67092481,268402689,1073676289,4294836225 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 659", based on the 5-celled von Neumann neighborhood. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. ●

[A083224] ● 1,5,49,245,2401,12005,117649,588245,5764801,28824005,282475249,1412376245,13841287201,69206436005,678223072849,3391115364245,33232930569601,166164652848005,1628413597910449,8142067989552245 ★ (6*7^n+(-7)^n)/7. ● a(n)=(6 * 7 ^ n + (- 7) ^ n) / 7. ●

[A198969] ● 5,49,445,4009,36085,324769,2922925,26306329,236756965,2130812689,19177314205,172595827849,1553362450645,13980262055809,125822358502285,1132401226520569,10191611038685125,91724499348166129,825520494133495165 ★ (11*9^n-1)/2. ● a(n) = 9 * a(n - 1) + 4. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. ●

[A155629] ● 1,5,49,449,3841,31745,258049,2080769,16711681,133955585,1072693249,8585740289,68702699521,549688705025,4397778075649,35183298347009,281470681743361,2251782633816065,18014329790005249,144114913197948929 ★ 8^n-4^n+1^n ● a(n)=12 * a(n - 1) - 32 * a(n - 2) + 21 with a(0)=1, a(1)=5 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A001079] ● 1,5,49,485,4801,47525,470449,4656965,46099201,456335045,4517251249,44716177445,442644523201,4381729054565,43374646022449,429364731169925,4250272665676801,42073361925598085,416483346590304049 ★ a(n) = 10*a(n-1) - a(n-2); a(0) = 1, a(1) = 5. ● a(n) * a(n + 3) - a(n + 1) * a(n + 2) = 240. - _ Ralf Stephan _ , Jun 06 2005 ● a(n)= ((5 + 2 * sqrt(6)) ^ n + (5 - 2 * sqrt(6)) ^ n) / 2. ● a(- n) = a(n). ● a(n + 1) = 5 * a(n) + 2 * (6 * a(n) ^ 2 - 6) ^ (1 / 2) - _ Richard Choulet _ , Sep 19 2007 ● a(n) = cosh(2 * n * arcsinh(sqrt(2))). - _ Herbert Kociemba _ , Apr 24 2008 ● a(n) = (- 1) ^ n * cos(2 * n * arcsin(sqrt(3))). - _ Artur Jasinski _ , Oct 29 2008 ●

[A064054] ● 5,50,266,1016,3139,8350,19855,43252,87802,168168,306735,536640,905658,1481108,2355962,3656360,5550755,8260934,12075184,17363896,24597925,34370050,47419905,64662780 ★ Tenth column of trinomial coefficients. ● a(n) = binomial(n + 5, 5) * (n ^ 4 + 66 * n ^ 3 + 1307 * n ^ 2 + 8706 * n + 15120) / (9! / 5!). ● a(n) = 5 * binomial(n + 5,5) + 20 * binomial(n + 5,6) + 21 * binomial(n + 5,7) + 8 * binomial(n + 5,8) + binomial(n + 5,9) (see our comment in A026729). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 ● a(n) = GegenbauerC(N, - n, - 1 / 2) where N = 9 if 9<n else 2 * n - 9. - _ Peter Luschny _ , May 10 2016 ●

[A133646] ● 1,5,50,400,3500,29500,252500,2147500,18312500,155987500,1329312500,11326187500,96510312500,822337187500,7006995312500,59705092187500,508735320312500,4334829367187500,36936206445312500,314725913242187500 ★ a(n)=5*a(n-1)+30*a(n-2) for n>=3, a(0)=1, a(1)=5, a(2)=50 . ● a(n)=(5 / 2) * [(5 / 2) - (1 / 2) * sqrt(145)] ^ (n - 1) - (15 / 58) * [(5 / 2) - (1 / 2) * sqrt(145)] ^ (n - 1) * sqrt(145) + (15 / 58) * sqrt(145) * [(5 / 2) + (1 / 2) * sqrt(145)] ^ (n - 1) + (5 / 2) * [(5 / 2) + (1 / 2) * sqrt(145)] ^ (n - 1) + (1 / 6) * [C(2 * n,n) mod 2], with n>=0 ●

[A125962] ● 0,5,50,455,4100,36905,332150,2989355,26904200,242137805,2179240250,19613162255,176518460300,1588666142705,14297995284350,128681957559155,1158137618032400,10423238562291605,93809147060624450 ★ Numbers whose base 9 representation is 555555555.....5. ● a(n) = (9 ^ n - 1) * 5 / 8. ● a(n) = 9 * a(n - 1) + 5 with n>0, a(0)=0. [_ Vincenzo Librandi _ , Sep 30 2010] ●

[A093143] ● 1,5,50,500,5000,50000,500000,5000000,50000000,500000000,5000000000,50000000000,500000000000,5000000000000,50000000000000,500000000000000,5000000000000000,50000000000000000 ★ Expansion of (1-5*x)/(1-10*x). ● a(n) = 5 * 10 ^ n / 10 for n>0. ●

[A199762] ● 5,50,545,5990,65885,724730,7972025,87692270,964614965,10610764610,116718410705,1283902517750,14122927695245,155352204647690,1708874251124585,18797616762370430,206773784386074725,2274511628246821970 ★ (9*11^n+1)/2. ● a(n) = 11 * a(n - 1) - 5. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2). ●

[A093146] ● 1,5,50,750,12500,212500,3625000,61875000,1056250000,18031250000,307812500000,5254687500000,89703125000000,1531328125000000,26141406250000000,446261718750000000,7618164062500000000 ★ Third binomial transform of Pell(3n-1). ● a(n)=(10 + 5sqrt(2)) ^ n(1 / 2 - sqrt(2) / 4) + (10 - 5sqrt(2)) ^ n(1 / 2 + sqrt(2) / 4). ●

[A041043] ● 1,5,51,260,2651,13515,137801,702520,7163001,36517525,372338251,1898208780,19354426051,98670339035,1006057816401,5128959421040,52295652026801,266607219555045,2718367847577251,13858446457441300 ★ Denominators of continued fraction convergents to sqrt(27). ● a(n) = 52 * a(n - 2) - a(n - 4). G.f.: - (x ^ 2 - 5 * x - 1) / (x ^ 4 - 52 * x ^ 2 + 1). - _ Colin Barker _ , Jul 15 2012 ●

[A145641] ● 5,51,455,3855,31775,258111,2080895,16711935,133956095,1072694271,8585742335,68702703615,549688713215,4397778092031,35183298379775,281470681808895,2251782633947135,18014329790267391,144114913198473215,1152920405096267775,9223367638810361855 ★ Numbers whose binary representation is the concatenation of n 1's, n 0's and n 1's. ● a(n) = (2 ^ n - 1) * (2 ^ (2 * n) + 1) = 8 ^ n - 4 ^ n + 2 ^ n - 1. - _ Alois P. Heinz _ , Nov 04 2012 ●

[A041040] ● 5,51,515,5201,52525,530451,5357035,54100801,546365045,5517751251,55723877555,562756526801,5683289145565,57395647982451,579639768970075,5853793337683201,59117573145802085,597029524795704051 ★ Numerators of continued fraction convergents to sqrt(26). ● a(n)=10 * a(n - 1) + a(n - 2), a(0)=5, a(1)=51. G.f.: (5 + x) / (1 - 10 * x - x ^ 2). [From _ Philippe Deléham _ , Nov 20 2008] ● a(n)=(5 / 2) *{ [5 + sqrt(26)] ^ n + [5 - sqrt(26)] ^ n }+ (1 / 2) * sqrt(26) *{ [5 + sqrt(26)] ^ n - [5 - sqrt(26)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Nov 28 2008] ●

[A081075] ● 5,52,374,2581,17708,121390,832037,5702884,39088166,267914293,1836311900,12586269022,86267571269,591286729876,4052739537878,27777890035285,190392490709132,1304969544928654,8944394323791461 ★ Fibonacci(4n+2) - 3. ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). ● a(n) = - 3 + 4 * ((7 / 2 - (3 / 2) * sqrt(5)) ^ n + (7 / 2 + (3 / 2) * sqrt(5)) ^ n) + (9 / 5) * sqrt(5) ((7 / 2 + (3 / 2) * sqrt(5)) ^ n - (7 / 2 - (3 / 2) * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Dec 01 2008 ●

[A075540] ● 5,53,157,173,211,257,263,373,511,537,563,593,607,653,733,947,977,999,1073,1103,1123,1187,1223,1239,1367 ★ Integers that are the average of three successive primes. ● a(n) = (1 / 3) (p(i) + p(i + 1) + p(i + 2)), for some i(n). ●

[A198963] ● 5,53,485,4373,39365,354293,3188645,28697813,258280325,2324522933,20920706405,188286357653,1694577218885,15251194969973,137260754729765,1235346792567893,11118121133111045,100063090197999413,900567811781994725 ★ 6*9^n-1. ● a(n) = 9 * a(n - 1) + 8. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. ●

[A087125] ● 0,5,54,539,5340,52865,523314,5180279,51279480,507614525,5024865774,49741043219,492385566420,4874114620985,48248760643434,477613491813359,4727886157490160,46801248083088245,463284594673392294,4586044698650834699,45397162391834954700 ★ Indices n of hex numbers H(n) that are also triangular. ● a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3) for n>2. - _ Colin Barker _ , Jun 23 2015 ● a(n) = (- 4 - (5 - 2 * sqrt(6)) ^ n * (- 2 + sqrt(6)) + (2 + sqrt(6)) * (5 + 2 * sqrt(6)) ^ n) / 8. - _ Colin Barker _ , Mar 05 2016 ●

[A110430] ● 5,54,549,5499,54999,549999,5499999,54999999,549999999,5499999999,54999999999,549999999999,5499999999999,54999999999999,549999999999999,5499999999999999,54999999999999999,549999999999999999 ★ Arithmetic mean of all n-digit positive even numbers. ● a(n) =1 / 2 { 10 ^ (n - 1) + 10 ^ n - 2 } ●

[A015221] ● 1,5,55,91,285,385,819,1015,1785,2109,3311,3795,5525,6201,8555,9455,12529,13685,17575,19019,23821,25585,31395,33511,40425 ★ Odd square pyramidal numbers. ● a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 128 . ● a(n) = 1 / 24 * (1 + 4 * n + (- 1) ^ n) * (2 + 4 * n + (- 1) ^ n) * (3 + 4 * n + (- 1) ^ n). ●

[A103326] ● 5,55,305,2255,15005,104005,709805,4873055,33379505,228841255,1568358005,10750060805,73681030805,505019869255,3461450947505,23725155368255,162614587921805,1114577087604805,7639424691459005,52361396626646255,358890349406803505 ★ a(n) = Fibonacci(5n)/Fibonacci(n). ● a(n) = L(4n) + (- 1) ^ n * L(2n) + 1, where L(n) = A000032, the Lucas numbers. ● a(n) = 1 + L(n) * L(3n). - Neven Juric, Jan 05 2009 ● a(n) = 25 * (Fibonacci(n) ^ 4 + (- 1) ^ n * Fibonacci(n) ^ 2) + 5. - _ Gary Detlefs _ , Dec 22 2012 ● a(n) = 1 + (1 / 2 * (7 - 3 * sqrt(5))) ^ n + (1 / 2 * (- 3 - sqrt(5))) ^ n + (1 / 2 * (- 3 + sqrt(5))) ^ n + (1 / 2 * (7 + 3 * sqrt(5))) ^ n. - _ Colin Barker _ , Jun 03 2016 ●

[A060558] ● 5,55,316,1284,4170,11550,28380,63492,131703,256685,474760,839800,1429428,2352732,3759720,5852760,8900265,13252899,19362596,27804700,39303550,54761850,75294180,102265020 ★ Fifth column (m=4) of triangle A060556. ● a(n) = (2 * n ^ 2 + 18 * n + 35) * binomial(n + 6, 6) / 7. ●

[A138163] ● 5,55,394,2225,11539,57064,273612,1283621,5924924,27005978,121861262,545368160,2423923480,10710273856,47085144255,206085075295,898989543020,3903621095130,16906888008960,73018012573950,314540265217362 ★ Number of permutations of {1,2,...,n} containing exactly 5 occurrences of the pattern 132. ● a(n) = (n ^ 12 + 170n ^ 11 + 1861n ^ 10 - 88090n ^ 9 - 307617n ^ 8 + 27882510n ^ 7 - 348117457n ^ 6 + 2119611370n ^ 5 - 6970280884n ^ 4 + 10530947320n ^ 3 + 2614396896n ^ 2 - 30327454080n + 29059430400)(2n - 15)! / [120 n!(n - 7)!] for n>=8; a(5)=5; a(6)=55; a(7)=394. ●

[A190543] ● 0,5,55,485,4015,32525,261415,2094965,16770655,134198045,1073682775,8589757445,68718945295,549754219565,4398041728135,35184357739925,281474933663935,2251799684545085,18014398122061495,144115186913594405 ★ 8^n - 3^n. ● a(n) = 11 * a(n - 1) - 24 * a(n - 2). ●

[A002279] ● 0,5,55,555,5555,55555,555555,5555555,55555555,555555555,5555555555,55555555555,555555555555,5555555555555,55555555555555,555555555555555,5555555555555555,55555555555555555 ★ a(n) = 5*(10^n - 1)/9. ● a(n) =10 * a(n - 1) + 5, with a(0)=0. - _ Paolo P. Lava _ , Jan 23 2009 ● a(n)=a(n - 1) + 5 * 10 ^ (n - 1) with a(0)=0; Also: a(n)=11 * a(n - 1) - 10 * a(n - 2) with a(0)=0, a(1)=5. - _ Vincenzo Librandi _ , Jul 22 2010 ●

[A102312] ● 0,5,55,610,6765,75025,832040,9227465,102334155,1134903170,12586269025,139583862445,1548008755920,17167680177565,190392490709135,2114850779780 50,23416728348467685,259695496911122585,2880067194370816120,31940434634990099905 ★ a(n) = Fibonacci(5*n). ● a(n) = (- ((11 - 5 * sqrt(5)) / 2) ^ n + ((11 + 5 * sqrt(5)) / 2) ^ n) / sqrt(5). - _ Colin Barker _ , Nov 10 2016 ●

[A041995] ● 1,1,5,56,229,285,12769,13054,64985,727889,2976541,3704430,165971461,169675891,844675025,9461101166,38689079689,48150180855,2157297037309,2205447218164,10979085909965,122975392227779,502880654821081,625856047048860 ★ Denominators of continued fraction convergents to sqrt(520). ●

a(n) = 12998 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 12 2014 •

[A062125] • 5,56,263,815,1982,4115,7646,13088,21035,32162,47225,67061,92588,124805,164792,213710,272801,343388,426875,524747,638570,769991,920738,1092620,1287527 ⋆ Fifth column of A046741. • a(0)=5, a(1)=56, a(2)=263, a(3)=815, a(4)=1982, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Dec 21 2011] •

[A030060] • 5,56,420,2640,15015,80080,408408,2015520,9699690,45762640,212469400,973496160,4411154475,19800295200,88158457200,389753179200,1712478031110,7483097278800,32540135136600 ⋆ Third derivative of Catalan generating function/3!. • a(n) = (2 * (n + 3))! / (3! * n! * (n + 4)!) = (n + 1) * (n + 2) * (n + 3) * C(n + 3) / 6, C(n): Catalan numbers •

[A076455] • 5,57,246,710,1635,3255,5852,9756,15345,23045,33330,46722,63791,85155,111480,143480,181917,227601,281390,344190,416955,500687,596436,705300,828425 ⋆ Sum of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly two ways. • a(n) = n * (n + 1) * (4 * n ^ 2 + 2 * n - 1) / 2. •

[A266278] • 5,57,489,4125,35117,299681,2557605,21826045,186255781,1589441093,13563736693,115748216413,987755062201,8429158472781,71931509371765,613838505628281,5238284505542721,44701699729693429,381468772192258129,3255321946095461785,27779786302899765081 ⋆ Number of legal Go positions on a 2 X n board. • a(n) = 10 * a(n - 1) - 16 * a(n - 2) + 31 * a(n - 3) - 13 * a(n - 4) + 20 * a(n - 5) + 2 * a(n - 6) - a(n - 7). •

[A155642] • 1,5,57,605,5937,55925,515817,4704845,42656097,385467365,3477018777,31332231485,282185395857,2540645125205,22870688939337,205860614516525,1852867600961217,16676418760213445,150090820599733497 ⋆ 9^n - 5^n + 1. • a(n)=14 * a(n - 1) - 45 * a(n - 2) + 32 with a(0)=1, a(1)=5 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[A173202] • 0,5,58,207,500,985,1710,2723,4072,5805,7970,10615,13788,17537,21910,26955,32720,39253,46602,54815,63940,74025,85118,97267,110520 ⋆ Solutions y of the Mordell equation y^2 = x^3 - 3a^2 + 1 for a = 0,1,2, ... (solutions x are given by the sequence A000466) • a(n) = 8 * n ^ 3 - 24 * n ^ 2 + 21 * n - 5. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 02 2012 •

[A129897] • 5,58,585,5859,58597,585987,5859873,58598744,585987447,5859874481,58598744819,585987448203,5859874482048,58598744820487,585987448204883,5859874482048838,58598744820488384,585987448204883846,5859874482048838473,58598744820488384737 ⋆ Decimal expansion of e+pi with each of e and pi pre-truncated to n places. • a(n) = floor(floor(pi * 10 ^ n) + floor(exp(1) * 10 ^ n)), pi=3.14...., e=2.71.... •

[A024378] • 5,59,254,730,1675,3325,5964,9924,15585,23375,33770,47294,64519,86065,112600,144840,183549,229539,283670,346850,420035,504229,600484,709900,833625 ⋆ a(n) = 2nd elementary symmetric function of the first n+1 positive integers congruent to 1 mod 4. • a(n) = n * (n + 1) * (12 * n ^ 2 + 8 * n - 5) / 6. •

[A112461] • 5,59,374,1694,6149,19019,52052,129272,296582,636922,1293292,2502604,4644094,8306914,14382544,24188824,39633715,63428365,99360690,152642490,230345115,341940885,499969860,720854160,1025884860 ⋆ Absolute value of coefficient of term [x^(n-5)] in characteristic polynomial of maximum matrix A of size n X n, where n >= 5. Maximum matrix A(i,j) is MAX(i,j), where indices i and j run from 1 to n. • a(n) = ((9n + 5) / 10!) * Product _{ i= - 4 ..4 } (n + i). •

[A249519] • 1,5,59,782,10915,156890,2298254,34115772,511402275,7723927970,117355941274,1791748546692,27465854168974,422452379203652,6516524753922620,100771332997219832,1561717224800526627,24249283134262469490 ⋆ Expansion of 4*x/(16*x+(sqrt(2)*sqrt(sqrt(1-16*x)+1)-1)*sqrt(1-16*x)-1). • a(n) = Sum _{ i = 0..n } 2 ^ i * binomial(2 * n - i - 1,n - i) * binomial(2 * n + i - 1,i)). •

[A126275] • 5,60,340,1300,3885,9800,21840,44280,83325,147620,248820,402220,627445,949200,1398080,2011440,2834325,3920460,5333300,7147140,9448285,12336280,15925200,20345000,25742925 ⋆ Moment of inertia of all magic squares of order n. • a(n) = (n ^ 2 * (n ^ 4 - 1)) / 12. •

[A059602] • 5,60,376,1660,5830,17380,45760,109252,240955,497640,972400,1812200,3241628,5594360,9354080,15206840,24107105,37360004,56722600,84527300,123830850,178592700,253886880,356151900 ⋆ Expansion of (5+10*x+x^2)/(1-x)^10. • a(n)= binomial(n + 7, 7) * (4 * n ^ 2 + 41 * n + 90) / 18. •

[A099672] • 5,60,615,6170,61725,617280,6172835,61728390,617283945,6172839500,61728395055,617283950610,6172839506165,61728395061720,617283950617275,6172839506172830,61728395061728385,617283950617283940,6172839506172839495,61728395061728395050 ⋆ Partial sums of repdigits of A002279. • a(n) = (5 / 81) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3) for n>2. •

[A138134] • 0,5,60,670,7435,82460,914500,10141965,112476120,1247379290,13833648315,153417510760,1701426266680,18869106444245,209261597153380,2320746675131430,25737475023599115,285432971934721700,3165500166305537820 ⋆ a(n) = sum(k=0..n, Fibonacci(5*k)). • a(n)= 11 * a(n) + a(n - 1) + 5, n>1. • a(n)= 12 * a(n - 1) - 10(a(n - 2) - a(n - 2), n>2. • a(n)= 1 / 11 * (Fibonacci(5n + 5) + Fibonacci(5n) - 5). •

[A000363] • 5,61,479,3111,18270,101166,540242,2819266,14494859,73802835,373398489,1881341265,9453340172,47417364268,237571096820,1189405165908,5951965440609,29775517732665,148927275340835,744793282001995 ⋆ Number of permutations of [n] with exactly 2 increasing runs of length at least 2. • a(n) = (5 ^ n - (2 * n - 1) * 3 ^ n + 2 * n ^ 2 - 2 * n - 2) / 16. - _ Vaclav Kotesovec _ , Nov 19 2012 •

[A152031] • 0,5,62,363,1364,3905,9330,19607,37448,66429,111110,177155,271452,402233,579194,813615,1118480,1508597,2000718,2613659,3368420,4288305,5399042,6728903,8308824 ⋆ a(n) = n^5 + n^4 + n^3 + n^2 + n. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a[n - 6] n>5, a(0)=0, a(1)=5, a(2)=62, a(3)=363, a(4)=1364, a(5)=3905. [_ Yosu Yurramendi _ , Sep 03 2013] •

[A071902] • 1,5,65,306,975,2479,5425,10660,19311,32825,53009,82070,122655,177891,251425,347464,470815,626925,821921,1062650,1356719,1712535,2139345,2647276,3247375 ⋆ Sum_{k=0..n^2} (k^2 - n^2)/n. • a(n) = n * (2 * n ^ 2 - 5) * (n ^ 2 + 1) / 6. - _ Vladeta Jovovic _ , Jun 15 2002 •

[A211412] • 5,65,325,1025,2501,5185,9605,16385,26245,40001,58565,82945,114245,153665,202501,262145,334085,419905,521285,640001,777925,937025,1119365,1327105,1562501 ⋆ a(n) = 4*n^4 + 1. • a(n) = (2 * n ^ 2) ^ 2 + 1 ^ 2 = (2 * n ^ 2 - 1) ^ 2 + (2 * n) ^ 2. - _ Thomas Ordowski _ , Sep 18 2015 •

[A118004] • 0,5,65,665,6305,58025,527345,4766585,42981185,387158345,3485735825,31376865305,282412759265,2541798719465,22876524019505,205890058352825,1853015893884545,16677164519797385,150094566577522385 ⋆ a(n) = 9^n - 4^n. • a(n) = 13 * a(n - 1) - 36 * a(n - 2), n>=2. - _ Vincenzo Librandi _ , Mar 16 2011 •

[A199024] • 5,65,725,7985,87845,966305,10629365,116923025,1286153285,14147686145,155624547605,1711870023665,18830570260325,207136272863585,2278499001499445,25063489016493905,275698379181432965,3032682170995762625 ⋆ 6*11^n-1. • a(n) = 11 * a(n - 1) + 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[A155653] • 1,5,65,785,8705,92225,953345,9720065,98320385,989922305,9939533825,99637202945,997823217665,9986939305985,99921635835905,999529815015425,9997178890092545,99983073340555265,999898440043331585 ⋆ 10^n-6^n+1. • a(n)=16 * a(n - 1) - 60 * a(n - 2) + 45 with a(0)=1, a(1)=5 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A103974] • 1,5,65,901,12545,174725,2433601,33895685,472105985,6575588101,91586127425,1275630195845,17767236614401,247465682405765,3446752317066305,48007066756522501,668652182274248705 ⋆ Smaller sides (a) in (a,a,a+1)-integer triangle with integer area. • a(n) = floor((7 + 4 * sqrt(3)) * a(n - 1)) - 4, n>=3 (conjectured). - _ Rick L. Shepherd _ , Sep 04 2005 •

[A042491] • 1,1,5,66,71,208,487,695,9522,38783,48305,2647253,2695558,13429485,177278863,190708348,558695559,1308099466,1866795025,25576434791,104172534189,129748968980,7110616859109,7240365828089,36072080171465 ⋆ Denominators of continued fraction convergents to sqrt(773). • a(n) = 2686036 * a(n - 11) + a(n - 22). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A064046] • 0,5,70,285,740,1525,2730,4445,6760,9765,13550,18205,23820,30485,38290,47325,57680,69445,82710,97565,114100,132405,152570,174685,198840 ⋆ Number of length 6 walks on an n-dimensional hypercubic lattice starting and finishing at the origin and staying in the nonnegative part. • a(n) = 5 * n * (3 * n ^ 2 - 3 * n + 1). • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) •

[A295332] • 1,1,5,71,289,360,1009,1369,6485,92159,375121,467280,1309681,1776961,8417525,119622311,486906769,606529080,1699964929,2306494009,10925940965,155269667519,632004611041,787274278560,2206553168161 ⋆ Denominators of the continued fraction convergents to sqrt(13)/2 = A295330. • a(n) = 1298 * a(n - 6) - a(n - 12), n >= 12, with inputs a(0)..a(11). •

[A064752] • 5,71,647,5183,38879,279935,1959551,13436927,90699263,604661759,3990767615,26121388031,169789022207,1097098297343,7052774768639,45137758519295,287753210560511,1828079220031487,11577835060199423 ⋆ n*6^n - 1. • a(1)=5, a(2)=71, a(3)=647, a(n)=13 * a(n - 1) - 48 * a(n - 2) + 36 * a(n - 3) [From Harvey P. Dale, May 25 2011] •

[A120808] • 1,5,71,303839,1030349,1356899,1437719,2248529,2416259,2576549,2797961,4007321,4353521,4875491,6137501,6611441,6698831,6904421,7821791,8078981,9221231,9311279,9500279,10157309,11251421 ⋆ Integers p such that x=p^3 is in A120806: x+d+1 is prime for all divisors d of x. All p greater than 1 are odd primes. • a(1)=1. a(n) = p where p is the (n - 1)st prime such that x=p ^ 3 is in A120806: x + d + 1 is prime for all divisors d of x. •

[A155662] • 1,5,73,989,12241,144245,1653913,18663629,208594081,2317594085,25654949353,283334343869,3124587089521,34425823133525,379071610510393,4172500607905709,45916496933002561,505214397985306565 ⋆ 11^n-7^n+1. • a(n)=18 * a(n - 1) - 77 * a(n - 2) + 60 with a(0)=1, a(1)=5 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A151752] • 5,75,375,9375,59375,359375,3359375,93359375,193359375,3193359375,73193359375,773193359375,7377319335975,77377319335975,5773773193359375,15773773193359375,515773773193359375,7515773773193359375,97515773773193359375 ⋆ a(n) = the unique n-digit number with all digits odd that is divisible by 5^n. • a(n) = d(n) * 10 ^ (n - 1) + a(n - 1), where d(n), the leading digit of a(n), is one of the odd digits 1, 3, 5, 7, or 9 (forming the complete set of residues modulo 5) and is uniquely defined by the congruence: d(n) == (- a(n - 1) / 10 ^ (n - 1)) (mod 5). - _ Max Alekseyev _ •

[A127212] • 5,75,500,4375,34375,281250,2265625,18359375,148437500,1201171875,9716796875,78613281250,635986328125,5145263671875,41625976562500,336761474609375,2724456787109375,22041320800781250,178318023681640625 ⋆ a(n) = 5^n*Lucas(n), where Lucas = A000204. • a(n) = Trace of matrix [({ 5,5 } , { 5,0 }) ^ n]. • a(n) = 5 ^ n * Trace of matrix [({ 1,1 } , { 1,0 }) ^ n]. • a(n) = 5 * a(n - 1) + 25 * a(n - 2). •

[A091903] • 0,1,5,75,625,6875,65625,671875,6640625,66796875,666015625,6669921875,66650390625,666748046875,6666259765625,66668701171875,66665649

4140625,6666717529296875,66666412353515625,666667938232421875 ★ Expansion of x/((1+5x)(1-10x)). ● a(n)=10 ^ n / 15 - (- 5) ^ n / 15 ● a(0)=0, a(1)=1, a(n)=5 * a(n - 1) + 50 * a(n - 2). - _ Harvey P. Dale _ , Mar 13 2013 ●

[A105490] ● 5,75,780,7105,61390,521640,4440870,38271750,335892150,3012721855,27672081437,260577574530,2516984551900,24942738309860,253566501600240,2643729700672284,28259635983501165,309569087038701420 ★ Number of partitions of {1...n} containing 4 detached pairs of consecutive integers, i.e., partitions in which only 1- or 2-strings of consecutive integers can appear in a block and there are exactly four 2-strings. ● a(n) = binomial(n - 4, 4) * Bell(n - 5), which is the case r=4 in the general case of r pairs, d(n,r) = binomial(n - r, r) * Bell(n - r - 1), which is the case t=2 of the general formula d(n,r,t) = binomial(n - r * (t - 1), r) * Bell(n - r * (t - 1) - 1). ●

[A105494] ● 5,75,855,8665,83485,788515,7424515,70378930,675685240,6594991405,65598204272 ★ Number of partitions of {1,...,n} containing 4 strings of 3 consecutive integers such that only v-strings of consecutive integers can appear in a block, where v = 1,2,3. ● a(n)=Sum(w(n, k, 4), k=1...n), where w(n, k, 4) is the case r=4 of w(n, k, r) given by w(m, k, r)=w(m - 1, k - 1, r) + (k - 1)w(m - 1, k, r) + w(m - 2, k - 1, r) + (k - 1)w(m - 2, k, r) + w(m - 3, k - 1, r - 1) + (k - 1)w(m - 3, k, r - 1) r=0, 1, ..., floor(n / 3), k=1, 2, ..., n - 2r, w(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j=0..floor(n / 2)). ●

[A248340] ● 0,5,75,875,9375,96875,984375,9921875,99609375,998046875,999023437 5,99951171875,999755859375,9998779296875,99993896484375,999969482421875,9999847412109375,99999237060546875,999996185302734375,9999980926513671875 ★ 10^n - 5^n. ● a(n) = 15 * a(n - 1) - 50 * a(n - 2). ●

[A091882] ● 1,5,75,1125,16875,253125,3796875,56953125,854296875,12814453125,192216796875,2883251953125,43248779296875,648731689453125,9730975341796875,145964630126953125,2189469451904296875 ★ Expansion of (1-10x)/(1-15x). ● a(n)=15 ^ n / 3 + 2 * 0 ^ n / 3. ●

[A001513] ● 5,77,221,437,725,1085,1517,2021,2597,3245,3965,4757,5621,6557,7565,8645,9797,11021,12317,13685,15125,16637,18221,19877,21605 ★ (6n+1)(6n+4) ● a(n) = 72 * n + a(n - 1) with a(0)=5. - _ Vincenzo Librandi _ , Nov 12 2010 ●

[A269792] ● 0,5,80,405,1280,3125,6480,12005,20480,32805,50000,73205,103680,142805,192080,253125,327680,417605,524880,651605,800000,972405,1171280,1399205,1658880 ★ a(n) = 5*n^4. ● a(n) = 5 * a(n - 1) - 10 * (9n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ●

[A139744] ● 0,5,85,1115,13345,153275,1724905,19207235,212679265,2347869995,25876958425,284948873555,3136251594385,34509651449915,379671469419145,4176777984431075,45946908753664705,505430101839849035,5559815753535563065,61158481088674535795 ★ 11^n-6^n. ● a(n) = 17 * a(n - 1) - 66 * a(n - 2); [From Vincenzo Librandi, Jun 02 2011] ●

[A140159] ● 1,5,86,102,727,763,3164,3228,9789,9889,24530,24674,53235,53431,104056,104312,187833,188157,318478,318878,513359,513843,793684,794260,1184885 ★ a(1)=1, a(n)=a(n-1)+n^4 if n odd, a(n)=a(n-1)+ n^2 if n is even. ● a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 4 +{ [1 + (- 1) ^ n] / 2 }* n ^ 2, with a(1)=1 a(n)= n) = (1 / 2) * (- 1) ^ n * n - (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 3) * n ^ 3 + (1 / 4) * (- 1) ^ n * n ^ 2 + (1 / 4) * n ^ 2 + (1 / 15) * n + (1 / 10) * n ^ 5 - (1 / 4) * (- 1) ^ n * n ^ 4 + (1 / 4) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 ●

[A136618] ● 5,89,107,139,313,331,409,421,443,449,461,491,503,547,653,757,761,769,941,947,1063,1181 ★ Primes that give answers to the find root solution the equation of that are imaginary part less than zero: x^2 + 2 x^(3/2 - 4*I*Pi x) + x^(1 - 8*I*Pi* x) == 0. ● a(n)=If x such that FindRoot[x ^ 2 + 2 x ^ (3 / 2 - 4 * I * Pi x) + x ^ (1 - 8 * I * Pi * x) == 0, { x, Prime[n] }] has Imaginary part Im[x]<0, report the prime[n] ●

[A152299] ● 1,5,91,410,7381,33215,597871,2690420,48427561,217924025,3922632451,17651846030,317733228541,1429799528435,25736391511831,115813761803240,2084647712458321,9380914706062445,168856464709124011 ★ A threes sequence that gets more even factors out: a(n)=(3^n - 1)*(3^n + 1)/2^(4 - Mod[n, 2]). ● a(n)=(3 ^ n - 1) * (3 ^ n + 1) / 2 ^ (4 - Mod[n, 2]). ● a(n)=82 * a(n - 2) - 81 * a(n - 4). G.f.: (1 + 5x + 9x ^ 2) / ((1 - x)(1 - 9x)(1 + x)(1 + 9x)). [From _ R. J. Mathar _ , Dec 04 2008] ●

[A147539] ● 5,99,1799,30735,507935,8257599,133169279,2139095295,3429263001 5,549218943999,8791798056959,140703128621055,2251524935786495,36026597997524799,576443160117411839,9223231299366486015 ★ Numbers whose binary representation is the concatenation of n 1's, 2n-1 digits 0 and n 1's. ● a(n) = 2 ^ n - 1 + 2 ^ (4n - 1) - 2 ^ (3n - 1). - _ R. J. Mathar _ , Nov 09 2008 ● a(n) = 27 * a(n - 1) - 202 * a(n - 2) + 432 * a(n - 3) - 256 * a(n - 4). - _ Wesley Ivan Hurt _ , Jan 11 2017 ●

[A128784] ● 0,5,100,1125,10000,78125,562500,3828125,25000000,158203125,976562500,5908203125,35156250000,206298828125,1196289062500,6866455078125,39062500000000,220489501953125,1235961914062500,6885528564453125 ★ n^2*5^n. ● a(0)=0, a(1)=5, a(2)=100, a(n)=15 * a(n - 1) - 75 * a(n - 2) + 125 * a(n - 3) [From Harvey P. Dale, Dec 30 2011] ●

[A041187] ● 1,5,101,510,10301,52015,1050601,5305020,107151001,541060025,10928351501,55182817530,1114584702101,5628106328035,113676711262801,574011662642040,11593909964103601,58543561483160045,1182465139627304501,5970869259619682550 ★ Denominators of continued fraction convergents to sqrt(104). ● a(n) = 102 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 12 2013 ●

[A053133] ● 5,110,1001,5720,24310,83980,248710,653752,1562275,3453450,7153575,14024400,26225628,47071640,81505820,136719440,222945905,354465254,550858165,838553320,1252716850,1839537700,2658968130,3787984200 ★ One half of binomial coefficients binomial(2n-8,9). ● a(n)= binomial(2 * n - 8, 9) / 2; G.f.: (5 + 60 * x + 126 * x ^ 2 + 60 * x ^ 3 + 5 * x ^ 4) / (1 - x) ^ 10. ●

[A091026] ● 5,114,771,3235,10365,27825,65828,141552,282375,530090,946275,1619007,2671123,4270245,6640800,10078280,14966001,21794634,31184795,43912995,60941265,83450785,112879860,150966600,199796675 ★ Fifth column (m=6) of array A090452. ● a(n)= (n + 1) * (n + 2) * (n ^ 6 + 45 * n ^ 5 + 745 * n ^ 4 + 5595 * n ^ 3 + 18694 * n ^ 2 + 22440 * n + 7200) / 2880. 2880 =8! / (2 * 7). ●

[A257865] ● 1,5,119,629,17907119 ★ Smallest k such that phi(k) = n*phi(k+1), where phi(n) = A000010(n) gives the value of Euler's totient function at n. ● a(n) >= exp(exp(c(n - 3))) with c=exp(gamma) and gamma being the Euler - Mascheroni _ constant (see pdf). - _ Manfred Scheucher _ , May 27 2015 ●

[A229147] ● 0,5,128,891,3584,10625,25920,55223,106496,190269,320000,512435,787968,1171001,1690304,2379375,3276800,4426613,5878656,7688939,9920000,12641265,15929408,19868711,24551424 ★ n^4*(3*n+2). ● a(0)=0, a(1)=5, a(2)=128, a(3)=891, a(4)=3584, a(5)=10625, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Aug 14 2015 ●

[A003732] ● 5,130,1660,16820,152230,1275680,10154290,77897010,581452680,4250594690,30572999140,217099260110,1525905283670,10636695448300,7364961503748 0,50717112739748 0,34768712137802 20,23747634842538120 ★ Number of Hamiltonian paths in C_5 X P_n. ● a(1) = 5, ● a(2) = 130, ● a(3) = 1660, ● a(4) = 16820, ● a(5) = 152230, ● a(6) = 1275680, ●

[A061320] ● 0,5,140,6080,186620,3504380,43599605,392515340,2738219580,15571795365,74962059260,314303754380,1173239918240,3966582090380 ★ Column 4 of A061314. ● a(n) = n * (n + 1) * (n ^ 8 + 4 * n ^ 7 + 14 * n ^ 6 + 28 * n ^ 5 + 77 * n ^ 4 + 112 * n ^ 3 + 196 * n ^ 2 + 144 * n + 2304) * (n ^ 2 + n + 4) * (n ^ 4 + 2 * n ^ 3 + 5 * n ^ 2 + 4 * n + 36) / 331776. - _ R. J. Mathar _ , Aug 11 2012 ●

[A094364] ● 1,5,150,2000,35000,550000,9000000,145000000,2350000000,38000000000,615000000000,9950000000000,161000000000000,2605000000000000,42150000000000000,682000000000000000,11035000000000000000 ★ Expansion of (1-5x)/(1-10x-100x^2). ● a(n)=(5 + 5sqrt(5)) ^ n / 2 + (5 - 5sqrt(5)) ^ n / 2. ●

[A041431] ● 1,5,151,760,22951,115515,3488401,17557520,530214001,2668627525,80589039751,405613826280,12249003828151,61650632967035,1861767992839201,9370490597163040,282976485907730401,1424252920135815045 ★ Denominators of continued fraction convergents to sqrt(231). ● a(n) = 152 * a(n - 2) - a(n - 4). G.f.: - (x ^ 2 - 5 * x - 1) / (x ^ 4 - 152 * x ^ 2 + 1). [_ Colin Barker _ , Jul 15 2012] ●

[A123111] ● 5,173,2467,17489,81401,287965,840743,2130497,4842829,10101101,19649675,36082513,63122177,105954269,171622351,269488385,411763733,614115757,896355059,1283208401,1805182345,2499522653,3411274487,4594448449 ★ 1+n^2+n^3+n^5+n^7; 10101101 in base n. ● a(n) = 1 + n ^ 2 + n ^ 3 + n ^ 5 + n ^ 7 = 10101101 (base n) = 1 + SUM[i=1..4]n ^ prime(i). ● a(n + 7) - 7 * a(n + 6) + 21 * a(n + 5) - 35 * a(n + 4) + 35 * a(n + 3) - 21 * a(n + 2) + 7 * a(n + 1) - a(n)=5040. - _ Robert Israel _ , Sep 02 2014 ●

[A094081] ● 5,185,1313,4925,13325,29585,57545,101813,167765,261545,390065,561005,782813,1064705,1416665,1849445,2374565,3004313,3751745,4630685,5655725,6842225,8206313,9764885,11535605 ★ Smallest integral ladder whose ends slide over the respective distances 1 and m=2n+1 while slipping down along horizontal ground and vertical wall against which it leans. ● a(n) = (2n ^ 2 + 2n + 1) * (16n ^ 2 + 16n + 5). ●

[A128791] ● 0,5,200,3375,40000,390625,3375000,26796875,200000000,1423828125,9765625000,64990234375,421875000000,2681884765625,16748046875000,102996826171875,625000000000000,3748321533203125,22247314453125000 ★ n^3*5^n. ● a(n) = 20 * a(n - 1) - 150 * a(n - 2) + 500 * a(n - 3) - 625 * a(n - 4). - _ Vincenzo Librandi _ , Feb 09 2013 ●

[A144139] ● 1,5,209,1189,3905,9701,20305,37829,64769,104005,158801,232805,330049,454949,612305,807301,1045505,1332869,1675729,2080805,2555201,3106405,3742289,4471109,5301505 ★ Chebyshev polynomial of the second kind U(4,n). ● a(n) = 16 * n ^ 4 - 12 * n ^ 2 + 1 = (4 * n ^ 2 - 2 * n - 1) * (4 * n ^ 2 + 2 * n - 1). - _ Vincenzo Librandi _ , May 29 2014 ●

[A055316] ● 5,210,5250,109200,2116800,40219200,768398400,14968800000,299675376000,6193291104000,132456516192000,2935293064704000,67432408243200000,1605928737853440000,39636028549877760000 ★ Number of labeled trees with n nodes and 4 leaves. ● a(n) = n! * (n - 4) * (n - 3) * (n - 2) * (3 * n - 11) / 576. - _ Vaclav Kotesovec _ , Jul 25 2014 ●

[A270870] ● 5,215,1311,5531,18329,50775,122675,266411,531501,989879,1741895,2923035,4711361,7335671,11084379,16315115,23465045,33061911,45735791,62231579,83422185,110322455,144103811,186109611,237871229 ★ a(n) = n^6 + 5*n^5 + 19*n^4 + 44*n^3 + 72*n^2 + 69*n + 5. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ●

[A166943] ● 5,247,1689,6731,20173,50415,110897,221779,411861,720743,1201225,1921947,2970269,4455391,6511713,9302435,13023397,17907159,24227321,32303083,42504045,55255247,71042449,90417651,114004853 ★ One third of product plus sum of six consecutive nonnegative numbers. ● a(n) = (n ^ 6 + 15n ^ 5 + 85n ^ 4 + 225n ^ 3 + 274n ^ 2 + 126n + 15) / 3. - _ Charles R Greathouse IV _ , Nov 04 2009 ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + 240 for n > 5; a(0)=5, a(1)=247, a(2)=1689, a(3)=6731, a(4)=20173, a(5)=50415. - _ Klaus Brockhaus _ , Nov 14 2009 ●

[A135095] • 1,5,248,264,3389,3425,20232,20296,79345,79445,240496,240640,611933,612129,1371504,1371760,2791617,2791941,5268040,5268440,9352541,9353025,15789368,15789944,25555569 ★ a(1)=1, a(n) = a(n-1) + n^5 if n odd, a(n) = a(n-1) + n^2 if n is even. • a(n) = (1 / 24) * (3 + 2 * n + 5 * n ^ 2 + 4 * n ^ 3 + 5 * n ^ 4 + 6 * n ^ 5 + 2 * n ^ 6 - 3 * (- 1) ^ n * (1 - 2 * n - 7 * n ^ 2 + 5 * n ^ 4 + 2 * n ^ 5)), with n>=1. - _ Paolo P. Lava _ , Mar 02 2009 •

[A094161] • 0,5,315,2670,10810,30475,69405,137340,246020,409185,642575,963930,1392990,1951495,2663185,3553800,4651080,5984765,7586595,9490310,11731650,14348355,17380165,20868820,24858060 ★ Column 5 of A048790. • a(n) = 5 * (n - 1) + 305 * C(n - 1,2) + 1740 * C(n - 1,3) + 2000 * C(n - 1,4) where C(n,k) is the binomial coefficient. - _ Joshua Zucker _ , Aug 14 2006 • a(n) = 5 * (672 - 1715 * n + 1595 * n ^ 2 - 652 * n ^ 3 + 100 * n ^ 4) / 6. - _ Colin Barker _ , Feb 28 2015 •

[A128866] • 5,405,12005,253125,4617605,78764805,1300723205,21141253125,340920883205,5476114739205,87789257318405,1406000997253125,22507005033676805,360200017312153605,5763903867804057605 ★ Number of n-tuples where each entry is chosen from the subsets of {1,2,3,4,5} such that the intersection of all n entries contains exactly one element. • a(n)=5 * (2 ^ n - 1) ^ 4 •

[A123658] • 5,1617,79543,1315073,11735001,70591825,322948907,1208225793,3874742893,11001010001,28297158495,67080151297,148467846593,309923269713,615105191251,1168247947265,2134605998037,3768860634193,6453801131783,10752064160001,17474246985385 ★ a(n) = 1 + n^4 + n^6 + n^9 + n^10. • a(n) = 1 + n ^ 4 + n ^ 6 + n ^ 9 + n ^ 10 = 11001010001 (base n). •

[A183042] • 0,6,6,8,12,18,22,28,36,42,52,64,68,82,98,104,118,138,146,164,184,194,216,240,248 ★ Least number of knight's moves from (0,0) to the segment of points (0,n), (1,n-1), ..., (n,0) on infinite chessboard. • a(n)=T(n,0) + T(n - 1,1) + ... + T(0,n), where T is formulated at A065775. •

[A291545] • 6,6,9,10,16,16,27,27,28,28,95,95,96,96,121,121,122,122,123,123,124,124,125,125,126 ★ a(n) is the smallest integer k > n such that (k+1)(k+2)...(2k-n)/(k(k-1)...(k-n+1)) is an integer. • a(n) = min _{ k > n } : (k! / (k - n)!) | ((2k - n)! / k!). - _ Jon E. Schoenfield _ , Aug 28 2017 •

[A168282] • 1,6,6,11,11,16,16,21,21,26,26,31,31,36,36,41,41,46,46,51,51,56,56,61,61 ★ (10*n + 5*(-1)^n - 1)/4. • a(n) = 5 * n - a(n - 1) - 3 for n>1, a(1)=1. • a(1)=1, a(2)=6, a(3)=6; for n>3, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Jun 17 2013 •

[A173319] • 6,6,11,31,121,601,3601,25201,201601,1814401,18144001,199584001,2395008001,31135104001,435891456001,6538371840001,104613949440001,1778437140480001,32011868528640001,608225502044160001 ★ 5*n! + 1. • a(0)=6; for n>0, a(n) = n * a(n - 1) - n + 1. - _ Vincenzo Librandi _ , Sep 28 2013 •

[A022089] • 0,6,6,12,18,30,48,78,126,204,330,534,864,1398,2262,3660,5922,9582,15504,25086,40590,65676,106266,171942,278208 ★ Fibonacci sequence beginning 0, 6. • a(n) = round((12 * phi - 6) / 5 * phi ^ n) for n>3. - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = 6F(n) = F(n + 3) + F(n + 1) + F(n - 4), n>3. •

[A229828] • 6,6,13,41,167,839,5039,35279,282239,2540159,25401599,279417599,3353011199,43589145599,610248038399,9153720575999,146459529215999,2489811996671999,44816615940095999,851515702861823999,17030314057236479999,357636595201966079999 ★ 7*n! - 1. • a(0)=6, a(n) = n * a(n - 1) + n - 1. •

[A266223] • 0,1,6,6,15,15,28,28,45,45,66,66,91,91,120,120,153,153,190,190,231,231,276,276,325 ★ Total number of OFF (white) cells after n iterations of the "Rule 7" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 1 / 2 * (n + 1) * (n + (- 1) ^ n + 1) for n>0. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A038518] • 0,1,1,1,6,6,16,36,56,136,256,496,1056,2016,4096,8256,16256,32896,65536,130816,262656,523776,1048576,2098176,4192256 ★ Number of elements of GF(2^n) with trace 0 and subtrace 0. • a(0)=0; a(n)= (2 ^ n - (- 1 - i) ^ n - (- 1 + i) ^ n) / 4, i=sqrt(- 1) - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Dec 16 2004 •

[A000976] • 0,0,1,1,1,1,6,6,18,18,18,54,54,378,1134,1134,9072,81648,81648,81648,1714608,18860688,18860688,56582064,56582064 ★ Period of 1 / n! in base 10. • a(n) = order(10, n! / (2 ^ s * 5 ^ t)) where 2 ^ s is largest power of 2 dividing n! and 5 ^ t is largest power of 5 dividing n! - _ Sean A. Irvine _ , Sep 29 2011 •

[A092297] • 0,6,6,18,30,66,126,258,510,1026,2046,4098,8190,16386,32766,65538,131070,262146,524286,1048578,2097150,4194306,8388606,16777218,33554430 ★ Number of ways of 3-coloring an annulus consisting of n zones joined like a pearl necklace. • a(n) = 2 ^ n + 2 * (- 1) ^ n; recurrence a(1)=0, a(2)=6, a(n) = 2 * a(n - 2) + a(n - 1). • a(n) = (- 1) ^ n * a(2 - n) * 2 ^ (n - 1) for all n in Z. - _ Michael Somos _ , Oct 25 2014 •

[A020715] • 6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30 ★ n+6. • a(n) = n + 6. a(n) = 2a(n - 1) - a(n - 2). •

[A058368] • 1,1,1,1,6,7,8,9,10,16,23,31,40,50,66,89,120,160,210,276,365,485,645,855,1131 ★ Number of ways to cover (without overlapping) a ring lattice (necklace) of n sites with molecules that are 5 sites wide. • a(n) = 1 + n * Sum _{ i=1..n / 5 } binomial(n - 4 * i - 1, i - 1) / i. • a(n) = a(n - 1) + a(n - 5) for n >= 6. •

[A108613] • 0,0,0,0,0,6,7,8,9,10,22,24,26,28,30,48,51,54,57,60,63,88,92,96,100 ★ Excess of Beatty-2 function of 1/sin(1) over n^2. • a(n) = A108612[n] - n ^ 2 = floor(n * floor(n / sin(1))) - n ^ 2. •

[A143616] • 6,7,8,9,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31 ★ Record values in A010371. • a(n) = n + 6 for n > 4. [_ Charles R Greathouse IV _ , Oct 26 2011] •

[A047551] • 0,1,6,7,8,9,14,15,16,17,22,23,24,25,30,31,32,33,38,39,40,41,46,47,48 ★ Numbers that are congruent to {0, 1, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = (4 * n - 3 - i ^ (2 * n) + (1 - i) * i ^ (- n) + (1 + i) * i ^ n) / 2 where i=sqrt(- 1). •

[A047275] • 0,1,6,7,8,13,14,15,20,21,22,27,28,29,34,35,36,41,42,43,48,49,50,55,56 ★ Numbers that are congruent to {0, 1, 6} mod 7. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (21 * n - 21 + 12 * cos(2 * n * Pi / 3) + 4 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 7k - 1, a(3k - 1) = 7k - 6, a(3k - 2) = 7k - 7. (End) •

[A047590] • 0,6,7,8,14,15,16,22,23,24,30,31,32,38,39,40,46,47,48,54,55,56,62,63,64 ★ Numbers that are congruent to {0, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 9 - 10 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 8. (End) •

[A133893] • 6,7,8,15,16,17,24,25,26,33,34,35,42,43,44,51,52,53,60,61,62,69,70,71,78 ★ Numbers m such that binomial(m+3,m) mod 3 = 0. • a(n)=3n + 6 - 2 * (n mod 3). •

[A081053] • 6,7,9,11,12,14,15,16,17,20,21,22,23,26,27,28,30,32,33,35,36,38,40,41,42 ★ Sum of a prime and the square of a prime. • a(n) = p ^ 2 + q, p and q primes. •

[A048585] • 6,7,9,12,16,22,31,44,63,91,132,192,280,409,598,875,1281,1876,2748,4026,5899,8644,12667,18563,27204 ★ Pisot sequence L(6,7). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 50000 but is not known to hold in general). •

[A168614] • 6,7,9,13,21,37,69,133,261,517,1029,2053,4101,8197,16389,32773,65541,131077,262149,524293,1048581,2097157,4194309,8388613,16777221 ★ a(n) = 2^n + 5. • a(n) = 2 * a(n - 1) - 5 with n>0, a(0)=6. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A047591] • 1,6,7,9,14,15,17,22,23,25,30,31,33,38,39,41,46,47,49,54,55,57,62,63,65 ★ Numbers that are congruent to {1, 6, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 6 - 3 * cos(2 * n * Pi / 3) - 7 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 2, a(3k - 2) = 8k - 7. (End) •

[A114949] • 6,7,10,15,22,31,42,55,70,87,106,127,150,175,202,231,262,295,330,367,406,447,490,535,582 ★ a(n) = n^2 + 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ R. J. Mathar _ , May 17 2009 • a(n) = 2 * n + a(n - 1) - 1, with n>0, a(0)=6. - _ Vincenzo Librandi _ , Nov 13 2010 •

[A117618] • 1,6,7,10,22,683 ★ Least number with complexity height of n, under integer complexity A005245. • a(n) = least k such that A005245 ^ (n)(k) = A005245 ^ (n - 1)(k) but (if n>1) A005245 ^ (n - 1)(k) != A005245 ^ (n - 2)(k), where ^ denotes repeated application. •

[A166496] • 6,7,11,15,23,27,35,39,47,59,63,75,83,87,95,107,119,123,135,143,147,159,167,179,195 ★ Prime plus the next composite. • a(n)=prime(n) + smallest composite > prime(n). •

[A047225] • 0,1,6,7,12,13,18,19,24,25,30,31,36,37,42,43,48,49,54,55,60,61,66,67,72 ★ Numbers that are congruent to {0, 1} mod 6. • a(n) = a(n - 2) + 6, n >= 2. (End) • a(n) = - 1 + (- 1) ^ (n - 1) + 3 * (n - 1). - _ Paolo P. Lava _ , Oct 06 2008 • a(n) = 6 * n - a(n - 1) - 11 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A047335] • 0,6,7,13,14,20,21,27,28,34,35,41,42,48,49,55,56,62,63,69,70,76,77,83,84 ★ Numbers that are congruent to {0, 6} mod 7. • a(n) = 7 * n - a(n - 1) - 8 for n>1, a(1)=0. [_ Vincenzo Librandi _ , Aug 05 2010] • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0 (n>3). • a(n) = (14 * n + 5 * (- 1) ^ n - 9) / 4. • a(n) - a(n - 2) = 7 (n>2). •

[A277567] • 1,6,7,13,19,25,31,36,37,42,43,49,55,61,67,73,78,79,85,91,97,103,109,114,115 ★ Numbers n such that n/6^m == 1 mod 6, where 6^m is the greatest power of 6 that divides n. • a(n) = 5n + O(log n). - _ Charles R Greathouse IV _ , Nov 03 2016 •

[A022096] • 1,6,7,13,20,33,53,86,139,225,364,589,953,1542,2495,4037,6532,10569,17101,27670,44771,72441,117212,189653,306865 ★ Fibonacci sequence beginning 1, 6. • a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=6. • a(n) = 5 * Fibonacci(n + 2) - 4 * Fibonacci(n + 1). - _ Gary Detlefs _ , Dec 21 2010 • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + sqrt(5)))) / sqrt(5). - _ Herbert Kociemba _ •

[A041175] • 1,1,6,7,13,20,33,53,86,483,569,10725,11294,67195,78489,145684,224173,369857,594030,963887,5413465,6377352,120205801,126583153,753121566 ★ Denominators of continued fraction convergents to sqrt(97). • a(n) = 11208 * a(n - 11) + a(n - 22). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041749] • 1,1,6,7,13,20,73,93,352,1853,4058,9969,53903,171678,225581,848421,1074002,1922423,2996425,16904548,19900973,773141522,793042495,4738353997,5531396492 ★ Denominators of continued fraction convergents to sqrt(394). • a(n) = 790046070 * a(n - 21) + a(n - 42) for n>41. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A160825] • 1,6,7,13,22,26,44,52,88,104,176,208,352,416,704,832,1408,1664,2816,3328,5632,6656,11264,13312,22528 ★ a(1) = 1. For n >=2, a(n) = the smallest integer > a(n-1) such that both a(n) and a(n)-a(n-1) have the same number of (non-leading) 0's when they are represented in binary. • a(2 * n) = 13 * 2 ^ (n - 2) and a(2 * n + 1) = 11 * 2 ^ (n - 1) if n >= 2. - _ Hagen von Eitzen _ , Jun 01 2009 • a(n) = 2 * a(n - 2) for n>5. •

[A042025] • 1,6,7,13,33,178,389,567,956,6303,290894,1751667,2042561,3794228,9631017,51949313,113529643,165478956,279008599,1839530550,8489741389,511224013944,596121427843,1107345441787,2810812311417 ★ Denominators of continued fraction convergents to sqrt(536). • a(n) = 291850 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 12 2014 •

[A041319] • 1,6,7,13,85,2223,13423,15646,29069,190060,4970629,30013834,34984463,64998297,424974245,11114328667,67110946247,78225274914,145336221161,950242601880,24851643870041,150060105822126,174911749692167,324971855514293,2124742882777925 ★ Denominators of continued fraction convergents to sqrt(173). • a(n) = 2236 * a(n - 5) + a(n - 10). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A283772] • 6,7,14,15,21,22,23,29,30,31,37,38,39,45,46,47,53,54,61,62,69,70,76,77,78 ★ Numbers k such that U(k) = 0 mod 3, where U = A001950 = upper Wythoff sequence. • a(n + 1) - a(n) is in { 1,6,7 } for every n. •

[A047589] • 6,7,14,15,22,23,30,31,38,39,46,47,54,55,62,63,70,71,78,79,86,87,94,95,102 ★ Numbers that are congruent to {6, 7} mod 8. • a(n) = 8 * n - a(n - 1) - 3 with n>1, a(1)=6. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 6 * floor((n - 1) / 2) + n + 5. - _ Gary Detlefs _ , Nov 29 2011 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (6 + x + x ^ 2) / ((1 - x) ^ 2 * (1 + x)). - _ Colin Barker _ , Mar 18 2012 • a(n) = (1 - 3 * (- 1) ^ n + 8 * n) / 2. - _ Colin Barker _ , May 14 2012 •

[A022311] • 0,6,7,14,22,37,60,98,159,258,418,677,1096,1774,2871,4646,7518,12165,19684,31850,51535,83386,134922,218309,353232 ★ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=0, a(1)=1. • a(n) = F(n + 2) + 5 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A084382] • 6,7,14,33,70,131,222,349,518,735,1006,1337,1734,2203,2750,3381,4102,4919,5838,6865,8006,9267,10654,12173,13830 ★ a(n) = n^3 + 6. • a(1)=7, a(2)=14, a(3)=33, a(4)=70; for n>4, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 08 2013 •

[A261195] • 0,1,6,7,16,17,22,23,40,41,46,47,56,57,62,63,384,385,390,391,400,401,406,407,424 ★ Encoded symmetrical square binary matrices. • a((2n + 1) * 2 ^ (k - 1)) = a(n * 2 ^ k) + a(2 ^ (k - 1)) for n >= 0 and k >= 1. - _ Eric Werley _ , Sep 13 2015 •

[A081348] • 1,6,7,20,21,42,43,72,73,110,111,156,157,210,211,272,273,342,343,420,421,506,507,600,601 ★ First row in maze arrangement of natural numbers. • a(n) = (2 * n ^ 2 + 4 * n + 3 - (2 * n + 1)(- 1) ^ n) / 2. •

[A041076] • 6,7,20,47,114,161,2046,2207,6460,15127,36714,51841,658806,710647,2080100,4870847,11821794,16692641,212133486,228826127,669785740,1568397607,3806580954,5374978561,68306323686 ★ Numerators of continued fraction convergents to sqrt(45). • a(n) = 322 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 6 * x ^ 10 + 7 * x ^ 9 - 20 * x ^ 8 + 47 * x ^ 7 - 114 * x ^ 6 - 161 * x ^ 5 - 114 * x ^ 4 - 47 * x ^ 3 - 20 * x ^ 2 - 7 * x - 6) / ((x ^ 2 - 3 * x + 1) * (x ^ 2 + 3 * x + 1) * (x ^ 4 - 3 * x ^ 3 + 8 * x ^ 2 - 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 8 * x ^ 2 + 3 * x + 1)). [_ Colin Barker _ , Jul 18 2012] •

[A041771] • 1,6,7,20,87,629,716,3493,4209,32956,136033,305022,441055,2951352,118495135,713922162,832417297,2378756756,10347444321,74810867003,85158311324,415444112299,500602423623,3919661077660,16179246734263 ★ Denominators of continued fraction convergents to sqrt(406). • a(n) = 118936190 * a(n - 14) - a(n - 28) for n>27, - _ Vincenzo Librandi _ , Dec 24 2013 •

[A081284] • 0,1,1,6,7,22,27,62,77,147,182,308,378,588,714,1044,1254,1749,2079,2794,3289,4290,5005,6370,7371 ★ An interleaved sequence of pyramidal and polygonal numbers. • a(n) = (2 * n + 1 - (- 1) ^ n) * (2 * n + 5 - (- 1) ^ n) * (2 * n + 9 - (- 1) ^ n) * (2 * n ^ 2 + 15 * n + 51 + 3 * (n - 5) * (- 1) ^ n) / 30720. - _ Luce ETIENNE _ , Mar 13 2015 •

[A099572] • 1,1,6,7,23,30,73,103,211,314,581,895,1560,2455,4135,6590,10890,17480,28590,46070,74946,121016,196326,317342,514123 ★ Sum C(n-k+4,k), k=0..floor(n/2). • a(n)=sum { k=0..n, F(n - k + 1) * binomial(k / 2 + 3, 3)(1 + (- 1) ^ k) / 2 } . •

[A282005] • 1,1,6,7,24,31,96,127,384,511,1536,2047,6144,8191,24576,32767,98304,131071,393216,524287,1572864,2097151,6291456,8388607,25165824 ★ Decimal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 413", based on the 5-celled von Neumann neighborhood. • a(n) = 3 * 2 ^ n / 2 for n>0 and even. • a(n) = 2 ^ n - 1 for n odd. • a(n) = 5 * a(n - 2) - 4 * a(n - 4) for n>4. •

[A041078] • 6,7,27,34,61,156,997,2150,3147,5297,19038,24335,311058,335393,1317237,1652630,2969867,7592364,48524051,104640466,153164517,257804983,926579466,1184384449,15139192854 ★ Numerators of continued fraction convergents to sqrt(46). • a(n) = 48670 * a(n - 12) - a(n - 24). G.f.: - (x ^ 23 - 6 * x ^ 22 + 7 * x ^ 21 - 27 * x ^ 20 + 34 * x ^ 19 - 61 * x ^ 18 + 156 * x ^ 17 - 997 * x ^ 16 + 2150 * x ^ 15 - 3147 * x ^ 14 + 5297 * x ^ 13 - 19038 * x ^ 12 - 24335 * x ^ 11 - 19038 * x ^ 10 - 5297 * x ^ 9 - 3147 * x ^ 8 - 2150 * x ^ 7 - 997 * x ^ 6 - 156 * x ^ 5 - 61 * x ^ 4 - 34 * x ^ 3 - 27 * x ^ 2 - 7 * x - 6) / (x ^ 24 - 48670 * x ^ 12 + 1). - _ Colin Barker _ , Jul 19 2012 •

[A042419] • 1,6,7,27,88,643,1374,6139,13652,101703,318761,1057986,1376747,9318468,5045740 19,3036762582,3541336601,13660772385,44523653756,325326348677,695176351110,3106031753117,6907239857344,51456710754525,161277372120919 ★ Denominators of continued fraction convergents to sqrt(737). • a(n) = 505950766 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 21 2014 •

[A095369] • 1,1,6,7,28,36,120,165,495,716,2003,3018,8024,12512,31977,51357,127110,209475,504736,850840,2003784,3445885,7956715,13926276,31609071 ★ Number of walks of length n between two nodes at distance 4 in the cycle graph C_9. • a(n)= 2 ^ n / 9 * Sum(r, 0, 8, Cos(8Pi * r / 9)Cos(2Pi * r / 9) ^ n). G.f.: x ^ 4 / ((1 + x)(- 1 + 2x)(1 - 3x ^ 2 + x ^ 3)) a(n)=a(n - 1) + 5a(n - 2) - 4a(n - 3) - 5a(n - 4) + 2a(n - 5) •

[A159582] • 1,6,7,34,41,198,239,1154,1393,6726,8119,39202,47321,228486,275807,1331714,1607521,7761798,9369319,45239074,54608393,263672646,318281039,1536796802,1855077841 ★ Expansion of (1+6*x+x^2-2*x^3)/((x^2+2*x-1)*(x^2-2*x-1)), bisection is NSW numbers. • a(n) = 6 * a(n - 2) - a(n - 4) for n>3. • a(n) = ((- (- 2 + sqrt(2)) * (- 1 + sqrt(2)) ^ n - (- 1 - sqrt(2)) ^ n * (2 + sqrt(2)) - 3 * (- (1 - sqrt(2)) ^ n * (- 2 + sqrt(2)) - (1 + sqrt(2)) ^ n * (2 + sqrt(2))))) / (4 * sqrt(2)). •

[A041553] • 1,6,7,34,41,280,9561,57646,67207,326474,393681,2688560,91804721,553516886,645321607,3134803314,3780124921,25815552840,881508921481,5314869081726,6196378003207,30100381094554,36296759097761,247880935681120,8464248572255841 ★ Denominators of continued fraction convergents to sqrt(294). • a(n) = 9602 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A033043] • 0,1,6,7,36,37,42,43,216,217,222,223,252,253,258,259,1296,1297,1302,1303,1332,1333,1338,1339,1512 ★ Sums of distinct powers of 6. • a(n) = Sum _{ i=0..m } d(i) * 6 ^ i, where Sum _{ i=0..m } d(i) * 2 ^ i is the base - 2 representation of n. • a(2n) = 6 * a(n), a(2n + 1) = a(2n) + 1. •

[A175167] • 0,1,1,6,7,36,45,220,286,1365,1820,8568,11628,54264,74613,346104,480700,2220075,3108105,14307150,20160075,92561040,131128140,600805296,854992152 ★ a(n)=Sum_{j=1..floor(n/2)} Binomial(n+j-1,j-1) • a(n)=Sum(Binomial(n + j - 1,j - 1),(j,1,Floor[n / 2])). • a(n) = floor(n / 2) * C(n + floor(n / 2), floor(n / 2)) / (n + 1). - _ Vaclav Kotesovec _ , Mar 02 2014 •

[A152119] • 1,1,1,6,7,41,48,281,329,1926,2255,13201,15456,90481,105937,620166,726103,4250681,4976784,29134601,34111385,199691526,233802911,1368706081,1602508992 ★ a(n) = prod(k=1..(n-1)/2, 5 + 4*cos(k*Pi/n)^2). • a(n) = prod(k=1..(n - 1) / 2, 5 + 4 * cos(k * Pi / n) ^ 2). • a(n) = 7 * a(n - 2) - a(n - 4). G.f.: (x ^ 4 - x ^ 3 - 6 * x ^ 2 + x + 1) / ((x ^ 2 - 3 * x + 1) * (x ^ 2 + 3 * x + 1)). [_ Joerg Arndt _ , Jan 24 2013] •

[A080879] • 1,1,6,7,44,52,328,388,2448,2896,18272,21616,136384,161344,1017984,1204288,7598336,8988928,56714752,67094272,423324672,500798464,3159738368,3738010624,23584608256 ★ a(n)*a(n+3) - a(n+1)*a(n+2) = 2^n, given a(0)=1, a(1)=1, a(2)=6. • a(n) = (9 / 16 * 3 ^ (1 / 2) - 7 / 16) * ((1 + sqrt(3))) ^ n + (- 9 / 16 * 3 ^ (1 / 2) - 7 / 16) * ((1 - sqrt(3))) ^ n + (- 19 / 48 * 3 ^ (1 / 2) + 15 / 16) * (- (1 + sqrt(3))) ^ n + (19 / 48 * 3 ^ (1 / 2) + 15 / 16) * (- ((1 - sqrt(3)))) ^ n [From _ Richard Choulet _ , Dec 06 2008] • a(n + 4) = 8 * a(n + 2) - 4 * a(n) [From _ Richard Choulet _ , Dec 06 2008] •

[A042843] • 1,1,6,7,48,55,323,378,23003,23381,139908,163289,1119642,1282931,7534297,8817228,536567977,545385205,3263494002,3808879207,26116769244,29925648451,175745011499,205670659950,12515984608499 ★ Denominators of continued fraction convergents to sqrt(952). • a(n) = 23326 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A269912] • 1,6,7,52,53,170,171,392,393,750,751,1276,1277,2002,2003,2960,2961,4182,4183,5700,5701,7546,7547,9752,9753 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 3", based on the 5-celled von Neumann neighborhood. • a(n) = (3 * (1 + (- 1) ^ n) + (2 - 12 * (- 1) ^ n) * n - 6 * (- 2 + (- 1) ^ n) * n ^ 2 + 4 * n ^ 3) / 6. • a(n) = (2 * n ^ 3 + 3 * n ^ 2 - 5 * n + 3) / 3 for n even. • a(n) = (2 * n ^ 3 + 9 * n ^ 2 + 7 * n) / 3 for n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>6. •

[A042117] • 1,6,7,55,282,1183,6197,44562,50759,349116,16808327,101199078,118007405,927250913,4754261970,19944298793,104475755935,75127459038,855750346273,5885776667976,283373030409121,1706123959122702,1989496089572823,15632602885845463 ★ Denominators of continued fraction convergents to sqrt(583). • a(n) = 16859086 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A041081] • 1,1,6,7,90,97,575,672,8639,9311,55194,64505,829254,893759,5298049,6191808,79599745,85791553,508557510,594349063,7640746266,8235095329,48816222911,57051318240,733432041791 ★ Denominators of continued fraction convergents to sqrt(47). • a(n) = 96 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041082] • 6,7,90,97,1254,1351,17466,18817,243270,262087,3388314,3650401,47193126,50843527,657315450,708158977,9155223174,9863382151,127515808986,137379191137,1776066102630,1913445293767 ★ Numerators of continued fraction convergents to sqrt(48). • a(n) = 14 * a(n - 2) - a(n - 4). G.f.: (6 + 7 * x + 6 * x ^ 2 - x ^ 3) / ((1 - 4 * x + x ^ 2) * (1 + 4 * x + x ^ 2)). [_ Colin Barker _ , Jul 15 2012] •

[A041357] • 1,1,6,7,188,195,1163,1358,36471,37829,225616,263445,7075186,7338631,43768341,51106972,1372549613,1423656585,8490832538,9914489123,266267549736,276182038859,1647177744031,1923359782890,51654532099171 ★ Denominators of continued fraction convergents to sqrt(192). • a(n) = 194 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 16 2013 •

[A041829] • 1,1,6,7,286,293,1751,2044,83511,85555,511286,596841,24384926,24981767,149293761,174275528,7120314881,7294590409,43593266926,50887857335,2079107560326,2129995417661,12729084648631,14859080066292,607092287300311 ★ Denominators of continued fraction convergents to sqrt(435). • a(n) = 292 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A047876] • 0,6,8,8,12,18,22,28,36,42,52,64,68,82,98,104,118,138,146,164,184,194,216,240,248 ★ a(n) = Sum{T(i,n-i): i=0,1,...,n}, array T as in A049604. • a(n) = 2 * a(n - 3) + a(n - 4) - a(n - 6) - 2 * a(n - 7) + a(n - 10) for n > 14 (conjectured). •

[A076517] • 1,6,8,9,10,11,12,14,26,34,36,37,41,42,43,45,47,56,62,64,66,67,92,95,97 ★ Partial sums of A060370 (cf. A006556). • a(n) seems to be asymptotic to c * n * log(n) with 0.5 < c < 1 •

[A001746] • 0,6,8,9,10,16,18,19,20,26,28,29,30,36,38,39,40,46,48,49,50,56,58,59,60 ★ At least one digit contains a loop (version 1). • a(n) = n + O(n ^ k) w

here k = log 6 / log 10 = 0.77815.... - _ Charles R Greathouse IV _ , Feb 11 2017 •

[**A123704**] • 6,8,9,11,15,31,48,60,314,701,940,942 ⋆ Numbers n such that (5^p-3^p)/2 is prime, where p = Prime[n]. • a(n) = PrimePi[A121877[n]]. •

[**A047394**] • 0,1,6,8,9,14,16,17,22,24,25,30,32,33,38,40,41,46,48,49,54,56,57,62,64 ⋆ Numbers that are congruent to {0, 1, 6} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 8 * n / 3 - 3 + cos(2 * n * Pi / 3) + 5 * sin (2 * n * Pi / 3) / (3 * sqrt(3)). • a(3k) = 8k - 2, a(3k - 1) = 8k - 7, a(3k - 2) = 8k - 8. (End) •

[**A001743**] • 0,6,8,9,60,66,68,69,80,86,88,89,90,96,98,99,600,606,608,609,660,666,668,669,680 ⋆ Every digit contains at least one loop (version 1). • a(n) = (b _ m(n) + 6) mod 9 + floor((b _ m(n) + 2) / 3) - floor(b _ m(n) / 3)) * 10 ^ m + sum _{ j=0..m - 1 } (b _ j(n) mod 4 + 5 * floor((b _ j(n) + 3) / 4) + floor((b _ j(n) + 2) / 4) - 6 * floor(b _ j(n) / 4))) * 10 ^ j, where n>1, b _ j(n)) = floor((n - 1 - 4 ^ m) / 4 ^ j), m = floor(log _ 4(n - 1)). • a(1 * 4 ^ n + 1) = 6 * 10 ^ n. • a(2 * 4 ^ n + 1) = 8 * 10 ^ n. • a(3 * 4 ^ n + 1) = 9 * 10 ^ n. • a(n) = 6 * 10 ^ log _ 4(n - 1) for n=4 ^ k + 1, • a(n) < 6 * 10 ^ log _ 4(n - 1), else. •

[**A080257**] • 6,8,10,12,14,15,16,18,20,21,22,24,26,27,28,30,32,33,34,35,36,38,39,40,42 ⋆ Numbers having at least two distinct or a total of at least three prime factors. • a(n) = n + O(n / log n). - _ Charles R Greathouse IV _ , Sep 14 2015 •

[**A020739**] • 6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54 ⋆ 2n + 6. • a(n) = 2a(n - 1) - a(n - 2). •

[**A003663**] • 1,6,8,10,12,15,17,19,24,26,28,33,35,37,42,44,46,51,53,55,60,62,64,69,71 ⋆ a(n) is smallest number != a(j)+a(k), j<k. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n > 9. •

[**A184111**] • 1,6,8,10,13,14,16,18,20,22,23,25,26,28,29,31,33,34,35,37,38,40,41,43,44 ⋆ n+floor(4*sqrt(n-1)); complement of A184112. • a(n) = n + floor(4 * sqrt(n - 1)) •

[**A086822**] • 6,8,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,73,76 ⋆ a(n) = floor((6*n^0+5*n^1+4*n^2+3*n^3) / (1*n^0+1*n^1+1*n^2)). • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. - _ Colin Barker _ , May 23 2015 •

[**A184113**] • 6,8,11,12,14,16,18,20,21,23,24,26,27,29,31,32,33,35,36,38,39,41,42,44,45 ⋆ n + floor(4*sqrt(n+1)). • a(n) = n + floor(4 * sqrt(n + 1)) •

[**A167499**] • 6,8,11,15,20,26,33,41,50,60,71,83,96,110,125,141,158,176,195,215,236,258,281,305,330 ⋆ a(n) = n*(n+3)/2 + 6. • a(n) = n + a(n - 1) + 1, with n > 1, a(1) = 8. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Sep 16 2013 •

[**A020716**] • 6,8,11,15,20,27,36,48,64,85,113,150,199,264,350,464,615,815,1080,1431,1896,2512,3328,4409,5841 ⋆ Pisot sequences E(6,8), P(6,8). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[**A063207**] • 1,6,8,12,14,20,20,26,28,32,34,40,40,46,48,52,54,60,60,66,68,72,74,80,80 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(33). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) for n>6. G.f.: x * (x ^ 5 + 5 * x ^ 3 + 7 * x ^ 2 + 6 * x + 1) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[**A089241**] • 6,8,12,16,24,28,36,40,48,60,64,76,84,88,96,108,120,124,136,144,148,160,168,180,196 ⋆ Even numbers k such that k/2 - 1 is prime. • a(n) = 2 * prime(n) + 2. - _ Alonso del Arte _ , Mar 02 2017 •

[**A027691**] • 6,8,12,18,26,36,48,62,78,96,116,138,162,188,216,246,278,312,348,386,426,468,512,558,606 ⋆ n^2 + n + 6. • a(n)=2 * n + a(n - 1) (with a(0)=6) - _ Vincenzo Librandi _ , Aug 05 2010 •

[**A047336**] • 1,6,8,13,15,20,22,27,29,34,36,41,43,48,50,55,57,62,64,69,71,76,78,83,85 ⋆ Numbers that are congruent to {1, 6} mod 7. • a(1) = 1; a(n) = 7(n - 1) - a(n - 1). - _ Rolf Pleisch _ , Jan 31 2008 (corrected by Jon E. Schoenfield, Dec 22 2008) • a(n) = (7 / 2) * (n - (1 - (- 1) ^ n) / 2) - (- 1) ^ n. - _ Rolf Pleisch _ , Nov 02 2010 • a(n) = - a(- n + 1) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = a(n - 2) + 7. • a(n) = 7 * floor(n / 2) + (- 1) ^ (n + 1). [From Gary Detlefs, Dec 29 2011] •

[**A047451**] • 0,6,8,14,16,22,24,30,32,38,40,46,48,54,56,62,64,70,72,78,80,86,88,94,96 ⋆ Numbers that are congruent to {0, 6} mod 8. • a(n)=8 * n - a(n - 1) - 10 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) =4 * n - 3 + (- 1) ^ n. G.f. 2 * x ^ 2 * (3 + x) / ((1 + x) * (x - 1) ^ 2). - _ R. J. Mathar _ , Oct 08 2011 • a(n) = c((8 / 3) * c(3 * n / 2)), where c = ceiling. - _ Clark Kimberling _ , Jul 04 2012 •

[**A255844**] • 6,8,14,24,38,56,78,104,134,168,206,248,294,344,398,456,518,584,654,728,806,888,974,1064,1158 ⋆ a(n) = 2*n^2 + 6. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A168610**] • 6,8,14,32,86,248,734,2192,6566,19688,59054,177152,531446,1594328,4782974,14348912,43046726,129140168,387420494,1162261472,3486784406,10460353208,31381059614,94143178832,282429536486 ⋆ a(n) = 3^n + 5. • a(n) = 3 * a(n - 1) - 10 with a(0)=6. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). - _ Vincenzo Librandi _ , Jul 06 2012 •

[**A022320**] • 1,6,8,15,24,40,65,106,172,279,452,732,1185,1918,3104,5023,8128,13152,21281,34434,55716,90151,145868,236020,381889 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 6. • a(n) = 2 * F(n + 2) + 3 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[**A165720**] • 6,8,18,21,35,39,57,62,84,90,116,123,153,161,195,204,242,252,294,305,351,363,413,426,480 ⋆ Integers of the form k*(k+11)/10. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = 5 * (2 * n ^ 2 + 10 * n + 3) / 16 - 3 * (- 1) ^ n * (5 + 2 * n) / 16. •

[**A113806**] • 6,8,20,22,34,36,48,50,62,64,76,78,90,92,104,106,118,120,132,134,146,148,160,162,174 ⋆ Numbers that are congruent to {6, 8} mod 14. • a(n)=14 * n - a(n - 1) - 14 (with a(1)=6) [From _ Vincenzo Librandi _ , Nov 13 2010] • a(n) = 7 * n - (7 + 5 * (- 1) ^ n) / 2. •

[**A159469**] • 6,8,20,24,42,48,72,80,110,120,156,168,210,224,272,288,342,360,420,440,506,528,600,624,702 ⋆ Maximum remainder when (k + 1)^n + (k - 1)^n is divided by k^2 for variable n and k > 2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n > 7. - _ Colin Barker _ , Oct 29 2017 (proved by _ Iain Fox _ , Nov 26 2017) • a(n) = n ^ 2 - n * (3 + (- 1) ^ n) / 2 . - _ Iain Fox _ , Nov 26 2017 •

[**A083595**] • 1,6,8,20,36,76,148,300,596,1196,2388,4780,9556,19116,38228,76460,152916,305836,611668,1223340,2446676,4893356,9786708,19573420,39146836 ⋆ a(n) = (7*2^n - 4(-1)^n)/3. • a(n) = (7 * 2 ^ n - 4(- 1) ^ n) / 3 . •

[**A084962**] • 6,8,21,10946 ⋆ Iterations of the Fibonacci sequence starting at 6. • a(0)=6, a(n + 1)=Fibonacci(a(n)). •

[**A024868**] • 6,8,22,27,52,61,100,114,170,190,266,293,392,427,552,596,750,804,990,1055,1276,1353,1612,1702,2002 ⋆ a(n) = 2*(n+1) + 3*n + ... + (k+1)*(n+2-k), where k = [n/2]. • a(n) = sum _{ i=1..floor(n / 2) } (i + 1) * (n - i + 2) = floor(n / 2) * (- 2 * floor(n / 2) ^ 2 + 3 * n * floor(n / 2) + 9n + 14) / 6, n>1. - _ Wesley Ivan Hurt _ , Sep 20 2013 • a(n) = 19 * n / 24 - 9 / 16 + n ^ 3 / 12 + 11 * n ^ 2 / 16 + (- 1) ^ n * (3 * n / 8 + 9 / 16 + n ^ 2 / 16). - _ R. J. Mathar _ , Sep 25 2013 •

[**A219191**] • 0,6,8,26,30,60,66,108,116,170,180,246,258,336,350,440,456,558,576,690,710,836,858,996,1020 ⋆ Numbers of the form k*(7*k+1), where k = 0,-1,1,-2,2,-3,3,... • a(n) = a(- n + 1) = (14 * n * (n - 1) + 5 * (- 1) ^ n * (2 * n - 1) + 5) / 8. •

[**A024873**] • 6,8,26,43,97,156,308,499,915,1480,2598,4204,7178,11614,19476,31513,52219,84492,138900,224745,367509,594642,968924,1567752,2548478 ⋆ a(n) = s(1)t(n) + s(2)t(n-1) + ... + s(k)t(n-k+1), where k = [n/2], s = (natural numbers >= 2), t = (Lucas numbers). • a(0)=6, a(1)=8, a(2)=26, a(3)=43, a(4)=97, a(5)=156, a(6)=308, a(7)=499, a(8)=915, a(9)=1480, a(n)=a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4) - a(n - 5) - 3 * a(n - 6) + 2 * a(n - 7) + a(n - 8) + a(n - 9) + a(n - 10) [From Harvey P. Dale, May 19 2011] •

[**A007829**] • 0,0,0,0,0,6,8,28,44,100,162,318,514,942,1518,2672,4302,7380,11882,20040,32276,53810,86710,143396,231204 ⋆ From random walks on complete directed triangle. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - 4 * a(n - 4) + 5 * a(n - 5) + 5 * a(n - 6) - 2 * a(n - 7) - 2 * a(n - 8) for n>7. •

[**A000773**] • 0,0,0,1,1,6,8,29,45,130,220,561,1001,2366,4368,9829,18565,40410,77540,164921,320001,669526,1309528,2707629,5326685 ⋆ Number of numbers == 0 (mod 3) in range 2^n to 2^(n+1) with odd number of 1's in binary expansion. • a(n) = (1 / 6) * (2 ^ n - (- 1) ^ n - 3 ^ ((n + 1) / 2)). G.f.: x ^ 3 / ((1 + x) * (1 - 2 * x) * (1 - 3 * x ^ 2)). - _ Ralf Stephan _ , Aug 08 2004 • a(n) = a(n - 1) + 2 * a(n - 2) + 3 ^ (n / 2) * (1 + (- 1) ^ n) / 18 for all n in Z. - _ Michael Somos _ , Jan 23 2014 • a(n) = - 6 * a(n - 4) - 3 * a(n - 3) + 5 * a(n - 2) + a(n - 1) for n > 4. - _ Hugo Pfoertner _ , Jun 13 2017 •

[**A258283**] • 1,1,6,8,29,47,134,213,559,939,2178,3564,8184,13225,27904,46376,93151,153022,302948,489271,931845,1540667,2818014,4565768,8369128 ⋆ Number of partitions of 5 copies of n into distinct parts. • a(n) = 1 / 5! * [(x * y * z * u * v) ^ n] Product _{ j>0 } (1 + x ^ j + y ^ j + z ^ j + u ^ j + v ^ j). •

[**A154153**] • 6,8,47,57,278,336,1623,1961,9462,11432,55151,66633,321446,388368,1873527,2263577,10919718,13193096,63644783,76895001 ⋆ Indices n such that 28 plus the n-th triangular number is a perfect square. • a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A164640**] • 1,6,8,48,64,384,512,3072,4096,24576,32768,196608,262144,1572864,2097152,12582912,16777216,100663296,134217728,805306368,1073741824,6442450944,8589934592,51539607552,68719476736 ⋆ a(n) = 8*a(n-2) for n > 2; a(1) = 1, a(2) = 6. • a(n) = (7 - (- 1) ^ n) * 2 ^ (1 / 4 * (6 * n - 15 + 3 * (- 1) ^ n)). •

[**A250256**] • 1,6,8,68,88,688,888,6888,8888,68888,88888,688888,888888,6888888,8888888,68888888,88888888,688888888,888888888,6888888888,8888888888,68888888888,88888888888,688888888888,888888888888 ⋆ Least positive integer whose decimal digits divide the plane into n regions (A249572 variant). • a(n) = 10 * a(n - 2) + 8 for n >= 4. • a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) for n > 4. •

[**A053869**] • 1,6,9,10,12,14,20,22,24,25,26,28,30,34,38,40,42,44,46,48,49,52,54,56,58 ⋆ Sum of divisors of n less than n is even. • a(n) = 2n + 2 * sqrt(n) + O(1). - _ Charles R Greathouse IV _ , Sep 27 2015 •

[**A105066**] • 6,9,10,13,16,18,20,22,26,28,32,33,34,38,42,43,47,50,51,52,53,56,58,60,66 ⋆ Positive integers n such that n^8 + 1 is semiprime. • a(n) ^ 8 + 1 is an element of A001538. •

[**A184104**] • 6,9,11,14,16,18,20,22,24,25,27,29,31,32,34,36,37,39,40,42,43,45,46,48,50 ⋆ n+floor(5*sqrt(n)); complement of A184105. • a(n)=n + floor(5 * sqrt(n)). •

[**A214777**] • 0,6,9,12,15,18,20,21,24,26,27,29,30,32,33,35,36,38,39,40,41,42,44,45,46 ⋆ McNugget numbers: numbers of the form 6*x + 9*y + 20*z for nonnegative integers x, y, z. • a(n) = n + 21 for n >= 23. - _ Robert Israel _ , May 01 2015 •

[**A245685**] • 6,9,12,18,21,27,30,36,45,48,57,63,66,72,81,90,93,102,108,111,120,126,135,147,153 ⋆ Sigma(2p)/2, for odd primes p. • a(n) = T(2 * prime(n + 1), 1) - T(2 * prime(n + 1), 4) = 3 * (prime(n + 1) + 1) / 2 = sigma(2 * prime(n + 1)) / 2 where T(n,k) is defined in A235791. •

[**A106218**] • 6,9,12,21,27,33,69,75,84,87,93,96,111,123,126,162,165,192,225,228,231,234,237,240,264 ⋆ Positions of 2's in A106216. • a(n) = 0 (mod 3) for all n. •

[A064799] • 6,9,13,16,21,25,31,34,39,47,51,58,63,67,72,79,86,89,97,103,106,113,118,125,135 ★ Sum of n-th prime number and n-th composite number. • a(n) = prime(n) + composite(n) •

[A167614] • 6,9,13,18,24,31,39,48,58,69,81,94,108,123,139,156,174,193,213,234,256,279,303,328,354 ★ (n^2 + 3*n + 8)/2. • a(n) = n + a(n - 1) + 1, with n >1, a(1)=6. •

[A048626] • 6,9,13,19,28,41,60,88,129,189,277,406,595,872,1278,1873,2745,4023,5896,8641,12664,18560,27201,39865,58425 ★ Pisot sequence P(6,9). • a(n) = a(n - 1) + a(n - 3) (Checked up to n = 1000) •

[A232553] • 6,9,13,36,54,81,216,324,486,1296,1944,2916,7776,11664,17496,46656,69984,104976,279936,419904,629856,1679616,2519424,3779136,10077696 ★ Maximal values of permanent on (0,1) square matrices of order n with row and column sums 3. • a(n) = floor(6 ^ ((n - h) / 3) * (3 / 2) ^ h), where h=0,1 or 2, such that n == h (mod 3). • a(n) = 6 * a(n - 3) for n>5. •

[A047452] • 1,6,9,14,17,22,25,30,33,38,41,46,49,54,57,62,65,70,73,78,81,86,89,94,97 ★ Numbers that are congruent to {1, 6} mod 8. • a(n) = 8 * n - a(n - 1) - 9, n>1. [_ Vincenzo Librandi _ , Aug 06 2010] • a(n) = (1 / 2) * [- 5 + (- 1) ^ n + 8 * n], with n>=1. [_ Paolo P. Lava _ , Sep 03 2010] •

[A134859] • 1,6,9,14,19,22,27,30,35,40,43,48,53,56,61,64,69,74,77,82,85,90,95,98,103 ★ Wythoff AAA numbers. • a(n) = A(A(A(n))), n>=1, with A=A000201, the lower Wythoff sequence. • a(n) = 2 * floor(n * Phi ^ 2) + n - 2 where Phi=(1 + sqrt(5)) / 2. - _ Benoit Cloitre _ , Apr 12 2008; _ R. J. Mathar _ , Oct 16 2009 •

[A095098] • 6,9,14,19,22,27,30,35,40,43,48,53,56,61,64,69,74,77,82,85,90,95,98,103,108 ★ Fib001 numbers: those n for which the Zeckendorf expansion A014417(n) ends with two zeros and a final one. • a(n) = 2 * floor((n + 1) * phi ^ 2) - n - 3, where phi = (1 + sqrt(5)) / 2. - _ Vladeta Jovovic _ , Jul 05 2004 •

[A020717] • 6,9,14,22,35,56,90,145,234,378,611,988,1598,2585,4182,6766,10947,17712,28658,46369,75026,121394,196419,317812,514230 ★ Pisot sequences L(6,9), E(6,9). • a(n) = 2 * a(n - 1) - a(n - 3). • a(n) = 1 + (5 / 2) * (1 / 2 + (1 / 2) * sqrt(5)) ^ n + (11 / 10) * (1 / 2 + (1 / 2) * sqrt(5)) ^ n * sqrt(5) - (11 / 10) * sqrt(5) * (1 / 2 - (1 / 2) * sqrt(5)) ^ n + (5 / 2) * (1 / 2 - (1 / 2) * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Jun 10 2008 •

[A229354] • 6,9,17,39,101,279,797,2319,6821,20199,60077,179199,535541,1602519,4799357,14381679,43112261,129271239,387682637,1162785759,3487832981,10462450359,31385253917,94151567439,282446313701 ★ Total sum of n-th powers of parts in all partitions of 3. • a(n) = 4 + 2 ^ n + 3 ^ n. •

[A118277] • 0,1,6,9,19,24,39,46,66,75,100,111,141,154,189,204,244,261,306,325,375,396,451,474,534 ★ Generalized 9-gonal numbers. • a(n) = n * (7 * n - 5) / 2 for positive and negative n. • a(n) = (1 / 16) * (14 * n ^ 2 + 14 * n - 3 + 3 * (- 1) ^ n * (2 * n + 1)). - _ R. J. Mathar _ , Oct 08 2011 •

[A165717] • 6,9,21,26,44,51,75,84,114,125,161,174,216,231,279,296,350,369,429,450,516,539,611,636,714 ★ Integers of the form k*(5+k)/4. • a(n)= a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ R. J. Mathar _ , Sep 25 2009 •

[A084431] • 1,6,9,24,36,96,144,384,576,1536,2304,6144,9216,24576,36864,98304,147456,393216,589824,1572864,2359296,6291456,9437184,25165824,37748736 ★ Expansion of (1+6*x+5*x^2)/((1-2*x)*(1+2*x)). • a(n) = (- 10 * 0 ^ n - 3 * (- 2) ^ n + 21 * 2 ^ n) / 8. • a(n) = 4 * a(n - 2), n>1. - _ Harvey P. Dale _ , Nov 05 2011 •

[A274977] • 1,6,9,27,54,135,297,702,1593,3699,8478,19575,45009,103734,238761,549963,1266246,2916135,6714873,15463278,35607897,81997731,188821422,434814615,1001278881 ★ a(n) = a(n-1) + 3*a(n-2) with n>1, a(0)=1, a(1)=6. • a(n) = ((13 + 11 * sqrt(13)) * (1 + sqrt(13)) ^ n + (13 - 11 * sqrt(13)) * (1 - sqrt(13)) ^ n) / (26 * 2 ^ n). •

[A154139] • 0,6,9,39,56,230,329,1343,1920,7830,11193,45639,65240,266006,380249,1550399,2216256,9036390,12917289,52667943,75287480,306971270,438807593,1789159679,2557558080 ★ Indices k such that 4 plus the k-th triangular number is a perfect square. • a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A098662] • 1,1,6,9,54,90,540,945,5670,10206,61236,112266,673596,1250964,7505784,14073345,84440070,159497910,956987460,1818276174,10909657044,20827527084,124965162504,239516561466,1437099368796 ★ E.g.f. BesselI(0,2sqrt(3)x) + BesselI(2,2sqrt(3)x)/sqrt(3). • a(n)=Fib(k) + Fib(k + 3) • a(n)=a(n - 1) + a(n - 2), n>2 ; a(1)=6, a(2)=10 . G.f.: (6x + 4x ^ 2) / (1 - x - x ^ 2). [From _ Philippe Deléham _ , Nov 19 2008] • a(n)=binomial(n, floor(n / 2))3 ^ floor(n / 2). •

[A119738] • 6,9,69,106,111,119,611,669,689,698,699,818,866,869,901,998,1011,1101,1111,1198,1199,1661,1681,1689,1691 ★ Semiprimes that are semiprimes turned upside-down. • a(n) in A001358, a(n) = / = 10 and a(n) upside - down in A001358. UpsideDown(k) is R(k) followed by the substitutions (0,0), (1,1), (6,9), (8,8), (9,6). •

[A111093] • 0,1,6,10,10,15,16,16,20,25,30,36,36,45,50,50,56,61,70,70,70,71,76,80,80 ★ Like sequence A111072 but moving right by the squares of the sequence of positive integers. • a(n + 1) = a(n) + (a(n) - a(n - 1) + (n + 1) ^ 2 mod 10) mod 10, with a(0)=0, a(1)=1. •

[A248757] • 6,10,11,28,149,172,185,754,815,1510,1594,3160,3755,10654,12743,71807,155957 ★ Indices of prime Fibonacci 5-step numbers, A001591. • a(n) = A105756 (n) + 3. •

[A105642] • 6,10,12,14,15,18,20,21,22,24,26,28,30,32,33,34,35,38,39,40,42,44,45,46,48 ★ Composite nonsquares and noncubes. • a(n) = n + O(n / log n). - _ Charles R Greathouse IV _ , Oct 19 2015 •

[A106543] • 6,10,12,14,15,18,20,21,22,24,26,28,30,33,34,35,38,39,40,42,44,45,46,48,50 ★ Composite numbers that are not perfect powers. • a(n) = n + O(n / log n). - _ Charles R Greathouse IV _ , Oct 03 2011 •

[A054741] • 6,10,12,14,18,20,22,24,26,28,30,34,36,38,40,42,44,46,48,50,52,54,56,58,60 ★ Numbers n such that totient(n) < cototient(n). • a(n) seems to be a symptotic to c * n with c=1.9566..... - _ Benoit Cloitre _ , Oct 20 2002 [It is an old theorem that a(n) ~ cn for some c, for any sequence of the form "n / phi(n) > k". - _ Charles R Greathouse IV _ , May 28 2015] •

[A063214] • 1,6,10,12,16,22,22,28,32,34,38,44,44,50,54,56,60,66,66,72,76,78,82,88,88 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(46). • a(n) = a(n - 2) + a(n - 3) - a(n - 5) for n>6. G.f.: x * (1 + 6 * x + 9 * x ^ 2 + 5 * x ^ 3 + x ^ 5) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A242100] • 6,10,12,18,20,24,30,34,36,40,42,48,56,66,68,72,80,84,90,96,108,110,130,132,136 ★ Numbers of the form m = b^i + b^j, where b > 1 and i > j > 0. • a(n) < n ^ 2 for n > 4. •

[A120944] • 6,10,14,15,21,22,26,30,33,34,35,38,39,42,46,51,55,57,58,62,65,66,69,70,74 ★ Composite squarefree numbers. • a(n) are the solutions to floor(omega(x) / bigomega(x)) * (1 - floor(1 / bigomega(x))) = 1, where bigomega is A001222 and omega is A001221. - _ Enrique Pérez Herrero _ , Apr 01 2012 •

[A030229] • 1,6,10,14,15,21,22,26,33,34,35,38,39,46,51,55,57,58,62,65,69,74,77,82,85 ★ Product of an even number of distinct primes (including 1). • a(n) < n * Pi ^ 2 / 3 infinitely often; a(n) > n * Pi ^ 2 / 3 infinitely often. - _ Charles R Greathouse IV _ , Oct 04 2011; corrected Sep 07 2017 •

[A193416] • 6,10,14,16,20,22,24,24,28,30,32,32,36,38,40,40,42,42,46,48,50,50,52,52,54 ★ Minimum surface area of polycubes with volume n. • a(n ^ 3) = 6n ^ 2, a(n) ~ 6n ^ (2 / 3). - _ Charles R Greathouse IV _ , Aug 25 2011 •

[A073760] • 6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78,82,86,90,94,98,102 ★ Smallest unrelated number belonging to a term of this sequence equals four. • a(n) = 4n + 2. - _ Max Alekseyev _ , Mar 03 2007 • a(n) = 8 * n - a(n - 1), (with a(1)=6). - _ Vincenzo Librandi _ , Aug 08 2010 • a(1)=6, a(2)=10, a(n) = 2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Mar 06 2012 •

[A007944] • 6,10,14,18,26,30,38,42,42,54,62,74,74,90,90,90,108,114,114,134,134,146,162,172,180 ★ Largest even number a(n) such that 6,8,...,a(n) are sums of 2 of first n odd primes. • a(n) << n log n. - _ Charles R Greathouse IV _ , Sep 19 2012 •

[A151972] • 0,1,6,10,15,16,21,25,30,31,36,40,45,46,51,55,60,61,66,70,75,76,81,85,90 ★ Numbers that are congruent to {0, 1, 6, 10} mod 15. • a(n) = (30 * n - 41 - 5 * i ^ (2 * n) + (3 + 3 * i) * i ^ (- n) + (3 - 3 * i) * i ^ n) / 8 where i=sqrt(- 1). • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. (End) •

[A168102] • 6,10,15,21,28,35,42,49,56,63,70,77,84,91,98,105,112,119,126,133,140,147,154,161,168 ★ a(n) = sum of natural numbers m such that n - 3 <= m <= n + 3. • a(n) = a(n - 1) + 7 for n >= 4. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. - _ Colin Barker _ , Feb 12 2015 •

[A285766] • 0,0,6,10,15,22,31,42,55,70,87,106,127,150,175,202,231,262,295,330,367,406,447,490,535 ★ Maximum spillway height for a zero or one bend minimal area lake in a number square. • a(n) = 7 - 2 * n + n ^ 2 for n>2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>5. •

[A131501] • 6,10,16,20,26,30,36,40,46,50 ★ Xm/CV where Xm is a point of maximum error using an approximation method for x^(1/2) which I have found and CV is the population coefficient of variation from my list of error values. • a(n)=10 * n - a(n - 1) - 4 (with a(1)=6) [From Vincenzo Librandi, Nov 23 2010] •

[A146951] • 0,6,10,16,20,26,30,36,40,46,50,56,60,66,70,76,80,86,90,96,100,106,110,116,120 ★ Rank of terms of A061047 ending in with 0. • a(n) = 1 / 2 - (- 1) ^ n / 2 + 5 * n. a(n)=a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (6 + 4 * x) / ((1 - x) ^ 2 * (1 + x)). - _ Colin Barker _ , May 15 2012 •

[A079329] • 6,10,16,25,37,52,67,88,106,124,145,166,187,196,214,235,256,277,298,331,385,427,448,493,547 ★ Let g(n)=A006512(n) be the larger member of the n-th pair of twin primes. Then a(n) is the average of g(n) and g(n+1). • a(n)=Sum _{ x=n - th greater of twin primes..(n + 1)th greater of twin primes }- (- 1) ^ x * x - Juri - Stepan Gerasimov, Jul 14 2009 •

[A090991] • 6,10,16,26,42,68,110,178,288,466,754,1220,1974,3194,5168,8362,13530,21892,35422,57314,92736,150050,242786,392836,635622 ★ Number of meaningful differential operations of the n-th order on the space R^6. • a(k + 4)= a(k + 2) + a(k + 1) + a(k) + 2 •

[A020718] • 6,10,17,29,49,83,141,240,409,697,1188,2025,3452,5885,10033,17105,29162,49718,84764,144514,246382,420057,716156,1220976,2081645 ★ Pisot sequences E(6,10), P(6,10). • a(n) = 2 * a(n - 1) - a(n - 3) + a(n - 5) - a(n - 6) for n>5 (conjectured). - _ Colin Barker _ , Jun 05 2016 •

[A048587] • 6,10,17,29,50,87,152,266,466,817,1433,2514,4411,7740,13582,23834,41825,73397,128802,226031,396656,696082,1221538,2143649,3761841 ★ Pisot sequence L(6,10). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A134351] • 1,6,10,18,34,66,130,258,514,1026,2050,4098,8194,16386,32770,65538,131074,262146,524290,1048578,2097154,4194306,8388610,16777218,33554434 ★ Binomial transform of [1, 5, -1, 5, -1, 5,...]. Inverse binomial transform of A134350. • a(n)=2 + 2 ^ (n + 1) for n>=2; a(1)=1. - _ Emeric Deutsch _ , Oct 24 2007 •

[A270544] • 0,6,10,20,24,34,42,52,56,70,78,88,96,106,114,132,136,146,158,168,176,194,202,212,220 ★ Number of ordered pairs (i,j) with |i|, |j| <= n, |i * j| <= n, and i odd. • a(n) = 2 * floor((n + 1) / 2) + 4 * Sum _{ k=0..floor((n + 1) / 2) - 1 } floor(n / (2k + 1)). •

[A181995] • 0,0,1,6,10,20,27,42,52,72,85,110,126,156,175,210,232,272,297,342,370,420,451,506,540 ⋆ a(n) = if n mod 2 = 1 then n*(n-1) else (n-1)^2+(n-2)/2. • a(n) = n * (4 * n - 5 - (- 1) ^ n) / 4. - _ Luce ETIENNE _ , Oct 04 2014 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n> 4. • a(n) = Sum _{ i=floor((n - 1) / 2)..floor(3 * (n - 1) / 2) } i. (End) •

[A254028] • 6,10,20,46,116,310,860,2446,7076,20710,61100,181246,539636,1610710,4815740,14414446,43177796,129402310,387944780,1163310046,3488881556,10464547510,31389448220,94159956046,282463090916 ⋆ a(n) = 2^(n+1) + 3^n + 3. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Colin Barker _ , Jan 24 2015 •

[A212161] • 6,10,23,27,40,44,57,61,74,78,91,95,108,112,125,129,142,146,159,163,176,180,193,197,210 ⋆ Numbers 6 or 10 modulo 17. • a(n) = 1 / 4 * (34 * n + 9 * (- 1) ^ n + 15). - _ Paolo P. Lava _ , May 16 2012 •

[A014494] • 0,6,10,28,36,66,78,120,136,190,210,276,300,378,406,496,528,630,666,780,820,946,990,1128,1176 ⋆ Even triangular numbers. • a(n) = (2 * n + 1) * (2 * n + 1 - (- 1) ^ n) / 2. - _ Ant King _ , Nov 18 2010 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Ant King _ , Nov 18 2010 •

[A178676] • 6,10,30,130,630,3130,15630,78130,390630,1953130,9765630,48828130,244140630,1220703130,6103515630,30517578130,152587890630,762939453130,3814697265630,19073486328130,95367431640630,476837158203130,2384185791015630,11920928955078130 ⋆ 5^n + 5. • a(n) = 5 * (a(n - 1) - 4), with n> 0, a(0)=6. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). - _ Vincenzo Librandi _ , Sep 30 2013 •

[A266957] • 1,6,10,31,39,74,86,135,151,214,234,311,335,426,454,559,591,710,746,879,919,1066,1110,1271,1319 ⋆ Numbers m such that 9*m+10 is a square. • a(n) = a(- n + 1) = (18 * (n - 1) * n + 5 * (2 * n - 1) * (- 1) ^ n - 3) / 8. •

[A121801] • 0,6,10,32,78,210,544,1430,3738,9792,25630,67106,175680,459942,1204138,3152480,8253294,21607410,56568928,148099382,387729210,1015088256,2657535550,6957518402,18215019648 ⋆ Expansion of 2*x^2*(3-x)/((1+x)*(x^2-3*x+1)). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). • a(n) = (8 * (- 1) ^ n + 2 * (F(2 * (n + 1)) + F(2 * n))) / 5 for n >= 1. a(0) = 0. •

[A192774] • 0,0,1,1,6,10,34,74,206,499,1301,3264,8348,21152,53828,136720,347533,883157,2244462,5704094,14496130,36840606,93625542,237939591,604694601 ⋆ Coefficient of x^2 in the reduction of the n-th Fibonacci polynomial by x^3->x^2+2x+1. • a(n)=a(n - 1) + 5 * a(n - 2) - a(n - 3) - 5 * a(n - 4) + a(n - 5) + a(n - 6). •

[A105157] • 6,10,70,85,364,451,1102,1309,2900,2967,5920,6107,10234,11521,17384,17907,26840,29559,40328,42813,56248,57743,77786,79929,107060 ⋆ Row sums of the triangle A105160. • a(n) = if Mod[Prime[n], 2]=0 then Prime[n - 1] else - Prime[n] T(n, k)=a(k) * Prime[n] aout[m]=Abs[Sum[T(n, k), { n, 1, k }]] •

[A246800] • 6,10,84,186,1276,3172,19816,52666,310764,863820,4899736,14073060,77509464,228318856,1228859344,3693886906,19513475404,59644341436,310223170744,961665098956,4936304385544,15488087080696,78602174905264,249227373027556,1252310513280376 ⋆ Even indexed terms of A247984, a sequence motivated by generalized quadrangles. • a(n) = 2 ^ (2n) - (- 1) ^ n * binomial(2n, n). •

[A276136] • 6,11,12,13,23,47,192,193,383,786432 ⋆ Numbers n > 1 such that largest odd divisors of n-1, n, and n+1 are prime. • a(n) >> n log n. - _ Charles R Greathouse IV _ , Aug 22 2016 •

[A154293] • 0,1,6,11,13,20,35,46,50,63,88,105,111,130,165,188,196,221,266,295,305,336,391,426,438 ⋆ Integers of the form t/6, where t is a triangular number (A000217). • a(n) = (f(n) ^ 2 - 1) / 48 where f(n) = 8 * (n - floor(n / 4)) + (- 1) ^ n, with offset 0, a(0)=0. - _ Gary Detlefs _ , Mar 01 2010 • a(n) = a(1 - n) for all n in Z. - _ Michael Somos _ , Oct 27 2012 •

[A135708] • 6,11,15,19,23,27,30,34,38,41,45,48,52,55,59,62,66,69,72,76,79,83,86,89,93 ⋆ Minimal total number of edges in a polyhex consisting of n hexagonal cells. • a(n) = 3 * n + ceiling(sqrt(12 * n - 3)). - H. Harborth •

[A016861] • 1,6,11,16,21,26,31,36,41,46,51,56,61,66,71,76,81,86,91,96,101,106,111,116,121 ⋆ a(n) = 5*n+1. • a(n)=2 * a(n - 1) - a(n - 2) with a(0)=1, a(1)=6. - _ Vincenzo Librandi _ , Aug 01 2010 •

[A145287] • 6,11,16,21,26,31,36,41,46,51,56,61,66,71,76,81,86,91,96,101,106,111,116,121,126 ⋆ a(n) = number of monomials in n-th power of polynomial x^5+x^4+x^3+x^2+x+1 • a(n)=10 * n - a(n - 1) - 3 (with a(1)=6) [From Vincenzo Librandi, Nov 25 2010] •

[A140232] • 6,11,16,21,26,31,36,41,46,51,56,61,66,71,76,81,86,91,96,101,106,111,116,122,127 ⋆ a(n)=Ceiling[n*e^((1+sqrt(5))/2)]. • a(n)=Ceiling(n * A139341). - _ R. J. Mathar _ , Feb 06 2009 •

[A256429] • 1,6,11,16,41,106,211,416,941,2106,4411,9316,20341,44106,94111,201716,435741,938606,2014311,4330116,9324641,20060606,43122511,92747016,199552041 ⋆ a(n) is the total number of pentagrams in a variant of pentagram fractal after n iterations. • a(n) = 3 * a(n - 1) - 4 * a(n - 2) + 7 * a(n - 3) - 5 * a(n - 4) for n>3. •

[A001964] • 1,6,11,17,22,27,32,37,43,48,53,58,64,69,74,79,85,90,95,100,106,111,116,121,126 ⋆ Wythoff game. • a(n) = floor((n + 1 / 4) * (3 + sqrt(5))). - R. J. Mathar, Feb 14 2011 •

[A184550] • 0,6,11,17,28,34,39,45,56,62,67,73,84,90,95,101,112,118,123,129,140,146,151,157,168 ⋆ Super-birthdays (falling on the same weekday), version 2 (birth within 1 and 2 years after a February 29). • a(n) = + 1 * a(n - 1) + 1 * a(n - 4) - 1 * a(n - 5). (End) •

[A160842] • 0,1,6,11,18,27,38,51,66,83,102,123,146,171,198,227,258,291,326,363,402,443,486,531,578 ⋆ Number of lines through at least 2 points of a 2 X n grid of points. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 4. - _ Colin Barker _ , May 24 2015 •

[A102305] • 6,11,18,27,38,51,66,83,102,123,146,171,198,227,258,291,326,363,402,443,486,531,578,627,678 ⋆ a(n) = n^2 + 2n + 3. • a(n) = 2 * n + a(n - 1) + 1 (with a(1)=6). [_ Vincenzo Librandi _ , Nov 16 2010] •

[A000382] • 6,11,20,36,65,119,218,400,735,1351,2484,4568,8401,15451,28418,52268,96135,176819,325220,598172,1100209,2023599,3721978,6845784,12591359 ⋆ Restricted permutations. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) - 2 (conjectured). •

[A192750] • 1,6,11,21,36,61,101,166,271,441,716,1161,1881,3046,4931,7981,12916,20901,33821,54726,88551,143281,231836,375121,606961 ⋆ Define a pair of sequences c_n, d_n by c_0=0, d_0=1 and thereafter c_n = c_{n-1}+d_{n-1}, d_n = c_{n-1}+4*n+2; sequence here is d_n. • a(n) = 5 * Fibonacci(n + 2) - 4. - _ Gerry Martens _ , Jul 04 2015 •

[A083575] • 6,11,21,41,81,161,321,641,1281,2561,5121,10241,20481,40961,81921,163841,327681,655361,1310721,2621441,5242881,10485761,20971521,41943041,83886081 ⋆ a(0) = 6; for n>0, a(n) = 2*a(n-1) - 1. • a(n) = 5 * 2 ^ n + 1. - _ M. F. Hasler _ , Oct 30 2010 • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>1. - _ Vincenzo Librandi _ , Nov 03 2011 •

[A239767] • 0,1,6,11,22,31,48,61,84,101,130,151,186,211,252,281,328,361,414,451,510,551,616,661,732 ⋆ Degrees of polynomial on the fermionic side of the finite generalization of identity 46 from Slater's List. • a(n) = (1 / 8) * (10 * n ^ 2 + 2 * (1 + (- 1) ^ n) * n - (1 - (- 1) ^ n)). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: - x * (x ^ 3 + 3 * x ^ 2 + 5 * x + 1) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Mar 26 2014 •

[A155449] • 6,11,23,28,40,45,57,62,74,79,91,96,108,113,125,130,142,147,159,164,176,181,193,198,210 ⋆ Numbers n == 6 or 11 mod 17. • a(n) = a(n - 1) + a(n - 2) - a(n - 3), with a(1)=6, a(2)=11, a(3)=23. • a(n) = (1 / 4) * (17 + 7 * (- 1) ^ (n - 1) + 34 * (n - 1)). - _ Paolo P. Lava _ , Jan 26 2009 •

[A061203] • 1,6,11,26,31,56,61,96,111,136,141,216,221,246,271,341,346,421,426,501,526,551,556,731,746 ⋆ (tau<=)_5(n). • a(n) = Sum _{ k=1..n } tau _{ 4 } (k) * floor(n / k), where tau _{ 4 } is A007426. - _ Enrique Pérez Herrero _ , Jan 23 2013 •

[A140359] • 1,1,6,11,26,51,106,211,426,851,1706,3411,6826,13651,27306,54611,109226,218451,436906,873811,1747626,3495251,6990506,13981011,27962026 ⋆ a(n) = 2*a(n-1) + a(n-2) - 2*a(n-3). • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3). • a(n) = (5 * 2 ^ (n + 1) - 9 + 5 * (- 1) ^ n) / 6. (End) • a(n) = a(n - 1) + 2 * a(n - 2) + 3, n>1 - _ Gary Detlefs _ , Jun 20 2010 •

[A114960] • 1,1,6,11,30,57,128,247,518,1013,2068,4083,8242,16369,32880,65519,131310,262125,524780,1048555,2098154,4194281,8390632,16777191,33558502 ⋆ Expansion of (-1+3*x-5*x^2+4*x^3)/((1-2*x)*(2*x^2-1)*(x-1)^2). • a(n) = 2 ^ n - n - 1 - ((- 1) ^ n - 1) * 2 ^ (1 / 2 * n) * sqrt(2) / 4 •

[A186410] • 0,1,6,11,32,37,58,79,180,185,206,227,328,349,450,551,1052,1057,1078,1099,1200,1221,1322,1423,1924 ⋆ Number of "ON" cells at n-th stage of three-dimensional version of the cellular automaton A183060 using cubes. • a(2 ^ n) = 2 ^ n + (4 / 5) * (6 ^ n - 1). •

[A193866] • 0,6,11,35,46,88,105,165,188,266,295,391,426,540,581,713,760,910,963,1131,1190,1376,1441,1645,1716 ⋆ Even pentagonal numbers divided by 2. • a(n) = 1 / 16 * (1 - 3 * (- 1) ^ n + 12 * n) * (1 - (- 1) ^ n + 4 * n). • a(0)=0, a(1)=6, a(2)=11, a(3)=35, a(4)=46, a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: x * (6 + 5 * x + 12 * x ^ 2 + x ^ 3) / (1 - x - 2 * x ^ 2 + 2 * x ^ 3 + x ^ 4 - x ^ 5). [_ Colin Barker _ , Jan 25 2012] •

[A130667] • 1,6,11,36,41,66,91,216,221,246,271,396,421,546,671,1296,1301,1326,1351,1476,1501,1626,1751,2376,2401 ⋆ a(1) = 1; a(n) = max { 5*a(k)+a(n-k) | 1 <= k <= n/2 }, for n>1. • a(2n) = 6a(n) and a(2n + 1) = 5a(n) + a(n + 1). •

[A259669] • 0,1,6,11,36,61,86,211,336,461,586,1211,1836,2461,3086,3711,6836,9961,13086,16211,19336,22461,38086,53711,69336 ⋆ a(0)=0, a(1)=1, a(n) = min{5 a(k) + (5^(n-k)-1)/4, k=0..(n-1)} for n>=2. • a(n) = min { 5 * a(k) + (5 ^ (n - k) - 1) / 4 ; k < n } . •

[A015440] • 1,1,6,11,41,96,301,781,2286,6191,17621,48576,136681,379561,1062966,2960771,8275601,23079456,64457461,179854741,502142046,1401415751,3912125981,10919204736,30479834641 ⋆ Generalized Fibonacci numbers. • a(n) = a(n - 1) + 5 a(n - 2). • a(n) = (((1 + sqrt(21)) / 2) ^ (n + 1) - ((1 - sqrt(21)) / 2) ^ (n + 1)) / sqrt(21). • a(n) = Sum _{ k=0..ceiling(n / 2) } 5 ^ k * binomial(n - k, k). - _ Benoit Cloitre _ , Mar 06 2004 • a(n) = (Sum _{ k =1..n + 1, k odd } binomial(n + 1,k) * 21 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 •

[A253209] • 6,11,41,221,1301,7781,46661,279941,1679621,10077701,60466181,362797061,2176782341,13060694021,78364164101,470184984581,2821109907461,16926659444741,101559956668421,609359740010501,3656158440062981,21936950640377861,131621703842267141 ⋆ a(n) = 6^n + 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2) for n>1. •

[A269878] • 1,6,11,48,61,158,183,368,409,710,771,1216,1301,1918,2031,2848,2993,4038,4219,5520,5741,7326,7591,9488,9801 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 43", based on the 5-celled von Neumann neighborhood. • a(n) = (3 * (3 + (- 1) ^ n) - 4 * (- 4 + 3 * (- 1) ^ n) * n + (21 - 9 * (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) / 12. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 + 2 * n + 6) / 6 for n even. • a(n) = (4 * n ^ 3 + 15 * n ^ 2 + 14 * n + 3) / 6 for n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>6. •

[A271093] • 1,6,11,51,56,168,173,389,394,746,751,1271,1276,1996,2001,2953,2958,4174,4179,5691,5696,7536,7541,9741,9746 ⋆ Partial sums of the number

of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 275", based on the 5-celled von Neumann neighborhood. • a(n) = (39 + 33 * (- 1) ^ n - 2 * (1 + 12 * (- 1) ^ n) * n - 12 * (- 2 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) / 12 for n>0. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 - 13 * n + 36) / 6 for n>0 and even. • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 11 * n + 3) / 6 for n>0 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>7. •

[A270166] • 1,6,11,52,64,173,189,386,426,747,807,1276,1360,2005,2117,2966,3110,4191,4371,5712,5932,7561,7825,9770,10082 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 107", based on the 5-celled von Neumann neighborhood. • a(n) = 1 / 12 * (- 9 * (23 + (- 1) ^ n) + (28 - 18 * (- 1) ^ n) * n - 9 * (- 3 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) for n>6. • a(n) = (4 * n ^ 3 + 9 * n ^ 2 + 5 * n - 108) / 6 for n>6 and even. • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 23 * n - 99) / 6 for n>6 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>13. •

[A152448] • 1,1,6,11,59,109,584,1079,5781,10681,57226,105731,566479,1046629,5607564,10360559,55509161,102558961,549484046,1015229051,5439331299,10049731549,53843828944,99482086439,532998958141 ⋆ a(0)=a(1)=1, a(2)=6, a(3)=11; a(n+4)=10*a(n+2)-a(n) • a(n) = (1 / 48 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 4 + 1 / 8 * 2 ^ (1 / 2)) * (sqrt(3) + sqrt(2)) ^ n + (- 1 / 48 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 4 - 1 / 8 * 2 ^ (1 / 2)) * (sqrt(3) - sqrt(2)) ^ n + (1 / 48 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 4 - 1 / 8 * 2 ^ (1 / 2)) * (- sqrt(3) - sqrt(2)) ^ n + (1 / 4 - 1 / 48 * 3 ^ (1 / 2) * 2 ^ (1 / 2) + 1 / 8 * 2 ^ (1 / 2)) * (- sqrt(3) + sqrt(2)) ^ n) •

[A080875] • 1,1,6,11,71,131,846,1561,10081,18601,120126,221651,1431431,2641211,17057046,31472881,203253121,375033361,2421980406,4468927451,28860511751,53252096051,343904160606,634556225161,4097989415521 ⋆ a(n)*a(n+3) - a(n+1)*a(n+2) = 5, given a(0)=a(1)=1, a(2)=6. • a(n + 4)=12 * a(n + 2) - a(n) [From _ Richard Choulet _ , Dec 04 2008] • a(n) = (0.25 + ((sqrt(6 + sqrt(35)) - sqrt(6 - sqrt(35))) / (4 * sqrt(35)))) * (sqrt(6 + sqrt(35))) ^ n + (0.25 + ((sqrt(6 + sqrt(35)) - sqrt(6 - sqrt(35))) / (4 * sqrt(35)))) * (sqrt(6 - sqrt(35))) ^ n + (0.25 - ((sqrt(6 + sqrt(35)) - sqrt(6 - sqrt(35))) / (4 * sqrt(35)))) * (- sqrt(6 + sqrt(35))) ^ n + (0.25 - ((sqrt(6 + sqrt(35)) - sqrt(6 - sqrt(35))) / (4 * sqrt(35)))) * (- (sqrt(6 - sqrt(35)))) ^ n [From _ Richard Choulet _ , Dec 06 2008] •

[A212592] • 1,6,11,106,201,2022,3843,38794,73745,744646,1415547,14293930,27172313,274381478,521590643,5266936010,10012281377,101102361990,192192442603,1940727511786,3689262580969,37253563629926,70817864678883,715107089849866 ⋆ a(n) is the difference between multiples of 7 with even and odd digit sum in base 6 in interval [0,6^n). • a(n) = 2a(n - 1) - a(n - 2) when n is odd; a(n) = (a(n + 1) + a(n - 1)) / 2 when n is even. - _ Bob Selcoe _ , Jun 10 2014 •

[A004758] • 6,12,13,24,25,26,27,48,49,50,51,52,53,54,55,96,97,98,99,100,101,102,103,104,105 ⋆ Binary expansion starts 110. • a(2n) = 2a(n), a(2n + 1) = 2 a(n) + 1 + 5[n==0]. • a(2 ^ m + k) = 6 * 2 ^ m + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 08 2016 •

[A079946] • 6,12,14,24,26,28,30,48,50,52,54,56,58,60,62,96,98,100,102,104,106,108,110,112,114 ⋆ Binary expansion of n has form 11**...*0. • a(n) = 2 ^ floor(log[2](4 * n)) + 2 * n. - Antonio G. Astudillo (afg _ astudillo(AT)hotmail.com), Feb 22 2003 • a(n) = (2 ^ (floor(log(n) / log(2)) + 1) + n) * 2. - _ Klaus Brockhaus _ , Feb 23 2003 • a(2n) = 2a(n), a(2n + 1) = 2a(n) + 2 + 4[n==0]. Twice A004755. - _ Ralf Stephan _ , Oct 12 2003 •

[A100715] • 6,12,18,20,24,28,30,36,40,42,48,54,56,60,72,80,84,90,96,100,108,112,120,126,140 ⋆ Pseudoperfect (or semiperfect) k-brilliant numbers for some k>1: some set of proper divisors of a(n) sums to a(n) and a(n) = p(1)p(2)...p(m) for primes all with the same number of digits. • a(n) is an element in the intersection of A005835 and A078972. a(n) in A005835 and a(n) is a semiprime with the same number of digits in each prime factor. •

[A008458] • 1,6,12,18,24,30,36,42,48,54,60,66,72,78,84,90,96,102,108,114,120,126,132,138,144 ⋆ Coordination sequence for hexagonal lattice. • a(n) = 0 ^ n + 6 * n. - _ Vincenzo Librandi _ , Aug 21 2011 •

[A008588] • 0,6,12,18,24,30,36,42,48,54,60,66,72,78,84,90,96,102,108,114,120,126,132,138,144 ⋆ Nonnegative multiples of 6. • a(n) = 6 * n = 2 * a(n - 1) - a(n - 2). G.f.: 6 * x / (1 - x) ^ 2. - _ Vincenzo Librandi _ , Dec 24 2010 • a(n) = Sum _{ k=2n - 1..2n + 1 } k. - _ Wesley Ivan Hurt _ , Nov 22 2015 •

[A187389] • 6,12,18,24,30,36,42,48,54,60,67,73,79,85,91,97,103,109,115,121,128,134,140,146,152 ⋆ Floor(r*n), where r=1+sqrt(7)+sqrt(6); complement of A187390. • a(n)=floor(r * n), where r=1 + sqrt(7) + sqrt(6). •

[A020333] • 6,12,18,24,130,156,182,208,234,260,286,312,338,364,390,416,442,468,494,520,546,572,598,624,3150 ⋆ Numbers n such that base 5 representation is the juxtaposition of two identical strings. • a(n) = n * 5 ^ floor(log _ 5(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[A038130] • 0,6,12,18,25,31,37,43,50,56,62,69,75,81,87,94,100,106,113,119,125,131,138,144,150 ⋆ Beatty sequence for 2*Pi. • a(n) = floor(n * 2 * Pi). •

[A187391] • 6,12,19,25,32,38,45,51,58,64,71,77,84,90,97,103,110,116,123,129,135,142,148,155,161 ⋆ Floor(r*n), where r=1+sqrt(8)+sqrt(7); complement of A187392. • a(n)=floor(r * n), where r=1 + sqrt(8) + sqrt(7). •

[A051936] • 1,6,12,19,27,36,46,57,69,82,96,111,127,144,162,181,201,222,244,267,291,316,342,369,397 ⋆ Truncated triangular numbers: a(n) = n*(n+1)/2 - 9. • a(n) = n + a(n - 1) for n>4, a(4)=1. - _ Vincenzo Librandi _ , Aug 06 2010 •

[A218438] • 1,1,1,6,12,19,48,110,218,470,1040,2208,4710,10184,21879,46879,100767,216570,464952,998613,2145312,4607724,9896436,21257196,45658624 ⋆ G.f.: 1 / ((1 + x^2 - x^3)^2 * (1 - x - 2*x^2 - x^3)). • a(0)=1, a(1)=1, a(2)=1, a(3)=6, a(4)=12, a(5)=19, a(6)=48, a(7)=110, a(8)=218, a(n)=a(n - 1) + 5 * a(n - 3) + a(n - 4) + a(n - 5) - 3 * a(n - 6) - 2 * a(n - 7) + a(n - 9). - _ Harvey P. Dale _ , Jan 23 2013 •

[A295904] • 6,12,20,32,52,88,156,288,548,1064,2092,4144,8244,16440,32828,65600,131140,262216,524364,1048656,2097236,4194392,8388700,16777312,33554532 ⋆ Number of (not necessarily maximum) cliques in the n-sun graph. • a(n) = 2 ^ n + 4 * n. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A216453] • 0,6,12,24,30,54,60,84,102,138,144,192,198,246,288,336,342,414,420,492,546,618,624,720,750 ⋆ Number of points hidden from the central point by a closer point in a hexagonal orchard of order n. • a(n) = 6 * (C(n + 1,2) - sum(i=1,n,phi(i))). - corrected by _ Piyush Kumar _ and _ Robert Israel _ , Aug 26 2014 •

[A249127] • 0,1,6,12,24,35,54,70,96,117,150,176,216,247,294,330,384,425,486,532,600,651,726,782,864 ⋆ a(n) = n * floor(3*n/2). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , Oct 22 2014 • a(n) = 3 / 2 * n ^ 2 + ((- 1) ^ n - 1) * n / 4. E.g.f.: ((3 / 2) * x ^ 2 + (5 / 4) * x) * exp(x) - (x / 4) * exp(- x). - _ Robert Israel _ , Oct 26 2014 •

[A210678] • 1,1,6,12,24,43,75,127,212,350,574,937,1525,2477,4018,6512,10548,17079,27647,44747,72416,117186,189626,306837,496489 ⋆ a(n)=a(n-1)+a(n-2)+n+2, a(0)=a(1)=1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: (1 - 2 * x + 5 * x ^ 2 - 3 * x ^ 3) / ((1 - x) ^ 2 * (1 - x - x ^ 2)). [_ Colin Barker _ , Jun 30 2012] •

[A082505] • 0,1,6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824 ⋆ a(n) = sum of (n-1)-th row terms of triangle A134059. • a(n) = (- 6 * n + 16) * a(n - 1) + 2 * Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 •

[A091629] • 6,12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824,50331648,100663296 ⋆ Product of digits associated with A091628(n). Essentially the same as A007283. • a(n) = 6 * 2 ^ (n - 1). a(n)=2 * a(n - 1), n>1, a(1)=6. G.f.: 6 * x / (1 - 2x). - _ Philippe Deléham _ , Nov 23 2008 •

[A202805] • 6,12,25,48,94,184,363,719,1430,2851,5691,11371,22728,45443,90870 ⋆ a(n) is the largest p in an n_nacci(p) sequence (Fibonacci(p) for n=2, Tribonacci(p) for n=3, etc.) such that n_nacci(p) >= 2^(p-n-1). • a(n)=(greatest term of n _ nacci(p)) >= 2 ^ (p - n - 1). •

[A180509] • 6,12,26,104,159,741,2267,10841,16890,80904,248750,1191812,1857147,8898105,27359639,131087885,204268686,978710052,3009310946,14418474944,22467697719,107649207021,330996843827,1585901155361,2471242479810 ⋆ Solutions a(n) of (a(n)-5)*(a(n)-6) = 21 *b(n)*(b(n)-1). • a(4 * n)=(22 + (1 + r) * s ^ n + (1 - r) * t ^ n)) / 4. • a(4 * n + 1)=(22 + (13 + 3 * r) * s ^ n + (13 - 3 * r) * t ^ n) / 4. • a(4 * n + 2)=(22 + (41 + 9 * r) * s ^ n + (41 - 9 * r) * t ^ n) / 4. • a(4 * n + 3)=(22 + (197 + 43 * r) * s ^ n + (197 - 43 * r) * t ^ n) / 4. • a(n)=111 * a(n - 4) - 111 * a(n - 8) + a(n - 12). •

[A057029] • 1,6,12,27,39,64,82,117,141,186,216,271,307,372,414,489,537,622,676,771,831,936,1002,1117,1189 ⋆ Central column of arrays in A057027 and A057028. • a(n) = C(2n - 1, 2) + (n + 1) / 2 if n is odd, else a(n) = C(2n, 2) - (n - 2) / 2. • a(n) = (5 - (- 1) ^ n + 2 * (- 4 + (- 1) ^ n) * n + 8 * n ^ 2) / 4. • a(n) = (4 * n ^ 2 - 3 * n + 2) / 2 for n even, a(n) = (4 * n ^ 2 - 5 * n + 3) / 2 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A146005] • 0,1,6,12,28,55,108,203,376,684,1230,2189,3864,6773,11802,20460,35312,60707,104004,177631,302540,513996,871266,1473817,2488368 ⋆ a(n) = n*Lucas(n). • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4). •

[A223346] • 6,12,28,60,140,300,700,1500,3500,7500,17500,37500,87500,187500,437500,937500,2187500,4687500,10937500,23437500,54687500,117187500,273437500,585937500,1367187500 ⋆ 3X3X3 triangular graph without horizontal edges coloring a rectangular array: number of nX1 0..5 arrays where 0..5 label nodes of a graph with edges 0,1 0,2 1,3 1,4 2,4 2,5 and every array movement to a horizontal or vertical neighbor moves along an edge of this graph • a(n) = 2 * 5 ^ (1 / 2 * (n - 3)) * (15 + 7 * sqrt(5) + (- 1) ^ n * (- 15 + 7 * sqrt(5))) for n>0, a(0)=6 •

[A036690] • 6,12,30,56,132,182,306,380,552,870,992,1406,1722,1892,2256,2862,3540,3782,4556,5112,5402,6320,6972,8010,9506 ⋆ Product of a prime and the following number. • a(n) = prime(n) * (prime(n) + 1). •

[A256579] • 6,12,30,60,84,168,330,546,660,1092,1224,1710,2448,3036,3420,6072,6090,7440,12180,12654,14880,17220,19866,25308,25944 ⋆ Integer areas of integer-sided triangles where at least one of the three altitudes is of prime length. • a(n) = (prime(n) ^ 3 - prime(n)) / 4 for the right triangles; • a(n) = (prime(n) ^ 3 - prime(n)) / 2 for the isosceles triangles. •

[A212976] • 0,6,12,36,60,114,168,264,360,510,660,876,1092,1386,1680,2064,2448,2934,3420,4020,4620,5346,6072,6936,7800 ⋆ Number of (w,x,y) with all terms in {0,...,n} and odd range. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A276601] • 1,6,12,37,71,216,414,1259,2413,7338,14064,42769,81971,249276,477762,1452887,2784601,8468046,16229844,49355389,94594463,287664288,551336934,1676630339,3213427141 ⋆ Values of n such that n^2 + 9 is a triangular number (A000217). • a(n) = 6 * a(n - 2) - a(n - 4) for n>4. •

[A060551] • 0,0,0,6,12,42,84,210,420,924,1860,3900,7800,15996,31992,64728,129528,260568,521136,1045464,2090928,4187952,8376240,16764720,33529440 ⋆ a(n) is the number of nonsymmetric patterns (no reflective, nor rotational symmetry) which may be formed by an equilateral triangular arrangement of closely

packed black and white cells satisfying the local matching rule of Pascal's triangle modulo 2, where n is the number of cells in each edge of the arrangement. The matching rule is such that any elementary top-down triangle of three neighboring cells in the arrangement contains either one or three white cells. • a(n) = 2 ^ n - 3 * 2 ^ ceiling(n / 2) - 2 ^ (floor(n / 3) + (n mod 3)mod 2) + 3 * 2 ^ (floor((n + 3) / 6) + d(n)), with d(n)=1 if n mod 6=1 else d(n)=0. •

[A129113] • 0,0,0,1,1,6,12,42,107,323,888,2568,7224,20629,58429,166230,471780,1340730,3807431,10816631,30722736,87272592,247895472,704164537,2000191753 ★ Expansion of x^3 / (1 - x - 5*x^2 - x^3 + x^4). • a(n) = a(n - 1) + 5 * a(n - 2) + a(n - 3) - a(n - 4). • a(n) = ((- b + c - e - g + i) * (1 + s + k) ^ (n - 1) + (b + d - f + h - j) * (1 - s + l) ^ (n - 1) + (b - d + f - h + j) * (1 - s - l) ^ (n - 1) + (- b - c + e + g - i) * (1 + s - k) ^ (n - 1)) / (5800 * 4 ^ (n - 1)), with b = 100 * s, c = 1015 * k, d = 145 * sqrt(10 * (7 + s)), e = 245 * sqrt(58 * (7 + s)), f = 75 * sqrt(290 * (7 + s)), g = 1914 * sqrt(119 + 22 * s), h = 98 * sqrt[(145 * (119 + 22 * s)), i = 382 * sqrt(3451 + 638 * s), j = 406 * sqrt(595 + 110 * s), k = sqrt(2 * (7 + s)), l = sqrt(2 * (7 - s)), s = sqrt(29). - _ Tim Monahan _ , Sep 09 2011; modified by _ Robert G. Wilson v _ , Sep 26 2011 •

[A120471] • 0,6,12,42,120,366,1092,3282,9840,29526,88572,265722,797160,2391486,7174452,21523362,64570080,193710246,581130732,1743392202,5230176600,15690529806,47071589412,141214768242,423644304720 ★ 6 *A015518(n). • a(0)=0, a(1)=6, a(n)=2a(n - 1) + 3a(n - 2) • a(n)= (3 / 2) * [3 ^ n - (- 1) ^ n], with n>=0 - _ Paolo P. Lava _ , Jun 10 2008 •

[A018809] • 0,0,6,12,48,108,248,428,764,1196,1900,2668,3824,5244,7248,9380,12192,15372,19528,24020,29732,36052,43808,51836,61636 ★ Number of lines through exactly 2 points of an n X n grid of points. • a(n) = (1 / 2) * (f(n, 3) - 2 f(n, 2) + f(n, 1)) where f(n, k) = Sum ((n - |kx|)(n - |ky|)); - n<kx<n, - n<ky<n, (x, y)=1. [_ Seppo Mustonen _ , Apr 18 2009] •

[A117866] • 6,12,54,96,390,684,2742,4800,19206,33612,134454,235296,941190,1647084,6588342,11529600,46118406,80707212,322828854,564950496,2259801990,3954653484,15818613942,27682574400,110730297606 ★ Number of palindromes (in base 7) below 7^n. • a(n) = 8 * 7 ^ ((n - 1) / 2) - 2 (n odd), 2 * 7 ^ (n / 2) - 2 (n even). • a(n) = a(n - 1) + 7 * a(n - 2) - 7 * a(n - 3). • a(n) = (1 / sqrt(7)) * (- 2 * sqrt(7) + 7 ^ ((n + 1) / 2) + (- 1) ^ n * 7 ^ ((n + 1) / 2) + 4 * 7 ^ (n / 2) - 4 * (- 1) ^ n * 7 ^ (n / 2)). •

[A290999] • 0,6,12,54,168,606,2052,7134,24528,84726,292092,1007814,3476088,11991246,41362932,142682094,492178848,1697768166,5856430572,20201701974,69685556808,240379623486,829187031012,2860272179454,9866479513968 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 6*S^2. • a(n) = 2 * a(n - 1) + 5 * a(n - 2) for n >= 3. • a(n) = 6 * A002532. • a(n) = sqrt(3 / 2) * ((1 + sqrt(6)) ^ n - (1 - sqrt(6)) ^ n). - _ Colin Barker _ , Aug 23 2017 •

[A107904] • 1,6,12,72,144,864,1728,10368,20736,124416,248832,1492992,2985984,17915904,35831808,214990848,429981696,2579890176,5159780352,30958682112,61917364224,371504185344,743008370688,4458050224128 ★ Expansion of (1+6x)/(1-12x^2). • a(n)=((1 + sqrt(3))(2sqrt(3)) ^ n + (1 - sqrt(3))(- 2sqrt(3)) ^ n) / 2. • a(2n) = 12 ^ n, a(2n + 1) = 6 * 12 ^ n. •

[A071930] • 0,6,12,72,240,1056,4032,16512,65280,262656,1047552,4196352,16773120,67117056,268419072,1073774592,4294901760,17180000256,68719214592,274878431232,1099510579200,4398048608256,17592181850112 ★ Number of words of length 2n in the two letters s and t that reduce to the identity 1 by using the relations ssTT=1, ststSS=1 and ststTT=1, where S and T are the inverses of s and t, respectively (i.e., sS=1 and tT=1). The generators s and t and the three stated relations generate the quaternion group Q4. • a(n) = 2 ^ (2n - 2) - (- 2) ^ (n - 1). • a(1)=0, a(2)=6, a(n) = 2 * a(n - 1) + 8 * a - (n - 2). - _ Harvey P. Dale _ , Dec 10 2012 •

[A054883] • 0,0,0,0,0,6,12,84,192,882,2220,8448,22704,78078,218988,710892,2048256,6430794,18837516,58008216,171619248,522598230,1555243404,4705481220,14051590080 ★ Number of walks of length n along the edges of a dodecahedron between two opposite vertices. • a(n) = (5 + 3 ^ n + (- 1) ^ n * 2 ^ (n + 2) - 3 * (1 + (- 1) ^ n) * sqrt(5) ^ n) / 20 for n>0. •

[A099767] • 1,6,12,100,180,2058,3584,52488,90000,1610510,2737152,57921708,97883968,2392031250,4026531840,111612119056,187339329792,5808378560022,9728000000000 ★ Number of n-digit palindromes in base n. • a(n) = (n - 1) * n ^ ([(n + 1) / 2] - 1) where [] is the greatest integer function •

[A191662] • 1,1,6,12,120,360,5040,20160,362880,1814400,39916800,239500800,6227020800,43589145600,1307674368000,10461394944000,355687428096000,3201186852864000,121645100408832000,1216451004088320000,51090942171709440000,5620003638888038400 00 ★ n! / A000034(n-1). • a(2 * n - 1) = (2 * n - 1)! , a(2 * n)= (2 * n)! / 2. •

[A164584] • 1,6,12,136,272,3168,6336,73856,147712,1721856,3443712,40142848,80285696,935878656,1871757312,21818802176,43637604352,508677193728,1017354387456,11859151814656,23718303629312,276480808452096 ★ Expansion of (1 + 6*x - 12*x^2 - 8*x^3)/(1 - 24*x^2 + 16*x^4). • a(n) = 2 ^ n * ((((3 + 2 * sqrt(2)) ^ ((n + 1) / 2) + (3 - 2 * sqrt(2)) ^ ((n + 1) / 2)) / 2)(1 - (- 1) ^ n) / 2 + (((3 + 2 * sqrt(2)) ^ (n / 2) + (3 - 2 * sqrt(2)) ^ (n / 2)) / 2)(1 + (- 1) ^ n) / 2). •

[A022388] • 6,13,19,32,51,83,134,217,351,568,919,1487,2406,3893,6299,10192,16491,26683,43174,69857,113031,182888,295919,478807,774726 ★ Fibonacci sequence beginning 6, 13. • a(n) = 6 * Fibonacci(n + 2) + Fibonacci(n) = 6 * Fibonacci(n - 1) + 13 * Fibonacci(n). - _ G. C. Greubel _ , Mar 02 2018 •

[A187393] • 6,13,20,27,34,40,47,54,61,68,75,81,88,95,102,109,116,122,129,136,143,150,157,163,170 ★ Floor(r*n), where r = 4 + sqrt(8); complement of A187394. • a(n) = floor(r * n), where r = 4 + sqrt(8). •

[A004919] • 0,6,13,20,27,34,41,47,54,61,68,75,82,89,95,102,109,116,123,130,137,143,150,157,164 ★ Floor of n*phi^4, where phi is the golden ratio, A001622. • a(n) = 2 * n + floor(3 * n * tau). •

[A056115] • 0,6,13,21,30,40,51,63,76,90,105,121,138,156,175,195,216,238,261,285,310,336,363,391,420 ★ a(n) = n*(n+11)/2. • a(n) = C(n,2) - 5 * n, for n>=11. - _ Zerinvary Lajos _ , Nov 25 2006 • a(n) = n + a(n - 1) + 5 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 6n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A028872] • 1,6,13,22,33,46,61,78,97,118,141,166,193,222,253,286,321,358,397,438,481,526,573,622,673 ★ a(n) = n^2 - 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) • a(n) = floor((n ^ 4 + 2 * n ^ 3) / (n ^ 2 + 1)). - _ Gary Detlefs _ , Feb 20 2010 • a(n) = a(n - 1) + 2 * n - 1 (with a(2)=1). - _ Vincenzo Librandi _ , Nov 18 2010 •

[A293504] • 0,1,6,13,23,35,51,69,91,115,141,171,204,239,277,318,362,409,458,511,566,624,684,748,815 ★ The integer k that minimizes |k/n^2 - sqrt(2)|. • a(n) = floor(1 / 2 + (n ^ 2) * sqrt(2)). •

[A194126] • 1,6,13,23,36,51,69,89,112,138,166,197,231,267,306,347,391,438,487,539,593,650,710,772,837 ★ -1+A088207. • a(n)= - 1 + sum(floor(j + j * r) : 1<=j<=n), where r=(1 + sqrt(5)) / 2, the golden ratio. •

[A032528] • 0,1,6,13,24,37,54,73,96,121,150,181,216,253,294,337,384,433,486,541,600,661,726,793,864 ★ Concentric hexagonal numbers: floor(3*n^2 / 2). • a(n) = (6 * n ^ 2 + (- 1) ^ n - 1) / 4. - _ Bruno Berselli _ , Aug 22 2011 •

[A131833] • 1,6,13,24,43,78,145,276,535,1050,2077,4128,8227,16422,32809,65580,131119,262194,524341,1048632,2097211,4194366,8388673,16777284,33554503 ★ 2^(n+1)-1+3*n. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A162432] • 1,6,13,25,39,52,81,97,129,154,187,234,250,321,337,406,468,493,579,613,699,766,811,918,979 ★ Row 3 of table A162430. • a(n) = Sum _{ m=n(n + 1) / 2..n(n + 1) / 2 + n } [x ^ m] S(x) ^ 3 for n>=0 where S(x) = Sum _{ n>=0 } x ^ (n(n + 1) / 2). •

[A192762] • 0,1,6,13,26,47,82,139,232,383,628,1025,1668,2709,4394,7121,11534,18675,30230,48927,79180,128131,207336,335493,542856 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined below in Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: x * (3 * x ^ 2 - 3 * x - 1) / ((x - 1) ^ 2 * (x ^ 2 + x - 1)). [_ Colin Barker _ , Dec 08 2012] •

[A086224] • 6,13,27,55,111,223,447,895,1791,3583,7167,14335,28671,57343,114687,229375,458751,917503,1835007,3670015,7340031,14680063,29360127,58720255,117440511 ★ 7*2^n-1. • a(n + 1) = 2 * a(n) + 1. •

[A086652] • 6,13,28,58,120,244,496,1000,2016,4048,8128,16288,32640,65344,130816,261760,523776,1047808,2096128,4192768,8386560,16774144,33550336,67102720,134209536 ★ a(n) = A000225(n+3)-A052955(n). • a(n) = 2 ^ (n + 3) - ((5 - (- 1) ^ n) / 2) * 2 ^ ((2 * n - 1 + (- 1) ^ n) / 4). - _ Luce ETIENNE _ , Sep 23 2014 •

[A159694] • 6,13,28,60,128,272,576,1216,2560,5376,11264,23552,49152,102400,212992,442368,917504,1900544,3932160,8126464,16777216,34603008,71303168,146800640,301989888 ★ a(0)=6, a(n) = 2*a(n-1) + 2^(n-1) for n>0 . • a(n) =Sum _{ k=0..n } (k + 6) * binomial(n,k). • a(n) = (6 + n / 2) * 2 ^ n. •

[A101622] • 0,1,6,13,30,61,126,253,510,1021,2046,4093,8190,16381,32766,65533,131070,262141,524286,1048573,2097150,4194301,8388606,16777213,33554430 ★ A Horadam-Jacobsthal sequence. • a(n) = (2 ^ (n + 2) + (- 1) ^ n - 5) / 2. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2. - _ Colin Barker _ , Mar 28 2017 • a(n) = (1 / 2) * Sum _{ k=1..n } C(n + 1,k) * (2 + (- 1) ^ k) . - _ Wesley Ivan Hurt _ , Sep 23 2017 •

[A256871] • 6,13,30,76,216,688,2400,8896,34176,133888,529920,2108416,8411136,33599488,134307840,537051136,2147844096,8590655488,34361180160,137441837056,549761581056,2199034789888,8796116090880,35184418226176,140737580630016 ★ a(n) = 2^(n-1)*(2^n+11). • a(n) = 6 * a(n - 1) - 8 * a(n - 2). - _ Colin Barker _ , Apr 26 2015 •

[A048693] • 1,6,13,32,77,186,449,1084,2617,6318,15253,36824,88901,214626,518153,1250932,3020017,7290966,17601949,42494864,102591677,247678218,597948113,1443574444,3485097001 ★ Generalized Pellian with 2nd term equal to 6. • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1, a(1)=6. •

[A114689] • 1,6,13,36,85,210,505,1224,2953,7134,17221,41580,100381,242346,585073,1412496,3410065,8232630,19875325,47983284,115841893,279667074,675176041,1630019160,3935214361 ★ Expansion of (-1-4*x+x^2)/((1-x)*(x+1)*(x^2+2*x-1)); a Pellian-related sequence. • a(n) = (- 1 - (- 1) ^ n + (3 * (- (1 - sqrt(2)) ^ (1 + n) + (1 + sqrt(2)) ^ (1 + n))) / (2 * sqrt(2))). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>3. •

[A041489] • 1,6,13,45,328,373,1447,1820,5087,6907,25808,32715,254813,797154,1849121,11891880,382389281,2306227566,4994844413,17290760805,1260301700048,143320930853,555992962607,699313893460,1954620749527 ★ Denominators of continued fraction convergents to sqrt(261). • a(n) = 384238402 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 18 2013] •

[A003757] • 0,1,1,6,13,49,132,433,1261,3942,11809,36289,109824,335425,1018849,3104934,9443629,28756657,87504516,266383153,810723277,2467770054,7510988353,22861948801,69584925696 ★ Number of perfect matchings (or domino tilings) in D_4 X P_(n-1). • a(n) = a(n - 1) + 6a(n - 2) + a(n - 3) - a(n - 4) , n>4. • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = (1 + sqrt(33)) / 4 and beta = (1 - sqrt(33)) / 4 and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 2; 1, 1 / 2]. • a(n) = U(n - 1,i * (1 + sqrt(3)) / sqrt(8)) * U(n - 1,i * (1 - sqrt(3)) / sqrt(8)), where U(n,x) denotes the Chebyshev polynomial of the second kind. •

[A041305] • 1,1,6,13,71,84,2087,2171,12942,28055,153217,181272,4503745,4685017,27928830,60542677,330642215,391184892,9719079623,10110264515,60270402198,130651068911,713525746753,844176815664,20973769322689 ⋆ Denominators of continued fraction convergents to sqrt(165). • a(n) = 2158 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 15 2013 •

[A144535] • 0,1,6,13,84,181,1170,2521,16296,35113,226974,489061,3161340,6811741,44031786,94875313,613283664,1321442641,8541939510,18405321661,118973869476,256353060613,1657092233154,3570537526921,23080317394680 ⋆ Numerators of continued fraction convergents to sqrt(3)/2. • a(n) = 14 * a(n - 2) - a(n - 4). G.f.: x * (1 + 6 * x - x ^ 2) / ((1 - 4 * x + x ^ 2) * (1 + 4 * x + x ^ 2)). - _ Colin Barker _ , Apr 14 2012 • a(n) = ((- (- 2 - sqrt(3)) ^ n * (- 3 + sqrt(3)) + (2 - sqrt(3)) ^ n * (- 3 + sqrt(3)) - (3 + sqrt(3)) * ((- 2 + sqrt(3)) ^ n - (2 + sqrt(3)) ^ n))) / (8 * sqrt(3)). - _ Colin Barker _ , Mar 27 2016 •

[A062316] • 6,14,22,30,38,42,46,54,62,66,70,78,86,94,102,110,114,118,126,134,138,142,150,154,158 ⋆ Neither the sum or difference of 2 squares. • a(n) == 2 (mod 4). Subsequence of A016825 (non - differences of squares). All first differences are either 4 or 8, each of which occurs infinitely often. - _ David W. Wilson _ , Mar 09 2005 •

[A017137] • 6,14,22,30,38,46,54,62,70,78,86,94,102,110,118,126,134,142,150,158,166,174,182,190,198 ⋆ a(n) = 8*n+6. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jun 07 2011 •

[A028557] • 0,6,14,24,36,50,66,84,104,126,150,176,204,234,266,300,336,374,414,456,500,546,594,644,696 ⋆ n(n+5). • a(n) = 2 * n + a(n - 1) + 4. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A104675] • 6,14,24,36,50,66,84,104,126,150,176,204,234,266,300,336,374,414,456,500,546,594,644,696,750 ⋆ a(n) = C(n+1,n) * C(n+6,1). • a(n) = 2 * n + a(n - 1) + 6 (with a(0)=6). _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A083657] • 1,6,14,24,37,54,74,96,121,150,182,216,254,295,338,384,434,487,542,600,662,727,794,865,939 ⋆ a(n)=sum(i=1,n,floor(r*floor(r*i))) where r=sqrt(3). • a(n) = (n / 2) * (3n - 1) + n / sqrt(3) + O(1). •

[A095794] • 1,6,14,25,39,56,76,99,125,154,186,221,259,300,344,391,441,494,550,609,671,736,804,875,949 ⋆ a(n) = A005449(n) - 1, where A005449 = second pentagonal numbers. • a(n) = (3 / 2) * n ^ 2 + (1 / 2) * n - 1. • a(n) = 3 * n + a(n - 1) - 1, for n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 16 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. • a(n) = Sum _{ i=n..2n } (i - 1). (End) •

[A293400] • 0,1,6,14,25,40,58,79,103,131,161,195,232,273,317,364,414,467,524,584,647,713,783,855,931 ⋆ Greatest integer k such that k/n^2 < (1 + sqrt(5))/2 (the golden ratio). • a(n) = floor(r * n ^ 2), where r = (1 + sqrt(5)) / 2. •

[A026055] • 6,14,25,40,59,84,114,150,192,242,299,364,437,520,612,714,826,950,1085,1232,1391,1564,1750,1950,2164 ⋆ a(n) = (d(n)-r(n))/2, where d = A026054 and r is the periodic sequence with fundamental period (1,0,0,0). • a(n) = - 0.125 - 0.125 * (- 1) ^ n - 0.25 * cos(n * Pi / 2) + (n + 2) * (n + 3) * (n + 13) / 12 [From _ Richard Choulet _ , Dec 13 2008] • a(n) = (n + 2) * (n + 3) * (n + 13) / 12 - 0.125 - 0.125 * (- 1) ^ n - 0.25 * cos(n * Pi / 2) [From _ Richard Choulet _ , Dec 13 2008] •

[A168648] • 1,6,14,26,54,106,214,426,854,1706,3414,6826,13654,27306,54614,109226,218454,436906,873814,1747626,3495254,6990506,13981014,27962026,55924054 ⋆ a(n) = (10*2^n + 2*(-1)^n)/3 for n > 0; a(0) = 1. • a(n) = a(n - 1) + 2 * a(n - 2) for n > 2; a(0) = 1, a(1) = 6, a(2) = 14. •

[A134067] • 1,6,14,30,62,126,254,510,1022,2046,4094,8190,16382,32766,65534,131070,262142,524286,1048574,2097150,4194302,8388606,16777214,33554430,67108862 ⋆ Row sums of triangle A134066. • a(n) = 2 ^ (2 + n) - 2 for n>0. a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>0. G.f.: - (2 * x ^ 2 - 3 * x - 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Mar 13 2014 •

[A273365] • 0,6,14,32,48,78,102,144,176,230,270,336,384,462,518,608,672,774,846,960,1040,1166,1254,1392,1488 ⋆ Numbers n such that 10*n+4 is a perfect square. • a(2n) = 10 * n ^ 2 + 4 * n, n>=0. • a(2n - 1) = 10 * n ^ 2 - 4 * n, n>=1. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). (End) •

[A271996] • 6,14,32,50,82,114,164,214,286,358,456,554,682,810,972,1134,1334,1534,1776,2018,2306,2594,2932,3270,3662 ⋆ The crystallogen sequence (a(n) = A018227(n)-4). • a(n) = (6 * (- 9 + (- 1) ^ n) + (25 + 3 * (- 1) ^ n) * n + 12 * n ^ 2 + 2 * n ^ 3) / 12. • a(n) = (n ^ 3 + 6 * n ^ 2 + 14 * n - 24) / 6 for n even. • a(n) = (n ^ 3 + 6 * n ^ 2 + 11 * n - 30) / 6 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>7. •

[A225972] • 0,0,1,6,14,32,55,94,140,208,285,390,506,656,819,1022,1240,1504,1785,2118,2470,2880,3311,3806,4324 ⋆ The number of binary pattern classes in the (2,n)-rectangular grid with 3 '1's and (2n-3) '0's: two patterns are in same class if one of them can be obtained by a reflection or 180-degree rotation of the other. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) with n>5, a(0)=0, a(1)=0, a(2)=1, a(3)=6, a(4)=14, a(5)=32. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 4 * (n - 4) * (- 1) ^ n with n>3, a(0)=0, a(1)=0, a(2)=1, a(3)=6. • a(n) = (1 / 4) * (binom(2(n - 1),3) + 2 * binom(n - 2,1) * (1 / 2) * (1 + (- 1) ^ n)). - _ Yosu Yurramendi _ and _ María Merino _ , Aug 21 2013 •

[A078836] • 6,14,32,72,160,352,768,1664,3584,7680,16384,34816,73728,155648,327680,688128,1441792,3014656,6291456,13107200,27262976,56623104,117440512,243269632,503316480 ⋆ a(n) = n*2^(n-6). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>7. •

[A269511] • 1,6,14,38,55,108,140,236,285,434,506,722,819,1112,1240,1624,1785,2270,2470,3070,3311,4036,4324,5188,5525 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 342", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 2 * a(n - 6) + 2 * a(n - 7) + a(n - 8) - a(n - 9) for n>8. •

[A182752] • 1,6,14,84,196,1176,2744,16464,38416,230496,537824,3226944,7529536,45177216,105413504,632481024,1475789056,8854734336,20661046784 ⋆ a(1) = 1, a(2) = 6, for n >= 3; a(n) = the smallest number greater than a(n-1) such that [[a(n-2) + a(n-1)] * [a(n-2) + a(n)] * [a(n-1) + a(n)]] / [a(n-2) * a(n-1) * a(n)] is an integer. • a(2n) = 6 * a(2n - 1), a(2n + 1) = 7 / 3 * a(2n). •

[A077401] • 0,6,14,104,231,1665,3689,26543,58800,423030,937118,6741944,14935095,107448081,238024409,1712427359,3793455456,27291389670,6045726289,4349498073 68,963522750855,6931905528225,15355906750793,110475538644239,244730985261840 ⋆ Second member of Diophantine pair (m,k) that satisfies 7*(m^2 + m) = k^2 + k; a(n) = k. • a(n) = 16 * a(n - 2) + a(n - 4) + 7, n>=4. •

[A187918] • 6,15,22,35,46,62,77,95,119,143,166,194,221,254,287,323,358,398,437,482,527,573,623,674,723 ⋆ Largest semiprime < n^2. • a(n) = MAX { k in A001358 and k < n ^ 2 } . •

[A122709] • 1,6,15,24,33,42,51,60,69,78,87,96,105,114,123,132,141,150,159,168,177,186,195,204,213 ⋆ a(0)=1; thereafter a(n) = 9*n-3. • a(0)=1, a(1)=6, a(2)=15, a(n)=2 * a(n - 1) - a(n - 2) for n>2. • a(0)=1, a(1)=6, a(n)=a(n - 1) + 9 for n>1. •

[A051940] • 6,15,25,36,48,61,75,90,106,123,141,160,180,201,223,246,270,295,321,348,376,405,435,466,498 ⋆ Truncated triangular numbers: n*(n+1)/2 - 3*t*(t+1)/2 with t=4. • a(n) = n + a(n - 1) with n>8, a(8)=6. - _ Vincenzo Librandi _ , Aug 06 2010 •

[A222170] • 0,1,6,15,26,41,60,81,106,135,166,201,240,281,326,375,426,481,540,601,666,735,806,881,960 ⋆ a(n) = n^2 + 2*floor(n^2/3). • a(n) = a(- n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5). • a(n) = floor(5 * n ^ 2 / 3). - _ Wesley Ivan Hurt _ , Mar 16 2015 •

[A140091] • 0,6,15,27,42,60,81,105,132,162,195,231,270,312,357,405,456,510,567,627,690,756,825,897,972 ⋆ a(n) = 3*n*(n + 3)/2. • a(n) = a(n - 1) + 3 * n + 3 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 24 2010 • a(0)=0, a(1)=6, a(2)=15, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 15 2015 •

[A255605] • 1,6,15,27,43,61,84,110,139,172,208,247,290,337,387,440,497,557,621,688,758,832,910,990,1075 ⋆ Integer part of the area of a pentagon with side length n. • a(n) = floor(5 * n ^ 2 / (4 * tan(Pi / 5))), n >= 1. •

[A171972] • 0,1,6,15,27,43,62,84,110,140,173,209,249,292,339,389,443,500,561,625,692,763,838,916,997 ⋆ Greatest integer k such that k/n^2 < sqrt(3). • a(n) = floor(n ^ 2 * sqrt(3)). •

[A000384] • 0,1,6,15,28,45,66,91,120,153,190,231,276,325,378,435,496,561,630,703,780,861,946,1035,1128 ⋆ Hexagonal numbers: n*(2*n-1). • a(n) = right term of M ^ n * [1,0,0], where M = the 3 X 3 matrix [1,0,0; 1,1,0; 1,4,1]. Example: a(5) = 45 since M ^ 5 * [1,0,0] = [1,5,45]. - _ Gary W. Adamson _ , Dec 24 2006 • a(n) ^ 2 + (a(n) + 1) ^ 2 + ... + (a(n) + n - 1) ^ 2 = (a(n) + n + 1) ^ 2 + ... + (a(n) + 2n - 1) ^ 2 + n ^ 2; e.g., 6 ^ 2 + 7 ^ 2 = 9 ^ 2 + 2 ^ 2; 28 ^ 2 + 29 ^ 2 + 30 ^ 2 + 31 ^ 2 = 33 ^ 2 + 34 ^ 2 + 35 ^ 2 + 4 ^ 2. - _ Charlie Marion _ , Nov 10 2007 • a(n) = binomial(n + 1,2) + 3 * binomial(n,2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(0)=0, a(1)=1, a(2)=6. - _ Jaume Oliver Lafont _ , Dec 02 2008 • a(n) = a(n - 1) + 4 * n - 3 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = 2 * a(n - 1) - a(n - 2) + 4. - _ Ant King _ , Aug 26 2011 •

[A134978] • 0,1,6,15,28,53,74,111,152,209,246,339,384,473,582,695,756,917,986,1175,1340,1493,1578,1855,2008 ⋆ Number of 2 X 2 singular integer matrices with entries from {2,...,n}. • a(n) << n ^ (2 + e) for all e > 0. - _ Charles R Greathouse IV _ , Jun 17 2013 •

[A005286] • 1,6,15,29,49,76,111,155,209,274,351,441,545,664,799,951,1121,1310,1519,1749,2001,2276,2575,2899,3249 ⋆ a(n) = (n + 3)*(n^2 + 6*n + 2)/6. • a(- 6 - n) = - a(n). - _ Michael Somos _ , May 12 2005 • a(0)=1, a(1)=6, a(2)=15, a(3)=29, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 07 2012 •

[A229063] • 0,1,6,15,29,50,80,120,171,235,313,407,517,646,795,965,1158,1374,1616,1885,2182,2509,2867,3258,3682 ⋆ Volume of the Johnson square pyramid (rounded down) with all the edge lengths equal to n. • a(n) = floor(n ^ 3 * sqrt(2) / 6) •

[A011886] • 0,0,0,1,6,15,30,52,84,126,180,247,330,429,546,682,840,1020,1224,1453,1710,1995,2310,2656,3036 ⋆ a(n) = floor(n*(n-1)*(n-2)/4). • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7). G.f.: x ^ 3 * (1 + 3 * x + 2 * x ^ 3) / ((- 1 + x) ^ 4 * (1 + x) * (x ^ 2 + 1)). - _ R. J. Mathar _ , Apr 15 2010 •

[A212251] • 0,0,1,6,15,30,54,87,131,189,261,349,456,582,729,900,1095,1316,1566,1845,2155,2499,2877,3291,3744 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 3w = x + y + z + n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A213779] • 1,6,15,33,58,97,146,214,295,400,521,671,840,1043,1268,1532,1821,2154,2515,2925,3366,3861,4390,4978,5603 ⋆ Principal diagonal of the convolution array A213778. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (16 * n ^ 3 + 30 * n ^ 2 + 2 * (3 * (- 1) ^ n + 7) * n + 3 * ((- 1) ^ n - 1)) / 48. • a(n) = (8 * n ^ 3 + 15 * n ^ 2 + 10

* n) / 24 for n even. • a(n) = (8 * n ^ 3 + 15 * n ^ 2 + 4 * n - 3) / 24 for n odd. •

[A083052] • 1,6,15,33,60,107,176,283,463,732,1156,1773,2702,4170,6333,9611,14365,21842,32281,48041,71690,106136,158196,232380,340846 ★ Main diagonal of table A083050. • a(n)=T(n, n), where T(n, 0)=floor(n * x / (x - 1)) + 1, T(n, k + 1)=ceil(x * T(n, k)), for n>=0, k>=0, with x=sqrt(2). •

[A120849] • 0,6,15,34,85,236,695,2094,6345,19216,58075,175154,527405,1586196,4766655,14316214,42981265,129009176,387158435,1161737274,3485735925,10458256156,31376865415,94134790334,282412759385 ★ 5n+3^n-2^n. • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 17 * a(n - 3) - 6 * a(n - 4). - _ Vincenzo Librandi _ , Feb 24 2013 •

[A074149] • 1,6,15,36,65,114,175,264,369,510,671,876,1105,1386,1695,2064,2465,2934,3439,4020,4641,5346,6095,6936,7825 ★ Sum of terms in each group in A074147. • a(2n - 1)=4n ^ 3 - 6n ^ 2 + 4n - 1, a(2n)=4n ^ 3 + 2n. a(n)=(n ^ 3 + n) / 2 if n odd, n ^ 3 / 2 + n if n even. a(n)=n ^ 3 / 2 + n(3 + (- 1) ^ n) / 4. - _ Franklin T. Adams - Watters _ , Jul 17 2006 •

[A177206] • 6,15,36,77,148,261,430,671,1002,1443,2016,2745,3656,4777,6138,7771,9710,11991,14652,17733,21276,25325,29926,35127,40978 ★ a(n) = 2*C(n+4,4)-1125 • a(n) = (n ^ 4 + 10n ^ 3 + 35n ^ 2 + 62n + 12) / 12; [From _ Gary Detlefs _ , Jun 06 2010] •

[A135854] • 1,6,15,36,85,198,455,1032,2313,5130,11275,24588,53261,114702,245775,524304,1114129,2359314,4980755,10485780,22020117,46137366,96469015,201326616,419430425 ★ a(n) = (n+1)*(2^n+1) for n>0 with a(0)=1. • a(0) = 1, a(n) = (n + 1) * (2 ^ n + 1), n>0. - _ L. Edson Jeffery _ , Jan 14 2014 •

[A221905] • 1,6,15,36,93,258,747,2208,6585,19710,59079,177180,531477,1594362,4783011,14348952,43046769,129140214,387420543,1162261524,3486784461,10460353266,31381059675,94143178896,282429536553 ★ 3^n + 3*n. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). •

[A277089] • 6,15,38,97,248,635,1626,4164,10664,27311,69945,179134,458775,1174956,3009148,7706648,19737289,50548641,129458768,331553377,849132458,2174690356,5569541124,14264002343,36531153701 ★ Pisot sequences L(6,15), S(6,15). • a(n) = ceiling(a(n - 1) ^ 2 / a(n - 2)), a(0) = 6, a(1) = 15. • a(n) = floor(a(n - 1) ^ 2 / a(n - 2) + 1), a(0) = 6, a(1) = 15. • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 4) + 2 * a(n - 6) - 2 * a(n - 7). (End) •

[A277237] • 1,6,15,39,99,255,651,1671,4275,10959,28059,71895,184131,471711,1208235,3095079,7928019,20308335,52020411,133253751,341335395,874350399,2239691979,5737093575,14695861491 ★ Number of strings of length n composed of symbols from the circular list [1,2,3,4,5,6] such that adjacent symbols in the string must be adjacent in the list. No runs of length 2 or more are allowed for symbols 1, 3 and 5. • a(n) = 3 * ((13 + 3 * sqrt(17)) * z1 ^ n - (13 - 3 * sqrt(17)) * z2 ^ n) / (8 * sqrt(17)), where z1=(1 + sqrt(17)) / 2 and z2=(1 - sqrt(17)) / 2. •

[A114696] • 1,6,15,40,97,238,575,1392,3361,8118,19599,47320,114241,275806,665855,1607520,3880897,9369318,22619535,54608392,131836321,318281038,768398399,1855077840,4478554081 ★ Expansion of (1+4*x+x^2)/((x-1)*(x+1)*(x^2-4*x-1)); a Pellian-related sequence. • a(0)=1, a(1)=6, a(2)=15, a(3)=40, a(n)=2 * a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 23 2014 • a(n) = (- 3 - (- 1) ^ n + (3 - 2 * sqrt(2)) * (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n * (3 + 2 * sqrt(2))) / 2. - _ Colin Barker _ , May 26 2016 •

[A106368] • 6,15,40,165,624,2635,11160,48915,217040,976887,4438920,20346485,93900240,435970995,2034505656,9536767665,44878791360,211927736135,1003867701480,4768372070757,22706531350480,108372083629275 ★ Necklaces with n beads of 6 colors, no 2 adjacent beads the same color. • a(n) = (1 / n) * Sum _{ d | n } totient(n / d) * (5 * (- 1) ^ d + 5 ^ d) for n > 1. - _ Andrew Howroyd _ , Mar 12 2017 •

[A193449] • 0,1,6,15,44,105,258,595,1368,3069,6830,15015,32772,70993,152922,327675,699056,1485477,3145734,6640975,13981020,29360121,61516466,128625315,268435464 ★ Products of the Jacobsthal numbers and the integers: a(n) = n * A001045(n+1). • a(n) = n * (2 ^ (n + 1) + (- 1) ^ n) / 3 • a(n)= sum (sum((- 1) ^ (j + k) * (j + k) * C(n - k + j,j), j=0..k), k=0..n) • a(n)= sum (n * C(n, k) * 2F1((1, - k); - n)(- 1), k=0..n) • a(n)=sum(sum((- 1) ^ j * n * C(n - j,k - j), j=0..k), k=0..n) • a(n)= sum((1 + 2 * k) * C(n + 1, k + 1) * 2F1((1, n + 2); k + 2)(- 1) - C(n + 2, k + 2) 2F1((2, n + 3); k + 3)(- 1) - (- 1) ^ (k) * 2 ^ (k - n - 2) * (n - 3 * k + 1) , k=0..n) •

[A182420] • 0,1,6,15,44,205,1218,8547,68440,615897,6158910,67747911,812974980,10568674805,147961447354,2219421710235,35510747363504,603682705179313,10866288693227382,206459485171319935,4129189703426398300,86712983771954363901 ★ a(0)=0, a(n) = (a(n-1) XOR n) * n. • a(0)=0, a(n) = (a(n - 1) XOR n) * n, where XOR is the bitwise exclusive - OR operator. •

[A095122] • 0,1,1,6,15,45,120,325,861,2278,5995,15753,41328,108345,283881,743590,1947351,5099221,13351528,34957341,91523685,239618886,627341331,1642418641,4299936480 ★ Fib(n)(2Fib(n)-1). • a(n)=2(Fib(2n - 1) + Fib(2n + 1)) / 5 - Fib(n) + 4(- 1) ^ n / 5; • a(n)=2L(2n) / 5 - Fib(n) + 4(- 1) ^ n / 5; • a(0)=0, a(1)=1, a(2)=1, a(3)=6, a(4)=15, a(n)=3 * a(n - 1) + a(n - 2) - 5 * a(n - 3) - a(n - 4) + a(n - 5) [From Harvey P. Dale, Jan 14 2012] •

[A270455] • 1,6,15,48,73,158,207,368,449,710,831,1216,1385,1918,2143,2848,3137,4038,4399,5520,5961,7326,7855,9488,10113 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 163", based on the 5-celled von Neumann neighborhood. • a(n) = (3 * (3 + (- 1) ^ n) + (22 - 6 * (- 1) ^ n) * n - 6 * (- 4 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) / 12. • a(n) = (4 * n ^ 3 + 9 * n ^ 2 + 8 * n + 6) / 6 for n even. • a(n) = (4 * n ^ 3 + 15 * n ^ 2 + 14 * n + 3) / 6 for n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>6. •

[A122365] • 0,1,1,6,15,53,160,517,1621,5150,16267,51513,162944,515673,1631609,5162966,16336695,51693645,163571104,517580093,1637750957,5182251182,16397926099,51887105969,164183665152 ★ The (1,6)-entry of the matrix M^n, where M is the 6 X 6 matrix {{1, 1, 1, 1, 1, 1},{1, 0, 0, 0, 1, 0},{1, 0, 0, 1, 0, 0},{1, 0, 1, 0, 0, 0},{1, 1, 0, 0, 0, 0}, {1, 0, 0, 0, 0, 0}}. • a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 3 * a(n - 3) - 4 * a(n - 4) + a(n - 5); a(0)=0, a(1)=1, a(2)=1,a(3)=6,a(4)=15 (follows from the minimal polynomial of M). • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - a(n - 3) for n>2. •

[A069750] • 1,6,15,63,157,633,1578,6334,15786,63344,157866,633445,1578667,6334455,15786676,63344554,157866766,633445544,1578667666,6334455446,15786676667,63344554464,157866766678,633445544643,1578667666788 ★ a(1)=1; a(n+1) is the smallest integer such 1/a(n+1)=0,0...00a(n)xxxxx... • a(1)=1; floor(10 ^ (n - 1) / a(n + 1))=a(n) •

[A233450] • 0,1,6,15,64,153,638,1519,6320,15041,62566,148895,619344,1473913,6130878,14590239,60689440,144428481,600763526,1429694575,5946945824,14152517273,58868694718,140095478159,582740001360 ★ Numbers n such that 3*T(n)+1 is a square, where T = A000217. • a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5) for n>5, a(1)=0, a(2)=1, a(3)=6, a(4)=15, a(5)=64. • a(n) = - 1 / 2 + ((- 3 * (- 1) ^ n + 2 * sqrt(6)) * (5 + 2 * sqrt(6)) ^ floor(n / 2) - (3 * (- 1) ^ n + 2 * sqrt(6)) * (5 - 2 * sqrt(6)) ^ floor(n / 2)) / 12. •

[A032164] • 1,6,15,70,315,1554,7735,39990,209790,1119720,6045837,32981550,181394535,1004668770,5597420295,31345665106,176319264240,995685849690,5642219252460,32071565263710,182807918979777 ★ Number of aperiodic necklaces of n beads of 6 colors; dimensions of free Lie algebras. • a(n) = Sum _{ d|n } mu(d) * 6 ^ (n / d) / n, for n>0. •

[A220360] • 0,6,15,80,312,1365,5712,24310,102795,435744,1845360,7817849,33115680,140282310,594242103,2517255280,10663255848,45170290605,191344398960,810547917686,3433536019155,14544692076096,61612304191200,260993909055025,1105587940064832 ★ a(n) = Fibonacci(n-1) * Fibonacci(n+1) * Fibonacci(n+2). • a(n) = 4 * (- 1) ^ n * F(n - 1) / 5 + (- 1) ^ n * F(n) + F(3 * n + 2) / 5 with F=A000045. - _ Ehren Metcalfe _ , Mar 26 2016 •

[A133472] • 6,15,105,1005,10005,100005,1000005,10000005,100000005,1000000005,10000000005,100000000005,1000000000005,10000000000005,100000000000005,1000000000000005,10000000000000005,100000000000000005 ★ 6 followed by numbers with n-1 0's between 1 and 5. • a(n)=10 ^ (n - 1) + 5, with n>=1 - _ Paolo P. Lava _ , Dec 19 2007 • a(n) = 10 ^ n + 5; [From Vincenzo Librandi, Aug 10 2011] •

[A104392] • 6,16,20,36,40,50,71,75,85,105,127,131,141,161,196,211,215,225,245,280,331,335,336,345,365 ★ Sums of 2 distinct positive pentatope numbers (A000332). • a(n) = Ptop(i) + Ptop(j) for some positive i= / =j and Ptop(n) = binomial(n + 3,4). •

[A087446] • 1,6,16,21,31,36,46,51,61,66,76,81,91,96,106,111,121,126,136,141,151,156,166,171,181 ★ Numbers that are congruent to {1, 6} mod 15. • a(n) = 15 * n - a(n - 1) - 23 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A017341] • 6,16,26,36,46,56,66,76,86,96,106,116,126,136,146,156,166,176,186,196,206,216,226,236,246 ★ 10n+6. • a(n) = 2 * a(n - 1) - a(n - 2) with n>1, a(0)=6, a(1)=16. - _ Vincenzo Librandi _ , May 29 2011 •

[A212905] • 1,6,16,26,42,58,82,106,140,174,220,266,326,386,462,538,632,726,840,954,1090,1226,1386,1546,1732 ★ Number of (w,x,y,z) with all terms in {0,...,n} and |w-x|+|x-y+|y-z|=2n. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>=1. •

[A264938] • 0,1,6,16,29,46,68,93,122,156,193,234,280,329,382,440,501,566,636,709,786,868,953,1042,1136 ★ a(n) = n*(2*n-1) + floor(n/3). • a(n) = a(n - 3) + 12 * n - 20 for n>2. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>4. • a(n + 30 * k + 8) - a(n - 30 * k - 7) = 20 * (4 * k + 1) * (3 * n + 1). • a(n + 30 * k + 16) - a(n - 30 * k - 14) = 20 * (2 * k + 1) * (6 * n + 5). • a(n + 30 * k + 24) - a(n - 30 * k - 21) = 20 * (4 * k + 3) * (3 * n + 4). • a(n + 30 * k + 32) - a(n - 30 * k - 28) = 20 * (2 * k + 2) * (6 * n + 11). •

[A054000] • 0,6,16,30,48,70,96,126,160,198,240,286,336,390,448,510,576,646,720,798,880,966,1056,1150,1248 ★ a(n) = 2*n^2 - 2. • a(n) = 4 * n + a(n - 1) - 2, with n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(1)=0, a(2)=6, a(3)=16, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 03 2012 • a(n) = (n + i) ^ 2 + (n - i) ^ 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Jan 23 2014 •

[A102214] • 1,6,16,30,49,72,100,132,169,210,256,306,361,420,484,552,625,702,784,870,961,1056,1156,1260,1369 ★ Expansion of (1+4*x+4*x^2)/((1+x)*(1-x)^3). • a(n) = floor((3 * n + 2) / 2) * ceiling((3 * n + 2) / 2). - Marcus Schmidt (marcus - schmidt(AT)gmx.net), Jan 13 2006 • a(n) = (6 * n * (3 * n + 4) + (- 1) ^ n + 7) / 8. - Bruno Berselli, Oct 25 2011 •

[A005891] • 1,6,16,31,51,76,106,141,181,226,276,331,391,456,526,601,681,766,856,951,1051,1156,1266,1381,1501 ★ Centered pentagonal numbers: (5n^2+5n+2)/2; crystal ball sequence for 3.3.3.4.4. planar net. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(0)=1, a(1)=6, a(2)=16. - _ Jaume Oliver Lafont _ , Dec 02 2008 • a(n) = a(n - 1) + 5 * n, with a(0)=1. - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = 2 * a(n - 1) - a(n - 2) + 5. - _ Ant King _ , Jun 12 2012 •

[A092286] • 0,6,16,31,52,80,116,161,216,282,360,451,556,676,812,965,1136,1326,1536,1767,2020,2296,2596,2921,3272 ★ Fourth diagonal (m=3) of triangle A084938; a(n) = A084938(n+3,n) = (n^3 + 9*n^2 + 26*n)/6. • a(n) = 1 / 2 * sum _{ k=1..n } (k + 3)(k + 2). • a(n) = 1 / 6 * n * (n ^ 2 + 9n + 26). (End) •

[A276917] • 1,6,16,31,71,106,236,311,711,866,2076,2391,6031,6666,17596,18871,51671,54226,152636,157751,452991,463226,1348956,1369431,4026631 ⋆ Numbers obtained by alternatively adding centered pentagonal layers of 5*(2^n-1) and 5*(3^n-1) elements. • a(n) = 5 * (Sum _{ i=0..((n + (n mod 2)) / 2) } 2 ^ i + Sum _{ j=0..((n - (n mod 2)) / 2) } 3 ^ j) - 5 * n - 9. • a(n) = a(n - 1) + 5 * ((2 + ((n + 1) mod 2)) ^ ((n + (n mod 2)) / 2) - 1) for n>0. • a(n) = (- 10 * n + 5 * 3 ^ (n / 2 + 1) + 5 * 2 ^ (n / 2 + 2) - 33) / 2 for n even. • a(n) = (- 10 * n + 5 * 3 ^ (n / 2 + 1 / 2) + 5 * 2 ^ (n / 2 + 5 / 2) - 33) / 2 for n odd. •

[A134465] • 1,6,16,32,55,86,126,176,237,310,396,496,611,742,890,1056,1241,1446,1672,1920,2191,2486,2806,3152,3525 ⋆ Row sums of triangle A134464. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 29 2012 •

[A131949] • 1,6,16,32,56,92,148,240,400,692,1244,2312,4408,8556,16804,33248,66080,131684,262828,525048,1049416,2098076,4195316,8389712,16778416 ⋆ Row sums of triangle A131948. • a(n) = 2 ^ n + 2 * n + 2 * n ^ 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n > 3. •

[A171494] • 6,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432,67108864,134217728 ⋆ a(n) = 2*a(n-1) for n > 1; a(0) = 6, a(1) = 16. • a(n) = 2 ^ (n + 3) for n > 0; a(0) = 6. •

[A236773] • 0,1,6,16,33,59,96,145,210,292,393,515,660,829,1026,1252,1509,1799,2124,2485,2886,3328,3813,4343,4920 ⋆ a(n) = n + floor(n^2/2 + n^3/3). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 6) - 3 * a(n - 7) + 3 * a(n - 8) - a(n - 9). • a(6h) = 6 * h * (12 * h ^ 2 + 3 * h + 1), • a(6h + 1) = 72 * h ^ 3 + 54 * h ^ 2 + 18 * h + 1, • a(6h + 2) = 6 * (4 * h + 1) * (3 * h ^ 2 + 3 * h + 1), • a(6h + 3) = 2 * (36 * h ^ 3 + 63 * h ^ 2 + 39 * h + 8), • a(6h + 4) = 3 * (24 * h ^ 3 + 54 * h ^ 2 + 42 * h + 11), •

[A131820] • 1,6,16,33,59,96,146,211,293,394,516,661,831,1028,1254,1511,1801,2126,2488,2889,3331,3816,4346,4923,5549 ⋆ Row sums of triangle A131819. • a(n) = n ^ 3 / 3 + n ^ 2 / 2 + 7 / 6 * n - 1. • a(n) = - 1 + Sum _{ k=1..n } (k ^ 2 + 1). • a(n) = (2n ^ 3 + 3n ^ 2 + 7n - 6) / 6, n>0. [_ Gary Detlefs _ , Jun 30 2010] • a(n) = n ^ 2 + a(n - 1) + 1, n>1. [_ Gary Detlefs _ , Jun 29 2010] •

[A083053] • 1,6,16,35,66,114,185,290,443,661,976,1425,2064,2972,4259,6083,8667,12327,17506,24834,35203,49869,70615,99959,141462 ⋆ Antidiagonal sums of table A083050. • a(n) = Sum _{ k=0..n } T(k,n - k), where T(n,0) = floor (n * x / (x - 1)) + 1, T(n,k + 1) = ceiling(x * T(n,k)), for n>=0, k>=0, with x = sqrt(2). •

[A083046] • 1,6,16,35,67,118,197,319,506,789,1215,1860,2830,4290,6481,9771,14708,22120,33239,49921,74946,112490,168807,253286,380008 ⋆ Antidiagonal sums of table A083044. • a(n) = Sum _{ k=0..n } T(k, n - k), where T(n, 0) = floor(n * x / (x - 1)) + 1, T(n, k + 1) = ceiling(x * T(n, k)), for n>=0, k>=0, with x=3 / 2. •

[A178465] • 0,0,6,16,36,66,114,176,264,370,510,672,876,1106,1386,1696,2064,2466,2934,3440,4020,4642,5346,6096,6936 ⋆ Expansion of -2*x^2*(-3-2*x+x^2-x^3-2*x^4+x^5) / ((1+x)^2*(x-1)^4). • a(n) = (2 - 2 * (- 1) ^ n + (3 + (- 1) ^ n) * n + 2 * n ^ 3) / 4 for n>1. [_ Colin Barker _ , Feb 18 2013] •

[A247619] • 1,6,16,36,66,116,186,296,446,676,986,1456,2086,3036,4306,6216,8766,12596,17706,25376,35606,50956,71426,102136,143086 ⋆ Start with a single pentagon; at n-th generation add a pentagon at each expandable vertex; a(n) is the sum of all label values at n-th generation. (See comment for construction rules.) • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). G.f.: - (2 * x ^ 3 + 3 * x ^ 2 + 4 * x + 1) / ((x - 1) ^ 2 * (2 * x ^ 2 - 1)). - _ Colin Barker _ , Sep 21 2014 •

[A171373] • 1,6,16,36,76,152,292,552,1052,2052,4104,8344,17044,34664,69904,139808,278108,552268,1098148,2189908,4379816,8776356,17596496,35263836,70598516 ⋆ Binomial transform of A171372. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + 2 * a(n - 5). •

[A048487] • 1,6,16,36,76,156,316,636,1276,2556,5116,10236,20476,40956,81916,163836,327676,655356,1310716,2621436,5242876,10485756,20971516,41943036,83886076 ⋆ a(n) = T(4,n), array T given by A048483. • a(n) = 5 * 2 ^ n - 4 . - _ Henry Bottomley _ , May 29 2001 • a(n) = 2 * a(n - 1) + 4, n>0, a(0)=1. - _ Paul Barry _ , Aug 25 2004 • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: (1 + 3 * x) / ((1 - x) * (1 - 2 * x)). - _ Colin Barker _ , Sep 13 2012 •

[A124699] • 1,6,16,36,92,236,622,1658,4468,12132,33146,90998,250802,693426,1922118,5339006,14854932,41387764,115438672,322267784,900314242,2516648618,7038066876,19690060024,55102545322 ⋆ Number of base 6 circular n-digit numbers with adjacent digits differing by 1 or less. • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 9 * a(n - 4) - 2 * a(n - 5) - a(n - 6) for n>6. •

[A064602] • 1,6,16,37,63,113,163,248,339,469,591,801,971,1221,1481,1822,2112,2567,2929,3475,3975,4585,5115,5965,6616 ⋆ Partial sums of A001157: sum of sigma_2(j), j=1..n. • a(n) = Sum(i=1..n, i ^ 2 * floor(n / i)). - _ Enrique Pérez Herrero _ , Sep 15 2012 •

[A160255] • 0,1,6,16,40,63,126,176,270,365,550,624,936,1099,1350,1664,2176,2349,3078,3280,3948,4631,5566,5712,7000 ⋆ The sum of all the entries in an n x n Cayley table for multiplication in Z_n. • a(n)= Sigma(i=1 to n - 1) (n * (gcd(n,i)) / 2) * ((n / (gcd(n,i)) - 1). •

[A213667] • 1,6,16,40,98,238,576,1392,3362,8118,19600,47320,114242,275806,665856,1607520,3880898,9369318,22619536,54608392,131836322,318281038,768398400,1855077840,4478554082 ⋆ Number of dominating subsets with k vertices in all the graphs G(n) (n>=1) obtained by taking n copies of the path P_3 and identifying one of their endpoints (a star with n branches of length 2). • a(1)=1, a(2)=6, a(3)=16, a(n) = 2 * a(n - 1) + a(n - 2) + 2 for n>=4. • a(n) = (- 2 + (1 - sqrt(2)) ^ (1 + n) + (1 + sqrt(2)) ^ (1 + n)) / 2 for n>1 . - _ Colin Barker _ , Mar 16 2016 •

[A283960] • 1,1,1,1,1,1,6,16,41,106,276,2101,6026,15976,41901,109726,835906,2397991,6358066,16676206,43670551,332688201,954394051,2530493951,6637087801 ⋆ a(n) = (Sum_{j=1..h-1} a(n-j) + a(n-1)*a(n-h+1))/a(n-h) with a(1), ..., a(h)=1, where h = 6. • a(5 * k - 2) = 3 * a(5 * k - 3) - a(5 * k - 4) - 1, • a(5 * k - 1) = 3 * a(5 * k - 2) - a(5 * k - 3) - 1, • a(5 * k) = 3 * a(5 * k - 1) - a(5 * k - 2) - 1, • a(5 * k + 1) = 3 * a(5 * k) - a(5 * k - 1) - 1, • a(5 * k + 2) = 8 * a(5 * k + 1) - a(5 * k) - 1. •

[A283330] • 1,1,1,1,1,6,16,41,106,806,2311,6126,16066,122401,351136,931006,2441881,18604041,53370241,141506681,371149801,2827691726,8111925376,21508084401,56412327826 ⋆ a(n) = (1 + Sum_{j=1..K-1} a(n-j) + a(n-1)*a(n-K+1))/a(n-K) with a(1),...,a(K)=1, where K=5. • a(4 * n - 1) = 3 * a(4 * n - 2) - a(4 * n - 3) - 1, • a(4 * n) = 3 * a(4 * n - 1) - a(4 * n - 2) - 1, • a(4 * n + 1) = 3 * a(4 * n) - a(4 * n - 1) - 1, • a(4 * n + 2) = 8 * a(4 * n + 1) - a(4 * n) - 1. (End) •

[A175659] • 1,6,16,52,156,476,1436,4332,13036,39196,117756,353612,1061516,3185916,9560476,28686892,86071596,258236636,774753596,2324348172,6973219276,20920007356,62760721116,188283561452,564853480556 ⋆ Eight bishops and one elephant on a 3 X 3 chessboard: a(n)= (3^(n+1)-Jacobsthal(n+1))-(3^n-Jacobsthal(n)), with Jacobsthal=A001045. • a(n) = 4 * a(n - 1) - a(n - 2) - 6 * a(n - 3) with a(0)=1, a(1)=6 and a(2)=16. • a(n) = (- 2 * (- 1) ^ n) / 3 - 2 ^ n / 3 + 2 * 3 ^ n. [_ Colin Barker _ , Oct 07 2012] •

[A032282] • 1,1,6,16,56,147,392,912,2052,4262,8524,16159,29624,52234,89544,148976,242086,384111,597506,911456,1367184,2017509,2934559,4209504,5963464 ⋆ Number of bracelets (turn over necklaces) of n beads of 2 colors, 11 of them black. • a(n) = 5 * s(n,0,11) / 11 + (3840 * C(n - 1,10) + 11 * (n - 2) * (n - 4) * (n - 6)(n - 8) * (n - 10)) / 84480, if n is even; • a(n) = 5 * s(n,0,11) / 11 + (3840 * C(n - 1,10) + 11 * (n - 1) * (n - 3) * (n - 5) * (n - 7) * (n - 9)) / 84480, if n is odd. •

[A084057] • 1,1,6,16,56,176,576,1856,6016,19456,62976,203776,659456,2134016,6905856,22347776,72318976,234029056,757334016,2450784256,7930904576,25664946176,83053510656,268766806016,869747654656 ⋆ a(n) = 2*a(n-1)+4*a(n-2), a(0)=1, a(1)=1. • a(n) = ((1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n) / 2. • a(2n + 1) = 2 * a(n) * a(n + 1) - (- 4) ^ n. - Mario Catalani (mario.catalani(AT)unito.it), Jun 13 2003 • a(n) = sum { k=0..floor(n / 2), binomial(n, 2k)5 ^ k } . - _ Paul Barry _ , Jul 25 2004 •

[A142704] • 0,1,1,6,16,70,264,1204,5344,26424,130960,698896,3777216,21576256,125331136,760604160,4701036544,30121800064,196619065344,1323267791104,9069634616320,63835247970816,457287705926656 ⋆ A generalized factorial level recursion of a Padovan type: a(n) = b(n)*(a(n-2) + a(n-3)) with b(n) = b(n-1) + k and k=2. • a(n) = b(n) * (a(n - 2) + a(n - 3)) with b(n) = b(n - 1) + k and k = 2. • a(n) = 2 * n * (a(n - 2) + a(n - 3)) with a(0) = 0, a(1) = a(2) = 1 [Johannes W. Meijer, Jul 27 2011] •

[A083885] • 1,1,6,16,72,256,1056,4096,16512,65536,262656,1048576,4196352,16777216,67117056,268435456,1073774592,4294967296,17180000256,68719476736,274878431232,1099511627776,4398048608256,17592186044416,70368752566272 ⋆ (4^n+2^n+0^n+(-2)^n)/4 • a(n) = (4 ^ n + 2 ^ n + 0 ^ n + (- 2) ^ n) / 4. • a(0)=1, a(1)=1, a(2)=6, a(3)=16, a(n)=4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3) [From _ Harvey P. Dale _ , Dec 12 2011] •

[A091148] • 1,1,6,16,81,301,1451,6231,29891,137731,666976,3193026,15658831,76719891,380788006,1894818776,9502977851,47822585931,241944876266,1228151169656,6258922649451,31992657321551,164040821525031 ⋆ Expansion of (1-x-sqrt(1-2x-19x^2))/(10x^2). • a(n) = sum { k=0..n, C(n, 2k)C(k)5 ^ k } ; - _ Paul Barry _ , May 16 2005 •

[A266180] • 1,6,16,96,256,1536,4096,24576,65536,393216,1048576,6291456,16777216,100663296,268435456,1610612736,4294967296,25769803776,68719476736,412316860416,1099511627776,6597069766656,17592186044416,105553116266496,281474976710656 ⋆ Decimal representation of the n-th iteration of the "Rule 6" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 4 ^ (n - 1) * (5 - (- 1) ^ n). • a(n) = 16 * a(n - 2) for n>1. •

[A115331] • 1,1,6,16,106,426,3076,15856,123516,757756,6315976,44203776,391582456,3043809016,28496668656,241563299776,2378813448976,21703877431056,223903020594016,2177251989389056,23448038945820576,241173237884726176 ⋆ E.g.f.: exp(x+5/2*x^2). • a(n) = n! * Sum _{ k=0..floor(n / 2) } 5 ^ k / (2 ^ k * k! * (n - 2 * k)!). - _ Luis Manuel Rivera Martínez _ , Feb 26 2015 •

[A173737] • 6,16,116,1116,11116,111116,1111116,11111116,111111116,1111111116,11111111116,111111111116,1111111111116,11111111111116,111111111111116,1111111111111116,11111111111111116 ⋆ (10^n+44)/9 for n>0. • a(n) = a(n - 1) + 10 ^ (n - 1) = 10 * a(n - 1) - 44 with n>0, a(0)=5. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) with a(0)=5, a(1)=6. - _ Vincenzo Librandi _ , Jul 05 2012 •

[A152663] • 1,1,6,16,120,540,5040,32256,362880,3024000,39916800,410572800,6227020800,76281004800,1307674368000,18598035456000,355687428096000,5762136335155200,121645100408832000,2211729098342400000 ⋆ Number of leading odd entries in all permutations of {1,2,...,n} (see example). • a(2n + 1) = (2n + 1)!; • a(2n) = n(2n)! / (n + 1). •

[A053334] • 6,16,616,1616,11616,111616,6111616,16111616,616111616,1616111616,61616111616,661616111616,1661616111616,61661616111616,661661616111616,6661661616111616,66661661616111616 ⋆ a(n) contains n digits (either '1' or '6') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (6 - 5 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 6, if not then n - th term begins with a 1. •

[A184549] • 0,6,17,23,28,34,45,51,56,62,73,79,84,90,101,107,112,118,129,135,140,146,157,163,168 ★ Super-birthdays (falling on the same weekday), version 1 (birth within the year following a February 29). • a(n) = a(n - 1) + a(n - 4) - a(n - 5). G.f.: x * (5 * x ^ 3 + 6 * x ^ 2 + 11 * x + 6) / ((x - 1) ^ 2 * (x + 1) * (x ^ 2 + 1)). - _ Colin Barker _ , Nov 04 2013 •

[A166025] • 6,17,23,40,63,103,166,269,435,704,1139,1843,2982,4825,7807,12632,20439,33071,53510,86581,140091,226672,366763,593435,960198 ★ a(0) = 6, a(1) = 17, a(n+1) = a(n) + a(n-1) for n>0. • a(n) = 3 * ((1 / 2 + 1 / 2 * sqrt(5)) ^ n + (1 / 2 - 1 / 2 * sqrt(5)) ^ n) + 14 / 5 * sqrt(5) * ((1 / 2 + 1 / 2 * sqrt(5)) ^ n - (1 / 2 - 1 / 2 * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Jun 06 2011 •

[A017461] • 6,17,28,39,50,61,72,83,94,105,116,127,138,149,160,171,182,193,204,215,226,237,248,259,270 ★ a(n) = 11*n+6. • a(0)=6, a(1)=17; for n>1, a(n) =2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Apr 14 2015 •

[A130051] • 0,6,17,32,51,72,97,127,161,197,236,279,327,378,432,489,550,614,681,751,826,906,989,1074,1162 ★ A bisection of A120049. • a(n)=b(2n - 1), for n>=1, where b=A130049. •

[A038795] • 1,6,17,33,55,89,144,232,370,581,895,1350,1993,2881,4082,5676,7756,10429,13817,18058,23307,29737,37540,46928,58134 ★ T(n,n-5), array T as in A038792. • a(n) = sum(binomial(n - k, k), k=0..5), n >= 9. - _ Johannes W. Meijer _ , Aug 10 2013 •

[A023545] • 6,17,34,58,90,131,182,244,318,405,506,622,754,903,1070,1256,1462,1689,1938,2210,2506,2827,3174,3548,3950 ★ Convolution of natural numbers >= 2 and natural numbers >= 3. • a(n) = n * (n ^ 2 + 12 * n + 23) / 6. - _ Ralf Stephan _ , Feb 15 2004; corrected by Lucas Sidiropoulos (lsid77(AT)yahoo.com), Jun 23 2008 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: x * (2 - x) * (3 - 2 * x) / (1 - x) ^ 4. - _ Colin Barker _ , Jun 20 2012 •

[A083045] • 1,6,17,35,68,122,224,383,656,1092,1841,2978,4859,7835,12776,20291,32664,51422,82485,129720,204821,319482,506060,789872,1237733 ★ Main diagonal of table A083044. • a(n)=T(n, n), where T(n, 0)=floor(n * x / (x - 1)) + 1, T(n, k + 1)=ceil(x * T(n, k)), for n>=0, k>=0, with x=3 / 2. •

[A084990] • 0,1,6,17,36,65,106,161,232,321,430,561,716,897,1106,1345,1616,1921,2262,2641,3060,3521,4026,4577,5176 ★ a(n) = n*(n^2+3*n-1)/3. • a(n) = (n - 1) * (n + 1) * (n + 3) / 3 + 1. - _ Reinhard Zumkeller _ , Aug 20 2007 • a(2 * n) = sum { i=0,...,16 * n ^ 4, i==0 mod 2 * n + 1 } (- 1) ^ s _ (2 * n)(i), where s _ k(n) is the digit sum of n in the base k. - _ Vladimir Shevelev _ , May 18 2012 • a(2 * n) = 2 / (2 * n + 1) * sum { i=1,...,n } tan ^ 4(pi * i / (2 * n + 1)). - _ Vladimir Shevelev _ , May 23 2012 • a(n) = sum _{ i =1..n } i * (i + 1) - 1. - _ Wesley Ivan Hurt _ , Oct 19 2013 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Mar 28 2014 •

[A212980] • 0,1,6,17,37,68,113,174,254,355,480,631,811,1022,1267,1548,1868,2229,2634,3085,3585,4136,4741,5402,6122 ★ Number of (w,x,y) with all terms in {0,...,n} and w<x+y and x<y. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[A085278] • 1,6,17,38,81,166,337,678,1361,2726,5457,10918,21841,43686,87377,174758,349521,699046,1398097,2796198,5592401,11184806,22369617,44739238,89478481 ★ Expansion of (1+2x)^2/((1-x^2)(1-2x)). • a(n)=16 * 2 ^ n / 3 + (- 1) ^ n / 6 - 9 / 2. •

[A061349] • 0,1,6,17,40,75,130,203,304,429,590,781,1016,1287,1610,1975,2400,2873,3414,4009,4680,5411,6226,7107,8080 ★ Sum of antidiagonals of A060736. • a(n) = (n * (13 + 3 * (- 1) ^ n + 14 * n ^ 2)) / 24. - _ Colin Barker _ , Sep 13 2014 • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). - _ Colin Barker _ , Sep 13 2014 •

[A213780] • 1,6,17,40,78,140,230,360,535,770,1071,1456,1932,2520,3228,4080,5085,6270,7645,9240,11066,13156,15522,18200,21203 ★ Antidiagonal sums of the convolution array A213778. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[A101945] • 1,6,17,40,87,182,373,756,1523,3058,6129,12272,24559,49134,98285,196588,393195,786410,1572841,3145704,6291431,12582886,25165797,50331620,100663267 ★ a(n) = 6*2^n - n - 5. • a(0)=1, a(1)=6, a(2)=17 and for n>2, a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A047861] • 1,6,17,41,93,205,445,957,2045,4349,9213,19453,40957,86013,180221,376829,786429,1638397,3407869,7077885,14680061,30408701,62914557,130023421,268435453 ★ a(n) = T(4,n), array T given by A047858. • a(0)=1, a(1)=6, a(2)=17, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2011 •

[A171507] • 0,0,1,6,17,42,93,198,409,834,1685,3390,6801,13626,27277,54582,109193,218418,436869,873774,1747585,3495210,6990461,13980966,27961977 ★ a(n) = (5*2^(n+1)-9-(-1)^n)/6-2*n. • a(n) = 3 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + 2 * a(n - 4). G.f.: x ^ 2 * (1 + 3 * x) / ((1 + x) * (1 - 2 * x) * (1 - x) ^ 2). •

[A232567] • 0,1,6,17,43,84,159,262,426,635,940,1311,1821,2422,3213,4124,5284,6597,8226,10045,12255,14696,17611,20802,24558 ★ Number of non-equivalent binary n X n matrices with two nonadjacent 1's. • a(n) = (n ^ 4 + 2 * n ^ 2 - 4 * n) / 16 if n is even; a(n) = (n ^ 4 + 4 * n ^ 2 - 8 * n + 3) / 16 if n is odd. •

[A062020] • 0,1,6,17,44,81,142,217,324,485,666,913,1208,1529,1906,2373,2936,3533,4238,5019,5840,6787,7822,8995,10360 ★ Let P(n) = { 2,3,5,7,...,p(n) } where p(n) is n-th prime; then a(1) =0 and a(n) = Sum [mod{p(i) - p(j)}], for all i and j from 1 to n. • a(n) = a(n - 1) + n * p(n) - Sum _{ i = 1..n } p(i). a(n) = 2a(n - 1) + (n - 1) * (p(n) - p(n - 1)) - a(n - 2). •

[A048746] • 1,6,17,44,109,266,645,1560,3769,9102,21977,53060,128101,309266,746637,1802544,4351729,10506006,25363745,61233500,147830749,356895002,861620757,2080136520,5021893801 ★ Partial sums of A048655. • a(n)=2 * a(n - 1) + a(n - 2) + 4; a(0)=1, a(1)=6. • a(n)=[{ (5 + 3 * sqrt(2))(1 + sqrt(2) ^ n - (5 - 3 * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - 2. • a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3). G.f.: (1 + 3 * x) / ((1 - x) * (1 - 2 * x - x ^ 2)). [_ Colin Barker _ , Sep 19 2012] • a(n) = 2 * Pell(n) + 3 * Pell(n + 1) - 2, where Pell = A000129. - _ Vladimir Reshetnikov _ , Sep 27 2016 •

[A054492] • 1,6,17,45,118,309,809,2118,5545,14517,38006,99501,260497,681990,1785473,4674429,12237814,32039013,83879225,219598662,574916761,1505151621,3940538102,10316462685,27008849953 ★ a(n) = 3*a(n-1) - a(n-2), a(0)=1, a(1)=6. • a(n) = (6 * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) - (((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1))) / sqrt(5). • a(n) = 2 * Lucas(2 * n + 1) - Fibonacci(2 * n + 1). • a(n) = 5 * Fibonacci(2 * n) + Fibonacci(2 * n - 1). - _ Ehren Metcalfe _ , Mar 26 2016 •

[A083334] • 1,6,17,47,179,414,1723,3793,16201,35166,151337,327167,1411019,3046854,13148803,28383073,122510161,264425526,1141401857,2463529487,10634068259,22951715694,99073772683,213832351153,923033565721 ★ a(n) = 12*a(n-2) - 25*a(n-4). • a(n + 1) = x ^ n + (- 1) ^ n(x - 2) ^ n where x = 1 + sqrt(11) then divided by 2 ^ (ceil(.5n)). - _ Ben Paul Thurston _ , Aug 30 2006 •

[A199113] • 6,17,50,149,446,1337,4010,12029,36086,108257,324770,974309,2922926,8768777,26306330,78918989,236756966,710270897,2130812690,6392438069,19177314206,57531942617,172595827850,517787483549,1553362450646 ★ (11*3^n+1)/2. • a(n) = 3 * a(n - 1) - 1. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A088016] • 1,1,6,17,56,179,576,1851,5950,19125,61474,197597,635140,2041543,6562172,21092919,67799386,217928905,700493182,2251609065,7237391472,23263290299,74775653304,240352858739,772570939222 ★ To obtain a(n+1), add the square of the n-th partial sum to the n-th partial sum of the squares, then divide this result by a(n), for all n>=0, with a(0)=1. • a(n) = 3 * a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[A024080] • 1,6,17,100,1377,13682,109873,806736,5732033,40294558,282375249,1977165692,13841038369,96888639114,678222535025,4747560750568,33232929521025,232630512567350,1628413596020881,11398895182897044 ★ 7^n-n^5. • a(n) = 13 * a(n - 1) - 57 * a(n - 2) + 125 * a(n - 3) - 155 * a(n - 4) + 111 * a(n - 5) - 43 * a(n - 6) + 7 * a(n - 7) for n > 6. •

[A017593] • 6,18,30,42,54,66,78,90,102,114,126,138,150,162,174,186,198,210,222,234,246,258,270,282,294 ★ a(n) = 12n + 6. • a(n) = 24 * n - a(n - 1), (with a(0)=6). - _ Vincenzo Librandi _ , Nov 19 2010 • a(0)=6, a(1)=18, a(n) = 2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Aug 20 2014 •

[A124353] • 6,18,32,58,112,220,450,938,1982,4220,9022,19332,41472,89022,191150,410506,881656,1893634,4067256,8735972,18763898,40302866,86566390,185935764,399371142 ★ Number of (directed) Hamiltonian circuits on the n-antiprism graph. • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) + a(n - 5). • a(n) = 2 * a(n - 1) + a(n - 2) - a(n - 3) - a(n - 4) - 12. •

[A153126] • 1,6,18,33,55,80,112,147,189,234,286,341,403,468,540,615,697,782,874,969,1071,1176,1288,1403,1525 ★ Sums of rows of the triangle in A153125. • a(n) = n * (5 * n + 7) / 2 + 1 - n Mod 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: (1 + 4 * x + 6 * x ^ 2 - x ^ 3) / ((1 - x) ^ 3 * (1 + x)). - _ Colin Barker _ , Jul 07 2012 •

[A181510] • 6,18,34,54,78,106,138,174,214,258,306,358,414,474,538,606,678,754,834,918,1006,1098,1194,1294,1398 ★ Number of permutations of the multiset {1,1,2,2,3,3,...,n+1,n+1} avoiding the permutation patterns {132, 231, 2134} • a(n) = 2n ^ 2 + 6n - 2. • a(n) - 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3) = 0 for n >3. •

[A172522] • 6,18,36,56,77,101,131,167,207,249,297,351,411,474,540,612,690,770,854,944,1040,1140,1242,1347,1455 ★ Partial sums of A049094. • a(n) = SUM[i=1..n] { i such that 2 ^ i - 1 is divisible by a square } . •

[A028896] • 0,6,18,36,60,90,126,168,216,270,330,396,468,546,630,720,816,918,1026,1140,1260,1386,1518,1656,1800 ★ 6 times triangular numbers: a(n) = 3*n*(n+1). • a(n) = Polygorial(3, n + 1). - Daniel Dockery (peritus(AT)gmail.com), Jun 16 2003 • a(n) = a(n - 1) + 6 * n for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0)=0, a(1)=6, a(2)=18. • a(n) = Sum _{ i = n..2 * n } 2 * i. - _ Bruno Berselli _ , Feb 14 2018 •

[A034857] • 1,6,18,36,61,94,136,188,251,326,414,516,633,766,916,1084,1271,1478,1706,1956,2229,2526,2848,3196,3571 ★ a(n) = C(n+2,3) + 2*C(n,2) + 2*(n-2). • a(n) = (n ^ 3 + 9n ^ 2 + 8n - 24) / 6. - _ Ralf Stephan _ , Feb 15 2004 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A101853] • 6,18,37,64,100,146,203,272,354,450,561,688,832,994,1175,1376,1598,1842,2109,2400,2716,3058,3427,3824,4250 ★ a(n) = n*(20+15*n+n^2)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 26 2012 •

[A005899] • 1,6,18,38,66,102,146,198,258,326,402,486,578,678,786,902,1026,1158,1298,1446,1602,1766,1938,2118,2306 ★ Number of points on surface of octahedron; also coordination sequence for cubic lattice: a(0) = 1; for n > 0, a(n) = 4n^2 + 2, • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=1, a(1) =6, a(2)=18, a(3)=38. - _ Harvey P. Dale _ , Nov 08 2011 •

[A180118] • 0,6,18,38,68,110,166,238,328,438,570,726,908,1118,1358,1630,1932,2278,2658,3078,3540,4046,4598,5198,5848 ★ a(n) = Sum_{k=1..n} (k+2)!/k! = Sum_{k=1..n} (k+2)*(k+1). • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) for n>=4. • a(n) = n * (n ^ 2 + 6 * n + 11) / 3. •

[A129863] • 6,18,39,69,108,156,213,279,354,438,531,633,744,864,993,1131,1278,1434,1599,1773,1956,2148,2349,2559,2778 ★ Sums of three consecutive pentagonal numbers. • a(n) = (9 / 2) * (n ^ 2) + (15 / 2) * n + 6. • a(n) = (3n ^ 2 + 5n + 4) * (3 / 2). - _ Stefan Steinerberger _ , May 27 2007 •

[A002411] • 0,1,6,18,40,75,126,196,288,405,550,726,936,1183,1470,1800,2176,2601,3078,3610,4200,4851,5566,6348,7200 ⋆ Pentagonal pyramidal numbers: a(n) = n^2*(n+1)/2. • a(n) = sum of n smallest multiples of n. - _ Amarnath Murthy _ , Sep 20 2002 • a(n) = n * Sum _{ k=0..n } (n - k) = n * Sum _{ k=0..n } k. - _ Paul Barry _ , Jul 21 2003 • a(0)=0, a(1)=1, a(2)=6, a(3)=18, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 20 2011 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 3. • a(n) = binomial(n + 2,3) + 2 * binomial(n + 1,3). • a(n) = 24 / (n + 3)! * Sum _{ j=0..n } (- 1) ^ (n - j) * binomial(n,j) * (j) ^ (n + 3). - _ Vladimir Kruchinin _ , Jun 04 2013 •

[A059834] • 0,6,18,40,76,130,206,308,440,606,810,1056,1348,1690,2086,2540,3056,3638,4290,5016,5820,6706,7678,8740,9896 ⋆ Sum of squares of entries of Wilkinson's eigenvalue test matrix of order 2n+1. • a(n) = (2n ^ 3 + 3n ^ 2 + 13n) / 3. For the matrix of order 2n, the formula is (4n ^ 3 + 23n - 12) / 6 (which is not integer - valued). - _ David Wasserman _ , May 24 2002 • a(n) = sum(2 * (k + 1) ^ 2 + 4, k=0..(n - 1)). - Mike Warburton (mikewarb(AT)gmail.com), Sep 08 2007 •

[A015224] • 0,6,18,40,126,196,288,550,726,936,1470,1800,2176,3078,3610,4200,5566,6348,7200,9126,10206,11368,13950,15376,16896 ⋆ Even pentagonal pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10). • a(n) = 3 * a(n - 3) - 3 * a(n - 6) + a(n - 9) + 192. •

[A023620] • 1,6,18,41,82,152,269,462,778,1293,2130,3488,5689,9254,15026,24369,39490,63960,103557,167630,271306,439061,710498,1149696,1860337 ⋆ Convolution of Lucas numbers and odd numbers. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: - x * (x + 1) * (2 * x + 1) / ((x - 1) ^ 2 * (x ^ 2 + x - 1)). - _ Colin Barker _ , May 14 2014 •

[A009945] • 1,6,18,42,74,114,162,222,290,366,450,546,650,762,882,1014,1154,1302,1458,1626,1802,1986,2178,2382,2594 ⋆ Coordination sequence for NiAs(2), As position. • a(0)=1, a(4n)=2 * ((6n) ^ 2 + 1), a(4n + 2)=18 * (2n + 1) ^ 2, a(2n + 1)=6 * (3n ^ 2 + 3n + 1). - _ Ralf Stephan _ , Mar 07 2004 •

[A270683] • 1,6,18,42,74,126,186,274,370,502,642,826,1018,1262,1514,1826,2146,2534,2930,3402,3882,4446,5018,5682,6354 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 190", based on the 5-celled von Neumann neighborhood. • a(n) = (9 + 3 * (- 1) ^ n + 7 * n - 3 * (- 1) ^ n * n + 18 * n ^ 2 + 2 * n ^ 3) / 6 for n>0. • a(n) = (n ^ 3 + 9 * n ^ 2 + 2 * n + 6) / 3 for n>0 and even. • a(n) = (n ^ 3 + 9 * n ^ 2 + 5 * n + 3) / 3 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. •

[A011930] • 0,0,0,0,1,6,18,42,84,151,252,396,594,858,1201,1638,2184,2856,3672,4651,5814,7182,8778,10626,12751 ⋆ a(n) = floor(n(n-1)(n-2)(n-3)/20). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 5) - 4 * a(n - 6) + 6 * a(n - 7) - 4 * a(n - 8) + a(n - 9). •

[A068293] • 1,6,18,42,90,186,378,762,1530,3066,6138,12282,24570,49146,98298,196602,393210,786426,1572858,3145722,6291450,12582906,25165818,50331642,100663290 ⋆ a(1) = 1; thereafter a(n) = 6*(2^(n-1) - 1). • a(1)=1, a(2)=6, a(3)=18, a(n) = 3 * a(n - 1) - 2 * a(n - 2). - _ Harvey P. Dale _ , Nov 27 2011 •

[A184630] • 1,6,18,43,83,144,228,341,486,666,887,1152,1464,1829,2250,2730,3275,3888,4572,5333,6174,7098,8111,9216,10416 ⋆ Floor(1/{(6+n^4)^(1/4)}), where {}=fractional part. • a(n)=floor(1 /{ (6 + n ^ 4) ^ (1 / 4) }), where {} =fractional part. •

[A128543] • 1,6,18,48,120,288,672,1536,3456,7680,16896,36864,79872,172032,368640,786432,1671168,3538944,7471104,15728640,33030144,69206016,144703488,301989888,629145600 ⋆ Floor(2^(n-2)*3*n). • a(n) = 3 * n * 2 ^ (n - 2) for n>1. - _ R. J. Mathar _ , Oct 25 2011 • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>3. G.f.: x * (1 + 2 * x - 2 * x ^ 2) / (1 - 2 * x) ^ 2. - _ Colin Barker _ , Mar 22 2012 •

[A099857] • 1,6,18,48,126,330,864,2262,5922,15504,40590,106266,278208,728358,1906866,4992240,13069854,34217322,89582112,234529014,614004930,1607485776,4208452398,11017871418,28845161856 ⋆ Expansion of (1+3x+x^2)/(1-3x+x^2). • a(n)=0 ^ n + 6 * Fib(2n). •

[A086926] • 0,0,1,6,18,50,120,273,588,1224,2475,4895,9504,18174,34307,64050,118440,217192,395352,714951,1285350,2298660,4091241,7250221,12797568 ⋆ Product of Fibonacci and (shifted) triangular numbers. • a(n) = (n / (n - 2) * a(n - 1) + n * (n - 1)) / ((n - 2) * (n - 3)) * a(n - 2). • a(n) = Sum _{ k=0..n - 1 } Sum _{ i=0..n - 1 } i * C(n - k - 1,k). - _ Wesley Ivan Hurt _ , Sep 19 2017 • a(n) = ((- 1) * (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n - (1 + sqrt(5)) ^ n) * (- 1 + n) * n)) / sqrt(5). • a(n) = 3 * a(n - 1) - 5 * a(n - 3) + 3 * a(n - 5) + a(n - 6) for n>5. (End) •

[A099856] • 1,6,18,54,162,486,1458,4374,13122,39366,118098,354294,1062882,3188646,9565938,28697814,86093442,258280326,774840978,2324522934,6973568802,20920706406,62762119218,188286357654,564859072962 ⋆ Expansion of (1+3x)/(1-3x). • a(n) = 2 * 3 ^ n - 0 ^ n. •

[A292295] • 0,0,6,18,54,174,582,1974,6726,22950,78342,267462,913158,3117702,10644486,36342534,124081158,423639558,1446395910,4938304518,16860426246,57565095942,196539531270,671027933190,2291032670214 ⋆ Sum of values of vertices of type A at level n of the hyperbolic Pascal pyramid. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 2 * a(n - 3), n >= 4. • a(n) = (- 3 / 2) * (- 4 + (4 - 3 * sqrt(2)) * (2 + sqrt(2)) ^ n + (2 - sqrt(2)) ^ n * (4 + 3 * sqrt(2))) for n>0. •

[A129369] • 1,1,6,18,70,246,924,3412,12870,48550,184756,705180,2704156,10399676,40116600,155114088,601080390,2333593350,9075135300,35345215180,137846528820,538257689684,2104098963720,8233430022168,32247603683100 ⋆ Expansion of 1/sqrt(1-4x)-x/sqrt(1-4x^2). • a(n)=C(2n,n) - C(n - 1,(n - 1) / 2)(1 - (- 1) ^ n) / 2; •

[A027266] • 1,6,18,72,180,648,1512,5184,11664,38880,85536,279936,606528,1959552,4199040,13436928,28553472,90699264,191476224,604661760,1269789696,3990767616,8344332288,26121388032,54419558400 ⋆ a(n) = Sum{(k+1)*T(n,k)}, 0<=k<=2n, T given by A026519. • a(0)=1, a(1)=6, a(2)=18, a(3)=72, a(n) =12 * a(n - 2) - 36 * a(n - 4). - _ Harvey P. Dale _ , Jun 19 2015 •

[A242278] • 0,6,18,72,216,702,2106,6480,19440,58806,176418,530712,1592136,4780782,14342346,43040160,129120480,387400806,1162202418,3486725352,10460176056,31380882462,94142647386,282429005040,847287015120 ⋆ Number of non-palindromic n-tuples of 3 distinct elements. • a(n) = 1 / 2 * 3 ^ (n / 2) * ((sqrt(3) - 1) * (- 1) ^ n - sqrt(3) - 1) + 3 ^ n. • a(n) = 3 ^ n - 3 ^ ceiling (n / 2). •

[A027261] • 1,6,18,72,270,972,3402,11664,39366,131220,433026,1417176,4605822,14880348,47829690,153055008,487862838,1549681956,4907326194,15496819560,48814981614,153418513644,481176247338 ⋆ a(n) = Sum{(k+1)*T(n,k)}, 0<=k<=2n, T given by A025177. • a(n) = 2(n + 1) * 3 ^ (n - 1), for n>1 (conjectured). - _ Ralf Stephan _ , Feb 02 2004. •

[A279260] • 0,6,18,90,330,1386,5418,21930,87210,349866,1397418,5593770,22366890,89483946,357903018,1431677610,5726579370,22906579626,91625794218,366504225450,1466014804650,5864063412906,23456245263018,93824997829290,375299957762730 ⋆ Numbers which are cyclops palindromic in their binary reflected Gray code representation. • a(n) = (- 2 * (1 + ((- 2) ^ n) - (2 ^ (2 * n + 1)))) / 3. •

[A104970] • 1,6,18,92,298,1444,4852,22840,78490,362580,1265564,5767688,20366596,91866984,327351336,1464522864,5257011066,23361650484,84371466636,372831130344,1353477992556,5952169844664,21704580414936,95051752387344 ⋆ Sum of squares of terms in even-indexed rows of triangle A104967. • a(n) = 2 ^ (2 * n - 1) * (2 + Sum _{ k=0..n - 1 } (- 1) ^ k * C(2 * k + 1,k + 1) / 2 ^ (2 * k)). - _ Vaclav Kotesovec _ , Oct 28 2012 •

[A274499] • 0,0,6,18,108,324,1458,4374,17496,52488,196830,590490,2125764,6377292,22320522,66961566,229582512,688747536,2324522934,6973568802,23245229340,69735688020,230127770466,690383311398,2259436291848 ⋆ Sum of the degrees of asymmetry of all ternary words of length n. • a(n) = (1 / 6) * (2n - 1 + (- 1) ^ n) * 3 ^ n. •

[A052634] • 1,1,6,18,168,840,10800,75600,1249920,11249280,228614400,2514758400,60833203200,790831641600,22230464256000,333456963840000,10691545632768000,181756275757056000,6549628300959744000 ⋆ E.g.f. 1/((1-2x^2)(1-x)). • a(n) = (- 1 + Sum(1 / 2 * (1 + 2 *_ alpha) *_ alpha ^ (- 1 - n), with _ alpha=RootOf(- 1 + 2 *_ Z ^ 2))) * n! . • a(n) = n! * [2 ^ floor(n / 2 + 1) - 1]. •

[A235537] • 6,19,23,41,49,72,84,112,128,161,181,219,243,286,314,362,394,447,483,541,581,644,688,756,804 ⋆ Expansion of (6 + 13*x - 8*x^2 - 8*x^3 + 6*x^4)/((1 + x)^2*(1 - x)^3). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (6 * n * (3 * n + 17) - (2 * n + 43) * (- 1) ^ n + 11) / 16 + 8. The terms a(2k) are in A235332; the closed form of the terms a(2k + 1) is n * (9 * n + 35) / 2 + 19. •

[A041911] • 1,1,6,19,25,119,1215,1334,3883,9100,40283,89666,219615,309281,3312425,13558981,16871406,64173199,337737401,401910600,17217982601,17619893201,105317448606,333572239019,438889687625 ⋆ Denominators of continued fraction convergents to sqrt(477). • a(n) = 17555720002 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A063233] • 6,19,33,45,59,71,85,97,111,123,137,149,163,175,189,201,215,227,241,253,267,279,293,305,319 ⋆ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(79). • a(n) = 13 / 2 - (1 / 2) * (- 1) ^ (n - 1) + 13 * (n - 1) - (- 1) ^ n - (binomial(2 * (n - 1), n - 1) mod 2), with n >= 1. - _ Paolo P. Lava _ , Nov 27 2009 • a(n + 2) = a(n) + 26 (n > 1); • a(2n + 1) = a(2n) + 14 (n > 0); • a(2n) = a(2n - 1) + 12 (n > 1); • a(n) = 13n - { 6 if n = 2k + 1, k > 0; 7 otherwise } . •

[A090381] • 1,6,19,36,61,90,127,168,217,270,331,396,469,546,631,720,817,918,1027,1140,1261,1386,1519,1656,1801 ⋆ Expansion of (1+4x+7x^2)/((1-x)^2*(1-x^2)). • a(2t) = 12t ^ 2 + 6t + 1, a(2t + 1) = 12t ^ 2 + 18t + 6 (t >= 0). • a(n) = 3 * n * (n + 1) + (1 + (- 1) ^ n) / 2. - _ Wesley Ivan Hurt _ , May 06 2016 •

[A179986] • 0,6,19,39,66,100,141,189,244,306,375,451,534,624,721,825,936,1054,1179,1311,1450,1596,1749,1909,2076 ⋆ Second 9-gonal (or nonagonal) numbers: a(n) = n*(7*n+5)/2. • a(n) = a(n - 1) + 7 * n - 1 for n>0, with a(0)=0. - _ Vincenzo Librandi _ , Feb 05 2011 • a(0)=0, a(1)=6, a(2)=19; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 19 2011 •

[A054567] • 1,6,19,40,69,106,151,204,265,334,411,496,589,690,799,916,1041,1174,1315,1464,1621,1786,1959,2140,2329 ⋆ a(n) = 4*n^2 - 7*n + 4. • a(n) = 8 * n + a(n - 1) - 11 for n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: - x * (4 * x ^ 2 + 3 * x + 1) / (x - 1) ^ 3. - _ Colin Barker _ , Oct 25 2014 •

[A096957] • 6,19,40,70,110,161,224,300,390,495,616,754,910,1085,1280,1496,1734,1995,2280,2590,2926,3289,3680,4100,4550 ⋆ Fourth column (m=3) of (1,6)-Pascal triangle A096956. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Apr 19 2017 •

[A212684] • 0,1,6,19,42,79,132,205,300,421,570,751,966,1219,1512,1849,2232,2665,3150,3691,4290,4951,5676,6469,7332 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and |x-y|=n-w+|y-z|. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (2 * n * (n + 2) * (2 * n - 1) - (- 1) ^ n + 1) / 8. [_ Bruno Berselli _ , Jun 07 2012] •

[**A005900**] ● 0,1,6,19,44,85,146,231,344,489,670,891,1156,1469,1834,2255,2736,3281,3894,4579,5340,6181,7106,8119,9224 ★ Octahedral numbers: a(n) = n*(2*n^2 + 1)/3. ● a(n) = 1 ^ 2 + 2 ^ 2 + ... + (n - 1) ^ 2 + n ^ 2 + (n - 1) ^ 2 + ... + 2 ^ 2 + 1 ^ 2. - _ Amarnath Murthy _ , May 28 2001 ● a(n) = (((n + 1) ^ 5 - n ^ 5) - (n ^ 5 - (n - 1) ^ 5))) / 30. - Xavier Acloque, Oct 17 2003 ● a(n) is the sum of the products pq, where p and q are both positive and odd and p + q = 2n, e.g., a(4) = 7 * 1 + 5 * 3 + 3 * 5 + 1 * 7 = 44. - _ Jon Perry _ , May 17 2005 ● a(n) = 4 * binomial(n,3) + 4 * binomial(n,2) + binomial(n,1). - _ Mitch Harris _ , Jul 06 2006 ● a(n) = binomial(n + 2,3) + 2 * binomial(n + 1,3) + binomial(n,3), (this pair generalizes; see A014820, the 4 - cross polytope numbers). ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>3. - _ Wesley Ivan Hurt _ , Sep 11 2015 ●

[**A005712**] ● 1,6,19,45,90,161,266,414,615,880,1221,1651,2184,2835,3620,4556,5661,6954,8455,10185,12166,14421,16974,19850,23075 ★ Coefficient of x^4 in expansion of (1+x+x^2)^n. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). _ Vincenzo Librandi _ , Jun 16 2012 ● a(n) = binomial(n,2) + 3 * binomial(n,3) + binomial(n,4) (see our comment in A026729). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 ● a(n) = GegenbauerC(N, - n, - 1 / 2) where N = 4 if 4<n else 2 * n - 4. - _ Peter Luschny _ , May 10 2016 ●

[**A073362**] ● 1,6,19,48,109,234,355,552,1009,1518,2371,3804,4141,6342,8803,12096,14389,18438,24043,27720,36397,45366,60499,75876,80137 ★ Nested floor product of n and fractions (k+1)/k for all k>0 (mod 5), divided by 5. ● a(n) =(1 / 5)[...[[[[n(2 / 1)](3 / 2)](4 / 3)](5 / 4)](7 / 6)]...(k + 1) / k]..., k>0 (mod 5), where [x] = floor of x; this infinite nested floor product will eventually level - off at a(n). ●

[**A095264**] ● 1,6,19,48,109,234,487,996,2017,4062,8155,16344,32725,65490,131023,262092,524233,1048518,2097091,4194240,8388541,16777146,33554359,67108788,134217649 ★ a(n) = 2^(n+2) - 3*n - 4. ● a(n + 3) = 4 * a(n + 2) - 5 * a(n + 1) + 2 * a(n). ● a(n) = 2 * a(n - 1) + (3n - 2). - _ Gary W. Adamson _ , Sep 30 2007 ●

[**A269059**] ● 1,6,19,48,113,258,579,1284,2821,6150,13319,28680,61449,131082,278539,589836,1245197,2621454,5505039,11534352,24117265,50331666,104857619,218103828,452984853 ★ Construct a hollow square of 1's of side n and fill its interior with 0's to create a stack of n binary numbers. Express the sum of the stack in decimal. ● a(n) = 2 * (2 ^ n - 1) + (n - 2) * (2 ^ (n - 1) + 1), for n>1. ●

[**A286184**] ● 6,19,56,157,430,1171,3204,8857,24794,70303,201712,584677,1708998,5028715,14873180,44160817,131499442,392401207,1172747208,3508804477,10506490526,31477528579,94344505396,282848966857,848161024650 ★ Number of connected induced (non-null) subgraphs of the helm graph with 2n+1 nodes. ● a(n) = 3 ^ n + (1 + n) * 2 ^ n - n. ● a(n) = 9 * a(n - 1) - 31 * a(n - 2) + 51 * a(n - 3) - 40 * a(n - 4) + 12 * a(n - 5). - _ Eric W. Weisstein _ , May 28 2017 ●

[**A238055**] ● 6,19,58,175,526,1579,4738,14215,42646,127939,383818,1151455,3454366,10363099,31089298,93267895,279803686,839411059,2518233178,7554699535,22664098606,67992295819,203976887458,611930662375,1835791987126 ★ a(n) = (13*3^n-1)/2. ● a(n) = 3 * a(n - 1) + 1, a(0)=6. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2), a(0)=6, a(1)=19. ●

[**A080926**] ● 0,1,6,19,60,181,546,1639,4920,14761,44286,132859,398580,1195741,3587226,10761679,32285040,96855121,290565366,871696099,2615088300,7845264901,23535794706,70607384119,211822152360 ★ Partial sums of A080925. ● a(n) = Sum { i=0..n, Sum { k=1..i, Binomial(i, 2k - 2)2 ^ (2k - 2) }} ● a(n) = (3 * 3 ^ n + (- 1) ^ n) / 4 - 1. ● a(n) = 3 * a(n - 1) + a(n - 2) - 3 * a(n - 3) for n>2, a(0)=0, a(1)=1, a(2)=6. Observation by G. Detlefs. See my comment and link. [_ Wolfdieter Lang _ , Oct 18 2010] ●

[**A041673**] ● 1,1,6,19,63,82,555,637,2466,8035,42641,50676,1866977,1917653,11455242,36283379,120305379,156588758,1059837927,1216426685,4709117982,15343780631,81428021137,96771801768,3565212884785 ★ Denominators of continued fraction convergents to sqrt(355). ● a(n) = 1909618 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 22 2013 ●

[**A137195**] ● 1,6,19,64,185,542,1511,4144,11329,29894,80731,207696,556217,1405566,3741263,9328928,24716353,60998086,161022115,394136864,1037382905,2522256670,6622609463,16012527312,41958312193 ★ Even-indexed coefficients related to Kirchhoff index of hexagonal (benzene) chains. ● a(n) = 12 * a(n - 2) - 38 * a(n - 4) + 12 * a(n - 6) - a(n - 8). ●

[**A123950**] ● 0,1,1,6,19,73,264,973,3565,13086,48007,176149,646296,2371321,8700553,31923030,117128107,429752305,1576795176,5785386229,21227039605,77883687150,285761407807,1048481205661,3846960466104 ★ G.f.: x^2*(1-2*x) / (1-3*x-3*x^2+2*x^3). ● a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3). ●

[**A100191**] ● 1,6,19,73,264,973,3565,13086,48007,176149,646296,2371321,8700553,31923030,117128107,429752305,1576795176,5785386229,21227039605,77883687150,285761407807,1048481205661,3846960466104,14114802199681,51788325586033 ★ The (1,1)-entry in the 3 X 3 matrix M^n, where M = [1,2,1 / 2,2,0 / 1,0,0]. ● a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) (derived from the minimal polynomial of the matrix M). ●

[**A191585**] ● 1,1,6,19,74,276,1056,4047,15606,60382,234356,911802,3554864,13883650,54304788,212687199,833958918,3273341382,12859792932,50562992490,198954466524,783371113152,3086377703184,12166795814166,47987669811276 ★ Central coefficients of the Riordan matrix (1/(1-3*x^2),x/(1-x)) (A191582). ● a(n) = T(2 * n,n), where T(n,k) = A...(n,k). ● a(n) = sum(binomial(2 * n - 2 * i - 1,n - 2 * i) * 3 ^ i,i=0..n / 2). ●

[**A279512**] ● 6,19,85,457,2641,15649,93505,560257,3360001,20156929,120935425,725600257,4353576961,26121412609,156728377345,940370067457,5642220011521,33853319282689,203119914123265,1218719481593857,7312316883271681,43873901287047169 ★ Sierpinski octahedron numbers a(n) = 2*6^n + 3*2^n + 1. ● a(n) = 3 * 2 ^ n + 2 ^ (n + 1) * 3 ^ n + 1. ● a(n) = 6a(n - 1) - 6(2 ^ n + 1) + 1. ● a(n) = 6a(n - 1) - (3 * 2 ^ (n + 1) + 5). ● a(n) = 2 * 6 ^ n + 3 * 2 ^ n + 1. ● a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 12 * a(n - 3) for n>2. ●

[**A002943**] ● 0,6,20,42,72,110,156,210,272,342,420,506,600,702,812,930,1056,1190,1332,1482,1640,1806,1980,2162,2352 ★ a(n) = 2*n*(2*n+1). ● a(n) = 4 * n ^ 2 + 2 * n. ● a(n) = floor((2 * n + 1 / 2) ^ 2). - _ Reinhard Zumkeller _ , Feb 20 2010 ● a(n) = 8 * n + a(n - 1) - 2 with a(0)=0. - _ Vincenzo Librandi _ , Jul 20 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 11 2011 ●

[**A068377**] ● 1,6,20,42,72,110,156,210,272,342,420,506,600,702,812,930,1056,1190,1332,1482,1640,1806,1980,2162,2352 ★ Engel expansion of sinh(1). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. ●

[**A009946**] ● 1,6,20,42,74,114,164,222,290,366,452,546,650,762,884,1014,1154,1302,1460,1626,1802,1986,2180,2382,2594 ★ Coordination sequence for NiAs(2), Ni position. ● a(0)=1, a(4n)=2 * ((6n) ^ 2 + 1), a(4n + 2)=18 * (2n + 1) ^ 2 + 2, a(2n + 1)=6 * (3n ^ 2 + 3n + 1). - _ Ralf Stephan _ , Mar 07 2004 ● a(n) = (7 + (- 1) ^ n + 18 * n ^ 2) / 4 for n>0. ● a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. ●

[**A006137**] ● 1,6,20,43,75,116,166,225,293,370,456,551,655,768,890,1021,1161,1310,1468,1635,1811,1996,2190,2393,2605 ★ 1 + n/2 + 9*n^2/2. ● a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=1, a(1)=6 and a(2)=20. - _ Paolo P. Lava _ , Jul 17 2009 ● a(n)=a(n - 1) + 9 * n - 4 (with a(0)=1) [From Vincenzo Librandi, Nov 18 2010] ●

[**A005564**] ● 6,20,45,84,140,216,315,440,594,780,1001,1260,1560,1904,2295,2736,3230,3780,4389,5060,5796,6600,7475,8424,9450 ★ Number of n-step walks on square lattice in the first quadrant which finish at distance n-3 from the x-axis. ● a(n) = Sum _{ j=0..n } ((n + j - 1) ^ 2 - (n - j + 1) ^ 2) / 4. - _ Zerinvary Lajos _ , Sep 13 2006 ● a(n) = Sum _{ k=2..n - 1 } k * n. - _ Zerinvary Lajos _ , Jan 29 2008 ● a(n) = 4 * binomial(n + 4,2) * binomial(n + 4,4) / binomial(n + 4,3) = (n + 1) * binomial(n + 4,2). - _ Gary Detlefs _ , Dec 08 2011, corrected by _ R. J. Mathar _ , Dec 09 2011 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 18 2012 ●

[**A203552**] ● 0,1,6,20,48,95,166,266,400,573,790,1056,1376,1755,2198,2710,3296,3961,4710,5548,6480,7511,8646,9890,11248 ★ n*(5n^2 - 3n + 4) / 6. ● a(n) = sum _{ k = 1..n } A(k - 1, n - k) where A(i, j) = i ^ 2 + i * j + j ^ 2 + i + j + 1. ●

[**A216175**] ● 1,6,20,50,104,193,329,526,800,1169,1652,2271,3049,4011,5184,6597,8280,10266,12589,15285,18392,21950,26000,30586,35753 ★ Number of all polyhedra (tetrahedra of any orientation and octahedra) of any size, formed when intersecting a regular tetrahedron by planes parallel to its sides and dividing its edges into n equal parts. ● a(n) = (1 / 288) * (7 + 9 * (- 1) ^ n - 16 * (- 1) ^ (n mod 3) + 24 * n + 124 * n ^ 2 + 104 * n ^ 3 + 22 * n ^ 4). ●

[**A002415**] ● 0,0,1,6,20,50,105,196,336,540,825,1210,1716,2366,3185,4200,5440,6936,8721,10830,13300,16170,19481,23276,27600 ★ 4-dimensional pyramidal numbers: a(n) = n^2*(n^2-1)/12. ● a(n) = 2 * C(n + 2, 4) - C(n + 1, 3). - _ Paul Barry _ , Mar 04 2003 ● a(n) = C(n + 2, 4) + C(n + 3, 4). - _ Paul Barry _ , Mar 13 2003 ● a(n) = n * C(n + 1,3) / 2 = C(n + 1,3) * C(n + 1,2) / (n + 1). - _ Mitch Harris _ , Jul 06 2006 ● a(n) = 1 / 2 * sum { 1 <= x _ 1, x _ 2 <= n } (det V(x _ 1,x _ 2)) ^ 2 = 1 / 2 * sum { 1 <= i,j <= n } (i - j) ^ 2, where V(x _ 1,x _ 2) is the Vandermonde matrix of order 2. - _ Peter Bala _ , Sep 21 2007 ● a(n) = C(n + 1,3) + 2 * C(n + 1,4). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 ● a(n) = (1 / 48)sinh(2 * arccosh(n)) ^ 2. - _ Artur Jasinski _ , Feb 10 2010 ●

[**A213586**] ● 1,6,20,51,112,224,421,758,1324,2263,3808,6336,10457,17158,28036,45675,74256,120544,195485,316790,513116,830831,1344960,2176896,3523057 ★ Antidiagonal sums of the convolution array A213584. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). ●

[**A275112**] ● 0,1,6,20,52,112,215,375,613,948,1407,2013,2799,3793,5034,6554,8398,10603,13220,16290,19870,24006,28761,34185,40347 ★ Zero together with the partial sums of A064412. ● a(n) = (28 * n ^ 4 + 36 * n ^ 3 + 18 * n ^ 2 + 12 * n + (1 - (- 1) ^ n)) / 16 for n even. ● a(n) = (28 * n ^ 4 + 92 * n ^ 3 + 114 * n ^ 2 + 68 * n + 17 - (- 1) ^ n) / 16 for n odd. ● a(n) = (14 * n ^ 4 + 36 * n ^ 3 + 36 * n ^ 2 + 42 * n + 11 + 3 * (2 * n - 1) * (- 1) ^ n - 8 * (- 1) ^ (((2 * n - 1 + (- 1) ^ n)) / 4)) / 128. ●

[**A027178**] ● 1,6,20,52,120,260,544,1116,2264,4564,9168,18380,36808,73668,147392,294844,589752,1179572,2359216,4718508,9437096,18874276,37748640,75497372,150994840 ★ a(n) = T(n,0) + T(n,1) + ... + T(n,n), T given by A027170. ● a(n) = 9 * 2 ^ n - 4n - 8 (conjectured). - _ Ralf Stephan _ , Feb 13 2004 ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. ●

[**A213589**] ● 1,6,20,55,135,308,668,1395,2830,5610,10914,20904,39515,73860,136720,250937,457137,827260,1488190,2662905,4741946,8407236,14846100,26120400,45801925 ★ Antidiagonal sums of the convolution array A213587. ● a(n) = 3 * a(n - 1) - 5 * a(n - 3) + 3 * a(n - 5) + a(n - 6). ● a(n) = (n + 1) / 2 * sum _{ j=0..(n + 1) / 2 } ((n - j) * binomial(n - j + 1,j)). - _ Vladimir Kruchinin _ , Apr 09 2016 ●

[**A014480**] ● 1,6,20,56,144,352,832,1920,4352,9728,21504,47104,102400,221184,475136,1015808,2162688,4587520,9699328,20447232,42991616,90177536,188743680,394264576,822083584 ★ Expansion of (1+2*x)/(1-2*x)^2. ● a(n) = 3 * a(n - 1) - 2 ^ (n - 1) * (2 * n - 5) with a(0) = 1. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 2 ^ n with a(0) = 1 and a(1) = 6. ●

[**A048778**] ● 1,6,20,56,145,362,888,2160,5233,12654,30572,73832,178273,430418,1039152,2508768,6056737,14622294,35301380,85225112,205751665,496728500

6,1199208744,2895146064,6989500945 ⋆ First partial sums of A048745; second partial sums of A048654. • a(n)=2 * a(n - 1) + a(n - 2) + 3 * n + 1; a(0)=1, a(1)=6. • a(n)=[{ (13 / 2 + (9 / 2) * sqrt(2))(1 + sqrt(2)) ^ n - (13 / 2 - (9 / 2) * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - (3 * n + 7) / 2. •

[A292480] • 0,1,6,20,56,160,480,1456,4384,13136,39360,118064,354272,1062928,3188736,9565936,28697632,86093264,258280512,774841520,2324523104,6973567888,20920705152,62762119792,188286360736 ⋆ p-INVERT of the odd positive integers, where p(S) = 1 - S^2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 6 * a(n - 3) for n >= 5. •

[A127982] • 1,6,20,57,147,360,850,1959,4433,9894,21840,47781,103759,223908,480590,1026723,2184525,4631202,9786700,20621985,43341131,90876576,190141770,397060767,827675977 ⋆ Numbers of the form (n - 1/3)2^(n) - n/2 + 1/4 + (-1)^n/12. • a(n) = (n - 1 / 3)2 ^ (n) - n / 2 + 1 / 4 + (- 1) ^ n / 12 •

[A212689] • 0,0,0,6,20,58,124,244,424,700,1080,1610,2300,3206,4340,5768,7504,9264,12144,15150,18660,22770,27500,32956,39160 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 2|w-x|>n+|y-z|. • a(n)=3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[A027984] • 1,6,20,58,161,436,1165,3088,8146,21426,56255,147538,386681,1013026,2653240,6948058,18193141,47634936,124717445,326526748,854877926,2238131506,5859556195,15340601158,40162350961 ⋆ a(n) = Sum{T(n,k)*T(n,n+k)}, 0<=k<=n, T given by A027960. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 2 * a(n - 3) + a(n - 4). •

[A018808] • 0,0,6,20,62,140,306,536,938,1492,2306,3296,4722,6460,8830,11568,14946,18900,23926,29544,36510,44388,53586,63648,75674 ⋆ Number of lines through at least 2 points of an n X n grid of points. • a(0) = L(0,1) = R1(0) = 0, a(n) = L(n,n) = 2L(n - 1,n) - L(n - 1,n - 1) + R1(n), L(n - 1,n) = 2L(n - 1,n - 1) - L(n - 2,n - 1) + R2(n), R1(n) = R1(n - 1) + 4(phi(n - 1) - e(n)), e(n)=0, n even, e(n) = phi((n - 1) / 2), n odd, R2(n) = (n - 1)phi(n - 1), n even, R2(n)=(n - 1)phi(n - 1) / 2, n=1 mod 4, R2(n)=0, n=3 mod 4. - _ Seppo Mustonen _ , Apr 25 2009 •

[A074353] • 0,0,0,0,6,20,70,196,542,1396,3526,8628,20766,49092,114598,264356,603998,1368148,3076166,6870740,15256158,33696804,74073510,162127940,353460766 ⋆ Coefficient of q^2 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(1,2) • a(0)=0 for n>0, a(n) = (1 / 81) * (2 ^ (n - 1) * (6 * n ^ 2 - 43) + (- 1) ^ n * (6 * n ^ 2 - 24 * n + 62)). - _ Benoit Cloitre _ , Jan 16 2003 • a(n) = 3 * a(n - 1) + 3 * a(n - 2) - 11 * a(n - 3) - 6 * a(n - 4) + 12 * a(n - 5) + 8 * a(n - 6) for n>7. •

[A235367] • 0,6,20,72,156,342,600,1056,1640,2550,3660,5256,7140,9702,12656,16512,20880,26406,32580,40200,48620,58806,69960,83232,97656 ⋆ Sum of positive even numbers up to n^2. • a(n) = (n ^ 4 + 2n ^ 2) / 4 if n is even, a(n) = (n ^ 4 - 1) / 4 if n is odd. • a(n) = ((n ^ 2 - (n ^ 2 mod 2)) / 4)(n ^ 2 + 2 - (n ^ 2 mod 2)). - _ Alonso del Arte _ , Jan 16 2014 •

[A246036] • 1,6,20,88,336,1376,5440,21888,87296,349696,1397760,5593088,22368256,89481216,357908480,1431666688,5726601216,22906535936,91625881600,366504050688,1466015154176,5864062713856,23456246661120,93824995033088,375299963355136 ⋆ G.f.: (1+4*x)/((1+2*x)*(1-4*x)). • a(n) = 2 * a(n - 1) + 8 * a(n - 2). • a(n) = (4 ^ (1 + n) - (- 2) ^ n) / 3. - _ Colin Barker _ , Aug 22 2014 •

[A266846] • 1,6,20,104,336,1696,5440,27264,87296,436736,1397760,6989824,22368256,111845376,357908480,1789558784,5726601216,28633071616,91625881600,458129670144,1466015154176,7330076819456,23456246661120,117281237499904,375299963355136 ⋆ Decimal representation of the n-th iteration of the "Rule 70" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 2 ^ (n - 1) * (- (- 2) ^ n + 9 * 2 ^ n - 2) / 3. • a(n) = 2 * a(n - 1) + 16 * a(n - 2) - 32 * a(n - 3) for n>2. •

[A267855] • 1,6,20,120,368,1888,5952,30592,96000,488960,1537024,7829504,24604672,125263872,393691136,2004320256,6299254784,32068993024,100788338688,513105461248,1612616564736,8209685282816,25801869230080,131354989690880,412829958012928 ⋆ Decimal representation of the n-th iteration of the "Rule 230" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 16 * a(n - 2) + 16 * a(n - 4) - 256 * a(n - 6) for n>5. •

[A056488] • 6,21,36,126,216,756,1296,4536,7776,27216,46656,163296,279936,979776,1679616,5878656,10077696,35271936,60466176,211631616,362797056,1269789696,2176782336,7618738176,13060694016 ⋆ Number of periodic palindromes using a maximum of six different symbols. • a(n) = 6 ^ ((n + 1) / 2) for n odd, a(n) = 6 ^ (n / 2) * 7 / 2 for n even. • a(n) = 6 * a(n - 2). •

[A180857] • 1,6,21,44,85,138,217,312,441,590,781,996,1261,1554,1905,2288,2737,3222,3781,4380,5061,5786,6601,7464,8425 ⋆ Wiener index of the Moebius ladder M(n). • a(n) = n(n ^ 2 + 2n - 2) / 2 if n is even; a(n) = n(n ^ 2 + 2n - 1) / 2 if n is odd. • a(n) = n * (- 3 - (- 1) ^ n + 4 * n + 2 * n ^ 2) / 4. - _ Colin Barker _ , Oct 31 2012 •

[A081266] • 0,6,21,45,78,120,171,231,300,378,465,561,666,780,903,1035,1176,1326,1485,1653,1830,2016,2211,2415,2628 ⋆ Staggered diagonal of triangular spiral in A051682. • a(n) = 6 * C(n,1) + 9 * C(n,2). • a(n) = 3 * n * (3 * n + 1) / 2. • a(n) = 9 * n + a(n - 1) - 3 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = sum((- 1) ^ (n + k) * k ^ 2, k=0..3n). - _ Bruno Beselli _ , Aug 29 2013 •

[A212656] • 1,6,21,46,81,126,181,246,321,406,501,606,721,846,981,1126,1281,1446,1621,1806,2001,2206,2421,2646,2881 ⋆ 5*n^2 + 1. • a(n) = 5 * n ^ 2 + 1 = (1 + n * sqrt(- 5)) * (1 - n * sqrt(- 5)). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 10 2012 •

[A051941] • 6,21,46,82,130,191,266,356,462,585,726,886,1066,1267,1490,1736,2006,2301,2622,2970,3346,3751,4186,4652,5150 ⋆ Truncated triangular pyramid numbers: a(n)=sum(k*(k+1)/2-30,k=8..n). • a(n)=1 / 6 * (n - 7) * (n ^ 2 + 10 * n - 108) •

[A267370] • 0,6,21,48,90,150,231,336,468,630,825,1056,1326,1638,1995,2400,2856,3366,3933,4560,5250,6006,6831,7728,8700 ⋆ Partial sums of A140091. • a(n) = n * (n + 1) * (n + 5) / 2. •

[A213388] • 1,6,21,48,93,158,249,368,521,710,941,1216,1541,1918,2353,2848,3409,4038,4741,5520,6381,7326,8361,9488,10713 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 2|w-x| >= max(w,x,y)-min(w,x,y). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = (8 * n ^ 3 + 30 * n ^ 2 + 28 * n + 3 * ((- 1) ^ n + 3)) / 12. • a(n) = (4 * n ^ 3 + 15 * n ^ 2 + 14 * n + 6) / 6 for n even. • a(n) = (4 * n ^ 3 + 15 * n ^ 2 + 14 * n + 3) / 6 for n odd. •

[A263418] • 1,6,21,51,106,201,361,626,1061,1771,2926,4801,7841,12766,20741,33651,54546,88361,143081,231626,374901,606731,981846,1588801,2570881 ⋆ a(n) is the total number of pentagrams in a variant of pentagram fractal after n iterations. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4) for n>3. • a(n) = - 14 + 2 ^ (- 1 - n) * ((25 - 11 * sqrt(5)) * (1 - sqrt(5)) ^ n + (1 + sqrt(5)) ^ n * (25 + 11 * sqrt(5))) - 10 * (1 + n). - _ Colin Barker _ , Mar 12 2017 •

[A097124] • 1,1,1,6,21,51,126,351,981,2646,7101,19251,52326,141831,384021,1040526,2820501,7644051,20713806,56132271,152119701,412245126,1117169901,3027492531,8204438646 ⋆ Expansion of (1-x)^2/((1-x)^3-5x^3). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 6 * a(n - 3). • a(n) = Sum { k=0..floor(n / 3) } binomial(n, 3k) * 5 ^ k. •

[A069778] • 1,6,21,52,105,186,301,456,657,910,1221,1596,2041,2562,3165,3856,4641,5526,6517,7620,8841,10186,11661,13272,15025 ⋆ q-factorial numbers 3!_q. • a(n) = (n + 1) * (n ^ 2 + n + 1). • a(n) = n ^ 8 mod (n ^ 3 + n), with offset 1..a(1)=1. - _ Gary Detlefs _ , May 02 2010 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>3. - _ Harvey P. Dale _ , Jul 11 2011 •

[A238702] • 1,6,21,55,119,227,396,645,996,1474,2106,2922,3955,5240,6815,8721,11001,13701,16870,20559,24822,29716,35300,41636,48789 ⋆ Sum of the smallest parts of the partitions of 4n into 4 parts. • a(n) = (1 / 9) * n ^ 4 + (1 / 3) * n ^ 3 + (5 / 18) * n ^ 2 + (1 / 6) * n + O(1). - _ Ralf Stephan _ , May 22 2014 •

[A002817] • 0,1,6,21,55,120,231,406,666,1035,1540,2211,3081,4186,5565,7260,9316,11781,14706,18145,22155,26796,32131,38226,45150 ⋆ Doubly triangular numbers: a(n) = n*(n+1)*(n^2+n+2)/8. • a(n) = 3 * binomial(n + 2, 4) + binomial(n + 1, 2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 3. - _ Warut Roonguthai _ , Dec 13 1999 • a(n) = Sum(Sum(1 + Sum(3 * n))). - Xavier Acloque, Jan 21 2003 • a(n) = (n ^ 4 - 2 * n ^ 3 + 3 * n ^ 2 + 2 * n) / 8; • a(n) = ((n - 1) ^ 4 + 3 * (n - 1) ^ 3 + 2 * (n - 1) ^ 2 + 2 * n)) / 8. - _ Bruce J. Nicholson _ , Apr 05 2017 • a(n) = a(- 1 - n) for all n in Z. - _ Michael Somos _ , Apr 17 2017 •

[A050190] • 0,6,21,56,126,250,462,792,1287,2002,3000,4368,6188,8568,11628,15500,20349,26334,33649,42504,53125,65780,80730,98280,118755 ⋆ T(n,5), array T as in A050186; a count of aperiodic binary words. • a(n) = n * floor(C(n - 1, 4) / 5). (End) • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 2 * a(n - 5) - 8 * a(n - 6) + 12 * a(n - 7) - 8 * a(n - 8) + 2 * a(n - 9) - a(n - 10) + 4 * a(n - 11) - 6 * a(n - 12) + 4 * a(n - 13) - a(n - 14). - _ R. J. Mathar _ , May 20 2013 •

[A008498] • 1,6,21,56,126,251,456,771,1231,1876,2751,3906,5396,7281,9626,12501,15981,20146,25081,30876,37626,45431,54396,64631,76251 ⋆ 4-dimensional centered tetrahedral numbers. • a(n) = C(n,0) + 5 * C(n,1) + 10 * C(n,2) + 10 * C(n,3) + 5 * C(n,4). - _ Paul Barry _ , Jul 01 2003 • a(n) = (5 * n ^ 4 + 10 * n ^ 3 + 55 * n ^ 2 + 50 * n + 24) / 24. - _ Paul Barry _ , Jul 01 2003 • a(n) = binomial(n + 5,5) - binomial(n,5). - _ Zerinvary Lajos _ , Jul 21 2006 •

[A008488] • 1,6,21,56,126,252,461,786,1266,1946,2877,4116,5726,7776,10341,13502,17346,21966,27461,33936,41502,50276,60381,71946,85106 ⋆ Expansion of (1-x^6) / (1-x)^6. • a(n) = 2 + n ^ 4 / 4 + 15 * n ^ 2 / 4 for n>0. - _ R. J. Mathar _ , Jan 27 2009 •

[A120478] • 6,21,56,126,252,461,786,1266,1946,2877,4116,5726,7776,10341,13502,17346,21966,27461,33936,41502,50276,60381,71946,85106,100002 ⋆ Binomial(n+6,5) - binomial(n,5). • a(0)=6, a(1)=21, a(2)=56, a(3)=126, a(4)=252, a(n)=5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5) [From Harvey P. Dale, May 04 2011] •

[A000389] • 0,0,0,0,0,1,6,21,56,126,252,462,792,1287,2002,3003,4368,6188,8568,11628,15504,20349,26334,33649,42504 ⋆ Binomial coefficients C(n,5). • a(n) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) / 120. • a(n) = (n ^ 5 - 10 * n ^ 4 + 35 * n ^ 3 - 50 * n ^ 2 + 24 * n) / 120. (Replace all x _ i's in the cycle index by n.) • a(n + 2) = Sum _{ i + j + k=n } i * j * k. - _ Benoit Cloitre _ , Nov 01 2002 • a(n + 3) = (1 / 2!) * (d ^ 2 / dx ^ 2)S(n,x)| _{ x=2 } , n>=2, one half of second derivative of Chebyshev S - polynomials evaluated at x=2. See A049310. - _ Wolfdieter Lang _ , Apr 04 2007 • a(n) = - a(4 - n) for all n in Z. - _ Michael Somos _ , Oct 07 2014 •

[A140228] • 1,6,21,56,126,252,463,798,1308,2058,3129,4620,6650,9360,12915,17506,23352,30702,39837,51072,64758,81284,101079,124614,152404 ⋆ Binomial transform of [1, 5, 10, 10, 5, 1, 1, -1, 1, -1, 1,...]. • a(n)=n(274 + 85n + n ^ 4) / 60 for n>=1. G.f.=(1 + x ^ 6) / (1 - x) ^ 6. - _ Emeric Deutsch _ , Jun 03 2008 •

[A290993] • 0,0,0,0,0,1,6,21,56,126,252,463,804,1365,2366,4368,8736,18565,40410,87381,184604,379050,758100,1486675,2884776 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S^6. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15

* a(n - 4) + 6 * a(n - 5) for n>5. Corrected by _ Colin Barker _ , Aug 24 2017 •

[A100356] • 0,0,0,0,0,1,6,21,56,126,252,504,924,1584,2574,4004,6006,9009,13104,18564,25704,34884,46512,62016,81396 ⋆ Maximal number of 165432 patterns in a permutation of 1,2,...,n. • a(n) = max(a(k) + k * choose(n - k, 5), 1 <= k < n) •

[A145134] • 0,1,6,21,56,127,259,490,876,1498,2472,3963,6204,9522,14374,21397,31477,45844,66203,94915,135247,191717,270570,380435,533232 ⋆ Expansion of x/((1 - x - x^4)*(1 - x)^5). • a(n) = 6a(n - 1) - 15a(n - 2) + 20a(n - 3) - 14a(n - 4) + a(n - 5) + 9a(n - 6) - 10a(n - 7) + 5a(n - 8) - a(n - 9). •

[A247904] • 1,6,21,56,131,286,601,1236,2511,5066,10181,20416,40891,81846,163761,327596,655271,1310626,2621341,5242776,10485651,20971406,41942921,83885956,167772031 ⋆ Start with a single pentagon; at n-th generation add a pentagon at each expandable vertex (this is the "vertex to side" version); a(n) is the sum of all label values at n-th generation. (See comment for construction rules.) • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). - _ Colin Barker _ , Sep 26 2014 •

[A056341] • 6,21,56,231,888,4291,20646,107331,563786,3037314,16514106,90782986,502474356,2799220041,15673673176,88162676511,497847963696,2821127825971,16035812864946,91404068329560 ⋆ Number of bracelets of length n using a maximum of six different colored beads. • a(n) = sum phi(d) * 6 ^ (n / d) / 2 / n where d|n and a(n)=6 ^ ((n + 1) / 2) / 2 for n odd and a(n)=7 / 4 * 6 ^ (n / 2) for n even. •

[A053809] • 1,6,21,57,133,281,554,1039,1878,3302,5686,9638,16143,26796,44179,72471,118435,193015,313920,509805,827036,1340636,2171996,3517532,5695053 ⋆ Second partial sums of A001891. • a(n) = a(n - 1) + a(n - 2) + (2n + 3)C(n + 2, 2) / 3; a(- x)=0. • a(n) = (1 / 6) (6 * Fibonacci(n + 9) - (2n ^ 3 + 27n ^ 2 + 145n + 324)). •

[A290891] • 0,0,1,6,21,57,138,330,827,2175,5826,15519,40836,106584,277696,724968,1897380,4972113,13029534,34125561,89336141,233831262,612074526,1602358863,4195173507 ⋆ p-INVERT of the positive integers, where p(S) = 1 - S^3. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 21 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A047520] • 0,1,6,21,58,141,318,685,1434,2949,5998,12117,24378,48925,98046,196317,392890,786069,1572462,3145285,6290970,12582381,25165246,50331021,100662618 ⋆ a(n) = 2*a(n-1) + n^2, a(0) = 0. • a(n) = 2 ^ n * sum _{ i=1..n } i ^ 2 / 2 ^ i. - _ Benoit Cloitre _ , Jan 27 2002 • a(0)=0, a(1)=1, a(2)=6, a(3)=21, a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ Harvey P. Dale _ , Aug 21 2011 •

[A294836] • 1,1,6,21,58,178,494,1365,3640,9533,24401,61384,151958,370335,890565,2113913,4959199,11505799,26420628,60082005,135386341,302448477,670148898,1473387787,3215519032 ⋆ Expansion of Product_{k>=1} (1 + x^k)^(k*(2*k-1)). • a(0) = 1 and a(n) = (1 / n) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d ^ 2 * (2 * d - 1) * (- 1) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 14 2017 •

[A066524] • 0,1,6,21,60,155,378,889,2040,4599,10230,22517,49140,106483,229362,491505,1048560,2228207,4718574,9961453,20971500,44040171,92274666,192937961,402653160 ⋆ a(n) = n*(2^n - 1). • a(n) = n * sum _{ j = 1..n } C(n, j), n >= 0. - _ Zerinvary Lajos _ , May 10 2007 •

[A113070] • 1,6,21,60,156,384,912,2112,4800,10752,23808,52224,113664,245760,528384,1130496,2408448,5111808,10813440,22806528,47972352,100663296,210763776,440401920,918552576 ⋆ Expansion of ((1+x)/(1-2x))^2. • a(0)=1, a(1)=6, a(2)=21, For n>2, a(n)=4 * a(n - 1) - 4 * a(n - 2) [From Harvey P. Dale, May 20 2011] •

[A048476] • 1,6,21,61,161,401,961,2241,5121,11521,25601,56321,122881,266241,573441,1228801,2621441,5570561,11796481,24903681,52428801,110100481,230686721,482344961,1006632961 ⋆ a(n) = T(4,n), array T given by A048472. • a(n) = 5 * n * 2 ^ (n - 1) + 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>2. G.f.: (1 + x - x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). - _ Colin Barker _ , Feb 18 2016 •

[A122678] • 1,6,21,61,166,441,1161,3046,7981,20901,54726,143281,375121,982086,2571141,6731341,17622886,46137321,120789081,316229926,827900701,2167472181,5674515846,14856075361,38893710241 ⋆ Related to number of n-circum-C_5 H_5 systems. • a(n) = 2 ^ (- 1 - n) * (- 2 ^ (3 + n) - (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n + (3 - sqrt(5)) ^ n * (5 + sqrt(5))). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3) for n>3. (End) •

[A291226] • 6,21,62,168,426,1029,2394,5403,11892,25626,54228,112958,232056,470904,945152,1878351,3699666,7227807,14015538,26991978,51654946,98275461,185958162,350093468,655988730 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)^6. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) - 10 * a(n - 3) + 30 * a(n - 4) + 6 * a(n - 5) - 41 * a(n - 6) - 6 * a(n - 7) + 30 * a(n - 8) + 10 * a(n - 9) - 9 * a(n - 10) - 6 * a(n - 11) - a(n - 12) for n >= 13. •

[A134931] • 1,6,21,66,201,606,1821,5466,16401,49206,147621,442866,1328601,3985806,11957421,35872266,107616801,322850406,968551221,2905653666,8716961001,26150883006,78452649021,235357947066,706073841201 ⋆ a(n) = (5*3^n-3)/2. • a(n) = 3 * (a(n - 1) + 1), with a(0)=1. •

[A107660] • 1,6,21,72,225,702,2133,6480,19521,58806,176661,530712,1592865,4780782,14344533,43040160,129127041,387400806,1162222101,3486725352,10460235105,31380882462,94142824533,282429005040,847287546561 ⋆ Sum 3^max(k,n-k),k=0..n. • a(2n) = 3 ^ (2n + 1) - 2 * 3 ^ n; a(2n + 1) = 9 ^ (n + 1) - 3 ^ (n + 1). •

[A054625] • 1,6,21,76,336,1560,7826,39996,210126,1119796,6047412,32981556,181402676,1004668776,5597460306,31345666736,176319474366,995685849696,5642220380006,32071565263716,182807925027504,1044616697187576,5982804736593846 ⋆ Number of n-bead necklaces with 6 colors. • a(n) = (1 / n) * Sum _{ d|n } phi(d) * 6 ^ (n / d), n > 0. •

[A108306] • 1,6,21,81,306,1161,4401,16686,63261,239841,909306,3447441,13070241,49553046,187869861,712268721,2700415746,10238053401,38815407441,147160382526,557927369901,2115263257281,8019571881546,30404505416481,115272231894081 ⋆ Expansion of (3*x+1)/(1-3*x-3*x^2). • a(n) = (1 / 2) * [3 / 2 + (1 / 2) * sqrt(21)] ^ n + (3 / 14) * [3 / 2 + (1 / 2) * sqrt(21)] ^ n * sqrt(21) - (3 / 14) * sqrt(21) * [3 / 2 - (1 / 2) * sqrt(21)] ^ n + (1 / 2) * [3 / 2 - (1 / 2) * sqrt(21)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 12 2008 •

[A199115] • 6,21,81,321,1281,5121,20481,81921,327681,1310721,5242881,20971521,83886081,335544321,1342177281,5368709121,21474836481,85899345921,343597383681,1374389534721,5497558138881,21990232555521,87960930222081 ⋆ 5*4^n+1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A182251] • 0,1,6,21,84,425,2586,18137,145096,1305873,13058830,143647141,1723765788,22408955257,313725373682,4705880605425,75294089686800,1279999524675617,23039991444161430,437759837439067189,8755196748781343780 ⋆ a(0)=0, a(n) = (a(n-1) OR n) * n. • a(0)=0, a(n)=(a(n - 1) OR n) * n, where OR is the bitwise logical inclusive - OR operator. •

[A191597] • 0,1,6,21,85,342,1365,5461,21846,87381,349525,1398102,5592405,22369621,89478486,357913941,1431655765,5726623062,22906492245,91625968981,366503875926,1466015503701,5864062014805,23456248059222,938249922368 85 ⋆ Expansion of x*(1+3*x)/ ((1-4*x)*(1+x+x^2)). • a(n) = 3 * a(n - 1) + 3 * a(n - 2) + 4 * a(n - 3), n >= 3. • a(n + 3) - a(n) = 21 * 4 ^ n. • a(n) = 1 / 3 * 4 ^ n - 1 / 6 * ((- 1 / 2 - (1 / 2 * i) * sqrt(3)) ^ n + (- 1 / 2 + (1 / 2 * i) * sqrt(3)) ^ n) + (1 / 6 * i) * sqrt(3) * ((- 1 / 2 + (1 / 2 * I) * sqrt(3)) ^ n - (- 1 / 2 - (1 / 2 * i) * sqrt(3)) ^ n), with n >= 0 and i = sqrt(- 1). - _ Paolo P. Lava _ , Jul 01 2011 •

[A088556] • 6,21,86,341,1366,5461,21846,87381,349526,1398101,5592406,22369621,89478486,357913941,1431655766,5726623061,22906492246,91625968981,366503875926,1466015503701,5864062014806,23456248059221,938249922368 86,375299968947541,1501199875790166 ⋆ Numbers of the form (4^n + 4^(n-1) + ... + 1) + (n mod 2). • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). - _ Colin Barker _ , Apr 02 2012 •

[A137966] • 1,1,1,6,21,86,396,1812,8607,41958,207333,1040234,5281965,27078756,140021248,729369474,3823598232,20158251814,106809280563,568471343322,3037782047947,16292380484454,87669285293451,473172657154822 ⋆ G.f. satisfies A(x) = 1+x + x^2*A(x)^6. • a(n) = Sum _{ k=0..n - 1 } C(n - k,k) / (n - k) * C(6 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A006359] • 1,6,21,91,371,1547,6405,26585,110254,457379,1897214,7869927,32645269,135416457,561722840,2330091144,9665485440,40093544735,166312624795,689883899612,2861717685450,11870733787751,49241167758705,204258021937291,847285745315256 ⋆ Number of distributive lattices; also number of paths with n turns when light is reflected from 6 glass plates. • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 4 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + a(n - 6). • a(n) is asymptotic to z(6) * w(6) ^ n where w(6) = (1 / 2) / cos(6 * Pi / 13) and z(6) is the root 1 < x < 2 of P(6, X) = - 1 - 91 * X + 2366 * X ^ 2 + 26364 * X ^ 3 - 142805 * X ^ 4 - 371293 * X ^ 5 + 371293 * X ^ 6 - _ Benoit Cloitre _ , Oct 16 2002 •

[A001553] • 6,21,91,441,2275,12201,67171,376761,2142595,12313161,71340451,415998681,2438235715,14350108521,84740914531,501790686201,2978035877635,17706908038281,105443761093411,628709267031321,3752628871164355,22418196307542441,134023513204581091 ⋆ 1^n + 2^n + ... + 6^n. • a(n) = sum (k ^ n,n=1..6),n>=0. •

[A056308] • 6,21,126,666,3996,23436,140616,840456,5042736,30236976,181421856,1088414496,6530486976,39182222016,235093332096,1410555793536,8463334761216,50779983373056,304679900238336,1828079250264576,10968475505587456,65810852102532096 ⋆ Number of reversible strings with n beads using a maximum of six different colors. • a(n) = (6 ^ n + 6 ^ floor((n + 1) / 2)) / 2. • a(n) = 6 * a(n - 1) + 6 * a(n - 2) - 36 * a(n - 3) for n > 3. - _ Colin Barker _ , Mar 20 2017 •

[A081077] • 6,21,126,846,5781,39606,271446,1860501,12752046,87403806,599074581,4106118246,28143753126,192900153621,1322157322206,9062201101806,62113250390421,425730551631126,2918000611027446,20000273725560981 ⋆ Lucas(4n+2)+3, or Lucas(2n)*Lucas(2n+2). • a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). • a(n) = 3 + (3 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 2) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A078118] • 1,6,22,25,28,30,40,42,46,52,58,60,68,70,72,78,87,88,96,98,102,105,106,112,114 ⋆ n+1 does not divide sigma(n!). • a(n) seems to be asymptotic to c * n with c=4.8.... •

[A264043] • 6,22,35,46,62,74,82,115,155,166,206,259,262,295,323,355,358,362,395,466,478,482,502,511,559 ⋆ Numbers n such that n and n+3 are consecutive semiprimes. • a(n) >> n log n. - _ Charles R Greathouse IV _ , Nov 02 2015 •

[A202803] • 0,6,22,48,84,130,186,252,328,414,510,616,732,858,994,1140,1296,1462,1638,1824,2020,2226,2442,2668,2904 ⋆ a(n) = n*(5n+1). • a(n) = 5 * n ^ 2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0) = 0, a(1) = 6, a(2) = 22. - _ Philippe Deléham _ , Mar 27 2013 • a(n) = (n + 1) ^ 3 - (1 + n + n * (n - 1) + n * (n - 1) * (n - 2)). - _ Michael Somos _ , Aug 10 2014 •

[A092185] • 0,6,22,53,104,180,286,427,608,834,1110,1441,1832,2288,2814,3415,4096,4862,5718,6669,7720,8876,10142,11523,13024 ⋆ a(n) = (5/6)*n^3+(5/2)*n^2+(8/

• a(n)= + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: x * (6 - 2 * x + x ^ 2) / (x - 1) ^ 4. [From _ R. J. Mathar _ , Jun 21 2010] •

[A212692] • 0,0,6,22,54,106,184,292,436,620,850,1130,1466,1862,2324,2856,3464,4152,4926,5790,6750,7810,8976,10252,11644 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<|x-y|+|y-z|. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[A071239] • 0,1,6,22,60,135,266,476,792,1245,1870,2706,3796,5187,6930,9080,11696,14841,18582,22990,28140,34111,40986,48852,57800 ⋆ a(n) = n*(n+1)*(n^2+n+2)/6 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n >4. - _ Harvey P. Dale _ , May 01 2013 •

[A105450] • 0,6,22,60,142,305,607,1134,2008,3396,5520,8668,13206,19591,28385,40270,56064,76738,103434,137484,180430,234045,300355,381662,480568 ⋆ a(n) = binomial(n+5,6) + binomial(n+3,3) + binomial(n+2,3) + binomial(n-1,1). • a(0)=0, a(1)=6, a(2)=22, a(3)=60, a(4)=142, a(5)=305, a(6)= 607, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jun 28 2011 •

[A011888] • 0,1,6,22,61,142,292,548,958,1583,2498,3794,5579,7980,11144,15240,20460,27021,35166,45166,57321,71962,89452,110188,134602 ⋆ Partial sums of A011863. • a(n) = (2 * n + 3) * (6 * n ^ 4 + 36 * n ^ 3 + 76 * n ^ 2 + 66 * n + 5) / 960 - (- 1) ^ n / 64. G.f. x * (1 + x + x ^ 2) / ((1 + x) * (x - 1) ^ 6). - _ R. J. Mathar _ , Mar 24 2011 •

[A081282] • 0,1,6,22,62,147,308,588,1044,1749,2794,4290,6370,9191,12936,17816,24072,31977,41838,53998,68838,86779,108284,133860,164060 ⋆ Generalized centered polygonal numbers. • a(n) = 2 * C(n + 3, 5) + C(n + 2, 3). • a(n) = n * (n + 1) * (n + 2) * (n ^ 2 + 2 * n + 7) / 60. - _ Carl Najafi _ , Nov 18 2012 • a(0)=0, a(1)=1, a(2)=6, a(3)=22, a(4)=62, a(5)=147, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Jan 09 2014 •

[A001769] • 1,6,22,62,148,314,610,1106,1897,3108,4900,7476,11088,16044,22716,31548,43065,57882,76714,100386,129844,166166,210574,264446,329329 ⋆ Expansion of 1/((1+x)*(1-x)^7). • a(n) = Sum _{ k=0..n } (- 1) ^ (n - k) * C(k + 6, 6). • a(n) = (4 * n ^ 6 + 96 * n ^ 5 + 910 * n ^ 4 + 4320 * n ^ 3 + 10696 * n ^ 2 + 12864 * n + 5715) / 5760 + (- 1) ^ n / 128. (End) •

[A053739] • 1,6,22,63,155,344,709,1383,2587,4685,8273,14323,24416,41119,68595,113590,187030,306605,500950,816410,1327986,2157046,3499982,5674578,9195035 ⋆ Partial sums of A014166. • a(n) = sum _{ i=0..floor(n / 2) } C(n + 5 - i, n - 2i); n >= 0. • a(n) = sum _{ k=1..n } C(n - k + 5,k + 4), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 •

[A055797] • 1,6,22,64,162,372,792,1584,3003,5434,9438,15808,25636,40392,62016,93024,136629,196878,278806,388608,533830,723580,968760,1282320,1679535 ⋆ T(2n+4,n), array T as in A055794. • a(n - 5) = binomial(n,7) + binomial(n,5) for n>4. - _ Zerinvary Lajos _ , Jul 24 2006 • a(n) = 8 * (n - 1) - 28 * (n - 2) + 56 * (n - 3) - 70 * (n - 4) + 56 * (n - 5) - 28 * (n - 6) + 8 * (n - 7) - (n - 8). - _ Vincenzo Librandi _ , May 01 2012 •

[A002663] • 0,0,0,0,1,6,22,64,163,382,848,1816,3797,7814,15914,32192,64839,130238,261156,523128,1047225,2095590,4192510,8386560,16774891 ⋆ a(n) = 2^n - C(n,0) - C(n,1) - C(n,2) - C(n,3). • a(n) = Sum _{ k=0..n } binomial(n,k + 4) = Sum _{ k=4..n } binomial(n,k). - _ Paul Barry _ , Aug 23 2004 • a(n) = 2 * a(n - 1) + binomial(n - 1,3). - _ Paul Barry _ , Aug 23 2004 • a(n) = (6 * 2 ^ n - n ^ 3 - 5 * n - 6) / 6. - _ Mats Granvik _ , _ Gary W. Adamson _ , Feb 17 2010 •

[A003469] • 1,6,22,65,171,420,988,2259,5065,11198,24498,53157,114583,245640,524152,1113959,2359125,4980546,10485550,22019865,46137091,96468716,201326292,419430075,872414881 ⋆ Number of minimal covers of an (n+1)-set by a collection of n nonempty subsets, A035348(n, n-1). • a(n) = (n + 1) * 2 ^ n - (n + 1) * (n + 2) / 2. - _ Paul Barry _ , Jan 27 2003 •

[A271389] • 0,1,6,22,66,179,460,1148,2820,6869,16658,40306,97414,235303,568216,1371960,3312392,7997033,19306782,46610958,112529098,271669595,655868772,1583407668,3822684684 ⋆ a(n) = 2*a(n-1) + a(n-2) + n^2 for n>1, with a(0)=0, a(1)=1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) + a(n - 4) - a(n - 5). • a(n) = (1 / 8) * (- 4 * (n * (n + 4) + 5) + (10 - 7 * sqrt(2)) * (1 - sqrt(2)) ^ n + (10 + 7 * sqrt(2)) * (1 + sqrt(2)) ^ n). •

[A171495] • 6,22,70,214,646,1942,5830,17494,52486,157462,472390,1417174,4251526,12754582,38263750,114791254,344373766,1033121302,3099363910,9298091734,27894275206,83682825622,251048476870,753145430614,2259436291846 ⋆ a(n) = 3*a(n-1)+4 for n > 0; a(0) = 6. • a(n) = 2 * (4 * 3 ^ n - 1). •

[A178706] • 0,1,6,22,70,215,652,1964,5900,17709,53138,159426,478290,1434883,4304664,12914008,38742040,116226137,348678430,1046035310,3138105950,9414317871,28242953636,84728860932,254186582820 ⋆ Partial sums of floor(3^n/5). • a(n) = round((3 * 3 ^ n - 5 * n - 5) / 10). • a(n) = floor((3 * 3 ^ n - 5 * n - 3) / 10). • a(n) = ceil((3 * 3 ^ n - 5 * n - 7) / 10). • a(n) = round((3 * 3 ^ n - 5 * n - 3) / 10). • a(n) = a(n - 4) + 8 * 3 ^ (n - 3) - 2 , n>4. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 3 * a(n - 5), n>5. •

[A217530] • 0,6,22,75,204,460,906,1617,2680,4194,6270,9031,12612,17160,22834,29805,38256,48382,60390,74499,90940,109956,131802,156745,185064 ⋆ n^4/2-5*n^3/2+21*n-30. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Wesley Ivan Hurt _ , Nov 10 2014 •

[A111566] • 1,6,22,76,260,888,3032,10352,35344,120672,412000,1406656,4802624,16397184,55983488,191139584,652591360,2228086272,7607162368,25972476928,88675582976,302757378048,1033678346240,3529198628864 ⋆ a(n) = ((1+sqrt(8))*(2+sqrt(2))^n + (1-sqrt(8))*(2-sqrt(2))^n)/2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2), a(0) = 1, a(1) = 6. •

[A255465] • 1,6,22,90,358,1434,5734,22938,91750,367002,1468006,5872026,23488102,93952410,375809638,1503238554,6012954214,24051816858,96207267430,384829069722,1539316278886,6157265115546,24629060462182,98516241848730,394064967394918 ⋆ a(n) = A255464(2^n-1). • a(n) = (- 2 * (- 1) ^ n + 7 * 4 ^ n) / 5. • a(n) = 3 * a(n - 1) + 4 * a(n - 2) for n>1. •

[A100300] • 1,1,6,22,99,451,2140,10396,51525,259429,1323362,6824434,35519687,186346759,984400760,5231789176,27954506505,150079713481,809181079294,4379654830222,23787413800491,129607968854731,708230837732436,3880366912218772,21312485647242829 ⋆ Number of dissections of a convex n-gon by non-intersecting diagonals into an odd number of regions. • a(n) = sum(C(n - 3, 2k - 2) * C(n + 2k - 3, 2k - 2) / (2k - 1), k=1..floor((n - 1) / 2)). •

[A179601] • 1,6,22,108,460,2088,9208,41136,182704,813600,3618784,16104384,71651008,318820992,1418569600,6311953152,28084886272,124963582464,556023840256,2474023050240,11008138832896,48980603529216,217938687588352 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+4*x)/(1-2*x-10*x^2-4*x^3). • a(n) = 2 * a(n - 1) + 10 * a(n - 2) + 4 * a(n - 3) with a(0)=1, a(1)=6 and a(2)=22. • a(n) = (- 2 / 5) * (- 1 / 2) ^ (- n) + ((2 + 3 * A) * A ^ (- n - 1) + (2 + 3 * B) * B ^ (- n - 1)) / 10 with A = (- 1 + sqrt(6) / 2) and B = (- 1 - sqrt(6) / 2). •

[A193463] • 1,1,6,22,117,705,4972,39916,360105,3606865,39721266,477061026,6205806061,86925018817,1304396077272,20877063837400,355003736855697,6391465311099681,121460116022428510,2429579599296960430,51027940329395658981,1122742916106886416001 ⋆ Row sums of triangle A076732. • a(n) = sum((k / (n - k)!) * sum(((- 1) ^ j) * binomial(k - 1,j) * (n - 1 - j)!, j=0..k - 1), k=1..n). •

[A193445] • 1,6,22,154,548,7488,26136,471168,3272832,46114560,241087680,10152587520,39605518080,1245053859840,19626466406400,402874746624000,2446811181158400,15660496913080320 0,863130293635276800,6202993369776537 6000 ⋆ a(n) = n! * Sum_{d|n} H(d)*H(n/d), where H(n) is the n-th harmonic number. • a(n) = n! * Sum _{ d|n } (Sum _{ j=1..d } 1 / j) * (Sum _{ k=1..n / d } 1 / k). •

[A000993] • 1,6,22,159,1044,9121,78132,748719,7161484,70800861,699869892,6978353179,69580078524,695292156201,6947835288052,69465637212039,694529215501164,6944974263529141,69446563720728612,694457689921141299,694449742635101340 4 ⋆ Number of distinct quadratic residues mod 10^n; also number of distinct n-digit endings of base-10 squares. • a(n) = floor((83 - (- 1) ^ n * (27 + 2 ^ (n + 1) + 5 ^ (n + 1)) + 9 * 2 ^ n + (9 + 2 ^ n) * 5 ^ (n + 1)) / 72). • a(n + 8) = 130 a(n + 6) - 3129 a(n + 4) + 13000 a(n + 2) - 10000 a(n) for n >= 1. •

[A081097] • 1,6,23,40,273,1870,7343,12816,87841,602070,2364359,4126648,28284465,193864606,761316191,1328767776,9107509825,62423800998,245141449079,427859097160,2932589879121,20100270056686,78934785287183 ⋆ Numbers n such that n^2= (1/5)*(n+floor(sqrt(5)*n*floor(sqrt(5)*n))). • a(1)=1; a(2)=6; a(3)=23; a(4)=40; a(4n)=2 * a(4n - 1) - a(4n - 2); a(4n + 1)=7 * a(4n) - a(4n - 2) - 1; a(4n + 2)=7 * a(4n + 1) - a(4n - 1) - 1; a(4n + 3)=4 * a(4n + 2) - a(4n + 1) / 2 - 1 / 2. •

[A235332] • 6,23,49,84,128,181,243,314,394,483,581,688,804,929,1063,1206,1358,1519,1689,1868,2056,2253,2459,2674,2898 ⋆ a(n) = n*(9*n + 25)/2 + 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A022269] • 0,6,23,51,90,140,201,273,356,450,555,671,798,936,1085,1245,1416,1598,1791,1995,2210,2436,2673,2921,3180 ⋆ a(n) = n*(11*n+1)/2. • a(n) = 11 * n + a(n - 1) - 5 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with n>2, a(0)=0, a(1)=6, a(2)=23. - _ Philippe Deléham _ , Mar 27 2013 •

[A026817] • 6,23,51,90,140,201,273,356,450,555,671,798,936,1085,1245,1416,1598,1791,1995,2210,2436,2673,2921,3180,3450 ⋆ Number of sets which can be obtained by selecting unique elements from two sets with 2n and 3n elements respectively and n common elements. • a(n)=(11 * n ^ 2 + n) / 2. •

[A212570] • 0,1,6,23,52,105,178,287,424,609,830,1111,1436,1833,2282,2815,3408,4097,4854,5719,6660,7721,8866,10143,11512 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|=|x-y|+|y-z|. • a(n) = 2a(n - 1) + a(n - 2) - 4a(n - 3) + a(n - 4) + 2a(n - 5) - a(n - 6). • a(n) = n * (- 1 - 3 * (- 1) ^ n + 10 * n ^ 2) / 12. G.f.: x * (x ^ 4 + 4 * x ^ 3 + 10 * x ^ 2 + 4 * x + 1) / ((x - 1) ^ 4 * (x + 1) ^ 2). [_ Colin Barker _ , Oct 04 2012] •

[A234729] • 0,6,23,55,108,187,297,443,631,866,1152,1496,1902,2376,2922,3547,4254,5050,5940,6928,8020,9221,10536,11971,13531 ⋆ Volume of right regular hexagonal pyramid with height and side lengths n, rounded down. • a(n)= floor(n ^ 2 * evalf(sqrt(3) * 3 / 2) * n / 3) = floor(0.8660254040 * n ^ 3). •

[A162267] • 6,23,57,114,200,321,483,692,954,1275,1661,2118,2652,3269,3975,4776,5678,6687,7809,9050,10416,11913,13547,15324,17250 ⋆ (2n^3+5n^2+5n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 05 2012 •

[A273314] • 1,6,23,64,137,250,411,628,909,1262,1695,2216,2833,3554,4387,5340,6421,7638,8999,10512,12185,14026,16043,18244,20637 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 643", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 - 13 * n + 15) / 3 for n>0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A213557] • 1,6,23,70,184,438,971,2042,4125,8076,15424,28876,53189,96670,173747,309362,546456,958690,1672015,2901170,5011321,8621976,14781888,25263000,43053769 ⋆ Antidiagonal sums of the convolution array A213590. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 2 * a(n - 3) + 6 * a(n - 4) - 4 * a(n - 5) - a(n - 6) + a(n - 7). •

[A273386] • 1,6,23,72,153,274,443,668,957,1318,1759,2288,2913,3642,4483,5444,6533,7758,9127,10648,12329,14178,16203,18412,20813 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional

cellular automaton defined by "Rule 659", based on the 5-celled von Neumann neighborhood. • a(n) = (11 * n) / 3 + 4 * n ^ 2 + (4 * n ^ 3) / 3 - 11 for n> 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. •

[A045618] • 1,6,23,72,201,522,1291,3084,7181,16398,36879,81936,180241,393234,851987,1835028,3932181,8388630,17825815,37748760,79691801,167772186,352321563,738197532,1543503901 ⋆ Partial sums of A000337(n+4), n >= 0. • a(n) = n + 5 + (n - 1) * 2 ^ (n + 2). • a(n) = Sum _{ i=0...n + 1 } (2 ^ (n + 2 - i) - 1) * (2 ^ i - 1). - _ J. M. Bergot _ , Sep 16 2017 • a(n) = Sum _{ k=0..n + 2 } Sum _{ i=0..n + 2 } (i - k) * C(n - k + 2,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[A038737] • 1,6,23,73,211,581,1560,4135,10890,28590,74946,196326,514123,1346148,3524441,9227311,24157645,63245795,165579930,433494205,1134902916,2971214796,7778741748,20365010748,53316290821 ⋆ T(n,n-2), array T as in A038792. • a(n) = Sum _{ k=0..n } (binomial(n + 2,k + 3) * Fibonacci(k)). - _ Vladimir Kruchinin _ , Oct 24 2016 •

[A136530] • 1,6,23,74,216,592,1552,3936,9728,23552,56064,131584,305152,700416,1593344,3596288,8060928,17956864,39780352,87687168,192413696,420478976,915406848,1986002944,4294967296 ⋆ 2^n*(3*n^2+13*n+8)/8. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). G.f.: (1 + x) * (1 - x) / (1 - 2 * x) ^ 3. [_ Colin Barker _ , Aug 12 2012] •

[A060188] • 1,6,23,76,237,722,2179,6552,19673,59038,177135,531428,1594309,4782954,14348891,43046704,129140145,387420470,1162261447,3486784380,10460353181,31381059586,94143178803,282429536456,847288609417 ⋆ A column and diagonal of A060187. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). G.f.: - x ^ 2 * (x + 1) / ((x - 1) ^ 2 * (3 * x - 1)). - _ Colin Barker _ , Dec 19 2012 •

[A054491] • 1,6,23,86,321,1198,4471,16686,62273,232406,867351,3236998,12080641,45085566,168261623,627960926,2343582081,8746367398,32641887511,121821182646,454642843073,1696750189646,6332357915511,23632681472398 ⋆ a(n) = 4a(n-1) - a(n-2), a(0)=1, a(1)=6. • a(n) = (6 * ((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) - ((2 + sqrt(3)) ^ (n - 1) - (2 - sqrt(3)) ^ (n - 1))) / (2 * sqrt(3)). •

[A120775] • 1,6,23,100,421,1786,7563,32040,135721,574926,2435423,10316620,43701901,185124226,784198803,3321919440,14071876561,59609425686,252509579303,1069647742900,4531100550901,19194049946506,81307300336923 ⋆ The (3,1)-entry of the matrix M^n, where M is the 3 X 3 matrix [0,1,1; 2,1,2; 1,2,2] (n>=1). • a(n) = 3a(n - 1 + 5a(n - 2) + a(n - 3) (follows from the minimal polynomial of the matrix M). • a(n)=(3 / 4) * [2 - sqrt(5)] ^ n - (1 / 2) * (- 1) ^ n + (3 / 4) * [2 + sqrt(5)] ^ n + (1 / 4) * [2 + sqrt(5)] ^ n * sqrt(5) - (1 / 4) * [2 - sqrt(5)] ^ n * sqrt(5), with n>=0 - _ Paolo P. Lava _ , Jun 12 2008 •

[A072710] • 6,24,27,33,66,84,87,93,126,144,147,153,186,204,207,213,246,264,267,273,306,324,327,333,366 ⋆ Last digit of F(n) is 8 where F(n) is the n-th Fibonacci number. • a(n) = (- 60 - 6 * (- 1) ^ n - (21 - 9 * i) * (- i) ^ n - (21 + 9 * i) * i ^ n + 60 * n) / 4 where i=sqrt(- 1). - _ Colin Barker _ , Oct 16 2015 •

[A033581] • 0,6,24,54,96,150,216,294,384,486,600,726,864,1014,1176,1350,1536,1734,1944,2166,2400,2646,2904,3174,3456 ⋆ a(n) = 6*n^2. • a(n) = 12 * n + a(n - 1) - 6, with a(0)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 3 * floor(1 / (1 - cos(1 / n))) = floor(1 / (1 - n * sin(1 / n))) for n > 0. - _ Clark Kimberling _ , Oct 08 2014 •

[A213393] • 0,6,24,54,108,192,300,450,648,882,1176,1536,1944,2430,3000,3630,4356,5184,6084,7098,8232,9450,10800,12288,13872 ⋆ Number of (w,x,y) with all terms in {0,...,n} and 2*max(w,x,y) > 3*min(w,x,y). • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). •

[A212904] • 1,6,24,58,118,202,324,478,682,926,1232,1586,2014,2498,3068,3702,4434,5238,6152,7146,8262,9466,10804,12238,13818 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and |w-x|+|x-y+|y-z|=n. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>=1. •

[A211615] • 0,6,24,60,114,186,276,384,510,654,816,996,1194,1410,1644,1896,2166,2454,2760,3084,3426,3786,4164,4560,4974 ⋆ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and -1<=w+x+y<=1. • a(n) = 3a(n - 1) - 3 a(n - 2) + a(n - 3) for n>3. • a(n) = 6 - 9 * n + 9 * n ^ 2 for n>0. G.f.: 6 * x * (1 + x + x ^ 2) / (1 - x) ^ 3. [_ Colin Barker _ , Sep 09 2012] •

[A195647] • 0,6,24,60,116,200,318,472,668,914,1214,1568,1988,2480,3040,3680,4408,5224,6130,7140,8260,9478,10816,12280,13864 ⋆ a(n) is the optimal wire-length for a n X n grid. • a(n) = n * (n ^ 2 + n - 2) - t * (2t ^ 2 - 6nt + 3n ^ 2 + 3n - 2) / 3, where t = round((6n - sqrt(6 * (2 - 3n + 3n ^ 2))) / 6). •

[A007531] • 0,0,0,6,24,60,120,210,336,504,720,990,1320,1716,2184,2730,3360,4080,4896,5814,6840,7980,9240,10626,12144 ⋆ a(n) = n*(n-1)*(n-2) (or n!/(n-3)!). • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3) + 6, n>2. - _ Zak Seidov _ , Feb 09 2006 • a(- n) = - a(n + 2). • a(n + 1) = n ^ 3 - n. - _ Mohammad K. Azarian _ , Jul 26 2007 • a(0) = 0, a(n) = a(n - 1) + 3 * (n - 1) * (n - 2). - _ Jean - François Alcover _ , Jan 08 2013 •

[A101854] • 6,24,61,125,225,371,574,846,1200,1650,2211,2899,3731,4725,5900,7276,8874,10716,12825,15225,17941,20999,24426,28250,32500 ⋆ a(n) = n*(n+1)*(n+2)/24 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n >5. - _ Harvey P. Dale _ , Nov 05 2011 •

[A274772] • 0,1,6,24,66,149,292,520,860,1345,2010,2896,4046,5509,7336,9584,12312,15585,19470,24040,29370,35541,42636,50744,59956 ⋆ Zero together with the partial sums of A056640. • a(n) = (4 * n ^ 4 + 8 * n ^ 3 + 2 * n ^ 2 + 4 * n + 3 * (1 - (- 1) ^ n)) / 24. Therefore : • a(2 * k) = k * (k + 1) * (8 * k ^ 2 + 1) / 3, a(2 * k + 1) = (k + 1) * (8 * k ^ 3 + 16 * k ^ 2 + 9 * k + 3) / 3. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6) for n >5. •

[A006528] • 0,1,6,24,70,165,336,616,1044,1665,2530,3696,5226,7189,9660,12720,16456,20961,26334,32680,40110,48741,58696,70104,83100 ⋆ a(n) = (n^4 + n^2 + 2*n)/4. • a(n) = n * (n + 1) * (n ^ 2 - n + 2) / 4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). [_ Vincenzo Librandi _ , Apr 30 2012] •

[A052749] • 0,0,0,6,24,70,180,434,1008,2286,5100,11242,24552,53222,114660,245730,524256,1114078,2359260,4980698,10485720,22020054,46137300,96468946,201326544 ⋆ 2n*S2(n-1,2). • a(n) = Sum(n * 2 ^ (k - 2), k=3..n). - _ Zerinvary Lajos _ , Oct 09 2006 • a(n) = sum _{ j=1..n } (sum _{ i=2..n - 1 } (j + 1) * 2 ^ (j - i - 1)). - _ Wesley Ivan Hurt _ , Nov 17 2014 • a(n) = n * (2 ^ n - 4) / 2, n>1. - _ Wesley Ivan Hurt _ , Nov 17 2014 •

[A058809] • 0,0,6,24,78,240,726,2184,6558,19680,59046,177144,531438,1594320,4782966,14348904,43046718,129140160,387420486,1162261464,3486784398,10460353200,31381059606,94143178824,282429536478 ⋆ The sequence lambda(3,n), where lambda is defined in A055203. Number of ways of placing n identifiable positive intervals with a total of exactly three starting and/or finishing points. • a(0)=0, a(1)=0, a(2)=6, a(n)=4 * a(n - 1) - 3 * a(n - 2). - _ Harvey P. Dale _ , Sep 29 2013 •

[A001788] • 0,1,6,24,80,240,672,1792,4608,11520,28160,67584,159744,372736,860160,1966080,4456448,10027008,22413312,49807360,110100480,242221056,530579456,1157627904,2516582400 ⋆ a(n) = n*(n+1)*2^(n-2). • a(n) = Sum _{ i=1..n } i ^ 2 * binomial(n, i): binomial transform of A000290. - Yong Kong, Dec 26 2000 • a(n) = Sum _{ j=0..n } binomial(n + 1,j) * (n + 1 - j) ^ 2. - _ Zerinvary Lajos _ , Aug 22 2006 • a(n) = Sum _{ 1<=i<=k<=n } (- 1) ^ (i + 1) * i ^ 2 * binomial(n + 1,k + i) * binomial(n + 1,k - i). - _ Mircea Merca _ , Apr 09 2012 • a(0)=0, a(1)=1, a(2)=6, a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Jul 16 2013 • a(n) = Sum _{ k=0..n - 1 } Sum _{ i=0..n - 1 } (k + 1) * C(n - 1,i). - _ Wesley Ivan Hurt _ , Sep 20 2017 •

[A047790] • 0,0,0,1,6,24,81,250,732,2073,5742,15664,42273,113202,301428,799273,2112774,5571816,14668209,38563882,101285580,265817145,697214430,1827923296,4790749761 ⋆ a(n) = Fibonacci(2*n)-2^n+1. • a(0)=0, a(1)=0, a(2)=0, a(3)=1, a(n)=6 * a(n - 1) - 12 * a(n - 2) + 9 * a(n - 3) - 2 * a(n - 4). - _ Harvey P. Dale _ , Jan 19 2012 • a(n) = (1 - 2 ^ n - ((3 - sqrt(5)) / 2) ^ n / sqrt(5) + ((3 + sqrt(5)) / 2) ^ n / sqrt(5)). - _ Colin Barker _ , Nov 02 2016 •

[A052150] • 1,6,24,82,261,804,2440,7356,22113,66394,199248,597822,1793557,5380776,16142448,48427480,145282593,435847950,1307544040,3922632330,11767897221,35303691916,105911076024,317733228372,953199685441 ⋆ Partial sums of A000340, second partial sums of A003462. • a(n) = ((3 ^ (n + 3)) - (2 * (n ^ 2) + 12n + 19)) / 8. • a(n) = sum { k=0..n, binomial(n + 3, k + 3)2 ^ k } . - _ Paul Barry _ , Aug 20 2004 • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 10 * a(n - 3) - 3 * a(n - 4). •

[A166060] • 1,6,24,84,276,876,2724,8364,25476,77196,233124,702444,2113476,6352716,19082724,57297324,171990276,516167436,1548895524,4647473004,13943991876,41835121356,125511655524,376547549484,1129667814276 ⋆ 4*3^n - 3*2^n. • a(0)= 1, a(1)= 6, a(n)= 5 * a(n - 1) - 6 * a(n - 2) for n>1. G.f.: (1 + x) / (1 - 5x + 6x ^ 2). •

[A124807] • 1,6,24,84,332,1336,5478,22658,94196,392664,1639274,6849002,28627874,119688094,500456806,2092720174,8751273556,36596513060,153042707976,640011807436,2676483843602,11192882945426,46807955443900 ⋆ Number of base 6 circular n-digit numbers with adjacent digits differing by 2 or less. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) - 8 * a(n - 3) + 5 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. •

[A255474] • 1,6,24,88,336,1280,4928,19072,74240,290304,1139712,4489216,17731584,70197248,278429696,1106083840,4399628288,17518559232,69815500800,278424715264,1110989340672,4435189170176,17712382214144,70757707153408,282733687341056 ⋆ a(n) = A255473(2^n-1). • a(n) = 4 ^ n + (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n)) / (2 * sqrt(5)) for n>0. • a(n) = 6 * a(n - 1) - 4 * a(n - 2) - 16 * a(n - 3) for n>3. •

[A001352] • 1,6,24,90,336,1254,4680,17466,65184,243270,907896,3388314,12645360,47193126,176127144,657315450,2453134656,9155223174,34167758040,127515808986,475895477904,1776066102630,6628368932616,24737409627834,92321269578720 ⋆ a(0) = 1, a(1) = 6, a(2) = 24; for n>=3, a(n) = 4a(n-1) - a(n-2). • a(n) = sqrt(3) * (- (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n) for n>0. - _ Colin Barker _ , Oct 12 2015 •

[A155602] • 1,6,24,90,336,1266,4824,18570,72096,281826,1107624,4371450,17308656,68703186,273218424,1088090730,4338014016,17309009346,69106897224,276040168410,1102998412176,4408506864306,17623567104024,70462887356490 ⋆ 4^n + 3^n - 1. • a(n) = 7 * a(n - 1) - 12 * a(n - 2) - 6, n>1 - _ Gary Detlefs _ , Jun 21 2010 • a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 12 * a(n - 3), n>2, a(0)=1, a(1)=6, a(2)=24. - _ L. Edson Jeffery _ , Oct 17 2012 •

[A255296] • 1,6,24,92,340,1236,4452,15956,57028,203508,725604,2585876,9212932,32818740,116898468,416365652,1482959428,5281740660,18811402980,66998214548,238618498180,849854020788,3026803253028,10780126189268,38394001831276 ⋆ a(n) = A255295(2^n-1). • a(n) = (2 ^ (- n) * (- 17 * 4 ^ n + (17 - 5 * sqrt(17)) * (3 - sqrt(17)) ^ n + (3 + sqrt(17)) ^ n * (17 + 5 * sqrt(17)))) / 17. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 4 * a(n - 3) for n>2. •

[A253101] • 1,6,24,96,372,1416,5340,20040,75012,280392,1047324,3910440,14597508,54485736,203357724,758969736,2832570372,10571410056,39453266460,147242049000,549515715972,2050822387752,7653776980764,28564291826760,106603402909188 ⋆ a(n) = A253100(2^n-1). • a(n) = - 2 ^ n + 2 * (2 - sqrt(3)) ^ n + 2 * (2 + sqrt(3)) ^ n for n>0. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) +

2 * a(n - 3) for n>3. •

[A164908] • 1,6,24,96,384,1536,6144,24576,98304,393216,1572864,6291456,25165824,100663296,402653184,1610612736,6442450944,25769803776,103079215104,412316860416,1649267441664,6597069766656,26388279066624 ⋆ a(n) = (3*4^n - 0^n)/2. • a(n) = 4 * a(n - 1) for n > 1; a(0) = 1, a(1) = 6. •

[A002023] • 6,24,96,384,1536,6144,24576,98304,393216,1572864,6291456,25165824,100663296,402653184,1610612736,6442450944,25769803776,103079215104,412316860416,1649267441664,6597069766656,26388279066624,105553116266496,422212465065984 ⋆ a(n) = 6*4^n. • a(n) = 4 * a(n - 1) for n > 0, a(0)=6. •

[A290911] • 0,6,24,96,408,1722,7248,30528,128592,541638,2281416,9609504,40475976,170487930,718108320,3024727680,12740386464,53663491206,226034767224,952075887072,4010217126648,16891344084282,71147645118192,299679373092288,1262272651579632 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 6*S^2. • a(n) = 4 * a(n - 1) + 4 * a(n - 3) - a(n - 4). •

[A117614] • 1,6,24,98,392,1570,6280,25122,100488,401954,1607816,6431266,25725064,102900258,411601032,1646404130,6585616520,26342466082,105369864328,421479457314,1685917829256,6743671317026,26974685268104 ⋆ a(0)=1, a(n)=4a(n-1)+2 for n odd, a(n)=4a(n-1) for n even. • a(n) = (- 5 - 3 * (- 1) ^ n + 23 * 4 ^ n) / 15. a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). G.f.: - (x ^ 2 - 2 * x - 1) / ((x - 1) * (x + 1) * (4 * x - 1)). [_ Colin Barker _ , Feb 17 2013] •

[A255471] • 1,6,24,100,396,1596,6364,25500,101916,407836,1631004,6524700,26097436,104392476,417564444,1670268700,6681052956,26724255516,106896934684,427587913500,1710351304476,6841405916956,27365622269724,109462491875100,437849961907996 ⋆ a(n) = A255470(2^n-1). • a(n) = (- 4 - (- 2) ^ n + 7 * 2 ^ (1 + 2 * n)) / 9. • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 8 * a(n - 3) for n>2. •

[A052745] • 0,0,0,6,24,110,600,3836,28224,235224,2191680,22584672,255087360,3134139840,41620400640,594082771200,9070900715520,147531542054400,2546434166169600,46489412442009600,895079522340864000,18125736166340812800,385129713617510400000 ⋆ A simple grammar. • a(n) = (- 1) ^ (n + 1) * 2 * n * Stirling1(n - 1, 2). - _ Vladeta Jovovic _ , Nov 08 2003 •

[A217193] • 6,24,119,588,2279,6996,18043,40884,83923,159404,284431,482108,782799,1225508,1859379,2745316,3957723,5586364,7738343,10540204,14140151,18710388,24449579,31585428,40377379 ⋆ Number of permutations in S_{n+3} containing an increasing subsequence of length n. • a(0) = 6, a(1) = 24, a(n) = (n ^ 6 + 6 * n ^ 5 + 10 * n ^ 4 + 4 * n ^ 3 + 19 * n ^ 2 + 62 * n + 66) / 6 for n>1. •

[A127917] • 6,24,120,336,1320,2184,4896,6840,12144,24360,29760,50616,68880,79464,103776,148824,205320,226920,300696,357840,388944,492960,571704,704880,912576 ⋆ Product of three numbers: n-th prime, previous number, and following number. • a(n) = prime(n) * (prime(n) ^ 2 - 1). - _ Tom Edgar _ , Sep 28 2015 •

[A060249] • 1,1,6,24,120,1440,5040,40320,362880,3628800,39916800,479001600,6227020800,87178291200,1307674368000,20922789888000,355687428096000,6402373705728000,121645100408832000,2432902008176640000 ⋆ Size of the automorphism group of the symmetric group S_n. • a(n) = n! except for n= 2 and 6. •

[A274072] • 0,6,24,126,624,3126,15624,78126,390624,1953126,9765624,48828126,244140624,1220703126,6103515624,30517578126,152587890624,762939453126,3814697265624,19073486328126,95367431640624,476837158203126,2384185791015624,11920928955078126 ⋆ a(n) = 5^n-(-1)^n. • a(n) = 4 * a(n - 1) + 5 * a(n - 2) for n>1. •

[A110707] • 6,24,132,804,5196,34872,240288,1688244,12040188,86892384,633162360,4650680640,34390540320,255773538240,1911730760832,14350853162676,108139250403804,817629606524112,6200696697358344,47152195812692664 ⋆ Number of linear arrangements of n blue, n red and n green items such that there are no adjacent items of the same color (first and last elements considered as adjacent). • a(n) = 2 * Sum[k=0..[n / 2]] binomial(n - 1, k) * (binomial(n - 1, k) * (binomial(2n + 1 - 2k, n + 1) - 3 * binomial(2n - 1 - 2k, n + 1)) + binomial(n - 1, k + 1) * (binomial(2n - 2k, n + 1) - 3 * binomial(2n - 2k - 2, n + 1))) •

[A225827] • 1,6,24,168,1120,8640,66816,529920,4212736,33632256,268713984,2148630528,17184194560,137456517120,1099579785216,8796367749120,70369826308096,562954298720256,4503616874348544,36028866141093888,288230651566489600,2305844111946547200 ⋆ Number of binary pattern classes in the (3,n)-rectangular grid: two patterns are in same class if one of them can be obtained by a reflection or 180 degree rotation of the other. • a(n) = 8 * a(n - 1) + 8 * a(n - 2) - 64 * a(n - 3) - 2 ^ (2n - 3) with n>2, with a(0)=1, a(1)=6, a(2)=24. • a(n) = 2 ^ (3n / 2 - 1) * (2 ^ (3n / 2 - 1) + 2 ^ (n / 2 - 1) + 1) if n is even, • a(n) = 2 ^ ((3 * n - 1) / 2 - 1) * (2 ^ ((3 * n - 1) / 2) + 2 ^ ((n - 1) / 2) + 3) if n is odd. •

[A277985] • 6,24,204,546,1050,1716,2544,3534,4686,6000,7476,9114,10914,12876,15000,17286,19734,22344,25116,28050,31146,34404,37824,41406,45150 ⋆ a(n) = 3*(9*n - 1)*(3*n - 2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Nov 13 2016 •

[A152886] • 0,0,0,6,24,360,2160,30240,241920,3628800,36288000,598752000,7185024000,130767436800,1830744115200,36614882304000,585838116864000,12804747411456000,230485453406208000,5474029518397440000 ⋆ Number of descents beginning and ending with an even number in all permutations of {1,2,...,n}. • a(2n) = (2n - 1)! * binomial(n,2); a(2n + 1) = (2n)! * binomial(n,2). •

[A042879] • 1,6,25,31,56,87,230,1237,3941,9119,113369,3523558,42396065,88315688,307343129,1625031333,3557405795,5182437128,8739842923,13922280051,64428963127,400496058813,24895184609533,149771603716011,623981599473577 ⋆ Denominators of continued fraction convergents to sqrt(971). • a(n) = 2 4959613572660 * a(n - 22) - a(n - 44) for n>43. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A022270] • 0,6,25,57,102,160,231,315,412,522,645,781,930,1092,1267,1455,1656,1870,2097,2337,2590,2856,3135,3427,3732 ⋆ a(n) = n*(13*n - 1)/2. • a(n) = 13 * n + a(n - 1) - 7 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(0)=0, a(1)=6, a(2)=25; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 02 2011 •

[A255687] • 0,6,25,64,130,230,371,560,804,1110,1485,1936,2470,3094,3815,4640,5576,6630,7809,9120,10570,12166,13915,15824,17900 ⋆ a(n) = n*(n + 1)*(7*n + 11)/6. • a(n) = (1 / 2) * (Sum _{ j=0..n } (n + 1 - j) * (3 * n - j) + Sum _{ j=0..n - 1 } (n - j) * (3 * n + 1 - 3 * j)). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Mar 02 2015 •

[A096958] • 6,25,65,135,245,406,630,930,1320,1815,2431,3185,4095,5180,6460,7956,9690,11685,13965,16555,19481,22770,26450,30550,35100 ⋆ Fifth column (m=4) of (1,6)-Pascal triangle A096956. • a(n) = sum _{ k=1..n + 1 } (sum _{ i=1..k } i * (n - k + 7)). - _ Wesley Ivan Hurt _ , Sep 26 2013 •

[A241170] • 6,25,67,145,275,476,770,1182,1740,2475,3421,4615,6097,7910,10100,12716,15810,19437,23655,28525,34111,40480,47702,55850,65000 ⋆ Steffensen's bracket function [n,n-3]. • a(n) = (n - 2) * (n - 1) * (24 + 7 * n + 3 * n ^ 2) / 24. - _ Vaclav Kotesovec _ , Apr 23 2014 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Vincenzo Librandi _ , Dec 12 2014 •

[A245679] • 0,0,0,6,25,69,154,300,531,875,1364,2034,2925,4081,5550,7384,9639,12375,15656,19550,24129,29469,35650,42756,50875 ⋆ a(n) = pg(n, 3) + pg(n, 4) + ... + pg(n, n) where pg(n, m) is the m-th n-th-order polygonal number. • a(n) = (- 6 - n + 2 * n ^ 2 - 2 * n ^ 3 + n ^ 4) / 6 for n>1. •

[A230723] • 0,1,6,25,87,238,575,1228,2425,4446,7734,12806,20422,31444,47072,68639,97929,136893,188061,254170,338679,445297,578616,743524,945968 ⋆ Number of non-equivalent ways to choose three points in an equilateral triangle grid of side n. • a(n) = (n ^ 6 + 3 * n ^ 5 - 3 * n ^ 4 + 10 * n ^ 3 + B + C) / 288 •

[A055585] • 1,6,25,88,280,832,2352,6400,16896,43520,109824,272384,665600,1605632,3829760,9043968,21168128,49152000,113311744,259522560,590872576,1337982976,3014656000,6761218048,15099494400 ⋆ Second column of triangle A055584. • a(n) = 2 ^ (n - 3)(n + 1)(n + 3)(n + 8) / 3. •

[A001871] • 1,6,25,90,300,954,2939,8850,26195,76500,221016,632916,1799125,5082270,14279725,39935214,111228804,308681550,853904015,2355364650,6480104231,17786356776,48715278000,133167004200,363372003625 ⋆ Expansion of 1/(1-3*x+x^2)^2. • a(n) = (2 * (2 * n + 1) * F(2 * (n + 1)) + 3 * (n + 1) * F(2 * n + 1)) / 5 with F(n) = A000045 (Fibonacci numbers). • a(n) = - a(- 4 - n) = ((4n + 2)F(2n) + (7n + 5)F(2n + 1)) / 5 with F(n) = A000045 (Fibonacci numbers). • a(n) = [2a(n - 1) + (n + 1)F(2n + 4)] / 3, where F(n) = A000045 (Fibonacci numbers). - _ Emeric Deutsch _ , Oct 08 2002 • a(n) = (Sum _{ k=0..n } S(k, 3)S(n - k, 3)) S(n, x) = U(n, x / 2) Chebyshev polynomials of 2nd kind, A049310. - _ Paul Barry _ , Nov 14 2003 • a(n) = Sum _{ k=1..n + 1 } F(2k)F(2(n - k + 2)) where F(k) is the k - th Fibonacci number. - Dan Daly (ddaly(AT)du.edu), Apr 24 2008 • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Mar 14 2011 •

[A000392] • 0,0,0,1,6,25,90,301,966,3025,9330,28501,86526,261625,788970,2375101,7141686,21457825,64439010,193448101,580606446,1742343625,5228079450,15686335501,47063200806 ⋆ Stirling numbers of second kind S(n,3). • a(n) = (1 + 3 ^ (n - 1) - 2 ^ n) / 2, n > 0. - _ Dennis P. Walsh _ , Feb 20 2007 • a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 1, for n > 3. - _ Vincenzo Librandi _ Nov 25 2010 • a(n) = det(|s(i + 3,j + 2)|, 1 <= i,j <= n - 3), where s(n,k) are Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 06 2013 • a(n + 2) = (1 - 2 ^ (2 + n) + 3 ^ (1 + n)) / 2 for n > 0. - _ Fred Daniel Kline _ , Oct 02 2014 • a(n) = Sum _{ k=0...n - 3 } 2 ^ (k - 1) * (3 ^ (n - 2 - k) - 1). - _ J. M. Bergot _ , Feb 05 2018 •

[A291230] • 6,25,96,351,1242,4304,14706,49761,167232,559303,1864110,6197472,20567262,68166713,225713280,746866143,2470077378,8166190192,26990599050,89190984033,294691499808,973574384231,3216160413654,10623856065984,35092075282998 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)(1 - 2 S)(1 - 3 S). • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 6 * a(n - 3) + 8 * a(n - 4) + 6 * a(n - 5) + a(n - 6) for n >= 7. •

[A092184] • 0,1,6,25,96,361,1350,5041,18816,70225,262086,978121,3650400,13623481,50843526,189750625,708158976,2642885281,9863382150,36810643321,137379191136,512706121225,1913445293766,7141075053841,26650854921600 ⋆ Sequence S_6 of the S_r family. • a(n) = 1 / 2 * (- 2 + (2 + sqrt(3)) ^ n + (2 - sqrt(3)) ^ n). - _ Ralf Stephan _ , Apr 14 2004 • a(0)=0, a(1)=1, a(n + 1) = 3 + floor(a(n) * (2 + sqrt(3))). - Anton Vrba (antonvrba(AT)yahoo.com) , Jan 16 2007 • a(n) = 4 * a(n - 1) - a(n - 2) + 2. - _ Richard R. Forberg _ , Sep 04 2013; corrected by _ Antonio Laface _ , Sep 18 2016 • a(n) = u(n) ^ 2, where { u(n) } is the Lucas sequence in the quadratic integer ring Z[sqrt(6)] defined by the recurrence u(0) = 0, u(1) = 1, u(n) = sqrt(6) * u(n - 1) - u(n - 2) for n >= 2. • a(n) = 1 / 2 * (((sqrt(6) + sqrt(2)) / 2) ^ n - ((sqrt(6) - sqrt(2)) / 2) ^ n) ^ 2. • a(n) = bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, - 2; 1, 3] and T(n,x) denotes the Chebyshev polynomial of the first kind. Cf. A098306. •

[A214955] • 1,6,25,98,378,1452,5577,21450,82654,319124,1234506,4784276,18572500,72209880,281150505,1096087770,4278278070,16717354500,6538873803

0,256000696380,1003116947820,3933750236520,15437682614250,606254949242 28,238235373671148 ⋆ Number of solid standard Young tableaux of shape [[n,n-1],[1]]. • a(n) = 2 * (2 * n - 1) ^ 2 / ((n + 1) * (2 * n - 3)) * a(n - 1) for n>1; a(1) = 1. • a(n) = [x ^ n] x * (1 + 2 * x) / (1 - x) ^ (n + 2). - _ Ilya Gutkov skiy _ , Oct 12 2017 •

[A037481] • 0,1,6,25,102,409,1638,6553,26214,104857,419430,1677721,671088 6,26843545,107374182,429496729,1717986918,6871947673,27487790694,109951 162777,439804651110,1759218604441,7036874417766,28147497671065 ⋆ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). _ Vincenzo Librandi _ , J un 21 2012 •

[A267536] • 1,6,25,103,415,1663,6655,26623,106495,425983,1703935,681574 3,27262975,109051903,436207615,1744830463,6979321855,27917287423,11166 9149695,446676598783,1786706395135,7146825580543,28587302322175,114349 209288703,457396837154815 ⋆ Decimal representation of the n-th iteration of the "Rule 143" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n > 3. • a(n) = 13 * 2 ^ (2 * n - 3) - 1 for n > 1. - _ Colin Barker _ , Nov 25 2016 •

[A147543] • 6,25,105,455,2045,9495,45205,219055,1074045,5305895,263352 05,131090655,653692045,3263166295,16299929205,81451898255,40711616604 5,2035150690695,10174462707205,50868440641855,254330583216045 ⋆ Vertex counting using a vector matrix Markov with characteristic polynomial: 30 - 31 x + 10 x^2 - x^3. • a(n)= 10 * a(n - 1) - 31 * a(n - 2) + 30 * a(n - 3) = 5 * 3 ^ n + 8 * 5 ^ n / 3 - 5 * 2 ^ n / 3. G.f.: (6 - 35x + 41 * x ^ 2) / ((1 - 3x)(1 - 2x)(1 - 5x)). [From _ R. J. Mathar _ , Nov 09 2008] •

[A048875] • 1,6,25,106,449,1902,8057,34130,144577,612438,2594329,1098975 4,46553345,197203134,835365881,3538666658,14990032513,63498796710,26898 5219353,1139439674122,4826743915841,20446415337486,86612405265785,3668 96036400626,1554196550868289 ⋆ Generalized Pellian with second term of 6. • a(n) = ((4 + sqrt(5))(2 + sqrt(5)) ^ n - (4 - sqrt(5))(2 - sqrt(5)) ^ n) / 2 * sq rt(5). • a(n) = 4a(n - 1) + a(n - 2); a(0)=1, a(1)=6. •

[A100296] • 1,6,25,111,488,2149,9461,41654,183389,807403,3554736,1565036 1,68903513,303360038,1335596817,5880203831,25888648920,113979406525,501 814720109,2209329044566,9726966211957,42824708216851,188543436246752,8 30096195208753,3654646945111665 ⋆ Sequence generated from a symmetric matrix. • a(n) = rightmost term in M ^ n * [1 1 1]. a(n) = 4 * a(n - 1) + 2 * a(n - 2) - a(n - 3). •

[A120758] • 1,6,25,116,517,2338,10517,47400,213481,961726,4332145,1951503 6,87908397,395998298,1783838637,8035595600,36197658961,163058307446,734 522939465,3308779311556,14904940203477,67141752851858 ⋆ The (1,3)-entry in the matrix M^n, where M is the 3 X 3 matrix [0,2,1; 2,1,2; 1,2,2] (n>=1). • a(n)=3a(n - 1) + 7a(n - 2) - a(n - 3) (follows from the minimal polynomial of the matrix M). •

[A179603] • 1,6,25,117,526,2397,10873,49398,224305,1018701,4626238,21009 621,95412529,433304934,1967802505,8936542053,40584243694,184308525453,8 37015282217,3801205524822,17262723549985,78396609323709 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+3*x)/(1-3*x-7*x^2). • a(n) = 3 * a(n - 1) + 7 * a(n - 2) with a(0) = 1 and a(1) = 6. • a(n) = ((9 + 5 * A) * A ^ (- n - 1) + (9 + 5 * B) * B ^ (- n - 1)) / 37 with A = (- 3 + sq rt(37)) / 14 and B = (- 3 - sqrt(37)) / 14. •

[A099359] • 6,25,123,727,4911,35935,274623,2146687,16974591,135005695,10 76890623,8602523647,68769820671,549957165055,4398851866623,35187593412 607,281487861809151,2251851353686015,18014604668698623,144116012711149 567,1152924803144876031 ⋆ a(n) = (2^n + 1)^3 - 2. • a(n) = (3 * 2 ^ n + 3 * 4 ^ n + 8 ^ n - 1). • a(n) = 15 * a(n - 1) - 70 * a(n - 2) + 120 * a(n - 3) - 64 * a(n - 4) for n>3. •

[A073967] • 0,0,6,25,125,600,3150,15750,78625,390625,1952500,9762500,4883 1250,244140625,1220703125,6103437500,30517656250,152588281250,762941015 625,3814697265625,19073484375000,95367421875000,476837167968750,238418 5791015625,11920928955078125 ⋆ Number of strings of length n over Z_5 with trace 1 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). •

[A242858] • 0,0,1,6,25,150,1561,16926,181945,2286150,34082521,548528046,9 363855865,174531124950,3547114323481,76969474578366,1771884893993785,4 3405229295464550,1128511554418948441,30949983774936839886 ⋆ E.g.f. ((e^x-1)^2*e^x) / (2*(1-(e^x-1)^3)). • a(n) = sum(k=1..(n + 1) / 3, ((3 * k)! * stir ling2(n + 1,3 * k)) / k) / 6. •

[A200375] • 1,1,6,25,154,882,5676,36465,244530,1657942,11471668,8024289 0,568080772,4056976900,29212908120,211783889025,1544811959970,113284913 94990,83473572128100,617702666484750,4588654943721420,3420631238692902 0,255803818897858920,1918528298674328250,14427334095935095764 ⋆ Product of Catalan and Jacobsthal numbers: a(n) = A000108(n)*A001045(n). • a (n) = binomial(2 * n,n) / (n + 1) * (2 ^ (n + 1) + (- 1) ^ n) / 3. •

[A254527] • 6,26,62,114,182,266,366,482,614,762,926,1106,1302,1514,1742,19 86,2246,2522,2814,3122,3446,3786,4142,4514,4902 ⋆ Total number of points on a sphere when both poles are on an x by x grid where x=8*n+1. • a(n) = 8 * n ^ 2 - 4 * n + 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A135036] • 0,6,26,68,140,250,406,616,888,1230,1650,2156,2756,3458,4270,520 0,6256,7446,8778,10260,11900,13706,15686,17848,20200 ⋆ Sums of the products of n consecutive pairs of numbers. • a(n) = 0 * 1 + 2 * 3 + 4 * 5 + ... + 2n * (2n + 1). • a(n) = (4n ^ 3 - 3n ^ 2 - n) / 3 = (n - 1)n(4n + 1) / 3. • a(0)=0, a(1)=6, a(2)=26, a(3)=68, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 20 2013 •

[A001701] • 1,6,26,71,155,295,511,826,1266,1860,2640,3641,4901,6461,8365,1 0660,13396,16626,20406,24795,29855,35651,42251,49726,58150 ⋆ Generalized Stirling numbers. • a(n) = n(n - 1)(3n ^ 2 + 17n + 26) / 24, n>1. •

[A241452] • 0,0,0,6,26,75,174,350,636,1071,1700,2574,3750,5291,7266,9750,1 2824,16575,21096,26486,32850,40299,48950,58926,70356 ⋆ a(n) = pg(3, n) + pg(4, n) + ... + pg(n, n) where pg(m, n) is the n-th m-th-order polygonal number. • a(n) = n * (- 10 + 9 * n - 4 * n ^ 2 + n ^ 3) / 4 for n>1. •

[A175898] • 1,6,26,76,186,386,726,1251,2031,3126,4626,6606,9176,12426,1648 6,21461,27501,34726,43306,53376,65126,78706,94326,112151,132411 ⋆ Expansion of (1+3*x+9*x^2+9*x^3+9*x^4+3*x^5+x^6) /((1+x)^2 * (1-x)^5). • a(n) = 55 * n ^ 2 / 24 + 185 * n / 96 + 59 / 64 + 35 * n ^ 4 / 96 + 35 * n ^ 3 / 48 + (5 * n / 32 + 5 / 64) * (- 1) ^ n. • a(2n) = (55 * n ^ 2 + 25 * n + 6 + 35 * n ^ 4 + 35 * n ^ 3) / 6 = 1, 26, 186, 726,.... • a(n) = + 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[A255870] • 1,6,26,76,191,411,816,1521,2726,4741,8081,13566,22536,37146,60 896,99436,161921,263151,427086,692481,1122056,1817281,2942351,4762926,77 08866 ⋆ a(n) is the total number of pentagrams in a pentagram fractal after n iterations. • a(n) = 3 * a(n - 1) - a(n - 2) - 4 * a(n - 3) + 3 * a(n - 4) + a(n - 5) - a(n - 6) for n>6. - _ Colin Barker _ , Mar 12 2015 • a(n) = (- 307 + 5 * (- 1) ^ n - 3 * 2 ^ (2 - n) * s * ((11 - 5 * s) * (1 - s) ^ n - (1 + s) ^ n * (11 + 5 * s)) - 150 * (1 + n) - 50 * (1 + n) * (2 + n)) / 8 for n>0 where s=sqrt(5). - _ Colin Barker _ , Mar 12 2017 •

[A286188] • 6,26,76,218,664,2174,7452,26130,92512,328774,1170052,416610 6,14836488,52839374,188188396,670240802,2387095600,8501764310,302794795 08,107841961962,384084839128,1367938434910,4871984975932,1735183178987 4,61799465313024 ⋆ Number of connected induced (non-null) subgraphs of the gear graph with 2n+1 nodes. • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3) + 3 * a(n - 4) - 2 * a(n - 5), for n>5 (conjectured). •

[A172207] • 1,6,26,86,211,426,758,1234,1881,2726,3796,5118,6719,8626,1086 6,13466,16453,19854,23696,28006,32811,38138,44014,50466,57521 ⋆ Number of ways to place 3 nonattacking bishops on a 3 X n board. • a(n) = (9n ^ 3 - 45 n ^ 2 + 106n - 108) / 2, n>=4. •

[A060101] • 1,6,26,86,246,622,1442,3102,6292,12122,22374,39754,68354,11411 4,185614,294866,458601,699556,1048476,1546116,2246244,3218644,4553484,63 65684,8801104 ⋆ Sixth column (m=5) of triangle A060098. • a(n) = (14175 * (30827 + 1941 * (- 1) ^ n) + 1440 * (676427 + 11445 * (- 1) ^ n) * n + 126 * (6861329 + 27375 * (- 1) ^ n) * n ^ 2 + 1600 * (258451 + 189 * (- 1) ^ n) * n ^ 3 + 10 * (12016607 + 945 * (- 1) ^ n) * n ^ 4 + 22444800 * n ^ 5 + 275 4192 * n ^ 6 + 220800 * n ^ 7 + 11130 * n ^ 8 + 320 * n ^ 9 + 4 * n ^ 10) / 4 64486400. - _ Colin Barker _ , Jan 17 2017 •

[A032196] • 1,1,6,26,91,273,728,1768,3978,8398,16796,32066,58786,104006,17 8296,297160,482885,766935,1193010,1820910,2731365,4032015,5864750,841464 0,11920740 ⋆ Number of necklaces with 11 black beads and n-11 white beads. • a(n) = ceiling(binomial(n, 11) / n)) (conjecture _ Wolfdieter Lang _). •

[A011780] • 1,6,26,92,291,850,2348,6216,15925,39742,97086,233012,550983,1 286442,2970960,6796320,15417945,34719510,77672290,172743180,382147691,8 41346306,1844250996,4026531832,8758949501 ⋆ Expansion of 1/(1-2*x)^3/(1-x^2)^2. • a(n) = (n ^ 2 + n / 3 + 10 / 3) * 2 ^ (n + 3) / 9 + (n / 4 + 1) * (- 1) ^ n / 27 - n / 4 - 2. [_ Bruno Berselli _ , Jun 24 2013] •

[A224288] • 0,0,0,0,1,6,26,94,306,934,2732,7752,21488,58432,156288,411904,1 071104,2750976,6984704,17545216,43634688,107511808,262602752,636223488,1 529741312 ⋆ Number of permutations of length n containing exactly 2 occurrences of 123 and 2 occurrences of 132. • a(n) = 2 ^ (- 11 + n) * (1504 - 994 * n + 219 * n ^ 2 - 18 * n ^ 3 + n ^ 4) for n>4. - _ Colin Barker _ , Apr 14 2013 •

[A143132] • 1,6,26,96,321,876,2006,4026,7321,12346,19626,29756,43401,6129 6,84246,113126,148881,192526,245146,307896,382001,468756,569526,685746,81 8921 ⋆ Binomial transform of [1, 5, 15, 35, 70, 0, 0, 0,...]. • a(n) = (552 - 1190 n + 895 n ^ 2 - 280 n ^ 3 + 35 n ^ 4) / 12 [From _ T. D. Noe _ , Aug 22 200 8] •

[A186314] • 0,0,1,6,26,99,352,1200,3977,12918,41338,130779,410048,127651 2,3950929,12170598,37343834,114209811,348332320,1059927312,3218870105,97 58944470,29544747706,89335651851,269843267456 ⋆ Number of ternary strings of length n which contain 01. • a(n) = 3 * a(n - 1) + (3 ^ (n - 2) - a(n - 2)). •

[A234267] • 1,6,26,99,353,1213,4078,13529,44518,145750,475683,1549457,504 0985,16387962,53251549,172987342,561848146,1824633763,5925198353,192402 99477,62475465318,202861776657,658698488006,2138801439710,694468643577 9 ⋆ Expansion of (1-x)/((1-2*x)*(1-5*x+6*x^2-x^3)). • a(n) = 7 * a(n - 1) - 1 6 * a(n - 2) + 13 * a(n - 3) - 2 * a(n - 4) for n>3, a(0)=1, a(1)=6, a(2)=26, a (3)=99. - _ Philippe Deléham _ , Dec 25 2013 •

[A094811] • 1,6,26,100,364,1288,4488,15504,53296,182688,625184,2137408,73 03360,24946816,85196928,290926848,993379072,3391793664,11580678656,3953 9651584,134998297600,460915984384,1573671536640,5372862566400,18344123 969536 ⋆ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 8 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 1, s(2n+1) = 6. • a(n) = (1 / 4) * Su m(r, 1, 7, Sin(r * Pi / 8)Sin(r * 3 * Pi / 4)(2Cos(r * Pi / 8)) ^ (2n + 1)). • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3). • a(n) = (- 2 ^ (1 + n) + (2 - sqrt(2)) ^ n + (2 + sqrt(2)) ^ n) / 4. - _ Colin Barker _ , Apr 27 2016 •

[A005022] • 6,26,100,364,1288,4488,15504,53296,182688,625184,2137408,730 3360,24946816,85196928,290926848,993379072,3391793664,11580678656,39539 651584,134998297600,460915984384,1573671536640,5372862566400,183441239 69536,62630804299776 ⋆ Number of walks of length 2n+6 in the path graph P_7 from one end to the other. • a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 4 * a(n - 3). - _ Emeric Deutsch _ , Apr 02 2004 • a(k) = sum(binomial(6 + 2 * k, 8

* j + k - 2) - binomial(6 + 2 * k, 8 * j + k - 1), j= - infinity..infinity) (a finite sum). • a(n) = - 2 ^ (1 + n) + (3 / 2 - sqrt(2)) * (2 - sqrt(2)) ^ n + (3 / 2 + sqrt(2)) * (2 + sqrt(2)) ^ n - _ Colin Barker _ , Apr 27 2016 •

[**A290347**] • 0,1,6,26,100,1096,3920,13936,16544,296256,1068672,11652352,42658304,1100471296,4079876096,15205967872,56939270144,642281037824,2423854317568,9177027411968,34846713511936,1459319692460032,5568939824513024,21297365878571008 ⋆ Numerators of the Harary index for the n-halved cube graph. • a(n) = - 2 ^ (n - 1) * HarmonicNumber(n) - 2 ^ (2 * n - 1) * Re(LerchPhi(2,1,n + 1)). •

[**A143955**] • 0,0,0,1,6,26,101,376,1377,5017,18277,66727,244377,898129,3312554,12260129,45526754,169588754,633580634,2373550184,8914719134,33562602134,126640791884,478848661898,1814142235028 ⋆ Sum of the altitudes of the leftmost valleys of all Dyck paths of semilength n (if path has no valley, then this altitude is taken to be 0). • a(n) = 5 * Sum _{ k=2..n - 1 } (binomial(2 * k,k - 2) / (k + 3)). - _ Vladimir Kruchinin _ , Mar 15 2016 •

[**A037545**] • 1,6,26,105,422,1690,6761,27046,108186,432745,1730982,6923930,27695721,110782886,443131546,1772526185,7090104742,28360418970,113441675881,453766703526,1815066814106,7260267256425,29041069025702 ⋆ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,2,2. • a(1)=1, a(2)=6, a(3)=26, a(4)=105, a(n)=4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). - _ Harvey P. Dale _ , May 22 2015 •

[**A020989**] • 1,6,26,106,426,1706,6826,27306,109226,436906,1747626,6990506,27962026,111848106,447392426,1789569706,7158278826,28633115306,114532461226,458129844906,1832519379626,7330077518506 ⋆ a(n) = (5*4^n - 2)/3. • a(0) = 1, a(n) = 4 * a(n - 1) + 2; a(n) = a(n - 1) + 5 *{ 4 ^ (n - 1) } ; - _ Amarnath Murthy _ , May 27 2001 • a(n) = 5 * a(n - 1) - 4 * a(n - 2), a(0) = 1, a(1) = 6. - _ Philippe Deléham _ , Feb 22 2014 •

[**A079675**] • 1,1,6,26,106,431,1757,7168,29244,119305,486716,1985603,8100456,33046585,134816705,549997641,2243767969,9153665985,37343255690,152345382480,621507555626,2535499503900,10343812679475,42198572937400 ⋆ a(1)=1; a(n)=sum(u=1,n-1,sum(v=1,u,sum(w=1,v,sum(x=1, w,sum(y=1,x,a(y)))))). • a(1)=1, a(2)=1, a(3)=6, a(4)=26, a(5)=106, a(6)=431; for n>=7, a(n)=5 * u(n - 1) - 4 * u(n - 2) + u(n - 3) + b(n) where b(n) is the 6 periodic sequence (0, 1, 1, 0, - 1, - 1) •

[**A255467**] • 1,6,26,110,450,1822,7330,29406,117794,471518,1886754,7548382,30196258,120790494,483172898,1932713438,7730897442,30923677150,123694883362,494779882974,1979120230946,7916482321886,31665932083746,126663733927390,506654946894370 ⋆ a(n) = A255466(2^n-1). • a(n) = (- 2 * (- 1) ^ n / 15 - 2 ^ (1 + n) / 3 + (9 * 4 ^ n) / 5). • a(n) = 5 * a(n - 1) - 2 * a(n - 2) - 8 * a(n - 3) for n>2. •

[**A289789**] • 1,6,26,111,460,1905,7910,32880,136675,568050,2360825,9811650,40777750,169474875,704348000,2927312625,12166086250,50562982500,210142784375,873366003750,3629761440625,15085506018750,62696266831250,260569441284375,1082942209562500 ⋆ p-INVERT of A016777, where p(S) = 1 - S - S^2. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4). •

[**A164549**] • 1,6,26,116,516,2296,10216,45456,202256,899936,4004256,17816896,79276096,352738176,1569504896,6983495936,31072993536,138258966016,615181851136,2737245336576,12179345048576,54191870867456 ⋆ a(n) = 4*a(n-1)+2*a(n-2) for n > 1; a(0) = 1, a(1) = 6. • a(n) = ((3 + 2 * sqrt(6)) * (2 + sqrt(6)) ^ n + (3 - 2 * sqrt(6)) * (2 - sqrt(6)) ^ n) / 6. •

[**A046647**] • 1,6,26,120,594,3094,16728,93024,528770,3058770,17948970,106585440,639318456,3867821640,23574446992,144621823632,892293152994,5533289372170,34468829508750,215594574231960,1353464311979010 ⋆ Number of certain rooted planar maps. • a(2)=1; a(n) = 4(7n - 15)(3n - 6)! / [(n - 2)!(2n - 2)!]. - _ Emeric Deutsch _ , Mar 03 2004 •

[**A100308**] • 1,6,26,156,626,3756,16276,97656,390626,2343756,10156276,60937656,244531876,1467191256,6357828776,38146972656,152587890626,915527343756,3967285156276,23803710937656,95520019531876,573120117191256 ⋆ Modulo 2 binomial transform of 5^n. • a(n) = sum { k=0..n, mod(binomial(n, k), 2)5 ^ k } . • a(2 ^ n)=5 ^ (2 ^ n) + 1, n>=0. • a(2 ^ t * n + 2 ^ (t - 1)) = 24 * (5 ^ (2 ^ (t - 1) + 1)) / (5 ^ (2 ^ (t - 1)) - 1) * a(2 ^ t * n + 2 ^ (t - 1) - 2), t>=2. • a(4 * n + 2) = 26 * a(4 * n); • a(8 * n + 4) = 313 / 13 * a(8 * n + 2); • a(16 * n + 8)= 195313 / 8138 * a(16 * n + 6), etc. •

[**A167469**] • 6,27,63,114,180,261,357,468,594,735,891,1062,1248,1449,1665,1896,2142,2403,2679,2970,3276,3597,3933,4284,4650 ⋆ a(n) = 3*n*(5*n-1)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. • a(n) = Sum _{ i=n..4n - 1 } i. - _ Wesley Ivan Hurt _ , May 08 2016 •

[**A273408**] • 1,6,27,72,149,266,431,652,937,1294,1731,2256,2877,3602,4439,5396,6481,7702,9067,10584,12261,14106,16127,18332,20729 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 675", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 - n + 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[**A085788**] • 6,27,72,150,270,441,672,972,1350,1815,2376,3042,3822,4725,5760,6936,8262,9747,11400,13230,15246,17457,19872,22500,25350 ⋆ Partial sums of n 3-spaced triangular numbers beginning with t(3), e.g., a(2)=t(3)+t(6)=6+21=27. • a(n) = sum ((j + n + 1) * (n + 1),j=1..n). - _ Zerinvary Lajos _ , Sep 10 2006 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: 3 * x * (x + 2) / (x - 1) ^ 4. - _ Colin Barker _ , Mar 17 2014 •

[**A136105**] • 6,27,73,155,285,476,742,1098,1560,2145,2871,3757,4823,6090,7580,9316,11322,13623,16245,19215,22561,26312,30498,35150,40300 ⋆ Partial sums of A051941. • a(n) = SUM[j=8..n]SUM[k=8..n] { ((k * (k + 1) / 2) - 30 } . a(n) = SUM[j=8..n](1 / 6) * (j - 7) * (j ^ 2 + 10 * j - 108). • a(n) = (n - 6)(n - 7)(n ^ 2 + 19n - 144) / 24. O.g.f: x ^ 8(6 - 3x - 2x ^ 2) / (1 - x) ^ 5. - _ R. J. Mathar _ , May 17 2008 • a(8)=6, a(9)=27, a(10)=73, a(11)=155, a(12)=285, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a (n - 5). - _ Harvey P. Dale _ , Oct 20 2013 •

[**A239568**] • 0,6,27,75,165,315,546,882,1350,1980,2805,3861,5187,6825,8820,11220,14076,17442,21375,25935,31185,37191,44022,51750,60450 ⋆ Number of ways to place 2 points on a triangular grid of side n so that they are not adjacent. • a(n) = n * (n - 1) * (n - 2) * (n + 5) / 8. •

[**A124089**] • 0,6,27,83,209,461,923,1715,3002,5004,8007,12375,18563,27131,38759,54263,74612,100946,134595,177099,230229,296009,376739,475019,593774 ⋆ Binomial(n,6)-1. • a(0)=0, a(1)=6, a(2)=27, a(3)=83, a(4)=209, a(5)=461, a(6)=923, a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 26 2015 •

[**A100188**] • 1,6,27,84,205,426,791,1352,2169,3310,4851,6876,9477,12754,16815,21776,27761,34902,43339,53220,64701,77946,93127,110424,130025 ⋆ Polar structured meta-anti-diamond numbers, the n-th number from a polar structured n-gonal anti-diamond number sequence. • a(n) = (1 / 6) * (2 * n ^ 4 - 2 * n ^ 2 + 6 * n). • a(1)=1, a(2)=6, a(3)=27, a(4)=84, a(5)=205, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , May 11 2016 •

[**A125196**] • 1,6,27,87,228,513,1034,1914,3315,5440,8541,12921,18942,27027,37668,51428,68949,90954,118255,151755,192456,241461,299982,369342,450983 ⋆ Number of magic labelings of the Petersen graph with magic sum n. • a(n) = (1 / 32) * (29 * C(n + 5,5) + 21 * C(n + 4,5) + 126 * C(n + 3,5) - 34 * C(n + 2,5) + 21 * C(n + 1,5) - 3 * C(n,5) + 3 * (- 1) ^ n). [Stanley]. - _ N. J. A. Sloane _ , Jul 07 2014 •

[**A100189**] • 1,6,27,92,245,546,1071,1912,3177,4990,7491,10836,15197,20762,27735,36336,46801,59382,74347,91980,112581,136466,163967,195432,231225 ⋆ Equatorial structured meta-anti-diamond numbers, the n-th number from an equatorial structured n-gonal anti-diamond number sequence. • a(n) = (1 / 6) * (4 * n ^ 4 - 12 * n ^ 3 + 20 * n ^ 2 - 6 * n). • a(1)=1, a(2)=6, a(3)=27, a(4)=92, a(5)=245, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jul 05 2011 •

[**A052267**] • 1,6,27,92,267,678,1561,3312,6582,12372,22194,38232,63594,102564,160974,246576,369567,543114,784069,1113684,1558557,2151578,2933151,3952416,5268796 ⋆ Number of 2 X n matrices over GF(3) under row and column permutations. • a(n) = ((315 * (475 + 37 * (- 1) ^ n) + 6 * (54959 + 945 * (- 1) ^ n) * n + (298618 + 630 * (- 1) ^ n) * n ^ 2 + 150528 * n ^ 3 + 46788 * n ^ 4 + 9156 * n ^ 5 + 1092 * n ^ 6 + 72 * n ^ 7 + 2 * n ^ 8)) / 161280. - _ Colin Barker _ , Jan 16 2017 •

[**A038166**] • 1,6,27,92,273,714,1715,3816,8007,15938,30381,55692,98735,169806,284349,464672,742950,1164228,1791426,2710344,4037670,5928988,8591154,12294672,17392258 ⋆ G.f.: 1/((1-x)*(1-x^2))^6. • a(0)=1, a(1)=6, a(2)=27, a(3)=92, a(4)=273, a(5)=714, a(6)=1715, a(7)=3816, a(8)=8007, a(9)=15938, a(10)=30381, a(11)=55692, a(12)=98735, a(13)=169806, a(14)=284349, a(15)=464672, a(16)=742950, a(17)=1164228, a(n)=6 * a(n - 1) - 9 * a(n - 2) - 16 * a(n - 3) + 60 * a(n - 4) - 24 * a(n - 5) - 116 * a(n - 6) + 144 * a(n - 7) + 66 * a(n - 8) - 220 * a(n - 9) + 66 * a(n - 10) + 144 * a(n - 11) - 116 * a(n - 12) - 24 * a(n - 13) + 60 * a(n - 14) - 16 * a(n - 15) - 9 * a(n - 16) + 6 * a(n - 17) - a(n - 18). - _ Harvey P. Dale _ , Jun 10 2013 •

[**A001874**] • 1,6,27,98,315,924,2534,6588,16407,39430,91959,209034,464723,1013292,2171850,4584620,9546570,19635840,39940460,80421600,160437690,317354740,622844730,1213580820,2348773525 ⋆ Convolved Fibonacci numbers. • a(n)=F''''''(n + 5, 1) / 5!, i.e., 1 / 5! times the 5th derivative of the (n + 5)th Fibonacci polynomial evaluated at 1. - _ T. D. Noe _ , Jan 18 2006 •

[**A054457**] • 1,6,27,104,366,1212,3842,11784,35223,103122,296805,842160,2360780,6549240,18004980,49106992,132996957,357948894,957993823,2550977112,6761742234,17848312884,46932923478,122980461816 ⋆ Pell numbers A000129(n+1) (without P(0)) convoluted twice with itself. • a(n)=F''(n + 3, 2) / 2, that is, 1 / 2 times the 2nd derivative of the (n + 3)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[**A005325**] • 1,6,27,104,369,1242,4037,12804,39897,122694,373581,1128816,3390582,10136556,30192102,89662216,265640691,785509362,2319218869,6839057544,20147488020,59306494520,174466248840,512987904000,1507780192035 ⋆ Column of Motzkin triangle. • a(n) = (sqrt(- 3) / 81) * ((- 1) ^ n * n * (4 * n ^ 3 - 15 * n ^ 2 - 55 * n + 102) / (n + 7) / (n + 3) / (n + 2) * hypergeom([1 / 2, n + 7],[3],4 / 3) - (- 1) ^ n * (4 * n ^ 4 - 17 * n ^ 3 + 23 * n ^ 2 + 242 * n - 288) / (n + 7) / (n + 3) / (n + 2) * hypergeom([1 / 2, n + 6],[3],4 / 3)). - _ Mark van Hoeij _ , Oct 29 2011. • a(n) (n + 11) (n - 1) = (n + 4) (3 n + 9) a(n - 2) + (n + 4) (2 n + 9) a(n - 1). - _ Simon Plouffe _ , Feb 09 2012 • a(n) = 6 * sum(j=ceiling((n - 5) / 2)..(n + 1), C(j,2 * j - n + 5) * C(n + 1,j)) / (n + 1). - _ Vladimir Kruchinin _ , Mar 17 2014 •

[**A119852**] • 0,0,0,1,6,27,106,387,1350,4566,15102,49113,157622,500520,1575558,4923536,15290784,47235771,145246224,444814533,1357368786,4128880561,12523521786,37888119522,114358226428 ⋆ Number of ternary words with exactly one 012. • a(0)=0, a(1)=0, a(2)=0, a(3)=1, a(4)=6, a(5)=27, a(n)=6 * a(n - 1) - 9 * a(n - 2) - 2 * a(n - 3) + 6 * a(n - 4) - a(n - 6). - _ Harvey P. Dale _ , Apr 28 2014 •

[**A027471**] • 0,1,6,27,108,405,1458,5103,17496,59049,196830,649539,2125764,6908733,22320522,71744535,229582512,731794257,2324522934,7360989291,23245229340,73222472421,230127770466,721764371007,2259436291848 ⋆ a(n) = (n-1)*3^(n-2), n>0. • a(n) = 6a(n - 1) - 9a(n - 2); n>2; a(1)=0, a(2)=1. - _ Barry E. Williams _ , Jan 13 2000 • a(n) = sum { k=0..n, 3 ^ (n - k)binomial(n - k + 1, k)binomial(1, (k + 1) / 2)(1 - (- 1) ^ k) / 2 } . • a(n) = sum { k=0..2 n, T(n, k) * k }/ 3, where T(n, k) is given by A027907; • a(n) = sum { k=0..

n, sum { j=0..n, C(n, j)C(j, k)(j + k) }}/ 3; • a(n) = sum { k=0..n, sum { j= 0..n, C(n, j)C(j, k)(j - k) }} ; • a(n + 1) = sum { k=0..n, sum { j=0..n, C(n, j)C(j, k)(j + k + 1) }} . (End) •

[A094829] • 1,6,27,109,417,1548,5644,20349,72846,259579,922209,3269889,11579032,40967400,144863001,512050438,1809503019,6393427173,22587086305,79791176292,281856708180,995606748757,3516721295214 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 9 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 1, s(2n+1) = 6. • a(n)=(2 / 9) * Sum(r, 1, 8, Sin(r * Pi / 9)Sin(2 * r * Pi / 3)(2Cos(r * Pi / 9)) ^ (2n)) a(n)=6a(n - 1) - 9a(n - 2) + a(n - 3) G.f.: x ^ 2 / (1 - 6x + 9x ^ 2 - x ^ 3) •

[A037604] • 1,6,27,109,438,1755,7021,28086,112347,449389,1797558,7190235,28760941,115043766,460175067,1840700269,7362801078,29451204315,117804817261,471219269046,1884877076187,7539508304749,30158033218998 ★ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,2,3. • a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4) for n>5, a(1) = 1, a(2) = 6, a(3) = 27, a(4) = 109, a(5) = 438. - _ Philippe Deléham _ , Mar 24 2013 •

[A094788] • 1,6,27,110,428,1624,6069,22458,82555,302082,1101816,4009616,14567657,52865230,191684283,694609494,2515972324,9110338728,32981059485,119377761602,432046756571,1563510554986,5657752486512,20472344560800 ★ Number of (s(0), s(1), ..., s(2n+1)) such that 0 < s(i) < 10 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n+1, s(0) = 1, s(2n+1) = 6. • a(n) = (1 / 5) * sum(r=1..9, sin(r * Pi / 10) * sin(3 * r * Pi / 5) * (2 * cos(r * Pi / 10)) ^ (2 * n + 1)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4). •

[A221863] • 1,6,27,110,429,1637,6172,23104,86090,319792,1185305,4386331,16212913,59873834,220964744,815057639,3005282745,11077802256,40824723483,150424044413,554183037617,2041477665799,7519722443381,27696997721940,102010147865915 ★ Expansion of (1-3*x+x^2)/(1-9*x+28*x^2-35*x^3+15*x^4-x^5). • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5) with a(0) = 1, a(1) = 6, a(2) = 27, a(3) = 110, a(4) = 429. •

[A216263] • 1,6,27,110,429,1638,6187,23238,87021,325358,1215435,4538430,16942381,63239286,236031147,880918070,3287706669,12270039678,45792714187,170901341358,637813699821,2380355555078,8883612714795,33154103692710,123732818833261 ★ Expansion of 1 / ((1-2*x)*(1-4*x+x^2)). • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 2 * a(n - 3), a(0) = 1, a(1) = 6, a(2) = 27. • a(n) = (- 2 ^ (3 + n) + (7 - 4 * sqrt(3)) * (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n * (7 + 4 * sqrt(3))) / 6. - _ Colin Barker _ , Feb 05 2017 •

[A003517] • 1,6,27,110,429,1638,6188,23256,87210,326876,1225785,4601610,17298645,65132550,245642760,927983760,3511574910,13309856820,50528160150,192113383644,731508653106,2789279908316,10649977831752,40715807302800 ★ Number of permutations of [n+1] with exactly 1 increasing subsequence of length 3. • a(n) = 6 * C(2 * n + 1, n - 2) / (n + 4). • a(n) = sum(Catalan(i) * Catalan(j) * Catalan(k), i>=1,j>=1,k>=1, i + j + k=n + 1). •

[A108958] • 0,1,6,27,110,430,1652,6307,24054,91866,351692,1350030,5196204,20050108,77542376,300507427,1166737574,4537436578,17672369756,68922740122,269127888644,1052047384708,4116711169496,16123793452942,63205286441660 ★ Number of unordered pairs of distinct length-n binary words having the same number of 1's. • a(n) = sum(binomial(binomial(n, k), 2), k=0..n); • a(n) = (1 / 2) * sum(i + j>n,0<=i,j<=n,binomial(i + j,i)). - _ Benoit Cloitre _ , May 26 2006 • a(n) = sum _{ 0<i<=k<n } (- 1) ^ (i + 1) * binomial(n,k + i) * binomial(n,k - i). - _ Mircea Merca _ , Apr 05 2012 •

[A005284] • 1,6,27,111,440,1717,6655,25728,99412,384320,1487262,5762643,22357907,86859412,337879565,1315952428,5131231668,20029728894,78265410550,306109412100,1198306570554,4694809541046,18407850118383 ★ Number of permutations of (1,...,n) having n-6 inversions (n>=6). • a(n) = 2 ^ (2 * n - 7) / sqrt(Pi * n) * Q * (1 + O(n ^{- 1 })), where Q is a digital search tree constant, Q = 0.2887880951... (see A048651). - corrected by _ Vaclav Kotesovec _ , Mar 16 2014 •

[A198694] • 6,27,111,447,1791,7167,28671,114687,458751,1835007,7340031,29360127,117440511,469762047,1879048191,7516192767,30064771071,120259084287,481036337151,1924145348607,7696581394431,30786325577727 ★ 7*4^n-1. • a(n) = 4 * a(n - 1) + 3. a(n) = 5 * a(n - 1) - 4 * a(n - 2), n>1. •

[A220101] • 0,1,6,27,112,450,1782,7007,27456,107406,419900,1641486,6418656,25110020,98285670,384942375,1508593920,5915896470,23213240820,91140287370,358042932000,1407342229020,5534695100220,21777424274502,85729014099072 ★ Number of ordered set partitions of {1,...,n} into n-1 blocks avoiding the pattern 123. • a(n) / a(n - 1) = 2 * (2 * n - 3) * (n - 1) ^ 2 / ((n + 1) * (n - 2) ^ 2) for n>2. - _ Bruno Berselli _ , Dec 05 2012 • a(n) = 3 * (n - 1) / (2 * n - 1) * binomial(2 * n - 1,n - 2) [Godbole et al., Theorem 4]. - _ Peter Bala _ , Dec 18 2013 • a(n) = 3 * 2 ^ (- 2 + 2 * n) * Gamma(- 1 / 2 + n) * (- 1 + n) ^ 2 / (sqrt(Pi) * Gamma(2 + n)). - _ Peter Luschny _ , Dec 14 2015 •

[A014825] • 1,6,27,112,453,1818,7279,29124,116505,466030,1864131,7456536,29826157,119304642,477218583,1908874348,7635497409,30541989654,122167958635,488671834560,1954687338261,7818749353066 ★ a(n) = 4*a(n-1) + n with n>1, a(1)=1. • a(n) = (4 ^ (n + 1) - 3 * n - 4) / 9. • a(n) = sum { k=0..n, (n - k) * 4 ^ k } = sum { k=0..n, k * 4 ^ (n - k) } - _ Paul Barry _ , Jul 30 2004 • a(n) = sum { k=0..n, binomial(n + 2, k + 2) * 3 ^ k } [Offset 0] - _ Paul Barry _ , Jul 30 2004 •

[A288571] • 1,6,27,113,458,1839,7365,29470,117891,471577,1886322,7545303,30181229,120724934,482899755,1931599041,7726396186,30905584767,123622339093,494489356398,1977957425619,7911829702505,31647318810050,126589275240231,506357100960957 ★ Expansion of (1+x)*(1+x^2)/((1-x)^2*(1+x+x^2)*(1-4*x)). • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + a(n - 3) - 5 * a(n - 4) + 4 * a(n - 5) for n>4. - _ Colin Barker _ , Jun 26 2017 •

[A291232] • 6,27,114,459,1788,6804,25440,93825,342258,1237329,4439778,15829992,56135274,198125703,696387570,2438803863,8513220696,29631246012,102865720452,356257472589,1231184095602,4246476696765,14620160955390,50252266808784,172462429888782 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - 3 S)^2. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) - a(n - 4) for n > = 5. • a(n) = 3 * (((3 - sqrt(13)) / 2) ^ n * (- 3 + sqrt(13)) * (- 39 + 17 * sqrt(13) - 39 * n) + 2 ^ (- n) * (3 + sqrt(13)) ^ (1 + n) * (39 + 17 * sqrt(13) + 39 * n)) / 338. - _ Colin Barker _ , Aug 26 2017 •

[A171475] • 1,6,27,114,468,1896,7632,30624,122688,491136,1965312,7862784,31454208,125822976,503304192,2013241344,8053014528,32212156416,128848822272,515395682304,2061583515648,8246335635456,32985345687552 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 2; a(0) = 1, a(1) = 6, a(2) = 27. • a(n) = 3 * (5 * 4 ^ n - 2 * 2 ^ n) / 8 for n > 0. •

[A049651] • 0,1,6,27,116,493,2090,8855,37512,158905,673134,2851443,12078908,51167077,216747218,918155951,3889371024,16475640049,69791931222,295643364939,1252365390980,5305104928861,22472785106426 ★ a(n) = (F(3*n+1) - 1)/2, where F=A000045 (the Fibonacci sequence). • a(n) = 4 * a(n - 1) + a(n - 2) + 2, a(0)=0, a(1)=1. • a(n) is asymptotic to - 1 / 2 + (sqrt(5) + 5) / 20 * (sqrt(5) + 2) ^ n. (End) • a(n + 1) = F(2) + F(5) + F(8) + ... + F(3n + 2). • a(n) = 5 * a(n - 1) - 3 * a(n - 2) - a(n - 3), a(0)=0, a(1)=1, a(2)= 6. Observation by G. Detlefs. See the W. Lang link. - _ Wolfdieter Lang _ , Oct 18 2010 •

[A109114] • 1,6,27,117,504,2169,9333,40158,172791,743481,3199032,13764717,59226489,254838294,1096512003,4718045133,20300689656,87349312881,375844495437,1617174538542,6958339206399,29940172416369,128825844462648 ★ a(n) = 5a(n-1) - 3a(n-2), a(0)=1, a(1)=6. • a(n) = ((sqrt(13) + 7)((5 + sqrt(13)) / 2) ^ n + (sqrt(13) - 7)((5 - sqrt(13)) / 2) ^ n) / (2sqrt(13)). •

[A030297] • 0,1,6,27,124,645,3906,27391,219192,1972809,19728190,217010211,2604122676,33853594957,473950329594,7109254944135,113748079106416,1933717344809361,34806912206568822,661331331924807979 ★ a(n) = n*(n + a(n-1)). • a(n) = sum _{ k=0...n } (n! / k!) * k ^ 2. - _ Ross La Haye _ , Sep 21 2004 •

[A045500] • 1,1,6,27,125,635,3488,20425,126817,831915,5744784,41618459,315388311,2493721645,20526285716,175529425815,1556577220651,14290644428279,135624265589086,1328702240382589,13420603191219111,1395928743555340 71 ★ Fifth-from-right diagonal of triangle A121207. • a(n + 1) = Sum _{ k=0..n } binomial(n + 4, k + 4) * a(k). - _ Vladeta Jovovic _ , Nov 10 2003 •

[A109115] • 1,6,27,126,585,2718,12627,58662,272529,1266102,5881995,27326286,126951129,589783374,2739986883,12729297654,59137151265,274736498022,1276357445883,5929639277598,27547629448041,127979435624958 ★ a(n) = 4a(n-1) + 3a(n-2), a(0)=1, a(1)=6. • a(n) = ((sqrt(7) + 4)(2 + sqrt(7)) ^ n + (sqrt(7) - 4)(2 - sqrt(7)) ^ n) / (2sqrt(7)). •

[A104745] • 1,6,27,128,629,3130,15631,78132,390633,1953134,9765635,48828136,244140637,1220703138,6103515639,30517578140,152587890641,762939453142,3814697265643,19073486328144,95367431640645,476837158203146 ★ a(n) = 5^n + n. • a(n) = 7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3). - _ Vincenzo Librandi _ , Jun 16 2013 •

[A174634] • 1,6,27,135,648,3159,15309,74358,360855,1751787,8503056,41275251,200353257,972537030,4720790403,22915204479,111232727064,539935021503,2620899608085,12722114017782,61754438526111,299762341738371,1455076971950112,7063091991495675 ★ a(n) = 3^n*F(n+2). • a(n) = (1 / 2 + 3 * sqrt(5) / 10) * (3 / 2 + 3 * sqrt(5) / 2) ^ n + (1 / 2 - 3 * sqrt(5) / 10) * (3 / 2 - 3 * sqrt(5) / 2) ^ n. •

[A137968] • 1,1,6,27,158,981,6342,42728,295008,2079882,14908740,108312873,795836544,5903472999,44151306690,332552305818,2520416719368,19207222744326,147086508325056,1131292622149352,8735383810590486 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^2)^6. • a(n) = Sum _{ k=0..n - 1 } C(6 * (n - k), k) / (n - k) * C(2 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A202766] • 6,27,167,1206,9442,77563,658097,5714972,50503822,452425909,4097411586,37441633014,344698955565,3193520274110,29747746198318,278407464679282,2616351626277085,24676888631241563,233501199663256017,2215874110986269907 ★ Floor(10^n / sum(k=3..10^n, 1/k)). • a(n) = floor((10 ^ n) / (Sum _{ k=3..10 ^ n } 1 / k)). •

[A289022] • 6,27,204,1941,19572,198567,1999056,19931337,196939572,1930784091,18802964760,182062831005,1754100012108,16826739416271,160799296563312,1531421717572401,14540848734272388,137690120683444995,1300613432805623496,12258142039717884549 ★ Wiener index of the n-Apollonian network. • a(n) = 23 * a(n - 1) - 174 * a(n - 2) + 448 * a(n - 3) - 29 * a(n - 4) - 1221 * a(n - 5) + 2088 * a(n - 6) - 4050 * a(n - 7) + 2916 * a(n - 8). •

[A047778] • 1,6,27,220,1765,14126,113015,1808248,28931977,462911642,7406586283,118505380540,1896086088653,30337377418462,485398038695407,15532737238253040,497047591624097297,15905522931971113522 ★ Concatenation of first n numbers in binary. • a(n) = a(n - 1) * 2 ^ (1 + floor[log2(n)]) + n. - _ Henry Bottomley _ , Jan 12 2001 • a(n) = 4C / 2 ^ frac(log _ 2(n)) * n ^{ n + 1 } / r(frac(log _ 2(n))) ^ n + O(1), where r(x) = 2 ^{ x - 1 + 2 ^{ 1 - x }} ; frac is the fractional part function frac(x) = x - floor(x); and C is the binary Champernowne constant (A066716). (In fact, a(n) is the floor of this expression; the error term is between 1 / 2 and 1.) r(x) takes on values between e * log(2) and 2 for x in the range 0 to 1. It follows using Stirling's approximation that the radius of convergence for the e.g.f. is log 2. - _ Franklin T. Adams - Watters _ , Sep 07 2006 •

[A290802] • 0,6,27,223,2281,7083,91118,679363,5620621,22915024,22915024,1717766518,13581726976,13581726976,498026779011,1854472924709,16097157454538,115795949163341,1046318005112169,1046318005112169,23844108375858

455,103636374673470456 ★ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(-6). These are the numbers congruent to 6 mod 7 (except for the initial 0). ● a(0) = 0 and a(1) = 6, a(n) = a(n - 1) + 4 * (a(n - 1) ^ 2 + 6) mod 7 ^ n for n > 1. ●

[A091307] ● 6,28,52,100,196,388,772,1540,3076,6148,12292,24580,49156,98308,196612,393220,786436,1572868,3145732,6291460,12582916,25165828,50331652,100663300,201326596 ★ a(n)=6*2^n+4 (Bode Number A003461(n+2)) except for a(1)=6. ● a(1) = 6, a(2) = 28, a(n) = 2 * a(n - 1) - 4 for n > 2. ●

[A014635] ● 0,6,28,66,120,190,276,378,496,630,780,946,1128,1326,1540,1770,2016,2278,2556,2850,3160,3486,3828,4186,4560 ★ a(n) = 2*n*(4*n - 1). ● a(n) = C(4 * n,2), n>=0. - _ Zerinvary Lajos _ , Jan 02 2007 ● a(n) = 8n ^ 2 - 2 n. - _ Omar E. Pol _ , May 07 2008 ● a(n) = a(n - 1) + 16 * n - 10 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 20 2010 ●

[A227970] ● 0,0,1,6,28,66,153,276,496,780,1225,1770,2556,3486,4753,6216,8128,10296,13041,16110,19900,24090,29161,34716,41328 ★ Triangular arithmetic on half-squares: b(n)*(b(n) - 1)/2 where b(n) = floor(n^2/2). ● a(n) = binomial(floor(n ^ 2 / 2), 2). - _ Wesley Ivan Hurt _ , Sep 27 2013 ●

[A144945] ● 0,6,28,76,160,290,476,728,1056,1470,1980,2596,3328,4186,5180,6320,7616,9078,10716,12540,14560,16786,19228,21896,24800 ★ Number of ways to place 2 queens on an n X n chessboard so that they attack each other. ● a(n) = (n - 1) * n * (5 * n - 1) / 3. ● a(1)=0, a(2)=6, a(3)=28, a(4)=76; for n>4, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 15 2011 ● a(n) = sum(i * (5 * i + 1), i=1..n - 1), with a(0)=0, a(1)=6. - _ Bruno Berselli _ , Feb 10 2014 ●

[A172132] ● 0,6,28,96,252,550,1056,1848,3016,4662,6900,9856,13668,18486,24472,31800,40656,51238,63756,78432,95500,115206,137808,163576,192792 ★ Number of ways to place 2 nonattacking knights on an n X n board. ● a(n) = (n - 1)(n + 4)(n ^ 2 - 3n + 4) / 2 ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 30 2013 ●

[A276041] ● 1,6,28,104,336,992,2752,7296,18688,46592,113664,272384,643072,1499136,3457024,7897088,17891328,40239104,89915392,199753728,441450496,970981376,2126512128,4638900224,10083106816 ★ Exponential convolution of odd numbers (A005408) with themselves. ● a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). ● a(n) = 2 ^ n * (n ^ 2 + n + 1). ●

[A266976] ● 1,6,28,104,464,1696,7488,27264,120064,436736,1922048,6989824,30756864,111845376,492126208,1789558784,7874084864,28633071616,125985619968,458129670144,2015770968064,7330076819456,32252339683328,117281237499904,516037451710464 ★ Decimal representation of the n-th iteration of the "Rule 78" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 2 ^ (n - 2) * ((- 2) ^ n + 21 * 2 ^ n - 4) / 3 for n>0. ● a(n) = 2 * a(n - 1) + 16 * a(n - 2) - 32 * a(n - 3) for n>3. ●

[A234617] ● 6,28,107,380,1345,4878,18219,69736,271589,1069538,4240351,16877532,67325913,268902358,1074741203,4297097168,17184391117,68729044938,274898091975,1099554095044,4398135640001,17592372690878,70369134247867,281475790405560,1125901601341365 ★ Numbers of undirected cycles in the 2n-crossed prism graph. ● a(n) = 10 * a(n - 1) - 37 * a(n - 2) + 64 * a(n - 3) - 52 * a(n - 4) + 16 * a(n - 5) for n>5. ● a(n) = 2 ^ (n - 1) + 4 ^ n + (2 ^ (n + 1) - 3) * n. - _ Eric W. Weisstein _ , May 11 2017 ●

[A263942] ● 6,28,110,416,1558,5820,21726,81088,302630,1129436,4215118,15731040,58709046,219105148,817711550,3051741056,11389252678,42505269660,158631825966,592022034208,2209456310870,8245803209276,30773756526238,114849222895680,428623135056486 ★ Positive integers n such that (n+4)^3 - n^3 is a square. ● a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3) for n>3. ●

[A253068] ● 1,6,28,112,456,1816,7288,29112,116536,465976,1864248,7456312,29826616,119303736,477220408,1908870712,7635504696,30541975096,122167987768,488671776312,1954687454776,7818749120056,31274997878328,125099988717112,500399960460856 ★ The subsequence A253066(2^n-1). ● a(n) = ((- 2) ^ n + 4 ^ (2 + n) - 8) / 9. - _ Colin Barker _ , Jul 16 2015 ●

[A229587] ● 0,6,28,116,444,1620,5724,19764,67068,224532,743580,2440692,7951932,25745364,82904796,265720500,848179836,2697594516,8551948572,27033340788,85232507580,268094978388,841477302108,2636009007156,8242758323964 ★ Number of defective 3-colorings of a 2 X n 0..2 array connected horizontally and antidiagonally with exactly one mistake, and colors introduced in row-major 0..2 order ● a(n) = 6 * a(n - 1) - 9 * a(n - 2) for n>4. ● a(n) = 4 * (3 ^ (n - 2) + 4 * (2 * n - 3) * 3 ^ (n - 4)) for n>2. ●

[A002694] ● 1,6,28,120,495,2002,8008,31824,125970,497420,1961256,7726160,30421755,119759850,471435600,1855967520,7307872110,28781143380,113380261800,446775310800,1761039350070,6943526580276,27385657281648,108043253365600 ★ Binomial coefficients C(2n,n-2). ● a(n) = sum { k=0..n, C(n, k)C(n, k + 2) } . - _ Paul Barry _ , Sep 20 2004 ● a(n) = Sum _{ k=1..n } (binomial(2 * n - k,n - k - 1)). - _ Vladimir Kruchinin _ , Oct 22 2016 ●

[A006516] ● 0,1,6,28,120,496,2016,8128,32640,130816,523776,2096128,8386560,33550336,134209536,536854528,2147450880,8589869056,34359607296,137438691328,549755289600,2199022206976,8796090925056,35184367894528 ★ a(n) = 2^(n-1)*(2^n - 1), n >= 0. ● a(n) = StirlingS2(2 ^ n,2 ^ n - 1) = binomial(2 ^ n,2). - _ Ross La Haye _ , Jan 12 2008 ● a(n + 1) = 4 * a(n) + 2 ^ n. - _ Philippe Deléham _ , Feb 20 2004 ● a(n + 1) = Sum _{ k=0..n } Sum _{ j=0..n } 4 ^ (n - j) * binomial(j, k). - _ Paul Barry _ , Aug 05 2005 ● a(n + 2) = 6 * a(n + 1) - 8 * a(n), a(1)=1, a(2)=6. - Daniele Parisse (daniele.parisse(AT)eads.com), Jul 28 2006 [Typo corrected by _ Yosu Yurramendi _ , Aug 06 2008] ● a(n) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 2,3). - _ Ross La Haye _ , Jun 01 2008 ● a(n) = ((4 ^ n - 2 ^ n) / 2 - 2 ^ (n - 1)) / 4, n>=1. - _ Zerinvary Lajos _ , Jun 05 2009 ●

[A171476] ● 1,6,28,120,496,2016,8128,32640,130816,523776,2096128,8386560,33550336,134209536,536854528,2147450880,8589869056,34359607296,137438691328,549755289600,2199022206976,8796090925056,35184367894528 ★ a(n) = 6*a(n-1)-8*a(n-2) for n>1, a(0)=1, a(1)=6. ● a(n) = sum(k=1..2 ^ n - 1, k). ● a(n) = 2 * 4 ^ n - 2 ^ n. ● a(n) = 4 * a(n - 1) + 2 ^ n for n>0, a(0)=1. [_ Vincenzo Librandi _ , Jul 17 2011] ● a(n) = sum(k=0..n, 2 ^ (n + k)). [_ Bruno Berselli _ , Aug 07 2013] ●

[A171496] ● 6,28,120,496,2016,8128,32640,130816,523776,2096128,8386560,33550336,134209536,536854528,2147450880,8589869056,34359607296,137438691328,549755289600,2199022206976,8796090925056,35184367894528 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 1; a(0) = 6, a(1) = 28. ● a(n) = 8 * 4 ^ n - 2 * 2 ^ n. ● a(n) = 4 * a(n - 1) + 2 ^ (n + 1) (with a(0)=6). [From Vincenzo Librandi, Dec 04 2010] ●

[A292485] ● 1,6,28,120,504,2128,9016,38208,161864,685648,2904408,12303264,52117544,220773552,935211704,3961620096,16781691912,71088388112,301135245080,1275629368416,5403652717288,22890240236144,96964613663352,410748694893888,1739959393240264 ★ p-INVERT of the odd positive integers, where p(S) = 1 - S - 2 S^2. ● a(n) = 5 * a(n - 1) - 5 * a(n - 2) + 7 * a(n - 3) + 2 * a(n - 4) for n >= 5. ●

[A267689] ● 1,6,28,122,500,2026,8148,32682,130900,523946,2096468,8387242,33551700,134212266,536859988,2147461802,8589890900,34359650986,137438778708,549755464362,2199022556500,8796091624106,35184369292628,140737482762922,562949942236500 ★ Decimal representation of the n-th iteration of the "Rule 199" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) + 8 * a(n - 4) for n>4. ● a(n) = - 1 - (- 1) ^ n / 3 - 2 ^ (1 + n) / 3 + 2 ^ (1 + 2 * n) for n>0. - _ Colin Barker _ , Feb 14 2017 ●

[A289779] ● 1,6,28,125,546,2371,10304,44838,195209,849896,3700025,16107530,70121400,305262325,1328913506,5785228011,25185131956,109639724218,477300202625,2077855302992,9045633454817,39378817534750,171429815189636,746294159430429,3248880433597858 ★ p-INVERT of the squares, where p(S) = 1 - S - S^2. ● a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 22 * a(n - 3) - 12 * a(n - 4) + 5 * a(n - 5) - a(n - 6). ●

[A155588] ● 1,6,28,132,640,3156,15688,78252,390880,1953636,9766648,48830172,244144720,1220711316,6103532008,30517610892,152587956160,762939584196,3814697527768,19073486852412,95367432689200,476837160300276 ★ 5^n+2^n-1^n. ● a(n)=7 * a(n - 1) - 10 * a(n - 2) - 4 with a(0)=1, a(1)=6 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A108051] ● 0,1,6,28,136,656,3168,15296,73856,356608,1721856,8313856,40142848,193826816,935878656,4518821888,21818802176,105350496256,508677193728,2456110759936,11859151814656,57261050298368,276480808452096 ★ a(n+1) = 4*(a(n)+a(n-1)) for n>1, a(1)=1, a(2)=6. ● a(n + 1) = - (1 / 2) * (2 - 2 * 2 ^ (1 / 2)) ^ n * (- 1 + 2 ^ (1 / 2)) - (1 / 2) * (2 + 2 * 2 ^ (1 / 2)) ^ n(- 1 - 2 ^ (1 / 2)); G.f.: x * (1 + 2 * x) / (1 - 4 * x - 4 * x ^ 2). ● a(n + 1) = ((3 + sqrt18)(2 + sqrt8) ^ n + (3 - sqrt18)(2 - sqrt8) ^ n) / 6. - Al Hakanson (hawkuu(AT)gmail.com), Aug 15 2009, index corrected Jul 11 2012 ●

[A199315] ● 6,28,138,688,3438,17188,85938,429688,2148438,10742188,53710938,268554688,1342773438,6713867188,33569335938,167846679688,839233398438,4196166992188,20980834960938,104904174804688,524520874023438,2622604370117188 ★ (11*5^n+1)/2. ● a(n) = 5 * a(n - 1) - 2. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2). ●

[A110047] ● 1,6,28,144,688,3360,16192,78336,378112,1826304,8817664,42577920,205582336,992649216,4792926208,23142334464,111741042688,539533639680,2605098729472,12578530000896,60734514921472,293252181786624,1415946786832384,6836795882864640 ★ Expansion of (1+2*x-4*x^2)/((2*x+1)*(2*x-1)*(4*x^2+4*x-1)). ● a(n) = 4 * a(n - 1) + 8 * a(n - 2) - 16 * a(n - 3) - 16 * a(n - 4). - _ Matthew House _ , Feb 17 2017 ● a(n) = (- 3 * (2 - 2 * sqrt(2)) ^ n * (- 2 + sqrt(2)) + 2 ^ n * (- 2 * (1 + (- 1) ^ n) + 3 * (1 + sqrt(2)) ^ n * (2 + sqrt(2)))) / 8. - _ Colin Barker _ , Feb 17 2017 ●

[A169723] ● 6,28,190,1540,13366,118828,1065070,9572500,86113126,774900028,6973745950,62762650660,564860667286,5083736439628,45753599258830,411782307236020,3706040506843846,33354363786753628,300189271756259710,2701703438832768580 ★ 3^(n-1)*(2*3^(n-1)+3)+1. ● a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). - _ Vincenzo Librandi _ , Dec 03 2012 ● a(n) = 2 * 9 ^ (n - 1) + 3 ^ n + 1. - _ Bruno Berselli _ , Dec 05 2012 ●

[A267774] ● 1,6,29,123,503,2031,8159,32703,130943,524031,2096639,8387583,33552383,134213631,536862719,2147467263,8589901823,34359672831,137438822399,549755551743,2199022731263,8796091973631,35184369991679,140737484161023,562949945032703 ★ Decimal representation of the n-th iteration of the "Rule 207" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>3. ●

[A081278] ● 1,6,29,126,513,1998,7533,27702,99873,354294,1240029,4290894,14703201,49955454,168466797,564390342,1879706817,6227425638,20533285917,67411165086,220442258241,718277586606,2332658764269,7552375012566 ★ Binomial transform of Chebyshev polynomial coefficients A001793. ● a(n) = (n ^ 2 + 8 * n + 9)3 ^ (n - 2). ● a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3) for n>2, a(0)=1, a(1)=6, a(2)=29. [Corrected by _ Paolo P. Lava _ , Jun 16 2008] ●

[A172062] ● 1,6,29,128,541,2232,9076,36568,146446,584082,2322967,9220544,36548573,144732176,572756312,2265577184,8959034798,35421613196,140035644602,553606049024,2188652065586,8653317051056,34216118389384 ★ Expansion of (2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=5. ● a(n)=sum('(- 1) ^ (p) * binomial(2 * n + k - p,n - p)',p=0..n) (with k=5). ●

[A081674] ● 0,1,6,29,130,561,2366,9829,40410,164921,669526,2707629,10919090,43942081,176565486,708653429,2841788170,11388676041,45619274246,18

2670807229,731264359650,2926800830801,11712433499806,46865424529029 ★ Generalized Poly-Bernoulli numbers. ● a(n) = ((4 ^ (n + 1) - 1) / 3 - 3 ^ n) / 2 = (4 * 4 ^ n - 3 * 3 ^ n - 1) / 6. ●

[A008549] ● 0,1,6,29,130,562,2380,9949,41226,169766,695860,2842226,11576916,47050564,190876696,773201629,3128164186,12642301534,51046844836,205954642534,830382690556,3345997029244,13475470680616,54244942336114,218269673491780 ★ Number of ways of choosing at most n-1 items from a set of size 2n+1. ● a(n) = 4 ^ n - C(2 * n + 1, n). ● a(n) = Sum _{ k=1..n } Catalan(k) * 4 ^ (n - k): convolution of Catalan numbers and powers of 4. ● a(n) = Sum _{ k=0..n } C(2k, k) * C(2(n - k), n - k - 1). - _ Paul Barry _ , Feb 16 2005 ● a(n) = Sum _{ 0<i<=k<n } binomial(n,k + i) * binomial(n,k - i). [_ Mircea Merca _ , Apr 05 2012] ● a(n) = Sum _{ m = n + 2..2 * n + 1 } binomial(2 * n + 1,m), n >= 0. - _ Wolfdieter Lang _ , May 22 2015 ●

[A081179] ● 0,1,6,29,132,589,2610,11537,50952,224953,993054,4383653,19350540,85417669,377052234,1664389721,7346972688,32431108081,143157839670,631929281453,2789470811028,12313319895997,54353623698786 ★ 3rd binomial transform of (0,1,0,2,0,4,0,8,0,16,...). ● a(n) = 6a(n - 1) - 7a(n - 2), a(0)=0, a(1)=1. G.f.: x / (1 - 6x + 7x ^ 2). a(n) = ((3 + sqrt(2)) ^ n - (3 - sqrt(2)) ^ n) / (2 * sqrt(2)). [Corrected by Al Hakanson (hawkuu(AT)gmail.com), Dec 27 2008] ● a(n) = 3 ^ (n - 1) Sum _{ i>=0 } binomial(n, 2i + 1) * (2 / 9) ^ i. - _ Sergio Falcon _ , Mar 15 2016 ● a(n) = 2 ^ (- 1 / 2) * 7 ^ (n / 2) * sinh(n * arcsinh(sqrt(2 / 7)). - _ Robert Israel _ , Mar 15 2016 ●

[A045445] ● 0,1,6,29,132,590,2628,11732,52608,237129,1074510,4893801,22395420,102943815,475139070,2201301575,10234016880,47731093715,223273611810,1047265325255,4924606035900,23211459517120,109642275853176,518959629394294,2460993383491632 ★ Catafusenes (see references for precise definition). ● a(n) = binomial(2n + 2, n + 1) / (n + 2) + sum(binomial(2k, k) * binomial(n - 1, k - 1) * (3k - 2n - 3) / [(n - k + 1)(k + 1)], k=1..n) (n>=2). - _ Emeric Deutsch _ , Mar 26 2004 ●

[A289801] ● 1,6,29,133,597,2661,11856,52878,235986,1053345,4701627,20985035,93662073,418038721,1865820223,8327671681,37168717729,165894342774,740432630793,3304756826019,14750048986898,65833571645931,293833543748968,1311460845206801 ★ p-INVERT of the tetrahedral numbers (A000292), where p(S) = 1 - S - S^2. ● a(n) = 9 * a(n - 1) - 31 * a(n - 2) + 62 * a(n - 3) - 74 * a(n - 4) + 57 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). ●

[A030221] ● 1,6,29,139,666,3191,15289,73254,350981,1681651,8057274,38604719,184966321,886226886,4246168109,20344613659,97476900186,467039887271,2237722536169,10721572793574,51370141431701,246129134364931,1179275530392954,5650248517599839 ★ Chebyshev even indexed U-polynomials evaluated at sqrt(7)/2. ● a(n) = 5 * a(n - 1) - a(n - 2), a(- 1)= - 1, a(0)=1. ● a(n) = U(2 * n, sqrt(7) / 2). ● a(n) = - a(- 1 - n) for all n in Z. - _ Michael Somos _ , Jan 22 2017 ●

[A292034] ● 1,6,29,144,725,3654,18409,92736,467161,2353350,11855141,59720976,300847949,1515539334,7634619025,38459844864,193743743089,975995564166,4916635376621,24767841488400,124769466312581,628533565640646,3166275009522169,15950297619676224,80350567588455625 ★ Linear divisibility sequence based on Salem number of order 4 (case t=6, see formula). ● a(n) = round(lambda(6) * alpha(6) ^ n) ● a(n) = 6 * a(n - 1) - 6 * a(n - 2) + 6 * a(n - 3) - a(n - 4) for n>4. ●

[A108982] ● 1,6,29,146,729,3646,18229,91146,455729,2278646,11393229,56966146,284830729,1424153646,7120768229,35603841146,178019205729,890096028646,4450480143229,22252400716146,111262003580729,556310017903646 ★ Inverse binomial of A003949. ● a(n) = 4a(n - 1) + 5a(n - 2), a(0) = 1, a(1) = 6. ● a(2n) = 5a(2n - 1) - 1; a(2n + 1) = 5a(2n) + 1. ● a(n)= - 1 / 6 * [(- 1) ^ n - 7 * 5 ^ n], with n>=0 [From _ Paolo P. Lava _ , Nov 19 2008] ●

[A152743] ● 0,6,30,72,132,210,306,420,552,702,870,1056,1260,1482,1722,1980,2256,2550,2862,3192,3540,3906,4290,4692,5112 ★ 6 times pentagonal numbers: a(n) = 3*n*(3*n-1). ● a(n) = a(n - 1) + 18 * n - 12 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 ●

[A055112] ● 0,6,30,84,180,330,546,840,1224,1710,2310,3036,3900,4914,6090,7440,8976,10710,12654,14820,17220,19866,22770,25944,29400 ★ a(n) = n*(n+1)*(2*n+1) ● a(n) = n * (n + 1) * (2 * n + 1). ● a(n) = Sum _{ i = 1..2 * n + 1 } (n ^ 2 + (i - 1)). - _ Charlie Marion _ , Sep 14 2012 ● a(n) = n(n + 1)(2n + 1) = 2 n ^ 3 + 3n ^ 2 + n. With a different offset, a(n) = n(n - 1)(2n - 1) = 2n ^ 3 - 3n ^ 2 + n. - _ Alonso del Arte _ , Oct 13 2013 ●

[A119536] ● 0,6,30,90,204,390,666,1050,1560,2214,3030,4026,5220,6630,8274,10170,12336,14790,17550,20634,24060,27846,32010,36570,41544 ★ 3*n^3 + 3*n. ● a(0)=0, a(1)=6, a(2)=30, a(3)=90, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 19 2013 ●

[A033487] ● 0,6,30,90,210,420,756,1260,1980,2970,4290,6006,8190,10920,14280,18360,23256,29070,35910,43890,53130,63756,75900,89700,105300 ★ a(n) = n*(n+1)*(n+2)*(n+3)/4. ● a(n) = binomial(n + 2,2) ^ 2 - binomial(n + 2,2). - _ Zerinvary Lajos _ , May 17 2006 ● a(n - 1) = Sum _{ j=1..n } Sum _{ i=2..n } i * j = Sum _{ j=1..n } j * (n + 2) * (n - 1) / 2. - _ Zerinvary Lajos _ , May 11 2007 ● a(- 3 - n) = a(n) = 2 * binomial(binomial(n + 2, 2), 2). - _ Michael Somos _ , Apr 06 2014 ●

[A073948] ● 0,0,0,6,30,90,252,756,2268,6642,19602,58806,176904,530712,1592136,4780782,14351094,43053282,129146724,387440172,1162320516,3486843450,10460294154,31380882462,94143001680 ★ Number of strings over Z_3 of length n with trace 0 and subtrace 1. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 2, s + 2t + 1) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A101855] ● 6,30,91,216,441,812,1386,2232,3432,5082,7293,10192,13923,18648,24548,31824,40698,51414,64239,79464,97405,118404,142830,171080,203580 ★ a(n) = n*(n+1)*(n+2)*(n+4)*(n+23)/120. ● a(1)=6, a(2)=30, a(3)=91, a(4)=216, a(5)=441, a(6)=812, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Feb 07 2013 ●

[A292296] ● 0,0,0,6,30,114,402,1386,4746,16218,55386,189114,645690,2204538,7526778,25698042,87738618,299558394,1022756346,3491908602,11922121722,40704669690,138974435322,474488401914,1620004737018 ★ Sum of values of vertices of type B at level n of the hyperbolic Pascal pyramid. ● a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 2 * a(n - 3), n >= 4. ● a(n) = (1 / 2) * (- 12 + (9 - 6 * sqrt(2)) * (2 + sqrt(2)) ^ n + (2 - sqrt(2)) ^ n * (9 + 6 * sqrt(2))) for n>0. ●

[A073970] ● 0,1,6,30,125,600,3025,15500,78000,390625,1952500,9765625,48831250,244156250,1220703125,6103437500,30517265625,152587500000,762939062500,3814697265625,19073484375000,95367431640625,476837167968750,2384185839843750,11920928955078125 ★ Number of strings of length n over Z_5 with trace 1 and subtrace 4. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). ●

[A131458] ● 0,6,30,126,1565,8190,131070,524286,7511964,89777599,2147483646,20166585982,840455563322,4787976306682,5519162753736,2617809209727498,334169564069012755,2305843009213693950,4730678186385741363 9 ★ Residues of 3^(2^(p(n)-1)-1) for Mersenne numbers with prime indices. ● a(n) = 3 ^ (2 ^ (p(n) - 1) - 1) Mod 2 ^ p(n) - 1 ●

[A073389] ● 1,6,30,128,504,1872,6672,23040,77616,256288,832416,2666496,8441600,26454528,82174464,253280256,775316736,2358812160,7137023488,21487386624,64401106944,192229535744,571630694400 ★ Second convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. ● a(n) = (2 ^ n) * sum(binomial(n - k + 2, 2) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). ●

[A036068] ● 1,6,30,135,567,2268,8748,32805,120285,433026,1535274,5373459,18600435,63772920,216827928,731794257,2453663097,8178876990,27119434230,89494132959,294052151151,962352494676,3138105960900,10198844372925 ★ Expansion of (-1+1/(1-3*x)^3)/(9*x). ● a(n) = 3 ^ (n - 1) * binomial(n + 3, 2); G.f.: (- 1 + (1 - 3 * x) ^ (- 3)) / (x * 3 ^ 2)=(1 - 3 * x + 3 * x ^ 2) / (1 - 3 * x) ^ 3. ●

[A081895] ● 1,6,30,136,579,2358,9288,35640,133893,494262,1797714,6456024,22930695,80660934,281309436,973599912,3346483977,11431295910,38828142342,131206405608,441271936971,1477621745046,4927988620080,16373939547096 ★ Second binomial transform of C(n+3,3). ● a(n)=3 ^ n(n ^ 3 + 24n ^ 2 + 137n + 162) / 162 G.f.: (1 - 2x) ^ 3 / (1 - 3x) ^ 4 ●

[A030280] ● 1,6,30,137,588,2415,9600,37209,141336,528049,1945800,7086555,25550547,91319973,323890062,1140985116,3995155506,13913280006,48216776266,166355744244,571636515369,1957015021744,6677155551312 ★ COMPOSE triangular numbers with triangular numbers. ● a(1)=1, a(2)=6, a(3)=30, a(4)=137, a(5)=588, a(6)=2415, a(7)=9600, a(8)=37209, a(9)=141336, a(n)=12 * a(n - 1) - 57 * a(n - 2) + 139 * a(n - 3) - 195 * a(n - 4) + 174 * a(n - 5) - 102 * a(n - 6) + 39 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jan 08 2013 ●

[A255463] ● 1,6,30,138,606,2586,10830,44778,183486,747066,3027630,12228618,49268766,198137946,795740430,3192527658,12798808446,51281327226,205383589230,822309197898,3291561314526,13173218826906,52713796014030,210917946175338,843860071059006 ★ a(n) = 3*4^n-2*3^n. ● a(n + 1) = 7 * a(n) - 12 * a(n - 1) with a(0)=1, a(1)=6. ●

[A125316] ● 1,6,30,138,694,3526,18012,92140,471566,2413794,12356010,63250314,323779348,1657433992,8484446994,43432107538,222330112286,1138113767838,5826034724844,29823627148788,152667942902854 ★ Number of base 6 circular n-digit numbers with adjacent digits differing by 3 or less. ● a(n) = 6 * a(n - 1) - 3 * a(n - 2) - 8 * a(n - 3) + a(n - 4) + 2 * a(n - 5) for n>5. ●

[A092439] ● 0,0,6,30,140,560,2058,7098,23472,75372,237182,735878,2260596,6896136,20933778,63325170,191089112,575626052,1731858246,5206059774,15640198620,46966732320,140996664986,423191320490,1269993390720 ★ Sequence arising from enumeration of domino tilings of Aztec Pillow-like regions. ● a(n) = (3.^ (n + 2) + (- 1) ^ (n + 2)) / 2 - 2 ^ (n + 2) - (n + 2)(2 ^ (n + 1) - 1) + (n + 1) ^ 2 ● a(0)=0, a(1)=0, a(2)=6, a(3)=30, a(4)=140, a(5)=560, a(6)=2058, a(n)= 9 * a(n - 1) - 30 * a(n - 2) + 42 * a(n - 3) - 9 * a(n - 4) - 39 * a(n - 5) + 40 * a(n - 6) - 12 * a(n - 7) [From Harvey P. Dale, Nov 27 2011] ●

[A082149] ● 0,0,1,6,30,140,615,2562,10220,39384,147645,541310,1948650,6908772,24180611,83702010,286978200,975725744,3293074233,11041484022,36804946550,122037454140,402723598431,1323234680306,4330586226180 ★ A transform of C(n,2). ● a(n) = C(n, 2) * (3 ^ (n - 2) + 1) / 2. ●

[A002457] ● 1,6,30,140,630,2772,12012,51480,218790,923780,3879876,16224936,67603900,280816200,1163381400,4808643120,19835652870,81676217700,335780006100,1378465288200,5651707681620,23145088600920,94684453367400 ★ a(n) = (2n+1)!/n!^2. ● a(n - 1) = binomial(2 * n, n) * n / 2 = binomial(2 * n - 1, n) * n. ● a(n - 1) = 4 ^ (n - 1) * Sum _{ i=0..n - 1 } binomial(n - 1 + i, i) * (n - i) / 2 ^ (n - 1 + i). ● a(n) = 1 / Integral _{ x=0..1 } x ^ n (1 - x) ^ n dx. - Fred W. Helenius (fredh(AT)ix.netcom.com), Jun 10 2003 ● a(n) = Sum _{ i + j + k=n } binomial(2i, i) * binomial(2j, j) * binomial(2k, k). - _ Benoit Cloitre _ , Nov 09 2003 ● a(n) = Sum _{ k=0..n } binomial(2k,k) * 4 ^ (n - k). - _ Paul Barry _ , Apr 26 2009 ● a(n) = f(n, n - 3) where f is given in A034261. ●

[A082134] ● 0,1,6,30,144,680,3168,14560,66048,296064,1313280,5772800,25178112,109078528,469819392,2013388800,8590196736,36507779072,154620002304,652837519360,2748784312320,11544883101696,48378534690816 ★ Expansion of e.g.f. x*exp(3*x)*cosh(x). ● a(n) = n * (2 ^ (n - 1) + 4 ^ (n - 1)) / 2. ●

[A030192] ● 1,6,30,144,684,3240,15336,72576,343440,1625184,7690464,3639

1680,172207296,814893696,3856118400,18247348224,86347378944,4086001843
20,1933516832256,9149499887616,43295898332160,204878390667264,9694949
54010624,4587699380060160 ⋆ Scaled Chebyshev U-polynomial evaluated at
sqrt(6)/2. • a(n) = ((3 + sqrt3) ^ n - (3 - sqrt3) ^ n) / sqrt12. [Al Hakanson
(hawkuu(AT)gmail.com), Dec 29 2008] •

[A026376] • 1,6,30,144,685,3258,15533,74280,356283,1713690,8263596,39938
616,193419915,938430990,4560542550,22195961280,108171753355,5278166968
50,2578310320610,12607504827600,61706212037295,302275142049870,1481908
332595625,7270432009471224 ⋆ a(n) = number of integer strings s(0),...,s(n)
counted by array T in A026374 that have s(n)=2; also a(n)=T(2n,n-1). • a(n)
= [t ^ (n + 1)](1 + 3t + t ^ 2) ^ n. a := n - >sum(3 ^ (2j - n - 1) * binomial(
n, j) * binomial(j, n + 1 - j), j=ceil((n + 1) / 2)..n). - _ Emeric Deutsch _ ,
Jan 30 2004 • a(n) = sum { k=0..n, binomial(n, k)binomial(2k, k + 1) } - _
Paul Barry _ , Sep 20 2004 • a(n) = n * hypergeometric([1, 3 / 2, 1 - n],[1, 3]
, - 4). - _ Peter Luschny _ , Sep 16 2014 • a(n) = GegenbauerC(n - 1, - n, -
3 / 2). - _ Peter Luschny _ , May 09 2016 •

[A135160] • 1,6,30,144,690,3336,16290,80184,396930,1972296,9823650,490032
24,244667970,1222289256,6108282210,30531894264,152630871810,76306846221
6,3815084423970,19074648065304,95370917376450,476847616459176,23842171
67880930,119210230898683 44,59604927188149890 ⋆ a(n) = 5^n + 3^n - 2^n. •
a(n) = 5 ^ n + 3 ^ n - 2 ^ n. • a(0)=1, a(1)=6, a(2)=30, a(n) = 10 * a(n - 1)
- 31 * a(n - 2) + 30 * a(n - 3). - _ Harvey P. Dale _ , Mar 10 2013 •

[A089817] • 1,6,30,145,696,3336,15985,76590,366966,1758241,8424240,40362
960,193390561,926589846,4439558670,21271203505,101916458856,48831109077
6,2339638995025,11209883884350,53709780426726,257339018249281 ⋆ a(n) =
5*a(n-1) - a(n-2) + 1 with a(0)=1, a(1)=6. • a(n) = (2 / 3 - sqrt(21) / 7) * (5
/ 2 - sqrt(21) / 2) ^ n + (2 / 3 + sqrt(21) / 7) * (5 / 2 + sqrt(21) / 2) ^ n - 1
/ 3. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) + a(n - 3) for n >= 2, a(- 1):=0, a(0)
=1, a(1)=6. • a(n) = (S(n + 1, 5) - S(n, 5) - 1) / 3 for n >= 0. • a(n) * a(n -
2) = a(n - 1) * (a(n - 1) - 1) for n > 1. - _ Bruno Berselli _ , Nov 29 2016 •

[A006320] • 1,6,30,146,714,3534,17718,89898,461010,2386390,12455118,65478
978,346448538,1843520670,9859734630,52974158938,285791932578,1547585781
414,8408765223294 ⋆ Royal paths in a lattice. • a(n) = (3 / n) * sum(binomi
al(n, j) * binomial(n + 2 + j, n - 1), j=0..n) (n>0). - _ Emeric Deutsch _ , A
ug 19 2004 •

[A073965] • 0,0,6,30,150,650,3150,15500,78000,390000,1952500,9762500,4883
1250,244156250,1220781250,6103593750,30517656250,152587500000,762939062
500,3814695312500,19073484375000,95367421875000,476837167968750,238418
5839843750,11920929199218750 ⋆ Number of strings of length n over Z_5 with
trace 0 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1
) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s
+ t + 1). •

[A075886] • 1,6,30,150,726,3510,16854,80886,387606,1857078,8894550,42598
518,204000918,976929462,4678286550,22403128566,107282481942,51374604677
4,2460185076054,11781130000758,56416485185430,270162504104886 ⋆ Number
of cubes at generation n when building fractal cube with edge ratio of 1/2. • a
(1)=1, a(2)=6, a(3)=30, a(n)=5 * a(n - 1) + 4 * a(n - 2) - 24 * a(n - 3) [From
Harvey P. Dale, Mar 17 2012] •

[A003948] • 1,6,30,150,750,3750,18750,93750,468750,2343750,11718750,58593
750,292968750,1464843750,7324218750,36621093750,183105468750,9155273437
50,45776367187 50,22888183593750,114440917968750,572204589843750,286102
2949218750,14305114746093750 ⋆ Expansion of (1+x)/(1-5*x). • a(n) = 6 * 5
^ (n - 1) for n>0, a(0)=1. - _ Vincenzo Librandi _ , Nov 18 2010 •

[A105488] • 1,6,30,150,780,4263,24556,149040,951615,6378625,44785620,328
660566,2515643767,20044428810,165955025400,1425299331992,1267832508001
2,116635133853189,1108221018960830,10862073229428120,10969492753220948
1,1140199081827172719 ⋆ Number of partitions of {1...n} containing 2 detached
pairs of consecutive integers, i.e., partitions in which only 1- or 2-strings of
consecutive integers can appear in a block and there are exactly two 2-strings.
• a(n) = binomial(n - 2, 2) * Bell(n - 3), which is the case r = 2 in the general
case of r pairs, d(n, r)=binomial(n - r, r) * Bell(n - r - 1), which is the case t=
2 of the general formula d(n, r, t)=binomial(n - r * (t - 1), r) * B(n - r * (t - 1
) - 1). •

[A033132] • 1,6,30,151,756,3780,18901,94506,472530,2362651,11813256,59066
280,295331401,1476657006,7383285030,36916425151,184582125756,9229106287
80,4614553143901,23072765719506,115363828597530,576819142987651 ⋆ Base-
5 digits are, in order, the first n terms of the periodic sequence with initial
period 1,1,0. • a(n) = 5 * a(n - 1) + a(n - 3) - 5 * a(n - 4). • a(n) = floor((1
5 / 62) * 5 ^ n). - _ Tani Akinari _ , Jul 16 2014 •

[A022023] • 6,30,151,761,3836,19337,97477,491378,2477019,12486565,629443
32,317300149,1599498817,8063016906,40645382751,204891935393,10328529920
92,5206575364849,26246162074765,132305973770306,666949729466899,336206
9972805741,16948075698414380 ⋆ Define the sequence S(a(0),a(1)) by a(n+2)
is the least integer such that a(n+2)/a(n+1) > a(n+1)/a(n) for n >= 0. This
is S(6,30). • a(n + 1) = floor(a(n) ^ 2 / a(n - 1)) + 1 for all n > 0. - _ M. F.
Hasler _ , Feb 10 2016 •

[A066534] • 0,1,6,30,152,840,5232,37072,297600,2680704,26812160,29494502
4,3539364864,46011796480,644165265408,9662479226880,154599668154368,26
28194359738368,47307498477649920,898842471080329216 ⋆ Total number of
walks with length > 0 in the Hasse diagram of a Boolean algebra of order n. •
a(n)=n! * Sum _{ i + j<n, i, j >= 0 } 1 / (i! * j!). - _ Benoit Cloitre _ , No
v 01 2002 •

[A126474] • 1,6,30,154,788,4034,20650,105708,541122,2770018,14179796,7258
6754,371573530,1902094812,9736874082,49843318162,255149275268,130611594
6338,6686042370634,34226029248972,175203956722818 ⋆ Number of arrays in
[1..6]^n with adjacent elements differing by three or less. • a(n) = 5 * a(n - 1)
+ a(n - 2) - 2 * a(n - 3) for n>2. • a(n) = e ^ T M ^ (n - 1) e where e = [1,1,
1,1,1,1] ^ T and M is the 6 X 6 matrix with entries M(i,j) = 1 if |i - j|<=3, 0
otherwise. •

[A152224] • 1,6,30,156,804,4152,21432,110640,571152,2948448,15220704,7857
3504,405618240,2093913984,10809365376,55800945408,288059973888,14870455
68000,7676542115328,39628441869312,204573020169216,1056062731892736,54
51689048586240,28143132585701376 ⋆ a(n)=4*a(n-1)+6*a(n-2), n>1 ; a(0)=1,
a(1)=6 . • a(n)=(1 / 2) *{ [2 + sqrt(10)] ^ n + [2 - sqrt(10)] ^ n }+ (1 / 5) *
sqrt(10) *{ [2 + sqrt(10)] ^ n - [2 - sqrt(10)] ^ n } , with n>=0 [From _ Paol
o P. Lava _ , Dec 12 2008] •

[A038155] • 0,0,1,6,30,160,975,6846,54796,493200,4932045,54252550,6510306
66,8463398736,118487582395,1777313736030,28437019776600,48342933620233
6,8701728051642201,165332832981201990,3306656659624039990,694397898521
04840000 ⋆ a(n) = (n!/2) * Sum_{k=0..n-2} 1/k!. • a(n) = 1 / 2 * floor(n! *
exp(1) - n - 1), n>0. - _ Vladeta Jovovic _ , Aug 18 2002 • a(n) = Sum _{ k
=0..n - 1 } a(n - 1) + k, a(0)=0. - _ Ilya Gutkovskiy _ , Apr 13 2016 •

[A110706] • 6,30,174,1092,7188,48852,339720,2403588,17236524,124948668,9
13820460,6732898800,49918950240,372104853600,2786716100592,20955408717
396,158149624268220,1197390368733804,9091866006950892,6921429798002325
6 ⋆ Number of linear arrangements of n blue, n red and n green items such that
there are no adjacent items of the same color. • a(n) = 2 * (Sum[k=0..[n / 2]
] binomial(n - 1, k) * (binomial(n - 1, k) * binomial(2n + 1 - 2k, n + 1) + bi
nomial(n - 1, k + 1) * binomial(2n - 2k, n + 1))) •

[A057754] • 6,30,178,1246,9630,78628,664918,5762209,50849235,455055615,4
118066401,37607950281,346065645810,3204942065692,29844571475288,279238
344248557,2623557165610822,24739954309690415,234057667376222382 ⋆ Inte-
ger nearest to Li(10^n), where Li(x) = integral(0..x, dt/log(t)). • a(n) = roun
d(Li(10 ^ n)) = round(Ei(log(10 ^ n))). •

[A029571] • 0,0,0,0,6,30,180,1260,8820,79380,793800,8731800,106029000,137
8377000,19297278000,289459170000,4627941318000,78675002406000,14161500
43308000,26906850822852000,538156815464268000 ⋆ Number of permutations
of an n-set containing a 4-cycle. • a(n) = n! * (1 - sum(k=0..floor(n / 4), (- 1
) ^ k / (k! * 4 ^ k))). • a(n) / n! is asymptotic to 1 - e ^ (- 1 / 4) = 1 - A09
2616. • a(n) = n! (1 - Gamma(floor(n / 4) + 1, - 1 / 4) * exp(1 / 4) / (floor(
n / 4))!). - _ Robert Israel _ , Dec 07 2016 •

[A239488] • 6,30,186,1290,9582,74550,599730,4948050,41638614,356007630,3
083837802,27006251610,238704231102,2126733078630,19079571337314,172209
370246050,1562686251141030,14248144422407550,130467052593799962 ⋆ Ex-
pansion of 1/x-4/(-sqrt(x^2-10*x+1)-x+1)-3. • a(n) = sum(i = 0..n + 1, 2 ^ i
* binomial(n,n - i + 1) * binomial(n + i - 1,n - 1)) / n. • a(n) = T(2 * n,n - 1
) / n where T(n,k) is triangle A116412. •

[A054721] • 1,6,30,210,1260,7770,46410,279930,1678320,10077480,60458370,3
62797050,2176734420,13060694010,78363884130,470184976590,282110822784
0,16926659444730,101559946544280,609359740010490,3656158379595540,2193
6950640097710,131621703479470050 ⋆ Number of 6-ary sequences with primi-
tive period n. • a(n) = Sum mu(d) * 6 ^ (n / d); d|n. •

[A228873] • 6,30,240,1560,10920,74256,510510,3495030,23965920,16423704
0,1125770256,7715953440,52886430870,362487682830,2484530961360,17029219
589256,116720030923320,800010932051760,5483356663145790,37583485265670
630,257601041359736256 ⋆ F(n) * F(n+1) * F(n+2) * F(n+3), the product of
four consecutive Fibonacci numbers, A000045. • a(n + 5) = 5 * a(n + 4) + 1
5 * a(n + 3) - 15 * a(n + 2) - 5 * a(n + 1) + a(n). - _ Robert Israel _ , Apr
06 2015 •

[A155097] • 6,31,43,68,80,105,117,142,154,179,191,216,228,253,265,290,302,3
27,339,364,376,401,413,438,450 ⋆ Numbers n such that n^2 == -1 mod (37) •
a(n) = 6 * (- 1) ^ (n + 1) + 37 [n / 2]. - _ M. F. Hasler _ , Jun 16 2010 • a(
n) = a(n - 2) + 37 for all n>2. - _ M. F. Hasler _ , Jun 16 2010 •

[A042841] • 1,1,6,31,68,235,303,538,841,8107,8948,17055,26003,95064,21613
1,1175719,6094726,7270445,442321426,449591871,2690280781,13900995776,30
492272333,105377812775,135870085108 ⋆ Denominators of continued fraction
convergents to sqrt(951). • a(n) = 448416152 * a(n - 18) - a(n - 36) for n>35.
- _ Vincenzo Librandi _ , Jan 30 2014 •

[A273790] • 1,6,31,80,161,282,451,676,965,1326,1767,2296,2921,3650,4491,54
52,6541,7766,9135,10656,12337,14186,16211,18420,20821 ⋆ Partial sums of the
number of active (ON,black) cells in n-th stage of growth of two-dimensional
cellular automaton defined by "Rule 931", based on the 5-celled von Neumann
neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 11 * n - 9) / 3 for n>0. • a
(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A096959] • 6,31,96,231,476,882,1512,2442,3762,5577,8008,11193,15288,2046
8,26928,34884,44574,56259,70224,86779,106260,129030,155480,186030,221130
⋆ Sixth column (m=5) of (1,6)-Pascal triangle A096956. • a(n) = (n + 30) *
binomial(n + 4, 4) / 5. •

[A024447] • 0,6,31,101,288,652,1349,2451,4222,7122,11121,17041,25118,3535
2,48559,65943,88422,115262,148829,189157,235804,292052,357705,435491,5289
02 ⋆ Sum of the products of the primes taken 2 at a time from first n primes.
• a(1) = 0, a(n + 1) = prime(n + 1) * (sum of first n primes) + a(n), for n >
1. •

[A267890] • 1,6,31,127,511,2047,8191,32767,131071,524287,2097151,838860
7,33554431,134217727,536870911,2147483647,8589934591,34359738367,13743
8953471,549755813887,2199023255551,8796093022207,35184372088831,140737
488355327,562949953421311 ⋆ Decimal representation of the n-th iteration of
the "Rule 239" elementary cellular automaton starting with a single ON (black)

cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. • a(n) = 2 ^ (2 * n + 1) - 1 f or n>1. - _ Colin Barker _ , Nov 25 2016 •

[**A291396**] • 6,31,140,596,2440,9751,38344,149147,575794,2211278,8460912,32289105,122994890,467887343,1778208080,6753481344,25636583768,97283620659,369070501684,1399909005427,5309251592646,20133801242298,76346423589984,289487843638333 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - S)(1 - 2 S)(1 - 3 S). • a(n) = 6 * a(n - 1) - 5 * a(n - 2) - 16 * a(n - 3) + 7 * a(n - 4) + 18 * a(n - 5) + 6 * a(n - 6) for n >= 7. •

[**A094951**] • 6,31,144,621,2538,9963,37908,140697,511758,1830519,6456024,22497669,77590386,265189059,899198172,3027619377,10130328342,33705582543,111577100832,367662044061,1206427402746,3943553157531,12845313733284 ⋆ A companion to A081038 and A077616. • a(n) = 3 ^ (n - 2) * (9 + 7 * n + 2 * n ^ 2). • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3). •

[**A291002**] • 6,31,146,652,2816,11896,49496,203752,832376,3381736,13683896,55206952,222242936,893219176,3585623096,14380739752,57637717496,230895178216,924613703096,3701553914152,14815513224056,59289946122856,237243465219896,949224905162152 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S)(1 - 2*S)(1 - 3*S). • a(n) = 9 * a(n - 1) - 26 * a(n - 2) + 24 * a(n - 3) for n >= 4. • a(n) = (2 ^ n - 16 * 3 ^ n + 27 * 4 ^ n) / 2. - _ Colin Barker _ , Aug 23 2017 •

[**A056015**] • 1,6,31,152,730,3480,16542,78544,372779,1768958,8393741,39827472,188975588,896658432,4254492236,20186832928,95783024581,454473817254,2156399264651,10231739547432,48547824776670,230350985294584 ⋆ A recursive sequence. • a(n)=6 * a(n - 1) - 5 * a(n - 2) - 4 * a(n - 3) - 3 * a(n - 4) + 2 * a(n - 5) + a(n - 6), a(0)=...=a(4)=0, a(5)=1. •

[**A003463**] • 0,1,6,31,156,781,3906,19531,97656,488281,2441406,12207031,61035156,305175781,1525878906,7629394531,38146972656,190734863281,953674316406,4768371582031,23841857910156,119209289550781,596046447753906,2980232238769531 ⋆ a(n) = (5^n - 1)/4. • a(n) = sum(k=1..n, C(n,k) * 4 ^ (k - 1)). - _ Paul Barry _ , Mar 28 2003 • a(n) = (- 1) ^ n times the (i, j) - th element of M ^ n (for all i and j such that i is not equal to j), where M = ((1, - 1 , 1, - 2), (- 1, 1, - 2, 1), (1, - 2, 1, - 1), (- 2, 1, - 1, 1)). - _ Simone Severini _ , Nov 25 2004 • a(n) = ((3 + sqrt(4)) ^ n - (3 - sqrt(4)) ^ n) / 4. - Al Hakanson (hawkuu(AT)gmail.com), Dec 31 2008 • a(n) = 6 * a(n - 1) - 5 * a(n - 2) n>1, a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 • a(n) = 4 * a(n - 1) + 5 * a(n - 2) + 2, a(0)=0, a(1)=1. • a(n) = 5 * a(n - 1) + a(n - 2) - 5 * a(n - 3) = 7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3), a(0)=0, a(1)=1, a(2)=6. Observation by G. Detlefs. See the W. Lang comment and link. (End) •

[**A289788**] • 1,6,31,156,785,3954,19919,100344,505489,2546430,12827791,64620756,325530881,1639881066,8260997855,41615265264,209639359969,1056070674294,5320018479679,26799907726860,135006120168881,680101314855906,3426050596003631,17258932500172776 ⋆ a(n) = (1/2)*A289787(n). • a(n) = 6 * a (n - 1) - 6 * a(n - 2) + 6 * a(n - 3) - a(n - 4). •

[**A065096**] • 0,1,6,31,156,785,3978,20335,104856,545073,2854350,15046383,79787700,425360481,2278586898,12259138975,66216193968,358941938849,1952111592342,10648449309823,58245727453260,319406931168241,1755674399021466,9671384910586511 ⋆ Sums of lists produced by a variant of the iteration that produces the Catalan numbers: start with 0 and at each iteration replace each integer k with the list 0,1,...,k-1,k,k+1,k,k-1,...,1,0 and let a(n) be the sum of the resulting (flattened) list after n iterations. • a(n)=(1 / pi) * Int(x ^ n * sqrt(- x ^ 2 + 6x - 1) * (x - 3) / 8,x,3 - 2sqrt(2),3 + 2sqrt(2)); - _ Paul Barry _ , Sep 16 2006 •

[**A047665**] • 0,1,6,31,160,841,4494,24319,132864,731281,4048726,22523359,125797984,704966809,3961924126,22321190911,126027618304,712917362209,4039658528934,22924714957471,130271906898720,741188107113961,4221707080583086,24070622500965631,137369104574280960 ⋆ Expansion of (1/sqrt(1-6*x+x^2)-1/(1-x))/2. • a(n) = sum(k=0..n, sum(l=0..n, T(k, l))), array T as in A008288. • a(n) = Sum _{ j=1..n } C(2 * j - 1, j - 1) * C(n + j, 2 * j). - Stefan Hollos (stefan(AT)exstrom.com), Jul 21 2004 • a(n) = (hyper2F1(- n, n + 1,1, - 1) - 1) / 2 = (hyper2F1(- n, - n, 1, 2) - 1) / 2. - _ Peter Luschny _ , May 19 2015 •

[**A003128**] • 0,0,1,6,31,160,856,4802,28337,175896,1146931,7841108,56089804,418952508,3261082917,26403700954,221981169447,1934688328192,1745400421318 0,162765041827846,1566915224106221,15553364227949564,159004783733999787,1672432865100333916 ⋆ Number of driving-point impedances of an n-terminal network. • a(n) = (Bell(n) - 3 * Bell(n + 1) + Bell(n + 2)) / 2. - _ Vladeta Jovovic _ , Aug 07 2006 • a(n) = sum { k = 1..n } binomial(k,2) * Stirling2(n,k), Stirling transform of A000217. • a(n) = 1 / (2 * exp(1)) * sum { k>=0 } k ^ n * (k ^ 2 - 3 * k + 1) / k!. Note that k ^ 2 - 3 * k + 1 = k * (k - 1) - 2 * k + 1 is an example of a Poisson - Charlier polynomial. • a(n) = D ^ n(x ^ 2 / 2! * exp(x)) evaluated at x = 0, where D is the operator (1 + x) * d / dx. Cf. A005493. •

[**A015449**] • 1,1,6,31,161,836,4341,22541,117046,607771,3155901,16387276,85092281,441848681,2294335686,11913527111,61861971241,321223383316,1667978887821,8661117822421,44973567999926,233528957822051 ⋆ Expansion of (1-4*x)/(1-5*x-x^2). • a(n) = 5 * a(n - 1) + a(n - 2). • a(n) = (1 / 2) * [(5 / 2) + (1 / 2) * sqrt(29)] ^ n - (3 / 58) * [(5 / 2) + (1 / 2) * sqrt(29)] ^ n * sqrt(29) + (1 / 2) * [(5 / 2) - (1 / 2) * sqrt(29)] ^ n + (3 / 58) * sqrt(29) * [(5 / 2) - (1 / 2) * sqrt(29)] ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 21 2008 •

[**A199320**] • 6,31,181,1081,6481,38881,233281,1399681,8398081,50388481,302330881,1813985281,10883911681,65303470081,391820820481,2350924922881,14105549537281,84633297223681,507799783342081,3046798700052481,18280792200314881 ⋆ 5*6^n+1. • a(n) = 6 * a(n - 1) - 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). •

[**A288961**] • 0,0,6,32,100,240,490,896,1512,2400,3630,5280,7436,10192,13650,17920,23120,29376,36822,45600,55860,67760,81466,97152,115000 ⋆ Number of 3-cycles in the n X n rook graph. • a(n) = 2 * n * binomial(n,3). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[**A239573**] • 0,1,6,32,113,329,790,1702,3320,6057,10400,17074,26903,41047,60796,87886,124220,172275,234732,314992,416703,544391,702878,898040,1136098 ⋆ Number of non-equivalent (mod D_3) ways to place 3 indistinguishable points on a triangular grid of side n so that no two of them are adjacent. • a(n) = (n ^ 6 + 3 * n ^ 5 - 39 * n ^ 4 + 10 * n ^ 3 + 456 * n ^ 2 - 1008 * n + 576) / 288 + IF(MOD(n, 2) = 1) * (3 * n ^ 2 - 5 * n - 5) / 32 + IF(MOD(n, 3) = 1) * 2 / 9. •

[**A292044**] • 0,1,6,32,160,768,3584,16384,73728,327680,1441792,6291456,27262976,117440512,503316480,2147483648,9126805504,38654705664,163208757248,687194767360,2886218022912,12094627905536,50577534877696,211106232532992,879609302220800 ⋆ Wiener index of the n-halved cube graph. • a(n) = 2 ^ (2 * n - 5) * n for n > 1. • a(n) = 8 * a(n - 1) - 16 * a(n - 2) for n > 3. •

[**A006668**] • 0,0,1,6,32,160,784,3808,18432,89088,430336,2078208,10035200,48455680,233967616,1129701376,5454692352,26337607680,127169265664,614027624448,2964787822592,14315262312448,69120201588736 ⋆ Exponential self-convolution of Pell numbers (divided by 2). • a(n) = ((2 + sqrt(8)) ^ n + (2 - sqrt(8)) ^ n - 2 ^ (n + 1)) / 16; E.g.f. : exp(2x)(sinh(sqrt(2)x)) ^ 2 / 4=(exp(x)sinh(sqrt(2)x) / sqrt(2)) ^ 2 / 2. - _ Paul Barry _ , May 16 2003 •

[**A232494**] • 1,6,32,160,848,4576,25856,148480,870656,5142016,30605312,182640640,1092866048,6545268736,39235813376,235271618560,1411199860736,8465479499776,50787717742592,304705668382720,1828172095029248,10968784904912896,65811966429495296,394868826560266240,2369204043294703616 ⋆ If n mod 2 = 0 then 2^(n-1)*(3^n+3*3^(n/2)-2) otherwise 2^(n-1)*(3^n+5*3^((n-1)/2)-2). • a(n) = 2 ^ (n - 2) * (2 * 3 ^ n - 4 + 3 ^ ((n - 1) / 2)(5 + 3 * sqrt(3) + (- 1) ^ n * (3 * sqrt(3) - 5))). - _ Benedict W. J. Irwin _ , Sep 27 2016 •

[**A083320**] • 1,6,32,162,800,3906,18992,92322,449600,2195586,10755152,52845282,260386400,1286217666,6367168112,31576971042,156839811200,779990182146,3883029321872,19347201973602,96463456484000,481224744361026 ⋆ 5^n+4^n-3^n. • a(n)=5 ^ n + 4 ^ n - 3 ^ n. •

[**A097139**] • 0,0,1,6,32,162,813,4068,20344,101724,508625,2543130,12715656,63578286,317891437,1589457192,7947285968,39736429848,198682149249,993410746254,4967053731280,24835268656410,124176343282061,620881716410316 ⋆ Convolution of 5^n and floor(n/2). • a(n) = 5 ^ (n + 1) / 96 - n / 8 - 3 / 32 + (- 1) ^ n / 24. - _ R. J. Mathar _ , Jan 08 2011 • a(n) = 6 * a(n - 1) - 4 * a(n - 2) - 6 * a(n - 3) + 5 * a(n - 4). • a(n) = a(n - 2) + (5 ^ (n - 1) - 1) / 4, n>1. (End) • a(n) = Sum _{ k=0..n } floor((n - k) / 2) * 4 ^ k = Sum _{ k =0..n } floor(k / 2) * 4 ^ (n - k). •

[**A082585**] • 1,6,32,167,868,4508,23409,121554,631180,3277455,17018456,88369736,458867137,2382705422,12372394248,64244676663,333595777564,1732223564484,8994713599985,46705791564410,242523671422036 ⋆ a(1)=1, a(n) = ceiling(r(5)*a(n-1)) where r(5) = (1/2)*(5 + sqrt(29)) is the positive root of X^2 = 5*X + 1. • a(n) = - (1 / 5) + (3 / 5) * (5 / 2 + (1 / 2) * sqrt(29)) ^ n + (16 / 145) * (5 / 2 + (1 / 2) * sqrt(29)) ^ n * sqrt(29) + (3 / 5) * (5 / 2 - (1 / 2) * sqrt(29)) ^ n - (16 / 145) * sqrt(29) * (5 / 2 - (1 / 2) * sqrt(29)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[**A084326**] • 0,1,6,32,168,880,4608,24128,126336,661504,3463680,18136064,94961664,497225728,2603507712,13632143360,71378829312,373744402432,1956951097344,10246728974336,53652569456640,280928500842496,1470960727228416,7702050360000512 ⋆ a(0)=0, a(1)=1; for n>1, a(n) = 6*a(n-1)-4*a(n-2). • a(n) = (1 / 2) * sum(k = 0, n, binomial(n, k) * F(3 * k)) where F(k) denotes the k - th Fibonacci number. • a(n) = sqrt(5)((3 + sqrt(5)) ^ n - (3 - sqrt(5)) ^ n) / 10. - _ Paul Barry _ , Aug 25 2003 • a(n) = Sum(C(n, 2k + 1)5 ^ k 3 ^ (n - 2k - 1), k = 0, .., Floor[(n - 1) / 2]). a(n) = 2 ^ (n - 1)F(2n). - Mario Catalani (mario.catalani(AT)unito.it), Jul 22 2004 • a(n) is the rightmost term in M ^ n * [1 0] where M is the 2X2 matrix [5 1 / 1 1]. The characteristic polynomial of M = x ^ 2 - 6x + 4. a(n) / a(n - 1) tends to (3 + sqrt(5)), a root of the polynomial and an eigenvalue of M. - _ Gary W. Adamson _ , Dec 16 2004 • a(n) = sum { k = 0..n, sum { j = 0..n, C(n, j)C(j, k)F(j + k) / 2 }} . - _ Paul Barry _ , Feb 14 2005 • a(n) = 5a(n - 1) + a(n - 2) + a(n - 3) + ... + a(1) + 1. - _ Gary W. Adamson _ , Feb 18 2011 •

[**A125190**] • 0,1,6,32,170,912,4942,27008,148626,822560,4573910,25534368,143027898,803467056,4524812190,25537728000,144411206178,818017823808,4640757865126,26364054632480,149959897539018,853941394691792,4867745532495086,27773897706129792 ⋆ Number of ascents in all Schroeder paths of length 2n. • a(n) = sum(i=0..n - 1, binomial(n + 1,n - i - 1) * binomial(n + i,n)). - _ Vladimir Kruchinin _ , Feb 05 2013 • a(n) = (n ^ 2 + n) * hypergeometric ([1 - n, n + 1], [3], - 1) / 2. - _ Peter Luschny _ , Sep 17 2014 •

[**A180037**] • 1,6,32,172,924,4964,26668,143268,769676,4134916,22213932,119339492,641125324,3444305604,18503778668,99407504548,534045080076,2869040409476,15413292207532,82804541856612,444849293698124 ⋆ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1+x)/(1-5*x-2*x^2). • a(n) = 5 * a(n - 1) + 2 * a(n - 2) with a(0) = 1 and a(1) = 6. • a(n) = ((7 - A) * A ^ (- n - 1) + (7 - B) * B ^ (- n - 1)) / 33 with A = (- 5 + sqrt(33)) / 4 and B = (- 5 - sqrt(33)) / 4. •

[**A000558**] • 1,6,32,175,1012,6230,40819,283944,2090424,16235417,132609666,1135846062,10175352709,95108406130,925496853980,9357279554071,98118527430960,1065259283215810,11956366813630835,138539436100687988,1655071323662574756,20361556640795422729 ⋆ Generalized Stirling numbers of second kind. • a(n) = Sum _{ k=0..n } stirlingS2(n,k) * stirlingS2(k,2). - _ Olivier Gérard _ , Mar 25 2009 •

[A228959] • 0,1,6,32,186,1222,9086,75882,705298,7231862,81160422,990024466,13047411482,184788881838,2799459801742,45178128866282,773829771302946,14021761172671462,267991492197471158,5388234382450264002,113692608262971520042,2512031106415692960926 ★ Total sum of squared lengths of ascending runs in all permutations of [n]. • a(n) = (2 * n + 1) * a(n - 1) - (n - 1) * ((n + 2) * a(n - 2) - (n - 2) * a(n - 3)) for n>=3, a(n) = n * (2 * n - 1) for n<3. •

[A276351] • 6,32,374,2664,12278,42176,118182,285704,617894,1225248,2266646,3961832,6605334,10581824,16382918,24625416,36070982,51647264,72470454,99869288,135410486,180925632,238539494,310699784,400208358 ★ a(n) = 2*(3 + 2 n + 3 n^2 + 3 n^3 + 3 n^4 + n^5 + n^6). • a(n) = 2(3 + 2 n + 3 n ^ 2 + 3 n ^ 3 + 3 n ^ 4 + n ^ 5 + n ^ 6) for n>=0. •

[A171141] • 6,33,47,74,88,115,129,156,170,197,211,238,252,279,293,320,334,361,375,402,416,443,457,484,498 ★ Numbers that are congruent to {6,33} mod 41. • a(n) = (82 * n + 13 * (- 1) ^ n - 45) / 4. - _ Vincenzo Librandi _ , Jan 05 2013 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Jan 05 2013 •

[A157872] • 6,33,78,141,222,321,438,573,726,897,1086,1293,1518,1761,2022,2301,2598,2913,3246,3597,3966,4353,4758,5181,5622 ★ 9n^2 - 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 05 2012 • a(n) = a(n - 1) + 18n - 9. - Vincenzo Librandi, Feb 05 2012 •

[A153127] • 6,33,80,147,234,341,468,615,782,969,1176,1403,1650,1917,2204,2511,2838,3185,3552,3939,4346,4773,5220,5687,6174 ★ (2*n+1)*(5*n+6). • a(n)=a(n - 1) + 20 * n + 7 (with a(0)=6). [From Vincenzo Librandi, Dec 27 2010] •

[A135526] • 1,6,33,95,188,288,388,488,588,688,788,888,988,1088,1188,1288,1388,1488,1588,1688,1788,1888,1988,2088,2188 ★ Number of sums payable using exactly n banknotes of denominations 1, 5, 10, 20, 50, 100 (change allowable). • a(n) = 100 * n - 212 for n>=4. • a(n) = 2 * a(n - 1) - a(n - 2), for n >= 4. •

[A204185] • 0,0,6,33,102,243,492,894,1500,2370,3570,5175,7266,9933,13272,17388,22392,28404,35550,43965,53790,65175,78276,93258,110292 ★ Number of quadrilaterals in a triangular matchstick arrangement of side n. • a(n) = b(1)T(n - 1) + b(2)T(n - 2) + b(3)T(n - 3) ... + b(k)T(n - k) ... + b(n - 1)T(1), where b(m) = 3(floor(5m / 2)) and T(m) is the m - th triangular number A000217. • a(n) = a(n - 1) + floor((n + 1)(n - 1)(10n - 3) / 8). • a(n) = (3 - 3 * (- 1) ^ n - 16 * n - 16 * n ^ 2 + 16 * n ^ 3 + 10 * n ^ 4) / 32. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). •

[A063267] • 6,33,116,325,786,1709,3424,6426,11430,19437,31812,50375,77506,116265,170528,245140,346086,480681,657780,888009,1184018,1560757,2035776,2629550,3365830 ★ Eighth column (k=7) of septinomial array A063265. • a(0)=6, a(1)=33, a(2)=116, a(3)=325, a(4)=786, a(5)=1709, a(6)=3424, a(7)=6426, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) [From Harvey P. Dale, Jan 06 2012] •

[A082106] • 1,6,33,118,321,726,1441,2598,4353,6886,10401,15126,21313,29238,39201,51526,66561,84678,106273,131766,161601,196246,236193,281958,334081 ★ Main diagonal of number array A082105. • a(n) = n ^ 4 + 4 * n ^ 2 + 1. • a(0)=1, a(1)=6, a(2)=33, a(3)=118, a(4)=321; for n>4, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Dec 06 2012 •

[A073375] • 1,6,33,140,546,1932,6454,20448,62271,183202,523887,1461516,3991400,10698072,28203612,73265056,187822125,475788222,1192287117,2958453036,7274927646,17741533668,42937126290 ★ Fifth convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. • a(n) = sum(binomial(n - k + 5, 5) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). •

[A074087] • 0,0,0,6,33,144,570,2118,7587,26448,90420,304470,1013061,3338112,10911150,35423862,114342855,367242336,1174368360,3741029094,11876859369,37591894320,118659631650,373630740966,1173847761003 ★ Coefficient of q^1 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(2,3). • a(n) =4a(n - 1) + 2a(n - 2) - 12a(n - 3) - 9a(n - 4) for n>=5. •

[A290921] • 6,33,158,696,2886,11425,43590,161355,582340,2056818,7130388,24319054,81757104,271353288,890327048,2891047695,9299683770,29658374355,93843661530,294791108106,919849034686,2852495485953,8794877092878,26971256457596,82298545175130 ★ p-INVERT of the positive integers, where p(S) = (1 - S)^6. • a(n) = 18 * a(n - 1) - 141 * a(n - 2) + 630 * a(n - 3) - 1770 * a(n - 4) + 3258 * a(n - 5) - 3989 * a(n - 6) + 3258 * a(n - 7) - 1770 * a(n - 8) + 630 * a(n - 9) - 141 * a(n - 10) + 18 * a(n - 11) - a(n - 12). •

[A099432] • 1,6,33,162,756,3402,14931,64314,273051,1145988,4764744,19656756,80561061,328316814,1331513397,5377120038,21633427836,86747114430,346810621815,1382826606210,5500378861551,21830478128136,86469557676048 ★ Convolution of A030195(n) (generalized (3,3)-Fibonacci) with itself. • a(n)=6 * a(n - 1) - 3 * a(n - 2) - 18 * a(n - 3) - 9 * a(n - 4). • a(n)=sum { k=0..floor((n + 2) / 2), k * binomial(n - k + 2, k)3 ^ (n - k + 1) } . • a(n)=(sqrt(7)n + 2sqrt(7) - sqrt(3))(5sqrt(7) / 98 + sqrt(3) / 14)(3sqrt(21) / 2 + 15 / 2) ^ (n / 2) + (15 / 2 - 3sqrt(21) / 2) ^ (n / 2)(sqrt(7)n + 2sqrt(7) + sqrt(3))(5sqrt(7) / 98 - sqrt(3) / 14)(- 1) ^ n. •

[A291004] • 6,33,168,816,3840,17664,79872,356352,1572864,6881280,29884416,128974848,553648128,2365587456,10066329600,42681237504,180388626432,760209211392,3195455668224,13400297963520,56075093016576,234195976716288,976366325465088,4063794976260096 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - 3*S)^2. • a(n) = 8 * a(n - 1) - 16 * a(n - 2) for n >= 3. • a(n) = 3 * (4 ^ (n - 1) * (3 * n + 8)). - _ Colin Barker _ , Aug 23 2017 •

[A084153] • 0,0,1,6,33,170,861,4326,21673,108450,542421,2712446,13562913,67815930,339082381,1695417366,8477097753,42385510610,211927596741,1059638071086,5298190530193,26490953000490,132454765701501,662273829905606 ★ Binomial transform of a Jacobsthal convolution. • a(n)=(5 ^ n - 2 * 2 ^ n + (- 1) ^ n) / 18; G.f.: x ^ 2 / ((1 + x)(1 - 2x)(1 - 5x)); E.g.f. : exp(x)(exp(2x) - exp(- x)) ^ 2 / 18=(exp(5x) - 2exp(2x) + exp(- x)) / 18. •

[A081893] • 1,6,33,172,864,4224,20224,95232,442368,2031616,9240576,41680896,186646528,830472192,3674210304,16173236224,70866960384,309237645312,1344324763648,5823975653376,25151328485376,108301895335936 ★ Third binomial transform of C(n+2,2). • a(n)=4 ^ n(n ^ 2 + 15n + 32) / 32 G.f.: (1 - 3x) ^ 2 / (1 - 4x) ^ 3 •

[A111994] • 1,6,33,176,930,4908,25954,137712,733539,3922834,21060099,113481504,613619332,3328768344,18112655748,98833261600,540705999621,2965360687518,16299708148901,89784615643728,495545294427558 ★ Sixth convolution of Schroeder's (second problem) numbers A001003(n), n>=0. • a(n)= (6 / n) * Sum _{ k=1,..,n } binomial(n,k) * binomial(n + k + 5,k - 1). • a(n) = 6 * hypergeom([1 - n, n + 7], [2], - 1), n>=1, a(0)=1. •

[A138395] • 1,6,33,180,981,5346,29133,158760,865161,4714686,25692633,140011740,762992541,4157920026,22658542533,123477495120,672889343121,3666903573366,19982753410833,108895809744900,593426598236901,3233872160186706,17622953166409533 ★ a(n) = 6*a(n-1) - 3*a(n-2), a(1) = 1, a(2) = 6. • a(n) = ((3 + sqrt(6)) ^ n - (3 - sqrt(6)) ^ n) / (2 * sqrt(6)). - _ Alexander R. Povolotsky _ , Apr 01 2008 • a(n) = lower left term of n - th power of 2 X 2 matrix [1,2; 1,5]. • a(n) = Chebyshev _ U(n, sqrt(3)) * (sqrt(3)) ^ n. - _ Paul Barry _ , Sep 28 2009 •

[A050151] • 0,1,6,33,180,985,5418,29953,166344,927441,5188590,29113953,163786428,923511849,5217709266,29532022785,167417253648,950453221153,5402869685334,30748881013153,175186193208900,999071379620601,5702750629608186,32578618535692033,186257611786501080 ★ a(n) = T(n,n+2), array T as in A050143. • a(n) = Sum _{ k=0..n } binomial(n, k) * binomial(n + 1, k + 1) / 2 - _ Paul Barry _ , Sep 20 2004 • a(n) = Sum _{ k=0..n } 2 ^ (k - 1) * binomial(n, k) * binomial(n, k - 1). • a(n) = (CentralDelannoy(n + 1) - 3 * CentralDelannoy(n)) / 4 where CentralDelannoy(n) is A001850. (End) • a(n) = (1 / Pi) * Int(x ^ n * (x - 3) / (4 * sqrt(- x ^ 2 + 6x - 1)),x,3 - 2sqrt(2),3 + 2sqrt(2)). - _ Paul Barry _ , Sep 16 2006 • a(n) = (- 1) ^ n * n * hypergeom([- n, n + 1], [2], 2). •

[A006630] • 1,6,33,182,1020,5814,33649,197340,1170585,7012200,42364476,257854776,1579730984,9734161206,60290077905,375138262520,2343880406595,14699630061270,92502956574105,583920410197950,3696470074992240,23461536762704040,149270218961671548 ★ From generalized Catalan numbers. • a(n) = C(3n + 6, n) * 2 / (n + 2). - _ Henry Bottomley _ , Sep 24 2001 •

[A180035] • 1,6,33,183,1014,5619,31137,172542,956121,5298231,29359518,162692283,901539969,4995776694,27683503377,153404846967,850074744966,4710588265731,26103165563553,144647592614958,801547459765449 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1+x)/(1-5*x-3*x^2). • a(n) = 5 * a(n - 1) + 3 * a(n - 2) with a(0) = 1 and a(1) = 6. • a(n) = ((7 + A) * A ^ (- n - 1) + (7 + B) * B ^ (- n - 1)) / 37 with A = (- 5 + sqrt(37)) / 6 and B = (- 5 - sqrt(37)) / 6. •

[A093964] • 0,1,6,33,196,1305,9786,82201,767208,7891281,88776910,1085051121,14322674796,203121569833,3080677142466,49764784609065,853110593298256,15469738758475041,295858753755835158,5951981987323272001,125652953065713520020,2777591594084193600441 ★ a(n) = Sum_{k=1..n} k*k!*C(n,k). • a(n) = n if n < 2, a(n) = n * ((n + 1) / (n - 1) * a(n - 1) - a(n - 2)) for n >= 2. - _ Alois P. Heinz _ , Jan 21 2013 •

[A097662] • 0,1,6,33,208,1545,13326,130921,1441728,17572113,234662230,3405357681,53334454416,896324308633,16083557845278,306827170866105,6199668952527616,132240988644215841,2968971263911288998,69974827707903049153,1727194482044146637520,44552237162692939114281 ★ a(n) = A002720(n) - 1. • a(n) = Sum _{ k=1...n } (n! ^ 2 / k!(n - k)! ^ 2). • a(n) = Sum _{ k=1...n } P(n, k)C(n, k) where P(n,k), are the permutation coefficients A008279. •

[A137970] • 1,1,6,33,236,1776,14148,117070,995568,8653068,76508562,686035674,6223653276,57018806567,526802616954,4902775644477,45919926029588,432511043009679,4094087001128088,38927025591433926,371607779425490280 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^3)^6. • a(n) = Sum _{ k=0..n - 1 } C(6 * (n - k),k) / (n - k) * C(3 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A024079] • 1,6,33,262,2145,16182,116353,821142,5760705,40347046,282465249,1977312102,13841266465,96888981846,678223034433,4747561459318,33232930504065,232630513903686,1628413597805473,11398895185242822 ★ 7^n-n^4. • a(n) = 12 * a(n - 1) - 45 * a(n - 2) + 80 * a(n - 3) - 75 * a(n - 4) + 36 * a(n - 5) - 7 * a(n - 6) for n > 5. •

[A067389] • 0,6,34,102,228,430,726,1134,1672,2358,3210,4246,5484,6942,8638,10590,12816,15334,18162,21318,24820,28686,32934,37582,42648 ★ a(n) = 3*n^3 + 2*n^2 + n. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 3. •

[A166941] • 6,34,134,378,862,1706,3054,5074,7958,11922,17206,24074,32814,43738,57182,73506,93094,116354,143718,175642,212606,255114,303694,358898,421302 ★ Product plus sum of first four consecutive nonnegative numbers. • a(n) = n ^ 4 + 6 * n ^ 3 + 11 * n ^ 2 + 10 * n + 6. - _ Charles R Greathouse IV _ , Nov 02 2009, [corrected by _ Klaus Brockhaus _ , Nov 14 2009] • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 24 for n > 3; a(0)=6, a(1)=34, a(2)=134, a(3)=378. - _ Klaus Brockhaus _ , Nov 14 2009 •

[A198765] • 6,34,174,874,4374,21874,109374,546874,2734374,13671874,68359374,341796874,1708984374,8544921874,42724609374,213623046874,1068115234

374,5340576171874,26702880859374,133514404296874 ★ 7*5^n-1. • a(n) = 5 * a(n - 1) + 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2), n > 1. •

[**A126643**] • 6,34,180,886,4116,18334,79260,335446,1398276,5765134,23581740,95900806,388345236,1567647934,6313474620,25382710966,101917608996,408831386734,1638809709900,6565693949926,26294146373556,105270707701534,421365218399580 ★ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3,4, at least one of digits 5,6 and at least one of digits 7,8,9. • a(n) = 6 * 4 ^ n - 9 * 3 ^ n + 5 * 2 ^ n - 1. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). - _ Colin Barker _ , Feb 22 2015 •

[**A085351**] • 1,6,34,186,994,5226,27154,139866,715714,3644106,18482674,93461946,471504034,2374297386,11938595794,59961414426,300880813954,1508699037066,7560675054514,37872094749306,189635351653474 ★ Expansion of (1-3x)/((1-4x)(1-5x)). • a(n)=2 * 5 ^ n - 4 ^ n •

[**A125343**] • 1,6,34,186,1058,6026,34354,195866,1116738,6367146,36302674,206981946,1180120418,6728529866,38363130994,218729774426,1247101396098,7110426078186,40540535975314,231144384189306,1317884064847778 ★ Number of base 6 circular n-digit numbers with adjacent digits differing by 4 or less. • a(n) = 1 + ((5 - sqrt(41)) / 2) ^ n + ((5 + sqrt(41)) / 2) ^ n for n>0. • a(n) = 6 * a(n - 1) - a(n - 2) - 4 * a(n - 3) for n>3. •

[**A163350**] • 1,6,34,188,1028,5592,30344,164464,890896,4824672,26124832,141453248,765878336,4146681216,22451153024,121555687168,658129355008,3563255219712,19292230787584,104452273224704,565526954771456 ★ a(n) = 8*a(n-1) - 14*a(n-2) for n > 1; a(0) = 1, a(1) = 6. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 1, a(1) = 6. • a(n) = ((1 + sqrt(2)) * (4 + sqrt(2)) ^ n + (1 - sqrt(2)) * (4 - sqrt(2)) ^ n) / 2. •

[**A154244**] • 1,6,34,192,1084,6120,34552,195072,1101328,6217824,35104288,198190080,1118931904,6317211264,35665403776,201358000128,1136817193216,6418187159040,36235488567808,204576557088768,1154988365396992 ★ a(n) = 6*a(n-1) - 2*a(n-2) for n>1; a(1)=1, a(2)=6. • a(n) = ((3 + sqrt(7)) ^ n - (3 - sqrt(7)) ^ n) / (2 * sqrt(7)). •

[**A126501**] • 1,6,34,194,1106,6306,35954,204994,1168786,6663906,37994674,216628994,1235123666,7042134306,40151166194,228924368194,1305226505746,7441830001506,42430056030514,241917600158594,1379308224915026 ★ Number of n-tuples of numbers [0..5] (leading zeros allowed) in which adjacent digits differ by 4 or less. • a(n) = 5 * a(n - 1) + 4 * a(n - 2), a(0) = 1, a(1) = 6. •

[**A218990**] • 6,34,199,1159,6756,39376,229501,1337629,7796274,45440014,264843811,1543622851,8996893296,52437736924,305629528249,1781339432569,10382407067166,60513102970426,352696210755391,2055664161561919,11981288758616124,69832068390134824 ★ Power ceiling-floor sequence of 3+sqrt(8). • a(n) = floor(x * a(n - 1)) if n is odd, a(n) = ceiling(x * a(n - 1) if n is even, where x=3 + sqrt(8) and a(0) = ceiling(x). • a(n) = 5 * a(n - 1) + 5 * a(n - 2) - a(n - 3). • a(n) = (1 / 16) * (2 * (- 1) ^ n + (47 - 33 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n * (47 + 33 * sqrt(2))). - _ Colin Barker _ , Nov 13 2017 •

[**A087413**] • 1,6,34,199,1200,7388,46148,291305,1853580,11868585,76380825,493606725,3201081873,20821158233,135776966761,887393271310,5811082966885,38119865826420,250447855600320,1647729357535485,10854207824989830,71581930485576630 ★ a(n) = Sum_{k=1..n} C(3*k,k)/3. • a(n) = Sum _{ k=1 ..n } binomial(3 * k - 1,k - 1). [_ Bruno Berselli _ , Oct 10 2015] •

[**A063090**] • 1,6,34,212,1488,11736,103248,1004832,10733760,124966080,1575797760,21403457280,311623441920,4842481190400,80007869491200,1400671686758400,25902542427955200,504597366114508800,10328835149402112000 ★ a(n)/(n*n!) is the average number of comparisons needed to find a node in a binary search tree containing n nodes inserted in a random order. • a(1) = 1, a(n) = n * n! + 2 * Sum _{ k=1 }^{ n - 1 } (n - 1)! / k! * a(k). • a(n) = (2 n - 1) * (n - 1)! + (n + 1) * a(n - 1). • a(n) = 2 * (n + 1) * abs(Stirling1(n + 1, 2)) - 3 * n * n!. - _ Vladeta Jovovic _ , Jul 06 2004 • a(n) = n! * ((2 * n + 2) * h(n) - 3 * n), where h(n) is the n - th harmonic number. - _ Gary Detlefs _ , May 28 2012 •

[**A213504**] • 1,6,35,138,488,1564,4733,13734,38711,106846,290496,781264,2084753,5531846,14619811,38527834,101328712,266119228,698218525,1830665830,4797572551,12568780126,32920653120,86214096768,225758326273 ★ Principal diagonal of the convolution array A213590. • a(n) = 6 * a(n - 1) - 10 * a(n - 2) - 2 * a(n - 3) + 15 * a(n - 4) - 2 * a(n - 5) - 8 * a(n - 6) + a(n - 8). •

[**A014337**] • 0,0,0,1,6,35,180,910,4494,22049,107580,523765,2546280,12370436,60074196,291677905,1416019290,6873991055,33368325084,161976597634,786259649010,3816607413905,18526261416960 ★ Three-fold exponential convolution of Fibonacci numbers with themselves (divided by 6). • a(n) = (1 / 30)(3 ^ n * Fibonacci(n) - 3 * Fibonacci(2n)). - _ Ralf Stephan _ , May 14 2004 •

[**A002041**] • 1,6,35,180,921,4626,23215,116160,581141,2906046,14531595,72659340,363302161,1816516266,9082603175,45413037720,227065275981,1135326467286,5676632685955,28383163779300,141915820294601,709579102871106,3547895519947935,17739477605332080,88697388049030021 ★ Expansion of x/((1-x)(1-4x^2)(1-5x)). • a(n - 2) = (1 / 252) { 3 * 5 ^ n - 4 ^ [(n + 2) / 2] - 5 * 4 ^ [(n + 3) / 2] + 21 } . - _ Ralf Stephan _ , Aug 22 2004 •

[**A081105**] • 1,6,35,200,1125,6250,34375,187500,1015625,5468750,29296875,156250000,830078125,4394531250,23193359375,122070312500,640869140625,3356933593750,17547607421875,91552734375000,476837158203125 ★ 5th Binomial transform of (1,1,0,0,0,0,.....). • a(n) =10 * a(n - 1) - 25 * a(n - 2), a(0)=1, a(1)=6. a(n)=(n + 5) * 5 ^ (n - 1) G.f.: (1 - 4x) / (1 - 5x) ^ 2 •

[**A079027**] • 6,35,200,1125,6250,34375,187500,1015625,5468750,29296875,156250000,830078125,4394531250,23193359375,122070312500,640869140625,3356933593750,17547607421875,91552734375000,476837158203125,2479553222656250,12874603271484375 ★ a(n)=det(M(n)) where M(n) is the n X n matrix defined by m(i,i)=6, m(i,j)=i/j. • a(n) = (n + 5) * 5 ^ (n - 1). • a(n) = 10 * a(n - 1) - 25 * a(n - 2). G.f.: - x * (25 * x - 6) / (5 * x - 1) ^ 2. - _ Colin Barker _ , Jun 18 2013 •

[**A289784**] • 1,6,35,201,1144,6477,36557,205950,1158967,6517653,36638504,205911129,1157068585,6501305814,36527449211,205222232433,1152978556888,6477584595765,36391668781013,204450911709582,1148616498546991,6452981164440861,36253117007574920 ★ p-INVERT of the (4^n), where p(S) = 1 - S - S^2. • a(n) = 9 * a(n - 1) - 19 * a(n - 2). • a(n) = (2 ^ (- 2 - n) * ((9 - sqrt(5)) ^ (n + 1) * (- 11 + 3 * sqrt(5)) + (9 + sqrt(5)) ^ (n + 1) * (11 + 3 * sqrt(5)))) / (19 * sqrt(5)). - _ Colin Barker _ , Aug 11 2017 •

[**A161727**] • 1,6,35,202,1161,6662,38203,219018,1255505,7196806,41252883,236464586,1355429209,7769394054,44534572715,255274459018,1463246226849,8387401847558,48077013831427,275579886633162,1579637913256745 ★ a(n) = ((2+sqrt(3))*(4+sqrt(3))^n-(2-sqrt(3))*(4-sqrt(3))^n)/sqrt(12). • a(n) = 8 * a(n - 1) - 13(n - 2) for n > 1; a(0) = 1, a(1) = 6. •

[**A001109**] • 0,1,6,35,204,1189,6930,40391,235416,1372105,7997214,46611179,271669860,1583407981,9228778026,53789260175,313506783024,1827251437969,10650001844790,62072759630771,361786555939836,2108646576008245,12290092900109634,71631910824649559 ★ a(n)^2 is a triangular number: a(n) = 6*a(n-1) - a(n-2) with a(0)=0, a(1)=1. • a(n) = S(n - 1, 6) = U(n - 1, 3) with U(n, x) Chebyshev's polynomials of the second kind. S(- 1, x) := 0. Cf. triangle A049310 for S(n, x). • a(n) = 3 * a(n - 1) + sqrt(8 * a(n - 1) ^ 2 + 1). - _ R. J. Mathar _ , Oct 09 2000 • a(n) = ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n) / (4 * sqrt(2)). - _ Gregory V. Richardson _ , Oct 13 2002. Corrected for offset 0, and rewritten. - _ Wolfdieter Lang _ , Feb 10 2015 • a(n) = floor((3 + 2sqrt(2)) ^ n / (4sqrt(2))). - _ Lekraj Beedassy _ , Apr 23 2003 • a(- n) = - a(n). (End) • a(2n + 1) = a(n + 1) ^ 2 - a(n) ^ 2. - _ Charlie Marion _ , Jan 12 2004 •

[**A180033**] • 1,6,35,205,1200,7025,41125,240750,1409375,8250625,48300000,282753125,1655265625,9690093750,56726796875,332084453125,1944056250000,11380703515625,66623798828125,390022511718750,2283231552734375 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1+x)/(1-5*x-5*x^2). • a(n) = 5 * a(n - 1) + 5 * a(n - 2) with a(0) = 1 and a(1) = 6. • a(n) = ((7 + 5 * A) * A ^ (- n - 1) + (7 + 5 * B) * B ^ (- n - 1)) / 45 with A = (- 5 + 3 * sqrt(5)) / 10 and B = (- 5 - 3 * sqrt(5)) / 10. •

[**A291246**] • 6,35,210,1259,7548,45252,271296,1626481,9751122,58460185,350482050,2101219272,12597285450,75523579487,452780964690,2714524435655,16274188816248,97567447965516,584938949030724,3506841484816717,21024308981321682,126045494230596949 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = 1 - 6 S + S^2. • a(n) = 6 * a(n - 1) + a(n - 2) - 6 * a(n - 3) - a(n - 4) for n >= 5. •

[**A117671**] • 1,6,35,210,1287,8008,50388,319770,2042975,13123110,84672315,548354040,3562467300,23206929840,151532656696,991493848554,6499270398159,42671977361650,280576272201225 ★ a(n) = binomial(3*n+1, n+1). • a(n) = [x ^ (2 * n)] 1 / (1 - x) ^ (n + 2). - _ Ilya Gutkovskiy _ , Oct 10 2017 • a(n + 1) = 3 * (3 * n + 2) * (3 * n + 4) * a(n) / (2 * (n + 2) * (2 * n + 1)). - _ Robert Israel _ , Oct 10 2017 •

[**A000399**] • 1,6,35,225,1624,13132,118124,1172700,12753576,150917976,1931559552,26596717056,392156797824,6165817614720,102992244837120,1821602444624640,34012249593822720,668609730341153280,13803759753640704000 ★ Unsigned Stirling numbers of first kind s(n,3). • a(n) is coefficient of x ^ (n + 3) in (- log(1 - x)) ^ 3, multiplied by (n + 3)! / 6. • a(n) = [(sum(1 / i, i=1..n - 1) ^ 2 - sum(1 / i ^ 2, i=1..n - 1)] * (n - 1)! / 2. - Klaus Strassburger (strass(AT)ddfi.uni - duesseldorf.de), Jan 18 2000 • a(n) = det(S(i + 3,j + 2)|, 1 <= i,j <= n - 3), where S(n,k) are Stirling numbers of the second kind. - _ Mircea Merca _ , Apr 06 2013 • a(n) = Gamma(n) * (HarmonicNumber(n - 1) ^ 2 + Zeta(2,n) - Zeta(2)) / 2. - _ Gerry Martens _ , Jul 05 2015 •

[**A069497**] • 0,6,36,66,78,120,210,276,300,378,528,630,666,780,990,1128,1176,1326,1596,1770,1830,2016,2346,2556,2628 ★ Triangular numbers of the form 6k. • a(n) = 3 * a(n - 1) - 5 * a(n - 2) + 7 * a(n - 3) - 7 * a(n - 4) + 5 * a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[**A139249**] • 6,36,66,96,126,156,186,216,246,276,306,336,366,396,426,456,486,516,546,576,606,636,666,696,726 ★ a(n) = 30*n - 24. • a(n) = a(n - 1) + 30. •

[**A152746**] • 0,6,36,90,168,270,396,546,720,918,1140,1386,1656,1950,2268,2610,2976,3366,3780,4218,4680,5166,5676,6210,6768 ★ Six times hexagonal numbers: 6*n*(2*n-1). • a(n) = a(n - 1) + 24 * n - 18 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 •

[**A207363**] • 6,36,90,225,420,784,1260,2025,2970,4356,6006,8281,10920,14400,18360,23409,29070,36100,43890,53361,63756,76176,89700,105625,122850 ★ Number of n X 3 0..1 arrays avoiding 0 0 0 and 0 1 1 horizontally and 0 0 1 and 0 1 1 vertically. • a(n) = (n ^ 4 + 6 * n ^ 3 + 13 * n ^ 2 + 12 * n + 4) / 4 for n even. • a(n) = (n ^ 4 + 6 * n ^ 3 + 11 * n ^ 2 + 6 * n) / 4 for n odd. •

[**A080857**] • 1,6,36,91,171,276,406,561,741,946,1176,1431,1711,2016,2346,2701,3081,3486,3916,4371,4851,5356,5886,6441,7021 ★ (25*n^2 - 15*n + 2)/2. • a(n) = 25 * n + a(n - 1) - 20 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 •

[**A207106**] • 6,36,98,200,350,556,826,1168,1590,2100,2706,3416,4238,5180,6250,7456,8806,10308,11970,13800,15806,17996,20378,22960,25750 ★ Number of n X 3 0..1 arrays avoiding 0 0 0 and 0 1 1 horizontally and 0 0 1 and 1 1 0 vertically. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[**A086113**] • 6,36,102,216,390,636,966,1392,1926,2580,3366,4296,5382,6636,80

70,9696,11526,13572,15846,18360,21126,24156,27462,31056,34950 ★ Number of 3 X n (0,1) matrices such that each row and each column is nondecreasing or nonincreasing. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 24 2012 ●

[**A207118**] ● 6,36,102,289,612,1296,2340,4225,6890,11236,17066,25921,37352,53824,74472,103041,138030,184900,241230,314721,401676,512656,642252,804609,992082 ★ Number of n X 3 0..1 arrays avoiding 0 0 1 and 0 1 0 horizontally and 0 0 1 and 0 1 1 vertically. ● a(n) = (n ^ 6 + 24 * n ^ 5 + 208 * n ^ 4 + 816 * n ^ 3 + 1600 * n ^ 2 + 1536 * n + 576) / 576 for n even. ● a(n) = (n ^ 6 + 24 * n ^ 5 + 205 * n ^ 4 + 768 * n ^ 3 + 1315 * n ^ 2 + 936 * n + 207) / 576 for n odd. ●

[**A270205**] ● 0,0,6,36,108,240,450,756,1176,1728,2430,3300,4356,5616,7098,8820,10800,13056,15606,18468,21660,25200,29106,33396,38088 ★ Number of 2 X 2 planar subsets in an n X n X n cube. ● a(n) = 3 * n ^ 3 - 6 * n ^ 2 + 3 * n. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. (End) ●

[**A172137**] ● 0,6,36,112,276,582,1096,1896,3072,4726,6972,9936,13756,18582,24576,31912,40776,51366,63892,78576,95652,115366,137976,163752,192976 ★ Number of ways to place 2 nonattacking zebras on an n X n board ● a(n) = (n ^ 4 - 9n ^ 2 + 40n - 48) / 2, n >= 2. (Christian Poisson, 1990) ●

[**A083374**] ● 0,6,36,120,300,630,1176,2016,3240,4950,7260,10296,14196,19110,25200,32640,41616,52326,64980,79800,97020,116886,139656,165600,195000 ★ a(n) = n^2 * (n^2 - 1)/2. ● a(n) = binomial(n ^ 2,2), n>=1. - _ Zerinvary Lajos _ , Jan 07 2008 ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. - _ R. J. Mathar _ , Apr 10 2009 ● a(n) = Sum _{ i=1..n ^ 2 - 1 } i. - _ Wesley Ivan Hurt _ , Nov 24 2015 ●

[**A018214**] ● 1,6,36,146,511,1512,4032,9752,21942,46252,92504,176484,323554,572264,981024,1634776,2656511,4218786,6562556,10016006,15024009,22177584,32258304,46282704,65567164 ★ Alkane (or paraffin) numbers l(13,n). ● a(n) = (1 / (2 * 10!)) * (n + 2) * (n + 4) * (n + 6) * (n + 8) * (n + 10) * ((n + 1) * (n + 3) * (n + 5) * (n + 7) * (n + 9) + 1 * 3 * 5 * 7 * 9) - (1 / 6) * (1 / 2 ^ 8) * (n ^ 4 + 22 * n ^ 3 + 170 * n ^ 2 + 539 * n + 579) * (1 / 2) * (1 - (- 1) ^ n). [_ Yosu Yurramendi _ , Jun 23 2013] ●

[**A223919**] ● 6,36,158,548,1600,4102,9503,20299,40570,76704,138348,239630,400700,649642,1024813,1577669,2376142,3508636,5088714,7260552,10205240,14148014,19366507,26200111,35060546 ★ Number of 2 X n 0..2 arrays with rows and antidiagonals unimodal and columns nondecreasing. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. ●

[**A293068**] ● 0,0,0,6,36,170,768,3458,15596,70314,316296,1418538,6342852,28286258,125865936,559075586,2479846748,10987635738,48642380568,215198769114,951576969588,4206079161794,18585710106720,82106786841074,362660527980812 ★ Sum of values of vertices of type D at level n of the hyperbolic Pascal pyramid PP_(4,5). ● a(n) = 12 * a(n - 1) - 53 * a(n - 2) + 106 * a(n - 3) - 94 * a(n - 4) + 28 * a(n - 5) for n>5. ●

[**A146883**] ● 6,36,186,936,4686,23436,117186,585936,2929686,14648436,73242186,366210936,1831054686,9155273436,45776367186,228881835936,1144409179686,5722045898436,28610229492186,143051147460936,715255737304686 ★ a(n) = 6 * Sum_{m=0..n} 5^m. ● a(n) = Sum _{ m=0..n } 6 * 5 ^ m. ● a(n) = 3 * (5 ^ (n + 1) - 1) / 2. - _ Emeric Deutsch _ , Nov 02 2017 ●

[**A159721**] ● 6,36,192,960,4608,21504,98304,442368,1966080,8650752,37748736,163577856,704643072,3019898880,12884901888,54760833024,231928233984,979252543488,4123168604160,17317308137472,72567767433216,303465209266176 ★ Number of permutations of 3 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. ● a(n)=(copies * n) * (copies + 1) ^ (n - 2) ●

[**A267229**] ● 6,36,195,1030,5375,27854,143695,738990,3791775,19421854,99344735,507597950,2591191375,13217410254,67376465775,343259079310,1747901098175,8896431461054,45262405898815,230195833919070,1170328696616175 ★ Number of length-n 0..5 arrays with no following elements greater than or equal to the first repeated value. ● a(n) = (- 5 * (15 + 5 * 2 ^ (1 + n) + 10 * 3 ^ n + 15 * 4 ^ n - 97 * 5 ^ n) + 12 * 5 ^ n * n) / 300 for n>1. ●

[**A200782**] ● 1,6,36,196,1071,5796,31395,169884,919413,4975322,26924106,145698840,788446400,4266656226,23088902733,124944995676,676136621430,3658895818470,19800020091895,107147296401684,579824822459421,3137707025200000 ★ Expansion of 1 / (1 - 6*x + 20*x^3 - 15*x^4 + x^6). ● a(n) = 6 * a(n - 1) - 20 * a(n - 3) + 15 * a(n - 4) - a(n - 6). ●

[**A038157**] ● 0,0,0,6,36,200,1230,8652,69272,623520,6235290,68588300,823059732,10699776672,149796873590,2246953104060,35951249665200,611171244308672,11001082397556402,209020565553571980,4180411311071439980,87788637532500240000 ★ a(n) = n! * Sum_{k=1..n-2} 1/k!. ● a(n) = floor(n! * exp(1)) - n - 1 - n! for n>1. - _ Mark van Hoeij _ , Oct 30 2011 ●

[**A267468**] ● 6,36,201,1096,5921,31880,171601,925176,5002641,27155800,148092161,811801256,4475004961,24813260520,138416411121,776822970136,4385905536881,24907563562040,142244725848481,816667390335816 ★ Number of length-n 0..5 arrays with no following elements larger than the first repeated value. ● a(n) = (- 75 - 25 * 2 ^ (1 + n) - 50 * 3 ^ n + 25 * 2 ^ (1 + n) * 3 ^ n - 75 * 4 ^ n + 413 * 5 ^ n + 12 * 5 ^ n * n) / 300. ●

[**A111989**] ● 1,6,36,208,1200,6912,39808,229248,1320192,7602688,43782144,252131328,1451966464,8361541632,48152199168,277297463296,1596892446720,9196137086976,52958442815488,304975517319168,1756284007219200 ★ G.f.: 1/(1-6*x+8*x^3). ● a(n)= 6 * a(n - 1) - 8 * a(n - 3), a(- 2)= 0 =a(- 1), a(0) =1, (or a(j)=6 ^ j, j=0, 1, 2). ●

[**A027910**] ● 1,6,36,210,1221,7098,41328,241128,1409895,8260934,48497064,285219090,1680166215,9912297150,58558256496,346371955776,2051126447742,12158963346852,72147074769640,428476010502582,2546776668682323,15149061841758174,90175327717962024 ★ T(2n,n-2), T given by A027907. ● a(n) = Sum _{ i=0..floor((2 * n - 3) / 2) } C(2 * n,n - 2 - i) * C(n - 2 - i,i). _ Shanzhen Gao _ , Apr 20 2010 ●

[**A075848**] ● 0,6,36,210,1224,7134,41580,242346,1412496,8232630,47983284,279667074,1630019160,9500447886,55372668156,322735561050,1881040698144,10963508627814,63900011068740,372436557784626,2170719335639016 ★ 2*n^2 + 9 is a square. ● a(n) = [(3 + 2 * Sqrt(2)) ^ n - (3 - 2 * Sqrt(2)) ^ n] * [3 / (2 * Sqrt(2))]; a(n) = 6 * a(n - 1) - a(n - 2). ●

[**A096979**] ● 0,1,6,36,210,1225,7140,41616,242556,1413721,8239770,48024900,279909630,1631432881,9508687656,55420693056,323015470680,1882672131025,10973017315470,63955431761796,372759573255306,2172602007770041 ★ Sum of the areas of the first n+1 Pell triangles. ● a(n) = 6 * a(n - 1) - 6 * a(n - 3) + a(n - 4). ● a(n) = (3 - 2 * sqrt(2)) ^ n * (3 / 32 - sqrt(2) / 16) + (3 + 2 * sqrt(2)) ^ n * (sqrt(2) / 16 + 3 / 32) - (- 1) ^ n / 16 - 1 / 8. ● a(n) = sum { k =0..n, (sqrt(2) * (sqrt(2) + 1) ^ (2 * k) / 8 - sqrt(2) * (sqrt(2) - 1) ^ (2 * k) / 8) * ((1 + (- 1) ^ (n - k)) / 2. ●

[**A123887**] ● 1,6,36,210,1230,7200,42150,246750,1444500,8456250,49503750,289800000,1696518750,9931593750,58140562500,340360781250,1992506718750,11664337500000,68284221093750,399742792968750,2340135070312500,13699389316406250,80197621933593750,469485056250000000 ★ G.f.: (1+x+x^2)/(1-5*x-5*x^2). ● a(0)=1, a(1)=6, a(2)=36, a(n)=5 * a(n - 1) + 5 * a(n - 2) for n>2. [From _ Philippe Deléham _ , Sep 19 2009] ●

[**A105492**] ● 1,6,36,210,1260,7833,50701,342126,2406645,17633820,134427468,1064801442,8751834839,74540800014 ★ Number of partitions of {1,...,n} containing 2 strings of 3 consecutive integers such that only v-strings of consecutive integers can appear in a block, where v = 1,2,3. ● a(n)=Sum(w(n, k, 2), k=1. ..n), where w(n, k, 2) is the case r=2 of w(n, k, r) given by w(m, k, r)=w(m - 1, k - 1, r) + (k - 1)w(m - 1, k, r) + w(m - 2, k - 1, r) + (k - 1)w(m - 2, k, r) + w(m - 3, k - 1, r - 1) + (k - 1)w(m - 3, k, r - 1) r=0, 1, ..., floor(n / 3), k=1, 2, ..., n - 2r, w(n, k, 0)=sum(binomial(n - j, j) * S2(n - j - 1, k - 1), j=0..floor(n / 2)). ●

[**A052748**] ● 0,0,0,6,36,210,1350,9744,78792,708744,7036200,76521456,905507856,11589357312,159580302336,2352940786944,36994905688320,617953469022720,10929614667748840,204073497562936320 ★ A simple grammar. ● a(n) = stirling1(n, 3) * 3! * (- 1) ^ (n + 1). - _ Leonid Bedratyuk _ , Aug 07 2012 ●

[**A292297**] ● 0,0,0,6,36,210,1452,12138,114684,1147002,11729148,120902202,1249686492,12929303130,133809210108,1384977143610,14335551770268,148385432561562,1535924231893308,15898233466089210,164561459781232092,1703363953470584922,17631399812695032444 ★ Sum of values of vertices of type C at level n of the hyperbolic Pascal pyramid. ● a(n) = 18 * a(n - 1) - 99 * a(n - 2) + 226 * a(n - 3) - 224 * a(n - 4) + 92 * a(n - 5) - 12 * a(n - 6), n >= 7. ●

[**A126634**] ● 6,36,216,1296,7656,44136,248016,1362096,7338456,38927736,203958816,1058224896,5448329256,27880971336,141993797616,720419919696,3644189320056,18390164454936,92630272564416,465876904526496,2340309918950856,11745320884258536 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3,4 and at least one of digits 5,6,7,8,9. ● a(n) = 5 * 5 ^ n - 10 * 4 ^ n + 10 * 3 ^ n - 5 * 2 ^ n + 1. ●

[**A000400**] ● 1,6,36,216,1296,7776,46656,279936,1679616,10077696,60466176,362797056,2176782336,13060694016,78364164096,470184984576,2821109907456,16926659444736,101559956668416,609359740010496,3656158440062976,21936950640377856,131621703842267136 ★ Powers of 6: a(n) = 6^n. ● a(n) = 6 ^ n. ● a(0) = 1; a(n) = 6 * a(n - 1). ● a(n) = det(|s(i + 3,j)|, 1 <= i,j <= n), where s(n,k) are Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 04 2013 ●

[**A033142**] ● 1,6,36,217,1302,7812,46873,281238,1687428,10124569,60747414,364484484,2186906905,13121441430,78728648580,472371891481,2834231348886,17005388093316,102032328559897,612193971359382,3673163828156292,22038982968937753,132233897813626518 ★ Base-6 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0. ● a(n) = 6a(n - 1) + a(n - 3) - 6a(n - 4). ● a(n) = floor((36 / 215) * 6 ^ n). - _ Tani Akinari _ , Jul 18 2014 ●

[**A082309**] ● 1,6,36,218,1336,8280,51776,325792,2057856,13023104,82456576,521826816,3298727936,20822038528,131210919936,825373859840,5182772248576,32487861092352,203308891897856,1270289732337664,7924975155019776 ★ E.g.f.: (1+x)exp(5x)cosh(x). ● a(n)=((n + 4) * 4 ^ (n - 1) + (n + 6) * 6 ^ (n - 1)) / 2. ●

[**A004319**] ● 1,6,36,220,1365,8568,54264,346104,2220075,14307150,92561040,600805296,3910797436,25518731280,166871334960,1093260079344,7174519270695,47153358767970,310325523515700,2044802197953900,13488561475572645,89067326568860640,588671286046028640 ★ Binomial coefficient C(3n,n-1). ● a(n) = Sum[i = 0..n - 1, C(i + 2n, i)]. - _ Ralf Stephan _ , Jun 03 2005 ● a(n) = sum(i = 1..n - 1, (binomial(3 * i - 1, 2 * i - 1) * binomial(3 * n - 3 * i - 3, 2 * n - 2 * i - 2)) / (2 * n - 2 * i - 1)) / 2. [_ Vladimir Kruchinin _ , May 15 2013] ● a(n) = [x ^ (2 * n + 1)] 1 / (1 - x) ^ n. - _ Ilya Gutkovskiy _ , Oct 10 2017 ●

[**A180218**] ● 0,6,36,220,1500,11508,98784,940896,9862560,112923360,1402980480,18804839040,270532604160,4158579398400,68031755366400,1180252336435200,21644690412441600,418404711978086400,8503255462238208000 ★ a(n) = (n+2)!*sum(1/k, k=1..n) ● a(n) = (n + 2) / n * ((2 * n - 1) * a(n - 1) - (n ^ 2 - 1) * a(n - 2)). - _ Robert Israel _ , Aug 13 2014 ●

[**A218991**] ● 6,36,221,1361,8386,51676,318441,1962321,12092366,74516516,459191461,2829665281,17437183146,107452764156,662153768081,40803753726

41,25144406003926,154946811396196,954825274381101,5883898457682801 ★ Power floor sequence of 3+sqrt(10). ● a(n) = floor(r * a(n - 1)), where r=3 + sqrt(10), a(0) = floor(r). ● a(n) = 7 * a(n - 1) - 5 * a(n - 2) - a(n - 3). ● a(n) = ((5 + sqrt(10)) * (3 - sqrt(10)) ^ (n + 2) + (5 - sqrt(10)) * (3 + sqrt(10)) ^ (n + 2) + 2) / 12. [_ Bruno Berselli _ , Nov 22 2012] ●

[A166748] ● 1,6,36,222,1440,9990,74880,609390,5391360,51798150,539136000,6060383550,73322496000,951480217350,13198049280000,195053444556750,3061947432960000,50908949029311750,894088650424320000 ★ E.g.f.: exp(6*arcsin(x)) ● a(n + 2) = (n ^ 2 + 36) * a(n), a(0)=1, a(1)=6. ● a(n) = (3 * 2 ^ n * gamma(- 3 * i + n / 2) * gamma(3 * i + n / 2) * (cos((n * Pi) / 2) + i * sin((n * Pi) / 2)) * sinh(((6 - i * n) * Pi) / 2)) / Pi where "i" is imaginary unit. (End) ● a(n) = 3 * 2 ^ (n - 1) * (exp(3 * Pi) - (- 1) ^ n * exp(- 3 * Pi)) * |Gamma(n / 2 + 3i)| ^ 2 / Pi. - _ R. J. Mathar _ and _ M. F. Hasler _ , Oct 25 2009 ●

[A200378] ● 1,6,36,222,1446,10116,75924,602256,4958352,41783046,357442416,3091766904,26991194550,237605649780,2107693469880,18826297197444,169203629332230,1529098507275372,13885733651626548,126641707880226888,1159483975207373952,10652962589325269040,98187525261135608400 ★ G.f. satisfies: A(x) = H(x*A(x)) where H(x) = A(x/H(x)) is the theta series of planar hexagonal lattice A_2 (A004016). ● a(n) = [x ^ n] H(x) ^ (n + 1) / (n + 1) where H(x) is the g.f. of A004016. ●

[A242136] ● 0,1,6,36,228,1518,10530,75516,556512,4194801,32224114,251565996,1991331720,15953808780,129171585690,1055640440268,8698890336576,72215877581844,603532770013080,5074488683389840 ★ Number of strong triangulations of a fixed square with n interior vertices. ● a(n) = 72 * (4 * n + 3)! / ((3 * n + 6)! * (n - 1)!) = 24 * binomial(4 * n + 3,n - 1) / ((3 * n + 5) * (n + 2)) = binomial(4 * n + 3,n - 1) - 5 * binomial(4 * n + 3,n - 2) + 6 * binomial(4 * n + 3,n - 3). ●

[A284647] ● 0,1,6,36,231,1540,10440,71253,487578,3339820,22885995,156848616,1075018896,7368190921,50502074766,346145696820,2372516138895,16261462918828,111457712887128,763942497430365,5236139690949090,35889035134544956,245987105715037011 ★ Number of nonisomorphic unfoldings in an n-gonal archimedean antiprism. ● a(n) = (1 / 10) * (((1 + sqrt(5)) / 2) ^ (4 * n) + ((1 + sqrt(5)) / 2) ^ (- 4 * n) - 2) + ((3 + sqrt(5)) ^ n - (3 - sqrt(5)) ^ n) / (2 ^ (n + 1) * sqrt(5)). ● a(n) = 11 * a(n - 1) - 33 * a(n - 2) + 33 * a(n - 3) - 11 * a(n - 4) - a(n - 5) for n>4. ●

[A066053] ● 1,6,36,236,1686,13028,108078,956348,8976708,88962160,927129786,10125636716,115543526476,1373933166848,16985192456410,217851008508220,2893517713599370,39732264695056772,563187218351672330 ★ Stirling transform of A002457. ● a(n) = sum(stirling2(n, k) * (2 * k + 2)! / (2 * k! * (k + 1)!), k = 0..n), n = 0, 1, ...; E.g.f.: exp(2 * exp(x) - 2) * (BesselI(0, 2 * exp(x) - 2) + 4 * BesselI(0, 2 * exp(x) - 2) * (exp(x) - 1) + 4 * (exp(x) - 1) * BesselI(1, 2 * exp(x) - 2)) ●

[A001286] ● 1,6,36,240,1800,15120,141120,1451520,16329600,199584000,2634508800,37362124800,566658892800,9153720576000,156920924160000,2845499424768000,54420176498688000,1094805903679488000,23112569077678080000 ★ Lah numbers: (n-1)*n!/2. ● a(n) = (n + 1)! * sum(1 / (k ^ 2 + 3 * k + 2),k =1..n - 1). - _ Gary Detlefs _ , Sep 14 2011 ●

[A180119] ● 0,1,6,36,240,1800,15120,141120,1451520,16329600,199584000,2634508800,37362124800,566658892800,9153720576000,156920924160000,2845499424768000,54420176498688000,1094805903679488000,23112569077678080000,510909421717094400000,11802007641664880640000 ★ a(n) = (n+2)! * Sum_{k = 1..n} 1/((k+1)*(k+2)). ● a(n) = n * (n + 2)! / (2 * (n + 2)). ● a(n) = (n + 1)! * Sum _{ k = 2..n } (1 / (k ^ 2 + k)), with offset 1. - _ Gary Detlefs _ , Sep 15 2011 ● a(n) = Sum _{ k = 0..n } (- 1) ^ (n - k) * binomial(n,k) * k ^ (n + 1) = 1 / (2 * x + 1) * Sum _{ k = 0..n } (- 1) ^ (n - k) * binomial(n,k) * (x * n + k) ^ (n + 1), for arbitrary x != - 1 / 2. - _ Peter Bala _ , Feb 19 2017 ●

[A199422] ● 6,36,246,1716,12006,84036,588246,4117716,28824006,201768036,1412376246,9886633716,69206436006,484445052036,3391115364246,23737807549716,166164652848006,1163152569936036,8142067989552246,56994475926865716 ★ 5*7^n+1. ● a(n) = 7 * a(n - 1) - 6. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). ●

[A049428] ● 1,1,6,36,246,2046,19716,209616,2441916,31050396,425883816,6244077456,97391939976,1609040166696,28029696862896,512903202039936,9829166157390096,196739739722616336,4102788435212513376,88945209649582514496,2000700796384204930656 ★ Row sums of triangle A049411. ● a(n) = n! * Sum _{ k=1..n } Sum _{ j=0..k } binomial(6 * j,n) * (- 1) ^ (k - j) / (6 ^ k * (k - j)! * j!). - _ Vladimir Kruchinin _ , Feb 07 2011 ●

[A090015] ● 6,36,258,2136,19998,208524,2393754,29976192,406446774,5930064372,92608986546,1541044428456,27216454135758,508388707585116,10013199347882058,207381428863832784,4505207996358719334 ★ Permanent of (0,1)-matrix of size n X (n+d) with d=5 and n-1 zeros not on a line. ● a(n) = (n + 4) * a(n - 1) + (n - 2) * a(n - 2), a(1)=6, a(2)=36 ●

[A134008] ● 6,36,286,2556,24310,240276,2437006,25173996,263567590,2787694596,29716508926,318719062236,3434943872470,37162689280116,403310957409646,4387917394947276,47836135613930950,522357603781540836 ★ 1^n + 3^n + 5^n + 7^n + 9^n + 11^n. ● a(n) = 35 * a(n - 1) - 470 * a(n - 2) + 3010 * a(n - 3) - 9129 * a(n - 4) + 10395 * a(n - 5) - 3840. ● a(0)=6, a(1)=36, a(2)=286, a(3)=2556, a(4)=24310, a(5)=240276, a(n)=36 * a(n - 1) - 505 * a(n - 2) + 3480 * a(n - 3) - 12139 * a(n - 4) + 19524 * a(n - 5) - 10395 * a(n - 6). - _ Harvey P. Dale _ , Apr 20 2015 ●

[A053335] ● 6,36,336,6336,66336,366336,6366336,36366336,636366336,3636366336,33636366336,333636366336,3333636366336,33333636366336,633333636366336,3633333636366336,33633333636366336,336633333636366336 ★ a(n) contains n digits (either '3' or '6') and is divisible by 2^n. ● a(n)=a(n - 1) + 10 ^ (n - 1) * (6 - 3 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 6, if not then n - th term begins with a 3. ●

[A047670] ● 6,37,158,529,1486,3653,8086,16449,31222,55941,95470,156305,246910,378085,563366,819457,1166694,1629541,2237118,3023761,4029614,5301253,6892342,8864321,11287126 ★ Row 6 of array in A047666. ● a(n) = 1 / 45 * (2n ^ 6 + 50n ^ 4 + 173 + 45). ●

[A244618] ● 1,6,37,218,1309,7810,46797,280345,1681029,10081939,60479790,362838047,2176908951,13061074143,78365313414,470188412205,2821120141002,16926689765961,101560046400158,609360004351714,3656159217328421,21936952918704867,131621710507870811,789730242509398308 ★ G.f.: Sum_{n>=0} (5 + x^n)^n * x^n / (1-x)^(n+1). ● a(n) - 6 ^ n ~ n / 21 * ((1 + sqrt(21)) / 2) ^ n. - _ Vaclav Kotesovec _ , Jul 02 2014 ●

[A033116] ● 1,6,37,222,1333,7998,47989,287934,1727605,10365630,62193781,373162686,2238976117,13433856702,80603140213,483618841278,2901713047669,17410278286014,104461669716085,626770018296510,3760620109779061 ★ Base-6 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. ● a(n) = 6 ^ (n + 1) / 35 - 1 / 10 - (- 1) ^ n / 14. (End) ● a(n)=floor(6 ^ (n + 1) / 35). a(n + 1)=sum { k=0..floor(n / 2) } 6 ^ (n - 2 * k) . a(n + 1)=sum { k=0..n } sum { j=0..k } (- 1) ^ (j + k) * 6 ^ j. - _ Paul Barry _ , Nov 12 2003, index corrected _ R. J. Mathar _ , Jan 08 2011 ● a(n) = 5 * a(n - 1) + 6 * a(n - 2) + 1. - _ Zerinvary Lajos _ , Dec 14 2008 ● a(n) = floor(6 ^ (n + 1) / 7) / 5 = floor((6 * 6 ^ n - 1) / 35) = round((12 * 6 ^ n - 7) / 70) = round((6 * 6 ^ n - 6) / 35) = ceiling((6 * 6 ^ n - 6) / 35). a(n)=a(n - 2) + 6 ^ (n - 1), n>2. - _ Mircea Merca _ , Dec 28 2010 ●

[A033124] ● 1,6,37,223,1338,8029,48175,289050,1734301,10405807,62434842,374609053,2247654319,13485925914,80915555485,485493332911,2912959997466,17477759984797,104866559908783,629199359452698,3775196156716189,22651176940297135,135907061641782810 ★ Base-6 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. ● a(n) = 6 * a(n - 1) + a(n - 3) - 6 * a(n - 4). ● a(n) = round((37 / 215) * 6 ^ n). - _ Tani Akinari _ , Jul 15 2014 ●

[A288786] ● 1,6,37,225,1395,8944,59585,413117,2981310,22380814,174600298,1413841252,11868587577,103155618776,927141821215,8606860236367,82430269073469,813600584094320,8267450613029789,86406853732930699,927993270700444588,10232636504064477996 ★ Number of blocks of size >= four in all set partitions of n. ● a(n) = Bell(n + 1) - Sum _{ j=0..3 } binomial(n,j) * Bell(n - j). ● a(n) = Sum _{ j=0..n - 4 } binomial(n,j) * Bell(j). ●

[A180032] ● 1,6,37,227,1394,8559,52553,322678,1981261,12165051,74694082,458625767,2815987409,17290317414,106163498933,651849716563,4002393075346,24574913392671,150891318490777,926480986202582,5688644160448349 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1+x)/(1-5*x-7*x^2). ● a(n) = 5 * a(n - 1) + 7 * a(n - 2) with a(0) = 1 and a(1) = 6. ● a(n) = ((7 + 9 * A) * A ^ (- n - 1) + (7 + 9 * B) * B ^ (- n - 1)) / 53 with A = (- 5 + sqrt(53)) / 14 and B = (- 5 - sqrt(53)) / 14. ●

[A255119] ● 1,6,37,228,1404,8646,53244,327888,2019204,12434688,76575456,471567960,2904015888,17883548064,110130696144,678208272192,4176550921536,25720089706080,158389787869632,975398032747008,6006708734718528,36990591135528960 ★ Number of n-length words on {0,1,2,3,4,5,6} in which 0 appears only in runs of length 2. ● a(n + 3) = 6 * a(n + 2) + 6 * a(n) with n >1, a(0) = 1, a(1) = 6, a(2) = 37. ●

[A005668] ● 0,1,6,37,228,1405,8658,53353,328776,2026009,12484830,76934989,474094764,2921503573,18003116202,110940200785,683644320912,4212806126257,25960481078454,159975692596981,985814636660340,6074863512559021,37434995712014466,230684837784645817 ★ Denominators of continued fraction convergents to sqrt(10). ● a(n) = 6a(n - 1) + a(n - 2). ● a(n) = ((- i) ^ (n - 1)) * S(n - 1, 3 * i) with S(n, x) Chebyshev's polynomials of the second kind (see A049310) and i ^ 2= - 1. ● a(n) = F(n, 6), the n - th Fibonacci polynomial evaluated at x=6. - _ T. D. Noe _ , Jan 19 2006 ● a(n) = ((3 + sqrt(10)) ^ n - (3 - sqrt(10)) ^ n) / (2 * sqrt(10)). ● a(n) = Sum _{ i=0..floor((n - 1) / 2) } binomial(n - 1 - i,i) * 6 ^ (n - 1 - 2 * i). (End) ● a(n) = [M ^ (n + 1)] _{ 0,0 } , where M = [0,1; 1,6]. - _ L. Edson Jeffery _ , Aug 28 2013 ●

[A018904] ● 1,6,37,229,1418,8781,54377,336734,2085253,12913101,79965442,495192589,3066520913,18989683446,117595179557,728217839669,4509548979898,27925753660941,172932530727097,1070898946784974,6631629973859333,41066915083090461,254310255712336562 ★ Define the sequence S(a(0),a(1)) by a(n+2) is the least integer such that a(n+2)/a(n+1) > a(n+1)/a(n) for n >= 0. This is S(1,6). ● a(n) = (a(1) + 1) * a(n - 1) - (a(1) - 1) * a(n - 2) = 7 * a(n - 1) - 5 * a(n - 2). ● a(n) = (2 ^ (- 1 - n) * ((7 - sqrt(29)) ^ n * (- 5 + sqrt(29)) + (5 + sqrt(29)) * (7 + sqrt(29)) ^ n)) / sqrt(29). - _ Colin Barker _ , Jan 20 2017 ●

[A192807] ● 0,1,6,37,230,1431,8904,55403,344732,2145013,13346834,83047505,516743378,3215312955,20006521300,124485827703,774583500376,4819661885417,29989201523742,186600684739485,1161078447443102,7224534909928031 ★ Coefficient of x in the reduction of the polynomial (x^2+x+1)^n by x^3->x^2+x+1. ● a(n)=7 * a(n - 1) - 5 * a(n - 2) + a(n - 3). ●

[A161734] ● 1,6,37,232,1469,9354,59753,382388,2449561,15700686,100666957,645553792,4140197909,26554241874,170317866833,1092431105228,7007000115121,44944085730966,288279854661877,1849084574806552,11860409090842349,76075145687872794 ★ a(n) = ((2+sqrt(2))*(5+sqrt(2))^n+(2-sqrt(2))*(5-sqrt(2))^n)/4. ● a(n) = 10 * a(n - 1) - 23 * a(n - 2). - _ R. J. Mathar _ , Jun 18 2009 ●

[A081570] ● 1,6,37,233,1490,9633,62753,410926,2700349,17786985,11734671

4,774991289,5121849473,33865596822,223987930325,1481764925737,9803764203682,64870223394129,429263295428641,2840659771285310,18798621916707821 ⋆ Fifth binomial transform of F(n+1). • a(n) = 11 * a(n - 1) - 29 * a(n - 2), a(0)=1, a(1)=6. • a(n) = (1 / 2 - sqrt(5) / 10) * (11 / 2 - sqrt(5) / 2) ^ n + (sqrt(5) / 10 + 1 / 2) * (sqrt(5) / 2 + 11 / 2) ^ n . •

[A122898] • 1,6,37,233,1491,9660,63195,416610,2763595,18426026,123375927,829053197,5588050069,37764371676,255800207277,1736181639585,11804962371795,80394249836010,548283258074895,3744067955618403,25596986050620681 ⋆ Expansion of (sqrt(21*x^2 - 10*x + 1) + 7*x - 1) / (2*x*(1 - 7*x)). • a(n) = Sum { k=0..n, 3 ^ (n - k)C(n,k)C(2k + 1,k + 1) } . • a(n) = Sum { k=0..n, 5 ^ (n - k)C(n,k)C(k,floor(k / 2)) } . • a(n) = Sum { k=0..n, sum { j=0..n, 3 ^ (n - j) * C(n,k) * C(n - k,j - k) * C(j + 1,k + 1) }} . • a(n) = (- 1) ^ n * (GegenbauerC(n, - n,5 / 2) - GegenbauerC(n - 1, - n,5 / 2)). - _ Peter Luschny _ , May 13 2016 •

[A081912] • 1,6,37,234,1512,9936,66096,443232,2985984,20155392,136048896,917070336,6167549952,41358864384,276451356672,1841557856256,12224809598976,80871817347072,533189772509184,3503818505060352,22952550207062016 ⋆ 6^n(n^2-n+72)/72. • a(n)=6 ^ n(n ^ 2 - n + 72) / 72 G.f. (1 - 12x + 37x ^ 2) / (1 - 6x) ^ 3 •

[A081188] • 1,6,37,234,1513,9966,66637,450834,3077713,21153366,146120437,1013077434,7042713913,49054856766,342163294237,2389039544034,16692759230113,116696726720166,816114147588037,5708984335850634 ⋆ 6th binomial transform of (1,0,1,0,1,.....), A059841. • a(n) = 12 * a(n - 1) - 35 * a(n - 2), a(0)=1, a(1)=6. • a(n) = 5 ^ n / 2 + 7 ^ n / 2. •

[A154623] • 1,1,6,37,235,1539,10392,72267,516474,3783115,28317562,215969271,1673702191,13148444197,104494340880,838670818365,6788255966595,55346471893395,454123503938490,3746885525588175,31066887028255065 ⋆ Sequence with g.f. 1+(x/(1-5*x))*c(x/(1-5*x)), c(x) the g.f. of A000108. • a(n) = (- 1) ^ (n - 1) * (GegenbauerC(n - 1, - n + 1,7 / 2) + GegenbauerC(n - 2, - n + 1,7 / 2)) for n>=1. - _ Peter Luschny _ , May 13 2016 •

[A080954] • 1,6,37,236,1569,10970,81445,648240,5576545,52142030,531185925,5891873300,70946620225,923526766050,12935478240325,194062691183000,3105155646818625,52788408935369750,950195175533921125 ⋆ E.g.f. exp(5x)/(1-x). • a(n) = n! * Sum _{ k=0..n } 5 ^ k / k!. • a(0)=0, a(n) = n * a(n - 1) + 5 ^ n. - _ Vincenzo Librandi _ , Nov 15 2012 •

[A271905] • 1,6,37,240,1621,11256,79717,572928,4164841,30553116,225817021,1679454816,12556853401,94313192616,711189994357,5381592930816,40848410792017,310909645663332,2372280474687277,18141232682656320,139010366280363601,1067160872528170536,8206301850166625797,63203453697218605440 ⋆ Number of singular vector tuples for a general n X n X n tensor. • a(n) satisfies the following fifth - order recurrence equation with polynomial coefficients: •

[A140712] • 0,1,6,37,256,2000,17520,170520,1827840,21409920,272160000,3732220800,54925516800,863480217600,14442536908800,256086230400000,4798293147648000,94731418349568000,1965528727658496000 ⋆ Number of white corners in all permutations of {1,2,...,n} (for definition see the Eriksson-Linusson references). • a(n)=(n - 1)![binom(n - 1,3) + 6 * binom(n,2)] / 6=(n - 1)! * (n - 1) * (n ^ 2 + 13n + 6) / 36. •

[A079751] • 0,1,6,37,260,2081,18730,187301,2060312,24723745,321408686,4499721605,67495824076,1079933185217,18358864148690,330459554676421,6278731538852000,125574630777040001,2637067246317840022 ⋆ Operation count to create all permutations of n distinct elements using the "streamlined" version of Algorithm L (lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of cases where the j search loop runs beyond j=n-3. • a(3)=0, a(n) = n * a(n - 1) + 1 for n >= 4. • a(n) = Sum _{ j=4..n } (n - j)! * binomial(n,j). - _ Zerinvary Lajos _ , Jul 31 2006 •

[A229620] • 0,6,38,116,256,478,798,1236,1808,2534,3430,4516,5808,7326,9086,11108,13408,16006,18918,22164,25760,29726,34078,38836,44016 ⋆ Incorrect version of A045949. • a(n) = (1 - (- 1) ^ n - 8 * n + 18 * n ^ 2 + 12 * n ^ 3) / 4. G.f.: - 2 * x * (2 * x + 1) * (x ^ 2 - 4 * x - 3) / ((x - 1) ^ 4 * (x + 1)). - _ Colin Barker _ , Sep 29 2013 •

[A045949] • 0,6,38,116,262,496,840,1314,1940,2738,3730,4936,6378,8076,10052,12326,14920,17854,21150,24828,28910,33416,38368,43786,49692 ⋆ Number of equilateral triangles formed out of matches that can be found in a hexagonal chunk of side length n in hexagonal array of matchsticks. • a(n) = [n(14n ^ 2 + 9n + 2) / 4]. • a(n)= + 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). G.f.: 2 * x * (3 + 10 * x + 7 * x ^ 2 + x ^ 3) / ((1 + x) * (x - 1) ^ 4). a(n) = 7 * n ^ 3 / 2 + 9 * n ^ 2 / 4 + n / 2 - 1 / 8 + (- 1) ^ n / 8. - _ R. J. Mathar _ , Sep 03 2010 •

[A180030] • 1,6,38,238,1494,9374,58822,369102,2316086,14533246,91194918,572240558,3590762134,22531735134,141384772742,887177744782,5566966905846,34932256487486,219197017684198,1375443140320878,8630791843077974 ⋆ Number of n-move paths on a 3 X 3 chessboard of a queen starting or ending in a corner or side square. • a(n) = 5 * a(n - 1) + 8 * a(n - 2) with a(0) = 1 and a(1) = 6. • a(n) = ((7 + 11 * A) * A ^ (- n - 1) + (7 + 11 * B) * B ^ (- n - 1)) / 57 with A = (- 5 + sqrt(57)) / 16 and B = (- 5 - sqrt(57)) / 16. •

[A135030] • 0,1,6,38,240,1516,9576,60488,382080,2413456,15244896,96296288,608267520,3842197696,24269721216,153302722688,968355778560,6116740116736,38637152257536,244056393778688,1541612667187200 ⋆ Generalized Fibonacci numbers: a(n) = 6*a(n-1) + 2*a(n-2). • a(0) = 0; a(1) = 1; a(n) = 2 * (3 * a(n - 1) + a(n - 2)). • a(n) = 1 / (2 * sqrt(11)) * ((3 + sqrt(11)) ^ n - (3 - sqrt(11)) ^ n). •

[A162558] • 1,6,38,248,1644,10984,73672,495072,3329936,22407776,150819168,1015220608,6834184384,46006990464,309717848192,2085024691712,14036454256896,94493999351296,636137999861248,4282512012883968 ⋆ a(n) = ((3+sqrt(3))*(5+sqrt(3))^n + (3-sqrt(3))*(5-sqrt(3))^n)/6. • a(n) = 10 * a(n - 1) - 22 * a(n - 2) for n > 1; a(0) = 1, a(1) = 6. • a(n) = 10 * a(n - 2) - 22 * a(n - 2). •

[A215466] • 0,1,6,38,252,1705,11628,79547,544824,3733234,25585230,175356611,1201893336,8237850373,56462937882,387002396990,2652553009008,18180866487757,124613506702404,854113665498719,5854182112700460 ⋆ Expansion of x*(1-4*x+x^2) / ((x^2-7*x+1)*(x^2-3*x+1)). • a(n) = L(n) * F(3n) / 4 if n even, = F(n) * L(3n) / 4 if n odd, where L=A000032, F=A000045. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) + 10 * a(n - 3) - a(n - 4), a(0)=0, a(1)=1, a(2)=6, a(3)=38. - _ Harvey P. Dale _ , Nov 02 2015 •

[A147957] • 1,6,38,252,1732,12216,87704,637104,4663312,34298208,253025888,1870171584,13839178816,102484311936,759279663488,5626889356032,41707163713792,309171726460416,2292017151256064,16992367115418624 ⋆ a(n) = ((6 + sqrt(2))^n + (6 - sqrt(2))^n)/2. • a(n) = 12 * a(n - 1) - 34 * a(n - 2), n > 1; a(0)=1, a(1)=6. •

[A098410] • 1,6,38,252,1734,12276,88796,652728,4856902,36478404,275975028,2099978568,16054486044,123213933576,948713646072,7325088811632,56692748053062,439689331938276,3416328042565124,26587566855421608,207218159714453044,1617124976299315224,12634892752595949192 ⋆ Expansion of 1/(sqrt(1-4*x)*sqrt(1-8*x)). • a(n) = Sum _{ k=0..n } 2 ^ k * binomial(2 * k, k) * binomial(2 * (n - k), n - k). • a(n) = Sum _{ k=0..n } C(n, k) * C(2 * k, k) * 4 ^ (n - k). - _ Paul Barry _ , Mar 08 2005 • a(n) = 4 ^ n * hypergeometric([- n, 1 / 2], [1], - 1). - _ Peter Luschny _ , May 19 2015 •

[A026940] • 1,6,38,256,1805,13162,98469,751656,5831451,45847770,364498596,2925337352,23668977163,192859753310,1581188102590,13034447714688,107971181472779,898274382703314,7502546644142842,62884859093960160,528788663216036559,4459599092506030110 ⋆ a(n) = Sum{T(n,k)*T(n,k+1)}, 0<=k<=n-1, T given by A026300. • a(n) = Sum _{ k=0..n } binomial(2 * n, 2 * k + 1) * binomial(2 * k + 1, k) / (k + 2)), see Amdeberhan link. - _ Michel Marcus _ , Jul 29 2015 •

[A192941] • 1,1,6,38,276,2276,21032,215336,2419824,29611120,391950240,5579965600,85018056640,1380373170880,23792373137280,433881469662080,8346202841391360,168894762064666880,3586667489988830720,79753496814542988800 ⋆ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x)=(2x+1)(2x+2)...(2x+n). • a(n) = 1 / 10 * (5 - sqrt(5)) * GAMMA(n + 2 + sqrt(5)) / GAMMA(2 + sqrt(5)) + 1 / 10 * sin(Pi * (3 + sqrt(5))) * (1 + sqrt(5)) * GAMMA(1 + sqrt(5)) * GAMMA(n + 2 - sqrt(5)) / (Pi * (sqrt(5) - 1)). - _ Vaclav Kotesovec _ , Oct 26 2012 •

[A221283] • 1,6,38,291,2374,20254,180184,1634372,15037909,139847905,1311179363 ⋆ Number of totients up to 10^n. • a(n) is about 10 ^ n / n * 2.265534... ^ ((log log n) ^ 2); see Theorem 1 in the Ford paper for a more precise asymptotic. •

[A289162] • 0,0,0,6,39,106,321,644,1402,2412,4382,6842,11097,16198,24311,33768,47908,64056,87084,112974,148539,188034,240669,298540,373758 ⋆ Number of 4-cycles in the n X n black bishop graph. • a(n) = ((- 1 + n) * (15 - 193 * n + 162 * n ^ 2 - 68 * n ^ 3 + 12 * n ^ 4 - 15 * (- 1) ^ n * (1 - 7 * n + 2 * n ^ 2))) / 240. • a(n) = 2 * a(n - 1) + 3 * a(n - 2) - 8 * a(n - 3) - 2 * a(n - 4) + 12 * a(n - 5) - 2 * a(n - 6) - 8 * a(n - 7) + 3 * a(n - 8) + 2 * a(n - 9) - a(n - 10). •

[A090018] • 1,6,39,252,1629,10530,68067,439992,2844153,18384894,118841823,768205620,4965759189,32099171994,207492309531,1341251373168,8669985167601,56043665125110,362271946253463,2341762672896108 ⋆ a(n) = 6*a(n-1) + 3*a(n-2) for n > 2, a(0)=1, a(1)=6. • a(n) = (3 + 2 * sqrt(3)) ^ n * (sqrt(3) / 4 + 1 / 2) + (1 / 2 - sqrt(3) / 4) * (3 - 2 * sqrt(3)) ^ n. • a(n) = U(n, isqrt(3))(- isqrt(3)) ^ n, i ^ 2= - 1. •

[A006256] • 1,6,39,258,1719,11496,77052,517194,3475071,23366598,157206519,1058119992,7124428836,47983020624,323240752272,2177956129818,14677216121871,98923498131762,666819212874501,4495342330033938,30308036621747679,204356509814519712 ⋆ a(n) = Sum_{k=0..n} binomial(3k,k)*binomial(3n-3k,n-k). • a(n) = 3 / 4 * (27 / 4) ^ n * (1 + c / sqrt(n) + o(n ^ (- 1 / 2))) where c = 2 / 3 * sqrt(1 / (3 * Pi)) = 0.217156671956853298... More generally, a(n, m) = sum(k=0, n, C(m * k,k) * C(m * (n - k),n - k)) is asymptotic to 1 / 2 * m / (m - 1) * (m ^ m / (m - 1) ^ (m - 1)) ^ n. See A000302, A078995 for cases m=2 and 4. - _ Benoit Cloitre _ , Jan 26 2003, extended by _ Vaclav Kotesovec _ , Nov 06 2012 • a(n) = sum(k=0, n, C(3 * k + l,k) * C(3 * (n - k) - l,n - k)) for every real number l. • a(n) = sum(k=0, n, 2 ^ (n - k) * C(3n + 1,k)). • a(n) = sum(k=0, n, 3 ^ (n - k) * c(2n + k,k)). (End) • a(n) = sum(k=0, 2n, (- 3) ^ k * C(3n - k, n)). • a(n) = sum(k=0, 2n, (- 4) ^ k * C(3n + 1, 2n - k)). •

[A199491] • 6,39,270,1887,13206,92439,647070,4529487,31706406,221944839,1553613870,10875297087,76127079606,532889557239,3730226900670,26111588304687,182781118132806,1279467826929639,8956274788507470,62693923519552287 ⋆ (11*7^n+1)/2. • a(n) = 7 * a(n - 1) - 3. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A147961] • 1,6,39,270,1953,14526,109863,838998,6442497,49623030,382873959,2956927518,22848289569,176600866734,1365216845031,10554773538150,81605126571777,630953992102374,4878478728359847,37720263000939822 ⋆ a(n) = ((6+sqrt(3))^n + (6-sqrt(3))^n/2. • a(n) = 12 * a(n - 1) - 33 * a(n - 2) for n > 1, with a(0)=1, a(1)=6. •

[A068765] • 1,1,6,39,270,1962,14796,114831,911574,7368894,60457428,502162902,4214515212,35686162548,304491863448,2615468845311,22598114065254,196269877811574,1712578870493316,15005719955119698 ⋆ Generalized Catalan

numbers. • a(n)=(3 ^ n) * p(n, - 2 / 3) with the row polynomials p(n, x) defined from array A068763. • a(n + 1)= 3 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1=a(1). •

[A006633] • 1,6,39,272,1995,15180,118755,949344,7721604,63698830,531697881,4482448656,38111876530,326439471960,2814095259675,24397023508416,212579132600076 ★ From generalized Catalan numbers. • a(n) = 2 * binomial(4 * n + 5,n) / (n + 2). [_ Bruno Berselli _ , Jan 18 2014] •

[A153392] • 1,1,6,39,272,2001,15333,121266,983274,8133564,68382628,582700485,5021538753,43690059657,383263396836,3386175566418,30104702903914,269125162789764,2417709649413102,21815252320257250,197620659225838530 ★ G.f.: A(x) = F(x*G(x)^3) where F(x) = G(x*F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x/G(x)) = 1 + x*G(x)^2 is the g.f. of A000108 (Catalan). • a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(2n + k,n - k) * 3k / (2n + k) for n>0 with a(0)=1. •

[A067273] • 0,1,6,39,316,3165,37986,531811,8508984,153161721,3063234430,67391157471,1617387779316,42052082262229,1177458303342426,35323749100272795,1130359971208729456,38432239021096801521 ★ a(n) = n*(a(n-1)*2+1), a(0) = 0. • a(n) = n * hypergeom([1,1 - n], [], - 2). - _ Peter Luschny _ , May 09 2017 •

[A137972] • 1,1,6,39,320,2787,25788,247731,2449188,24753960,254610962,2656496133,28046838948,299085697722,3216723340218,34852657892685,380063012970680,4168108473073596,45941874232280862,508664757809869052 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^4)^6. • a(n) = Sum _{ k=0..n - 1 } C(6 * (n - k),k) / (n - k) * C(4 * k,n - k - 1) for n>0 with a(0)=1. - _ Paul D. Hanna _ , Jun 16 2009 •

[A246571] • 1,6,39,340,3041,28718,279987,2788464,28256709,290124182,3010689527,31516942060,332347297141,3526399820374,37616896717155,403127408462816,4337723615579781,46842172878701486,507454305359968827,5513119883595629556,60050379276555861857,655611405802102543086 ★ G.f.: Sum_{n>=0} x^n / (1-x)^(4*n+3) * [Sum_{k=0..2*n+1} C(2*n+1,k)^2 * x^k]^2. • a(n) = Sum _{ k=0..n } Sum _{ j=0..k } C(2 * n - k - j + 1,k) ^ 2 * C(k,j) ^ 2. •

[A034661] • 6,39,455,6813,112931,1956669,34591115,617285253,11064693731,198756808749,3574014537275,64300154115093,1157115988280531,20825519793796029,374836322743499435,6746846977808919333 ★ Sum of n-th powers of divisors of 18. • a(n) = 39 * a(n - 1) - 533 * a(n - 2) + 3285 * a(n - 3) - 9594 * a(n - 4) + 12636 * a(n - 5) - 5832 * a(n - 6) with n>6, a(0)=6, a(1)=39, a(2)=455, a(3)=6813, a(4)= 112931, a(5)=1956669, a(6)=34591115. (End) •

[A211065] • 0,6,40,96,288,486,1056,1536,2800,3750,6120,7776,11760,14406,20608,24576,33696,39366,52200,60000,77440,87846,110880,124416,154128 ★ Number of 2 X 2 matrices having all terms in {1,...,n} and odd determinant. • a(n) = (2 * n + 1 - (- 1) ^ n) ^ 2 * (6 * n + 1 - (- 1) ^ n) * (2 * n - 1 + (- 1) ^ n) / 128. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. •

[A027777] • 6,40,150,420,980,2016,3780,6600,10890,17160,26026,38220,54600,76160,104040,139536,184110,239400,307230,389620,488796,607200,747500,912600,1105650 ★ a(n) = 2*(n+1)*C(n+2,4). • a(n) = C(n + 1, 3) * C(n + 2, 2) - _ Zerinvary Lajos _ , May 13 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[A227013] • 1,6,40,152,413,920,1792,3173,5232,8160,12173,17512,24440,33245,44240,57760,74165,93840,117192,144653,176680,213752,256373,305072,360400 ★ Floor(M(g(n-1)+1,..,g(n))), where M = harmonic mean and g(n) = n^4. • a(n) = 47 / 9 + 14 * n + (41 * n ^ 2) / 3 + 6 * n ^ 3 + n ^ 4 - (2 / 9)Cos(2 * n * pi / 3) (conjectured). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) - 4 * a(n - 6) + a(n - 7) for n > 2 (conjectured). •

[A073773] • 0,0,0,6,40,152,480,1376,3712,9600,24064,58880,141312,333824,778240,1794048,4096000,9273344,20840448,46530560,103284736,228065280,501219328,1096810496,2390753280 ★ Number of plane binary trees of size n+2 and height n. • a(n < 3) = 0, a(n) = ((n ^ 2 - 6) * 2 ^ (n - 2)) •

[A001919] • 6,40,155,456,1128,2472,4950,9240,16302,27456,44473,69680,106080,157488,228684,325584,455430,627000,850839,1139512,1507880,1973400,2556450,3280680,4173390 ★ Eighth column of quadrinomial coefficients. • a(n) = n(n ^ 2 - 1)(n ^ 2 - 4)(n ^ 2 + 21n + 180) / 5040. - _ Emeric Deutsch _ , Jan 27 2005 • a(n) = 6 * C(n,3) + 16 * C(n,4) + 15 * C(n,5) + 6 * C(n,6) + C(n,7) (see comment in A071675). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(3)=6, a(4)=40, a(5)=155, a(6)=456, a(7)=1128, a(8)=2472, a(9)=4950, a(10)=9240, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Mar 27 2013 •

[A292029] • 1,6,40,200,1056,4928,23808,107136,494080,2173952,9744384,42225664,185679872,795770880,3451518976,14668955648,62970789888,265876668416,1132226150400,4755349831680,20120910954496,84141991264256,354160151101440,1475667296256000,6184144161734656 ★ Wiener index of the n-folded cube graph. • a(n) = 2 ^ (n - 3) * n * (2 ^ (n - 1) - binomial(n - 1, floor((n - 1) / 2))). - _ Andrew Howroyd _ , Sep 08 2017 •

[A232568] • 0,6,40,210,681,1919,4443,9481,18206,33164,56570,92996,146175,223565,330981,479779,678508,943586,1287036,1731654,2293765,3004011,3883935,4973645,6300906 ★ Number of non-equivalent binary n X n matrices with three pairwise nonadjacent 1's. • a(n) = (n ^ 6 - 15 * n ^ 4 + 20 * n ^ 3 + 50 * n ^ 2 - 116 * n + 48) / 48 if n is even; a(n) = (n ^ 6 - 15 * n ^ 4 + 28 * n ^ 3 + 29 * n ^ 2 - 76 * n - 15) / 48 if n is odd. • a(n) = (n ^ 6 - 15n ^ 4 + 28n ^ 3 + 29n ^ 2 - 76n - 15 - ((n + 1) mod 2) * (8n ^ 3 - 21n ^ 2 + 40n - 63)) / 48. - _ Wesley Ivan Hurt _ , Dec 06 2013 •

[A059021] • 0,6,40,218,1126,5726,28992,146642,741556,3749816,18961450,95880894,484833212,2451616864,12396892316,62686360476,316981037374,1602852315476,8105013367472,40983964057352,207240288658392 ★ Number of 3 X n checkerboards in which the set of red squares is edge-connected. • a(n) = 9a(n - 1) - 26a(n - 2) + 35a(n - 3) - 22a(n - 4) - 3a(n - 5) + 16a(n - 6) - 9a(n - 7) + a(n - 8). - _ David Radcliffe _ , Jan 19 2001 •

[A065113] • 6,40,238,1392,8118,47320,275806,1607520,9369318,54608392,318281038,1855077840,10812186006,63018038200,367296043198,2140758220992,12477253282758,72722761475560,423859315570606,2470433131948080,14398739476117878,83922003724759192 ★ Sum of the squares of the n-th and the (n+1)st triangular numbers (A000217) is a perfect square. • a(n) = 6 * a(n - 1) - a(n - 2) + 4. • a(- 1 - n) = - a(n) - 2. (End) • a(1)=6, a(2)=40, a(3)=238, a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 27 2011 • a(n) = (- 2 - (3 - 2 * sqrt(2)) ^ n * (- 1 + sqrt(2)) + (1 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 2. - _ Colin Barker _ , Mar 05 2016 •

[A052518] • 0,0,0,0,6,40,260,1848,14616,128448,1246752,13273920,153996480,1935048960,26193473280,380120670720,5888620684800,97007636275200,1693590745190400,31237853849395200,607035345406156800 ★ Number of pairs of cycles of cardinality at least 2. • a(n) = 2 * (n - 2)! * ((n - 1) * (Psi(n) + gamma) - n), n>2. - _ Vladeta Jovovic _ , Sep 21 2003 •

[A135032] • 0,1,6,40,264,1744,11520,76096,502656,3320320,21932544,144876544,956989440,6321442816,41756614656,275825459200,1821979213824,12035177119744,79498979573760,525134585921536,3468803433824256 ★ a(n) = 6*a(n-1) + 4*a(n-2). • a(0)=0; a(1)=1; a(n) = 2 * (3 * a(n - 1) + 2 * a(n - 2)). • a(n) = 1 / (2 * sqrt(13)) * ((3 + sqrt(13)) ^ n - (3 - sqrt(13)) ^ n). •

[A122074] • 1,6,40,268,1796,12036,80660,540548,3622516,24276516,162690580,1090281028,7306586036,48965540196,328145609300,2199088184708,14737326074356,98763106151076,661867090908820,4435543424059588,29725069786599476,199204401658077156 ★ a(0)=1, a(1)=6, a(n) = 7*a(n-1) - 2*a(n-2). • a(n) = 8 * a(n - 1) - 9 * a(n - 2) + 2 * a(n - 3); a(0)=1, a(1)=6, a(2)=40 (follows from the minimal polynomial x ^ 3 - 8x ^ 2 + 9x - 2 of M). • a(n) = (1 / 2 + 5 * sqrt(41) / 82) * (7 / 2 + sqrt(41) / 2) ^ n + (1 / 2 - 5 * sqrt(41) / 82) * (7 / 2 - sqrt(41) / 2) ^ n. - _ Antonio Alberto Olivares _ , Jun 06 2011 •

[A081016] • 1,6,40,273,1870,12816,87841,602070,4126648,28284465,193864606,1328767776,9107509825,62423800998,427859097160,2932589879121,20100270056686,137769300517680,944284833567073,6472224534451830 ★ a(n) = (Lucas(4*n+3)+1)/5, or Fibonacci(2*n+1)*Fibonacci(2*n+2), or A081015(n)/5. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = F(1) + F(5) + F(9) + ... + F(4 * n + 1) = F(2 * n) * F(2 * n + 3) + 1. • a(n) = (1 / 5) + (2 / 5) * (((7 / 2) - (3 / 2) * sqrt(5)) ^ n + ((7 / 2) + (3 / 2) * sqrt(5)) ^ n + (1 / 5) * sqrt(5) * (((7 / 2) + (3 / 2) * sqrt(5)) ^ n - ((7 / 2) - (3 / 2) * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = 7 * a(n - 1) - a(n - 2) - 1, n>=2. _ R. J. Mathar _ , Nov 07 2015 •

[A083426] • 1,6,40,276,1924,13452,94132,658860,4611892,32282988,225980404,1581861804,11073030580,77511209964,542578461556,3798049214508,26586344468788,186104411215980,1302730878380788,9119116148403372 ★ (4*7^n+2^n)/5. • a(n)=(4 * 7 ^ n + 2 ^ n) / 5. •

[A122471] • 1,6,40,277,1935,13540,94774,663411,4643869,32507074,227549508,1592846545,11149925803,78049480608,546346364242,3824424549679,26770971847737,187396802934142,1311777620538976,9182443343772813 ★ a(n)=7*a(n-1)-n for n> 0, a(0)=1. • a(n)=36 * [7 + 6 * n + 29 * 7 ^ n], with n>=0. - _ Paolo P. Lava _ , Oct 01 2008 • a(0)=1, a(1)=6, a(2)=40, a(n)=9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). - _ Harvey P. Dale _ , Jun 15 2011 •

[A178397] • 0,1,6,40,280,1961,13726,96080,672560,4707921,32955446,230688120,1614816840,11303717881,79126025166,553882176160,3877175233120,27140226631841,189981586422886,1329871104960200,9309097734721400 ★ Partial sums of round(7^n/10). • a(n)=round((7 * 7 ^ n - 7) / 60) = round((7 * 7 ^ n + 5) / 60). • a(n)=floor((7 * 7 ^ n + 17) / 60). • a(n)=ceil((7 * 7 ^ n - 7) / 60). • a(n)=a(n - 4) + 40 * 7 ^ (n - 3), n>3. • a(n)=8 * a(n - 1) - 8 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4), n>3. •

[A069720] • 1,6,40,280,2016,14784,109824,823680,6223360,47297536,361181184,2769055744,21300428800,164317593600,1270722723840,9848101109760,76467608616960,594748067020800,4632774416793600,36135640450990080 ★ a(n) = 2^(n-1)*C(2n-1,n). • a(n) = 2 ^ (n - 2) * binomial(2n, n). •

[A081337] • 1,6,40,288,2176,16896,133120,1056768,8421376,67239936,537395200,4297064448,34368126976,274911461376,2199157473280,17592722915328,140739635838976,1125908496777216,9007233614479360,72057731476881408 ★ (8^n+4^n)/2. • a(n) = 12 * a(n - 1) - 32 * a(n - 2), a(0)=1, a(1)=6. •

[A257602] • 1,6,41,156,426,951,1856,3291,5431,8476,12651,18206,25416,34581,46026,60101,77181,97666,121981,150576,183926,222531,266916,317631,375251 ★ Expansion of (1+x+21*x^2+x^3+x^4)/(1-x)^5. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Jun 08 2015 •

[A198795] • 6,41,251,1511,9071,54431,326591,1959551,11757311,70543871,423263231,2539579391,15237476351,91424858111,548549148671,3291294892031,19747769352191,118486616113151,710919696678911,4265518180073471,25593109080440831 ★ 7*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A015551] • 0,1,6,41,276,1861,12546,84581,570216,3844201,25916286,174718721,1177893756,7940956141,53535205626,360916014461,2433172114896,16403612761681,110587537144566,745543286675801,5026197405777636 ★ Expansion of x/(1-6*x-5*x^2). • a(n) = 6 a(n - 1) + 5 a(n - 2). • a(n)=sqrt(14)(3 + sqrt(14)) ^ n / 28 - sqrt(14)(3 - sqrt(14)) ^ n / 28 - _ Paul Barry _ , Feb 13 2004 •

[A291018] • 6,41,280,1912,13056,89152,608768,4156928,28385280,193826816,1323532288,9037643776,61712891904,421401985024,2877512744960,19648886079488,134170986676224,916176804773888,6256046544781312,42718957920059

392,291703291002224640 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 6 S + S^2. ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) n >= 3. ●

[A049685] ● 1,6,41,281,1926,13201,90481,620166,4250681,29134601,199691526,1368706081,9381251041,64300051206,440719107401,3020733700601,20704416796806,141910183877041,972666870342481 ★ a(n) = L(4*n+2)/3, where L=A000032 (the Lucas sequence). ● a(n + 2) = 7a(n + 1) - a(n). ● a(n)a(n + 3) = 35 + a(n + 1)a(n + 2). (End) ● a(n) = sum _{ k=0..n } binomial(n + k, 2k)5 ^ k. - _ Paul Barry _ , Aug 30 2004 ● a(n)=(- 1) ^ n * U(2n, I * sqrt (5) / 2), U(n, x) Chebyshev polynomial of second kind, I=sqrt(- 1). - _ Paul Barry _ , Mar 13 2005 ●

[A083067] ● 1,6,41,286,2001,14006,98041,686286,4804001,33628006,235396041,1647772286,11534406001,80740842006,565185894041,3956301258286,27694108808001,193858761656006,1357011331592041,9499079321144286 ★ 6th row of number array A083064. ● a(n) = (5 * 7 ^ n + 1) / 6. ● a(n) = 7 * a(n - 1) - 1 with a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). - _ Vincenzo Librandi _ , Nov 06 2011 ● a(n) = 7 ^ n - sum(7 ^ i, i=0..n - 1) for n>0. [_ Bruno Berselli _ , Jun 20 2013] ●

[A152107] ● 1,6,41,306,2401,19326,157481,1290666,10606081,87262326,718359401,5915180706,48713027041,401185722606,3304124833001,27212740595226,224125017319681,1845905249384166,15202987455699881,125212786737489426 ★ a(n) = ((6+sqrt(5))^n+(6-sqrt(5))^n)/2. ● a(n) = 12 * a(n - 1) - 31 * a(n - 2), n>1 ; a(0)=1, a(1)=6 . ●

[A143023] ● 1,6,41,306,2422,19980,169941,1479786,13127114,118217268,1077955034,9932655348,92342765868,865126386072,8159523358029,77411610053658,738263424935170,7073522484902820,68056887469098990,657269559836605980 ★ Sum of the root degrees over all non-crossing connected graphs on n nodes on a circle (by root we mean a distinguished node). ● a(n) = (L(n - 2, 3n - 2, n + 1) + L(n - 3, 3n - 3, n)) / (n - 1) where L(p,q,r)=[u ^ p](1 + u) ^ q / (1 - u) ^ r = Sum _{ i=0..min(p,q) } binomial(q,i) * binomial(r + p - 1 - i, r - 1). ●

[A078009] ● 1,1,6,41,306,2426,20076,171481,1500666,13386206,121267476,1112674026,10318939956,96572168916,910896992856,8650566601401,82644968321226,793753763514806,7659535707782916,74225795172589006,722042370787826076 ★ a(0)=1, for n>=1 a(n)=sum(k=0,n,5^k*N(n,k)) where N(n,k)=1/n*C(n,k)*C(n,k+1) are the Narayana numbers (A001263). ● a(n) = 1 = S um _{ k=0..floor(n / 2) } C(n, 2 * k) * C(k) * 6 ^ (n - 2k) * 5 ^ k; - _ Paul Barry _ , May 19 2005 ● a(n) = (6 * (2 * n - 1) * a(n - 1) - 16 * (n - 2) * a(n - 2)) / (n + 1) for n>=2, a(0) = a(1) = 1 . - _ Philippe Deléham _ , Aug 19 2005 ● a(n) = upper left term in M ^ n, M = the production matrix: ●

[A095177] ● 1,6,41,316,2721,25946,271801,3105936,38474561,513796366,7360674441,112632827396,1833790646881,31656637715106,577636838177561,11109543835539736,224635867973671041,4764236394052127126 ★ E.g.f.: exp(x)/(1-x)^5. ● a(n) = Sum _{ k=0..n } binomial(n, k) * (k + 4)! / 4!. ● a(n) = 2F0 (5, - n;; - 1). - _ Benedict W. J. Irwin _ , May 27 2016 ●

[A199553] ● 6,41,321,2561,20481,163841,1310721,10485761,83886081,671088641,5368709121,42949672961,343597383681,2748779069441,21990232555521,175921860444161,1407374883553281,11258999068426241,90071992547409921 ★ 5*8^n+1. ● a(n) = 8 * a(n - 1) - 7. ● a(n) = 9 * a(n - 1) - 8 * a(n - 2). ●

[A005011] ● 1,1,6,41,331,3176,35451,447981,6282416,96546231,1611270851,28985293526,558413253581,11458179765541,249255304141006,5725640423174901,138407987170952351,3510263847256823056 ★ Shifts one place left under 5th-order binomial transform. ● a(n) = Sum _{ m=0..n } 5 ^ (n - m) * Stirling2(n, m), n >= 0. ● a(n) = upper left term in M ^ n, M = an infinite square production matrix in which a diagonal of (5,5,5,...) is appended to the right of Pascal's triangle: ●

[A097253] ● 0,6,42,48,294,300,336,342,2058,2064,2100,2106,2352,2358,2394,2400,14406,14412,14448,14454,14700,14706,14742,14748,16464 ★ Numbers whose set of base 7 digits is {0,6}. ● a(2n) = 7 * a(n), a(2n + 1) = a(2n) + 6. ●

[A083938] ● 0,1,6,42,52,385,414,477,506,555,4089,4180,4388,4479,4645,5095,5186,5394,5485,5651,5969,6060,6226,6502,47363 ★ A014486-indices of binary trees whose left and right subtree are identical. ● a(0)=0, a(n)=A072764bi(n - 1, n - 1). ●

[A211616] ● 0,6,42,102,192,312,462,642,852,1092,1362,1662,1992,2352,2742,3162,3612,4092,4602,5142,5712,6312,6942,7602,8292 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and -2<=w+x+y<=2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. ● a(n) = 3 * (4 - 5 * n + 5 * n ^ 2) for n>1. ●

[A153786] ● 0,6,42,108,204,330,486,672,888,1134,1410,1716,2052,2418,2814,3240,3696,4182,4698,5244,5820,6426,7062,7728,8424 ★ 6 times heptagonal numbers: a(n) = 3*n*(5*n-3). ● a(n) = 30 * n + a(n - 1) - 24 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A256833] ● 6,42,110,210,342,506,702,930,1190,1482,1806,2162,2550,2970,3422,3906,4422,4970,5550,6162,6806,7482,8190,8930,9702 ★ a(n) = (4*n+3)*(4*n+2). ● a(n) = 16 * n ^ 2 + 20 * n + 6. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Vincenzo Librandi _ , Apr 12 2015 ●

[A164016] ● 6,42,114,222,366,546,762,1014,1302,1626,1986,2382,2814,3282,3786,4326,4902,5514,6162,6846,7566,8322,9114,9942,10806 ★ 6 times centered hexagonal numbers: 18*n*(n+1) + 6. ● a(n) = a(n - 1) + 36 * n (with a(0)=6). - _ Vincenzo Librandi _ , Nov 30 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0)=6, a(1)=42, a(2)=114. - _ Harvey P. Dale _ , Dec 16 2012 ●

[A169938] ● 0,0,6,42,156,420,930,1806,3192,5256,8190,12210,17556,24492,33306,44310,57840,74256,93942,117306,144780,176820,213906,256542,305256 ★ a(n) = n*(n+1)*(n*(n+1)+1). ● a(n + 1) = a(n) + 2(n + 1)(2(n + 1) ^ 2 + 1). - _ Robert Munafo _ , Jul 27 2010 ●

[A082986] ● 6,42,156,420,930,1806,3192,5256,8190,12210,17556,24492,33306,44310,57840,74256,93942,117306,144780,176820,213906,256542,305256,360600,423150 ★ Largest x such that 1/x + 1/y + 1/z = 1/n. ● a(n) >= n ^ 4 + 2n ^ 3 + 2n ^ 2 + n (cf. A169938). - _ Charles R Greathouse IV _ , Oct 17 2012. [Note this is at present only a lower bound! - _ N. J. A. Sloane _ , Jan 27 20 14] ● a(n) < 3 * n ^ 4 for n>=2 (upper bound). - _ Carmine Suriano _ , Feb 20 2014 ●

[A062136] ● 1,6,42,182,693,2184,6216,15912,37854,83980,176484,352716,676270,1248072,2229096,3863080,6519591,10737090,17299646,27313650,42337659,64512240,96770544,143048880,208616044 ★ Twelfth column of Losanitsch's triangle A034851 (formatted as lower triangular matrix). ● a(n) = (1 / (2 * 11!)) * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) * (n + 10) * (n + 11) + (1 / 15) * (1 / 2 ^ 9) * (n + 2) * (n + 4) * (n + 6) * (n + 8) * (n + 10) * (1 / 2) * (1 + (- 1) ^ n). - _ Yosu Yurramendi _ , Jun 24 2013 ●

[A082139] ● 1,6,42,224,1008,4032,14784,50688,164736,512512,1537536,4472832,12673024,35094528,95256576,254017536,666796032,1725825024,4410441728,11142168576,27855421440,68975329280,169303080960,412216197120 ★ A transform of binomial(n,5). ● a(n) = (2 ^ (n - 1) + 0 ^ n / 2) * C(n + 5, n). ● a(n) = Sum _{ j=0..n } C(n + 5, j + 5) * C(j + 5, 5) * (1 + (- 1) ^ j) / 2. ● a(n) = ceiling(binomial(n + 5,5) * 2 ^ (n - 1)). - _ Zerinvary Lajos _ , Nov 01 2006 ●

[A141834] ● 6,42,252,1620,11730,95886,876792,8877672,98640990,1193556210,15624736116,220048367292,3317652307242,53319412081110,909984632851440,16436597430879696,313262209859119542,6282647653285675962 ★ Sum of the lengths of the cycles at a vertex of the complete graph K_n. ● a(n) = floor(n! * e) - floor((n - 1)! * e) - 2 * n + 1 [Hassani]. a(n) = 2 - 2 * n + (n - 1) * (n - 1)! * sum { k = 0..n - 1 } 1 / k!. E.g.f.: sum { n = 0..inf } a(n + 3) * x ^ n / n! = (6 + 12 * x - 21 * x ^ 2 + 8 * x ^ 3 + 3 * x ^ 4 - 2 * x ^ 5) * exp(x) / (1 - x) ^ 4 = 6 + 42 * x + 252 * x ^ 2 / 2! + ... ●

[A180355] ● 0,6,42,258,1044,3150,7806,16842,32808,59094,100050,161106,248892,371358,537894,759450,1048656,1419942,1889658,2476194,3200100,4084206,5153742,6436458,7962744 ★ n^5+5n ● a(n) = + 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - R. J. Mathar, Sep 24 2010 ●

[A105281] ● 0,6,42,258,1554,9330,55986,335922,2015538,12093234,72559410,435356466,2612138802,15672832818,94036996914,564221981490,3385331888946,20311991333682,121871948002098,731231688012594,4387390128075570,26324340768453426,157946044610720562 ★ a(0)=0; a(n)=6*a(n-1)+6. ● a(n) = 6 ^ n + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 ● a(n) = 7 * a(n - 1) - 6 * a(n - 2). G.f.: 6 * x / ((x - 1) * (6 * x - 1)). - _ Colin Barker _ , Jan 28 2013 ●

[A158797] ● 1,6,42,258,1770,11058,74778,472866,3164874,20188050,134123514,860893314,5689339818,36681499122,241497732570,1562031700962,10255950073482,66489091308114,435703293953466,2829310581045570 ★ a(n)=a(n-1)+36*a(n-2), a(0)=1, a(1)=6 . ● a(n)=(1 / 2) *{ [(1 / 2) - (1 / 2) * sqrt (145)] ^ n + [(1 / 2) + (1 / 2) * sqrt(145)] ^ n }+ (11 / 290) * sqrt(145) *{ [(1 / 2) + (1 / 2) * sqrt(145)] ^ n - [(1 / 2) - (1 / 2) * sqrt(145)] ^ n } , with n >=0 - _ Paolo P. Lava _ , Mar 30 2009 ●

[A105482] ● 1,6,42,280,1890,13104,93786,694584,5328180,42336294,348272925,2963993760,26073738236,236857536216,2219777316216,21441389281680,213260412549303,2182163481418536,22951202450444191,247914874683742728 ★ Number of partitions of {1...n} containing 5 pairs of consecutive integers, where each pair is counted within a block and a string of more than 2 consecutive integers are counted two at a time. ● a(n) = binomial(n - 1, 5)Bell(n - 6), the case r = 5 in the general case of r pairs: c(n, r) = binomial(n - 1, r)B(n - r - 1). ●

[A157335] ● 1,6,42,287,1968,13488,92449,633654,4343130,29768255,204034656,1398474336,9585285697,65698525542,450304393098,3086432226143,21154721189904,144996616103184,993821591532385,6811754524623510,46688460080832186,320007466041201791 ★ Expansion of 1/((1+x)*(1-7*x+x^2)). ● a(n) = S um _{ k=0..floor(n / 2) } (- 1) ^ (n - k) * U(k,7 / 2) where U(n,x) is the n - th - Chebyshev polynomial of the second kind; ● a(n) = 7 * a(n - 1) - a(n - 2) + (- 1) ^ n, n > 1. - _ Vincenzo Librandi _ , Mar 13 2011 ● a(n)= ((- 1) ^ (n + 1) / 3) * Sum _{ k=0..n + 1 } (- 1) ^ k * Fibonacci(4 * k). - _ Gary Detlefs _ , Jan 21 2013 ● a(n) = 6 * a(n - 1) + 6 * a(n - 2) - a(n - 3), with a(0)=1, a(1)=6, a(2)=42. - _ Harvey P. Dale _ , Oct 25 2014 ● a(n) = (2 ^ (- n) * (5 * (- 2) ^ n + (20 - 9 * sqrt(5)) * (7 - 3 * sqrt(5)) ^ n + (7 + 3 * sqrt(5)) ^ n * (20 + 9 * sqrt(5)))) / 45. - _ Colin Barker _ , Mar 05 2016 ●

[A057089] ● 1,6,42,288,1980,13608,93528,642816,4418064,30365280,208700064,1434392064,9858552768,67757668992,465697330560,3200729997312,21998563967232,151195763787264,1039165966526976,7142170381885440 ★ Scaled Chebyshev U-polynomials evaluated at i*sqrt(6)/2. Generalized Fibonacci sequence. ● a(n) = 6 * (a(n - 1) + 6 * a(n - 2)), a(0)=1, a(1)=6 ● a(n) = S(n, i * sqrt(6)) * (- i * sqrt(6)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. ● a(n) = - (1 / 30) * sqrt(15) * [3 - sqrt(15)] ^ (n + 1) + (1 / 30) * sqrt(15) * [3 + sqrt(15)] ^ (n + 1), with n>=0. [_ Paolo P. Lava _ , Nov 20 2008] ●

[A110711] ● 0,6,42,288,1992,13980,99432,715344,5196336,38056284,280658100,2082218160,15528409920,116331315360,874985339760,6604555554720,50010373864416,379760762209692,2891169309592548,22062102167330592 ★ Number of linear arrangements of n blue, n red and n green items such that first and

last elements have the same color but there are no adjacent items of the same color. • a(n) = 6 * Sum[k=0..[n / 2]] binomial(n - 1, k) * (binomial(n - 1, k) * binomial(2n - 1 - 2k, n + 1) + binomial(n - 1, k + 1) * binomial(2n - 2k - 2, n + 1)) •

[A055272] • 1,6,42,294,2058,14406,100842,705894,4941258,34588806,242121642,1694851494,11863960458,83047723206,581334062442,4069338437094,28485369059658,199397583417606,1395783083923242,9770481587462694 ★ First differences of 7^n (A000420). • a(n) = 6 * 7 ^ (n - 1), a(0)=1. •

[A155196] • 1,6,42,300,2142,15294,109200,779694,5567058,39749100,283810758,2026424406,14468781600,103307895606,737624050842,5266676251500,37604357811342,268497180930894,1917084624327600,13688089551224094 ★ a(n)=7*a(n-1)+a(n-2), n>2 ; a(0)=1, a(1)=6, a(2)=42 . • a(n)=3 *{ [(7 / 2) + (1 / 2) * sqrt(53)] ^ (n - 1) + [(7 / 2) - (1 / 2) * sqrt(53)] ^ (n - 1) }+ (21 / 53) * sqrt(53) *{ [(7 / 2) + (1 / 2) * sqrt(53)] ^ (n - 1) - [(7 / 2) - (1 / 2) * sqrt(53)] ^ (n - 1) }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A147838] • 1,6,42,300,2148,15384,110184,789168,5652240,40482912,289949856,2076701376,14873911872,106531086720,763005222528,5464855259904,39140810744064,280337354393088,2007853970680320,14380807639084032 ★ a(n)=8*a(n-1)-6*a(n-2), a(0)=1, a(1)=6 . • a(n)=(1 / 2) * [4 - sqrt(10)] ^ n + (1 / 2) * [4 + sqrt(10)] ^ n + (1 / 10) * [4 + sqrt(10)] ^ n * sqrt(10) - (1 / 10) * [4 - sqrt(10)] ^ n * sqrt(10), with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] • a(n)= ((5 + sqrt(10)) / 10) * (4 + sqrt(10)) ^ n + ((5 - sqrt(10)) / 10) * (4 - sqrt(10)) ^ n [From _ Richard Choulet _ , Nov 20 2008] •

[A127628] • 1,6,42,300,2154,15492,111492,802584,5778090,41600532,299517996,2156509416,15526797252,111792690600,804906480840,5795323452720,41726317225770,300429441596340,2163091823919900,15574260559056840 ★ G.f. 1/(1-6*x*c(x)) where c(x) is the g.f. of A000108. • a(n)=if(n=0,1,sum { k=1..n, C(2n - k - 1,n - k) * k * 6 ^ k / n }); a(n)=sum { k=0..n, C(2n,n - k)(2k + 1)5 ^ k / (n + k + 1) } ; •

[A111602] • 1,6,42,300,2475,22050,220500,2381400,28279125,360186750,4970577150,73045872900,1150472498175,19174541636250,339663308985000,6333077180430000,124682456989715625,2572020969902133750 ★ Third column (m=2) of unsigned triangle A111595. • a(n)= (n! / 2!) * sum(binomial(2 * k, k) * (n - 2 * k - 1) / (4 ^ k), k=0..floor((n - 2) / 2)), n>=2. •

[A004982] • 1,6,42,308,2310,17556,134596,1038312,8046918,62587140,488179692,3816677592,29897307804,234578876616,1843119744840,14499208659408,114181268192838,900017055167076,7100134546318044,56053693786721400 ★ a(n) = (2^n/n!) * Product_{k=0..n-1} (4*k + 3). • a(n) = 8 ^ n * Gamma(n + 3 / 4) / (n! * Gamma(3 / 4)). - _ Vaclav Kotesovec _ , Sep 15 2013 • a(n) = (- 8) ^ n * binomial(- 3 / 4,n). •

[A162968] • 1,6,42,312,2520,22320,216720,2298240,26490240,330220800,4430764800,63707212800,977642265600,15953627289600,275919291648000,5042392363008000,97102667870208000,1965528727658496000 ★ Number of pairs of consecutive non-fixed points in all permutations of {1,2,...,n}. • a(n) = (n - 1) ! * (n ^ 2 - 3 * n + 3) (n>=2). •

[A153293] • 1,1,6,42,317,2508,20517,172180,1474689,12843768,113444721,1014062898,9158151426,83449247979,766340138037,7085966319858,65919413472834,616559331247512,5794778945023698,54700034442193302,518375457403431600 ★ G.f.: A(x) = F(x*F(x)^3) = F(F(x)-1) where F(x) = 1 + x*F(x)^3 is the g.f. of A001764. • a(n) = Sum _{ k=0..n } C(3k + 1,k) / (3k + 1) * C(3n,n - k) * k / n for n>0 with a(0)=1. • a(n) = sqrt(3) * Gamma(n + 2 / 3) * Gamma(n + 1 / 3) * hypergeom([4 / 3, 5 / 3, - n + 1], [5 / 2, 2 * n + 2], - 27 / 4) * 27 ^ n / (2 * Pi * (n + 1)!) for n >= 1. - _ Robert Israel _ , Dec 26 2017 •

[A145301] • 1,6,42,324,2628,21816,182952,1540944,13002768,109804896,927575712,7836761664,66213868608,559463573376,4727146822272,39941854665984,337487851323648,2851598575904256,24094547371141632,203586611176571904,1720202912984613888 ★ a(n) = 12*a(n-1) - 30*a(n-2) with a(0)=1 and a(1)=6. • a(n) = ((6 + sqrt(6)) ^ n + (6 - sqrt(6)) ^ n) / 2. •

[A107266] • 1,6,42,324,2664,22896,203256,1849392,17156448,161663040,1543053888,14887836288,144963737856,1422685140480,14058304458624,139754913276672,1396721001457152,14025182471414784,141432971217841152,1431708373864249344,14543342842406252544,148198801896234491904 ★ Expansion of (1-6*x-sqrt((1-6*x)^2-4*6*x^2))/(2*6*x^2). • a(n)=sum { k=0..n, (1 / (k + 1)) * C(k + 1,n - k + 1) * C(n,k) * 6 ^ k } . •

[A165314] • 1,6,42,330,2778,24234,215034,1923018,17258010,155125482,1395342906,12554940426,112981880922,1016786596650,9150878043258,82357097082954,741210652521114,6670882987788138,60037895350485690,540340851995941002 ★ a(0)=1, a(1)=6, a(n)=13*a(n-1)-36*a(n-2) for n>1. • a(n) = (2 * 9 ^ n + 3 * 4 ^ n) / 5. [From _ Klaus Brockhaus _ , Sep 26 2009] •

[A082302] • 1,6,42,330,2814,25422,239442,2326434,23151030,234784662,2417832186,25216231866,265796560302,2827138163550,30306009654690,327081253546770,3551148743559270,38758882760119590,425024567305557450 ★ G.f.: (1 - 5*x - sqrt(25*x^2 - 14*x + 1))/(2*x). • a(0)=1; for n > 0, a(n) = (1 / n) * Sum _{ k=0..n } 6 ^ k * C(n, k) * C(n, k - 1). • a(n) = 6 * hypergeom([1 - n , - n], [2], 6) for n > 0. - _ Peter Luschny _ , May 22 2017 •

[A132804] • 0,6,42,342,2730,21846,174762,1398102,11184810,89478486,715827882,5726623062,45812984490,366503875926,2932031007402,23456248059222,187649984473770,1501199875790166,12009599006321322,96076792050570582,768614336404564650 ★ A trisection of A024495. • a(n) = - (2 / 3) * (- 1) ^ n + (2 / 3) * 8 ^ n. - _ Paolo P. Lava _ , Jul 08 2008 •

[A156676] • 6,43,242,603,1126,1811,2658,3667,4838,6171,7666,9323,11142,13123,15266,17571,20038,22667,25458,28411,31526,34803,38242,41843,45606 ★ a(n) = 81*n^2 - 44*n + 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A015552] • 0,1,6,43,300,2101,14706,102943,720600,5044201,35309406,247165843,1730160900,12111126301,84777884106,593445188743,4154116321200,29078814248401,203551699738806,1424861898171643,9974033287201500 ★ a(n) = 6*a(n-1) + 7*a(n-2), a(0) = 0, a(1) = 1. • a(n) = 6 * a(n - 1) + 7 * a(n - 2). • a(n) = 7 ^ (n - 1) - a(n - 1). (End) • a(n) = (7 ^ n - (- 1) ^ n) / 8. - _ Rolf Pleisch _ , Jul 06 2009 • a(n) = round(7 ^ n / 8). - _ Mircea Merca _ , Dec 28 2010 •

[A153397] • 1,1,6,43,334,2717,22776,195000,1695874,14927990,132673398,1188412986,10714602196,97133633788,884716464592,8091061578807,74259516900390,683694381314696,6312247839166260,58424001667319720,541971167468786770 ★ G.f.: A(x) = F(x*G(x)^4) = F(G(x)-1) where F(x) = G(x/F(x)^2) = 1 + x*F(x)^2 is the g.f. of A000108 (Catalan) and G(x) = F(x*G(x)^2) = 1 + x*G(x)^4 is the g.f. of A002293. • a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(4n,n - k) * k / n for n>0 with a(0)=1. •

[A146966] • 1,6,43,342,2857,24366,209539,1807854,15617617,134983638,1166892763,10088187654,87218361721,754062898686,6519422294323,56365243469982,487319675104417,4213244040623526,36426657909454219,314935817735368374 ★ a(n) = ((6+sqrt(7))^n + (6-sqrt(7))^n) / 2. • a(n) = 12 * a(n - 1) - 29 * a(n - 2); a(0)=1, a(1)=6. [_ Philippe Deléham _ , Nov 05 2008] •

[A220097] • 1,6,43,352,3114,29004,280221,2782476,28221784,291138856,3045298326,32222872906,344293297768,3709496350512,40256666304723,439645950112788,4828214610825948,53286643424088024,590705976259292856,6574347641664629388 ★ Number of words on {1,1,2,2,3,3,...,n,n} avoiding the pattern 123. • a(n) = Sum _{ k=0..n } (- 1) ^ (n + k) * binomial(n,k) * Catalan(n + k). - _ Peter Luschny _ , Aug 15 2017 •

[A000561] • 6,44,145,336,644,1096,1719,2540,3586,4884,6461,8344,10560,13136,16099,19476,23294,27580,32361,37664,43516,49944,56975,64636,72954 ★ Number of discordant permutations. • a(n) = (9 / 2) * n ^ 3 - (45 / 2) * n ^ 2 + 29 * n. - Barbara Haas Margolius (margolius(AT)math.csuohio.edu), Feb 17 2001 •

[A292057] • 0,6,44,164,440,970,1876,3304,5424,8430,12540,17996,25064,34034,45220,58960,75616,95574,119244,147060,179480,216986,260084,309304,365200 ★ Wiener index of the n X n queen graph. • a(n) = (n - 1) * n * (3 * n ^ 2 - 2 * n + 1) / 3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A203601] • 1,6,44,280,1712,10336,78528,610688,4745984,28476928,173222912,1108678656,6652604416,48774012928,292681859072,1757200613376,11780162781184,70685271916544,424730711293952,3116299774853120,19823698692276224,120070359807426560,720738827865423872 ★ a(0)=1, a(n+1) = (a(n)*7) XOR a(n). • a(0)=1, a(n + 1) = (a(n) * 7) XOR a(n), where XOR is the bit wise exclusive - or operator. •

[A156002] • 0,1,6,44,311,2178,15250,106755,747288,5231022,36617161,256320132,1794240932,12559686533,87917805738,615424640176,4307972481243,30155807368710,211090651580982,1477634561066887,10343441927468220 ★ Partial sums of round(7^n/9). • a(n)=round((7 * 7 ^ n - 6 * n + 2) / 54) = round((7 * 7 ^ n - 6 * n - 7) / 54). • a(n)=floor((7 * 7 ^ n - 6 * n + 11) / 54). • a(n)= ceil((7 * 7 ^ n - 6 * n - 7) / 54). • a(n)=a(n - 3) + (19 * 7 ^ (n - 2) - 1) / 3, n >2. • a(n)=8 * a(n - 1) - 7 * a(n - 2) + a(n - 3) - 8 * a(n - 4) + 7 * a(n - 5), n>4. •

[A189800] • 0,1,6,44,312,2224,15840,112832,803712,5724928,40779264,290475008,2069084160,14738305024,104982503424,747801460736,5326668791808,37942424436736,270267896954880,1925146777223168,13713023838978048,97679317251653632,695780094221746176 ★ a(n) = 6*a(n-1) + 8*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 34 * sqrt(17) * ((3 + sqrt(17)) ^ n - (3 - sqrt(17)) ^ n), Paolo P. Lava, May 31 2011 •

[A227665] • 1,6,44,320,2328,16936,123208,896328,6520712,47437640,345104904,2510609608,18264477064,132872558664,966636864776,7032203170760,51158695924872,372175277815624,2707544336559112,19697160911545032,143295215053933448,1042460827200624200 ★ Number of lattice paths from {n}^3 to {0}^3 using steps that decrement one component by 1 such that for each point (p_1,p_2,p_3) we have abs(p_{i}-p_{i+1}) <= 1. • a(n) = 7 * a(n - 1) + 2 * a(n - 2) for n>1, a(0)=1, a(2)=6. •

[A082412] • 1,6,44,344,2736,21856,174784,1398144,11184896,89478656,715828224,5726623744,45812985856,366503878656,2932031012864,23456248070144,187649984495616,1501199875833856,12009599006408704,96076792050745344,768614336404914176 ★ (2*8^n+2^n)/3. • a(n)=(2 * 8 ^ n + 2 ^ n) / 3. •

[A147688] • 1,6,44,360,3088,26976,237248,2091648,18456832,162915840,1438198784,12696741888,112091336704,989587267584,8736489783296,77129433907200,680931492954112,6011553766047744,53072563389857792,468547255228956672 ★ a(n) = ((6 + sqrt(8))^n + (6 - sqrt(8))^n))/2. • a(n) = 12 * a(n - 1) - 28 * a(n - 2), a(0)=1, a(1)=6. •

[A054563] • 0,0,6,45,190,595,1540,3486,7140,13530,24090,40755,66066,103285,156520,230860,332520,468996,649230,883785,1185030,1567335,2047276,2643850,3378700 ★ a(n) = n*(n^2 - 1)*(n + 2)*(n^2 + 4*n + 6)/72. • a(2)=0, a(3)=0, a(4)=6, a(5)=45, a(6)=190, a(7)=595, a(8)=1540, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Sep 20 2011 • a(n)=(binomial(n + 2,3) ^ 2 - binomial(n + 2,3)) / 2, n>0. - _ Gary Detlefs _ , Nov 23 2011 •

[A214982] • 0,1,6,45,300,2080,14196,97461,667590,4576825,31367160,215001216,1473620616,10100397385,69229018950,474503107365,3252291758436,22291541752096,152788493829180,1047227932532925,7177806988136070 ★ a(n) = (Fibonacci(5n)/Fibonacci(n) - 5)/50. • a(n) = (Fibonacci(5n) / Fibonacci(n) - 5) / 50. • a(n) = 5 * a(n - 1) + 15 * a(n - 2) - 15 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(1)=0, a(2)=1, a(3)=6, a(4)=45, a(5)=300. - _ Harvey P. Dale

_ , Nov 03 2013 ● a(n) = (1 / 2) * Fibonacci(n) ^ 2 * (Fibonacci(n) ^ 2 + (- 1) ^ n) shows that a(n) is always an integer. - _ Peter Bala _ , Nov 29 2013 ●

[A189801] ● 0,1,6,45,324,2349,17010,123201,892296,6462585,46806174,339000309,2455257420,17782547301,128792600586,932798529225,6755924580624,48930734246769,354387726706230,2566702968458301,18589707351105876,134638570822759965,975138791096512674 ★ a(n) = 6*a(n-1) + 9*a(n-2), with a(0)=0, a(1)=1. ● a(n) = (1 / 12) * sqrt(2) * ((3 + 3 * sqrt(2)) ^ n - (3 - 3 * sqrt(2)) ^ n). - _ Paolo P. Lava _ , Jun 06 2011 ●

[A024077] ● 1,6,45,334,2385,16782,117613,823494,5764737,40353526,282475149,1977326622,13841287057,96889010238,678223072653,4747561509718,33232930569345,232630513986918,1628413597910125,11398895185372782 ★ 7^n - n^2. ● a(n) = 10 * a(n - 1) - 24 * a(n - 2) + 22 * a(n - 3) - 7 * a(n - 4) for n>3. - _ Vincenzo Librandi _ , Oct 06 2014 ●

[A004988] ● 1,6,45,360,2970,24948,212058,1817640,15677145,135868590,1182056733,10316131488,90266150520,791564704560,6954461332920,61199259729696,539318476367946,4758692438540700,42035116540442850,371678925199705200,3289358488017391020 ★ (3^n/n!) * (product_{ k=0..n-1 } (3*k + 2)). ● a(n) = 9 ^ n * Gegenbauer _ C(n,1 / 3,1). - _ Paul Barry _ , Apr 21 2009 ● a(n) = prod _{ k=1..n } (9 - 3 / k). - _ Michel Lagneau _ , Sep 16 2012 ● a(n) = 9 ^ n * GAMMA(n + 2 / 3) / (GAMMA(2 / 3) * GAMMA(n + 1)). - _ Vaclav Kotesovec _ , Feb 09 2014 ●

[A153399] ● 1,1,6,45,371,3225,29007,267239,2506605,23842644,229369064,2227345899,21801617643,214862158025,2130226863222,21231722675274,212613977684254,2138164077605865,21585420400120710,218677042735538547 ★ G.f.: A(x) = F(x*G(x)^3) where F(x) = G(x/F(x)) = 1 + x*F(x)^3 is the g.f. of A001764 and G(x) = F(x*G(x)) = 1 + x*G(x)^4 is the g.f. of A002293. ● a(n) = Sum _{ k=0..n } C(2k + 1,k) / (2k + 1) * C(4n - k,n - k) * 3k / (4n - k) for n>0 with a(0)=1. ●

[A025551] ● 1,6,45,378,3321,29646,266085,2392578,21526641,193720086,1743421725,15690618378,141215033961,1270933711326,11438398618965,102945573221778,926510115949281,8338590914403366,75047317842209805,675425859417626778 ★ 3^n*(3^n+1)/2. ● a(n) = 12 * a(n - 1) - 27 * a(n - 2), a(0) = 1, a(1) = 6. ● a(n) = ((6 + sqrt(9)) ^ n + (6 - sqrt(9)) ^ n) / 2 [Al Hakanson (hawkuu(AT)gmail.com), Dec 08 2008] ● a(n) = sum(k=1..3 ^ n, k). [_ Joerg Arndt _ , Sep 01 2013] ●

[A137974] ● 1,1,6,45,410,4020,41826,452207,5033910,57300285,663912420,7804131660,92838682242,1115595461915,13521340799310,165104951405235,2029162664033790,25081468301798301,311593507408597920 ★ G.f. satisfies A(x) = 1 + x*(1 + x*A(x)^5)^6. ● a(n) = Sum _{ k=0..n - 1 } C(6 * (n - k),k) / (n - k) * C(5 * k,n - k - 1) for n>0 with a(0)=1. [_ Paul D. Hanna _ , Jun 16 2009] ●

[A079910] ● 1,6,46,212,738,2104,5150,11196,22162,40688,70254,115300,181846,275112,404638,579404,810450,1110496,1494062,1977588,2579554,3320600,4223646,5314012,6619538 ★ Solution to the Dancing School Problem with 5 girls and n+5 boys: f(5,n). ● a(0)=1, a(1)=6, a(2)=46, a(n) = n ^ 5 - 5 * n ^ 4 + 25 * n ^ 3 - 55 * n ^ 2 + 80 * n - 46. ●

[A155598] ● 1,6,46,336,2386,16776,117586,823416,5764546,40353096,282474226,1977324696,13841283106,96889002216,678223056466,4747561477176,33232930504066,232630513856136,1628413597648306,11398895184848856 ★ 7^n-2^n+1. ● a(n)=9 * a(n - 1) - 14 * a(n - 2) + 6 with a(0)=1, a(1)=6 - _ Vincenzo Librandi _ , Jul 21 2010 ● a(0)=1, a(1)=6, a(2)=46, a(n)=10 * a(n - 1) - 23 * a(n - 2) + 14 * a(n - 3). - _ Harvey P. Dale _ , Feb 28 2013 ●

[A190005] ● 0,1,6,46,336,2476,18216,134056,986496,7259536,53422176,393128416,2892992256,21289237696,156665348736,1152884469376,8483960303616,62432606515456,459435242128896,3380937517927936,24879977528856576,183089240352418816,1347335217403078656 ★ a(n) = 6*a(n-1) + 10*a(n-2), with a(0)=0, a(1)=1. ● a(n) = sqrt(19) * ((3 + sqrt(19)) ^ n - (3 - sqrt(19)) ^ n) / 38. - _ Paolo P. Lava _ , Jun 06 2011 ●

[A253654] ● 1,6,46,361,2841,22366,176086,1386321,10914481,85929526,676521726,5326244281,41933432521,330141215886,2599196294566,20463429140641,161108236830561,1268402465503846,9986111487200206,78620489432097801,618977803969582201,4873201942324559806 ★ Indices of pentagonal numbers (A000326) which are also centered pentagonal numbers (A005891). ● a(n) = 9 * a(n - 1) - 9 * a(n - 2) + a(n - 3). ● a(n) = (2 - (- 5 + sqrt(15)) * (4 + sqrt(15)) ^ n + (4 - sqrt(15)) ^ n * (5 + sqrt(15))) / 12. - _ Colin Barker _ , Mar 03 2016 ●

[A084772] ● 1,6,46,396,3606,33876,324556,3151896,30915046,305543556,3038019876,30354866856,304523343996,3065412858696,30946859111256,313206733667376,3176825392214406,32284147284682596,328643023505612596 ★ Coefficients of 1/sqrt(1-12*x+16*x^2); also, a(n) is the central coefficient of (1+6x+5x^2)^n. ● a(n) = sum _{ k=0..n } 5 ^ k * C(n,k) ^ 2. - _ Benoit Cloitre _ , Oct 26 2003 ●

[A199563] ● 6,46,406,3646,32806,295246,2657206,23914846,215233606,1937102446,17433922006,156905298046,1412147682406,12709329141646,114383962274806,1029455660473246,9265100944259206,83385908498332846,750473176484995606 ★ 5*9^n+1. ● a(n) = 9 * a(n - 1) - 8. ● a(n) = 10 * a(n - 1) - 9 * a(n - 2). ●

[A267233] ● 6,47,176,470,1030,1981,3472,5676,8790,13035,18656,25922,35126,46585,60640,77656,98022,122151,150480,183470,221606,265397,315376,372100,436150 ★ Number of length-4 0..n arrays with no following elements greater than or equal to the first repeated value. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. ●

[A027012] ● 1,6,47,199,661,1954,5442,14696,39065,103025,270655,709716,1859412,4869594,12750611,33383659,87401977,228824086,599072310,1568395100,4106115485,10749954101,28143749827,73681298664,192900149736 ★ a(n) = T(2*n, n+1), T given by A027011. ● a(1)=1, a(n) = Lucas(2 * n + 6) - (6 * n ^ 2 + 17 * n + 18). - _ Ralf Stephan _ , May 05 2005 ● a(n) = - 8 + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 15 + 7 * sqrt(5)) + (3 + sqrt(5)) ^ n * (15 + 7 * sqrt(5)))) / sqrt(5) + 13 * (1 + n) - 6 * (1 + n) * (2 + n) for n>1. ● a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 13 * a(n - 3) - 6 * a(n - 4) + a(n - 5) for n>6. ●

[A024076] ● 1,6,47,340,2397,16802,117643,823536,5764793,40353598,282475239,1977326732,13841287189,96889010394,678223072835,4747561509928,33232930569585,232630513987190,1628413597910431,11398895185373124 ★ 7^n-n. ● a(n) = 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). - _ Vincenzo Librandi _ , Jun 16 2013 ●

[A015553] ● 0,1,6,47,348,2605,19458,145403,1086456,8118169,60660030,453260039,3386820564,25306783813,189095729082,1412948996435,10557746998512,78888920951857,589468742694774,4404590586639071,32911699689476940 ★ Expansion of x/(1 - 6*x - 11*x^2). ● a(n) = 6 * a(n - 1) + 11 * a(n - 2). ● a(n) = (1 / 4) * Sum _{ k=0..n } binomial(n,k) * Fibonacci(k) * 4 ^ k. - _ Benoit Cloitre _ , Oct 25 2003 ● a(n) = sqrt(5)(3 + 2sqrt(5)) ^ n / 20 - sqrt(5)(3 - 2sqrt(5)) ^ n / 20. - _ Paul Barry _ , Feb 13 2004 ●

[A291028] ● 6,47,362,2787,21456,165180,1271644,9789793,75367038,580215573,4466808294,34387867640,264736107506,2038079457267,15690220398162,120791667500967,929918545909756,7159007901103540,55113853093361544,424295774604244773,3266454697733704038 ★ p-INVERT of the positive integers, where p(S) = 1 - 6*S + S^2. ● a(n) = 10 * a(n - 1) - 19 * a(n - 2) + 10 * a(n - 3) - a(n - 4). ●

[A153796] ● 0,6,48,126,240,390,576,798,1056,1350,1680,2046,2448,2886,3360,3870,4416,4998,5616,6270,6960,7686,8448,9246,10080 ★ 6 times octagonal numbers: a(n) = 6*n*(3*n-2). ● a(n) = a(n - 1) + 36 * n - 30 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 15 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. ●

[A167547] ● 6,48,160,384,762,1336,2148,3240,4654,6432,8616,11248,14370,18024,22252,27096,32598,38800,45744,53472,62026,71448,81780,93064,105342 ★ The fourth row of the ED1 array A167546. ● a(n) = 7 * n ^ 3 - 7 * n ^ 2 + 14 * n - 8. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Jun 15 2016 ●

[A244726] ● 0,6,48,162,384,750,1296,2058,3072,4374,6000,7986,10368,13182,16464,20250,24576,29478,34992,41154,48000,55566,63888,73002,82944 ★ 6*n^3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. ●

[A208536] ● 0,0,6,48,204,624,1554,3360,6552,11808,19998,32208,49764,74256,107562,151872,209712,283968,377910,495216,639996,816816,1030722,1287264,1592520 ★ Number of 5-bead necklaces of n colors not allowing reversal, with no adjacent beads having the same color. ● a(n + 2) = delta(- n) = - delta(n) for n >= 0, where delta is the p - derivation over the integers with respect to prime p = 5. - _ Danny Rorabaugh _ , Nov 10 2017 ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. ●

[A052771] ● 0,0,0,6,48,240,960,3360,10752,32256,92160,253440,675840,1757184,4472832,11182080,27525120,66846720,160432128,381026304,896532480,2091909120,4844421120,11142168576,25467813888 ★ E.g.f.: x^3*exp(x)^2. ● a(n) = n * (n - 1) * (n - 2) / 8 * 2 ^ n. - _ Vaclav Kotesovec _ , Nov 27 2012 ● a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). - _ Chai Wah Wu _ , May 25 2016 ●

[A229504] ● 0,6,48,288,1536,7680,36864,172032,786432,3538944,15728640,69206016,301989888,1308622848,5637144576,24159191040,103079215104,438086664192,1855425871872,7834020347904,32985348833280,138538465099776 ★ Number of defective 3-colorings of an n X 2 0..2 array connected diagonally and antidiagonally with exactly one mistake, and colors introduced in row-major 0..2 order. ● a(n) = 3 / 2 * (n - 1) * 4 ^ (n - 1) for n = 1..210. - _ Jérôme Germoni _ , Sep 18 2015 ●

[A073994] ● 0,0,6,48,300,1800,9072,44928,252720,1555200,9722592,60217344,367960320,2213827200,13180786560,78399995904,468419708160,2810518248960,16894457846784,101554796888064,609923828966400,3659666929459200,21947538146863104,131620960833896448 ★ Number of strings of length n over Z_6 with trace 3 and subtrace 5. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A024075] ● 0,6,48,342,2400,16806,117648,823542,5764800,40353606,282475248,1977326742,13841287200,96889010406,678223072848,4747561509942,33232930569600,232630513987206,1628413597910448,11398895185373142 ★ a(n) = 7^n-1. ● a(n + 1) = 7 * a(n) + 6. - _ Reinhard Zumkeller _ , Nov 22 2009 ● a(n) = Sum _{ i=1..n } 6 ^ i * binomial(n,n - i) for n>0, a(0)=0. - _ Bruno Berselli _ , Nov 11 2015 ●

[A052571] ● 0,0,0,6,48,360,2880,25200,241920,2540160,29030400,359251200,4790016000,68497228800,1046139494400,16999766784000,292919058432000,5353511421440000,102437979291648000,2067966706950144000 ★ E.g.f. x^3/(1-x)^2. ● a(n) = n * (n + 1) * (n + 2) * n!. - _ Zerinvary Lajos _ , Nov 25 2006 ●

[A291033] ● 6,48,378,2976,23430,184464,1452282,11433792,90018054,708710640,5579667066,43928625888,345849340038,2722866094416,21437079415290,168773769227904,1328753074407942,10461250826035632,82361253533877114,648428777444981280,5105068966025973126 ★ p-INVERT of the positive integers, where p(S) = 1 - 6*S. ● a(n) = 8 * a(n - 1) - a(n - 2). ●

[A155130] ● 1,6,48,378,2982,23520,185514,1463238,11541264,91031514,718009446,5663286720,44669073162,352326519174,2778969146352,21919069658682,172886271635238,1363637389057440,10755665624848746,84835121097343302 ★

a(n)=7*a(n-1)+7*a(n-2), n>2 ; a(0)=1, a(1)=6, a(2)=48 . • a(n)=3 *{ [(7 / 2) + (1 / 2) * sqrt(77)] ^ (n - 1) + [(7 / 2) - (1 / 2) * sqrt(77)] ^ (n - 1) }+ (27 / 77) * sqrt(77) *{ [(7 / 2) + (1 / 2) * sqrt(77)] ^ (n - 1) - [(7 / 2) - (1 / 2) * sqrt(77)] ^ (n - 1) }+ (1 / 7) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A083233] • 1,6,48,384,3072,24576,196608,1572864,12582912,100663296,805306368,6442450944,51539607552,412316860416,3298534883328,26388279066624,211106232532992,1688849860263936,13510798882111488,108086391056891904,864691128455135232 ⋆ a(n) = (3*8^n + 0^n)/4. • a(n) = (3 * 8 ^ n + 0 ^ n) / 4. • a(0) = 1, a(n + 1) = 6 * 8 ^ n. - _ Arkadiusz Wesolowski _ , Aug 15 2013 •

[A244038] • 1,6,48,420,3840,36036,344064,3325608,32440320,318704100,3148873728,31256180280,311452237824,3113596420200,31213674823680,3136725993607 20,31588238921564 16,318700586615178 60,3220716155320 3200,3259691964853493400,33034843349204336640,335189468043077792760 ⋆ a(n) = 4^n*binomial(3*n/2,n). • a(n) = [x ^ n] 1 / sqrt(1 - 4 * x) ^ (n + 2). - _ Ilya Gutkovskiy _ , Oct 10 2017 •

[A037184] • 6,48,420,3840,38010,407904,4739112,59405760,800309070,11542072080,177536452236,2902434644928,50271450894210,919799178083520,17730187503894480,359183503307677824,7629999730919490582 ⋆ Functional digraphs with 1 node not in the image. • a(n) = n [(n - 2) a(n - 1) + (n - 1) a(n - 2)] / (n - 3); g.f. = x ^ 3 / ((1 - x) ^ 3 e ^ x) •

[A188911] • 1,6,48,438,4356,46056,509106,5814738,68050116,811240872,9810384048,119990105208,1481115683754,18421300391760,230574816629310,2901721280735838,36688485233689668,465774244616805624,5934465567864915024 ⋆ Binomial convolution of the binomial coefficients bin(3n,n) (A005809). • a(n) = sum(binomial(n,k) * binomial(3 * k,k) * binomial(3 * n - 3 * k,n - k),k=0..n). •

[A244509] • 6,48,480,2016,13200,26208,78336,123120,267168,682080,892800,1822176,2755200,3337488,4773696,7738848,11908560,13615200,19845936,25048800,28003968,38450880,46879728,62029440,87607296 ⋆ Order of GL_2(p), the general linear group over F_p, where p runs through the primes. • a(n) = (p - 1) * p * (p ^ 2 - 1) where p = prime(n). •

[A027766] • 6,49,224,756,2100,5082,11088,22308,42042,75075,128128,210392,334152,515508,775200,1139544,1641486,2321781,3230304,4427500,5985980,7992270,10548720,13775580,17813250 ⋆ (n+1)*C(n+1,6). • a(n) = C(n + 1,6) * C(n + 1,1). - _ Zerinvary Lajos _ , Jun 08 2005 •

[A098306] • 0,1,6,49,384,3025,23814,187489,1476096,11621281,91494150,720331921,5671161216,44648957809,351520501254,2767515052225,21788599916544,171541284280129,1350541674324486,10632792110315761,83711795208201600 ⋆ Unsigned member r=-6 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n) = 8 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n) = 7 * a(n - 1) + 7 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=6. • a(n) = |u(n)| ^ 2, where { u(n) } is the Lucas sequence in the quadratic integer ring Z[sqrt(- 6)] defined by the recurrence u(0) = 0, u(1) = 1, u(n) = sqrt(- 6) * u(n - 1) - u(n - 2) for n >= 2. • a(n) = 1 / 10 * ((4 + sqrt(15)) ^ n + (4 - sqrt(15)) ^ n - 2 * (- 1) ^ n). • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 4; 1, 3] and T(n,x) denotes the Chebyshev polynomial of the first kind. •

[A055847] • 1,6,49,392,3136,25088,200704,1605632,12845056,102760448,822083584,6576668672,52613349376,420906795008,3367254360064,26938034880512,215504279044096,1724034232352768,13792273858822144,110338190870577152 ⋆ a(0)=1, a(1)=6, a(n)=49*8^(n-2) if n>=2. • a(n) = 8 * a(n - 1) + (- 1) ^ n * C(2, 2 - n). •

[A046195] • 1,6,49,961,8214,70225,1385329,11844150,101263969,1997643025,17079255654,146022572641,2880599856289,24628274808486,210564448483921,4153822995125281,35513955194580726,303633788691241009,5989809878370798481,51211098762310597974 ⋆ Indices of heptagonal numbers (A000566) which are also squares (A000290). • a(n) = + a(n - 1) + 1442 * a(n - 3) - 1442 * a(n - 4) - a(n - 6) + a(n - 7). G.f.: - x * (1 + 5 * x + 43 * x ^ 2 - 530 * x ^ 3 + 43 * x ^ 4 + 5 * x ^ 5 + x ^ 6) / ((x - 1) * (x ^ 6 - 1442 * x ^ 3 + 1)). - _ R. J. Mathar _ , Aug 01 2010 • a(n) = 1442 * a(n - 3) - a(n - 6) - 432. - _ Ant King _ , Nov 12 2011 •

[A035290] • 0,0,6,50,194,522,1142,2186,3810,6194,9542,14082,20066,27770,37494,49562,64322,82146,103430,128594,158082,192362,231926,277290,328994 ⋆ Number of ways to place a non-attacking white and black pawn on n X n chessboard. • a(n) = n ^ 4 - 4 n ^ 3 + n ^ 2 + 10 n - 6. •

[A001303] • 6,50,225,735,1960,4536,9450,18150,32670,55770,91091,143325,218400,323680,468180,662796,920550,1256850,1689765,2240315,2932776,3795000,4858750,6160050,7739550 ⋆ Stirling numbers of first kind, s(n+3, n), negated. • a(n) = binomial(n + 3, 4) * binomial(n + 3, 2). • a(n) = A000217 * n! / (4! * (n - 4)!) [for n > 4 and A000217 = the triangular numbers]; • a(n) = ((n + 4)! / n!) ^ 2 / ((n + 2) * (n + 1) * 2 * 4!); • a(n) = (n - 0) ^ 2 * (n - 1) ^ 2 * (n - 2) * (n - 3) / (2 * 4!). (End) • a(n) = numbperm(n,2) * numbperm (n,4) / 48, n >= 4. - _ Zerinvary Lajos _ , Apr 26 2007 • a(n) = 15 * binomial(n + 5,6) - 10 * binomial(n + 4,5) + binomial(n + 3,4). •

[A199680] • 6,50,446,4010,36086,324770,2922926,26306330,236756966,2130812690,19177314206,172595827850,1553362450646,13980262055810,125822358502286,1132401226520570,10191611038685126,91724499348166130,825520494133495166 ⋆ (11*9^n+1)/2. • a(n) = 9 * a(n - 1) - 4. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A050916] • 1,6,51,376,2501,15626,93751,546876,3125001,17578126,97656251,537109376,2929687501,15869140626,85449218751,457763671876,2441406250001,12969970703126,68664550781251,362396240234376,1907348632812501 ⋆ n*5^n+1. • a(0)=1, a(1)=6, a(2)=51, a(n)=11 * a(n - 1) - 35 * a(n - 2) + 25 * a(n - 3). [From Harvey P. Dale, Sep 15 2011] •

[A199685] • 6,51,501,5001,50001,500001,5000001,50000001,500000001,5000000001,50000000001,500000000001,5000000000001,50000000000001,500000000000001,5000000000000001,50000000000000001,500000000000000001 ⋆ 5*10^n+1. • a(n) = 10 * a(n - 1) - 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A002295] • 1,1,6,51,506,5481,62832,749398,9203634,115607310,1478314266,19180049928,251857119696,3340843549855,44700485049720,602574657427116,8175951659117794,111572030260242090,1530312970340384580,21085148778264281865,291705220704719165526 ⋆ Number of dissections of a polygon: binomial(6n,n)/(5n+1). • a(n) = binomial(6 * n,n - 1) / n, n>=1, a(0)=1. From the Lagrange series of the o.g.f. A(x) with its above given implicit equation. • a(n) = upper left term in M ^ n, M = the production matrix: • a(n) are special values of Jacobi polynomials, in Maple notation: • a(0) = 1; a(n) = Sum _{ i1 + i2 + ... + i6=n - 1 } a(i1) * a(i2) * ... * a(i6) for n>=1. - _ Robert FERREOL _ , Apr 03 2015 •

[A292053] • 0,6,52,228,708,1778,3864,7560,13656,23166,37356,57772,86268,125034,176624,243984,330480,439926,576612,745332,951412,1200738,1499784,1855640,2276040 ⋆ Wiener index of the n X n king graph. • a(n) = (n - 1) * n * (n + 1) * (7 * n ^ 2 + 2) / 30. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A287082] • 6,52,360,2576,18336,130624,930432,6627584,47208960,336274432,2395318272,17062105088,121535176704,865707900928,6166528819200,43924836122624,312881247289344,2228686172717056,15875167014617088,113080491469438976 ⋆ Number of edge covers on the n-web graph. • a(n) = (3 - sqrt(17)) ^ n + (3 + sqrt(17)) ^ n. • a(n) = 6 * a(n - 1) + 8 * a(n - 2) for n>2. - _ Colin Barker _ , May 20 2017 • a(n) = I ^ n * 2 ^ ((3 * n + 2) / 2) * ChebyshevT(n, - 3 * I / (2 * sqrt(2))). - _ Eric W. Weisstein _ , Dec 24 2017 •

[A084773] • 1,6,52,504,5136,53856,575296,6225792,68026624,748832256,8291791872,92255680512,1030537089024,11550176206848,129824329777152,14628415675760 64,165186919864074 24,1868870089990471 68,211794449081801113 6,2403830591124563558 4,2731999990096465494016 ⋆ Coefficients of 1/sqrt(1-12*x+4*x^2); also, a(n) is the central coefficient of (1+6x+8x^2)^n. • a(n) = 2 ^ n * hyper2F1(- n, - n, 1, 2). - _ Peter Luschny _ , May 20 2015 •

[A066357] • 1,1,6,53,554,6362,77580,986253,12927170,173452334,2370742868,32892031042,462030186916,6557906929108,93909078262808,1355087936016957,19684187540818866,287612514032460070,4224238030616082948,62329883931236020470,923519220367120779820 ⋆ Number of ordered (i.e., planar) trees on 2n edges with every subtree at the root having an even number of edges. • a(n) * (2 * n - 1) * (n + 1)n = a(n - 1) * (32 * n ^ 2 - 64 * n + 39) * 2 * n - a (n - 2) * (2 * n - 3) * (4 * n - 5) * (4 * n - 7) * 16, n>1. • a(0) = 1,a(n) = (1 / n) * sum { k=0..n, C(4 * n,k) * C(3 * n - k - 2,n - k - 1) } , n>1. - _ Paul Barry _ , Apr 09 2007 • a(n) = C(2 * n + 1) + 2 * C(2 * n) - 2 ^ (2 * n + 1) * C(n), where C(n) is the Catalan number A000108. This formula can be obtained by manipulating generating functions. The equivalence of this formula and the Barry (Apr 09 2007) sum can be established by the WZ method with a second - order operator. A combinatorial interpretation of the Barry sum would be nice. - _ David Callan _ , Apr 10 2012 • a(n) = binomial(3 * n - 2,n - 1) * hypergeom([1 - n, - 4 * n],[2 - 3 * n], - 1) / n for n>=1. - _ Peter Luschny _ , Oct 15 2015 •

[A260955] • 6,54,150,294,486,726,1014,1350,1734,2166,2646,3174,3750,4374,5046,5766,6534,7350,8214,9126,10086,11094,12150,13254,14406 ⋆ Differences of the increasing arithmetic progression a^2+a, b^2+b, c^2+c, where b = 5*a+2, c = 7*a+3 and a >= 0. • a(n) = 24 * n ^ 2 + 24 * n + 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Aug 05 2015 • a(n) * (2 * h - 1) ^ 2 = a((2 * h - 1) * n + h - 1). For h=0, a(n) = a(- n - 1); for h=7, 169 * a(n) = a(13 * n + 6). [_ Bruno Berselli _ , Aug 05 2015] •

[A116138] • 0,6,54,324,1620,7290,30618,122472,472392,1771470,6495390,23383404,82904796,290166786,1004423490,3443737680,11708708112,39516889878,132497807238,441659357460,1464449448420,4832683179786,15878816162154 ⋆ (n^2+n)*3^n. • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 •

[A060774] • 1,6,54,384,2550,16506,105840,677088,4335606,27829230,179161554,1156987728,7493841264,48672149064,316920674880,2068273848384,13525486999542,88612412883030,581503640659830,3821691744347400,25150239955660050,165713382866931570 ⋆ a(n) = number of lattice paths from (0,0,0) to (n,n,n) along the cracks on the surface of a Rubik-ized n X n X n cube so that no step increases distance from goal. • a(n) = 6 * binomial(3n, n) - 6 * binomial(2n, n). •

[A125837] • 0,6,54,438,3510,28086,224694,1797558,14380470,115043766,920350134,7362801078,58902408630,471219269046,3769754152374,30158033218998,241264265751990,1930114126015926,15440913008127414,123527304065019318 ⋆ Numbers whose base 8 or octal representation is 6666666.....6. • a(n) = 8 * a(n - 1) + 6 for n>1, a(1)=0. [_ Vincenzo Librandi _ , Oct 03 2010] •

[A092810] • 1,6,54,486,4374,39366,354294,3188646,28697814,258280326,2324522934,20920706406,188286357654,1694577218886,15251194969974,137260754729766,1235346792567894,11118121133111046,100063090197999414,900567811781994726,8105110306037952534 ⋆ Binomial transform of a Jacobsthal trisection. • a(n) = 2 * 9 ^ n / 3 + 0 ^ n / 3. • a(n) = 2 * 3 ^ (2 * n - 1), for n>0. - _ Gionata Neri _ , Jun 18 2015 •

[A092472] • 1,6,54,510,4830,45486,425502,3956238,36594558,337038702,3093092574,28302208974,258331692606,2353101799470,21397006320030,194281959853710,1761880227283710,15961196057303790,144466419007648350 ⋆ a(n)=sum(i+j+k

0<=i<=n, 0<=j<=n, 0<=k<=n. • a(n) = 3 ^ (2 * n - 1) * (2 + Sum _{ k= 1..n - 2 } 2 ^ (k + 2) * C(2 * k + 1,k - 1) / 3 ^ (2 * k + 2)), for n>2. - _ Va clav Kotesovec _ , Oct 28 2012 •

[A228413] • 1,6,54,532,4675,34425,262549,2051466,16831152,155616459,1529462564,14830618421 ⋆ Count of the first 10^n primes which do not contain the digit 1. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[A098658] • 1,6,54,540,5670,61236,673596,7505784,84440070,956987460,10909657044,124965162504,1437099368796,16581915793800,191876454185400,2225766868550640,25874539846901190,301362287628613860 ⋆ a(n) = 3^n*(2*n)!/(n!)^2. • a(n) = [t ^ n](1 + 6 * t + 9 * t ^ 2) ^ n. •

[A186375] • 1,6,54,588,7110,91476,1224636,16849944,236523078,3371140740,48630906324,708412918824,10403176168476,153813188724552,2287366047735480,34185974267420208,513159651195396678,7732530110414488932 ⋆ a(n) equals the least sum of the squares of the coefficients in (1 + 2*x^k + x^p)^n found at sufficiently large p for some fixed k>0. • a(n) = 4 ^ n * hypergeom([1 / 2, - n, - n], [1,1], 1). - _ Peter Luschny _ , May 24 2017 •

[A171681] • 1,6,54,857,15058,269394,4831929,86699846,1555750918,27916779057,500946173586,8989114087586,161303106727729,2894466805243782,51939099383032278,932009322077220809,16724228697975221074 ⋆ a(n) = F(2n+1)^3 - F(3n)^2 - F(6n-2), where the F(i) are Fibonacci numbers. • a(n) = 20 * a(n - 1) - 35 * a(n - 2) - 35 * a(n - 3) + 20 * a(n - 4) - a(n - 5). - _ R. J. Mathar _ , Nov 23 2010 •

[A069508] • 6,55,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111 ⋆ a(1) = 6; a(n) = smallest palindromic number of the form k*a(n-1) + 1 with k > 1. • a(n) = { 10 ^ (n) - 1 }/ 9 for n > 2. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 3. •

[A061792] • 6,55,153,300,496,741,1035,1378,1770,2211,2701,3240,3828,4465,5151,5886,6670,7503,8385,9316,10296,11325,12403,13530,14706 ⋆ 49*(n*(n+1)/2)+6. • a(0)=6, a(1)=55, a(2)=153, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Apr 11 2012] •

[A198855] • 6,55,447,3583,28671,229375,1835007,14680063,117440511,939524095,7516192767,60129542143,481036337151,3848290697215,30786325577727,246290604621823,1970324836974591,15762598695796735,126100789566373887 ⋆ 7*8^n-1. • a(n) = 8 * a(n - 1) + 7. a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. •

[A253475] • 1,6,55,540,5341,52866,523315,5180280,51279481,507614526,5024865775,49741043220,492385566421,4874114620986,48248760643435,477613491813360,4727886157490161,46801248083088246,463284594673392295,4586044698650834700,45397162391834954701 ⋆ Indices of centered square numbers (A001844) which are also centered hexagonal numbers (A003215). • a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3). • a(n) = sqrt((- 2 - (5 - 2 * sqrt(6)) ^ n - (5 + 2 * sqrt(6)) ^ n) * (2 - (5 - 2 * sqrt(6)) ^ (1 + n) - (5 + 2 * sqrt(6)) ^ (1 + n))) / (4 * sqrt(2)). - _ Gerry Martens _ , Jun 04 2015 •

[A079589] • 1,6,55,560,5985,65780,736281,8347680,95548245,1101716330,12777711870,148902215280,1742058970275,20448884000160,240719591939480,2840671544105280,33594090947249085,398039194165652550 ⋆ a(n) = C(5n+1,n). • a(n) is asymptotic to c * sqrt(n) * (3125 / 256) ^ n with c=0.557.... • a(n) = [x ^ n] 1 / (1 - x) ^ (2 * (2 * n + 1)). - _ Ilya Gutkovskiy _ , Oct 10 2017 •

[A177059] • 6,56,156,306,506,756,1056,1406,1806,2256,2756,3306,3906,4556,5256,6006,6806,7656,8556,9506,10506,11556,12656,13806,15006 ⋆ 25n^2 + 25n + 6. • a(n) = (5n + 2)(5n + 3). • a(n) = 50 * n + a(n - 1) with a(0)=6. •

[A053127] • 6,56,252,792,2002,4368,8568,15504,26334,42504,65780,98280,142506,201376,278256,376992,501942,658008,850668,1086008,1370754,1712304,2118760,2598960,3162510 ⋆ Binomial coefficients C(2n-4,5). • a(n)= binomial(2 * n - 4, 5) if n >= 5 else 0; G.f.: (6 + 20 * x + 6 * x ^ 2) / (1 - x) ^ 6. • a(5)=6, a(6)=56, a(7)=252, a(8)=792, a(9)=2002, a(10)=4368, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a (n - 6). - _ Harvey P. Dale _ , Jun 03 2013 •

[A277975] • 1,6,56,431,2931,18556,112306,659181,3784181,21362306,119018556,656127931,3585815431,19454956056,104904174806,562667846681,3004074096681,15974044799806,84638595581056,447034835815431,2354383468627931,12367963790893556,64820051193237306 ⋆ a(n) = n*x^n + (n-1)*x^(n-1) + . . . + x + 1 for x=5. • a(n) = 11 * a(n - 1) - 35 * a(n - 2) + 25 * a(n - 3) for n> 2. • a(n) = (21 - 5 ^ (1 + n) + 4 * 5 ^ (1 + n) * n) / 16. •

[A155613] • 1,6,56,486,4016,32526,261416,2094966,16770656,134198046,1073682776,8589757446,68718945296,549754219566,4398041728136,3518435773992 6,281474933663936,2251799684545086,18014398122061496,144115186913594406 ⋆ 8^n - 3^n + 1. • a(n) = 11 * a(n - 1) - 24 * a(n - 2) + 14 with a(0)=1, a(1)=6. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A093142] • 1,6,56,556,5556,55556,555556,5555556,55555556,555555556,5555555556,55555555556,555555555556,5555555555556,55555555555556,555555555555556,5555555555555556,55555555555555556 ⋆ Expansion of (1-5x)/((1-x)(1-10x)). • a(n) = 5 * 10 ^ n / 9 + 4 / 9. • a(n) = 10 * a(n - 1) - 4 with a(0)=1. - _ Vincenzo Librandi _ , Aug 02 2010 • a(n) = 11 * a(n - 1) - 10 * a(n - 2), n > 1. - _ Harvey P. Dale _ , Aug 23 2014 •

[A099140] • 1,6,56,576,6016,62976,659456,6905856,72318976,757334016,7930904576,83053510656,869747654656,9108115685376,95381425750016,998847258034176,10460064284409856,109539215284371456,1147109554861899776 ⋆ 4^n*T(n,3/2). • a(0)=1, a(1)=6, a(n)=12 * a(n - 1) - 16 * a(n - 2) for n >1 . [From _ Philippe Deléham _ , Sep 08 2009] •

[A199755] • 6,56,606,6656,73206,805256,8857806,97435856,1071794406,11789738456,129687123006,1426558353056,15692141883606,172613560719656,1898749167916206,20886240847078256,229748649317860806,2527235142496468856 ⋆ 5*11^n+1. • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A025749] • 1,1,6,56,616,7392,93632,1230592,16612992,228890112,3204461568,45445091328,651379642368,9419951751168,137262154088448,2013178259963904,29694379334467584,440175505428578304 ⋆ 4th order Patalan numbers (generalization of Catalan numbers). • a(n):=(4 ^ (n - 1) * sum(k=1..n - 1, binomial(n + k - 1,n - 1) * sum(j=0..k, binomial(j,n - 3 * k + 2 * j - 1) * 4 ^ (j - k) * binomial(k,j) * 3 ^ (- n + 3 * k - j + 1) * 2 ^ (n - 3 * k + j - 1) * (- 1)^j. (n - 3 * k + 2 * j - 1)))) / n. [_ Vladimir Kruchinin _ , Apr 01 2011] •

[A182955] • 1,1,6,56,651,8671,126997,1997798,33260799,580270730,10534337521,197986746949,3837397114948,76473239154148,1563252546786254,32716989219013821,699959257347957763,15288884723649589585 ⋆ G.f. satisfies: A(x) = 1 + x*A(x) * A(x*A(x))^5. • a(n,m) = Sum _{ k=0..n } m * C(n + m,k) / (n + m) * a(n - k,5k). •

[A053336] • 6,56,656,6656,66656,566656,6566656,66566656,666566656,6666566656,56666566656,656666566656,66566666566656,666566666566656,5666566666566656,56656666566666566656 ⋆ a(n) contains n digits (either '5' or '6') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (6 - [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 6, if not th en n - th term begins with a 5. •

[A181430] • 0,0,6,57,272,901,2376,5362,10808,19998,34602,56727,88968,134459,196924,280728,390928,533324,714510,941925,1223904,1569729,1989680,2495086,3098376 ⋆ Number of distinct 5-card poker hands using n ranks and 4 unlabeled suits. • a(n) = n * (51 * n ^ 4 - 110 * n ^ 3 + 165 * n ^ 2 - 130 * n + 24) / 120 = n * (n - 1) * (51 * n ^ 3 - 59 * n ^ 2 + 106 * n - 24) / 120. •

[A229280] • 0,6,57,468,3564,25920,182736,1259712,8538048,57106944,3779136002479113216,16144468992,104485552128,672625741824,4310029025280,27505821597696,174908814262272,1108696193630208,7007637010120704,44178581160760960,277868041444786176 ⋆ Number of ascending runs in {1,...,6}^n. • a(n) = 6 ^ (n - 1) * (7 * n + 5) / 2 for n>0, a(0) = 0. •

[A130565] • 1,6,57,650,8184,109668,1533939,22137570,327203085,4928006512,75357373305,1166880131820,18259838103852,288308609783760,4587430875645660,73484989079268690,1184104656043939071 ⋆ Member k=6 of a family of generalized Catalan numbers. • a(n) = binomial((k + 1) * n - 2,n) / (k * n - 1), with k=6. • a(n) = (6 / 7) * binomial(7 * n,n) / (7 * n - 1). [_ Bruno Berselli _ , Jan 17 2014] •

[A004301] • 0,6,58,328,1452,5610,19950,67260,218848,695038,2170626,6699696,20507988,62407890,189123286,571432036,1722945672,5187185766,15600353130,46882846680,140820504700,422822222266,1269221639358,3809241974028,11431014253872 ⋆ Second-order Eulerian numbers «n,2». • a(n) = sum((- 1) ^ (n + k) * binomial(2 * n + 1,k) * stirling1(2 * n - k - 2,n - k - 2),k=0..n - 3). - _ Johannes W. Meijer _ , Oct 16 2009 •

[A007357] • 6,60,90,36720,12646368,22276800,126463680,4201148160,28770487200,287704872000,1446875426304,2548696550400,14468754263040,590325173932032,3291641594841600,8854877608980480,32916415948416000 ⋆ Infinitary perfect numbers. • a(n)==0 (mod 6). Thus there are no odd infinitary perfec t numbers. - _ Vladimir Shevelev _ , Mar 02 2011 •

[A069072] • 6,60,210,504,990,1716,2730,4080,5814,7980,10626,13800,17550,21924,26970,32736,39270,46620,54834,63960,74046,85140,97290,110544,124950 ⋆ a(n) = (2n+1)*(2n+2)*(2n+3). • a(0)=6, a(1)=60, a(2)=210, a(3)=504, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 08 2013 •

[A292061] • 0,0,0,6,60,300,1050,2940,7056,15120,29700,54450,94380,156156,248430,382200,571200,832320,1186056,1656990,2274300,3072300,4091010,5376756,6982800 ⋆ a(n) = (n-3)*(n-2)^2*(n-1)^2*n/24. • a(n) = (n - 3) * (n - 2) ^ 2 * (n - 1) ^ 2 * n / 24. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A248217] • 0,6,60,504,4080,32736,262080,2097024,16776960,134217216,1073740800,8589932544,68719472640,549755805696,4398046494720,35184372056064,281474976645120,2251799813554176,18014398509219840,144115188075331584,1152921504605798400 ⋆ 8^n - 2^n. • a(n) = 10 * a(n - 1) - 16 * a(n - 2). •

[A054880] • 0,6,60,546,4920,44286,398580,3587226,32285040,290565366,2615088300,23535794706,211822152360,1906399371246,17157594341220,154418349070986,1389765141638880,12507886274749926,112570976472749340,1013138788254744066,9118249094292696600,82064241848634269406,738578176637708424660 ⋆ 3*(9^n-1)/4. • a(n) = 9 * a(n - 1) + 6 with n>0, a(0)=0. [_ Vincenzo Librandi _ , Aug 07 2010] •

[A122653] • 0,6,60,594,5880,58206,576180,5703594,56459760,558894006,5532480300,54765908994,542126609640,5366500187406,53122875264420,525862252456794,5205499649303520,51529134240578406,510085842756480540,5049329293324226994,49983207090485789400 ⋆ a(n) = 10*a(n-1) - a(n-2) with a(0)=0, a(1)=6. • a(n) = (1 / 4) * (5 + 2 * sqrt(6)) ^ n * sqrt(6) - (1 / 4) * sqrt(6) * (5 - 2 * sqrt(6)) ^ n, with n>=0. - _ Paolo P. Lava _ , Oct 02 2008 •

[A155458] • 1,1,6,61,516,4621,40626,359281,3171336,28010041,247343646,2184312901,19289468556,170344633861,1504304517066,13284442948921,117314270620176,1035996697444081,9148836950168886,80792939137115341,713478558576914196 ⋆ a(n)=6*a(n-1)+25*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=6 . • a(n) =(1 / 2) *{ [3 + sqrt(34)] ^ n + [3 - sqrt(34)] ^ n }+ (3 / 68) * sqrt(34) *{ [3 + sqrt(34)] ^ n - [3 - sqrt(34)] ^ n }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A034659] • 1,6,61,666,7321,80526,885781,9743586,107179441,1178973846,12968712301,142655835306,1569214188361,17261356071966,189874916791621,2088624084707826,22974864931786081,252723514249646886 ⋆ a(n) = (11^n +

1)/2. • a(n) = 11 * a(n - 1) - 5 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 17 2010 •

[A064088] • 1,1,6,61,766,10746,161376,2537781,41260086,687927166,11698135396,202104763026,3537486504556,62595852983236,1117926476207316,20124876291104421,364797768048805926,6652740911381353206 ★ Generalized Catalan numbers C(5; n). • a(n) = upper left term in M ^ n, M = an infinite square production matrix as follows: •

[A198965] • 6,62,566,5102,45926,413342,3720086,33480782,301327046,2711943422,24407490806,219667417262,1977006755366,17793060798302,160137547184726,1441237924662542,12971141321962886,116740271897665982,1050662447078993846 ★ 7*9^n-1. • a(n) = 9 * a(n - 1) + 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A190726] • 1,6,62,720,8806,110916,1423796,18520788,243289670,3220011684,42872967012,573608356272,7705343534716,103857425975400,1403902871946000,19024773303675420,258372666772083270,3515644245559211172,47918193512409831380 ★ Central coefficients of Riordan matrix A118384. • a(n) = sum(binomial(2 * n,k) * binomial(2 * n,n - k) * 2 ^ k,k=0..n). • a(n) = sum(binomial(2 * n,k) * binomial(k,n - k) * 2 ^ (n - k) * 3 ^ (2 * k - n),k=0..n). •

[A027811] • 6,63,336,1260,3780,9702,22176,46332,90090,165165,288288,482664,779688,1220940,1860480,2767464,4029102,5753979,8075760,11157300,15195180,20424690,27125280,35626500,46314450 ★ a(n) = 3*(n+1)*C(n+5,6). • a(n) = C(n + 1, 2) * C(n + 5, 5). - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[A053700] • 6,63,364,1365,3906,9331,19608,37449,66430,111111,177156,271453,402234,579195,813616,1118481,1508598,2000719,2613660,3368421,4288306,5399043,6728904,8308825,10172526 ★ a(n) = 111111 in base n. • a(n) = n ^ 5 + n ^ 4 + n ^ 3 + n ^ 2 + n + 1 = (n ^ 6 - 1) / (n - 1). •

[A053535] • 1,6,63,540,4941,44226,398763,3586680,32286681,290560446,2615103063,23535750420,211822285221,1906398972666,17157595536963,154418345483760,1389765152400561,12507886242464886,112570976569604463 ★ Expansion of 1/((1+3*x)*(1-9*x)). • a(n) = (3 ^ n / 4) * ((3 ^ (n + 1)) + (- 1) ^ n). • a(n) = 6a(n - 1) + 27a(n - 2); a(0)=1. •

[A083225] • 1,6,64,384,4096,24576,262144,1572864,16777216,100663296,1073741824,6442450944,68719476736,412316860416,4398046511104,26388279066624,281474976710656,1688849860263936,18014398509481984,108086391056891904 ★ (7*8^n+(-8)^n)/8. • a(n) = (7 * 8 ^ n + (- 8) ^ n) / 8. • a(0)=1, a(1)=6, a(n)=64 * a(n - 2) [From Harvey P. Dale, Apr 22 2012] •

[A156887] • 1,6,64,768,9708,126386,1676956,22548168,306167324,4188703512,57649462164,797294161824,11071026740964,154250752864812,2155368246401224,30192512693210888,423859798484668188 ★ a(n) = Sum_{k=0..n} C(n,k)*C(4*n+k,k). • a(n) = Sum _{ k = 0..n } (- 1) ^ (n - k) * C(n,k) * C(4 * n + k,n) * 2 ^ k. • a(n) = Sum _{ k = 0..n } C(n,k) * C(4 * n,k) * 2 ^ (n - k). •

[A117794] • 0,6,66,120,276,378,630,780,1128,1326,1770,2016,2556,2850,3486,3828,4560,4950,5778,6216,7140,7626,8646,9180,10296 ★ Hexagonal numbers divisible by 6. • a(1)=0, a(2)=6, a(3)=66, a(4)=120, a(5)=276, a(n)=a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) [From Harvey P. Dale, Aug 19 2011] • a(n)=3 / 2 * (- 1) ^ n(- 4 n + (- 1) ^ n(6 * n(2 * n - 5) + 19) + 5) [From Harvey P. Dale, Aug 19 2011] •

[A085025] • 6,66,176,336,546,806,1116,1476,1886,2346,2856,3416,4026,4686,5396,6156,6966,7826,8736,9696,10706,11766,12876,14036,15246 ★ a(n) = (5*n+1)*(5*n+6) • a(0)=6, a(1)=66, a(2)=176, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 11 2015 •

[A192089] • 0,0,6,66,402,2028,8790,35118,131982,475344,1658382,5651226,18912498,62418180,203768862,659487678,2119617474,6774043254,21547968726,68274910026,215609878962,678936947940,2132568719358,6683705385078,20906259913566 ★ Number of permutations of [n] that require a 3-letter alphabet in order to be realized by a shift. • a(n)=3 ^ (n - 2) + sum(psi _ 3(t) * 3 ^ (n - t - 1),t=1..n - 1) - n * sum(psi _ 2(t) * 2 ^ (n - t - 1),t=0..n - 1), where psi _ N(t) is the number of primitive words of length t over an N - letter alphabet, which is expressible in terms of the Möbius function. •

[A249639] • 0,0,6,66,426,2706,16386,99186,595986,3580986,21490986,128976186,773887386,4643505066,27861211146,167168350506,1003011186666,6018073616706,36108448196946,216650728156866,1299904407916386,7799426681319186,46796560321735986 ★ Number of strings of length n over a 6 letter alphabet that begin with a nontrivial palindrome. • a(0) = 0; a(1) = 0; a(n + 1) = 6 * a(n) + 6 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)) •

[A243719] • 1,6,66,609,3375,14181,47485,136085,342739,784059,1653033,3267471,6107271,10901405,18683285,30934341,49659915,77611995,118386689,176753639,258774303,372270981,526962861,735113445,1011678595 ★ Number of inequivalent (mod D_8) ways to place 4 nonattacking knights on an n X n board. • a(n) = (n ^ 8 - 54 * n ^ 6 + 144 * n ^ 5 + 1048 * n ^ 4 - 5280 * n ^ 3 - 2432 * n ^ 2 + 52800 * n - 78912 + (1 - (- 1) ^ n) / 2 * (14 * n ^ 4 - 48 * n ^ 3 - 158 * n ^ 2 + 768 * n - 723)) / 192 for n >= 6. •

[A155630] • 1,6,66,666,6306,58026,527346,4766586,42981186,387158346,3485735826,31376865306,282412759266,2541798719466,22876524019506,205890058352826,1853015893884546,16677164519797386,150094566577522386 ★ 9^n-4^n+1^n • a(n)=13 * a(n - 1) - 36 * a(n - 2) + 24 with a(0)=1, a(1)=6 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A002280] • 0,6,66,666,6666,66666,666666,6666666,66666666,666666666,6666666666,66666666666,666666666666,6666666666666,66666666666666,666666666666666,6666666666666666,66666666666666666 ★ a(n) = 6*(10^n - 1)/9. • a(n) = 10 * a(n - 1) + 6, with a(n)=0. - _ Paolo P. Lava _ , Jan 23 2009 • a(n) = 11a(n - 1) - 10a(n - 2) with a(0)=0, a(1)=6. (End) • a(n) = a(n - 1) + 6 * 10 ^ (n - 1) with a(0)=0. - _ Vincenzo Librandi _ , Jul 22 2010 •

[A073549] • 0,6,66,666,6666,66666,666666,6666666,66666666,666666666,6666666666,66666666666,666666666666,6666666666666,66666666666666,666666666666666,6666666666666666,66666666666666666,666666666666666666,6666666666666666666,66666666666666666666,666666666666666666666,6666666666666666666666,66666666666666666666666,666666666666666666666666 ★ Number of Fibonacci numbers F(k), k <= 10^n, which end in 6. • a(n) = (10 ^ n - 10) / 15. - _ Robert Gerbicz _ , Sep 06 2002 • a(n) = a(n - 1) + 6 * 10 ^ (n - 2), with a(1)=0. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A165229] • 1,6,66,756,8676,99576,1142856,13116816,150544656,1727834976,19830751776 ★ a(0)=1, a(1)=6, a(n)=12*a(n-1)-6*a(n-2) for n>1 . • a(n)=(1 / 2) *{ [6 + sqrt(30)] ^ n + [6 - sqrt(30)] ^ n , with n>=0 [From _ Paolo P. Lava _ , Sep 16 2009] •

[A173535] • 1,6,66,786,9426,113106,1357266,16287186,195446226,2345354706,28144256466,337731077586,4052772931026,48633275172306,583599302067666,7003191624811986,84038299497743826,1008459593972925906,12101515127675110866 ★ a(n) = (1/11) * (5*12^n + 6). • a(n) = 12 * a(n - 1) - 6, a(0)=1. •

[A004355] • 1,6,66,816,10626,142506,1947792,26978328,377348994,5317936260,75394027566,1074082795968,15363284301456,220495674290430,3173734438530120,45795673964460816,662252084388541314 ★ Binomial coefficient C(6n,n). • a(n) = C(6 * n - 1,n - 1) * C(36 * n ^ 2,2) / (3 * n * C(6 * n + 1,3)), n>0. - _ Gary Detlefs _ , Jan 02 2014 • a(n) = GegenbauerC(n, - 3 * n, - 1). - _ Peter Luschny _ , May 07 2016 •

[A130977] • 1,6,66,876,12786,197796,3183156,52718616,892401426,15368638836,268388185596,4741271556456,84573471344916,1521119577791976,27554494253636136,502257203287150896,9205363627419463506 ★ G.f.: 5/(2+3*sqrt(1-20*x)). • a(n) = upper left term in M ^ n, M = an infinite square production matrix as follows: •

[A152390] • 6,68,252,648,1370,2556,4368,6992,10638,15540,21956,30168,40482,53228,68760,87456,109718,135972,166668,202280,243306,290268,343712,404208,472350 ★ Arises in enumerating non-degenerate colorings in Brook's Theorem. • a(n) = (n ^ 3 + 8 * n ^ 2 + 19 * n + 6) * (n + 1). •

[A128869] • 6,68,683,6837,68377,683772,6837722,68377223,683772233,6837722339,68377223398,683772233983,6837722339831,68377223398316,683772233983162,6837722339831620,68377223398316206,683772233983162066 ★ a(n) = the largest number one can subtract from 10^n such that the square of the result is strictly greater than 10^(2*n-1). • a(n) = floor(10 ^ n * (1 - sqrt(0.1))) That means that a(n) gives the decimal expansion of 1 - sqrt(0.1). •

[A288719] • 0,6,69,399,1467,4197,10203,22047,43557,80187,139422,231228,368547,567837,849657,1239297,1767453,2470947,3393492,4586502,6109947,8033253,10436247,13410147,17058597 ★ Detour index of the n-triangular grid graph. • a(n) = (n ^ 6 + 9 * n ^ 5 + 29 * n ^ 4 + 39 * n ^ 3 + 18 * n ^ 2 - 48) / 16 for n>3. - _ Andrew Howroyd _ , Jun 19 2017 •

[A198699] • 6,69,699,6999,69999,699999,6999999,69999999,699999999,6999999999,69999999999,699999999999,6999999999999,69999999999999,699999999999999,6999999999999999,69999999999999999 ★ 7*10^n-1 • a(n) = 10 * a(n - 1) + 9. a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. •

[A001448] • 1,6,70,924,12870,184756,2704156,40116600,601080390,9075135300,137846528820,2104098963720,32247603683100,495918532948104,7648690607660440,118264581564861424,1832624140942590534 ★ a(n) = C(4n,2n) or (4*n)!/((2*n)!*(2*n)!). • a(n) = (1 / Pi) * integral(x= - 2..2, (2 + x) ^ (2 * n) / sqrt((2 - x) * (2 + x))). _ Peter Luschny _ , Sep 12 2011 • a(n) = hypergeom([1 - 2 * n, - 2 * n],[2],1) * (2 * n + 1). - _ Peter Luschny _ , Sep 22 2014 • a(n) = Sum _{ i = 0..n } binomial(4 * n,i) * binomial(3 * n - i - 1,n - i). - _ Peter Bala _ , Sep 29 2015 • a(n) = GegenbauerC(2 * n, - 2 * n, - 1). - _ Peter Luschny _ , May 07 2016 • a(n) = [x ^ n] 1 / sqrt(1 - 4 * x) ^ (2 * n + 1). - _ Ilya Gutkovskiy _ , Oct 10 2017 •

[A282817] • 0,0,0,6,72,375,1320,3675,8736,18522,36000,65340,112200,184041,290472,443625,658560,953700,1351296,1877922,2565000,3449355,4573800,5987751,7747872 ★ Number of inequivalent ways to color the faces of a cube using at most n colors so that no color appears more than twice. • a(n) = (n - 2) ^ 2 * (n - 1) * n ^ 2 * (n + 5) / 24. •

[A177468] • 1,6,72,463,4030,28908,231393,1733366,13499224,102723495,792454734,6063888364,46624820793,357473932822,2745399810920,21063557869407,161702118409342,1240928795315404,9525079068251761,73103241532364950 ★ Expansion of g.f.: (1+x+12*x^2-8*x^3)/(1-5*x-30*x^2+69*x^3+31*x^4-22*x^5) • a(0)=1, a(1)=6, a(2)=72, a(3)=463, a(4)=4030, a(n)=5 * a(n - 1) + 30 * a(n - 2) - 69 * a(n - 3) - 31 * a(n - 4) + 22 * a(n - 5). - _ Harvey P. Dale _ , Sep 09 2014 •

[A052791] • 0,0,0,6,72,540,3240,17010,81648,367416,1574640,6495390,25981560,101328084,386889048,1450833930,5356925280,19514513520,70252248672,250273635894,883318714920,3091615502220,10739295955080,37050571045026,127030529297232 ★ 3^(n-3)*n*(n-1)*(n-2). • a(n) = n! * sum(i + j + k=n, ijk / (i!j!k!)) - _ Benoit Cloitre _ , Nov 11 2004 •

[A281774] • 0,0,0,6,72,630,4680,31206,193032,1131990,6386760,35025606,188061192,993760950,5187840840,26831095206,137770476552,703455087510,3576115150920,18117222864006,91536570671112,461496288791670,2322770028381000,11675109032796006 ★ Number of distinct topologies on an n-set with exactly 6 open sets. • a(n) = 3! StirlingS2(n, 3) + 3 / 2 * 4! StirlingS2(n, 4) + 5! StirlingS2(n, 5). • a(n) = 2 - 2 ^ (2 + n) - 7 * 2 ^ (2 * n - 1) + 5 * 3 ^ n + 5 ^ n for n>5. • a(n) = 15 * a(n - 1) - 85 * a(n - 2) + 225 * a(n - 3) - 274 * a(n - 4) + 120 * a(n - 5) for n>5. •

[A036292] • 0,6,72,648,5184,38880,279936,1959552,13436928,90699264,604661760,3990767616,26121388032,169789022208,1097098297344,7052774768640,45137758519296,287753210560512,1828079220031488,11577835060199424,7312316880125952 0,4606759634479349 76 ★ a(n) = n*6^n. • a(n) = 12 * a(n - 1) - 36 * a(n - 2). - _ Vincenzo Librandi _ , Apr 10 2016 •

[A061690] • 0,0,6,72,650,5400,43757,353192,2862330,23352300,191891117,1587587760,13215894133,110619113423,930376519256,7858437064232,66627124896218,566791391339532,4836144006188165,41375938305568772,354859541163656045 ★ Generalized Stirling numbers. • a(n) = s(n, k) = Sum _{ pi } n! / (k(1)! * 1! ^ k(1) * k(2)! * 2! ^ k(2) * ... * k(n)! * n! ^ k(n)) * (n! / (1! ^ k(1) * 2! ^ k(2) * ... * n! ^ k(n))) ^ L, where pi runs through all partitions k(1) + 2 * k(2) + ... + n * k(n) = n such that k = k(1) + k(2) + ... + k(n), with k = 3 and L = 1. •

[A133678] • 1,6,72,684,7128,71496,728352,7372944,74828448,758634336,7694600832,78030247104,791354717568,8025398683776,81389290240512,825402486161664,8370765107071488,84891495061218816,860921104864315392,8730969421757082624,88544502934843742208 ★ a(n)=6*a(n-1)+42*a(n-2) for n>=3, a(0)=1, a(1)=6, a(2)=72 . • a(n)=3 * [3 + sqrt(51)] ^ (n - 1) + (9 / 17) * [3 + sqrt(51)] ^ (n - 1) * sqrt(51) + 3 * [3 - sqrt(51)] ^ (n - 1) - (9 / 17) * sqrt(51) * [3 - sqrt(51)] ^ (n - 1) + (1 / 7) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Aug 28 2008] • a(1)=6, a(2)=72, a(n)=6 * a(n - 1) + 42 * a (n - 2). - _ Harvey P. Dale _ , Mar 25 2015 •

[A059410] • 0,6,72,702,6480,58806,530712,4780782,43040160,387400806,3486725352,31380882462,282429005040,2541864234006,22876787671992,205891117745742,1853020145805120,16677181570526406,150094634909578632,1350851716510730622,12157665455570144400 ★ J_n(9) (see A059379). • a(n) = 9 ^ n - 3 ^ n; a(n) = 12 * a(n - 1) - 27 * a(n - 2) for n > 1. - _ Vincenzo Librandi _ , Jun 03 2011 •

[A099673] • 6,72,738,7404,74070,740736,7407402,74074068,740740734,7407407400,74074074066,740740740732,7407407407398,74074074074064,740740740740730,7407407407407396,74074074074074062,740740740740740728 ★ Partial sums of repdigits of A002280. • a(n) = (2 / 27) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 •

[A196882] • 1,1,6,72,1086,15076,182832,1957192,18583582,154252476,1166493640,8049232896,50660059120,292884155232,1582952988656,8045405614080,38559135542174,174391413419872,746859203235976,3047000304533760,11915800843394536,44815994695641600 ★ Number of partitions of n^4 into powers of 4. • a(n) = [x ^ (n ^ 4)] 1 / Product _{ j>=0 } (1 - x ^ (4 ^ j)). •

[A041063] • 1,6,73,444,5401,32850,399601,2430456,29565073,179820894,2187415801,13304315700,161839204201,984339540906,11973913695073,72827821711344,885907774231201,5388274467098550,65545201379413801,398659482743581356,4849458994302390073 ★ Denominators of continued fraction convergents to sqrt(38). • a(n) = 74 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 10 2013 •

[A041060] • 6,73,882,10657,128766,1555849,18798954,227143297,2744518518,33161365513,400680904674,4841332221601,58496667563886,706801342988233,8540112783422682,103188154744060417,1246797969712147686 ★ Numerators of continued fraction convergents to sqrt(37). • a(n)=12 * a(n - 1) + a(n - 2), n>1 ; a(0)=6, a(1)=73 . G.f.: (6 + x) / (1 - 12 * x - x ^ 2). [From _ Philippe Deléham _ , Nov 21 2008] • a(n)=3 *{ [6 - sqrt(37)] ^ n + [6 + sqrt(37)] ^ n }+ (1 / 2) * sqrt(37) *{ [6 + sqrt(37)] ^ n - [6 - sqrt(37)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Nov 28 2008] •

[A049235] • 0,6,75,708,5991,47868,369315,2783448,20631126,151026498,1094965524,7878119760,56330252412,400703095284,2838060684483,20027058300144,140874026880204,988194254587242,6915098239841331,48285969880645908,336521149274459979 ★ Sum of balls on the lawn for the s=3 tennis ball problem. • a(n) is asymptotic to c * sqrt(n) * (27 / 4) ^ n with c=2.4... - _ Benoit Cloitre _ , Jan 26 2003 •

[A263228] • 0,6,76,210,408,670,996,1386,1840,2358,2940,3586,4296,5070,5908,6810,7776,8806,9900,11058,12280,13566,14916,16330,17808 ★ a(n) = 2*n*(16*n - 13). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A016090] • 6,76,376,9376,9376,109376,7109376,87109376,787109376,1787109376,81787109376,81787109376,81787109376,40081787109376,74008178710937 6,3740081787109376,43740081787109376,743740081787109376 ★ 16^(5^n) mod 10^n: Automorphic numbers ending in digit 6, with repetitions. • a(n) = 16 ^ (5 ^ n) mod 10 ^ n. • a(n + 1) == 2 * a(n) - a(n) ^ 2 (mod 10 ^ (n + 1)). - _ Eric M. Schmidt _ , Jul 28 2012 •

[A181343] • 6,76,386,1251,3126,6606,12426,21461,34726,53376,78706,112151,155286,209826,277626,360681,461126,581236,723426,890251,1084406,1308726,1566186,1859901,2193126 ★ (35*n^4-35*n^3+55*n^2-25*n+6)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 140 for n > 4; a(1)=6, a(2)=76, a(3)=386, a(4)=1251. •

[A053337] • 6,76,776,7776,67776,667776,6667776,66667776,766667776,6766667776,66766667776,666766667776,7666766667776,77666766667776,776676666667776,7777666766667776,77777666766667776,777777666766667776 ★ a(n) contains n digits (either '6' or '7') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (6 + [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 6, if not then n - th term begins with a 7. •

[A199026] • 6,76,846,9316,102486,1127356,12400926,136410196,1500512166,16505633836,181561972206,1997181694276,21968998637046,241658985007516,2658248835082686,29240737185909556,321648109045005126,3538129199495056396 ★ 7*11^n-1. • a(n) = 11 * a(n - 1) + 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[A155643] • 1,6,76,876,9376,96876,984376,9921876,99609376,998046876,9990234376,99951171876,999755859376,9998779296876,99993896484376,999969482421876,9999847412109376,99999237060546876,999996185302734376 ★ 10^n-5^n+1. • a(n)=15 * a(n - 1) - 50 * a(n - 2) + 36 with a(0)=1, a(1)=6 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A167498] • 6,78,342,926,1958,3566,5878,9022,13126,18318,24726,32478,41702,52526,65078,79486,95878,114382,135126,158238,183846,212078,2430626,276926,313798 ★ a(n) = 6+32*n^2+8*n*(7+8*n^2)/3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 128. •

[A250388] • 6,78,432,1560,4350,10206,21168,40032,70470,117150,185856,283608,418782,601230,842400,1155456,1555398,2059182,2685840,3456600,4395006,5527038,6881232,8488800,10383750 ★ Number of length 2+3 0..n arrays with no four consecutive terms having the maximum of any two terms equal to the minimum of the remaining two terms. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A208473] • 1,6,78,1100,16310,248724,3863244,60784152,965571750,15451970820,248731275364,4022998982184,65326505787452,1064336612493000,17390322931354200,284844148339840560,4675649304522319110,76895312195988615780 ★ Central coefficients of triangle A185384. • a(n) = binomial(2n,n) * F(3n + 1), where F(n) are the Fibonacci numbers (A000045). •

[A093033] • 6,79,314,807,1654,2951,4794,7279,10502,14559,19546,25559,32694,41047,50714,61791,74374,88559,104442,122119,141686,163239,186874,212687,240774 ★ Number of interior balls in a truncated octahedral arrangement. • a(n) = 16 * n ^ 3 - 15 * n ^ 2 + 6 * n - 1. • a(1)=6, a(2)=79, a(3)=314, a(4)=807, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 11 2015 •

[A112462] • 6,83,611,3185,13195,46228,142324,395148,1007760,2393430,5349526,11345698,22985326,44722580,83947700,152591660,269449830,463484385,778439025,1279189275,2060359665,3257868120,5064210840,7748481000,11682325200 ★ Absolute value of coefficient of term [x^(n-6)] in characteristic polynomial of maximum matrix A of size n X n, where n >= 6. Maximum matrix A(i,j) is MAX(i,j), where indices i and j run from 1 to n. • a(n) = ((11n + 6) / 12!) * Product _{ i= - 5..5 } (n + i). •

[A054605] • 0,6,84,780,4200,15810,46956,118104,262800,532350,1001220,1773156,2988024,4829370,7532700,11394480,16781856,24143094,34018740,47053500,64008840,85776306,113391564,148049160,191118000 ★ Sum_{d|6} phi(d)*n^(6/d). • a(n) = n ^ 6 + n ^ 3 + 2n ^ 2 + 2n. - _ Ralf Stephan _ , Sep 03 2003 •

[A212701] • 6,84,882,8232,72030,605052,4941258,39530064,311299254,2421216420,18643366434,142367525496,1079620401678,8138676874188,61040076556410,455765904954528,3389758918099302,25124095510618356,185639150161791186,1367867422244777160 ★ Main transitions in systems of n particles with spin 3. • a(n) = n * (b - 1) * b ^ (n - 1). For this sequence, set b=7. • a(n) = 14 * a(n - 1) - 49 * a(n - 2). - _ Colin Barker _ , Jun 16 2015 •

[A248338] • 0,6,84,936,9744,98976,995904,9983616,99934464,999737856,9998951424,99995805696,999983222784,9999932891136,99999731564544,999998926258176,9999995705032704,99999982820130816,999999931280523264,9999999725122093056,99999998900488372224 ★ 10^n - 4^n. • a(n) = 14 * a(n - 1) - 40 * a(n - 2). •

[A155654] • 1,6,86,1116,13346,153276,1724906,19207236,212679266,2347869996,25876958426,284948873556,3136251594386,34509651449916,379671469419146,4176777984431076,45946908753664706,505430101839849036 ★ 11^n - 6^n + 1. • a(n)=17 * a(n - 1) - 66 * a(n - 2) + 50 with a(0)=1, a(1)=6 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[A091881] • 1,6,86,1366,21846,349526,5592406,89478486,1431655766,22906492246,366503875926,5864062014806,93824992236886,1501199875790166,24019198012642646,384307168202282326,6148914691236517206 ★ Expansion of (1-11x)/((1-x)(1-16x)). • a(0)=1, a(1)=6, a(n)=17 * a(n - 1) - 16 * a(n - 2) [From Harvey P. Dale, Dec 15 2011] •

[A278683] • 0,0,6,92,832,4500,18229,58881,163509,401259,898420,1861146,3625546,6694982,11829267,20099815,33036079,52700901,81916834,124362664,184907220,269726216,386776561,545930397,759628777 ★ Number of non-equivalent ways to place 4 non-attacking ferses on an n X n board. • a(n) = (n ^ 8 - 30 * n ^ 6 + 48 * n ^ 5 + 328 * n ^ 4 - 1056 * n ^ 3 - 200 * n ^ 2 + 4176 * n - 4032 + IF(MOD(n, 2) = 1, 14 * n ^ 4 - 48 * n ^ 3 - 38 * n ^ 2 + 336 * n - 459)) / 192 for n>=3. • a(n) = 4 * a(n - 1) - a(n - 2) - 16 * a(n - 3) + 19 * a(n - 4) + 20 * a(n - 5) - 45 * a(n - 6) + 45 * a(n - 8) - 20 * a(n - 9) - 19 * a(n - 10) + 16 * a(n - 11) + a(n - 12) - 4 * a(n - 13) + a(n - 14) for n>=17. •

[A179058] • 0,0,6,96,600,2400,7350,18816,42336,86400,163350,290400,490776,794976,1242150,1881600,2774400,3995136,5633766,7797600,10613400,14229600,18818646,24579456,31740000 ★ Number of non-attacking placements of 3 rooks on an n X n board. • a(n) = 3! * binomial(n, 3) ^ 2. • a(n) = (n ^ 2 * (2 - 3 * n + n ^ 2) ^ 2) / 6. - _ Colin Barker _ , Jan 08 2013 • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Eric W. Weisstein _ , Sep 05 2017 •

[A053338] • 6,96,696,9696,69696,669696,6669696,96669696,696669696,9696669696,69696669696,969696669696,9969696669696,69969696669696,969969696669696,9969969696669696 ★ a(n) contains n digits (either '6' or '9') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (6 + 3 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with a 6, if not then n - th term begins with a 9. •

[A115400] • 0,0,0,6,96,780,4080,15330,45696,115416,257760,523710,987360,1752036,2957136,4785690,7472640,11313840,16675776,24006006,33844320,46834

620,63737520,85443666,112987776 ★ Number of n-colorings of the octahedral graph. ● a(n) = n * (n - 1) * (n - 2) * (n ^ 3 - 9 * n ^ 2 + 29 * n - 32). ●

[**A006044**] ● 6,96,960,7680,53760,344064,2064384,11796480,64880640,3460300 80,1799356416,9160359936,45801799680,225485783040,1095216660480,5257039970304,24970939858944,117510305218560,548381424353280,2539871860162560,1168341055674777 6,53409876830846976 ★ A traffic light problem. ● a(n) = 4 ^ (n - 4) * (n - 3) * (n - 2) * (n - 1). [_ Omar E. Pol _ , Jan 04 2009] ● a(n) = 4 ^ (n - 4) * (n - 1)! / (n - 4)!. [_ Omar E. Pol _ , Jan 15 2009] ●

[**A139743**] ● 0,6,96,1206,14016,157926,1755936,19409046,213968256,2355994566,25927658976,285262842486,3138184236096,34521491440806,379743730067616,4177217651837526,45949577275681536,505446265559840646,5559913498794965856,61159071374928218166 ★ 11^n-5^n. ● a(n) = 16 * a(n - 1) - 55 * a(n - 2); [From Vincenzo Librandi, Jun 02 2011] ●

[**A001526**] ● 6,104,300,594,986,1476,2064,2750,3534,4416,5396,6474,7650,8924,10296,11766,13334,15000,16764,18626,20586,22644,24800,27054,29406 ★ (7n+1)(7n+6) ● a(n) = 98 * n + a(n - 1) with a(0)=6. - _ Vincenzo Librandi _ , Nov 12 2010 ●

[**A033589**] ● 1,6,105,440,1155,2394,4301,7020,10695,15470,21489,28896,37835,48450,60885,75284,91791,110550,131705,155400,181779,210986,243165,278460,317015 ★ (2*n-1)*(3*n-1)*(4*n-1). ● a(0)= - 1, a(1)=6, a(2)=105, a(3)=440 , a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 22 2014 ●

[**A127213**] ● 6,108,864,9072,85536,839808,8118144,78941952,765904896,7437339648,72196614144,700923912192,6804621582336,66060990332928,641332318961664,6226189565755392,60445100877152256,586813429630107648 ★ a(n) = 6^n*Lucas(n), where Lucas = A000204. ● a(n) = Trace of matrix [({ 6,6 } , { 6,0 }) ^ n]. ● a(n) = 6 ^ n * Trace of matrix [({ 1,1 } , { 1,0 }) ^ n]. ● a(n) = 6 * a(n - 1) + 36 * a(n - 2). ●

[**A129003**] ● 6,108,972,6480,36450,183708,857304,3779136,15943230,64953900,257217444,994857552,3772168218,14061928860,51656065200,187339329792,671787127926,2384960530284,8391527791740,29288988968400,101486346775506 ★ (n^3+n^2)*3^n. ● a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 108 * a(n - 3) - 81 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 ●

[**A041149**] ● 1,6,109,660,11989,72594,1318681,7984680,145042921,878242206,15953402629,96598657980,1754729246269,10624974135594,193004263686961,1168650556257360,21228714276319441,128540936214174006,2334965566131451549,14138334333002883300 ★ Denominators of continued fraction convergents to sqrt(84). ● a(n) = 110 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 11 2013 ●

[**A059116**] ● 0,0,6,114,978,6810,43746,271194,1653378,9998970,60229986,362088474,2174656578,13054316730,78345032226,470127588954,2820937720578,16926142884090,101558406986466,609355090964634,3656144492925378 ★ The sequence lambda(4,n), where lambda is defined in A055203. Number of ways of placing n identifiable positive intervals with a total of exactly four starting and/or finishing points. ● a(n) = 10 * a(n - 1) - 27 * a(n - 2) + 18 * a(n - 3) f or n>3. G.f.: - 6 * x ^ 2 * (9 * x + 1) / ((x - 1) * (3 * x - 1) * (6 * x - 1)). - _ Colin Barker _ , Sep 14 2014 ●

[**A052465**] ● 6,116,721,14031,87236,1697746,10555551,205427261,1277221666,24856698576,154543821581,3007660527691,18699802411296,363926923850606,2262676091766811,44035157785923321 ★ a(n) is the solution k to Mod[24k,11^n]==1. ● a(n) = a(n - 1) + 121 * a(n - 2) - 121 * a(n - 3). - _ Vincenzo Librandi _ , Jul 01 2012 ●

[**A271648**] ● 6,119,2279,18042,83921,284428,782795,1859374,3957717,7738336,14140143,24449570,40377369,64143092,98567251,147171158,214284445,305160264,426098167,584574666,789381473,1050771420 ★ Number of permutations in S_{2*n+3} containing the pattern 2143...(2n)(2n-1). ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a (n - 7) for n>6. ●

[**A268685**] ● 6,126,630,1950,4680,9576,17556,29700,47250,71610,104346,147186,202020,270900,356040,459816,584766,733590,909150,1114470,1352736,1627296,1941660,2299500,2704650 ★ a(n) = 3*(n + 1)*(n + 2)*(3*n + 1)*(3*n + 4)/4. ● a(n) = Sum _{ k = 0..n } (3 * k + 1)(3 * k + 2)(3 * k + 3). ● a(n) mod 6 = 0. ●

[**A228290**] ● 0,6,126,1092,5460,19530,55986,137256,299592,597870,1111110,1948716,3257436,5229042,8108730,12204240,17895696,25646166,36012942,49659540,67368420,90054426,118778946,154764792,199411800 ★ a(n) = n^6 + n^5 + n^4 + n^3 + n^2 + n. ● a(n) = (n + 1) * (n ^ 2 + n + 1) * a(n - 1) / ((n - 1) * (n ^ 2 - 3 * n + 3)) for n>1. ● a(1) = 6, else a(n) = (n ^ 7 - n) / (n - 1). ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>6, a(0)=0, a(1)=6, a(2)=126, a(3)=1092, a(4) =5460, a(5)=19530, a(6)=55986. - _ Yosu Yurramendi _ , Sep 03 2013 ●

[**A095695**] ● 6,130,1005,4830,17465,52101,135135,314985,674685,1349205,2548546,4587765,7925190,13210190,21341970,33540966,51434520,77158620,113477595,163923760,232959111,326161275,450436025 ★ T(n,4) diagonal of triangle in A095693. ● a(n) = ((n)(n - 1)(n - 2)(n - 3)(n ^ 4 + 2n ^ 3 - 13n ^ 2 - 54n + 136) / 384. ●

[**A090407**] ● 1,6,136,2016,32896,523776,8390656,134209536,2147516416,34359607296,549756338176,8796090925056,140737496743936,2251799780130816,36028797153181696,576460751766552576,9223372039002259456 ★ Sum{k=0..n, C(4n+1,4k) }. ● a(0)=1, a(1)=6, a(n)=12 * a(n - 1) + 64 * a(n - 2) [From H arvey P. Dale, Jan 19 2012] ●

[**A003994**] ● 6,138,1452,11444,78642,502846,3089624,18559208,110049502,647720562,3796113284,22194147996,129581349642,755982695718,4408534120368,257023390821 92,1498282290390 30,8733393536405 38,5090437245730652 ★ Sequence b_4 (n) arising from homology of partitions with even number of blocks. ● a(n) = 6 * a(n - 1) - a(n - 2) - 8 * n ^ 2 + 24 * n - 10 + 3 ^ (n - 3) * (32 * n - 80), with a(1)=a(2)=0. - _ Sean A. Irvine _ , Sep 26 2015 ●

[**A286446**] ● 0,1,6,142,1280,7301,29603,96485,266636,652908,1452054,2992513,5789499,10629381,18660890,31530854,51525116,81772345,126449707,191075297,282794784,410784700,586640186,824912741,1143620051 ★ Number of non-equivalent ways to tile an n X n X n triangular area with four 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-16) of 1 X 1 X 1 tiles. ● a(n) = (n ^ 8 - 12 * n ^ 7 + 6 * n ^ 6 + 432 * n ^ 5 - 1249 * n ^ 4 - 5028 * n ^ 3 + 21820 * n ^ 2 + 12384 * n - 94000) / 144 + IF(MOD(n, 2) = 1, - 8 * n ^ 3 + 72 * n ^ 2 - 208 * n + 189) / 24 + IF(MOD(n, 3) = 0, - n ^ 2 + 3 * n + 7) / 9 for n >= 5. ●

[**A128785**] ● 0,6,144,1944,20736,194400,1679616,13716864,107495424,816293376,6046617600,43898443776,313456656384,2207257288704,15359376162816,107511621529600,722204136308736,4891804579528704,32905425960566784 ★ n^2*6^n. ● a(n)=18 * a(n - 1) - 108 * a(n - 2) + 216 * a(n - 3). G.f.: - 6 * x * (1 + 6 * x) / (6 * x - 1) ^ 3. [From _ R. J. Mathar _ , Jul 25 2009] ●

[**A250389**] ● 6,146,1208,5848,20518,58114,141344,306816,609846,1129986,1977272,3299192,5288374,8190994,12315904,18044480,25841190,36264882,49980792,67773272,90559238,119402338,155527840,200338240,255429590 ★ Number of length 3+3 0..n arrays with no four consecutive terms having the maximum of any two terms equal to the minimum of the remaining two terms. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. ●

[**A003766**] ● 6,152,1608,15420,127980,1003360,7432708,53294540,371397240,2537155684,17047659916,113102692016,742597784164,4835184613212,31267479066856,201066698078244,1286998671857356,8206523391863296 ★ Number of Hamiltonian paths in W_4 X P_n. ● a(1) = 6, ● a(2) = 152, ● a(3) = 1608, ● a(4) = 15420, ● a(5) = 127980, ● a(6) = 1003360, ●

[**A046182**] ● 1,6,153,638,15041,62566,1473913,6130878,144428481,600763526,14152517273,58868694718,1386802264321,5768531318886,135892469386233,565257200556158,13316075197586561,55389437123184646 ★ Indices of triangular numbers which are also octagonal. ● a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). ● a(n) = 98 * a(n - 2) - a(n - 4) + 48. ● a(n) = 1 / 12 * sqrt(3)((sqrt(6) - (- 1) ^ n) * (sqrt(3) + sqrt(2)) ^ (2 * n - 1) - (sqrt(6) + (- 1) ^ n) * (sqrt(3) - sqrt(2)) ^ (2 * n - 1) - 2 * sqrt(3)). ● a(n) = floor(1 / 12 * sqrt(3) * (sqrt(6) - (- 1) ^ n) * (sqrt(3) + sqrt(2)) ^ (2 * n - 1)). ●

[**A157626**] ● 6,155,504,1053,1802,2751,3900,5249,6798,8547,10496,12645,14994,17543,20292,23241,26390,29739,33288,37037,40986,45135,49484,54033,58782 ★ 100n^2 - 151n + 57. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A237529**] ● 6,156,1191,5565,19620,57351,146391,336951,714555,1417515,2660196,4763226,8191911,13604220,21909810,34341666,52542036,78664446,115493685,166585755,236429886,330634821,456141681,621465825,836970225 ★ Number of ways to choose 4 points in an nXnXn triangular grid so that no 3 of them form a 2X2X2 subtriangle. ● a(n) = (n - 1) * (n - 2) * (n ^ 6 + 7 * n ^ 5 + 13 * n ^ 4 - 7 * n ^ 3 - 230 * n ^ 2 - 408 * n + 1152) / 384. ●

[**A120277**] ● 6,160,2842,44868,681604,10248992,154149762,2327405740,35305388536,538000530912,8231764528156,126399786937760,1946868985459272,30060806831424448,465425347391123282,7219408741591089660 ★ Sum of all matrix elements of n X n matrix M[i,j]=(2n+i+j)!/(n+i)!/(n+j)!, i,j=1..n. ● a(n) = S um[Sum[(2n + i + j)! / (n + i)! / (n + j)!, { i,1,n }], { j,1,n }]. ●

[**A052466**] ● 6,162,1007,27371,170176,4625692,28759737,781741941,48603955 46,132114388022,821406847267,22327331575711,138817757188116,3773319036295152,23460200964791597,637690917133880681 ★ a(n) is the solution k to Mod[24k,13^n]==1. ● a(n) = a(n - 1) + 169 * a(n - 2) - 169 * a(n - 3). - _ V incenzo Librandi _ , Jul 01 2012 ●

[**A078535**] ● 1,6,162,5760,232254,10077696,458960580,21634449408,1046465787510,51644846702592,2590092194793948,131621703842267136,6762649550214036780 ★ Coefficients of power series that satisfies A(x)^6 - 36x*A(x)^7 = 1, A(0)=1. ● a(n) = 6 ^ (2n) * binomial(7n / 6 - 5 / 6, n) / (n + 1). - _ Emeric Deutsch _ , Dec 10 2002 ●

[**A134632**] ● 0,6,176,1278,5280,15950,39456,84966,165248,297270,502800,809006,1249056,1862718,2696960,3806550,5254656,7113446,9464688,12400350,16023200,20447406,25799136,32217158,39853440 ★ 5*n^5 + 3*n^3 - 2*n^2. Coefficients and exponents are the prime numbers in decreasing order. ● a(n) = 5 * n ^ 5 + 3 * n ^ 3 - 2 * n ^ 2. ●

[**A253779**] ● 0,6,180,540,2856,5544,16830,27060,62244,90090,175440,237456,413820,534660,860706,1074744,1630200,1983150,2872044,3422580,4776480,5597856,7579110,8760780,11565756 ★ Numbers c whose cubes are equal to the sum of m^3 consecutive cubes for m^3 not divisible by 3 (A118719). ● a(n) = (81 * n ^ 5 - 270 * n ^ 4 + 396 * n ^ 3 - 312 * n ^ 2 + 96 * n) / 64 for n even. ● a (n) = (81 * n ^ 5 - 135 * n ^ 4 + 126 * n ^ 3 - 66 * n ^ 2 - 15 * n + 9) / 64 fo r n odd. ●

[**A089905**] ● 0,6,183,3285,47787,627789,7777791,92777793,1077777795,12277777797,137777777799,1527777777801,16777777777803,182777777777805,1977777777777807,21277777777777809,227777777777777811 ★ Sum of digits of numbers between 0 and (3/9)*(10^n-1). ● a(n) = s(3, n - 1) where s(a, k)=a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)) ● a(n) = (- 11 / 9 * (- 1 + 10 ^ n) + 1 / 2 * (4 + 3 * 10 ^ n) * n). G.f.: 3 * x * (5 * x + 1) * (7 * x + 2) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 ●

[**A182788**] ● 0,0,0,6,192,1620,7680,26250,72576,172872,368640,721710,1320000,2283996,3773952,5997810,9219840,13770000,20054016,28564182,39890880,54734820,73920000,98407386,129309312 ★ Number of n-colorings of the Triangle

Graph of order 3. • a(n) = n * (n - 1) * (n - 2) ^ 4. • a(0)=0, a(1)=0, a(2)=0, a(3)=6, a(4)=192, a(5)=1620, a(6)=7680, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 10 2011 •

[**A172530**] • 0,0,6,208,600,3252,10584,27584,61992,125300,233772,409584,682084,1089172,1678800,2510592,3657584,5208084,7267652,9961200,13435212,17860084,23432584,30378432,38955000 ⋆ Number of ways to place 3 nonattacking knights on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 4 - 27 * n ^ 2 + 218) / 6, n>=6. •

[**A201237**] • 0,0,6,208,1300,4908,14112,34112,73008,142700,259908,447312,734812,1160908,1774200,2635008,3817112,5409612,7518908,10270800,13812708,18316012,23978512,31027008,39720000 ⋆ Number of ways to place 3 nonattacking wazirs on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 4 - 15n ^ 2 + 62) / 6, n>=4. •

[**A172965**] • 0,0,6,240,1010,4056,12068,30000,65628,130480,240856,418968,694200,1104488,1697820,2533856,3685668,5241600,7307248,10007560,13489056,17922168,23503700,30459408,39046700 ⋆ Number of ways to place 3 nonattacking knights on an n X n cylindrical board. • a(n) = n * (n - 3)(n ^ 4 + 3 * n ^ 3 - 18 * n ^ 2 - 18 * n + 164) / 6, n>=6. •

[**A250390**] • 6,274,3384,21950,96866,331128,944272,2352468,5279310,10902342,21040360,38386530,66792362,111607580,180080928,281826952,429363798,638727066,930164760,1328918374,1866095154,2579636576,3515388080,4728275100 ⋆ Number of length 4+3 0..n arrays with no four consecutive terms having the maximum of any two terms equal to the minimum of the remaining two terms. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[**A128792**] • 0,6,288,5832,82944,972000,10077696,96018048,859963392,734664384,60466176000,482882881536,3761479876608,28694344753152,21503126627 9424,1586874322944000,11555266180939776,83160677851987968 ⋆ n^3*6^n. • a(n) = 24 * a(n - 1) - 216 * a(n - 2) + 864 * a(n - 3) - 1296 * a(n - 4). - _ Vincenzo Librandi _ , Feb 09 2013 •

[**A295925**] • 6,336,3795,23520,102795,355656,1039626,2674440,6223140,13354440,26807781,50885016,92095185,159981360,268161060,435614256,688255506,1060829280,1599170055,2362871280,3428409831,4892775096,6877654350 ⋆ Number of bilaterally asymmetric 8-hoops with n symbols. • a(n) = (1 / 16) * (n ^ 3 - n ^ 2 - 2) * (n ^ 2 + n + 2) * (n + 1) * (n - 1) * n = (n ^ 8 - 4 * n ^ 5 - 3 * n ^ 4 + 2 * n ^ 2 + 4 * n) / 16. •

[**A172227**] • 0,0,6,405,5024,31320,133544,446421,1258590,3126724,7042930,14669709,28658436,53069000,93909924,159819965,262913874,419816676,652912510,991835749,1475233800,2152832664,3087838016,4359706245,6067321574 ⋆ Number of ways to place 4 nonattacking wazirs on an n X n board. • a(n) = (n ^ 8 - 30n ^ 6 + 24n ^ 5 + 323n ^ 4 - 504n ^ 3 - 1110n ^ 2 + 2760n - 1224) / 24, n>=3. •

[**A250391**] • 6,514,9480,82398,457366,1886948,6308960,18038628,45704886,105193902,223903240,446650386,843619686,1520772064,2633182208,4401808232,7134239142,11250005754,17311081032,26058236134,38453958774,55732680828 ⋆ Number of length 5+3 0..n arrays with no four consecutive terms having the maximum of any two terms equal to the minimum of the remaining two terms. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[**A242850**] • 0,6,780,6930,30744,96030,241956,526890,1032240,1866294,3168060,5111106,7907400,11811150,17122644,24192090,33423456,45278310,60279660,79015794,102144120,130395006,164575620,205573770,254361744 ⋆ 32*n^5 - 32*n^3 + 6*n. • a(n) = 2 * n * (2 * n - 1) * (2 * n + 1) * (4 * n ^ 2 - 3). •

[**A250392**] • 6,966,26578,309452,2160160,10755158,42158796,138336744,395723154,1015071750,2382851790,5197343476,10655843900,20723014006,38504379320,68753342352,118544772606,198153311046,322179959658,510976323420 ⋆ Number of length 6+3 0..n arrays with no four consecutive terms having the maximum of any two terms equal to the minimum of the remaining two terms. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. •

[**A250393**] • 6,1816,74528,1162292,10203222,61304844,281731072,1060924200,3426341574,9795159264,25359512992,60478538588,134596669142,282388072596,563045400576,1073890795600,1969791998214,3490220036904,5996191000608 ⋆ Number of length 7+3 0..n arrays with no four consecutive terms having the maximum of any two terms equal to the minimum of the remaining two terms. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>11. •

[**A279440**] • 0,0,6,2040,71400,1005720,8421630,50092896,233483040,905925600,3045791430,9125544120,24868110696,62593429080,147255640350,326843422080,689604309120,1391614736256,2699616160710,5055848825400,9173923662120,16177675640280,27798546316926,46651469520480 ⋆ Number of ways to place 6 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 12 - 55 * n ^ 10 + 210 * n ^ 9 + 93 * n ^ 8 - 2220 * n ^ 7 + 5855 * n ^ 6 - 7350 * n ^ 5 + 4786 * n ^ 4 - 1440 * n ^ 3 + 120 * n ^ 2) / 720. • a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) +* a(n - 13). •

[**A182789**] • 0,0,0,6,2112,98820,1574400,13676250,80631936,363204072,1342218240,4261697550,12000120000,30653510316,72237215232,159067919010,330577363200,653537970000,1236951760896,2253171240342,3967187906880,6776444390100,11264003520000,18268445544426 ⋆ Number of n-colorings of the Triangle Graph of order 4. • a(n) = n * (n - 1) * (n - 2) ^ 4 * (n ^ 4 - 9 * n ^ 3 + 31 * n ^ 2 - 49 * n + 31). •

[**A123659**] • 6,18001,4862512,269750529,6115250626,78434755921,678546021756,4399254736897,22880667197854,100011001010001,379778130741736,1283985544700161,3937524853545882,11112316748827729,29193541130581876 ⋆ a(n) = 1 + n^4 + n^6 + n^9 + n^10 + n^14. • a(n) = 1 + n ^ 4 + n ^ 6 + n ^ 9 + n ^ 10 + n ^ 14 = 100011001010001 (base n). •

[**A182790**] • 0,0,0,6,32640,13638780,1034019840,29699591250,460772395776,4674233282040,34753231503360,203842711924830,991765602960000,4148317444266996,15316041761879040,50925154505624490,154877550296286720 ⋆ Number of n-colorings of the Triangle Graph of order 5. • a(n) = n ^ 15 - 30 * n ^ 14 + ... (see Maple program). •

[**A187179**] • 7,7,8,9,11,14,19,27,40,61,95,150,239,383,616,993,1603,2590,4187,6771,10952,17717,28663,46374,75031 ⋆ Number of nontrivial compositions of differential operations and directional derivative of the n-th order on the space R^10. • a(n) = 2 * a(n - 1) - a(n - 3). G.f.: - x * (6 * x ^ 2 + 7 * x - 7) / ((x - 1) * (x ^ 2 + x - 1)). [_ Colin Barker _ , Dec 14 2012] •

[**A173314**] • 7,7,13,37,145,721,4321,30241,241921,2177281,21772801,239500801,2874009601,37362124801,523069747201,7846046208001,125536739328001,2134124568576001,38414242234368001,729870602452992001 ⋆ a(n) = 6*n!+1. • a(0)=7, a(n) = n * a(n - 1) - n + 1. - _ Vincenzo Librandi _ , Sep 29 2013 •

[**A168374**] • 0,7,7,14,14,21,21,28,28,35,35,42,42,49,49,56,56,63,63,70,70,77,77,84,84 ⋆ a(n) = 7 * floor(n/2). • a(n) = 7 * n - a(n - 1) - 7, with n>1, a(1)=0. •

[**A022090**] • 0,7,7,14,21,35,56,91,147,238,385,623,1008,1631,2639,4270,6909,11179,18088,29267,47355,76622,123977,200599,324576 ⋆ Fibonacci sequence beginning 0, 7. • a(n) = round(((14 * phi - 7) / 5) * phi ^ n) (works for n>3). - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = 7 * F(n) = F(n + 4) + F(n - 4) for n>3. •

[**A053416**] • 1,1,7,7,19,19,37,43,61,73,91,109,127,151,187,199,241,253,301,313,367,397,439,475,517 ⋆ Circle numbers (version 4): a(n)= number of points (i+j/2,j*sqrt(3)/2), i,j integers (triangular grid) contained in a circle of diameter n, centered at (0,0). • a(n) / (n / 2) ^ 2 - >Pi * 2 / sqrt(3) •

[**A094248**] • 1,7,7,19,49,73,193,391,751,1747,3457,7249,15649,31783,67543,141811,294001,621337,1297057,2712679,5700799,11910643,24964993,52325281,109483201 ⋆ Consider 3 X 3 matrix M = [0 1 0 / 0 0 1 / 5 2 0]; a(n) = the center term in M^n * [1 1 1]. • a(n) / a(n - 1) tends to 2.0945514...; e.g. a(12) / a(11) = 7249 / 3457 = 2.0969048... •

[**A095343**] • 1,1,7,7,31,49,145,289,727,1591,3775,8545,19873,45505,105127,241639,557023,1281937,2953009,6798817,15657847,36054295,83027839,191190721,440274241 ⋆ Length of n-th string generated by a Kolakoski(7,1) rule starting with a(1)=1. • a(1) = a(2) = 1, a(n) = a(n - 1) + 3 * a(n - 2) - 3 * (- 1) ^ n. •

[**A290683**] • 1,1,7,7,31,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607,16777215,33554431 ⋆ Decimal representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (1 + n) - 1 for n>3. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>5. •

[**A112685**] • 1,1,1,7,7,37,49,199,319,1093,1993,6103,12151,34501,72961,196807,433807,1129957,2562649,6517399,15073159,37712293,88400593,218707783,517427551 ⋆ a(n)=5a(n-2)+2a(n-3). • a(n)=(9 / 14) * [(1 + sqrt(2)) ^ n + (1 - sqrt(2)) ^ n] + (3 / 14) * sqrt(2) * [(1 - sqrt(2)) ^ n - (1 + sqrt(2)) ^ n] - (2 / 7) * (- 2) ^ n, with n>=0 [From _ Paolo P. Lava _ , Apr 23 2010] •

[**A286985**] • 7,7,39,115,343,967,2663,7203,19239,50887,133543,348179,902775,2329607,5986535,15327555,39115847,99532423,252601127,639548595,1615746455,4073951559,10253517671,25763632995,64635943783 ⋆ Number of connected dominating sets in the n-prism graph. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 4 * a(n - 3) + 5 * a(n - 4) - 2 * a(n - 5) - a(n - 6) for n > 6. •

[**A020719**] • 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31 ⋆ a(n) = n+7. • a(n) = n + 7. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A058367**] • 1,1,1,1,1,7,8,9,10,11,12,19,27,36,46,57,69,88,115,151,197,254,323,411,526 ⋆ Number of ways to cover (without overlapping) a ring lattice (necklace) of n sites with molecules that are 6 sites wide. • a(n) = 1 + n * sum(binomial(n - 1 - 5 * i, i - 1) / i, i=1..n / 6). a(n) = a(n - 1) + a(n - 6), a(n) = 1 for n = 1..5, a(6) = 7. generating function = (x + 6 * x ^ 6) / (1 - x - x ^ 6). •

[**A120309**] • 1,7,8,9,10,19,20,21,22,37,38,39,40,53,54,55,56,57,58,71,72,89,90,91,92 ⋆ Numbers n such that pi(n) == 0 mod 4, where pi() = A000720. • a(n) = If[Mod[PrimePi[n], 4] == 0, n] •

[**A047523**] • 0,1,7,8,9,15,16,17,23,24,25,31,32,33,39,40,41,47,48,49,55,56,57,63,64 ⋆ Numbers that are congruent to {0, 1, 7} mod 8. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = (24 * n - 24 + 15 * cos(2 * n * Pi / 3) + 5 * sqrt(3) * sin(2 * Pi * n / 3)) / 9. • a(3k) = 8k - 1, a(3k - 1) = 8k - 7, a(3k - 2) = 8k - 8. (End) •

[**A048588**] • 7,8,10,13,17,23,32,45,64,92,133,193,281,410,599,876,1282,1877,2749,4027,5900,8645,12668,18564,27205 ⋆ Pisot sequence L(7,8). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 72000 but is not known to hold in general). •

[**A141676**] • 1,7,8,10,14,15,19,20,21,22,24,30,37,38,39,40,42,46,53,54,55,56,57,58,62 ⋆ Numbers n such that: Mod[DivisorSigma[0, n]*PrimePi[n], 8] == 0. • a(n) =If[Mod[DivisorSigma[0, n] * PrimePi[n], 8] == 0,n] •

[**A153972**] • 7,8,10,14,22,38,70,134,262,518,1030,2054,4102,8198,16390,32774,65542,131078,262150,524294,1048582,2097158,4194310,8388614,16777222 ⋆

a(n) = 2^n + 6. • a(n) = 2 ^ n + 6 • a(n) = 3 * a(n - 1) - 2 * a(n - 2). (End) •

[A117619] • 7,8,11,16,23,32,43,56,71,88,107,128,151,176,203,232,263,296,331,368,407,448,491,536,583 ⋆ a(n) = n^2 + 7. • a(n) = a(n - 1) + 2 * n - 1 (with a(0) = 7). - _ Vincenzo Librandi _ , Nov 13 2010 •

[A156605] • 7,8,12,28,92,348,1372,5468,21852,87388,349532,1398108,5592412,22369628,89478492,357913948,1431655772,5726623068,22906492252,91625968988,366503875932,1466015503708,5864062014812,23456248059228,93824992236892 ⋆ (4^n+20)/3 . • a(n) = 4 * a(n - 1) - 20, n>0. •

[A228210] • 7,8,13,17,32,43,83,112,217,293,568,767,1487,2008,3893,5257,10192,13763,26683,36032,69857,94333,182888,246967,478807 ⋆ x-values in the solutions to x^2 - 5y^2 = 44. • a(n) = 3 * a(n - 2) - a(n - 4). •

[A047274] • 0,1,7,8,14,15,21,22,28,29,35,36,42,43,49,50,56,57,63,64,70,71,77,78,84 ⋆ Numbers that are congruent to {0, 1} mod 7. • a(n) = 7 * n - a(n - 1) - 13 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 7 * n / 2 - 19 / 4 - 5 * (- 1) ^ n / 4. •

[A047521] • 0,7,8,15,16,23,24,31,32,39,40,47,48,55,56,63,64,71,72,79,80,87,88,95,96 ⋆ Numbers that are congruent to {0, 7} mod 8. • a(n) = 8 * n - a(n - 1) - 9 (with a(1)=0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 3 * (- 1) ^ n / 2 - 5 / 2 + 4 * n. •

[A022097] • 1,7,8,15,23,38,61,99,160,259,419,678,1097,1775,2872,4647,7519,12166,19685,31851,51536,83387,134923,218310,353233 ⋆ Fibonacci sequence beginning 1, 7. • a(n) = a(n - 1) + a(n - 2) for n>=2, a(0)=1, a(1)=7, a(- 1):= 6. • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 13 + sqrt(5)) + (1 + sqrt(5)) ^ n * (13 + sqrt(5)))) / sqrt(5). - _ Herbert Kociemba _ •

[A041693] • 1,7,8,15,23,61,755,1571,2326,3897,6223,47458,1809627,12714847,14524474,27239321,41763795,110766911,1370966727,2852700365,4223667092,7076367457,11300034549,86176609300,3286011187949 ⋆ Denominators of continued fraction convergents to sqrt(366). • a(n) = 1815850 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A042001] • 1,1,7,8,15,23,107,237,818,11689,12507,274336,286843,4290138,13157257,30604652,135575865,166180517,301756382,467936899,3109377776,3577314675,160511223476,164088538151,1145042452382 ⋆ Denominators of continued fraction convergents to sqrt(523). • a(n) = 163620601252 * a(n - 22) - a(n - 44) for n>43. [_ Bruno Berselli _ , Jan 12 2014] •

[A191413] • 7,8,15,28,47,72,103,140,183,232,287,348,415,488,567,652,743,840,943,1052,1167,1288,1415,1548,1687 ⋆ 3*n^2-2*n+7 • a(0)=7, a(1)=8, a(2)=15, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) •

[A084377] • 7,8,15,34,71,132,223,350,519,736,1007,1338,1735,2204,2751,3382,4103,4920,5839,6866,8007,9268,10655,12174,13831 ⋆ a(n) = n^3 + 7. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jun 10 2016 •

[A041675] • 1,1,7,8,15,38,53,462,515,1492,2007,3499,23001,26500,977001,1003501,6998007,8001508,14999515,38000538,53000053,462000962,515001015,1492002992,2007004007 ⋆ Denominators of continued fraction convergents to sqrt(356). • a(n) = 1000002 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A041098] • 7,8,15,68,83,151,2197,2348,4545,20528,25073,45601,663487,709088,1372575,6199388,7571963,13771351,200370877,214142228,414513105,1872194648,2286707753,4158902401,60511341367 ⋆ Numerators of continued fraction convergents to sqrt(57). • a(n) = 302 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 7 * x ^ 10 + 8 * x ^ 9 - 15 * x ^ 8 + 68 * x ^ 7 - 83 * x ^ 6 - 151 * x ^ 5 - 83 * x ^ 4 - 68 * x ^ 3 - 15 * x ^ 2 - 8 * x - 7) / (x ^ 12 - 302 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2012] •

[A041427] • 1,7,8,15,113,3405,23948,27353,51301,386460,11645101,81902167,93547268,175449435,1321693313,39826248825,280105435088,319931683913,600037119001,4520191516920,1362057826266 01,957960669903127,1094166452529728,2052127122432855 ⋆ Denominators of continued fraction convergents to sqrt(229). • a(n) = 3420 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 17 2013 •

[A042755] • 1,7,8,15,218,233,451,3390,203851,1430347,1634198,3064545,44537828,47602373,92140201,692583780,41647167001,292222752787,333869919788,626092672575,9099167335838,9725260008413,18824427344251,141496251418170,8508599512434451 ⋆ Denominators of continued fraction convergents to sqrt(908). • a(n) = 204302 * a(n - 8) - a(n - 16) for n>15. - _ Vincenzo Librandi _ , Jan 28 2014 •

[A022312] • 0,7,8,16,25,42,68,111,180,292,473,766,1240,2007,3248,5256,8505,13762,22268,36031,58300,94332,152633,246966,399600 ⋆ a(n) = a(n-1) + a(n-2) + 1 for n>1, a(0)=0, a(1)=7. • a(n) = F(n + 2) + 6 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A222624] • 1,7,8,17,23,31,35,49,55,62,71,74,80,89,95,97,119,120,127,143,146,161,174,199,215 ⋆ Sequence of dimensions of a regular simplex with unit edge that has at least one inter-hypersphere with a rational radius (including the radii of the in-hypersphere and circum-hypersphere). • a(n)=k is the n - th occurence for which k=sqrt((k - j) / (2 * (k + 1) * (j + 1))) is rational for at least one value of j in the range 0<=j<k. •

[A295337] • 1,1,7,8,23,31,209,240,689,929,6263,7192,20647,27839,187681,215520,618721,834241,5624167,6458408,18540983,24999391,168537329,193536720,555610769 ⋆ Denominators of the convergents to sqrt(14)/2 = A294969. • a(n) = 30 * a(n - 4) - a(n - 8), n >= 8, with inputs a(0)..a(7). •

[A042391] • 1,1,7,8,23,77,177,4679,9535,33284,76103,109387,732425,841812,44506649,45348461,316597415,361945876,1040489167,3483413377,8007315921,211673627323,431354570567,1505737339024,3442829248615 ⋆ Denominators of continued fraction convergents to sqrt(722). • a(n) = 45239074 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 21 2014 •

[A042023] • 1,7,8,23,100,123,469,592,2837,6266,9103,69987,3228505,22669522,25898027,74465576,323760331,398225907,1518438052,1916663959,9185093888,20286851735,29471945623,226590471096,10452633616039 ⋆ Denominators of continued fraction convergents to sqrt(535). • a(n) = 3237608 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 12 2014 •

[A041102] • 7,8,23,169,361,530,7781,8311,24403,179132,382667,561799,82478538,8809652,25867157,189879751,405626659,595506410,87427163999,3338222809,27419162017,201272356928,429963875873 ⋆ Numerators of continued fraction convergents to sqrt(59). • a(n) = 1060 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 7 * x ^ 10 + 8 * x ^ 9 - 23 * x ^ 8 + 169 * x ^ 7 - 361 * x ^ 6 - 530 * x ^ 5 - 361 * x ^ 4 - 169 * x ^ 3 - 23 * x ^ 2 - 8 * x - 7) / (x ^ 12 - 1060 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2012] •

[A042875] • 1,7,8,31,101,132,233,365,963,1328,2291,3619,13148,43063,56211,436540,27121691,190288377,217410068,842518581,2744965811,3587484392,6332450203,9919934595,26172319393 ⋆ Denominators of continued fraction convergents to sqrt(969). • a(n) = 27177902 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A033044] • 0,1,7,8,49,50,56,57,343,344,350,351,392,393,399,400,2401,2402,2408,2409,2450,2451,2457,2458,2744 ⋆ Sums of distinct powers of 7. • a(n) = Sum { d(i) * 7 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 7 * a(n), a(2n + 1) = a(2n) + 1. •

[A041023] • 1,1,7,8,55,63,433,496,3409,3905,26839,30744,211303,242047,1663585,1905632,13097377,15003009,103115431,118118440,811826071,929944511,6391493137,7321437648,50320119025 ⋆ Denominators of continued fraction convergents to sqrt(15). • a(n) = product { k = 1..floor((n - 1) / 2) } (6 + 4 * cos ^ 2(k * Pi / n)). •

[A041109] • 1,1,7,8,119,127,881,1008,14993,16001,110999,127000,1888999,2015999,13984993,16000992,237998881,253999873,1761998119,2015997992,29985970007,32001967999,221997778001,253999746000,3777994222001 ⋆ Denominators of continued fraction convergents to sqrt(62). • a(n) = 126 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041110] • 7,8,119,127,1897,2024,30233,32257,481831,514088,7679063,8193151,122383177,130576328,1950451769,2081028097,31084845127,33165873224,495407070263,528572943487,7895428279081,8424001222568 ⋆ Numerators of continued fraction convergents to sqrt(63). • a(n) = 16 * a(n - 2) - a(n - 4). G.f.: (7 + 8 * x + 7 * x ^ 2 - x ^ 3) / (1 - 16 * x ^ 2 + x ^ 4). [_ Colin Barker _ , Jul 15 2012] •

[A041259] • 1,1,7,8,183,191,1329,1520,34769,36289,252503,288792,6605927,6894719,47974241,54868960,1255091361,1309960321,9114853287,10424813608,238460752663,248885566271,1731774150289,1980659716560,45306287914609 ⋆ Denominators of continued fraction convergents to sqrt(141). • a(n) = 190 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A041473] • 1,1,7,8,247,255,1777,2032,62737,64769,451351,516120,15934951,16451071,114641377,131092448,4047414817,4178507265,29118458407,33296965672,1028027428567,1061324394239,7395973794001,8457298188240,261114919441201 ⋆ Denominators of continued fraction convergents to sqrt(252). • a(n) = 254 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A041751] • 1,1,7,8,311,319,2225,2544,98897,101441,707543,808984,31448935,32257919,224996449,257254368,10000662433,10257916801,71548163239,81806080040,318017920475 9,3261985284799,22752090913553,26014076198352,1011286986450929 ⋆ Denominators of continued fraction convergents to sqrt(395). • a(n) = 318 * a(n - 4) - a(n - 8) for n>7, - _ Vincenzo Librandi _ , Dec 24 2013 •

[A042093] • 1,1,7,8,375,383,2673,3056,143249,146305,1021079,1167384,54720743,55888127,390049505,445937632,20903180577,21349118209,148997889831,170347008040,7984960259671,8155307267711,56916803865937,65072111133648,3050233916013745 ⋆ Denominators of continued fraction convergents to sqrt(570). • a(n) = 382 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A042499] • 1,1,7,8,439,447,3121,3568,195793,199361,1391959,1591320,87323239,88914559,620810593,709725152,38945968801,39655693953,276880132519,316535826472,17369814762007,17686350588479 ⋆ Denominators of continued fraction convergents to sqrt(777). • a(n) = 446 * a(n - 4) - a(n - 8). G.f.: - (x ^ 2 - x - 1) * (x ^ 4 + 8 * x ^ 2 + 1) / (x ^ 8 - 446 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A004169] • 7,9,11,13,14,18,19,21,22,23,25,26,27,28,29,31,33,35,36,37,38,39,41,42,43 ⋆ Values of n for which a regular polygon with n sides cannot be constructed with ruler and compass. • a(n) = n + O(log ^ 2 n). - _ Charles R Greathouse IV _ , Oct 23 2015 •

[A020742] • 7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55 ⋆ Pisot sequence T(7,9). • a(n) = 2n + 7. a(n) = 2a(n - 1) - a(n - 2). •

[A103621] • 7,9,11,13,23,25,27,61,71,73,75,77,87,89,91,125,135,137,139,141,151,153,155,189,199 ⋆ Trajectory of 7 under repeated application of the map n –> A102370(n). • a(n) = a(n - 1) + a(n - 8) - a(n - 9) for n > 9. •

[A020720] • 7,9,12,16,21,28,37,49,65,86,114,151,200,265,351,465,616,816,1081,1432,1897,2513,3329,4410,5842 ⋆ Pisot sequences E(7,9), P(7,9). • a(n) = a(n - 2) + a(n - 3) for n>=3. (Proved using the PtoRv program of Ekhad - Sloane - Zeilberger.) - N. J. A. Sloane, Sep 09 2016 •

[A048589] • 7,9,12,16,22,31,44,63,91,132,192,280,409,598,875,1281,1876,2748,4026,5899,8644,12667,18563,27204,39868 ⋆ Pisot sequence L(7,9). • a(n) = 2

* a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A129069] • 7,9,13,17,25,29,37,41,49,61,65,77,85,89,97,109,121,125,137,145,149,161,169,181,197 ★ Numbers n such that (n-3)/2 is prime. • a(n) = 2 * prime (n) + 3. - Zak Seidov, May 12 2007 •

[A027692] • 7,9,13,19,27,37,49,63,79,97,117,139,163,189,217,247,279,313,349,387,427,469,513,559,607 ★ n^2 + n + 7. • a(n)=2 * n + a(n - 1) (with a(0)=7) - _ Vincenzo Librandi _ , Aug 05 2010 •

[A047522] • 1,7,9,15,17,23,25,31,33,39,41,47,49,55,57,63,65,71,73,79,81,87,89,95,97 ★ Numbers that are congruent to {1, 7} mod 8. • a(n) = 4n - 2 + (- 1) ^ n = a(n - 2) + 8. • a(n) = 8 * n - a(n - 1) - 8. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = - a(- n + 1) = a(n - 1) + a(n - 2) - a(n - 3). •

[A112072] • 7,9,15,17,31,33,39,41,55,57,63,65,79,81,87,89,103,105,111,113,127,129,135,137,151 ★ Odd numbers n for which 3 is the smallest i (>= 1) with Jacobi symbol J(i,n) getting either a value 0 or -1. • a(n)= - 7 + Sum _{ k= 0..n }{- 2 * (k mod 4) + 2 * ((k + 1) mod 4) + 4 * ((k + 3) mod 4) } - _ Paolo P. Lava _ , Aug 29 2007 •

[A249333] • 7,9,16,19,29,33,46,51,67,73,92,99,121,129,154,163,191,201,232,243,277,289,326,339,379 ★ Number of regions formed by extending the sides of a regular n-gon. • a(n) = (n ^ 2 + 2) / 2, n even, and a(n) = (n ^ 2 + n + 2) / 2, n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , Dec 14 2014 •

[A022321] • 1,7,9,17,27,45,73,119,193,313,507,821,1329,2151,3481,5633,9115,14749,23865,38615,62481,101097,163579,264677,428257 ★ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 7. • a(n) = 2 * F(n + 2) + 4 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A083582] • 1,7,9,23,41,87,169,343,681,1367,2729,5463,10921,21847,43689,87383,174761,349527,699049,1398103,2796201,5592407,11184809,22369623,44739241 ★ a(n) = (8*2^n-5*(-1)^n)/3. • a(n) = (8 * 2 ^ n - 5(- 1) ^ n) / 3. • a(n) = 2 ^ (n + 2)th coefficient of - eta(z) ^ 3 eta(z ^ 5) eta(z ^ 10) ^ 2 / eta(z ^ 2) ^ 2. - Kok Seng Chua (chuaks(AT)ihpc.a - star.edu.sg), Aug 30 2005 • a(n) = a(n - 1) + 2 * a(n - 2). a(n) + a(n + 1) = 8 * A000079 = a(n + 2) - a(n). - _ Paul Curtz _ , Jul 27 2008 •

[A154260] • 0,7,9,30,34,69,75,124,132,195,205,282,294,385,399,504,520,639,657,790,810,957,979,1140,1164 ★ Numbers of the form m*(4*m +- 1)/2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (1 / 4) * (8 * n ^ 2 + 6 * (- 1) ^ n * n - 8 * n - 3 * (- 1) ^ n + 3). •

[A085903] • 1,1,7,9,31,49,127,225,511,961,2047,3969,8191,16129,32767,65025,131071,261121,524287,1046529,2097151,4190209,8388607,16769025,33554431 ★ G.f.: (1 + 2*x^2)/((1 + x)*(1 - 2*x)*(1 - 2*x^2)). • a(2 * n) = 2 * 4 ^ n - 1, a(2 * n + 1) = (2 ^ n - 1) ^ 2; interlaces A083420 with A060867 (squares of Mersenne numbers A000225). - _ Creighton Dement _ , May 19 2005 • a(n) = (sqrt(2) ^ n - 1) * (sqrt(2) ^ n - (- 1) ^ n)). • a(n) = Product _{ k = 1..n } (2 - exp(4 * k * Pi * i / n)). (End) •

[A057590] • 0,1,7,9,39,42,126,130,310,315,645,651,1197,1204,2044,2052,3276,3285,4995,5005,7315,7326,10362,10374,14274 ★ Numbers of the form n*(n^3+-1)/2. • a(n) = (2 * n ^ 4 + 4 * n ^ 3 + 6 * n ^ 2 + 4 * n - 7) / 64 + (- 1) ^ n * (7 - 2 * n - 2 * n ^ 2) * (1 + 2 * n) / 64. • a(n + 8) - 4 * a(n + 6) + 6 * a(n + 4) - 4 * a(n + 2) + a(n) = 12. (End) •

[A140787] • 1,1,7,9,39,57,199,313,967,1593,4551,7737,20935,36409,94663,167481,422343,757305,1864135,3378745,8155591,14913081,35418567,65244729,152859079 ★ Expansion of 1 / ((1+x)*(2*x+1)*(-1+2*x)^2). • a(n) = 2 ^ n * (n / 3 + 11 / 18) + (- 1) ^ n * (2 ^ (n - 1) - 1 / 9). •

[A189053] • 1,1,7,9,41,61,225,369,1195,2101,6227,11529,32059,61741,163727,325089,831505,1690981,4206145,8717049,21215481,44633821,106782837,227363409,536618341 ★ Expansion of d/dx log(1/(1-x/sqrt(1-4*x^2))). • a(n)=n * sum(k=1..n, (binomial((n - 2) / 2,(n - k) / 2) * 2 ^ (n - k - 1) * ((- 1) ^ (n - k) + 1)) / k); •

[A226197] • 1,1,7,9,56,79,470,697,4048,6196,35443,55455,313912,499178,2804012,4514873,25211936,40999516,227881004,373585604,2068564064,3414035527,18844224462,31278197839,172186125456 ★ Numbers of vectors with 2*n integers such that each element is either 1 or -1, and their sum > n. • a(n) = sum _{ k = 1 + floor(n / 2)...n } binomial(2n,n - k), sum of the n / 2 rightmost elements of row n of A094527. - _ Giovanni Resta _ , May 31 2013 •

[A123746] • 1,1,7,9,107,151,835,1241,26291,40427,207897,327615,3296959,5293843,26189947,42685049,1666461763,2749521971,13266871709,22115585443,211386315749,355490397193,1684973959237,2855358497999,53747636888759 ★ Numerators of partial sums of a series for 1/sqrt(2). • a(n)=numerator(r(n)) with the rationals r(n):=sum(((- 1) ^ k) * binomial(2 * k,k) / 4 ^ k,k=0..n),n >=0. •

[A079004] • 7,10,10,34,106,322,970,2914,8746,26242,78730,236194,708586,2125762,6377290,19131874,57395626,172186882,516560650,1549681954,4649045866,13947137602,41841412810,125524238434,376572715306 ★ Least x>=3 such that F(x)==1 (mod 3^n) where F(x) denotes the x-th Fibonacci number (A000045). • a(1)=7, a(2)=10, a(3)=10; for n>3, a(n) = 3 * a(n - 1) + 4. • a(n) = 4 * 3 ^ (n - 2) - 2 for n >= 3. •

[A184114] • 1,7,10,12,15,17,19,21,23,25,26,28,30,32,33,35,37,38,40,41,43,44,46,47,49 ★ n + floor(5*sqrt(n-1)); complement of A184115. • a(n) = n + floor(5 * sqrt(n - 1)) •

[A112414] • 7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,73,76,79 ★ 3n+7. • a(n) = C(1 + n,1) + C(2 + n,1) + C(4 + n,1). •

[A212979] • 1,1,1,7,10,13,19,25,34,40,49,61,70,82,94,109,124,136,154,172,190,208,226,250,271 ★ Number of (w,x,y) with all terms in {0,...,n} and range=average. • a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) + a(n - 5) - 2 * a(n - 6) + 2 * a(n - 7) - 2 * a(n - 8) + a(n - 9). •

[A199427] • 1,7,10,13,22,28,43,58,70,73,127,148,160,163,190,202,238,253,262,307,322,352,370,400,433 ★ Numbers n such that 4n+1 and 8n+3 are prime. • a(n) = intersection(A005098, A005124). •

[A178508] • 1,7,10,13,31,49,70,97,100,130,310,490,700,970,1000,1300,3100,4900,7000,9700,10000,13000,31000,49000,70000 ★ a(n) = 1, 7, A011557*(period 6: repeat 10, 13, 31, 49, 70, 97). • a(n) = { 10 ^ floor[(n - 3) / 6] / 2 }*{- [(n - 1) mod 6] + 5 * [(n + 2) mod 6] + 35 * [(n + 3) mod 6] - 3 * [(n + 4) mod 6] }- 6 *{ C[2 * (n - 1),n - 1] mod 2 }- (27 / 10) * [C(n ^ 2,n + 2) mod 2], with n>=1. [_ Paolo P. Lava _ , Jul 08 2010] • a(n) = 10 ^ floor((n - 3) / 6) * (45 + 8 * cos((n - 2) * Pi) + 25 * cos((n - 2) * Pi / 3) + 19 * cos(2 * (n - 2) * Pi / 3) - 4 * sqrt(3) * (4 * sin((n - 2) * Pi / 3) + sin(2 * (n - 2) * Pi / 3))) for n>2. - _ Wesley Ivan Hurt _ , Jun 18 2016 •

[A030123] • 0,1,7,10,14,17,21,24,28,31,35,38,42,45,49,52,56,59,63,66,70,73,77,80,84 ★ Most likely total for a roll of n 6-sided dice, choosing the smallest if there is a choice. • a(n) = floor(7n / 2). • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A020721] • 7,10,14,20,29,42,61,89,130,190,278,407,596,873,1279,1874,2746,4024,5897,8642,12665,18561,27202,39866,58426 ★ Pisot sequences E(7,10), P(7,10). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A033817] • 7,10,16,21,28,36,47,62,84,117,168,248,375,578,904,1429,2276,3644,5855,9430,15212,24565,39696,64176,103783 ★ Convolution of natural numbers n >= 1 with Lucas numbers L(k) for k >= -4. • a(n) = L(- 1) * (F(n + 1) - 1) + L(- 2) * F(n) - L(- 3) * n, F(n): Fibonacci (A000045), L(n): Lucas (A000032) with L(- n)=(- 1) ^ n * L(n) •

[A120312] • 7,10,21,37,40,53,55,57,71,89,108,134,135,136,151,152,174,176,178,194,196,223,226,263,264 ★ Numbers n such that pi(n) == 0 mod 4, where pi() = A000720, and such that prime(n) == 1 mod 4. • a(n) = If[Mod[Prime Pi[n], 4] == 0 && Mod[Prime[n], 4] - 1 == 0, n] •

[A074377] • 0,1,7,10,22,27,45,52,76,85,115,126,162,175,217,232,280,297,351,370,430,451,517,540,612 ★ Generalized 10-gonal numbers: k*(4*k-3) for k = 0, +- 1, +- 2, +- 3,... • a(2 * k) = k * (4 * k + 3); a(2 * k + 1) = (2 * k + 1) ^ 2 + k. [_ Benoit Jubin _ , Feb 05 2009] • a(n) = n ^ 2 + n - 1 / 4 + (- 1) ^ n / 4 + n * (- 1) ^ n / 2. - _ R. J. Mathar _ , Oct 08 2011 •

[A280173] • 1,7,10,25,46,97,190,385,766,1537,3070,6145,12286,24577,49150,98305,196606,393217,786430,1572865,3145726,6291457,12582910,25165825,50331646 ★ a(0) = 1, a(n+1) = 2*a(n) + periodic sequence of length 2: repeat [5, -4]. • a(2n) = 3 * 4 ^ n - 2, a(2n + 1) = 6 * 4 ^ n + 1. • a(n + 2) = a(n) + 9 * 2 ^ n, a(0) = 1, a(1) = 7. • a(n) = 3 * 2 ^ n - 2 for n even. • a(n) = 3 * 2 ^ n + 1 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2. • a(n) = - 1 / 2 - 3 / 2 * (- 1) ^ n + 3 * 2 ^ n. - _ Paolo P. Lava _ , May 18 2017 •

[A258284] • 1,1,7,10,40,64,215,373,1076,1823,5052,8519,21279,36836,86354,148550,338354,571638,1242227,2156661,4453444,7573979,15612927,26325001,5204221 0 ★ Number of partitions of 6 copies of n into distinct parts. • a(n) = 1 / 6! * [(x * y * z * u * v * w) ^ n] Product _{ j>0 } (1 + x ^ j + y ^ j + z ^ j + u ^ j + v ^ j + w ^ j). •

[A091901] • 7,11,13,14,15,17,19,21,22,23,25,26,27,28,29,31,32,33,34,35,37,38,39,40,41 ★ Values of n for which sigma(n) < e^gamma * n * log(log(n)). • a(n) = n + 27 for n > 5039, if and only if the Riemann Hypothesis is true. -_ Charles R Greathouse IV _ , May 31 2011 •

[A110547] • 7,11,13,14,16,17,19,21,22,23,25,26,27,28,29,31,32,33,34,35,37,38,39,41,42 ★ Number of sides of regular polygons whose interior angles (in degrees) are not integers. • a(n)=[(n - 2) * 180)] / n •

[A279622] • 7,11,13,14,17,19,21,22,23,26,28,29,31,33,34,35,37,38,39,41,42,43,44,46,47 ★ Numbers with a prime factor greater than 5. • a(n) = n + O(log ^ 3 n). - _ Charles R Greathouse IV _ , Dec 22 2016 •

[A007775] • 1,7,11,13,17,19,23,29,31,37,41,43,47,49,53,59,61,67,71,73,77,79,83,89,91 ★ Numbers not divisible by 2, 3 or 5. • a(n + 8) = a(n) + 30. • a(n) = a(n - 1) + a(n - 8) - a(n - 9). • a(n) = 4 * n - 3 - 2 * floor((n - 1) / 8) + (1 + (- 1) ^ floor((n - 2) / 2)) * (- 1) ^ floor((n - 2) / 4), n >= 1. - _ Timothy Hopper _ , Mar 14 2010 • a(1 - n) = - a(n). - _ Michael Somos _ , Feb 05 2011 • a(n) = 3 * (floor((5 * n - 2) / 4) - floor((n mod 8) / 6)) + (n mod 2) + floor(((n - 1) mod 8) / 7) - floor(((n - 2) mod 8) / 7) + 1. - _ Gary Detlefs _ , Jan 08 2012 • a(n) = 4 * n - 3 + 2 * (floor((n + 6) / 8) - floor((n + 4) / 8) - floor((n + 2) / 8) + floor(n / 8) - floor((n - 1) / 8)), n >= 1. From the o.g.f. given above by _ R. J. Mathar _ (with the denominator written as (1 - x ^ 8) * (1 - x)), and a two - step reduction of the floor functions. Compare with Hopper's and Detlefs's formulas above. - _ Wolfdieter Lang _ , Jan 26 2012 •

[A103485] • 7,11,13,17,23,29,39,51,67,89,117,155,205,271,359,475,629,833,1103,1461,1935,2563,3395,4497,5957 ★ Expansion of (7+4*x-5*x^2-7*x^3) / ((1-x)*(1-x^2-x^3)). • a(0)=7; a(1)=11; a(2)=13; a(3)=17; a(n) = a(n - 1) + a(n - 2) - a(n - 4). •

[A245179] • 7,11,13,19,25,35,49,67,97,131,193,259,385,515,769,1027,1537,2051,3073,4099,6145,8195,12289,16387,24577 ★ Numbers of the form 2^k+3 or 3*2^k+1, k >= 2. • a(2k) = 2 ^ (k + 2) + 3, a(2k + 1) = 3 * 2 ^ (k + 1) + 1. - _ N. J. A. Sloane _ , Jul 19 2014 • a(n) = 3 * a(n - 2) - 2 * a(n - 4). G.f.: - x * (14 * x ^ 3 + 8 * x ^ 2 - 11 * x - 7) / ((x - 1) * (x + 1) * (2 * x ^ 2 - 1)). - _ Colin Barker _ , Jul 19 2014 •

[A131229] • 1,7,11,17,21,27,31,37,41,47,51,57,61,67,71,77,81,87,91,97,101,107,111,117,121 ★ Numbers congruent to {1,7} mod 10. • a(n) = - 3 + sum(5 - (- 1) ^ k, k=0..n). - _ Paolo P. Lava _ , Nov 05 2007 • a(n) = a(n - 2) + 10 = 5 * n + ((- 1) ^ n - 7) / 2. G.f.: x * (1 + 6 * x + 3 * x ^ 2) / ((- 1 + x) ^ 2 * (1 + x)). - _ R. J. Mathar _ , Apr 17 2008 • a(n) = 10 * n - a(n - 1) - 12

with n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 23 2010 ● a(1)=1, a(2)=7, a(3)=11; for n>3, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , May 20 2012 ●

[A088981] ● 7,11,17,25,37,55,83,127,197,309,489,779,1247,2003,3225,5201,8397,13567,21931,35463,57357,92781,150097,242835,392887 ★ a(n+2) = a(n+1) + a(n) - [(2*n)+1] where a(0)=7, a(1)=11. ● a(n) = [(2 * (alpha ^ (n + 3))) - (2 * (beta ^ (n + 3))) + ((2 * sqrt5) * n) + (3 * sqrt5)] / (sqrt5) where alpha = (1 + sqrt5) / 2 and beta = (1 - sqrt5) / 2. ●

[A224868] ● 7,11,17,26,39,58,86,127,187,275,404,593,870,1276,1871,2743,4021,5894,8639,12662,18558,27199,39863,58423,85624 ★ a(1) = greatest k such that H(k) - H(4) < 1/3 + 1/4; a(2) = greatest k such that H(k) - H(a(1)) < H(a(1)) - H(4); and for n > 2, a(n) = greatest k such that H(k) - H(a(n-1) > H(a(n-1)) - H(a(n-2)), where H = harmonic number. ● a(n) = 2 * a(n - 1) - a (n - 2) + a(n - 3) - a(n - 4) (conjectured). ●

[A168489] ● 7,11,19,23,31,35,43,47,55,59,67,71,79,83,91,95,103,107,115,119,127,131,139,143,151 ★ Numbers that are congruent to {7,11} mod 12. ● a(n) = 12 * n - a(n - 1) - 6 (with a(1)=7). ● a(n) = 6 * n - (- 1) ^ n. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ●

[A081352] ● 1,7,11,21,29,43,55,73,89,111,131,157,181,211,239,273,305,343,379,421,461,507,551,601,649 ★ Main diagonal of square maze arrangement of natural numbers A081349. ● a(n) = (n + 1) * (n + 2) - (- 1) ^ n = 2 * C(n + 2, 2) - (- 1) ^ n. ● a(n) - 2 * a(n - 1) + 2 * a(n - 3) - a(n - 4) = 0 with n>3. [_ Bruno Berselli _ , Aug 01 2010] ●

[A211433] ● 1,1,7,11,23,27,45,53,77,85,115,127,163,175,217,233,281,297,351,371,431,451,517,541,613 ★ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and w+2x+4y=0. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) + a(n - 7) for n>6. ●

[A210981] ● 0,1,7,11,23,30,48,58,82,95,125,141,177,196,238,260,308,333,387,415,475,506,572,606,678 ★ A062725 and positive terms of A051682 interleaved. ● a(n) = (18 * n ^ 2 + 14 * n - 5 + (6 * n + 5) * (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Oct 14 2014 ●

[A002810] ● 1,7,11,27,77,107,111,127,177,777,1127,1177,1777,7777,11777,27777,77777,107777,111777,127777,177777,777777,1127777,1177777,1777777 ★ Smallest number requiring n syllables in British English. ● a(n + 12) = a(n) * 1000 + 777, as long as a(n + 12) is less than one quadrillion (whatever scale is used). - M. F. Hasler, Nov 03 2013 ●

[A045736] ● 1,7,11,27,77,111,127,177,777,1127,1177,1777,7777,11777,27777,77777,111777,127777,177777,777777,1127777,1177777,1777777,7777777,11777777 ★ Smallest positive integer requiring n syllables to pronounce in American English. ● a(n + 11) = a(n) * 1000 + 777, as long as a(n + 11) is less than one quadrillion (whatever scale is used). - _ M. F. Hasler _ , Nov 03 2013 ●

[A193867] ● 1,7,11,29,37,67,79,121,137,191,211,277,301,379,407,497,529,631,667,781,821,947,991,1129,1177 ★ Odd central polygonal numbers. ● a(n) = (4 * n ^ 2 + 2 * (- 1) ^ n * n - 4 * n - (- 1) ^ n + 3) / 2. ● a(n) = 2 * n ^ 2 - n + 1 for n even. ● a(n) = 2 * n ^ 2 - 3 * n + 2 for n odd. ●

[A083363] ● 1,7,11,30,38,69,81,124,140,195,215,282,306,385,413,504,536,639,675,790,830,957,1001,1140,1188 ★ Diagonal of table A083362. ● a(0) = 1; a(2n - 1) = 8n ^ 2 - n (n>0); a(2n) = 8n ^ 2 + 3n (n>0). ● a(n) = a(n - 1) + 2 * a (n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , Sep 26 2014 ● a(n) = (4n + 3) * (2n + 1 - (- 1) ^ n) / 4 + 0 ^ n. - _ Wesley Ivan Hurt _ , Sep 26 2014 ●

[A293046] ● 0,0,1,1,7,11,31,57,127,247,511,1013,2047,4083,8191,16369,32767,65519,131071,262125,524287,1048555,2097151,4194281,8388607 ★ Number of even permutations on {1,2,...,n} with exactly 2 weak excedances. ● a(n) = 2 ^ (n - 1) - 1 for even n > 0. ●

[A132355] ● 0,7,11,32,40,75,87,136,152,215,235,312,336,427,455,560,592,711,747,880,920,1067,1111,1272,1320 ★ Numbers of the form 9*h^2 + 2*h, for h an integer. ● a(2 * k) = k * (9 * k - 2), a(2 * k + 1) = k * (9 * k + 2). ● a(n) = n ^ 2 - n + 5 * floor(n / 2) ^ 2. - _ Gary Detlefs _ , Feb 23 2010 ● a(n) = + a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). ● a(n) = (2 * n - 1 + (- 1) ^ n) * (9 * (2 * n - 1) + (- 1) ^ n) / 16. - _ Luce ETIENNE _ , Sep 13 2014 ●

[A268579] ● 1,7,11,41,48,120,130,262,275,485,501,807,826,1246,1268,1820,1845,2547,2575,3445,3476,4532,4566,5826,5863 ★ Expansion of (1 + 6*x + x^2 + 12*x^3 - 2*x^4)/((1 - x)^4*(1 + x)^3). ● a(n) = Sum _{ k = 0..n } (6 * k + (- 1) ^ k + 3) * (3 * k - (- 1) ^ k * (3 * k + 1) + 5) / 16. ● a(n) = 1 + (n * (6 * n ^ 2 + 27 * n + 35) - (9 * n ^ 2 + 15 * n + 2) * (- 1) ^ n + 2) / 16. ●

[A062730] ● 7,12,14,19,21,23,32,34,45,47,60,62,77,79,96,98,117,119,140,142,165,167,192,194,221 ★ Rows of Pascal's triangle which contain 3 terms in arithmetic progression. ● a(n)=(n ^ 2 + 8 * n + 8) / 4 for n>4 and even; a(n)=(n ^ 2 + 10 * n + 9) / 4 for n>4 and odd (conjectured). - _ Colin Barker _ , Aug 29 2013 ●

[A091573] ● 7,12,17,24,31,36,41,48,55,60,65,72,79,84,89,96,103,108,113,120,127,132,137,144,151 ★ Poincaré series [or Poincare series] of the preprojective algebra of an extended Dynkin diagram of type E_6. ● a(n) = 6 * n + 6 (n odd), 6 * n + 7 (n==0 (mod 4)), 6 * n + 5 (n==2 (mod 4)). ● a(n) = 2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>3. ● a(n) = (12 + (- i) ^ n + i ^ n + 12 * n) / 2 where i = sqrt(- 1). ●

[A131912] ● 1,7,12,18,23,29,34,40,45,51,56,62,67,73,78,84,89,95,100,106,111,117,122,128,133 ★ Row sums of triangle A131911. ● a(n)=11 * n - a(n - 1) - 14 (with a(1)=1) [From Vincenzo Librandi, Nov 23 2010] ●

[A247159] ● 7,12,18,24,36,42,54,60,72,90,96,114,126,132,144,162,180,186,204,216,222,240,252,270,294 ★ Sum of divisors of even semiprimes. ● a(n) = 3 * prime(n) + 3 for n > 1. - _ Charles R Greathouse IV _ , Nov 22 2014 ●

[A272975] ● 0,7,12,19,24,31,36,43,48,55,60,67,72,79,84,91,96,103,108,115,120,127,132,139,144 ★ Numbers that are congruent to {0,7} mod 12. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. ● a(n) = (12 * n - 11 + (- 1) ^ n) / 2. ●

[A132195] ● 1,7,12,23,47,84,172,335,590,1000,1858,3284,6083,10816,19539,35586,65309,120625,224763,420658,790885,1494738 ★ Number of three-prime Carmichael numbers less than 10^n. ● a(n) = C _ 3(n) in Table 1, p. 34 of Chick = card { c such that c is in A002997 INTERSECTION A014612 and c <= 10 ^ n } . ●

[A104584] ● 0,1,7,12,26,35,57,70,100,117,155,176,222,247,301,330,392,425,495,532,610,651,737,782,876 ★ (1/2) * (3*n^2 + n*(-1)^n). ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Apr 04 2013 ● a(n) = (1 / 2) * (3 * n ^ 2 + n * (- 1) ^ n). - _ Ralf Stephan _ , May 20 2007 ●

[A198306] ● 7,12,37,62,187,312,937,1562,4687,7812,23437,39062,117187,195312,585937,976562,2929687,4882812,14648437,24414062,73242187,122070312,366210937,610351562,1831054687 ★ Moore lower bound on the order of a (6,g)-cage. ● a(2 * i) = 2 sum _{ j=0 }^{ i - 1 } 5 ^ j = string "2" ^ i read in base 5. ● a(2 * i + 1) = 5 ^ i + 2 sum _{ j=0 }^{ i - 1 } 5 ^ j = string "1" * "2" ^ i read in base 5. ● a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3). G.f.: - x ^ 3 * (10 * x ^ 2 - 5 * x - 7) / ((x - 1) * (5 * x ^ 2 - 1)). - _ Colin Barker _ , Feb 01 2013 ● a(n) = (5 ^ (n / 2) - 1) / 2 for n>2 and even. ● a(n) = (3 * 5 ^ ((n - 1) / 2) - 1) / 2 for n>2 and odd. ●

[A178681] ● 7,12,42,222,1302,7782,46662,279942,1679622,10077702,60466182,362797062,2176782342,13060694022,78364164102,470184984582,2821109907462,16926659444742,101559956668422,609359740010502 ★ a(n) = 6^n+6. ● a(n) = 6 * (a(n - 1) - 5), n>0. ● a(n) = + 7 * a(n - 1) - 6 * a(n - 2). ●

[A192779] ● 0,0,1,1,7,12,47,107,337,868,2520,6808,19192,52756,147185,407069,1131599,3136292,8707655,24151335,67025633,185946904,515971328,1431563056,3972149312 ★ Coefficient of x^2 in the reduction of the n-th Fibonacci polynomial by x^3->x^2+3x+1. ● a(n)=a(n - 1) + 6 * a(n - 2) - a(n - 3) - 6 * a(n - 4) + a(n - 5) + a(n - 6). ●

[A224773] ● 7,13,15,19,21,23,25,27,31,33,35,37,39,43,45,47,49,53,55,57,59,61,63,67,69 ★ One half of the even members of A224771. ● a(n) is one half of the n - th even member of A224771. ●

[A045979] ● 1,7,13,17,19,31,37,43,47,49,59,61,67,71,73,79,91,97,101,103,107,109,127,133,137 ★ Bernoulli number B_{2n} has denominator 6. ● a(n) seems to be asymptotic to c * n 5<c<6. - _ Benoit Cloitre _ , Oct 19 2002 ●

[A121058] ● 7,13,19,22,31,37,42,43,46,47,49,61,62,67,73,79,82,91,97,103,109,118,121,122,126 ★ Positive integers x such that x+d+1 is composite for all divisors d of x. ● a(n)=n - th number x such that x + d + 1 is composite for all divisors d of x. ●

[A016921] ● 1,7,13,19,25,31,37,43,49,55,61,67,73,79,85,91,97,103,109,115,121,127,133,139,145 ★ a(n) = 6n + 1. ● a(n) = 6 * n + 1, n >= 0 (see the name). ● a(n) = 4 * (3 * n - 1) - a(n - 1) (with a(0)=1). - _ Vincenzo Librandi _ , Nov 20 2010 ●

[A023255] ● 7,13,19,31,43,73,211,223,241,307,397,409,631,661,727,757,769,829,883,1123,1741,1783,1867,2131,2143 ★ Numbers n such that n remains prime through 2 iterations of the function f(x) = 5x + 8. ● a(n) == 1 mod 6. - _ John Cerkan _ , Sep 14 2016 ●

[A265629] ● 7,13,19,31,157,761,3469,6883,27677 ★ Numbers n > 0 such that 10^(n+4) - 23 is prime. ● a(n) mod 2 = 1. - _ Altug Alkan _ , Dec 14 2015 ●

[A054858] ● 1,7,13,20,35,66,118,218,402,738,1358,2498,4594,8450,15542,28586,52578,96706,177870,327154,601730,1106754,2035638,3744122,6886514 ★ Number of basic blocks of size 5xn for tilings with square tiles of size up to 5 X 5. ● a(n) = a(n - 1) + a(n - 2) + a(n - 3) for n>8, a(1)=1, a(2)=7, a(3)=13, a(4)=20, a(5)=35, a(6)=66, a(7)=218 ●

[A106349] ● 7,13,23,29,43,47,73,79,97,101,137,139,149,163,167,199,227,233,257,269,271,293,313,347,373 ★ Primes indexed by semiprimes. ● a(n) = prime(semiprime(n)). ●

[A090992] ● 7,13,24,45,84,158,296,557,1045,1966,3691,6942,13038,24516,46055,86585,162680,305809,574624,1080106,2029680,3814941,7169145,13474502,25322375 ★ Number of meaningful differential operations of the n-th order on the space R^7. ● a(n + 4) = a(n + 3) + 3 * a(n + 2) - 2 * a(n + 1) - a(n). ●

[A111721] ● 1,1,7,13,25,43,73,121,199,325,529,859,1393,2257,3655,5917,9577,15499,25081,40585,65671,106261,171937,278203,450145 ★ a(n) = a(n-1) + a(n-2) + 5 where a(0) = a(1) = 1. ● a(n) = 3 / 2 ^ n * ((1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n) + 3 / (sqrt(5) * 2 ^ n) * ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) - 5. - _ Paolo P. Lava _ , Jul 27 2011 ●

[A213663] ● 7,13,25,49,95,185,361,705,1379,2701,5297,10401,20447,40241,79281,156353,308643,609813,1205881,2386481,4726463,9367401,18577497,36865665,73199171 ★ Number of dominating subsets of the graph G(n) obtained by joining each vertex of the path graph P_{n+1} on n+1 vertices with an additional vertex (the join of K_1 and P_{n+1}). ● a(1)=7, a(2)=13, a(3)=25, a(n)=a(n - 1) + a(n - 2) + a(n - 3) + 2 ^ (n - 2)for n>=4. ●

[A060455] ● 1,1,1,1,1,1,1,7,13,25,49,97,193,385,769,1531,3049,6073,12097,24097,48001,95617,190465,379399,755749 ★ 7th order Fibonacci numbers with a(0)=...=a(6)=1. ● a(n) = a(n - 1) + a(n - 2) + ... + a(n - 7) for n > 6, a(0)=a(1)=...=a(6)=1 ●

[A067870] ● 7,13,27,33,47,53,67,73,87,93,107,113,127,133,147,153,167,173,187,193,207,213,227,233,247 ★ Numbers n such that n and 3^n end with the same digit. ● a(2 * n + 1) = 20 * n - 13, a(2 * n) = 20 * n - 7; ● a(n) = 20 * (n - 1) - a(n - 1) for n>1, a(1)=7. [_ Vincenzo Librandi _ , Aug 08 2010] ●

[A023243] ● 7,13,31,37,67,73,79,139,151,181,367,541,613,661,709,739,787,811,829,997,1087,1117,1123,1249,1327 ★ Numbers n such that n remains prime

through 2 iterations of the function f(x) = 2x + 5. • a(n) == 1 (mod 6). - _ John Cerkan _ , Sep 12 2016 •

[A284353] • 1,1,7,13,31,61,127,253,511,1021,2047,4093,8191,16381,32767,65533,131071,262141,524287,1048573,2097151,4194301,8388607,16777213,33554431 ⋆ Decimal representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 899", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ (n + 1) - 1 for n even. • a(n) = 2 ^ (n + 1) - 3 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>2. (End) •

[A102002] • 1,7,13,31,85,199,493,1231,3013,7447,18397,45343,111925,276199,681421,1681519,4149157,10237879,25262269,62334655,153810709,379529095,936489133,2310790159,5701884805 ⋆ Weighted tribonacci (1,2,4), companion to A102001. • a(n) = a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3), a>3. a(n) = center term in M ^ n * [1 1 1], where M = the 3X3 matrix [0 1 0 / 0 0 1 / 4 2 1]; M ^ n * [1 1 1] = [a(n - 1) a(n) a(n + 1)]. •

[A239679] • 7,13,31,91,307,1123,4291,16771,66307,263683,1051651,4200451,16789507,67133443,268484611,1073840131,4295163907,17180262403,68720263171,274879479811,1099514773507,4398052802563,17592198627331,70368769343491,281475027042307 ⋆ Least number k > 0 such that k*2^n+1 is a cube. • a(n) = 3 + 3 * 2 ^ n + 2 ^ (2 * n). •

[A061204] • 1,7,13,34,40,76,82,138,159,195,201,327,333,369,405,531,537,663,669,795,831,867,873,1209,1230 ⋆ (tau<=)_6(n). • a(n) = Sum _{ k=1..n } tau _{ 5 } (k) * floor(n / k), where tau _{ 5 } is A061200. - _ Enrique Pérez Herrero _ , Jan 23 2013 •

[A267985] • 7,13,37,43,67,73,97,103,127,133,157,163,187,193,217,223,247,253,277,283,307,313,337,343,367 ⋆ Numbers congruent to {7, 13} mod 30. • a(n) = a(n - 1) + a(n - 2) - a(n - 3), n >= 4. • a(n) = a(n - 2) + 30. • a(n) = 10 * (3 * n - 4) - a(n - 1). • a(n) = (30 * n - 9 * (- 1) ^ n - 25) / 2 for n>0. • a(n) = 15 * n - 17 for n>0 and even. • a(n) = 15 * n - 8 for n odd. •

[A052378] • 7,13,37,97,103,223,307,457,853,877,1087,1297,1423,1483,1867,1993,2683,3457,4513,4783,5227,5647,6823,7873,8287 ⋆ Primes followed by a [4,2,4] prime difference pattern of A001223. • a(n) is the initial prime of a [p, p + 4, p + 6, p + 6 + 4] prime - quadruple consisting of two 4 - twins: [p, p + 4] and [p + 6, p + 10]. •

[A023286] • 7,13,43,223,757,883,2143,2269,2521,2917,3253,3967,4297,4423,6229,6427,6679,7621,7741,10429,11353,12739,14593,14929,15259 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 5x + 8. • a(n) == 1 (mod 6). - _ John Cerkan _ , Sep 21 2016 •

[A015441] • 0,1,1,7,13,55,133,463,1261,4039,11605,35839,105469,320503,953317,2876335,8596237,25854247,77431669,232557151,697147165,2092490071,6275373061,18830313487,56482551853 ⋆ Generalized Fibonacci numbers. • a(n) = a(n - 1) + 6 * a(n - 2). • a(n) = (1 / 5) * ((3 ^ n) - ((- 2) ^ n)). - henryk.wicke(AT)stud.uni - hannover.de • a(n + 1) = Sum _{ k=0..ceiling(n / 2) } 6 ^ k * binomial(n - k, k). - _ Benoit Cloitre _ , Mar 06 2004 • a(n) = (Sum _{ 1<=k<=n, k odd } binomial(n,k) * 5 ^ (k - 1)) / 2 ^ (n - 1). - _ Vladimir Shevelev _ , Feb 05 2014 • a(- n) = - (- 1) ^ n * a(n) / 6 ^ n for all n in Z. - _ Michael Somos _ , Mar 18 2014 •

[A253210] • 7,13,55,349,2407,16813,117655,823549,5764807,40353613,282475255,1977326749,13841287207,96889010413,678223072855,4747561509949,33232930569607,232630513987213,1628413597910455,11398895185373149,7979226697612007,558545864083284013 ⋆ a(n) = 7^n + 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2) for n>1. •

[A098478] • 1,1,7,13,73,187,895,2737,11923,40333,166753,598111,2404309,8926651,35365651,134054005,527360581,2024611351,7940840719,30733601689,120439122811,468630460885,1836912780541,7173754477099,28140632060899 ⋆ Expansion of 1/sqrt(1-2x-11x^2+12x^3). • a(n)=sum { k=0..floor(n / 2), binomial(2k, k)binomial(n - k, n - 2k)3 ^ k } . •

[A110293] • 1,7,13,97,181,1351,2521,18817,35113,262087,489061,3650401,6811741,50843527,94875313,708158977,1321442641,9863382151,18405321661,137379191137,256353060613,1913445293767,3570537526921,26650854921601,49731172316281 ⋆ a(2*n) = A001570(n), a(2*n+1) = A011943(n+1). • a(n) = ((- 1) * ((- 3 + (- 1) ^ n) * ((2 - sqrt(3)) ^ n * (- 3 + 2 * sqrt(3)) + (2 + sqrt(3)) ^ n * (3 + 2 * sqrt(3))))) / (8 * sqrt(3)). • a(n) = 14 * a(n - 2) - a(n - 4) for n>3. •

[A198947] • 1,7,13,139,259,2773,5167,55321,103081,1103647,2056453,22017619,41025979,439248733,818463127,8762957041,16328236561,174819892087,325746268093,3487634884699,6498597125299,69577877801893,129646196237887,1388069921153161,2586425327632441 ⋆ x-values in the solution to 11*x^2 - 10 = y^2. • a(n + 4) = 20 * a(n + 2) - a(n) with a(1)=1, a(2)=7, a(3)=13, a(4)=139. • a(n) = ((11 + (- 1) ^ n * t) * (10 - 3 * t) ^ floor(n / 2) + (11 - (- 1) ^ n * t) * (10 + 3 * t) ^ floor(n / 2)) / 22 with t=sqrt(11). (End). •

[A004759] • 7,14,15,28,29,30,31,56,57,58,59,60,61,62,63,112,113,114,115,116,117,118,119,120,121 ⋆ Binary expansion starts 111. • a(2n) = 2a(n), a(2n + 1) = 2a(n) + 1 + 6[n==0]. • a(2 ^ m + k) = 7 * 2 ^ m + k, m >= 0, 0 <= k < 2 ^ m. - _ Yosu Yurramendi _ , Aug 08 2016 •

[A213604] • 1,7,14,18,24,28,35,41,42,48,55,59,65,69,76,82,83,89,96,100,106,110,117,123,124 ⋆ Cumulative sums of digital roots of A005891(n). • a(n + 9) = - a(n) + a(n + 1) + a(n + 8), a(0)=1, a(1)=7, a(2)=14, a(3)=18, a(4)=24, a(5)=28, a(6)=35, a(7)=41, a(8)=42. •

[A102041] • 7,14,18,26,32,34,38,46,52,54,58,66,72,74,78,86,92,94,98,106,112,114,118,126,132 ⋆ a(n) = a(n-1) + last digit of a(n-1), starting at 7. • a(n) = 5 + (1 / 2 + i) * (- i) ^ n + (1 / 2 - i) * i ^ n + 5 * n for n>1, where i = sqrt(- 1). •

[A008589] • 0,7,14,21,28,35,42,49,56,63,70,77,84,91,98,105,112,119,126,133,140,147,154,161,168 ⋆ Multiples of 7. • a(n) = 7 * n = 2 * a(n - 1) - a(n - 2); G.f.: 7 * x / (x - 1) ^ 2. - _ Vincenzo Librandi _ , Dec 24 2010 •

[A187395] • 7,14,21,28,35,42,50,57,64,71,78,85,93,100,107,114,121,128,136,143,150,157,164,171,179 ⋆ Floor(r*n), where r=4+sqrt(10); complement of A187396. • a(n)=floor(r * n), where r=4 + sqrt(10). •

[A020334] • 7,14,21,28,35,222,259,296,333,370,407,444,481,518,555,592,629,666,703,740,777,814,851,888,925 ⋆ Numbers n such that base 6 representation is the juxtaposition of two identical strings. • a(n) = n * 6 ^ floor(log _ 6(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[A100451] • 0,0,7,14,21,32,45,60,77,96,117,140,165,192,221,252,285,320,357,396,437,480,525,572,621 ⋆ a(n) = 0 for n <= 2; for n >= 3, a(n) = (n-2)*floor((n^2-2)/(n-2)). • a(n) = (n - 2) * (n + 2), n>=5. - _ R. J. Mathar _ , Aug 17 2009 •

[A164005] • 0,7,14,21,32,45,60,77,96,117,140,165,192,221,252,285,320,357,396,437,480,525,572,621,672 ⋆ Zero together with row 5 of the array in A163280. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), n >= 3. • a(n) = n * (n + 4), n >= 3. •

[A246172] • 1,7,14,22,31,41,52,64,77,91,106,122,139,157,176,196,217,239,262,286,311,337,364,392,421 ⋆ a(n) = (n^2+9*n-8)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = 2 * a(n - 1) - a(n - 2) + 1. •

[A089644] • 7,14,28,35,49,56,70,77,91,98,112,119,133,140,154,161,175,182,196,203,217,224,238,245,259 ⋆ Numbers n such that 7 divides the numerator of B(2n) where B(2n) = the 2n-th Bernoulli number. • a(n) = 21 * (n - 1) - a(n - 1), with n>1, a(1)=7. [_ Vincenzo Librandi _ , Nov 16 2010] •

[A290398] • 1,7,14,28,49,84,147,252,434,749,1288,2219,3822,6580,11333,19516,33607,57876,99666,171633,295568,508991,876526,1509452,2599401 ⋆ Number of tiles in distance d from a given heptagon in the truncated order-3 tiling of the heptagonal plane (a.k.a. the "hyperbolic soccerball"). • a(n + 4) = a(n + 3) + a(n + 2) + a(n + 1) - a(n), for n >= 1. (proved) •

[A196876] • 1,1,1,1,1,1,1,7,14,28,56,112,224,448,896,1786,3559,7091,14127,28143,56063,111679,222463,443141,882724 ⋆ a(n) = a(n-no-1)+....+a(n-1)+(n-no-2) where no is the 'no+1'th order of the series and 'n' is the element number, here no=6. • a(n)=1 if n<=7, else a(n) = n - no - 2 + sum _{ i=1..no + 1 } a(n - i), no=6. •

[A135092] • 1,7,14,28,56,112,224,448,896,1792,3584,7168,14336,28672,57344,114688,229376,458752,917504,1835008,3670016,7340032,14680064,29360128,58720256 ⋆ Binomial transform of [1, 6, 1, 6, 1, 6,...]. • a(n) = 7 * 2 ^ (n - 1) for n>0, a(0)=1. •

[A005009] • 7,14,28,56,112,224,448,896,1792,3584,7168,14336,28672,57344,114688,229376,458752,917504,1835008,3670016,7340032,14680064,29360128,58720256,117440512 ⋆ 7*2^n. • a(n)=2 * a(n - 1), n>0 ; a(0)=7 . [_ Philippe Deléham _ , Nov 23 2008] •

[A293359] • 7,14,29,59,118,236,472,945,1891,3783,7566,15132,30265,60531,121062,242124,484249,968498,1936996,3873993,7747986,15495973,30991947,61983895,123967790 ⋆ Greatest integer k such that k/2^n < e^2. • a(n) = floor(r * 2 ^ n), where r = e ^ 2. •

[A062098] • 7,14,42,168,840,5040,35280,282240,2540160,25401600,279417600,3353011200,43589145600,610248038400,9153720576000,146459529216000,2489811996672000,44816615940096000,851515702861824000 ⋆ a(n) = 7 * n!. • a(n) = n * a(n - 1), a(1) = 7. •

[A237686] • 1,7,14,50,63,105,148,364,413,491,546,798,883,1141,1400,2696,2961,3255,3382,3850,3983,4313,4620,6132,6469 ⋆ The number of P-positions in the game of Nim with up to four piles, allowing for piles of zero, such that the total number of objects in all piles doesn't exceed 2n. • a(2n + 1) = 7a(n) + a(n - 1), a(2n + 2) = a(n + 1) + 7a(n). •

[A135536] • 7,14,56,112,448,896,3584,7168,28672,57344,229376,458752,1835008,3670016,14680064,29360128,117440512,234881024,939524096,1879048192,7516192768,15032385536,60129542144,120259084288,481036337152 ⋆ a(n) = 8*a(n-2), with a(0) = 7, a(1) = 14. • a(n) = (7 / 4) * ((2 + sqrt(2)) + (- 1) ^ n * (2 - sqrt(2))) * (sqrt(2)) ^ (3 * n). • a(n) = 8 * a(n - 2). •

[A110496] • 7,14,63,172,666,1099,2457,3430,6084,12195,14896,25327,34461,39754,51912,74439,102690,113491,150382,178956,194509,246520,285894,352485,456337 ⋆ Least k such that prime(n)^3 divides binomial(2k,k). • a(n) = (prime(n) ^ 3 + 1) / 2 for n>1. •

[A117867] • 7,14,70,126,574,1022,4606,8190,36862,65534,294910,524286,2359294,4194302,18874366,33554430,150994942,268435454,1207959550,2147483646,9663676414,17179869182,77309411326,137438953470,618475290622 ⋆ Number of palindromes (in base 8) below 8^n. • a(n) = 9 * 8 ^ ((n - 1) / 2) - 2 (n odd), 2 * 8 ^ (n / 2) - 2 (n even). • a(n) = a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3). • a(n) = (1 / (4 * sqrt(2))) * (- 8 * sqrt(2) + 9 * (1 - (- 1) ^ n) * 2 ^ (3 * n / 2) + (1 + (- 1) ^ n) * 2 ^ ((3 * n + 5) / 2)). •

[A291008] • 0,7,14,70,224,868,3080,11368,41216,150640,548576,2000992,7293440,26592832,96946304,353449600,1288577024,4697851648,17127165440,62441440768,227645874176,829940392960,3025756030976,11031154419712,40216845025280 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 7*S^2. • a(n) = 2 * a(n - 1) + 6 * a(n - 2) for n >= 3. • a(n) = 7 * A083099. • a(n) = (sqrt(7) * ((1 + sqrt(7)) ^ n - (1 - sqrt(7)) ^ n)) / 2. - _ Colin Barker _ , Aug 23 2017 •

[A237054] • 1,1,7,15,17,17,31,47,49,49,55,79,81,81,111,111,145,177,215,255,257,257,271,319,321 ⋆ a(1)=1, a(n) = (a(n-1) + n) XOR n. • a(1)=1, then a(n) = (a(n - 1) + n) XOR n, where XOR is the bitwise exclusive - OR operator. •

[A151971] • 0,1,7,15,21,22,28,36,42,43,49,57,63,64,70,78,84,85,91,99,105,106,112,120,126 ⋆ Numbers n such that n^2 - n is divisible by 21. • a(n) = (42 * n + 14 * i ^ ((n - 1) * n) - 3 * (- 1) ^ n - 3) / 8 - 7, where i=sqrt(- 1). (End) •

a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. - _ Wesley Ivan Hurt _ , Jun 07 2016 •

[A022389] • 7,15,22,37,59,96,155,251,406,657,1063,1720,2783,4503,7286,11789,19075,30864,49939,80803,130742,211545,342287,553832,896119 ⋆ Fibonacci sequence beginning 7, 15. • a(n) = 7 * Fibonacci(n + 2) + Fibonacci(n) = 7 * Fibonacci(n - 1) + 15 * Fibonacci(n). - _ G. C. Greubel _ , Mar 02 2018 •

[A041935] • 1,7,15,22,103,434,1839,2273,6385,46968,2072977,14557807,31188591,45746398,214174183,902443130,3823946703,4726389833,13276726369,97663474416,4310469600673,30270950679127,64852370958927,95123321638054,445345657511143 ⋆ Denominators of continued fraction convergents to sqrt(490). • a(n) = 2079362 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A041092] • 7,15,22,147,169,485,6959,14403,21362,142575,163937,470449,6750223,13970895,20721118,138297603,159018721,456335045,6547709351,13551753747,20099463098,134148532335,154247995433 ⋆ Numerators of continued fraction convergents to sqrt(54). • a(n) = 970 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 7 * x ^ 10 + 15 * x ^ 9 - 22 * x ^ 8 + 147 * x ^ 7 - 169 * x ^ 6 - 485 * x ^ 5 - 169 * x ^ 4 - 147 * x ^ 3 - 22 * x ^ 2 - 15 * x - 7) / ((x ^ 4 - 10 * x ^ 2 + 1) * (x ^ 8 + 10 * x ^ 6 + 99 * x ^ 4 + 10 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 18 2012] •

[A004215] • 7,15,23,28,31,39,47,55,60,63,71,79,87,92,95,103,111,112,119,124,127,135,143,151,156 ⋆ Numbers that are the sum of 4 but no fewer nonzero squares. • a(n) = 6n + O(log n). - _ Charles R Greathouse IV _ , Dec 19 2013 •

[A004771] • 7,15,23,31,39,47,55,63,71,79,87,95,103,111,119,127,135,143,151,159,167,175,183,191,199 ⋆ a(n) = 8*n+7. Or, numbers n such that binary expansion ends 111. • a(n) = floor((24 * n - 2) / 3) with offset 1, a(1) = 7. - _ Gary Detlefs _ , Mar 07 2010 • a(n) = 2 * a(n - 1) - a(n - 2) for n > 1, a(0)=7, a(1)=15. - _ Vincenzo Librandi _ , May 28 2011 • a(n) = t(t(t(n))), where t(i) = 2 * i + 1. •

[A056119] • 0,7,15,24,34,45,57,70,84,99,115,132,150,169,189,210,232,255,279,304,330,357,385,414,444 ⋆ a(n) = n*(n+13)/2. • a(n) = C(n,2) - 6 * n, n>=13. - _ Zerinvary Lajos _ , Nov 25 2006 • a(n) = n + a(n - 1) + 6 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 7n - floor(n / 2) + floor(n / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A082111] • 1,7,15,25,37,51,67,85,105,127,151,177,205,235,267,301,337,375,415,457,501,547,595,645,697 ⋆ A row of number array A082110. • a(n) = n ^ 2 + 5 * n + 1. • a(n) = 2 * n + a(n - 1) + 4 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=7, a(2)=15, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 22 2012 •

[A195041] • 0,1,7,15,28,43,63,85,112,141,175,211,252,295,343,393,448,505,567,631,700,771,847,925,1008 ⋆ Concentric heptagonal numbers. • a(n) = 7 * n ^ 2 / 4 + 3 * ((- 1) ^ n - 1) / 8. • a(n) = n ^ 2 + floor(3 * n ^ 2 / 4). - _ Bruno Berselli _ , Aug 08 2013 •

[A139597] • 0,7,15,30,46,69,93,124,156,195,235,282,330,385,441,504,568,639,711,790,870,957,1045,1140,1236 ⋆ A139278(n) followed by A139274(n+1). • a(n) = (3 - 3 * (- 1) ^ n + 14 * n + 8 * n ^ 2) / 4. a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: x * (7 + x) / ((1 - x) ^ 3 * (1 + x)). [_ Colin Barker _ , Jul 22 2012] •

[A210675] • 0,1,7,15,30,54,94,159,265,437,716,1168,1900,3085,5003,8107,13130,21258,34410,55691,90125,145841,235992,381860,617880 ⋆ a(n)=a(n-1)+a(n-2)+n+4, a(0)=0, a(1)=1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). G.f.: x * (4 * x ^ 2 - 4 * x - 1) / ((x - 1) ^ 2 * (x ^ 2 + x - 1)). - _ Colin Barker _ , May 31 2013 •

[A293361] • 7,15,30,59,118,236,473,946,1892,3783,7566,15133,30266,60531,121062,242125,484249,968498,1936997,3873993,7747987,15495974,30991948,61983895,123967790 ⋆ The integer k that minimizes |k/2^n - e^2|. • a(n) = floor(1 / 2 + (e ^ 2) * 2 ^ n). •

[A117747] • 7,15,30,74,171,444,1138,3048,8175,22427,61686,171630,479411 ⋆ Number of different configurations of cycles (loops) in graphs containing directed and undirected links. • a(n) = 1 / (2 * n) (sum from k=0 to k=n - 1 of (3 ^ gcd(n,k)) + (3 ^ (n / 2)) / 3 if n is even, a(n) = 1 / (2 * n) (sum from k=0 to k=n - 1 of (3 ^ gcd(n,k)) + (3 ^ ((n - 1) / 2)) / 2 if n is odd, where gcd is the greatest common divisor and gcd(n, 0) equals n. See code below. Also a(n) = 3 ^ n / (2 * n) gives a good approximation for large n. •

[A078485] • 0,1,1,1,7,15,31,63,127,255,511,1023,2047,4095,8191,16383,32767,65535,131071,262143,524287,1048575,2097151,4194303,8388607 ⋆ Number of irreducible indecomposable permutations of degree n. • a(n) = 2 ^ (n - 1) - 1 for n>3. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. - _ Colin Barker _ , May 27 2016 •

[A159695] • 7,15,32,68,144,304,640,1344,2816,5888,12288,25600,53248,110592,229376,475136,983040,2031616,4194304,8650752,17825792,36700160,75497472,155189248,318767104 ⋆ a(0)=7, a(n)=2*a(n-1)+2^(n-1) for n>0 . • a(n)=Sum _{ k=0..n } (k + 7) * binomial(n,k). • a(n) = (14 + n) * 2 ^ (n - 1) = 4 * a(n - 1) - 4 * a(n - 2). G.f.: (7 - 13x) / (1 - 2x) ^ 2. [From _ R. J. Mathar _ , Apr 20 2009] •

[A271995] • 7,15,33,51,83,115,165,215,287,359,457,555,683,811,973,1135,1335,1535,1777,2019,2307,2595,2933,3271,3663 ⋆ The Pnictogen sequence: a(n) = A018227(n)-3. • a(n) = (6 * (- 7 + (- 1) ^ n) + (25 + 3 * (- 1) ^ n) * n + 12 * n ^ 2 + 2 * n ^ 3) / 12. • a(n) = (n ^ 3 + 6 * n ^ 2 + 14 * n - 18) / 6 for n even. • a(n) = (n ^ 3 + 6 * n ^ 2 + 11 * n - 24) / 6 for n odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>7. •

[A048694] • 1,7,15,37,89,215,519,1253,3025,7303,17631,42565,102761,248087,598935,1445957,3490849,8427655,20346159,49119973,118586105,286292183,691170471,1668633125,4028436721 ⋆ Generalized Pellian with second term equal to 7. • a(n) = ((6 + sqrt(2))(1 + sqrt(2)) ^ n - (6 - sqrt(2))(1 - sqrt(2)) ^ n) / 2 * sqrt(2). • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1, a(1)=7. • a(n) = ((1 + sqrt(18))(1 + sqrt(2)) ^ n + (1 - sqrt(18))(1 - sqrt(2)) ^ n) / 2 offset 0. a(n) = first binomial transform of 1,6,2,12,4,24. - Al Hakanson (hawkuu(AT)gmail.com), Aug 01 2009 •

[A042287] • 1,1,7,15,37,126,163,1593,1756,3349,8454,11803,150090,612163,762253,1374416,2136669,3511085,5647754,93875149,99522903,193398052,292920955,486319007,779239962 ⋆ Denominators of continued fraction convergents to sqrt(669). • a(n) = 28452235718108270 * a(n - 38) - a(n - 76) for n>75. _ Vincenzo Librandi _ , Jan 19 2014 •

[A171064] • 0,1,1,7,15,64,175,631,1905,6433,20224,66529,212625,692119,2226799,7217728,23284815,75343591,243328225,786800449,2542156800,8217744577,26556314401,85835882791,277405671375 ⋆ G.f.: -x*(x-1)*(1+x)/(1-x-7*x^2-x^3+x^4). • a(n) = + a(n - 1) + 7 * a(n - 2) + a(n - 3) - a(n - 4). •

[A042313] • 1,7,15,67,216,283,499,12758,13257,26015,91302,391223,873748,6507459,339261616,2381338771,5101939158,22789095403,73469225367,96258320770,169727546137,4339446974195,4509174520332,8848621494527,31055039003913 ⋆ Denominators of continued fraction convergents to sqrt(683). • a(n) = 340135364 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 20 2014 •

[A041413] • 1,1,7,15,97,112,3233,3345,23303,49951,323009,372960,10765889,11138849,77598983,166336815,1075619873,1241956688,35850407137,37092363825,258404590087,553901543999,3581813854081,4135715398080,119381845000321 ⋆ Denominators of continued fraction convergents to sqrt(221). • a(n) = 3330 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 17 2013 •

[A144536] • 1,1,7,15,97,209,1351,2911,18817,40545,262087,564719,3650401,7865521,50843527,109552575,708158977,1525870529,9863382151,21252634831,137379191137,296011017105,1913445293767,4122901604639,26650854921601 ⋆ Denominators of continued fraction convergents to sqrt(3)/2. • a(n) = 14 * a(n - 2) - a(n - 4). - _ Sergei N. Gladkovskii _ , Jun 07 2015 • a(n) = ((3 + sqrt(3)) * ((- 2 + sqrt(3)) ^ n + (2 + sqrt(3)) ^ n) - (- 3 + sqrt(3)) * ((- 2 - sqrt(3)) ^ n + (2 - sqrt(3)) ^ n)) / 12. - _ Vaclav Kotesovec _ , Jun 08 2015 •

[A243470] • 1,7,15,112,239,1785,3809,28448,60705,453383,967471,7225680,15418831,115157497,245733825,1835294272,3916322369,29249550855,62415424079,466157519408,994730462895,7429270759673,15853271982241,118402174635360,252657621252961 ⋆ Numerators of the rational convergents to the periodic continued fraction 1/(2 + 1/(7 + 1/(2 + 1/(7 + ...)))). • a(2 * n + 1) = product { k = 1..n } (14 + 4 * cos ^ 2(k * Pi / (2 * n + 1)); • a(2 * n) = 7 * product { k = 1..n - 1 } (14 + 4 * cos ^ 2(k * Pi / (2 * n)). •

[A137881] • 1,7,15,153,329,3359,7223,73745,158577,1619031,3481471,35544937,76433785,780369583,1678061799,17132585889,36840925793,376136519975,808822305647,8257870853561,17757249798441,181297022258367,389850673260055,3980276618830513,8558957561922769 ⋆ Sqrt[A137880(n)]. • a(2n) = (15 - sqrt(30)) / 30 * (11 + 2 * sqrt(30)) ^ n + (15 + sqrt(30)) / 30 * (11 - 2 * sqrt(30)) ^ n. [Alekseyev] • a(2n + 1) = (15 + sqrt(30)) / 30 * (11 + 2 * sqrt(30)) ^ n + (15 - sqrt(30)) / 30 * (11 - 2 * sqrt(30)) ^ n. [Alekseyev] •

[A087485] • 7,15,315,1155,815634435 ⋆ Odd numbers n such that 2n - sigma(n) = 6. • a(3) = a(2) * 3 * 7; a(4) = a(2) * 7 * 11 with 7 = precprime(a(2) * 2 / 3), 11=nextprime(a(2) * 2 / 3); a(5) = a(4) * 547 * 1291. - _ M. F. Hasler _ , Apr 13 2015 •

[A060914] • 7,16,20,21,26,32,34,45,49,50,52,54,57,58,61,70,72,79,81,86,92,94,98,103,111 ⋆ Integers i > 1 for which there are two primes p such that i is a solution mod p of x^3 = 2. • a(n) = n - th integer i such that i ^ 3 - 2 has two prime factors > i. •

[A017245] • 7,16,25,34,43,52,61,70,79,88,97,106,115,124,133,142,151,160,169,178,187,196,205,214,223 ⋆ a(n) = 9n + 7. • a(n) = 18 * n - a(n - 1) + 5, with a(0)=7. - _ Vincenzo Librandi _ , Dec 24 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Vincenzo Librandi _ , Apr 30 2015 •

[A028560] • 0,7,16,27,40,55,72,91,112,135,160,187,216,247,280,315,352,391,432,475,520,567,616,667,720 ⋆ a(n) = n*(n + 6), also numbers a(n) such that 9*(9 + a(n)) is a perfect square. • a(n) = (n + 3) ^ 2 - 3 ^ 2 = n * (n + 6). • a(n) = 2 * n + a(n - 1) + 5. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A133694] • 1,7,16,28,43,61,82,106,133,163,196,232,271,313,358,406,457,511,568,628,691,757,826,898,973 ⋆ a(n) = (3*n^2 + 3*n - 4)/2. • a(n) = a(n - 1) + 3 * n for n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 23 2010 •

[A211784] • 1,7,16,29,45,66,89,117,148,183,221,264,309,359,412,469,529,594,661,733,808,887,969,1056,1145 ⋆ n^2 + floor(n^2/2) + floor(n^2/3). • a(n) = a(n - 1) + a(n - 2) - a(n - 4) - a(n - 5) + a(n - 6) for n>=7. •

[A234717] • 1,7,16,30,47,69,94,124,157,195,236,282,331,385,442,504,569,639,712,790,871,957,1046,1140,1237 ⋆ Floor(n/(exp(1/(2*n))-1)). • a(n) = (1 / 4) * (8n ^ 2 - 2n - 1 + (- 1) ^ n). G.f.: x * (2 * x ^ 2 + 5 * x + 1) / ((1 - x ^ 2) * (1 - x) ^ 2). - _ Ralf Stephan _ , Mar 28 2014 •

[A121470] • 1,7,16,31,49,73,100,133,169,211,256,307,361,421,484,553,625,703,784,871,961,1057,1156,1261,1369 ⋆ Expansion of x*(1+5*x+2*x^2+x^3)/((1+x)*(1-x)^3). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) = 5 / 8 - 3n / 2 + 9n ^ 2 / 4 + 3 * (- 1) ^ n / 8. •

[A176449] • 7,16,34,70,142,286,574,1150,2302,4606,9214,18430,36862,73726,147454,294910,589822,1179646,2359294,4718590,9437182,18874366,37748734,75497470,150994942 ⋆ 9*2^n-2. • a(n) = 2 * (a(n - 1) + 1) with a(0)=7. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: (7 - 5 * x) / ((2 * x - 1) * (x - 1)). [From _ R. J. Mathar _ , May 02 2010] •

[A154141] • 1,7,16,46,97,271,568,1582,3313,9223,19312,53758,112561,313327,656056,1826206,3823777,10643911,22286608,62037262,129895873,36157966

3,757088632,2107440718,4412635921 ★ Indices k such that 8 plus the k-th triangular number is a perfect square. ● a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). ● a(1..4) = (1,7,16,46); a(n) = 6 * a(n - 2) - a(n - 4) + 2, for n>4. - _ Ctibor O. Zizka _ , Nov 10 2009 ●

[A173661] ● 1,7,16,47,121,322,841,2207,5776,15127,39601,103682,271441,710647,1860496,4870847,12752041,33385282,87403801,228826127,599074576,1568397607,4106118241,10749957122,28143753121 ★ Logarithmic derivative of the squares of the Fibonacci numbers (A007598, with offset). ● a(n) = Lucas(n) ^ 2 for odd n, a(n) = Lucas(n) ^ 2 - 2 for even n>0. ●

[A175901] ● 7,17,19,26,31,41,49,53,55,65,71,76,97,109,127,129,161,191,197,199,209,239,241,251,271 ★ Numbers n such that there exists a smaller number k such that k^2-1 has exactly the same set of distinct prime divisors as n^2-1 ● a(1)=7 because set of prime divisors of 7 ^ 2 - 1 is the same as for 5 ^ 2 - 1. The set is { 2,3 } . ●

[A253408] ● 1,1,7,17,23,31,41,47,49,71,73,79,89,97,103,113,119,127,137,151,161,167,191,193,199 ★ Values of difference z-y that solve equation x^2 + y^2 = z^2 + 2. ● a(n) ^ 2 mod 8 = 1. ●

[A273745] ● 7,17,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200 ★ First differences of number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 901", based on the 5-celled von Neumann neighborhood. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>3. ●

[A017353] ● 7,17,27,37,47,57,67,77,87,97,107,117,127,137,147,157,167,177,187,197,207,217,227,237,247 ★ a(n) = 10n + 7. ● a(n) = 10 * n + 7. ● a(n) = 2 * a(n - 1) - a(n - 2). (End) ●

[A059845] ● 0,7,17,30,46,65,87,112,140,171,205,242,282,325,371,420,472,527,585,646,710,777,847,920,996 ★ a(n) = n*(3*n + 11)/2. ● a(n) = 3 * n + a(n - 1) + 4 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 ●

[A056220] ● 1,1,7,17,31,49,71,97,127,161,199,241,287,337,391,449,511,577,647,721,799,881,967,1057,1151 ★ a(n) = 2*n^2 - 1. ● a(0) = - 1, ● a(n) = a(n - 1) + 4 * n - 2 (with a(0)= - 1). - _ Vincenzo Librandi _ , Dec 25 2010 ● a(n) = j ^ 2 + k ^ 2 - 2 or 2 * j * k if n >= 2 and j = n + sqrt(2) / 2 and k = n - sqrt(2) / 2. - _ Avi Friedlich _ , Mar 30 2015 ●

[A102770] ● 7,17,38,71,110,161,218,333,449,573,758,881,1010,1245,1563,1799,2043,2378,2591,2883,3278,3693,4316,4898,5201 ★ (p*q - 1)/2 where p and q are consecutive odd primes. ● a(n) = (prime(n + 1) * prime(n + 2) - 1) / 2. ●

[A061722] ● 7,17,47,97,167,257,367,497,647,817,1007,1217,1447,1697,1967,2257,2567,2897,3247,3617,4007,4417,4847,5297,5767 ★ a(n) = 10 * n^2 + 7. ● a(n) = 10 * n ^ 2 + 7. ●

[A104164] ● 7,17,47,107,167,197,257,317,347,557,677,827,947,1097,1217,1307,1367,1427,1607,1847,1877,2027,2207,2267,2297 ★ Sophie Germain type primes where 5*Prime[n]=2*Prime[m]+1. ● a(n) = If (5 * Prime[n] - 1) / 2 is prime, then a[m]=(5 * Prime[n] - 1) / 2 ●

[A221591] ● 0,7,17,49,139,393,1113,3151,8921,25257,71507,202449,573169,1622743,4594273,13007201,36825691,104260057,295178697,835703199,2366023849,6698632793,18965016483,53693322401,152015310561 ★ Number of 0..2 arrays of length n with each element differing from at least one neighbor by 1 or less. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) + a(n - 3) for n>4. ●

[A045821] ● 1,1,1,1,7,17,49,145,415,1201,3473,10033,28999,83809,242209,700001,2023039,5846689,16897249,48833953,141132743,407881201,1178798545,3406791025,9845808799 ★ Numerical distance between m-th and (n+m)-th circles in a loxodromic sequence of circles in which each 4 consecutive circles touch. ● a(n)=2(a(n - 1) + a(n - 2) + a(n - 3)) - a(n - 4). Also a(n)=Sum { v=0 to [n / 2] } C(n, 2v) * f(n - v - 2) where f(m) is the m - th Fibonacci number. ●

[A081632] ● 1,7,17,55,161,487,1457,4375,13121,39367,118097,354295,1062881,3188647,9565937,28697815,86093441,258280327,774840977,2324522935,6973568801,20920706407,62762119217,188286357655,564859072961 ★ 2*3^n-(-1)^n. ● a(0)=1, a(1)=7, a(n)=2 * a(n - 1) + 3 * a(n - 2) [_ Harvey P. Dale _ , May 24 2011] ●

[A216073] ● 1,7,17,71,169,703,1673,6959,16561,68887,163937,681911,1622809,6750223,16064153,66820319,159018721,661452967,1574123057,6547709351,15582211849,64815640543,154247995433,641608696079,1526897742481 ★ The list of the a(n)-values in the common solutions to k+1=b^2 and 6*k+1=a^2. ● a(n) = 10 * a(n - 2) - a(n - 4). ● a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5). ● a(2 * n + 1) = ((1 + r) * (5 + 2 * r) ^ n + (1 - r) * (5 - 2 * r) ^ n) / 2 where r=sqrt(6) and 0<=n. ● a(2 * n + 2) = ((7 + 3 * r) * (5 + 2 * r) ^ n + (7 - 3 * r) * (5 - 2 * r) ^ n) / 2 where r=sqrt(6) and 0<=n. ● a(n) = - ((5 - 2 * r) ^ (1 / 4) * ((2 * r + 5) ^ ((- 1) ^ n / 4 + n / 2) * (- 1) ^ n - r * (2 * r + 5) ^ ((- 1) ^ n / 4 + n / 2)) + (2 * r + 5) ^ (1 / 4) * ((5 - 2 * r) ^ ((- 1) ^ n / 4 + n / 2) * (- 1) ^ n + (5 - 2 * r) ^ ((- 1) ^ n / 4 + n / 2) * r)) / (2 * (5 - 2 * r) ^ (1 / 4) * (2 * r + 5) ^ (1 / 4)) with r=sqrt(6) and 1<=n. - _ Alexander R. Povolotsky _ , Sep 01 2012 ●

[A165246] ● 7,17,117,1117,11117,111117,1111117,11111117,111111117,1111111117,11111111117,111111111117,1111111111117,11111111111117,111111111111117,1111111111111117,11111111111111117 ★ a(n) = (10^n + 53)/9 ● a(n) = 9 * a(n - 1) - 8 * a(n - 2) + 2 * 10 ^ (n - 2) for n>2, a(1)=7, a(2)=17. [_ Vincenzo Librandi _ , Aug 02 2010] ● a(n) = 11 * a(n - 1) - 10 * a(n - 2). G.f.: - x * (60 * x - 7) / ((x - 1) * (10 * x - 1)). [_ Colin Barker _ , Jan 24 2013] ●

[A118108] ● 1,7,17,119,273,1911,4369,30583,69905,489335,1118481,7829367,17895697,125269879,286331153,2004318071,4581298449,32069089143,73300775185,513105426295,1172812402961,8209686820727,18764998447377,131354989131639,300239975158033 ★ Decimal representation of n-th iteration of the Rule 54 elementary cellular automaton starting with a single black cell. ● a(n) = 7(4 ^ (n + 1) - 1) / 15 for n odd; a(n) = (4 ^ (n + 2) - 1) / 15 for n even. ● a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>3. ●

[A269447] ● 7,17,881,1351,42787,65337,2053401,3135331,98520967,150431057,4726953521,7217555911,226795248547,346292253177,10881444977241,16614810597091,522082563659527,797164616407697,25049081610680561,38247286776972871,1201833834749007907 ★ The first of 23 consecutive positive integers the sum of the squares of which is a square. ● a(n) = a(n - 1) + 48 * a(n - 2) - 48 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. ● a(1)=7, a(2)=17, a(3)=881, a(4)=1351, a(n) = 48 * a(n - 2) - a(n - 4) + 506. - _ Daniel Mondot _ , Aug 05 2016 ●

[A056021] ● 1,7,18,24,26,32,43,49,51,57,68,74,76,82,93,99,101,107,118,124,126,132,143,149,151 ★ Numbers k such that k^4 == 1 (mod 5^2). ● a(n) = (- 2 5 - (- 1) ^ n + (9 - 9 * I) * (- I) ^ n + (9 + 9 * I) * I ^ n + 50 * n) / 8. - _ Colin Barker _ , Oct 16 2015 ●

[A017473] ● 7,18,29,40,51,62,73,84,95,106,117,128,139,150,161,172,183,194,205,216,227,238,249,260,271 ★ 11*n+7. ● a(n) = 2 * a(n - 1) - a(n - 2). G.f.: (7 + 4 * x) / (1 - x) ^ 2. - _ Colin Barker _ , Jun 06 2012 ●

[A156619] ● 7,18,32,43,57,68,82,93,107,118,132,143,157,168,182,193,207,218,232,243,257,268,282,293,307 ★ Numbers congruent to {7, 18} mod 25. ● a(n) = 2 * a(n - 1) - a(n - 2) - 3, if n is even, and a(n) = 2 * a(n - 1) - a(n - 2) + 3, if n is odd, with a(1)=7, a(2)=18. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ● a(n) = 25 * n / 2 - 25 / 4 - 3 * (- 1) ^ n / 4. ●

[A033537] ● 0,7,18,33,52,75,102,133,168,207,250,297,348,403,462,525,592,663,738,817,900,987,1078,1173,1272 ★ a(n) = n*(2*n+5). ● a(n) = a(n - 1) + 4 * n + 3 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 ●

[A000566] ● 0,1,7,18,34,55,81,112,148,189,235,286,342,403,469,540,616,697,783,874,970,1071,1177,1288,1404 ★ Heptagonal numbers (or 7-gonal numbers): n(5n-3)/2. ● a(n) = Sum _{ k = 1..n } (4n - 3k). - _ Paul Barry _ , Sep 06 2005 ● a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3), a(0) = 0, a(1) = 1, a(2) = 7. - _ Jaume Oliver Lafont _ , Dec 02 2008 ● a(n) = 2 * a(n - 1) - a(n - 2) + 5 with a(0) = 0 and a(1) = 1. - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), May 05 2010 ● a(n) = a(n - 1) + 5 * n - 4 (with a(0) = 0). - _ Vincenzo Librandi _ , Nov 20 2010 ● a(5 * a(n) + 11 * n + 1) = a(5 * a(n) + 11 * n) + a(5 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 ● a(n + m) = a(n) + 5nm + a(m); ●

[A192751] ● 0,1,7,18,39,75,136,237,403,674,1115,1831,2992,4873,7919,12850,20831,33747,54648,88469,143195,231746,375027,606863,981984 ★ Define a pair of sequences c_n, d_n by c_0=0, d_0=1 and thereafter c_n = c_{n-1}+d_{n-1}, d_n = c_{n-1}+4*n+2; sequence here is c_n. ● a(n) = 5 * Fibonacci(n + 3) - (4 * n + 10). - _ N. J. A. Sloane _ , Dec 15 2015 ●

[A272459] ● 0,1,7,18,40,71,119,180,264,365,495,646,832,1043,1295,1576,1904,2265,2679,3130,3640,4191,4807,5468,6200 ★ The total number of different isosceles trapezoids, excluding squares, that can be drawn on a n X n square grid where the corners of each individual trapezoid lie on a lattice point. ● a(n) = (n * (- 1 - 3 * (- 1) ^ n - 12 * n + 10 * n ^ 2)) / 24. ● a(n) = (5 * n ^ 3 - 6 * n ^ 2 - 2 * n) / 12 for n even. ● a(n) = (5 * n ^ 3 - 6 * n ^ 2 + n) / 12 for n odd. ● a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>6. ●

[A262489] ● 7,18,78,187,781,1860,7740,18421,76627,182358,758538,1805167,7508761,17869320,74329080,176888041,735782047,1751011098,7283491398,17333222947,72099131941,171581218380,713707828020,1698478960861,7064979148267 ★ The index of the first of two consecutive positive triangular numbers (A000217) the sum of which is equal to the sum of three consecutive positive triangular numbers. ● a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. ●

[A030982] ● 0,1,1,7,18,80,284,1169,4628,19137,79165,333058,1410608,6029816,25941384,112315945,488862888,2138161043,9391903131,41414729419,183264846010,813564012660,3622193670040,16170171489820,72364908958800 ★ Number of noncrossing nonplanted bushes with n nodes, i.e., rooted noncrossing trees with n nodes and no nodes of degree 1. ● a(n) = 5 * Sum _{ k=2..n } ((- 1) ^ (n - k) * 2 ^ (n - k) * k * C(n,k) * C(3 * k - 2,k - 2) / (2 * k + 1)) / n. ●

[A017605] ● 7,19,31,43,55,67,79,91,103,115,127,139,151,163,175,187,199,211,223,235,247,259,271,283,295 ★ 12n+7. ● a(n) = 2 * (12 * n + 1) - a(n - 1) = 2 * a(n - 1) - a(n - 2) with a(0) = 7, a(1) = 19. - _ Vincenzo Librandi _ , Nov 19 2010 ●

[A003215] ● 1,7,19,37,61,91,127,169,217,271,331,397,469,547,631,721,817,919,1027,1141,1261,1387,1519,1657,1801 ★ Hex (or centered hexagonal) numbers: 3*n*(n+1)+1 (crystal ball sequence for hexagonal lattice). ● a(n) = 3 * n * (n + 1) + 1, n >= 0 (see the name). ● a(n) = (n + 1) ^ 3 - n ^ 3 = a(- 1 - n). ● a(n) = 1 + Sum _{ j=0..n } (6 * j). E.g., a(2)=19 because 1 + 6 * 0 + 6 * 1 + 6 * 2 = 19. - Xavier Acloque, Oct 06 2003 ● a(n) = right term in M ^ n * [1 1 1], where M = the 3 X 3 matrix [1 0 0 / 2 1 0 / 3 3 1]. M ^ n * [1 1 1] = [1 2n + 1 a(n)]. E.g., a(4) = 61, right term in M ^ 4 * [1 1 1], since M ^ 4 * [1 1 1] = [1 9 61] = [1 2n + 1 a(4)]. - _ Gary W. Adamson _ , Dec 22 2004 ● a(n) = 3 * n ^ 2 + 3 * n + 1. Proof: 1) If n occurs once, it may be in 3 positions; for the two other ones, n terms are independently possible, then we have 3 * n ^ 2 different triples. 2) If the term n occurs twice, the third one may be placed in 3 positions and have n possible values, then we have 3 * n more different triples. 3) The term n may occurs 3 times in one way only that gives the formula. - Philippe Lallouet (philip.lallouet(AT)wanadoo.fr), Aug 20 2007 ● a(n) = integral((sin((n + 1 / 2)x) / sin(x / 2)) ^ 3, x=0..Pi) / Pi. - _ Yalcin Aktar _ , Dec 03 2011 ●

[A098484] ● 1,1,1,1,7,19,37,61,145,397,979,2107,4591,10915,26857,63649,146347,339751,808885,1936717,4588705,10803133,25559287,60893551,145231309 ★

Expansion of 1/sqrt((1-x)^2-12x^4). • a(n)=sum { k=0..floor(n / 2), binomial(n - 2k, k)binomial(n - 3k, k)3 ^ k } . •

[A213489] • 1,7,19,37,64,103,154,217,295,391,505,637,790,967,1168,1393,1645,1927,2239,2581,2956,3367,3814,4297,4819 ⋆ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y|+|y-w| >= w+x+y. • a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). •

[A098481] • 1,1,1,7,19,37,115,361,937,2599,7777,22195,62701,182647,531829,1534903,4461571,13034917,38015899,110994193,325011151,952442557,2792471239,8198275933,24093817531 ⋆ Expansion of 1/sqrt((1-x)^2 - 12*x^3). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k) * binomial(n - 2k, k) * 3 ^ k. •

[A051937] • 1,7,19,38,65,101,147,204,273,355,451,562,689,833,995,1176,1377,1599,1843,2110,2401,2717,3059,3428,3825 ⋆ Truncated triangular pyramid numbers: a(n) = Sum_{k=4..n} k*(k+1)/2-9. • a(n) = 1 / 6 * (n - 3) * (n ^ 2 + 6 * n - 34). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Apr 28 2012 •

[A119327] • 1,1,7,19,38,66,106,162,239,343,481,661,892,1184,1548,1996,2541,3197,3979,4903,5986,7246,8702,10374,12283 ⋆ Expansion of (1-4x+12x^2-16x^3+8xâ´)/(1-x)^5. • a(n)=sum { j=0..n, C(4,2j) * C(n,2j) } •

[A152728] • 0,0,0,1,7,19,38,68,110,165,237,327,436,568,724,905,1115,1355,1626,1932,2274,2653,3073,3535,4040 ⋆ a(n)+a(n+1)+a(n+2)=n^3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 5). - _ Charles R Greathouse IV _ , Jul 10 2013 • a(3n) = n * (9n ^ 2 - 9n + 1), a(3n + 1) = n * (9n ^ 2 - 2), a(3n + 2) = n * (9n ^ 2 + 9n + 1). - _ Ralf Stephan _ , Jul 12 2013 • a(n) = ceil((n ^ 3 - 3 * n ^ 2 + n) / 3). - _ Robert Israel _ , Dec 01 2014 •

[A108766] • 1,1,7,19,39,69,111,167,239,329,439,571,727,909,1119,1359,1631,1937,2279,2659,3079,3541,4047,4599,5199 ⋆ a(n) = A007290(n+2) - 1 = 2*C(n+2,3) - 1. • a(n) = n * (n + 2) * (n + 1) / 3 - 1. •

[A213782] • 1,7,19,41,72,118,176,254,347,465,601,767,954,1176,1422,1708,2021,2379,2767,3205,3676,4202,4764,5386,6047 ⋆ Principal diagonal of the convolution array A213781. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (16 * n ^ 3 + 66 * n ^ 2 + 6 * (- 1) ^ n * n - 34 * n - 3 * (- 1) ^ n + 3) / 48. • a(n) = (8 * n ^ 3 + 33 * n ^ 2 - 14 * n) / 24 for n even. • a(n) = (8 * n ^ 3 + 33 * n ^ 2 - 20 * n + 3) / 24 for n odd. •

[A067889] • 7,19,41,103,137,199,307,349,491,739,823,919,1013,1061,1193,1277,1289,1409,1433,1447,1481,1543,1609,1667,1721 ⋆ Primes sandwiched between two numbers having same number of divisors. • a(n) seems curiously to be asymptotic to 25 * n * Log(n) •

[A265676] • 0,1,7,19,43,67,97,139,181,229,289,349,415,493,571,655,751,847,949,1063,1177,1297,1429,1561,1699 ⋆ a(n) is the total number of petals of the Flower of Life at the n-th iteration. • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5) for n>5. •

[A259486] • 1,7,19,43,73,109,157,211,271,343,421,505,601,703,811,931,1057,1189,1333,1483,1639,1807,1981,2161,2353 ⋆ a(n) = 3*n^2 - 3*n + 1 + 6*floor((n-1)*(n-2)/6). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - 2 * a(n - 4) + a(n - 5), n>5. • a(n) = 4 * n ^ 2 - 6 * n + 1 if 3 divides n, 4 * n ^ 2 - 6 * n + 3 otherwise. • a(n) = 4 * n ^ 2 - 6 * n + 3 ^ sign(n mod 3). - _ Wesley Ivan Hurt _ , Jul 13 2015 •

[A247905] • 1,7,19,43,79,139,223,355,535,811,1183,1747,2503,3643,5167,7459,10519,15115,21247,30451,42727,61147,85711,122563,171703 ⋆ Start with a single hexagon; at n-th generation add a hexagon at each expandable vertex (this is the "vertex to side" version); a(n) is the sum of all label values at n-th generation. (See comment for construction rules.) • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + 2 * a(n - 4). - _ Colin Barker _ , Sep 26 2014 •

[A048488] • 1,7,19,43,91,187,379,763,1531,3067,6139,12283,24571,49147,98299,196603,393211,786427,1572859,3145723,6291451,12582907,25165819,50331643,100663291 ⋆ 6*2^n - 5. • a(n) = 2 * a(n - 1) + 5, n > 0, a(0) = 1. - _ Paul Barry _ , Aug 25 2004 • a(n) = 3 * 2 ^ (1 + n) - 5. a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: (1 + 4 * x) / ((1 - x) * (1 - 2 * x)). - _ Colin Barker _ , Sep 17 2012 • a(n + 1) = 3 * 2 ^ n - 5 = 1 + 2 * sum(i = 0..n - 1, 3i) for n > 0. - _ Gerasimov Sergey _ and _ Alonso del Arte _ , May 03 2014 •

[A097039] • 0,1,7,19,47,102,210,413,789,1473,2703,4892,8756,15529,27331,47791,83103,143810,247814,425445,727985,1241981,2113247,3587064,6075432 ⋆ a(n) = Sum_{i=0..n} i*L(i), where L = A000032. • a(n) = n * L(n + 2) - L(n + 3) + 4. •

[A090025] • 0,7,19,49,91,175,253,415,571,805,1033,1423,1723,2263,2713,3313,3913,4825,5491,6625,7513,8701,9811,11461,12637 ⋆ Number of distinct lines through the origin in 3-dimensional cube of side length n. • a(n) = sum(moebius(k) * ((floor(n / k) + 1) ^ 3 - 1), k=1..n). - _ Vladeta Jovovic _ , Dec 03 2004 • a(n) = (n + 1) ^ 3 - sum(a(floor(n / j)), j=2..n + 1). - _ Seth A. Troisi _ , Aug 29 2013 •

[A100545] • 7,19,50,131,343,898,2351,6155,16114,42187,110447,289154,757015,1981891,5188658,13584083,35563591,93106690,243756479,638162747,1670731762,4374032539,11451365855,29980065026,78488829223 ⋆ Expansion of (7-2*x) / (x^2-3*x+1). • a(n) = 3 * a(n - 1) - a(n - 2) with a(0)=7 and a(1)=19. - _ Philippe Deléham _ , Nov 16 2008 • a(n) = (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 17 + 7 * sqrt(5)) + (3 + sqrt(5)) ^ n * (17 + 7 * sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Oct 14 2015 •

[A002533] • 1,1,7,19,73,241,847,2899,10033,34561,119287,411379,1419193,4895281,16886527,58249459,200931553,693110401,2390878567,8247309139,28449011113,98134567921,338514191407,1167701222419,4027973401873 ⋆ a(n) = 2*a(n-1) + 5*a(n-2). • a(n) = (1 / 2) * floor((1 + sqrt(6)) ^ n + (1 - sqrt(6)) ^ n). • a(2 * n + 1) = 2 * a(n) * a(n + 1) - (- 5) ^ n. • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n, 2 * k) * 6 ^ k - _ Paul Barry _ , Jul 25 2004 •

[A237436] • 7,19,79,331,751,1171,7459,10651,18379,78439,78439,399499,644869,1427911,1427911,4355311,5715319,43030381,43030381,163384621 ⋆ Least prime p > prime(n+1) such that p is a square mod the first n odd primes 3, 5, 7, 11, ..., prime(n+1). • a(n) = a(n + 1) if and only if Legendre (a(n)|prime(n + 2)) = 1. •

[A084603] • 1,1,7,19,91,331,1441,5797,24739,103411,441397,1876777,8047909,34533253,148803487,642228139,2778852979,12043194163,52286516821,227323871929,989675651041,4313712072241,18822940658947,82215245701519 ⋆ Coefficients of 1/(1-2x-11x^2)^(1/2); also, a(n) is the central coefficient of (1+x+3x^2)^n. • a(n)=sum { k=0..floor(n / 2), binomial(n - k, k)binomial(n, k)3 ^ k } . - _ Paul Barry _ , Aug 26 2004 • a(n)=(1 / pi) * Int(x ^ n / sqrt(- x ^ 2 + 2x + 11),x,1 - 2sqrt(3),1 + 2sqrt(3)); - _ Paul Barry _ , Sep 16 2006 • a(n)=sum { k=0..floor(n / 2), C(n,2k) * C(2k,k) * 3 ^ k } ; a(n)=sum { k=0..floor(n / 2), C(n,k) * C(n - k,k) * 3 ^ k } . - _ Paul Barry _ , Sep 16 2006 • a(n) is also the central coefficient of (3 + x + x ^ 2) ^ n; a(n)=sum _{ k=0..n } 2 ^ (n - k) C(n,k) T(k,n), where T(k,n) is the triangle of trinomial coefficients = Coefficient of x ^ n of (1 + x + x ^ 2) ^ k : A027907 - _ N. E. Fahssi _ , Feb 05 2008 • a(n + 2)=((2 * n + 3) * a(n + 1) + 11 * (n + 1) * a(n)) / (n + 2); a(0)=a(1)=1 - _ Sergei N. Gladkovskii _ , Aug 01 2012 •

[A091149] • 1,1,7,19,109,421,2251,10207,53593,263305,1385263,7109323,37728901,198723565,1065245299,5706564247,30879236017,167409942289,913397457367,4996676997379,27455383898269,151263170713909,836158046041243 ⋆ Expansion of (1 - x - sqrt(1 - 2*x - 23*x^2))/(12*x^2). • a(n) = Sum _{ k=0..n } C(n, 2 * k) * C(k) * 6 ^ k. - _ Paul Barry _ , May 16 2005 •

[A249608] • 1,1,7,19,115,451,2521,11677,63379,318115,1716517,8981017,48623389,260410333,1418640055,7707719299,42263782099,231857347603,1278917211061,7065478018585,39174182961865,217591443710905,1211736702238795,6759723716824855,37785032547293245 ⋆ E.g.f.: exp(x) * BesselI(0, 2*x) * BesselI(0, 2*sqrt(2)*x). • a(n) = Sum _{ k=0..n } (- 1) ^ k * C(n,k) * C(2 * k,k) * (Sum _{ j=0..n - k } C(n - k,j) ^ 2 * 2 ^ j). •

[A134863] • 7,20,28,41,54,62,75,83,96,109,117,130,143,151,164,172,185,198,206,219,227,240,253,261,274 ⋆ Wythoff BAB numbers. • a(n) = B(A(B(n))), n>=1, with A=A000201, the lower Wythoff sequence and B=A001950, the upper Wythoff sequence. •

[A140676] • 0,7,20,39,64,95,132,175,224,279,340,407,480,559,644,735,832,935,1044,1159,1280,1407,1540,1679,1824 ⋆ a(n) = n*(3*n + 4). • a(n) = 3 * n ^ 2 + 4 * n. • a(n) = 6 * n + a(n - 1) + 1 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=7, a(2)=20; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 04 2013 •

[A011934] • 0,1,7,20,44,81,135,208,304,425,575,756,972,1225,1519,1856,2240,2673,3159,3700,4300,4961,5687,6480,7344 ⋆ a(n) = |1^3 - 2^3 + 3^3 - 4^3 + ... + (-1)^(n+1)*n^3|. • a(n) = |(1 / 8) * (- 1 + (- 1) ^ n - 6 * (- 1) ^ n * n ^ 2 - 4 * (- 1) ^ n * n ^ 3)|. - _ Henry Bottomley _ , Nov 13 2000 • a(n) = Sum _{ k=1..n } floor((2 * n + 1) * k / 2). - _ Wesley Ivan Hurt _ , Apr 01 2017 •

[A100206] • 0,7,20,46,98,202,410,826,1658,3322,6650,13306,26618,53242,106490,212986,425978,851962,1703930,3407866,6815738,13631482,27262970,54525946,109051898 ⋆ Row sums of Clark's triangle A046902. • a(0)=0; for n>0, a(n) = 13 * 2 ^ (n - 1) - 6. - _ Max Alekseyev _ , May 12 2005 • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n > 1. •

[A047862] • 1,7,20,48,108,236,508,1084,2300,4860,10236,21500,45052,94204,196604,409596,851964,1769468,3670012,7602172,15728636,32505852,67108860,138412028,285212668 ⋆ a(n) = T(5,n), array T given by A047858. • a(n) = 2 ^ (n - 1) * (n + 10) - 4. (End) • a(0)=1, a(1)=7, a(2)=20; for n>2, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2011 • a(n) = 2 ^ (n - 1) * (n + 10) - 4. G.f.: (1 + 2 * x - 7 * x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). - _ Colin Barker _ , Feb 18 2016 •

[A048755] • 1,7,20,52,129,315,764,1848,4465,10783,26036,62860,151761,366387,884540,2135472,5155489,12446455,30048404,72543268,175134945,422813163,1020761276,2464335720,5949432721 ⋆ Partial sums of A048693. • a(n)=2 * a(n - 1) + a(n - 2) + 5; a(0)=1, a(1)=6. • a(n)=[{ (6 + (7 / 2) * sqrt(2))(1 + sqrt(2)) ^ n - (6 - (7 / 2) * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - 5 / 2. • a(0)=1, a(1)=7, a(2)=20, a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Mar 29 2013 •

[A055267] • 1,7,20,53,139,364,953,2495,6532,17101,44771,117212,306865,803383,2103284,5506469,14416123,37741900,98809577,258686831,677250916,1773065917,4641946835,12152774588,31816376929 ⋆ a(n) = 3a(n-1) - a(n-2); a(0)=1, a(1)=7. • a(n) = (7 * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) - (((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1))) / sqrt(5). •

[A147587] • 7,21,35,49,63,77,91,105,119,133,147,161,175,189,203,217,231,245,259,273,287,301,315,329,343 ⋆ a(n) = 14n + 7. • a(n) = 28 * n - a(n - 1) (with a(0)=7). - _ Vincenzo Librandi _ , Nov 24 2010 • a(n) = 2 * a(n - 1) - a(n - 2). (End) •

[A063292] • 1,7,21,36,51,66,81,96,111,126,141,154,171,186,201,214,231,244,261,274,291,304,321,332,351 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(19). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A024966] • 0,7,21,42,70,105,147,196,252,315,385,462,546,637,735,840,952,1071,1197,1330,1470,1617,1771,1932,2100 ⋆ 7 times triangular numbers: 7*n*(n+1)/2. • a(n) = (7 / 2) * n * (n + 1). • a(n) = a(n - 1) + 7 * n with n > 0, a(0)=0. - _ Vincenzo Librandi _ , Nov 19 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0) = 0, a(1) = 7, a(2) = 21. • a(n) = Sum _{ i=3 * n..4 * n } i. - _ Wesley Ivan Hurt _ , Dec 22 2015 •

[A054569] • 1,7,21,43,73,111,157,211,273,343,421,507,601,703,813,931,1057,1

191,1333,1483,1641,1807,1981,2163,2353 ★ a(n) = 4*n^2 - 6*n + 3. ● a(n + 1) = 4 * n ^ 2 + 2 * n + 1. - _ Paul Barry _ , Apr 02 2003 ● a(n) = 4 * n ^ 2 - 6 * n + 3 - 3 * 0 ^ n (with leading zero). - _ Paul Barry _ , Jun 11 2003 ● a(n) = 8 * n + a(n - 1) - 10 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 07 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (1 + x) * (1 + 3 * x) / (1 - x) ^ 3. - _ Colin Barker _ , Mar 23 2012 ●

[A287431] ● 7,21,45,129,373,1177,3741,12065,38949,125993,407597,1318961,4268085,13811769,44695613,144638017,468058181,1514668105,4901568589,15861809233,51329892437,166107021401,537533612125,1739495309409,5629125066853 ★ Number of connected dominating sets in the n-gear graph. ● a(n) = 1 + 4 * n + (1 - sqrt(5)) ^ n + (1 + sqrt(5)) ^ n. ● a(n) = 4 * a(n - 1) - a(n - 2) - 6 * a(n - 3) + 4 * a(n - 4) for n>4. (End) ●

[A127736] ● 1,7,21,46,85,141,217,316,441,595,781,1002,1261,1561,1905,2296,2737,3231,3781,4390,5061,5797,6601,7476,8425 ★ a(n) = n*(n^2+2*n-1)/2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: - x * (x ^ 2 - 3 * x - 1) / (x - 1) ^ 4. - _ Colin Barker _ , Mar 12 2014 ●

[A212677] ● 0,0,1,7,21,46,86,144,223,327,459,622,820,1056,1333,1655,2025,2446,2922,3456,4051,4711,5439,6238,7112 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+y=|x-y|+|y-z|. ● a(n)=3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). ●

[A233329] ● 1,7,21,51,102,186,310,490,735,1065,1491,2037,2716,3556,4572,5796,7245,8955,10945,13255,15906,18942,22386,26286,30667 ★ Expansion of (1+4*x+x^2)/((1-x)^2*(1-x)^5). ● a(n) = (2 * (n ^ 4 + 10 * n ^ 3 + 34 * n ^ 2 + (45 + (- 1) ^ (n + 1)) * n) + 37 + 5 * (- 1) ^ (n + 1)) / 32. ● a(n) = sum _{ j=1..n + 1 } (sum _{ i=1..j + 1 } floor(i * j / 2)). - _ Wesley Ivan Hurt _ , Nov 17 2014 ●

[A001354] ● 1,7,21,56,147,385,1008,2639,6909,18088,47355,123977,324576,849751,2224677,5824280,15248163,39920209,104512464,273617183,716339085,1875400072,4909861131,12854183321 ★ Coordination sequence for hyperbolic tessellation 3^7 (from triangle group (2,3,7)). ● a(n + 1) = 3 * a(n) - a(n - 1). ●

[A088656] ● 1,7,21,60,167,466,1297,3613,10060,28012,77998,217180,604723,1683804,4688422,13054548,36349377,101212019,281817012,784697597,2184929553,6083766752,16939776315,47167492325,131334221349 ★ Second term estimate of infinite Pisot equation as integers. ● a(n) = Floor[If[n - 1==0, 1, 1 / N[((E / 2) / (E / (E - 2))) ^ n]]] ●

[A005032] ● 7,21,63,189,567,1701,5103,15309,45927,137781,413343,1240029,3720087,11160261,33480783,100442349,301327047,903981141,2711943423,8135830269,24407490807,73222472421,219667417263,659002251789,1977006755367 ★ a(n) = 7*3^n. ● a(n) = 3 * a(n - 1), a(0)=7. (End) ●

[A215494] ● 7,21,70,245,882,3234,12005,44933,169099,638666,2417807,9167018,34790490,132119827,501941055,1907443237,7249766678,27557748813,104759610858,398257159370,1514069805269,5756205681709,21884262613787,83201447389466,316323894905207 ★ a(n) = 7*a(n-1) - 14*a(n-2) + 7*a(n-3) with a(1)=7, a(2)=21, a(3)=70. ● a(n) = s(1) ^ (2n) + s(2) ^ (2n) + s(4) ^ (2n), where s(j) := 2 * Sin(2 * Pi * j / 7) (for the sums of the respective odd powers see A215493, see also A094429, A115146). For the proof of these formula see Witula - Slota's paper. ●

[A146533] ● 1,7,21,70,245,882,3234,12012,45045,170170,646646,2469012,9464546,36402100,140408100,542911320,2103781365,8167621770,31762973550,123708423300,482462850870,1883902560540,7364346373020 ★ Catalan transform of A135092. ● a(n) = (7 * C(2n,n) - 5 * 0 ^ n) / 2. ●

[A153497] ● 1,7,21,73,341,1453,5461,21157,87381,354997,1398101,5548693,22369621,89828053,357913941,1428859477,5726623061,22928862037,91625968981,366324918613,1466015503701,5865493671253,23456248059221,93813538989397 ★ a(n) is the number whose binary expansion is A153498(n). ● a(n) = 5 * a(n - 1) - 14 * a(n - 2) + 50 * a(n - 3) - 56 * a(n - 4) + 80 * a(n - 5) - 64 * a(n - 6). ●

[A177369] ● 1,7,21,87,317,1215,4565,17287,65261,246671,931909,3521367,13305053,50272991,189953717,717732903,2711921613,10246881583,38717399589,146292038647 ★ Expansion of g.f.: (1+4*x-4*x^2)/(1-3*x-4*x^2+4*x^3) ● a(1)=1, a(2)=7, a(3)=21, a(n)=3 * a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3). - _ Harvey P. Dale _ , May 10 2015 ●

[A164544] ● 1,7,21,91,329,1295,4893,18851,71953,275863,1055397,4041835,15471449,59235743,226771629,868193459,3323788321,12724930855,48716379957,186507275899,714029211497,2733609354287,10465423189053,40066111858115 ★ a(n) = 2*a(n-1)+7*a(n-2) for n > 1; a(0) = 1, a(1) = 7. ● a(n) = 2 * a(n - 1) + 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 7. ● a(n) = ((2 + 3 * sqrt(2)) * (1 + 2 * sqrt(2)) ^ n + (2 - 3 * sqrt(2)) * (1 - 2 * sqrt(2)) ^ n) / 4. ●

[A001693] ● 1,7,21,112,588,3360,19544,117648,720300,4483696,28245840,179756976,1153430600,7453000800,48444446376,316504099520,2077057800300,13684147881600,90467419857752,599941851861744 ★ Number of degree-n irreducible polynomials over GF(7); dimensions of free Lie algebras. ● a(n) = (1 / n) * Sum _{ d|n } mu(d) * 7 ^ (n / d), for n>0. ●

[A063130] ● 7,22,38,54,70,86,102,118,134,150,166,182,198,214,230,246,262,278,294,310,326,342,358,374,390 ★ Dimension of the space of weight 2n cusp forms for Gamma_0(62). ● a(n) = 2 * (8 * n - 5) for n>1. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>3. ●

[A033954] ● 0,7,22,45,76,115,162,217,280,351,430,517,612,715,826,945,1072,1207,1350,1501,1660,1827,2002,2185,2376 ★ Second 10-gonal (or decagonal) numbers: n*(4*n+3). ● a(n) = 8 * n + a(n - 1) - 1 with a(0)=0. - _ Vincenzo Librandi _ , Jul 20 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0) = 0, a(1) = 7, a(2) = 22. - _ Philippe Deléham _ , Mar 26 2013 ●

[A038764] ● 1,7,22,46,79,121,172,232,301,379,466,562,667,781,904,1036,1177,1327,1486,1654,1831,2017,2212,2416,2629 ★ a(n) = (9*n^2 + 3*n + 2)/2. ● a(n) = binomial(n,0) + 6 * binomial(n,1) + 9 * binomial(n,2). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Colin Barker _ , Jan 22 2018 ● a(n) = a(n - 1) + 3 * (3 * n - 1) for n>0, a(0)=1. - _ Vincenzo Librandi _ , Nov 17 2010 ● a(n) = hypergeometric([- n, - 2], [1], 3). - _ Peter Luschny _ , Nov 19 2014 ●

[A129109] ● 7,22,49,88,139,202,277,364,463,574,697,832,979,1138,1309,1492,1687,1894,2113,2344,2587,2842,3109,3388,3679 ★ Sums of three consecutive hexagonal numbers. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with G.f. (7 + x + 4 * x ^ 2) / (1 - x) ^ 3. [Colin Barker, Feb 20 2012] ●

[A002412] ● 0,1,7,22,50,95,161,252,372,525,715,946,1222,1547,1925,2360,2856,3417,4047,4750,5530,6391,7337,8372,9500 ★ Hexagonal pyramidal numbers, or greengrocer's numbers. ● a(n) = n(n + 1)(4n - 1) / 6. ● a(n) = n ^ 3 - sum (i ^ 2, i=1..(n - 1)). - Klaus Strassburger (strass(AT)ddfi.uni - duesseldorf.de) ● a(n) = Sum _{ i=0..n - 1 } (n - i) * (n + i). - Jon Perry, Sep 26 2004 ● a(n) = sum { i=0..n } (2i ^ 2 + 3i + 1), for n >= 0 (Omits the leading 0). - _ William A. Tedeschi _ , Aug 25 2010 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), with a(0)=0, a(1)=1, a(2)=7, a(3)=22. - _ Harvey P. Dale _ , Jul 16 2011 ● a(n) = sum a * b, where the summing is over all unordered partitions 2 * n = a + b. - _ Vladimir Shevelev _ , May 11 2012 ●

[A184629] ● 1,7,22,51,100,173,274,409,583,800,1064,1382,1757,2195,2700,3276,3930,4665,5487,6400,7408,8518,9733,11059,12500 ★ Floor(1/{(5+n^4)^(1/4)}), where {} =fractional part. ● a(n)=floor(1 /{ (5 + n ^ 4) ^ (1 / 4) }), where {} =fractional part. ●

[A041215] ● 1,1,7,22,51,532,1115,3877,24377,28254,589457,617711,4295723,13504880,31305483,326559710,684424903,2379834419,14963431417,17343265836,361828748137,379172013973,2636860831975,8289754509898,19216369851771 ★ Denominators of continued fraction convergents to sqrt(118). ● a(n) = 61838 4 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 13 2013 ●

[A011926] ● 0,0,0,0,1,7,22,52,105,189,315,495,742,1072,1501,2047,2730,3570,4590,5814,7267,8977,10972,13282,15939 ★ [n(n-1)(n-2)(n-3)/16]. ● a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) - 10 * a(n - 6) + 10 * a(n - 7) - 5 * a(n - 8) + a(n - 9). G.f.: x ^ 4 * (x ^ 4 + 1 + 2 * x - 3 * x ^ 2 + 2 * x ^ 3) / ((1 - x) ^ 5 * (x ^ 4 + 1)). [From _ R. J. Mathar _ , Apr 15 2010] ●

[A101120] ● 7,22,52,112,239,494,1004,2024,4071,8166,16356,32736,65503,131038,262108,524248,1048535,2097110,4194260,8388560,16777167,33554382,67108812,134217672,268435399 ★ Records in A101119, which forms the nonzero differences of A006519 and A003484. ● a(n) = 2 ^ (n + 3) - 2 ^ ((n - 1)(mod 4)) - 8 * floor((n + 3) / 4). ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) + a(n - 4) - 3 * a(n - 5) + 2 * a(n - 6) for n > 6. ●

[A188377] ● 7,22,53,106,187,302,457,658,911,1222,1597,2042,2563,3166,3857,4642,5527,6518,7621,8842,10187,11662,13273,15026,16927 ★ a(n) = n^3 - 4n^2 + 6n - 2. ● a(n + 1) = (n + 1) ^ 3 - 4 * (n + 1) ^ 2 + 6 * (n + 1) - 2 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A213585] ● 1,7,22,54,116,232,443,821,1490,2664,4710,8256,14373,24883,42878,73594,125880,214664,365087,619425,1048666,1771852,2988362,5031744,8459401 ★ Principal diagonal of the convolution array A213584. ● a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) + a(n - 5). ●

[A085287] ● 1,7,22,70,211,637,1912,5740,17221,51667,155002,465010,1395031,4185097,12555292,37665880,112997641,338992927,1016978782,3050936350,9152809051,27458427157,82375281472,247125844420,741377533261 ★ Expansion of (1+4x)/((1-x^2)(1-3x)). ● a(n) = (- 10 - 3(- 1) ^ n + 21 * 3 ^ n) / 8. ● a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 5, a(0)=0, a(1)=1. [_ Zerinvary Lajos _ , Dec 14 2008] ●

[A286186] ● 7,22,73,268,1039,4114,16405,65560,262171,1048606,4194337,16777252,67108903,268435498,1073741869,4294967344,17179869235,68719476770,274877907001,1099511627836,4398046511167,17592186044482,70368744177733,281474976710728,1125899906842699 ★ Number of connected induced (non-null) subgraphs of the friendship graph with 2n+1 nodes. ● a(n) = 4 ^ n + 3 * n. ● a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3) for n>3. ●

[A041913] ● 1,1,7,22,95,117,212,1177,1389,3955,13254,17209,30463,47672,78135,125807,1713626,1839433,38502286,40341719,562944633,603286352,1166230985,1769517337,2935748322 ★ Denominators of continued fraction convergents to sqrt(478). ● a(n) = 3234639155983486 * a(n - 36) - a(n - 72) for n>71. [_ Bruno Berselli _ , Dec 27 2013] ●

[A117110] ● 0,1,7,22,100,376,1552,6112,24640,98176,393472,1572352,6292480,25163776,100667392,402644992,1610629120,6442418176,25769869312,103079084032,412317122560,1649266917376,6597070815232,26388276969472 ★ The (1,1)-entry of the vector v[n]=Mv[n-1], where M is the 3 x 3 matrix [[0,-1/r,r],[-1/r,-2/r,1],[r,1,2+2/r]], r being the golden ratio and v[0] is the column matrix [0,1,1]. ● a(n)= - (1 / 2) * (- 2) ^ (n - 1) + (3 / 2) * 4 ^ (n - 1) - 5 / 8 * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Oct 07 2008] ●

[A183126] ● 0,1,7,23,39,79,95,135,175,287,303,343,383,495,535,647,759,1087,1103,1143,1183,1295,1335,1447,1559 ★ Toothpick sequence with toothpicks connected by their endpoints. ● a(1 + 2 ^ n) = 2 ^ (n + 2) + 4 ^ (n + 1) - 1, n >= 0. ●

[A073577] ● 7,23,47,79,119,167,223,287,359,439,527,623,727,839,959,1087,1223,1367,1519,1679,1847,2023,2207,2399,2599 ★ a(n) = 4*n^2 + 4*n - 1. ● a(n) = 8 * n + a(n - 1) (with a(1)=7). - _ Vincenzo Librandi _ , Aug 08 2010 ● a(n) = (2 * n + 1) + (2 * n - 1) + (2 * n + 1) * (2 * n - 1). - _ J. M. Bergot _ , Apr 17 2016 ● a(n) = (2 * n + 1) ^ 2 - 2. - _ Zhandos Mambetaliyev _ , Jun 13 2017 ●

[A062725] ● 0,7,23,48,82,125,177,238,308,387,475,572,678,793,917,1050,1192,1343,1503,1672,1850,2037,2233,2438,2652 ★ Write 0,1,2,3,4,... in a triangular

spiral, then a(n) is the sequence found by reading the line from 0 in the direction 0,7,... • a(n) = n * (9 * n + 5) / 2. • a(n) = 9 * n + a(n - 1) - 2 with a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A004068**] • 0,1,7,23,54,105,181,287,428,609,835,1111,1442,1833,2289,2815,3416,4097,4863,5719,6670,7721,8877,10143,11524 ★ Number of atoms in a decahedron with n shells. • a(n) = 5 * binomial(n + 1, 3) + binomial(n, 1). • a(n) = 5 * n ^ 3 / 6 + n / 6. •

[**A261893**] • 1,7,23,55,109,191,307,463,665,919,1231,1607,2053,2575,3179,3871,4657,5543,6535,7639,8861,10207,11683,13295,15049 ★ a(n) = (n+1)^3 - n^2. • a(n) = n ^ 3 + 2 * n ^ 2 + 3 * n + 1. •

[**A022815**] • 1,7,23,55,110,196,322,498,735,1045,1441,1937,2548,3290,4180,5236,6477,7923,9595,11515,13706,16192,18998,22150,25675 ★ Number of terms in 5th derivative of a function composed with itself n times. • a(n) = n * (n + 1) * (n ^ 2 + 13 * n - 2) / 24. - _ John W. Layman _ , Apr 27 2000 •

[**A172252**] • 1,7,23,55,119,247,503,1015,2039,4087,8183,16375,32759,65527,131063,262135,524279,1048567,2097143,4194295,8388599,16777207,33554423,67108855,134217719 ★ a(n) = 4*2^n - 9. • a(n) = 2 * a(n - 1) + 9, a(1)= - 1. - Vincenzo Librandi, Mar 20 2011 •

[**A027116**] • 7,23,56,120,241,467,886,1660,3087,5715,10552,19452,35825,65943,121342,223240,410663,755391,1389448,2555664,4700673,8645963,15902486,29249316,53797967 ★ a(n) = T(n, n+3), T given by A027113. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 4) + a(n - 5) for n>7. •

[**A058195**] • 1,7,23,57,118,218,370,590,895,1305,1841,2527,3388,4452,5748,7308,9165,11355,13915,16885,20306,24222,28678,33722,39403 ★ Areas of a sequence of right-angled figures described below. • a(n) = [(2n ^ 4 + 10n ^ 3 + 13n ^ 2 + 2n) / 24], where [] denotes floor. (For even n there is no need for truncation. For odd n the [] removes 1 / 8.) A formula without [] is (4n ^ 4 + 20n ^ 3 + 26n ^ 2 + 4n + 3 + 3(- 1) ^ (n + 1)) / 48. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6) for n>6. • a(n) = (2 * n ^ 4 + 10 * n ^ 3 + 13 * n ^ 2 + 2 * n) / 24 for n even. • a(n) = (2 * n ^ 4 + 10 * n ^ 3 + 13 * n ^ 2 + 2 * n - 3) / 24 for n odd. •

[**A213770**] • 1,7,23,58,126,250,467,837,1457,2484,4172,6932,11429,18739,30603,49838,81002,131470,213175,345425,559461,905832,1466328,2373288,3840841 ★ Antidiagonal sums of the convolution array A213768. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[**A126284**] • 1,7,23,59,135,291,607,1243,2519,5075,10191,20427,40903,81859,163775,327611,655287,1310643,2621359,5242795,10485671,20971427,41942943,83885979,167772055 ★ a(n) = 5*2^n - 4*n - 5. • a(n) = right term of M ^ n * [1,0,0], where M = the 3 X 3 matrix [1,0,0; 1,1,0; 14,2]. • a(1) = 1; a(2) = 7; a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3), n > 2. •

[**A077037**] • 7,23,61,113,211,337,509,727,997,1327,1723,2179,2741,3373,4093,4909,5827,6857,7993,9257,10639,12163,13807,15619,17573 ★ Largest prime < n^3. • a(n) > (n - 1) ^ 3 for all large n, by Ingham's theorem (see A060199). - _ Jonathan Sondow _ , Mar 27 2014 •

[**A266801**] • 7,23,65,653,3935,28373,190793,1317335,9003953,61779965,423273503,2901611813,19886759705,136308977303,934267517345,6403586065133,43890776239583,300832001287925,2061932830446953,14132698865151575,96866956468010513,663936003630421853 ★ Coefficient of x^2 in the minimal polynomial of the continued fraction [1^n,sqrt(3),1,1,...], where 1^n means n ones. • a(n) = 5 * a(n - 1) + 15 * a(n - 2) - 15 * a(n - 3) - 5 * a(n - 4) + a(n - 5) . •

[**A198644**] • 7,23,71,215,647,1943,5831,17495,52487,157463,472391,1417175,4251527,12754583,38263751,114791255,344373767,1033121303,3099363911,9298091735,27894275207,83682825623,251048476871,753145430615,2259436291847 ★ 8*3^n-1. • a(n) = 3 * a(n - 1) + 2, a(0)=7. •

[**A242496**] • 0,1,7,23,72,204,564,1521,4059,10747,28336,74504,195576,512865,1344063,3521007,9221688,24148468,63230860,165555665,433454835,1134839091,2971111392,7778574288,20364739632 ★ a(n)=sum_{j=0..n} sum_{i=0..j} F(i)*L(j), where F(n)=A000045(n) and L(n)=A000032(n). • a(n) = L(n) * F(n + 3) - L(n + 2) + (1 - 3 * (- 1) ^ n) / 2. - _ Colin Barker _ , May 18 2014 •

[**A240526**] • 7,23,76,284,1072,4208,16576,65984,262912,1050368,4197376,16784384,67121152,268464128,1073790976,4295081984,17180065792,6871993548 8,274878693376,1099513462784,4398049656832,17592193384448,70368756760576,281475006070784,1125899957174272 ★ 2^(n-2)*(2^(n+4)-(-1)^n+13). • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3) for n>2. •

[**A093069**] • 7,23,79,287,1087,4223,16639,66047,263167,1050623,4198399,16785407,67125247,268468223,1073807359,4295098367,17180131327,6872000103,274878955519,1099513724927,4398050705407,17592194433023,70368760954879,281475010265087,1125899973951487 ★ a(n) = (2^n + 1)^2 - 2. • a(n) = 4 ^ n + 2 ^ (n + 1) - 1. •

[**A217233**] • 1,1,7,23,89,329,1231,4591,17137,63953,238679,890759,3324361,12406681,46302367,172802783,644908769,2406832289,8982420391,33522849271,125108976697,466913057513,1742543253359,6503259955919,24270496570321 ★ Expansion of (1-2*x+x^2)/(1-3*x-3*x^2+x^3). • a(n) = (4 * (- 2) ^ n + (1 - sqrt(3)) ^ (2 * n + 1) + (1 + sqrt(3)) ^ (2 * n + 1)) / (6 * 2 ^ n). • a(n) = - a(- n - 1) = 3 * a(n - 1) + 3 * a(n - 2) - a(n - 3) = 4 * a(n - 1) - a(n - 2) + 4 * (- 1) ^ n. •

[**A267805**] • 1,7,23,103,375,1639,6007,26215,96119,419431,1537911,6710887,24606583,107374183,393705335,1717986919,6299285367,27487790695,100788565879,439804651111,1612617054071,7036874417767,25801872865143,112589990684263,412829965842295 ★ Decimal representation of the n-th iteration of the "Rule 214" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>3. •

[**A267926**] • 1,7,23,119,375,1911,6007,30583,96119,489335,1537911,7829367,24606583,125269879,393705335,2004318071,6299285367,32069089143,100788565879,513105426295,1612617054071,8209686820727,25801872865143,131354989131639,412829965842295 ★ Decimal representation of the n-th iteration of the "Rule 246" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 1) + 16 * a(n - 2) - 16 * a(n - 3) for n>2. • a(n) = (25 * 4 ^ n - 3 * (- 4) ^ n - 7) / 15. - _ Colin Barker _ , Nov 25 2016 •

[**A154612**] • 7,24,41,58,75,92,109,126,143,160,177,194,211,228,245,262,279,296,313,330,347,364,381,398,415 ★ 17n + 7. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 26 2012 •

[**A168668**] • 0,7,24,51,88,135,192,259,336,423,520,627,744,871,1008,1155,1312,1479,1656,1843,2040,2247,2464,2691,2928 ★ a(n) = n*(2 + 5*n). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A212511**] • 0,0,0,7,24,57,135,259,432,732,1125,1638,2376,3302,4410,5915,7680,9765,12393,15447,18900,23170,27951,33348,39744 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y>=3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[**A081436**] • 1,7,24,58,115,201,322,484,693,955,1276,1662,2119,2653,3270,3976,4777,5679,6688,7810,9051,10417,11914,13548,15325 ★ Diagonal in array of n-gonal numbers A081422. • a(n) = (n + 1) * (2 * n ^ 2 + 3 * n + 2) / 2. • a(n) = (n + 1) * T(n + 1) + n * T(n), where T( ) are triangular numbers. Binomial transform of [1, 6, 11, 6, 0, 0, 0,...]. - _ Gary W. Adamson _ , Dec 28 2007 •

[**A008779**] • 1,7,24,59,120,216,357,554,819,1165,1606,2157,2834,3654,4635,5796,7157,8739,10564,12655,15036,17732,20769,24174,27975 ★ Number of n-dimensional partitions of 5. • a(n) = (n + 1)(n ^ 3 + 21 * n ^ 2 + 38 * n + 24) / 24. - _ M. F. Hasler _ , Sep 15 2009 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , May 21 2015 •

[**A014205**] • 0,1,7,24,60,125,231,392,624,945,1375,1936,2652,3549,4655,6000,7616,9537,11799,14440,17500,21021,25047,29624,34800 ★ (1/12)*(n+5)*(n+1)*n^2. • a(n) = 2 * C(n + 3,4) - C(n + 1,2). - _ Zerinvary Lajos _ , May 02 2007 • a(0)=0, a(1)=1, a(2)=7, a(3)=24, a(4)=60, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 10 2014 •

[**A211381**] • 0,0,0,0,7,24,63,130,242,408,650,980,1425,2000,2737,3654,4788,6160,7812,9768,12075,14760,17875,21450,25542 ★ Number of pairs of intersecting diagonals in the exterior of a regular n-gon. • a(n) = 1 / 24 * n * (n - 4) * (n - 6) * (2 * n - 7) for n even. • a(n) = 1 / 24 * n * (n - 3) * (n - 5) * (2 * n - 11) for n odd. •

[**A212504**] • 0,0,0,7,24,76,162,333,576,976,1500,2275,3240,4572,6174,8281,10752,13888,17496,21951,27000,33100,39930,48037,57024 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y>2z. • a(n) = 2a(n - 1) + 2a(n - 2) - 6a(n - 3) + 6a(n - 5) - 2a(n - 6) - 2a(n - 7) + a(n - 8). •

[**A283457**] • 7,24,101,477,2411,12729,69251,385017,2175491,12444489,71865251,418096857,2446626371,14383667049,84875140451,502327573497,2980183394051,17715498038409,105478120962851,628846706246937,3753178627502531,22420395331846569 ★ Row n=5 of A144048. • a(n) = 1 + (45 * 2 ^ (2 * n + 2) + 45 * 2 ^ (n + 2) + 40 * 3 ^ (n + 1) + 5 * 2 ^ (n + 3) * 3 ^ (n + 1) + 24 * 5 ^ (n + 1)) / 120. • a(n) = 1 + 3 * 2 ^ (n - 1) + 3 * 2 ^ (2 * n - 1) + 3 ^ n + 5 ^ n + 6 ^ n. • a(n) = 21 * a(n - 1) - 175 * a(n - 2) + 735 * a(n - 3) - 1624 * a(n - 4) + 1764 * a(n - 5) - 720 * a(n - 6) for n>5. (End) •

[**A140716**] • 7,25,31,49,55,73,79,97,103,121,127,145,151,169,175,193,199,217,223,241,247,265,271,289,295 ★ Blocky integers, i.e., integers n > 1 such that there is a run of n consecutive integer squares the average of which is a square. • a(n) = 8 * (s - 1) + 1 for n odd, a(n) = 8 * (s - 1) + 7 for n even. - _ Artur Jasinski _ , Oct 30 2008 • a(n)= a(n - 2) + 24 = 12n - 2 + 3 * (- 1) ^ n. (End) • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Colin Barker _ , May 12 2012 •

[**A075927**] • 7,25,42,75,385,642,1155,2184,4233,8330,16523,98305,163842,294915,557064,1081353,2129930,4227083,8421504,16810113,33587330,67141763,134250632,268468361,536903818 ★ Basis for code in A075926. • a(n) = b(2 ^ n), where b is the Hamming code d=3. •

[**A119617**] • 1,7,25,43,79,109,163,205,277,331,421,487,595,673,799,889,1033,1135,1297,1411,1591,1717,1915,2053,2269 ★ Integers of the form c(n)/b(n) where c(n+1)=c(n)+(n+1)^4 with c(0)=1 and b(n+1)=b(n)+(n+1)^2 with b(0)=1. • a(n) = (30 * n * (n - 1) - 3 * (2 * n - 1) * (- 1) ^ n + 5) / 8. (End) •

[**A179436**] • 7,25,52,88,133,187,250,322,403,493,592,700,817,943,1078,1222,1375,1537,1708,1888,2077,2275,2482,2698,2923 ★ a(n) = (3*n+7)*(3*n+2)/2. • a(n) = a(n - 1) + 9 * (n + 1) = (14 + 27 * n + 9 * n ^ 2) / 2. • a(n) = 2 * a(n - 1) - a(n - 2) + 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A227776**] • 7,25,55,97,151,217,295,385,487,601,727,865,1015,1177,1351,1537,1735,1945,2167,2401,2647,2905,3175,3457,3751 ★ a(n) = 6*n^2 + 1. • a(n) = 6 * n ^ 2 + 1 for n >= 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A213390**] • 1,7,25,55,109,181,289,421,601,811,1081,1387,1765,2185,2689,3241,3889,4591,5401,6271,7261,8317,9505,10765,12169 ★ Number of (w,x,y) with all terms in {0,...,n} and max(w,x,y) >= 2*min(w,x,y). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). • a(n) = (6 * n ^ 3 + 24 * n ^ 2 + 21 * n + 8 + 3 * n * (- 1) ^ n) / 8. - _ Luce ETIENNE _ , Jul 17 2016 •

[**A071778**] • 1,7,25,55,115,181,307,439,637,841,1171,1447,1915,2329,2881,3433,4249,4879,5905,6745,7861,8911,10429,11557,13297 ★ Number of ordered triples (a, b, c) with gcd(a, b, c) = 1 and 1 <= {a, b, c} <= n. • a(n) = Sum(k=1..n, mu(k) * floor(n / k) ^ 3). - _ Benoit Cloitre _ , May 11 2003 • a(n) = n ^ 3 - Sum(j=2..n, a(floor(n / j))). - _ Vladeta Jovovic _ , Nov 30 2004 •

[A213481] • 1,7,25,59,117,202,323,482,689,945,1261,1637,2085,2604,3207,3892,4673,5547,6529,7615,8821,10142,11595,13174,14897 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y| <= w+x+y. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A162264] • 7,25,60,118,205,327,490,700,963,1285,1672,2130,2665,3283,3990,4792,5695,6705,7828,9070,10437,11935,13570,15348,17275 ★ (2n^3+5n^2+7n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 05 2012 •

[A213392] • 1,7,25,61,115,199,319,469,667,919,1213,1573,2005,2491,3061,3721,4447,5275,6211,7225,8359,9619,10969,12457,14089 ★ Number of (w,x,y) with all terms in {0,...,n} and 2*max(w,x,y) >= 3*min(w,x,y). • a(n) = 2 * a(n - 1) - a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4) + 2 * a(n - 5) - a(n - 6) + 2 * a(n - 7) - a(n - 8). •

[A061600] • 1,1,7,25,61,121,211,337,505,721,991,1321,1717,2185,2731,3361,4081,4897,5815,6841,7981,9241,10627,12145,13801 ★ n^3 - n + 1. • a(n) = 1 + Sum _{ k=1..n } 3 * (k - 1) * k. - _ Luce ETIENNE _ and _ Michel Marcus _ , Nov 01 2014 •

[A033814] • 7,25,61,126,238,426,737,1247,2079,3432,5628,9188,14955,24293,39409,63874,103466,167534,271205,438955,710387,1149580,1860216,3010056,4870543 ★ Convolution of natural numbers n >= 1 with Lucas numbers L(k)(A000032) for k >= 4. • a(n)=L(7) * (F(n + 1) - 1) + L(6) * F(n) - L(5) * n, F(n): Fibonacci (A000045); G.F. x * (7 + 4 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2), 7=L(4), 4=L(3). •

[A118395] • 1,1,1,7,25,61,481,2731,10417,91225,681121,3493711,33597961,303321877,1938378625,20282865331,211375647841,1607008257841,18157826367937,212200671085975,1860991143630841,22560913203079021,28993375877140752 1,28692674838437531 47,371167337261177070 25 ★ E.g.f.: exp(x + x^3). • a(n + 1) = a(n) + 3 * n * (n - 1) * a(n - 2). - _ Gheorghe Coserea _ , Aug 24 2015 •

[A118396] • 1,1,1,7,25,61,481,2731,10417,454105,4309921,23452111,592433161,6789801877,46254009985,893881991731,11548704851041,93501748795441,4828847934591937,83867376656907415,823025819684123641,3340921332917870142 1,640457721676922946721 ★ Eigenvector of triangle A118394; E.g.f.: exp(Sum_{n>=0} x^(3^n)). • a(n) = Sum _{ k=0..[n / 3] } n! / k! / (n - 3 * k)! * a(k) for n>=0, with a(0)=1. •

[A185787] • 1,7,25,62,125,221,357,540,777,1075,1441,1882,2405,3017,3725,4536,5457,6495,7657,8950,10381,11957,13685,15572,17625 ★ Sum of first k numbers in column k of the natural number array A000027; by antidiagonals. • a(n)=n * (7 * n ^ 2 - 6 * n + 5) / 6. •

[A001845] • 1,7,25,63,129,231,377,575,833,1159,1561,2047,2625,3303,4089,4991,6017,7175,8473,9919,11521,13287,15225,17343,19649 ★ Centered octahedral numbers (crystal ball sequence for cubic lattice). • a(n) = (2 * n + 1) * (2 * n ^ 2 + 2 * n + 3) / 3. • a(n) = a(n - 1) + 4 * n ^ 2 + 2, a(0)=1. - _ Vincenzo Librandi _ , Mar 27 2011 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), with a(0)=1, a(1)=7, a(2)=25, a(3)=63. - _ Harvey P. Dale _ , Jun 05 2013 • a(n) = Sum _{ k=0..min(3,n) } 2 ^ k * binomial(3,k) * binomial(n,k). See Bump et al. - _ Tom Copeland _ , Sep 05 2014 •

[A001296] • 0,1,7,25,65,140,266,462,750,1155,1705,2431,3367,4550,6020,7820,9996,12597,15675,19285,23485,28336,33902,40250,47450 ★ 4-dimensional pyramidal numbers: a(n) = (3*n+1)*binomial(n+2, 3)/4. Also Stirling2(n+2, n). • a(n) = n * (1 + n) * (2 + n) * (1 + 3 * n) / 24. - _ T. D. Noe _ , Jan 21 2008 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 3. - _ Kieren MacMillan _ , Sep 29 2008 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Jaume Oliver Lafont _ , Nov 23 2008 • a(n) = 1 * (1 + 2 + ... + n) + 2 * (2 + 3 + ... + n) + ... + n * n. For example, a(6) = 266 = 1(1 + 2 + 3 + 4 + 5 + 6) + 2 * (2 + 3 + 4 + 5 + 6) + 3 * (3 + 4 + 5 + 6) + 4 * (4 + 5 + 6) + 5 * (5 + 6) + 6 * (6). - _ J. M. Bergot _ , Apr 20 2017 •

[A247620] • 1,7,25,67,157,343,721,1483,3013,6079,12217,24499,49069,98215,196513,393115,786325,1572751,3145609,6291331,12582781,25165687,50331505,100663147,201326437 ★ Start with a single hexagon; at n-th generation add a hexagon at each expandable vertex; a(n) is the sum of all label values at n-th generation. (See comment for construction rules.) • a(n) = (- 11 + 3 * 2 ^ (2 + n) - 6 * n). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3). •

[A213569] • 1,7,25,71,181,435,1009,2287,5101,11243,24553,53223,114661,245731,524257,1114079,2359261,4980699,10485721,22020055,46137301,96468947,201326545,419430351,872415181 ★ Principal diagonal of the convolution array A213568. • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). • a(n) = Sum _{ k=1..n } Sum _{ i=0..n } (n - i) * C(k,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[A048477] • 1,7,25,73,193,481,1153,2689,6145,13825,30721,67585,147457,319489,688129,1474561,3145729,6684673,14155777,29884417,62914561,132120577,276824065,578813953,1207959553 ★ a(n) = T(5,n), array T given by A048472. • a(n) = 6 * n * 2 ^ (n - 1) + 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>2. - _ Colin Barker _ , Feb 18 2016 •

[A294837] • 1,1,7,25,73,236,688,1994,5573,15272,40896,107526,277999,707209,1774067,4390665,10734216,25941541,62022609,146793160,344129900,799517074,1841734224,4208327222,9542121050 ★ Expansion of Product_{k>=1} (1 + x^k)^(k*(5*k-3)/2). • a(0) = 1 and a(n) = (1 / (2 * n)) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d ^ 2 * (5 * d - 3) * (- 1) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 14 2017 •

[A117152] • 0,0,1,7,25,75,195,468,1056,2280,4755,9650,19154,37328,71635,135685,254125,471317,866669,1581620,2866970,5165630,9256871,16507092,29304660 ★ Sum of product of Fibonacci and triangular numbers. • a(n) = C(n,2) F(n + 2) - n F(n + 3) + F(n + 5) - 5 •

[A058481] • 1,7,25,79,241,727,2185,6559,19681,59047,177145,531439,1594321,4782967,14348905,43046719,129140161,387420487,1162261465,3486784399,10460353201,31381059607,94143178825,282429536479,847288609441 ★ a(n) = 3^n - 2. • a(n) = 3 * a(n - 1) + 4 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 4 * a(n - 1) - 3 * a(n - 2). - _ G. C. Greubel _ , Aug 25 2016 •

[A199116] • 7,25,97,385,1537,6145,24577,98305,393217,1572865,6291457,25165825,100663297,402653185,1610612737,6442450945,25769803777,103079215105,412316860417,1649267441665,6597069766657,26388279066625,105553116266497 ★ 6*4^n+1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A247173] • 1,1,7,25,101,397,1583,6337,25513,103161,418727,1705129,6963165,28504981,116941727,480667137,1979039633,8160609457,33696358983,139308985465,576583448021,2388853677981,9906585874127,41118073118785,170799570803001 ★ Expansion of g.f. (-1)/(2*x^2+2*x) +(-2*x^3-3*x^2+1) / (sqrt(x^4+4*x^3-2*x^2-4*x+1)*(2*x^2+2*x)). • a(n) = (n + 1) * sum(k=0..n, (C(n - k - 1,k) * sum(i=0..n - k, 2 ^ i * C(k + 1,n - k - i) * C(k + i,k) * (- 1) ^ (n - k - i))) / (k + 1)). •

[A102900] • 1,1,7,25,103,409,1639,6553,26215,104857,419431,1677721,6710887,26843545,107374183,429496729,1717986919,6871947673,27487790695,109951162777,439804651111,1759218604441,7036874417767,28147497671065 ★ a(n) = 3a(n-1) + 4a(n-2), a(0)=a(1)=1. • a(n) = (2 * 4 ^ n + 3(- 1) ^ n) / 5. • a(n) = ceiling(4 ^ n / 5) + floor(4 ^ n / 5) = (ceiling(4 ^ n / 5)) ^ 2 - (floor(4 ^ n / 5)) ^ 2. • a(n) = Sum _{ k=0..n } binomial(2n - k, 2k)2 ^ k. - _ Paul Barry _ , Jan 20 2005 • a(n) = upper left term in the 2 X 2 matrix [1,3; 2,2]. - _ Gary W. Adamson _ , Mar 14 2008 • a(n + 1) = 2 ^ (2 * n - 1) - a(n), a(1)=1. - _ Ben Paul Thurston _ , Dec 27 2015 •

[A216688] • 1,1,1,7,25,121,841,4831,40657,325585,2913841,29910871,301088041,3532945417,41595396025,531109561711,7197739614241,100211165640481,1507837436365537,23123578483200295,376697477235716281,6348741961892933401,111057167658053740201,2032230051717594032767 ★ E.g.f. exp(x * exp(x^2)). • a(n)=(n! * sum(m=floor((n + 1) / 2)..n, ((2 * m - n) ^ (n - m)) / ((2 * m - n)! * (n - m)!))). [_ Vladimir Kruchinin _ , Mar 09 2013] •

[A138292] • 1,1,1,7,25,121,841,9871,80977,869905,10776241,131366071,1821918121,27671299657,460068491065,8716820294911,162728020119841,3217989767498401,69343322972016097,1533322325194196455 ★ E.g.f. satisfies: A(x) = exp(x*A(x^2)). • a(n) = T(2 * n + 1), where T(n,m) = (1 + (- 1) ^ (n - m)) / 2 * ((n - m) / 2)! * sum(k=1..(n - m) / 2, m ^ k * T((n - m) / 2,k) / (k! * ((n - m - 2 * k) / 4)!)), n>m, T(n,n)=1. - _ Vladimir Kruchinin _ , Mar 18 2015 •

[A082651] • 1,7,25,127,449,2279,8057,40895,144577,733831,2594329,13168063,46553345,236291303,835365881,4240075391,14990032513,76085065735,268985219353,1365291107839,4826743915841,24499154875367,86612405265785,439619496648767,1554196550868289 ★ Positive integer values of n such that 5n^2+11 is a square. • a(n) = 18 * a(n - 2) - a(n - 4). •

[A191237] • 1,1,1,7,25,181,1201,5251,57457,469225,4340161,50118751,412902601,5544552157,69259632625,816044592091,12518563864801,152563427413201,2401979910598657,39326158638385975,575414895837696121 ★ E.g.f. exp(x+x^3+x^5) • a(n)=n! * sum(k=1..n, ((- 1) ^ (n - k) + 1) * sum(binomial(j,(n - k) / 2 - j) * binomial(k,j),j,0,k) / (2 * k!)), n>0, a(0)=1. •

[A088009] • 1,1,1,7,25,181,1201,10291,97777,1013545,12202561,151573951,2173233481,31758579997,524057015665,8838296029291,164416415570401,3145357419120721,65057767274601217,1391243470549894135,31671795881695430521,747996624368605997701 ★ Number of "sets of odd lists", cf. A000262. • a(n) = a(n - 1) + 2 * (n - 2) * (n - 1) * a(n - 2) + (n - 2) * (n - 1) * a(n - 3) - (n - 4) * (n - 3) * (n - 2) * (n - 1) * a(n - 4). - _ Vaclav Kotesovec _ , Aug 10 2013 •

[A098127] • 7,26,33,59,92,151,243,394,637,1031,1668,2699,4367,7066,11433,18499,29932,48431,78363,126794,205157,331951,537108,869059,1406167 ★ Fibonacci sequence with a(1) = 7 and a(2) = 26. • a(n) = a(n - 1) + a(n - 2). •

[A283427] • 0,1,7,26,34,55,65,91,137,152,208,251,270,315,394,471,502,591,656,685,790,864,977,1139,1227 ★ a(n) is the number of consecutive smallest prime totatives of primorial A002110(n). • a(n) = pi(min(prime(n + 1) ^ 2, Product _{ k 1..n } (prime(k)))) - n. •

[A131905] • 7,26,35,47,77,91,119,130,133,141,157,161,175,182,203,215,217,249,259,282,286,287,301,329,371 ★ Integers x such that sigma_2(k)=sigma_2(x) for some 0<k<x, where A001157=sigma_2 is the sum of squares of divisors. • a(n) = n - th element of { x: there exists some k with 0<k<x and sigma _ 2(m)=sigma _ 2(n) } , where A001157=sigma _ 2 is the sum of squares of divisors. •

[A206481] • 0,1,1,7,26,57,99,159,244,353,485,647,846,1081,1351,1663,2024,2433,2889,3399,3970,4601,5291,6047,6876 ★ a(n) + a(n+2) = n^3. • a(n)=(1 / 2) * ((n - 3) * n ^ 2 - 4 * cos((Pi * n) / 2) + 2). - _ Harvey P. Dale _ , Sep 14 2012 •

[A049453] • 0,7,26,57,100,155,222,301,392,495,610,737,876,1027,1190,1365,1552,1751,1962,2185,2420,2667,2926,3197,3480 ★ Second pentagonal numbers with even index: a(n) = n*(6*n+1). • a(n) = 12 * n + a(n - 1) - 5 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ G. C. Greubel _ , Jun 07 2017 •

[A068601] • 0,7,26,63,124,215,342,511,728,999,1330,1727,2196,2743,3374,4095,4912,5831,6858,7999,9260,10647,12166,13823,15624 ★ a(n) = n^3 - 1. • a(n)

= Sum _{ i=1..n - 1 } (i + 1) ^ 3 - i ^ 3. - _ Wesley Ivan Hurt _ , Jul 23 2014 •

[A135300] • 1,7,26,63,124,215,342,511,728,999,1330,1727,2196,2743,3374,4095,4912,5831,6858,7999,9260,10647,12166,13823,15624 ⋆ Sequence allows us to find X positive values of the equation: 1!*X^4 - 2!*(X + 1)^3 + 3!*(X + 2)^2 - (4^2)*(X + 3) + 5^2 = Y^3. • a(1) = 1 and a(n)= n ^ 3 - 1 with n>=2. •

[A006325] • 0,0,1,7,26,70,155,301,532,876,1365,2035,2926,4082,5551,7385,9640,12376,15657,19551,24130,29470,35651,42757,50876 ⋆ 4-dimensional analog of centered polygonal numbers. • a(n) = n * (n - 1) * (n ^ 2 - n + 1) / 6. • a(n) = ((n ^ 5 - (n - 1) ^ 5) - (n ^ 1 - (n - 1) ^ 1)) / 30 = (n ^ 5 - (n - 1) ^ 5 - 1) / 30. - Xavier Acloque, Jan 25 2003 • a(n) = Sum _{ i=1..n - 1 } Sum _{ j=1..n - 1 } min(i,j) ^ 2. - _ Enrique Pérez Herrero _ , Jan 15 2013 [Which is just rephrasing the partial sum formula with the Murthy formula in A005900. - _ R. J. Mathar _ , Jun 14 2014] • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n > 4. - _ Yosu Yurramendi _ , Sep 03 2013 •

[A180669] • 0,0,1,7,26,72,171,371,760,1500,2889,5475,10266,19116,35435,65495,120832,222664,410017,754671,1388650,2554784,4699707,8644907,15901336 ⋆ a(n) = a(n-1)+a(n-2)+a(n-3)+4*n^2-16*n+18 with a(0)=0, a(1)=0 and a(2)=1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 4 * (n - 2) ^ 2 + 2 with a(0)=0, a(1)=0 and a(2)=1. • a(n) = 3 * a(n - 1) - 2a(n - 2) - a(n - 4) + a(n - 5) + 8 for n>4. • a(n) - 4 * a(n - 1) + 5a(n - 2) - 2 * a(n - 3) + a(n - 4) - 2 * a(n - 5) + a(n - 6) = 0 for n>5. (End) •

[A078501] • 1,7,26,78,211,537,1312,3112,7217,16443,36934,82002,180319,393325,852092,1835148,3932317,8388783,17825986,37748950,79692011,167772417,352321816,738197808,1543504201 ⋆ a(n) = sum(k=1,n^2, A078446(k)). • a(n) = 2 * (n - 2) * 2 ^ n + n * (n + 1) / 2 + 4 •

[A027937] • 1,7,26,79,221,596,1581,4163,10926,28635,75001,196392,514201,1346239,3524546,9227431,24157781,63245948,165580101,433494395,1134903126,2971215027,7778742001,20365011024,53316291121 ⋆ a(n) = T(2*n, n+1), T given by A027935. • a(n) = Fibonacci(2 * n + 3) - 2 * n - 2. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 5 * a(n - 3) - a(n - 4); •

[A282703] • 7,26,85,281,928,3065,10123,33434,110425,364709,1204552,3978365,13139647,43397306,143331565,473392001,1563507568,5163914705,17055251683,56329669754,186044260945,614462452589,2029431618712,6702757308725,22137703544887 ⋆ a(n) = 3*a(n-1) + a(n-2), with a(0)=7, a(1)=26. • a(n) = (2 ^ (- 1 - n) * ((3 - sqrt(13)) ^ n * (- 31 + 7 * sqrt(13)) + (3 + sqrt(13)) ^ n * (31 + 7 * sqrt(13)))) / sqrt(13). - _ Colin Barker _ , Feb 26 2017 •

[A022271] • 0,7,27,60,106,165,237,322,420,531,655,792,942,1105,1281,1470,1672,1887,2115,2356,2610,2877,3157,3450,3756 ⋆ a(n) = n*(13*n + 1)/2. • a(n) = 13 * n + a(n - 1) - 6 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2 - _ Vincenzo Librandi _ , Mar 31 2015 •

[A269449] • 7,27,60,181,227,612,1085,1985,3492,9047,11161,28860,50607,91987,161276,416685,513883,1327652,2327541,4230121,7415908,19159167,23628161,61043836,107016983 ⋆ The first of 33 consecutive positive integers the sum of the squares of which is a square. • a(1)=7, a(2)=27, a(3)=60, a(4)=181, a(5)=227, a(6)=612, a(7)=1085, a(8)=1985, a(9)=3492, a(10)=9047, a(11)=11161, a(12)=28860, a(n)=46 * a(n - 6) - a(n - 12) + 704. - _ Daniel Mondot _ , Aug 08 2016 •

[A159065] • 0,1,7,27,65,147,261,461,737,1143,1637,2349,3217,4401,5769,7457,9433,11945,14753,18235,22173,26771,31801,37813,44449 ⋆ Number of crossings in a regular drawing of the complete bipartite graph K(n,n). • a(n) = Sum((n - a) * (n - b); 1<=a<n, 1<=b<n, (a,b)=1) - Sum((n - 2 * a) * (n - 2 * b); 1<=2 * a<n, 1<=2 * b<n, (a,b)=1). a(n) = Sum(f(a,b) - g(a,b); 1<=a<n, 1<=b<n,), f(a,b) the number of irreducible fractions p / q with 1<=p<=a ,1<=q<=b, g(a,b) the number of rationals admitting at least one reducible form p / q with 1 <= p <= a, 1 <= q <= b (Philippe Paclet). • a(n) = (9 / (8 * Pi ^ 2)) * n ^ 4 + O(n ^ 3 log(n)). •

[A098931] • 1,7,27,69,141,251,407,617,889,1231,1651,2157,2757,3459,4271,5201,6257,7447,8779,10261,11901,13707,15687,17849,20201 ⋆ a(0) = 1, a(n) = 1 + 2*3 + 4*5 + 6*7 + ... + (2n)*(2n+1) for n > 0. • a(n) = 1 + 3 * n ^ 2 + n * (5 + 4 * n ^ 2) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 28 2015 •

[A007715] • 1,7,27,75,170,336,602,1002,1575,2365,3421,4797,6552,8750,11460,14756,18717,23427,28975,35455,42966,51612,61502,72750,85475 ⋆ Number of 5-leaf rooted trees with n levels. • a(n) = n * (n + 1) * (5 * n ^ 2 + n + 6) / 24. - _ T. D. Noe _ , Feb 09 2007 • a(1)=1, a(2)=7, a(3)=27, a(4)=75, a(5)=170, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jul 20 2011 •

[A039623] • 1,7,27,76,175,351,637,1072,1701,2575,3751,5292,7267,9751,12825,16576,21097,26487,32851,40300,48951,58927,70357,83376,98125 ⋆ a(n) = n^2*(n^2+3)/4. • a(1)=1, a(2)=7, a(3)=27, a(4)=76, a(5)=175; for n>5, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). (End) • a(n) = t(n - 1) * t(n) + t(n - 1) + t(n) where t=A000217. - _ J. M. Bergot _ , Apr 16 2016 •

[A005585] • 1,7,27,77,182,378,714,1254,2079,3289,5005,7371,10556,14756,20196,27132,35853,46683,59983,76153,95634,118910,146510,179010,217035 ⋆ 5-dimensional pyramidal numbers: n(n+1)(n+2)(n+3)(2n+3)/5!. • a(n) = 2 * C(n + 4, 5) - C(n + 3, 4). - _ Paul Barry _ , Mar 04 2003 • a(n) = C(n + 3, 5) + C(n + 4, 5). - _ Paul Barry _ , Mar 17 2003 • a(n) = C(n + 2, 6) - C(n , 6), n>=4. - _ Zerinvary Lajos _ , Jul 21 2006 • a(n) = Sum[T(k) * T(k + 1) / 3, { k,1,n }], where T(n) = n(n + 1) / 2 is a triangular number. - _ Alexander Adamchuk _ , May 08 2007 • a(n - 1) = (1 / 4) * sum { 1 <= x _ 1, x _ 2 <= n } |x _ 1 * x _ 2 * det V(x _ 1,x _ 2)| = (1 / 4) * sum { 1 <= i,j <= n } i * j * |i - j|, where V(x _ 1,x _ 2 } is the Vandermonde matrix of order 2. First differences of A040977. - _ Peter Bala _ , Sep 21 2007 • a(n) = C(n + 4,4) + 2 * C(n + 4,5). [Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009] •

[A027180] • 1,7,27,79,199,459,1003,2119,4383,8947,18115,36495,73303,146971,294363,589207,1178959,2358531,4717747,9436255,18873351,37747627,75496267,150993639,301988479 ⋆ a(n) = Sum{T(i,j)}, 0<=j<=i, 0<=i<=n, T given by A027170. • a(n) = 18 * 2 ^ n - 2 * n ^ 2 - 10 * n - 17. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>3. •

[A059769] • 1,7,27,83,239,659,1781,4751,12583,33175,87231,228983,600473,1573655,4122467,10796939,28273519,74031979,193835949,507497759,1328692751,3478637807,9107313407,23843452463,62423286769 ⋆ Frobenius number of the subsemigroup of the natural numbers generated by successive pairs of Fibonacci numbers. • a(n) = (F(n) - 1) * (F(n + 1) - 1) - 1 where F(n) is the n - th Fibonacci number. • a(n) = F(n) * F(n + 1) - F(n + 2). - _ Clark Kimberling _ , Mar 05 2016 •

[A135914] • 1,7,27,91,291,907,2787,8491,25731,77707,234147,704491,2117571,6360907,19099107,57330091,172055811,516298507,1549157667,4647997291,13945040451,41837218507,125515849827,376555938091,1129684591491 ⋆ 4*3^n-2*2^n-1. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). G.f.: (1 + x - 4 * x ^ 2) / ((1 - x) * (1 - 2 * x) * (1 - 3 * x)). - _ Colin Barker _ , Aug 13 2012 •

[A213588] • 1,7,27,96,315,994,3043,9123,26909,78370,225911,645732,1832677,5170111,14509695,40537284,112805043,312808198,864707719,2383649115,6554153921,17980221382,49222822127,134495771976,366850762825 ⋆ Principal diagonal of the convolution array A213587. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) - a(n - 5). •

[A054485] • 1,7,27,101,377,1407,5251,19597,73137,272951,1018667,3801717,14188201,52951087,197616147,737513501,2752437857,10272237927,38336513851,143073817477,533958756057,1992761206751,7437086070947,27755583077037 ⋆ Expansion of (1+3*x)/(1-4*x+x^2). • a(n) = (7 * ((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) - ((2 + sqrt(3)) ^ (n - 1) - (2 - sqrt(3)) ^ (n - 1))) / 2 * sqrt(3). • a(n) = 4 * a(n - 1) - a(n - 2), a(0)=1, a(0)=7. •

[A056120] • 1,1,7,27,108,432,1728,6912,27648,110592,442368,1769472,7077888,28311552,113246208,452984832,1811939328,7247757312,28991029248,115964116992,463856467968,1855425871872 ⋆ a(n) = (3^3)*4^(n-3); a(0)=1, a(1)=1. • a(n)=4a(n - 1) + [(- 1) ^ n] * C(3, 3 - n). G.f.(x)=(1 - x) ^ 3 / (1 - 4x). •

[A294262] • 1,1,7,27,117,493,2091,8855,37513,158905,673135,2851443,12078909,51167077,216747219,918155951,3889371025,16475640049,69791931223,295643364939,1252365390981,5305104928861,22472785106427,95196245354567,403257766524697 ⋆ a(n) = 3*a(n-1) + 5*a(n-2) + a(n-3), with a(0) = a(1) = 1 and a(2) = 7, a linear recurrence which is a trisection of A005252. • a(n) = (1 / 20) * (10 * (- 1) ^ n + (2 - sqrt(5)) ^ n * (5 - sqrt(5)) + (2 + sqrt(5)) ^ n * (5 + sqrt(5))). • a(n) = 4 * a(n - 1) + a(n - 2) + 2 * (- 1) ^ n for n >= 2. • a(n) = Sum _{ k=0..floor(3 * n / 4) } binomial(3 * n - 2 * k, 2 * k). • a(n) = Fibonacci(3 * n + 1) / 2 + (- 1) ^ n / 2. •

[A048711] • 7,27,119,427,1799,6939,30583,109227,458759,1769499,7798903,27984299,117901063,454761243,2004318071,7158278827,30064771079,115964117019,511101108343,1833951035819,7726646167303 ⋆ 2nd row of Family 1 "90 X 150 array": generations 0 .. n of Rule 90 starting from seed pattern 7. • a(n) = product('((bit _ i((n + 1), i) * (2 ^ (2 ^ (i + 1)))) + 1)', 'i'=0..floor _ log _ 2(n + 2)) + 2 * product('((bit _ i(n, i) * (2 ^ (2 ^ (i + 1)))) + 1)', 'i'=0..floor _ log _ 2(n + 1)); •

[A118101] • 1,7,27,119,427,1879,6827,30039,109227,480599,1747627,7689559,27962027,123032919,447392427,1968526679,7158278827,31496426839,114532461227,503942829399,1832519379627,8063085270359,29320310074027,129009364325719,469124961184427 ⋆ Decimal representation of n-th iteration of the Rule 94 elementary cellular automaton starting with a single ON cell. • a(0)=1, a(1)=7, a(n odd) = (10 + 11 * 4 ^ n) / 6, a(n even) = (1 + 5 * 4 ^ n) / 3. • a(n) = (12 - (- 4) ^ n - 8 * (- 1) ^ n + 21 * 4 ^ n) / 12 for n>1. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>5. •

[A179597] • 1,7,27,137,613,2895,13355,62233,288741,1342175,6233899,28964169,134554277,625117807,2904117675,13491856889,62679715045,291194561919,1352817130667,6284852732713,29197861274277,135646005392399 ⋆ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+5*x+2*x^2)/(1-2*x-11*x^2-6*x^3). • a(n) = 2 * a(n - 1) + 11 * a(n - 2) + 6 * a(n - 3) with a(0) =1, a(1) = 7 and a(2) = 27. • a(n) = 8 * (- 1 / 2) ^ (- n + 1) / 9 + ((7 + 11 * sqrt(7)) * A ^ (- n - 1) + (7 - 11 * sqrt(7)) * B ^ (- n - 1)) / 126 with A = (- 2 + sqrt(7)) / 3 and B = (- 2 - sqrt(7)) / 3. •

[A193257] • 7,27,169,1217,9512,78030,661458,5740303,50701542,454011971,4110416300,37550193649,345618860220,3201414635780,29816233849000,279007258230819,2621647966812031,24723998785919976,233922961602470390,2219671974013732243 ⋆ Floor((10^n)/(log(10^n) - 1)). • a(n) = floor((10 ^ n) / (log (10 ^ n) - 1)). •

[A173193] • 7,27,227,2227,22227,222227,2222227,22222227,222222227,2222222227,22222222227,222222222227,2222222222227,22222222222227,222222222222227,2222222222222227,22222222222222227 ⋆ (2*10^n+43)/9. • a(n) = 10 * a(n - 1) - 43 with n>1, a(1)=7. [_ Vincenzo Librandi _ , Dec 05 2010] • a(n) = a(n - 1) + 2 * 10 ^ (n - 1) with n>1, a(1)=7. [_ Zak Seidov _ , Dec 05 2010] • a(n) = 11 * a(n - 1) - 10 * a(n - 2). G.f.: - x * (50 * x - 7) / ((x - 1) * (10 * x - 1)). [_ Colin Barker _ , Jan 24 2013] •

[A118120] • 0,7,28,51,88,207,340,555,1248,2023,3276,7315,11832,19135,42676,69003,111568,248775,402220,650307,1450008,2344351,3790308,8451307,13663920 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+17)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 34 for n > 5; a(0)=0,

a(1)=7, a(2)=28, a(3)=51, a(4)=88, a(5)=207. ●

[A033582] ● 0,7,28,63,112,175,252,343,448,567,700,847,1008,1183,1372,1575,1792,2023,2268,2527,2800,3087,3388,3703,4032 ★ 7*n^2. ● a(n) = 14 * n + a(n - 1) - 7 (with a(0) = 0). - _ Vincenzo Librandi _ , Aug 05 2010 ●

[A073995] ● 1,1,7,28,76,256,1072,4288,16576,65536,262912,1051648,4197376,16777216,67121152,268484608,1073790976,4294967296,17180065792,68720263168,274878693376,1099511627776,4398049656832,17592198627328,703687567605 76 ★ Number of strings of length n over GF(4) with trace 0 and subtrace 0. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t - 1, s - (t - 1)) + a(n - 1; t - 2, s - 2(t - 2)) + a(n - 1; t - 3, s - 3(t - 3)) where t is the trace and s is the subtrace. Note t hat all operations involving operands t or s are carried out over GF(4). ●

[A073363] ● 1,7,28,84,175,421,847,1288,1939,3780,5656,9247,15148,22099,25375,39676,54607,75208,90559,129360,166321,209832,240268,320719,399595 ★ Nested floor product of n and fractions (k+1)/k for all k>0 (mod 6), divided by 6. ● a(n)=(1 / 6)[...[[[[[[n(2 / 1)](3 / 2)](4 / 3)](5 / 4)](6 / 5)](8 / 7]...(k + 1) / k]..., k>0 (mod 6), where [x] = floor of x; this infinite nested floor produc t will eventually level - off at a(n). ●

[A247608] ● 1,7,28,84,195,381,662,1058,1589,2275,3136,4192,5463,6969,8730,10766,13097,15743,18724,22060,25771,29877,34398,39354,44765 ★ a(n) = Sum_{k=0..n} binomial(6,k)*binomial(n,k). ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ● a(n) = (6 + 31 * n - 15 * n ^ 2 + 20 * n ^ 3) / 6. ● a(n) = 1 + 6 * Binomial(n,1) + 15 * Binomial(n,2) + 20 * Binomial(n,3). ●

[A008499] ● 1,7,28,84,210,462,923,1709,2975,4921,7798,11914,17640,25416,35757,49259,66605,88571,116032,149968,191470,241746,302127,374073,459179 ★ Number of 5-dimensional centered tetrahedral numbers. ● a(n) = C(n, 0) + 6 * C(n, 1) + 15 * C(n, 2) + 15 * C(n, 3) + 10 * C(n, 4) + 6 * C(n, 5); a(n) = C(n + 6, 6) - C(n, 6); a(n)=(6 * n ^ 5 + 15 * n ^ 4 + 160 * n ^ 3 + 225 * n ^ 2 + 314 * n + 120) / 120. - _ Paul Barry _ , Jul 01 2003 ● a(0)=1, a(1)=7, a(2)=28, a(3)=84, a(4)=210, a(5)=462; for n>5, a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). [_ Harvey P. Dale _ , Sep 15 2011] ●

[A008489] ● 1,7,28,84,210,462,924,1715,2996,4977,7924,12166,18102,26208,37044,51261,69608,92939,122220,158536,203098,257250,322476,400407,492828 ★ Expansion of (1-x^7)/(1-x)^7. ● a(n) = 7 * n * (35 * n ^ 2 + 84 + n ^ 4) / 120, n>0. - _ R. J. Mathar _ , Mar 17 2011 ●

[A000579] ● 0,0,0,0,0,0,1,7,28,84,210,462,924,1716,3003,5005,8008,12376,18564,27132,38760,54264,74613,100947,134596 ★ Figurate numbers or binomial coefficients C(n,6). ● a(n) = (n ^ 6 - 15 * n ^ 5 + 85 * n ^ 4 - 225 * n ^ 3 + 274 * n ^ 2 - 120 * n) / 720. ● a(n) = n(n - 1)(n - 2)(n - 3)(n - 4)(n - 5) / 720. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 ● a(0) = 0, a(1) = 0, a(2) = 0, a(3) = 0, a(4) = 0, a(5) = 0, a(6) = 1, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 30 2012 ● a(n) = a(5 - n) for all n in Z. - _ Michael Somos _ , Oct 07 2014 ●

[A290994] ● 0,0,0,0,0,0,1,7,28,84,210,462,924,1717,3017,5110,8568,14756,27132,54264,116281,257775,572264,1246784,2641366 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S^7. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + 2 * a(n - 7) for n >= 8. ●

[A145135] ● 0,1,7,28,84,211,470,960,1836,3334,5806,9769,15973,25495,39869,61266,92743,138587,204790,299705,434952,626669,897239,1277674,1810906 ★ Expansion of x/((1 - x - x^4)*(1 - x)^6). ● a(n) = 7a(n - 1) - 21a(n - 2) + 35a(n - 3) - 34a(n - 4) + 15a(n - 5) + 8a(n - 6) - 19a(n - 7) + 15a(n - 8) - 6a(n - 9) + a(n - 10). ●

[A054469] ● 1,7,28,85,218,499,1053,2092,3970,7272,12958,22596,38739,65535,109714,182185,300620,493635,807555,1317360,2144396,3485032,5657028,9174560,14869613 ★ A second-order recursive sequence. ● a(n) = a(n - 1) + a(n - 2) + (n + 2) * C(n + 3, 3) / 2; ● a(n) = a(n - 1) + a(n - 2) + (n + 1)(n + 2) ^ 2(n + 3) / 12; ● a(- n) = 0. ● a(n) = sum { C(n + 5 - i, n + 2 - 2i); i=1 to [(n + 2) / 2] }+ 2 * sum { C(n + 5 - i, n + 1 - 2i); i=1 to [(n + 1) / 2]; where [x]=greatest integer in x. ●

[A156928] ● 1,7,28,86,227,545,1230,2664,5613,11611,23728,48106,97031,195077,391394,784284,1570353,3142815,6288100,12579070,25161451,50326697,100657718,201320336,402646197 ★ G.f. of the z^1 coefficients of the FP1 in the second column of the A156921 matrix. ● a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) + 2. ● a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5). ● a(n) = - (1 / 3) * n ^ 3 - (3 / 2) * n ^ 2 - (25 / 6) * n - 6 + 6 * 2 ^ n. ● a(n) = Sum _{ k=1..n + 1 } Sum _{ i=1..n + 1 } (k - 1) ^ 2 * C(n - k + 1,i). - _ Wesley Ivan Hurt _ , Sep 22 2017 ●

[A117473] ● 7,28,88,207,555,1248,3276,7315,19135,42676,111568,248775,650307,1450008,3790308,8451307,22091575,49257868,128759176,287095935,750463515,1673317776,4374021948,9752810755,25493668207 ★ The values of 'a' in a^2 + b^2 = c^2, where b - a = 17 and gcd(a, b, c) = 1. ● a(1) = 7, a(2) = 28, a(3) = 207, a(4) = 555, a(n) = 6 * a(n - 2) - a(n - 4) + 34. ●

[A002042] ● 7,28,112,448,1792,7168,28672,114688,458752,1835008,7340032,29360128,117440512,469762048,1879048192,7516192768,30064771072,120259084288,481036337152,1924145348608,7696581394432,30786325577728,123145302310912,492581209243648 ★ a(n) = 7*4^n. ● a(n) = 4 * a(n - 1), n>0; a(0)=7. G.f.: 7 / (1 - 4 * x). - _ Philippe Deléham _ , Nov 23 2008 ●

[A037597] ● 1,7,28,113,455,1820,7281,29127,116508,466033,1864135,7456540,29826161,119304647,477218588,1908874353,7635497415,30541989660,122167958641,488671834567,1954687338268,7818749353073,31274997412295 ★ Base-4 digits are, in order, the first n terms of the periodic sequence with initial period 1,3,0. ● a(n) = floor(4 ^ (n + 1) / 9). [_ Mircea Merca _ , Dec 26 2010] ● a(n) = 4 * a(n - 1) + a(n - 3) - 4 * a(n - 4). [_ Joerg Arndt _ , Jan 08 2011] ● a(1)=1, a(2)=7, a(n) = 5 * a(n - 1) - 4 * a(n - 2) + (period 3: repeat - 3, 1, 2); a(n) = 4 * a(n) + 1 + (period 3: repeat 0, 1, 3). [_ Vincenzo Librandi _ , Jun 06 2011] ●

[A290913] ● 0,7,28,119,532,2352,10388,45913,202916,896777,3963288,17515680,77410200,342112855,1511961052,6682082183,29531331004,130513137552,576800248892,2549157374953,11265950967908,49789649104601,220044376637232,972481802150208,4297864230688560 ★ p-INVERT of the positive integers, where p(S) = 1 - 7*S^2. ● a(n) = 4 * a(n - 1) + a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A220361] ● 1,7,28,123,515,2192,9269,39291,166396,704935,2986039,12649248,53582777,226980767,961505180,4073002563,17253513691,73087060144,309601749709,1311494066355,5555578003196,23533806098447,99690802365743,422297015611968,1788878864731825 ★ a(n) = Fibonacci(n)^3 + (-1)^n*Fibonacci(n-2). ● a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 3 * a(n - 3) - a(n - 4). G.f.: x ^ 2 * (x ^ 2 + 4 * x + 1) / ((x ^ 2 - x - 1) * (x ^ 2 + 4 * x - 1)). - _ Colin Barker _ , Sep 23 2014 ●

[A025030] ● 1,7,28,140,658,3164,15106,72302,345775,1654092,7911970,37846314,181033035,865951710,4142180085,19813648817,94776329265,453351783110,2168556616440,10373043626906,49618272850056,237343357526002 ★ Number of distributive lattices; also number of paths with n turns when light is reflected from 7 glass plates. ● a(n) = 4 * a(n - 1) + 6 * a(n - 2) - 10 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) + a(n - 6) - a(n - 7). ● a(n) is asymptotic to z(7) * w(7) ^ n where w(7) = (1 / 2) / cos(7 * Pi / 15) and z(7) is the root 1 < x < 2 of P(7, X) = 1 - 120 * X - 8100 * X ^ 2 - 57375 * X ^ 3 + 50625 * X ^ 4. - _ Benoit Cloitre _ , Oct 16 2002 ●

[A041088] ● 7,29,36,101,137,649,9223,37541,46764,131069,177833,842401,11971447,48728189,60699636,170127461,230827097,1093435849,15538928983,63249151781,78788080764,220825313309,299613394073 ★ Numerators of continued fraction convergents to sqrt(52). ● a(n) = 1298 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 7 * x ^ 10 + 29 * x ^ 9 - 36 * x ^ 8 + 101 * x ^ 7 - 137 * x ^ 6 - 649 * x ^ 5 - 137 * x ^ 4 - 101 * x ^ 3 - 36 * x ^ 2 - 29 * x - 7) / ((x ^ 2 - 3 * x - 1) * (x ^ 2 + 3 * x - 1) * (x ^ 4 - 3 * x ^ 3 + 10 * x ^ 2 + 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 10 * x ^ 2 - 3 * x + 1)). [_ Colin Barker _ , Jul 18 2012] ●

[A041621] ● 1,7,29,65,94,159,730,889,1619,4127,18127,131016,4734703,33273937,137830451,308934839,446765290,755700129,3469565806,4225265935,7694831741,19614929417,86154549409,622696775280,22503238459489 ★ Denominators of continued fraction convergents to sqrt(329). ● a(n) = 4752830 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 22 2013 ●

[A022272] ● 0,7,29,66,118,185,267,364,476,603,745,902,1074,1261,1463,1680,1912,2159,2421,2698,2990,3297,3619,3956,4308 ★ a(n) = n*(15*n - 1)/2. ● a(n) = 15 * n + a(n - 1) - 8 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. (End) ●

[A185438] ● 1,7,29,67,121,191,277,379,497,631,781,947,1129,1327,1541,1771,2017,2279,2557,2851,3161,3487,3829,4187,4561 ★ a(n) = 8*n^2 - 2*n + 1. ● a(n) = a(n - 1) + 16 * n - 10 (n>0). ● a(n) = 2 * a(n - 1) - a(n - 2) + 16 (n>1). ● a(n) = 3 * (n - 1) - 3 * a(n - 2) + a(n - 3) (n>2). ●

[A242727] ● 1,7,29,86,198,396,719,1203,1899,2866,4156,5840,7997,10695,14025,18086,22962,28764,35611,43603,52871,63554,75768,89664,105401 ★ Sum of the third largest parts of the partitions of 4n into 4 parts. ● a(n) = 7 / 27 * n ^ 4 + 35 / 27 * n ^ 3 + 22 / 9 * n ^ 2 + 59 / 27 * n + O(1). - _ Ralf Stephan _ , May 26 2014 ●

[A001779] ● 1,7,29,91,239,553,1163,2269,4166,7274,12174,19650,30738,46782,69498,101046,144111,201993,278707,379093,508937,675103,885677,1150123,1479452 ★ Expansion of 1/((1+x)(1-x)^8). ● a(n) = (- 1) ^{ 7 - n }* Sum _{ i =0..n } ((- 1) ^ (7 - i) * binomial(7 + i,i)). - _ Sergio Falcon _ , Feb 13 2007 ●

[A053295] ● 1,7,29,92,247,591,1300,2683,5270,9955,18228,32551,56967,98086,166681,280271,467301,773906,1274856,2091266,3419252,5576298,9076280,14750858,23945893 ★ Partial sums of A053739. ● a(n) = Sum _{ i=0..floor(n / 2) } C(n + 6 - i, n - 2i), n >= 0. ● a(n) = Sum _{ k=1..n } C(n - k + 6,k + 5), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 ●

[A055798] ● 1,7,29,93,255,627,1419,3003,6006,11440,20878,36686,62322,102714,164730,257754,394383,591261,870067,1258675,1792501,2516085,3484845,4767165,6446700 ★ T(2n+5,n), array T as in A055794. ● a(n - 8) = binomial(n,8) - 2 * binomial(n - 2,7), n=8,9,10,.... - _ Milan Janjic _ , Dec 28 2007 ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Vincenzo Librandi _ , May 01 2012 ●

[A002664] ● 0,0,0,0,0,1,7,29,93,256,638,1486,3302,7099,14913,30827,63019,127858,258096,519252,1042380,2089605,4185195,8377705,16764265 ★ a(n) = 2^n - C(n,0)- ... - C(n,4). ● a(n) = Sum _{ k=0..n } C(n, k + 5) = Sum _{ k=5..n } C(n, k); a(n) = 2a(n - 1) + C(n - 1, 4). - _ Paul Barry _ , Aug 23 2004 ● a(n) = 2 ^ n - n ^ 4 / 24 + n ^ 3 / 12 - 11 * n ^ 2 / 24 - 7 * n / 12 - 1. - _ Bruno Berselli _ , May 19 2011 [Robinson (1985) gives an alternative version of this formula, for a different offset. - _ N. J. A. Sloane _ , Oct 20 2015] ●

[A290901] ● 0,0,1,7,29,93,260,689,1845,5150,14897,43663,127451,368383,1056682,3022366,8651672,24818978,71319058,205070493,589550733,1694075057,4866102091,13975547842,40139685023 ★ p-INVERT of the positive integers, where p(S) = 1 - S^3 - S^4. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 57 * a(n - 3) - 71 * a(n - 4) + 57 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). ●

[A102485] ● 1,7,29,103,341,1087,3389,10423,31781,96367,291149,877543,2640821,7938847,23849309,71613463,214971461,645176527,1936053869,5809210183,17429727701,52293377407,156888520829,470682339703,1412080573541 ★ 5*3^n - 4*2^n. ● a(n) = 5 * a(n - 1) - 6 * a(n - 2). ●

[A118171] • 1,7,29,115,477,1843,7645,29491,122333,471859,1957341,7549747,31317469,120795955,501079517,1932735283,8017272285,30923764531,128276356573,494780232499,2052421705181,7916483719987,32838747282909,126663739519795,525419956526557 ★ Decimal representation of n-th iteration of the Rule 158 elementary cellular automaton starting with a single black cell. • a(n) = (1 / 30) * (- 16 + (- 4) ^ n - 10 * (- 1) ^ n + 55 * 4 ^ n). • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>3. •

[A037576] • 1,7,29,119,477,1911,7645,30583,122333,489335,1957341,7829367,31317469,125269879,501079517,2004318071,8017272285,32069089143,128276356573,513105426295,2052421705181,8209686820727,32838747282909 ★ Base 4 digits are, in order, the first n terms of the periodic sequence with initial period 1,3. • a(n) = 4 * a(n - 1) + a(n - 2) - 4 * a(n - 3). - _ Vincenzo Librandi _ , Jun 22 2012 • a(n) = (28 * 4 ^ n - 3 * (- 1) ^ n - 10) / 15. - _ Bruno Berselli _ , Jun 22 2012 •

[A048876] • 1,7,29,123,521,2207,9349,39603,167761,710647,3010349,12752043,54018521,228826127,969323029,4106118243,17393796001,73681302247,312119004989,1322157322203,5600748293801,23725150497407,100501350283429,425730551631123,1803423556807921 ★ a(n) = 4*a(n-1) + a(n-2); a(0)=1, a(1)=7. • a(n) = ((1 + sqrt(5)) * (2 + sqrt(5)) ^ n + (1 - sqrt(5)) * (2 - sqrt(5)) ^ n) / 2. • a(n) = Fibonacci(3 * n + 7) mod Fibonacci(3 * n + 3), n > 0. • a(n) = Fibonacci(3 * n + 3) - Fibonacci(3 * n - 1). (End) • a(n) = 5 * F(2 * n) * F(n + 1) - L(n - 1) * (- 1) ^ n. - _ J. M. Bergot _ , Mar 22 2016 • a(n) = S um _{ k=0..n } binomial(n,k) * 5 ^ floor((k + 1) / 2) * 2 ^ (n - k). - _ Tony Foster III _ , Sep 03 2017 •

[A179599] • 1,7,29,143,661,3127,14669,69023,324421,1525447,7171709,33718703,158529781,745338967,3504255149,16475477183,77460472741,364185235687,1712239488989,8050200352463,37848516969301,177947153727607 ★ Eight white kings and one red king on a 3 X 3 chessboard. G.f.: (1+4*x)/(1-3*x-8*x^2). • a(n) = 3 * a(n - 1) + 8 * a(n - 2) with a(0) = 1 and a(1) = 7. • a(n) = ((11 + 4 * A) * A ^ (- n - 1) + (11 + 4 * B) * B ^ (- n - 1)) / 41 with A = (- 3 + sqrt(41)) / 16 and B = (- 3 - sqrt(41)) / 16. •

[A139274] • 0,7,30,69,124,195,282,385,504,639,790,957,1140,1339,1554,1785,2032,2295,2574,2869,3180,3507,3850,4209,4584 ★ a(n) = n*(8*n-1). • a(n) = 16 * n + a(n - 1) - 9 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = (1 / 3) * Sum _{ i=n..(7 * n - 1) } i. - _ Wesley Ivan Hurt _ , Dec 04 2016 •

[A086640] • 7,30,71,130,207,302,415,546,695,862,1047,1250,1471,1710,1967,2242,2535,2846,3175,3522,3887,4270,4671,5090,5527 ★ Arrange n^2 octagons that each have area 7 so that they leave (n-1)^2 square gaps each with area 2; a(n) is the total area of these polygons. • a(n) = 9n ^ 2 - 4n + 2. •

[A045889] • 1,7,30,102,303,825,2116,5200,12381,28779,65658,147594,327835,721069,1573056,3408084,7340265,15728895,33554710,71303470,150995271,318767457,671089020,1409286552,2952790453 ★ Partial sums of A045618. • a(n) = (n ^ 2 + 11 * n + 34) / 2 + (n - 2) * 2 ^ (n + 3). • a(n) = Sum _{ k=1..n + 4 } Sum _{ i=1..n + 4 } (i - k) * C(n - k + 4,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[A038739] • 1,7,30,103,314,895,2455,6590,17480,46070,121016,317342,831465,2177613,5702054,14929365,39087010,102332805,267912735,701406940,1836309856,4807524652,12586266400,32951277148,86267567969 ★ T(n,n-2), array T as in A038738. • a(n) = Sum _{ k=0..n } (binomial(n + 3,k + 4) * Fibonacci(k)). - _ Vladimir Kruchinin _ , Oct 24 2016 •

[A276289] • 0,1,7,30,104,320,912,2464,6400,16128,39680,95744,227328,532480,1232896,2826240,6422528,14483456,32440320,72220672,159907840,352321536,772800512,1688207360,3674210304 ★ Expansion of x*(1 + x)/(1 - 2*x)^3. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). • a(n) = Sum _{ k = 0..n } binomial(n,k) * k * (3 * k - 1) / 2. • a(n) = 2 ^ (n - 3) * n * (3 * n + 1). •

[A085277] • 1,7,30,108,360,1152,3600,11088,33840,102672,310320,935568,2815920,8466192,25435440,76380048,229287600,688157712,2065062960,6196368528,18591464880,55779113232,167346776880,502059205008,1506215363760 ★ Expansion of (1+x)^2/((1-2x)(1-3x)). • a(n)=16 * 3 ^ n / 3 + 0 ^ n / 6 - 9 * 2 ^ n / 2. • a(0)=1, a(1)=7, a(2)=30, a(n)=5 * a(n - 1) - 6 * a(n - 2). - _ Harvey P. Dale _ , Sep 30 2012 •

[A055269] • 1,7,30,116,437,1635,6106,22792,85065,317471,1184822,4421820,16502461,61588027,229849650,857810576,3201392657,11947760055,44589647566,166410830212,621053673285,2317803862931,8650161778442,32282843250840,120481211224921 ★ a(n) = 4*a(n-1) - a(n-2) + 3; a(0)=1, a(1)=7. • a(n) = (((17 - 5 * (2 - sqrt(3)))(2 + sqrt(3)) ^ n + (5 * (2 + sqrt(3)) - 17)(2 - sqrt(3)) ^ n) / (4 * sqrt(3))) - 3 / 2. •

[A171472] • 7,30,124,504,2032,8160,32704,130944,524032,2096640,8387584,33552384,134213632,536862720,2147467264,8589901824,34359672832,137438822400,549755551744,2199022731264,8796091973632,35184369991680 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 1; a(0) = 7, a(1) = 30. • a(n) = 8 * 4 ^ n - 2 ^ n. •

[A171733] • 1,1,1,7,31,41,137,151,391,409,889,911,1751,1777,3121,3151,5167,5201,8081,8119,12079,12121,17401,17447,24311 ★ a(2n)=A165568(n). a(2n+1)=A165568(n). • a(n) = n ^ 3 / 8 + n ^ 2 / 16 - 15 / 32 + n ^ 4 / 16 + (- 1) ^ n * (n ^ 3 / 8 + 3 * n ^ 2 / 16 - n - 17 / 32). • a(n)= + a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). •

[A135659] • 7,31,55,79,103,127,151,175,199,223,247,271,295,319,343,367,391,415,439,463,487,511,535,559,583 ★ a(n) = 24*n + 7. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A157914] • 7,31,71,127,199,287,391,511,647,799,967,1151,1351,1567,1799,2047,2311,2591,2887,3199,3527,3871,4231,4607,4999 ★ a(n) = 8*n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A202254] • 7,31,81,171,309,509,779,1133,1579,2131,2797,3591,4521,5601,6839,8249,9839,11623,13609,15811,18237,20901,23811,26981,30419 ★ Number of zero-sum -n..n arrays of 4 elements with adjacent element differences also in -n..n. • a(n) = (22 * n ^ 3 + 33 * n ^ 2 + 26 * n + 12) / 12 for n even. • a(n) = (22 * n ^ 3 + 33 * n ^ 2 + 26 * n + 3) / 12 for n odd. •

[A118934] • 1,1,1,1,7,31,91,211,1681,12097,57961,209881,1874071,17842111,117303187,575683291,5691897121,65641390081,544238393041,3362783785777,36455473647271,485442581801311,4828464958268491,35900587138847971 ★ E.g.f.: exp(x + x^4/4). • a(n) = a(n - 1) + (n - 1) * (n - 2) * (n - 3) * a(n - 4) for n >=4, with a(0)=a(1)=a(2)=a(3)=1. •

[A118935] • 1,1,1,1,7,31,91,211,1681,12097,57961,209881,1874071,17842111,117303187,575683291,26124309121,412992394081,3670397429041,23161791013777,729420726627271,13374596287229311,143560108604864491 ★ E.g.f.: A(x) = exp(Sum_{n>=0} x^(4^n)/4^((4^n-1)/3)). • a(n) = Sum _{ k=0..[n / 4] } n! / [k! * (n - 4 * k)! * 4 ^ k] * a(k), with a(0)=1. •

[A226838] • 1,1,1,1,7,31,91,211,1681,25537,192361,949081,4830871,85109311,951416467,6696998491,119863554721,2004272484481,25344895874641,237953743909297,4116426696101671,65285723209356511,903886886890585291,10132514132979331171,165368713321379497777 ★ E.g.f.: exp(Sum_{n>=1} x^(n^2) / n^n). • a(n) == 1 (mod 6) (conjecture - valid up to n=1024; if true for n>=0, why?). •

[A107392] • 7,31,103,303,831,2175,5503,13567,32767,77823,182271,421887,966655,2195455,4947967,11075583,24641535,54525951,120061951,263192575,574619647,1249902591,2709520383,5855248383,12616466431 ★ Number of (inequivalent) fuzzy subgroups of the direct sum of group of integers modulo p^n and group of integers modulo 2 for a prime p with (p,2) = 1. Z_{p^n} + Z_2. • a(n) = (2 ^ n) * (n ^ 2 + 7n + 8) - 1 with n=0..14. •

[A054497] • 1,7,31,105,300,756,1732,3676,7330,13870,25102,43714,73612,120340,191620,298012,453739,677677,994565,1436435,2044328,2870296,3979768,5454280,7394660 ★ Number of symmetric nonnegative integer 7 X 7 matrices with sum of elements equal to 4*n, under action of dihedral group D_4. • a(0)=1, a(1)=7, a(2)=31, a(3)=105, a(4)=300, a(5)=756, a(6)=1732, a(7)=3676, a(8)=7330, a(9)=13870, a(10)=25102, a(11)=43714, a(12)=73612, a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 14 * a(n - 3) + 25 * a(n - 4) - 63 * a(n - 5) + 36 * a(n - 6) + 36 * a(n - 7) - 63 * a(n - 8) + 25 * a(n - 9) + 14 * a(n - 10) - 18 * a(n - 11) + 7 * a(n - 12) - a(n - 13). - _ Harvey P. Dale _ , Feb 03 2012 • a(n) = ((2835 * (4017 + 79 * (- 1) ^ n) + 18 * (1513217 + 4095 * (- 1) ^ n) * n + 90 * (284609 + 63 * (- 1) ^ n) * n ^ 2 + 12771104 * n ^ 3 + 3787056 * n ^ 4 + 701400 * n ^ 5 + 81900 * n ^ 6 + 5856 * n ^ 7 + 234 * n ^ 8 + 4 * n ^ 9)) / 11612160. - _ Colin Barker _ , Jan 15 2017 •

[A235593] • 0,0,0,1,7,31,106,301,742,1638,3312,6237,11077,18733,30394,47593,72268,106828,154224,218025,302499,412699,554554,734965,961906 ★ Binomial(n-1,3)+3*binomial(n-1,4)+6*binomial(n-1,5)+5*binomial(n-1,6). • a(n) = (720 - 2136 * n + 2450 * n ^ 2 - 1395 * n ^ 3 + 425 * n ^ 4 - 69 * n ^ 5 + 5 * n ^ 6) / 720. G.f.: - x ^ 4 * (x ^ 3 + 3 * x ^ 2 + 1) / (x - 1) ^ 7. _ Colin Barker _ , Jan 16 2014 •

[A119359] • 0,1,1,7,31,106,386,1499,5755,21886,83854,323302,1248534,4828916,18719364,72711123,282867795,1101981430,4298723990,16788997874,65641296578,256895812108,1006307847324,3945185527582,15478851119966 ★ Central coefficients of number triangle A119326. • a(n) = (C(2n,n + 1) + C((n - 1) / 2) * sin(Pi * n / 2) - 2 * 0 ^ n - 2C(n - 1,n / 2) * sin(Pi * (n - 1) / 2)) / 2. • a(n) = hypergeom([- 1 / 2 - n / 2, 1 / 2 - n / 2, 1 - n / 2, - n / 2], [1 / 2, 1 / 2, 1], 1] - 0 ^ n. - _ Vladimir Reshetnikov _ , Oct 04 2016 •

[A205492] • 1,7,31,109,334,937,2475,6267,15393,36976,87369,203915,471546,1082849,2473535,5627684,12765052,28887838,65260270,147233926,331842395,747355066,1682185342,3784718431,8512408455 ★ Expansion of (1-x^2-x^3-x^4+x^5)/((1-x)^3*(1-x-x^2)^2*(1-2*x-x^2+x^3)). • a(n) = 7 * a(n - 1) - 17 * a(n - 2) + 12 * a(n - 3) + 15 * a(n - 4) - 26 * a(n - 5) + 3 * a(n - 6) + 13 * a(n - 7) - 5 * a(n - 8) - 2 * a(n - 9) + a(n - 10), n>9, { a(m) } = { 1, 7, 31, 109, 334, 937, 2475, 6267, 15393, 36976 } , m=0,...,9. •

[A055580] • 1,7,31,111,351,1023,2815,7423,18943,47103,114687,274431,647167,1507327,3473407,7929855,17956863,40370175,90177535,200278015,442499071,973078527,2130706431,4647288831,10099884031 ★ Björner-Welker sequence: 2^n*(n^2 + n + 2) - 1. • a(n) = Sum _{ k=0..n + 1 } Sum _{ i=0..n + 1 } i ^ 2 * C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A097786] • 1,7,31,113,374,1178,3618,10974,33087,99481,298729,896551,2690108,8070884,24213332,72640812,217923405,653771355,1961315395,5883947725,17651844946,52955536862,158866612886,476599841258,1429799526699 ★ a(n)=3a(n-1)+C(n+3,3),n>0, a(0)=1. • a(0)=1, a(1)=7, a(2)=31, a(3)=113, a(4)=374, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 22 * a(n - 3) - 13 * a(n - 4) + 3 * a(n - 5) [From Harvey P. Dale, Nov 26 2011] •

[A197649] • 0,1,7,31,115,390,1254,3893,11789,35045,102695,297516,853932,2432041,6881395,19361995,54214939,151164018,419910354,1162585565,3209268688,8855468881,24266461007,66501634776,181882282200 ★ Sum(k*Fibonacci(2*k), k=0..n), Fibonacci(n)=A000045(n) • a(n) = n * F(2 * n + 1) - F(2 * n), For F(n)= Fibonacci(n) • a(n) = ((F(2 * n + 1) * ((n - 1) * h(n - 1) - (n - 1) * h(n - 2)) - h(n) * F(2 * n)) / h(n), n>2. Where h(n)=n - th harmonic number •

[A006458] • 1,7,31,115,391,1267,3979,12271,37423,113371,342091,1029799,3095671,9298147,27914179,83777503,251394415,754292827,2263072411,6789560407,20369288455,61108939795,183328720435,549989524879,1649974525855 ★ Number of elements in Z[omega] whose 'smallest algorithm' is <= n, where omega = -omega+1. • a(n + 6) - 5a(n + 5) + 5a(n + 4) + 5a(n + 3) - 4a(n + 2) - 8a(n + 1) + 6a(n)=0. •

[A091344] • 0,1,7,31,115,391,1267,3991,12355,37831,115027,348151,1050595,3

164071,9516787,28599511,85896835,257887111,774054547,2322950071,6970423075,20914414951,62749536307,188261191831,564808741315 ★ a(n) = 2*3^n - 3*2^n + 1. ● a(n) = Sum _{ i=1..n } i! * i ^ 2 * Stirling2(n,i) * (- 1) ^ (n - i). ● a(n) = 6a(n - 1) - 11a(n - 2) + 6a(n - 3); ● a(n) = 5 * a(n - 1) - 6 * a(n - 2) + 2 (a(0)=0, a(1)=1). - _ Vincenzo Librandi _ , Nov 25 2010 ●

[A147597] ● 1,7,31,119,455,1799,7175,28679,114695,458759,1835015,7340039,29360135,117440519,469762055,1879048199,7516192775,30064771079,120259084295,481036337159,1924145348615,7696581394439,30786325577735,123145302310919,492581209243655 ★ a(n) is the number whose binary representation is A138146(n). ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>5. ● a(n) = 7 * 4 ^ (n - 2) + 7 for n>3. - _ Colin Barker _ , Nov 25 2016 ●

[A048775] ● 1,7,31,121,456,1709,6427,24301,92368,352705,1352066,5200287,20058286,77558745,300540179,1166803093,4537567632,17672631881,68923264390,269128937199,1052049481838,4116715363777,16123801841526,63205303218851,247959266474026 ★ Number of (partially defined) monotone maps from intervals of 1..n to 1..n. ● a(n) = (1 / 2) * Sum[Sum[(i + j)! / (i! * j!), { i,1,n }], { j,1,n }]. - _ Alexander Adamchuk _ , Jul 04 2006. Corrected by _ N. J. A. Sloane _ , Jan 30 2009. ● a(n) = Sum { k=0..n, (n - k + 1) * C(n + k + 1,n) } = [x ^ n](1 + x) ^ n * F(- n - 2, - n - 1;1;x / (1 + x)). [_ Paul Barry _ , Oct 01 2010] ● a(n) = (1 / 2) * Sum _{ k=1..n } Sum _{ i=1..n } C(k + i,i). - _ Wesley Ivan Hurt _ , Sep 19 2017 ●

[A083420] ● 1,7,31,127,511,2047,8191,32767,131071,524287,2097151,8388607,33554431,134217727,536870911,2147483647,8589934591,34359738367,137438953471,549755813887,2199023255551,8796093022207,35184372088831,140737488355327,562949953421311 ★ a(n) = 2*4^n - 1. ● a(n) = (- 16 ^ n / 2) * B(2 n, 1 / 4) / B(2n) where B(n, x) is the n - th Bernoulli polynomial and B(k) = B(k, 0) is the k - th Bernoulli number. a(n) = 5 * a(n - 1) - 4 * a(n - 2). Also a(n) = (- 4 ^ n / 2) * B(2 * n, 1 / 2) / B(2 * n). - _ Benoit Cloitre _ , Jun 18 2004 ● a(n) = Stirling2(2 * (n + 1), 2). - _ Zerinvary Lajos _ , Dec 06 2006 ● a(n) = 4 * a(n - 1) + 3 with n > 0, a(0) = 1. - _ Vincenzo Librandi _ , Dec 30 2010 ● a(n) = Sum _{ i = 0..n } C(2n + 2, 2i). - _ Wesley Ivan Hurt _ , Mar 14 2015 ●

[A180147] ● 1,7,31,139,607,2659,11623,50827,222223,971635,4248247,18574555,81213151,355086787,1552539271,6788138539,29679651247,129767784979,567381262423,2480750497147,10846539065983,47424120180835 ★ Eight rooks and one berserker on a 3 X 3 chessboard. G.f.: (1+3*x)/(1-4*x-3*x^2+6*x^3). ● a(n) = 4 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) with a(0)=1, a(1)=7 and a(2)=31 ● a(n) = (- 1 / 2) + (7 + 6 * A) * A ^ (- n - 1) / 22 + (7 + 6 * B) * B ^ (- n - 1) / 22 with A=(- 3 + sqrt(33)) / 12 and B=(- 3 - sqrt(33)) / 12. ●

[A255284] ● 1,7,31,145,601,2551,10351,42433,170761,690247,2768191,11123185,44543161,178525591,714455311,2860291873,11443638121,45791846887,183184681951,732859788625,2931560215321,11727088287031,46909200573871,187642734275713,750576869083081 ★ a(n) = A255283(2^n-1). ● a(n) = 2 ^ (3 + 2 * n) / 3 - 7 ^ ((n - 1) / 2) / 6 * (11 - 11 * (- 1) ^ n + 5 * sqrt(7) + 5 * (- 1) ^ n * sqrt(7)). ● a(n) = 4 * a(n - 1) + 7 * a(n - 2) - 28 * a(n - 3) for n>2. ●

[A005825] ● 0,1,7,31,145,659,3013,13739,62685,285931,1304317,5949691,27139885,123799979,564720253,2576001179,11750565645,53600825611,244502997277,1115313334651,5087560679725,23207176728299,105860762284093,482889457961819,2202725765245005 ★ Numerators in a worst case of a Jacobi symbol algorithm. ● a(n) = 5 * a(n - 1) - 10 * a(n - 3) + 4 * a(n - 4), by definition [_ R. J. Mathar _ , Mar 11 2009] ●

[A086901] ● 1,1,7,31,145,673,3127,14527,67489,313537,1456615,6767071,31438129,146053729,678529303,3152278399,14644701505,68035641217,316076669383,1468413601183,6821884412881,31692778455073,147236767058935 ★ a(1) = a(2) = 1; for n>2, a(n) = 4*a(n-1) + 3*a(n-2). ● a(n) = ((c + 5)b ^ n - (b + 5)c ^ n) / 14, where b = 2 + sqrt(7), c = 2 - sqrt(7). ● a(n) = upper left term in the 2 X 2 matrix [1,2; 3,3] ^ (n - 1). - _ Gary W. Adamson _ , Mar 02 2008 ● a(n) = (1 / 14) * (2 - sqrt(7)) ^ n * sqrt(7) - (1 / 14) * sqrt(7) * (2 + sqrt(7)) ^ n + (1 / 2) * (2 - sqrt(7)) ^ n + (1 / 2) * (2 + sqrt(7)) ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 ●

[A121517] ● 1,1,7,31,151,721,3457,16561,79351,380191,1821607,8727841,41817601,200360161,959983207,4599555871,22037796151,105589424881,505909328257,2423957216401,11613876753751,55645426552351,266613256008007 ★ a(n)=4*a(n-1)+4*a(n-2)-a(n-3); a(0)=1, a(1)=1, a(2)=7. ● a(n)=5 * a(n - 1) - a(n - 2) + 3 * (- 1) ^ n . g.f.: (1 - 3 * x - x ^ 2) / (1 - 4 * x - 4 * x ^ 2 + x ^ 3). ● a(n)=(3 / 7) * (- 1) ^ n + (2 / 7) * [5 / 2 + (1 / 2) * sqrt(21)] ^ n + (2 / 7) * [5 / 2 - (1 / 2) * sqrt(21)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 07 2008 ●

[A199216] ● 7,31,151,751,3751,18751,93751,468751,2343751,11718751,58593751,292968751,1464843751,7324218751,36621093751,183105468751,915527343751,4577636718751,22888183593751,114440917968751,572204589843751,2861022949218751 ★ 6*5^n+1. ● a(n) = 5 * a(n - 1) - 4. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2). ●

[A102239] ● 1,7,31,157,781,3907,19531,97657,488281,2441407,12207031,61035157,305175781,1525878907,7629394531,38146972657,190734863281,953674316407,4768371582031,23841857910157,119209289550781,596046447753907 ★ a(n) = Sum[5^i, {i, 0, n}] + 1 - Mod[Sum[5^i, {i, 0, n}], 2] ● a(n) = 4 * a(n - 1) + 5 * a(n - 2) - 2 (conjecture) - _ Creighton Dement _ , Apr 13 2005 ●

[A155521] ● 0,1,1,7,31,191,1331,10655,95887,958879,10547659,126571919,1645434935,23036089103,345541336531,5528661384511,93987243536671,1691770383660095,32143637289541787,642872745790835759,13500327661607550919 ★ Smallest fixed point summed over all non-derangement permutations of {1,2,...,n}. ● a(n)=(n + 1)! + (- 1) ^ n - 2(n + 1)d(n), ●

[A221875] ● 1,7,31,265,1177,10063,44695,382129,1697233,14510839,64450159,551029753,2447408809,20924619775,92937084583,794584521697,3529161805345,30173287204711,134015211518527,1145790329257321,5089048875898681,43509859224573487 ★ Numbers m such that 10*m^2 - 6 is a square. ● a(n) = ((5 - t * (- 1) ^ n) * (3 + t) ^ (2 * floor(n / 2)) + (5 + t * (- 1) ^ n) * (3 - t) ^ (2 * floor(n / 2))) / 10, where t=sqrt(10). ● a(n) * a(n - 3) - a(n - 1) * a(n - 2) = 36 + 12(- 1) ^ n. ●

[A013656] ● 0,7,32,75,136,215,312,427,560,711,880,1067,1272,1495,1736,1995,2272,2567,2880,3211,3560,3927,4312,4715,5136 ★ n*(9*n-2). ● a(n) = a(n - 1) + 18 * n - 11 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 22 2010 ● a (0)=0, a(1)=7, a(2)=32, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 07 2012 ●

[A126562] ● 0,7,32,81,160,275,432,637,896,1215,1600,2057,2592,3211,3920,4725,5632,6647,7776,9025,10400,11907,13552,15341,17280 ★ Number of intersections of at least four edges in a cube of n X n X n smaller cubes. ● a(n) = 6 * (n - 1) ^ 2 + (n - 1) ^ 3. ●

[A182820] ● 1,7,32,119,385,1127,3057,7799,18914,43950,98434,213486,450051,925013,1858355,3657052,7062245,13404195,25038741,46086250,83669927,149970936,265608168,465149039,806022315 ★ G.f.: exp(Sum_{n>=1} sigma(4n)*x^n/n). ● a(n) = Sum _{ k = 0..4 * n } i ^ k * b(k) * b(4 * n - k), where b(n) := Sum _{ k = 0..n } (- 1) ^ k * p(k) * p(n - k). (End) ●

[A001794] ● 1,7,32,120,400,1232,3584,9984,26880,70400,180224,452608,1118208,2723840,6553600,15597568,36765696,85917696,199229440,458752000,1049624576,2387607552,5402263552,12163481600,27262976000 ★ Coefficients of Chebyshev polynomials. ● a(n) = 2 ^ (n - 2) * (n + 1) * (n + 2) * (n + 6) / 3 . ● a(n) = Sum _{ k=0..floor((n + 6) / 2) } C(n + 6, 2 * k) * C(k, 3). - _ Paul Barry _ , May 15 2003 ● a(n) = Sum _{ i=0..n + 1 } (Sum { k=0..i } (k ^ 2 * binomial(n + 1, i))). - _ Jon Perry _ , Feb 26 2004 [corrected by _ Michel Marcus _ , Mar 25 2017] ● a(n) = 2 ^ (n - 1) / 3 * Binomial(n + 2,2) * (n + 6). - _ Brad Clardy _ , Mar 08 2012 ●

[A178851] ● 0,0,1,7,32,121,412,1317,4048,12144,35904,105249,306968,892217,2585468,7468532,21500800,61688513,176477988,503906221,1438235592,4110846808,11789919200,33991337521,98657320240 ★ The number of length n sequences on {0,1,2}(ternary sequences) that contain a prime number of 2's. ● a (n) = Sum Binomial(n,p) * 2 ^ (n - p) where the sum is taken over the prime numbers. ●

[A213163] ● 1,7,32,122,422,1376,4315,13165,39360,115860,336876,969792,2768917,7851187,22130912,62066126,173294930,481976480,1335880495,3691245145,10171349376,27957706152,76672984152,209839988352,573211991977 ★ Sequence of coefficients of x in marked mesh pattern generating function Q_{n,132}^(3,0,-,0)(x). ● a(n) = (7 * n + 6) * F(2 * n) / 5 - (4 * n + 5) * F(2 * n + 1) / 5 + 1, where F is Fibonacci number (A000045). ●

[A249999] ● 1,7,32,122,423,1389,4414,13744,42245,128771,390396,1179366,3554467,10696153,32153978,96592988,290041089,870647535,2612991160,7841070610,23527406111,70590606917,211788597942,635399348232,1906265153533 ★ Expansion of 1/((1-x)^2*(1-2*x)*(1-3*x)). ● a(n) = 9 / 4 - 2 ^ (n + 3) + n / 2 + 3 ^ (n + 3) / 4. - _ R. J. Mathar _ , Jan 09 2015 ●

[A024093] ● 1,7,32,269,3072,29643,254368,2080345,16744448,134158679,1073641824,8589773541,68719227904,549755442595,4398045973280,35184371329457,281474975662080,2251799812265391,18014398507592416 ★ 8^n-n^5. ● a(n) = 14 * a(n - 1) - 63 * a(n - 2) + 140 * a(n - 3) - 175 * a(n - 4) + 126 * a(n - 5) - 49 * a(n - 6) + 8 * a(n - 7) for n > 6. ●

[A275163] ● 7,33,85,189,397,813,1645,3309,6637,13293,26605,53229,106477,212973,425965,851949,1703917,3407853,6815725,13631469,27262957,54525933,109051885,218103789,436207597 ★ a(n) = 13*2^(n+1) - 19. ● a(0) = 7; a(n) = 2 * a(n - 1) + 19 for n>=1. ●

[A051895] ● 0,7,33,90,190,345,567,868,1260,1755,2365,3102,3978,5005,6195,7560,9112,10863,12825,15010,17430,20097,23023,26220,29700 ★ Partial sums of second pentagonal numbers with even index (A049453). ● a(n) = n * (n + 1) * (4 * n + 3) / 2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Apr 27 2012 ●

[A168574] ● 1,7,33,95,209,391,657,1023,1505,2119,2881,3807,4913,6215,7729,9471,11457,13703,16225,19039,22161,25607,29393,33535,38049 ★ a(n) = (4*n + 3)*(1 + 2*n^2)/3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 16. ●

[A215054] ● 1,7,33,124,397,1125,2893,6871,15269,32065,64130,122916,226922,405218,702378,1185263,1952198,3145208,4966118,7697483,11729498,17594247,26008887,37929627,54618663 ★ a(n) = 1/11*(binomial(n,11) - floor(n/11)). ● a(n) = 1 / 11 * (binomial(n,11) - floor(n / 11)). ●

[A114014] ● 1,7,33,127,529,2031,8465,32495,135441,519919,2167057,8318703,34672913,133099247,554766609,2129587951,8876265745,34073407215,142020251921,545174515439,2272324030737,8722792247023,36357184491793 ★ A series expansion of a quadric Jasinski rational polynomial based on A112627 that is Farey like in p[1/2]=1. ● a(n) = (5 * (- 4) ^ n - 8 * (- 1) ^ n + 243 * 4 ^ n) / 120 for n>1. G.f.: - (16 * x ^ 4 + 32 * x ^ 3 + 24 * x ^ 2 + 8 * x + 1) / ((x + 1) * (4 * x - 1) * (4 * x + 1)). [_ Colin Barker _ , Dec 03 2012] ●

[A066810] ● 0,0,1,7,33,131,473,1611,5281,16867,52905,163835,502769,1533883,4651897,14070379,42456897,127894979,384799049,1156756443,3475250065,10436235955,31330727961,94038321227,282211432673 ★ Expansion of x^2/((1-3*x)*(1-2*x)^2). ● a(n) = 3 ^ n - 2 ^ n - n * 2 ^ (n - 1). ● a(n) = 3 * a(n - 1) + (n - 1) * 2 ^ (n - 2). (End) ●

[A262600] ● 0,0,0,0,1,7,33,132,484,1684,5661,18579,59917,190696,600744,1877256,5828185,17998783,55342617,169552428,517884748,1577812060,4796682165,14555626635,44100374341 ★ Number of Dyck paths of semilength n and height exactly 4. ● a(n) = 7 * a(n - 1) - 16 * a(n - 2) + 13 * a(n - 3) - 3 * a(n

- 4) for n>4. • a(n) = 2 ^ (- 1 - n) * (5 * 2 ^ n * (3 + 3 ^ n) + 3 * (- 5 + sqrt(5)) * (3 + sqrt(5)) ^ n - 3 * (3 - sqrt(5)) ^ n * (5 + sqrt(5))) / 15 for n>0. •

[A141291] • 0,1,7,33,139,565,2271,9097,36403,145629,582535,2330161,9320667,37282693,149130799,596523225,2386092931,9544371757,38177487063,152709948289,610839793195,2443359172821,9773436691327,39093746765353 ★ a(n) = 4*a(n-1) + 2*n-1 • a(n) = 4 * a(n - 1) + 2 * n - 1, given a(0) = 0, a(1) = 1. Row sums of triangle A141290 starting with offset 1. • a(n)= - (5 / 9) - (2 / 3) * n + (5 / 9) * 4 ^ n, with n>=0 [From _ Paolo P. Lava _ , Oct 07 2008] • a(n)= 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). G.f.: x * (1 + x) / ((1 - 4 * x) * (x - 1) ^ 2). [From _ R. J. Mathar _ , Feb 02 2010] •

[A155603] • 1,7,33,151,705,3367,16353,80311,397185,1972807,9824673,49005271,244672065,1222297447,6108298593,30531927031,152630937345,763068593287,3815084686113,19074648589591,95370918425025,476847618556327 ★ 5^n+3^n-1. • a(n)=8 * a(n - 1) - 15 * a(n - 2) - 8 with a(0)=1, a(1)=7 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A275860] • 1,1,7,33,164,813,4039,20063,99665,495099,2459470,12217747,60693301,301502133,1497752387,7440286381,36960623072,183606865105,912091791531,4530938620963,22508046862781,111811749387479,555439900107962,2759222392297991,13706808258965257 ★ floor(c*s*a(n-1)) + floor(d*r*a(n-2)), where r = (3 + sqrt(13))/2, s = r/(r-1), c = 3, d = 1, a(0) = 1, a(1) = 1. • a(n) = floor(c * s * a(n - 1)) + floor(d * r * a(n - 2)), where r = (3 + sqrt(13)) / 2, s = r / (r - 1), c = 3, d = 1, a(0) = 1, a(1) = 1. •

[A259055] • 7,34,79,142,223,322,439,574,727,898,1087,1294,1519,1762,2023,2302,2599,2914,3247,3598,3967,4354,4759,5182,5623 ★ a(n) = 9*n^2 + 18*n + 7. • a(n) = 9 * (n + 1) ^ 2 - 2, n >= 0. •

[A195018] • 0,7,34,81,148,235,342,469,616,783,970,1177,1404,1651,1918,2205,2512,2839,3186,3553,3940,4347,4774,5221,5688 ★ n*(10*n-3). • a(0)=0, a(1)=7, a(2)=34, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) From _ Harvey P. Dale _ , May 27 2012 •

[A071598] • 1,7,34,115,298,677,1431,2853,5401,9813,17289,29687,49901,82315,133617,213801,337742,527231,814218,1244962,1886069,2833392,4223121,6247850,9179762 ★ a(0) = 1; a(n) = half of the a(n-1)-th even nontotient number. • a(5) = 373 = 746 / 2, where 746 is the a(4)=149th term in A005277. •

[A219756] • 0,0,0,0,1,7,34,141,537,1942,6786,23143,77513,256021,836330,2707652,8701723,27793375,88310920,279354069,880300371,2764788010,8658249900,27045078415,84287831231 ★ Expansion of x^4*(1-7*x+17*x^2-18*x^3+11*x^4-5*x^5)/((1-x)^2*(1-3*x)^2*(1-3*x+x^2)^2). • a(n) = 14 * a(n - 1) - 81 * a(n - 2) + 250 * a(n - 3) - 444 * a(n - 4) + 458 * a(n - 5) - 265 * a(n - 6) + 78 * a(n - 7) - 9 * a(n - 8). - _ Vincenzo Librandi _ , Dec 15 2012 •

[A094256] • 1,7,34,143,560,2108,7752,28101,100947,360526,1282735,4552624,16131656,57099056,201962057,714012495,2523515514,8916942687,31504028992,111295205284,393151913464,1388758662221,4905479957435,17327203698086,61202661233823,216176614077600 ★ Number of walks of length 2n+7 in the path graph P_8 from one end to the other. • a(k) = sum(binomial(7 + 2k, 9j + k - 2) - binomial(7 + 2k, 9j + k - 1), j= - infinity..infinity) (a finite sum). •

[A192803] • 0,0,1,7,34,144,575,2239,8632,33164,127297,488571,1875346,7199124,27637959,106107659,407374592,1564024808,6004739025,23053921567,88510638482,339817775144,1304657986015,5008956298247,19230819824088 ★ Coefficient of x^2 in the reduction of the polynomial (x+2)^n by x^3->x^2+x+1. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 11 * a(n - 3). •

[A052161] • 1,7,34,146,599,2417,9696,38820,155325,621355,2485486,9942022,39768179,159072821,636291404,2545165752,10180663161,40722652815,162890611450,651562446010 ★ Partial sums of A014825, second partial sums of A002450. • a(n) = ((2 ^ (2n + 7)) - (9 * (n ^ 2) + 51n + 74)) / 54. • a(n) = Sum _{ k=0..n, binomial(n + 3, k + 3)3 ^ k } . - _ Paul Barry _ , Aug 20 2004 •

[A080960] • 1,7,34,148,616,2512,10144,40768,163456,654592,2619904,10482688,41936896,167759872,671064064,2684305408,10737319936,42949476352,171798298624,687193980928,2748777496576,10995113132032,43980458819584 ★ Third binomial transform of A010685 (period 2: repeat 1,4). • a(n) = 4 * a(n - 1) + 3 * 2 ^ (n - 1). • a(n) = (5 / 2) * 4 ^ n - (3 / 2) * 2 ^ n. • a(0)=1, a(1)=7, a(n)=6 * a(n - 1) - 8 * a(n - 2). - _ Harvey P. Dale _ , Nov 12 2012 •

[A213119] • 1,7,34,151,646,2710,11236,46231,189214,771442,3136156,12720982,51507964,208260556,841065544,3393346711,13679459854,55106773786,221860011244,892741834546,3590659699444,14436037598836,58018598086264 ★ Number of binary arrays of length 2*n+1 with fewer than n ones in any length 2n subsequence (=less than 50% duty cycle). • a(n) = 4 ^ n - 3 * C(2 * n - 1, n). - _ Vaclav Kotesovec _ , Oct 29 2012 •

[A099242] • 1,7,34,153,686,3088,13917,62721,282646,1273690,5739647,25864698,116554700,525233175,2366870474,10665883415,48063918336,216591552484,976031547888,4398313653120,19820223058176,89316331907533 ★ (6n+5)-th terms of expansion of 1/(1 - x - x^6). • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = Sum _{ k=0..n } binomial(6 * n - 5 * (k - 1), k). • a(n) = Sum _{ k=0..n } binomial(n + 5 * (k + 1), k + 5 * (k + 1). • a(n) = Sum _{ k=0..n } binomial(n + 5 * (k + 1), n - k). •

[A055271] • 1,7,34,163,781,3742,17929,85903,411586,1972027,9448549,45270718,216905041,1039254487,4979367394,23857582483,114308545021,547685142622,2624117168089,12572900697823,60240386321026,288629030907307 ★ a(n) = 5a(n-1) - a(n-2); a(0)=1, a(1)=7. • a(n) = (7 * (((5 + sqrt(21)) / 2) ^ n - ((5 - sqrt(21)) / 2) ^ n) - (((5 + sqrt(21)) / 2) ^ (n - 1) - ((5 - sqrt(21)) / 2) ^ (n - 1))) / sqrt(21). •

[A080048] • 1,7,34,182,1107,7773,62212,559948,5599525,61594835,739138086,9608795202,134523132919,2017846993897,32285551902472,548854382342168,9879378882159177,187708198761024543,3754163975220491050 ★ Operation count to create all permutations of n distinct elements using Algorithm L (lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of loop repetitions in reversal step. • a(2)=1, a(n)=n * a(n - 1) + (n - 1) * floor[(n + 1) / 2] for n>=3. c = limit n - > infinity a(n) / n! = 1.54308063481524377826 = (e + 1 / e) / 2 a(n) = floor [c * n! - (n + 1) / 2] for n>=2. •

[A256391] • 1,7,35,79,243,319,787,1155,1859,2295,4267,4891,8295,9743,11851,14539,22191,24359,35427,39387,45915,51687,71171,76407,94911 ★ a(n) = number of tuples (a,b,c,d) of natural numbers a,b,c,d <= n with gcd(a,b)=gcd(b,c)=gcd(• a(n) = sum _ a sum _ b sum _ c sum _ d mu(a) mu(b) mu(c) mu(d) [n / gcd(a,b)][n / gcd(b,c)][n / gcd(c,d)][n / gcd(d,a)], where mu is Moebius function, a,b,c,d run through natural numbers. •

[A152744] • 0,7,35,84,154,245,357,490,644,819,1015,1232,1470,1729,2009,2310,2632,2975,3339,3724,4130,4557,5005,5474,5964 ★ 7 times pentagonal numbers: 7n(3n-1)/2. • a(n) = a(n - 1) + 21 * n - 14 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 • a(0)=0, a(1)=7, a(2)=35, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 08 2013 •

[A169607] • 0,7,35,98,210,385,637,980,1428,1995,2695,3542,4550,5733,7105,8680,10472,12495,14763,17290,20090,23177,26565,30268,34300 ★ 7*A000330(n). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 02 2012 •

[A130884] • 1,7,35,103,229,431,727,1135,1673,2359,3211,4247,5485,6943,8639,10591,12817,15335,18163,21319,24821,28687,32935,37583,42649 ★ 3n^3 + 2n^2 + n + 1. • a(0)=1, a(1)=7, a(2)=35, a(3)=103, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [_ Harvey P. Dale _ , Jan 17 2012] •

[A059595] • 1,7,35,133,434,1246,3262,7890,17913,38479,78883,155141,294280,540344,963832,1674568,2841006,4715970,7673834,12259142,19254676,29768972,45355660,68164628,101143574 ★ Seventh column (m=6) of convolution triangle A059594(n,m). • a(2 * k)= binomial(k + 10, 10) * (16 * k ^ 3 + 212 * k ^ 2 + 708 * k + 429) / (13 * 3 * 11); • a(2 * k + 1)= binomial(k + 10, 10) * (16 * k ^ 3 + 316 * k ^ 2 + 1852 * k + 3003) / (13 * 3 * 11), k >= 0. •

[A001875] • 1,7,35,140,490,1554,4578,12720,33705,85855,211519,506408,1182650,2702350,6056850,13343820,28947240,61926900,130814600,273163100,564415390,1154933230,2342193350,4710707400,9401674275 ★ Convolved Fibonacci numbers. • a(n) = F''''''(n + 6, 1) / 6!, i.e., 1 / 6! times the 6th derivative of the (n + 6)th Fibonacci polynomial evaluated at 1. - _ T. D. Noe _ , Jan 18 2006 • a(n) = Sum _{ k=ceiling(n / 2)..n } (k + 1) * (k + 2) * (k + 3) * (k + 4) * (k + 5) * (k + 6) * binomial(k,n - k) / 720. - _ Vladimir Kruchinin _ , Apr 26 2011 •

[A094825] • 1,7,35,153,624,2444,9333,35055,130207,479941,1759616,6427032,23412105,85121783,309062619,1121050449,4063463728,14721293860,53313308477,193023319071,698715633111,2528895064637,9152032060800,33118656195888 ★ Number of (s(0), s(1), ..., s(2n)) such that 0 < s(i) < 10 and |s(i) - s(i-1)| = 1 for i = 1,2,....,2n, s(0) = 1, s(2n) = 7. • a(n)=(1 / 5) * Sum(r, 1, 9, Sin(r * Pi / 10)Sin(7 * r * Pi / 10)(2Cos(r * Pi / 10)) ^ (2n)). • a(n)=8a(n - 1) - 21a(n - 2) + 20a(n - 3) - 5a(n - 4). •

[A005285] • 1,7,35,155,649,2640,10569,41926,165425,650658,2554607,10020277,39287173,154022930,603919164,2368601685,9293159292,36476745510,143239635450,562744102479,2211876507387,8697839966552,34218338900591 ★ Number of permutations of (1,...,n) having n-7 inversions (n>=7). • a(n) = 2 ^ (2 * n - 8) / sqrt(Pi * n) * Q * (1 + O(n ^{- 1 })), where Q is a digital search tree constant, Q = 0.2887880951... (see A048651). - corrected by _ Vaclav Kotesovec _ , Mar 16 2014 •

[A006095] • 0,0,1,7,35,155,651,2667,10795,43435,174251,698027,2794155,11180715,44731051,178940587,715795115,2863245995,11453115051,45812722347,183251413675,733006703275,2932028910251,11728119835307,46912487729835 ★ Gaussian binomial coefficient [n,2] for q=2. • a(n) = (2 ^ n - 1) * (2 ^ (n - 1) - 1) / 3 = 4 ^ n / 6 - 2 ^ (n - 1) + 1 / 3. • a(n) = stirling2(n + 1,3) + stirling2(n + 1,4). - _ Zerinvary Lajos _ , Oct 04 2007, corrected by _ R. J. Mathar _ , Mar 19 2011 • a(n) = 4 * a(n - 1) + 2 ^ (n - 1) - 1, n >= 2. - _ Vincenzo Librandi _ , Mar 19 2011 • a(0) = 0, a(1) = 0, a(2) = 1, a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Jul 22 2011 • a(n) = Sum _{ k=0..n - 2 } 2 ^ k * C(2 * n - k - 2, k), n >= 2. - _ Johannes W. Meijer _ , Aug 19 2013 • a(n) = Sum _{ i=0..n - 2, j=i..n - 2 } 2 ^{ i + j } = 2 ^ 0 * (2 ^ 0 + 2 ^ 1 + ... + 2 ^ (n - 2)) + 2 ^ 1 * (2 ^ 1 + 2 ^ 2 + ... + 2 ^ (n - 2)) + ... + 2 ^ (n - 2) * 2 ^ (n - 2), n>1. - _ J. M. Bergot _ , May 08 2017 •

[A171477] • 1,7,35,155,651,2667,10795,43435,174251,698027,2794155,11180715,44731051,178940587,715795115,2863245995,11453115051,45812722347,183251413675,733006703275,2932028910251,11728119835307,46912487729835 ★ a(n) = 6*a(n-1) - 8*a(n-2) + 1 for n > 1; a(0) = 1, a(1) = 7. • a(n) = (8 * 4 ^ n - 6 * 2 ^ n + 1) / 3. •

[A265612] • 0,1,7,35,156,660,2717,11011,44200,176358,700910,2778446,10994920,43459650,171655785,677688675,2674776720,10555815270,41656918050,164401379610,648887951400,2561511781920,10113397410402,39937416869070,157743149913776 ★ a(n) = CatalanNumber(n+1)*n*(1+3*n)/(6+2*n). • a(n) = 2 * 4 ^ n * Gamma(3 / 2 + n) * n * (1 + 3 * n) / (sqrt(Pi) * Gamma(4 + n)) . • a(n) = (rf(5 + n, n - 1) - (n - 1) * (n - 2) * rf(5 + n, n - 3)) / (n - 1)! for n

>=3, rf(n,k) the rising factorial. • a(n) = a(n - 1) * (2 * n * (1 + 3 * n) * (1 + 2 * n) / ((n - 1) * (3 * n - 2) * (3 + n))) for n>=2. • a(n) = [x ^ n] x * (1 + x) / (1 - x) ^ (n + 4). - _ Ilya Gutkovskiy _ , Oct 09 2017 •

[A163348] • 1,7,35,161,721,3199,14147,62489,275905,1218007,5376707,23734193,104768209,462469903,2041441955,9011362409,39778080769,175588947751,775087121123,3421400092481,15102790707025,66666943594783 ★ a(n) = 6*a(n-1) - 7*a(n-2) for n > 1; a(0) = 1, a(1) = 7. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 7. • a(n) = ((1 + 2 * sqrt(2)) * (3 + sqrt(2)) ^ n + (1 - 2 * sqrt(2)) * (3 - sqrt(2)) ^ n) / 2. •

[A291237] • 7,35,162,721,3139,13504,57707,245671,1043634,4428053,18774815,79573152,337178159,1428553243,6052037010,25638260873,108608846171,460082737472,1948961747155,8255982722783,34973020586946,148148373971341,627567262233463,2658419223345984 ★ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)(1 - 2 S)(1 - 4 S). • a(n) = 7 * a(n - 1) - 11 * a(n - 2) - 6 * a(n - 3) + 11 * a(n - 4) + 7 * a(n - 5) + a(n - 6) for n >= 7. •

[A005055] • 7,35,175,875,4375,21875,109375,546875,2734375,13671875,68359375,341796875,1708984375,8544921875,42724609375,213623046875,1068115234375,5340576171875,26702880859375,133514404296875,667572021484375,3337860107421875,16689300537109375 ★ 7*5^n. • a(n)=5 * a(n - 1), n>0; a(0)=7. G.f.: 7 / (1 - 5 * x). - _ Philippe Deléham _ , Nov 23 2008 •

[A051926] • 1,7,35,181,933,4811,24807,127913,659561,3400911,17536203,90422365,466247117,2404121747,12396433487,63920042065,329592522065,1699486218903,8763103574515,45185411569413,232990675202677,1201375684008283,6194683683674679,31941803427179001 ★ Number of independent sets of nodes in graph C_4 X P_n (n>2). • a(n) = 5 * a(n - 1) + a(n - 2) - a(n - 3) for n>2. - _ Wayne VanWeerthuizen _ , May 04 2004 •

[A274073] • 0,7,35,217,1295,7777,46655,279937,1679615,10077697,60466175,362797057,2176782335,13060694017,78364164095,470184984577,2821109907455,16926659444737,101559956668415,609359740010497,3656158440062975,21936950640377857,131621703842267135 ★ a(n) = 6^n-(-1)^n. • a(n) = 5 * a(n - 1) + 6 * a(n - 2) for n>1. •

[A041603] • 1,1,7,36,43,208,667,875,3292,14043,17335,100718,621643,722361,25181917,25904278,180607585,928942203,1109549788,5367141355,17210973853,22578115208,84945319477,362359393116,447304712593 ★ Denominators of continued fraction convergents to sqrt(319). • a(n) = 25803560 * a(n - 14) - a(n - 28) for n>27. [_ Bruno Berselli _ , Dec 22 2013] •

[A063168] • 7,36,66,96,126,156,186,216,246,276,306,336,366,396,426,456,486,516,546,576,606,636,666,696,726 ★ Dimension of the space of weight 2n cusp forms for Gamma_0(100). • a(n) = 2 * a(n - 1) - a(n - 2) for n > 3 (conjectured). •

[A163683] • 0,7,36,99,208,375,612,931,1344,1863,2500,3267,4176,5239,6468,7875,9472,11271,13284,15523,18000,20727,23716,26979,30528 ★ a(n) = n^2*(2*n + 5). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A212088] • 0,0,7,36,117,292,612,1143,1963,3159,4833,7099,10080,13914,18751,24750,32085,40942,51516,64017,78667,95697,115353,137893,163584 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<average{x,y,z}. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) - 4 * a(n - 6) + a(n - 7). •

[A085354] • 1,7,36,164,704,2928,11968,48448,195072,783104,3138560,12565752,50298880,201256960,805158912,3220914176,12884246528,51538231296,206155546624,824627691520,3298522300416,13194113318912,52776503607296 ★ a(n) = 3*4^n - (n+4)*2^(n-1). • a(n) = 2 * a(n - 1) + 3 * 2 ^ (2n - 1) - 2 ^ (n - 1), a(0) = 1. - _ Jean M. Morales _ , Oct 24 2013 •

[A003516] • 1,7,36,165,715,3003,12376,50388,203490,817190,3268760,13037895,51895935,206253075,818809200,3247943160,12875774670,51021117810,202112640600,800472431850,3169870830126,12551759587422 ★ Binomial coefficients C(2n+1, n-2). • a(n) = Sum _{ k=0,..,n - 2 } binomial(n + k + 2,k). - _ Arkadiusz Wesolowski _ , Apr 02 2012 •

[A095931] • 1,7,36,165,715,3004,12393,50559,204820,826045,3321891,13333932,53457121,214146295,857417220,3431847189,13733091643,54947296924,219828275865,879415437615,3517929664756,14072420067757 ★ Number of walks of length 2n between two nodes at distance 4 in the cycle graph C_10. • a(n) = 7 * a(n - 1) - 13 * a(n - 2) + 4 * a(n - 3). • a(n) = 4 ^ n / 10 * sum(r=0..9, cos(4 * Pi * r / 5) * cos(Pi * r / 5) ^ (2 * n)). • a(n)=(4 ^ n - (2 * cos(pi / 5)) ^ (2 * n + 1) + (2 * cos(2 * pi / 5)) ^ (2 * n + 1)) / 5. • a(n)=(4 ^ n - ((sqrt(5) + 1) / 2) ^ (2 * n + 1) + ((sqrt(5) - 1) / 2) ^ (2 * n + 1)) / 5. • a(n)=sum(k=1..floor((n + 3) / 5),C(2 * n + 1,n + 3 - 5 * k)). (End) •

[A292486] • 1,7,36,165,747,3420,15705,72063,330516,1515933,6953283,31893516,146289393,671000247,3077745156,14117009877,64751939163,297004363452,1362300384969,6248602953135,28661108314356,131462846314317,602994126047283,2765815028667756 ★ p-INVERT of the odd positive integers, where p(S) = 1 - S - 3 S^2. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + 9 * a(n - 3) + 3 * a(n - 4) for n >= 5. •

[A058681] • 1,7,36,171,813,4012,20891,115463,677546,4211549,27640341,190891130,1382942161,10480109379,82864804268,682076675087,5832741942913,51724157711084,474869815108175,4506715736350171,44152005850890042 ★ Number of matroids of rank 2 on n labeled points. • a(n) = B(n + 1) - 2 ^ n, B = Bell numbers (A000110). • a(n) = Sum _{ i=2..n } binomial(n,i) * (B(i) - 1), B=Bell numbers A000110. - _ Geoffrey Critzer _ , Oct 10 2009 •

[A246417] • 0,0,1,7,36,171,813,4012,25931,342263,6498746,116477549,1839530421,26071946330,339710531761,4165394873379,50578180795388,717354862704287,10348610400624113,466529833772501084,15332096138370552335 ★ Homomorphic inverse images of elementary h-ary relations. • a(n) = sum(((- 1) ^ h / (m! * (h!) ^ m)) * sum((- 1) ^ l * binomial(h ^ m, l) * l ^ n, l=1..h ^ m), h ^ m <=k, h >= 3, m >= 1). - _ Sean A. Irvine _ , Aug 25 2014 •

[A054493] • 1,7,36,175,841,4032,19321,92575,443556,2125207,10182481,48787200,233753521,1119980407,5366148516,25710762175,123187662361,590227549632,2827950085801,13549522879375,64919664311076,311048798676007,1490324329068961,7140572846668800 ★ A Pellian-related recursive sequence. • a(n) = 5 * a(n - 1) - a(n - 2) + 2, a(0)=1, a(1)=7. • a(n) = 1 / 3 *{- 2 + [(5 + sqrt(21)) / 2] ^ n + [(5 - sqrt(21)) / 2] ^ n } . - _ Ralf Stephan _ , Apr 14 2004 • a(n) = 6 * a(n - 1) - 6 * a(n - 2) + a(n - 3), n>=2, a(- 1):=0, a(0)=1, a(1)=7 . • a(n) = 1 / 3 * (((sqrt(7) + sqrt(3)) / 2) ^ n - ((sqrt(7) - sqrt(3)) / 2) ^ n) ^ 2. • a(n) = bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, - 5 / 2; 1, 7 / 2] and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = a(- 2 - n) for all n in Z. - _ Michael Somos _ , Jan 22 2017 •

[A037482] • 1,7,36,182,911,4557,22786,113932,569661,2848307,14241536,71207682,356038411,1780192057,8900960286,44504801432,222524007161,1112620035807,5563100179036,27815500895182,139077504475911,695387522379557 ★ Base 5 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. • a(n) = 5a(n - 1) + a(n - 2) - 5a(n - 3). • a(n) = (- 1) ^ n / 12 - 3 / 8 + 7 * 5 ^ n / 24. G.f. x * (1 + 2 * x) / ((x - 1) * (5 * x - 1) * (1 + x)). - _ R. J. Mathar _ , Nov 02 2011 •

[A147546] • 7,36,186,1002,5622,32466,190806,1132482,6757062,40427346,242215926,1452244962,8710305702,52252317426,313485305046,1880825933442,11284697713542,67707412226706,406242150410166,2437445932037922 ★ Vertex counting using a vector matrix Markov with characteristic polynomial: 36 - 36 x + 11 x^2 - x^3. • a(n)=11 * a(n - 1) - 36 * a(n - 2) + 36 * a(n - 3) = 6 * 3 ^ n - 3 * 2 ^ n + 4 * 6 ^ n. G.f.: (7 - 41 * x + 42 * x ^ 2) / ((1 - 6x)(1 - 3x)(1 - 2x)). - _ R. J. Mathar _ , Nov 09 2008 •

[A128471] • 7,37,67,97,127,157,187,217,247,277,307,337,367,397,427,457,487,517,547,577,607,637,667,697,727 ★ 30*n+7. • a(n) = 2 * a(n - 1) - a(n - 2). [_ Vincenzo Librandi _ , Sep 05 2010] •

[A154105] • 7,37,91,169,271,397,547,721,919,1141,1387,1657,1951,2269,2611,2977,3367,3781,4219,4681,5167,5677,6211,6769,7351 ★ a(n) = 12*n^2 + 18*n + 7. • a(0) = 7; for n > 0, a(n) = a(n - 1) + 24 * n + 6. •

[A082113] • 1,7,37,127,337,751,1477,2647,4417,6967,10501,15247,21457,29407,39397,51751,66817,84967,106597,132127,162001,196687,236677,282487,334657 ★ n^4+5n^2+1. • a(n)=n ^ 4 + 5n ^ 2 + 1 •

[A012885] • 7,37,137,9137,29137,629137,7629137,67629137,567629137,6567629137,16567629137,216567629137,6216567629137,46216567629137,64621656762 9137,26462165676 29137,126462165676 29137,312646216567629137,631264621656 7629137,863126462165 67629137 ★ Suffixes of 3576863126462165676291 37 (all primes). • a(n) = 3576863126462165676291 37 mod 10 ^ n. - _ José de Jesús Camacho Medina _ , Dec 21 2016 •

[A094729] • 0,1,1,7,37,151,541,1807,5797,18151,55981,171007,519157,1569751,4733821,14250607,42850117,128746951,386634061,1160688607,3483638677,10454061751,31368476701,94118013007,282379204837 ★ Number of connected ordered 2-element multiantichains on a labeled n-set. • a(n) = 4 - 3 * 2 ^ n + 3 ^ n for n>0. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>3. •

[A169726] • 1,7,37,169,721,2977,12097,48769,195841,784897,3142657,12576769,50319361,201302017,805257217,3221127169,12884705281,51539214337,206157643777,824632147969,3298531737601,13194133241857,52776545550337,211106207367169,844424879800321 ★ a(n) = 3*2^n*(2^n-1) + 1. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). •

[A208737] • 0,0,0,1,7,37,175,778,3325,13837,56524,227866,909832,3607294,14227447,55894252,218937532,855650749,3338323915,13007422705,50631143323,196928737582,765495534433,2974251390529,11552064922624 ★ Number of nonisomorphic graded posets with 0 and 1 and non-uniform Hasse graph of rank n, with no 3-element antichain. • a(n) = 10 * a(n - 1) - 36 * a(n - 2) + 57 * a(n - 3) - 39 * a(n - 4) + 9 * a(n - 5), a(1) = 0, a(2) = 0, a(3) = 1, a(4) = 7, a(5) = 37. •

[A005061] • 0,1,7,37,175,781,3367,14197,58975,242461,989527,4017157,16245775,65514541,263652487,1059392917,4251920575,17050729021,68332056247,273715645477,1096024843375,4387586157901,17560804984807 ★ a(n) = 4^n - 3^n. • a(n) = 4 * a(n - 1) + 3 ^ (n - 1) for n>=1. - Xavier Acloque, Oct 20 2003 • a(n) = 2 ^ n * Sum _{ i=0...n } binomial(n,i) * (2 ^ i - 1) / 2 ^ i. - _ Geoffrey Critzer _ , May 09 2009 • a(n) = 7 * a(n - 1) - 12 * a(n - 2) for n>=2. - _ Bruno Berselli _ , Jan 25 2011 • a(n) = 3 * a(n - 1) + 4 ^ (n - 1) for n>=0. - _ Joe Slater _ , Jan 15 2017 • a(n + 1) = Sum _{ k=0..n } 4 ^ (n - k) * 3 ^ k. - _ Joe Slater _ , Jan 15 2017 • a(n) = - a(- n) * 12 ^ n for all n in Z. - _ Michael Somos _ , Jan 22 2017 •

[A006419] • 0,1,1,7,37,176,794,3473,14893,63004,263950,1097790,4540386,18696432,76717268,313889477,1281220733,5219170052,21224674118,86188320962,349550141078,1416102710912,5731427140268,23177285611082,93655986978002,378195990166136 ★ a(n) = 2^(2*n+1) - C(2*n+3,n+1) + C(2*n+1,n). • a(n) = Sum _{ k=0..n } (binomial(2 * (n + 1),n - k - 1)). - _ Vladimir Kruchinin _ , Oct 23 2016 • a(n) = [x ^ n] x / ((1 - 2 * x) * (1 - x) ^ (n + 3)). - _ Ilya Gutkovskiy _ , Oct 25 2017 •

[A277178] • 0,1,1,7,37,177,807,3579,15591,67071,285861,1209641,5089517,21314453,88918353,369734553,1533115953,6341759073,26177411943,107853629643,443633635743,1822098923943,7473806605563,30618895206483,125303348573883,512274592771083 ★ a(n) = Sum_{k=0..n} k*binomial(2*k,k)/2. • a(n) = binomial(2 * n,n) * (2 * n + 1 - hypergeom([1, - n], [1 / 2 - n], 1 / 4)) / 3. •

[A192811] • 0,0,1,7,37,183,893,4351,21205,103367,503917,2456655,11976517,58387095,284644701,1387679903,6765119669,32980836455,160785858381,78385

1928559,3821379890981,18629722961207,90822317465149,442770585849407 ★ a(n) = A192809(n)/2. ● a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). ●

[A057651] ● 1,7,37,187,937,4687,23437,117187,585937,2929687,14648437,73242187,366210937,1831054687,9155273437,45776367187,228881835937,1144409179687,5722045898437,28610229492187,143051147460937,715255737304687,3576278686523437,17881393432617187 ★ a(n) = (3 * 5^n - 1)/2. ● a(0)=1, a(n) = 5 * a(n - 1) + 2; a(n) = a(n - 1) + 6 * (5 ^ (n - 1)). - _ Amarnath Murthy _ , May 27 2001 ● a(n) = 6 * a(n - 1) - 5 * a(n - 2), n > 1. - _ Vincenzo Librandi _ , Oct 30 2011 ●

[A002807] ● 0,0,0,1,7,37,197,1172,8018,62814,556014,5488059,59740609,710771275,9174170011,127661752406,1904975488436,30341995265036,513771331467372,9215499383109573,174548332364311563,3481204991988351553,72920994844093191553,1600596371590399671784 ★ a(n) = Sum_{k=3..n} (k-1)!*C(n,k)/2. ● a(n) = (n - 1) * (n - 2) / 2 + n * a(n - 1) - (n - 1) * a(n - 2). - _ Vladeta Jovic _ , Jan 22 2005 ●

[A124610] ● 1,1,7,37,199,1069,5743,30853,165751,890461,4783807,25699957,138067399,741736909,3984819343,21407570533,115007491351,617852597821,3319277971807,17832095054677,95799031216999,514659346194349 ★ a(n) = 5*a(n-1) + 2*a(n-2), n>1; a(0) = a(1) = 1. ● a(n) / a(n - 1) tends to (sqrt(33) + 5) / 2 = 5.37228132... - _ Gary W. Adamson _ , Mar 03 2008 ● a(n)= - (1 / 22) * sqrt(33) * [5 / 2 + (1 / 2) * sqrt(33)] ^ n + (1 / 2) * [5 / 2 - (1 / 2) * sqrt (33)] ^ n + (1 / 22) * [5 / 2 - (1 / 2) * sqrt(33)] ^ n * sqrt(33) + (1 / 2) * [5 / 2 + (1 / 2) * sqrt(33)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 07 2008 ●

[A126475] ● 1,7,37,203,1111,6083,33305,182349,998383,5466269,29928491,163862147,897165287,4912089625,26894291201,147249532159,806209189861,4414093873755,24167703582839,132321131623579,724474371929041 ★ Number of base 7 n-digit numbers with adjacent digits differing by three or less. ● a(n) = 5 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) - a(n - 4) for n>3. ●

[A077239] ● 7,37,215,1253,7303,42565,248087,1445957,8427655,49119973,286292183,1668633125,9725506567,56684406277,330380931095,1925601180293,11223226150663,65413755723685,381259308191447,2222142093424997,12951593252358535,75487417420726213 ★ Bisection (odd part) of Chebyshev sequence with Diophantine property. ● a(n) = 6 * a(n - 1) - a(n - 2), a(- 1) := 5, a(0) =7. ● a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 8 + 7 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (8 + 7 * sqrt(2)))) / (2 * sqrt(2)). - _ Colin Barker _ , Oct 12 2015 ●

[A096965] ● 1,1,7,37,241,2101,18271,201097,2270017,29668681,410815351,6238931821,101560835377,1765092183037,32838929702671,644215775792401,13441862819232001,293976795292186897,6788407001443004647 ★ Number of sets of even number of even lists, cf. A000262. ● a(n) = (n! * sum(m=floor((n + 1) / 2)..n, (binomial(n - 1,2 * m - n - 1)) / (2 * m - n)!)). [_ Vladimir Kruchin in _ , Mar 10 2013] ●

[A100309] ● 1,7,37,259,1297,9079,47989,335923,1679617,11757319,62145829,435020803,2178463249,15249242743,80603140213,564221981491,2821109907457,19747769352199,104381066575909,730667466031363,3658979549971729 ★ Modulo 2 binomial transform of 6^n. ● a(n) = sum { k=0..n, mod(binomial(n , k), 2)6 ^ k } . ● a(2 ^ n)=6 ^ (2 ^ n) + 1, n>=0. ● a(4 * n + 2) = 37 * a(4 * n); ● a(8 * n + 4) = 1297 / 37 * a(8 * n + 2); ● a(16 * n + 8)= 1679617 / 47989 * a(16 * n + 6), etc. (End) ●

[A198410] ● 7,37,271,2269,19927,177877,1596511,14355469,129159847,1162320517,10460530351,94143710269,847290203767,7625602267957,68630391713791,617673439330669,5559060695695687,50031545486420197,450283907053258831,4052555156505760669,36472996387631139607 ★ ((3^(n-1) + 1)^3 -1)/3^n. ● a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3) for n>2. - _ Vincenzo Librandi _ , Mar 25 2014 ●

[A089677] ● 0,1,1,7,37,271,2341,23647,272917,3543631,51123781,811316287,14045783797,263429174191,5320671485221,115141595488927,2657827340990677,65185383514567951,1692767331628422661,46400793659664205567,1338843898122192101557 ★ Exponential convolution of A000670(n), with A000670(0)=0, with the sequence of all ones alternating in sign. ● a(n)=Sum(Binomial(n, k)(- 1) ^ (n - k)Sum(i! Stirling2(k, i), i=1, ..k), k=0, .., n). ● a(n) = Sum _{ k= 0..floor(n / 2) } (2 * k + 1)! * Stirling2(n, 2 * k + 1). - _ Peter Luschny _ , Sep 20 2015 ●

[A173766] ● 7,37,337,3337,33337,333337,3333337,33333337,333333337,3333333337,33333333337,333333333337,3333333333337,33333333333337,333333333333337,3333333333333337,33333333333333337,333333333333333337 ★ (10^n+11)/3. ● a(n)=10 * a(n - 1) - 33 (with a(1)=7) ●

[A000531] ● 1,7,38,187,874,3958,17548,76627,330818,1415650,6015316,25413342,106853668,447472972,1867450648,7770342787,32248174258,133530264682,551793690628,2276098026922,9373521044908,38546133661492 ★ From area of cyclic polygon of 2n + 1 sides. ● a(n) = ((2n + 1)! / ((n!) ^ 2) - 4 ^ n) / 2. - Simon Norton (simon(AT)dpmms.cam.ac.uk), May 14 2001 ● a(n - 1) = 4 ^ n * sum _{ k=0..n } binomial(2 * k + 1, k) * 4 ^ (- k) = (2 * n + 1) * (2 * n + 3) * C(n) - 2 ^ (2 * n + 1) (C(n) = Catalan); g.f.: x * c(x) / (1 - 4 * x) ^ (3 / 2), c(x): g.f. of Catalan numbers A000108. - _ Wolfdieter Lang _ ●

[A241524] ● 1,7,38,188,886,4052,18156,80152,349862,1513604,6501316,27759272,117935548,498920008,2102905496,8835174960,37015522054,154690661732,645017651412,2684135346184,11149265820500,46234832784216,191441476611688,791591523218768,3268982440735836 ★ a(n) = 4^n*(n/4 + binomial(n+1/2, 1/2)). ● a(n) = 4 ^ n * (n / 4 + 2 * Gamma(n + 3 / 2) / (sqrt(Pi) * Gamma (n + 1))). ●

[A099453] ● 1,7,38,189,905,4256,19837,92043,426094,1970185,9104261,42057792,194257673,897167999,4143341590,19134543141,88365044497,408075336928,1884511869029,8702754376995,40189650079646,185597252410577 ★ Expansion of 1/(1-7x+11x^2). ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k)(- 11) ^ k * 7 ^ (n - 2k). ● a(n) = ((7 + sqrt(5)) ^ n - (7 - sqrt(5)) ^ n) / (2 ^ n * sqrt(5)), n > 0. Binomial transform of A030191 (Scaled Chebyshev U - polynomial evaluated at sqrt(5) / 2); 3rd binomial transform of Fib(n). - _ C reighton Dement _ , Apr 19 2005 ● a(n) = 7 * a(n - 1) - 11 * a(n - 2), n>=2. - _ Vincenzo Librandi _ , Mar 18 2011 ●

[A292535] ● 1,7,38,189,909,4368,21093,102051,493702,2387689,11546425,55837024,270025769,1305841103,6315023830,30539305893,147687325509,714212301776,3453913488845,16703042620715,80775512179990,390628431683601,1889069687788593,9135495517900480 ★ p-INVERT of the squares (A000290), where p(S) = 1 + S - 2 S^2. ● a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 24 * a(n - 3) - 11 * a(n - 4) + 5 * a(n - 5) - a(n - 6) for n >= 7. ●

[A014827] ● 1,7,38,194,975,4881,24412,122068,610349,3051755,15258786,76293942,381469723,1907348629,9536743160,47683715816,238418579097,1192092895503,5960464477534,29802322387690,149011611938471 ★ a(1)=1, a(n) = 5*a(n-1) + n. ● a(n) = (5 ^ (n + 1) - 4 * n - 5) / 16. ● a(n) = Sum _{ k=0.. n } (n - k) * 5 ^ k = Sum _{ k=0..n } k * 5 ^ (n - k). - _ Paul Barry _ , Jul 30 2004 ● a(n) = Sum _{ k=0..n } binomial(n + 2, k + 2) * 4 ^ k [Offset 0]. - _ Paul Barry _ , Jul 30 2004 ●

[A226200] ● 1,7,38,219,1300,7781,46662,279943,1679624,10077705,60466186,362797067,2176782348,13060694029,78364164110,470184984591,2821109907472,16926659444753,101559956668434,609359740010515,3656158440062996,21936950640377877,131621703842267158 ★ 6^n + n. ● a(n) = 8 * a(n - 1) - 13 * a(n - 2) + 6 * a(n - 3). ●

[A004057] ● 1,7,39,191,875,3843,16423,68887,285219,1170059,4768127,19336863,78141883,314953555,1266977751,5089412519,20422176467,81882328731,32811027089 5,1314184126255,5261965982571,21063553061987 ★ Expansion of (1-x)/((1+x)*(1-2*x)*(1-3*x)*(1-4*x)). ● a(n) = (1 / 30) * (20 * 2 ^ n - 135 * 3 ^ n + 144 * 4 ^ n + (- 1) ^ n). ●

[A081898] ● 1,7,39,193,886,3858,16146,65502,259119,1003833,3820689,14322663,52986636,193759452,701265924,2514778812,8943620589,31569189723,110673119691,385569479997,1335567565746,4601780568342,15778086835014 ★ A sequence related to C(n+4,4). ● a(n)=3 ^ n(n ^ 4 + 42n ^ 3 + 515n ^ 2 + 2034n + 1944) / 1944. ●

[A198767] ● 7,39,199,999,4999,24999,124999,624999,3124999,15624999,78124999,390624999,1953124999,9765624999,48828124999,244140624999,1220703124999,6103515624999,30517578124999,152587890624999,762939453124999 ★ 8*5^n-1. ● a(n) = 5 * a(n - 1) + 4. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. ●

[A026379] ● 1,7,39,202,1015,5028,24731,121208,593019,2899335,14173401,69301422,338990145,1659037695,8124085575,39806373880,195160896835,957396540285,4699409632805,23080158080150,113414575414245,557601196738190 ★ a(n) = number of integer strings s(0),...,s(n) counted by array T in A026374 that have s(n)=3; also a(n) = T(2n-1,n-2). ● a(n) = [t ^ (n + 1)] { (1 + t)(1 + 3t + t ^ 2) ^ (n - 1) } . - _ Emeric Deutsch _ , Jan 30 2004 ●

[A016127] ● 1,7,39,203,1031,5187,25999,130123,650871,3254867,16275359,81378843,406898311,2034499747,10172515119,50862608363,254313107351,1271565667827,6357828601279,31789143530683 ★ Expansion of 1/((1-2*x)*(1-5*x)). ● a(n) = (5 ^ (n + 1) - 2 ^ (n + 1)) / 3 = Sum _{ i=0..n } 5 ^ i * 2 ^ (n - 1) = 5 * a(n - 1) + 2 ^ n =2 * a(n - 1) + 5 ^ n. - _ Henry Bottomley _ , Apr 07 2003 ● a(n) = Sum _{ k=0..n } Sum _{ j=0..n } 5 ^ (n - j) * binomial(j, k); ● a(n) = Sum _{ k=0..n } 2 ^ k * 5 ^ (n - k) = Sum _{ k=0..n } 5 ^ k * 2 ^ (n - k). (End) ●

[A246987] ● 1,7,39,206,1087,5832,31949,178486,1013667,5832452,33896809,198496866,1168995647,6913808272,41021119269,243974552846,1453712656027,8674107635292,51813825111329,309768931954426,1853203840458807,11092815661905512,66427422581744989,397927440625389606,2384420217810707987 ★ Expansion of (1-11*x+34*x^2-21*x^3+2*x^4)/((1-x)*(1-2*x)*(1-4*x)*(1-5*x)*(1-6*x)). ● a(n) = (1 - 3 * 2 ^ (2 + n) + 7 * 2 ^ (1 + 2 * n) + 3 * 5 ^ n + 6 ^ (1 + n)) / 12. - _ Colin Barker _ , Jun 06 2015 ●

[A164550] ● 1,7,39,213,1161,6327,34479,187893,1023921,5579847,30407319,165704373,903004281,4920912567,26816462559,146136037653,796366838241,4339792916487,23649656984199,128878563155733,702322407981801 ★ a(n) = 6*a(n-1)-3*a(n-2) for n > 1; a(0) = 1, a(1) = 7. ● a(n) = ((3 + 2 * sqrt(6)) * (3 + s qrt(6)) ^ n + (3 - 2 * sqrt(6)) * (3 - sqrt(6)) ^ n) / 6. ●

[A125786] ● 1,7,39,216,1274,8200,58017,451283,3847960,35818351,362337006,3965467281,46749441514,591291743032,7993582141984,115104783083605,1759853074058289,28485332959460764,486811835886953020 ★ Column 6 of table A125781. ● a(n) = Sum _{ k=0..n } [A091351 ^ 2](n + 2,k + 2) where A091351 ^ 2 is the matrix square of A091351. ●

[A155589] ● 1,7,39,223,1311,7807,46719,280063,1679871,10078207,60467199,362799103,2176786431,13060702207,78364180479,470185017343,2821109972991,16926659575807,101559956930559,609359740534783,3656158441111551 ★ 6^n+2^n-1. ● a(n)=8 * a(n - 1) - 12 * a(n - 2) - 5 with a(0)=1, a(1)=7 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A122884] ● 1,7,39,231,1339,7819,45543,265503,1547347,9018835,52565151,306373095,1785671371,10407659227,60660275799,353554011951,2060663763139,12010428632419,70001907900303,408001019031543,2378004205764667 ★ The (2,3)-entry in the n-th power of the 3 X 3 matrix M = [1,1,1; 4,2,1; 9,3,1]. ● a (n + 1) = 4 * a(n) + 11 * a(n - 1) - 2 * a(n - 3). ● a(n)= - (29 / 68) * sqrt(2) * [3 - 2 * sqrt(2)] ^ (n - 1) + (19 / 34) * [3 + 2 * sqrt(2)] ^ (n - 1) + (29 / 68) * [3 + 2 * sqrt(2)] ^ (n - 1) * sqrt(2) + (19 / 34) * [3 - 2 * sqrt(2)] ^ (n - 1) - (2 / 17) * (- 2) ^ (n - 1), - _ Paolo P. Lava _ , Jul 09 2008 ●

[A249635] ● 7,40,41,96,664,6095,8419,11471,13690,38835,49832,97152 ★ Indices of prime Fibonacci 6-step numbers, A001592. ● a(n) = A105758 (n) + 4 . ●

[A164135] • 7,40,54,87,101,134,148,181,195,228,242,275,289,322,336,369,383,416,430,463,477,510,524,557,571 ⋆ Numbers k such that k^2 == 2 (mod 47). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. • a(n) = (47 + 19 * (- 1) ^ n + 94 * (n - 1)) / 4. •

[A081039] • 1,7,40,208,1024,4864,22528,102400,458752,2031616,8912896,38797312,167772160,721420288,3087007744,13153337344,55834574848,236223201280,996432412672,4191888080896,17592186044416,73667279060992 ⋆ 4th binomial transform of (1,3,0,0,0,0,0,.....). • a(n) = 8 * a(n - 1) - 16 * a(n - 2) with n>1, a(0)=1, a(1)=7. • a(n) = (3 * n + 4) * 4 ^ (n - 1). • a(n) = sum(k=0..n, (k + 1) * 3 ^ k * binomial(n, k)). •

[A083327] • 0,1,7,40,217,1156,6097,31900,165697,855076,4387537,22404460,113945377,577590196,2919923377,14729076220,74167952257,372944296516,1873182473617,9399885079180,47135702874337,236224784974036 ⋆ (5^n-4^n+3^n-2^n)/2. • a(n)=14 * a(n - 1) - 71 * a(n - 2) + 154 * a(n - 3) - 120 * a(n - 4), n>3. - _ Harvey P. Dale _ , Apr 04 2013 •

[A099459] • 1,7,40,217,1159,6160,32689,173383,919480,4875913,25856071,137109280,727060321,3855438727,20444528200,108412748857,574888488199,3048504677680,16165536349969,85722212350663,454565659304920 ⋆ Expansion of 1/(1-7x+9x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k)(- 9) ^ k * 7 ^ (n - 2k) } . • a(n) = sum { k=0..n, binomial(2n - k + 1, k)3 ^ k } . - _ Paul Barry _ , Jan 17 2005 • a(n) = 7 * a(n - 1) - 9 * a(n - 2), n>=2. - Vincenzo Librandi, Mar 18 2011 • a(n) = ((7 + sqrt(13)) ^ (n + 1) - (7 - sqrt(13)) ^ (n + 1)) / (2 ^ (n + 1) * sqrt(13)). - Rolf Pleisch, May 19 2011 •

[A154968] • 1,1,7,40,244,1456,8752,52480,314944,1889536,11337472,68024320,408146944,2448879616,14693281792,88159682560,528958111744,3173748637696,19042491891712,114254951219200,685529707577344 ⋆ a(n)=4*a(n-1)+12*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=7 . • a(n)=(1 / 8) * [9 * 6 ^ (n - 1) - (- 2) ^ (n - 1)] + (3 / 4) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 20 2009] •

[A121582] • 0,1,7,40,252,1837,15259,141798,1455694,16360387,199845957,2637020884,37388864368,566971338009,9157693715407,156975522127762,2846305448882274,54432896145210943,1095019542858729769 ⋆ Number of cells in column 2 of all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=0, a(2)=1, a(n)=[(2n - 3)a(n - 1) - (n - 1)a(n - 2) + (n - 1)!(n - 2)(n ^ 2 - 3n + 4) / 2] / (n - 2) for n>=3. •

[A230018] • 7,41,129,298,575,987,1561,2324,3303,4525,6017,7806,9919,12383,15225,18472,22151,26289,30913,36050,41727,47971,54809,62268,70375 ⋆ (9*n^3 + 5*n)/2. • a(n) = ceil(1 / f(n)) / 2, where f(n) = (n + 1 / (3 * n)) - (n ^ 3 + n) ^ (1 / 3), n > 0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: x * (7 * x ^ 2 + 13 * x + 7) / (x - 1) ^ 4. - _ Colin Barker _ , Apr 01 2014 •

[A165563] • 1,7,41,151,409,911,1777,3151,5201,8119,12121,17447,24361,33151,44129,57631,74017,93671,117001,144439,176441,213487,256081,304751,360049 ⋆ 1 +2*n +n^2 +2*n^3 +n^4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A191010] • 1,7,41,215,1065,5079,23593,107479,482345,2139095,9395241,40936407,177167401,762356695,3264175145,13915694039,59098749993,250138895319,1055531162665,4442026976215,18647717207081,78109306037207,326510972984361,1362338887279575 ⋆ a(n) = 4^(n+1)*H(2^n)/5 with H(2^n) = n+(6+(-1)^n/4^(n+1))/5 = E(N(2^n)), where X, X(1), X(2),... denote random variables with pdf P(X = 1) = P(X = 4) = 1/5 and P(X = 2) = 3/5, N(x) is the first value of k such that X(1)*X(2)*...*X(k) > x and H(x)= E(N(x)). • a(n) = (n * 4 ^ (n + 1) + (6 * 4 ^ (n + 1) + (- 1) ^ n) / 5) / 5. • a(n) = 7 * a(n - 1) - 8 * a(n - 2) - 16 * a(n - 3) for n>2. •

[A081625] • 1,7,41,223,1169,6007,30521,154063,774689,3886567,19472201,97479103,487749809,2439811927,12202248281,61020807343,305132734529,1525749766087,7629007110761,38145810394783,190731376496849 ⋆ a(n) = 2*5^n - 3^n. • a(n) = 8 * a(n - 1) - 15 * a(n - 2), a(0)=1, a(1)=7. •

[A144635] • 1,7,41,225,1195,6227,32059,163727,831505,4206145,21215481,106782837,536618341,2693492305,13507578125,67693008145,339066121115,1697664211795,8497396194275,42522326235175,212749477704695,1064285646397915,5323532330953295,26625895085494075 ⋆ a(n) = 5^n*Sum_{ k=0..n } binomial(2*k,k)/5^k. • a(n) = 5 ^ (n + 1 / 2) - 2 ^ (n + 1) * (2 * n + 1)!! * hypergeom([1,n + 3 / 2], [n + 2], 4 / 5] / (5 * (n + 1)!). - _ Vladimir Reshetnikov _ , Oct 14 2016 •

[A097165] • 1,7,41,227,1221,6447,33601,173467,889181,4533287,23015961,116477907,587981941,2962279327,14900875121,74862289547,375743103501,1884442140567,9445117195081,47317211944387,236952563597861 ⋆ Expansion of (1-3x)/((1-x)(1-4x)(1-5x)). • a(n)=5 * 5 ^ n / 2 - 4 * 4 ^ n / 3 - 1 / 6; a(n)=sum { k=0..n, (5 ^ k + 1)4 ^ (n - k) / 2 } ; a(n)=sum { k=0..n, (4 ^ k + 2)5 ^ (n - k) / 3 } ; a(n)=10a(n - 1) - 29a(n - 2) + 20a(n - 3). •

[A152268] • 0,1,7,41,231,1289,7175,39913,221991,1234633,6866503,38188457,212387175,1181202569,6569320583,36535623529,203194800039,1130078612041,6284991883975,34954314291497,194400264968679,1081167340448777 ⋆ A hidden Markov recursion involving the matrices: M0 = {{0, 1}, {1, 1/2}}; M = {{0, 2}, {2, 1}}; as Mh=M0.M.(M0+I); v[(n)=Mh.v(n-1): first element of v. • a(n) first element of - v(n)[[1]] / 2. • a(n) = 7 * a(n - 1) - 8 * a(n - 2). • a(n) = (1 / 17) * sqrt(17) * ((7 / 2 + (1 / 2) * sqrt(17)) ^ n - (7 / 2 - (1 / 2) * sqrt(17)) ^ n), with n >= 0. - _ Paolo P. Lava _ , Feb 11 2009 •

[A026002] • 1,7,41,231,1289,7183,40081,224143,1256465,7059735,39753273,224298231,1267854873,7178461215,40704778785,231128079903,1314016698401,7478998203943,42612705597769,243025194476551,1387226559025961,7924982285747247 ⋆ a(n) = T(n,n+2), where T = Delannoy triangle (A008288). • a(n) = (1 / n)sum(k binomial(n, k)binomial(n + k, k + 1), k=0..n). G.f.: 1 / 2 - 1 / (2 * z) + (1 - 4 * z + z ^ 2) / (2 * z * sqrt(1 - 6 * z + z ^ 2)). - _ Emeric Deutsch _ , Dec 06 2003 • a(n) = sum { k=0..n, C(n, k) * C(n + 2, k) * 2 ^ k } . - _ Paul Barry _ , Jan 23 2006 • a(n) = Jacobi _ P(n, 2, 0, 3). - _ Paul Barry _ , Jan 23 2006 • a(n) = (- 1) ^ n * ((2 * n - 1) * LegendreP(n, - 3) - LegendreP(n - 1, - 3)) / (2 * n + 2). - _ Mark van Hoeij _ , Oct 31 2011 • a(n) = hypergeom([- n - 1, - n + 1], [1], 2). - _ Peter Luschny _ , Nov 19 2014 • a(n + 1) = 1 / 2 ^ (n + 1) * Sum _{ k >= 2 } 1 / 2 ^ k * binomial(n + k, n) * binomial(n + k, n + 2). •

[A057009] • 1,7,41,235,1361,7987,47321,281995,1685921,10096867,60524201,362972155,2177309681,13062280147,78368930681,470199300715,2821152888641,16926788453827,101560343826761,609360901747675,3656161925798801,21936961098633907,131621735219132441 ⋆ Number of conjugacy classes of subgroups of index 3 in free group of rank n. • a(1)=1, a(2)=7, a(3)=41, a(n) = 11 * a(n - 1) - 36 * a(n - 2) + 36 * a(n - 3). [_ Harvey P. Dale _ , Nov 24 2011] •

[A002315] • 1,7,41,239,1393,8119,47321,275807,1607521,9369319,54608393,318281039,1855077841,10812186007,63018038201,367296043199,2140758220993,12477253282759,72722761475561,423859315570607,2470433131948081,14398739476117879,83922003724759193 ⋆ NSW numbers: a(n) = 6*a(n-1) - a(n-2); also a(n)^2 - 2*b(n)^2 = -1 with b(n)=A001653(n). • a(n) = (1 / 2) * ((1 + sqrt(2)) ^ (2 * n + 1) + (1 - sqrt(2)) ^ (2 * n + 1)). • a(n) = (1 + sqrt(2)) / 2 * (3 + sqrt(8)) ^ n + (1 - sqrt(2)) / 2 * (3 - sqrt(8)) ^ n. - _ Ralf Stephan _ , Feb 23 2003 • a(n) = sum(k=0, n, 2 ^ k * binomial(2 * n + 1, 2 * k)). - Zoltan Zachar (zachar(AT)fellner.sulinet.hu), Oct 08 2003 • a(n) = L(n, - 6) * (- 1) ^ n, where L is defined as in A108299; see also A001653 for L(n, + 6). - _ Reinhard Zumkeller _ , Jun 01 2005 • a(n) = Jacobi _ P(n,1 / 2, - 1 / 2,3) / Jacobi _ P(n, - 1 / 2,1 / 2,1). - _ Paul Barry _ , Feb 03 2006 • a(n + 1) = 3 * a(n) + (8 * a(n) ^ 2 + 8) ^ 0.5, a(1)=1. - _ Richard Choulet _ , Sep 18 2007 •

[A292035] • 1,7,41,245,1476,8897,53621,323155,1947541,11737152,70735741,426299755,2569160621,15483439097,93313311876,562366934045,3389190268241,20425473083407,123097234932601,741864297888000,4470958562003401,26944915020252607,162387648058027841,978653976900562445 ⋆ Linear divisibility sequence based on Salem number of order 4 (case t=7, see formula). • a(n) = round(lambda(7) * alpha(7) ^ n) • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + 7 * a(n - 3) - a(n - 4) for n>4. •

[A108983] • 1,7,41,247,1481,8887,53321,319927,1919561,11517367,69104201,414625207,2487751241,14926507447,89559044681,537354268087,3224125608521,19344753651127,116068521906761,696411131440567,4178466788643401 ⋆ Inverse binomial transform of A003950. • a(n) = 5a(n - 1) + 6a(n - 2), a(0) = 1, a(1) = 7. • a(2n) = 6a(2n - 1) - 1; a(2n + 1) = 6a(2n) + 1. • a(n) = - (1 / 7) * [(- 1) ^ n - 8 * 6 ^ n], with n>=0. [_ Paolo P. Lava _ , Nov 19 2008] •

[A080047] • 0,1,7,41,256,1807,14477,130321,1303246,14335751,172029067,2236377937,31309291196,469639368031,7514229888601,127741908106337,2299954345914202,43687732572369991,873754651447399991 ⋆ Operation count to create all permutations of n distinct elements using Algorithm L (lexicographic permutation generation) from Knuth's The Art of Computer Programming, Vol. 4, chapter 7.2.1.2. Sequence gives number of times l has to be repeatedly decreased in step L3. • a(2)=0, a(n) = n * a(n - 1) + (n - 1) * (n - 2) / 2 for n>=3 c = limit n - > infinity a(n) / n! = 0.35914091422952261768 = e / 2 - 1, a(n) = floor [c * n! - (n - 1) / 2] for n>=2 •

[A110451] • 0,7,42,129,292,555,942,1477,2184,3087,4210,5577,7212,9139,11382,13965,16912,20247,23994,28177,32820,37947,43582,49749,56472 ⋆ a(n) = n*(4*n^2 + 2*n + 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 1) + 4 * a(n - 2) - a(n - 4). •

[A266387] • 0,0,0,0,0,7,42,147,392,882,1764,3234,5544,9009,14014,21021,30576,43316,59976,81396,108528,142443,184338,235543,297528 ⋆ Number of orbits of Aut(Z^7) as function of the infinity norm n of the representative lattice point of the orbit, when the cardinality of the orbit is equal to 322560. • a(n) = 7 * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) / 120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A073376] • 1,7,42,196,826,3150,11256,38004,122787,381997,1151458,3376968,9671284,27123292,74669472,202181112,539342181,1419492627,3690464106,9487902396,24143758254,60861096714 ⋆ Sixth convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. • a(n) = sum(binomial(n - k + 6, 6) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). •

[A094429] • 0,7,42,196,833,3381,13377,52136,201341,773122,2958032,11291903,43042727,163918671,623875840,2373568575,9028148962,34334213564,130560389505,496440779373,1887579497489,7176808297736,27286630574917 ⋆ Given the 3 X 3 matrix M = [0 1 0 / 0 0 1 / 7 -14 7], a(n) = (-) rightmost term of M^n * [1 1 1]. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 7 * a(n - 3). G.f.: 7 * x ^ 2 * (1 - x) / (1 - 7 * x + 14 * x ^ 2 - 7 * x ^ 3). [_ Colin Barker _ , Jun 19 2012] • a(n) = c(4) * (s(1)) ^ (2 * n) + c(2) * (s(4)) ^ (2 * n) + c(1) * (s(2)) ^ (2 * n) = (- 1 / sqrt(7)) * (c(1) * (s(1)) ^ (2 * n + 3) + c(2) * (s(2)) ^ (2 * n + 3) + c(3) * (s(3)) ^ (2 * n + 3)) = (- 1 / sqrt(7)) * (s(2) * (s(1)) ^ (2 * n + 2) + s(4) * (s(2)) ^ (2 * n + 2) + s(1) * (s(4)) ^ (2 * n + 2)), where c(j) := 2 * cos(2 * Pi * j / 7) and s(j) := 2 * sin(2 * Pi * j / 7) (for the sums of the respective odd powers see A217274, see also A215493 and comments to A215494). For the proof of these formulas see Witula - Slota's paper. - _ Roman Witula _ , Jul 24 2012 •

[A200864] • 1,7,42,230,1211,6237,31732,160300,806421,4046867,20278622,101525970,508028431,2541337897,12710276712,63562145240,317843011241,1589311911327,7946850122002,39735122306110,198678226618851,993398978359157,4967018427590492,24835162745336580 ⋆ Expansion of 1/((1+x)*(1-3*x)*(1-

5*x)). ● a(n) = (50 * 5 ^ n - 27 * 3 ^ n + (- 1) ^ n) / 24. ● a(n) = 2 * a(n - 1) + 3 * a(n - 2) + 5 ^ n for n>1, a(0)=1, a(1)=7. ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) - 15 * a(n - 3) for n>2, a(0)=1, a(1)=7, a(2)=42. ●

[A164072] ● 1,7,42,238,1316,7196,39144,212408,1151248,6236272,33772704,182873824,990172736,5361148352,29026768512,157158071168,850889810176,4606905485056,24942786537984,135045615513088,731165912572928 ★ a(n) = 8*a(n-1) - 14*a(n-2) for n > 1; a(0) = 1, a(1) = 7. ● a(n) = ((2 + 3 * sqrt(2)) * (4 + sqrt(2)) ^ n + (2 - 3 * sqrt(2)) * (4 - sqrt(2)) ^ n) / 4. ●

[A111995] ● 1,7,42,238,1316,7196,39158,212738,1155889,6287015,34249404,186920468,1022134288,5600420336,30745867316,169116129308,931937277257,5144687596447,28449040406262,157571572143538,874089046798212 ★ Seventh convolution of Schroeder's (second problem) numbers A001003(n), n>=0. ● a(n)= (7 / n) * Sum _{ k=1,..,n } binomial(n,k) * binomial(n + k + 6,k - 1). ● a(n) = 7 * hypergeom([1 - n, n + 8], [2], - 1), n>=1, a(0)=1. ● a(n) = ((2 + sqrt18) * (4 + sqrt2) ^ n) + (2 - sqrt18) * (4 - sqrt2) ^ n) / 4 offset 0. ● a(n) = fourth binomial transform of 1,3,2,6,4,12. - Al Hakanson (hawkuu(AT)gmail.com), Aug 08 2009 ●

[A050152] ● 0,1,7,42,242,1375,7773,43876,247684,1399293,7913955,44812878,254064726,1442131899,8195232633,46621424520,265490365448,1513290869881,8633347134975,49293941140402,281670686307130 ★ a(n) = T(n,n+3), array T as in A050143. ● a(n) = sum(i=0..n + 2, 2 ^ (i - 2) * (- 1) ^ (n - i) * binomial(n,n - i + 2) * binomial(n + i - 1,n - 1)). - _ Vladimir Kruchinin _ , May 24 2014 ● a(n) = (- 1) ^ n * (n + 1) * (n / 2) * hypergeom([- n, n + 2], [3], 2). - _ Peter Luschny _ , May 24 2014 ● a(n) = Sum _{ k=0..n } (binomial(n,k) * binomial(2 * n - k + 1,n - k - 1)). - _ Vladimir Kruchinin _ , Oct 26 2016 ●

[A053142] ● 0,1,7,42,246,1435,8365,48756,284172,1656277,9653491,56264670,327934530,1911342511,11140120537,64929380712,378436163736,2205687601705,12855689446495,74928449077266,436715005017102 ★ One half of A053141. ● a(n) = 6 * a(n - 1) - a(n - 2) + 1, a(0)=0, a(1)=1. ● a(n + 1) = sum { k=0..n, S(k, 6) } =sum { k=0..n, U(n, 3) } Chebyshev polynomials of 2nd kind, A049310; a(n + 1)=(sqrt(2) - 1) ^ (2n)(5 / 8 - 7sqrt(2) / 16) + (sqrt(2) + 1) ^ (2n)(7sqrt(2) / 16 + 5 / 8) - 1 / 4. - _ Paul Barry _ , Nov 14 2003 ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3); a(n) = - (1 / 4) + (1 - sqrt(2)) / (- 8 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (1 + sqrt(2)) / (8 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n. - _ Antonio Alberto Olivares _ , Jan 13 2004 ●

[A003949] ● 1,7,42,252,1512,9072,54432,326592,1959552,11757312,70543872,423263232,2539579392,15237476352,91424858112,548549148672,3291294892032,19747769352192,118486616113152,710919696678912,4265518180073472,25593109080440832,153558654482644992 ★ G.f.: (1+x)/(1-6*x). ● a(0)=1; for n>0, a(n)=7 * 6 ^ (n - 1). - _ Vincenzo Librandi _ , Nov 18 2010 ● a(0)=1, a(1)=7, a(n) = 6 * a(n - 1). - _ Vincenzo Librandi _ , Dec 10 2012 ●

[A033133] ● 1,7,42,253,1519,9114,54685,328111,1968666,11811997,70871983,425231898,2551391389,15308348335,91850090010,551100540061,3306603240367,19839619442202,119037716653213,714226299919279,4285357799515674,25712146797094045,154272880782564271 ★ Base-6 digits are, in order, the first n terms of the periodic sequence with initial period 1,1,0. ● a(n) = 6 * a(n - 1) + a(n - 3) - 6 * a(n - 4). ●

[A152240] ● 1,7,42,259,1589,9758,59913,367871,2258746,13868827,85155357,522858574,3210380369,19711911863,121032221898,743144492531,4562948015941,28016751527422,172024393748697,1056239229435439,6485366903418074 ★ a(n)=5*a(n-1)+7*a(n-2), n>1 ; a(0)=1, a(1)=7 . ● a(n)=(1 / 2) *{ [(5 / 2) - (1 / 2) * sqrt(53)] ^ n + [(5 / 2) + (1 / 2) * sqrt(53)] ^ n }+ (9 / 106) * sqrt(53) *{ [(5 / 2) + (1 / 2) * sqrt(53)] ^ n - [(5 / 2) - (1 / 2) * sqrt(53)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Dec 12 2008] ●

[A271427] ● 0,7,42,301,2100,14707,102942,720601,5044200,35309407,247165842,1730160901,12111126300,84777884107,593445188742,4154116321201,29078814248400,203551699738807,1424861898171642,9974033287201501,69818233010410500,488727631072873507,3421093417510114542 ★ a(n) = 7^n - a(n-1) for n>0, a(0)=0. ● a(n) = 6 * a(n - 1) + 7 * a(n - 2). ● a(n) = 7 * (7 ^ n - (- 1) ^ n) / 8. ●

[A218124] ● 1,7,42,336,2352,16800,117264,823536,5762400,40353264,282458400,1977326736,13841167200,96889010400,678222249264,4747561492800,33232924804800,232630513987200,1628413557439536,11398895185373136,79792266015134400,558545864082460128 ★ Number of 7-ary sequences with primitive period n. ● a(n) = Sum _{ d|n } 7 ^ d * mu(n / d) for n>0, a(0) = 1. ●

[A045800] ● 1,7,43,49,101,107,143,149,201,207,243,249,301,307,343,349,401,407,443,449,501,507,543,549,601 ★ 0-ish numbers (end in 01, 07, 43, 49). ● a(n) = (50 * n - 8 * i ^ (n * (n + 1)) - 19 * (- 1) ^ n - 75) / 2, where i=sqrt(- 1). - Bruno Berselli, Feb 22 2012 ●

[A159254] ● 7,43,57,93,107,143,157,193,207,243,257,293,307,343,357,393,407,443,457,493,507,543,557,593,607 ★ Numbers n with property that n^2 ends with 49. ● a(1)=7, a(2)=43, a(n)=50 + a(n - 2). ● a(n) = (11 * (- 1) ^ n + 50 * n - 25) / 2. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ●

[A216301] ● 7,43,103,106,145,238,271,409,472,544,574,670,721,904,934,1009,1183,1204,1261,1282,1372,1636,1669,1729,1792 ★ Numbers n such that 10n+7 is composite but 10n+1, 10n+3, 10n+9 are all prime. ● a(n) >> n log ^ 3 n. - _ Charles R Greathouse IV _ , Sep 07 2012 ●

[A126718] ● 7,43,235,1171,5467,24403,105595,447091,1864027,7686163,31440955,127865011,517788187,2090186323,8417944315,33843570931,135890057947,545108340883,2185079263675,8754257900851,35058860433307,140360940805843,561820285607035 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3, at least one of digits 4,5, at least one of digits 6,7 and at least one of digits 8,9. ● a(n) = 8 * 4 ^ n - 12 * 3 ^ n + 6 * 2 ^ n - 1. ● a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). - _ Colin Barker _ , Feb 22 2015 ●

[A081896] ● 1,7,43,245,1328,6944,35328,175872,860160,4145152,19726336,92864512,433061888,2002780160,9193914368,41926262784,190052302848,856845975552,3843995729920,17166984282112,76347338653696,338237264494592 ★ A sequence related to C(n+3,3). ● a(n)=4 ^ n(n ^ 3 + 33n ^ 2 + 254n + 384) / 384 G.f.: (1 - 3x) ^ 3 / (1 - 4x) ^ 4 ●

[A163869] ● 1,7,43,249,1395,7653,41381,221399,1175027,6196725,32512401,169863147,884318973,4589954619,23761814955,122735222505,632698778835,3255832730565,16728131746145,85826852897675 ★ Binomial transform of the beta numbers 1/beta(n+1,n+1) (A002457). ● a(n) = hypergeom([3 / 2, - n], [1], - 4) = hypergeom([3 / 2, n + 1], [1], 4 / 5) / (5 * sqrt(5)). - _ Vladimir Reshetnikov _ , Apr 25 2016 ●

[A161728] ● 1,7,43,253,1465,8431,48403,277621,1591729,9124759,52305595,299822893,1718610409,9851185663,56467549987,323674986277,1855321740385,10634799101479,60959210186827,349421293175389,2002900612974361 ★ a(n) = ((3+sqrt(3))*(4+sqrt(3))^n-(3-sqrt(3))*(4-sqrt(3))^n)/sqrt(12). ● a(n) = 8 * a(n - 1) - 13(n - 2) for n > 1; a(0) = 1, a(1) = 7. ●

[A271197] ● 1,7,43,255,1491,8659,50107,289375,1669291,9623427,55460835,319583823,1841526051,10612066227,61160827083,352543298751,2032480521819,11719811413027,67592446165363,389906344880815,2249609496664531 ★ Expansion of -(sqrt(x^2-6*x+1)+3*x-1)/((7*x-1)*sqrt(x^2-6*x+1)+x^2-6*x+1)/x. ● a(n) = Sum _{ k=0..n } (Sum _{ j=0..n + 1 } (binomial(j,n - k - j) * 3 ^ (- n + k + 2 * j) * 2 ^ (n - k - j) * binomial(n + 1,j))). ●

[A003464] ● 0,1,7,43,259,1555,9331,55987,335923,2015539,12093235,72559411,435356467,2612138803,15672832819,94036996915,564221981491,3385331888947,20311991333683,121871948002099,731231688012595,4387390128075571 ★ a(n) = (6^n - 1)/5. ● a(n) = Sum { k=1..n, C(n, k)5 ^ (k - 1) } . ● a(n) = 6 * a(n - 1) + 1 with a(1)=1. - _ Vincenzo Librandi _ , Nov 17 2010 ● a(n) = 7 * a(n - 1) - 6 * a(n - 2). - _ Vincenzo Librandi _ , Nov 08 2012 ●

[A015451] ● 1,1,7,43,265,1633,10063,62011,382129,2354785,14510839,89419819,551029753,3395598337,20924619775,128943316987,794584521697,4896450447169,30173287204711,185936173675435,1145790329257321 ★ a(n) = 6*a(n-1) + a(n-2) for n > 1, with a(0) = a(1) = 1. ● a(n) = (1 / 10) * [3 - sqrt(10)] ^ n * sqrt(10) - (1 / 10) * [3 + sqrt(10)] ^ n * sqrt(10) + (1 / 2) * [3 + sqrt(10)] ^ n + (1 / 2) * [3 - sqrt(10)] ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 ●

[A126502] ● 1,7,43,269,1679,10483,65449,408623,2551187,15928021,99444631,620870267,3876326801,24201367447,151098247483,943363239389,5889771828959,36772062710083,229581830200249,1433365791134783 ★ Number of base 7 n-digit numbers with adjacent digits differing by four or less. ● a(n) = 6 * a(n - 1) + 2 * a(n - 2) - 3 * a(n - 3) for n>2. ●

[A286911] ● 1,7,43,277,1777,11407,73219,469981,3016729,19363879,124293497,797819173,5121067777,32871277183,210995228083,1354343064493,8693301516841,55800847838359,358176305451691,2299073773191541,14757369859827601,94725087867636847 ★ Number of edge covers in the ladder graph P_2 x P_n. ● a(n) = 6 * a(n - 1) + 3 * a(n - 2) - 2 * a(n - 3) for n > 3. ●

[A277188] ● 1,7,43,281,1896,13112,92359,659941,4769758,34797170,255838760,1893389720,14091400480,105385445856,791504226943,5966958725021,45133376297922,342400478465678,2604549070175770,19860078537996958,151769147958738016 ★ The binomial sum a(n) = Sum_{k=0..n}(binomial(n,k)*binomial(n+1,k+1) ● a(n) = (1 / 2) * (n + 1) ^ 2 * (n + 2) * hypergeometric({- n, - n, - n } , { 2,3 } , - 1). ●

[A199483] ● 7,43,295,2059,14407,100843,705895,4941259,34588807,242121643,1694851495,11863960459,83047723207,581334062443,4069338437095,28485369059659,199397583417607,1395783083923243,9770481587462695,68393371112238859 ★ 6*7^n+1. ● a(n) = 7 * a(n - 1) - 6. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). ●

[A121675] ● 1,1,7,43,371,3926,47622,654151,9999523,167557174,3046387103,59616689595,1247357472869,27747682830531,653192297754076,16206706672425167,422358302959175123,11526119161103900834 ★ a(n) = [x^n] (1 + x*(1+x)^(n+1))^n. ● a(n) = Sum _{ k=0..n } C(n,k) * C((n + 1) * k,n - k). ●

[A023316] ● 7,43,883,2269,2917,7621,15541,15937,36541,38113,54787,60961,67033,71359,77491,79693,82531,84967,112621,129589,176461,185683,192547,239671,248071 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 5x + 8. ● a(n) == 1 or 19 (mod 42) for n > 1. - _ John Cerkan _ , Oct 07 2016 ●

[A291388] ● 1,7,44,262,1504,8416,46208,250016,1337088,7083264,37229568,194383360,1009172480,5213634560,26819756032,137445318656,702021435392,3574958587904,18156130926592,91985567678464,465004476235776,2345955741401088,11813573860786176 ★ a(n) = (1/8)*A291387(n). ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) - 32 * a(n - 3) - 16 * a(n - 4) for n >= 5. ●

[A178719] ● 0,0,1,7,44,266,1599,9597,57586,345520,2073125,12438755,74632536,447795222,2686771339,16120628041,96723768254,580342609532,3482055657201,20892333943215,125354003659300,752124021955810,4512744131734871,27076464790409237,162458788742455434 ★ Partial sums of (1/5)*floor(6^n/7). ● a(n) = (1 / 5) * round((24 * 6 ^ n - 70 * n - 49) / 140). ● a(n) = (1 / 5) * floor((12 * 6 ^ n - 35 * n - 12) / 70). ● a(n) = (1 / 5) * ceil((12 * 6 ^ n - 35 * n - 37) / 70). ● a(n) = (1 / 5) * round((12 * 6 ^ n - 35 * n - 12) / 70). ● a(n) = a(n - 2) + (6 ^ (n - 1) - 1) / 5 , n>1. ● a(n) = 7 * a(n - 1) - 5 * a(n - 2) - 7 * a(n - 3) + 6 * a(n - 4), n>3. ●

[A218992] ● 7,44,272,1677,10335,63688,392464,2418473,14903303,91838292,565933056,3487436629,21490552831,132430753616,816075074528,5028881200785,30989362279239,190965054876220,1176779691536560,7251643204095581 ★

Power ceiling sequence of 3+sqrt(10). • a(n) = ceiling(r * a(n - 1)), where r= 3 + sqrt(10), a(0) = ceiling(r). • a(n) = 7 * a(n - 1) - 5 * a(n - 2) - a(n - 3). • a(n) = ((5 + sqrt(10)) * (3 - sqrt(10)) ^ (n + 3) + (5 - sqrt(10)) * (3 + sqrt (10)) ^ (n + 3) - 10) / 60. [_ Bruno Berselli _ , Nov 22 2012] •

[A190974] • 0,1,7,44,273,1691,10472,64849,401583,2486836,15399937,95365379,590557968,3657078881,22646762327,140241941884,868459781553,5378008761451,33303762422392,206236293149489,1277135239934463,7908765213793796,48975680296884257 ★ a(n) = 7*a(n-1) - 5*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((7 / 2 + 1 / 2 * sqrt(29)) ^ n - (7 / 2 - 1 / 2 * sqrt(29)) ^ n) / sqrt(29). - _ Giorgio Balzarotti _ , May 28 2011 •

[A099464] • 0,1,7,44,274,1705,10609,66012,410744,2555757,15902591,98950096,615693474,3831006429,23837527729,148323355432,922906855808,5742568741225,35731770264967,222332455004452,1383410902447554,8607945812375585,53560898629395777,333269972246340068 ★ Trisection of tribonacci numbers. • a(n) = 7a(n - 1) - 5a(n - 2) + a(n - 3). •

[A254660] • 1,7,44,278,1756,11092,70064,442568,2795536,17658352,111541184,704563808,4450465216,28111918912,177572443904,1121658501248,7085095895296,44753892374272,282693546036224,1785669060965888,11279401457867776,71247746869138432 ★ Numbers of words on alphabet {0,1,...,6} with no subwords ii, where i is from {0,1,...,4}. • a(n) = 6 * a(n - 1) + 2 * a(n - 2) with n>1, a(0) = 1, a(1) = 7. • a(n) = ((3 - sqrt(11)) ^ n * (- 4 + sqrt(11)) + (3 + sqrt(11)) ^ n * (4 + sqrt(11))) / (2 * sqrt(11)). - _ Colin Barker _ , Jan 21 2017 •

[A206808] • 7,45,156,400,855,1617,2800,4536,6975,10285,14652,20280,27391,36225,47040,60112,75735,94221,115900,141120,170247,203665,241776,285000,333775 ★ Sum_{0<j<n} n^3-j^3. • a(n) = (3 * n ^ 4 - 2 * n ^ 3 - n ^ 2) / 4. G.f.: - x ^ 2 * (x ^ 2 + 10 * x + 7) / (x - 1) ^ 5. - _ Colin Barker _ , Jul 11 2014 •

[A278682] • 0,0,7,45,225,709,1974,4524,9614,18382,33425,56895,93447,146715,224280,331814,480844,679724,945099,1288737,1733725,2296065,3006762,3886960,4977210 ★ Number of non-equivalent ways to place 3 non-attacking ferses on an n X n board. • a(n) = ((n ^ 6 - 15 * n ^ 4 + 32 * n ^ 3 + 14 * n ^ 2 - 116 * n + 96) + IF(MOD(n, 2) = 1, 8 * n ^ 3 - 9 * n ^ 2 - 20 * n + 9)) / 48. • a(n) = 3 * a(n - 1) + a(n - 2) - 11 * a(n - 3) + 6 * a(n - 4) + 14 * a(n - 5) - 14 * a(n - 6) - 6 * a(n - 7) + 11 * a(n - 8) - a(n - 9) - 3 * a(n - 10) + a(n - 11). • a(n) = (n ^ 6 - 15 * n ^ 4 + 32 * n ^ 3 + 14 * n ^ 2 - 116 * n + 96) / 48 for n even. • a(n) = (n ^ 6 - 15 * n ^ 4 + 40 * n ^ 3 + 5 * n ^ 2 - 136 * n + 105) / 48 for n odd. •

[A236194] • 1,7,45,286,1820,11628,74613,480700,3108105,20160075,131128140,854992152,5586853480,36576848168,239877544005,1575580702584,10363194502115,68248282427325,449972009097765,2969831763694950,19619725782651120,129728497393775280 ★ a(n) = binomial(3n+1, n-1). • a(n) = [x ^ n] x / (1 - x) ^ (2 * n + 3). - _ Ilya Gutkovskiy _ , Oct 10 2017 •

[A198629] • 0,1,7,45,287,1821,11487,72045,449407,2789181,17230367,105996045,649630527,3968504541,24174772447,146908944045,890924667647,5393590283901,32604530573727,196853323284045,1187295678104767,7154833690143261 ★ Alternating sums of powers of 1,2,...,6, divided by 3. • a(n)=sum(((-1)^j)*j^n,j=1..6)/3, n>=0. •

[A190973] • 0,1,7,45,287,1829,11655,74269,473263,3015765,19217303,122458061,780337215,4972528261,31686348967,201914329725,1286654912207,8198927066549,52245869817015,332925380452909,2121494183902303,13518757765504485,86145327622922183 ★ a(n) = 7*a(n-1) - 4*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((7 / 2 + 1 / 2 * sqrt(33)) ^ n - (7 / 2 - 1 / 2 * sqrt(33)) ^ n) / sqrt(33). - _ Giorgio Balzarotti _ , May 28 2011 •

[A287811] • 1,7,45,291,1881,12159,78597,508059,3284145,21229047,137226717,887047443,5733964809,37064931183,239591481525,1548743682699,10011236540769,64713650292711,418315611378573,2704034619149571,17479154549033145,112987031151647583 ★ Number of septenary sequences of length n such that no two consecutive terms have distance 5. • a(n) = 6 * a(n - 1) + 3 * a(n - 2), a(0)=1, a(1)=7. •

[A182556] • 1,7,45,291,2033,10327,55901,377971,2580161,13329991,68092909,475337827,3047910961,21335374615,108342024605,611555770419,4227169747201,22855656310535,114836769975597,592467546841635,4147130288467697,24449879086004055,171122765320764253 ★ a(0)=1, a(n+1) = (a(n)*6) XOR a(n). • a(0)=1, a(n + 1) = (a(n) * 6) XOR a(n), where XOR is the bitwise exclusive - or operator. •

[A219020] • 1,7,45,297,2002,13630,93177,638001,4371235,29956465,205313076,1407206412,9645056785,66107994667,453110391657,3105663400665,21286529888422,145900036590826,1000013702089545,6854195814790005,46979356835860351,322001301602738017,2207029753248402600,15127206968164865112 ★ Sum of the cubes of the first n even-indexed Fibonacci numbers divided by the sum of the first n terms. • a(n) = 11 * a(n - 1) - 33 * a(n - 2) + 33 * a(n - 3) - 11 * a(n - 4) + a(n - 5). - _ Vaclav Kotesovec _ , May 23 2013 •

[A134437] • 0,1,7,45,312,2400,20520,194040,2016000,22861440,281232000,3732220800,53169177600,809512704000,13120332825600,225573828480000,4100866818048000,78606921609216000 ★ Number of cells in the 2nd rows of all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(n)=(1 / 4)(3n - 2)(n - 1)(n - 1)! Rec. rel.: a(n)=(1 / 2)(3n - 4)(n - 1)! + (n - 1)a(n - 1); a(1)=0. • a(n)=(n + 2)! * sum((2 * k - 1) / (k * (k + 1) * (k + 2)),k=1..n).[From Gary Detlefs, Sep 20 2011] •

[A018927] • 0,1,7,45,313,2421,20833,198309,2073793,23664021,292834513,3907994949,55967406433,856355084661,13944569166193,240803714700069,4395998055854593,84596337986326101,1711691067680320273 ★ For each permutation p of {1,2,...,n} define maxjump(p) = max(p(i) - i); a(n) is sum of maxjumps of all p. • a(n) = Sum _{ k=0..n - 1 } k * k! * ((k + 1) ^ (n - k) - k ^ (n - k)). •

[A081894] • 1,7,46,290,1775,10625,62500,362500,2078125,11796875,66406250,371093750,2060546875,11376953125,62500000000,341796875000,1861572265625,10101318359375,54626464843750,294494628906250,1583099365234375 ★ Fourth binomial transform of C(n+2,2). • a(n)=5 ^ n(n ^ 2 + 19n + 50) / 50 G.f.(1 - 4x) ^ 2 / (1 - 5x) ^ 3 •

[A128597] • 1,7,46,297,1919,12399,80241,520399,3382588,22034519,143826980,940569228,6161492611,40426009162,265617089899,1747501590554,11510584144337,75901841055650,501007227527884,3310076954166501 ★ Column 2 of triangle A128596; a(n) = coefficient of q^(2n+4) in the q-analog of the even double factorials (2n+4)!! for n>=0. • a(n) = [q ^ (2n + 4)] Product _{ j=1..n + 2 } (1 - q ^ (2j)) / (1 - q) for n>=0. •

[A190972] • 0,1,7,46,301,1969,12880,84253,551131,3605158,2358271315426351700909648066008844093178904223282449675134184761101326912082592067848167907905866343248922412877996198881821447529152537752975 ★ a(n) = 7*a(n-1) - 3*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((7 / 2 + 1 / 2 * sqrt(37)) ^ n - (7 / 2 - 1 / 2 * sqrt(37)) ^ n) / sqrt(37). - _ Giorgio Balzarotti _ , May 28 2011 •

[A254601] • 1,7,46,304,2008,13264,87616,578752,3822976,25252864,166809088,1101865984,7278432256,48078057472,317582073856,2097804673024,13857156333568,91534156693504,604633565495296,3993938019745792,26382162380455936,174268726361718784 ★ Numbers of n-length words on alphabet {0,1,...,6} with no subwords ii, where i is from {0,1,2}. • a(n) = 6 * a(n - 1) + 4 * a(n - 2) with n>1, a(0) = 1, a(1) = 7. • a(n) = ((3 - r) ^ n * (- 4 + r) + (3 + r) ^ n * (4 + r)) / (2 * r), where r=sqrt(13). - _ Colin Barker _ , Jan 22 2017 •

[A258340] • 1,7,46,310,2131,14797,103216,721420,5046661,35316787,247187986,1730227330,12111325591,84778481977,593446982356,4154121702040,29078830390921,203551748166367,1424862043454326,9974033723049550,69818234317954651,488727634995505957 ★ a(n) = (7^n + 3^n - 2)/8. • a(n) = 11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3) with n>2, a(0)=0. - _ Bruno Berselli _ , Aug 24 2015 •

[A240722] • 1,7,46,323,2326,17062,126764,950819,7184422,54604082,416990564,3197008718,24592858876,189719297068,1467180979096,11370769197347,88291427562944,686715981892666,5349188181210548,41723881423351898,325845079538136596 ★ Expansion of log'((-1-sqrt(1-8*x)+sqrt(2+2*sqrt(1-8*x)+8*x))/(4*x)). • a(n) = (n + 1) * sum(k=0..n, (binomial(k + 1, n - k) * binomial(n + 2 * k + 2, n + k + 1)) / (n + k + 2)). •

[A067318] • 0,1,7,46,326,2556,22212,212976,2239344,25659360,318540960,4261576320,61148511360,937030429440,15275952518400,264030355814400,4823280687052800,92865738644582400,1879691760950169600,39905092126771200000,866664974825728000000 ★ Total number of transpositions in all permutations of n letters. • a(n) = n! * (0 / 1 + 1 / 2 + ... + (n - 1) / n) = n! * (n - H _ n), where H _ n = Sum _{ k=1..n } 1 / k; a(1) = 0, a(2) = 1, a(n) = n * a(n - 1) + (n - 1) * (n - 1)!. • a(n) = n * n! - abs(stirling1(n + 1, 2)) (cf. A000254). E.g.f.: (x + (1 - x) * log(1 - x)) / (1 - x) ^ 2. - _ Vladeta Jovovic _ , Feb 01 2003 • a(n) = T(n, n - 1) for the triangle read by rows: [0, 1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, ...] DELTA [1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, ...] where DELTA is the operator defined in A084938. - _ Philippe Deléham _ , Nov 30 2003 •

[A093112] • 1,7,47,223,959,3967,16127,65023,261119,1046527,4190207,16769023,67092479,268402687,1073676287,4294836223,17179607039,68718952447,274876858367,1099509530623,4398042316799,17592177655807,70368727400447,281474943156223,1125899839733759 ★ a(n) = (2^n-1)^2 - 2. • a(n) = (2 ^ n - 1) ^ 2 - 2. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) - 6 * a(n - 3) + 8 * a(n - 4). •

[A064385] • 7,47,247,1247,6247,31247,156247,781247,3906247,19531247,97656247,488281247,2441406247,12207031247,61035156247,305175781247,1525878906247,7629394531247,38146972656247 ★ a(n) = 2*5^n - 3. • a(n) = 5 * a(n - 1) + 12. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A198845] • 7,47,287,1727,10367,62207,373247,2239487,13436927,80621567,483729407,2902376447,17414258687,104485552127,626913312767,3761479876607,22568879259647,135413275557887,812479653347327,4874877920083967,29249267520503807 ★ 8*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A126635] • 7,47,307,1943,11827,69287,392707,2166743,11703187,62168327,325983907,1692105143,8714154547,44600020967,227161443907,1152585909143,5830444893907,29423488811207,148206112628707,745396075770743,3744474953809267,18792450661083047 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digits 1,2,3, at least one of digits 4,5 and at least one of digits 6,7,8,9. • a(n) = 8 * 5 ^ n - 16 * 4 ^ n + 14 * 3 ^ n - 6 * 2 ^ n + 1. •

[A085352] • 1,7,47,307,1967,12427,77687,481747,2968607,18202267,111166727,676765987,4109424047,24900684907,150624812567,909852391027,5489631924287,33090379436347,199305216071207,1199645993692867 ★ Expansion of (1-4x)/((1-5x)(1-6x)). • a(n)=2 * 6 ^ n - 5 ^ n •

[A125370] • 1,7,47,307,2067,13927,93887,632947,4267107,28767367,193939727,1307475187,8814549747,59424674407,400620795167,2700848143027,18208192833987,122753397719047,827561350484207,5579135091500467 ★ Number of base 7 circular n-digit numbers with adjacent digits differing by 5 or less. • a(n) = 1 + (3 - sqrt(14)) ^ n + (3 + sqrt(14)) ^ n for n>0. • a(n) = 7 * a(n - 1) - a(n - 2) - 5 * a(n - 3) for n>3. •

[A163346] • 1,7,47,309,2009,12983,83623,537621,3452881,22163527,142219007,912428949,5853252329,37546657463,240841771063,1544844588981,9909085155361,63559426007047,407685301497167,2614986216809589,16773100233661049,107586319349989943 ★ a(n) = 10*a(n-1) - 23*a(n-2) for n > 1; a(0) = 1, a(1)

= 7. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 1, a(1) = 7. • a(n) = ((1 + sqrt(2)) * (5 + sqrt(2)) ^ n + (1 - sqrt(2)) * (5 - sqrt(2)) ^ n) / 2. •

[A186446] • 1,7,47,315,2111,14147,94807,635355,4257871,28534387,191224967,1281505995,8588092031,57553632227,385699241527,2584787426235,17322113500591,116085219651667,777952310560487,5213495734620075,34938565521219551 ⋆ Expansion of 1/(1 - 7*x + 2*x^2). • a(n) = ((7 + sqrt(41)) ^ (1 + n) - (7 - sqrt(41)) ^ (1 + n)) / (2 ^ (1 + n) * sqrt(41)). • a(n) = 7 * a(n - 1) - 2 * a(n - 2), with a(0)=1, a(1)=7. •

[A126528] • 1,7,47,317,2137,14407,97127,654797,4414417,29760487,200635007,1352612477,9118849897,61476161767,414451220087,2794088129357,18836784876577,126991149906247,856130823820367,5771740692453437,38911098273822457,262325293105201927 ⋆ Number of base 7 n-digit numbers with adjacent digits differing by five or less. • a(n) = 6 * a(n - 1) + 5 * a(n - 2), a(0) = 1, a(1) = 7 . • a(n) = (((3 - sqrt(14)) ^ n * (- 4 + sqrt(14)) + (3 + sqrt(14)) ^ n * (4 + sqrt(14)))) / (2 * sqrt(14)). - _ Colin Barker _ , Sep 08 2016 •

[A214992] • 7,47,323,2213,15169,103969,712615,4884335,33477731,229459781,1572740737,10779725377,73885336903,506417632943,3471038093699,23790849022949,163064905066945,1117663486445665,7660579500052711 ⋆ Power ceiling-floor sequence of (golden ratio)^4. • a(n) = floor(r * a(n - 1) if n is odd and a(n) = ceiling(r * a(n - 1) if n is even, where a(0) = ceiling(r), r = (golden ratio) ^ 4 = (7 + sqrt(5)) / 2. • a(n) = 6 * a(n - 1) + 6 * a(n - 2) - a(n - 3). • a(n) = (10 * (- 2) ^ n + (10 + 3 * sqrt(5)) * (7 - 3 * sqrt(5)) ^ (n + 2) + (10 - 3 * sqrt(5)) * (7 + 3 * sqrt(5)) ^ (n + 2)) / (90 * 2 ^ n). [_ Bruno Berselli _ , Nov 14 2012] •

[A098405] • 1,7,47,327,2343,17127,126951,950631,7173991,54471527,415652711,3184708455,24485137255,188802730855,1459525454695,11307626564455,87775235181415,682523302202215,5315297718995815,41450938169985895,323653082644384615,2529960757626047335 ⋆ Expansion of ((1-sqrt(1-8*x))/((1-x)*(4*x*sqrt(1-8*x))). • a(n) = sum { k=0..n, Binomial(2k + 1, k) * 2 ^ k } •

[A173772] • 7,47,447,4447,44447,444447,4444447,44444447,444444447,4444444447,44444444447,444444444447,4444444444447,44444444444447,444444444444447,4444444444444447,44444444444444447,444444444444444447 ⋆ (4*10^n + 23)/9. • a(n) = 10 * a(n - 1) - 23 with n>1, a(1)=7. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). G.f.: - x * (30 * x - 7) / ((x - 1) * (10 * x - 1)). [_ Colin Barker _ , Jan 24 2013] •

[A081106] • 1,7,48,324,2160,14256,93312,606528,3919104,25194240,161243136,1027924992,6530347008,41358864384,261213880320,1645647446016,10344069660672,64885527871488,406239826673664,2538998916710400 ⋆ 6th binomial transform of (1,1,0,0,0,0,...). • a(n) = 12 * a(n - 1) - 36 * a(n - 2) with n>1, a(0)=1, a(1)=7. • a(n) = (n + 6) * 6 ^ (n - 1). •

[A289785] • 1,7,48,325,2183,14588,97161,645719,4285240,28411789,188257719,1246893028,8256349457,54659946215,361825274112,2394939574997,15851402375719,104912178457996,694343294142105,4595323060281271,30412598132972936,201274210714545437 ⋆ p-INVERT of the (5^n), where p(S) = 1 - S - S^2. • a(n) = 11 * a(n - 1) - 29 * a(n - 2). • a(n) = (2 ^ (- n - 1) * ((11 - sqrt(5)) ^ (n + 1) * (- 7 + 2 * sqrt(5)) + (11 + sqrt(5)) ^ (n + 1) * (7 + 2 * sqrt(5)))) / (29 * sqrt(5)). - _ Colin Barker _ , Aug 11 2017 •

[A164591] • 1,7,48,328,2240,15296,104448,713216,4870144,33255424,227082240,1550614528,10588258304,72301150208,493703135232,3371215880192,23020101959680,157191088635904,1073367893409792,7329414438191104,50048372358250496 ⋆ a(n) = ((4 + sqrt(18))*(4 + sqrt(8))^n + (4 - sqrt(18))*(4 - sqrt(8))^n)/8 . • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 7. •

[A004187] • 0,1,7,48,329,2255,15456,105937,726103,4976784,34111385,233802911,1602508992,10983760033,75283811239,516002918640,3536736619241,24241153416047,166151337293088,1138818207635569,7805576116155895,53500214605455696,366695926122033977 ⋆ a(n) = 7*a(n-1) - a(n-2) with a(0) = 0, a(1) = 1. • a(n) = S(2 * n - 1, sqrt(9)) / sqrt(9) = S(n - 1, 7); S(n, x) := U(n, x / 2), Chebyshev polynomials of the 2nd kind, A049310. • a(n) = sum(i=0..n - 1, C(2 * n - 1 - i, i) * 5 ^ (n - i - 1)). - Mario Catalani (mario.catalani(AT)unito.it), Jul 23 2004 • a(n) = (((7 + sqrt(45)) / 2) ^ n - ((7 - sqrt(45)) / 2) ^ n) / sqrt(45). - _ Noureddine Chair _ , Aug 31 2011 •

[A180167] • 1,7,48,330,2268,15588,107136,736344,5060880,34783344,239065344,1643092128,11292944832,77616221760,533454999552,3666427327872,25199293964544,173194327754496,1190361730314240,8181336348412416,56230188472359936,386469148924634112 ⋆ a(0) = 1, a(1) = 7; a(n)= 6*a(n-1) + 6*a(n-2) for n>1. • a(n) = ((3 - sqrt(15)) ^ n * (- 4 + sqrt(15)) + (3 + sqrt(15)) ^ n * (4 + sqrt(15))) / (2 * sqrt(15)). - _ Alexander R. Povolotsky _ , Aug 22 2010, corrected by _ Colin Barker _ , May 13 2016 •

[A152777] • 0,7,49,126,238,385,567,784,1036,1323,1645,2002,2394,2821,3283,3780,4312,4879,5481,6118,6790,7497,8239,9016,9828 ⋆ 7 times heptagonal numbers: 7*n*(5*n-3)/2. • a(n) = a(n - 1) + 35 * n - 28 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 15 2010 •

[A163827] • 7,49,163,385,751,1297,2059,3073,4375,6001,7987,10369,13183,16465,20251,24577,29479,34993,41155,48001,55567,63889,73003,82945,93751 ⋆ a(n) = 6n^3 + 1, solution z in Diophantine equation x^3 + y^3 = z^3 - 2. It may be considered a Fermat near miss by 2. • a(n) = 6n ^ 3 + 1. • a(1)=7, a(2)=49, a(3)=163, a(4)=385, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [_ Harvey P. Dale _ , Dec 12 2011] •

[A141783] • 1,7,49,231,924,3108,9324,25236,63090,147070,323554,676270,1352540,2600612,4829708,8692788,15212379,25949469,43249115,70562765,112900424,177412664,274183208,417232088,625848132 ⋆ Number of bracelets (turn over necklaces) with n beads: 1 blue, 12 green, and r = n - 13 red. • a(n) = 1 / 2 * (binomial(n - 1,12) + binomial((n - 2 + n mod 2) / 2, 6)). • a(n) = (1 / (2 * 12!)) * (n + 2) * (n + 4) * (n + 6) * (n + 8) * (n + 10) * (n + 12) * ((n + 1) * (n + 3) * (n + 5) * (n + 7) * (n + 9) * (n + 11) + 1 * 3 * 5 * 7 * 9 * 11) - (1 / 15) * (1 / 2 ^ 10) * (n ^ 5 + (65 / 2) * n ^ 4 + 400 * n ^ 3 + (4615 / 2) * n ^ 2 + 6154 * n + (11895 / 2)) * (1 / 2) * (1 - (- 1) ^ n) [_ Yosu Yurramendi _ , Jun 24 2013] •

[A094430] • 7,49,245,1078,4459,17836,69972,271313,1044435,4002467,15294370,58337097,222255768,846131608,3219700183,12247849145,46582062709,177142452214,673583231587,2561162729076,9737971026812,37024601601729 ⋆ a(n) = rightmost term of M^n * [1 0 0], M = the 3 X 3 matrix [0 1 0 / 0 0 1 / 7 -14 7] M^n. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 7 * a(n - 3). •

[A146884] • 7,49,301,1813,10885,65317,391909,2351461,14108773,84652645,507915877,3047495269,18284971621,109709829733,658258978405,3949553870437,236973232226629,1421839393335781,8531036360146093,51186218160881 65 ⋆ Sum of power terms sequence: a(n)=Sum[7*6^m, {m, 0, n}]. • a(n)=Sum[7 * 6 ^ m, { m, 0, n }]. •

[A113235] • 1,1,1,7,49,301,2281,21211,220417,2528569,32014801,442974511,6638604721,107089487077,1849731389689,34051409587651,665366551059841,13751213558077681,299644435399909537,6864906328749052759,164941239260973870001,4146673091958686331421 ⋆ Number of partitions of {1,..,n} into any number of lists of size not equal to 2, where a list means an ordered subset, cf. A000262. • a(n) = (2 * n - 1) * a(n - 1) - (n - 1) * n * a(n - 2) + 4 * (n - 2) * (n - 1) * a(n - 3) - 2 * (n - 3) * (n - 2) * (n - 1) * a(n - 4). •

[A200783] • 1,7,49,308,1946,12152,75992,474566,2964416,18514405,115637431,722234149,4510869636,28173535572,175963587528,1099016234232,6864129384252,42871313869692,267761500599901,1672358840069239,10445056851917149,65236724277810632,407449213173792062,2544806826734163992,15894107968042546424 ⋆ G.f.: 1/(1-7*x+35*x^3-35*x^4+7*x^6-x^7). • a(n) = 7 * a(n - 1) - 35 * a(n - 3) + 35 * a(n - 4) - 7 * a(n - 6) + a(n - 7). •

[A267230] • 7,49,315,1981,12327,76237,469623,2884909,17686215,108259885,661872471,4042575277,24671450343,150466937773,917151735159,5587651325485,34027698639111,207144227712301,1260572274312087,7668877406965933 ⋆ Number of length-n 0..6 arrays with no following elements greater than or equal to the first repeated value. • a(n) = (- 45 * 2 ^ n - 40 * 3 ^ n - 45 * 4 ^ n - 72 * 5 ^ n + 557 * 6 ^ n + 5 * 2 ^ (1 + n) * 3 ^ n * n - 72) / 360 for n>1. •

[A267469] • 7,49,322,2072,13216,83972,532840,3381860,21491464,136856180,873803848,5596638788,35973158152,232118471828,1503949949896,9786663686756,63969334316680,420026972347316,2770499256109384,18356852895660164 ⋆ Number of length-n 0..6 arrays with no following elements larger than the first repeated value. • a(n) = (- 504 - 315 * 2 ^ n - 280 * 3 ^ n - 315 * 4 ^ n - 504 * 5 ^ n + 3409 * 6 ^ n + 360 * 7 ^ n + 35 * 2 ^ (1 + n) * 3 ^ n * n) / 2520. •

[A126639] • 7,49,331,2137,13147,77449,440251,2432857,13151707,69895849,366600571,1903222777,9802234267,50171448649,255545887291,1296626911897,6559153748827,33101134543849,166731005404411,838567970940217,4212526479343387,21141483461069449 ⋆ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digit 1,2,3, at least one of digits 4,5,6 and at least one of digits 7,8,9. • a(n) = 9 * 5 ^ n - 18 * 4 ^ n + 15 * 3 ^ n - 6 * 2 ^ n + 1. •

[A126627] • 7,49,343,2401,16807,116929,803383,5432161,36120007,236404609,1525601623,9726181921,61371928807,383929313089,2384606035063,14723095123681,90457525939207,553507860826369,3375536272503703,20528377102849441,124556950506727207 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks digits 1,2,3 and at least one of digits 4,5,6,7,8,9. • a(n) = 6 * 6 ^ n - 15 * 5 ^ n + 20 * 4 ^ n - 15 * 3 ^ n + 6 * 2 ^ n - 1. •

[A000420] • 1,7,49,343,2401,16807,117649,823543,5764801,40353607,282475249,1977326743,13841287201,96889010407,678223072849,4747561509943,33232930569601,232630513987207,1628413597910449,11398895185373143,79792266297612001,558545864083284007 ⋆ Powers of 7: a(n) = 7^n. • a(n) = 7 ^ n. • a(0) = 1; a(n) = 7 * a(n - 1). •

[A033143] • 1,7,49,344,2408,16856,117993,825951,5781657,40471600,283301200,1983108400,13881758801,97172311607,680206181249,4761443268744,33330102881208,233310720168456,1633175041179193,11432225288254351,80025577017780457,560179039124463200,3921253273871242400 ⋆ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0. • a(n) = 7 * a(n - 1) + a(n - 3) - 7 * a(n - 4). •

[A240721] • 1,7,49,351,2561,18943,141569,1066495,8085505,61616127,471556097,3621830655,27902803969,215530668031,1668644405249,12944666918911,100598145875969,783027553697791,6103529011806209,47636654222999551,372250729218375 69,2911581699143892991 ⋆ Expansion of -(4*x+sqrt(1-8*x)-1)/(sqrt(1-8*x)*(4*x^2+x)+8*x^2-x). • a(n) = Sum _{ k=0..n } (k + 1) * binomial(2 * (n + 1),n - k) * binomial(n + k + 1,n)) / (n + 1). • a(n) = C(2 * n + 2, n) * 2F1([- n, n + 2], [n + 3], - 1), 2F1 is the hypergeometric function. - _ Peter Luschny _ , Jul 16 2014 • a(n) = 8 * sum(a(k) * a(n - 3 - k), k=0..n - 3) + 7 * sum(a(k) * a(n - 2 - k), k=0..n - 2) - sum(a(k) * a(n - 1 - k), k=0..n - 1) + 8 * a(n - 1) for n > 2, a(0)=1, a(1)=7, a(2)=49. - _ Tani Akinari _ , Jul 16 2014 •

[A199554] • 7,49,385,3073,24577,196609,1572865,12582913,100663297,805306369,6442450945,51539607553,412316860417,3298534883329,26388279066625,211106232532993,1688849860263937,13510798882111489,108086391056891905 ⋆ 6*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[A090016] • 7,49,399,3689,38087,433713,5394991,72737161,1056085191,16423175153,272275569167,4792916427369,89267526953479,1753598009244529,362

32438035285807,785431570870425353,17822981129678644871 ⋆ Permanent of (0,1)-matrix of size n X (n+d) with d=6 and n-1 zeros not on a line. • a(n) = (n + 5) * a(n - 1) + (n - 2) * a(n - 2), a(1)=7, a(2)=49 •

[A293475] • 0,7,50,195,560,1330,2772,5250,9240,15345,24310,37037,54600,78260,109480,149940,201552,266475,347130,446215,566720,711942,885500,1091350,1333800 ⋆ a(n) = (3*n + 4)*Pochhammer(n, 4) / 4!. • a(n) = n * Stirling2(3 + n, 1 + n). • a(n) = n * (24 + 62 * n + 57 * n ^ 2 + 22 * n ^ 3 + 3 * n ^ 4) / 24. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. (End) •

[A288787] • 1,7,50,345,2392,16955,123707,932010,7260709,58509323,487593202,4199841037,37361858716,342989895895,3246458915947,31653980371254,317654338317380,3278058775976704,34757921507150964,378372365291381716,4225533329681577846,48375204740642752562 ⋆ Number of blocks of size >= five in all set partitions of n. • a(n) = Bell(n + 1) - Sum _{ j=0..4 } binomial(n,j) * Bell(n - j). • a(n) = Sum _{ j=0..n - 5 } binomial(n,j) * Bell(j). •

[A033117] • 1,7,50,350,2451,17157,120100,840700,5884901,41194307,288360150,2018521050,14129647351,98907531457,692352720200,4846469041400,33925283289801,237476983028607,1662338881200250,11636372168401750,81454605178812251,570182236251685757,3991275653761800300 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. • a(n) = 7 * a(n - 1) + a(n - 2) - 7 * a(n - 3). • a(n) = (7 * 7 ^ n - 4 - 3 * (- 1) ^ n) / 48. - _ Bruno Berselli _ , Jan 19 2011 • a(n) = (1 / 6) * floor(7 ^ (n + 1) / 8) = floor((7 * 7 ^ n - 1) / 48) = ceiling((7 * 7 ^ n - 7) / 48) = round((7 * 7 ^ n - 7) / 48) = round((7 * 7 ^ n - 4) / 48); a(n) = a(n - 2) + 7 ^ (n - 1), n > 2. - _ Mircea Merca _ , Dec 28 2010 •

[A096882] • 1,7,50,350,2500,17500,125000,875000,6250000,43750000,312500000,2187500000,15625000000,109375000000,781250000000,5468750000000,390625000000000,27343750000000,1953125000000000,136718750000000000 ⋆ Expansion of (1+7x)/(1-50x^2). • a(n)=6a(n - 1) + 7a(n - 2) + 50 ^ floor((n - 2) / 2); a(n)=sum { k=0..floor(n / 2), binomial(floor(n / 2), k)7 ^ (n - 2k) } . •

[A033125] • 1,7,50,351,2457,17200,120401,842807,5899650,41297551,289082857,2023580000,14165060001,99155420007,694087940050,4858615580351,34010309062457,238072163437200,1666505144060401,11665536008422807,81658752058959650,571611264412717551 ⋆ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. • a(n) = 7 * a(n - 1) + a(n - 3) - 7 * a(n - 4). •

[A054413] • 1,7,50,357,2549,18200,129949,927843,6624850,47301793,337737401,2411463600,17217982601,122937341807,877779375250,6267392968557,44749530155149,319514104054600,2281348258537349,16288951913816043,116304011655249650,830417033500563593 ⋆ a(n) = 7*a(n-1) + a(n-2). • a(n) = U(n, 7 * I / 2) * (- I) ^ n with I ^ 2= - 1 and Chebyshev's U(n, x / 2)=S(n, x) polynomials. See A049310. • a(n) = F(n, 7), the n - th Fibonacci polynomial evaluated at x=7. - _ T. D. Noe _ , Jan 19 2006 • a(n) = (sigma ^ n - (- sigma) ^{- n }) / (Sqrt[53]) with sigma=(7 + Sqrt[53]) / 2; a(n) = Sum _ 0 ^{ Floor[(n - 1) / 2] } Binomial[n - 1 - i,i] * 7 ^{ n - 1 - 2i } . - _ Sergio Falcon _ , Sep 24 2007 • a(n) = - (7 / 106) * sqrt(53) * [7 / 2 - (1 / 2) * sqrt(53)] ^ n + (1 / 2) * [7 / 2 + (1 / 2) * sqrt(53)] ^ n + (1 / 2) * [7 / 2 - (1 / 2) * sqrt(53)] ^ n + (7 / 106) * [7 / 2 + (1 / 2) * sqrt(53)] ^ n * sqrt(53), with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 • a(n) = ((7 + sqrt53) ^ n - (7 - sqrt53) ^ n) / (2 ^ n * sqrt53). Offset 1. a(3)=50. - Al Hakanson (hawkuu(AT)gmail.com), Jan 17 2009 •

[A163458] • 1,7,50,362,2644,19420,143144,1057448,7822480,57916528,429034016,3179246240,23563798336,174671207872,1294885351040,9599803144832,71171535802624,527665122707200,3912149255197184,29005176890321408 ⋆ a(n) = 12*a(n-1) - 34*a(n-2) for n > 1; a(0) = 1, a(1) = 7. • a(n) = ((2 + sqrt(2)) * (6 + sqrt(2)) ^ n + (2 - sqrt(2)) * (6 - sqrt(2)) ^ n) / 4. •

[A081571] • 1,7,50,363,2669,19814,148153,1113615,8402722,63577171,481991621,3659227062,27808295345,211479529943,1609093780114,12247558413819,93245414394973,710040492168070,5407464407991017,41185377124992351 ⋆ Sixth binomial transform of F(n+1). • a(n) = 13 * a(n - 1) - 41 * a(n - 2), a(0)=1, a(1)=7. • a(n) = (1 / 2 - sqrt(5) / 10) * (13 / 2 - sqrt(5) / 2) ^ n + (sqrt(5) / 10 + 1 / 2) * (sqrt(5) / 2 + 13 / 2) ^ n. •

[A081189] • 1,7,50,364,2696,20272,154400,1188544,9228416,72147712,567104000,4476365824,35448129536,281408253952,2238205337600,17827278536704,142148043309056,1134363236564992,9057979233075200,72362273907933184 ⋆ 7th binomial transform of (1,0,1,0,1,...), A059841. • a(n) = 14 * a(n - 1) - 48 * a(n - 2) with n > 1, a(0)=1, a(1)=7. • a(n) = 6 ^ n / 2 + 8 ^ n / 2. • a(n) = 6 * a(n - 1) + 8 ^ (n - 1). •

[A108869] • 1,7,50,366,2760,21576,176112,1512720,13781376,134110080,1401566976,15780033792,191537187840,2503044135936,35120982067200,527284915992576,8439379765788672,143486382677852160,2582856448158007296 ⋆ E.g.f.: exp(6x)/(1-x). • a(n) = n! * Sum _{ k = 0..n } 6 ^ k / k!. • a(n) Sum _{ k = 0..n } k! * C(n, k) * 6 ^ (n - k). •

[A005460] • 1,7,50,390,3360,31920,332640,3780000,46569600,618710400,8821612800,134399865600,2179457280000,37486665216000,681734237184000,13071512982528000 ⋆ a(n) = (3*n+4)*(n+3)!/24. • a(n)= S2(n + 3, n + 1) * n! - _ Olivier Gérard _ , Sep 13 2016 •

[A053155] • 0,1,7,50,397,3366,29197,253030,2170357,18385046,153927037,1275981510,10492253317,85727548726,696964520077,5644579061990,45579645264277,367223771048406,2953549834748317,23724145930814470,190373555357763237 ⋆ Number of 3-element intersecting families (with not necessary distinct sets) of an n-element set. • a(n) = (8 ^ n - 3 * 6 ^ n + 3 * 5 ^ n + 2 * 4 ^ n - 3 * 3 ^ n + 2 * 2 ^ n - 2) / 6. • a(n) = 29 * a(n - 1) - 343 * a(n - 2) + 2135 * a(n - 3) - 7504 * a(n - 4) + 14756 * a(n - 5) - 14832 * a(n - 6) + 5760 * a(n - 7) for n > 6. - _ Wesley Ivan Hurt _ , Oct 06 2017 •

[A037677] • 1,7,51,360,2521,17647,123531,864720,6053041,42371287,296599011,2076193080,14533351561,101733460927,712134226491,4984939585440,34894577098081,244262039686567,1709834277805971 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,2,3. • a(n) = 8a(n - 1) - 8a(n - 2) + 8a(n - 3) - 7a(n - 4). •

[A015555] • 0,1,7,51,371,2699,19635,142843,1039171,7559883,54997523,400102427,2910712035,21175189099,154047747763,1120684612539,8152887783299,59311583708171,431486861523795,3139031198082907,22836192109627939 ⋆ Expansion of x/(1 - 7*x - 2*x^2). • a(n) = 7 * a(n - 1) + 2 * a(n - 2). • a(n) = - (1 / 57) * sqrt(57) * (7 / 2 - (1 / 2) * sqrt(57)) ^ n + (1 / 57) * sqrt(57) * (7 / 2 + (1 / 2) * sqrt(57)) ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A162757] • 1,7,51,381,2889,22095,169803,1308501,10098513,78001623,602768547,4659169005,36018666009,278471414943,2153041001019,16646935319109,128712870795681,995205584017575,7694942271953427,59497522990861149 ⋆ a(n) = 12*a(n-1)-33*a(n-2) for n > 1; a(0) = 1, a(1) = 7. • a(n) = ((3 + sqrt(3)) * (6 + sqrt(3)) ^ n + (3 - sqrt(3)) * (6 - sqrt(3)) ^ n) / 6. •

[A147958] • 1,7,51,385,2993,23807,192627,1577849,13036417,108350935,904201491,7566326929,63431106929,532418131343,4472591813139,37592633210825,316085049734017,2658336935367463,22360719757645683,188108240644768801 ⋆ a(n) = ((7 + sqrt(2))^n + (7 - sqrt(2))^n)/2. • a(n) = 14 * a(n - 1) - 47 * a(n - 2), n > 1; a(0)=1, a(1)=7. •

[A104454] • 1,7,51,385,2995,23877,194109,1602447,13389075,112935445,959783881,8206116387,70507643101,608271899515,5265458413875,45711784088145,397829544860115,3469772959954245,30319709631711225,265383615634224675,2326318766651511945,20419439617056272415 ⋆ Expansion of 1/(sqrt(1-5x)*sqrt(1-9x)). • a(n) = sum { k=0..n, C(n, k) * C(2k, k) * 5 ^ (n - k) } . •

[A273055] • 1,7,51,393,3139,25653,212941,1787607,15134931,128996853,1105350729,9513228123,82176836301,712070156203,6186675630819,53876592856681,470139239360787,4109922421017093,35986168879543609,315544068167601787,2770417140954208377,24352194654450483759 ⋆ a(n) = Sum_{k=0..n} binomial(2*k, k) * binomial(2*n+1, 2*k). • a(n) = 4 ^ (2 * n + 1) * JacobiP(2 * n + 1, - 2 * n - 3 / 2, - 2 * n - 3 / 2, - 1 / 2). • a(n) = GegenbauerC(2 * n + 1, - 2 * n - 1, - 1 / 2). • a(n) = hypergeom([- n - 1 / 2, - n], [1], 4). • a(n) = (2 * n + 1)! * ([x ^ (2 * n + 1)] exp(x) * BesselI(0,2 * x)). • a(n) = [x ^ (2 * n + 1)] (1 - 2 * x - 3 * x ^ 2) ^ (- 1 / 2). • a(n) = [x ^ (2 * n + 1)] (1 + x + x ^ 2) ^ (2 * n + 1). •

[A019472] • 0,0,1,7,51,421,3963,42253,505515,6724381,98618763,1582715773,27612565995,520631327581,10554164679243,228975516609853,5294731892093355,130015079601039901,3379132289551117323,92679942218919579133,2675254894236207563115,81073734056332364441821 ⋆ Weak preference orderings of n alternatives, i.e., orderings that have indifference between at least two alternatives. • a(n) = Sum _{ j=0..n - 1 } Sum _{ i=0..n - 1 } (- 1) ^ (j - i) * C(j, i) * i ^ n. - _ Peter Luschny _ , Jul 22 2014 •

[A057675] • 1,7,52,192,507,1101,2102,3662,5957,9187,13576,19372,26847,36297,48042,62426,79817,100607,125212,154072,187651,226437,270942,321702,379277 ⋆ 1 - (5/6)*n + (5/2)*n^2 + (10/3)*n^3 + n^4. • a(0)=1, a(1)=7, a(2)=52, a(3)=192, a(4)=507, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 28 2016 •

[A206809] • 7,52,208,608,1463,3080,5880,10416,17391,27676,42328,62608,89999,126224,173264,233376,309111,403332,519232,660352,830599,1034264,1276040,1561040,1894815 ⋆ Sum_{0<j<k<=n} k^3-j^3. • a(n) = (n * (- 4 - 15 * n - 5 * n ^ 2 + 15 * n ^ 3 + 9 * n ^ 4)) / 60. G.f.: x ^ 2 * (x ^ 2 + 10 * x + 7) / (x - 1) ^ 6. - _ Colin Barker _ , Jul 11 2014 •

[A037684] • 1,7,52,366,2563,17941,125590,879132,6153925,43077475,301542328,2110796298,14775574087,103429018609,724003130266,5068021911864,35476153383049,248333073681343,1738331515769404 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,3,2. • a(n) = 7a(n - 1) + a(n - 4) - 7a(n - 5) •

[A015559] • 0,1,7,52,385,2851,21112,156337,1157695,8572876,63483217,470101147,3481157680,25778407201,190892323447,1413581485732,10467747370465,77514976050451,574008074464552,4250601449403217,31476234369216175 ⋆ Expansion of x/(1-7*x-3*x^2). • a(n) = 7 * a(n - 1) + 3 * a(n - 2). • a(n) = (1 / 61) * sqrt(61) * [7 / 2 + (1 / 2) * sqrt(61)] ^ n - (1 / 61) * [7 / 2 - (1 / 2) * sqrt(61)] ^ n * sqrt(61), with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A259554] • 1,7,52,403,3206,25954,212738,1760035,14666470,122920642,1035046816,8749594462,74207078908,631140253072,5381022869822,45975731083555,393556869530630,3374504760608026,28977403637496104,249167023897718138 ⋆ a(n) = Sum_{i=0..n} (2^(i)*(-1)^(i+n)*C(n,i)*C(2*n+i-1,n-1)). • a(n) = 1 / 2 * Sum _{ k=0..n } binomial(n - 1,n - k) * binomial(2 * n + k - 1,k). - _ Vladimir Kruchinin _ , Oct 07 2016 • a(n) = n * hypergeom([2 * n + 1, - n + 1], [2], - 1). - _ Peter Luschny _ , Oct 07 2016 •

[A279269] • 1,7,53,391,2865,20967,153413,1122471,8212705,60089287,439650773,3216759751,23535824145,172202794407,1259943234533,9218531904231,67448539061185,493495652968327,3610722528440693,26418301962683911,193292803059267825,1414250914660723047 ⋆ a(n) = floor((4 + sqrt(11))^n). • a(n) = 9 * a(n - 1) - 13 * a(n - 2) + 5 * a(n - 3) for n>2. • a(n) = 8 * a(n - 1) - 5 * a(n - 2) + 2 for n>1. • a(n) = (4 + sqrt(11)) ^ n + (4 - sqrt(11)) ^ n - 1. - _ Bruno Berselli _ , Dec 13 2016 •

[A015561] • 0,1,7,53,399,3005,22631,170437,1283583,9666829,72802135,548282261,4129184367,31097419613,234198674759,1763780401765,13283257511391,100037924186797,753398499353143,5673941192219189,42731182342946895 ⋆

Expansion of x/(1-7*x-4*x^2). • a(n) = 7 * a(n - 1) + 4 * a(n - 2). • a(n) = -(1 / 65) * sqrt(65) * [7 / 2 - (1 / 2) * sqrt(65)] ^ n + (1 / 65) * sqrt(65) * [7 / 2 + (1 / 2) * sqrt(65)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A163306] • 1,7,53,419,3385,27631,226637,1863083,15331249,126219415,1039364261,8559569267,70494539113,580587822079,4781723152445,39382455344891,324356046412897,2671416441263143,22001959856357909,181209608597137475 ★ a(n) = 12*a(n-1) - 31*a(n-2) for n > 1; a(0) = 1, a(1) = 7. • a(n) = ((5 + sqrt(5)) * (6 + sqrt(5)) ^ n + (5 - sqrt(5)) * (6 - sqrt(5)) ^ n) / 10. •

[A081338] • 1,7,53,427,3593,31087,273533,2430547,21718673,194686807,1748275013,15714943867,141336838553,1271543265727,11441447985293,102960824836387,926586388371233,8338972319559847,75049224997132373,675435395579660107 ★ (9^n+5^n)/2. • a(n) = 14 * a(n - 1) - 45 * a(n - 2), a(0)=1, a(1)=7. •

[A081008] • 0,7,54,376,2583,17710,121392,832039,5702886,39088168,267914295,1836311902,12586269024,86267571271,591286729878,4052739537880,27777890035287,190392490709134,1304969544928656,8944394323791463,61305790721611590,420196140727489672 ★ Fibonacci(4n+2)-1, or Fibonacci(2n)*Lucas(2n+2). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 1 + (1 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (3 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A015562] • 0,1,7,54,413,3161,24192,185149,1417003,10844766,82998377,635212469,4861479168,37206416521,284752311487,2179298263014,16678849398533,127648437104801,976933306726272,7476775332607909,57222093861886723 ★ Expansion of x/(1-7*x-5*x^2). • a(n) = 7 * a(n - 1) + 5 * a(n - 2). • a(n) = (1 / 69) * [7 / 2 + (1 / 2) * sqrt(69)] ^ n * sqrt(69) - (1 / 69) * sqrt(69) * [7 / 2 - (1 / 2) * sqrt(69)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A152108] • 1,7,54,448,3896,34832,316224,2894528,26609536,245174272,2261620224,20875015168,192738922496,1779844247552,16437306875904,151809149370368,1402086588645376,12949609668739072,119602725461950464,1104655331042787328,10202654714273202176 ★ a(n) = ((7+sqrt(5))^n + (7-sqrt(5))^n)/2. • a(n) = 14 * a(n - 1) - 44 * a(n - 2), n > 1; a(0)=1, a(1)=7. •

[A291703] • 7,54,490,4050,32674,261954,2096770,16776450,134216194,1073738754,8589928450,68719464450,549755789314,4398046461954,35184371990530,281474976514050,2251799813292034,18014398508695554,144115188074283010,1152921504603701250 ★ Number of connected dominating sets in the complete tripartite graph K_{n,n,n}. • a(n) = 2 - 3 * 2 ^ n + 8 ^ n for n > 1. • a(n) = 11 * a(n - 1) - 26 * a(n - 2) + 16 * a(n - 3) for n > 4. •

[A228415] • 1,7,54,534,4909,45405,385008,3539880,32260781,294001190,2564080248,23271246324 ★ Count of the first 10^n primes which do not contain the digit 3. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[A014637] • 1,7,55,81,189,235,403,469,697,783,1071,1177,1525,1651,2059,2205,2673,2839,3367,3553,4141,4347,4995,5221,5929 ★ Odd heptagonal numbers (A000566). • a(n) = (1 / 8) * (1 + (- 1) ^ n + 4 * n) * (- 1 + 5 * (- 1) ^ n + 20 * n) • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) • a(n) = 80 + 2 * a(n - 2) - a(n - 4) •

[A198689] • 7,55,391,2743,19207,134455,941191,6588343,46118407,322828855,2259801991,15818613943,110730297607,775112083255,5425784582791,37980492079543,265863444556807,1861044111897655,13027308783283591,91191161482985143 ★ 8*7^n-1. • a(n) = 7 * a(n - 1) + 6. a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>1. •

[A015564] • 0,1,7,55,427,3319,25795,200479,1558123,12109735,94116883,731476591,5685037435,44184121591,343399075747,2668898259775,20742682272907,161212165468999,1252941251920435,9737861756257039,75682679805321883 ★ Expansion of x/(1-7*x-6*x^2). • a(n) = 7 * a(n - 1) + 6 * a(n - 2). • a(n) = (1 / 73) * [7 / 2 + (1 / 2) * sqrt(73)] ^ n * sqrt(73) - (1 / 73) * sqrt(73) * [7 / 2 - (1 / 2) * sqrt(73)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A070997] • 1,7,55,433,3409,26839,211303,1663585,13097377,103115431,811826071,6391493137,50320119025,396169459063,3119035553479,24556114968769,193329884196673,1522082958604615,11983333784640247,94344587318517361 ★ a(n) = 8*a(n-1) - a(n-2), a(0)=1, a(-1)=1. • a(n) = (5 + sqrt(15)) / 10 * (4 + sqrt(15)) ^ n + (5 - sqrt(15)) / 10 * (4 - sqrt(15)) ^ n. • a(n)a(n + 3) = 48 + a(n + 1)a(n + 2). - _ Ralf Stephan _ , May 29 2004 • a(n) = (- 1) ^ n * U(2n, i * sqrt(6) / 2), U(n, x) Chebyshev polynomial of second kind, i=sqrt(- 1). - _ Paul Barry _ , Mar 13 2005 • a(n) = a(- 1 - n). • a(n) = Jacobi _ P(n, - 1 / 2,1 / 2,4) / Jacobi _ P(n, - 1 / 2,1 / 2,1). - _ Paul Barry _ , Feb 03 2006 •

[A083068] • 1,7,55,439,3511,28087,224695,1797559,14380471,115043767,920350135,7362801079,58902408631,471219269047,3769754152375,30158033218999,241264265751991,1930114126015927,15440913008127415,123527304065019319 ★ 7th row of number array A083064. • a(n) = (6 * 8 ^ n + 1) / 7. • a(n) = 8 * a(n - 1) - 1 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = 8 ^ n - sum(8 ^ i, i=0..n - 1) for n>0. - _ Bruno Berselli _ , Jun 20 2013 •

[A097189] • 1,7,55,451,3781,32131,275563,2378971,20640907,179791327,1571002291,13762897435,120832716655,1062818450155,9363143224315,82600459304203,729572125425661,6450872644562491,57092964352312951,505729048454449651 ★ Row sums of triangle A097186, in which the n-th row polynomial R_n(y) is formed from the initial (n+1) terms of g.f. A057083(y)^(n+1), where R_n(1/3) = 3^n for all n>=0. • a(n)=sum(m=1..n - 1, sum(k=1..n - m, binomial(k,n - m - k) * (- 3) ^ (k) * binomial(k + n - 1,n - 1))) + 1; [From Vladimir Kruchinin, May 31 2011] •

[A224274] • 1,7,55,455,3876,33649,296010,2629575,23535820,211915132,1917334783,17417133617,158753389900,1451182990950,13298522298180,122131734269895,1123787895356412,10358022441395860,95615237915961100,883829035553043580,8179808679272664720,75788358475481302185 ★ a(n) = binomial(4*n,n)/4. • a(n) = binomial(4 * n,n) / 4. • a(n) = binomial(4 * n - 1,n - 1). • a(n) = 1 / 2 * [x ^ n] (C(x) ^ 2) ^ n, where C(x) = (1 - sqrt(1 - 4 * x)) / (2 * x) is the o.g.f. for the Catalan numbers A000108. Cf. A163456. • a(n) = 1 / 5 * [x ^ n] (1 + x) / (1 - x) ^ (3 * n + 1) = 1 / 5 * [x ^ n](1 / C(- x)) ^ (5 * n), where C(x) = (1 - sqrt(1 - 4 * x)) / (2 * x) is the o.g.f. for the Catalan numbers A000108. Cf. A227726. - _ Peter Bala _ , Jul 12 2016 •

[A096951] • 1,7,55,463,4039,35839,320503,2876335,25854247,232557151,2092490071,18830313487,169464432775,1525146340543,13726182847159,123535108753519,1111813831298023,10006315891747615,90056808665990167 ★ Sum of odd powers of 2 and of 3 divided by 5. • a(n)=(2 ^ (2 * n + 1) + 3 ^ (2 * n + 1)) / 5. • a(n + 1) = 4 * a(n) + 3 ^ (2 * n + 1), a(0) = 1. - _ Reinhard Zumkeller _ , Mar 07 2008 •

[A152262] • 1,7,55,469,4201,38647,360415,3383989,31878001,300780487,2840172775,26828857909,253476581401,2395031249527,22630944493135,213846879174229,2020725695234401,19094743928789767,180435210107977495 ★ a(n) = 14*a(n-1) - 43*a(n-2), n > 1; a(0)=1, a(1)=7. • a(n) = ((7 + sqrt(6)) ^ n + (7 - sqrt(6)) ^ n) / 2. •

[A078018] • 1,1,7,55,469,4237,39907,387739,3858505,39130777,402972031,4202705311,44299426717,471189693925,5051001609115,54513542257795,591858123926545,6459813793353265,70837427884259575,780073647992404615 ★ a(0)=1, for n>=1 a(n)=sum(k=0,n,6^k*N(n,k)) where N(n,k) =1/n*C(n,k)*C(n,k+1) are the Narayana numbers (A001263). • a(n) = (7 * (2 * n - 1) * a(n - 1) - 25 * (n - 2) * a(n - 2)) / (n + 1) for n>=2, a(0) = a(1) = 1. - _ Philippe Deléham _ , Aug 19 2005 • a(n) = upper left term in M ^ n, M = the production matrix: •

[A108628] • 1,7,55,471,4251,39733,380731,3716695,36808723,368750757,3728940249,38003358693,389866749975,4022124746409,41697566691555,434124925278807,4536783726146499,47569453938399445,500266519237489357 ★ n-th term of the crystal ball sequence for A_{n+1} lattice for n>=0. • a(n) = Sum _{ k = 0..n + 1 } C(n + 1, k) ^ 2 * C(n + k, k - 1). •

[A096307] • 1,7,55,481,4645,49171,566827,7073725,95064361,1369375615,21054430591,344231563897,5964569413645,109196040092491,2106381399472435,427052648276261,9079201052156912 17,2019887818271887815 ★ E.g.f.: exp(x)/(1-x)^6. • a(n) = Sum _{ k = 0..n } binomial(n, k) * (k + 5)! / 5!. • a(n) = 2F0(6, - n;; - 1). - _ Benedict W. J. Irwin _ , May 27 2016 •

[A199564] • 7,55,487,4375,39367,354295,3188647,28697815,258280327,2324522935,20920706407,188286357655,1694577218887,15251194969975,137260754729767,1235346792567895,11118121133111047,100063090197999415,900567811781994727 ★ 6*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A097254] • 0,7,56,63,448,455,504,511,3584,3591,3640,3647,4032,4039,4088,4095,28672,28679,28728,28735,29120,29127,29176,29183,32256 ★ Numbers whose set of base 8 digits is {0,7}. • a(2n - 1) = 8 * a(n), a(2n) = 8 * a(n) + 7. •

[A153797] • 0,7,56,147,280,455,672,931,1232,1575,1960,2387,2856,3367,3920,4515,5152,5831,6552,7315,8120,8967,9856,10787,11760 ★ 7 times octagonal numbers: a(n) = 7*n*(3*n-2). • a(n) = a(n - 1) + 42 * n - 35 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 27 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A244727] • 0,7,56,189,448,875,1512,2401,3584,5103,7000,9317,12096,15379,19208,23625,28672,34391,40824,48013,56000,64827,74536,85169,96768 ★ a(n) = 7*n^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[A082140] • 1,7,56,336,1680,7392,29568,109824,384384,1281280,4100096,12673024,38019072,111132672,317521920,889061376,2444918784,6615662592,17641766912,46425702400,120706826240,310388981760,790081044480 ★ A transform of binomial(n,6). • a(n) = (2 ^ (n - 1) + 0 ^ n / 2) * C(n + 6,n). • a(n) = Sum _{ j=0..n } C(n + 6, j + 6) * C(j + 6, 6) * (1 + (- 1) ^ j) / 2. • a(n) = ceiling(binomial(n + 6,6) * 2 ^ (n - 1)). - _ Zerinvary Lajos _ , Nov 01 2006 •

[A104896] • 0,7,56,399,2800,19607,137256,960799,6725600,47079207,329554456,2306881199,16148168400,113037178807,791260251656,5538821761599,38771752331200,271402266318407,1899815864228856,13298711049601999,93090977347214000,651636841430498007 ★ a(0) = 0; a(n) = 7*a(n-1) + 7. • a(n) = (7 ^ (n + 1) - 7) / 6. - _ Max Alekseyev _ , Jan 23 2006 • a(n) = 7 ^ n + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 8 * a(n - 1) - 7 * a(n - 2). G.f.: 7 * x / ((x - 1) * (7 * x - 1)). - _ Colin Barker _ , Jul 25 2014 •

[A122996] • 1,7,56,399,3143,22694,176701,1288707,9947056,73093699,560499443,4142090694,31606563401,234569007407,1783290614056,13277171976999,100658412065743,751239838938694,5683502030160101,42494254138156107 ★ Expansion of (1+6*x)/(1-x-49*x^2). • a(n) = a(n - 1) + 49 * a(n - 2). [_ Philippe Deléham _ , Mar 26 2009] • a(n) = (1 / 2 + 13 * sqrt(197) / 394) * (1 / 2 + sqrt(197) / 2) ^ n + (1 / 2 - 13 * sqrt(197) / 394) * (1 / 2 - sqrt(197) / 2) ^ n. [_ Antonio Alberto Olivares _ , Jun 06 2011] •

[A092318] • 0,7,56,418,3091,22845,168803,1247297,9216353,68100150,503195828,3718142207,27473561357,203003686105,1500005624923,11083625711270,81897532160125,605145459495140,4471453748222756,33039822589391675 ★ a(n) = smallest m such that value of odd harmonic series Sum_{j=0..m} 1/(2j+1) is >= n. • a(n) = floor(exp(2n - gamma) / 4 + 1 / 8), for all n > 1. - _ M. F. Hasler _ and _ Robert G. Wilson v _ , Jan 22 2017 •

[A092315] • 1,7,56,418,3091,22845,168803,1247297,9216353,68100150,503195828,3718142207,27473561357,203003686105,1500005624923,11083625711270,81897532160125,605145459495140,4471453748222756,33039822589391675,244133102611731230,1803913190804074903 ★ a(n) = smallest m such that the partial

sum of the odd harmonic series Sum_{j=0..m} 1/(2j+1) is > n. • a(n) = floor(exp(2 * n - gamma) / 4 + 1 / 8) for all n >= 1 (conjectured; see also comments in A002387). - _ M. F. Hasler _ , Jan 22 2017 •

[A057090] • 1,7,56,441,3479,27440,216433,1707111,13464808,106203433,837677687,6607167840,52113918689,411047605703,3242130670744,25572247935129,201700650241111,1590910287233680,12548276562323537,98974307946900519,780658091564568392 ⋆ Scaled Chebyshev U-polynomials evaluated at i*sqrt(7)/2. Generalized Fibonacci sequence. • a(n) = 7 * (a(n - 1) + a(n - 2)), a(0)=1, a(1)=7. • a(n) = S(n, i * sqrt(7)) * (- i * sqrt(7)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = - (1 / 77) * [(7 / 2) - (1 / 2) * sqrt(77)] ^ (n + 1) * sqrt(77) + (1 / 77) * [(7 / 2) + (1 / 2) * sqrt(77)] ^ (n + 1) * sqrt(77), with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •

[A055274] • 1,7,56,448,3584,28672,229376,1835008,14680064,117440512,939524096,7516192768,60129542144,481036337152,3848290697216,30786325577728,246290604621824,1970324836974592,15762598695796736,126100789566373888,1008806316530991104 ⋆ First differences of 8^n (A001018). • a(n) = 7 * 8 ^ (n - 1); a(0)=1. • a(n) = 8 * a(n - 1) + ((- 1) ^ n) * C(1, 1 - n). • a(n) = 7 * sum(k=0..n - 1, a(k)) for n>=1. - _ Adi Dani _ , Jun 24 2011 •

[A155197] • 1,7,56,455,3696,30023,243880,1981063,16092384,130720135,1061853464,8625547847,70066236240,569155437767,4623309738376,37555633344775,305068376496576,2478102645317383,20129889539035640,163517218957602603 ⋆ a(n) = 8*a(n-1) + a(n-2) for n>2, with a(0)=1, a(1)=7, a(2)=56. • a(n) = (14 / 17) * sqrt(17) * ((4 + sqrt(17)) ^ (n - 1) - (4 - sqrt(17)) ^ (n - 1)) + (7 / 2) * ((4 + sqrt(17)) ^ (n - 1) + (4 - sqrt(17)) ^ (n - 1)) for n>0, a(0)=1. - _ Paolo P. Lava _ , Jan 26 2009 •

[A147839] • 1,7,56,455,3703,30142,245357,1997219,16257472,132336715,1077228131,8768696174,71377668649,581018144623,4729519621064,38498549577215,313380308847487,2550932932586878,20764734231349493,169026077554037291 ⋆ a(n)=9*a(n-1)-7*a(n-2), a(0)=1, a(1)=7 . • a(n)= - (5 / 106) * sqrt(53) * [(9 / 2) - (1 / 2) * sqrt(53)] ^ n + (5 / 106) * [(9 / 2) + (1 / 2) * sqrt(53)] ^ n * sqrt(53) + (1 / 2) * [(9 / 2) + (1 / 2) * sqrt(53)] ^ n + (1 / 2) * [(9 / 2) - (1 / 2) * sqrt(53)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] • a(n)= ((53 + 5 * sqrt(53)) / 106) * (4.5 + 0.5 * sqrt(53)) ^ n + ((53 - 5 * sqrt(53)) / 106) * (4.5 - 0.5 * sqrt(53)) ^ n [From _ Richard Choulet _ , Nov 20 2008] •

[A024091] • 1,7,56,485,4032,32643,261928,2096809,16776704,134216999,1073740824,8589933261,68719475008,549755811691,4398046508360,35184372085457,281474976706560,2251799813680335,18014398509476152 ⋆ 8^n-n^3. • a(0)=1, a(1)=7, a(2)=56, a(3)=485, a(4)=4032, a(n)=12 * a(n - 1) - 38 * a(n - 2) + 52 * a(n - 3) - 33 * a(n - 4) + 8 * a(n - 5). - _ Harvey P. Dale _ , Aug 22 2012 •

[A145302] • 1,7,56,490,4508,42532,406112,3899224,37532432,361686640,3487250816,33630672544,324364881344,3128620091968,30177356271104,291080943932800,2807684251672832,27082179878242048,261227779725129728 ⋆ a(n) = ((7 + sqrt(7))^n + (7 - sqrt(7))^n)/2. • a(n) = 14 * a(n - 1) - 42 * a(n - 2). •

[A165322] • 1,7,56,497,4711,46312,463841,4688327,47596696,484222417,4931098151,50239573832,511969798081,5217807853447,53180597695736,542036380617137,5524696422165991,56310663682250152,573949830547618721 ⋆ a(0)=1, a(1)=7, a(n)=15*a(n-1)-49*a(n-2) for n>1. • a(n) = ((29 - sqrt(29)) * (15 + sqrt(29)) ^ n + (29 + sqrt(29)) * (15 - sqrt(29)) ^ n) / (58 * 2 ^ n). [From _ Klaus Brockhaus _ , Sep 26 2009] •

[A082305] • 1,7,56,497,4760,48174,507696,5516133,61363736,695540258,8004487568,93283238986,1098653880688,13056472392796,156371970692448,1885491757551213,22870028390806296,278862330338622618 ⋆ G.f.: (1-6*x-sqrt(36*x^2-16*x+1))/(2*x). • a(0)=1, n>0 a(n)=(1 / n) * sum(k=0, n, 7 ^ k * C(n, k) * C(n, k - 1)). •

[A015565] • 0,1,7,57,455,3641,29127,233017,1864135,14913081,119304647,954437177,7635497415,61083979321,488671834567,3909374676537,31274997412295,250199979298361,2001599834386887,16012798675095097,128102389400760775 ⋆ a(n) = 7*a(n-1) + 8*a(n-2), a(0) = 0, a(1) = 1. • a(n) = (8 ^ n - (- 1) ^ n) / 9. • a(n) = 8 ^ (n - 1) - a(n - 1). • a(n) = round(8 ^ n / 9). - _ Mircea Merca _ , Dec 28 2010 •

[A268316] • 1,1,7,57,484,4199,36938,328185,2937932,26457508,239414383,2175127695,19827974412,181266501290,1661241473220,15257624681145,140400178555644,1294141164447692,11946771748196428,110435320379615620,1022108852175416720,9470416604629933935 ⋆ a(n) is the number of Dyck paths of length 4n and height n. • a(n) = T(2n,n), where T(n,k) is defined by A080936. • a(n) = binomial(4 * n,n) * 2 * (2 * n + 3) * (2 * n ^ 2 + 1) / ((3 * n + 1) * (3 * n + 2) * (3 * n + 3)). •

[A291537] • 7,57,493,4053,32677,261957,2096773,16776453,134216197,1073738757,8589928453,68719464453,549755789317,4398046461957,35184371990533,281474976514053,2251799813292037,18014398508695557,144115188074283013,1152921504603701253,9223372036848484357 ⋆ a(n) = 8^n - 3*2^n + 5. • a(n) = 8 ^ n - 3 * 2 ^ n + 5. • a(n) = 11 * a(n - 1) - 26 * a(n - 2) + 16 * a(n - 3). •

[A082413] • 1,7,57,495,4401,39447,354537,3189375,28700001,258286887,2324542617,20920765455,188286534801,1694577750327,15251196564297,137260759512735,1235346806916801,11118121176157767,100063090327139577,900567812169415215 ⋆ (2*9^n+3^n)/3. • a(n)=(2 * 9 ^ n + 3 ^ n) / 3. •

[A142990] • 1,7,57,504,4896,51912,598392,7459200,100085760,1439061120,22083719040,360371773440,6232667212800,113901166310400,2193425619840000,44398776748032000,942498015750144000,20938290999865344000 ⋆ a(1) = 1, a(2) = 7, a(n+2) = 7*a(n+1)+(n+1)*(n+3)*a(n). • a(n) = (n + 2)! * p(n + 2) * sum { k = 1..n } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2) * p(k + 1) * p(k + 2)), where p(n) = (n ^ 2 - n + 1) / 3. Recurrence: a(1) = 1, a(2) = 7, a(n + 2) = 7 * a(n + 1) + (n + 1) * (n + 3) * a(n). The sequence b(n) := 1 / 2 * (n + 2)! * p(n + 2) satisfies the same recurrence with b(1) = 7, b(2) = 52. Hence we obtain the finite continued fraction expansion a(n) / b(n) = 1 / (7 + 1 * 3 / (7 + 2 * 4 / (7 + 3 * 5 / (7 + ... + (n - 1) * (n + 1) / 7)))), for n >= 2. Lim n - > infinity a(n) / b(n) = 1 / (7 + 1 * 3 / (7 + 2 * 4 / (7 + 3 * 5 / (7 + ... + (n - 1) * (n + 1) / (7 + ...))))) = 2 * sum { k = 1..inf } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2) * p(k + 1) * p(k + 2)) = 24 * log(2) - 33 / 2. •

[A147689] • 1,7,57,511,4817,46487,453321,4440527,43581217,428075431,4206226137,41336073247,406249753841,3992717550647,39241805801577,385683861645551,3790660025173057,37256202024955207,366169767317277561 ⋆ a(n) = ((7 + sqrt(8))^n + (7 - sqrt(8))^n)/2. • a(n) = 14 * a(n - 1) - 41 * a(n - 2), a(0)=1, a(1)=7. •

[A248168] • 1,7,57,511,4849,47607,477609,4862319,50026977,518839783,5414767897,56795795679,598213529809,6322787125207,67026654455433,712352213507151,7587639773475777,80977812878889927,865716569022673401,9269461606674304959,99387936492243451569,1066975862517563301303 ⋆ G.f.: 1/sqrt((1-3*x)*(1-11*x)). • a(n) equals the central coefficient in (1 + 7 * x + 4 * x ^ 2) ^ n, n>=0. • a(n) = Sum _{ k=0..n } 3 ^ (n - k) * 2 ^ k * C(n,k) * C(2 * k,k). •

[A062192] • 1,7,57,529,5509,63591,805597,11109337,165625929,2654025319,45481765921,829903882017,16062421776397,328634683136839,7086337847838789,160604998959958441,3816483607166825617 ⋆ Row sums of unsigned triangle A062138 (generalized a=5 Laguerre). • a(n) = Sum _{ m=0..n } n! * binomial(n + 5, n - m) / m!. • a(n) = (2 * n + 5) * a(n - 1) - (n - 1) * (n + 4) * a(n - 2). - _ Vaclav Kotesovec _ , Oct 11 2012 •

[A015566] • 0,1,7,58,469,3805,30856,250237,2029363,16457674,133467985,1082394961,8777976592,71187390793,577313524879,4681881191290,37968990062941,307919861162197,2497159938701848,20251398321372709,164234227697925595 ⋆ Expansion of x/(1-7*x-9*x^2). • a(n) = 7 * a(n - 1) + 9 * a(n - 2). • a(n) = - (1 / 85) * [7 / 2 - (1 / 2) * sqrt(85)] ^ n * sqrt(85) + (1 / 85) * sqrt(85) * [7 / 2 + (1 / 2) * sqrt(85)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A194724] • 1,1,7,58,523,4966,48838,492724,5068915,52955950,560198962,5987822380,64563867454,701383563388,7668869344108,84326618668648,931894610845123,10344218506421758,115280448164645818,1289346114476360188,14467472108268263818,162816535672067515828 ⋆ Number of quaternary words either empty or beginning with the first character of the alphabet, that can be built by inserting n doublets into the initially empty word. • a(0) = 1, a(n) = 1 / n * Sum _{ j=0..n - 1 } C(2 * n,j) * (n - j) * 3 ^ j for n>0. •

[A081343] • 1,7,58,532,5128,50512,502048,5008192,50032768,500131072,5000524288,50002097152,500008388608,5000033554432,50000134217728,500000536870912,5000002147483648,50000008589934592,500000034359738368 ⋆ (10^n+4^n)/2. • a(n) = 14 * a(n - 1) - 40 * a(n - 2), a(0)=1, a(1)=7. • a(n) = ((7 + sqrt9) ^ n + (7 - sqrt9) ^ n) / 2. [Al Hakanson (hawkuu(AT)gmail.com), Dec 08 2008] •

[A015568] • 0,1,7,59,483,3971,32627,268099,2202963,18101731,148741747,1222209539,10042884243,82522285091,678084838067,5571816717379,45783565402323,376203124990051,3091257528953587,25400833952575619,208718412957565203,1715037230228712611,14092444741176640307 ⋆ Expansion of x/(1 - 7*x - 10*x^2). • a(n) = 7 * a(n - 1) + 10 * a(n - 2). • a(n) = - (1 / 89) * (7 / 2 - (1 / 2) * sqrt(89)) ^ n * sqrt(89) + (1 / 89) * sqrt(89) * (7 / 2 + (1 / 2) * sqrt(89)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A077409] • 7,59,583,5771,57127,565499,5597863,55413131,548533447,5429921339,53750679943,532076878091,5267018100967,52138104131579,516114023214823,5109002128016651,50573907256951687,500630070441500219,4955726797158050503,49056637901139004811 ⋆ Bisection (even part) of Chebyshev sequence with Diophantine property. • a(n) = 10 * a(n - 1) - a(n - 2), a(- 1) =11, a(0)=7. •

[A015570] • 0,1,7,60,497,4139,34440,286609,2385103,19848420,165175073,1374558131,11438832720,95191968481,792170939287,6592308228300,54860037930257,456535656023099,3799210009394520,31616362282015729,263105846077449823,2189520907644321780,18220810660362200513 ⋆ Expansion of x/(1 - 7*x - 11*x^2). • a(n) = 7 * a(n - 1) + 11 * a(n - 2). • a(n) = (1 / 93) * (7 / 2 + (1 / 2) * sqrt(93)) ^ n * sqrt(93) - (1 / 93) * (7 / 2 - (1 / 2) * sqrt(93)) ^ n * sqrt(93), with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A290756] • 7,60,499,4062,32689,261972,2096791,16776474,134216221,1073738784,8589928483,68719464486,549755789353,4398046461996,35184371990575,281474976514098,2251799813292085,18014398508695608,144115188074283067,1152921504603701310 ⋆ Number of (non-null) connected induced subgraphs of the complete tripartite graph K_{n,n,n}. • a(n) = 8 ^ n - 3 * 2 ^ n + 3 * n + 2. - _ Andrew Howroyd _ , Aug 10 2017 • a(n) = 12 * a(n - 1) - 37 * a(n - 2) + 42 * a(n - 3) - 16 * a(n - 4). •

[A024090] • 1,7,60,503,4080,32743,262108,2097103,16777152,134217647,1073741724,8589934471,68719476592,549755813719,4398046510908,35184372088607,281474976710400,2251799813684959,18014398509481660 ⋆ 8^n-n^2. • a(n) = 11 * a(n - 1) - 27 * a(n - 2) + 25 * a(n - 3) - 8 * a(n - 4) for n>3. - _ Vincenzo Librandi _ , Oct 06 2014 •

[A135165] • 0,7,61,433,2929,19657,132481,899353,6148609,42286537,292180801,2025975673,14084892289,98108111017,684321789121,4778064706393,33385475347969,233393324169097,1632227907493441,11417967508915513,79887630241419649,559022690779036777,3912205202988749761 ⋆ a(n) = 7^n + 5^n - 3^n - 2^n. • a(n) = 7 ^ n + 5 ^ n - 3 ^ n - 2 ^ n. • a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4) for n>3. (End) •

[A155599] • 1,7,61,505,4081,32737,262081,2097025,16776961,134217217,1073741801,8589932545,68719472641,549755805697,4398046494721,35184372056065,281474976645121,2251799813554177,18014398509219841,144115188075331585 ⋆ 8^n-2^n+1^n • a(n)=10 * a(n - 1) - 16 * a(n - 2) + 7 with a(0)=1, a(1)=7 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A015572] • 0,1,7,61,511,4309,36295,305773,2575951,21700933,182817943,1540136797,12974772895,109305051829,920832637543,7757489084749,65352415243759,550556775723301,4638126412988215,39073566199597117,329172480350338399,2773090156866434197,23361700862301500167 ⋆ Expansion of x/(1 - 7*x - 12*x^2). • a(n) = 7 * a(n - 1) + 12 * a(n - 2). • a(n) = (1 / 97) * sqrt(97) * (7 / 2 + (1 / 2) * sqrt(97)) ^ n - (1 / 97) * sqrt(97) * (7 / 2 - (1 / 2) * sqrt(97)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A066443] • 1,7,61,547,4921,44287,398581,3587227,32285041,290565367,2615088301,23535794707,211822152361,1906399371247,17157594341221,154418349070987,1389765141638881,12507886274749927,112570976472749341 ⋆ Number of distinct paths of length 2n+1 along edges of a unit cube between two fixed adjacent vertices. • a(n) = (3 ^ (2 * n + 1) + 1) / 4. - _ Vladeta Jovovic _ , Dec 22 2002 • a(n) = 9 * a(n - 1) - 2. - _ Matthew Vandermast _ , Mar 30 2003 • a(n) = (- 1) ^ n times the (i, i) - th element of M ^ n (for any i), where M = ((1, 1, 1, - 2), (1, 1, - 2, 1), (1, - 2, 1, 1), (- 2, 1, 1, 1)). - _ Simone Severini _ , Nov 25 2004 • a(n) = sum(k=0..n, binomial(2 * n + 1, 2 * k) * 4 ^ (n - k)). - _ Paul Barry _ , Jan 22 2005 • a(n) = Sum _{ k=0..2n } (- 3) ^ k == 1 + Sum _{ k=1..n } 2 * 3 ^ (2k - 1). - _ Bob Selcoe _ , Aug 21 2016 • a(n) = 3 ^ (2 * n + 1) * a(- 1 - n) for all n in Z. - _ Michael Somos _ , Jul 02 2017 •

[A108448] • 1,7,61,575,5641,56695,579125,5984767,62390545,654862247,6911195501,73265596607,779594526361,8321683861015,89070157349221,955598531432447,10273391096237089,110647714508386375,1193641560393864605 ⋆ Number of peaks of the form ud in all paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1), U=(1,2), or d=(1,-1). • a(n) = sum(k=1..n, (k * C(n - 1,k - 1) * C(2 * n + k - 1,n)) / (n + k)). - _ Vladimir Kruchinin _ , Mar 03 2014 •

[A218473] • 1,1,7,61,591,6101,65719,729933,8297247,96044101,1128138567,13411861629,161066465583,1950996039669,23808159962839,292413627476141,3611870017079871,44838216520062117,559127724970143079,7000374603097246173,87964883375131331151 ⋆ Number of 3n-length 3-ary words, either empty or beginning with the first letter of the alphabet, that can be built by repeatedly inserting triples of identical letters into the initially empty word. • a(n) = 1 / n * Sum _{ j=0..n - 1 } C(3 * n,j) * (n - j) * 2 ^ j for n>0, a(0) = 1. •

[A098659] • 1,7,61,595,6145,65527,712909,7863667,87615745,983726695,11112210781,126142119187,1437751935361,16443380994775,188609259215725,2168833084841395,24994269200292865,288596644195946695,3337978523215692925,38666734085509918675 ⋆ Expansion of 1/sqrt((1-7*x)^2-24*x^2). • a(n) = Sum _{ k=0..n } C(n, k) ^ 2 * 6 ^ k. • a(n) = [x ^ n] (1 + 7 * x + 6 * x ^ 2) ^ n. •

[A199686] • 7,61,601,6001,60001,600001,6000001,60000001,600000001,6000000001,60000000001,600000000001,6000000000001,60000000000001,600000000000001,6000000000000001,60000000000000001,600000000000000001 ⋆ 6*10^n+1. • a(n) = 10 * a(n - 1) - 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A077642] • 1,7,61,607,6077,60787,607951,6079284,60792732,607927092,6079270913,60792710227,607927101577,6079271018873,60792710185938,607927101853650 ⋆ Number of squarefree integers in the closed interval [10^n, -1 + 2*10^n], i.e., among 10^n consecutive integers beginning with 10^n. • a(n) = Sum _{ j=0.. - 1 + 10 ^ n } abs(mu(10 ^ n + j)). •

[A024089] • 1,7,62,509,4092,32763,262138,2097145,16777208,134217719,1073741814,8589934581,68719476724,549755813875,4398046511090,35184372088817,281474976710640,2251799813685231,18014398509481966 ⋆ 8^n-n. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) + 8 * a(n - 3). - _ Vincenzo Librandi _ , Jun 17 2013 •

[A060005] • 1,1,7,62,657,7636,93846,1199892,15796439,212681976,2915017360,40536016030,570497115729,8110661588734,116307527411482,1680341334827514,24435006625667338,357366669614512168,5253165510907071170 ⋆ Number of ways of partitioning the integers {1,2,..,4n} into two (unordered) sets such that the sums of parts are equal in both sets (parts in either set will add up to (4n)*(4n+1)/4). Number of solutions to {1 +- 2 +- 3 +- ... +- 4n=0}. • a(0)=1 and a(n) is half the coefficient of q ^ 0 in product((q ^ (- k) + q ^ k), k=1..4 * n) for n >= 1. •

[A161201] • 1,7,63,231,3003,9009,51051,138567,2909907,7436429,37182145,91265265,882230895,2103781365,9917826435,23141595015,856239015555,1964313035685,8948537162565,20251952525805,182267572732245 ⋆ Numerators in expansion of (1-x)^(-7/2) • a(n) = numer(((15 + 46 * n + 36 * n ^ 2 + 8 * n ^ 3) / 15) * binomial(2 * n,n) / (4 ^ n)) •

[A007291] • 7,63,254,710,1605,3157,5628,9324,14595,21835,31482,44018,59969,79905,104440,134232,169983,212439,262390,320670,388157,465773,554484,655300,769275 ⋆ Series expansion for rectilinear polymers on square lattice. • a(n)=n(n - 1)(11n ^ 2 - 13n + 3) / 6 - _ T. D. Noe _ , Feb 09 2007 • a(2)=7, a(3)=63, a(4)=254, a(5)=710, a(6)=1605, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 17 2012 •

[A123009] • 1,7,63,469,4025,31031,259287,2039093,16783249,133482055,1089343311,8719307317,70816436873,568878932279,4607763271335,37090594224341,299961588744097,2417362294480903,19532842437422559,157516437304409365 ⋆ Expansion of -x * (5*x+1) / (49*x^2+2*x-1). • a(n) = 2 * a(n - 1) + 49 * a(n - 2) for n>2. G.f.: - x * (5 * x + 1) / (49 * x ^ 2 + 2 * x - 1). [_ Colin Barker _ , Oct 19 2012] •

[A024088] • 0,7,63,511,4095,32767,262143,2097151,16777215,134217727,1073741823,8589934591,68719476735,549755813887,4398046511103,35184372088831,281474976710655,2251799813685247,18014398509481983 ⋆ a(n) = 8^n-1. • a(n) = 8 * a(n - 1) + 7 for n>0, a(0)=0. [_ Vincenzo Librandi _ , Aug 03 2010] • a(n) = Sum _{ i=1..n } 7 ^ i * binomial(n,n - i) for n>0, a(0)=0. [_ Bruno Berselli _ , Nov 11 2015] •

[A291034] • 7,63,560,4977,44233,393120,3493847,31051503,275969680,2452675617,21798110873,193730322240,1721774789287,15302242781343,135998410242800,1208683449403857,10742152634391913,95470690260123360,848494059706718327,7540975847100341583 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 7*S. • a(n) = 9 * a(n - 1) - a(n - 2). •

[A155132] • 1,7,63,560,4984,44352,394688,3512320,31256064,278147072,2475225088,22026977280,196017618944,1744356769792,15522995109888,138138815037440,1229294481178624,10939466369728512,97350086807257088 ⋆ a(n)=8*a(n-1)+8*a(n-2), n>2 ; a(0)=1, a(1)=7, a(2)=63 . • a(n)=(35 / 24) * sqrt(6) *{ [4 + 2 * sqrt(6)] ^ (n - 1) - [4 - 2 * sqrt(6)] ^ (n - 1) }+ (7 / 2) * [4 + 2 * sqrt(6)] ^ (n - 1) + [4 - 2 * sqrt(6)] ^ (n - 1) }+ (1 / 8) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A270472] • 1,7,63,567,5103,45927,413343,3720087,33480783,301327047,2711943423,24407490807,219667417263,1977006755367,17793060798303,160137547184727,1441237924662543,12971141321962887,116740271897665983,1050664247078993847,9455962023710944623 ⋆ Expansion of (1-2*x)/(1-9*x). • a(n) = 9 * a(n - 1) for n>1. • a(n) = 7 * 9 ^ (n - 1) for n>0. •

[A098307] • 0,1,7,64,567,5041,44800,398161,3538647,31449664,279508327,2484125281,22077619200,196214447521,1743852408487,15498457228864,137742262651287,1224181906632721,10879894897043200,96694872166756081 ⋆ Unsigned member r=-7 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 9 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 8 * a(n - 1) + 8 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=7. •

[A055995] • 1,7,64,576,5184,46656,419904,3779136,34012224,306110016,2754990144,24794911296,223154201664,2008387814976,18075490334784,162679413013056,1464114717117504,13177032454057536,118593292086517824 ⋆ a(n) = 64*9^(n-2), a(0)=1, a(1)=7. • a(n) = 9a(n - 1) + ((- 1) ^ n) * C(2, 2 - n). •

[A139783] • 1,7,67,127,613,925,1495,1765,2209,2815,3403,5965,6661,8827,9115,15229,16387,18145,19153,21925,23563,24637,27031,27199,28987 ⋆ Quadruple lucky numbers (lower terms). Numbers n such that n, n+2, n+6, n+8 are all Lucky numbers. • a(n) = { k such that k is in A000959 and k + 2 is in A000959 and k + 6 is in A000959 and k + 8 is in A000959 } = { k such that k is in A031158 and k + 6 is in A031158 } . •

[A253175] • 1,7,67,661,6541,64747,640927,6344521,62804281,621698287,6154178587,60920087581,603046697221,5969546884627,59092422149047,584954674605841,5790454323909361,57319588564487767,567405431320968307,5616734724645195301,55599941815130984701 ⋆ Indices of hexagonal numbers (A000384) which are also centered hexagonal numbers (A003215). • a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3). • a(n) = (2 + (5 - 2 * sqrt(6)) ^ n * (3 + sqrt(6)) - (- 3 + sqrt(6)) * (5 + 2 * sqrt(6)) ^ n) / 8. - _ Colin Barker _ , Mar 05 2016 •

[A067275] • 0,1,7,67,667,6667,66667,666667,6666667,66666667,666666667,6666666667,66666666667,666666666667,6666666666667,66666666666667,666666666666667,6666666666666667,66666666666666667 ⋆ Number of Fibonacci numbers A000045(k), k <= 10^n, which end in 4. • a(n) = ceiling((2 / 30) * 10 ^ n) - _ Benoit Cloitre _ , Aug 27 2002 • a(n) = 10 ^ n / 15 + 1 / 3 for n>0. (End) • a(n) = 10 * a(n - 1) - 3 for n>1. - _ Vincenzo Librandi _ , Dec 07 2010 [Immediate consequence of the previous formula, _ R. J. Mathar _] •

[A199756] • 7,67,727,7987,87847,966307,10629367,116923027,1286153287,14147686147,155624547607,1711870023667,18830570260327,207136272863587,2278499001499447,25063489016493907,275698379181432967,3032682170995762627 ⋆ 6*11^n+1. • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A243675] • 1,7,67,741,8909 ⋆ Number of hypoplactic classes of 3-parking functions of length n. • a(n) = Sum _{ i=0..n } Sum _{ j=0..i } (- 2) ^ (n - i) * binomial(i,j) * binomial(3i + j, n) * binomial(n + 1,i) / (n + 1) (conjectured). - _ Michael D. Weiner _ , May 25 2017 •

[A082578] • 1,7,67,767,9587,126011,1711595,23796515,336666215,4828084575,69994481871,1023793569567,15086216016367,223704570996367,3335098322412367,49954148031128767,751296616443141667 ⋆ A binomial sum. • a(n) = sum(k=0..n, binomial(2 * k, k) * binomial(2 * k + 1,k)). •

[A253386] • 7,67,967,3967,93967,693967,7693967,87693967,687693967,16876993967,91687693967,991687693967,3991687693967 ⋆ Suffixes of 3991687693967 (left-truncatable prime). • a(n) = 3991687693967 mod 10 ^ n for 1 <= n <= 13. - _ Mikk Heidemaa _ , Oct 07 2017 •

[A087567] • 1,7,68,609,5555,50456,458737,4169823,37904764,344559985,3132110411,28471412592,258809985953,2352626740919,21385776919540,194400346514241,1767132187070947,16063531893267208,146020234807218449,1327348749622606095,12065825708695393196 ⋆ a(n)=(1/5)*sum(k=0,n,binomial(n,k)*Fibonacci(• a(n)=7 * a(n - 1) + 19 * a(n - 2) • a(n)= - (7 / 50) * [7 / 2 - (5 / 2) * sqrt(5)] ^ n * sqrt(5) + (7 / 50) * sqrt(5) * [7 / 2 + (5 / 2) * sqrt(5)] ^ n + (1 / 2) * [7 / 2 - (5 / 2) * sqrt(5)] ^ n + (1 / 2) * [7 / 2 + (5 / 2) * sqrt(5)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 25 2008 •

[A219330] • 7,69,693,6932,69315,693147,6931472,69314718,693147181,6931471806,69314718056,693147180560,6931471805600,69314718055995,693147180559945,6931471805599453,69314718055994531,693147180559945310,6931471

805599453094,69314718055994530942 ⋆ Number of random selections (with replacement) needed from a normal population to assure a greater than one-half chance that the selected group contains the top 10th percentile individual, top 1st percentile individual, the 0.1 percentile, 0.01 percentile etc... • a(n) = least integer function of [log(2) / log((10 ^ n) / ((10 ^ n) - 1))] •

[A122010] • 0,1,7,69,725,7679,81411,863197,9152557,97045551,1028984651,10910437661,115684573269,1226616283615,13005947679667,137903497048317,1462205981952029,15503931223058927,164389891941523323 ⋆ G.f. x^2*(1-5*x)/(1-12*x+15*x^2-2*x^3). • a(n)= 12 * a(n - 1) - 15 * a(n - 2) + 2 * a(n - 3). •

[A084774] • 1,7,69,763,8881,106407,1298949,16065483,200630241,2524253767,31947470149,406281388443,5187375332881,66454791792487,853788052488069,10996378059281643,141934540736139201,1835494145265388167 ⋆ Coefficients of 1/sqrt(1-14*x+9*x^2); also, a(n) is the central coefficient of (1+7x+10x^2)^n • a(n) = Sum _{ k=0..n } binomial(n,k) ^ 2 * 2 ^ k * 5 ^ (n - k). - _ Paul D. Hanna _ , Sep 28 2012 •

[A025757] • 1,1,7,69,783,9597,123495,1643397,22413183,311466829,4392857431,62702224213,903886452975,13138698859677,192337495360071,2832859169364261,41946319269028191,624009420903043821 ⋆ 4th order Vatalan numbers (generalization of Catalan numbers). • a(n) = sum(m=1..n - 1, m / n * 4 ^ (n - m) * sum(k=1..n - m, binomial(n + k - 1,n - 1) * sum(j=0..k, binomial(j,n - m - 3 * k + 2 * j) * 4 ^ (j - k) * binomial(k,j) * 3 ^ (- n + m + 3 * k - j) * 2 ^ (n - m - 3 * k + j) * (- 1) ^ (n - m - 3 * k + 2 * j)))) + 1. [From _ Vladimir Kruchinin _ , Feb 08 2011] •

[A015251] • 1,7,70,610,5551,49777,448540,4035220,36321901,326882347,2941985410,26477735830,238300021051,2144698993717,19302294530680,173720640014440,1563485792415001,14071372034879887 ⋆ Gaussian binomial coefficient [n,2] for q = -3. • a(n) = 10 * a(n - 1) - 9 * a(n - 2) + (- 1) ^ n * 3 ^ (n - 2) , n >= 4. - _ Vincenzo Librandi _ , Mar 20 2011 • a(n) = 7 * a(n - 1) + 21 * a(n - 2) - 27 * a(n - 3), n >= 3. - _ Vincenzo Librandi _ , Mar 20 2011 • a(n) = (1 / 96) * (2 * (- 1) ^ n * 3 ^ n - 3 + 9 ^ n). - _ R. J. Mathar _ , Mar 21 2011 •

[A196662] • 1,7,70,700,7000,70000,700000,7000000,70000000,700000000,7000000000,70000000000,700000000000,7000000000000,70000000000000,700000000000000,7000000000000000,70000000000000000,700000000000000000,7000000000000000000 ⋆ Expansion of (1-3x)/(1-10x). • a(0) = 1 , a(n) = 7 * 10 ^ (n - 1) for n>0. •

[A198966] • 7,71,647,5831,52487,472391,4251527,38263751,344373767,3099363911,27894275207,251048476871,2259436291847,20334926626631,183014339639687,1647129056757191,14824161510814727,133417453597332551,1200757082375992967 ⋆ a(n) = 8*9^n-1. • a(n) = 9 * a(n - 1) + 8. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A052390] • 1,7,71,956,15116,254397,4318511,72331966,1188180386,19152566087,303768582701,4755204310776,73675434833456,1132450098258577,17301032324486891,263098797953058386,3987051131522775326 ⋆ Number of 4-element intersecting families (with not necessary distinct sets) whose union is an n-element set. • a(n) = (15 ^ n - 6 * 11 ^ n + 12 * 9 ^ n - 8 ^ n - 10 * 7 ^ n + 15 * 6 ^ n - 24 * 5 ^ n + 19 * 4 ^ n + 5 * 3 ^ n - 11 * 2 ^ n + 6) / 4!. •

[A117982] • 1,7,73,511,3577,37303,262657,1838599,19173961,134217727,939524089,9797894071,68585258497,480096809479,5006723870281,35253225520639,246772578644473,2573485463006647,18014398643699713,126100790505899991 ⋆ Trisection of A117981. • a(n)=sum { k=0..3n, (- 1) ^ (3n - k) * L(C(3n,k) / 3) * 2 ^ k } where L(j / p) is the Legendre symbol of j and p. •

[A050917] • 1,7,73,649,5185,38881,279937,1959553,13436929,90699265,604661761,3990767617,26121388033,169789022209,1097098297345,7052774768641,45137758519297,287753210560513,1828079220031489,11577835060199425,73123168801259521,460675963447934977 ⋆ a(n) = n*6^n + 1. • a(0)=1, a(1)=7, a(2)=73, a(n)=13 * a(n - 1) - 48 * a(n - 2) + 36 * a(n - 3). - _ Harvey P. Dale _ , Feb 20 2013 •

[A155614] • 1,7,73,703,6481,58807,530713,4780783,43040161,387400807,3486725353,31380882463,282429005041,2541864234007,22876787671993,205891117745743,1853020145805121,16677181570526407,150094634909578633 ⋆ 9^n - 3^n + 1. • a(n) = 12 * a(n - 1) - 27 * a(n - 2) + 16 with a(0)=1, a(1)=7. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A099141] • 1,7,73,847,10033,119287,1419193,16886527,200931553,2390878567,28449011113,338514191407,4027973401873,47928772841047,570303484727833,6786029465163487,80746825394092993,960804818888214727 ⋆ 5^n*T(n,7/5). • a(0)=1, a(1)=7, a(n)=14 * a(n - 1) - 25 * a(n - 2) for n>1 . [From _ Philippe Deléham _ , Sep 08 2009] •

[A157706] • 7,75,385,1365,3850,9282,19950,39270,72105,125125,207207,329875,507780,759220,1106700,1577532,2204475,3026415,4089085,5445825,7158382,9297750,11945050,15192450,19144125 ⋆ The z^2 coefficients of the polynomials in the GF1 denominators of A156921. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) • a(n) = 1 / 18 * n ^ 6 + 1 / 6 * n ^ 5 + 1 / 72 * n ^ 4 - 1 / 4 * n ^ 3 - 5 / 72 * n ^ 2 + 1 / 12 * n •

[A180356] • 0,7,76,747,4120,15655,46692,117691,262192,531495,1000060,1771627,2986056,4826887,7529620,11390715,16777312,24137671,34012332,47045995,64000120,85766247,113380036,148036027,191103120 ⋆ n^6+6n • a(n) = + 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). G.f.: x * (- 7 - 27 * x - 362 * x ^ 2 - 242 * x ^ 3 - 87 * x ^ 4 + 5 * x ^ 5) / (x - 1) ^ 7. [From _ R. J. Mathar _ , Sep 24 2010] •

[A139264] • 7,77,147,217,287,357,427,497,567,637,707,777,847,917,987,1057,1127,1197,1267,1337,1407,1477,1547,1617,1687 ⋆ 70*n-63. • a(n) = a(n - 1) + 70. • a(n)=70 * n - 63, with n>=1 [From _ Paolo P. Lava _ , Sep 06 2010] •

[A228414] • 0,7,77,697,6497,55552,512100,4710641,42205969,341224891,2787791578,22971326749 ⋆ Count of the first 10^n primes which do not contain the digit 2. • a(n) < 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[A191465] • 0,7,77,721,6545,59017,531377,4782841,43046465,387419977,3486783377,31381057561,282429532385,2541865820137,22876792438577,205891132061881,1853020188786305,16677181699535497,150094635296736977,1350851717672467801 ⋆ 9^n - 2^n. • a(n) = 11 * a(n - 1) - 18 * a(n - 2). •

[A229281] • 0,7,77,735,6517,55223,453789,3647119,28824005,224827239,1735205101,13276336703,100843663893,761270796055,5716451614013,42728053589487,318086621166181,2359538070441671,17447288549040525,128644674234925471,946108300385970869 ⋆ Number of ascending runs in {1,...,7}^n. • a(n) = 7 ^ (n - 1) * (4 * n + 3) for n>0, a(0) = 0. •

[A002281] • 0,7,77,777,7777,77777,777777,7777777,77777777,777777777,7777777777,77777777777,777777777777,7777777777777,77777777777777,777777777777777,7777777777777777,77777777777777777,777777777777777777,7777777777777777777 ⋆ a(n) = 7(10^n - 1)/9. • a(n) = 10 * a(n - 1) + 7 with n>0, a(0)=0. - _ Paolo P. Lava _ , Jan 23 2009 • a(n) = a(n - 1) + 7 * 10 ^ (n - 1) with n>0, a(0)=0; also: a(n) = 11 * a(n - 1) - 10 * a(n - 2) with n>1, a(0)=0, a(1)=7. - _ Vincenzo Librandi _ , Jul 22 2010 •

[A133272] • 1,7,78,924,11005,131131,1562562,18619608,22187272926438531 35,31504364886,375408525492,4473397941013,53305366766659,6351910032588 90,7568986672340016,90192649064821297,1074742802105515543 ⋆ Indices of centered heptagonal numbers (A069099) which are also heptagonal numbers (A000566). • a(n + 2) = 12 * a(n + 1) - a(n) - 5. • a(n + 1) = 6 * a(n) - 2.5 + 0.5 * (140 * a(n) ^ 2 - 140 * a(n) + 49) ^ 0.5. • a(n) = (1 / 2) + (1 / 4) * [6 - sqrt(35)] ^ (n - 1) + (1 / 20) * sqrt(35) * [6 + sqrt(35)] ^ (n - 1) + (1 / 4) * [6 + sqrt(35)] ^ (n - 1) - (1 / 20) * [6 - sqrt(35)] ^ (n - 1) * sqrt(35), with n >=1 - _ Paolo P. Lava _ , Jul 14 2008 • a(n) = 13 * a(n - 1) - 13 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Jan 06 2015 •

[A079590] • 1,7,78,969,12650,169911,2324784,32224114,450978066,6358402050,90177170226,1285063345176,18385569737808,263926640438545,3799541229226200,54834293825867556,793067310934426018 ⋆ C(6n+1,n). • a(n) is asymptotic to c * sqrt(n) * (46656 / 3125) ^ n with c= 0.5243.... •

[A079911] • 1,7,79,478,2108,7364,21652,55532,127604,268108,523244,960212,1672972,2788724,4475108,6948124,10480772,15412412,22158844,31223108,43207004,58823332,78908852,104437964,136537108 ⋆ Solution to the Dancing School Problem with 6 girls and n+6 boys: f(6,n). • a(0)=1, a(2)=7, a(3)=79 , a(n)=n ^ 6 - 9 * n ^ 5 + 60 * n ^ 4 - 225 * n ^ 3 + 555 * n ^ 3 - 774 * n + 484. •

[A198973] • 7,79,799,7999,79999,799999,7999999,79999999,799999999,7999999999,79999999999,799999999999,7999999999999,79999999999999,799999999999999,7999999999999999,79999999999999999,799999999999999999 ⋆ 8*10^n-1. • a(n) = 10 * a(n - 1) + 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. •

[A083226] • 1,7,81,567,6561,45927,531441,3720087,43046721,301327047,3486784401,24407490807,282429536481,1977006755367,22876792454961,160137547184727,1853020188851841,12971141321962887,150094635296999121 ⋆ (8*9^n+(-9)^n)/9. • a(n)=(8 * 9 ^ n + (- 9) ^ n) / 9. • a(0)=1, a(1)=7, a(n)=81 * a(n - 2) From _ Harvey P. Dale _ , May 24 2012 •

[A053128] • 7,84,462,1716,5005,12376,27132,54264,100947,177100,296010,475020,736281,1107568,1623160,2324784,3262623,4496388,6096454,8145060,10737573,13983816,18009460,22957480,28989675 ⋆ Binomial coefficients C(2*n-5,6). • a(n) = binomial(2 * n - 5, 6) if n >= 6 else 0. •

[A027819] • 7,84,504,2100,6930,19404,48048,108108,225225,440440,816816,1447992,2469012,4069800,6511680,10147368,15444891,23015916,33649000,48348300,68378310,95315220,131105520,178132500,239291325 ⋆ 7*(n+1)*C(n+6,7)/2. • a(n) = C(n + 1,2) * C(n + 6,6). - _ Zerinvary Lajos _ , May 26 2005 •

[A099674] • 7,84,861,8638,86415,864192,8641969,86419746,864197523,8641975300,86419753077,864197530854,8641975308631,86419753086408,864197530864185,8641975308641962,86419753086419739,864197530864197516 ⋆ Partial sums of repdigits of A002281. • a(n) = (7 / 81) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 •

[A058795] • 7,85,301,751,1555,2857,4825,7651,11551,16765,23557,32215,43051,56401,72625,92107,115255,142501,174301,211135,253507,301945,357001,419251,489295 ⋆ Row 4 of A007754. • a(n) = n ^ 4 + 10 * n ^ 3 + 32 * n ^ 2 + 35 * n + 7. •

[A155459] • 1,1,7,85,847,8989,93415,977509,10205503,1066288451113800023,11635238581,121543470895,1269672885181,13263275148487,138511499059925,1447335954687007,15119193079422349,157938445924688695 ⋆ a(n)=7*a(n-1)+36*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=7 . • a(n)=(7 / 386) * sqrt(193) *{ [(7 / 2) + (1 / 2) * sqrt(193)] ^ n - [(7 / 2) - (1 / 2) * sqrt(193)] ^ n }+ (1 / 2) *{ [(7 / 2) - (1 / 2) * sqrt(193)] ^ n + [(7 / 2) + (1 / 2) * sqrt(193)] ^ n }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A155631] • 1,7,85,937,9745,98977,995905,9983617,99934465,999737857,9998951425,99995805697,999983222785,9999932891137,99999731564545,999998926258177,9999995705032705,99999982820130817,999999931280523265 ⋆ 10^n-4^n+1^n • a(n)=14 * a(n - 1) - 40 * a(n - 2) + 27 with a(0)=1, a(1)=7 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A254473] • 7,87,335,847,1719,3047,4927,7455,10727,14839,19887,25967,33175,41607,51359,62527,75207,89495,105487,123279,142967,164647,188415,214367,242599 ⋆ 24-hedral numbers: a(n) = (2*n + 1)*(8*n^2 + 14*n + 7). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A173812**] • 7,87,887,8887,88887,888887,8888887,88888887,888888887,8888888887,88888888887,888888888887,8888888888887,88888888888887,888888888888887,8888888888888887,88888888888888887,888888888888888887 ★ (8*10^n-17)/9 for n>0. • a(n) = 10 * a(n - 1) + 17 with n>0, a(0)= - 1. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[**A199027**] • 7,87,967,10647,117127,1288407,14172487,155897367,1714871047,18863581527,207499396807,2282493364887,25107427013767,276181697154147,3037998668665927,33417985355325207,367597838908577287,4043576227994350167 ★ 8*11^n-1. • a(n) = 11 * a(n - 1) + 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[**A155465**] • 7,88,555,3276,19135,111568,650307,3790308,22091575,128759176,750463515,4374021948,25493668207,148587987328,866034255795,5047617547476,29419671029095,171470408627128,999402780733707,5824946275775148 ★ a(n) = 7*a(n-1)-7*a(n-2)+a(n-3) for n > 2; a(0) = 7, a(1) = 88, a(2) = 555. • a(n) = 6 * a(n - 1) - a(n - 2) + 34 for n > 1; a(0) = 7, a(1) = 88. • a(n) = ((31 + 25 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (31 - 25 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n - 34) / 4. •

[**A053302**] • 7,89,887,9551,31397,492113,4652353,47326693,436273009,4302407359,42652618343,738832927927,7177162611713,90874329411493,218209405436543,1693182318746371 ★ Largest n-digit prime at the start of a record in the RECORDS transform of the prime gaps. • a(n) = { max p: p in A002386; p< 10 ^ n } . - _ R. J. Mathar _ , Feb 01 2008 •

[**A107109**] • 7,89,983,9941,99929,999931,9999929,99999827,999999739,9999999769,99999999763,999999999697,9999999999443 ★ n-th - largest n-digit prime. • a(n)=prime[pi[10 ^ n) - n + 1)] •

[**A062747**] • 1,7,89,1447,26713,532391,11165785,242851751,5427716185,123901026215,2876525797465,67710590623655,1612262780199001,38764533106581415,939825790848884825,22950405085586497447 ★ Row sums of (unsigned) staircase array A062746. • a(n)=N(3; k, x= - 1), with the polynomials N(3; k, x) from the staircase array A062746. •

[**A085026**] • 7,91,247,475,775,1147,1591,2107,2695,3355,4087,4891,5767,6715,7735,8827,9991,11227,12535,13915,15367,16891,18487,20155,21895 ★ a(n) = (6*n+1)*(6*n+7). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: (7 + 70 * x - 5 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Oct 28 2012 •

[**A181475**] • 1,7,91,397,1141,2611,5167,9241,15337,24031,35971,51877,72541,98827,131671,172081,221137,279991,349867,432061,527941,638947,766591,912457,1078201 ★ a(n) = 3*n^4 + 6*n^3 - 3*n + 1. • a(n) = a(- n - 1) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 6 * 12. • a(n) = 7 * (3 * n ^ 2 + 3 * n - 1) * sum(k ^ 6, k=1..n) / (5 * sum(k ^ 4, k=1..n)), n>0. - _ Gary Detlefs _ , Oct 18 2011 •

[**A249640**] • 0,0,7,91,679,5005,35287,248731,1742839,12211675,85493527,598537051,4189841719,29329466845,205306842727,1437151921051,10060067469319,70420500427165,492943531132087,3450604914906331,24154234601326039,169079643588071965 ★ Number of strings of length n over a 7-letter alphabet that begin with a nontrivial palindrome. • a(0) = 0; a(1) = 0; a(n + 1) = 7 * a(n) + 7 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)). •

[**A248226**] • 0,7,91,973,9919,99757,999271,9997813,99993439,999980317,9999940951,99999822853,999999468559,9999998405677,99999995217031,999999985651093,9999999956953279,99999999870859837,999999999612579511,9999999998837738533,99999999996513215599 ★ 10^n - 3^n. • a(n) = 13 * a(n - 1) - 30 * a(n - 2). •

[**A132114**] • 1,7,94,856,2995,56902,413893,1527982,47859601,702710533,1373798194,8537856169,38139946795,565726979662,4367588800693,15840612137503,125269482488011,770614773688678,6470285143034935,54544210069919254 ★ a(n) = n multiplied by 7 and reversed. • a(n) = reverse(7 * a(n - 1)) where a(1) = 1 •

[**A015225**] • 1,7,95,161,525,715,1547,1925,3417,4047,6391,7337,10725,12051,16675,18445,24497,26775,34447,37297,46781,50267,61755,65941,79625 ★ Odd hexagonal pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 256. • a(n) = (8 * n - 2 * (- 1) ^ n - 7) * (1 + (- 1) ^ n - 4 * n) * (3 + (- 1) ^ n - 4 * n) / 24. •

[**A219088**] • 0,7,97,525,1845,5032,11602,23730,44370,77378,127628,201135,305175,448403,640973,894660,1222981,1641308,2166998,2819506,3620506,4594013,5766503,7167031,8827351 ★ Floor((n + 1/2)^5). • a(n) = [(n + 1 / 2) ^ 5]. •

[**A173833**] • 7,97,997,9997,99997,999997,9999997,99999997,999999997,9999999997,99999999997,999999999997,9999999999997,99999999999997,999999999999997,9999999999999997,99999999999999997,999999999999999997 ★ 10^n - 3. • a(n) = 10 * a(n - 1) + 27 with n>1, a(1)=7. •

[**A155644**] • 1,7,97,1207,14017,157927,1755937,19409047,213968257,2355994567,25927658977,285262842487,3138184236097,34521491440807,379743730067617,4177217651837527,45949577275681537,505446265559840647 ★ 11^n-5^n+1. • a(n)=16 * a(n - 1) - 55 * a(n - 2) + 40 with a(0)=1, a(1)=7 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=7, a(2)=97, a(n)=17 * a(n - 1) - 71 * a(n - 2) + 55 * a(n - 3) [From Harvey P. Dale, Jul 11 2011] •

[**A036293**] • 0,7,98,1029,9604,84035,705894,5764801,46118408,363182463,2824752490,21750594173,166095446412,1259557135291,9495123019886,71213422649145,531726889113616,3954718737782519,29311444762388082,216579008522089717 ★ a(n) = n * 7^n. • a(0)=0, a(1)=7, a(n) = 14 * a(n - 1) - 49 * a(n - 2). - _ Harvey P. Dale _ , Aug 08 2011 •

[**A133679**] • 1,7,98,1078,13034,151606,1791146,21027958,274499882,2910064822,34230447146,402576760054,4734942360554,59688895086202,654979037799338,7703431389461878,90602845842996074,1065612078710837686 ★ a(n) = 7*a(n-1) + 56*a(n-2) for n>=3, a(0)=1, a(1)=7, a(2)=98. • a(n) = (7 / 26) * sqrt(273) * (7 / 2 + (1 / 2) * sqrt(273)) ^ (n - 1) - (7 / 26) * sqrt(273) * (7 / 2 - (1 / 2) * sqrt(273)) ^ (n - 1) + (7 / 2) * (7 / 2 - (1 / 2) * sqrt(273)) ^ (n - 1) + (7 / 2) * (7 / 2 + (1 / 2) * sqrt(273)) ^ (n - 1) + (1 / 8) * (binomial(2 * n,n) mod 2), with n>=0. [_ Paolo P. Lava _ , Aug 28 2008] •

[**A238472**] • 7,99,476,1463,3510,7192,13209,22386,35673,54145,79002,111569,153296,205758,270655,349812,445179,558831,692968,849915,1032122,1242164,1482741,1756678,2066925 ★ C(5*n+7, 4)/5 for n>= 0. • a(n) = binomial(5 * n + 7, 4) / 5 for n >= 0. •

[**A041087**] • 1,7,99,700,9899,69993,989801,6998600,98970201,699790007,9896030299,69972002100,989504059699,6996500419993,98940509939601,699580069997200,9893061489900401,69951010499300007,989207208480100499,6994401469860003500,98910827786520149499 ★ Denominators of continued fraction convergents to sqrt(51). • a(n) = 100 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 11 2013 •

[**A139742**] • 0,7,105,1267,14385,160027,1767465,19470787,214293345,2357685547,25936376025,285307476307,3138411599505,34522645035067,379749565147785,4177247095673827,45949725568604865,505447011319424587,5559917244772754745,61159090173536639347 ★ 11^n-4^n. • a(n) = 15 * a(n - 1) - 44 * a(n - 2); [From Vincenzo Librandi, Jun 02 2011] •

[**A112463**] • 7,111,930,5480,25500,99756,341088,1046520,2936070,7638950,18631932,42969336,94348300,198354300,401166000,783610920,1483311285,2728813725,4891144350,8560278000,14656684680,24591569640,40493836800,65527390800,104329399500 ★ Absolute value of coefficient of term [x^(n-7)] in characteristic polynomial of maximum matrix A of size n X n, where n >= 7. Maximum matrix A(i,j) is MAX(i,j), where indices i and j run from 1 to n. • a(n) = ((13 * n + 7) / 14!) * Product _{ i= - 6..6 } (n + i). •

[**A094219**] • 0,0,0,0,7,112,1092,8400,56100,341088,1939938,10498488,54679625,276276000,1362040680,6580248480,31256180280,146350008000,676868787000,3097351569312,14042319855102,63144549413792,281895309883000 ★ Number of permutations of length n with exactly 3 occurrences of the pattern 2-13. • a(n) = (1 / 3) * binomial(n + 2,2) * binomial(2 * n,n - 5). •

[**A212702**] • 7,112,1344,14336,143360,1376256,12845056,117440512,1056964608,9395240960,82678120448,721554505728,6253472382976,53876069761024,461794883665920,3940649673949184,33495522228568064,283726776524341248,2395915001761103872,20176126330619822080 ★ Main transitions in systems of n particles with spin 7/2. • a(n) = n * (b - 1) * b ^ (n - 1). For this sequence, set b=8. • a(n) = 16 * a(n - 1) - 64 * a(n - 2). - _ Colin Barker _ , Jun 16 2015 •

[**A127877**] • 7,115,297,1237,2171,5527,8221,16441,22335,38731,49697,78445,96787,142927,171381,240817,282551,382051,440665,577861,657387,840775,945677,1184617,1319791 ★ Integers of the form (x^4)/24+(x^3)/6+(x^2)/2+x+1. • a(n) = (11 + 5 * (- 1) ^ n + 16 * (2 + (- 1) ^ n) * n + 18 * (3 + (- 1) ^ n) * n ^ 2 + 36 * (1 + (- 1) ^ n) * n ^ 3 + 54 * n ^ 4) / 16. • a(n) = (27 * n ^ 4 + 36 * n ^ 3 + 36 * n ^ 2 + 24 * n + 8) / 8 for n even. • a(n) = (27 * n ^ 4 + 18 * n ^ 2 + 8 * n + 3) / 8 for n odd. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n>9. •

[**A057769**] • 1,7,119,527,1519,3479,6887,12319,20447,32039,47959,69167,96719,131767,175559,229439,294847,373319,466487,576079,703919,851927,1022119,1216607,1437599 ★ a(n) = 4*n^4+8*n^3-4*n-1 = (2*n^2-1)*(2*n^2+4*n+1). • a(0)= - 1, a(1)=7, a(2)=119, a(3)=527, a(4)=1519, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Oct 20 2011] •

[**A007751**] • 0,7,120,1921,30624,488071,7778520,123968257,1975713600,31487449351,501823476024,7997688167041,127461187196640,2031381306979207,32374639724470680,515962854284551681,8223031028828356224 ★ Even bisection of A007750. • a(n)= - 4 / 7 + (2 / 7) * [8 - 3 * sqrt(7)] ^ n + (2 / 7) * [8 + 3 * sqrt(7)] ^ n + (1 / 14) * sqrt(7) * [8 + 3 * sqrt(7)] ^ n - (1 / 14) * [8 - 3 * sqrt(7)] ^ n * sqrt(7), with n>=0 - _ Paolo P. Lava _ , Jun 19 2008 •

[**A180583**] • 1,7,126,1484,18452,229698,2861964,35663964,444486280,5539931796,69048910000,860620499760,10726732430288,133697577587000,1666401898058352,20769976722986288,258876295158900832 ★ Number of Hamilton cycles in C_7 X P_n. • a(1) = 1, • a(2) = 7, • a(3) = 126, • a(4) = 1484, • a(5) = 18452, • a(6) = 229698, •

[**A053716**] • 7,127,1093,5461,19531,55987,137257,299593,597871,1111111,1948717,3257437,5229043,8108731,12204241,17895697,25646167,36012943,49659541,67368421,90054427,118778947,154764793,199411801,254313151 ★ a(n) = 1111111 in base n. • a(n) = n ^ 6 + n ^ 5 + n ^ 4 + n ^ 3 + n ^ 2 + n + 1 = (n ^ 7 - 1) / (n - 1). •

[**A064754**] • 7,127,1535,16383,163839,1572863,14680063,134217727,1207959551,10737418239,94489280511,824633720831,7146825580543,61572651155455,527765581332479,4503599627370495,38280596832649215,324259173170675711 ★ n*8^n - 1. • a(1)=7, a(2)=127, a(3)=1535, a(n)=17 * a(n - 1) - 80 * a(n - 2) + 64 * a (n - 3). - _ Harvey P. Dale _ , May 20 2013 •

[**A082164**] • 1,7,133,5362,380093,42258384,6830081860,1520132414241,4473019239576913,168599289097947589,7936453494480431716 6 ★ Deterministic completely defined initially connected acyclic automata with 3 inputs and n+1 transient unlabeled states including a unique state having all transitions to the absorbing state. • a(n) := d _ 3(n) / (n - 1)! where d _ 3(n) := b _ 3(n, 1) - sum(binomial(n - 1, j - 1) * T _ 3(n - j, j + 1) * d _ 3(j), j=1..n - 1); and T _ 3(0, k) := 1, T _ 3(n, k) := sum(binomial(n, i) * (- 1) ^ (n - i - 1) * ((i + k + 1) ^ 3 - 1) ^ (n - i) * T _ 3(i, k), i=0..n - 1), n>0. •

[A001533] • 7,135,391,775,1287,1927,2695,3591,4615,5767,7047,8455,9991,11655,13447,15367,17415,19591,21895,24327,26887,29575,32391,35335,38407 ★ (8n+1)(8n+7). • a(n) = 128 * n + a(n - 1) with a(0)=7. - _ Vincenzo Librandi _ , Nov 12 2010 •

[A082162] • 1,7,139,5711,408354,45605881,7390305396,1647470410551,485292763088275,183049273155939442,86211400693272461866 ★ Number of deterministic completely defined initially connected acyclic automata with 3 inputs and n transient unlabeled states (and a unique absorbing state). • a(n) = c _ 3(n) / (n - 1)! where c _ 3(n) = T _ 3(n, 1) - sum(binomial(n - 1, j - 1) * T _ 3(n - j, j + 1) * c _ 3(j), j=1..n - 1) and T _ 3(0, k) = 1, T _ 3(n, k) = sum(binomial(n, i) * (- 1) ^ (n - i - 1) * (i + k) ^ (3 * n - 3 * i) * T _ 3(i, k), i =0..n - 1), n>0. •

[A085708] • 0,7,140,2100,28000,350000,4200000,49000000,560000000,6300000000,70000000000,770000000000,8400000000000,91000000000000,980000000000000,10500000000000000 ★ Arithmetic derivative of 10^n. • a(n) = 7 * n * 10 ^ (n - 1). •

[A054606] • 0,7,140,2205,16408,78155,279972,823585,2097200,4783023,10000060,19487237,35831880,62748595,105413588,170859465,268435552,410338775,612220140,893871853,1280000120,1801088667,2494358020,3404825585 ★ Sum_{d|n} phi(d)*n^(7/d). • a(n) = n ^ 7 + 6n. •

[A104240] • 0,7,144,504,9727,187560,654840,12626287,243453384,849982464,16388911447,316002305520,1103276584080,21272794432567,410170749112224,1432052156154024,27612070784561167,532401316345361880,1858802595411339720,3584044660556596284 7 ★ Nonnegative integers n such that 13*n^2 + 13*n + 1 is a square. • a(0)=0, a(1)=7, a(2)=144, a(3)=504, a(4)=9727, a(6)=187560 and then a(n) = 1298 * a(n - 3) + 648 - a(n - 6). - _ Pierre CAMI _ , Apr 05 2005 • a(n) = a(n - 1) + 1298 * a(n - 3) - 1298 * a(n - 4) - a(n - 6) + a(n - 7). - _ Bruno Berselli _ , Feb 19 2013 •

[A114485] • 7,158,2568,35660,456574,5565709,65657059,756570556,8565705523,95657055186,1056570551816,11565705518103,125657055180974,1356570551809682,14565705518096756,155657055180967490 ★ Number of decimal digits in !(10^n), where !x is the subfactorial. • a(n) = 10 ^ n * (n - 1 / log(10)) + n / 2 + O(1). [Arkadiusz Wesolowski, Jan 20 2012] •

[A061010] • 1,7,158,2568,35660,456574,5565709,65657060,756570557,8565705523,95657055187,1056570551816,11565705518104,125657055180975,1356570551809683,14565705518096757,155657055180967491 ★ Number of digits in (10^n)!. • a(n) = 1 + floor(log((10 ^ n)!) / (log(10))), and using Stirling approximation: • a(n) = 1 + delta(n,0) + floor((- 2 * 10 ^ n + log(2) + (1 + 2 * 10 ^ n) * n * log(10) + log(pi)) / (2 * log(10))) (End) • a(n) = 10 ^ n * (n - 1 / log(10)) + n / 2 + O(1). [_ Arkadiusz Wesolowski _ , Jan 21 2012] •

[A239575] • 0,0,7,176,1976,12565,57275,207018,634166,1711262,4181915,9428657,19892816,39684027,75473209,137721045,242391212,413215132,684733527,1106194950,1746637600,2701244609,4099429895,6114748948,8977257362 ★ Number of non-equivalent (mod D_3) ways to place 5 indistinguishable points on a triangular grid of side n so that no two of them are adjacent. • a(n) = (n ^ 10 + 5 * n ^ 9 - 130 * n ^ 8 - 310 * n ^ 7 + 7465 * n ^ 6 - 1336 * n ^ 5 - 202980 * n ^ 4 + 464160 * n ^ 3 + 1783424 * n ^ 2 - 8360064 * n + 9192960) / 23040 + IF(MOD(n,2) = 1) * (25 * n ^ 4 - 94 * n ^ 3 - 418 * n ^ 2 + 2053 * n - 1779) / 1536. •

[A128786] • 0,7,196,3087,38416,420175,4235364,40353607,368947264,3268642167,28247524900,239256535903,1993145356944,16374242758783,132931722278404,1068201339737175,8507630225817856,67230218542302823,527606005722985476 ★ n^2*7^n. • a(n) = 21 * a(n - 1) - 147 * a(n - 2) + 343 * a(n - 3). - _ Vincenzo Librandi _ , Feb 06 2013 •

[A243144] • 0,7,204,1891,10846,46068,159830,477033,1268614,3075291,6911894,14580293,29145928,55620816,101945063,180327134,309087474 ★ Number of inequivalent (mod D_3) ways to place 5 points on a triangular grid of side n so that they are not vertices of an equilateral triangle of any orientation. • a(n) = (n ^ 10 + 5 * n ^ 9 - 30 * n ^ 8 - 150 * n ^ 7) / 23040 + O(n ^ 6). •

[A202655] • 0,0,0,7,223,2429,15045,66122,230074,675798,1745318,4073993,8764753,17630795,33522531,60756612,105666148,177293340,288246972,455749371,702898611,1060173961,1567213681,2274896558,3247759614 ★ Number of ways to place 4 nonattacking semi-queens on an n X n board. • a(n) = n ^ 8 / 24 - 2 * n ^ 7 / 3 + 41 * n ^ 6 / 9 - 257 * n ^ 5 / 15 + 341 * n ^ 4 / 9 - 97 * n ^ 3 / 2 + 2341 * n ^ 2 / 72 - 87 * n / 10 + (n / 2 - 1 / 2) * floor(n / 2). •

[A210248] • 7,241,967,15787,111577,1587499,25230061,118194961,188698981,761453863 ★ Smallest prime = 1 mod 6 sandwiched by n smaller and n larger primes = 5 mod 6. • a(n) = (smallest p(m) = 1 mod 6) such that all 2 * n primes p(m - n..m - 1) and p(m + 1..m + n) = 5 mod 6. •

[A228291] • 0,7,254,3279,21844,97655,335922,960799,2396744,5380839,11111110,21435887,39089244,67977559,113522234,183063615,286331152,435984839,648232974,943531279,1347368420,1891142967,2613136834,3559590239,4785883224 ★ a(n) = Sum_{k=1..7} n^k. • a(1) = 7, else a(n) = (n ^ 8 - n) / (n - 1). • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) with n > 7, a(0)=0, a(1)=7, a(2)=254, a(3)=3279, a(4)=21844, a(5)=97655, a(6)=335922, a(7)=960799. - _ Yosu Yurramendi _ , Sep 03 2013 •

[A128793] • 0,7,392,9261,153664,2100875,25412184,282475249,2951578112,29417779503,282475249000,2631821894933,23917744283328,212865155864179,1861044111897656,16023020096057625,136122083613085696 ★ n^3*7^n. • a(n) = 28 * a(n - 1) - 294 * a(n - 2) + 1372 * a(n - 3) - 2401 * a(n - 4). - _ Vincenzo Librandi _ , Feb 09 2013 •

[A175601] • 7,637,6937,69937,699937,6999937,69999937,699999937,6999999937,69999999937,699999999937,6999999999937,69999999999937,699999999999937,6999999999999937,69999999999999937 ★ 7*(10^n-9). • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Aug 23 2014 •

[A242851] • 1,7,2911,40391,242047,950599,2883167,7338631,16451071,33489287,63202399,112211527,189447551,306634951,478821727,724955399,1068505087,1538129671,2168392031,3000519367,4083209599,5473483847,7237584991,9451922311,12204062207 ★ 64*n^6 - 80*n^4 + 24*n^2 - 1. • a(n) = (8 * n ^ 3 - 4 * n ^ 2 - 4 * n + 1) * (8 * n ^ 3 + 4 * n ^ 2 - 4 * n - 1). •

[A023344] • 7,7621,15937,382933,462271,518803,866941,1025407,1142503,1427347,1742473,1980067,2343619,2910031,3015283,4344121,4352269,4544209,5081893,5116543,5127043,5482531,5484379,5501473,5648221 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 5x + 8. • a(n) = = 19 (mod 42) for n>1. - _ John Cerkan _ , Oct 22 2016 •

[A068251] • 7,38960,11043135,715016960,19498281250,301435761312,3120392830170,23965758136320,146127409139745,741378459250000,3237913809747617,12485709312410880,43342515673364180,137520873034108480,403684061693062500,1107133265664540672,2859892150083272715 ★ 1/24 the number of colorings of a 4 X 4 octagonal array with n colors. • a(n) = (n ^ 16 - 42 * n ^ 15 + 825 * n ^ 14 - 10054 * n ^ 13 + 85011 * n ^ 12 - 528254 * n ^ 11 + 2491825 * n ^ 10 - 9084089 * n ^ 9 + 25795983 * n ^ 8 - 57031153 * n ^ 7 + 97292827 * n ^ 6 - 125639547 * n ^ 5 + 118705077 * n ^ 4 - 77301243 * n ^ 3 + 30931875 * n ^ 2 - 5709042 * n) / 24. (End) •

[A109300] • 1,1,7,999999991 ★ a(n) = number of positive integers whose rote height in gammas is n. • a(n) is defined by the recursion a(n + 1) = (b(n) + 1) ^ b(n) - b(n), where a(0) = 1 and b(n) = Sum _ [0, n] a(i). •

[A187107] • 8,8,9,10,12,15,20,28,41,62,96,151,240,384,617,994,1604,2591,4188,6772,10953,17718,28664,46375,75032 ★ Number of nontrivial compositions of differential operations and directional derivative of the n-th order on the space R^9. • a(n) = 2 * a(n - 1) - a(n - 3). G.f.: - x * (7 * x ^ 2 + 8 * x - 8) / ((x - 1) * (x ^ 2 + x - 1)). [_ Colin Barker _ , Dec 14 2012] •

[A168337] • 1,8,8,15,15,22,22,29,29,36,36,43,43,50,50,57,57,64,64,71,71,78,78,85,85 ★ a(n) = 1 + 7*floor(n/2). • a(n) = 7 * n - a(n - 1) - 5, with n>1, a(1)=1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = (14 * n + 7 * (- 1) ^ n - 3) / 4. (End) •

[A229554] • 8,8,15,43,169,841,5041,35281,282241,2540161,25401601,279417601,3353011201,43589145601,610248038401,9153720576001,146459529216001,2489811996672001,44816615940096001,851515702861824001,17030314057236480001,357636595201966080001 ★ 7*n! + 1. • a(0)=8, a(n) = n * a(n - 1) - n + 1. •

[A168397] • 0,8,8,16,16,24,24,32,32,40,40,48,48,56,56,64,64,72,72,80,80,88,88,96,96 ★ a(n) = 8 * floor(n/2). • a(n) = 8 * n - a(n - 1) - 8, with n>1, a(1)=0. • a(n) = 4 * n + 2 * (- 1) ^ n - 2. - _ Paolo P. Lava _ , Nov 27 2009 •

[A022091] • 0,8,8,16,24,40,64,104,168,272,440,712,1152,1864,3016,4880,7896,12776,20672,33448,54120,87568,141688,229256,370944 ★ Fibonacci sequence beginning 0, 8. • a(n) = round((16phi - 8) / 5 phi ^ n) (works for n>4). - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = 8 * F(n) = F(n + 4) + F(n) + F(n - 4) for n>3, where F=A000045. •

[A135405] • 0,1,8,8,17,19,30,34,47,53,68,76,93,103,122,134,155,169,192,208,233,251,278,298,327 ★ Sequence where the sum of each pair of consecutive elements is a square. • a(n) = (n + 2) * (n + 1) / 2 + 2 * (- 1) ^ n for n>0. • a(n) = (- 4 * (- 1) ^ n + n + n ^ 2) / 2 for n>1. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A164683] • 1,8,8,64,64,512,512,4096,4096,32768,32768,262144,262144,2097152,2097152,16777216,16777216,134217728,134217728,1073741824,1073741824,8589934592,8589934592,68719476736,68719476736 ★ a(n) = 8*a(n-2) for n > 2; a(1) = 1, a(2) = 8. • a(n) = 2 ^ (1 / 4 * (6 * n - 3 + 3 * (- 1) ^ n)). •

[A020722] • 8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32 ★ a(n) = n + 8. • a(n) = n + 8. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A294238] • 0,0,0,0,0,0,0,8,9,10,11,12,13,14,15,32,34,54,57,60,63,66,69,96,100 ★ Sum of the parts in the partitions of n into two parts with smaller part nonsquarefree. • a(n) = n * Sum _{ i=1..n } (1 - mu(i) ^ 2). •

[A058366] • 1,1,1,1,1,1,8,9,10,11,12,13,14,22,31,41,52,64,77,91,113,144,185,237,301 ★ Number of ways to cover (without overlapping) a ring lattice (necklace) of n sites with molecules that are 7 sites wide. • a(n) = 1 + n * sum(binomial (n - 1 - 6 * i, i - 1) / i, i=1..n / 7). a(n) = a(n - 1) + a(n - 7), a(n) = 1 for n = 1..6, a(7) = 8. generating function = (x + 7 * x ^ 7) / (1 - x - x ^ 7). •

[A164276] • 0,1,8,9,10,14,15,16,20,21,22,24,25,26,27,28,32,33,34,35,36,38,39,40,44 ★ The non-isolated nonprimes. • a(n) = n + n / log n + O(n / (log n) ^ 2) by Brun's theorem. - _ Charles R Greathouse IV _ , Mar 15, 2011 •

[A054966] • 0,1,8,9,10,17,18,19,26,27,28,35,36,37,44,45,46,53,54,55,62,63,64,71,72 ★ Numbers that are congruent to {0, 1, 8} mod 9. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 3 * n - 3 + 2 * cos(2 * n * Pi / 3) + 2 * sin (2 * n * Pi / 3) / sqrt(3). • a(3k) = 9k - 1, a(3k - 1) = 9k - 8, a(3k - 2) = 9k - 9. (End) •

[A048000] • 0,0,0,0,0,0,0,0,0,0,0,8,9,10,50,55,60,180,195,210,490,525,560,1240,1326 ★ Number of nonempty subsets of {1,2,...,n} in which exactly 4/5 of the elements are <= n/3. • a(n) = Sum _{ k=1 }^ floor(n / 5) binomial(floor(n / 3), 4 * k) * binomial(ceil(2 * n / 3), k). - _ Robert Israel _ , Feb 05 2017 •

[A048590] • 8,9,11,14,18,24,32,43,58,79,108,148,203,279,384,529,729,1005,1386,1912,2638,3640,5023,6932,9567 ★ Pisot sequence L(8,9). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - a(n - 5) (holds at least up to n = 1000 but is not know n to hold in general). •

[A168415] • 8,9,11,15,23,39,71,135,263,519,1031,2055,4103,8199,16391,32775,65543,131079,262151,524295,1048583,2097159,4194311,8388615,16777223 ★ a(n) = 2^n + 7. • a(n) = 2 * a(n - 1) - 7, n>1. •

[A174041] • 8,9,14,15,20,21,26,27,32,33,38,39,44,45,50,51,56,57,62,63,68,69,74,75,80 ⋆ Composites of the form 6n+2 or 6n+3. • a(2n - 1) = 6n + 2, a(2n) = 6n + 3. •

[A175859] • 8,9,14,15,24,25,32,33,38,39,54,55,62,63,74,75,90,91,92,93,98,99,114,115,116 ⋆ a(n) = numbers k in increasing order such that A175856(m) = k has no solution for any m, where A175856(m): a(m) = m for m = noncomposites, a(m) = previous term - 1 for m = composites. • a(2k) = a(2k - 1) + 1 for k >=1. •

[A047393] • 0,1,8,9,16,17,24,25,32,33,40,41,48,49,56,57,64,65,72,73,80,81,88,89,96 ⋆ Numbers that are congruent to {0, 1} mod 8. • a(n) = 8 * n - a(n - 1) - 15 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Aug 05 2010 • a(n) = 4 * n - 11 / 2 - 3 * (- 1) ^ n / 2. •

[A145820] • 8,9,16,25,40,89,144,233,520,841,1360,3033,4904,7929,17680,28585,46216,103049,166608,269369,600616,971065,1570000,3500649,5659784 ⋆ Numbers n such that 17, n, n+1 are the sides of a Heron triangle, i.e., a triangle with integer sides and integer area. • a(n) = a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7), with a(1)=8, a(2)=9, a(3)=16, a(4)=25, a(5)=40, a(6)=89, a(7)=144 •

[A274406] • 0,8,9,17,18,26,27,35,36,44,45,53,54,62,63,71,72,80,81,89,90,98,99,107,108 ⋆ Numbers m such that 9 divides m*(m + 1). • a(n) = (18 * n + 7 * (- 1) ^ n - 11) / 4. Therefore: a(2 * m) = 9 * m - 1, a(2 * m + 1) = 9 * m. It follows that a(j) + a(k) and a(j) * a(k) belong to the sequence if j and k are not both even. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(2 * r + 1) + a(2 * r + s + 1) = a(4 * r + s + 1) and a(2 * r) + a(2 * r + 2 * s + 1) = a(4 * r + 2 * s). A particular case provided by these identities: a(n) = a(n - 2 * floor(n / 6)) + a(2 * floor(n / 6) + 1). •

[A022098] • 1,8,9,17,26,43,69,112,181,293,474,767,1241,2008,3249,5257,8506,13763,22269,36032,58301,94333,152634,246967,399601 ⋆ Fibonacci sequence beginning 1, 8. • a(n) = a(n - 1) + a(n - 2) for n>1, a(0)=1, a(1)=8, and a(- 1) :=7. • a(n) = ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) / (2 ^ n * sqrt(5)) + 3.5 * ((1 + sqrt(5)) ^ (n - 1) - (1 - sqrt(5)) ^ (n - 1)) / (2 ^ (n - 2) * sqrt(5)) for n>0. - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 • a(n) = 2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 15 + sqrt(5)) + (1 + sqrt(5)) ^ n * (15 + sqrt(5))) / sqrt(5). - _ Herbert Kociemba _ , Dec 18 2011 • a(n) = Lucas(n + 3) + Lucas(n - 3) - 3 * Lucas(n) for n>1. - _ Bruno Berselli _ , Dec 29 2016 •

[A041307] • 1,1,8,9,17,26,69,302,371,1415,3201,39827,82855,288392,371247,1773380,3918007,5691387,9609394,15300781,116714861,132015642,3285090269,3417105911,27204831646 ⋆ Denominators of continued fraction convergents to sqrt(166). • a(n) = 3401805130 * a(n - 22) - a(n - 44) for n>43. [_ Bruno Berselli _ , Dec 15 2013] •

[A042289] • 1,1,8,9,17,26,147,1496,7627,9123,16750,25873,197861,223734,11384561,11608295,92642626,104250921,196893547,301144468,1702615887,17327303338,88339132577,105666435915,194005568492 ⋆ Denominators of continued fraction convergents to sqrt(670). • a(n) = 11582422 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A042727] • 1,1,8,9,17,77,1095,1172,3439,4611,8050,20711,28761,49472,127705,177177,2608183,10609909,13218092,23828001,180014099,203842100,12002855899,12206697999,97449741892 ⋆ Denominators of continued fraction convergents to sqrt(893). • a(n) = 12182869998 * a(n - 22) - a(n - 44) for n>43. - _ Vincenzo Librandi _ , Jan 27 2014 •

[A041551] • 1,8,9,17,145,4947,39721,44668,84389,719780,24556909,197175052,221731961,418907013,3572988065,121900501223,978776997849,1100677499072,2079454496921,17736313474440,605114112627881,4858649214497488,5463763327125369,10322412541622857 ⋆ Denominators of continued fraction convergents to sqrt(293). • a(n) = 4964 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 20 2013 •

[A022313] • 0,8,9,18,28,47,76,124,201,326,528,855,1384,2240,3625,5866,9492,15359,24852,40212,65065,105278,170344,275623,445968 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 0 and a(1) = 8. • a(n) = F(n + 2) + 7 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A120311] • 8,9,19,20,22,38,39,54,56,58,72,90,91,92,93,94,95,96,107,131,132,133,153,154,155 ⋆ Numbers n such that pi(n) == 0 mod 4, where pi() = A000720, and such that prime(n) == 3 mod 4. • a(n) = If[Mod[PrimePi[n], 4] == 0 && Mod[Prime[n], 4] - 3 == 0, n] •

[A081351] • 1,8,9,24,25,48,49,80,81,120,121,168,169,224,225,288,289,360,361,440,441,528,529,624,625 ⋆ First row in square maze array of natural numbers A081349. • a(n) = (n + 1) * (n + 2) - (n + 1) * (- 1) ^ n = 2 * C(n + 2,2) - C(n + 1,1) * (- 1) ^ n. •

[A041134] • 8,9,26,35,61,340,1421,7445,8866,16311,41488,57799,966272,1024071,3014414,4038485,7052899,39302980,164264819,860627075,1024891894,1885518969,4795929832,6681448801,111699110648 ⋆ Numerators of continued fraction convergents to sqrt(76). • a(n) = 115598 * a(n - 12) - a(n - 24). G.f.: - (x ^ 23 - 8 * x ^ 22 + 9 * x ^ 21 - 26 * x ^ 20 + 35 * x ^ 19 - 61 * x ^ 18 + 340 * x ^ 17 - 1421 * x ^ 16 + 7445 * x ^ 15 - 8866 * x ^ 14 + 16311 * x ^ 13 - 41488 * x ^ 12 - 57799 * x ^ 11 - 41488 * x ^ 10 - 16311 * x ^ 9 - 8866 * x ^ 8 - 7445 * x ^ 7 - 1421 * x ^ 6 - 340 * x ^ 5 - 61 * x ^ 4 - 35 * x ^ 3 - 26 * x ^ 2 - 9 * x - 8) / ((x ^ 12 - 340 * x ^ 6 + 1) * (x ^ 12 + 340 * x ^ 6 + 1)). [_ Colin Barker _ , Jul 19 2012] •

[A041317] • 1,8,9,26,61,87,148,531,3334,10533,13867,24400,62667,149734,212401,1848942,48284893,388128086,436412979,1260954044,2958321067,4219275111,7177596178,25752063645,161689978048 ⋆ Denominators of continued fraction convergents to sqrt(172). • a(n) = 48497294 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Dec 15 2013] •

[A042311] • 1,8,9,26,139,304,1659,3622,5281,45870,2390521,19170038,21560559,62291156,333016339,728323834,3974635509,8677594852,12652230361,109895437740,5727214992841,45927615380468,51654830373309,149237276127086,797841211008739 ⋆ Denominators of continued fraction convergents to sqrt(682). • a(n) = 2395802 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Jan 20 2014 •

[A217843] • 0,1,8,9,27,35,36,64,91,99,100,125,189,216,224,225,341,343,405,432,440,441,512,559,684 ⋆ Numbers which are the sums of consecutive nonnegative cubes. • a(n) >> n ^ 2. Probably a(n) ~ kn ^ 2 for some k but I cannot prove this. - _ Charles R Greathouse IV _ , Aug 07 2013 •

[A120776] • 8,9,35,39,65,119,125,219,341,515,749,755,905,935,989,1043,1119,1343,1355,1469,1649,1829,1859,2519,3005 ⋆ Composite numbers n such that n+d+1 is prime for all divisors d of n greater than 1. • a(n)=n - th number such that n is composite and n + d + 1 is prime for all divisors d greater than 1. •

[A041136] • 8,9,35,79,272,351,5888,6239,24605,55449,190952,246401,4133368,4379769,17272675,38925119,134048032,172973151,2901618448,3074591599,12125393245,27325378089,94101527512 ⋆ Numerators of continued fraction convergents to sqrt(77). • a(n) = 702 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 8 * x ^ 10 + 9 * x ^ 9 - 35 * x ^ 8 + 79 * x ^ 7 - 272 * x ^ 6 - 351 * x ^ 5 - 272 * x ^ 4 - 79 * x ^ 3 - 35 * x ^ 2 - 9 * x - 8) / ((x ^ 4 - 9 * x ^ 2 + 1) * (x ^ 8 + 9 * x ^ 6 + 80 * x ^ 4 + 9 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 18 2012] •

[A041915] • 1,1,8,9,35,79,1694,3467,12095,15562,121029,136591,5857851,5994442,47818945,53813387,209259106,472331599,10128222685,20728776969,72314553592,93043330561,723617867519,816661198080,35023388186879 ⋆ Denominators of continued fraction convergents to sqrt(479). • a(n) = 5978880 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A129548] • 1,1,8,9,36,43,120,147,329,406,784,966,1680,2058,3312,4026,6105,7359,10648,12727,17732,21021,28392,33397,43953 ⋆ Measures of entanglement in 3-qbits. • a(n) = [x ^ (2n)] (1 + x ^ 4) * (1 + x ^ 4 + x ^ 8) / ((1 - x ^ 2) * (1 - x ^ 4) ^ 5 * (1 - x ^ 6)). • a(n) = (2 * n + 3 + (- 1) ^ n) * (2 * n + 7 + (- 1) ^ n) * (2 * n + 11 + (- 1) ^ n) * (2 * n ^ 3 + 27 * n ^ 2 + 169 * n + 387 - 3 * (n ^ 2 - 5 * n - 31) * (- 1) ^ n) / 184320. - _ Luce ETIENNE _ , Oct 15 2015. • a(n) = (n ^ 6 + 24 * n ^ 5 + 280 * n ^ 4 + 1920 * n ^ 3 + 7504 * n ^ 2 + 14976 * n + 11520) / 11520 (n even). • a(n) = (n ^ 6 + 24 * n ^ 5 + 235 * n ^ 4 + 1200 * n ^ 3 + 3319 * n ^ 2 + 4536 * n + 2205) / 11520 (n odd). • a(n) = 2 * a(n - 1) + 4 * (n - 2) - 10 * a(n - 3) - 5 * a(n - 4) + 20 * a(n - 5) - 20 * a(n - 7) + 5 * a(n - 8) + 10 * a(n - 9) - 4 * a(n - 10) - 2 * a(n - 11) + a(n - 12) for n>11. - _ Wesley Ivan Hurt _ , Oct 15 2015 •

[A042847] • 1,1,8,9,53,168,389,2502,5393,18681,98798,117479,921151,1038630,63238951,64277581,513182018,577459599,3400480013,10778899638,249582792890,160528575372,346015430033,1198574865471,6338889757388 ⋆ Denominators of continued fraction convergents to sqrt(954). • a(n) = 64160102 * s(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Jan 30 2014 •

[A042873] • 1,8,9,62,71,630,39131,313678,352809,2430532,2783341,24697260,1534013461,12296804948,13830818409,95281715402,109112533811,968181985890,60136395658991,482059347257818,542195742916809,3735233804758672,4277429547675481,37954670186162520 ⋆ Denominators of continued fraction convergents to sqrt(968). • a(n) = 39202 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A033045] • 0,1,8,9,64,65,72,73,512,513,520,521,576,577,584,585,4096,4097,4104,4105,4160,4161,4168,4169,4608 ⋆ Sums of distinct powers of 8. • a(n) = Sum _{ i=0..m } d(i) * 8 ^ i, where Sum _{ i=0..m } d(i) * 2 ^ i is the base 2 representation of n. • a(2n) = 8 * a(n), a(2n + 1) = a(2n) + 1. •

[A256162] • 1,8,9,98,99,998,999,9998,9999,99998,99999,999998,999999,9999998,9999999,99999998,99999999,999999998,999999999,9999999998,9999999999,99999999998,99999999999,999999999998,999999999999 ⋆ Positive integers a(n) such that number of digits in decimal expansion of a(n)^a(n) is divisible by a(n). • a(n) = 10 ^ floor(n / 2) - 2 * floor(n / 2) + n - 2 = 10 ^ floor(n / 2) - (1 + (- 1) ^ n) / 2 - 1 for n>1, a(1) = 1. •

[A041141] • 1,1,8,9,152,161,1279,1440,24319,25759,204632,230391,3890888,4121279,32739841,36861120,622517761,659378881,5238169928,5897548809,99598950872,105496499681,838074448639,943570948320,15935209621759 ⋆ Denominators of continued fraction convergents to sqrt(79). • a(n) = 160 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 11 2013 •

[A041142] • 1,8,9,152,161,2728,2889,48952,51841,878408,930249,15762392,16692641,282844648,299537289,5075441272,5374978561,91075098248,96450076809,1634276327192,1730726404001,29325898791208,31056625195209,526231901914552,557288527109761 ⋆ Numerators of continued fraction convergents to sqrt(80). • a(n) = 18 * a(n - 2) - a(n - 4). • a(n) = (- 3 * (- 2 - sqrt(5)) ^ n + 5 * (2 - sqrt(5)) ^ n - 3 * (- 2 + sqrt(5)) ^ n + 5 * (2 + sqrt(5)) ^ n) / 4. - _ Colin Barker _ , Mar 27 2016 •

[A041605] • 1,1,8,9,314,323,2575,2898,101107,104005,829142,933147,32556140,33489287,266981149,300470436,10482975973,10783446409,85967100836,96750547245,3375485707166,3472236254411,27681139488043,31153375742454,1086895914731479 ⋆ Denominators of continued fraction convergents to sqrt(320). • a(n) = 322 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A020744] • 8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56 ⋆ Pisot sequences P(8,10), T(8,10). • a(n) = 2n + 8. a(n) = 2a(n - 1) - a(n - 2). •

[A184116] • 8,10,13,15,17,19,21,23,24,26,28,30,31,33,35,36,38,39,41,42,44,45,47,49,50 ⋆ n + floor(5*sqrt(n)). • a(n) = n + floor(5 * sqrt(n)) •

[A167487] • 8,10,13,17,22,28,35,43,52,62,73,85,98,112,127,143,160,178,197,217,238,260,283,307,332 ⋆ a(n) = n*(n + 3)/2 + 8. • a(n) = n + a(n - 1) + 1 with n>1, a(1)=10. • a(n) = Sum _{ i=n - 5..n + 7 } i * (i + 1) / 26. - _ Bruno Berselli _ , Oct 20 2016 •

[A275627] • 8,10,13,17,22,28,36,46,59,76,98,126,162,208,267,343,441,567,729,937,1204,1547,1988,2555,3284 ⋆ Expansion of (6*x^5+5*x^4+4*x^3+3*x^2+2*x+8)/(1-x-x^6). • a(n) = a(n - 1) + a(n - 6) for n>5. - _ Colin Barker _ , Aug 21 2016 •

[A048591] • 8,10,13,17,23,32,45,64,92,133,193,281,410,599,876,1282,1877,2749,4027,5900,8645,12668,18564,27205,39869 ⋆ Pisot sequence L(8,10). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 3) - a(n - 4) (holds at least up to n = 1000 but is not known to hold in general). •

[A027693] • 8,10,14,20,28,38,50,64,80,98,118,140,164,190,218,248,280,314,350,388,428,470,514,560,608 ⋆ n^2 + (n+8). • a(n)=2 * n + a(n - 1) (with a(0)=8) - _ Vincenzo Librandi _ , Aug 05 2010 • a(0)=8, a(1)=10, a(2)=14, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Dec 13 2011] •

[A058633] • 0,1,8,10,15,23,39,42,61,67,81,90,99,116,133,137,149,169,189,196,203,218,233,243,266 ⋆ Partial sums of the Collatz sequence. • a(n) = Sum(i from 0 to n) Collatz(i) a(n) = a(n - 1) + Collatz(n) •

[A155966] • 8,10,16,26,40,58,80,106,136,170,208,250,296,346,400,458,520,586,656,730,808,890,976,1066,1160 ⋆ a(n) = 2*n^2 + 8. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A056020] • 1,8,10,17,19,26,28,35,37,44,46,53,55,62,64,71,73,80,82,89,91,98,100,107,109 ⋆ Numbers n that are congruent to +-1 mod 9. • a(1) = 1; a(n) = 9 (n - 1) - a(n - 1). - _ Rolf Pleisch _ , Jan 31 2008 [Offset corrected by _ Jon E. Schoenfield _ , Dec 22 2008] • a(n) = (1 / 4) * (- 9 + 5 * (- 1) ^ n + 18 * n). - _ Paolo P. Lava _ , Apr 26 2010 • a(n) = a(n - 2) + 9, for n > 2. •

[A153382] • 0,8,10,18,30,48,80,128,210,338,550,888,1440,2328,3770,6098,9870,15968,25840,41808,67650,109458,177110,286568,463680 ⋆ a(n)=a(n-1)+2a(n-2)-a(n-3)-a(n-4), a(0)=0,a(1)=8,a(2)=10,a(3)=18. • a(n)= - 1 + (- 1) ^ n + 2 * sqrt(5) *{ [(1 / 2) + (1 / 2) * sqrt(5)] ^ n - [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Jan 09 2009] •

[A236653] • 1,8,10,19,26,28,37,44,46,55,62,64,73,80,82,91,98,100,109,116,118,127,134,136,145 ⋆ Positive integers n such that n^3 divided by the digital root of n is a cube. • a(n) = a(n - 1) + a(n - 3) - a(n - 4). •

[A022322] • 1,8,10,19,30,50,81,132,214,347,562,910,1473,2384,3858,6243,10102,16346,26449,42796,69246,112043,181290,293334,474625 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 8. • a(n) = 2 * F(n + 2) + 5 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A259713] • 1,8,10,26,46,98,190,386,766,1538,3070,6146,12286,24578,49150,98306,196606,393218,786430,1572866,3145726,6291458,12582910,25165826,50331646 ⋆ a(n) = 3*2^n - 2*(-1)^n. • a(n) = a(n - 1) + 2 * a(n - 2) for n>1, a(0)=1, a(1)=8. • a(n) = 2 * a(n - 1) - 6 * (- 1) ^ n for n>0, a(0)=1. •

[A024869] • 8,10,27,32,61,70,114,128,190,210,293,320,427,462,596,640,804,858,1055,1120,1353,1430,1702,1792,2106 ⋆ a(n) = s(1)t(n) + s(2)t(n-1) + ... + s(k)t(n-k+1), where k = floor(n/2), s = natural numbers >= 2, t = natural numbers >= 3. • a(n) = (4 * n ^ 3 + 3 * ((- 1) ^ n + 13) * n ^ 2 + 4 * (6 * (- 1) ^ n + 17) * n + 42 * ((- 1) ^ n - 1)) / 48. • a(n) = (2 * n ^ 3 + 21 * n ^ 2 + 46 * n) / 24 for n even. • a(n) = (2 * n ^ 3 + 18 * n ^ 2 + 22 * n - 42) / 24 for n odd. •

[A212767] • 1,1,8,10,29,35,72,84,145,165,256,286,413,455,624,680,897,969,1240,1330,1661,1771,2168,2300,2769 ⋆ Number of (w,x,y,z) with all terms in {0,...,n}, w even, x even, and w+x=y+z. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = (4 * n ^ 3 + 15 * n ^ 2 + 20 * n + 12 + 3 * (n ^ 2 + 4 * n + 4) * (- 1) ^ n) / 24. - _ Luce ETIENNE _ , Jun 03 2014 •

[A061570] • 0,1,8,11,14,17,20,23,26,29,32,35,38,41,44,47,50,53,56,59,62,65,68,71,74 ⋆ a(1)=0, a(2)=1, a(n)=3*n-1 for n >= 3. • a(1)=0, a(2)=1, a(3)=8, a(4)=11, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Dec 12 2011 •

[A243520] • 0,8,11,19,22,30,33,41,44,52,55,63,66,74,77,85,88,96,99,107,110,118,121,129,132 ⋆ Numbers that are congruent to {0, 8} mod 11. • a(n) = - 5 / 4 * (- 1) ^ n + 11 * n / 2 + 5 / 4. • a(n) = 5 * n + 2 * (n mod 2) + ceiling(n / 2). •

[A129730] • 8,11,20,26,35,48,110,159,231,339,814,1215,1826,2757,6765,10303,15744,24133,60020,92490,142850,221086,554694,861613,1340498 ⋆ Upper limit palindromic complexity sequence for Fibonacci. • a(n) = Ceiling[(16 / (n + 1)) * Fibonacci[n + 1 + Floor[(n + 1) / 4]]] •

[A195160] • 0,1,8,11,25,30,51,58,86,95,130,141,183,196,245,260,316,333,396,415,485,506,583,606,690 ⋆ Generalized 11-gonal numbers. • a(n) = (18 * n * (n + 1) + 5 * (2 * n + 1) * (- 1) ^ n - 5) / 16. •

[A258285] • 1,1,8,11,52,91,326,567,1925,3361,10114,17998,50084,89303,236472,414418,1036205,1872828,4394636,7781405,18111119,31868623,70513669,125728510,269084037 ⋆ Number of partitions of 7 copies of n into distinct parts. • a(n) = 1 / 7! * [Product _{ i=1..7 } x _ i ^ n] Product _{ j>0 } (1 + Sum _{ i=1..7 } x _ i ^ j). •

[A111087] • 1,8,12,16,18,20,24,27,28,30,32,36,40,42,44,45,48,50,52,54,56,60,63,64,66 ⋆ Neither primes nor semiprimes. • a(n) = n + O(n log log n / log n). - _ Charles R Greathouse IV _ , Nov 13 2016 •

[A078609] • 8,12,16,21,25,29,34,38,42,47,51,55,60,64,68,73,77,81,86,90,94,99,103,107,112 ⋆ Least positive integer x such that 2*x^n>(x+3)^n. • a(n) = ceiling(3 / (2 ^ (1 / n) - 1)). For most n, a(n) = floor(3n / log(2) - 1 / 2), but there are exceptions, starting with n=32 and n=52113. •

[A276403] • 8,12,18,27,36,48,72,108,162,243,324,432,648,972,1458,2187,2916,3888,5832,8748,13122,19683,26244,34992,52488 ⋆ a(n) = if n mod 6 = 0 then 4*3^((n-6)/3) elif n mod 6 = 1 then 2^4*3^((n-10)/3) elif n mod 6 = 2 then 2^3*3^((n-8)/3) elif n mod 6 = 3 then 2^2*3^((n-6)/3) elif n mod 6 = 4 then 2*3^((n-4)/3) otherwise 3^((n-2)/3). • a(n) = 9 * a(n - 6) for n > 13. •

[A105936] • 8,12,18,30,42,52,68,78,138,172,186,222,258,268,410,434,508,548,618,668,762,772,786,892,906 ⋆ Numbers that are the product of exactly 3 primes and are of the form prime(n) + prime(n+1). • a(n) is equal to the product of 3 primes if the arithmetic mean of prime(n) and prime(n + 1) is a semiprime. •

[A168670] • 1,8,12,19,23,30,34,41,45,52,56,63,67,74,78,85,89,96,100,107,111,118,122,129,133 ⋆ Numbers that are congruent to {1, 8} mod 11. • a(n) = (- 15 + 3 * (- 1) ^ n + 22 * n) / 4. a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (1 + 7 * x + 3 * x ^ 2) / ((1 - x) ^ 2 * (1 + x)). [_ Colin Barker _ , May 15 2012, modified Jul 07 2015] •

[A232867] • 8,12,19,30,45,64,87,114,145,180,219,262,309,360,415,474,537,604,675,750,829,912,999,1090,1185 ⋆ Positions of the negative integers in the sequence (or tree) of complex numbers generated by these rules: 0 is in S, and if x is in S, then x + 1 and i*x are in S, where duplicates are deleted as they occur. • a(n + 1) = 2 * n ^ 2 + n + 9 for n >= 1 (conjectured). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >= 5 (conjectured). •

[A258848] • 8,12,20,32,80,208,512,2304,12288,81920,622592,4931584,38944768,278380544,2122724424,17483677696,128412352512,1348723408896,1476886796676,188484960780288,2416519442792448,30543291749302272,375877192068366336,6101345960934506496 ⋆ The n-th pi-based arithmetic derivative of 2^3. • a(n) = A258851 ^ n(2 ^ 3). •

[A072902] • 1,8,12,21,24,28,33,40,44,56,57,60,65,69,76,77,85,88,92,93,104,105,120,124,129 ⋆ Composite numbers n (including 1) such that the discriminant of the quadratic field Q(sqrt(n)) equals n. • a(n) appears to be asymptotic to C * n with C=3.91..... •

[A241482] • 8,12,24,60,60,364,984,1596,1596,1596,3705,58444,84396,164620,172236,369105,369105,731676,731676,3442296,3442296,32169916,32169916,47973864,47973864 ⋆ Least fundamental discriminant D > 1 such that the first n primes p have (D/p) >= 0. • a(n) > prime(n) ^ (4 * sqrt(e) + o(1)). - _ Charles R Greathouse IV _ , Apr 23 2014 •

[A210982] • 0,1,8,12,26,33,54,64,92,105,140,156,198,217,266,288,344,369,432,460,530,561,638,672,756 ⋆ Zero together with A126264 and positive terms of A051624 interleaved. • a(n) = (10 * n ^ 2 + 8 * n - 3 + (4 * n + 3) * (- 1) ^ n) / 8. - _ Luce ETIENNE _ , Oct 14 2014 •

[A132356] • 0,8,12,36,44,84,96,152,168,240,260,348,372,476,504,624,656,792,828,980,1020,1188,1232,1416,1464 ⋆ a(2*k) = k*(10*k+2), a(2*k+1) = 10*k^2 + 18*k + 8, with k >= 0. • a(n) = 10 * x ^ 2 - 2 * x, where x = floor(n / 2) * (- 1) ^ n for n >= 1. - _ William A. Tedeschi _ , Sep 12 2010 • a(n) = ((2 * n + 1 - (- 1) ^ n) * (10 * (2 * n + 1) - 2 * (- 1) ^ n)) / 16. - _ Luce ETIENNE _ , Sep 13 2014 • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n > 4. - _ Chai Wah Wu _ , May 24 2016 •

[A162466] • 1,8,12,96,144,1152,1728,13824,20736,165888,248832,1990656,2985984,23887872,35831808,286654464,429981696,3439853568,5159780352,41278242816,61917364224,495338913792,743008370688,5944066965504 ⋆ a(n) = 12*a(n-2) for n > 2; a(1) = 1, a(2) = 8. • a(n) = (5 - (- 1) ^ n) * 2 ^ (1 / 2 * (2 * n - 3 + (- 1) ^ n)) * 3 ^ (1 / 4 * (2 * n - 5 + (- 1) ^ n)). •

[A098664] • 1,1,8,12,96,160,1280,2240,17920,32256,258048,473088,3784704,7028736,56229888,105431040,843448320,1593180160,12745441280,24216338432,193730707456,369849532416,2958796259328,5671026163712,45368209309696 ⋆ E.g.f. BesselI(0,4x)+BesselI(1,4x)/2. • a(n)=binomial(n, floor(n / 2))4 ^ floor(n / 2). •

[A204221] • 0,1,8,13,17,24,45,56,64,77,112,129,141,160,209,232,248,273,336,365,385,416,493,528,552 ⋆ Integers of the form (n^2 - 1) / 15. • a(- 1 - n) = a(n). • a(n) = (30 * n - 10 * i ^ (n(n - 1)) + 3 * (- 1) ^ n + 7) * (30 * n - 10 * i ^ (n(n - 1)) + 3 * (- 1) ^ n + 23) / 960, where i=sqrt(- 1). - _ Bruno Berselli _ , Nov 28 2012 •

[A224251] • 8,13,18,23,48,73,98,123,248,373,498,623,1248,1873,2498,3123,6248,9373,12498,15623,31248,46873,62498,78123,156248 ⋆ Numbers, a(n) where binomial(a(n), 5n-1) == 0 (mod 5) and binomial(a(n), k) != 0 (mod 5) for k != 5n - 1. • a(n) = 5 * (n + 1) - 2, for n <= 4; a(5) = (5 ^ 2) * 2 - 2; a(n)= a(n - 1) + 5 * a(n - 4) - 5 * a(n - 5) for n>=6. •

[A219721] • 1,8,13,20,22,29,34,41,43,50,55,62,64,71,76,83,85,92,97,104,106,113,118,125,127 ⋆ Expansion of (1+7*x+5*x^2+7*x^3+x^4)/(1-x-x^4+x^5). • a(n) = - a(- n - 1) = (42 * n - 6 * i ^ (n * (n - 1)) - 7 * (- 1) ^ n + 5) / 8 + 2, where i=sqrt(- 1). •

[A246639] • 8,13,28,68,173,448,1168,3053,7988,20908,54733,143288,375128,982093,2571148,6731348,17622893,46137328,120789088,316229933,827900708,2167472188,5674515853,14856075368,38893710248 ⋆ Sequence a(n) = 3 + 5*A001519(n+1) appearing in a certain three circle touching problem, together with A246638. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3), n >=1, a(- 2) = 13, a(- 1) = 8, a(0) = 8. • a(n) = 2 ^ (- 1 - n) * (3 * 2 ^ (1 + n) - (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5))). - _ Colin Barker _ , Nov 02 2016 •

[A287922] • 8,13,29,53,125,173,293,365,533,845,965,1373,1685,1853,2213,2813,3485,3725,4493,5045,5333,6245,6893,7925,9413 ⋆ a(n) = prime(1)^2 + prime(n)^2. • a(n) = 4 + prime(n) ^ 2. •

[A096229] • 0,8,14,18,20,190,198,204,208,210,580,588,594,598,600,1170,1178,1184,1188,1190,1960,1968,1974,1978,1980 ⋆ 0*9, 1*8, 2*7, 3*6, 4*5; 10*19, 11*18, ..., 14*15; 20*29, 21*28, ..., 24*25; 30*39, ... • a(n) = (floor(n / 5) * 10 + (n mod 5)) * (floor(n,5) * 10 + 9 - (n mod 5)) - _ Colin Barker _ , Feb 21 2013 •

[A063216] • 1,8,14,22,28,35,42,49,55,63,69,76,83,90,96,104,110,117,124,131,137,145,151,158,165 ★ Dimension of the space of weight 2n cuspidal newforms for Gamma_0(49). • a(n) = a(n - 2) + a(n - 3) - a(n - 5). G.f.: x * (1 + 8 * x + 13 * x ^ 2 + 13 * x ^ 3 + 6 * x ^ 4) / ((1 - x) ^ 2 * (1 + x) * (1 + x + x ^ 2)). [_ Colin Barker _ , Sep 27 2012] •

[A238290] • 0,8,14,22,28,36,42,50,56,64,70,78,84,92,98,106,112,120,126,134,140,148,154,162,168 ★ a(n+1) = a(n) + 6 + 2*(n - 2*floor(n/2)) for n>0, a(0)=0. • a(n) = floor((2 * n + 1) / 4) + 2 * floor((2 * n + 1) / 2) + 3 * floor(3 * (2 * n + 1) / 4). • a(n) = 8 * floor((n + 1) / 2) + 6 * floor(n / 2). •

[A100315] • 8,14,22,34,54,90,158,290,550,1066,2094,4146,8246,16442,32830,65602,131142,262218,524366,1048658,2097238,4194394,8388702,16777314,33554534 ★ Number of 3 X n 0-1 matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (01;0), (10;0) and (01;1). • a(n) = 2 ^ n + 4 * n + 2. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n > 3. •

[A248427] • 8,14,24,36,48,64,80,100,120,144,168,196,224,256,288,324,360,400,440,484,528,576,624,676,728 ★ Circumference of the (n,n)-knight graph. • a(n) = (- 1 + (- 1) ^ n + 2 * n ^ 2) / 2 for n>4. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>8. •

[A090993] • 8,14,24,42,72,126,216,378,648,1134,1944,3402,5832,10206,17496,30618,52488,91854,157464,275562,472392,826686,1417176,2480058,4251528 ★ Number of meaningful differential operations of the n-th order on the space R^8. • a(n + 4) = 4 * a(n + 2) - 3 * a(n). • a(n) = 3 * a(n - 2). G.f.: 2 * x * (4 + 7 * x) / (1 - 3 * x ^ 2). [_ Colin Barker _ , May 03 2012] • a(n) = (11 + 3 * (- 1) ^ n) * 3 ^ floor((n - 1) / 2). - _ Ralf Stephan _ , Jul 19 2013 •

[A187062] • 0,0,8,14,26,42,64,90,134,172,232,300,378,464,584,690,834,990,1160,1342,1574,1784,2048,2328,2626 ★ Expansion of 2*x^2 *(4 +7*x +5*x^2 -x^3 -4*x^4 +6*x^6 +4*x^7 -x^8 -2*x^9) / ((1+x)^2 *(1+x+x^2)^2 *(1-x)^4) . • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) - a(n - 6) + 2 * a(n - 7) + 2 * a(n - 8) - a(n - 10) . •

[A198307] • 8,14,50,86,302,518,1814,3110,10886,18662,65318,111974,391910,671846,2351462,4031078,14108774,24186470,84652646,145118822,507915878,870712934,3047495270,5224277606,18284971622 ★ Moore lower bound on the order of a (7,g)-cage. • a(2 * i) = 2 sum _{ j=0 }^{ i - 1 } 6 ^ j = string "2" ^ i read in base 6. • a(2 * i + 1) = 6 ^ i + 2 sum _{ j=0 }^{ i - 1 } 6 ^ j = string "1" * "2" ^ i read in base 6. • a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) for n >5. • a(n) = 2 * (6 ^ (n / 2) - 1) / 5 for n>2 and even. • a(n) = (7 * 6 ^ (n / 2 - 1 / 2) - 2) / 5 for n>2 and odd. •

[A016993] • 1,8,15,22,29,36,43,50,57,64,71,78,85,92,99,106,113,120,127,134,141,148,155,162,169 ★ a(n) = 7*n+1. • a(n) = 7 * n + 1. •

[A240522] • 8,15,28,45,77,117,176,221,304,391,475,667,775,1073,1271,1591,1927,2107,2491,2891,3233,3953,4331,4891,5609 ★ 5-sequence in partition of integers > 1 described in A240521. • a(n)=q _ n * q _ (n + 2), where q _ n is the n - th term of A050376. •

[A123526] • 1,1,1,1,1,1,1,1,8,15,29,57,113,225,449,897,1793,3578,7141,14253,28449,56785,113345,226241,451585 ★ Octanacci numbers. • a(n)=1 for 1 <= n <= 8, a(n) = a(n - 1) + a(n - 2) + ... + a(n - 8) for n > 8. •

[A083686] • 8,15,29,57,113,225,449,897,1793,3585,7169,14337,28673,57345,114689,229377,458753,917505,1835009,3670017,7340033,14680065,29360129,58720257,117440513 ★ a(0) = 8; for n>0, a(n) = 2*a(n-1) - 1. • a(n) = 7 * 2 ^ n + 1. - David Brotherton (dbroth01(AT)aol.com), Jul 29 2003 • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>1. - _ Vincenzo Librandi _ , Nov 03 2011 •

[A293360] • 8,15,30,60,119,237,473,946,1892,3784,7567,15133,30266,60532,121063,242125,484250,968499,1936997,3873994,7747987,15495974,30991948,61983896,123967791 ★ Least integer k such that k/2^n > e^2. • a(n) = ceiling(r * 2 ^ n), where r = e ^ 2. • a(n) = A068459n) + 1. •

[A197602] • 8,15,37,76,140,234,364,536,756,1030,1364,1764,2236,2786,3420,4144,4964,5886,6916,8060,9324,10714,12236,13896,15700 ★ Floor((n+1/n)^3). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>7. •

[A275277] • 1,1,1,1,8,15,43,113,295,778,2045,5377,14141,37185,97784,257139,676187,1778141,4675903,12296026,32334345,85028273,223595289,587979169,1546184200 ★ a(n) = a(n-1) + 3*a(n-2) + 3*a(n-3) + a(n-4), where a(0) = a(1) = a(2) = a(3) = 1. • a(n) = a(n - 1) + 3 * a(n - 2) + 3 * a(n - 3) + a(n - 4), where a(0) = a(1) = a(2) = a(3) = 1. •

[A161342] • 0,1,8,15,64,71,120,169,512,519,568,617,960,1009,1352,1695,4096,4103,4152,4201,4544,4593,4936,5279,7680 ★ Number of "ON" cubic cells at n-th stage in simple 3-dimensional cellular automaton: a(n) = A160428(n)/8. • a(2 ^ n) = 2 ^{ 3n } . •

[A015442] • 0,1,1,8,15,71,176,673,1905,6616,19951,66263,205920,669761,2111201,6799528,21577935,69174631,220220176,704442593,2245983825,7177081976,22898968751,73138542583,233431323840 ★ Generalized Fibonacci numbers: a(n) = a(n-1) + 7*a(n-2), a(0)=0, a(1)=1. • a(n) = (((1 + sqrt(29)) / 2) ^ (n + 1) - ((1 - sqrt(29)) / 2) ^ (n + 1)) / sqrt(29). • a(n) = 8 * a(n - 2) + 7 * a(n - 3) with characteristic polynomial x ^ 3 - 8 * x - 7. - _ Roger L. Bagula _ , May 30 2007 • a(n) = (Sum _{ 1<=k<=n, k odd } C(n,k) * 29 ^ ((k - 1) / 2)) / 2 ^ (n - 1). - _ Vladimir Shevelev _ , Feb 05 2014 •

[A253211] • 8,15,71,519,4103,32775,262151,2097159,16777223,134217735,1073741831,8589934599,68719476743,549755813895,4398046511111,35184372088839,281474976710663,2251799813685255,18014398509481991,144115188075855879,1152921504606846983 ★ a(n) = 8^n + 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2) for n>1. •

[A247061] • 1,8,16,17,24,32,33,40,48,49,56,64,65,72,80,81,88,96,97,104,112,113,120,128,129 ★ Dynamic Betting Game D(n,5,1). • a(n) = a(n - 1) + a(n - 3) - a(n - 4). - _ Colin Barker _ , Sep 11 2014 •

[A008590] • 0,8,16,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192 ★ Multiples of 8. • a(n) = (2 * n + 1) ^ 2 - (2 * n - 1) ^ 2. - Xavier Acloque, Oct 22 2003 • a(n) = 8 * n = 2 * a(n - 1) - a(n - 2). • a(n) = Sum _{ k=1..4n } (i ^ k + 1) * (i ^ (4n - k) + 1), where i=sqrt(- 1). - _ Bruno Berselli _ , Mar 19 2012 • a(n) = (n + 2) ^ 2 - (n - 2) ^ 2 = 4 * (n + 2) + 4 * (n - 2), as exemplified below. - _ Peter M. Chema _ , Apr 03 2016 •

[A022144] • 1,8,16,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192 ★ Coordination sequence for root lattice B_2. • a(n) = [x ^ (2 * n)] ((1 + x) / (1 - x)) ^ 2. • a(n) = (2n + 1) ^ 2 - (2n - 1) ^ 2. Binomial transform of [1, 7, 1, - 1, 1, - 1, 1,...]. - _ Gary W. Adamson _ , Dec 27 2007 • a(n) = 0 ^ n + 8 * n. - _ Vincenzo Librandi _ , Aug 21 2011 •

[A186544] • 8,16,24,32,40,48,56,64,72,80,88,96,104,112,120,129,137,145,153,161,169,177,185,193,201 ★ Floor((pi-2)*n/(pi-3)); complement of A187320. • a(n)=floor((pi - 2) * n / (pi - 3)). •

[A020335] • 8,16,24,32,40,48,350,400,450,500,550,600,650,700,750,800,850,900,950,1000,1050,1100,1150,1200,1250 ★ Numbers n such that base 7 representation is the juxtaposition of two identical strings. • a(n) = n * 7 ^ floor(log _ 7(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[A182767] • 8,16,25,33,41,50,58,67,75,83,92,100,109,117,125,134,142,151,159,167,176,184,192,201,209 ★ Beatty sequence for 1+e^2. • a(n)=floor(n * (1 + e ^ 2)) = floor(n + n * A072334). •

[A018922] • 8,16,31,60,116,224,432,833,1606,3096,5968,11504,22175,42744,82392,158816,306128,590081,1137418,2192444,4226072,8146016,15701951,30266484,58340524 ★ Define the generalized Pisot sequence T(a(0),a(1)) by: a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n). This is T(8,16). • a(n) = 2 * a(n - 1) - a(n - 5). •

[A259751] • 8,16,32,40,56,64,80,88,104,112,128,136,152,160,176,184,200,208,224,232,248,256,272,280,296 ★ Numbers that are congruent to {8,16} mod 24. • a(n) = 8 * A001651. - _ Danny Rorabaugh _ , Oct 22 2015 • a(n) = 12 * n - 2 * (- 1) ^ n - 6. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[A139598] • 0,8,16,32,48,72,96,128,160,200,240,288,336,392,448,512,576,648,720,800,880,968,1056,1152,1248 ★ A035008(n) followed by A139098(n+1). • a(n) = (1 - (- 1) ^ n + 4 * n + 2 * n ^ 2). a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: 8 * x / ((1 - x) ^ 3 * (1 + x)). [_ Colin Barker _ , Jul 22 2012] •

[A137243] • 8,16,32,48,80,96,144,176,224,256,336,368,464,512,576,640,768,816,960,1024,1120,1200,1376,1440,1600 ★ Number of coprime pairs (a,b) with -n <= a,b <= n. • a(n) = a(n - 1) + 8 * EulerPhi(n), with a(1)=8. - _ Juan M. Marquez _ , Apr 24 2015 •

[A146541] • 1,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1048576,2097152,4194304,8388608,16777216,33554432,67108864 ★ Binomial transform of A010688. • a(0)=1, a(n) = 2 ^ (n + 2) for n>0. •

[A271994] • 8,16,34,52,84,116,166,216,288,360,458,556,684,812,974,1136,1336,1536,1778,2020,2308,2596,2934,3272,3664 ★ The chalcogen sequence (a(n) = A018227(n)-2). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>7. • a(n) = (2 * n ^ 3 + 12 * n ^ 2 + 25 * n + (- 1) ^ n * 3 * (n + 2) - 30) / 12. - _ Ilya Gutkovskiy _ , May 29 2016 •

[A197986] • 8,16,37,77,141,235,364,536,756,1030,1364,1764,2236,2786,3420,4144,4964,5886,6916,8060,9324,10714,12236,13896,15700 ★ Round((n+1/n)^3). • a(1)= 8, a { 2 } =16, a(3)=37, a(4)=77, a(5)=141, a(6)=235, a(7)=364, a(8)=536, a(9)=756, a(10)=1030, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Apr 05 2012] •

[A212764] • 0,1,8,16,54,81,192,256,500,625,1080,1296,2058,2401,3584,4096,5832,6561,9000,10000,13310,14641,19008,20736,26364 ★ Number of (w,x,y,z) with all terms in {0,...,n}, w, x and y odd, and z odd. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n) = (2 * n ^ 4 + 10 * n ^ 3 + 18 * n ^ 2 + 12 * n + 1 + (2 * n ^ 3 + 6 * n ^ 2 + 4 * n - 1) * (- 1) ^ n) / 32. - _ Luce ETIENNE _ , May 12 2015 •

[A117868] • 8,16,88,160,808,1456,7288,13120,65608,118096,590488,1062880,5314408,9565936,47829688,86093440,430467208,774840976,3874204888,6973568800,34867844008,62762119216,313810596088,564859072960,2824295364808 ★ Number of palindromes (in base 9) below 9^n. • a(n) = 10 * 9 ^ ((n - 1) / 2) - 2 (n odd), 2 * 9 ^ (n / 2) - 2 (n even). • a(1)=0, a(2)=8, a(3)=16, a(n)=a(n - 1) + 9 * a(n - 2) - 9 * a(n - 3). - _ Harvey P. Dale _ , Jul 17 2012 • a(n) = 8 * 3 ^ (n - 1) + 2 * (- 3) ^ (n - 1) - 2. - _ Robert Israel _ , Apr 26 2015 •

[A291001] • 0,8,16,88,288,1192,4400,17144,65088,250184,955984,3663256,14018400,53679592,205487984,786733112,3011882112,11530896008,44144966800,169006205656,647027178912,2477097797416,9483385847216,36306456276344,138996613483200 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - 8*S^2. • a(n) = 2 * a(n - 1) + 7 * a(n - 2) for n >= 3. • a(n) = 8 * A015519. • a(n) = sqrt(2) * ((1 + 2 * sqrt(2)) ^ n - (1 - 2 * sqrt(2)) ^ n). - _ Colin Barker _ , Aug 23 2017 •

[A062508] • 8,16,88,736,6568,59056,531448,4782976,43046728,387420496,3486784408,31381059616,282429536488,2541865828336,22876792454968,205891132094656,1853020188851848,16677181699666576,150094635296999128 ★ a(n) = 3^(2n)+7. • a(0)=8, a(1)=16, a(n)=10 * a(n - 1) - 9 * a(n - 2). - _ Harvey P. Dale _ , May 13 2012 •

[A107906] • 1,8,16,128,256,2048,4096,32768,65536,524288,1048576,8388608,16777216,134217728,268435456,2147483648,4294967296,34359738368,68719476736,549755813888,1099511627776,8796093022208,17592186044416 ★ Expansion of (1+8x)/(1-16x^2). • a(n)=((1 + sqrt(4))(2sqrt(4)) ^ n + (1 - sqrt(4))(- 2sqrt(4)) ^ n) / 2; a(n)=3 * 4 ^ n / 2 - (- 4) ^ n / 2. • a(2n) = 16 ^ n, a(2n + 1) = 8 * 16 ^ n. •

[**A022390**] • 8,17,25,42,67,109,176,285,461,746,1207,1953,3160,5113,8273,13386,21659,35045,56704,91749,148453,240202,388655,628857,1017512 ★ Fibonacci sequence beginning 8, 17. • a(n) = 8 * Fibonacci(n + 2) + Fibonacci(n). - _ Michel Marcus _ , Mar 03 2018 •

[**A041831**] • 1,1,8,17,25,42,67,913,2806,6525,15856,85805,101661,187466,851525,8702716,35662389,44365105,80027494,444502575,969032644,2382567863,8116736233,107900138892,116016875125 ★ Denominators of continued fraction convergents to sqrt(436). • a(n) = 316141343972498 * a(n - 30) - a(n - 60) for n>59. - _ Vincenzo Librandi _ , Dec 25 2013 •

[**A041122**] • 8,17,25,67,92,251,4108,8467,12575,33617,46192,126001,2062208,4250417,6312625,16875667,23188292,63252251,1035224308,2133700867,3168925175,8471551217,11640476392,31752504001 ★ Numerators of continued fraction convergents to sqrt(70). • a(n) = 502 * a(n - 6) - a(n - 12). G.f.: - (x + 1) * (x ^ 10 - 9 * x ^ 9 + 26 * x ^ 8 - 51 * x ^ 7 + 118 * x ^ 6 - 210 * x ^ 5 - 41 * x ^ 4 - 51 * x ^ 3 - 16 * x ^ 2 - 9 * x - 8) / (x ^ 12 - 502 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2012] •

[**A277052**] • 8,17,26,35,43,52,61,70,79,87,96,105,114,123,131,140,149,158,166,175,184,193,202,210,219 ★ a(n) = n+floor(n/(2/sqrt(Pi)-1)). • a(n) = n + floor(n / (2 / sqrt(Pi) - 1)). •

[**A017257**] • 8,17,26,35,44,53,62,71,80,89,98,107,116,125,134,143,152,161,170,179,188,197,206,215,224 ★ a(n) = 9n+8. • a(n) = 18 * n - a(n - 1) + 7. - _ Vincenzo Librandi _ , Nov 19 2010 • a(0)=8, a(1)=17, a(n) = 2 * a(n - 1) - a(n - 2). G.f.: (8 + x) / (1 - x) ^ 2. - _ Colin Barker _ , Jan 24 2012 •

[**A056121**] • 0,8,17,27,38,50,63,77,92,108,125,143,162,182,203,225,248,272,297,323,350,378,407,437,468 ★ a(n) = n*(n+15)/2. • a(n - 15) = C(n,2) - 7 * n. - _ Zerinvary Lajos _ , Nov 26 2006 • a(n) = n + a(n - 1) + 7 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 8 * n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[**A028884**] • 1,8,17,28,41,56,73,92,113,136,161,188,217,248,281,316,353,392,433,476,521,568,617,668,721 ★ a(n) = (n + 3)^2 - 8. • a(n) = a(n - 1) + 2 * n + 5 (with a(0) = 1). - _ Vincenzo Librandi _ , Aug 05 2010 •

[**A099358**] • 1,8,17,30,43,61,68,87,105,106,122,140,162,184,202,227,246,273,283,290,317,339,370,397,422 ★ a(n) = sum of digits of k^4 as k runs from 1 to n. • a(n) = a(n - 1) + sum of decimal digits of n ^ 4. • a(n) = sum(k=1, n, sum (m=0, floor(log(k ^ 4)), floor(10((k ^ 4) / (10 ^ (((floor(log(k ^ 4)) + 1)) - m)) - floor((k ^ 4) / (10 ^ (((floor(log(k ^ 4)) + 1)) - m))))))). •

[**A077221**] • 0,1,8,17,32,49,72,97,128,161,200,241,288,337,392,449,512,577,648,721,800,881,968,1057,1152 ★ a(0) = 0 and then alternately even and odd numbers in increasing order such that the sum of any two successive terms is a square. • a(2n) = 8 * n ^ 2, a(2n + 1) = 8 * n(n + 1) + 1. • a(n) = 2 * n ^ 2 + 4 * n + 1 [+ 1 if n is odd] with a(0)=1. G.f.: x * (x ^ 2 + 6 * x + 1) / (1 - x) ^ 3 / (1 + x). - _ Ralf Stephan _ , Mar 31 2003 • a(n) = 2 * n ^ 2 + ((- 1) ^ n - 1) / 2. - _ Omar E. Pol _ , Sep 28 2011 •

[**A106648**] • 8,17,32,53,80,113,152,197,248,305,368,437,512,593,680,773,872,977,1088,1205,1328,1457,1592,1733,1880 ★ 3*n^2+6*n+8. • a(0)=8, a(1)=17, a(2)=32, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Sep 20 2012 •

[**A159696**] • 8,17,36,76,160,336,704,1472,3072,6400,13312,27648,57344,1187844,245760,507904,1048576,2162688,4456448,9175040,18874368,38797312,79691776,163577856,335544320 ★ a(0)=8, a(n)=2*a(n-1)+2^(n-1) for n>0 . • a(n)= Sum _{ k=0..n } (k + 8) * binomial(n,k). • a(n)=(16 + n) * 2 ^ (n - 1) = 4 * a(n - 1) - 4 * a(n - 2). G.f.: (8 - 15x) / (1 - 2x) ^ 2. [From _ R. J. Mathar _ , Apr 20 2009] •

[**A188129**] • 8,17,41,113,353,1217,4481,17153,67073,265217,1054721,4206593,16801793,67158017,268533761,1073938433,4295360513,17180655617,68721049601,274881052673,1099517919233,4398059094017,17592211210241,70368794509313,281475077373953 ★ a(n) = (2^n+3)^2-8. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: - (34 * x ^ 2 - 39 * x + 8) / ((x - 1) * (2 * x - 1) * (4 * x - 1)). [_ Colin Barker _ , Nov 11 2012] •

[**A048695**] • 1,8,17,42,101,244,589,1422,3433,8288,20009,48306,116621,281548,679717,1640982,3961681,9564344,23090369,55745082,134580533,324906148,784392829,1893691806,4571776441 ★ Generalized Pellian with second term equal to 8. • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1, a(1)=8. • a(n) = ((7 + sqrt(2))(1 + sqrt(2)) ^ n - (7 - sqrt(2))(1 - sqrt(2)) ^ n) / 2 * sqrt(2). •

[**A153873**] • 8,17,44,116,305,800,2096,5489,14372,37628,98513,257912,675224,1767761,4628060,12116420,31721201,83047184,217420352,569213873,1490221268,3901449932,10214128529,26740935656,70008678440 ★ a(n) = 9*Fibonacci(2n+1) - 1. • a(n) = 3 * a(n - 1) - a(n - 2) + 1. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). • a(n) = - 1 + (9 / 2) * (((3 / 2) + (1 / 2) * sqrt(5)) ^ n + ((3 / 2) - (1 / 2) * sqrt(5)) ^ n) + (9 / 10) * sqrt(5) * (((3 / 2) + (1 / 2) * sqrt(5)) ^ n - ((3 / 2) - (1 / 2) * sqrt(5)) ^ n), with n>=0. _ Paolo P. Lava _ , Jan 20 2009 •

[**A171065**] • 0,1,1,8,17,81,224,881,2737,9928,32481,113761,380800,1313441,4441121,15215688,51677297,176530481,600723424,2049428881,6980069457,23799693448,81088954561,276417142721,941948403200 ★ G.f. -x*(x-1)*(1+x)/(1-x-8*x^2-x^3+x^4). • a(n)= + a(n - 1) + 8 * a(n - 2) + a(n - 3) - a(n - 4). • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = (1 + sqrt(41)) / 4 and beta = (1 - sqrt(41)) / 4 and T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, 5 / 2; 1, 1 / 2]. • a(n) = U(n - 1,i * (1 + sqrt(2)) / 2) * U(n - 1,i * (1 + sqrt(2)) / 2), where U(n,x) denotes the Chebyshev polynomial of the second kind. •

[**A041537**] • 1,1,8,17,127,144,4735,4879,38888,82655,617473,700128,23021569,23721697,189073448,401868593,3002153599,3404022192,111930863743,115334885935,919275065288,1953885016511,14596470180865,16550355197376,544207836496897 ★ Denominators of continued fraction convergents to sqrt(285). • a(n) = 4862 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 19 2013 •

[**A171607**] • 8,18,24,32,50,64,72,81,98,128,160,162,192,200,242,288,324,338,375,384,392,450,512,578,648 ★ Expressible as A*B^A in a nontrivial way. • a(n) = 2n ^ 2 - O(n ^ (5 / 3)). - _ Charles R Greathouse IV _ , Feb 19 2017 •

[**A017365**] • 8,18,28,38,48,58,68,78,88,98,108,118,128,138,148,158,168,178,188,198,208,218,228,238,248 ★ a(n) = 10n + 8. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 29 2011 •

[**A028563**] • 0,8,18,30,44,60,78,98,120,144,170,198,228,260,294,330,368,408,450,494,540,588,638,690,744 ★ n(n+7). • a(n) = 2 * n + a(n - 1) + 6. - _ Vincenzo Librandi _ , Aug 05 2010 •

[**A134062**] • 1,8,18,38,78,158,318,638,1278,2558,5118,10238,20478,40958,81918,163838,327678,655358,1310718,2621438,5242878,10485758,20971518,41943038,83886078 ★ Row sums of triangle A134061. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. •

[**A067563**] • 8,18,40,63,110,156,238,285,368,522,620,777,902,1032,1175,1378,1593,1708,2010,2272,2409,2686,2905,3204,3686 ★ Product of n-th prime number and n-th composite number. • a(n) = prime(n) * composite(n). •

[**A153388**] • 8,18,48,128,338,888,2328,6098,15968,41808,109458,286568,750248,1964178,5142288,13462688,35245778,92274648,241578168,632459858,1655801408,4334944368,11349031698,29712150728,77787420488 ★ Second bisection of A153382. • a(n) = 2 ^ (- n) * (- 2 ^ (1 + n) - (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + (3 + sqrt(5)) ^ n * (5 + sqrt(5))). - _ Colin Barker _ , Nov 03 2016 •

[**A173734**] • 8,18,118,1118,11118,111118,1111118,11111118,111111118,1111111118,11111111118,111111111118,1111111111118,11111111111118,111111111111118,1111111111111118,11111111111111118 ★ (10^n+62)/9 for n>0. • a(n) = a(n - 1) + 10 ^ (n - 1)= 10 * a(n - 1) - 62 with n>0, a(0)=7. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[**A092692**] • 0,1,1,8,18,184,660,8448,42000,648576,4142880,74972160,586776960,12174658560,113020427520,2643856588800,28432576972800,740051782041600,9056055981772800,259500083163955200,3562946373482496000 ★ Expansion of -log(1-x)/(1-x^2). • a(n) = n! * Sum _{ k=1..n } (- 1) ^ (n - k) * Harmonic(k). - _ Vladeta Jovovic _ , Aug 14 2005 •

[**A017485**] • 8,19,30,41,52,63,74,85,96,107,118,129,140,151,162,173,184,195,206,217,228,239,250,261,272 ★ 11*n+8. • a(n) = 22 * n - a(n - 1) + 5, with n>0 , a(0)=8. - _ Vincenzo Librandi _ , Dec 24 2010 • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: (3 * x + 8) / (x - 1) ^ 2. - _ Colin Barker _ , Oct 05 2014 •

[**A140672**] • 0,8,19,33,50,70,93,119,148,180,215,253,294,338,385,435,488,544,603,665,730,798,869,943,1020 ★ a(n) = n*(3*n + 13)/2. • a(n) = (3 * n ^ 2 + 13 * n) / 2. • a(n) = 3 * n + a(n - 1) + 5 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=8, a(2)=19, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 16 2011 •

[**A289877**] • 1,8,19,36,60,93,136,191,259,342,441,558,694,851,1030,1233,1461,1716,1999,2312,2656,3033,3444,3891,4375 ★ Number of maximal cliques in the n-triangular honeycomb queen graph. • a(n) = (2 * n * (22 - n + 2 * n ^ 2) - 95 - (- 1) ^ n) / 16. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[**A192975**] • 1,1,8,19,41,78,141,245,416,695,1149,1886,3081,5017,8152,13227,21441,34734,56245,91053,147376,238511,385973,624574,1010641 ★ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 3) + a(n - 4). •

[**A156198**] • 8,19,41,85,173,349,701,1405,2813,5629,11261,22525,45053,90109,180221,360445,720893,1441789,2883581,5767165,11534333,23068669,46137341,92274685,184549373 ★ a(n) = 2*a(n-1)+3 with n>1, a(1)=8. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) = 11 * 2 ^ (n - 1) - 3. [_ R. J. Mathar _ , Feb 19 2009] •

[**A153026**] • 0,8,19,45,80,136,207,305,424,576,755,973,1224,1520,1855,2241,2672,3160,3699,4301,4960,5688,6479,7345,8280 ★ a(1)=0, a(n) = n^3 - a(n-1). • a(n)= - 1 / 8 + 3 * n ^ 2 / 4 + n ^ 3 / 2 + 9 * (- 1) ^ n / 8. (End) •

[**A017617**] • 8,20,32,44,56,68,80,92,104,116,128,140,152,164,176,188,200,212,224,236,248,260,272,284,296 ★ a(n) = 12*n+8. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jun 08 2011 •

[**A139570**] • 0,8,20,36,56,80,108,140,176,216,260,308,360,416,476,540,608,680,756,836,920,1008,1100,1196,1296 ★ 2n(n+3). • a(n) = a(n - 1) + 4 * n + 4 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 •

[**A265207**] • 1,8,20,36,60,92,140,204,300,428,620,876,1260,1772,2540,3564,5100,7148,10220,14316,20460,28652,40940,57324,81900 ★ Draw a square and follow these steps: Take a square and place at its edges isosceles right triangles with the edge as hypotenuse. Draw a square at every new edge of the triangles. Repeat for all the new squares of the same size. New figures are only placed on empty space. The structure is symmetric about the first square. The sequence gives the numbers of squares of equal size in successive rings around the center. • a(0)=1, • a(1)=8, • a(2)=20, and thereafter • a(n)=2 * a(n - 2) + 20. • a(n)=4 * sum _{ k=1 }^{ [(n + 1) / 2] } (2 ^ k) + 6 * sum _{ k=1 }^{ [n / 2] } (2 ^ k). • a(n) = (- 20 + 2 ^ (1 / 2 * (- 1 + n)) * (10 - 10 * (- 1) ^ n + 7 * sqrt(2) + 7 * (- 1) ^ n * sqrt(2))) for n>1. •

[**A004118**] • 0,8,20,36,64,80,112,140,172,216,244,280,324,364,408 ★ Maximal excess of a Hadamard matrix of order 4n. • a(n / 4) <= n(2m + 1) + 8[n / 4 (n / 4 - 1) / (2(2m + 1))], if 4m ^ 2<=n / 4<=4m ^ 2 + 2m + 1 or 4m ^ 2 + 6m + 3<=n / 4<=4(m + 1) ^ 2, • a(n / 4) <= 8[nm / 4 + 1 / 2[n / 4(n / 4 - 1) / (2m)] - (n + 4) / 8] + n + 4, if 4m ^ 2 + 2m + 1<n / 4<=4m ^ 2 + 4m + 1, • a(n / 4)<=8[nm / 4 + 1 / 2[n / 4(n / 4 - 1) / (2(m + 1))] + (n - 4) / 8] + n + 4, if 4m ^ 2 + 4m + 1<=n / 4<4m ^ 2 + 6m + 3. •

[**A006416**] • 1,8,20,38,63,96,138,190,253,328,416,518,635,768,918,1086,1273,1480,1708,1958,2231,2528,2850,3198,3573 ★ Number of rooted planar maps. Also a(n)=T(4,n-3), array T as in A049600. • a(n - 3) = (1 / 6) * n ^ 3 - (1 / 2) * n ^ 2 - (8 / 3) * n + 6, n=6,7,... - _ Milan Janjic _ , Nov 09 2007 • a(2)=1, a(3)=8, a(4)=20, a(5)=38, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 25 2013 • a(n + 2) = Hyper2F1([- 3, n], [1], - 1). - _ Peter Luschny _ , Aug 02 2014 •

[**A295933**] • 8,20,55,160,475,1420,4255,12760,38275,114820,344455,1033360,3100075,9300220,27900655,83701960,251105875,753317620,2259952855,6779858560,20339575675,61018727020,183056181055,549168543160,1647505629475 ★ Number of (not necessarily maximum) cliques in the n-Sieprinski sieve graph. • a(n) = 5 * (3 + 7 * 3 ^ (n - 1)) / 6 for n > 1. • a(n) = 4 * a(n - 1) - 3 * a(n - 2) for n > 1. •

[**A212758**] • 1,8,20,57,118,172,299,468,594,865,1196,1424,1893,2440,2800,3521,4338,4860,5887,7028,7742,9129,10648,11584,13385 ★ Number of (w,x,y,z) with all terms in {0,...,n} and w=[R/2], where R=max{w,x,y,z}-min{w,x,y,z} and [ ]=floor. • a(n)=a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10). •

[**A003685**] • 1,8,20,62,132,336,688,1578,3190,6902,13878,29038,58238,119518,239390,485822,972414,1960830,3923326,7882494,15768574,31616510,63240702,126655486,253327358 ★ Number of Hamiltonian paths in P_3 X P_n. • a(n) = 3a(n - 1) + 2a(n - 2) - 12a(n - 3) + 4a(n - 4) + 12a(n - 5) - 8a(n - 6), n>8. • a(2m) = 121 * 2 ^ (2m - 4) - 4m * 2 ^ m - 25 * 2 ^ (m - 2) - 2, m > 1; a(2m + 1) = 121 * 2 ^ (2m - 3) - 31m * 2 ^ (m - 2) - 23 * 2 ^ (m - 1) - 2, m > 0. Simpler recurrence relation: a(n) = 8a(n - 2) - 20a(n - 4) + 16a(n - 6) + 6, n > 8. - _ David Bevan _ , Jul 21 2006 •

[**A094253**] • 1,8,20,120,496,2304,10240,46208,207360,932352,4189184,18827264,84606976,380223488,1708703744,7678853120,34508439552,155079540736,696921096192,3131935031296,14074788184064,63251524091904 ★ Let M = the 3 X 3 Matrix [-4 4 8 / 1 0 0 / 0 1 0]. Then a(n) = absolute value of the center term of M^n * [1 1 1]. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 8 * a(n - 3), n>4. •

[**A134862**] • 8,21,29,42,55,63,76,84,97,110,118,131,144,152,165,173,186,199,207,220,228,241,254,262,275 ★ Wythoff ABB numbers. • a(n)=A(B(B(n))), n>=1, with A=A000201, the lower Wythoff sequence and B=A001950, the upper Wythoff sequence. •

[**A000567**] • 0,1,8,21,40,65,96,133,176,225,280,341,408,481,560,645,736,833,936,1045,1160,1281,1408,1541,1680 ★ Octagonal numbers: n*(3*n-2). Also called star numbers. • a(n) = n * (3 * n - 2). • a(n) = Sum _{ k=1..n } (5 * n - 4 * k). - _ Paul Barry _ , Sep 06 2005 • a(n) = C(n + 1,2) + 5 * C(n,2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(0)=0, a(1)=1, a(2)=8. - _ Jaume Oliver Lafont _ , Dec 02 2008 • a(n) = a(n - 1) + 6 * n - 5 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = 2 * a(n - 1) - a(n - 2) + 6. - _ Ant King _ , Sep 01 2011 •

[**A137742**] • 1,8,21,40,66,100,143,196,260,336,425,528,646,780,931,1100,1288,1496,1725,1976,2250,2548,2871,3220,3596 ★ a(n) = (n-1)*(n+4)*(n+6)/6 for n>1, a(1)=1. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A275874**] • 0,8,21,40,66,100,143,196,260,336,425,528,646,780,931,1100,1288,1496,1725,1976,2250,2548,2871,3220,3596 ★ a(n) = (n-4)*(n+1)*(n+3)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>7. •

[**A180672**] • 0,8,21,42,76,131,220,364,597,974,1584,2571,4168,6752,10933,17698,28644,46355,75012,121380,196405,317798,514216,832027,1346256 ★ a(n) = Fibonacci(n+7) - Fibonacci(7). • a(n) = F(n + 7) - F(7) with F = A000045. • a(n) = a(n - 1) + a(n - 2) + 13 for n>1, a(0)=0, a(1)=8, and where 13 = F(7). • a(n) = (- 13 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 29 + 13 * sqrt(5)) + (1 + sqrt(5)) ^ n * (29 + 13 * sqrt(5)))) / sqrt(5)). • a(n) = 2 * a(n - 1) - a(n - 3) for n>2. •

[**A138179**] • 1,8,21,48,85,144,217,320,441,600,781,1008,1261,1568,1905,2304,2737,3240,3781,4400,5061,5808,6601,7488,8425 ★ Wiener index of the prism graph Y_n on 2n nodes. • a(2n + 1) = (2n + 1)(2n ^ 2 + 4 * n + 1); a(2n)=4n ^ 2 * (n + 1). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[**A067334**] • 8,21,50,105,210,404,758,1395,2530,4535,8052,14184,24820,43185,74770,128901,221382,378940,646690,1100655,1868738,3165811,5352360,9032400,15216800 ★ Convolution of Fibonacci F(n+1), n>=0, with F(n+6), n>=0. • a(0)=8, a(1)=21, a(2)=50, a(3)=105, a(n)=2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Apr 07 2012] •

[**A227653**] • 8,21,54,138,352,897,2285,5820,14823,37752,96148,244872,623645,1588311,4045140,10302237,26237926,66823230,170186624,433434405,1103878665,2811378360,7160069791,18235396608,46442241368 ★ a(1) = least k such that 1/2 + 1/3 < H(k) - H(3); a(2) = least k such that H(a(1)) - H(3) < H(k) -H(a(1)), and for n > 2, a(n) = least k such that H(a(n-1)) - H(a(n-2) > H(k) - H(a(n-1)), where H = harmonic number. • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 4) (conjectured).G.f.: (8 - 3 x - x ^ 2 - 3 x ^ 3) / (1 - 3 x + x ^ 2 + x ^ 4) (conjectured). •

[**A080144**] • 0,8,21,63,165,440,1152,3024,7917,20735,54285,142128,372096,974168,2550405,6677055,17480757,45765224,119814912,313679520,821223645,2149991423,5628750621,14736260448,38580030720 ★ a(n) = F(4)*F(n)*F(n+1) + F(5)*F(n+1)^2 if n odd, a(n) = F(4)*F(n)*F(n+1) + F(5)*F(n+1)^2 - F(5) if n even, where F(n) is the n-th Fibonacci number (A000045). • a(n) = (2 * Lucas(2 * n + 6) + 11 * (- 1) ^ (n + 1) - 25) / 10. - _ Ehren Metcalfe _ , Aug 21 2017 •

[**A156304**] • 1,1,8,21,77,199,661,1663,4852,12382,33289,82877,213026,518109,1279852,3053404,7312985,17093793,39952528,91661695,209709116,473095589,1062567288,2359804486,5214774263 ★ G.f.: A(x) = exp(Sum_{n>=1} sigma(n^3)*x^n/n), a power series in x with integer coefficients. • a(n) = (1 / n) * Sum _{ k=1..n } sigma(k ^ 3) * a(n - k) for n>0, with a(0)=1. •

[**A054855**] • 1,1,8,21,93,314,1213,4375,16334,59925,221799,817280,3018301,11134189,41096528,151643937,559640289,2065192514,7621289593,28124714395,103789150046,383013144129,1413437041011,5216013647648,19248692843977 ★ Number of ways to tile a 5 X n area with 1 X 1 and 2 X 2 tiles. • a(n) = b(1)a(n - 1) + b(2)a(n - 2) + ... + b(n)a(0), where a(0)=a(1)=1 and b(1)=1, b(2)=7, b(n)=F(n + 1)of A000045 (Fibonacci numbers) for n>2 • a(n) = 2 * a(n - 1) + 7 * a(n - 2) - 2 * a(n - 3) - 3 * a(n - 4) - Keith Schneider (kschneid(AT)bulldog.unca.edu), Apr 02 2006 •

[**A069099**] • 1,8,22,43,71,106,148,197,253,316,386,463,547,638,736,841,953,1072,1198,1331,1471,1618,1772,1933,2101 ★ Centered heptagonal numbers. • a(n) = (7 * n ^ 2 - 7 * n + 2) / 2. • a(n) = 1 + Sum _{ k=1..n } 7 * k. - Xavier Acloque, Oct 26 2003 • a(n) = 7 * n + a(n - 1) - 7 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=8, a(2)=22, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 04 2011 • a(n) = 2 * a(n - 1) - a(n - 2) + 7. - _ Ant King _ , Jun 17 2012 • a(n) == 1 (mod 7) for all n. •

[**A048489**] • 1,8,22,50,106,218,442,890,1786,3578,7162,14330,28666,57338,114682,229370,458746,917498,1835002,3670010,7340026,14680058,29360122,58720250,117440506 ★ a(n) = 7 * 2^n - 6. • a(n) = 2 * a(n - 1) + 6 with n>0, a(0)=1. [_ Vincenzo Librandi _ , Aug 06 2010] •

[**A199110**] • 8,22,64,190,568,1702,5104,15310,45928,137782,413344,1240030,3720088,11160262,33480784,100442350,301327048,903981142,2711943424,8135830270,24407490808,73222472422,219667417264,659002251790,1977006755368 ★ 7*3^n+1. • a(n) = 3 * a(n - 1) - 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[**A083098**] • 1,1,8,22,92,316,1184,4264,15632,56848,207488,756064,2757056,10050496,36643328,133589632,487039232,1775616256,6473467904,23600633344,86042074112,313687948288,1143628341248,4169384372224,15200538791936 ★ a(n) = 2*a(n-1) + 6*a(n-2). • a(n) = (1 + sqrt(7)) ^ n / 2 + (1 - sqrt(7)) ^ n / 2. •

[**A164131**] • 8,23,39,54,70,85,101,116,132,147,163,178,194,209,225,240,256,271,287,302,318,333,349,364,380 ★ Numbers n such that n^2 == 2 (mod 31). • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = (31 + (- 1) ^ (n - 1) + 62(n - 1)) / 4. • a(n) = 31 * (n - 1) - a(n - 1) with n>1, a(1)=8. - _ Vincenzo Librandi _ , Nov 30 2010 •

[**A033951**] • 1,8,23,46,77,116,163,218,281,352,431,518,613,716,827,946,1073,1208,1351,1502,1661,1828,2003,2186,2377 ★ Write 1,2,... in clockwise spiral; sequence gives numbers on positive x axis. • a(n) = 4 * n ^ 2 + 3 * n + 1. • a(n) = a(n - 1) + 8 * n - 1 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 17 2010 • a(0)=1, a(1)=8, a(2)=23, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 07 2015 •

[**A027054**] • 1,8,23,52,107,210,401,754,1405,2604,4811,8872,16343,30086,55365,101862,187385,344688,634015,1166172,2144963,3945242,7256473,13346778,24548597 ★ a(n) = T(n, n+3), T given by A027052. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - a(n - 4) + a(n - 5) for n>6. •

[**A048467**] • 1,8,23,55,123,267,571,1211,2555,5371,11259,23547,49147,102395,212987,442363,917499,1900539,3932155,8126459,16777211,34603003,71303163,146800635,301989883 ★ a(n) = T(6,n), array T given by A047858. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Jul 07 2011 • a(n) = 2 ^ (n - 1) * (n + 12) - 5. - _ Vincenzo Librandi _ , Sep 28 2011 •

[**A048770**] • 1,8,23,60,149,364,883,2136,5161,12464,30095,72660,175421,423508,1022443,2468400,5959249,14386904,34733063,83853036,202439141,488731324,1179901795,2848534920,6876971641 ★ Partial sums of A048694. • a(n) = ((7 + 4 * sqrt(2)) * (1 + sqrt(2)) ^ n - (7 - 4 * sqrt(2)) * (1 - sqrt(2)) ^ n) / (2 * sqrt(2)) - 3. • a(n) = 2 * a(n - 1) + a(n - 2) + 6 with n>1, a(0)=1, a(1)=8. • a(n) = 3 * a(n - 1) - a(n - 2) - a(n - 3). G.f.: (1 + 5 * x) / ((1 - x) * (1 - 2 * x - x ^ 2)). - _ Colin Barker _ , Jun 23 2012 •

[**A055273**] • 1,8,23,61,160,419,1097,2872,7519,19685,51536,134923,353233,924776,2421095,6338509,16594432,43444787,113739929,297775000,779585071,2040980213,5343355568,13989086491,36623903905 ★ a(n) = 3a(n-1) - a(n-2); a(0)=1, a(1)=8. • a(n) = (8 * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) - (((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1))) / sqrt(5). •

[**A140403**] • 0,0,0,0,8,24,32,56,72,96,128,160,192,232,272,320,368,424,472,536,600,664,736,808,880 ★ G.f.: 8*x^4/((1-x)^2*(1-x^3)) + 8*x^5/((1-x)*(1-x^2)*(1-x^5)). • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=8, a(5)=24, a(6)=32, a(7)=56, a(8)=72, a(9)=96, a(n)=a(n - 2) + a(n - 3) - a(n - 7) - a(n - 8) + a(n - 10) [From Harvey P. Dale, Mar 22 2012] •

[**A051062**] • 8,24,40,56,72,88,104,120,136,152,168,184,200,216,232,248,264,280,296,312,328,344,360,376,392 ★ a(n) = 16n + 8. • a(n) = 32 * n - a(n - 1), (with a(0)=8). - _ Vincenzo Librandi _ , Aug 06 2010 • a(- 1 - n) = - a(n). - _ Michael Somos _ , Jun 02 2014 •

[**A033996**] • 0,8,24,48,80,120,168,224,288,360,440,528,624,728,840,960,1088,1224,1368,1520,1680,1848,2024,2208,2400 ★ 8 times triangular numbers: a(n) = 4*n*(n+1). • a(n) = 4 * n ^ 2 + 4 * n = (2 * n + 1) ^ 2 - 1. • a(n) = a(n - 1) + 8 * n (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Wesley Ivan Hurt _ , Mar 25 2015 •

[**A064225**] • 1,8,24,49,83,126,178,239,309,388,476,573,679,794,918,1051,1193,1344,1504,1673,1851,2038,2234,2439,2653 ★ (9*n^2+5*n+2)/2. • a(n) = 9 * n + a(n - 1) - 2, with n>0, a(0) = 1. - _ Vincenzo Librandi _ , Aug 07 2010 • a(0)=1, a(1)=8, a(2)=24, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Sep 13 2011 •

[A054275] • 1,8,24,52,90,140,200,272,354,448,552,668,794,932,1080,1240,1410,1592,1784,1988,2202,2428,2664,2912,3170 ⋆ Susceptibility series H_2 for 2-dimensional Ising model (divided by 2). • a(n) = (11 * n ^ 2 + 4) / 2 for n>0 and even. • a(n) = (11 * n ^ 2 + 5) / 2 for n odd. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>4. •

[A256857] • 0,1,8,24,52,95,156,238,344,477,640,836,1068,1339,1652,2010,2416,2873,3384,3952,4580,5271,6028,6854,7752 ⋆ a(n) = n*(n^2 + 3*n - 2)/2. • a(n) = Sum _{ i=1..n } (n - i - 1) mod (n + 1). - _ Wesley Ivan Hurt _ , Sep 15 2017 •

[A212972] • 1,8,24,53,100,168,261,384,540,733,968,1248,1577,1960,2400,2901,3468,4104,4813,5600,6468,7421,8464,9600,10833 ⋆ Number of (w,x,y) with all terms in {0,...,n} and w<floor((x+y)/3)). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) - a(n - 6). •

[A152134] • 8,24,54,102,174,270,396,556,756,996,1282,1618,2010,2458,2968,3544,4192,4912,5710,6590,7558,8614,9764,11012,12364 ⋆ Maximal length of rook tour on an n X n+3 board. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 4) - 3 * a(n - 5) + 3 * a(n - 6) - a(n - 7). - _ Vincenzo Librandi _ , Dec 19 2012 •

[A011925] • 0,0,0,0,1,8,24,56,112,201,336,528,792,1144,1601,2184,2912,3808,4896,6201,7752,9576,11704,14168,17001 ⋆ Floor(n(n-1)(n-2)(n-3)/15). • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 5) - 4 * a(n - 6) + 6 * a(n - 7) - 4 * a(n - 8) + a(n - 9). G.f.: x ^ 4 * (x ^ 4 + 4 * x ^ 3 - 2 * x ^ 2 + 4 * x + 1) / ((1 - x) ^ 5 * (x ^ 4 + x ^ 3 + x ^ 2 + x + 1)). [_ R. J. Mathar _ , Apr 15 2010] •

[A159741] • 8,24,56,120,248,504,1016,2040,4088,8184,16376,32760,65528,131064,262136,524280,1048568,2097144,4194296,8388600,16777208,33554424,67108856,134217720,268435448 ⋆ 8*(2^n-1). • a(n)=3 * a(n - 1) - 2 * a(n - 2) = 8 * (2 ^ n - 1). G.f.: 8 * x / ((2 * x - 1) * (x - 1)). - _ R. J. Mathar _ , Apr 22 2009 • a(n) = sum (i=3,n + 2, 2 ^ i) = sum (i=1,n, 2 ^ (i + 2)). a(n) = a(n - 1) + 2 ^ (n + 2) for n >= 2. - _ Jaroslav Krizek _ , Jun 18 2009 •

[A099041] • 8,24,58,128,270,556,1130,2280,4582,9188,18402,36832,73694,147420,294874,589784,1179606,2359252,4718546,9437136,18874318,37748684,75497418,150994888 ⋆ Number of 3 X n 0-1 matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (10;0) and (10;1). • a(n) = 9 * 2 ^ n - 2 * n - 8. •

[A129959] • 1,1,8,24,59,115,202,322,485,693,956,1276,1663,2119,2654,3270,3977,4777,5680,6688,7811,9051,10418,11914,13549 ⋆ A129957(n) - n*(n-1)/2. • a(n) = (1 + (- 1) ^ n + n - n ^ 2 + 2 * n ^ 3) / 2. G.f.: (1 - 2 * x + 7 * x ^ 2 + 4 * x ^ 3 + 2 * x ^ 4) / ((1 - x) ^ 4 * (1 + x)). [_ Colin Barker _ , Sep 10 2012] •

[A083583] • 1,8,24,72,216,648,1944,5832,17496,52488,157464,472392,1417176,4251528,12754584,38263752,114791256,344373768,1033121304,3099363912,9298091736,27894275208,83682825624,251048476872,753145430616 ⋆ (8*3^n-5*(0)^n)/3. • a(n)=(8 * 3 ^ n - 5 * (0) ^ n) / 3. •

[A005051] • 8,24,72,216,648,1944,5832,17496,52488,157464,472392,1417176,4251528,12754584,38263752,114791256,344373768,1033121304,3099363912,9298091736,27894275208,83682825624,251048476872,753145430616,2259436291848 ⋆ 8*3^n. • a(n) = 3 * a(n - 1). G.f.: 8 / (1 - 3 * x). - _ Colin Barker _ , Jul 02 2012 •

[A221906] • 1,8,24,76,272,1044,4120,16412,65568,262180,1048616,4194348,16777264,67108916,268435512,1073741884,4294967360,17179869252,68719476808,274877907020,1099511627856,4398046511188 ⋆ 4^n + 4*n. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). •

[A063515] • 1,8,24,104,216,384,1080,2160,4896,13656,32552,51312,137160,287408,573600,1999872,3034368,4778400,11098080,20984560,49533120,137218560,294000768,417361152,958698064 ⋆ Sum of divisors of Woodall (or Riesel) numbers; sigma(A003261(n); sigma(n*2^n - 1). • a(n) = sigma(n * 2 ^ n - 1). •

[A246030] • 1,8,24,112,416,1728,6784,27392,109056,437248,1746944,6991872,27959296,111853568,447381504,1789591552,7158235136,28633202688,114532286464,458130194432,1832518680576,7330078916608,29320307277824,117281245888512,469124949999616 ⋆ a(n) = (5*2^(2*n)+(-2)^(n+1))/3. • a(0)=1, a(1)=8; thereafter a(n)=2 * a(n - 1) + 8 * a(n - 2). •

[A279483] • 0,0,0,8,24,144,240,672,960,2000,2640,4680,5880,9408,11424,17024,20160,28512,33120,45000,51480,67760,76560,98208,109824 ⋆ Number of 2 X 2 matrices with entries in {0,1,...,n} and odd determinant with no entry repeated. • a(n) = (3 * n ^ 4 - 8 * n ^ 3 - 12 * n ^ 2 + 32 * n) / 8 for n even. • a(n) = (3 * n ^ 4 - 4 * n ^ 3 - 10 * n ^ 2 + 4 * n + 7) / 8 for n odd. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n>8. •

[A105063] • 0,0,8,24,560,1616,36984,106664,2440416,7038240,161030504,464417208,10625572880,30644497520,701126779608,2022072419144,46263741881280,133426135166016,3052705837384904,8804102848537944,201432321525522416 ⋆ Define a(1)=0, a(2)=0, a(3)=8, a(4)=24 and then a(n)=66*a(n-2)+32-a(n-4) sequence such that 17*a(n)^2+17*a(n)+1 is a square. • a(n) = a(n - 1) + 66 * a(n - 2) - 66 * a(n - 3) - a(n - 4) + a(n - 5). G.f.: 8 * x ^ 3 * (1 + x) ^ 2 / ((1 - x) * (x ^ 2 - 8 * x - 1) * (x ^ 2 + 8 * x - 1)). [_ R. J. Mathar _ , Nov 13 2009] •

[A273743] • 1,8,25,49,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ⋆ Number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 901", based on the 5-celled von Neumann neighborhood. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. •

[A204467] • 1,8,25,50,85,128,181,242,313,392,481,578,685,800,925,1058,1201,1352,1513,1682,1861,2048,2245,2450,2665 ⋆ Number of 3-element subsets that can be chosen from {1,2,...,6*n+3} having element sum 9*n+6. • a(n) = 1 + floor((3 + 9 / 2 * n) * n). • a(n) = (6 * n * (3 * n + 2) + (- 1) ^ n + 3) / 4. - _ Bruno Berselli _ , Jan 17 2012 • a(0)=1, a(1)=8, a(2)=25, a(3)=50, a(n) =2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , May 25 2015 •

[A062728] • 0,8,25,51,86,130,183,245,316,396,485,583,690,806,931,1065,1208,1360,1521,1691,1870,2058,2255,2461,2676 ⋆ Second 11-gonal (or hendecagonal) numbers: n*(9n+7)/2. • a(n) = n * (9n + 7) / 2. • a(n) = 9 * n + a(n - 1) - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 •

[A273982] • 1,8,25,52,89,136,193,260,337,424,521,628,745,872,1009,1156,1313,1480,1657,1844,2041,2248,2465,2692,2929 ⋆ Number of little cubes visible around an n X n X n cube with a face on a table. • a(n) = 5 * n ^ 2 - 8 * n + 4. • a(n) = n ^ 3 - (n - 2) ^ 3 - (n - 2) ^ 2. - _ Joerg Arndt _ , Jun 06 2016 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 3. - _ Wesley Ivan Hurt _ , Oct 06 2017 •

[A131423] • 1,8,25,56,105,176,273,400,561,760,1001,1288,1625,2016,2465,2976,3553,4200,4921,5720,6601,7568,8625,9776,11025 ⋆ a(n) = n*(n+2)*(2*n-1)/3. Also, row sums of triangle A131422. • a(n) = n * (n + 2) * (2 * n - 1) / 3. - _ Emeric Deutsch _ , Sep 06 2008 • a(n) = a(n - 1) + 2 * n ^ 2 - 1. • a(1)=0 , a(2)=1, a(3)=8, a(4)=25; for n>4, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Feb 03 2012 •

[A270867] • 1,8,25,58,113,196,313,470,673,928,1241,1618,2065,2588,3193,3886,4673,5560,6553,7658,8881,10228,11705,13318,15073 ⋆ a(n) = n^3 + 2*n^2 + 4*n + 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A011924] • 0,0,0,0,1,8,25,60,120,216,360,565,848,1225,1716,2340,3120,4080,5245,6644,8305,10260,12540,15180,18216 ⋆ Floor[n(n-1)(n-2)(n-3)/14]. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + a(n - 7) - 4 * a(n - 8) + 6 * a(n - 9) - 4 * a(n - 10) + a(n - 11). G.f.: x ^ 4 * (x ^ 6 + 4 * x ^ 5 - x ^ 4 + 4 * x ^ 3 - x ^ 2 + 4 * x + 1) / ((1 - x) ^ 5 * (x ^ 6 + x ^ 5 + x ^ 4 + x ^ 3 + x ^ 2 + x + 1)). - _ R. J. Mathar _ , Apr 15 2010 •

[A169831] • 1,8,25,62,139,296,613,1250,2527,5084,10201,20438,40915,81872,163789,327626,655303,1310660,2621377,5242814,10485691,20971448,41942965,83886002,167772079 ⋆ a(n) = 5*2^(n+1) - 3*(n+3). • a(n) - 4 * a(n - 1) + 5 * a(n - 2) - 2 * a(n - 3) = 0, with n>2. (End) • a(n) = 2 * a(n - 1) + 3(n + 1) with a(0)=1. [_ Vincenzo Librandi _ , Jun 03 2010] •

[A295911] • 8,25,76,229,688,2065,6196,18589,55768,167305,501916,1505749,4517248,13551745,40655236,121965709,365897128,1097691385,3293074156,9879222469,29637667408,88913002225,266739006676,800217020029,2400651060088 ⋆ Number of (not necessarily minimum) cliques in the n-Hanoi graph. • a(n) = (17 * 3 ^ n - 3) / 6. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A275151] • 8,25,128,729,4232,24649,143648,837225,4879688,28440889,165765632,966152889,5631151688,32820757225,191293391648,1114939592649,6498344164232,37875125392729,220752408192128,1286639323760025,7499083534368008,43707861882448009,254748087760320032,1484780664679472169 ⋆ a(1) = 8; a(n) = 3*a(n-1) + 2*sqrt(2*a(n-1)*(a(n-1)-7)) -7 for n>1. • a(n) = 3 * a(n - 1) + 2 * sqrt(2 * a(n - 1) * (a(n - 1) - 7)) - 7,for n>1 , with a(1)=8. • a(n) = (14 + (11 - 6 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n * (11 + 6 * sqrt(2))) / 4. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>3. •

[A005897] • 1,8,26,56,98,152,218,296,386,488,602,728,866,1016,1178,1352,1538,1736,1946,2168,2402,2648,2906,3176,3458 ⋆ a(n) = 6*n^2 + 2 for n > 0, a(0)=1. • a(0) = 1, a(n) = (n + 1) ^ 3 - (n - 1) ^ 3. - Ilya Nikulshin (ilyanik(AT)gmail.com), Aug 11 2009 • a(0)=1, a(1)=8, a(2)=26, a(3)=56; for n>3, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 25 2011 •

[A215097] • 0,1,8,26,56,99,160,244,352,485,648,846,1080,1351,1664,2024,2432,2889,3400,3970,4600,5291,6048,6876,7776 ⋆ a(n) = n^3 - a(n-2) for n >= 2 and a(0)=0, a(1)=1. • a(n) = (n * (n ^ 2 - 3) - (1 - (- 1) ^ n) * i ^ (n + 1)) / 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Aug 07 2012 •

[A111694] • 0,8,26,57,104,170,258,371,512,684,890,1133,1416,1742,2114,2535,3008,3536,4122,4769,5480,6258,7106,8027,9024 ⋆ a(1) = 1+2-3 = 0, a(2) = 4+5+6-7 = 8, a(3) = 8+9+10+11-12 = 26, a(4) = 13+14+15+16+17-18 = 57, ... • a(n) = (n - 1) * (n ^ 2 + 5 * n + 2) / 2. •

[A129111] • 8,26,59,107,170,248,341,449,572,710,863,1031,1214,1412,1625,1853,2096,2354,2627,2915,3218,3536,3869,4217,4580 ⋆ Sums of three consecutive heptagonal numbers. • a(n) = (15 / 2) * n ^ 2 + (21 / 2) * n + 8. •

[A002413] • 0,1,8,26,60,115,196,308,456,645,880,1166,1508,1911,2380,2920,3536,4233,5016,5890,6860,7931,9108,10396,11800 ⋆ Heptagonal (or 7-gonal) pyramidal numbers: a(n) = n*(n+1)*(5*n-2)/6. • a(n) = n * (n + 1) * (5 * n - 2) / 6. • a(n) = a(n - 1) + n * (5 * n - 3) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 5. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) • a(n) = binomial(n + 2, 3) + 4 * binomial(n + 1, 3) = (5 * n - 2) * binomial(n + 1, 2) / 3. • a(n) = Sum _{ i=0..n - 1 } (n - i) * (5 * i + 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 •

[A218325] • 8,26,60,196,308,456,880,1166,1508,2380,2920,3536,5016,5890,6860,9108,10396,11800,14976,16758,18676,22940,25296,27808,33320 ⋆ Even heptagonal pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10). • a(n) = 3 * a(n - 3) - 3 * a(n - 6) + a(n - 9) + 320. • a(n) = (phi(n) + 3) * (phi(n) + 12)(5 * phi(n) - 3) / 4374, where phi(n) = 12 * n - 3 * cos(2 * n * pi / 3) + sqrt(3) * sin(2 * n * pi / 3). •

[A213039] • 0,1,8,26,63,124,208,335,504,702,973,1304,1664,2133,2680,3250,3971,4788,5616,6643,7784,8918,10305,11824,13312 ⋆ n^3-[n/3]^3, where [] = floor.

• a(n) = a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10). •

[A213769] • 1,8,26,63,136,272,521,968,1762,3159,5600,9840,17169,29784,51418,88399,151432,258592,440345,747960,1267586,2143783,3618816,6098208,10260001 ★ Principal diagonal of the convolution array A213768. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) - a(n - 6). •

[A027004] • 1,8,26,73,196,518,1361,3568,9346,24473,64076,167758,439201,1149848,3010346,7881193,20633236,54018518,141422321,370248448,969323026,2537720633,6643838876,17393795998,45537549121 ★ a(n) = T(2*n+1,n+1), T given by A026998. • a(n) = Fibonacci(2 * n + 3) + 2 * Fibonacci(2 * n + 2) - 3. • a(n) = 2 ^ (- n) * (- 3 * 2 ^ n - (3 - sqrt(5)) ^ n * (- 2 + sqrt(5)) + (2 + sqrt(5)) * (3 + sqrt(5)) ^ n). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3) for n>2. •

[A140788] • 8,26,98,386,1538,6146,24578,98306,393218,1572866,6291458,25165826,100663298,402653186,1610612738,6442450946,25769803778,103079215106,412316860418,1649267441666,6597069766658,26388279066626 ★ 6*4^n+2. • a(n)=5 * a(n - 1) - 4 * a(n - 2). G.f.: 2(4 - 7x) / ((1 - x)(1 - 4x)). [From _ R. J. Mathar _ , Feb 07 2009] •

[A082573] • 1,8,26,105,526,3157,22100,176801,1591210,15912101,175033112,2100397345,27305165486,382272316805,5734084752076,91745356033217,1559671052564690,28074078946164421,533407499977124000,10668149999542480001 ★ a(1)=1, a(n)=ceiling(n*(a(n-1)+3/a(n-1))). • a(n)=floor(n! * (exp(1) + 5 / 3)) •

[A000810] • 1,1,8,26,352,1936,38528,297296,7869952,78098176,2583554048,31336418816,1243925143552,17831101321216,825787662368768,13658417358350336,722906928498737152,13551022195053101056 ★ Expansion of e.g.f. (sin x + cos x)/cos 3x. • a(n) = | 3 ^ n * 2 ^ (n + 1) * lerchphi(- 1, - n,1 / 3) |. - _ Peter Luschny _ , Apr 27 2013 • a(n) = (- 1) ^ floor(n / 2) * 3 ^ n * skp(n, 1 / 3), where skp(n,x) are the Swiss - Knife polynomials A153641. - _ Peter Luschny _ , Apr 19 2014 •

[A086213] • 1,8,27,36,71,134,241,446,821,1508,2775,5104,9387,17266,31757,58410,107433,197600,363443,668476,1229519,2261438,4159433,7650390,14071261 ★ Tribonacci numbers that start with first three cubes. • a(n) = a(n - 1) + a(n - 2) + a(n - 3). •

[A144619] • 8,27,46,65,84,103,122,141,160,179,198,217,236,255,274,293,312,331,350,369,388,407,426,445,464 ★ a(n) = 19n + 8. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 14 2012 •

[A213488] • 0,1,8,27,61,113,189,295,434,609,826,1091,1407,1777,2207,2703,3268,3905,4620,5419,6305,7281,8353,9527,10806 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|+|x-y|+|y-w| < w+x+y. • a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 4 * a(n - 5) - a(n - 6). •

[A151675] • 8,27,63,122,210,333,497,708,972,1295,1683,2142,2678,3297,4005,4808,5712,6723,7847,9090,10458,11957,13593,15372,17300 ★ Row sums of A154685. • a(n)=n * (2 * n ^ 2 + 5 * n + 9) / 2 = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: x * (8 - 5 * x + 3 * x ^ 2) / (x - 1) ^ 4. [From _ R. J. Mathar _ , May 31 2009] •

[A093322] • 1,8,27,64,100,199,390,753,1442,2784,5369,10348,19943,38444,74104,142839,275330,530717,1022990,1971876,3800913,7326496,14122275,27221560,52471244 ★ Tetranacci numbers starting with first four cubes. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + a(n - 4). •

[A213491] • 1,8,27,64,125,204,305,420,569,714,909,1096,1327,1550,1833,2086,2411,2706,3071,3402,3815,4176,4635,5038,5533 ★ Number of (w,x,y) with all terms in {0,...,n} and the numbers w,x,y,|w-x|,|x-y| not distinct. • a(n) = a(n - 2) + a(n - 3) + a(n - 4) - a(n - 5) - a(n - 6) - a(n - 7) + a(n - 9). •

[A254521] • 1,8,27,64,125,216,343,504,729,1000,1331,1728,2197,2744,3375,4032,4913,5832,6859,8000,9261,10648,12167,13608,15625 ★ Coefficients of the Dirichlet series zeta(s-3) / zeta(3s-3). • a(n) = n ^ 3 * Sum _{ d ^ 3 | n } (moebius(d) / d ^ 6). •

[A000578] • 0,1,8,27,64,125,216,343,512,729,1000,1331,1728,2197,2744,3375,4096,4913,5832,6859,8000,9261,10648,12167,13824 ★ The cubes: a(n) = n^3. • a(n) = binomial(n + 2,3) + 4 * binomial(n + 1,3) + binomial(n,3). • a(n) = 1 + 7(n - 1) + 6(n - 1)(n - 2) + (n - 1)(n - 2)(n - 3). - _ Antonio Alberto Olivares _ , Apr 03 2013 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 6. - _ Ant King _ Apr 29 2013 • a(k) = det(S(4,k,(1,1, - 1))) = k * b(k) ^ 2, where b(1)=1, b(2)=2, b(k) = 2 * b(k - 1) - b(k - 2) = b(2) * b(k - 1) - b(k - 2). - _ Ryan Stees _ , Dec 14 2014 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Jon Tavasanis _ , Feb 21 2016 • a(n) = n + Sum _{ j=0..n - 1 } Sum _{ k=1..2 } binomial(3,k) * j ^ (3 - k). - _ Patrick J. McNab _ , Mar 28 2016 •

[A212745] • 1,8,27,83,162,277,495,730,1025,1513,1988,2547,3413,4212,5119,6471,7678,9017,10963,12662,14517,17165,19440,21895,25353 ★ Number of (w,x,y,z) with all terms in {0,...,n} and w=max{w,x,y,z}-2*min{w,x,y,z}. • a(n)=a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10). •

[A166867] • 0,1,8,27,84,237,644,1695,4376,11129,28000,69859,173180,427141,1049308,2569447,6275584,15295377,37215864,90426155,219466276,532154909,1289368500,3122076719,7555891560 ★ a(n) = Pell(n+3) - Jacobsthal(n+4). • a(n) = 3 * a(n - 1) + a(n - 2) - 5 * a(n - 3) - 2 * a(n - 4). - _ G. C. Greubel _ , May 25 2016 •

[A056570] • 0,1,1,8,27,125,512,2197,9261,39304,166375,704969,2985984,12649337,53582633,226981000,961504803,4073003173,17253512704,73087061741,309601747125,1311494070536,5555577996431,23533806109393,99690802348032 ★ Third power of Fibonacci numbers (A000045). • a(n) = (Fibonacci(3n) - 3(- 1) ^ n * Fibonacci(n)) / 5. - _ Ralf Stephan _ , May 14 2004 • a(n) = F(n - 2) * F(n + 1) ^ 2 + F(n - 1) * (- 1) ^ n. - _ J. M. Bergot _ , Mar 17 2016 • a(n) = ((- 3 * (1 / 2 * (- 1 - sqrt(5))) ^ n - (2 - sqrt(5)) ^ n + 3 * (1 / 2 * (- 1 + sqrt(5))) ^ n + (2 + sqrt(5)) ^ n)) / (5 * sqrt(5)). - _ Colin Barker _ , Jun 04 2016 •

[A033580] • 0,8,28,60,104,160,228,308,400,504,620,748,888,1040,1204,1380,1568,1768,1980,2204,2440,2688,2948,3220,3504 ★ Four times second pentagonal numbers: a(n) = 2*n*(3*n+1). • a(n) = 12 * n + a(n - 1) - 4 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 05 2010 •

[A212515] • 0,0,0,8,28,63,150,280,468,780,1200,1728,2508,3458,4620,6160,8000,10125,12852,15960,19530,23870,28798,34272,40848 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<=2x and y>=3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A007331] • 0,1,8,28,64,126,224,344,512,757,1008,1332,1792,2198,2752,3528,4096,4914,6056,6860,8064,9632,10656,12168,14336 ★ Fourier coefficients of E_{infinity,4} • a(n) = Sum _{ 0<d|n, n / d odd } d ^ 3. •

[A100182] • 1,8,28,68,135,236,378,568,813,1120,1496,1948,2483,3108,3830,4656,5593,6648,7828,9140,10591,12188,13938,15848,17925 ★ Structured tetragonal anti-prism numbers. • a(n)=(1 / 6) * (7 * n ^ 3 - 3 * n ^ 2 + 2 * n) [Corrected by Luca Colucci, Mar 01 2011] •

[A105636] • 0,1,8,28,72,153,288,496,800,1225,1800,2556,3528,4753,6272,8128,10368,13041,16200,19900,24200,29161,34848,41328,48672 ★ Transform of n^3 by the Riordan array (1/(1-x^2),x). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). • a(n) = (2 * n ^ 4 + 8 * n ^ 3 + 8 * n ^ 2 - 1) / 16 + (- 1) ^ n / 16. • a(n) = sum(k=0..floor((n - 1) / 2), (n - 2k) ^ 3). • a(n + 1) = sum(k=0..n, k ^ 3 * (1 - (- 1) ^ (n + k - 1)) / 2). •

[A212565] • 0,0,1,8,28,74,159,304,528,860,1325,1960,2796,3878,5243,6944,9024,11544,14553,18120,22300,27170,32791,39248,46608 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x>=2y+2z. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). • a(n) = 1 / 96 * (14 * n ^ 4 - 12 * n ^ 3 - 8 * n ^ 2 - 6 * ((- 1) ^ n - 1) * n + 3 * ((- 1) ^ n - 1)). •

[A209408] • 0,0,0,0,0,8,28,74,175,377,799,1673,3471,7192,14784,30208,61440,124416,251328,506712,1020015,2051015,4119775,8268215,16582735 ★ Number of subsets of {1,...,n} containing {a,a+4} for some a. • a(n) = 2 ^ n - Product _{ i=0..3 } Fibonacci(floor((n + i) / 4) + 2). • a(n) = 3 * a(n - 1) - a(n - 2) - 2 * a(n - 3) - 2 * a(n - 4) + 6 * a(n - 5) - 2 * a(n - 6) - 4 * a(n - 7) + 2 * a(n - 8) - 6 * a(n - 9) + 2 * a(n - 10) + 4 * a(n - 11) + a(n - 12) - 3 * a(n - 13) + a(n - 14) + 2 * a(n - 15). •

[A134638] • 1,8,28,76,182,406,868,1808,3706,7522,15176,30508,61198,122606,245452,491176,982658,1965658,3931696,7863812,15728086,31456678,62913908,125828416,251657482 ★ Row sums of triangle A134637. • a(n) = - 8 + 15 * 2 ^ (n - 1) - 5 * n - n ^ 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>4. •

[A212516] • 0,0,0,8,28,88,186,378,660,1104,1700,2575,3660,5148,6972,9310,12096,15616,19656,24624,30330,37100,44770,53845,63888 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w>2x and y<3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A054857] • 1,1,8,28,117,472,1916,7765,31497,127707,517881,2100025,8515772,34532063,140030059,567832091,2302600696,9337214060,37863085664,153537580071,622606110920,2524713292359,10237896957896,41515420557135 ★ Number of ways to tile a 5 X n region with square tiles of size up to 5 X 5. • a(n) = b(1)a(n - 1) + b(2)a(n - 2) + ... + b(n)a(0), a(0)=a(1)=1, b(n) as defined in A054858. • a(n) = 2 * a(n - 1) + 7 * a(n - 2) + 6 * a(n - 3) - a(n - 4) - 5 * a(n - 5) - 2 * a(n - 6) - 3 * a(n - 7) - a(n - 8). - _ R. J. Mathar _ , Nov 02 2008 •

[A241893] • 0,0,0,8,28,120,460,1848,7308,29240,116620,466488,1864588,7458360,29827980,119311928,477225868,1908903480,7635526540,30542106168,122168075148,488672300600,1954687804300 ★ The total number of rectangles appearing in the Thue-Morse sequence logical matrices (1, 0 version) after n stages. • a(n) = (3 * 2 ^ n + 2 * 4 ^ n - (- 1) ^ n * (2 ^ n + 12) - 28) / 18, n >0. - _ R. J. Mathar _ , May 04 2014 •

[A027380] • 1,8,28,168,1008,6552,43596,299592,2096640,14913024,107370900,780903144,5726600880,42288908760,314146029564,2345624803704,17592184995840,132458812569720,1000799909722368,7585009898729256 ★ Number of irreducible polynomials of degree n over GF(8); dimensions of free Lie algebras. • a(n) = Sum _{ d|n } mu(d) * 8 ^ (n / d) / n for n > 0. - _ Andrew Howroyd _ , Oct 13 2017 •

[A226744] • 8,28,169,1218,9512,78030,661459,5740304,50701542,454011971,4110416301,37550193650,345618860221,3201414635781,29816233849001,279007258230820,2621647966812031,24723998785919976,233922961602470391,2219671974013732243 ★ Round((10^n)/(log(10^n) - 1)). • a(n) = round((10 ^ n) / (log(10 ^ n) - 1)). •

[A228281] • 8,28,337,2448,21166,172082,1428523,11771298,97268701,802886174,6629901197,54739811878,451976078779,3731849749697,30812948919061,254414847888742,2100639733295629,17344457600010491,143208852222784259 ★ Number of nX6 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or nw-se diagonally. • a(n) = a(n - 1) + 42 * a(n - 2) + 147 * a(n - 3) + 70 * a(n - 4) - 478 * a(n - 5) - 449 * a(n - 6) + 1199 * a(n - 7) + 732 * a(n - 8) - 2727 * a(n - 9) + 659 * a(n - 10) + 3827 * a(n - 11) - 5776 * a(n - 12) + 3926 * a(n - 13) - 1152 * a(n - 14) - 148 * a(n - 15) + 154 * a(n - 16) + 32 * a(n - 17) - 29 * a(n - 18) - 6 * a(n - 19) + 3 * a(n - 20) + a(n - 21) •

[**A037157**] • 8,29,71,147,278,498,862,1459,2433,4017,6588,10756,17508,28441,46139,74783,121138,196150,317530,513935,831733,1345949,2177976,3524232,5702528 ★ Convolution of natural numbers n >= 1 with Fibonacci numbers F(k), for k >= 6. • a(n) = F(n + 10) - (47 + 13 * n); G.f.: (8 + 5 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2); 47=L(8), Lucas number; •

[**A100178**] • 1,8,29,72,145,256,413,624,897,1240,1661,2168,2769,3472,4285,5216,6273,7464,8797,10280,11921,13728,15709,17872,20225 ★ Structured hexagonal diamond numbers (vertex structure 5). • a(n) = (1 / 6) * (8 * n ^ 3 - 6 * n ^ 2 + 4 * n). •

[**A290312**] • 1,8,29,75,160,301,518,834,1275,1870,2651,3653,4914,6475,8380,10676,13413,16644,20425,24815,29876,35673,42274,49750,58175 ★ Third diagonal sequence of the Sheffer triangle A094816 (special Charlier). • a(n) = (24 + 70 * n + 69 * n ^ 2 + 26 * n ^ 3 + 3 * n ^ 4) / 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. •

[**A048478**] • 1,8,29,85,225,561,1345,3137,7169,16129,35841,78849,172033,372737,802817,1720321,3670017,7798785,16515073,34865153,73400321,154140673,322961409,675282945,1409286145 ★ a(n) = T(6,n), array T given by A048472. • a(n) = 7 * n * 2 ^ (n - 1) + 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>2. G.f.: (1 + 3 * x - 3 * x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). - _ Colin Barker _ , Feb 18 2016 •

[**A294838**] • 1,1,8,29,89,301,915,2763,8040,22910,63776,174174,467448,1233836,3209679,8234149,20857621,52206847,129227514,316543962,767767628,1844925743,4394337797,10379319118,24320964976 ★ Expansion of Product_{k>=1} (1 + x^k)^(k*(3*k-2)). • a(0) = 1 and a(n) = (1 / n) * Sum _{ k=1..n } b(k) * a(n - k) where b(n) = Sum _{ d|n } d ^ 2 * (3 * d - 2) * (- 1) ^ (1 + n / d). - _ Seiichi Manyama _ , Nov 14 2017 •

[**A116952**] • 1,8,29,92,281,848,2549,7652,22961,68888,206669,620012,1860041,5580128,16740389,50221172,150663521,451990568,1355971709,4067915132,12203745401,36611236208,109833708629,329501125892,988503377681 ★ a(n) = 3*a(n-1) + 5 with a(0) = 1. • a(n) = (7 / 2)3 ^ n - (5 / 2). [_ Emeric Deutsch _] • a(n) = 4 * a(n - 1) - 3 * a(n - 2). G.f.: (4 * x + 1) / ((x - 1) * (3 * x - 1)). - _ Colin Barker _ , Jul 18 2013 •

[**A199207**] • 8,29,113,449,1793,7169,28673,114689,458753,1835009,7340033,29360129,117440513,469762049,1879048193,7516192769,30064771073,120259084289,481036337153,1924145348609,7696581394433,30786325577729 ★ 7*4^n+1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[**A088131**] • 1,1,8,29,115,452,1779,7001,27552,108429,426715,1679308,6608803,26008497,102354680,402809917,1585231171,6238570004,24551470099,96620649225,380244026896,1496424637485,5889077900715,23176067575964 ★ a(n) equals the square of the n-th partial sum added to twice the n-th partial sum of the squares, divided by a(n-1), for all n>=1, with a(0)=1, a(1)=1. • a(n)= 4a(n - 1) - a(n - 3) for n>3; G.f.: A(x)=(1 - 3x + 4x ^ 2 - 2x ^ 3) / (1 - 4x + x ^ 3). •

[**A072264**] • 1,1,8,29,127,526,2213,9269,38872,162961,683243,2864534,12009817,50352121,211105448,885076949,3710758087,15557659006,65226767453,273468597389,1146539629432,4806961875241,20153583772883,84495560694854,354254600948977 ★ a(n) = 3*a(n-1) + 5*a(n-2), with a(0)=1, a(1)=1. • a(n) = (1 / 2) * (((3 / 2) + (1 / 2) * sqrt(29)) ^ n + ((3 / 2) - (1 / 2) * sqrt(29)) ^ n) + (1 / 58) * sqrt(29) * (((3 / 2) - (1 / 2) * sqrt(29)) ^ n - ((3 / 2) + (1 / 2) * sqrt(29)) ^ n). - Paolo P. Lava, Mar 31 2009 •

[**A110527**] • 0,1,8,29,128,537,2280,9653,40896,173233,733832,3108557,13168064,55780809,236291304,1000946021,4240075392,17961247585,76085065736,322301510525,1365291107840,5783465941881,24499154875368 ★ a(n+3) = 3*a(n+2) + 5*a(n+1) + a(n), a(0) = 0, a(1) = 1, a(2) = 8. • a(n) = - (1 / 2) * (2 - sqrt(5)) ^ n + (- 1) ^ n - (1 / 2) * (2 + sqrt(5)) ^ n + (2 / 5) * (2 + sqrt(5)) ^ n * sqrt(5) - (2 / 5) * (2 - sqrt(5)) ^ n * sqrt(5), with n >= 0. - _ Paolo P. Lava _ , Oct 02 2008 • a(n) = (- 1) ^ n + 3 * Fibonacci(3 * n) / 2 - Fibonacci(3 * n - 1). - _ Ehren Metcalfe _ , Nov 18 2017 •

[**A092277**] • 0,8,30,66,116,180,258,350,456,576,710,858,1020,1196,1386,1590,1808,2040,2286,2546,2820,3108,3410,3726,4056 ★ a(n) = 7*n^2 + n. • a(n) = a(n - 1) + 14 * n - 6 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 17 2010 •

[**A131769**] • 8,30,72,160,352,768,1664,3584,7680,16384,34816,73728,155648,327680,688128,1441792,3014656,6291456,13107200,27262976 ★ Number of connected components in the double Bruhat cells for simple Lie groups of type B_n (or C_n). • a(2) = 8, a(3) = 30 and a(n) = (n + 5) * 2 ^ (n - 1) for n >= 4. •

[**A055832**] • 8,30,73,145,255,413,630,918,1290,1760,2343,3055,3913,4935,6140,7548,9180,11058,13205,15645,18403,21505,24978,28850,33150 ★ T(n,n-5), where T is the array in A055830. • a(n) = (n - 3) * (n - 4) * (n ^ 2 + 13 * n + 6) / 24, n>4, sign corrected Mar 13 2016. •

[**A100175**] • 1,8,30,76,155,276,448,680,981,1360,1826,2388,3055,3836,4740,5776,6953,8280,9766,11420,13251,15268,17480,19896,22525 ★ Structured triakis tetrahedral numbers (vertex structure 4). • a(n)=(3 * n ^ 3 - 3 * n ^ 2 + 2 * n) / 2. •

[**A063489**] • 1,8,30,77,159,286,468,715,1037,1444,1946,2553,3275,4122,5104,6231,7513,8960,10582,12389,14391,16598,19020,21667,24549 ★ a(n) = (2*n-1)*(5*n^2 + 5*n+6)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), with a(1)=1, a(2)=8, a(3)=30, a(4)=77. - _ Harvey P. Dale _ , Aug 20 2012 •

[**A002417**] • 1,8,30,80,175,336,588,960,1485,2200,3146,4368,5915,7840,10200,13056,16473,20520,25270,30800,37191,44528,52900,62400,73125 ★ 4-dimensional figurate numbers: a(n) = n*binomial(n+2, 3). • a(n) = n ^ 2 * (n + 1) * (n + 2) / 6. • a(n) = C(n + 2, 2) * n ^ 2 / 3. - _ Paul Barry _ , Jun 26 2003 • a(n) = C(n + 3, n) * C(n + 1, 1). - _ Zerinvary Lajos _ , Apr 27 2005 • a(n) = (binomial(n + 3,n - 1) - binomial(n + 2,n - 2)) * (binomial(n + 1,n - 1) - binomial(n,n - 2)). - _ Zerinvary Lajos _ , May 12 2006 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n>5. - _ Wesley Ivan Hurt _ , Aug 01 2015 •

[**A213776**] • 1,8,30,81,184,376,717,1304,2294,3941,6656,11104,18361,30168,49342,80441,130840,212472,344645,558600,904886,1465293,2372160,3839616,6214129 ★ Antidiagonal sums of the convolution array A213774. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[**A163613**] • 1,8,30,104,356,1216,4152,14176,48400,165248,564192,1926272,6576704,22454272,76663680,261746176,893657344,3051137024,10417233408,35566659584,121432171520,414595366912,1415517124608,4832877764608 ★ a(n) = ((1 + 3*sqrt(2))*(2 + sqrt(2))^n + (1 - 3*sqrt(2))*(2 - sqrt(2))^n)/2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n > 1; a(0) = 1, a(1) = 8. •

[**A022273**] • 0,8,31,69,122,190,273,371,484,612,755,913,1086,1274,1477,1695,1928,2176,2439,2717,3010,3318,3641,3979,4332 ★ a(n) = n*(15*n + 1)/2. • a(n) = 15 * n + a(n - 1) - 7 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) - a(n - 3) for n>2. - _ Vincenzo Librandi _ , Mar 31 2015 •

[**A212579**] • 0,1,8,31,80,171,308,509,780,1137,1584,2143,2812,3615,4552,5645,6892,8321,9924,11731,13736,15967,18416,21117,24056 ★ Number of (w,x,y,z) with all terms in {1,...,n} and min{|w-x|,|w-y|}=min{|x-y|,|x-z|}. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - 2 * a(n - 4) - a(n - 5) + 2 * a(n - 6) + a(n - 7) - a(n - 8). •

[**A005338**] • 1,8,31,85,190,360,610,956,1415,2005,2745,3655,4756,6070,7620,9430,11525,13931,16675,19785,23290,27220,31606,36480,41875 ★ Number of ways in which n identical balls can be distributed among 5 boxes in a row such that each pair of adjacent boxes contains at least 4 balls. • a(n) = (n ^ 4 + 10 * n ^ 3 - 445 * n ^ 2 + 2690 * n - 1656) / 24 for n > 9. - _ Colin Barker _ , May 10 2012 •

[**A006322**] • 1,8,31,85,190,371,658,1086,1695,2530,3641,5083,6916,9205,12020,15436,19533,24396,30115,36785,44506,53383,63526,75050,88075 ★ 4-dimensional analog of centered polygonal numbers. • a(n) = 5 * C(n + 2, 4) + C(n + 1, 2) = (C(5 * n + 4, 4) - 1) / 5 ^ 3 = n * (n + 1) * (5 * n ^ 2 + 5 * n + 2) / 24. • a(n) = (((n + 1) ^ 5 - n ^ 5) - ((n + 1) ^ 3 - n ^ 3)) / 24. - Xavier Acloque, Jan 14 2003, corrected by _ Eric Rowland _ , Aug 15 2017 • a(n) = sum(i=1..n, sum(j=1..n, i * min(i,j))). - _ Enrique Pérez Herrero _ , Jan 30 2013 •

[**A213764**] • 1,8,31,90,225,516,1123,2366,4885,9960,20151,40578,81481,163340,327115,654726,1310013,2620656,5242015,10484810,20970481,41941908,83884851,167770830,335542885 ★ Antidiagonal sums of the convolution array A213762. • a(n) = - 10 + 5 * 2 ^ (n + 1) - 7 * n - 2 * n ^ 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). •

[**A055845**] • 1,8,31,116,433,1616,6031,22508,84001,313496,1169983,4366436,16295761,60816608,226970671,847066076,3161293633,11798108456,44031140191,164326452308,613274669041,2288772223856 ★ a(n) = 4a(n-1) - a(n-2); a(0)=1, a(1)=8. • a(n) = (8 * ((2 + sqrt(3)) ^ n - (2 - sqrt(3)) ^ n) - ((2 + sqrt(3)) ^ (n - 1) - (2 - sqrt(3)) ^ (n - 1))) / (2 * sqrt(3)). •

[**A232621**] • 1,8,31,175,1015,5911,34447,200767,1170151,6820135,39750655,231683791,1350352087,7870428727,45872220271,267362892895,1558305137095,9082467929671,52936502440927,308536546715887,1798282777854391,10481160120410455,61088677944608335 ★ The number of indecomposible domino tilings of the 5 X (2n) board. • a(n) = 6 * a(n - 1) - a(n - 2) - 4, n>=4. - _ R. J. Mathar _ , Nov 07 2015 • a(n) = 1 + 3 / 2 * (3 - 2 * sqrt(2)) ^ n * (2 + sqrt(2)) + (3 - 3 / sqrt(2)) * (3 + 2 * sqrt(2)) ^ n for n>1. - _ Colin Barker _ , Mar 05 2016 •

[**A018842**] • 1,8,32,68,96,120,148,176,204,232,260,288,316,344,372,400,428,456,484,512,540,568,596,624,652 ★ Number of squares on infinite chessboard at n knight's moves from center. • a(n) = 28 * n - 20, n >= 5. •

[**A130809**] • 8,32,80,160,280,448,672,960,1320,1760,2288,2912,3640,4480,5440,6528,7752,9120,10640,12320,14168,16192,18400,20800,23400 ★ If X_1, ..., X_n is a partition of a 2n-set X into 2-blocks then a(n) is equal to the number of 3-subsets of X containing none of X_i, (i=1,...,n). • a(n) = (4 / 3) * n * (n - 1) * (n - 2). • a(n) = C(n,n - 3) * 8, n >= 3. - _ Zerinvary Lajos _ , Dec 07 2007 •

[**A008412**] • 1,8,32,88,192,360,608,952,1408,1992,2720,3608,4672,5928,7392,9080,11008,13192,15648,18392,21440,24808,28512,32568,36992 ★ Coordination sequence for 4-dimensional cubic lattice (points on surface of 4-dimensional cross-polytope). • a(n) = 8 * n * (n ^ 2 + 2) / 3 for n>1. •

[**A132117**] • 1,8,32,90,205,406,728,1212,1905,2860,4136,5798,7917,10570,13840,17816,22593,28272,34960,42770,51821,62238,74152,87700,103025 ★ Binomial transform of [1, 7, 17, 17, 6, 0, 0, 0,...]. • a(n) = (4 * n + 6 * n ^ 2 + 8 * n ^ 3 + 6 * n ^ 4) / 24. - _ Alois P. Heinz _ , Aug 07 2008 •

[**A159941**] • 8,32,92,212,416,728,1172,1772,2552,3536,4748,6212,7952,9992,12356,15068,18152,21632,25532,29876,34688,39992,45812,52172,59096 ★ Number of trisubstituted linear alkanes of composition C_n H_(2n-1) XYZ. • a(n) = (4 n ^ 3 - 18 n ^ 2 + 38 n - 28) where n is the number of carbons. •

[**A241204**] • 1,8,32,96,256,640,1536,3584,8192,18432,40960,90112,196608,4259840,9175040,19660800,41943040,89128960,188743680,398458880,838860800,1761607680,3698098752,7717519360,16106127360 ★ Expansion of (1 + 2*x)^2/(1 - 2*x)^2. • a(n) = 2 ^ (2 + n) * n for n>0. - _ Colin Barker _ , Apr 23 2014 • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>2. - _ Colin Barker _ , Apr 23 2014 •

[**A100312**] • 8,32,104,304,832,2176,5504,13568,32768,77824,182272,421888,966656,2195456,4947968,11075584,24641536,54525952,120061952,263192576,574619648,1249902592,2709520384,5855248384 ★ Number of 3 X n binary matrices

avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (10;0) and (01;1). • a(n) = (n ^ 2 + 5n + 2) * 2 ^ (n - 1). •

[**A234272**] • 1,8,32,120,448,1672,6240,23288,86912,324360,1210528,4517752,16860480,62924168,234836192,876420600,3270846208,12206964232,45557010720,170021078648,634527303872,2368088136840,8837825243488,32983212837112,123095026104960 ★ G.f.: (1+4*x+x^2)/(1-4*x+x^2). • a(n) = 4 * a(n - 1) - a(n - 2) for n>2. • a(n) = 4 * (- (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n) / sqrt(3) for n>1. •

[**A081654**] • 1,8,32,128,512,2048,8192,32768,131072,524288,2097152,8388608,33554432,134217728,536870912,2147483648,8589934592,34359738368,137438953472,549755813888,2199023255552,8796093022208,35184372088832 ★ a(n) = 2*4^n - 0^n. • a(0)=1, a(n) = 2 * 4 ^ n, n>0 •

[**A290915**] • 0,8,32,144,672,3096,14272,65824,303552,1399848,6455520,29770160,137287520,633112632,2919650688,13464207936,62091296128,28633909050 4,1320476135328,6089483698896,28082152132128,129503141377112,597214328432960,2754102721315680 ★ p-INVERT of the positive integers, where p(S) = 1 - 8*S^2. • a(n) = 4 * a(n - 1) + 2 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A086348**] • 1,8,32,168,784,3840,18432,89216,430336,2078720,10035200,48457728,233967616,1129709568,5454692352,26337640448,127169265664,614027755520,2964787822592,14315262836736 ★ On a 3 X 3 board, number of n-move routes of chess king ending in the central square. • a(n) = (1 / 16)(4(- 2) ^ (n + 1) + (2 + sqrt(8)) ^ (n + 2) + (2 - sqrt(8)) ^ (n + 2)). • a(n) = 2 * a(n - 1) + 12 * a(n - 2) + 8 * a(n - 3) with a(0)=1, a(1)=8 and a(2)=32. •

[**A159277**] • 0,8,32,384,2560,22528,172032,1409024,11141120,89653248,715128832,5729419264,45801799680,366548615168,2931852050432,23456963887104,187647121162240,1501211329036288,12009553193336832,96076975302508544 ★ Ways to write the identity as a product of n 3-cycles in symmetric group S_4. • a(n)=(2 / 3) * (- 1) ^ n * ((- 8) ^ n - 4 ^ n). o.g.f. (- 8x) / (32x ^ 2 + 4x - 1). •

[**A022274**] • 0,8,33,75,134,210,303,413,540,684,845,1023,1218,1430,1659,1905,2168,2448,2745,3059,3390,3738,4103,4485,4884 ★ a(n) = n*(17*n - 1)/2. • a(n) = 17 * n + a(n - 1) - 9 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. (End) •

[**A118312**] • 1,8,33,76,129,196,277,372,481,604,741,892,1057,1236,1429,1636,1857,2092,2341,2604,2881,3172,3477,3796,4129 ★ Number of squares on infinite chessboard that a knight can reach in n moves from a fixed square. • a(n) = -3 + 4 * n + 7 * n ^ 2 + 4 * Sign[(n - 2)(n - 1)]. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 09 2012 •

[**A212679**] • 0,1,8,33,80,165,288,469,704,1017,1400,1881,2448,3133,3920,4845,5888,7089,8424,9937,11600,13461,15488,17733,20160 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |x-y|=|y-z|. • a(n)=2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[**A212133**] • 0,1,8,33,88,185,336,553,848,1233,1720,2321,3048,3913,4928,6105,7456,8993,10728,12673,14840,17241,19888,22793,25968 ★ Number of (w,x,y,z) with all terms in {1,...,n} and median=mean. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = n * (2 * n ^ 2 - 3 * n + 2). - _ J. M. Bergot _ , Jun 22 2012 •

[**A212574**] • 0,1,8,33,88,197,380,673,1104,1721,2560,3681,5128,6973,9268,12097,15520,19633,24504,30241,36920,44661,53548,63713,75248 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|>=|x-y|+|y-z|. • a(n) = 3 * a(n - 1) - a * (n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[**A210698**] • 1,8,33,90,209,528,889,1432,2673,3802,5297,8448,11025,14216,20625,25546,31393,42768,51145,60824,79233,92394,107297,135168,154657 ★ Number of 2 X 2 matrices having all terms in {1,...,n} and determinant = 0 (mod 3). • a(n) = a(n - 1) + 4 * a(n - 3) - 4 * a(n - 4) - 6 * a(n - 6) + 6 * a(n - 7) + 4 * a(n - 9) - 4 * a(n - 10) - a(n - 12) + a(n - 13) for n > 13. • a(n) = r ^ 4 + 4 * r ^ 3 * s + 4 * r ^ 3 * t + 4 * r ^ 2 * s ^ 2 + 8 * r ^ 2 * s * t + 4 * r ^ 2 * t ^ 2 + s ^ 4 + 6 * s ^ 2 * t ^ 2 + t ^ 4. •

[**A014820**] • 1,8,33,96,225,456,833,1408,2241,3400,4961,7008,9633,12936,17025,22016,28033,35208,43681,53600,65121,78408,93633,110976,130625 ★ a(n) = (1/3)*(n^2+2*n+3)*(n+1)^2. • a(n - 1) = C(n + 3,4) + 3 C(n + 2,4) + 3 C(n + 1,4) + C(n,4). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with n>4, a(0)=1, a(1)=8, a(2)=33, a(3)=96, a(4)=225. - _ Yosu Yurramendi _ , Sep 03 2013 •

[**A051836**] • 0,1,8,33,98,238,504,966,1716,2871,4576,7007,10374,14924,20944,28764,38760,51357,67032,86317,109802,138138,172040,212290,259740 ★ a(n) = n*(n+1)*(n+2)*(n+3)*(3*n+2)/120. • a(n) = C(n + 4, n) * (3n + 5) / 5. •

[**A070051**] • 8,33,117,384,1194,3558,10238,28606,77950,207870,543998,1400318,3552254,8894462,22011902,53903358,130744318,314376190,749928446,1775894526,4177264638,9764863998,22695378942,52466548734,120686903294 ★ Number of Bottleneck-Monge matrices with 3 rows. In the formula below, P=3. • a(N) = a(3, N), where a(P, N) is defined recursively in A070050. •

[**A087235**] • 8,33,120,360,1134,3094,8472,24300,64720,175197,481452,1304719,3524654,9560100,25874784,70119985,189969354,514278263,1394199300,3779856633,10246936436,27788573803,75370126416,204475055200,55480582055 6 ★ a(n) is the largest number in the set of solutions to n=x/pi(x), where pi(x)=A000720(x). • a(n) = Max { x; n * pi(x)=x } . •

[**A212404**] • 8,33,132,527,2104,8402,33560,134075,535728,2140910,8556568,34201078,136713872,546528612,2184925808,8735357267,34925461088,1396429149 02,558353310488,2232601256162,8927375430608,35698163696252,14275010475 5408 ★ Number of binary arrays of length 2*n+2 with no more than n ones in any length 2n subsequence (=50% duty cycle) • a(n) = 2 ^ (2 * n + 1) + C(2 * n - 2,n). - _ Vaclav Kotesovec _ , Oct 28 2012 •

[**A048877**] • 1,8,33,140,593,2512,10641,45076,190945,808856,3426369,14514332,61483697,260449120,1103280177,4673569828,19797559489,83863807784,355252790625,1504874970284,6374752671761 ★ a(n) = 4*a(n-1) + a(n-2); a(0)=1, a(1)=8. • a(n) = ((6 + sqrt(5)) * (2 + sqrt(5)) ^ n - (6 - sqrt(5)) * (2 - sqrt(5)) ^ n) / (2 * sqrt(5)). • a(n)=4 * a(n - 1) + a(n - 2); a(0)=1, a(1)=8. •

[**A154516**] • 8,34,78,140,220,318,434,568,720,890,1078,1284,1508,1750,2010,2288,2584,2898,3230,3580,3948,4334,4738,5160,5600 ★ a(n) = 9n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 30 2012 •

[**A212744**] • 1,8,34,83,181,314,532,791,1177,1604,2206,2843,3709,4598,5776,6959,8497,10016,11962,13859,16261,18578,21484,24263,27721 ★ Number of (w,x,y,z) with all terms in {0,...,n} and w=max{w,x,y,z}-min{w,x,y,z}; i.e., the range of (w,x,y,z) is its first term. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = (30 * n ^ 3 + 3 * ((- 1) ^ n + 15) * n ^ 2 + 3 * ((- 1) ^ n + 15) * n + (- 1) ^ n + 15) / 16. • a(n) = (15 * n ^ 3 + 24 * n ^ 2 + 24 * n + 8) / 8 for n even. • a(n) = (15 * n ^ 3 + 21 * n ^ 2 + 21 * n + 7) / 8 for n odd. •

[**A066804**] • 1,8,34,100,235,476,868,1464,2325,3520,5126,7228,9919,13300,17480,22576,28713,36024,44650,54740,66451,79948,95404,113000,132925 ★ Sum of diagonal elements and those below it for a square matrix of integers, starting with 1. • a(n) = n * (n + 1) * (2 * n ^ 2 - n + 2) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with n>4, a(0)=1, a(1)=8, a(2)=34, a(3)=100, a(4)=235. [_ Yosu Yurramendi _ , Sep 03 2013] •

[**A172202**] • 0,0,8,34,105,248,490,858,1379,2080,2988,4130,5533,7224,9230,11578,14295,17408,20944,24930,29393,34360,39858,45914,52555 ★ Number of ways to place 3 nonattacking kings on a 3 X n board. • a(n) = (n - 2) * (9n ^ 2 - 45n + 70) / 2, n>=2. •

[**A053298**] • 1,8,34,107,281,654,1397,2801,5353,9859,17643,30869,53062,89951,150833,250780,414210,680665,1114160,1818310,2960806,4813018,7814074,12674542,20544191 ★ Partial sums of A027964. • a(n) = a(n - 1) + a(n - 2) + (3 n + 4) * C(n + 3, 3) / 4. •

[**A126395**] • 1,8,34,150,668,2986,13362,59816,267802,1199022,5368412,24036226,107618586,481846232,2157395218,9659418342,43248619100,193639305850,866991400098,3881825980040,17380302665002,77817738944382 ★ Number of base 8 n-digit numbers with adjacent digits differing by two or less. • a(n) = 5 * a(n - 1) - a(n - 2) - 6 * a(n - 3) for n>3. •

[**A212903**] • 1,8,35,94,209,398,697,1130,1743,2568,3661,5060,6833,9024,11711,14946,18817,23382,28741,34958,42143,50368,59753,70376,82369 ★ Number of (w,x,y,z) with all terms in {0,...,n} and |w-x|<=|x-y|<=|y-z|. • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 4) + a(n - 5) + 3 * a(n - 6) - a(n - 7) - 2 * a(n - 8) + a(n - 9). •

[**A168566**] • 0,8,35,99,224,440,783,1295,2024,3024,4355,6083,8280,11024,14399,18495,23408,29240,36099,44099,53360,64008,76175,89999,105624 ★ a(n) = (n-1)*(n+2)*(n^2 + n + 2)/4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[**A212674**] • 0,1,8,35,104,247,504,925,1568,2501,3800,5551,7848,10795,14504,19097,24704,31465,39528,49051,60200,73151,88088,105205,124704 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w>|x-y|+|y-z|. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). •

[**A244882**] • 1,8,35,110,280,616,1218,2220,3795,6160,9581,14378,20930,29680,41140,55896,74613,98040,127015,162470,205436,257048,318550,391300,476775 ★ Expansion of (1 + 2*x + 2*x^2) / (1 - x)^6. • a(n) = (24 + 62 * n + 63 * n ^ 2 + 33 * n ^ 3 + 9 * n ^ 4 + n ^ 5) / 24. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. •

[**A040977**] • 1,8,35,112,294,672,1386,2640,4719,8008,13013,20384,30940,45696,65892,93024,128877,175560,235543,311696,407330,526240,672750,851760,1068795 ★ a(n) = binomial(n+5,5)*(n+3)/3. • a(n - 3) = Sum _{ i + j + k=n } i * j * k ^ 2. - _ Benoit Cloitre _ , Nov 01 2002 • a(n) = 2 * binomial(n + 6, 6) - binomial(n + 5, 5). - _ Paul Barry _ , Mar 04 2003 • a(n - 3) = 1 / (1! * 2! * 3!) * Sum _{ 1 <= x _ 1, x _ 2, x _ 3 <= n } |det V(x _ 1,x _ 2,x _ 3)| = 1 / 12 * Sum _{ 1 <= i,j,k <= n } |(i - j)(i - k)(j - k)|, where V(x _ 1,x _ 2,x _ 3 } is the Vandermonde matrix of order 3. - _ Peter Bala _ , Sep 13 2007 • a(n) = binomial(n + 5,5) + 2 * binomial(n + 5,6). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 • a(n) = (n + 1) * (n + 2) * (n + 3) ^ 2 * (n + 4) * (n + 5) / 360. - _ Wesley Ivan Hurt _ , May 05 2015 •

[**A292479**] • 0,1,8,35,120,392,1336,4725,16792,59191,207536,727440,2553264,8968569,31502248,110627195,388451624,1364010648,4789766120,16819647565,59063332152,207403715119,728306773600,2557481457440,8980717116000 ★ p-INVERT of the positive squares, where p(S) = 1 - S^2. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 22 * a(n - 3) - 14 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n >= 7. •

[**A094616**] • 1,8,35,126,417,1324,4111,12602,38333,116040,350187,1054678,3172249,9533156,28632263,85962354,258018165,774316672,2323474339,6971471630,20916512081,62753730588,188269580415,564825518506,1694510109997 ★ Row sums of A094615. • a(n)=2(a(n - 1) + 3 ^ n) + n - 1, a(0)=1 • a(n)=2 * 3 ^ (n + 1) - 2 ^ (n + 2) - n - 1 - _ Benoit Cloitre _ , May 23 2004 •

[**A114569**] • 8,35,143,575,2303,9215,36863,147455,589823,2359295,9437183,37748735,150994943,603979775,2415919103,9663676415,38654705663,154618822655,618475290623,2473901162495,9895604649983,39582418599935 ★ a(n) = 9*4^n - 1. • a(n) = 4 * a(n - 1) + 3, n>0; a(0)=8. • a(n) = 5 * a(n - 1) - 4 * a(n - 2), n>1; a(0)=8, a(1)=35. •

[**A000426**] • 0,1,1,1,8,35,211,1459,11584,103605,1030805,11291237,135015896,1749915271,24435107047,365696282855,5839492221440,99096354764009,1780930394412009,33789956266629001,674939337282352360,14157377139256183 72

3 ⋆ Coefficients of ménage hit polynomials. • a(n) = SUM(k = 2..n, ((- 1) ^ k (2n - k - 1)! (n - k)!) / ((2n - 2k)! (k - 2)!)) • a(n) = ((2 * n - 5) * a(n - 1) + (5 * n - 11) * a(n - 2) + (5 * n - 14) * a(n - 3) + (2 * n - 5) * a(n - 4) + 2 * a(n - 5)) / 2 for n >= 6. •

[A200312] • 1,1,8,35,266,1680,12804,93093,726440,5635058,45063668,362121760,2955642508,24284658100,201428123040,1680921310635,14119413718770,119205791509200,1011387051005100,8617021562542470,73704123363739440,632601537174078420 ⋆ a(n) = A000108(n)*A006130(n), where A000108 is the Catalan numbers and A006130(n) = A006130(n-1) + 3*A006130(n-2). • a(n) = (((1 + sqrt(13)) / 2) ^ (n + 1) - ((1 - sqrt(13)) / 2) ^ (n + 1)) / sqrt(13) * binomial(2 * n + 1,n) / (2 * n + 1). - _ Paul D. Hanna _ , Sep 25 2012 •

[A139608] • 8,36,64,92,120,148,176,204,232,260,288,316,344,372,400,428,456,484,512,540,568,596,624,652,680 ⋆ 28n + 8. • a(0)=8, a(1)=36, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Dec 14 2012 •

[A035006] • 0,8,36,96,200,360,588,896,1296,1800,2420,3168,4056,5096,6300,7680,9248,11016,12996,15200,17640,20328,23276,26496,30000 ⋆ Number of possible rook moves on an n X n chessboard. • a(n) = (n - 1) * 2 * n ^ 2. • a(n) = sum (((n + j - 1) ^ 2 - (n - j + 1) ^ 2),j=1..n). - _ Zerinvary Lajos _ , Sep 13 2006 • a(1)=0, a(2)=8, a(3)=36, a(4)=96, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [_ Harvey P. Dale _ , May 12 2012] •

[A032768] • 0,8,36,100,224,432,756,1232,1900,2808,4004,5544,7488,9900,12852,16416,20672,25704,31600,38456,46368,55440,65780,77500,90720 ⋆ Floor(n(n+1)(n+2)(n+3)(n+4) / (n+(n+1)+(n+2)+(n+3)+(n+4))). • a(n) = floor(n(n + 1)(n + 3)(n + 4) / 5). [_ Bruno Berselli _ , Jun 20 2012] •

[A006636] • 8,36,102,231,456,819,1372,2178,3312,4862,6930,9633,13104,17493,22968,29716,37944,47880,59774,73899,90552,110055,132756,159030,189280 ⋆ From generalized Catalan numbers. • a(n) = (n + 1) * (n + 2) * (n + 4) * (n + 8) * (n + 15) / 120. - _ Sean A. Irvine _ , May 30 2017 •

[A092365] • 1,8,36,112,275,576,1078,1856,2997,4600,6776,9648,13351,18032,23850,30976,39593,49896,62092,76400,93051,112288,134366,159552,188125 ⋆ Coefficient of X^2 in expansion of (1 + n*X + n*X^2)^n. • a(n) = n ^ 2 * (binomial(n, 2) + 1). •

[A008500] • 1,8,36,120,330,792,1716,3431,6427,11404,19328,31494,49596,75804,112848,164109,233717,326656,448876,607412,810510,1067760,1390236,1790643,2283471 ⋆ 6-dimensional centered tetrahedral numbers. • a(- 1 - n) = a(n) . •

[A008490] • 1,8,36,120,330,792,1716,3432,6434,11432,19412,31704,50058,76728,114564,167112,238722,334664,461252,625976,837642,1106520,1444500,1865256,2384418 ⋆ Expansion of (1-x^8) / (1-x)^8. • a(n) = (180 + 469 * n ^ 2 + 70 * n ^ 4 + n ^ 6) / 90 for n>0. - _ Colin Barker _ , Jan 06 2017 •

[A000580] • 1,8,36,120,330,792,1716,3432,6435,11440,19448,31824,50388,77520,116280,170544,245157,346104,480700,657800,888030,1184040,1560780,2035800,2629575 ⋆ a(n) = binomial coefficient C(n,7). • a(n) = (n ^ 7 - 21 * n ^ 6 + 175 * n ^ 5 - 735 * n ^ 4 + 1624 * n ^ 3 - 1764 * n ^ 2 + 720 * n) / 5040. • a(n + 4) = (1 / 3!) * (d ^ 3 / dx ^ 3)S(n,x)| _{ x=2 } , n >= 3. One sixth of third derivative of Chebyshev S - polynomials evaluated at x=2. See A049310 . - _ Wolfdieter Lang _ , Apr 04 2007 • a(n) = n(n - 1)(n - 2)(n - 3)(n - 4)(n - 5)(n - 6) / 7!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) with a(7)=1, a(8)=8, a(9)=36, a(10)=120, a(11)=330, a(12)=792, a(13)=1716, a(14)=3432. - _ Harvey P. Dale _ , Nov 28 2011 •

[A290995] • 0,0,0,0,0,0,0,1,8,36,120,330,792,1716,3432,6436,11456,19584,32640,54264,93024,170544,341088,735472,1653632 ⋆ p-INVERT of (1,1,1,1,1,...), where p(S) = 1 - S^8. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) for n >= 9. •

[A145136] • 0,1,8,36,120,331,801,1761,3597,6931,12737,22506,38479,63974,103843,165109,257852,396439,601229,900934,1335886,1962555,2859794,4137468,5948374 ⋆ Expansion of x/((1 - x - x^4)*(1 - x)^7). • a(0)=0, a(1)=1, a(2)=8, a(3)=36, a(4)=120, a(5)=331, a(6)=801, a(7)=1761, a(8)=3597, a(9)=6931, a(10)=12737, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 69 * a(n - 4) + 49 * a(n - 5) - 7 * a(n - 6) - 27 * a(n - 7) + 34 * a(n - 8) - 21 * a(n - 9) + 7 * a(n - 10) - a(n - 11). - _ Harvey P. Dale _ , Jan 03 2012 •

[A290892] • 0,0,0,1,8,36,120,331,808,1852,4248,10312,26968,74012,204968,558253,1483336,3860588,9938488,25570103,66214096,172926104,454504816,1197527184,3152221296 ⋆ p-INVERT of the positive integers, where p(S) = 1 - S^4. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 69 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A054470] • 1,8,36,121,339,838,1891,3983,7953,15225,28183,50779,89518,155053,264767,446952,747572,1241207,2048762,3366122,5510518,8995550,14652578,23827138,38696751 ⋆ Partial sums of A054469. • a(n) = a(n - 1) + a(n - 2) + (2n + 5) * C(n + 4, 4) / 5; a(- n)=0. • a(n) = sum { C(n + 6 - i, n + 2 - 2i); i=1 to [(n + 2) / 2] }+ 2 * sum { C(n + 6 - i, n + 1 - 2i); i=1 to [(n + 1) / 2]; where [x]=greatest integer in x. •

[A213581] • 1,8,36,124,367,988,2498,6048,14197,32576,73472,163508,360027,785908,1703294,3669240,7863393,16776120,35650300,75495980,159381831,335542348,704640826,1476392464,3087004877 ⋆ Antidiagonal sums of the convolution array A213571. • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 44 * a(n - 3) - 41 * a(n - 4) + 20 * a(n - 5) - 4 * a(n - 6). • a(n) = 8 + (n - 2) * 2 ^ (n + 2) - (n - 2) * n * (n + 5) / 6. - _ Bruno Berselli _ , Jul 09 2012 •

[A210379] • 0,8,36,128,300,648,1176,2048,3240,5000,7260,10368,14196,19208,25200,32768,41616,52488,64980,80000,97020,117128,139656,165888,195000 ⋆ Number of 2 X 2 matrices with all terms in {0,1,...,n} and odd trace. • a(n) = (n + 1) ^ 2 * ((n + 1) ^ 2 - (2 * n + 1 - (- 1) ^ n) ^ 2 / 16 - (2 * n + 3 + (- 1) ^ n) ^ 2 / 16). • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n > 7. •

[A014477] • 1,8,36,128,400,1152,3136,8192,20736,51200,123904,294912,692224,1605632,3686400,8388608,18939904,42467328,94633984,209715200,462422016,1015021568,2218786816,4831838208,10485760000 ⋆ Expansion of (1 + 2*x)/(1 - 2*x)^3. • a(1)=1, a(n) = 2a(n - 1) + (2n - 1) * 2 ^ (n - 1). - _ Jon Perry _ , Feb 06 2004 • a(n) = sum of (n + 1) - th row of the triangle in A118416. - _ Reinhard Zumkeller _ , Apr 27 2006 • a(n) = Sum _{ j=0..n } binomial(n,j) * n * j. - _ Zerinvary Lajos _ , Oct 19 2006 •

[A083597] • 1,8,36,148,596,2388,9556,38228,152916,611668,2446676,9786708,39146836,156587348,626349396,2505397588,10021590356,40086361428,160345445716,641381782868,2565527131476,10262108525908,41048434103636 ⋆ a(n) = (7*4^n - 4)/3. • a(n) = (7 * 4 ^ n - 4) / 3. • a(n) = 4 * a(n - 1) + 4, n > 0 . - _ Gary Detlefs _ , Jun 23 2010 • a(0)=1, a(1)=8, a(n) = 5 * a(n - 1) - 4 * a(n - 2). - _ Harvey P. Dale _ , Jul 23 2011 •

[A178744] • 0,0,1,8,36,149,604,2424,9705,38832,155340,621373,2485508,9942048,39768209,159072856,636291444,2545165797,10180663212,40722652872,162890611513,651562446080,2606249784348,10424999137421,41699996549716 ⋆ Partial sums of floor(4^n/9). • a(n) = round((8 * 4 ^ n - 24 * n - 17) / 54). • a(n) = floor(4 * (4 ^ n - 3 * n - 1) / 27). • a(n) = ceil((4 * 4 ^ n - 12 * n - 13) / 27). • a(n) = round(4 * (4 ^ n - 3 * n - 1) / 27). • a(n) = a(n - 3) + (7 * 4 ^ (n - 2) - 4) / 3 , n>3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + a(n - 3) - 5 * a(n - 4) + 4 * a(n - 5), n>5. •

[A164545] • 1,8,36,176,848,4096,19776,95488,461056,2226176,10748928,51900416,250597376,1209991168,5842354176,28209381376,136206942208,657665294336,3175488946176,15332616962048,74032423632896,357460162379776 ⋆ a(n) = 4*a(n-1) + 4*a(n-2) for n > 1; a(0) = 1, a(1) = 8. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 1, a(1) = 8. • a(n) = ((2 + 3 * sqrt(2)) * (2 + 2 * sqrt(2)) ^ n + (2 - 3 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ n) / 4. •

[A199310] • 8,36,176,876,4376,21876,109376,546876,2734376,13671876,68359376,341796876,1708984376,8544921876,42724609376,213623046876,1068115234376,5340576171876,26702880859376,133514404296876,667572021484376 ⋆ 7*5^n+1. • a(n) = 5 * a(n - 1) - 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A030112] • 1,8,36,204,1086,5916,31998,173502,940005,5094220,27604798,149590922,810627389,4392774126,23804329059,128995094597,699021261776,3787979292364,20526967746120,111235140046330,602780523265720 ⋆ Number of distributive lattices; also number of paths with n turns when light is reflected from 8 glass plates. • a(n) = 4 * a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) + 7 * a(n - 6) - a(n - 7) - a(n - 8). - _ Benoit Cloitre _ , Oct 09 2002 • a(n) is asymptotic to z(8) * w(8) ^ n where w(8)=(1 / 2) / cos(8 * Pi / 17) and z(8) is the root 1<x<2 of P(8, X) = 1 + 204 * X - 12138 * X ^ 2 - 324258 * X ^ 3 + 4593655 * X ^ 4 + 36916282X ^ 5 - 168962983 * X ^ 6 - 410338673 * X ^ 7 + 410338673 * X ^ 8. - _ Benoit Cloitre _ , Oct 16 2002 •

[A244870] • 1,8,37,121,318,717,1446,2678,4639,7614,11955,18087,26516,37835,52732,71996,96525,127332,165553,212453,269434,338041,419970,517074,631371 ⋆ Number of magic labelings with magic sum n of 2nd graph shown in link. • a(n) = 7 * n ^ 5 / 120 + 7 * n ^ 4 / 16 + 35 * n ^ 3 / 24 + 21 * n ^ 2 / 8 + 149 * n / 60 + (- 1) ^ n / 32 + 31 / 32. [_ Bruno Berselli _ , Jul 08 2014] •

[A052387] • 0,1,8,37,127,358,876,1926,3894,7359,13156,22451,36829,58396,89896,134844,197676,283917,400368,555313,758747,1022626,1361140,1791010,2331810 ⋆ Number of 3 X n binary matrices such that any 2 rows have a common 1, up to column permutations. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n ^ 3 + 22 * n ^ 2 + 53 * n + 134) / 5040. •

[A001780] • 1,8,37,128,367,920,2083,4352,8518,15792,27966,47616,78354,125136,194634,295680,439791,641784,920491,1299584,1808521,2483624,3369301,4519424,5998876 ⋆ Expansion of 1/((1+x)(1-x)^9). • a(n) = 431 * n / 168 + (- 1) ^ n / 512 + 391 * n ^ 3 / 288 + 26011 * n ^ 2 / 10080 + 797 * n ^ 4 / 1920 + 11 * n ^ 5 / 144 + n ^ 6 / 120 + n ^ 7 / 2016 + n ^ 8 / 80640 + 511 / 512. - R. J. Mathar, Mar 15 2011 •

[A053296] • 1,8,37,129,376,967,2267,4950,10220,20175,38403,70954,127921,226007,392688,672959,1140260,1914166,3189022,5280288,8699540,14275838,23352118,38102976,62048869 ⋆ Partial sums of A053295. • a(n) = Sum _{ i=0..floor(n / 2) } C(n + 7 - i, n - 2i), n >= 0. • a(n) = Sum _{ k=1..n } C(n - k + 7,k + 6), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 •

[A055799] • 1,8,37,130,385,1012,2431,5434,11440,22880,43758,80444,142766,245480,410210,667964,1062347,1653608,2523675,3782350,5574855,8090940,11575785,16342950,22789650 ⋆ T(2n+6,n), array T as in A055794. • a(n - 9) = binomial(n,9) - 2 * binomial(n - 2,8), n=9, 10, ... - _ Milan Janjic _ , Dec 28 2007 • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Vincenzo Librandi _ , May 01 2012 •

[A035038] • 0,0,0,0,0,0,1,8,37,130,386,1024,2510,5812,12911,27824,58651,121670,249528,507624,1026876,2069256,4158861,8344056,16721761 ⋆ a(n) = 2^n - C(n,0) - C(n,1) - ... - C(n,5). • a(n) = sum _{ k=0..n } , C(n, k + 6) = sum _{ k=6..n } C(n, k). • a(n) = 2 * a(n - 1) + C(n - 1, 5). (End) •

[A163832] • 0,8,38,102,212,380,618,938,1352,1872,2510,3278,4188,5252,6482,7890,9488,11288,13302,15542,18020,20748,23738,27002,30552 ⋆ a(n) = n*(2*n^2 + 5*n + 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A139798] • 8,38,111,256,511,924,1554,2472,3762,5522,7865,10920,14833,19768,25908,33456,42636,53694,66899,82544,100947,122452,147430,176280,209430 ⋆ Coefficient of x^5 in (1-x-x^2)^(-n). • a(n) = n(n + 1)(n + 2)(n ^ 2 + 27n + 132) / 5! •

[**A034009**] • 1,8,38,140,443,1268,3384,8584,20965,49744,115402,262996,590831,1311900,2884956,6293040,13633305,29362200,62916910,134220380,285215651,603983108,1275072128,2684358680,5637149133 ⋆ Convolution of A000295(n+2) (n>=0) with itself. • a(n) = (n - 3) * 2 ^ (n + 4) + binomial(n + 3,3) + 4 * (binomial(n + 1,2) + 4 * n + 12) • a(n) = binomial(n + 3,3) * hypergeom([2, - n],[- n - 3],2). - _ Peter Luschny _ , Sep 19 2014 • a(n) = Sum _{ k=0..n + 4 } Sum _{ i=0..n + 4 } (i - k) * C(n - k + 4,i + 2). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[**A156934**] • 1,8,38,144,487,1552,4796,14592,44061,132568,398210,1195280,3586659,10760992,32284216,96854144,290564217,871694760,2615086750,7845263120,23535792671,70607381808 ⋆ G.f. of the z^1 coefficients of the FP2 in the second column of the A156925 matrix • a(n)=6 * a(n - 1) - 12 * a(n - 2) + 10 * a(n - 3) - 3 * a(n - 4) + 2 • a(n)=7 * a(n - 1) - 18 * a(n - 2) + 22 * a(n - 3) - 13 * a(n - 4) + 3 * a(n - 5) • a(n):= - 1 / 6 * n ^ 3 - n ^ 2 - 7 / 3 * n - 9 / 4 + 9 / 4 * 3 ^ n •

[**A007786**] • 1,8,38,184,976,5382,29739,163496,896476,4913258,26932712,147657866,809563548,4438573234,24335048679,133419610132,731487691902,4010463268476,21987818897998,120550710615560,660932932108467 ⋆ Number of nonintersecting rook paths joining opposite corners of 4 X n board. • a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 124 * a(n - 3) - 133 * a(n - 4) - 16 * a(n - 5) + 175 * a(n - 6) - 94 * a(n - 7) - 69 * a(n - 8) + 40 * a(n - 9) + 12 * a(n - 10) - 4 * a(n - 11) - a(n - 12). •

[**A101374**] • 0,1,8,39,124,305,636,1183,2024,3249,4960,7271,10308,14209,19124,25215,32656,41633,52344,64999,79820,97041,116908,139679,165624 ⋆ a(n) = n*(n^3 - n + 2)/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Harvey P. Dale _ , Sep 28 2012 •

[**A060446**] • 0,1,8,39,136,377,888,1855,3536,6273,10504,16775,25752,38233,55160,77631,106912,144449,191880,251047,324008,413049,520696,649727,803184 ⋆ Number of ways to color vertices of a pentagon using <= n colors, allowing rotations and reflections. • a(n) = (n ^ 5 + 5 * n ^ 3 + 4 * n) / 10. •

[**A055581**] • 1,8,39,150,501,1524,4339,11762,30705,77808,192495,466926,1114093,2621420,6094827,14024682,31981545,72351720,162529255,362807270,805306341,1778384868,3909091299,8556380130,18656264161 ⋆ Fifth column of triangle A055252. • a(n) = (n ^ 2 - n + 4)2 ^ (n + 1) - 7 - n - _ Emeric Deutsch _ , May 21 2003 • a(0)=1, a(1)=8, a(2)=39, a(3)=150, a(4)=501, a(n) = 8 * a(n - 1) - 25 * a(n - 2) + 38 * a(n - 3) - 28 * a(n - 4) + 8 * a(n - 5). [_ Harvey P. Dale _ , Nov 07 2011] •

[**A097787**] • 1,8,39,152,526,1704,5322,16296,49383,148864,447593,1344144,4034252,12105136,36318468,108959280,326882685,980654040,2941969435,8825917160,26477762106,79433298968,238299911854,714899753112,2144699279811 ⋆ a(n)=3a(n-1)+C(n+4,4),n>0, a(0)=1. • a(n)=3 ^ (n + 5) / 32 - (2n ^ 4 + 32 n ^ 3 + 196n ^ 2 + 556n + 633) / 96; • a(n)=sum { k=0..n, binomial(n + 5, k + 5)2 ^ k } . •

[**A144414**] • 1,8,39,166,677,2724,10915,43682,174753,699040,2796191,11184798,44739229,178956956,715827867,2863311514,11453246105,45812984472,183251937943,733007751830,2932031007381,11728124029588,46912496118419 ⋆ a(n) = 2*(4^n - 1)/3 - n. • a(1)=1, a(2)=8, a(3)=39, a(n)=6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Mar 17 2015 •

[**A014642**] • 0,8,40,96,176,280,408,560,736,936,1160,1408,1680,1976,2296,2640,3008,3400,3816,4256,4720,5208,5720,6256,6816 ⋆ Even octagonal numbers: 4*n*(3*n-1). • a(n) = a(n - 1) + 24 * n - 16 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 20 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ G. C. Greubel _ , Jun 07 2017 •

[**A143943**] • 8,40,114,248,460,768,1190,1744,2448,3320,4378,5640,7124,8848,10830,13088,15640,18504,21698,25240,29148,33440,38134,43248,48800 ⋆ The Wiener index of a chain of n squares joined at vertices (i.e., joined like <><><>...<>; here <> is a square!). • a(n) = n * (2 + 3 * n + 3 * n ^ 2). •

[**A105374**] • 0,8,40,120,272,520,888,1400,2080,2952,4040,5368,6960,8840,11032,13560,16448,19720,23400,27512,32080,37128,42680,48760,55392 ⋆ a(n) = 4*n^3 + 4*n. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 26 2012 •

[**A191903**] • 0,8,40,128,312,648,1200,2048,3280,5000,7320,10368,14280,19208,25312,32768,41760,52488,65160,80000,97240,117128,139920,165888,195312 ⋆ Number of compositions of odd natural numbers into 4 parts <=n • a(n) = ((n + 1) ^ 4 - (1 + (- 1) ^ n) / 2) / 2. • a(n) = floor(n ^ 4 / 2). [_ Wesley Ivan Hurt _ , Jun 14 2013] •

[**A125198**] • 1,8,40,144,417,1032,2272,4568,8545,15072,25320,40824,63553,95984,141184,202896,285633,394776,536680,718784,949729,1239480,1599456,2042664,2583841 ⋆ Number of magical labelings of the octahedral graph of magic sum n. • a(n) = (15 * (31 + (- 1) ^ n) + 1152 * n + 1216 * n ^ 2 + 720 * n ^ 3 + 250 * n ^ 4 + 48 * n ^ 5 + 4 * n ^ 6) / 480. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 14 * a(n - 3) - 14 * a(n - 5) + 14 * a(n - 6) - 6 * a(n - 7) + a(n - 8) for n>7. •

[**A113071**] • 1,8,40,168,648,2376,8424,29160,99144,332424,1102248,3621672,11809800,38263752,123294312,395392104,1262703816,4017693960,12741829416,40291730856,127073920392,399817944648,1255242384360,3933092804328 ⋆ Expansion of ((1+x)/(1-3x))^2. • a(n)=8 * 3 ^ n(2n + 1) / 9 + 0 ^ n / 9=4 * 3 ^ n(4n + 2) / 9 + 0 ^ n / 9; • a(n)=sum { k=0..n, C(n, k) * sum { j=0..k, (j + 1) * 4 ^ j }} . •

[**A165665**] • 1,8,40,176,736,3008,12160,48896,196096,785408,3143680,12578816,50323456,201310208,805273600,3221159936,12884770816,51539345408,206157905920,824632672256,3298532786176,13194135339008,52776549744640 ⋆ a(n) = (3*2^n - 2) * 2^n. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 8. •

[**A155616**] • 1,8,40,188,880,4148,19720,94508,456160,2215268,10814200,53022428,260917840,1287811988,6371951080,31591319948,156882857920,780119322308,3883416742360,19348364235068,96466943268400,481235204714228 ⋆ 5^n + 4^n - 1. • a(n) = 9 * a(n - 1) - 20 * a(n - 2) - 12 with a(0)=1, a(1)=8 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A128625**] • 1,8,40,200,1000,5000,25000,125000,625000,3125000,15625000,78125000,390625000,1953125000,9765625000,48828125000,244140625000,1220703125000,6103515625000,30517578125000,152587890625000,762939453125000,3814697265625000,19073486328125000 ⋆ Expansion of (1+3x)/(1-5x). • a(n)=(8 / 5) * 5 ^ n - (3 / 5) * 0 ^ n; a(0)=1, a(n)=sum { k=0..n, ((n + k) / n) * C(n ,k)2 ^ (n - k) * 3 ^ k } ,n>0; •

[**A068774**] • 0,0,0,8,40,240,1120,4480,17280,65280,253440,1015808,4126720,16773120,67624960,270499840,1077903360,4294901760,17146183680,68585259008,274608947200,1099510579200,4400191897600,17600767590400,70385915658240 ⋆ Number of strings over Z_4 of length n with trace 0 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 3, s + 3t + 1) + a(n - 1; t + 2, s + 2t) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[**A171714**] • 1,8,41,128,313,648,1201,2048,3281,5000,7321,10368,14281,19208,25313,32768,41761,52488,65161,80000,97241,117128,139921,165888,195313 ⋆ a(n) = ceiling((n+1)^4/2). • a(n) = 1 / 2 * ((n + 1) ^ 4 + ((1 + (- 1) ^ n) * 1 / 2) ^ 4). • a(n) = + 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + 1 * a(n - 6). • a(n) = (n + 1) ^ 4 - floor((n + 1) ^ 4 / 2). - _ Bruno Berselli _ , Jan 18 2017 •

[**A133106**] • 1,8,41,168,602,1968,6021,17512,48950,132496,349258,900368,2277556,5667936,13906221,33695208,80746846,191601872,450642654,1051472048,2435679852,5605044640,12820922530,29164511376,66004709148 ⋆ Number of Ferrers diagrams with a single Ferrers puncture with the same orientation inscribed strictly inside with half-perimeter=n. • a(n)=[(2 * n ^ 2 - 16 * n + 6) * a(n - 1) + (4 * n ^ 2 - 68 * n + 240) * a(n - 2) - (8 * n ^ 2 - 88 * n + 240) * a(n - 3)] / (n ^ 2 - 14 * n + 48) with a(6)=0, a(7)=0, a(8)=1. G.F.=(1 - (1 - 4 * x ^ 2) ^ (1 / 2)) * x ^ 6 / (2 * (2 * x - 1) ^ 4) •

[**A176177**] • 0,1,8,41,176,689,2552,9113,31712,108257,364136,1210505,3985808,13020305,42249560,136314617,437641664,1399018433,4455335624,14140847849,44747066480,141214768241,444565011128,1396457152601,4377657815456 ⋆ a(n) = 2*n*3^(n-1) - (3^n-1)/2. • a(n) = 7 * a(n - 1) - 15 * a(n - 2) + 9 * a(n - 3) for n>2. - _ Vincenzo Librandi _ , Jun 17 2014 •

[**A273145**] • 1,8,41,193,833,3457,14081,56833,228353,915457,3665921,14671873,58703873,234848257,939458561,3757965313 ⋆ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 597", based on the 5-celled von Neumann neighborhood. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[**A037577**] • 1,8,41,208,1041,5208,26041,130208,651041,3255208,16276041,81380208,406901041,2034505208,10172526041,50862630208,254313151041,1271565755208,6357828776041,31789143880208,158945719401041,794728597005208 ⋆ Base 5 digits are, in order, the first n terms of the periodic sequence with initial period 1,3. • a(n) = (5 ^ n - 2) / 3 for n odd ; a(n) = (5 ^ n - 1) / 3 for n even. - _ Ctibor O. Zizka _ , Apr 15 2008 • a(n) = floor(5 ^ n / 3). - _ Gary Detlefs _ , Sep 06 2010 • a(n) = 5 * a(n - 1) + a(n - 2) - 5 * a(n - 3). - _ Charles R Greathouse IV _ , Jan 15 2011 •

[**A051737**] • 1,8,41,227,1234,6743,36787,200798,1095851,5980913,32641916,178150221,972290957,5306478436,28961194501,158061670175,862654025422,4708111537971,25695485730239,140238391149386,765379824048327,4177217595760125,22798023012345528,124424893212114297 ⋆ Number of 4 X n (0,1)-matrices with no consecutive 1's in any row or column. • a(n) = 4 * a(n - 1) + 9 * a(n - 2) - 5 * a(n - 3) - 4 * a(n - 4) + a(n - 5); • a(n) = 2 * a(n - 1) + 18 * a(n - 2) + 9 * a(n - 3) - 23 * a(n - 4) - 2 * a(n - 5) + 6 * a(n - 6) - a(n - 7). •

[**A228480**] • 8,41,386,3084,25699,211588,1748684,14433982,119188751,984088952,8125411159,67089476825,553940891394,4573752281524,37764327367307,311810620896975,2574542371273857,21257353083201847,175516652771106311 ⋆ Number of nX6 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or antidiagonally. • a(n) = a(n - 1) + 42 * a(n - 2) + 147 * a(n - 3) + 70 * a(n - 4) - 478 * a(n - 5) - 449 * a(n - 6) + 1199 * a(n - 7) + 732 * a(n - 8) - 2727 * a(n - 9) + 659 * a(n - 10) + 3827 * a(n - 11) - 5776 * a(n - 12) + 3926 * a(n - 13) - 1152 * a(n - 14) - 148 * a(n - 15) + 154 * a(n - 16) + 32 * a(n - 17) - 29 * a(n - 18) - 6 * a(n - 19) + 3 * a(n - 20) + a(n - 21) •

[**A292059**] • 1,8,42,104,251,464,852,1360,2165,3160,4606,6328,8687,11424,15016,19104,24297,30120,37330,45320,55011,65648,78332,92144,108381 ⋆ Wiener index of the n X n white bishop graph. • a(n) = (3 + 2 * n - 6 * n ^ 2 - 8 * n ^ 3 + 6 * n ^ 4 + 3 * (- 1) ^ n * (- 1 - 2 * n + 2 * n ^ 2)) / 24. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[**A027903**] • 0,8,42,120,260,480,798,1232,1800,2520,3410,4488,5772,7280,9030,11040,13328,15912,18810,22040,25620,29568,33902,38640,43800 ⋆ n * (n + 1) * (3*n + 1). • a(n) = n(n + 1)(3n + 1). • a(n) = 3n ^ 3 + 4n ^ 2 + n. •

[**A212337**] • 1,8,42,184,731,2736,9844,34448,118101,398584,1328606,4384392,14348911,46633952,150663528,484275616,1549681961,4939611240,15690529810,49686677720,156905298051,494251688848,1553362450652,4871909504304,15251194969981 ⋆ Expansion of 1/(1-4*x+3*x^2)^2. • a(n) = 1 + n * (1 + 9 * 3 ^ n) / 4. - _ Bruno Berselli _ , May 11 2012 •

[**A093381**] • 1,8,42,186,766,3058,12062,47426,186606,735858,2909182,11528866,45781646,182104658,725311902,2891845506,11539011886,46070609458,184025468222,735329653346,2938999333326,11749034250258,46975237266142 ⋆ Expansion of (1-2*x-3*x^2-4*x^3)/((1-x)*(1-2*x)*(1-3*x)*(1-4*x)). • a(n)=10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4), n>3. - _ Harvey P.

Dale _ , May 29 2013 ●

[A097788] ● 1,8,42,188,787,3204,12900,51720,207045,828400,3313886,13255908,53024087,212096908,848388312,3393554064,13574217225,54296870040,217187481490,868749927500,3474999711771,13899998849108,55599995398732 ★ a(n)=4a(n-1)+C(n+3,3),n>0, a(0)=1. ● a(0)=1, a(1)=8, a(2)=42, a(3)=188, a(4)=787, a(n)=8 * a(n - 1) - 22 * a(n - 2) + 28 * a(n - 3) - 17 * a(n - 4) + 4 * a(n - 5). - _ Harvey P. Dale _ , May 04 2014 ●

[A171478] ● 1,8,42,190,806,3318,13462,54230,217686,872278,3492182,13974870,55911766,223671638,894735702,3579041110,14316361046,57265837398,229064136022,916258116950,3665035613526,14660148745558,58640607565142 ★ a(n) = 6*a(n-1)-8*a(n-2)+2 for n > 1; a(0) = 1, a(1) = 8. ● a(n) = (10 * 4 ^ n - 9 * 2 ^ n + 2) / 3. ● a(0)=1, a(1)=8, a(2)=42, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , May 04 2012 ●

[A276265] ● 1,8,42,204,972,4608,21816,103248,488592,2312064,10940832,51772608,244990656,1159308288,5485905792,25959585024,122842075392,581294942208,2750717200896,13016533552128,61594898107392,291470187331584,1379251735345152,6526689288081408,30884625316417536 ★ Expansion of (1 + 2*x)/(1 - 6*x + 6*x^2). ● a(n) = 6 * a(n - 1) - 6 * a(n - 2). ● a(n) = ((- 5 + sqrt(3)) * (3 - sqrt(3)) ^ n + (5 + sqrt(3)) * (3 + sqrt(3)) ^ n) / (2 * sqrt(3)). ●

[A094865] ● 0,0,0,1,8,43,196,820,3264,12597,47652,177859,657800,2417416,8844448,32256553,117378336,426440955,1547491404,5610955132,20332248992,73645557469,266668876540,965384509651,3494279574288 ★ Expansion of x^3/((1-3*x+x^2)*(1-5*x+5*x^2)). ● a(n) = (1 / 5) * Sum(r=1..9, sin(r * Pi / 10) * sin(4 * r * Pi / 5) * (2 * cos(r * Pi / 10)) ^ (2 * n + 1)); ● a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4). ● a(n) = 2 ^ (- 2 - n) * (- (3 - sqrt(5)) ^ n * (- 1 + sqrt(5)) + (5 - sqrt(5)) ^ n * (1 + sqrt(5)) - (1 + sqrt(5)) * (3 + sqrt(5)) ^ n + (- 1 + sqrt(5)) * (5 + sqrt(5)) ^ n) / sqrt(5). - _ Colin Barker _ , Apr 27 2016 ●

[A005024] ● 8,43,196,820,3264,12597,47652,177859,657800,2417416,8844448,32256553,117378336,426440955,1547491404,5610955132,20332248992,73645557469,266668876540,965384509651,3494279574288,12646311635088,45764967830976 ★ Number of walks of length 2n+8 in the path graph P_9 from one end to the other. ● a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 20 * a(n - 3) - 5 * a(n - 4). (End) ● a(k) = sum(binomial(8 + 2k, 10j + k - 2) - binomial(8 + 2k, 10j + k - 1), j= - infinity..infinity) (a finite sum). ●

[A171479] ● 1,8,43,197,841,3473,14113,56897,228481,915713,3666433,14672897,58705921,234852353,939466753,3757981697,15032156161,60129083393,240517251073,962070839297,3848287027201,15393155448833,61572636475393 ★ a(n) = 6*a(n-1)-8*a(n-2)+3 for n > 1; a(0) = 1, a(1) = 8. ● a(n) = (2 - 7 * 2 ^ n + 7 * 4 ^ n) / 2. ●

[A227209] ● 1,8,43,198,849,3516,14311,57746,231997,930024,3724179,14904894,59635945,238576532,954371647,3817617642,15270732693,61083455040,244334868715,977341571990,3909370482241,15637490317548 ★ Expansion of 1/((1-x)^2*(1-2x)*(1-4x)). ● a(n) = (4 ^ (n + 3) - 9 * 2 ^ (n + 3) + 6 * n + 26) / 18. ●

[A117617] ● 1,8,43,218,1093,5468,27343,136718,683593,3417968,17089843,85449218,427246093,2136230468,10681152343,53405761718,267028808593,1335144042968,6675720214843,33378601074218,166893005371093 ★ a(n) = 5*a(n-1) + 3 with a(0) = 1. ● a(n) = - (3 / 4) + (7 / 4) * 5 ^ n, with n>=0. - _ Paolo P. Lava _ , Jul 07 2008 ● a(n) = 6 * a(n - 1) - 5 * a(n - 2), a(0) = 1, a(1) = 8. - _ Philippe Deléham _ , Feb 22 2014 ●

[A111365] ● 1,1,8,43,239,1324,7337,40657,225296,1248451,6918143,38336068,212434769,1177182049,6523214552,36147618907,200307738191,1109981547676,6150830952953,34084099407793,188872989897824,1046617247712499 ★ a(n) = 5*a(n-1) + 3*a(n-2) where a(0) = a(1) = 1. ● a(n)=(1 / 2) * [5 / 2 - (1 / 2) * sqrt(37)] ^ n - (3 / 74) * [5 / 2 + (1 / 2) * sqrt(37)] ^ n * sqrt(37) + (3 / 74) * [5 / 2 - (1 / 2) * sqrt(37)] ^ n * sqrt(37) + (1 / 2) * [5 / 2 + (1 / 2) * sqrt(37)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Aug 01 2008] ●

[A199321] ● 8,43,253,1513,9073,54433,326593,1959553,11757313,70543873,423263233,2539579393,15237476353,91424858113,548549148673,3291294892033,19747769352193,118486616113153,710919696678913,4265518180073473,25593109080440833 ★ 7*6^n+1. ● a(n) = 6 * a(n - 1) - 5. ● a(n) = 7 * a(n - 1) - 6 * a(n - 2). ●

[A100583] ● 0,8,44,124,268,492,816,1256,1832,2560,3460,4548,5844,7364,9128,11152,13456,16056,18972,22220,25820,29788,34144,38904,44088 ★ Number of triangles in an n X n grid of squares with diagonals. ● a(n) = (12 * n ^ 3 + 18 * n ^ 2 + 4 * n + (- 1) ^ n - 1) / 4. (For a proof see the Richeson link.) ● a(n) = 4 * Sum { i=1 to n } (i ^ 2 + (n + 1 - i) * (n + 1 - round(i / 2))). ●

[A036464] ● 0,0,8,44,140,340,700,1288,2184,3480,5280,7700,10868,14924,20020,26320,34000,43248,54264,67260,82460,100100,120428,143704,170200 ★ Number of ways to place two nonattacking queens on an n X n board. ● a(n) = C(n, 3) * (3 * n - 1). ● a(n) = 2 * sum _{ i=1..n - 2 } i(i + 1) ^ 2. - _ Wesley Ivan Hurt _ , Mar 18 2014 ●

[A000938] ● 0,8,44,152,372,824,1544,2712,4448,6992,10332,15072,21012,28688,38520,50880,65480,83640,104676,130264,160556,195848,235600,282840,336384 ★ Number of collinear point-triples in an n X n grid. ● a(n) = 2 * Sum(Sum ((n - k + 1) * (n - m + 1) * gcd(k - 1, m - 1), k, 2, n), m, 2, n) - n ^ 2(n ^ 2 - 1) / 6. - _ Ignacio Larrosa Cañestro _ , May 23 2010 ●

[A165618] ● 0,8,44,164,494,1286,3002,6434,12869,24309,43757,75581,125969,203489,319769,490313,735470,1081574,1562274,2220074,3108104,4292144,5852924,7888724,10518299 ★ Binomial(n+8,8)-1 ● a(n) = binomial(n + 8,8) - 1=binomial(n + 8,8) - 1 ● a(n) = sum(r=1,r=n, binomial(8,r) * binomial(n,r)) ● a(n) = n(n + 9)(n ^ 6 + 27n ^ 5 + 303n ^ 4 + 1809n ^ 3 + 6168n ^ 2 + 11772n + 12176) / 40320 ●

[A059596] ● 1,8,44,184,654,2040,5772,15048,36693,84448,184976,387872,782680,1525920,2884560,5302368,9502014,16635792,28509272,47902192,79030348,128192240,204676056,322002576,499629966 ★ Eighth column (m=7) of convolution triangle A059594(n,m). ● a(2 * k)=binomial(k + 11, 11) * (16 * k ^ 4 + 384 * k ^ 3 + 2936 * k ^ 2 + 7584 * k + 4095) / (15 * 7 * 13 * 3); ● a(2 * k + 1)= binomial(k + 12, 12) * 8 * (2 * k + 5) * (2 * k + 13) * (2 * k + 21) / (15 * 7 * 13), k >= 0. ●

[A181358] ● 8,44,188,764,3068,12284,49148,196604,786428,3145724,12582908,50331644,201326588,805306364,3221225468,12884901884,51539607548,206158430204,824633720828,3298534883324,13194139533308,52776558133244,211106232532988,844424930131964 ★ Number of twiddle factors in the first stage of a Pease Radix 4 Fast Fourier Transform. ● a(n) = 4 * (3 * 4 ^ n - 1). ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>1. ●

[A283077] ● 1,8,44,192,726,2464,7704,22527,62329,164516,416948,1019690,2416246,5565864,12498215,27421815,58903768,124088548,256749822,522450250,1046735092,2066948472,4026431543,7743987036,14715788745 ★ Expansion of Product_{n>=1} (1 - x^(7*n))/(1 - x^n)^8 in powers of x. ● a(n) = (1 / n) * Sum _{ k=1..n } sigma(7 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 05 2017 ●

[A073380] ● 1,8,44,200,810,3032,10716,36248,118435,376240,1167720,3553840,10636180,31375440,91392040,263266512,750922021,2123059448,5955034740,16584106040,45884989054,126202397032 ★ Third convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. ● a(n) = sum((2 ^ n) * binomial(n - k + 3, 3) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). ● a(n) = F'''(n + 4, 2) / 6, that is, 1 / 6 times the 3rd derivative of the (n + 4)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 ●

[A272417] ● 1,8,44,204,876,3628,14764,59564,239276,959148,3840684,15370924,61500076,246033068,984197804,3936922284 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 469", based on the 5-celled von Neumann neighborhood. ● a(n) = (4 / 3 - 2 ^ (2 + n) + (11 * 4 ^ n) / 3). ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>2. ●

[A100575] ● 0,0,1,8,44,208,912,3840,15808,64256,259328,1042432,4180992,16748544,67047424,268304384,1073463296,4294377472,17178624000,68716855296,274872401920,1099500093440,4398022393856,17592135712768,70368639320064 ★ Half the number of permutations of 0..n with exactly two maxima. ● a(n) = 4 ^ (n - 1) - (n + 1) * 2 ^ (n - 2). - Bruno Petazzoni (bruno(AT)enix.org) , Apr 18 2007 ● a(n + 1) = Sum _{ k=0..n } k * 2 ^ (2 * n - 1 - k). - _ Philippe Deléham _ , Oct 29 2013 ●

[A271005] ● 1,8,44,208,928,3904,16000,64768,260608,1045504,4188160,16764928,67084288,268386304,1073643520,4294770688 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 245", based on the 5-celled von Neumann neighborhood. ● a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>4. ●

[A265613] ● 0,1,8,44,210,935,4004,16744,68952,281010,1136960,4576264,18349630,73370115,292746300,1166182800,4639918800,18443677230,73261092240,290845019400,1154169552900,4578702310182,18159992594568,72014135814704,285542883894800 ★ a(n) = CatalanNumber(n+1)*n*(3*n^2+5*n+2)/((4+n)*(3+n)). ● a(n) = (4 ^ (n + 1) * n * (n + 1) * (3 * n + 2) * Gamma(n + 3 / 2)) / (sqrt(Pi) * Gamma(n + 5)). ● a(n) = (rf(n + 6, n - 1) - (n - 1) * (n - 2) * rf(n + 6, n - 3)) / (n - 1)! for n>=3, rf(n,k) the rising factorial. ● a(n) = a(n - 1) * ((2 * (n + 1)) * (3 * n + 2) * (1 + 2 * n) / ((n - 1) * (3 * n - 1) * (4 + n))) for n>=2. ● a(n) = [x ^ n] x * (1 + x) / (1 - x) ^ (n + 5). - _ Ilya Gutkovskiy _ , Oct 09 2017 ●

[A292487] ● 1,8,44,212,1020,4980,24348,118868,580156,2831924,13824092,67481876,329408892,1607991540,7849328028,38316090836,187038012604,913016364980,4456842098396,21755843899028,106200025265148,518409923170932,2530591191342108,12352949840710484 ★ p-INVERT of the odd positive integers, where p(S) = 1 - S - 4 S^2. ● a(n) = 5 * a(n - 1) - 3 * a(n - 2) + 11 * a(n - 3) + 4 * a(n - 4) for n >= 5. ●

[A270935] ● 1,8,44,220,956,3964,16124,65020,261116,1046524,4190204,16769020,67092476,268402684,1073676284,4294836220 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 221", based on the 5-celled von Neumann neighborhood. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. ●

[A198768] ● 8,44,224,1124,5624,28124,140624,703124,3515624,17578124,87890624,439453124,2197265624,10986328124,54931640624,274658203124,1373291015624,6866455078124,34332275390624,171661376953124,858306884765624 ★ 9*5^n-1. ● a(n) = 5 * a(n - 1) + 4. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2), n>1. ●

[A082762] ● 1,8,44,232,1216,6368,33344,174592,914176,4786688,25063424,131233792,687149056,3597959168,18839158784,98643116032,516502061056,2704439902208,14160631169024,74146027405312,388233639755776,2032817728913408,10643971814457344 ★ Trinomial transform of Lucas numbers (A000032). ● a(n) = Sum _{ k=0..2 * n } Trinomial(n,k) * Lucas(k + 1), where Trinomial(n,k) = trinomial coefficients (A027907). ● a(n) = 2 ^ n * Lucas(2 * n + 1), where Lucas = A000032. ● a(0) = 1, a(1) = 8, a(n + 1) = 6 * a(n) - 4 * a(n - 1). (End) ● a(n) = ((1 + sqrt(5)) * (3 + sqrt(5)) ^ n + (1 - sqrt(5)) * (3 - sqrt(5)) ^ n) / 2. ●

[A155604] ● 1,8,44,242,1376,8018,47384,282122,1686176,10097378,60525224,362974202,2177313776,13062288338,78368947064,470199333482,2821152954176,16926788584898,101560344088904,609360902271962,3656161926847376 ★

6^n+3^n-1. • a(n)=9 * a(n - 1) - 18 * a(n - 2) - 10 with a(0)=1, a(1)=8 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A126476] • 1,8,44,252,1446,8300,47642,273466,1569700,9010108,51718192,296863410,1704001644,9781001986,56143138234,322262685896,1849793972828,10617852738356,60946677537854,349835093256180,2008060117756986 ★ Number of base 8 n-digit numbers with adjacent digits differing by three or less. • a(n) = 6 * a(n - 1) - a(n - 2) - 3 * a(n - 3) + a(n - 4) for n>4. •

[A210378] • 1,8,45,128,325,648,1225,2048,3321,5000,7381,10368,14365,19208,25425,32768,41905,52488,65341,80000,97461,117128,140185,165888,195625 ★ Number of 2 X 2 matrices with all terms in {0,1,...,n} and even trace. • a(n) = (n + 1) ^ 2 * ((2 * n + 1 - (- 1) ^ n) ^ 2 + (2 * n + 3 + (- 1) ^ n) ^ 2) / 16. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n > 7. •

[A128091] • 1,8,45,160,425,936,1813,3200,5265,8200,12221,17568,24505,33320,44325,57856,74273,93960,117325,144800,176841,213928,256565,305280,360625 ★ Row sums of unsigned A128090. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3 - 5 * a(n - 4) + a(n - 5), a(1) = 1, a(2) = 8, a(3) = 45, a(4) = 160, a(5) = 425. - _ Philippe Deléham _ , Mar 16 2014 •

[A002696] • 1,8,45,220,1001,4368,18564,77520,319770,1307504,5311735,21474180,86493225,347373600,1391975640,5567902560,22239974430,88732378800,353697121050,1408831480056,5608233007146,22314239266528,88749815264600 ★ Binomial coefficients C(2n,n-3). • a(n) = Sum _{ k=0..n } C(n, k) * C(n, k + 3). - _ Hermann Stamm - Wilbrandt _ , Aug 17 2015 •

[A016208] • 1,8,45,220,1001,4368,18565,77540,320001,1309528,5326685,21572460,87087001,350739488,1410132405,5662052980,22712782001,91044838248,364760483725,1460785327100,5848371485001,23409176469808,93683777468645,374876324642820,1499928942876001 ★ Expansion of 1/((1-x)*(1-3*x)*(1-4*x)). • a(n) = 16 * 4 ^ n / 3 + 1 / 6 - 9 * 3 ^ n / 2. - _ Paul Barry _ , Jun 25 2003 • a(0) = 0, a(1) = 8, a(n) = 7 * a(n - 1) - 12 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0) = 1, a(1) = 8, a(2) = 45, a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 12 * a(n - 3). - _ Harvey P. Dale _ , Apr 09 2012 •

[A190048] • 8,46,150,370,770,1428,2436,3900,5940,8690,12298,16926,22750,29960,38760,49368,62016,76950,94430,114730,138138,164956,195500,230100,269100 ★ Expansion of (8+6*x)/(1-x)^5 • a(n) = 8 * binomial(n + 4,4) + 6 * binomial(n + 3,4). • a(n) = (7 * n ^ 4 + 58 * n ^ 3 + 173 * n ^ 2 + 218 * n + 96) / 12. •

[A212673] • 0,0,8,46,152,378,792,1476,2528,4060,6200,9090,12888,17766,23912,31528,40832,52056,65448,81270,99800,121330,146168,174636,207072 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<=|x-y|+|y-z|. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). • a(n) = (- 1 + (- 1) ^ n - 8 * n ^ 2 + 10 * n ^ 4) / 16. [_ Colin Barker _ , Jun 10 2012] •

[A027650] • 1,8,46,230,1066,4718,20266,85310,354106,1455278,5938186,24104990,97478746,393095438,1581931306,6356390270,25511588986,102304505198,409992599626,1642294397150,6576150108826,26325519044558,105364834103146,421647614381630,1687155299822266 ★ Poly-Bernoulli numbers B_n^(k) with k=-3. • a(n) = 6 * 4 ^ n - 6 * 3 ^ n + 2 ^ n. - _ Vladeta Jovovic _ , Nov 14 2003 •

[A172064] • 1,8,46,230,1068,4744,20476,86662,361711,1494384,6126818,24972326,101320712,409609664,1651162688,6640469816,26655382802,106830738224,427612715516,1709790470780,6830461107736,27266848437608 ★ Expansion of (2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=7. • a(n)=sum ('(- 1) ^ (p) * binomial(2 * n + k - p,n - p)',p=0..n) (with k=7). •

[A052244] • 1,8,46,240,1215,6096,30508,152576,762925,3814680,19073466,95367408,476837131,2384185760,11920928920,59604644736,298023223833,1490116119336 ★ Partial sums of A014827. • a(n) = ((5 ^ (n + 3)) - (8(n ^ 2) + 44n + 61)) / 64. • a(n) = 5a(n - 1) + C(n + 2, 2), n >= 0; a(- 1)=0. •

[A083421] • 1,8,46,242,1234,6218,31186,156122,780994,3905738,19530226,97654202,488277154,2441398058,12207014866,61035123482,305175715714,1525878775178,7629394269106,38146972131962,190734862232674 ★ a(n)=2*5^n-2^n. • a(0)=1, a(1)=8, a(n)=7 * a(n - 1) - 10 * a(n - 2). - _ Harvey P. Dale _ , Dec 03 2015 •

[A081279] • 1,8,47,238,1101,4788,19899,79866,311769,1189728,4454919,16415622,59659173,214229772,761200659,2679525522,9353893041,32409397944,111534054111,381480041502,1297471217661,4390248981348,14785128121707 ★ Binomial transform of Chebyshev coefficients A001794. • a(n) = (2 * n ^ 3 + 30 * n ^ 2 + 103 * n + 81) * 3 ^ (n - 4). • a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 108 * a(n - 3) + 8 * 1a(n - 4), a(0)=1, a(1)=8, a(2)=47, a(3)=238. •

[A099110] • 1,8,47,238,1113,4956,21379,90266,375485,1545544,6313671,25650534,103792417,418745972,1685723723,6775136242,27197312709,109079644140,437189912335,1751374038590,7013340021161,28076893083148 ★ Expansion of 1 / [(1+x)*(1-2x)*(1-3x)*(1-4x)]. • a(n) = 8 * a(n - 1) - 17 * a(n - 2) - 2 * a(n - 3) + 24 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 22 2011 •

[A029760] • 1,8,47,244,1186,5536,25147,112028,491870,2135440,9188406,39249768,166656772,704069248,2961699667,12412521388,51854046982,216013684528,897632738722,3721813363288,15401045060572 ★ A sum with next-to-central binomial coefficients of even order, Catalan related. • a(n) = 4 ^ (n + 1) * Sum _{ k=1..n + 1 } binomial(2k, k - 1) / 4 ^ k = ((n + 3) ^ 2) * C(n + 2) / 2 - 2 ^ (2 * n + 3), C = Catalan. Also a(n + 1)=4 * a(n) + binomial(2(n + 2), n + 1). •

[A016198] • 1,8,47,250,1281,6468,32467,162590,813461,4068328,20343687,101722530,508620841,2543120588,12715635707,63578244070,317891351421,1589457019248,7947285620527,39736429151210,198682147853201,993410743460308,4967053725690147,24835268645227950 ★ Expansion of 1/((1-x)(1-2x)(1-5x)). • a(n) = (25 * 5 ^ n - 16 * 2 ^ n + 3) / 12. - _ Bruno Berselli _ , Feb 09 2011 • a(n) = [(5 ^ 0 - 2 ^ 0) + (5 ^ 1 - 2 ^ 1) + ... + (5 ^ n - 2 ^ n)] / 3. - r22lou(AT)cox.net, Nov 14 2005 • a(0)=1, a(n)=5 * a(n - 1) + 2 ^ (n + 1) - 1. - _ Vincenzo Librandi _ , Feb 07 2011 •

[A014524] • 0,1,8,47,264,1480,8305,46616,261663,1468752,8244304,46276385,259755560,1458042831,8184190168,45938958232,257861540369,1447411446840,8124514782015,45603992276896,255981331487648 ★ Number of Hamiltonian paths from NW to SW corners in a grid with 2n rows and 4 columns. • a(n) = 7 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - a(n - 4). G.f.: x * (x + 1) / (x ^ 4 - 7 * x ^ 3 + 9 * x ^ 2 - 7 * x + 1). - _ Colin Barker _ , May 20 2013 •

[A054488] • 1,8,47,274,1597,9308,54251,316198,1842937,10741424,62605607,364892218,2126747701,12395593988,72246816227,421085303374,2454265004017,14304504720728,83372763320351,485932075201378,2832219687887917 ★ Expansion of (1+2x)/(1-6x+x^2). • a(n) = 6 * a(n - 1) - a(n - 2), a(0)=1, a(1)=8. • a(n) = ((3 + 2 * sqrt(2)) ^ (n + 1) - (3 - 2 * sqrt(2)) ^ (n + 1) + 2 * ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n)) / (4 * sqrt(2)). •

[A139279] • 8,48,88,128,168,208,248,288,328,368,408,448,488,528,568,608,648,688,728,768,808,848,888,928,968 ★ a(n) = 40*n - 32. • a(n) = a(n - 1) + 40. •

[A067239] • 1,8,48,120,224,360,528,728,960,1224,1520,1848,2208,2600,3024,3480,3968,4488,5040,5624,6240,6888,7568,8280,9024 ★ a(0)=1, a(n) = 8n*(2n-1). • a(n) = a(n - 1) + 32 * n - 24 (with a(1)=8). - _ Vincenzo Librandi _ , Dec 15 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A152750] • 0,8,48,120,224,360,528,728,960,1224,1520,1848,2208,2600,3024,3480,3968,4488,5040,5624,6240,6888,7568,8280,9024 ★ Eight times hexagonal numbers: 8*n*(2*n-1). • a(n) = a(n - 1) + 32 * n - 24 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A280056] • 0,0,0,8,48,144,360,720,1344,2240,3600,5400,7920,11088,15288,20384,26880,34560,44064,55080,68400,83600,101640,121968,145728 ★ Number of 2 X 2 matrices with entries in {0,1,...,n} and even trace with no entries repeated. • a(n) = (1 / 4) * (n - 3) * (n - 2) * (2 * n ^ 2 - 4 * n + 1 - (- 1) ^ n) for n>=0. • a(n) = (n ^ 4 - 3 * n ^ 3 + 2 * n ^ 2) / 2 for n even. • a(n) = (n ^ 4 - 3 * n ^ 3 + n ^ 2 + 3 * n - 2) / 2 for n odd. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>7. •

[A035471] • 1,8,48,152,352,680,1168,1848,2752,3912,5360,7128,9248,11752,14672,18040,21888,26248,31152,36632,42720,49448,56848,64952,73792 ★ Coordination sequence for lattice D*_4 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=4. • a(0)=1, a(1)=8, a(2)=48, a(3)=152, a(4)=352, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 20 2015 •

[A212571] • 0,0,8,48,168,428,916,1728,2992,4840,7440,10960,15608,21588,29148,38528,50016,63888,80472,100080,123080,149820,180708,216128,256528 ★ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x|<|x-y|+|y-z|. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). • a(n) = 1 / 48 * (38 * n ^ 4 - 20 * n ^ 3 - 32 * n ^ 2 + 2 * (3 * (- 1) ^ n + 13) * n + 3 * ((- 1) ^ n - 1)). •

[A271061] • 1,8,48,224,960,3968,16128,65024,261120,1046528,4190208,16769024,67092480,268402688,1073676288,4294836224 ★ Number of active (ON,black) cells at stage 2^n-1 of the two-dimensional cellular automaton defined by "Rule 261", based on the 5-celled von Neumann neighborhood. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>2. •

[A211012] • 0,0,8,48,224,960,3968,16128,65024,261120,1046528,4190208,16769024,67092480,268402688,1073676288,4294836224,17179607040,68718952448,274876858368,1099509530624,4398042316800,17592177655808,70368727400448,281474943156224 ★ Total area of all squares and rectangles after 2^n stages in the toothpick structure of A139250, assuming the toothpicks have length 2. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) for n>2. - _ Colin Barker _ , Mar 30 2016 •

[A073390] • 1,8,48,240,1080,4512,17856,67776,248880,889600,3109376,10664448,35989248,119761920,393676800,1280157696,4122985728,13165099008,41713192960,131243970560,410315433984,1275348344832 ★ Third convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(binomial(n - k + 3, 3) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). •

[A292536] • 1,8,48,255,1310,6773,35260,183740,956765,4980320,25924725,134956612,702554244,3657326875,19039098206,99112598721,515954630808,2685927132776,13982245762937,72787973059648,378915453775913,1972536332660240,10268516498713448 ★ p-INVERT of the squares (A000290), where p(S) = 1 + S - 3 S^2. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 26 * a(n - 3) - 10 * a(n - 4) + 5 * a(n - 5) - a(n - 6) for n >= 7. •

[A242668] • 1,8,48,256,1279,6132,28576,130432,585985,2599952,11419808,49743104,215163647,925163500,3957669648,16854677312,71498512897,302248757272,1273756836176,5353050574336,22440215412223,93856659402724,391745066819136,1631995960879872 ★ Expansion of 1/(1 - 8*x + 16*x^2 + x^4 - 4*x^5). • a(n) = 8 * a(n - 1) - 16 * a(n - 2) - a(n - 4) + 4 * a(n - 5) for n>4. • a(n) = 4 * a(n - 1) - a(n - 4) + 4 ^ n for n>3 (see References, p. 229). • a(3k): 1, 256, 28576, 2599952, 215163647, 16854677312, 1273756836176, ... has g.f. (1 + 128 * x - 48 * x ^ 2 + 4 * x ^ 3) / ((1 - 64 * x) * (1 - 64 * x + 48 * x ^ 2 - 12 * x ^ 3 + x ^ 4)); • a(3k + 1): 8, 1279, 130432, 11419808, 925163500, 71498512897, ... has g.f. (8 + 255 * x - 128 * x ^ 2 + 16 * x ^ 3) / ((1 - 64 * x) * (1 - 64 * x + 48 * x ^ 2 - 12 * x ^ 3 + x ^ 4)); • a(3k + 2): 48, 6132, 585985, 49743104, 3957669648, 302248757272, ... has g.f. (48 - 12 * x + x ^ 2) / ((1 - 64 * x) * (1 - 64 * x + 48 * x ^ 2 - 12 * x ^ 3 + x ^ 4)). •

[A002697] • 0,1,8,48,256,1280,6144,28672,131072,589824,2621440,11534336,50331648,218103808,939524096,4026531840,17179869184,73014444032,309237645312,1305670057984,5497558138880,23089744183296 ★ a(n) = n*4^(n-1). • a(n) = n * 4 ^ (n - 1). • a(n) = Sum _{ k=0..n } k * binomial(2 * n, 2 * k). - _ Benoit Cloitre _ , Jul 30 2003 • a(n) = Sum _{ k=0..n } 4 ^ (n - k) * binomial(n - k + 1, k) * binomial(1, (k + 1) / 2) * (1 - (- 1) ^ k) / 2. - _ Paul Barry _ , Oct 15 2004 • a(0) = 0, a(n) = 4 * a(n - 1) + 4 ^ (n - 1). - _ Vincenzo Librandi _ , Dec 31 2010 • a(n + 1) is the convolution of A000984 with A002457. - _ Rui Duarte _ , Oct 08 2011 • a(0) = 0, a(1) = 1, a(n) = 8 * a(n - 1) - 16 * a(n - 2). - _ Harvey P. Dale _ , Jan 18 2012 •

[A006321] • 1,8,48,264,1408,7432,39152,206600,1093760,5813000,31019568,166188552,893763840,4823997960,26124870640,141926904328,773293020928,4224773978632,23139861329456,127039971696392,698993630524032,3853860616119048,21288789223825648 ★ Royal paths in a lattice. • a(n) = (4 / n) * sum(binomial(n, j) * binomial(n + 3 + j, n - 1), j=0..n) (n>0). - _ Emeric Deutsch _ , Aug 19 2004 •

[A081554] • 0,8,48,280,1632,9512,55440,323128,1883328,10976840,63977712,372889432,2173358880,12667263848,73830224208,430314081400,2508054264192,14618011503752,85200014758320,496582077046168,2894292447518688 ★ a(n) = sqrt(2)*((3+2*sqrt(2))^n - (3-2*sqrt(2))^n). • a(0)=0, a(1)=8, a(n) = 6 * a(n - 1) - a(n - 2) for n>1. [_ Philippe Deléham _ , Sep 19 2009] •

[A270576] • 1,8,48,288,1728,10368,62208,373248,2239488,13436928,80621568,483729408,2902376448,17414258688,104485552128,626913312768,3761479876608,22568879259648,135413275557888,812479653347328,4874877920083968,29249267520503808,175495605123022848 ★ Expansion of (1+2*x)/(1-6*x). • a(n) = 6 * a(n - 1) for n>1. • a(n) = 8 * 6 ^ (n - 1) for n>0. •

[A180031] • 1,8,48,304,1904,11952,74992,470576,2952816,18528688,116265968,729559344,4577924464,28726097072,180253881072,1131078181936,7097421958256,44535735246768,279458051899888,1753576141473584 ★ Number of n-move paths on a 3 X 3 chessboard of a queen starting or ending in the central square. • a(n) = 5 * a(n - 1) + 8 * a(n - 2) with a(0) = 1 and a(1) = 8. • a(n) = ((A + 11) * A ^ (- n - 1) + (B + 11) * B ^ (- n - 1)) / 57 with A = (- 5 + sqrt(57)) / 16 and B = (- 5 - sqrt(57)) / 16. •

[A203799] • 1,1,1,8,48,312,2280,18720,171360,1733760,19232640,232243200,3033676800,42631142400,641383142400,10287038361600,175228365312000,3159341273088000,60111175348224000,1203646256676864000,25302180885037056000,557134559872450560000,12823826485099069440000 ★ G.f.: Sum_{n>=0} (n-2*x)^n * x^n / (1 + n*x - 2*x^2)^n. • a(n) = (n ^ 2 + n - 4) / 2 * (n - 1)!, for n>1 with a(0)=a(1)=1. •

[A165506] • 1,8,48,400,2288,20112,108016,1018256,5030640,51991696,229724144,2681810832,10182741232,139998665360,430234843632,7409690416528,16683460826864,398259202498704,536014603805680,21766500736121744 ★ a(0) = 1, a(1) = 8, a(n) = 56*a(n-2)-a(n-1). • a(n) = (16 * 7 ^ n - (- 8) ^ n) / 15. [From _ Klaus Brockhaus _ , Sep 26 2009] •

[A081901] • 1,8,49,262,1286,5944,26262,111996,464103,1877904,7446735,29021490,111405780,422003520,1579757580,5851519704,21468622077,78078814776,281798184573,1009617794334,3593281988754,12710491403112,44705999907666 ★ A sequence related to C(n+5,5). • a(n)=3 ^ n(n ^ 5 + 65n ^ 4 + 1385n ^ 3 + 11575n ^ 2 + 35574n + 29160) / 29160 G.f.: (1 - 2x) ^ 5 / (1 - 3x) ^ 6 •

[A005059] • 0,1,8,49,272,1441,7448,37969,192032,966721,4853288,24325489,121804592,609554401,3049366328,15251614609,76272421952,381405156481,1907154922568,9536162033329,47681972428112,238413348924961,1192077204978008,5960417405949649 ★ a(n) = (5^n - 3^n)/2. • a(n) = 8 * a(n - 1) - 15 * a(n - 2). - _ Paul Barry _ , Mar 03 2003 • a(n) = Sum _{ k=1..n } 2 ^ (k - 1) * 3 ^ (n - k) * binomial(n,k). - _ Zerinvary Lajos _ , Sep 24 2006 • a(n) = (r ^ n - s ^ n) / (r - s) with r=5 and s=3. - _ Sture Sjöstedt _ , Oct 17 2012 • a(n) = Sum _{ k=0..n - 1 } 3 ^ k * 5 ^ (n - k - 1) for n>0, a(0)=0. - _ Bruno Berselli _ , Aug 07 2013 •

[A001108] • 0,1,8,49,288,1681,9800,57121,332928,1940449,11309768,65918161,384199200,2239277041,13051463048,76069501249,443365544448,2584123765441,15061377048200,87784138523761,511643454094368,2982076586042449,17380816062160328,101302819786919521 ★ a(n)-th triangular number is a square: a(n+1) = 6*a(n)-a(n-1)+2, with a(0) = 0, a(1) = 1. • a(0) = 0, a(n + 1) = 3 * a(n) + 1 + 2 * sqrt(2 * a(n) * (a(n) + 1)). - _ Jim Nastos _ , Jun 18 2002 • a(n) = floor((1 / 4) * (3 + 2 * sqrt(2)) ^ n). - _ Benoit Cloitre _ , Sep 04 2002 • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). - _ Antonio Alberto Olivares _ , Oct 23 2003 • a(n) = Sum _{ r=1..n } 2 ^ (r - 1) * binomial(2n, 2r). - _ Lekraj Beedassy _ , Aug 21 2004 • a(n + 1) ^ 2 + a(n) ^ 2 + 1=6 * a(n + 1) * a(n) + 2 * a(n + 1) + 2 * a(n). - _ Charlie Marion _ , Sep 28 2011 •

[A115598] • 1,8,49,288,1681,9800,57121,332928,1940449,11309768,65918161,384199200,2239277041,13051463048,76069501249,443365544448,2584123765441,15061377048200,87784138523761,511643454094368,2982076586042449,17380816062160328,101302819786919521 ★ Consider all Pythagorean triples (X,X+1,Z) ordered by increasing Z; sequence gives Z-(X+1) values. • a(n) = (- 2 + (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n) / 4. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). •

[A261668] • 1,8,49,294,1791,11087,69497,439790,2803657,17978388,115837591,749321715,4863369655,31655226107,206549749929,1350638103790,8848643946549,58069093513634,381650672631329,2511733593767294,16555050037991263,109176697072162079,720921085149563159 ★ Number of admissible words of Type G arising in study of q-analogs of multiple zeta values. • a(n) = Sum _{ 1<=d,k<=n } Sum _{ x1 + · · · + xd=d + k - 1 and x1,...,xd>=1 } x1 * x2 * ... * xd. See Proposition 10.8 p. 28 of Zhao link. - _ Michel Marcus _ , Sep 06 2015 • a(n) = Sum _{ d=1..n } binomial(2d + n - 1,n - 1). Also, a(n) is the coefficient of x ^ (2n) in ((1 + x) ^ (- n - 1) - 1) / (1 - x), or the coefficient of x ^ n in ((1 + x) ^ (3n + 1) - (1 + x) ^ (n + 1)) / (2 + x). - _ Max Alekseyev _ , Sep 14 2015 •

[A097204] • 0,0,1,8,49,294,1893,13572,109345,985898,9863077,108503064,1302057249,16926789294,236975148421,3554627439308,56874039487681,966858672273618,17403456103022277,330665665961879712,6613313319247031425,138879579704207582870 ★ Binomial transform of A033312. • a(n) = Sum _{ k=0...n } (P(n,k) - binomial(n,k)). • a(n) = exp(1) * Gamma(n + 1, 1) - 2 ^ n and a(n) ~ exp(1) * n! - 2 ^ n. - _ Peter Luschny _ , Sep 02 2014 •

[A037483] • 1,8,49,296,1777,10664,63985,383912,2303473,13820840,82925041,497550248,2985301489,17911808936,107470853617,644825121704,3868950730225,23213704381352,139282226288113,835693357728680,5014160146372081 ★ Base 6 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. • a(n) = 6a(n - 1) + a(n - 2) - 6a(n - 3). •

[A033463] • 1,8,50,248,1048,3952,13696,44480,137216,406016,1160704,3223552,8734720,23171072,60342272,154615808,390529024,973864960,2400845824,5857869824,14159446016,33935065088,80698408960,190534647808,446911479808 ★ EXPCONV of squares A000290 with themselves. • a(n) = 2 ^ (n - 4) * (n ^ 4 + 6 * n ^ 3 + 19 * n ^ 2 + 22 * n + 16). E.g.f.: (1 + 3 * x + x ^ 2) ^ 2 * exp(2 * x). O.g.f.: (1 - 2 * x + 10 * x ^ 2 - 12 * x ^ 3 + 8 * x ^ 4) / (1 - 2 * x) ^ 5. Recurrence: a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 80 * a(n - 3) - 80 * a(n - 4) + 32 * a(n - 5). a(n) = Sum _{ k=0..n } binomial(n, k) * (k + 1) ^ 2 * (n - k + 1) ^ 2. - _ Vladeta Jovovic _ , Sep 17 2003 •

[A081675] • 0,1,8,50,286,1566,8358,43870,227606,1170926,5985958,30454590,154371126,780246286,3934789958,19808175710,99577765846,500036345646,2508771728358,12578218511230,63028531771766,315692415197006 ★ Generalized Poly-Bernoulli numbers. • a(n)=(4 * 5 ^ n - 3 * 4 ^ n - 2 ^ n) / 6. •

[A081180] • 0,1,8,50,288,1604,8800,47944,260352,1411600,7647872,41420576,224294400,1214467136,6575615488,35602384000,192760455168,1043650265344,5650555750400,30593342288384,165638957801472,896804870374400 ★ 4th binomial transform of (0,1,0,2,0,4,0,8,0,16,...). • a(n) = 8a(n - 1) - 14a(n - 2), a(0)=0, a(1)=1. • a(n) = ((4 + sqrt(2)) ^ n - (4 - sqrt(2)) ^ n / (2 * sqrt(2)). • a(n) = Sum _{ k=0..n } C(n,2k + 1) 2 ^ k * 4 ^ (n - 2k - 1). •

[A061801] • 1,8,50,302,1814,10886,65318,391910,2351462,14108774,84652646,507915878,3047495270,18284971622,109709829734,658258978406,3949553870438,23697323222630,142183939335782,853103636014694 ★ (7*6^n - 2)/5. • a(n) = 6 * a(n - 1) + 2, a(0) = 1. - _ Philippe Deléham _ , Feb 23 2014 •

[A180029] • 1,8,50,316,1996,12608,79640,503056,3177616,20071808,126786080,800860096,5058732736,31954116608,201842165120,1274961223936,8053451673856,50870632491008,321330698293760,2029725454744576 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1+2*x)/(1-6*x-2*x^2). • a(n) = 6 * a(n - 1) + 2 * a(n - 2) with a(0) = 1 and a(1) = 8. • a(n) = ((5 - 4 * A) * A ^ (- n - 1) + (5 - 4 * B) * B ^ (- n - 1)) / 22 with A = (- 3 + sqrt(11)) / 2 and B = (- 3 - sqrt(11)) / 2. •

[A103458] • 1,8,50,344,2402,16808,117650,823544,5764802,40353608,282475250,1977326744,13841287202,96889010408,678223072850,4747561509944,33232930569602,232630513987208,1628413597910450,11398895185373144 ★ 7^n+10^n. • a(n)=7 * a(n - 1) - 6, with a(1)=8. [From Vincenzo Librandi, Dec 29 2010] •

[A100310] • 1,8,50,400,2402,19216,120100,960800,5764802,46118416,288240100,2305920800,13847054404,110776435232,692352720200,5538821761600,33232930569602,265863444556816,1661646528480100,13293172227840800 ★ Modulo 2 binomial transform of 7^n. • a(n)=sum { k=0..n, mod(binomial(n, k), 2)7 ^ k } . • a(2 ^ n) = 7 ^ (2 ^ n) + 1, n>=0. • a(2 ^ t * n + 2 ^ (t - 1)) = 48 * (7 ^ (2 ^ (t - 1) + 1)) / (7 ^ (2 ^ (t - 1)) - 1) * a(2 ^ t * n + 2 ^ (t - 1) - 2), t>=2. • a(4 * n + 2) = 50 * a(4 * n); • a(8 * n + 4) = 1201 / 25 * a(8 * n + 2); • a(16 * n + 8)= 2882401 / 60050 * a(16 * n + 6), etc. (End) •

[A054620] • 0,1,8,51,208,629,1560,3367,6560,11817,20008,32219,49776,74269,107576,151887,209728,283985,377928,495235,640016,816837,1030744,1287287,1592544 ★ Number of ways to color vertices of a pentagon using <= n colors, allowing only rotations. • a(n) = (n ^ 5 + 4 * n) / 5 = n * (n ^ 2 - 2 * n + 2) * (n ^ 2 + 2 * n + 2) / 5. • a(n) = - a(- n). - _ Bruno Berselli _ , Aug 31 2011 •

[A082135] • 0,1,8,51,304,1765,10104,57239,321248,1787337,9864040,54035707,294031632,1590368429,8556082136,45812239455,244255416256,1297362967441,6867617339592,36243304518083,190746485895920,1001394643462773 ★ Expansion of e.g.f. x*exp(4*x)*cosh(x). • a(n) = n * (3 ^ (n - 1) + 5 ^ (n - 1)) / 2. •

[A153594] • 1,8,51,304,1769,10200,58603,336224,1927953,11052712,63358307,363181200,2081791609,11932977272,68400527259,392075513536,2247397253921,12882196355400,73841406542227,423262699717616,2426163312691977,13906891405206808 ★ a(n) = ((4 + sqrt(3))^n - (4 - sqrt(3))^n)/(2*sqrt(3)). • a(n) = 8 * a(n - 1) - 13 * a(n - 2) for n>1; a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 •

[A014829] • 1,8,51,310,1865,11196,67183,403106,2418645,14511880,87071291,522427758,3134566561,18807399380,112844396295,677066377786,4062398266733,24374389600416,146246337602515,877478025615110 ★ a(1)=1, a(n) = 6*a(n-1) + n. • a(n) = (6 ^ (n + 1) - 5 * n - 6) / 25. - _ Rolf Pleisch _ , Oct 25 2010 •

[A226199] • 1,8,51,346,2405,16812,117655,823550,5764809,40353616,282475259,1977326754,13841287213,96889010420,678223072863,4747561509958,33232930569617,232630513987224,1628413597910467,11398895185373162,79792266297612021 ★ 7^n + n. • a(n) = 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). •

[**A035288**] • 0,8,52,184,480,1040,1988,3472,5664,8760,12980,18568,25792,34944,46340,60320,77248,97512,121524,149720,182560,220528,264132,313904,370400 ⋆ Number of ways to place a non-attacking white and black bishop on n X n chessboard. • a(n) = (3 n ^ 4 - 4 n ^ 3 + 3 n ^ 2 - 2 n) / 3. • a(1)=0, a(2)=8, a(3)=52, a(4)=184, a(5)=480, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). [_ Harvey P. Dale _ , Nov 19 2011] •

[**A073377**] • 1,8,52,264,1194,4872,18516,66264,226083,740608,2344232,7202416,21562164,63090288,180884088,509245776,1410356133,3848340312,10359516684,27544099704,72406891326,188356187448 ⋆ Seventh convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. • a(n) = sum(binomial(n - k + 7, 7) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). •

[**A153336**] • 1,8,52,296,1556,7768,37416,175568,807604,3657464,16357496,72407728,317777032,1384524656,5994736336,25816193952,110652549620,472302724408,2008499580504,8513063608304,35975584631128,151621915797840 ⋆ Number of zig-zag paths from top to bottom of a 2n by 2n square whose color is that of the top right corner • a(n) = (2n + 1)2 ^ (2n - 2) - 2(2n - 1)binomial(2n - 2,n - 1). •

[**A257285**] • 1,8,52,308,1732,9428,50212,263348,1365892,7026068,35916772,182729588,926230852,4681485908,23608756132,118849087028,597466660612,3000218204948,15052630632292,75469311591668,378171191679172,1894154493279188,9483966605929252 ⋆ a(n) = 4*5^n - 3*4^n. • a(n) = 9 * a(n - 1) - 20 * a(n - 2). - _ Vincenzo Librandi _ , May 04 2015 •

[**A111996**] • 1,8,52,312,1802,10200,57092,317544,1760035,9738160,53844184,297717712,1646893140,9116815952,50514367512,280173703472,1555632093093,8647009926904,48117998453036,268057662257096,1494927614877214 ⋆ Eighth convolution of Schroeder's (second problem) numbers A001003(n), n>=0. • a(n)= (8 / n) * Sum _{ k=1,..,n } binomial(n,k) * binomial(n + k + 7,k - 1). • a(n) = 8 * hypergeom([1 - n, n + 9], [2], - 1), n>=1, a(0)=1. •

[**A016129**] • 1,8,52,320,1936,11648,69952,419840,2519296,15116288,90698752,544194560,3265171456,19591036928,117546237952,705277460480,4231664828416,25389989101568,152339934871552,914039609753600 ⋆ Expansion of 1/((1-2x)(1-6x)). • a(n) = (6 ^ (n + 1) - 2 ^ (n + 1)) / 4. (End) • a(n - 1) = ((4 + sqrt4) ^ n - (4 - sqrt4) ^ n) / 4 in Fibonacci form. - Al Hakanson (hawkuu(AT)gmail.com), Dec 31 2008 • a(n) = 8 * a(n - 1) - 12 * a(n - 2). - _ Philippe Deléham _ , Jan 01 2009 • a(n) = det(|ps(i + 2,j + 1)|, 1 <= i,j <= n), where ps(n,k) are Legendre - Stirling numbers of the first kind (A129467). - _ Mircea Merca _ , Apr 06 2013 •

[**A006631**] • 1,8,52,320,1938,11704,70840,430560,2629575,16138848,99522896,616480384,3834669566,23944995480,150055305008,943448717120,5949850262895,37628321318280,238591135349700,1516500543586560,9660632784642840,61670325204822048,394451619337629792 ⋆ From generalized Catalan numbers. • a(n) = 8 * binomial(3 * n + 8, n) / (3 * n + 8). - _ Andrew Howroyd _ , Nov 06 2017 •

[**A126503**] • 1,8,52,348,2322,15500,103462,690610,4609826,30770620,205394096,1371006978,9151480836,61086196378,407750773322,2721739165358,18167627307952,121269034961780,809471627267722,5403228578160660 ⋆ Number of base 8 n-digit numbers with adjacent digits differing by four or less. • a(n) = 6 * a(n - 1) + 5 * a(n - 2) - 3 * a(n - 3) - 2 * a(n - 4) for n>3. •

[**A155590**] • 1,8,52,350,2416,16838,117712,823670,5765056,40354118,282476272,1977328790,13841291296,96889018598,678223089232,4747561542710,33232930635136,232630514118278,1628413598172592,11398895185897430 ⋆ 7^n+2^n-1^n. • a(n)=9 * a(n - 1) - 14 * a(n - 2) - 6 with a(0)=1, a(1)=8 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A212754**] • 0,8,53,184,472,1008,1905,3296,5336,8200,12085,17208,23808,32144,42497,55168,70480,88776,110421,135800,165320,199408,238513,283104,333672 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of these conditions holds: w<R, x>R, y>R, z>R, where R = max{w,x,y,z} - min{w,x,y,z}. • a(n)=4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). •

[**A198846**] • 8,53,323,1943,11663,69983,419903,2519423,15116543,90699263,544195583,3265173503,19591041023,117546246143,705277476863,4231664861183,25389989167103,152339935002623,914039610015743,5484237660094463,32905425960566783 ⋆ 9*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[**A091870**] • 0,1,8,53,336,2105,13144,81997,511392,3189169,19888040,124023461,773419248,4823095913,30077155576,187563189565,1169656805184,7294059356257,45486249993032,283655347025429,1768894026280080 ⋆ A trinomial transform of Fib(3n). • a(n) = sqrt(5)((4 + sqrt(5)) ^ n - (4 - sqrt(5)) ^ n) / 10; • a(n) = sum { i=0..n, sum { j=0..n, n! / (i!j!(n - i - j)!)Fib(3i) / 2 }} . •

[**A054418**] • 1,8,53,352,2345,15624,104093,693504,4620369,30782536,205084165,1366343392,9103063929,60647838152,404057392237,2691973550848,17934881869985,119488539398536,796074997934037,5303733776692576 ⋆ Number of connected 3 X n binary matrices with rightmost column [1,1,1]', divided by 4. • a(n) = 7 * a(n - 1) - 3 * a(n - 2) + 5 * a(n - 3). •

[**A037966**] • 0,1,8,54,320,1750,9072,45276,219648,1042470,4862000,22355476,101582208,457002364,2038517600,9026235000,39710085120,173712232710,756088415280,3276123843300,14138105520000 ⋆ a(n) = n^2*binomial(2*n-2, n-1). • a(n) = Sum _{ k=0..n } k ^ 2 * binomial(n,k) ^ 2. - _ Paul Barry _ , Mar 04 2003 •

[**A091433**] • 8,54,330,1902,10554,57054,302730,1584462,8208474,42195774,215618730,1096731822,5558447994,28092104094,141662102730,713123219982,3584886057114,18001567510014,90316558634730,452818194072942 ⋆ a(n)=2*3^n - 18*4^n + 24*5^n. • a(n)=Sum(i!i ^ 2 Stirling2[n, i - 2](- 1) ^ (n + 2 - i), i= 2, .., n + 2) •

[**A081899**] • 1,8,54,332,1921,10644,57072,298176,1525248,7665664,37953536,185499648,896466944,4289462272,20343422976,95718211584,447146360832,2075274510336,9574555844608,43933220470784,200579267690496 ⋆ A sequence related to C(n+4,4). • a(n)=4 ^ n(n ^ 4 + 58n ^ 3 + 971n ^ 2 + 5114n + 6144) / 6144 G.f.: (1 - 3x) ^ 4 / (1 - 4x) ^ 5 •

[**A154235**] • 1,8,54,352,2276,14688,94744,611072,3941136,25418368,163935584,1057300992,6819052096,43979406848,283644733824,1829363802112,11798463078656,76094066608128,490767902078464,3165202550546432 ⋆ a(n) = ((4 + sqrt(6))^n - (4 - sqrt(6))^n)/(2*sqrt(6)). • a(n) = 8 * a(n - 1) - 10 * a(n - 2) for n>1, where a(0)=0, a(1)=1. •

[**A289796**] • 1,8,54,361,2420,16227,108802,729512,4891347,32796280,219897701,1474404984,9885824398,66284043461,444431768220,2979896612959,19980083465882,133965632756376,898234023419479,6022621953315440,40381430948778393,270755823312682408 ⋆ a(n) = (1/3)*A289795(n). • a(n) = 7 * a(n - 1) - 3 * a(n - 2) + 7 * a(n - 3) - a(n - 4). •

[**A244501**] • 1,8,55,248,820,2212,5163,10815,20833,37540,64067,104518,164150,249568,368935,532197,751323,1040560,1416703,1899380,2511352,3278828,4231795,5404363,6835125 ⋆ Number of ways to place 3 points on an n X n X n triangular grid so that no pair of them has distance sqrt(3). • a(n) = 1 / 48 * n ^ 6 + 1 / 16 * n ^ 5 - 13 / 16 * n ^ 4 + 61 / 48 * n ^ 3 + 247 / 24 * n ^ 2 - 293 / 6 * n + 6 for n >= 3. •

[**A013698**] • 1,8,55,364,2380,15504,100947,657800,4292145,28048800,183579396,1203322288,7898654920,51915526432,341643774795,2250829575120,14844575908435,97997533741800,647520696018735,4282083008118300 ⋆ a(n) = binomial(3n+2, n-1). • a(n) = sum(k=0..n - 1, binomial(2 * n + k + 2,k)). - _ Arkadiusz Wesolowski _ , Apr 02 2012 • a(n + 1) = (3 * n + 5) * (3 * n + 4) * (3 * n + 3) * a(n) / ((2 * n + 5) * (2 * n + 4) * n). - _ Robert Israel _ , Aug 09 2015 •

[**A154245**] • 1,8,55,368,2449,16280,108199,719072,4778785,31758632,211059991,1402652240,9321678001,61949553848,411701328775,2736064645568,18183205205569,120841059834440,803079631825399,5337067516093232 ⋆ a(n) = ((4 + sqrt(7))^n - (4 - sqrt(7))^n)/(2*sqrt(7)). • a(n) = 8 * a(n - 1) - 9 * a(n - 2) for n>1, with a(0)=0, a(1)=1. • a(n) = b such that 3 ^ (n - 1) / 2 * Integral _{ x=0..Pi / 2 } (sin(n * x)) / (4 / 3 - cos(x)) dx = c + b * log(2). - _ Francesco Daddi _ , Aug 02 2011 •

[**A033890**] • 1,8,55,377,2584,17711,121393,832040,5702887,39088169,267914296,1836311903,12586269025,86267571272,591286729879,4052739537881,27777890035288,190392490709135,1304969544928657,8944394323791464,61305790721611591,420196140727489673 ⋆ a(n) = Fibonacci(4*n+2). • a(n) = 7 * a(n - 1) - a(n - 2), n>1. a(0)=1, a(1)=8. • a(n) = [[(7 + 3 * Sqrt(5)) ^ n - [(7 - 3 * Sqrt(5)) ^ n] + 2 * [(7 + 3 * Sqrt(5)) ^ (n - 1) - [(7 - 3 * Sqrt(5)) ^ (n - 1)]] / (3 * (2 ^ n) * Sqrt(5)). - _ Gregory V. Richardson _ , Oct 13 2002 • a(n + 1) = 8 * a(n) - 8 * a(n - 1) + a(n - 2), a(1)=1, a(2)=8, a(3)=55. - _ Sture Sjöstedt _ , May 27 2009 • a(n)=b such that (- 1) ^ n * Integral _{ 0..Pi / 2 } (cos((2 * n + 1) * x)) / (3 / 2 - sin(x)) dx = c + b * log(3). - _ Francesco Daddi _ , Aug 01 2011 •

[**A108984**] • 1,8,55,386,2701,18908,132355,926486,6485401,45397808,317784655,2224492586,15571448101,109000136708,763000956955,5341006698686,37387046890801,261709328235608,1831965297649255,12823757083544786 ⋆ Inverse binomial transform of A003951. • a(n) = 6a(n - 1) + 7a(n - 2), a(0) = 1, a(1) = 8. • a(2n) = 7a(2n - 1) - 1; a(2n + 1) = 7a(2n) + 1. • a(n)= - (1 / 8) * [(- 1) ^ n - 9 * 7 ^ n], with n>=0 [From _ Paolo P. Lava _ , Nov 19 2008] •

[**A230963**] • 8,55,549,5280,44403,325008,2685304,27358559,241709752,1870181225,12766175931,138963670560,1291487885997,10519458225072,74032715923371,690521409218881,6773980286782088,57975621715535095,433109386513469096,3345582274543898400 ⋆ Values of y such that x^2 + y^2 = 73^n with x and y coprime and 0 < x < y. • a(n) = max(abs(Re((3 + 8i) ^ n)), abs(Im((3 + 8i) ^ n))). • a(n) = abs(Im(3 + 8i) ^ n) if and only if 1 / 4 < frac(n * arctan(8 / 3) / Pi) < 3 / 4.(End) •

[**A267522**] • 8,56,176,400,760,1288,2016,2976,4200,5720,7568,9776,12376,15400,18880,22848,27336,32376,38000,44240,51128,58696,66976,76000,85800 ⋆ a(n) = 4*(n + 1)*(n + 2)*(4*n + 3)/3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A291387**] • 8,56,352,2096,12032,67328,369664,2000128,10696704,56666112,297836544,1555066880,8073379840,41709076480,214558048256,1099562549248,5616171483136,28599668703232,145249047412736,735884541427712,3720035809886208,18767645931208704 ⋆ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - 4 S)^2. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) - 32 * a(n - 3) - 16 * a(n - 4) for n >= 5. •

[**A081626**] • 1,8,56,368,2336,14528,89216,543488,3293696,19893248,119883776,721399808,4336787456,26054279168,156459892736,939296227328,5637924847616,33836139020288,203051193860096,1218444602114048 ⋆ 2*6^n-4^n. • a(n) = 10 * a(n - 1) - 24 * a(n - 2), a(0)=1, a(1)=8. •

[**A057084**] • 1,8,56,384,2624,17920,122368,835584,5705728,38961152,266043392,1816657920,12404916224,84706066432,578409201664,3949625081856,26969727041536,184160815677440,1257528709087232,8586943147278336 ⋆ Scaled Chebyshev U-polynomials evaluated at sqrt(2). • a(n) = 8 * (a(n - 1) - a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, 2 * sqrt(2)) * (2 * sqrt(2)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = - (1 / 8) * [4 - 2 * sqrt(2)] ^ (n + 1) * sqrt(2) + (1 / 8) * sqrt(2) * [4 + 2 * sqrt(2)] ^ (n + 1), with n>=0. [_ Paolo P. Lava _ , Nov 20 2008] •

[**A101596**] • 1,8,56,384,2640,18304,128128,905216,6449664,46305280,334721024,2434334720,17801072640,130809692160,965500108800,7154863964160,53214300733440,397094950010880,2972195534929920,22308469918924800 ⋆ G.f.:

c(2*x)^4, where c(x) is the g.f. of A000108. • a(n) = ((8 * n + 12) / (3 * n + 12)) * ((3 * n + 3) / (n + 3)) * 2 ^ n * C(n + 1), where C(n) and the Catalan numbers of A000108. •

[A092521] • 1,8,56,385,2640,18096,124033,850136,5826920,39938305,2737412 16,1876250208,12860010241,88143821480,604146740120,4140883359361,2838 2036775408,194533374068496,1333351581704065,9138927697859960 ⋆ a(n) = 8*a(n-1) - 8*a(n-2) + a(n-3). • a(n) = 7 * a(n - 1) - a(n - 2) + 1, n>=2, a(0): =0, a(1)=1. • a(n) = - 1 / 5 + (3 / 5) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n - (4 / 1 5) * (7 / 2 - (3 / 2) * sqrt(5)) ^ n * sqrt(5) + (4 / 15) * sqrt(5) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n + (3 / 5) * (7 / 2 + (3 / 2) * sqrt(5)) ^ n. - _ Paolo P. La va _ , Jul 08 2008 • a(n) = 1 / 3 * Sum _{ k=0..n } Fibonacci(4 * k). - _ G ary Detlefs _ , Dec 07 2010 •

[A003950] • 1,8,56,392,2744,19208,134456,941192,6588344,46118408,3228288 56,2259801992,15818613944,110730297608,775112083256,5425784582792,37980 492079544,265863444556808,1861044111897656,13027308783283592,911911614 82985144,638338130380896008 ⋆ G.f.: (1+x)/(1-7*x). • a(n) = 8 * 7 ^ (n - 1) for n>=1, a(0)=1 . G.f.: (1 + x) / (1 - 7x). The Hankel transform of this seq uence is [1, - 8,0,0,0,0,0,0,0,0,...]. - _ Philippe Deléham _ , Nov 21 2007 • a(0)=1, a(1)=8, a(n) = 7 * a(n - 1). - _ Vincenzo Librandi _ , Dec 10 2012 •

[A033134] • 1,8,56,393,2752,19264,134849,943944,6607608,46253257,3237728 00,2266409600,15864867201,111054070408,777378492856,5441649449993,38091 546149952,266640823049664,1866485761347649,13065400329433544,914578023 06034808,640204616142243657 ⋆ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 1,1,0. • a(n) = 7 * a(n - 1) + a(n - 3) - 7 * a(n - 4). • a(n) = floor((28 / 171) * 7 ^ n). - _ Tani Akinari _ , J ul 16 2014 •

[A087290] • 8,56,488,4376,39368,354296,3188648,28697816,258280328,23245 22936,20920706408,188286357656,1694577218888,15251194969976,137260754 729768,1235346792567896,11118121133111048,100063090197999416,90056781 1781994728,8105110306037952536 ⋆ Number of pairs of polynomials (f,g) in GF(3)[x] satisfying deg(f) <=n, deg(g) <= n and gcd(f,g) = 1. • a(n) = 2 * 3 ^ (2 * n + 1) + 2. • a(0)=8, a(1)=56, a(n)=10 * a(n - 1) - 9 * a(n - 2). [Fro m Harvey P. Dale, Mar 07 2012] •

[A218125] • 1,8,56,504,4032,32760,261576,2097144,16773120,134217216,1073 709000,8589934584,68719210560,549755813880,4398044413896,3518437205556 0,281474959933440,2251799813685240,18014398375002624,14411518807585586 4,1152921503533101120 ⋆ Number of 8-ary sequences with primitive period n. • a(n) = Sum _{ d|n } 8 ^ d * mu(n / d) for n>0, a(0) = 1. •

[A108666] • 0,1,8,57,384,2505,16008,100849,628736,3888657,23900040,14614 6473,889928064,5399971161,32668236552,197123362785,1186790473728,71310 32334369,42773183020296,256161548120857,1531966218561920 ⋆ Number of (1,1)-steps in all Delannoy paths of length n (a Delannoy path of length n is a path from (0,0) to (n,n), consisting of steps E=(1,0), N=(0,1) and D=(1,1)). • a(n) = Sum _{ k=1..n } k * binomial(n, k) * binomial(2 * n - k, n). •

[A164031] • 1,8,57,386,2549,16612,107493,692854,4456201,28626368,183771 057,1179304106,7566306749,48539073052,311365675293,1997258072734,1281 1170195601,82174766283128,527090748332457,3380887858812626 ⋆ a(n) = ((2+3*sqrt(2))*(5+sqrt(2))^n+(2-3*sqrt(2))*(5-sqrt(2))^n)/4. • a(n) = 10 * a (n - 1) - 23 * a(n - 2) for n > 1; a(0) = 1, a(1) = 8. •

[A023000] • 0,1,8,57,400,2801,19608,137257,960800,6725601,47079208,329554 457,2306881200,16148168401,113037178808,791260251657,5538821761600,3877 1752331201,271402266318408,1899815864228857,13298711049602000 ⋆ a(n) = (7^n - 1)/6. • a(n) = ((4 + sqrt(9)) ^ n - (4 - sqrt(9)) ^ n) / 6. [Al Hakanson (hawkuu(AT)gmail.com), Jan 07 2009] • a(n) = 8 * a(n - 1) - 7 * a(n - 2). G. f.: x / ((1 - x) * (1 - 7 * x)). [_ R. J. Mathar _ , Jun 21 2009] • a(n) = 6 * a (n - 1) + 7 * a(n - 2) + 2, a(0)=0, a(1)=1. • a(n) = 7 * a(n - 1) + a(n - 2) - 7 * a(n - 3) = 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3), a(0)=0, a(1)=1, a(2) = 8. Observation by G. Detlefs. See the W. Lang comment and link. (End) • a(n) = 7 * a(n - 1) + 1 (with a(0)=0). [_ Vincenzo Librandi _ , Nov 19 201 0] • a(n) = a(n - 1) + 7 ^ (n - 1), with a(0)=0, n>=1. - See a _ Wolfdieter L ang _ comment above, May 02 2012 •

[A015453] • 1,1,8,57,407,2906,20749,148149,1057792,7552693,53926643,385 039194,2749201001,19629446201,140155324408,1000716717057,714517234380 7,51016923123706,364263634209749,2600862362591949,18570300172353392 ⋆ Generalized Fibonacci numbers. • a(n) = 7 * a(n - 1) + a(n - 2). • a(n) = (5 / 106) * sqrt(53) * [7 / 2 - (1 / 2) * sqrt(53)] ^ n + (1 / 2) * [7 / 2 + (1 / 2) * sqrt(53)] ^ n + (1 / 2) * [7 / 2 - (1 / 2) * sqrt(53)] ^ n - (5 / 106) * [7 / 2 + (1 / 2) * sqrt(53)] ^ n * sqrt(53), with n>=0. - _ Paolo P. Lava _ , Jun 25 2 008 •

[A281355] • 1,8,57,419,3092,22846,168804,1247298,9216354,68100151,503195 829,3718142208,27473561358,203003686106,1500005624924,11083625711271,81 897532160126,605145459495141,4471453748222757,33039822589391676 ⋆ a(n) = A092318(n) + 1: Number of terms of the odd harmonic series 1 + 1/3 + 1/5 + 1/7 + ... required to reach a sum >= n. • a(n) = floor(exp(2n - gamma) / 4 + 9 / 8), for all given values a(n) > 1. - _ M. F. Hasler _ and _ Robert G. Wilson v _ , Jan 23 2017 •

[A199555] • 8,57,449,3585,28673,229377,1835009,14680065,117440513,939524 097,7516192769,60129542145,481036337153,3848290697217,30786325577729,24 6290604621825,1970324836974593,15762598695796737,126100789566373889 ⋆ 7*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[A081897] • 1,8,58,396,2595,16500,102500,625000,3753125,22250000,1304687 50,757812500,4365234375,24960937500,141796875000,800781250000,449829101 5625,25146484375000,139953613281250,775756835937500 ⋆ A sequence related to C(n+3,3). • a(n)=5 ^ n(n ^ 3 + 42n ^ 2 + 407n + 750) / 750 G.f.: (1 - 4x) ^ 3 / (1 - 5x) ^ 4 •

[A162272] • 1,8,58,404,2764,18752,126712,854576,5758096,38780288,261124 768,1758081344,11836068544,79682895872,536435450752,3611330798336,2431 1728066816,163668003104768,1101822013577728,7417524067472384 ⋆ a(n) = ((1+sqrt(3))*(5+sqrt(3))^n + (1-sqrt(3))*(5-sqrt(3))^n)/2. • a(n) = 10 * a(n - 1) - 22 * a(n - 2) for n > 1; a(0) = 1, a(1) = 8. •

[A037532] • 1,8,58,407,2850,19952,139665,977656,6843594,47905159,3353361 14,2347352800,16431469601,115020287208,805142010458,5635994073207,39451 958512450,276163709587152,1933145967110065 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,1,2. • a(n) = (2 9 * 7 ^ n + 7 * sqrt(3) * sin(2 * Pi * n / 3) + 9 * cos(2 * Pi * n / 3) - 38) / 1 71. - _ Ilya Gutkovskiy _ , Apr 27 2016 •

[A178730] • 0,1,8,58,408,2859,20016,140116,980816,6865717,48060024,336420 174,2354941224,16484588575,115392120032,807744840232,5654213881632,3957 9497171433,277056480200040,1939395361400290,13575767529802040,95030372 708614291,665212608960300048,4656488262722100348,32595417839054702448 ⋆ Partial sums of floor(7^n/8)/6. • a(n) = a(n - 2) + (7 ^ (n - 1) - 1) / 6 , n> 2. • a(n) = 8 * a(n - 1) - 6 * a(n - 2) - 8 * a(n - 3) + 7 * a(n - 4), n>4. • a(n) = (7 ^ (n + 1) - 24 * n + 9 * (- 1) ^ n - 16) / 288. - _ Bruno Berselli _ , Jan 11 2011 •

[A190978] • 0,1,8,58,416,2980,21344,152872,1094912,7842064,56167040,40228 3936,2881269248,20636450368,147803987456,1058613197440,7582081654784,54 304974053632,388947302500352,2785748575681024,19952304790446080,142903 946869482496,1023517746213183488 ⋆ a(n) = 8*a(n-1) - 6*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((4 + sqrt(10)) ^ n - (4 - sqrt(10)) ^ n) / (2 * sqrt(10)). - _ Giorgio Balzarotti _ , May 28 2011 •

[A254663] • 1,8,58,422,3070,22334,162478,1182014,8599054,62557406,455099 950,3310814462,24085901134,175222936862,1274732360302,9273572395838,674 64471491470,490798445231966,3570518059606702,25975223307710846,1889675 99273189326,1374723641527746974 ⋆ Numbers of n-length words on alphabet {0,1,...,7} with no subwords ii, where i is from {0,1,...,5}. • a(n) = 7 * a(n - 1) + 2 * a(n - 2) with n>1, a(0) = 1, a(1) = 8. • a(n) = 2 ^ (- 1 - n) * ((7 - r) ^ n * (- 9 + r) + (7 + r) ^ n * (9 + r)) / r, where r=sqrt(57). - _ Colin Bark er _ , Jan 22 2017 •

[A126529] • 1,8,58,426,3124,22914,168066,1232708,9041498,66316346,48640 8084,3567639634,26167436306,191929340708,1407737135338,1032527822426 6,75732441613044,555471977422754,4074200053901346,29882886543125508 ⋆ Number of base 8 n-digit numbers with adjacent digits differing by five or less. • a(n) = 7 * a(n - 1) + 3 * a(n - 2) - 4 * a(n - 3) for n>2. •

[A190977] • 0,1,8,59,432,3161,23128,169219,1238112,9058801,66279848,4849 44779,3548158992,25960548041,189943589368,1389745974739,1016824985107 2,74397268934881,544336902223688,3982708873115099,29139986473802352,21 3206347424843321,1559950847029734808 ⋆ a(n) = 8*a(n-1) - 5*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((4 + sqrt(11)) ^ n - (4 - sqrt(11)) ^ n) / (2 * sqrt(11)). - _ Giorgio Balzarotti _ , May 28 2011 •

[A254662] • 1,8,59,437,3236,23963,177449,1314032,9730571,72056093,533584 364,3951258827,29259564881,216670730648,1604473809179,11881328856197,87 982723420916,651523050515003,4824609523867769,35726835818619392,264561 679301939051,1959112262569431533 ⋆ Numbers of words on alphabet {0,1,...,7} with no subwords ii, where i is from {0,1,...,4}. • a(n) = 7 * a(n - 1) + 3 * a(n - 2) with n>1, a(0) = 1, a(1) = 8. • a(n) = (2 ^ (- 1 - n) * ((7 - sqrt(61)) ^ n * (- 9 + sqrt(61)) + (7 + sqrt(61)) ^ n * (9 + sqrt(61)))) / sqrt(61). - _ C olin Barker _ , Sep 08 2016 •

[A268599] • 0,0,0,0,0,0,8,60,294,1180,4200,13776,42560,125568,357120,98560 0,2652672,6988800,18077696,46018560,115507200,286326784,701890560,170341 1712,4096655360 ⋆ Expansion of 2*x^6*(4-10*x+7*x^2)/(1-2*x)^5. • a(n) = 2 ^ (n - 10) * (n - 5) * (n - 4) * (n ^ 2 + 3 * n + 10) for n>3. - _ Colin Barke r _ , Feb 08 2016 •

[A054401] • 0,8,60,368,2100,11528,61740,325088,1690980,8717048,44633820,2 27363408,1153594260,5835080168,29443836300,148292923328,745759583940,37 45977788888,18798608421180,94267920012848,472439111692020,236659360497 1208 ⋆ 5^n-4^n-1. • a(1)=0, a(2)=8, a(3)=60, a(n)=10 * a(n - 1) - 29 * a(n - 2) + 20 * a(n - 3). - _ Harvey P. Dale _ , Aug 27 2013 •

[A159727] • 8,60,400,2500,15000,87500,500000,2812500,15625000,85937500,4 68750000,2539062500,13671875000,73242187500,390625000000,207519531250 0,10986328125000,57983398437500,305175781250000,1602172851562500 ⋆ Number of permutations of 4 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. • a(n)=(copies * n) * (copies + 1) ^ (n - 2) •

[A126640] • 8,60,422,2784,17318,102600,584942,3237504,17516438,9313644 0,488625662,2537103024,13068059558,66890498280,340713533582,17287929013 44,8745409322678,44134458900120,222306845468702,1118087142184464,56166 91514201798,28188613237893960 ⋆ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digit 1 and 2, at least one of digits 3,4, at least one of digits 5,6 and at least one of digits 7,8,9. • a(n) = 12 * 5 ^ n - 24 * 4 ^ n + 19 * 3 ^ n - 7 * 2 ^ n + 1. •

[A285391] • 1,8,60,444,3276,24156,178092,1312956,9679500,71360028,526086 252,3878455932,28593068364,210796144092,1554048476460,11456882559036,84 463361313804,622687661115804,4590628614276588,33843405595099644,249503 106984577740,1839407095720003932 ⋆ Start with a single cell at coordinates (0, 0), then iteratively subdivide the grid into 3 X 3 cells and remove the cells whose sum of modulo 2 coordinates is 2; a(n) is the number of cells after n iterations. • a(0) = 1, a(1) = 8, a(n) = 9 * a(n - 1) - 12 * a(n - 2). • a(n) = (2 ^ (- 1 - n) * ((9 - sqrt(33)) ^ n * (- 7 + sqrt(33)) + (7 + sqrt(33)) * (9 + s qrt(33)) ^ n)) / sqrt(33). - _ Colin Barker _ , Apr 18 2017 •

[A245391] ● 1,8,60,448,3360,25344,192192,1464320,11202048,85995520,662165504,5112102912,39557939200,306726174720,2382605107200,18537602088960,144438816276480,1126891074355200,8802271391907840,68829791335219200,538749548542033920,4220762508660572160 ★ a(n) = 2^n*C(2*(n+1), n). ● a(n) = 2 ^ (3 * n + 2) * (n + 1 / 2)! / (sqrt(Pi) * (n + 2) * n!). ● a(n) = (4 * (2 * n + 1) * (n + 1)) / (n * (n + 2)) * a(n - 1) for n >= 1. ●

[A254658] ● 1,8,60,452,3404,25636,193068,1454020,10950412,82468964,621084396,4677466628,35226603980,265296094372,1997979076524,15047037913156,113321181698188,853436423539940,6427339691572332,48405123535166084,364545223512451916,2745437058727827748 ★ Numbers of words on alphabet {0,1,...,7} with no subwords ii, where i is from {0,1,2,3}. ● a(n) = 7 * a(n - 1) + 4 * a(n - 2) with n>1, a(0) = 1, a(1) = 8. ● a(n) = (2 ^ (- 1 - n) * ((7 - sqrt(65)) ^ n * (- 9 + sqrt(65)) + (7 + sqrt(65)) ^ n * (9 + sqrt(65)))) / sqrt(65). - _ Colin Barker _ , Jan 21 2017 ●

[A071401] ● 0,8,61,207,490,958,1655,2628,3924,5586,7663,10200,13242,16836,21028,25863,31388,37649,44691,52561,61305,70968,81597,93237,105935 ★ Rounded volume of a regular dodecahedron with edge length n. ● a(n) = round(n ^ 3 * (15 + 7 * sqrt(5)) / 4) ●

[A081907] ● 1,8,61,450,3240,22896,159408,1096416,7464960,50388480,337602816,2247326208,14874679296,97955205120,642150789120,4192482779136,27270729105408,176789554200576,1142549512519680,7363096858460160 ★ A sequence related to C(n+2,2). ● a(n)=6 ^ n(n ^ 2 + 23n + 72) / 72. ●

[A190976] ● 0,1,8,61,464,3529,26840,204133,1552544,11807953,89805992,683024077,5194774640,39509124889,300488675192,2285382026869,17381590189376,132196575434401,1005427832907080,7646832936953437,58158379996906256,442326541164389737 ★ a(n) = 8*a(n-1) - 3*a(n-2), with a(0)=0, a(1)=1. ● a(n) = ((4 + sqrt(13)) ^ n - (4 - sqrt(13)) ^ n) / (2 * sqrt(13)). - _ Giorgio Balzarotti _ , May 28 2011 ●

[A254602] ● 1,8,61,467,3574,27353,209341,1602152,12261769,93843143,718210846,5496691637,42067895689,321958728008,2464050574501,18858147661547,144327286503334,1104581743831073,8453708639334181,64698869194494632,495160627558133329,3789618738879406463 ★ Numbers of n-length words on alphabet {0..7} with no subwords ii, where i is from {0..2}. ● a(n) = 7 * a(n - 1) + 5 * a(n - 2) with n>1, a(0) = 1, a(1) = 8. ● a(n) = (2 ^ (- 1 - n) * ((7 - sqrt(69)) ^ n * (- 9 + sqrt(69)) + (7 + sqrt(69)) ^ n * (9 + sqrt(69)))) / sqrt(69). - _ Colin Barker _ , Sep 08 2016 ●

[A198690] ● 8,62,440,3086,21608,151262,1058840,7411886,51883208,363182462,2542277240,17795940686,124571584808,872001093662,6104007655640,42728053589486,299096375126408,2093674625884862,14655722381194040,102590056668358286 ★ 9*7^n-1. ● a(n) = 7 * a(n - 1) + 6. a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>1. ●

[A126628] ● 8,62,470,3506,25718,184682,1294910,8867186,59423078,390804602,2529567950,16157024066,102070798838,639011269322,3970835898590,24524390352146,150705922308998,922285972770842,5624983337550830,34210314230099426,207580309651649558 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks digits 1 and 2, at least one of digits 3,4 and at least one of digits 5,6,7,8,9. ● a(n) = 10 * 6 ^ n - 25 * 5 ^ n + 30 * 4 ^ n - 20 * 3 ^ n + 7 * 2 ^ n - 1. ●

[A085353] ● 1,8,62,470,3506,25838,188642,1367150,9849986,70629518,504484322,3591856430,25505792066,180717326798,1278081981602,9024938035310,63644751231746,448334368529678,3155267239152482,22188430630735790 ★ Expansion of (1-5x)/((1-6x)(1-7x)). ● a(n) = 2 * 7 ^ n - 6 ^ n. ●

[A125396] ● 1,8,62,470,3650,28358,220394,1712894,13312610,103465622,804135002,6249738734,48572981138,377509300358,2934002989322,22803076727390,177225555027650,1377397345557878,10705134749071034,83200327316844494 ★ Number of base 8 circular n-digit numbers with adjacent digits differing by 6 or less. ● a(n) = 1 + ((7 - sqrt(73)) / 2) ^ n + ((7 + sqrt(73)) / 2) ^ n for n >0. ● a(n) = 8 * a(n - 1) - a(n - 2) - 6 * a(n - 3) for n>3. ●

[A163444] ● 1,8,62,472,3556,26624,198584,1477792,10981648,81534848,605042144,4488320896,33288417856,246858103808,1830491038592,13572716933632,100635907891456,746158518953984,5532281359138304,41017986665224192 ★ a(n) = 12*a(n-1) - 34*a(n-2) for n > 1; a(0) = 1, a(1) = 8. ● a(n) = ((1 + sqrt(2)) * (6 + sqrt(2)) ^ n + (1 - sqrt(2)) * (6 - sqrt(2)) ^ n) / 2. ●

[A190975] ● 0,1,8,62,480,3716,28768,222712,1724160,13347856,103334528,799980512,6193175040,47945439296,371177164288,2873526435712,22245857157120,172219804385536,1333266720770048,10321694157389312,79907019817574400,618612770225816576 ★ a(n) = 8*a(n-1) - 2*a(n-2), with a(0)=0, a(1)=1. ● a(n) = ((4 + sqrt(14)) ^ n - (4 - sqrt(14)) ^ n) / (2 * sqrt(14)). - _ Giorgio Balzarotti _ , May 28 2011 ●

[A287815] ● 1,8,62,482,3746,29114,226274,1758602,13667858,106226618,825593474,6416514026,49869159026,387583197338,3012297335522,23411580532682,181954847741906,1414153417389434,10990803008177474,85420541561578922,663888608980117298,5159743512230294618 ★ Number of octonary sequences of length n such that no two consecutive terms have distance 7. ● a(n) = 7 * a(n - 1) + 6 * a(n - 2), a(0)=1, a(1)=8. ●

[A081107] ● 1,8,63,490,3773,28812,218491,1647086,12353145,92236816,686011319,5084554482,37569208117,276825744020,2034669218547,14920907602678,109193914728689,797590333670424,5815762849680175,42338753545671674 ★ 7th binomial transform of (1,1,0,0,0,0,.....). ● a(n) = 14 * a(n - 1) - 49 * a(n - 2) with n>1, a(0)=1, a(1)=8. ● a(n) = (n + 7) * 7 ^ (n - 1). ●

[A164592] ● 1,8,63,494,3869,30292,237147,1856506,14533561,113775008,890679543,6972620294,54584650709,427311962092,3345180558867,26187502233106,205006952830321,1604881990340408,12563701705288623,98354023217099294,769957303181086349 ★ a(n) = 10*a(n-1) - 17*a(n-2) for n > 1; a(0) = 1, a(1) = 8. ● a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 1, a(1) = 8. ● a(n) = ((4 + sqrt(18)) * (5 + sqrt(8)) ^ n + (4 - sqrt(18)) * (5 - sqrt(8)) ^ n) / 8 . ●

[A001090] ● 0,1,8,63,496,3905,30744,242047,1905632,15003009,118118440,929944511,7321437648,57641556673,453811015736,3572846569215,28128961537984,221458845734657,1743541804339272,13726875588979519,108071462907496880 ★ a(n) = 8*a(n-1) - a(n-2); a(0) = 0, a(1) = 1. ● a(n) = S(2 * n - 1, sqrt(10)) / sqrt(10) = S(n - 1, 8); S(n, x) := U(n, x / 2), Chebyshev polynomials of 2 nd kind, A049310, with S(- 1, x) := 0. ● a(n) = {{ (4 + sqrt(15)) ^ n } - { (4 - sqrt(15)) ^ n }}/ 2 * sqrt(15). ● a(n) = 7 * (a(n - 1) + a(n - 2)) - a(n - 3). ● a(n) = 9 * (a(n - 1) - a(n - 2)) + a(n - 3). (End) ● a(- n) = - a(n). - _ Michael Somos _ , Apr 05 2008 ●

[A105219] ● 0,1,8,63,544,5225,55656,653023,8379008,116780049,1757211400,28394129951,490371506208,9013522796473,175679564492264,3618800515187775,78547755741723136,1791704327280481313 ★ a(n) = Sum_{k=0..n} C(n,k)^2*(n-k)!*k^2. ● a(n) = n ^ 2 * A002720 [Riordan]. - _ N. J. A. Sloane _ , Jan 10 2018 ● a(n) = (n + 1)! * (2 * L(n, - 1) - L(n + 1, - 1)) where L(n,x) is the n - th Laguerre polynomial. - _ Peter Luschny _ , Jan 19 2012 ● a(n) = n! * L(n - 1,2, - 1) for n>=1 where L(n,b,x) is the n - th generalized Laguerre polynomial. - _ Peter Luschny _ , Apr 11 2015 ●

[A118719] ● 0,1,8,64,125,343,512,1000,1331,2197,2744,4096,4913,6859,8000,10648,12167,15625,17576,21952,24389,29791,32768,39304,42875 ★ Cubes for which the digital root is also a cube. ● a(n) = (floor(3 * n / 2) - 2) ^ 3 for n >= 2. - _ Nathaniel Johnston _ , May 05 2011 ●

[A153808] ● 0,8,64,168,320,520,768,1064,1408,1800,2240,2728,3264,3848,4480,5160,5888,6664,7488,8360,9280,10248,11264,12328,13440 ★ 8 times octagonal numbers: 8*n*(3*n-2). ● a(n) = a(n - 1) + 48 * n - 40 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 27 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A016743] ● 0,8,64,216,512,1000,1728,2744,4096,5832,8000,10648,13824,17576,21952,27000,32768,39304,46656,54872,64000,74088,85184,97336,110592 ★ Even cubes: a(n) = (2*n)^3. ● a(n) = (2 * n) ^ 3 = 8 * n ^ 3. ●

[A086114] ● 8,64,216,528,1080,1968,3304,5216,7848,11360,15928,21744,29016,37968,48840,61888,77384,95616,116888,141520,169848,202224,239016,280608,327400 ★ Number of 4 X n (0,1) matrices such that each row and each column is nondecreasing or nonincreasing. ● a(n) = 2 / 3 * n * (n ^ 3 + 6 * n ^ 2 + 11 * n - 6). More generally, number of m X n (0, 1) matrices such that each row and each column is increasing or decreasing is 2 * n * (2 * binomial(n + m - 1, n) - m) = 4 / Beta(m, n) - 2 * m * n. ●

[A223564] ● 8,64,448,3136,21952,153664,1075648,7529536,52706752,368947264,2582630848,18078415936,126548911552,885842380864,6200896666048,43406276662336,303843936636352,2126907556454464,14888352895181248 ★ Number of nX3 0..1 arrays with antidiagonals unimodal ● a(n) = product { (1 + (i * (i + 1) / 2)) ^ 2 , i=1..(min(n,3) - 1) } * (1 + (min(n,3) * (min(n,3) + 1) / 2)) ^ (max(n,3) - min(n,3) + 1) ● a(n) = 7 * a(n - 1) for n>2 ●

[A146885] ● 8,64,456,3200,22408,156864,1098056,7686400,53804808,376633664,2636435656,18455049600,129185347208,904297430464,6330082013256,44310574092800,310174018649608,2171218130547264,15198526913830856 ★ Sum of power terms sequence: a(n)=Sum[8*7^m, {m, 0, n}]. ● a(n)=Sum[8 * 7 ^ m, { m, 0, n }]. ●

[A267231] ● 8,64,476,3472,25088,180292,1291052,9222184,65755592,468196540,3330042548,23664113536,168042120176,1192574364148,8459259667964,59977781663128,425093823838040,3011867733313516,21333411555220100 ★ Number of length-n 0..7 arrays with no following elements greater than or equal to the first repeated value. ● a(n) = (- 7 * (70 + 21 * 2 ^ (1 + n) + 35 * 3 ^ n + 35 * 2 ^ (1 + n) * 3 ^ n + 35 * 4 ^ n + 42 * 5 ^ n - 627 * 7 ^ n) + 60 * 7 ^ n * n) / 2940 for n>1. ●

[A267470] ● 8,64,484,3592,26440,193852,1418740,10378144,75944464,556295860,4080955516,29994246136,220942982968,1631599880428,12082194095812,89736369169168,668588308469152,4997804102441956,37486765952804428 ★ Number of length-n 0..7 arrays with no following elements larger than the first repeated value. ● a(n) = (- 980 - 147 * 2 ^ (2 + n) - 245 * 2 ^ (1 + 2 * n) - 490 * 3 ^ n - 245 * 2 ^ (2 + n) * 3 ^ n - 588 * 5 ^ n + 7818 * 7 ^ n + 735 * 8 ^ n + 120 * 7 ^ n * n) / 5880. ●

[A126629] ● 8,64,506,3916,29498,215524,1527506,10528876,70841738,467044084,3027621506,19356463036,122355512378,766290978244,4762898595506,29420807536396,180813134269418,1106606890266004,6749433735297506,41050188511748956,249087606867080858 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks digits 1 and 2, at least one of digits 3,4,5 and at least one of digits 6,7,8,9. ● a(n) = 12 * 6 ^ n - 30 * 5 ^ n + 34 * 4 ^ n - 21 * 3 ^ n + 7 * 2 ^ n - 1. ●

[A125908] ● 8,64,512,4096,32768,262144,2092112,16595776,130437728,1013866624,7788438512,59145432256,444357721088,3306242197504,24389881261712,178578361769536,1299058046034848,9397253451942784,67653687455953712,485065987257543616 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digits 1 and 2 and at least one of digits 3,4,5,6,7,8,9. ● a(n) = 7 * 7 ^ n - 21 * 6 ^ n + 35 * 5 ^ n - 35 * 4 ^ n + 21 * 3 ^ n - 7 * 2 ^ n + 1. ●

[A001018] ● 1,8,64,512,4096,32768,262144,2097152,16777216,134217728,1073741824,8589934592,68719476736,549755813888,4398046511104,3518437208882,2814749767106 56,2251799813685248,18014398509481984,14411518807585587,2,1152921504606846976,9223372036854775808,7378697629483820646 4,5902958103587056517 12,4722366482869645213696 ★ Powers of 8: a(n) = 8^n. ● a(n) = 8 ^ n. ● a(0) = 1; a(n) = 8 * a(n - 1) for n > 0. ●

[A033144] • 1,8,64,513,4104,32832,262657,2101256,16810048,134480385,1075843080,8606744640,68853957121,550831656968,4406653255744,3525322604595 3,282025808367624,2256206466940992,18049651735527937,14439721388422349 6,11551777110737987968 ⋆ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0. • a(n) = 8 * a(n - 1) + a(n - 3) - 8 * a(n - 4). • a(n) = round((64 / 511) * 8 ^ n). - _ Tani Akinari _ , Jul 15 2014 •

[A199567] • 8,64,568,5104,45928,413344,3720088,33480784,301327048,2711943424,24407490808,219667417264,1977006755368,17793060798304,16013754718 4728,144123792466254 4,1297114132196288 8,11674027189766598 4,10506624470 78993848 ⋆ 7*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A061435] • 8,64,729,9261,97336,970299,9938375,99897344,997002999,99939 48264,99961946721,999700029999,9999516957184,9999425852337 5,999970000 299999,9999934692543307,99999429057832312,999997000002999999 ⋆ a(n) = largest n-digit cube. • a(n)=(ceil(10 ^ (n / 3)) - 1) ^ 3 - Antonio G. Astudillo (afg _ astudillo(AT)lycos.com), Mar 30 2003 •

[A288788] • 1,8,65,502,3851,29921,237426,1932529,16173029,139320277,1235847277,11288120480,106132359679,1026681599731,10212591089574,104393925768077,1095895294558168,11806719056706773,130457490607638988,147742880 2636263486,1713826823385167178 2 ⋆ Number of blocks of size >= six in all set partitions of n. • a(n) = Bell(n + 1) - Sum _{ j=0..5 } binomial(n,j) * Bell(n - j). • a(n) = Sum _{ j=0..n - 6 } binomial(n,j) * Bell(j). •

[A033118] • 1,8,65,520,4161,33288,266305,2130440,17043521,136348168,1090785345,8726282760,69810262081,558482096648,4467856773185,3574285418548 0,285942833483841,2287542667870728,18300341342965825,14640273074372660 0 ⋆ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. • a(n) = 8 * a(n - 1) + a(n - 2) - 8 * a(n - 3). • a(n) = 2 ^ (3 * n + 3) / 63 - 1 / 14 - (- 1) ^ n / 18. - _ R. J. Mathar _ , Jan 08 2011 • a(n) = floor(8 ^ (n + 1) / 9) / 7 = floor((8 * 8 ^ n - 1) / 63) = round((8 * 8 ^ n - 8) / 63) = round((16 * 8 ^ n - 9) / 63) = ceiling((8 * 8 ^ n - 8) / 63). a(n) = a(n - 2) + 8 ^ (n - 1), n > 2. - _ Mircea Merca _ , Dec 28 2010 •

[A033126] • 1,8,65,521,4168,33345,266761,2134088,17072705,136581641,1092653128,8741225025,69929800201,559438401608,4475507212865,3580405770292 1,286432461623368,2291459692986945,18331677543895561,14665342035116448 8,117322736280931590 5,9385818902474527241 ⋆ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. • a(n) = 8 * a(n - 1) + a(n - 3) - 8 * a(n - 4). • a(n) = floor((65 / 511) * 8 ^ n). - _ Tani Akinari _ , Jul 15 2014 •

[A041025] • 1,8,65,528,4289,34840,283009,2298912,18674305,151693352,1232221121,10009462320,81307919681,660472819768,5365090477825,435811966423 68,3540146636176 9,28756980550576520,233596027082289 29,1897525201714079 52,1541379764079492545 ⋆ Denominators of continued fraction convergents to sqrt(17). • a(n) = ((- i) ^ n) * S(n, 8 * i), with S(n, x) := U(n, x / 2) Chebyshev's polynomials of the second kind and i ^ 2 = - 1. See A049310. • a(n) = F(n, 8), the n - th Fibonacci polynomial evaluated at x=8. - _ T. D. Noe _ , Jan 19 2006 • a(n) = ((4 + sqrt(17)) ^ n - (4 - sqrt(17)) ^ n) / (2 * sqrt(17)); a(n) = sum _{ i=0..floor((n - 1) / 2) } binomial(n - 1 - i,i) * 8 ^ (n - 1 - 2i). - _ Sergio Falcon _ , Sep 24 2007 • a(n) = 8 * a(n - 1) + a(n - 2), n>1; a(0)=1, a(1)=8. - _ Philippe Deléham _ , Nov 20 2008 •

[A163459] • 1,8,65,534,4421,36796,307357,2573586,21584425,181223408,1522659737,12799736142,107631298349,905250578212,7614837072565,64060941839946,538955843348689,4534517540404184,381523209282701 93,321010168596786054 ⋆ a(n) = 14*a(n-1) - 47*a(n-2) for n > 1; a(0) = 1, a(1) = 8. • a(n) = ((2 + sqrt(2)) * (7 + sqrt(2)) ^ n + (2 - sqrt(2)) * (7 - sqrt(2)) ^ n) / 4. •

[A081190] • 1,8,65,536,4481,37928,324545,2803256,24405761,213887048,1884629825,16679193176,148135411841,1319377419368,11777507763905,105319346802296,943126559710721,8454906106826888,75861524447454785,681125306429182616 ⋆ 8th binomial transform of (1,0,1,0,1,.....), A059841. • a(n) = 16 * a(n - 1) - 63 * a(n - 2), a(0)=1, a(1)=8. • a(n) = 7 ^ n / 2 + 9 ^ n / 2. •

[A024105] • 1,8,65,648,6305,58424,530145,4780568,43042625,387413928,3486774401,31381044968,282429515745,2541865799768,22876792416545,205891132044024,1853020188786305,16677181699583048,150094635296894145 ⋆ 9^n-n^4. • a(0)=1, a(1)=8, a(2)=65, a(3)=648, a(4)=6305, a(5)=58424, a(n)=14 * a(n - 1) - 55 * a(n - 2) + 100 * a(n - 3) - 95 * a(n - 4) + 46 * a(n - 5) - 9 * a(n - 6). - _ Harvey P. Dale _ , Oct 07 2013 •

[A041114] • 8,65,1048,8449,136232,1098305,17709112,142771201,2302048328,18559157825,299248573528,2412547746049,38900012510312,31361264782854 5,5056702377767032,40767231669964801,657332409097203848,52994265044475 95585 ⋆ Numerators of continued fraction convergents to sqrt(66). • a(n) = 16 * a(n - 1) + a(n - 2) for n>=2 even and a(n) = 8 * a(n - 1) + a(n - 2) for n >= 2 odd. - _ Nathaniel Johnston _ , Jun 26 2011 • a(n) = 130 * a(n - 2) - a(n - 4). •

[A008893] • 0,8,66,258,710,1590,3108,5516,9108,14220,21230,30558,42666,5805 8,77280,100920,129608,164016,204858,252890,308910,373758,448316,533508,630300 ⋆ Number of equilateral triangles formed by triples of points taken from a hexagonal chunk of side n in the hexagonal lattice. • a(n) = n * (n + 1) * (7 * n ^ 2 + 7 * n + 2) / 4. •

[A121782] • 0,8,66,288,900,2280,4998,9856,17928,30600,49610,77088,115596,168168,238350,330240,448528,598536,786258,1018400,1302420,1646568,2059926,2552448,3135000 ⋆ Series expansion for mean-squared radius of gyration of rectangles on square lattice. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A190331] • 0,1,8,66,544,4484,36960,304648,2511104,20698128,170607232,1406254112,11591247360,95542487104,787522391552,6491264106624,53505157636096,441023789302016,3635200629688320,29963652616110592,246979622188261376,2035764282738312192 ⋆ a(n) = 8*a(n-1) + 2*a(n-2), with a(0)=0, a(1)=1. • a(n) = (1 / 12) * sqrt(2) * ((4 + 3 * sqrt(2)) ^ n - (4 - 3 * sqrt(2)) ^ n). - _ Paolo P. Lava _ , Nov 18 2011 •

[A162758] • 1,8,66,556,4748,40896,354136,3076688,26783376,233439616,2036119328,17767448256,155082786496,1353856391168,11820181297536,103205144171776,901143678718208,7868574870153216,68707438961107456,599949701428456448 ⋆ a(n) = 14*a(n-1)-46*a(n-2) for n > 1; a(0) = 1, a(1) = 8. • a(n) = ((3 + sqrt(3)) * (7 + sqrt(3)) ^ n + (3 - sqrt(3)) * (7 - sqrt(3)) ^ n) / 6. •

[A147959] • 1,8,66,560,4868,43168,388872,3545536,32618512,302072960,2810819616,26244590336,245642629184,2303117466112,21620036448384,203127300275200,1909594544603392,17959620096591872,168959059780059648 ⋆ a(n) = ((8 + sqrt(2))^n + (8 - sqrt(2))^n)/2. • a(n) = 16 * a(n - 1) - 62 * a(n - 2), n > 1; a(0)=1, a(1)=8. •

[A247112] • 0,8,67,267,746,1690,3333,5957,9892,15516,23255,33583,47022,64142,85561,111945,144008,182512,228267,282131,345010,417858,501677,597517,706476 ⋆ Floor of sums of the cubes of the non-integer square roots of n, as partitioned by the integer roots: floor(sum(j from n^2+1 to (n+1)^2-1, j^(3/2))). • a(n) = floor(sum(j = n ^ 2 + 1..(n + 1) ^ 2 - 1, j ^ (3 / 2))). • a(n) = n * (4 * n ^ 3 + 6 * n ^ 2 + 5 * n + 1) / 2. •

[A228419] • 1,8,67,539,5034,45549,416913,3570781,32517377,294828478,2681147149,23720397369 ⋆ Count of the first 10^n primes which do not contain the digit 7. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[A015574] • 0,1,8,67,560,4681,39128,327067,2733920,22852561,191022248,1596735667,13346952080,111565823641,932567445368,7795237033867,6515959860 7040,544662499957921,4552778795484488,38056217863749667,31810807929645 0800,265903328796285540 1,222265905415921956 08 ⋆ Expansion of x/(1 - 8*x - 3*x^2). • a(n) = 8 * a(n - 1) + 3 * a(n - 2). • a(n) = (1 / 38) * sqrt(19) * (4 + sqrt(19)) ^ n - (1 / 38) * sqrt(19) * (4 - sqrt(19)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A152055] • 1,8,67,584,5257,48488,455131,4324328,41426257,399036104,3857575987,37380013448,362768079961,3524108459048,34256882467147,333139503472424,3240562225062817,31527485889187208,306765478498163491 ⋆ a(n) = ((8+sqrt3)^n + (8-sqrt3)^n)/2. • a(n) = 16 * a(n - 1) - 61 * a(n - 2), n > 1; a(0)=1, a(1)=8. •

[A190510] • 0,1,8,68,576,4880,41344,350272,2967552,25141504,213002240,1804583936,15288680448,129527779328,1097376956416,9297126768640,7876652 1974784,667320682872832,5653631550881792,4789833513854566 4,4058012073 11892480,3438002999049322496 ⋆ a(n) = 8*a(n-1) + 4*a(n-2), with a(0)=0, a(1)=1. • a(n) = (1 / 20) * sqrt(5) * ((4 + 2 * sqrt(5)) ^ n - (4 - 2 * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Jun 01 2011 •

[A282563] • 1,8,68,596,5300,47444,425972,3829652,34450484,309988820,2789637236,25105686548,225946984628,2033506084436,18301487651060,164713120424084,1482417010074932,13341748795707092,120075721981494644,1080681429113975060 ⋆ One third of the number of edges in the metrically regular triangulation of the n-th approximation of the Koch snowflake fractal. • a(n + 1) = (1 / 5) * (4 * 9 ^ n + 4 ^ n) for all n > 0. • a(1)=1, a(2)=8, a(3)=68, a(n) = 13 * a(n - 1) - 36 * a(n - 2) for n > 2. •

[A163307] • 1,8,68,600,5408,49312,452416,4164096,38391040,354254336,3270354944,30197778432,278873280512,2575523676160,23786907123712,219693657980928,2029087298289664,18740701224894464,173089976023777280 ⋆ a(n) = 14*a(n-1) - 44*a(n-2) for n > 1; a(0) = 1, a(1) = 8. • a(n) = ((5 + sqrt(5)) * (7 + sqrt(5)) ^ n + (5 - sqrt(5)) * (7 - sqrt(5)) ^ n) / 10. •

[A068766] • 1,1,8,68,608,5664,54528,538944,5441024,55889408,582348800,6140864512,65414742016,702897995776,7609805045760,82929151328256,908978855215104,10014523823357952,110840574196580352,1231847926116384768 ⋆ Generalized Catalan numbers. • a(n)=(4 ^ n) * p(n, - 3 / 4) with the row polynomials p(n, x) defined from array A068763. • a(n + 1)= 4 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1=a(1). • a(n) = 2 ^ n * GegenbauerC(n - 1, - n, - 2) / (2 * n) for n>=1. - _ Peter Luschny _ , May 09 2016 •

[A015575] • 0,1,8,69,592,5081,43608,374269,3212192,27568881,236612008,2030740469,17428983792,149585572681,1283829500408,11018563866669,94567658435392,811634086816481,6965910986708808,59785458327752869,513113221555566992,4403833064083300281,37796230620444237208 ⋆ Expansion of x/(1 - 8*x - 5*x^2). • a(n) = 8 * a(n - 1) + 5 * a(n - 2). • a(n) = (1 / 42) * (4 + sqrt(21)) ^ n * sqrt(21) - (1 / 42) * sqrt(21) * (4 - sqrt(21)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A228421] • 1,8,69,620,5010,45732,418142,3785060,32579606,296601070,2683254222,24354108057 ⋆ Count of the first 10^n primes which do not contain the digit 9. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[A152109] • 1,8,69,632,6041,59368,593469,5992792,60870001,620345288,6334194549,64746740792,662230374281,6775628281768,69338460425709,709653298187032,7263483605875681,74346193100976008,760993556868950949 ⋆ a(n) = ((8+sqrt(5))^n + (8-sqrt(5))^n)/2. • a(n) = 16 * a(n - 1) - 59 * a(n - 2), n > 1; a(0)=1, a(1)=8. •

[A124152] • 0,8,70,360,1292,3640,8658,18200,34840,61992,104030,166408,255780,380120,548842,772920,1065008,1439560,1912950,2503592,3232060,4121208,5196290,6485080,8017992 ⋆ a(n) = Fibonacci(6, n). • a(n) = n * (3 + 4 * n ^ 2 + n ^ 4). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. •

[A293069] • 0,0,0,0,8,70,418,2156,10388,48342,220746,996996,4472564,19975774,88948426,395220140,1753302020,7768999014,34394485578,152166756084,672863006900,2974140030862,13142067477610,58058237351324,256439661695684

⋆ Sum of values of vertices of type E at level n of the hyperbolic Pascal pyramid PP_(4,5). • a(n) = 13 * a(n - 1) - 65 * a(n - 2) + 159 * a(n - 3) - 200 * a(n - 4) + 122 * a(n - 5) - 28 * a(n - 6), n >= 7. •

[A190560] • 0,1,8,70,608,5284,45920,399064,3468032,30138640,261917312,2276170336,19780866560,171903954496,1493916835328,12982758409600,112825568288768,980501096767744,8520962183874560,74050704051602944,643531405516070912,5592555468438184960 ⋆ a(n) = 8*a(n-1) + 6*a(n-2), with a(0)=0, a(1)=1. • a(n) = (1 / 44) * sqrt(22) * ((4 + sqrt(22)) ^ n - (4 - sqrt(22)) ^ n) . - _ Paolo P. Lava _ , Jun 01 2011 •

[A152263] • 1,8,70,656,6436,64928,665560,6883136,71527696,745221248,7774933600,81176105216,847871534656,8857730451968,92547138221440,967005845328896,10104359508418816,105583413105625088,1103281758201710080 ⋆ a(n) = ((8 + sqrt(6))^n + (8 - sqrt(6))^n)/2. • a(n) = 16 * a(n - 1) - 58 * a(n - 2), n > 1; a(0)=1, a(1)=8. •

[A198856] • 8,71,575,4607,36863,294911,2359295,18874367,150994943,1207959551,9663676415,77309411327,618475290623,4947802324991,39582418599935,316659348799487,2533274790395903,20266198323167231,162129586585337855 ⋆ a(n) = 9*8^n-1. • a(n) = 8 * a(n - 1) + 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. •

[A015576] • 0,1,8,71,624,5489,48280,424663,3735264,32854753,288984872,2541862247,22357792080,196655372369,1729747523512,15214567794679,133824775022016,1177100174738881,10353574823065160,91068299807693447,801021422223003696,7045649476437883697,61972345767064095448 ⋆ Expansion of x/(1 - 8*x - 7*x^2). • a(n) = 8 * a(n - 1) + 7 * a(n - 2). • a(n) = (1 / 46) * (4 + sqrt(23)) ^ n * sqrt(23) - (1 / 46) * (4 - sqrt(23)) ^ n * sqrt(23), with n >= 0. - _ Paolo P. Lava _ , Jun 25 2008 •

[A070998] • 1,8,71,631,5608,49841,442961,3936808,34988311,310957991,2763633608,24561744481,218292066721,1940066856008,17242309637351,153240719880151,1361924169284008,12104076803675921,107574767063799281,956068826770517608 ⋆ a(n) = 9*a(n-1) - a(n-2) for n > 0, a(0)=1, a(-1)=1. • a(n) * a(n + 3) = 63 + a(n + 1) * a(n + 2). - _ Ralf Stephan _ , May 29 2004 • a(n) = (- 1) ^ n * U(2n, i * sqrt(7) / 2), U(n, x) Chebyshev polynomial of second kind, i=sqrt(- 1). - _ Paul Barry _ , Mar 13 2005 • a(n) = (1 / 2) * ((9 / 2) + (1 / 2) * sqrt(77)) ^ (n + 1) + (1 / 22) * ((9 / 2) - (1 / 2) * sqrt(77)) ^ (n + 1) * sqrt(77) - (1 / 22) * ((9 / 2) + (1 / 2) * sqrt(77)) ^ (n + 1) * sqrt(77) + (1 / 2) * ((9 / 2) - (1 / 2) * sqrt(77)) ^ (n + 1). - _ Paolo P. Lava _ , Nov 20 2008 •

[A187709] • 1,8,71,638,5741,51668,465011,4185098,37665881,338992928,3050936351,27458427158,247125844421,2224132599788,20017193398091,180154740582818,1621392665245361,14592533987208248,131332805884874231,1181995252963868078,10637957276674812701,95741615490073314308,861674539410659828771 ⋆ (7*9^n+1)/8. • a(n) = (7 * 9 ^ n + 1) / 8. • a(n) = + 10 * a(n - 1) - 9 * a(n - 2). • a(n) = 8 * sum(a(i), i=0..n - 1) - n + 1. • a(n) = 9 ^ n - sum(9 ^ i, i=0..n - 1) for n>0. - _ Bruno Berselli _ , Jun 20 2013 •

[A152265] • 1,8,71,680,6833,70568,739607,7811336,82823777,879934280,9357993191,99571637096,1059740581649,11280265991912,120079042716599,1278289521926600,13608126915979457,144867527905855112 ⋆ a(n) = ((8+sqrt(7))^n + (8-sqrt(7))^n)/2. • a(n) = 16 * a(n - 1) - 57 * a(n - 2), n > 1; a(0)=1, a(1)=8. •

[A081178] • 1,1,8,71,680,6882,72528,788019,8766248,99362894,1143498224,13326176998,156950554384,1865210341828,22338852956064,269355965364459,3267146912972328,39837475762660374,488032452193307568 ⋆ a(0)=1; for n>=1, a(n) = sum(7^k*N(n,k), k=0..n), where N(n,k)=1/n*C(n,k)*C(n,k+1) are the Narayana numbers (A001263). • a(n) = (8(2n - 1)a(n - 1) - 36(n - 2)a(n - 2)) / (n + 1) for n>=2, a(0)=a(1)=1. - _ Philippe Deléham _ , Aug 19 2005 •

[A096341] • 1,8,71,694,7421,86276,1084483,14665106,212385209,3280842496,53862855551,936722974958,17205245113141,332864226563324,6766480571358971,144202473398010826,3215159679583864433 ⋆ E.g.f.: exp(x)/(1-x)^7. • a(n) = Sum _{ k = 0..n } binomial(n, k) * (k + 6)! / 6!. • a(n) = 2F0(7, - n;; - 1). - _ Benedict W. J. Irwin _ , May 27 2016 •

[A199687] • 8,71,701,7001,70001,700001,7000001,70000001,700000001,7000000001,70000000001,700000000001,7000000000001,70000000000001,700000000000001,7000000000000001,70000000000000001 ⋆ 7*10^n+1. • a(n) = 10 * a(n - 1) - 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A097255] • 0,8,72,80,648,656,720,728,5832,5840,5904,5912,6480,6488,6552,6560,52488,52496,52560,52568,53136,53144,53208,53216,58320 ⋆ Numbers whose set of base 9 digits is {0,8}. • a(2n) = 9 * a(n), a(2n + 1) = a(2n) + 8. •

[A254371] • 0,8,72,288,800,1800,3528,6272,10368,16200,24200,34848,48672,66248,88200,115200,147968,187272,233928,288800,352800,426888,512072,609408,720000 ⋆ Sum of cubes of the first n even numbers (A016743). • a(n) = 2 * n ^ 2 * (n + 1) ^ 2. •

[A143945] • 0,8,72,320,1000,2520,5488,10752,19440,33000,53240,82368,123032,178360,252000,348160,471648,627912,823080,1064000,1358280,1714328,2141392,2649600,3250000 ⋆ Wiener index of the grid P_n x P_n, where P_n is the path graph on n vertices. • a(n) = n ^ 3 * (n ^ 2 - 1) / 3. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), a(2)=8, a(3)=72, a(4)=320, a(5)=1000, a(6)=2520, a(7)=5488. - _ Harvey P. Dale _ , Feb 07 2014 •

[A082141] • 1,8,72,480,2640,12672,54912,219648,823680,2928640,9957376,32587776,103194624,317521920,952565760,2794192896,8033304576,22682271744,63006310400,172438323200,465583472640,1241555927040,3273192898560 ⋆ A transform of C(n,7). • a(n) = (2 ^ (n - 1) + 0 ^ n / 2)C(n + 7,n). • a(n) = Sum _{ j=0..n } C(n + 7, j + 7) * C(j + 7, 7) * (1 + (- 1) ^ j) / 2. • a(n) = ceil(binomial(n + 7,7) * 2 ^ (n - 1)). - _ Zerinvary Lajos _ , Nov 01 2006 •

[A052379] • 8,72,584,4680,37448,299592,2396744,19173960,153391688,1227133512,9817068104,78536544840,628292358728,5026338869832,40210710958664,321685687669320,2573485501354568,20587884010836552,164703072086692424 ⋆ Number of integers from 1 to 10^(n+1)-1 that lack 0 and 1 as a digit. • a(n) = (8 ^ (n + 2) - 1) / 7 - 1. • a(n) = 8 * a(n - 1) + 8. • a(n) = sum(k=1..n, 8 ^ k). - corrected by _ Michel Marcus _ , Sep 25 2014 • a(0)=8, a(1)=72, a(n)=9 * a(n - 1) - 8 * a(n - 2). - _ Harvey P. Dale _ , Sep 22 2013 •

[A158798] • 1,8,72,584,5192,42568,374856,3099208,27089992,225439304,1959198792,16387314248,141776036936,1190564148808,10264230512712,86460336036424,743371088849992,6279832595181128,53852582281580616,455569868373172808 ⋆ a(n)=a(n-1)+64*a(n-2), a(0)=1, a(1)=8. • a(n)=(1 / 2) *{ [(1 / 2) + (1 / 2) * sqrt(257)] ^ n + [(1 / 2) - (1 / 2) * sqrt(257)] ^ n }+ (15 / 514) * sqrt(257) *{ [(1 / 2) + (1 / 2) * sqrt(257)] ^ n - [(1 / 2) - (1 / 2) * sqrt(257)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Mar 30 2009] •

[A057091] • 1,8,72,640,5696,50688,451072,4014080,35721216,317882368,2828828672,25173688320,224020135936,1993550594048,17740565839872,157872931471360,1404907978489856,12502247279689728,111257242065436672,990075914761011200,8810665254611582976 ⋆ Scaled Chebyshev U-polynomials evaluated at i*sqrt(2). Generalized Fibonacci sequence. • a(n) = 8 * (a(n - 1) + a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, i * 2 * sqrt(2)) * (- i * 2 * sqrt(2)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = - (1 / 6) * sqrt(6) * [4 - 2 * sqrt(6)] ^ n + (1 / 2) * [4 + 2 * sqrt(6)] ^ n + (1 / 6) * [4 + 2 * sqrt(6)] ^ n * sqrt(6) + (1 / 2) * [4 - 2 * sqrt(6)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jul 08 2008 •

[A155198] • 1,8,72,656,5976,54440,495936,4517864,41156712,374928272,3415511160,31114528712,283446269568,2582130954824,23522624862984,214285754721680,1952094417358104,17783135510944616,162000314015859648 ⋆ a(n)=9*a(n-1)+a(n-2), n>2 ; a(0)=1, a(1)=8, a(2)=72 . • a(n)=4 *{ [(9 / 2) - (1 / 2) * sqrt(85)] ^ (n - 1) + [(9 / 2) + (1 / 2) * sqrt(85)] ^ (n - 1) }+ (36 / 85) * sqrt(85) *{ [(9 / 2) + (1 / 2) * sqrt(85)] ^ (n - 1) - [(9 / 2) - (1 / 2) * sqrt(85)] ^ (n - 1) }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A147840] • 1,8,72,656,5984,54592,498048,4543744,41453056,378180608,3450181632,31476371456,287162261504,2619811643392,23900818341888,218049690271744,1989290355982336,18148506037649408,165570737528635392 ⋆ a(n)=10*a(n-1)-8*a(n-2), a(0)=1, a(1)=8 . • a(n)=(1 / 2) * (5 + sqrt(17)) ^ n - (3 / 34) * sqrt(17) * [5 - sqrt(17)] ^ n + (1 / 2) * [5 - sqrt(17)] ^ n + (3 / 34) * [5 + sqrt(17)] ^ n * sqrt(17), with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] • a(n)= ((17 + 3 * sqrt(17)) / 34) * (5 + sqrt(17)) ^ n + ((17 - 3 * sqrt(17)) / 34) * (5 - sqrt(17)) ^ n [From _ Richard Choulet _ , Nov 20 2008] •

[A078995] • 1,8,72,664,6184,57888,543544,5113872,48180456,454396000,4288773152,40503496536,382701222296,3617396099936,34203591636048,323492394385824,3060238763412072,28955508198895584,274018698082833760,2593539713410178528,24550565251665845664 ⋆ a(n) = Sum_{k=0..n} C(4*k,k)*C(4*(n-k),n-k). • a(n) = 2 / 3 * (256 / 27) ^ n * (1 + c / sqrt(n) + o(n ^- 1 / 2)) where c = 2 / 3 * sqrt(2 / (3 * Pi)) = 0.307105910641187... More generally, a(n, m)=sum(k=0, n, binomial(m * k, k) * binomial(m * (n - k), n - k)) is asymptotic to 1 / 2 * m / (m - 1) * (m ^ m / (m - 1) ^ (m - 1)) ^ n. See A000302, A006256 for cases m=2 and 3. - _ Benoit Cloitre _ , Jan 26 2003, corrected and extended by _ Vaclav Kotesovec _ , Nov 06 2012 • a(n) = sum(k=0,n,binomial(4 * k + l,k) * binomial(4 * (n - k) - l,n - k)) for every real number l. - _ Rui Duarte _ and António Guedes de Oliveira, Feb 16 2013 • a(n) = sum(k=0,n,3 ^ (n - k) * binomial(4n + 1,k)). - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 • a(n) =sum(k=0,n,4 ^ (n - k) * binomial(3n + k,k)) . - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 •

[A082414] • 1,8,72,688,6752,67008,668032,6672128,66688512,666754048,6667016192,66668064768,666672259072,6666689036288,66666756145152,666667024580608,6666668098322432,66666672393289728,666666689573158912,6666666758292635648 ⋆ (2*10^n+4^n)/3. • a(n)=(2 * 10 ^ n + 4 ^ n) / 3. •

[A145303] • 1,8,72,704,7232,76288,815616,8777728,94769152,1024753664,11088986112,120037572608,1299617939456,14071782965248,152369922834432,1649898919297024,17865667030024192,193456332999753728 ⋆ a(n) = ((8 + sqrt(8))^n + (8 - sqrt(8))^n)/2. • a(n) = 16 * a(n - 1) - 56 * a(n - 2). •

[A098411] • 1,8,72,704,7264,77568,847104,9394176,105334272,1190899712,13551235072,154997784576,1780378353664,20522842062848,237284128063488,2750571189633024,31956067676454912,371997834879172608,4337957919010062336,50664706036388069376,592558533060795039744 ⋆ Expansion of 1/(sqrt(1-4x)sqrt(1-12x)). • a(n) = sum { k=0..n, 3 ^ k * binomial(2k, k) * binomial(2(n - k), n - k) } . • a(n) = 4 ^ n * hypergeometric([- n, 1 / 2], [1], - 2). - _ Peter Luschny _ , May 19 2015 •

[A165323] • 1,8,72,712,7496,81864,911944,10263752,116119368,1317149128,14959895624,170020681416,1932918264136,21978286879688,249924108049992,2842099476549832,32320548186147656,367554952665320904 ⋆ a(0)=1, a(1)=8, a(n)=17*a(n-1)-64*a(n-2) for n>1. • a(n) = ((33 - sqrt(33)) * (17 + sqrt(33)) ^ n + (33 + sqrt(33)) * (17 - sqrt(33)) ^ n) / (66 * 2 ^ n). [From _ Klaus Brockhaus _ , Sep 28 2009] •

[A082366] • 1,8,72,712,7560,84616,985032,11814728,145043208,1813915912,23029334856,296050614216,3846007927944,50412893051784,665925356663496,8855844075949128,118467982501096968,1593108078166843912 ⋆ G.f.: (1-7*x-sqrt(49*x^2-18*x+1))/(2*x). • a(0)=1, n>0 a(n)=(1 / n) * sum(k=0, n, 8 ^ k * C(n, k) * C(n, k - 1)). •

[A049388] • 1,8,72,720,7920,95040,1235520,17297280,259459200,415134720

0,70572902400,1270312243200,24135932620800,482718652416000,10137091700736000,223016017416192000,5129368400572416000 ⋆ a(n) = (n+7)!/7!. • a(n) = (n + 7)! / 7! •

[A015577] • 0,1,8,73,656,5905,53144,478297,4304672,38742049,348678440,3138105961,28242953648,254186582833,2287679245496,20589113209465,185302018885184,1667718169966657,15009463529699912,135085171767299209,1215766545905692880,10941898913151235921 ⋆ a(n+1) = 8*a(n) + 9*a(n-1), a(0) = 0, a(1) = 1. • a(n) = (9 ^ n - (- 1) ^ n) / 10. (End) • a(n) = 9 ^ (n - 1) - a(n - 1). - _ Emeric Deutsch _ , Apr 01 2004 • a(n) = round(9 ^ n / 10). - _ Mircea Merca _ , Dec 28 2010 •

[A082764] • 1,8,73,674,6229,57572,532117,4918166,45456841,420141248,3883214593,35891157194,331729069789,3066052597532,28338422486797,261921856685246,2420849609444881,22375043097652088,206804483710406713 ⋆ Trinomial transform of the Pell numbers (A000129). • a(n) = Sum[Trinomial[n, k] Pell[k], { k, 0, 2n }] where Trinomial[n, k] = trinomial coefficients (A027907) •

[A190953] • 0,1,8,74,672,6116,55648,506344,4607232,41921296,381442688,3470754464,31580462592,287351245376,2614614588928,23790429165184,216469579210752,1969660925337856,17921983194810368,163072474811861504,1483799630442995712,13501121791662580736 ⋆ a(n) = 8*a(n-1) + 10*a(n-2), with a(0)=0, a(1)=1. • a(n) = 1 / 52 * sqrt(26) * ((4 + sqrt(26)) ^ n - (4 - sqrt(26)) ^ n). - _ Paolo P. Lava _ , Jun 01 2011 •

[A288487] • 1,8,75,400,1445,4056,9583,20000,38025,67240,112211,178608,273325,404600,582135,817216,1122833,1513800,2006875,2620880,3376821,4298008,5410175,6741600,8323225 ⋆ Cuboids that fit in square rings from A288486 obtaining a fifth power. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A015578] • 0,1,8,75,688,6329,58200,535219,4921952,45263025,416245672,3827858651,35201571600,323719017961,2976969431288,27376664647875,251759980927168,2315223158543969,21291145058550600,195796615212388459,1800575517343164272,16558366906081587225,152273265939427504792 ⋆ Expansion of x/(1-8*x-11*x^2). • a(n) = 8 * a(n - 1) + 11 * a(n - 2). • a(n) = - (1 / 18) * sqrt(3) * [4 - 3 * sqrt(3)] ^ n + (1 / 18) * sqrt(3) * [4 + 3 * sqrt(3)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 25 2008 •

[A145600] • 1,8,75,784,8820,104544,1288287,16359200,212751396,2821056160,38013731756,519227905728,7174705330000,100136810390400,1409850293610375,20002637245262400,285732116760449700 ⋆ a(n) is the number of walks from (0,0) to (0,1) that remain in the upper half-plane y >= 0 using (2*n - 1) unit steps either up (U), down (D), left (L) or right (R). • a(n) = 1 / n * binomial(2 * n,n + 1) * binomial(2 * n,n - 1). •

[A094735] • 0,1,1,8,75,796,8051,73788,623155,4965836,38028051,283400668,2072874035,14966280876,107083717651,761327161148,5388524417715,38017832427916,267623218488851,1880883687651228,13203904989574195,92616374066478956,649261556308773651 ⋆ Number of connected 3-element multiantichains on a labeled n-set. • a(n) = (7 ^ n - 6 * 5 ^ n + 20 * 3 ^ n + 3 * 4 ^ n - 39 * 2 ^ n + 35) / 6, n > 0. - _ Benedict W. J. Irwin _ , May 25 2016 •

[A239549] • 0,1,8,76,704,6544,60800,564928,5249024,48771328,453158912,4210527232,39122124800,363503325184,3377492099072,31381976694784,291585718747136,2709269470314496,25173184387481600,233896708743626752,2173251882598793216 ⋆ Expansion of x/(1-8*x-12*x^2). • a(n) = 8 * a(n - 1) + 12 * a(n - 2) for n > 1 and a(0)=0, a(1)=1. • a(n) = (1 / (4 * sqrt(7))) * ((4 + 2 * sqrt(7)) ^ n - (4 - 2 * sqrt(7)) ^ n). • a(n + 1) = b(n) = sum(binomial(n - k, k) * 8 ^ (n - 2 * k) * 12 ^ k, k = 0..floor(n / 2)), n>=0, b(- 1) := 0. From Morse code counting, with n - 2 * k the number of dots and k the number of dashes for code length n. See the comment and example for b(3) = S(3) above. - _ Wolfdieter Lang _ , Mar 26 2014 •

[A083234] • 1,8,76,752,7504,75008,750016,7500032,75000064,750000128,7500000256,75000000512,750000001024,7500000002048,75000000004096,750000000008192,7500000000016384,75000000000032768,750000000000065536 ⋆ (3*10^n+2^n)/4 • a(n)=(3 * 10 ^ n + 2 ^ n) / 4 G.f. (1 - 4x) / ((1 - 10x)(1 - 2x)) E.g.f. (3exp(10x) + exp(2x)) / 4 •

[A024103] • 1,8,77,720,6545,59024,531405,4782920,43046657,387420408,3486784301,31381059488,282429536337,2541865828160,22876792454765,205891132094424,1853020188851585,16677181699666280,150094635296998797 ⋆ 9^n-n^2. • a(n) = 12 * a(n - 1) - 30 * a(n - 2) + 28 * a(n - 3) - 9 * a(n - 4) for n>3. - _ Vincenzo Librandi _ , Oct 06 2014 •

[A187638] • 1,1,1,8,77,824,9448,113728,1419349,18215576,239034104,3194168768,43331889928,595375647424,8270102936896,115966112244224,1639592525879333,23350785267093848,334714889445506584,4825695011761675456,69936530485677013528 ⋆ A convolution of binomial coefficients. • a(n) = (1 / 8) * sum(C(2k,k) ^ 2 / (2k - 1) * C(2n - 2k,n - k) ^ 2 / (2n - 2k - 1), k=0..n) for n >= 1. •

[A155600] • 1,8,78,722,6546,59018,531378,4782842,43046466,387419978,3486783378,31381057562,282429532386,2541865820138,22876792438578,205891132061882,1853020188786306,16677181699535498,150094635296736978 ⋆ 9^n-2^n+1^n • a(n)=11 * a(n - 1) - 18 * a(n - 2) + 8 with a(0)=1, a(1)=8 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A199758] • 8,78,848,9318,102488,1127358,12400928,136410198,1500512168,16505633838,181561972208,1997181694278,21968998637048,241658985007518,2658248835082688,29240737185909558,321648109045005128,3538129199495056398 ⋆ 7*11^n+1 • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A024102] • 1,8,79,726,6557,59044,531435,4782962,43046713,387420480,3486784391,31381059598,282429536469,2541865828316,22876792454947,205891132094634,1853020188851825,16677181699666552,150094635296999103 ⋆ 9^n-n. • a(n) = 11 * a(n - 1) - 19 * a(n - 2) + 9 * a(n - 3). - _ Vincenzo Librandi _ , Jun 17 2013 •

[A144410] • 8,80,224,440,728,1088,1520,2024,2600,3248,3968,4760,5624,6560,7568,8648,9800,11024,12320,13688,15128,16640,18224,19880,21608 ⋆ a(n) = 4*(3*n+1)*(3*n+2). • a(n) = a(m) + 36 * (n - m) * (n + m + 1). For m = n - 1, a(n) = a(n - 1) + 72 * n. - _ Bruno Berselli _ , Sep 29 2017 •

[A100431] • 8,80,336,960,2200,4368,7840,13056,20520,30800,44528,62400,85176,113680,148800,191488,242760,303696,375440,459200,556248,667920,795616,940800,1105000 ⋆ Bisection of A002417. • a(n) = (4 / 3) * (2 * n ^ 4 + 11 * n ^ 3 + 22 * n ^ 2 + 19 * n + 6). - _ Ralf Stephan _ , May 15 2007 •

[A102698] • 8,80,368,1264,3448,7792,16176,30696,54216,90104,143576,220328,326680,471232,664648,916344,1241856,1655208,2172584,2812664,3598664,4553800,5702776,7075264,8705088 ⋆ Number of equilateral triangles with coordinates (x,y,z) in the set {0, 1,...,n}. • a(n) approximately equals n ^ 4.989; also lim log(a(n)) / log(n) exists. - _ Eugen J. Ionascu _ , Dec 09 2006 •

[A159710] • 0,0,0,0,8,80,528,2912,14592,69120,316160,1413632,6223872,27103232,117067776,502456320,2145517568,9122349056,38644678656,163186343936,687144960000,2886107922432,12094385684480,50577004298240,211105074905088 ⋆ Number of permutations of 1..n arranged in a circle with exactly 2 local maxima. • a(n) = 2 ^ (- 5 + n) * (4 + 2 ^ n - 4 * n) * n for n>1. - _ Colin Barker _ , Oct 26 2015 •

[A145729] • 0,8,80,664,5344,42792,342384,2739128,21913088,175304776,1402438288,11219506392,89756051232,718048409960,5744387279792,45955098238456,367640785907776,2941126287262344,23529010298098896,188232082384791320 ⋆ Partial sums of A052379. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) + 8 * a(n - 3). G.f.: - 8 * x / ((x - 1) ^ 2 * (8 * x - 1)). - _ Colin Barker _ , Oct 27 2014 •

[A024101] • 0,8,80,728,6560,59048,531440,4782968,43046720,387420488,3486784400,31381059608,282429536480,2541865828328,22876792454960,205891132094648,1853020188851840,16677181699666568,150094635296999120 ⋆ a(n) = 9^n-1. • a(n) = 9 * a(n - 1) + 8 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 19 2010 • a(0)=0, a(1)=8; for n>1, a(n) = 10 * a(n - 1) - 9 * a(n - 2). - _ Harvey P. Dale _ , Apr 14 2015 • a(n) = Sum _{ i=1..n } 8 ^ i * binomial (n-n - i) for n>0, a(0)=0. [_ Bruno Berselli _ , Nov 11 2015] •

[A291181] • 8,80,792,7840,77608,768240,7604792,75279680,745192008,7376640400,73021211992,722835479520,7155333583208,70830500352560,701149669942392,6940666199071360,68705512320771208,680114457008640720,6732439057765635992,66644276120647719200 ⋆ p-INVERT of the positive integers, where p(S) = 1 - 8*S. • a(n) = 10 * a(n - 1) - a(n - 2). •

[A155144] • 1,8,80,792,7848,77760,770472,7634088,75641040,749476152,7426054728,73579777920,729052493832,7223690445768,71574686456400,709185392119512,7026840707183208,69624234893724480,689859680408169192 ⋆ a(n)=9*a(n-1)+9*a(n-2), n>2; a(0)=1, a(1)=8, a(2)=80. • a(n)=4 *{ [(9 / 2) + (3 / 2) * sqrt(13)] ^ (n - 1) + [(9 / 2) - (3 / 2) * sqrt(13)] ^ (n - 1) }+ (44 / 39) * sqrt(13) *{ [(9 / 2) + (3 / 2) * sqrt(13)] ^ (n - 1) - [(9 / 2) - (3 / 2) * sqrt(13)] ^ (n - 1) }+ (1 / 9) * [C(2 * n,n) mod 2], with n>=0. - _ Paolo P. Lava _ , Jan 26 2009 •

[A102592] • 1,8,80,832,8704,91136,954368,9994240,104660992,1096024064,11477712896,120196169728,1258710630400,13181388849152,138037296103424,1445545331654656,15137947242201088,158526641599938560 ⋆ a(n)=sum k=0..n, C(2n+1,2k)5^(n-k). • a(n)=sum { k=0..n, C(2n + 1, k + 1)5 ^ k } ; - _ Paul Barry _ , May 27 2005 •

[A053175] • 1,8,80,896,10816,137728,1823744,24862720,346498048,4911669248,70560071680,1024576061440,15008466534400,221460239482880,3287994183188480,49074667327062016,735814252604162048 ⋆ Catalan-Larcombe-French sequence. • a(n) * n ^ 2 = a(n - 1) * 8 * (3 * n ^ 2 - 3 * n + 1) - a(n - 2) * 128 * (n - 1) ^ 2. - _ Michael Somos _ , Apr 01 2003 • a(n) = 2 ^ n * sum _{ k=0..n }(-1)^ n C(n,k) * C(2k,k) * C(2(n - k),n - k), where C(n,k)=n! / (k!(n - k)!. This formula has been proved via the Zeilberger algorithm (both sides of the equality satisfy the same recurrence relation). a(n) / 2 ^ n also has another expression: sum _{ k=0 }^{ floor(n / 2) } C(n,2k) * C(2k,k) ^ 2 * 4 ^ (n - 2k). - _ Zhi - Wei Sun _ , Mar 21 2013 • a(n) = (- 1) ^ n * Sum _{ k=0..n } C(2k,k) * C(2(n - k),n - k) * C(k,n - k) * (- 4) ^ k. I have proved this new formula via the Zeilberger algorithm. - _ Zhi - Wei Sun _ , Nov 19 2014 •

[A002072] • 1,8,80,4374,9800,123200,336140,11859210,11859210,177182720,1611308699,3463199999,63927525375,421138799639,1109496723125,1453579866024,20628591204480,31887350832896,31887350832896,119089041053696,2286831727304144,9591468737351909375,9591468737351909375,9591468737351909375,9591468737351909375 ⋆ a(n) = smallest number m such that for all k > m, either k or k+1 has a prime factor > prime(n). • a(n) < 10 ^ n / n except for n=4. (Conjectured, from experimental data.) - _ M. F. Hasler _ , Jan 16 2015 •

[A098308] • 0,1,8,81,800,7921,78408,776161,7683200,76055841,752875208,7452696241,73774087200,730288175761,7229107670408,71560788528321,708378777612800,7012226987599681,69413891098384008,687126683996240401 ⋆ Unsigned member r=-8 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 10 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 9 * a(n - 1) + 9 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=8. • a(x)=1 / 12(2 * (- 1) ^ x + (5 + 2 * Sqrt[6])(5 - 2 * Sqrt[6]) ^ x + (5 - 2 * Sqrt[6])(5 + 2 * Sqrt[6]) ^ x). - _ Harvey P. Dale _ , Aug 11 2013 •

[A055996] • 1,8,81,810,8100,81000,810000,8100000,81000000,810000000,8100000000,81000000000,810000000000,8100000000000,81000000000000,810000000000,8100000000000000,81000000000000000,810000000000000000 ⋆ a(n) =

81*10^(n-2), a(0)=1, a(1)=8. • a(n)=10a(n - 1) + [(- 1) ^ n] * C(2, 2 - n). G.f.(x)=(1 - x) ^ 2 / (1 - 10x). •

[A207994] • 8,81,853,9075,96831,1034073,11045757,117997043,1260537911,13466147569,143857201093,1536809621307,16417559602831,175386899980873,1873638094198285,20015860487662275,213827138093982759 ★ Number of nX5 0..2 arrays with new values 0..2 introduced in row major order and no element equal to any horizontal or vertical neighbor (colorings ignoring permutations of colors). • a(n) = 16 * a(n - 1) - 65 * a(n - 2) + 92 * a(n - 3) - 48 * a(n - 4) + 8 * a(n - 5). •

[A179980] • 1,8,83,826,8265,82644,826447,8264462,82644629,826446280,8264462811,82644628098,826446280993,8264462809916,82644628099175,826446280991734,8264462809917357,82644628099173552,826446280991735539 ★ a(n)=10*a(n-1)+/- n • a(n)= + 8 * a(n - 1) + 19 * a(n - 2) + 10 * a(n - 3). G.f.: - x / ((10 * x - 1) * (1 + x) ^ 2). a(n) = (10 ^ (n + 1) - 11 * n * (- 1) ^ n - 10 * (- 1) ^ n) / 121. [From _ R. J. Mathar _ , Aug 06 2010] •

[A093103] • 1,8,85,848,8569,86360,870829,8780192,88528945,892615592,9000032581,90745188080,914962188841,9225346460408,93016977648925,937868096859968,9456301305507169,95345640478116680,961347451240583989 ★ a(1)=1, a(2)=8, a(n+2) = 8*a(n+1) + 21*a(n). • a(n)=(1 / 2) * [4 - sqrt(37)] ^ n + (2 / 37) * sqrt(37) * [4 + sqrt(37)] ^ n + (1 / 2) * [4 + sqrt(37)] ^ n - (2 / 37) * [4 - sqrt(37)] ^ n * sqrt(37), with n>=0 - _ Paolo P. Lava _ , Jul 08 2008 •

[A180582] • 1,8,86,776,7010,63674,578090,5247824,47640092,432480632,3926091512,35641352528,323554871864,2937255393440,26664624744320,242063463190976,2197470272854016,19948799940346880,181096701955896896,1644009442040416928,14924441010395894048,135485194778650515104 ★ Number of Hamilton cycles in C_6 X P_n. • a(1) = 1, a(2) = 8, a(3) = 86, a(4) = 776, a(5) = 7010, a(6) = 63674, a(7) = 578090, a(8) = 5247824 and a(n) = - 12 * a(n - 7) - 32 * a(n - 6) - 36 * a(n - 5) - 28 * a(n - 4) + 10 * a(n - 3) + 9 * a(n - 1), n>8. •

[A239753] • 1,1,8,87,1312,24685,564336,15168811 ★ Number of pairs of functions (f,g) on a set of n elements into itself satisfying f(x) = g(f(g(x)). • a(n) <= n ^ 2n. - _ Charles R Greathouse IV _ , Mar 26 2014 •

[A284069] • 8,88,89,98,888,889,898,899,988,989,998,8888,8889,8898,8899,8988,8989,8998,8999,9888,9889,9898,9899,9988,9989 ★ Numbers whose smallest decimal digit is 8. • a(2 * j + 2 ^ (m + 1) - m - 3) = 10 * a(j + 2 ^ m - m - 1) + 8 for j=1..2 ^ m - 1. • a(2 * j + 2 ^ (m + 1) - m - 2) = 10 * a(j + 2 ^ m - m - 1) + 9 for j=1..2 ^ m - 1. • a(2 ^ (m + 1) - m - 2) = 10 ^ m - 2. (End) •

[A271939] • 8,88,776,6424,52040,418264,3351944,26833048,214716872,1717892440,13743611912,109950312472,879606751304,7036866765016,56294972388880,450359893862296,3602879495272136,28823036995298392,230584299061751048,1844674401792100120 ★ Number of edges in the n-th order Sierpinski carpet graph. • a(n) = 8 * (8 ^ n - 3 ^ n) / 5. •

[A053376] • 8,88,888,1888,81888,181888,8181888,18181888,118181888,8118181888,88118181888,888118181888,8888118181888,88888118181888,888888118181888,8888888118181888,18888888118181888,181888888118181888 ★ a(n) contains n digits (either '1' or '8') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (8 - 7 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with an 8, if not then n - th term begins with a 1. •

[A053377] • 8,88,888,3888,33888,333888,3333888,83333888,383333888,3383333888,33383333888,833383333888,8833383333888,88833383333888,888833383333888,8888833383333888,88888833383333888,888888833383333888 ★ a(n) contains n digits (either '3' or '8') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (8 - 5 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with an 8, if not then n - th term begins with a 3. •

[A053378] • 8,88,888,5888,85888,885888,8885888,58885888,558885888,8558885888,58558885888,858558885888,5858558885888,85858558885888,585858558885888,5585858558885888,55585858558885888,855585858558885888 ★ a(n) contains n digits (either '5' or '8') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (8 - 3 * [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with an 8, if not then n - th term begins with a 5. •

[A053379] • 8,88,888,7888,77888,877888,7877888,87877888,787877888,8787877888,88787877888,888787877888,8888787877888,88888787877888,788888787877888,8788888787877888,88788888787877888,887888888787877888 ★ a(n) contains n digits (either '7' or '8') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (8 - [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with an 8, if not then n - th term begins with a 7. •

[A002282] • 0,8,88,888,8888,88888,888888,8888888,88888888,888888888,8888888888,88888888888,888888888888,8888888888888,88888888888888,888888888888888,8888888888888888,88888888888888888,888888888888888888,8888888888888888888 ★ a(n) = 8*(10^n - 1)/9. • a(n) = 10 * a(n - 1) + 8, with a(0)=0. - _ Paolo P. Lava _ , Jan 23 2009 • a(n) = 11a(n - 1) - 10a(n - 2), with a(0)=0, a(1)=8. G.f.: 8x / ((1 - x)(1 - 10x)). - _ Jaume Oliver Lafont _ , Feb 03 2009 • a(n) = a(n - 1) + 8 * 10 ^ (n - 1), with a(0)=0. - _ Vincenzo Librandi _ , Jul 22 2010 • a(n) = floor(8 * 10 ^ n / 9). (End) •

[A053380] • 8,88,888,9888,89888,989888,9989888,89989888,989989888,8989989888,98989989888,898989989888,8898989989888,88898989989888,998898989989888,8998898989989888,98998898989989888,898998898989989888 ★ a(n) contains n digits (either '8' or '9') and is divisible by 2^n. • a(n)=a(n - 1) + 10 ^ (n - 1) * (8 + [a(n - 1) / 2 ^ (n - 1) mod 2]) i.e. a(n) ends with a(n - 1); if (n - 1) - th term is divisible by 2 ^ n then n - th term begins with an 8, if not then n - th term begins with a 9. •

[A099100] • 1,8,89,987,10946,121393,1346269,14930352,165580141,1836311903,20365011074,225851433717,2504730781961,27777890035288,308061521170129,3416454622906707,37889062373143906,420196140727489673,4660046610375530309,51680708854858323072,573147844013817084101,6356306993006846248183 ★ a(n) = Fibonacci(5*n+1). • a(n) = 11 * a(n - 1) + a(n - 2); [corrected by _ Philippe Deléham _ , Nov 16 2008] • a(n) = Sum _{ k=0..5 * n } binomial(k, 5 * n - k). • a(n) = - (1 / 10) * ((11 / 2) - (5 / 2) * sqrt(5)) ^ n * sqrt(5) + (1 / 2) * ((11 / 2) - (5 / 2) * sqrt(5)) ^ n + (1 / 10) * sqrt(5) * ((11 / 2) + (5 / 2) * sqrt(5)) ^ n + (1 / 2) * ((11 / 2) + (5 / 2) * sqrt(5)) ^ n. - _ Paolo P. Lava _ , Nov 19 2008 •

[A116149] • 8,91,405,1196,2800,5643,10241,17200,27216,41075,59653,83916,114920,153811,201825,260288,330616,414315,512981,628300,762048,916091,1092385,1292976,1520000 ★ a(n) = sum of n consecutive cubes after n^3. • a(n) = (1 / 4) * n ^ 2 * (1 + 3 * n) * (3 + 5 * n). •

[A190943] • 0,1,8,91,944,10009,105560,1114723,11767904,124240753,1311659432,13847775787,146197010960,1543466033929,16295047567352,172033963454899,1816237991957696,19174820948943841,202436993374408520,2137216112616751867 ★ a(n) = 8*a(n-1) + 27*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((4 + sqrt(43)) ^ n - (4 - sqrt(43)) ^ n) / (2 * sqrt(43)). •

[A155615] • 1,8,92,974,9920,99758,999272,9997814,99993440,999980318,9999940952,99999822854,999999468560,9999998405678,99999995217032,999999985651094,9999999956953280,99999999870859838,999999999612579512 ★ 10^n - 3^n + 1. • a(n) = 13 * a(n - 1) - 30 * a(n - 2) + 18 with a(0)=1, a(1)=8. - _ Vincenzo Librandi _ , Jul 21 2010 •

[A133271] • 1,8,92,1093,13021,155156,1848848,22031017,262523353,3128249216,37276467236,444189357613,5292995824117,63071760531788,751568130557336,8955745806156241,106717381543317553,1271652832713654392 ★ Indices of 7-gonal numbers which are also centered 7-gonal numbers. • a(n + 2)=12 * a(n + 1) - a(n) - 3 ; a(n + 1)=6 * a(n) - 1.5 + 0.5 * (140 * a(n) ^ 2 - 84 * a(n) - 7) ^ 0.5 • a(n)=3 / 10 + (7 / 20) * [6 - sqrt(35)] ^ (n - 1) + (1 / 20) * sqrt(35) * [6 + sqrt(35)] ^ (n - 1) + (7 / 20) * [6 + sqrt(35)] ^ (n - 1) - (1 / 20) * [6 - sqrt(35)] ^ (n - 1) * sqrt(35), with n>=1 - _ Paolo P. Lava _ , Jul 08 2008 • a(1)=1, a(2)=8, a(3)=92, a(n)=13 * a(n - 1) - 13 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 24 2013 •

[A099142] • 1,8,92,1184,15632,207488,2757056,36643328,487039232,6473467904,86042074112,1143628341248,15200538791936,202038000386048,2685388609667072,35692849740775424,474411605904392192 ★ 6^n*T(n,4/3). • a(0)=1, a(1)=8, a(n)=16 * a(n - 1) - 36 * a(n - 2) for n>1 . [From _ Philippe Deléham _ , Sep 08 2009] •

[A007556] • 1,1,8,92,1240,18278,285384,4638348,77652024,1329890705,23190029720,410333440536,7349042994488,132969010888280,2426870706415800,44627576949364104,826044435409399800,15378186970730687400 ★ Number of 8-ary trees with n vertices. • a(0) = 1; a(n) = Sum _{ i1 + i2 + ..i8=n - 1 } a(i1) * a(i2) * ... * a(i8) for n>=1. - _ Robert FERREOL _ , Apr 01 2015 • a(n) = binomial(8 * n,n - 1) / n for n>=1, a(0) = 1 (from the Lagrange series of the o.g.f. A(x) with its above given implicit equation). • a(n) are special values of Jacobi polynomials, in Maple notation: •

[A087579] • 1,8,93,976,10505,112344,1203397,12885152,137979729,1477507240,15821470061,169419470448,1814178395353,19426591805816,208023907911765,2227562425662784,23853192734743457,255424852222168392,2735141407084907389,29288451971122142480 ★ a(n)=(1/6)*sum(k=0,n,binomial(n,k)*Fibonacci(k)*6^k) • a(n)=8 * a(n - 1) + 29 * a(n - 2) • a(n)=(1 / 2) * [4 - 3 * sqrt(5)] ^ n - (2 / 15) * [4 - 3 * sqrt(5)] ^ n * sqrt(5) + (2 / 15) * [4 + 3 * sqrt(5)] ^ n * sqrt(5) + (1 / 2) * [4 + 3 * sqrt(5)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 25 2008 •

[A121161] • 0,8,94,997,10013,100052,999587,9998539,99998243,1000001596,10000042120 ★ Nearest integer to log(LCM[1,2,3,...,10^n]). • a(n)=Sum _{ i=1..PrimePi(10 ^ n) } log(p _ i ^ e _ i), where e is the maximum exponent such that p ^ e<10 ^ n. - _ Robert G. Wilson v _ , Aug 16 2006 •

[A098269] • 1,8,94,1232,16966,240368,3468844,50712992,748553926,11131168688,166498969924,2502416381792,37759888297756,571681667171168,8679980422677784,132116085646644032,2015249400937940806 ★ 2^n*P_n(4), 2^n times the Legendre polynomial of order n at 4. • a(n) = sum { k=0..floor(n / 2), (- 1) ^ k * binomial(n, k) * binomial(2(n - k), n) * 4 ^ (n - 2k) } . • a(n) = Sum _{ k=0..n } binomial(n,k) ^ 2 * 3 ^ k * 5 ^ (n - k). - _ Paul D. Hanna _ , Sep 29 2012 •

[A116144] • 0,8,96,768,5120,30720,172032,917504,4718592,23592960,115343360,553648128,2617245696,12213813248,56371445760,257698037760,1168231104512,5257039970304,23502061043712,104453604638720,461794883665920 ★ (n^2+n)*4^n. • a(n) = 12 * a(n - 1) - 48 * a(n - 2) + 64 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 •

[A099675] • 8,96,984,9872,98760,987648,9876536,98765424,987654312,9876543200,98765432088,987654320976,9876543209864,98765432098752,987654320987640,9876543209876528,98765432098765416,987654320987654304 ★ Partial sums of repdigits of A002282. • a(n) = (8 / 81) * (10 ^ (n + 1) - 9 * n - 10). - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 •

[A060458] • 8,96,992,9984,99968,999936,9999872,99999744,999999488,9999998976,99999997952,999999995904,9999999991808,99999999983616,999999999967232,9999999999934464,99999999999868928,999999999999737856 ★ Maximal value seen in the final n decimal digits of 2^j for all values of j. • a(n) = 10 ^ n - 2 ^ n = 2 ^ n * (5 ^ n - 1). • a(n) = 12 * a(n - 1) - 20 * a(n - 2); O.g.f.:1 / (1 - 10x) - 1 / (1 - 2x). - _ Geoffrey Critzer _ , Dec 15 2011 • a(n) = f(n,0); Given f(x,y)=sum { j=0..x + y - 1 } (2 ^ (3 * x - 2 * j) * binomial(x,j)). - _

R. J. Cano _ , May 15 2014 ●

[A173834] ● 1,8,96,994,9992,99990,999988,9999986,99999984,999999982,9999999980,99999999978,999999999976,9999999999974,99999999999972,999999999999970,9999999999999968,99999999999999966,999999999999999964 ★ a(n)=10^n-2*n ● a(n) = 10 * a(n - 1) + 18 * n - 38 = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). - _ Vincenzo Librandi _ , Jul 15 2012 ●

[A199029] ● 8,98,1088,11978,131768,1449458,15944048,175384538,1929229928,21221529218,233436821408,2567805035498,28245855390488,310704409295378,3417748502249168,37595233524740858,413547568772149448,4549023256493643938 ★ 9*11^n-1. ● a(n) = 11 * a(n - 1) + 10. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2). ●

[A286841] ● 0,8,99,1958,28322,228249,2827300,55922199,808904403,978194233 4,52199939826,603633907222,11356596271444,11356596271444,18286072358 24962,37264994707118563,651495710876207647,5974828584341646375,492269 08181248336040 ★ One of the two successive approximations up to 13^n for 13-adic integer sqrt(-1). Here the 8 (mod 13) case (except for n=0). ● a(0) = 0 and a(1) = 8, a(n) = a(n - 1) + 4 * (a(n - 1) ^ 2 + 1) mod 13 ^ n for n > 1. ●

[A083227] ● 1,8,100,800,10000,80000,1000000,8000000,100000000,800000000,10000000000,80000000000,1000000000000,8000000000000,100000000000000,800000000000000,10000000000000000,80000000000000000 ★ (9*10^n+(-10)^n)/10. ● a(n) = (9 * 10 ^ n + (- 10) ^ n) / 10. ●

[A229282] ● 0,8,100,1088,11008,106496,999424,9175040,82837504,738197504,6509559808,56908316672,493921239040,4260607557632,36558761623552,312261302288384,2656420092706816,22517998136852480,190277084256403456,1603281467343896576,13474770085092524032 ★ Number of ascending runs in {1,...,8}^n. ● a(n) = 2 ^ (3 * n - 4) * (9 * n + 7) for n>0, a(0) = 0. ●

[A001657] ● 1,8,104,1092,12376,136136,1514513,16776144,186135312,2063912136,22890661872,253854868176,2815321003313,31222272414424,346260798314872,3840089017377228,42587248616222024,472299787252290712,5237885063192296801,58089034826620525728 ★ Fibonomial coefficients: column 5 of A010048. ● a(n) = Fibonacci(n + 3) * (Fibonacci(n + 3) ^ 4 - 1) / 30. - _ Gary Detlefs _ , Apr 24 2012 ● a(n) = a(- 6 - n) * (- 1) ^ n for all n in Z. - _ Michael Somos _ , Sep 19 2014 ●

[A155632] ● 1,8,106,1268,14386,160028,1767466,19470788,214293346,2357685548,25936376026,285307476308,3138411599506,34522645035068,379749565147786,4177247095673828,45949725568604866,505447011319424588 ★ 11^n-4^n+1^n ● a(n)=15 * a(n - 1) - 44 * a(n - 2) + 30 with a(0)=1, a(1)=8 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A129278] ● 1,8,106,1558,23589,360499,5530445,85040656,1310211074,20223812711,312728963211,4844238210807,75161494829564,1167972975649534,18175688264003359,283219807758089612,4418626917709277371 ★ Column 2 of triangle A129276; a(n) is the coefficient of q^(2n+2) in the squared q-factorial of n+2. ● a(n) = [q ^ (2n + 2)] Product _{ i=1..n + 2 } { (1 - q ^ i) / (1 - q) }^ 2. ●

[A053536] ● 1,8,112,1280,15616,186368,2240512,26869760,322502656,3869769728,46438285312,557255229440 ★ Expansion of 1/((1+4*x)*(1-12*x)). ● a(n) = (4 ^ n / 4) * ((3 ^ (n + 1)) + (- 1) ^ n). ● a(n) = 8a(n - 1) + 48a(n - 2); a(0)=1. ●

[A139741] ● 0,8,112,1304,14560,160808,1770832,19484984,214352320,2357928008,25937365552,285311493464,3138427845280,34522710549608,379749828800272,4177248155066744,45949729820525440,505447028370153608,5559917313104810992,61159090447252284824 ★ 11^n-3^n. ● a(n) = 14 * a(n - 1) - 33 * a(n - 2). [_ Vincenzo Librandi _ , Jun 02 2011] ●

[A067900] ● 0,8,112,1560,21728,302632,4215120,58709048,817711552,11389252680,158631825968,2209456310872,30773756526240,428623135056488,5969950134264592,83150678744647800,1158139552290804608 ★ a(n) = 14*a(n-1) - a(n-2); a(0) = 0, a(1) = 8. ● a(n) = - (1 / 3) * sqrt(3) * [7 - 4 * sqrt(3)] ^ n + (1 / 3) * sqrt(3) * [7 + 4 * sqrt(3)] ^ n, with n>=0. [_ Paolo P. Lava _ , Oct 02 2008] ●

[A155460] ● 1,1,8,113,1296,15905,190744,2305297,27788832,335270209,4043814440,48778755761,588376953648,7097174661473,85607868020536,1032624502576465,12455781553617984,150244853055190657,1812292120568806472 ★ a(n)=8*a(n-1)+49*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=8 . ● a(n)=(1 / 2) *{ [4 - sqrt(65)] ^ (n - 1) + [4 + sqrt(65)] ^ (n - 1) }+ (2 / 65) * sqrt(65) *{ [4 + sqrt(65)] ^ (n - 1) - [4 - sqrt(65)] ^ (n - 1) }+ [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] ●

[A046914] ● 0,8,117,1340,14211,146078,1480437,14902280,149511591,1497558338,14987792457,149938963820,1499694822171,14998474116998,149992370597277,1499961853010960,14999809265103951,149999046325618058,149999523162 8286897 ★ Sum of aliquot factors (divisors excluding the number itself) of 10^n. ● a(n) = (2 ^ (n + 1) - 1) * (5 ^ (n + 1) - 1) / 4 - 10 ^ n. - _ Giovanni Resta _ , Jul 24 2015 ●

[A086302] ● 8,120,528,1520,3480,6888,12320,20448,32040,47960,69168,96720,131768,175560,229440,294848,373320,466488,576080,703920,851928,1022120,1216608,1437600,1687400 ★ a(n) = 4*n^4 + 24*n^3 + 48*n^2 + 36*n + 8. ● a(n) = 4 * (n + 1) * (n + 2) * (n ^ 2 + 3 * n + 1). - _ Bruno Berselli _ , Mar 26 2012 ●

[A053129] ● 8,120,792,3432,11440,31824,77520,170544,346104,657800,1184040,2035800,3365856,5379616,8347680,12620256,18643560,26978328,38320568,53524680,73629072,99884400,133784560,177100560,231917400 ★ Binomial coefficients C(2n-6,7). ● a(n) = binomial(2 * n - 6, 7) if n >= 7 else 0. ●

[A249641] ● 0,0,8,120,1016,8520,68552,551496,4415048,35344632,282781304,2262444024,18099745784,144799511928,1158397641080,9267193490808,7413760288632,59310058118215 2,474480474833031 2,37958438777603016,30366751101 1784648,2429340094421767752 ★ Number of strings of length n over an 8-letter alphabet that begin with a nontrivial palindrome. ● a(0) = 0; a(1) = 0; a(n + 1) = 8 * a(n) + 8 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)). ●

[A165231] ● 1,8,120,1856,28736,444928,6888960,106663936,1651511296,25570869248,395921817600,6130182127616,94915539501056,1469607174995968,22754390483927040,352313390342864896,5454979121614422016 ★ a(0)=1, a(1)=8, a(n)=16*a(n-1)-8*a(n-2) for n>1 . ● a(n) = (1 / 2) * ((8 + 2 * sqrt(14)) ^ n + (8 - 2 * sqrt(14)) ^ n), n>=0 [From Paolo P. Lava, Sep 16 2009] ●

[A004381] ● 1,8,120,2024,35960,658008,12271512,231917400,4426165368,85113005120,1646492110120,32006008361808,624668654531480,12233149001721760,240260199935164200,4730523156632595024 ★ Binomial coefficient C(8n,n). ● a(n) = C(8 * n - 1,n - 1) * C(64 * n ^ 2,2) / (3 * n * C(8 * n + 1,3)), n>0. - _ Gary Detlefs _ , Jan 02 2014 ●

[A016791] ● 8,125,512,1331,2744,4913,8000,12167,17576,24389,32768,42875,54872,68921,85184,103823,125000,148877,175616,205379,238328,274625,314432,357911,405224 ★ a(n) = (3n + 2)^3. ● a(0)=8, a(1)=125, a(2)=512, a(3)=1331, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Feb 20 2013 ●

[A110272] ● 0,1,8,125,1728,24389,343000,4826809,67917312,955671625,13447314152,189218084021,2662500456000,37464224551181,527161643971768,7417727240640625,104375343011770368,1468672529408250769 ★ Pell(n)^3. ● a(n) = 12 * a(n - 1) + 30 * a(n - 2) - 12 * a(n - 3) - a(n - 4). ● a(n) = Pell(3n) / 8 - 3 * (- 1) ^ n * Pell(n) / 8. ●

[A215040] ● 1,8,125,2197,39304,704969,12649337,226981000,4073003173,73087061741,1311494070536,23533806109393,422297015640625,7577812474746632,135978327528030989,2440032083025183109,43784599166913148552 ★ a(n) = F(2*n+1)^3, n>=0, with F = A000045 (Fibonacci). ● a(n) = F(2 * n + 1) ^ 3, n>=0, with F=A000045. ● a(n) = (12 * F(2 * n + 1) + F(6 * (n + 1)) - F(6 * n)) / 20, n>=0. ●

[A236549] ● 8,126,1052,11170,112828,1159416,11869768,121668290,1246778828,12777339246,130942887644,1341919081864,13752130924072,140933387857374,1444301049348172,14801358544973954,151685974693256396,1554494806744974072,15930636349271455016 ★ The number of independent sets in L(J_n), the line graph of the flower snark graph J_n. ● a(n) is tr(A ^ n), where A is a 20x20 matrix relating independent sets of { a _ j,...,f _ j } to independent sets of { a _ k,...,f _ k } , k=j + 1 (mod n). ●

[A001081] ● 1,8,127,2024,32257,514088,8193151,130576328,2081028097,33165873224,528572943487,8424001222568,134255446617601,2139663144659048,34100354867927167,543466014742175624,8661355881006882817 ★ a(n) = 16*a(n-1) - a(n-2). ● a(n) = ((8 + 3 * sqrt(7)) ^ n + (8 - 3 * sqrt(7)) ^ n) / 2. ● a(n) = 16 * a(n - 1) - a(n - 2) with a(1)=1 and a(2)=8. - _ Sture Sjöstedt _ , Nov 18 2011 ●

[A036294] ● 0,8,128,1536,16384,163840,1572864,14680064,134217728,1207959552,10737418240,94489280512,824633720832,7146825580544,61572651155456,527765581332480,4503599627370496,38280596832649216,324259173170675712,2738188573441261568,23058430092136939520 ★ a(n) = n * 8^n. ● a(n) = 16 * a(n - 1) - 64 * a(n - 2). - _ Vincenzo Librandi _ , Aug 09 2017 ●

[A133680] ● 1,8,128,1600,22016,291328,3915776,52301824,700350464,9368535040,125373513728,1677522632704,22447074050048,300358221955072,4019055107244032,53778232838717440,719597830431309824 ★ a(n)=8*a(n-1)+72*a(n-2) for n>=3, a(0)=1, a(1)=8, a(2)=128 . ● a(n)=4 * [4 + 2 * sqrt(22)] ^ (n - 1) + 4 * [4 - 2 * sqrt(22)] ^ (n - 1) + (12 / 11) * [4 + 2 * sqrt(22)] ^ (n - 1) * sqrt(22) - (12 / 11) * [4 - 2 * sqrt(22)] ^ (n - 1) * sqrt(22) + (1 / 9) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Aug 28 2008] ●

[A013777] ● 8,128,2048,32768,524288,8388608,134217728,2147483648,34359738368,549755813888,8796093022208,140737488355328,2251799813685248,36028797018963968,576460752303423488,9223372036854775808 ★ 2^(4n+3). ● a(n)=16 * a(n - 1), n>0 ; a(0)=8 . G.f.: 8 / (1 - 16x). - _ Philippe Deléham _ , Nov 23 2008 ●

[A041115] ● 1,8,129,1040,16769,135192,2179841,17573920,283362561,2284474408,36834953089,296964099120,4788260539009,38603048411192,622437035118081,5018099329355840,80912026304811521,652314309767848008,1051794098259037649 ★ Denominators of continued fraction convergents to sqrt(66). ● a(n) = 16 * a(n - 1) + a(n - 2) for n >= 2 even and a(n) = 8 * a(n - 1) + a(n - 2) for n >= 2 odd. - _ Nathaniel Johnston _ , Jun 26 2011 ● a(n) = 130 * a(n - 2) - a(n - 4). ●

[A079912] ● 1,8,133,1044,5794,24720,86608,260720,693552,1666000,3675680,7549488,14591440,26770832,46955760,79197040,129067568,204062160,314062912,471875120,693838800,1000520848,1417492880,1976199792,2714924080 ★ Solution to the Dancing School Problem with 7 girls and n+7 boys: f(7,n). ● a(0) = 1, a(1) = 8, a(2) = 133, a(3) = 1044, a(4) = 5794; for n>4, a(n) = n ^ 7 - 14 * n ^ 6 + 126 * n ^ 5 - 700 * n ^ 4 + 2625 * n ^ 3 - 6342 * n ^ 2 + 9072 * n - 5840. ●

[A061996] ● 0,0,0,8,140,964,3920,11860,29708,65240,129984,240240,418220,693308,1103440,1696604,2532460,3684080,5239808,7305240,10005324,13486580,17919440,23500708,30456140 ★ Number of ways to place 3 nonattacking kings on an n X n board. ● a(n) = (n - 1) * (n - 2) * (n ^ 4 + 3 * n ^ 3 - 20 * n ^ 2 - 30 * n + 132) / 6, n >= 1. ●

[A180357] ● 0,8,142,2208,16412,78160,279978,823592,2097208,4783032,10000070,19487248,35831892,62748608,105413602,170859480,268435568,410338792,612220158,893871872,1280000140,1801088688,2494358042 ★ a(n) = n^7 + 7*n. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n > 7. ●

[A112464] • 8,143,1343,8823,45543,196707,739347,2483547,7599867,21492097,56794705,141485305,334639305,755863605,1638428805,3422280285,6912424485,13541987610,25799313210,47907161610,86882479530,154161302130,268050218130,457369908930,766795640130 ★ Absolute value of coefficient of term [x^(n-8)] in characteristic polynomial of maximum matrix A of size n X n, where n >= 8. Maximum matrix A(i,j) is MAX(i,j), where indices i and j run from 1 to n. • a(n) = ((15n + 8) / 16!) * Product _{ i= - 7..7 } (n + i). •

[A212703] • 8,144,1944,23328,262440,2834352,29760696,306110016,3099363912,30993639120,306837027288,3012581722464,29372671794024,284688972772848,2745215094595320,26354064908115072,252010745683850376,2401514164751985936,22814384565143866392 ★ Main transitions in systems of n particles with spin 4. • a(n) = n * (b - 1) * b ^ (n - 1). For this sequence, set b=9. • a(n) = 18 * a(n - 1) - 81 * a(n - 2). - _ Colin Barker _ , Jun 16 2015 •

[A065409] • 1,8,144,2432,40000,649728,10486784,168681472,2708038656,43425996800,695894425600,11146676797440,178493059563520,2857665426882560,45744737668300800,732196083173687296,11718755500209471488 ★ Fennessey-Larcombe-French sequence. • a(n) = 8 ^ n * 4F3([5 / 4, 1 / 2, (1 / 2) - n / 2, - n / 2], [1, 1, 1 / 4] | 1). • a(n) * (n ^ 3 - n ^ 2) = a(n - 1) * (8 - 32 * n ^ 2 + 24 * n ^ 3) + a(n - 2) * (256 * n ^ 2 - 128 * n ^ 3). - _ Michael Somos _ , Mar 04 2003 • a(n) = 2 ^ n * Sum _{ k=0..n } (4 * k ^ 2 - 2 * k - 1) / (2 * k - 1) * binomial(n, k) * binomial(2 * n - 2 * k, n - k) * binomial(2 * k, k). - _ Vladeta Jovovic _ , Jun 02 2005 •

[A064755] • 8,161,2186,26243,295244,3188645,33480782,344373767,3486784400,34867844009,345191655698,3389154437771,33044255768276,320275094369453,3088366981419734,29648323021629455,283512088894331672,2701703435345984177 ★ a(n) = n*9^n - 1. • a(n) = 19 * a(n - 1) - 99 * a(n - 2) + 81 * a(n - 3) for n > 3. •

[A001534] • 8,170,494,980,1628,2438,3410,4544,5840,7298,8918,10700,12644,14750,17018,19448,22040,24794,27710,30788,34028,37430,40994,44720,48608 ★ (9n+1)(9n+8). • a(n) = 162 * n + a(n - 1) with a(0)=8. - _ Vincenzo Librandi _ , Nov 12 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0)=8, a(1)=170, a(2)=494. [Harvey P. Dale, Aug 20 2011] •

[A129004] • 8,192,2304,20480,153600,1032192,6422528,37748736,212336640,1153433600,6090129408,31406948352,158779572224,789200240640,3865470566400,18691697672192,89369679495168,423037098786816 ★ (n^3+n^2)*4^n. • a(1)=8, a(2)=192, a(3)=2304, a(4)=20480, a(n)=16 * a(n - 1) - 96 * a(n - 2) + 256 * a(n - 3) - 256 * a(n - 4). [_ Harvey P. Dale _ , May 12 2011] •

[A239222] • 1,8,216,1000,2744,8000,13824,74088,125000,216000,512000,1000000,1061208,2000376,2299968,2744000,4741632,5832000,8000000,8242408,8489664,9261000,10941048,12812904,13824000 ★ Cubes that are divisible by each of their nonzero digits. • a(n) = A239221 ^ (n) ^ 3. - _ Michel Marcus _ , Mar 19 2014 •

[A145418] • 0,1,8,236,1696,32675,301384,4638576,49483138,681728204,7837276902,102283239429,1220732524976,15513067188008,188620289493918,2365714170297014,29030309635705054,361749878496079778 ★ Number of Hamilton cycles in P_8 X P_n. • a(1) = 0, • a(2) = 1, • a(3) = 8, • a(4) = 236, • a(5) = 1696, • a(6) = 32675, •

[A128787] • 0,8,256,4608,65536,819200,9437184,102760448,1073741824,10871635968,107374182400,1039382085632,9895604649984,92908732547072,862017116176384,7916483719987200,72057594037927936,650770146155036672 ★ n^2*8^n. • a(n) = 24 * a(n - 1) - 192 * a(n - 2) + 512 * a(n - 3). - _ Vincenzo Librandi _ , Feb 06 2013 •

[A060859] • 8,288,675,9800,235224,332928,1825200,11309768,384199200,592192224,4931691075,13051463048,221322261600,443365544448,865363202000,8192480787000,13325427460800,15061377048200,511643454094368 ★ Powerful numbers of the form k^2 - 1 such that k^2 is also powerful. • a(n) = k ^ 2 - 1 and a(n) + 1 = k ^ 2 are consecutive powerful numbers. •

[A016875] • 8,343,1728,4913,10648,19683,32768,50653,74088,103823,140608,185193,238328,300763,373248,456533,551368,658503,778688,912673,1061208,1225043,1404928,1601613,1815848 ★ (5n+2)^3. • a(0)=8, a(1)=343, a(2)=1728, a(3)=4913, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Apr 30 2013 •

[A054326] • 8,480,12672,219648,2928640,32587776,317521920,2794192896,22682271744,172438323200,1241555927040,8538764083200,56469693136896,361019918516224,2240813287342080,13550896696786944,80073480481013760 ★ Eighth unsigned column of Lanczos triangle A053125 (decreasing powers). • a(0)=8, a(1)=480, a(2)=12672, a(3)=219648, a(4)=2928640, a(5)=32587776, a(6)=317521920, a(7)=2794192896, a(n)=32 * a(n - 1) - 448 * a(n - 2) + 3584 * a(n - 3) - 17920 * a(n - 4) + 57344 * a(n - 5) - 114688 * a(n - 6) + 131072 * a(n - 7) - 65536 * a(n - 8). - _ Harvey P. Dale _ , Oct 23 2012 •

[A030654] • 8,497,9352,81473,451976,1863793,6230792,17817857,45159688,103980401,221416328,441884737,834981512,1505831153,2608352776,4361946113,7072141832,11155800817,17171487368,25855681601 ★ n^4*a(n) is number of spheres in complex projective space tangent to 4 smooth surfaces of degree n in general position. • a(n) = n ^ 8 + 4 * n ^ 6 - 2 * n ^ 4 + 4 * n ^ 2 + 1. • a(1)=8, a(2)=497, a(3)=9352, a(4)=81473, a(5)=451976, a(6)=1863793, a(7)=6230792, a(8)=17817857, a(9)=45159688, a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale, Apr 10 2012 •

[A228292] • 0,8,510,9840,87380,488280,2015538,6725600,19173960,48427560,111111110,235794768,469070940,883708280,1589311290,2745954240,4581298448,7411742280,11668193550,17927094320,26947368420,39714002328,57489010370,81870575520,114861197400 ★ a(n) = Sum_{k=1..8} n^k. • a(1) = 8, else a(n) = (n ^ 9 - n) / (n - 1). • a(0)=0, a(1)=8, a(2)=510, a(3)=9840, a(4)=87380, a(5)=488280, a(6)=2015538, a(7)=6725600, a(8)=19173960, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jan 28 2014 •

[A128794] • 0,8,512,13824,262144,4096000,56623104,719323136,8589934592,97844723712,1073741824000,11433202941952,118747255799808,1207813523111936,120682396264693 76,1187472557998080 00,1152921504606846976 ★ n^3*8^n. • a(n) = 32 * a(n - 1) - 384 * a(n - 2) + 2048 * a(n - 3) - 4096 * a(n - 4). - _ Vincenzo Librandi _ , Feb 10 2013 •

[A272357] • 0,8,520,4056,15656,42880,95808,187040,331696,547416,854360,1275208,1835160,2561936,3485776,4639440,6058208,7779880,9844776,12295736,15178120,18539808,22431200,26905216,32017296 ★ a(n) = n*(105*n^3 - 210*n^2 + 147*n - 34). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), for n>4. •

[A270871] • 8,691,5030,25511,100372,324323,898706,2206135,4914656,10116467,19506238,35604071,62028140,103822051,167841962,263208503,401828536,598991795,874047446,1251165607,1760188868,2437578851,3327462850,4482785591,5966571152 ★ a(n) = n^7 + 6*n^6 + 26*n^5 + 73*n^4 + 152*n^3 + 222*n^2 + 203*n + 8. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A001547] • 8,792,4320,12650,27840,51948,87032,135150,198360,278720,378288,499122,643280,812820,1009800,1236278,1494312,1785960,2113280,2478330,2883168,3329852,3820440,4356990,4941560 ★ (7*n+1)*(7*n+2)*(7*n+4). • a(0)=8, a(1)=792, a(2)=4320, a(3)=12650, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 12 2013 •

[A017187] • 8,1331,8000,24389,54872,103823,175616,274625,405224,571787,778688,1030301,1331000,1685159,2097152,2571353,3112136,3723875,4410944,5177717,6028568,6967871,8000000,9129329 ★ (9*n+2)^3. • a(0)=8, a(1)=1331, a(2)=8000, a(3)=24389, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 27 2014 •

[A114617] • 1,8,1520,50624,62000,103040,199808,221840,269360,463760,690560,848240,986048,1252160,1418480,2169728,2692880,2792240,3448448,3721040,3932288,5574320,5716880,6066368,6890624 ★ Numbers n such that n and n+1 are both refactorable numbers. • a(n) mod tau(a(n)) = 0 and (a(n) + 1) mod tau(a(n) + 1) = 0 where tau(n) is the number of divisors of n. - _ Walter Kehowski _ , Jun 19 2006 •

[A242852] • 0,8,10864,235416,1905632,9409960,34356048,102213944,262184896,600940872,1260879920,2463542488,4538833824,7960697576,13389885712,21724469880,34158739328,52251130504,78001833456,113940720152,163226239840,229755926568,318289163984,434582852536 ★ 128*n^7-192*n^5+80*n^3-8*n. • a(n) = 8 * n * (2 * n ^ 2 - 1) * (8 * n ^ 4 - 8 * n ^ 2 + 1). •

[A160743] • 0,8,17593,389112,3169562,15694600,57385803,170880248,438565492,1005601032,2110507325,4124403448,7599974478,13331249672,22425272527,36386743800,57216718568,87526438408,130667379777,190878599672,273452459650,384919809288,533255710163 ★ 8*P_7(n), 8 times the Legendre Polynomial of order 7 at n. • a(n) = n * (429 * n ^ 6 - 693 * n ^ 4 + 315 * n ^ 2 - 35) / 2. - _ Vaclav Kotesovec _ , Jul 31 2013 •

[A123651] • 8,141485,130914100,17251189841,764209065776,16940083223773,232729381165100,2252358161564225,16679754951397336,100010100010101101 0,505481836542757988,2218718842990269265,8650720586711446400 ★ a(n) = 1 + n^2 + n^3 + n^5 + n^7 + n^11 + n^13 + n^17. • a(n) = 1 + n ^ 2 + n ^ 3 + n ^ 5 + n ^ 7 + n ^ 11 + n ^ 13 + n ^ 17 = 100010100010101101 (base n) = +/- (n ^ 2 + 1) * (n ^ 15 - n ^ 13 + 2n ^ 11 - n ^ 9 + n ^ 7 + n ^ 3 + 1). •

[A275485] • 1,1,1,1,9,9,9,9,21,25,25,25,37,45,49,49,69,69,77,81,101,109,117,117,141 ★ Number of integer lattice points from an n X n square in R^2 centered at the origin that are closer (measured using the Euclidean metric) to the origin than to any of the four sides of the square. • a(n) = (2 * floor(n * (sqrt(2) - 1) / 2) + 1) ^ 2 + 4 * Sum _{ i=ceiling(- n * (sqrt(2) - 1) / 2)..floor(n * (sqrt(2) - 1) / 2) } ceiling(n / 4 - i ^ 2 / n) - 1 - floor(n * (sqrt(2) - 1) / 2). •

[A168419] • 0,9,9,18,18,27,27,36,36,45,45,54,54,63,63,72,72,81,81,90,90,99,99,108,108 ★ a(n) = 9*floor(n/2). • a(n) = 9 * n - a(n - 1) - 9, with n>1, a(1)=0. • a(n) = (9 / 4) * (- 1 + (- 1) ^ n + 2 * n). - _ Paolo P. Lava _ , Nov 27 2009 • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Sep 19 2013 •

[A022092] • 0,9,9,18,27,45,72,117,189,306,495,801,1296,2097,3393,5490,8883,14373,23256,37629,60885,98514,159399,257913,417312 ★ Fibonacci sequence beginning 0, 9. • a(n) = round((18phi - 9) / 5 phi ^ n) (works for n>4) - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = 9F(n) = F(n + 4) + F(n + 1) + F(n - 2) + F(n - 4), n>3. •

[A095344] • 1,1,9,9,49,81,281,601,1729,4129,11049,27561,71761,182001,469049,1197049,3073249,7861441,20154441,51600201,132217969,338618769,867490649,2221965721,5691928321 ★ Length of n-th string generated by a Kolakoski(9,1) rule starting with a(1)=1. • a(1) = a(2) = 1; for n>1, a(n) = a(n - 1) + 4 * a(n - 2) - 4 * (- 1) ^ n. • a(n) = 5 * a(n - 2) + 4 * a(n - 3). - _ Colin Barker _ , Mar 25 2012 • a(n) = 2 * (- 1) ^ n + (2 ^ (- 1 - n) * (- (- 7 + sqrt(17)) * (1 + sqrt(17)) ^ n - (1 - sqrt(17)) ^ n * (7 + sqrt(17)))) / sqrt(17). - _ Colin Barker _ , Apr 20 2016 •

[A124116] • 1,1,9,9,559,847,15127,54621,54621,5893321,167459299 ★ a(n) the smallest positive integer such that a(n)+10^k is prime for k=1,2...n. • a(n) = = 0 (mod 7) for n>5. •

[A020723] • 9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33 ★ n+9. • a(n) = n + 9. a(n) = 2a(n - 1) - a(n - 2). •

[A058365] • 1,1,1,1,1,1,1,9,10,11,12,13,14,15,16,25,35,46,58,71,85,100,116,141,176 ★ Number of ways to cover (without overlapping) a ring lattice (necklace)

of n sites with molecules that are 8 sites wide. • a(n) = 1 + n * sum(binomial (n - 1 - 7 * i, i - 1) / i, i=1..n / 8). a(n) = a(n - 1) + a(n - 8), a(n) = 1 for n = 1..7, a(8) = 9. generating function = (x + 8 * x ^ 8) / (1 - x - x ^ 8). •

[A121816] • 9,10,11,12,13,14,16,17,19,20,22,23,25,26,28,29,31,32,34,35,37,38,40,41,43 ⋆ Conjectured chromatic number of the square of an outerplanar graph G^2 as a function of the maximum degree of a vertex of G. • a(n) = n + 5 if 4 <= n <= 7; floor[3 * n / 2] + 1 if n => 8. • a(n) = (3 + (- 1) ^ n + 6 * n) / 4 for n>7. a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: x ^ 4 * (x ^ 6 - 8 * x ^ 2 + x + 9) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Apr 30 2013 •

[A054967] • 0,1,9,10,11,19,20,21,29,30,31,39,40,41,49,50,51,59,60,61,69,70,71,79,80 ⋆ Numbers that are congruent to {0, 1, 9} mod 10. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , Feb 24 2016 • a(n) = (30 * n - 30 + 21 * cos(2 * n * Pi / 3) + 7 * sqrt(3) * sin(2 * n * Pi / 3)) / 9. • a(3k) = 10k - 1, a(3k - 1) = 10k - 9, a(3k - 2) = 10k - 10. (End) •

[A048592] • 9,10,12,15,19,25,33,44,59,80,109,149,204,280,385,530,730,1006,1387,1913,2639,3641,5024,6933,9568 ⋆ Pisot sequence L(9,10). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - a(n - 5) (holds at least up to n = 1000 but is not known to hold in general). •

[A242475] • 9,10,12,16,24,40,72,136,264,520,1032,2056,4104,8200,16392,32776,65544,131080,262152,524296,1048584,2097160,4194312,8388616,16777224 ⋆ a(n) = 2^n + 8. • a(n) = 2 * a(n - 1) - 8 = 3 * a(n - 1) - 2 * a(n - 2). •

[A247512] • 9,10,13,20,35,64,119,224,428,821,1576,3030,5828,11215,21584,41545,79968,153931,296306,570371,1097933,2113463,4068308,7831289,15074840 ⋆ The curvature (rounded down) of touching circles inscribed in a special way in the smaller segment of circle of radius 10/9 divided by a chord of length 4/3. • a(n) = floor(r(n)) with the rational curvatures r(n) satisfying the one step nonlinear recurrence relation r(n) = (11 * r(n - 1) - 9 + 20 * sqrt((r(n - 1) - 9) * r(n - 1) / 10)) / 9 with input r(0) = 9. (In the link r(n) is called b'(n).) •

[A090570] • 0,1,9,10,18,19,27,28,36,37,45,46,54,55,63,64,72,73,81,82,90,91,99,100,108 ⋆ Numbers that are congruent to {0, 1} mod 9. • a(n) = 9 * n - a(n - 1) - 17 (with a(1)=0). [_ Vincenzo Librandi _ , Nov 16 2010] • a(n) = 9 * n / 2 - 25 / 4 - 7 * (- 1) ^ n / 4. G.f.: x ^ 2 * (1 + 8 * x) / ((1 + x) * (x - 1) ^ 2). - _ R. J. Mathar _ , Oct 08 2011 •

[A022099] • 1,9,10,19,29,48,77,125,202,327,529,856,1385,2241,3626,5867,9493,15360,24853,40213,65066,105279,170345,275624,445969 ⋆ Fibonacci sequence beginning 1, 9. • a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=9. a(- 1):= 8. • a(n + 1) = ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) / (2 ^ n * sqrt(5)) + 4 * ((1 + sqrt(5)) ^ (n - 1) - (1 - sqrt(5)) ^ (n - 1)) / (2 ^ (n - 2) * sqrt(5)). - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 •

[A042113] • 1,9,10,19,29,48,77,279,3146,3425,13421,30267,195023,420313,1455962,1876275,22094987,68161236,90256223,158417459,248673682,407091141,655764823,6308974548,303486543127 ⋆ Denominators of continued fraction convergents to sqrt(581). • a(n) = 304142307950 * a(n - 24) - a(n - 48) for n>47. - _ Vincenzo Librandi _ , Jan 15 2014 •

[A042613] • 1,1,9,10,19,29,164,193,743,2422,3165,5587,14339,77282,168903,246185,415088,1491449,4889435,6380884,36793855,43174739,79968594,123143333,1065115258 ⋆ Denominators of continued fraction convergents to sqrt(835). • a(n) = 68672711612 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Jan 25 2014 •

[A041691] • 1,9,10,19,181,6897,62254,69151,131405,1251796,47699653,430548673,478248326,908796999,8657421317,329890807045,2977674684722,3307565491767,6285240176489,59874727080168,2281524869222873,205935985500860 25,22875123419308898 ⋆ Denominators of continued fraction convergents to sqrt(365). • a(n) = 6916 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 23 2013 •

[A022314] • 0,9,10,20,31,52,84,137,222,360,583,944,1528,2473,4002,6476,10479,16956,27436,44393,71830,116224,188055,304280,492336 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 0, a(1) = 9. • a(n) = - 1 + (1 / 2) * ((1 + sqrt(5)) / 2) ^ n + (19 / 10)sqrt(5) * ((1 + sqrt(5)) / 2) ^ n - (19 / 10) * sqrt(5) * ((1 - sqrt(5)) / 2) ^ n + (1 / 2) * ((1 - sqrt(5)) / 2) ^ n, obtained using PURRS. - _ Alexander R. Povolotsky _ , Apr 22 2008 • a(n) = F(n + 2) + 8 * F(n) - 1 , where A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A271062] • 1,9,10,58,59,179,180,404,405,765,766,1294,1295,2023,2024,2984,2985,4209,4210,5730,5731,7579,7580,9788,9789 ⋆ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 261", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n > 6. •

[A167708] • 9,10,66,105,959,1530,2441,22335,35634,326050,520191,829930,7593834,12115455,110856041,176863410,282173759,2581881225,4119219066,37690727890,60133039209,95938248130,877832022666,1400522366985 ⋆ Numbers n such that (n^2-81)/19 is a square. • a(n + 10)=340 * a(n + 5) - a(n). •

[A135332] • 1,9,10,74,75,291,292,804,805,1805,1806,3534,3535,6279,6280,10376,10377,16209,16210,24210,24211,34859,34860,48684,48685 ⋆ a(1)=1; for n>1, a(n) = a(n-1) + n^0 if n odd, a(n) = a(n-1) + n^3 if n is even. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). • a(n) = (1 / 16) * (5 - 5 * (- 1) ^ n + 4 * (- 1) ^ n * n ^ 3 + 4 * n ^ 3 + 6 * (- 1) ^ n * n ^ 2 + 2 * n ^ 2 + 8 * n + 2 * n ^ 4), with n>=1. - _ Paolo P. Lava _ , Mar 02 2009 •

[A033046] • 0,1,9,10,81,82,90,91,729,730,738,739,810,811,819,820,6561,6562,6570,6571,6642,6643,6651,6652,7290 ⋆ Sums of distinct powers of 9. • a(n) = Sum { d(i) * 9 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 9 * a(n), a(2n + 1) = a(2n) + 1. •

[A041039] • 1,1,9,10,89,99,881,980,8721,9701,86329,96030,854569,950599,8459361,9409960,83739041,93149001,828931049,922080050,8205571449,9127651499,81226783441,90354434940,804062262961 ⋆ Denominators of continued fraction convergents to sqrt(24). • a(n) = product { k = 1..floor((n - 1) / 2) } (8 + 4 * cos ^ 2(k * Pi / n)). •

[A041177] • 1,1,9,10,189,199,1781,1980,37421,39401,352629,392030,7409169,7801199,69818761,77619960,1466978041,1544598001,13823762049,15368360050,290454242949,305822602999,2737035066941,3042857669940,57508473125861 ⋆ Denominators of continued fraction convergents to sqrt(98). • a(n) = 198 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 12 2013 •

[A041415] • 1,1,9,10,289,299,2681,2980,86121,89101,798929,888030,25663769,26551799,238078161,264629960,7647717041,7912347001,70946493049,78858840050,2278994014449,2357852854499,21141816850441,23499669704940,679132568588761 ⋆ Denominators of continued fraction convergents to sqrt(222). • a(n) = 298 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 17 2013 •

[A041753] • 1,1,9,10,389,399,3581,3980,154821,158801,1425229,1584030,61618369,63202399,567237561,630439960,24523956041,25154396001,225759124049,250913520050,9760472885949,10011386405999,89851564133941,99862950539940,3884643684651661 ⋆ Denominators of continued fraction convergents to sqrt(396). • a(n) = 398 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A263772] • 9,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34 ⋆ Perimeters of integer-sided scalene triangles. • a(n) = n + 9 for n > 1. •

[A214865] • 9,11,13,15,25,27,29,31,41,43,45,47,57,59,61,63,73,75,77,79,89,91,93,95,105 ⋆ n such that n XOR 9 = n - 9. • a(n) = 4 * n + 6 + (- 1) ^ n + 2 * (- 1) ^ ((2 * n + (- 1) ^ n - 1) / 4) for n>=0. • a(n + 4) = a(n) + 16. - _ Alexander R. Povolotsky _ , Mar 15 2013 •

[A117675] • 9,11,13,20,23,29,47,64,70,88,121,126,145,148,153,174,190,195 ⋆ Primes indices both at the end and beginning of sequences of primes where consecutive Goldbach primes produce a fourth prime Prime[n]+Prime[n+1]+Prime[n+2]=P A072225: replicating prime sequences of length more than one (index both at the end and beginning of a relicating sequence). • a(n) = A072225[n]: { Prime[n] } Intersection m: { Prime[m] } •

[A027694] • 9,11,15,21,29,39,51,65,81,99,119,141,165,191,219,249,281,315,351,389,429,471,515,561,609 ⋆ a(n) = n^2 + n + 9. • a(0) = 9, a(n) = a(n - 1) + 2n. - _ Vincenzo Librandi _ , Feb 07 2011 •

[A090771] • 1,9,11,19,21,29,31,39,41,49,51,59,61,69,71,79,81,89,91,99,101,109,111,119,121 ⋆ Numbers that are congruent to {1, 9} mod 10. • a(n) = 10 * n - a(n - 1) - 10 (with a(1) = 1). - _ Vincenzo Librandi _ , Nov 16 2010 •

[A022323] • 1,9,11,21,33,55,89,145,235,381,617,999,1617,2617,4235,6853,11089,17943,29033,46977,76011,122989,199001,321991,520993 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 9. • a(n) = 2 * F(n + 2) + 6 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A275797] • 9,11,21,43,57,119,249,331,693,1451,1929,4039,8457,11243,23541,49291,65529,137207,287289,381931,799701,1674443,2226057,4660999,9759369 ⋆ The x members of all positive solutions (x(n), y(n)), proper and improper, of the Pell equation x^2 - 2*y^2 = 7^2. • a(n) = 6 * a(n - 3) - a(n - 6) for n>5. - _ Colin Barker _ , Sep 28 2016 •

[A050435] • 9,12,15,16,18,21,24,25,26,28,32,33,34,36,38,39,40,42,45,48,49,50,51,52,55 ⋆ a(n) = composite(composite(n)), where composite = A002808, composite numbers. • a(n) = n + 2n / log n + O(n / log ^ 2 n). - _ Charles R Greathouse IV _ , Jun 25 2017 •

[A199593] • 9,12,17,19,22,26,29,31,32,39,40,41,42,45,48,49,52,54,57,59,62,63,68,69,70 ⋆ Numbers n such that 3n-2, 3n-1 and 3n are all composite. • a(n) = n + 3n / log n + o(n / log n). - _ Charles R Greathouse IV _ , Oct 27 2013, corrected Aug 07 2016 •

[A153973] • 9,12,18,30,54,102,198,390,774,1542,3078,6150,12294,24582,49158,98310,196614,393222,786438,1572870,3145734,6291462,12582918,25165830,50331654 ⋆ a(n+1) = 2*(a(n) - 2) - 2, with a(0)=9. • a(n) = 3 * a(n - 1) - 2 * a(n - 2), with a(1) = 9, a(2) = 12. - _ Harvey P. Dale _ , May 09 2012 • a(n) = (3 / 2) * (4 + 2 ^ n). •

[A072702] • 9,12,18,51,69,72,78,111,129,132,138,171,189,192,198,231,249,252,258,291,309,312,318,351,369 ⋆ Last digit of F(n) is 4 where F(n) is the n-th Fibonacci number. • a(n) = (- 60 + 6 * (- 1) ^ n + (9 + 21 * i) * (- i) ^ n + (9 - i * 21) * i ^ n + 60 * n) / 4 where i=sqrt(- 1). - _ Colin Barker _ , Oct 16 2015 •

[A195162] • 0,1,9,12,28,33,57,64,96,105,145,156,204,217,273,288,352,369,441,460,540,561,649,672,768 ⋆ Generalized 12-gonal numbers: k*(5*k-4) for k = 0, +-1, +-2,... • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (10 * n * (n + 1) + 3 * (2 * n + 1) * (- 1) ^ n - 3) / 8. • a(n) = a(- n - 1). (End) •

[A140145] • 1,9,12,76,81,297,304,816,825,1825,1836,3564,3577,6321,6336,10432,10449,16281,16300,24300,24321,34969,34992,48816,48841 ⋆ a(1)=1, a(n)=a(n-1)+n^1 if n odd, a(n)=a(n-1)+ n^3 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n +{ [1 + (- 1) ^ n] / 2 }* n ^ 3, with a(1)=1 a(n)=(3 / 16) - (1 / 4) * (- 1) ^ n * n - (3 / 16) * (- 1) ^ n + (1 / 4) * (- 1) ^ n * n ^ 3 + (1 / 4) * n ^ 3 + (3 / 8) * (- 1) ^ n * n ^ 2 + (3 / 8) * n ^ 2 + (1 / 4) * n + (1 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 • a(n)=a(n - 1) + 4a(n - 2) - 4a(n - 3) - 6a(n - 4) + 6a(n - 5) + 4a(n - 6) - 4a(n - 7) - a(n - 8) + a(n - 9). G.f.: - x * (1 + 8 * x - x ^ 2 + 32 * x ^ 3 - x ^ 4 + 8 * x ^ 5 + x ^ 6) / ((1 + x) ^ 4 * (x - 1) ^ 5). [From _ R. J. Mathar _ , Feb 22 2009] •

[A294357] • 9,13,17,21,25,27,29,33,37,39,45,47,51,53,63,65,71,77,83,89,95,101,107,113,119 ⋆ Smallest odd number that can be expressed in more ways by

sums of 3 odd primes p+q+r with p<=q<=r than any smaller odd number. • a(1)=9 because 9=3 + 3 + 3 is the smallest number that can be represented a s sum of 3 odd primes. •

[A263941] • 1,9,13,18,22,27,31,36,40,45,49,54,58,63,67,72,76,81,85,90,94,99,103,108,112 ★ Minimal most likely sum for a roll of n 8-sided dice. • a(n) = floor(9 * n / 2) = (18 * n + (- 1) ^ n - 1) / 4 with n>1, a(1)=1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A026045] • 9,13,19,28,39,53,70,91,117,147,182,222,268,321,380,446,519,600,690,788,895,1011,1137,1274,1421 ★ a(n) = (d(n)-r(n))/5, where d = A026043 and r is the periodic sequence with fundamental period (0,2,3,0,0). • a(n)=(n + 5) * (2 * n ^ 2 + 11 * n + 54) / 30 - (1 + (- 1 / 2 - 1 / 10 * 5 ^ (1 / 2)) * cos(2 * n * Pi / 5) + (1 / 10 * (3 * (5 - 5 ^ (1 / 2)) ^ (1 / 2) + 2 * (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * 2 ^ (1 / 2)) * sin(2 * n * Pi / 5) + (1 / 10 * 5 ^ (1 / 2) - 1 / 2) * cos(4 * n * Pi / 5) + (1 / 10 * (2 * (5 - 5 ^ (1 / 2)) ^ (1 / 2) - 3 * (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * 2 ^ (1 / 2)) * sin(4 * n * Pi / 5)) / 5 [From _ Richard Choulet _ , Dec 14 2008] •

[A219257] • 0,9,13,40,48,93,105,168,184,265,285,384,408,525,553,688,720,873,909,1080,1120,1309,1353,1560,1608 ★ Numbers k such that 11*k+1 is a square. • a(n) = a(- n + 1) = (22 * n * (n - 1) + 7 * (- 1) ^ n * (2 * n - 1) - 1) / 8 + 1 = (1 / 176) * (22 * n + 7 * (- 1) ^ n - 15) * (22 * n + 7 * (- 1) ^ n - 7). •

[A160117] • 0,1,9,13,41,49,101,113,189,205,305,325,449,473,621,649,821,853,1049,1085,1305,1345,1589,1633,1901 ★ Number of "ON" cells after n-th stage in simple 2-dimensional cellular automaton (see Comments for precise definition). • a(2n) = 5 + 2n(7n - 5) for n>=1, a(2n + 1) = 5 + 2n(7n - 3) for n>=1. - _ Nathaniel Johnston _ , Nov 06 2010 •

[A270936] • 1,9,13,57,66,182,191,411,420,776,785,1309,1318,2042,2051,3007,3016,4236,4245,5761,5770,7614,7623,9827,9836 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 221", based on the 5-celled von Neumann neighborhood. • a(n) = (33 * (- 1 + (- 1) ^ n) + (46 - 24 * (- 1) ^ n) * n - 12 * (- 2 + (- 1) ^ n) * n ^ 2 + 8 * n ^ 3) / 12 for n>1. • a(n) = (4 * n ^ 3 + 6 * n ^ 2 + 11 * n) / 6 for n>1 and even. • a(n) = (4 * n ^ 3 + 18 * n ^ 2 + 35 * n - 33) / 6 for n>1 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>8. •

[A271006] • 1,9,13,57,70,182,207,415,452,792,841,1345,1406,2106,2179,3107,3192,4380,4477,5957,6066,7870,7991,10151,10284 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 245", based on the 5-celled von Neumann neighborhood. • a(n) = 1 / 4 * (71 - 7 * (- 1) ^ n) - (25 * n) / 6 - (- 3 + (- 1) ^ n) * n ^ 2 + (2 * n ^ 3) / 3 for n>4. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 - 25 * n + 96) / 6 for n>4 and even. • a(n) = (4 * n ^ 3 + 24 * n ^ 2 - 25 * n + 117) / 6 for n>4 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>9. •

[A271052] • 1,9,13,57,70,186,199,419,432,788,801,1325,1338,2062,2075,3031,3044,4264,4277,5793,5806,7650,7663,9867,9880 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 253", based on the 5-celled von Neumann neighborhood. • a(n) = (8 * n ^ 3 + 12 * n ^ 2 + 46 * n - 48) / 12 for n>1 and even. • a(n) = (8 * n ^ 3 + 36 * n ^ 2 + 94 * n - 138) / 12 for n>1 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>8. •

[A258286] • 1,1,9,13,66,111,475,852,3128,5668,19011,34804,108328,195267,567674,1059291,2849122,5212695,13785287,25156313,62613272,115799409,277245609,508970856,1196118973 ★ Number of partitions of 8 copies of n into distinct parts. • a(n) = 1 / 8! * [Product _{ i=1..8 } x _ i ^ n] Product _{ j>0 } (1 + Sum _{ i=1..8 } x _ i ^ j). •

[A184218] • 0,0,0,0,9,14,20,27,35,44,54,65,77,90,104,119,135,152,170,189,209,230,252,275,299 ★ a(n) = largest k such that A000217(n+1) = A000217(n) + (A000217(n) mod k), or 0 if no such k exists. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 7. •

[A070552] • 9,14,21,25,33,34,38,57,85,86,93,94,118,121,122,133,141,142,145,158,177,201,202,205,213 ★ Numbers n such that n and n+1 are semiprimes. • a(n) >> n log n since either n or n + 1 is in A100484. - _ Charles R Greathouse IV _ , Jul 21 2015 •

[A151915] • 1,9,14,22,30,35,43,48,56,64,69,77,85,90,98,103,111,119,124,132,137,145,153,158,166 ★ Wythoff AAAA numbers. • a(n) = 3 * floor(n * Phi) + 2 * n - 4 where Phi=(1 + sqrt(5)) / 2. •

[A272566] • 1,9,14,58,71,183,208,416,453,793,842,1346,1407,2107,2180,3108,3193,4381,4478,5958,6067,7871,7992,10152,10285 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 501", based on the 5-celled von Neumann neighborhood. • a(n) = 1 / 4 * (75 - 7 * (- 1) ^ n) - (25 * n) / 6 - (- 3 + (- 1) ^ n) * n ^ 2 + (2 * n ^ 3) / 3 for n>4. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 - 25 * n + 102) / 6 for n>4 and even. • a(n) = (4 * n ^ 3 + 24 * n ^ 2 - 25 * n + 123) / 6 for n>4 and odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>9. •

[A070876] • 9,15,18,30,36,60,72,120,144,240,288,480,576,960,1152,1920,2304,3840,4608,7680,9216,15360,18432,30720,36864 ★ Binary expansion is 1xx100...0 where xx = 00 or 11. • a(n) = 3 * (4 - (- 1) ^ n) * 2 ^ ((2 * n + (- 1) ^ n - 1) / 4). Therefore: a(n) = 9 * 2 ^ (n / 2) for n even, otherwise a(n) = 15 * 2 ^ ((n - 1) / 2). • a(n) = 2 * a(n - 2) for n>1. (End) •

[A007962] • 9,15,21,29,39,47,57,65,71,93,99,115,129,137,143,149,183,189,205,219,225,241,251,269,287 ★ Largest odd number a(n) such that 9,11,...,a(n) are sums of 3 of first n odd primes. • a(n) << n log n. - _ Charles R Greathouse IV _ , Sep 19 2012 •

[A274757] • 0,9,15,42,54,99,117,180,204,285,315,414,450,567,609,744,792,945,999,1170,1230,1419,1485,1692,1764 ★ Numbers k such that 6*k+1 is a triangular number (A000217). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. • a(n) = 3 * (2 * n - 1) * (2 * n + (- 1) ^ n - 1) / 4. Therefore: • a(n) = 3 * n * (2 * n - 1) / 2 for n even, • a(n) = 3 * (n - 1) * (2 * n - 1) / 2 for n odd. •

[A151973] • 0,1,9,16,24,25,33,40,48,49,57,64,72,73,81,88,96,97,105,112,120,121,129,136,144 ★ Numbers n such that n^2 - n is divisible by 24. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. G.f.: x ^ 2 * (8 * x ^ 3 + 7 * x ^ 2 + 8 * x + 1) / ((x - 1) ^ 2 * (x + 1) * (x ^ 2 + 1)). - _ Colin Barker _ , Nov 29 2012 • a(n) = (12 * n + 3 * i ^ (n * (n - 1)) - 2 * (- 1) ^ n - 17) / 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Nov 29 2012 •

[A026062] • 9,16,25,36,51,68,88,111,137,168,202,240,282,328,380,436,497,563,634,712,795,884,979,1080,1189 ★ a(n) = (d(n)-r(n))/5, where d = A026060 and r is the periodic sequence with fundamental period (0,0,1,4,0). • a(n)=(n + 5) * (n ^ 2 + 25 * n + 54) / 30 - 1 / 5 * (1 + (- 1 / 2 - 1 / 2 * 5 ^ (1 / 2)) * cos(2 * n * Pi / 5) + (- 3 / 10 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(2 * n * Pi / 5) + (- 1 / 2 + 1 / 2 * 5 ^ (1 / 2)) * cos(4 * n * Pi / 5) + (3 / 10 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * sin(4 * n * Pi / 5)) [From _ Richard Choulet _ , Dec 14 2008] •

[A198308] • 9,16,65,114,457,800,3201,5602,22409,39216,156865,274514,1098057,1921600,7686401,13451202,53804809,94158416,376633665,659108914,2636435657,4613762400,18455049601,32296336802,129185347209 ★ Moore lower bound on the order of an (8,g)-cage. • a(2 * i) = 2 Sum _{ j=0..i - 1 } 7 ^ j = string "2" ^ i read in base 7. • a(2 * i + 1) = 7 ^ i + 2 Sum _{ j=0..i - 1 } 7 ^ j = string "1" * "2" ^ i read in base 7. • a(n) = a(n - 1) + 7 * a(n - 2) - 7 * a(n - 3) for n>5. • a(n) = (7 ^ (n / 2) - 1) / 3 for n even. • a(n) = (4 * 7 ^ (n / 2 - 1 / 2) - 1) / 3 for n odd. •

[A017077] • 1,9,17,25,33,41,49,57,65,73,81,89,97,105,113,121,129,137,145,153,161,169,177,185,193 ★ a(n) = 8*n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Mar 14 2014 •

[A004768] • 9,17,25,33,41,49,57,65,73,81,89,97,105,113,121,129,137,145,153,161,169,177,185,193,201 ★ Binary expansion ends 001. • a(n) = 8 * n + 9. [From _ Reinhard Zumkeller _ , Oct 30 2008] • a(0)=9, a(1)=17, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , May 10 2015 •

[A285009] • 9,17,28,42,59,79,102,128,157,189,224,262,303,347,394,444,497,553,612,674,739,807,878,952,1029 ★ Subset sums (see Comments). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), for n > 5. • a(n) = (8 + (n - 2) * (3 * n + 1)) / 2, for n > 2. •

[A090994] • 9,17,32,61,116,222,424,813,1556,2986,5721,10982,21053,40416,77505,148785,285380,547810,1050876,2017126,3869845,7427671,14250855,27351502,52479500 ★ Number of meaningful differential operations of the n-th order on the space R^9. • a(k + 5)=a(k + 4) + 4 * a(k + 3) - 3 * a(k + 2) - 3 * a(k + 1) + a(k) •

[A275543] • 1,1,9,17,33,49,73,97,129,161,201,241,289,337,393,449,513,577,649,721,801,881,969,1057,1153 ★ A081585 and A069129 interleaved. • a(n) = (2 * n ^ 2 + (- 1) ^ n). • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 3. •

[A097478] • 9,17,35,53,85,117 ★ Atomic numbers of halogens in the periodic table. • a(1) = 9; a(n) = a(n - 1) + 2 * (ceiling(n / 2) + 1) ^ 2, 2 <= n <= 6 . •

[A121955] • 0,9,17,72,209,711,2250,7357,23693,76848,248413,804307,2602122,8421705,27251521,88190472,285386041,923535567,2988612714,9671371877,31297187845,101279874144,327748481957,1060616489147,3432226859754 ★ Expansion of -x^2*(-9-8*x+8*x^2)/((4*x^2+2*x-1)*(x^2-x-1)). • a(n) = a(n - 1) + 7 * a(n - 2) + 2 * a(n - 3) - 4 * a(n - 4). [_ R. J. Mathar _ , Apr 04 2009] •

[A015443] • 1,1,9,17,89,225,937,2737,10233,32129,113993,371025,1282969,4251169,14514921,48524273,164643641,552837825,1869986953,6292689553,21252585177,71594101601,241614783017,814367595825,2747285859961 ★ Generalized Fibonacci numbers: a(n) = a(n-1) + 8*a(n-2). • a(n) = (((1 + sqrt(33)) / 2) ^ (n + 1) - ((1 - sqrt(33)) / 2) ^ (n + 1)) / sqrt(33). • a(n) = (sum { 1<=k<=n + 1, k odd } C(n + 1,k) * 33 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 •

[A253212] • 9,17,89,737,6569,59057,531449,4782977,43046729,387420497,3486784409,31381059617,282429536489,2541865828337,22876792454969,205891132094657,1853020188851849,16677181699666577,150094635296999129,1350851717672992097,12157665459056928809 ★ a(n) = 9^n + 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2) for n>1. •

[A121442] • 1,1,9,17,97,241,1097,3169,12801,40225,152265,501489,1831649,6192785,22176137,76079553,269472001,932011841,3281180297,11399814865,39998425697,139315579185,487901595593,1701743382561,5953542163713 ★ Expansion of (1-x^2)/(1-x-9*x^2+x^3). • a(0)=a(1)=1, a(2)=9, a(n + 1) = a(n) + 9 * a(n - 1) - a(n - 2) for n>=2. •

[A049440] • 9,17,105,1313,21385,374833,6688617,119863873,2150198793,38580909137,692294282601,12422665840481,222915477614473,4000055027956849,71778071199324777,1288005210351490177 ★ Fib(3n)^2 - 2*Fib(3n) + 4*Fib(3n+1) + 5. • a(n) = 22a(n - 1) - 71a(n - 2) - 36a(n - 3) + 73a(n - 4) + 14a(n - 5) - a(n - 6). •

[A046412] • 9,18,22,27,36,42,44,45,54,63,66,72,78,81,84,88,90,99,108,110,111,117,126,132,135 ★ Lengths of nonsquarefree repunits. • a(n)=k where (10 ^ k - 1) / 9 is not squarefree. - _ Ray Chandler _ , Aug 10 2003 •

[A102042] • 9,18,26,32,34,38,46,52,54,58,66,72,74,78,86,92,94,98,106,112,114,118,126,132,134 ★ a(n) = a(n-1) + last digit of a(n-1), starting at 9. • a(n) = 10 + (1 - i / 2) * (- i) ^ n + (1 + i / 2) * i ^ n + 5 * n for n>1, where i = sqrt (- 1). - _ Colin Barker _ , Oct 19 2015 •

[A008591] • 0,9,18,27,36,45,54,63,72,81,90,99,108,117,126,135,144,153,162,171,180,189,198,207,216 ★ Multiples of 9. • a(n) = 9 * n = 2 * a(n - 1) - a(n - 2) . G.f.: 9x / (x - 1) ^ 2. - _ Vincenzo Librandi _ , Dec 24 2010 •

[A217373] • 9,18,27,36,45,54,63,72,90,99,108,117,126,135,144,153,171,180,189,198,207,216,225,234,252 ★ Numbers n the representation of which in base 3 ends in 2*k or 2*k+1 zeros, where k is odd. • a(n) / (10 * n) tends to 1, as n goes to infinity. •

[A020336] • 9,18,27,36,45,54,63,520,585,650,715,780,845,910,975,1040,1105,1170,1235,1300,1365,1430,1495,1560,1625 ★ Numbers n such that base 8 representation is the juxtaposition of two identical strings. • a(n) = n * 8 ^ floor(log _ 8(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[A194152] • 9,18,28,37,47,56,66,75,85,94,104,113,123,132,142,151,161,170,179,189,198,208,217,227,236 ★ Beatty sequence for 5+2*sqrt(5); complement of A194151. • a(n) = Floor(n * (5 + 2 * sqrt(5))). - Vincenzo Librandi, Oct 25 2011 •

[A051063] • 9,18,36,45,63,72,90,99,117,126,144,153,171,180,198,207,225,234,252,261,279,288,306,315,333 ★ 27*n+9 or 27*n+18. • a(n)=27 * n - a(n - 1) for n>0, a(0)=9. [_ Vincenzo Librandi _ , Aug 06 2010] •

[A005010] • 9,18,36,72,144,288,576,1152,2304,4608,9216,18432,36864,73728,147456,294912,589824,1179648,2359296,4718592,9437184,18874368,37748736,75497472,150994944 ★ a(n) = 9*2^n. • a(n) = 9 * 2 ^ n. • a(n) = 2 * a(n - 1), n>0; a(0)=9. - _ Philippe Deléham _ , Nov 23 2008 •

[A086500] • 1,9,18,50,75,147,196,324,405,605,726,1014,1183,1575,1800,2312,2601,3249,3610,4410,4851,5819,6348,7500,8125 ★ Group the natural numbers such that the n-th group sum is divisible by the n-th triangular number: (1), (2, 3, 4), (5, 6, 7), (8, 9, 10, 11, 12), (13, 14, 15, 16, 17), (18, 19, 20, 21, 22, 23, 24), ... Sequence contains the group sum. • a(n) = n * (n + 1) * (2 * n + 1 + (- 1) ^ n) / 4. - _ Wesley Ivan Hurt _ , Sep 19 2014 • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n>7 . - _ Colin Barker _ , Sep 19 2014 •

[A140149] • 1,9,18,82,107,323,372,884,965,1965,2086,3814,3983,6727,6952,11048,11337,17169,17530,25530,25971,36619,37148,50972,51597 ★ a(1)=1, a(n)=a(n-1)+n^2 if n odd, a(n)=a(n-1)+ n^3 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 2 +{ [1 + (- 1) ^ n] / 2 }* n ^ 3, with a(1)=1 a(n)= (1 / 16) - (1 / 4) * (- 1) ^ n * n - (1 / 16) * (- 1) ^ n + (1 / 4) * (- 1) ^ n * n ^ 3 + (5 / 12) * n ^ 3 + (1 / 8) * (- 1) ^ n * n ^ 2 + (3 / 8) * n ^ 2 + (1 / 12) * n + (1 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 • a(n)=a(n - 1) + 4a(n - 2) - 4a(n - 3) - 6a(n - 4) + 6a(n - 5) + 4a(n - 6) - 4a(n - 7) - a(n - 8) + a(n - 9). G.f.: x * (- 1 - 8 * x - 5 * x ^ 2 - 32 * x ^ 3 + 5 * x ^ 4 - 8 * x ^ 5 + x ^ 6) / ((1 + x) ^ 4 * (x - 1) ^ 5). [From _ R. J. Mathar _ , Feb 22 2009] •

[A050250] • 9,18,108,198,1098,1998,10998,19998,109998,199998,1099998,1999998,10999998,19999998,109999998,199999998,1099999998,1999999998,10999999998,19999999998,109999999998,199999999998,1099999999998,1999999999998,10999999999998 ★ Number of nonzero palindromes less than 10^n. • a(2 * k) = 2 * 10 ^ k - 2, a(2 * k + 1) = 11 * 10 ^ k - 2. - _ Sascha Kurz _ , Apr 14 2002 • a(n) = Sum _{ i=1..n } 9 * 10 ^ floor((i - 1) / 2). • a(n) = 9 * Sum _{ i=1..n } 10 ^ floor((i - 1) / 2). (End) • a(n) = (1 / 2) * 10 ^ ((2 * n + (- 1) ^ n - 1) / 4) * (13 - 9 * (- 1) ^ n) - 2. (End) • a(1)=9, a(2)=18, a(3)=108; for n>3, a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3). - _ Harvey P. Dale _ , Jan 29 2012 • a(n) = 10 * a(n - 2) + 18. - _ R. J. Mathar _ , Nov 07 2015 •

[A050685] • 0,0,9,18,189,360,2799,5238,36189,67140,435699,804258,5021289,9238320,56191599,103144878,615724389,1128303900,6641519499,12154735098,70773675489,129392615880,746963079399,1364533542918,7822667714589 ★ Number of nonzero palindromes < 10^n and containing at least one digit '0'. • a(n) = a(n - 1) + 19 * a(n - 2) - 19 * a(n - 3) - 90 * a(n - 4) + 90 * a(n - 5). • a(n) = (1 / (4 * sqrt(10))) * (4 * sqrt(10) * (1 + (- 1) ^ n) * (10) ^ (n / 2) + 22 * (1 - (- 1) ^ n) * (10) ^ (n / 2) + sqrt(10) * (1 + ((- 1) ^ n - 4) * 3 ^ (n + 1))). • a(2 * n) = (1 / 4) * (1 + 8 * (10) ^ n - 9 ^ (1 + n)), n>=1. • a(2 * n + 1) = (1 / 20) * (5 + 22 * (10) ^ (n + 1) - 25 * 9 ^ (n + 1)), n>=0. (End) •

[A133361] • 1,9,18,261,9432,88848,236997,3792312,80803143,782822727,3454045407,36680468013,711212421033,7929871190046,41401704886317,358679343516273,7546461904118223,70046073175181976,487736675856414036,4236277072800369834,60582330255639462183 ★ Multiply by 9 and reverse. • a(n) = reverse(9 * a(n - 1)) where a(1) = 1. •

[A041156] • 9,19,28,47,75,197,3621,7439,11060,18499,29559,77617,1426665,2930947,4357612,7288559,11646171,30580901,562102389,1154785679,1716888068,2871673747,4588561815,12048797377,221466914601 ★ Numerators of continued fraction convergents to sqrt(88). • a(n) = 394 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 9 * x ^ 10 + 19 * x ^ 9 - 28 * x ^ 8 + 47 * x ^ 7 - 75 * x ^ 6 - 197 * x ^ 5 - 75 * x ^ 4 - 47 * x ^ 3 - 28 * x ^ 2 - 19 * x - 9) / (x ^ 12 - 394 * x ^ 6 + 1). [_ Colin Barker _ , Jul 18 2012] •

[A041369] • 1,9,19,28,75,178,965,4038,5003,9041,122536,131577,254113,1148029,5994258,13136545,32267348,45403893,123075134,1153080099,32409317906,292836941253,618083200412,910920141665,2439923483742 ★ Denominators of continued fraction convergents to sqrt(199). • a(n) = 32532393040 * a(n - 20) - a(n - 40) for n>39. [_ Bruno Berselli _ , Dec 16 2013] •

[A042523] • 1,9,19,28,159,187,346,1225,5246,6471,31130,37601,181534,582203,763737,1345940,7493437,8839377,25172191,235389096,13206961567,119098043199,251403047965,370501091164,2103908503785 ★ Denominators of continued fraction convergents to sqrt(790). • a(n) = 13232133758 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A037085] • 0,9,19,29,39,49,59,69,78,88,98,108,118,128,138,148,157,167,177,187,197,207,217,227,236 ★ Beatty sequence for pi^2. • a(n)=floor(n * pi ^ 2) •

[A017377] • 9,19,29,39,49,59,69,79,89,99,109,119,129,139,149,159,169,179,189,199,209,219,229,239,249 ★ 10n+9. • a(n) = 10 * n + 9; a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , May 29 2011 •

[A056126] • 0,9,19,30,42,55,69,84,100,117,135,154,174,195,217,240,264,289,315,342,370,399,429,460,492 ★ a(n) = n*(n+17)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) = a(n - 1) + n + 8 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 9n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A190576] • 1,9,19,31,45,61,79,99,121,145,171,199,229,261,295,331,369,409,451,495,541,589,639,691,745 ★ n^2+5*n-5. • a(1)=1, a(2)=9, a(3)=19, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 28 2015 •

[A195042] • 0,1,9,19,36,55,81,109,144,181,225,271,324,379,441,505,576,649,729,811,900,991,1089,1189,1296 ★ Concentric 9-gonal numbers. • a(n) = (9 * n ^ 2 + 5 / 2 * ((- 1) ^ n - 1)) / 4. •

[A159697] • 9,19,40,84,176,368,768,1600,3328,6912,14336,29696,61440,126976,262144,540672,1114112,2293760,4718592,9699328,19922944,40894464,83886080,171966464,352321536 ★ a(0)=9, a(n)=2*a(n-1)+2^(n-1) for n>0 . • a(n) = Sum _{ k=0..n } (k + 9) * binomial(n,k). • a(n) = (18 + n) * 2 ^ (n - 1) = 4 * a(n - 1) - 4 * a(n - 2). G.f.: (9 - 17 * x) / (1 - 2 * x) ^ 2. [_ R. J. Mathar _ , Apr 20 2009] • a(0)=9, a(1)=19, a(n) = 4 * a(n - 1) - 4 * a(n - 2). - _ Harvey P. Dale _ , Mar 24 2013 •

[A048696] • 1,9,19,47,113,273,659,1591,3841,9273,22387,54047,130481,315009,760499,1836007,4432513,10701033,25834579,62370191,150574961,363520113,877615187,2118750487,5115116161 ★ Generalized Pellian with second term equal to 9. • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1, a(1)=9. • a(n) = ((4 * sqrt(2) + 1)(1 + sqrt(2)) ^ n - (4 * sqrt(2) - 1)(1 - sqrt(2)) ^ n) / 2. •

[A171066] • 0,1,1,9,19,100,279,1189,3781,14661,49600,184141,641421,2333629,8240959,29700900,105561739,378777169,1350292761,4835148121,17260998400,61748847081,220582688041,788748162049,2818480203099 ★ G.f. -x*(x-1)*(1+x)/(1-x-9*x^2-x^3+x^4). • a(n)= + a(n - 1) + 9 * a(n - 2) + a(n - 3) - a(n - 4) •

[A041677] • 1,1,9,19,161,180,6641,6821,61209,129239,1095121,1224360,45172081,46396441,416343609,879083659,7449012881,8328096540,307260488321,315588584861,2831969167209,5979526919279,50668184521441,56647711440720,2089985796387361 ★ Denominators of continued fraction convergents to sqrt(357). • a(n) = 6802 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A153316] • 1,9,19,161,341,2889,6119,51841,109801,930249,1970299,16692641,35355581,299537289,634430159,5374978561,11384387281,96450076809,204284540899,1730726404001,3665737348901,31056625195209,65778987739319,557288527109761,1180356041958841 ★ Numerators of continued fraction convergents to sqrt(5/4). • a(n) = ((5 * (- 2 + sqrt(5)) ^ n - 2 * sqrt(5) * (- 2 + sqrt(5)) ^ n + 15 * (2 + sqrt(5)) ^ n + 6 * sqrt(5) * (2 + sqrt(5)) ^ n + 3 * (2 - sqrt(5)) ^ n * (- 5 + 2 * sqrt(5)) - (- 2 - sqrt(5)) ^ n * (5 + 2 * sqrt(5)))) / (8 * sqrt(5)). • a(n) = 18 * a(n - 2) - a(n - 4) for n>3. •

[A041160] • 9,19,351,721,13329,27379,506151,1039681,19220409,39480499,729869391,1499219281,27715816449,56930852179,1052471155671,2161873163521,39966188099049,82094249361619,1517662676608191 ★ Numerators of continued fraction convergents to sqrt(90). • a(n) = (2 + (- 1) ^ n) * ((3 - sqrt(10)) ^ (n + 1) + (3 + sqrt(10)) ^ (n + 1)) / 2. [_ Bruno Berselli _ , Oct 30 2013] •

[A094196] • 1,9,20,25,44,76,121,197,304,353,540,856,1301,2053,3112,3597,5448,8576,12981,20425,30908,35709,54032,84996,128601 ★ Indices of the start of a string of 24 consecutive squares whose sum is a square. • a(0)=1, a(1)=9, a(2)=20, a(3)=25, a(4)=44, a(5)=76, a(6)=121, a(7)=197, a(8)=304, a(9)=353, a(10)=540, a(11)=856, a(12)=1301; thereafter a(n) = a(n - 1) + 10 * a(n - 6) - 10 * a(n - 7) - a(n - 12) + a(n - 13). - _ Harvey P. Dale _ , Oct 10 2011 • a(1)=1, a(2)=9, a(3)=20, a(4)=25, a(5)=44, a(6)=76, a(7)=121, a(8)=197, a(9)=304, a(10)=353, a(11)=540, a(12)=856; a(n)=10 * a(n - 6) - a(n - 12) + 92 for n>12. - _ Daniel Mondot _ , Aug 05 2016 •

[A028566] • 0,9,20,33,48,65,84,105,128,153,180,209,240,273,308,345,384,425,468,513,560,609,660,713,768 ★ n(n+8). • a(n) = (n + 4) ^ 2 - 4 ^ 2 = n * (n + 8), n>=0. • a(n) = 2 * n + a(n - 1) + 7. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A128153] • 1,9,20,37,58,85,116,153,194,241,292,349,410 ★ The number of regular pentagons found by constructing n equally-spaced points on each side of the pentagon and drawing lines parallel to the pentagon sides, as well as lines connecting vertices. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 4 (conjectured). •

[A053795] • 9,21,27,33,39,49,51,57,63,69,77,81,87,91,93,99,111,117,119,121,123,129,133,141,143 ★ Composite numbers ending in 1, 3, 7 or 9. • a(n) = 2.5n + 2.5n / log n + O(n / log ^ 2 n). - _ Charles R Greathouse IV _ , Jan 30 2018 •

[A106214] • 9,21,27,48,51,72,75,81,96,105,114,117,123,126,132,135,147,156,159,177,180,189,198,201,207 ★ Positions n where A083349(n) = 2 (mod 3). • a(n) = 0 (mod 3) for n>=0. •

[A017629] • 9,21,33,45,57,69,81,93,105,117,129,141,153,165,177,189,201,213,225,237,249,261,273,285,297 ★ a(n) = 12*n+9. • a(n) = 6 * (4n + 1) - a(n - 1) (with a(0)=9). - _ Vincenzo Librandi _ , Dec 17 2010 •

[A226355] • 1,9,21,33,49,61,81,93,113,129,149,161,189,201,221,241,265,277,305,317,345,365,385,397,433 ⋆ Number of ordered pairs (i,j) with |i| * |j| <= n. • a(n) = 1 + 4n + 4 * Sum _{ k=1..n } tau(k), where tau(k) is the number of divisors of k. - _ Lorenz H. Menke, Jr. _ , Mar 15 2016 •

[A140673] • 0,9,21,36,54,75,99,126,156,189,225,264,306,351,399,450,504,561,621,684,750,819,891,966,1044 ⋆ a(n) = 3*n*(n + 5)/2. • a(n) = 3 * n + a(n - 1) + 6 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A059993] • 1,9,21,37,57,81,109,141,177,217,261,309,361,417,477,541,609,681,757,837,921,1009,1101,1197,1297 ⋆ Pinwheel numbers: a(n) = 2*n^2 + 6*n + 1. • a(n) = 4 * n + a(n - 1) + 4 for n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 2 * a(n - 1) - a(n - 2) + 4. - _ Vincenzo Librandi _ , Mar 01 2013 • a(n) = Hyper2F1([- 2, n], [1], - 2). - _ Peter Luschny _ , Aug 02 2014 •

[A173391] • 9,21,45,105,273,765,2229,6609,19737,59109,177213,531513,1594401,4783053,14348997,43046817,129140265,387420597,1162261581,3486784521,10460353329,31381059741,94143178965,282429536625,847288609593 ⋆ a(n) = 6n + 3^n. • a(n) = 5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). •

[A160414] • 0,1,9,21,49,61,97,133,225,237,273,309,417,453,561,669,961,973,1009,1045,1153,1189,1297,1405,1729 ⋆ Number of "ON" cells at n-th stage in simple 2-dimensional cellular automaton (same as A160410, but a(1) = 1, not 4). • a(2 ^ k) = (2 ^ (k + 1) - 1) ^ 2. - _ Omar E. Pol _ , Jan 05 2013 •

[A130861] • 0,9,22,39,60,85,114,147,184,225,270,319,372,429,490,555,624,697,774,855,940,1029,1122,1219,1320 ⋆ a(n) = (n-1)*(2*n+5). • a(n) = 3 * (n + 1) * (Sum _{ k=1..n } k ^ 2 - 1) / (Sum _{ k=1..n } k) = (- 1 + n) * (5 + 2 * n). • a(n) = a(n - 1) + 4 * n + 1 for n>1, a(1)=0. - _ Vincenzo Librandi _ , Nov 23 2010 • a(n) = n * (2n + 7) with offset 0. - _ Michel Marcus _ , Jan 28 2015 •

[A131895] • 1,9,22,40,63,91,124,162,205,253,306,364,427,495,568,646,729,817,910,1008,1111,1219,1332,1450,1573 ⋆ a(n) = (n + 2)*(5*n + 1)/2. • a(n) = a(n - 1) + 5 * n + 3 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 23 2010 • a(0)=1, a(1)=9, a(2)=22, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Sep 11 2015 •

[A287497] • 1,9,22,53,166,432,1212,3341,9175,25364,69829,192560,530830,1463170,4033687,11119101,30651528,84495213,232922084,642082488,1769987094,4879211973,13450215173,37077354584,102208799091 ⋆ Number of maximal matchings in the n-web graph. • a(n) = a(n - 1) + 4 * a(n - 2) + 3 * a(n - 3) - 2 * a(n - 4) + a(n - 6). •

[A144390] • 1,9,23,43,69,101,139,183,233,289,351,419,493,573,659,751,849,953,1063,1179,1301,1429,1563,1703,1849 ⋆ a(n) = 3*n^2 - n - 1. • a(n + 1) = a(n) + 6 * n + 2; see A016933. • a(n) = 3 * n ^ 2 - n - 1. - _ Paolo P. Lava _ , Oct 06 2008 •

[A212676] • 0,0,1,9,23,52,92,155,234,344,475,645,841,1084,1358,1687,2052,2480,2949,3489,4075,4740,5456,6259,7118 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w+x=|x-y|+|y-z|. • a(n)=2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). •

[A266238] • 1,1,9,23,151,361,2409,5783,38551,92521,616809,1480343,9868951,23685481,157903209,378967703,2526451351,6063483241,40423221609,97015731863,646771545751,1552251709801,10348344732009,24836027356823,165573515712151 ⋆ a(n+1) = 2^(2*n - 1) + (-1)^n * a(n), a(1) = 1. • a(n) = ((7 + 7 * i) * (- i) ^ n + (7 - 7 * i) * i ^ n + (- 1) ^ (1 + n) * 4 ^ n + 4 ^ (1 + n)) / 34 where i=sqrt(- 1). • a(n) = 15 * a(n - 2) + 16 * a(n - 4) for n > 4. [Proved by _ Iain Fox _ , Dec 21 2017] (End) •

[A121453] • 9,24,33,48,69,84,93,108,129,144,153,168,189,204,213,228,249,264,273,288,309,324,333,348,369 ⋆ Numbers m such that (m mod k) > (m+2 mod k) with least value of k = 5. • a(n) = 3 * (sin((n * Pi) / 2) - cos((n * Pi) / 2) + 5 * n - 3). • a(1)=9, a(2)=24, a(3)=33, a(4)=48, a(n)=2 * a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4). Empirical G.f.: 3 * x * (3 + 2 * x + x ^ 2 + 4 * x ^ 3) / (1 - 2 * x + 2 * x ^ 2 - 2 * x ^ 3 + x ^ 4). [Colin Barker, Jan 25 2012] •

[A067725] • 0,9,24,45,72,105,144,189,240,297,360,429,504,585,672,765,864,969,1080,1197,1320,1449,1584,1725,1872 ⋆ a(n) = 3*n^2 + 6*n. • a(n) = a(n - 1) + 6 * n + 3 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A001106] • 0,1,9,24,46,75,111,154,204,261,325,396,474,559,651,750,856,969,1089,1216,1350,1491,1639,1794,1956 ⋆ 9-gonal (or enneagonal or nonagonal) numbers: a(n) = n*(7*n-5)/2. • a(n) = (7 * n - 5) * n / 2. • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3), a(0) = 0, a(1) = 1, a(2) = 9. - _ Jaume Oliver Lafont _ , Dec 02 2008 • a(n) = 2 * a(n - 1) - a(n - 2) + 7. - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), May 05 2010 • a(n) = a(n - 1) + 7 * n - 6 (with a(0) = 0). - _ Vincenzo Librandi _ , Nov 12 2010 • a(7 * a(n) + 22 * n + 1) = a(7 * a(n) + 22 * n) + a(7 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A023551] • 9,24,46,76,115,164,224,296,381,480,594,724,871,1036,1220,1424,1649,1896,2166,2460,2779,3124,3496,3896,4325 ⋆ Self-convolution of natural numbers >= 3. • a(n) = n(n ^ 2 + 15n + 38) / 6. - Robert Lester (RobertLester(AT)Earthlink.net), Jan 31 2005 •

[A258438] • 0,1,9,24,64,117,189,280,456,657,889,1152,1464,1813,2205,2640,3376,4161,5001,5896,6864,7893,8989,10152,11448 ⋆ Sum_{i=1..n} Sum_{j=1..n} (i OR j), where OR is the binary logical OR operator. • a(2 ^ k) = (3 * 8 ^ k + 5 * 4 ^ k) / 4 - 2 ^ k. - _ Giovanni Resta _ , May 30 2015 • a(2 ^ k - 1) = 2 ^ (k - 2) * (4 - 7 * 2 ^ k + 3 * 4 ^ k). - _ Enrique Pérez Herrero _ , Jun 10 2015 •

[A280609] • 9,25,27,49,121,125,169,243,289,343,361,529,841,961,1331,1369,1681,1849,2187,2197,2209,2809,3125,3481,3721 ⋆ Odd prime powers with prime exponents. • a(n) = p ^ q, where p, q are primes and p > 2. •

[A247687] • 9,25,49,50,98,121,169,242,289,338,361,484,529,578,676,722,841,961,1058,1156,1369,1444,1681,1682,1849 ⋆ Numbers n with the property that the symmetric representation of sigma(n) has three parts of width one. • a(n, k) = 2 ^ k * prime(n) ^ 2 where n >= 2, 0 <= k <= floor(log2(prime(n)) - 1), and log2( ) is the logarithm to base 2. •

[A016754] • 1,9,25,49,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ⋆ Odd squares: a(n) = (2n+1)^2. Also centered octagonal numbers. • a(n) = 4 * n * (n + 1) + 1 = 4 * n ^ 2 + 4 * n + 1. - _ Artur Jasinski _ , Mar 27 2008 • a(n) = 8 * n + a(n - 1) with n> 0, a(0)=1. - _ Vincenzo Librandi _ , Aug 01 2010 • a(n + 1) = a(n) + 4 + 4 * sqrt(a(n)); a(n - 1) = a(n) + 4 - 4 * sqrt(a(n)). • a(n + 1) = 2 * a(n) - a(n - 1) + 8; a(n + 1) = 3 * a(n) - 3 * a(n - 1) + a(n - 2). • a(n) = binomial(2n + 2,2) + binomial(2n + 1,2). - _ John Molokach _ , Jul 12 2013 •

[A239745] • 0,9,25,54,108,211,411,804,1582,3129,6213,12370,24672,49263,98431,196752,393378,786613,1573065,3145950,6291700,12583179,25166115,50331964,100663638 ⋆ a(n) = (3*2^(n+2) + n*(n+5))/2 - 6. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). •

[A048490] • 1,9,25,57,121,249,505,1017,2041,4089,8185,16377,32761,65529,131065,262137,524281,1048569,2097145,4194297,8388601,16777209,33554425,67108857,134217721 ⋆ a(n)=T(7,n), array T given by A048483. • a(n) = 8 * 2 ^ n - 7. - _ Ralf Stephan _ , Jan 09 2009 • a(n) = 2 * a(n - 1) + 7 (with a(0)= 1). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: (6 * x + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Nov 26 2014 •

[A199111] • 9,25,73,217,649,1945,5833,17497,52489,157465,472393,1417177,4251529,12754585,38263753,114791257,344373769,1033121305,3099363913,9298091737,27894275209,83682825625,251048476873,753145430617,2259436291849 ⋆ 8*3^n+1. • a(n) = 3 * a(n - 1) - 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A083100] • 1,9,25,113,401,1593,5993,23137,88225,338409,1294393,4957649,18976049,72655641,278143625,1064876737,4076758849,15607654857,59752621657,228758827313,875786006225,3352883803641,12836269650857,49142725927201 ⋆ a(n) = 2*a(n-1) + 7*a(n-2). • a(n) = (1 / 2) * (1 - 2 * sqrt(2)) ^ n + sqrt(2) * (1 + 2 * sqrt(2)) ^ n - (1 - 2 * sqrt(2)) ^ n * sqrt(2) + (1 / 2) * (1 + 2 * sqrt(2)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jun 10 2008 • a(n) = binomial transform of 1,8,8,64,64,512. - Al Hakanson (hawkuu(AT)gmail.com), Aug 17 2009 •

[A084058] • 1,1,9,25,113,401,1593,5993,23137,88225,338409,1294393,4957649,18976049,72655641,278143625,1064876737,4076758849,15607654857,59752621657,228758827313,875786006225,3352883803641,12836269650857,49142725927201 ⋆ a(n) = 2*a(n-1)+7*a(n-2) for n>1, a(0)=1, a(1)=1. • a(n) = (1 + sqrt(8)) ^ n / 2 + (1 - sqrt(8)) ^ n / 2; •

[A139818] • 0,1,1,9,25,121,441,1849,7225,29241,116281,466489,1863225,7458361,29822521,119311929,477204025,1908903481,7635439161,30542106169,122167725625,488672300601,1954686406201,7818751217209,31274993684025 ⋆ Squares of Jacobsthal numbers. • a(n) = 3a(n - 1) + 6a(n - 2) - 8a(n - 3). • a(n) = 1 / 9 - (2 / 9) * (- 2) ^ n + (1 / 9) * 4 ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 12 2008 •

[A084605] • 1,1,9,25,145,561,2841,12489,60705,281185,1353769,6418809,30917041,148331665,716698425,3462260265,16786700865,81464917185,396215601225,1929237099225,9408084660945,45928695279345,224476389327705 ⋆ G.f.: 1/(1-2x-15x^2)^(1/2); also, a(n) is the central coefficient of (1+x+4x^2)^n. • a(n) is also the central coefficient of (4 + x + x ^ 2) ^ n; a(n)=sum _{ k=0..n } 3 ^ (n - k) C(n,k) T(k,n), where T(k,n) is the triangle of trinomial coefficients = Coefficient of x ^ n of (1 + x + x ^ 2) ^ k : A027907 - _ N - E. Fahssi _ , Mar 30 2008 • a(n) = (1 / Pi) * integral(x= - 2..2, (2 * x + 1) ^ n / sqrt((2 - x) * (2 + x))). [_ Peter Luschny _ , Sep 12 2011] • a(n + 2)=((2 * n + 3) * a(n + 1) + 15 * (n + 1) * a(n)) / (n + 2); a(0)=a(1)=1 - Sergei N. Gladkovskii, Aug 01 2012 • a(n) = 2 ^ n * GegenbauerC(n, - n, - 1 / 4). - _ Peter Luschny _ , May 08 2016 •

[A081267] • 1,9,26,52,87,131,184,246,317,397,486,584,691,807,932,1066,1209,1361,1522,1692,1871,2059,2256,2462,2677 ⋆ Diagonal of triangular spiral in A051682. • a(n) = C(n, 0) + 8 * C(n, 1) + 9 * C(n, 2). • a(n) = (9 * n ^ 2 + 7 * n + 2) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), for n>2. a(n) = right term in M ^ n * [1 1 1], where M = the 3X3 matrix [1 0 0 / 3 1 0 / 5 3 1]. M ^ n * [1 1 1] = [1 3n + 1 a(n)]. - _ Gary W. Adamson _ , Dec 22 2004 • a(n) = 9 * n + a(n - 1) - 1 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A052153] • 1,9,26,54,95,151,224,316,429,565,726,914,1131,1379,1660,1976,2329,2721,3154,3630,4151,4719,5336,6004,6725 ⋆ Rhombi (in 3 different orientations) in a rhombus with 60 degree acute angles. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). _ Vincenzo Librandi _ , Jun 22 2012 •

[A048468] • 1,9,26,62,138,298,634,1338,2810,5882,12282,25594,53242,110586,229370,475130,983034,2031610,4194298,8650746,17825786,36700154,75497466,155189242,318767098 ⋆ a(n) = T(7,n), array T given by A047858. • a(n) = 2 ^ (n - 1) * (n + 14) - 6. a(0)=1, a(1)=9, a(2)=26, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2011 • a(n) = 2 ^ (n - 1) * (n + 14) - 6. G.f.: (1 + 4 * x - 11 * x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). - _ Colin Barker _ , Feb 18 2016 •

[A048771] • 1,9,26,68,169,413,1002,2424,5857,14145,34154,82460,199081,480629,1160346,2801328,6763009,16327353,39417722,95162804,229743337,554649485,1339042314,3232734120,7804510561 ⋆ Partial sums of A048695. • a(n)=2 * a(n - 1) + a(n - 1) + 7; a(0)=1, a(1)=9. • a(0)=1, a(1)=9, a(2)=26, a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , May 01 2013 •

[A055849] • 1,9,26,69,181,474,1241,3249,8506,22269,58301,152634,399601,1046169,2738906,7170549,18772741,49147674,128670281,336863169,881919226,2308894509,6044764301,15825398394,41431430881 ⋆ a(n) = 3a(n-1) - a(n-2);

a(0)=1, a(1)=9. • a(n) = (9 * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) - (((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1))) / sqrt(5). •

[A235163] • 9,26,75,217,629,1826,5307,15438,44941,130900,381444,1111926,3242224,9455987,27583372,80472698,234799873,685149328,1999414181,5835044495,17029601028,49702671494,145066398937,423412132499,1235854038791 ★ Number of positive integers with n digits in which adjacent digits differ by at most 1. • a(n) = Sum _{ r=0..9 } u(n,r) where u(n,r) = 0 if r<0 or r>9, u(1,0) = 0, u(1,r) = 1 for 1<=r<=9, and otherwise u(n,r) = u(n - 1,r - 1) + u(n - 1,r) + u(n - 1,r + 1). •

[A027468] • 0,9,27,54,90,135,189,252,324,405,495,594,702,819,945,1080,1224,1377,1539,1710,1890,2079,2277,2484,2700 ★ 9 times the triangular numbers A000217(3) • a(n) = (9 / 2) * n * (n + 1). • a(n) = 9 * C(n, 1) + 9 * C(n, 2) (binomial transform of (0, 9, 9, 0, 0, ...)). - _ Paul Barry _ , Mar 15 2003 • a(- 1 - n) = a(n). • a(n) = C(n + 1,2) * 3 ^ 2, n>=0. - _ Zerinvary Lajos _ , Aug 06 2008 • a(n) = a(n - 1) + 9 * n (with a(0)=0). - _ Vincenzo Librandi _ , Nov 19 2010 •

[A112524] • 1,9,27,59,109,181,279,407,569,769,1011,1299,1637,2029,2479,2991,3569,4217,4939,5739,6621,7589,8647,9799,11049 ★ a(1)=1; a(n) = a(n-1) + 2*n^2. • a(1)=1, a(2)=9, a(3)=27, a(4)=59, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 03 2012 •

[A124396] • 1,9,27,729,6561,177147,1594323,4782969,387420489,3486784401,10460353203,282429536481,2541865828329,2541865828329,228767924549 61,205891132094649,617673396283947,50031545098999707,450283905890997363 ★ Denominators of partial sums of a series for 3/sqrt(5) = (3/5)*sqrt(5). • a(n)=denominator(r(n)) with the rationals r(n):=sum(binomial(2 * k,k) / 9 ^ k,k=0..n) in lowest terms. •

[A063155] • 9,28,48,68,88,108,128,148,168,188,208,228,248,268,288,308,328,348,368,388,408,428,448,468,488 ★ Dimension of the space of weight 2n cusp forms for Gamma_0(87). • a(n) = 4 * (5 * n - 3) for n>1. • a(n) = 2 * a(n - 1) - a(n - 2) for n>3. •

[A135705] • 0,9,28,57,96,145,204,273,352,441,540,649,768,897,1036,1185,1344,1513,1692,1881,2080,2289,2508,2737,2976 ★ a(n) = 10*binomial(n,2) + 9*n. • a(n) = n * (5 * n + 4). (End) • a(n) = a(n - 1) + 10 * n - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2009 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A294287] • 0,0,9,28,100,198,441,720,1296,1900,3025,4140,6084,7938,11025,13888,18496,22680,29241,35100,44100,52030,64009,74448,90000 ★ Sum of the cubes of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 3 + (n - i) ^ 3. • a(n) = (1 / 16) * (n ^ 2 * (4 - (9 + (- 1) ^ n) * n + 4 * n ^ 2)). • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n>9. •

[A085292] • 1,9,28,119,451,1782,6931,27119,105868,413649,1615681,6311522,24654241,96306849,376200748,1469546399,5740457491,22423834422,87593763331,342165736199,1336595027068,5221113899769,20395130698081,79669083012482 ★ Product of Lucas (A000204) and a Pell companion series (A001333). • a(n) = 2 * a(n - 1) + 7 * a(n - 2) + 2 * a(n - 3) - a(n - 4). G.f.: - x * (2 * x ^ 3 - 3 * x ^ 2 - 7 * x - 1) / (x ^ 4 - 2 * x ^ 3 - 7 * x ^ 2 - 2 * x + 1). - _ Colin Barker _ , Oct 15 2013 •

[A226976] • 1,9,28,133,539,2322,9773,41501,175636,744273,3152359,13354306,56568617,239630337,1015087436,4299984173,18215017507,77160064914,326855259829,1384581132277,5865179743556,24845300179929,105246380344463,445830821750018,1888569667033489 ★ Fibonacci(n)^3 + Fibonacci(n+2)^3 • a(n) = 3a(n - 1) + 6a(n - 2) - 3a(n - 3) - a(n - 4) •

[A042501] • 1,1,9,28,149,177,1388,9893,11281,66298,210175,1747698,1957873,107472840,109430713,982918544,3058186345,16273850269,19332036614,151598106567,1080518782583,1232116889150,7241103228333,22955426574149,190884515821525 ★ Denominators of continued fraction convergents to sqrt(778). • a(n) = 109220538 * a(n - 13) + a(n - 26) for n>25. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A041154] • 9,28,513,1567,28719,87724,1607751,4910977,90005337,274926988,5038691121,15391000351,282076697439,861621092668,15791256365463,48235390189057,884028279768489,2700320229494524,49489792410669921 ★ Numerators of continued fraction convergents to sqrt(87). • a(n) = 56 * a(n - 2) - a(n - 4). [_ Bruno Berselli _ , Oct 29 2013] •

[A136392] • 1,9,29,61,105,161,229,309,401,505,621,749,889,1041,1205,1381,1569,1769,1981,2205,2441,2689,2949,3221,3505 ★ 6n^2 - 10n + 5. • a(n) = n * (3n - 2) + (n - 1) * (3n - 5), n>1. • a(n) = a(n - 1) + 12 * n - 16 (with a(1)=1). [Vincenzo Librandi, Nov 24 2010] •

[A162263] • 9,29,66,126,215,339,504,716,981,1305,1694,2154,2691,3311,4020,4824,5729,6741,7866,9110,10479,11979,13616,15396,17325 ★ (2n^3+5n^2+11n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 05 2012 •

[A273146] • 1,9,29,70,127,231,347,540,733,1045,1337,1794,2203,2835,3383,4216,4921,5985,6869,8190,9271,10879,12179,14100,15637 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 597", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - 2 * a(n - 6) + 2 * a(n - 7) + a(n - 8) - a(n - 9) for n>8. •

[A193004] • 1,1,9,29,75,165,331,623,1123,1963,3357,5651,9405,15525,25477,41633,67831,110281,179031,290339,470511,762111,1234009,1997639,3233305 ★ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + a(n - 3) + 2 * a(n - 4) - a(n - 5). •

[A198645] • 9,29,89,269,809,2429,7289,21869,65609,196829,590489,1771469,5314409,15943229,47829689,143489069,430467209,1291401629,3874204889,11622614669,34867844009,104603532029,313810596089,941431788269,2824295364809 ★ 10*3^n-1. • a(n) = 3 * a(n - 1) + 2, a(0)=9. •

[A103535] • 9,29,99,354,1290,4762,17663,65733,244923,913383,3407329,12713796,47443092,177050612,660741597,2465886087,9202736493,34344949105,128176812671,478361888166,1785269817246,6662715837966,24865590090907,92799638767689,346332952127775 ★ Number of nets in a regular right prism. • a(n) = 1 / (8 * sqrt(3)) * (2 * sqrt(3) * n + sqrt(3) * (2 + sqrt(3)) ^ n + (2 + sqrt(3)) ^ floor(n / 2) * (4 + 2 * sqrt(3)) + (2 - sqrt(3)) ^ floor(n / 2) * (2 * sqrt(3) - 4) + sqrt(3) * ((2 - sqrt(3)) ^ n - 2)) for n >= 3 odd; a(n) = 1 / 24 * (6 * n + 3 * (2 + sqrt(3)) ^ n + 4 * sqrt(3) * (2 + sqrt(3)) ^ (n / 2) - 4 * sqrt(3) * (2 - sqrt(3)) ^ (n / 2) + 3 * (2 - sqrt(3)) ^ n - 6) for n >= 4 even. - _ Humberto Bortolossi _ , Mar 31 2017 •

[A173262] • 9,29,229,2229,22229,222229,2222229,22222229,222222229,2222222229,22222222229,222222222229,2222222222229,22222222222229,222222222222229,2222222222222229,22222222222222229 ★ a(n) = (2*10^n+61)/9 • a(n)= 11 * a(n - 1) - 10 * a(n - 2). G.f.: x * (- 9 + 70 * x) / ((10 * x - 1) * (1 - x)). [From _ R. J. Mathar _ , Feb 21 2010] • a(n)=10 * a(n - 1) - 61, (with a(1)=9) [From _ Vincenzo Librandi _ , Feb 24 2010] •

[A195319] • 0,9,30,63,108,165,234,315,408,513,630,759,900,1053,1218,1395,1584,1785,1998,2223,2460,2709,2970,3243,3528 ★ Three times second hexagonal numbers: 3*n*(2*n+1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Harvey P. Dale _ , Oct 13 2013 •

[A000439] • 9,30,69,133,230,369,560,814,1143,1560,2079,2715,3484,4403,5490,6764,8245,9954,11913,14145,16674,19525,22724,26298,30275 ★ Powers of rooted tree enumerator. • a(n) = (n ^ 4 + 18 * n ^ 3 + 83 * n ^ 2 + 114 * n) / 24. - _ Philippe Deléham _ , Feb 13 2004 •

[A002414] • 1,9,30,70,135,231,364,540,765,1045,1386,1794,2275,2835,3480,4216,5049,5985,7030,8190,9471,10879,12420,14100,15925 ★ Octagonal pyramidal numbers: a(n) = n*(n+1)*(2*n-1)/2. • a(n) = odd numbers * triangular numbers = (2 * n - 1) * binomial(n + 1,2). - Xavier Acloque, Oct 27 2003 • a(n) = a(n - 1) + n * (3 * n - 2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = Sum _{ i=0..n - 1 } (n - i) * (6 * i + 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 •

[A291919] • 0,1,9,30,78,175,351,644,1100,1773,2725,4026,5754,7995,10843,14400,18776,24089,30465,38038,46950,57351,69399,83260,99108 ★ Number of (undirected) paths in the n-wheel graph. • a(n) = (n - 1) * (2 * n ^ 3 - 12 * n ^ 2 + 43 * n - 48) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A212517] • 0,0,0,9,30,92,198,396,684,1152,1760,2650,3780,5292,7140,9555,12376,15936,20088,25110,30870,37800,45540,54692,64944 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w>2x and y<=3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[A266397] • 0,0,9,31,70,130,215,329,476,660,885,1155,1474,1846,2275,2765,3320,3944,4641,5415,6270,7210,8239,9361,10580 ★ Number of orbits of Aut(Z^7) as function of the infinity norm n of the representative lattice point of the orbit, when the cardinality of the orbit is equal to 26880. • a(n) = (4 * n ^ 3 + 3 * n ^ 2 - 37 * n + 30) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A168297] • 1,1,9,31,73,141,241,379,561,793,1081,1431,1849,2341,2913,3571,4321,5169,6121,7183,8361,9661,11089,12651,14353 ★ a(n) = n^3 + (1-n)^2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Jul 17 2016 •

[A004126] • 0,1,9,31,74,145,251,399,596,849,1165,1551,2014,2561,3199,3935,4776,5729,6801,7999,9330,10801,12419,14191,16124 ★ a(n) = n*(7*n^2 - 1)/6. • a(n) = C(2 * n + 1,3) - C(n + 1,3), n>=0. - _ Zerinvary Lajos _ , Jan 21 2007 •

[A177342] • 1,9,31,75,149,261,419,631,905,1249,1671,2179,2781,3485,4299,5231,6289,7481,8815,10299,11941,13749,15731,17895,20249 ★ a(n) = (4*n^3-3*n^2+5*n-3)/3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A155098] • 9,32,50,73,91,114,132,155,173,196,214,237,255,278,296,319,337,360,378,401,419,442,460,483,501 ★ Numbers n such that n^2 = -1 mod (41) • a(n) = 9 * (- 1) ^ (n + 1) + 41 [n / 2]. - _ M. F. Hasler _ , Jun 16 2010 • a(n) = a(n - 2) + 41 for all n>2. - _ M. F. Hasler _ , Jun 16 2010 •

[A027620] • 9,32,75,144,245,384,567,800,1089,1440,1859,2352,2925,3584,4335,5184,6137,7200,8379,9680,11109,12672,14375,16224,18225 ★ a(n) = n + (n+1)^2 + (n+2)^3. • a(n) = (n + 1) * (n + 3) ^ 2. - _ Zerinvary Lajos _ , Sep 24 2006, corrected Dec 21 2010 • a(n) = coefficient of x ^ 3 in the Maclaurin expansion of - 1 / ((n + 3) * x ^ 2 + (n + 3) * x + 1). - _ Francesco Daddi _ , Aug 04 2011 •

[A051662] • 1,9,32,78,155,271,434,652,933,1285,1716,2234,2847,3563,4390,5336,6409,7617,8968,10470,12131,13959,15962,18148,20525 ★ House numbers: a(n) = (n+1)^3 + Sum_{i=1..n} i^2. • a(n) = (n + 1) * (8 * n ^ 2 + 13 * n + 6) / 6. • a(0)=1, a(1)=9, a(2)=32, a(3)=78, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 23 2011 •

[A046895] • 1,9,33,65,89,137,233,297,321,425,569,665,761,873,1065,1257,1281,1425,1737,1897,2041,2297,2585,2777,2873 ★ Sizes of successive clusters in Z^4 lattice. • a(n) = Pi ^ 2 / 2 * n ^ 2 + O(n (log n) ^ (2 / 3)) using a result of Walfisz. - _ Charles R Greathouse IV _ , Feb 18 2015 •

[**A165392**] • 1,9,33,65,101,146,199,260,329,406,491,584,685,794,911,1036,1169,1310,1459,1616,1781,1954,2135,2324,2521 ★ Number of slanted 2 X n (i=1..2) X (j=i..n+i-1) 1..4 arrays with all 1s connected, all 2s connected, all 3s connected, all 4s connected, 1 in the upper left corner, 2 in the upper right corner, 3 in the lower left corner, 4 in the lower right corner, and with no element having more than 2 neighbors with the same value. • a(n) = 4 * n ^ 2 - 7 * n - 1 for n>5. •

[**A145923**] • 9,33,65,105,153,209,273,345,425,513,609,713,825,945,1073,1209,1353,1505,1665,1833,2009,2193,2385,2585,2793 ★ Second bisection of A061041: A061041(2n+1). a(n)=(2n+1)*(2n+9)=A005408(n)*A005408(n+4). a(n)=a(n-1)+8*(n+2)=a(n-1)+8n+16. • a(n) = 9 + 4 * n ^ 2 + 20 * n. - _ Paolo P. Lava _ , Oct 28 2008 •

[**A081585**] • 1,9,33,73,129,201,289,393,513,649,801,969,1153,1353,1569,1801,2049,2313,2593,2889,3201,3529,3873,4233,4609 ★ Third row of Pascal-(1,3,1) array A081578. • a(n) = 1 + 8n ^ 2. G.f.: (1 + 3x) ^ 2 / (1 - x) ^ 3. • a(n) = 16 * n + a(n - 1) - 8 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[**A273316**] • 1,9,33,81,161,281,449,673,961,1321,1761,2289,2913,3641,4481,5441,6529,7753,9121,10641,12321,14169,16193,18401,20801 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 645", based on the 5-celled von Neumann neighborhood. • a(n) = (4 * n ^ 3 + 12 * n ^ 2 + 8 * n + 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[**A101990**] • 1,1,9,33,81,225,729,2241,6561,19521,59049,177633,531441,1592865,4782969,14353281,43046721,129127041,387420489,1162300833,3486784401,10460235105,31381059609,94143533121,282429536481 ★ a(n) = 3*a(n-1) - 3*a(n-2) + 9*a(n-3), a(1) = a(2) = 1, a(3) = 9. • a(n) = left term in M ^ n * [1 0 0] , where M = the 3X3 matrix [1 0 2 / 2 1 0 / 0 2 1]. • a(n)=(24 * I) * [72 - (72 * I) * sqrt(3)] ^ (- 1) * sqrt(3) * [I * sqrt(3)] ^ n - (72 * I) * 3 ^ n * [72 - (72 * I) * sqrt(3)] ^ (- 1) * sqrt(3) - 72 * [- I * sqrt(3)] ^ n * [72 - (72 * I) * sqrt(3)] ^ (- 1) - (24 * I) * [- I * sqrt(3)] ^ n * [72 - (72 * I) * sqrt(3)] ^ (- 1) * sqrt(3) + 72 * 3 ^ n * [72 - (72 * I) * sqrt(3)] ^ (- 1) + 72 * [72 - (72 * I) * sqrt(3)] ^ (- 1) * [I * sqrt(3)] ^ n, with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Aug 01 2008 • a(n) = 2 ^ n * n! * [x ^ n] (exp(3 * x / 2) + 2 * cos(sqrt(3) * x / 2)) / 3. - _ Peter Luschny _ , Aug 01 2012 • a(n) = 3 ^ (n / 2 - 1) * ((- i) ^ n + i ^ n + 3 ^ (n / 2)) where i=sqrt(- 1). - _ Colin Barker _ , Sep 23 2016 •

[**A005920**] • 1,9,33,82,165,291,469,708,1017,1405,1881,2454,3133,3927,4845,5896,7089,8433,9937,11610,13461,15499,17733,20172,22825 ★ Tricapped prism numbers. • a(n) = (1 / 2) * (3n ^ 3 + 7n ^ 2 + 6n + 2). - _ Ralf Stephan _ , Apr 20 2004 • a(0)=1, a(1)=9, a(2)=33, a(3)=82, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 25 2012 •

[**A048479**] • 1,9,33,97,257,641,1537,3585,8193,18433,40961,90113,196609,425985,917505,1966081,4194305,8912897,18874369,39845889,83886081,176160769,369098753,771751937,1610612737 ★ a(n) = T(7,n), array T given by A048472. • a(n) = 8 * n * 2 ^ (n - 1) + 1. • a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n>2. G.f.: (1 + 4 * x - 4 * x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). - _ Colin Barker _ , Feb 18 2016 • a(n) = Sum _{ k=0..n + 2 } Sum _{ i=0..n + 2 } C(n + 1,i) - C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[**A036543**] • 1,9,33,105,321,969,2913,8745,26241,78729,236193,708585,2125761,6377289,19131873,57395625,172186881,516560649,1549681953,4649045865,13947137601,41841412809,125524238433,376572715305,1129718145921 ★ a(n) = T(3,n), array T given by A048471. • a(n) = 4 * 3 ^ n - 3; G.f.: (1 + 5 * x) / ((1 - x) * (1 - 3 * x)); E.g.f.: 4 * exp(3 * x) - 3 * exp(x). - Paul Barry, May 23 2003 • a(0)=1, a(1)=9, a(n)=4 * a(n - 1) - 3 * a(n - 2). - Harvey P. Dale, Aug 16 2011 • a(n) = 3 * a(n - 1) + 6. - Vincenzo Librandi, Nov 11 2011 •

[**A140413**] • 1,1,9,33,145,609,2585,10945,46369,196417,832041,3524577,14930353,63245985,267914297,1134903169,4807526977,20365011073,86267571273,365435296161,1548008755921,6557470319841,27777890035289,117669030460993,498454011879265 ★ a(2n) = A000045(6n)+1, a(2n+1) = A000045(6n+3)-1. • a(n)= + 3 * a(n - 1) + 5 * a(n - 2) + a(n - 3). - _ R. J. Mathar _ , Dec 17 2010 • a(n) = ((- 1) ^ n + (- (2 - sqrt(5)) ^ n + (2 + sqrt(5)) ^ n) / sqrt(5)) . - _ Colin Barker _ , Jun 06 2017 •

[**A097804**] • 9,33,153,753,3753,18753,93753,468753,2343753,11718753,58593753,292968753,1464843753,7324218753,36621093753,183105468753,915527343753,4577636718753,22888183593753,114440917968753,572204589843753,2861022949218753,14305114746093753 ★ a(n) = 3*(2*5^n + 1). • a(0)=9, a(1)=33, a(n) = 6 * a(n - 1) - 5 * a(n - 2) for n > 1. - _ Harvey P. Dale _ , Dec 17 2012 •

[**A139275**] • 0,9,34,75,132,205,294,399,520,657,810,979,1164,1365,1582,1815,2064,2329,2610,2907,3220,3549,3894,4255,4632 ★ a(n) = n*(8*n+1). • a(n) = 8 * n ^ 2 + n. • a(n) = 16 * n + a(n - 1) - 7 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 •

[**A236370**] • 1,9,34,81,163,282,454,678,973,1335,1786,2319,2959,3696,4558,5532,6649,7893,9298,10845,12571,14454,16534,18786,21253 ★ Sum of the largest parts in the partitions of 3n into 3 parts. • a(n) = 3n * (n ^ 2 - floor(n ^ 2 / 4)) - Sum _{ i=1..n } (2 * i ^ 2 - floor(i ^ 2 / 4)) - Sum _{ i=1..floor((n - 1) / 2) } (n + i) * (n - 2i). • a(n) = (- 1 + (- 1) ^ n - (1 + 3 * (- 1) ^ n) * n - 6 * n ^ 2 + 22 * n ^ 3) / 16. • a(n) = Sum _{ j=0..n - 2 } (Sum _{ i=n + 1 + floor(j / 2) - floor(1 / j + 1)..n + 2(j + 1) } i), n > 1. - _ Wesley Ivan Hurt _ , Feb 10 2014 •

[**A273744**] • 1,9,34,83,164,285,454,679,968,1329,1770,2299,2924,3653,4494,5455,6544,7769,9138,10659,12340,14189,16214,18423,20824 ★ Partial sums of the number of active (ON,black) cells in n-th stage of growth of two-dimensional cellular automaton defined by "Rule 901", based on the 5-celled von Neumann neighborhood. • a(n) = n * (11 + 12 * n + 4 * n ^ 2) / 3 for n>0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[**A100179**] • 1,9,34,86,175,311,504,764,1101,1525,2046,2674,3419,4291,5300,6456,7769,9249,10906,12750,14791,17039,19504,22196,25125 ★ Structured heptagonal diamond numbers (vertex structure 5). • a(n) = (1 / 6) * (10 * n ^ 3 - 9 * n ^ 2 + 5 * n). •

[**A147691**] • 0,1,9,34,91,192,353,584,903,1318,1849,2502,3299,4244,5361,6652,8143,9834,11753,13898,16299,18952,21889,25104,28631 ★ G.f.: x*(1+x+x^2)*(1+6*x+x^4)/((1+x)^2*(1-x)^4). • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6), n> 7. • a(n) = (3 * n * (6 * n ^ 2 - 12 * n + 13) + (n - 2) * (- 1) ^ n - 6) / 8 for n>1, a(0)=0, a(1)=1. [_ Bruno Berselli _ , Dec 11 2012] •

[**A154393**] • 1,9,34,182,836,4025,19001,90358,428481,2034035,9651787,45806244,217378076,1031612713,4895689348,23233383508,110258103799,523249458736,2483172990911,11784338112247,55924666344750,265400424550505,1259504788813791,5977203382848010 ★ Empirically good sequence of increments for shell sort algorithm. • a(n) = floor(fibonacci(n + 1) ^ (1 + sqrt(5))). •

[**A022275**] • 0,9,35,78,138,215,309,420,548,693,855,1034,1230,1443,1673,1920,2184,2465,2763,3078,3410,3759,4125,4508,4908 ★ a(n) = n*(17*n + 1)/2. • a(n) = 17 * n + a(n - 1) - 8 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(0)=0, a(1)=9, a(2)=35; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 06 2013 •

[**A071398**] • 0,9,35,78,139,217,312,424,554,701,866,1048,1247,1464,1697,1949,2217,2503,2806,3126,3464,3819,4192,4581,4988 ★ Rounded total surface area of a regular icosahedron with edge length n. • a(n) = round(5 * n ^ 2 * sqrt(3)) •

[**A005898**] • 1,9,35,91,189,341,559,855,1241,1729,2331,3059,3925,4941,6119,7471,9009,10745,12691,14859,17261,19909,22815,25991,29449 ★ Centered cube numbers: n^3 + (n+1)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). (End) •

[**A002418**] • 0,1,9,35,95,210,406,714,1170,1815,2695,3861,5369,7280,9660,12580,16116,20349,25365,31255,38115,46046,55154,65550,77350 ★ 4-dimensional figurate numbers: (5*n-1)*binomial(n+2,3)/4. • a(0)=0, a(1)=1, a(2)=9, a(3)=35, a(4)=95, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 16 2012 • a(n) = Sum _{ i=0..n } (n - i) * Sum _{ j=i..n } j. - _ J. M. Bergot _ , May 30 2017 •

[**A077115**] • 0,1,9,36,64,144,225,361,529,729,1024,1369,1764,2209,2809,3481,4096,5041,5929,6889,8100,9409,10816,12321,13924 ★ Least integer square >= n^3. • a(n) = ceil(n ^ (3 / 2)) ^ 2. - _ Benoit Cloitre _ , Nov 01 2002 •

[**A016766**] • 0,9,36,81,144,225,324,441,576,729,900,1089,1296,1521,1764,2025,2304,2601,2916,3249,3600,3969,4356,4761,5184 ★ (3*n)^2. • a(n) = a(n - 1) + 9 * (2 * n - 1) (with a(0) = 0). - _ Vincenzo Librandi _ , Nov 19 2010 •

[**A162258**] • 1,9,36,86,165,279,434,636,891,1205,1584,2034,2561,3171,3870,4664,5559,6561,7676,8910,10269,11759,13386,15156,17075 ★ (2n^3+5n^2-9n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi , Mar 04 2012 •

[**A027602**] • 9,36,99,216,405,684,1071,1584,2241,3060,4059,5256,6669,8316,10215,12384,14841,17604,20691,24120,27909,32076,36639,41616,47025 ★ a(n) = n^3 + (n+1)^3 + (n+2)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) for n>=4. • a(n) = 3 * n ^ 3 + 9 * n ^ 2 + 15 * n + 9. •

[**A000537**] • 0,1,9,36,100,225,441,784,1296,2025,3025,4356,6084,8281,11025,14400,18496,23409,29241,36100,44100,53361,64009,76176,90000 ★ Sum of first n cubes; or n-th triangular number squared. • a(n) = Sum (Sum (1 + Sum (6 * n))), rephrasing the formula in A000578. - Xavier Acloque, Jan 21 2003 • a(n) = Sum _{ i=1..n } Sum _{ j=1..n } i * j. - _ Alexander Adamchuk _ , Oct 24 2004 • a(n) = Sum _{ i=1..n } J _ 3(i) * floor(n / i), where J _ 3 is A059376. - _ Enrique Pérez Herrero _ , Feb 26 2012 • a(n) = Sum _{ i=1..n } Sum _{ j=1..n } Sum _{ k=1..n } max(i,j,k). - _ Enrique Pérez Herrero _ , Feb 26 2013 • a(n) = 6 * C(n + 2,4) + C(n + 1,2), (Knuth). - _ Gary Detlefs _ , Jan 02 2014 • a(n) = - Sum _{ j=1..3 } j * s(n + 1,n + 1 - j) * S(n + 3 - j,n), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 •

[**A193007**] • 0,1,1,9,36,108,268,591,1201,2303,4232,7534,13096,22357,37649,62749,103772,170616,279300,455747,741905,1205651,1956816,3173114,5142096 ★ Coefficient of x in the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n)=5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - 3 * a(n - 5) + a(n - 6). •

[**A168569**] • 0,9,36,117,360,1089,3276,9837,29520,88569,265716,797157,2391480,7174449,21523356,64570077,193710240,581130729,1743392196,5230176597,15690529800,47071589409,141214768236,423644304717,1270932914160 ★ a(n) = 9*(3^n - 1)/2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). - _ Robert Israel _ , Sep 24 2014 •

[**A213283**] • 0,1,9,36,118,315,711,1414,2556,4293,6805,10296,14994,21151,29043,38970,51256,66249,84321,105868,131310,161091,195679,235566,281268 ★ Number of 4-length words w over n-ary alphabet such that for every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (- 9 + 17 * n - 8 * n ^ 2 + 2 * n ^ 3) / 2. •

[**A023872**] • 1,1,9,36,136,477,1703,5746,19099,61622,195366,607069,1856516,5586870,16579850,48549116,140438966,401592524,1136121837,3181700219,8825733603,24261363403,66124058839,178757752892,479513547399 ★ Expansion of Product_{k>=1} (1 - x^k)^(-k^3). • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 4(k) * a(n - k). - _ Seiichi Manyama _ , Mar 04 2017 •

[**A002063**] • 9,36,144,576,2304,9216,36864,147456,589824,2359296,9437184,37748736,150994944,603979776,2415919104,9663676416,38654705664,1546188226

56,618475290624,2473901162496,9895604649984,39582418599936,158329674399744,633318697598976 ⋆ a(n) = 9*4^n. • a(n) = 4 * a(n - 1), n > 0; a(0)=9. • a(n) = 2 ^ (2 * n + 3) + 2 ^ (2 * n). - _ Andres Cicuttin _ , Apr 26 2016 •

[A073984] • 0,1,9,36,210,1296,7056,40824,262440,1700352,10478160,62355744,367960320,2176782336,12958657344,77716392192,468205557120,2821109907456,16960580969472,101758315958784,609954817881600,3656220357427200,21926486787222528,131557435432187904 ⋆ Number of strings of length n over Z_{6 with trace 2 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A027381] • 1,9,36,240,1620,11808,88440,683280,5380020,43046640,348672528,2852823600,23535749880,195528140640,1634056262280,13726075468992,115813759112820,981010688215680,8338590828280440,71097458824894320 ⋆ Number of irreducible polynomials of degree n over GF(9); dimensions of free Lie algebras. • a(n) = Sum _{ d|n } mu(d) * 9 ^ (n / d) / n for n > 0. - _ Andrew Howroyd _ , Oct 13 2017 •

[A273220] • 9,37,81,141,217,309,417,541,681,837,1009,1197,1401,1621,1857,2109,2377,2661,2961,3277,3609,3957,4321,4701,5097 ⋆ a(n) = 8n^2 - 12n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. •

[A022276] • 0,9,37,84,150,235,339,462,604,765,945,1144,1362,1599,1855,2130,2424,2737,3069,3420,3790,4179,4587,5014,5460 ⋆ a(n) = n*(19*n - 1)/2. • a(n) = 19 * n + a(n - 1) - 10 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. (End) •

[A213570] • 1,9,37,110,272,598,1213,2323,4265,7588,13184,22500,37881,63125,104381,171602,280896,458330,746085,1212415,1967761,3190824,5170752,8375400,13561777 ⋆ Antidiagonal sums of the convolution array A213566. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - 3 * a(n - 5) + a(n - 6). •

[A257448] • 1,9,37,111,283,657,1441,3051,6319,12909,26149,52695,105859,212265,425161,851043,1702903,3406725,6814477,13630095,27261451,54524289,109050097,218101851,436205503 ⋆ a(n) = 13*(2^n - 1) - 3*n^2 - 9*n. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>4. - _ Ray Chandler _ , Jul 25 2015 •

[A048878] • 1,9,37,157,665,2817,11933,50549,214129,907065,3842389,16276621,68948873,292072113,1237237325,5241021413,22201322977,94046313321,398386576261,1687592618365,7148757049721,30282620817249 ⋆ Generalized Pellian with second term of 9. • a(n) = ((7 + sqrt(5))(2 + sqrt(5)) ^ n - (7 - sqrt(5))(2 - sqrt(5)) ^ n) / 2 * sqrt(5). •

[A071229] • 0,1,9,38,102,215,391,644,988,1437,2005,2706,3554,4563,5747,7120,8696,10489,12513,14782,17310,20111,23199,26588,30292 ⋆ a(n) = n*(14*n^2-21*n+13)/6. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4). •

[A071238] • 0,1,9,38,110,255,511,924,1548,2445,3685,5346,7514,10283,13755,18040,23256,29529,36993,45790,56070,67991,81719,97428,115300 ⋆ a(n) = n*(n+1)*(2*n^2+1)/6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4, a(0)=0, a(1)=1, a(2)=9, a(3)=38, a(4)=110. - _ Yosu Yurramendi _ , Sep 03 2013 •

[A213583] • 1,9,38,120,327,819,1948,4482,10085,22341,48930,106236,229075,491175,1048184,2227782,4718097,9960921,20970910,44039520,92273951,192937179,402652308,838859850,1744829437 ⋆ Principal diagonal of the convolution array A213582. • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5). • a(n) = (1 / 2) * ((- 4 + 2 ^ (2 + n) - 3 * n) * (1 + n)). - _ Colin Barker _ , Nov 04 2017 •

[A158447] • 9,39,89,159,249,359,489,639,809,999,1209,1439,1689,1959,2249,2559,2889,3239,3609,3999,4409,4839,5289,5759,6249 ⋆ a(n) = 10*n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A281381] • 0,9,39,102,210,375,609,924,1332,1845,2475,3234,4134,5187,6405,7800,9384,11169,13167,15390,17850,20559,23529,26772,30300 ⋆ a(n) = n*(n + 1)*(4*n + 5)/2. • a(n) = 2 * n ^ 3 + 9 * n ^ 2 / 2 + 5 * n / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. (End) •

[A139594] • 0,1,9,39,116,275,561,1029,1744,2781,4225,6171,8724,11999,16121,21225,27456,34969,43929,54511,66900,81291,97889,116909,138576 ⋆ Number of different n X n symmetric matrices with nonnegative entries summing to 4. Also number of symmetric oriented graphs with 4 arcs on n points. • a(n) = coefficient of X ^ 4 in 1 / ((1 - X) ^ m * (1 - X ^ 2) ^ binomial(m,2)). •

[A034263] • 1,9,39,119,294,630,1218,2178,3663,5863,9009,13377,19292,27132,37332,50388,66861,87381,112651,143451,180642,225170,278070,340470,413595 ⋆ a(n) = binomial(n+4,4)*(4*n+5)/5. • a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * (4 * n + 5) / 120. - _ Emeric Deutsch _ and Ben Creech (mathroxmysox(AT)yahoo.com), Nov 17 2005, corrected by _ Eric Rowland _ , Aug 15 2017 •

[A126396] • 1,9,39,175,793,3611,16475,75229,343633,1569883,7172423,32769925,149723361,684077955,3125520983,14280373781,65246447425,298108406323,1362045450407,6223131628517,28433241805745,129910355608771 ⋆ Number of base 9 n-digit numbers with adjacent digits differing by two or less. • a(n) = 6 * a(n - 1) - 5 * a(n - 2) - 8 * a(n - 3) + 4 * a(n - 4) + 2 * a(n - 5) for n>5. •

[A173764] • 9,39,339,3339,33339,333339,3333339,33333339,333333339,3333333339,33333333339,333333333339,3333333333339,33333333333339,333333333333339,3333333333333339,33333333333333339,333333333333333339 ⋆ (3*10^n+51)/9 for n>0. • a(n) = 10 * a(n - 1) - 51 with n>0, a(0)=6. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A287324] • 0,1,9,40,120,280,552,968,1560,2360,3400,4712,6328,8280,10600,13320,16472,20088,24200,28840,34040,39832,46248,53320,61080 ⋆ a(n) = A008412(n-1) + A008412(n-2) for n>1, a(0)=0, a(1)=1. • a(n) = 8 * (n - 1) * ((n - 1) ^ 2 + 2) / 3 + 8 * (n - 2) * ((n - 2) ^ 2 + 2) / 3 = 8 * (2 * n - 3) * (n ^ 2 - 3 * n + 5) / 3 for n>2, a(0)=0, a(1)=1, a(2)=9. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>6. - _ Colin Barker _ , Jun 05 2017 •

[A006414] • 1,9,40,125,315,686,1344,2430,4125,6655,10296,15379,22295,31500,43520,58956,78489,102885,133000,169785,214291,267674,331200,406250,494325 ⋆ Number of nonseparable toroidal tree-rooted maps on n nodes. • a(n) = (n + 1) * (n + 2) ^ 3 * (n + 3) / 24. - _ N. J. A. Sloane _ , Apr 02 2004 • a(n) = (n + 2) ^ 3 * ((n + 2) ^ 2 - 1) / 24. - _ Paul Richards _ , Mar 04 2007 • a(n) = (Sum _{ k=0..n + 1 } k * (n + 1) * ((n + 1) ^ 2 - k ^ 2)) / 6 for n>0, which is the sum of all areas of Pythagorean triangles with arms 2 * k * (n + 1) and (n + 1) ^ 2 - k ^ 2 with hypotenuse k ^ 2 + (n + 1) ^ 2. - _ J. M. Bergot _ , May 12 2014 •

[A213758] • 1,9,40,130,355,871,1994,4360,9245,19205,39356,79934,161415,324755,651870,1306596,2616609,5237265,10479280,20964090,41934571,83876479,167761330,335532160,671075045 ⋆ Antidiagonal sums of the convolution array A213756. • a(n) = (1 / 6) * (- 120 + 15 * 2 ^ (n + 3) - 81 * n - 21 * n ^ 2 - 4 * n ^ 3). • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5). •

[A243718] • 1,9,40,195,618,1751,4075,8794,17015,31268,53666,88781,140200,215405,320013,465436,659965,920114,1257580,1695303,2249206,2950131,3819135,4896590,6209683 ⋆ Number of inequivalent (mod D_8) ways to place 3 nonattacking knights on an n X n board. • a(n) = (n ^ 6 - 27 * n ^ 4 + 80 * n ^ 3 + 158 * n ^ 2 - 1028 * n + 1200 + (1 - (- 1) ^ n) / 2 * (8 * n ^ 3 - 9 * n ^ 2 - 44 * n + 45)) / 48 for n >= 4. •

[A086349] • 1,9,40,200,952,4624,22272,107648,519552,2509056,12113920,58492928,282425344,1363677184,6584401920,31792332800,153506906112,741197021184,3578815578112,17280050659328,83435464425472 ⋆ On a 3 X 3 board, the number of n-move paths for a chess king. • a(n) = 2 * a(n - 1) + 12 * a(n - 2) + 8 * a(n - 3) for n>3. G.f.: (1 + x) * (1 + 6 * x + 4 * x ^ 2) / ((1 + 2 * x) * (1 - 4 * x - 4 * x ^ 2)). [Colin Barker, Apr 12 2012] •

[A159754] • 9,41,59,91,109,141,159,191,209,241,259,291,309,341,359,391,409,441,459,491,509,541,559,591,609 ⋆ Numbers n with property that n^2 ends with 81. • a(1) = 9, a(2) = 41, a(n) = a(n - 2) + 50, n=3,4,... • a(n) = (1 / 2) * (50 * n - 25 + 7 * (- 1) ^ n), n=1,2,... • a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: x * (9 * x ^ 2 + 32 * x + 9) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Jul 04 2014 •

[A198943] • 1,9,41,79,351,1559,3001,13329,59201,113959,506151,2248079,4327441,19220409,85367801,164328799,729869391,3241728359,6240166921,27715816449,123100309841,236962014199,1052471155671,4674570045599,8998316372641 ⋆ y-values in the solution to 10*x^2-9 = y^2. • a(n + 6) = 38 * a(n + 3) - a(n) with a(1)=1, a(2)=9, a(3)=41, a(4)=79, a(5)=351. •

[A018836] • 1,9,41,109,205,325,473,649,853,1085,1345,1633,1949,2293,2665,3065,3493,3949,4433,4945,5485,6053,6649,7273,7925 ⋆ Number of squares on infinite chessboard at <= n knight's moves from a fixed square. • a(n) = 1 - 6 * n + 14 * n ^ 2 + 4 * sign(n * (n - 1) * (n - 3)). - _ Zak Seidov _ , Mar 01 2005 •

[A274323] • 1,1,9,41,129,313,649,1201,2049,3281,5001,7321,10369,14281,19209,25313,32769,41761,52489,65161,80001,97241,117129,139921,165889 ⋆ Number of partitions of n^4 into at most two parts. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6) for n>5. • a(n) = (3 + (- 1) ^ n + 2 * n ^ 4) / 4. • a(n) = 1 + floor(n ^ 4 / 2). - _ Alois P. Heinz _ , Oct 13 2016 •

[A001846] • 1,9,41,129,321,681,1289,2241,3649,5641,8361,11969,16641,22569,29961,39041,50049,63241,78889,97281,118721,143529,172041,204609,241601 ⋆ Centered 4-dimensional orthoplex numbers (crystal ball sequence for 4-dimensional cubic lattice). • a(n) = (2 * n ^ 4 + 4 * n ^ 3 + 10 * n ^ 2 + 8 * n + 3) / 3. - S. Bujnowski & B. Dubalski (slawb(AT)atr.bydgoszcz.pl), Mar 07 2002 • a(n) = sum(k=0..min(4,n), 2 ^ k * binomial(4,k) * binomial(n,k)). See Bump et al. - _ Tom Copeland _ , Sep 05 2014 •

[A271663] • 1,9,41,131,336,742,1470,2682,4587,7447,11583,17381,25298,35868,49708,67524,90117,118389,153349,196119,247940,310178,384330,472030,575055 ⋆ Convolution of nonzero squares (A000290) with nonzero pentagonal numbers (A000326). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = (n + 1) * (n + 2) * (n + 3) * (6 * n ^ 2 + 19 * n + 20) / 120. •

[A056243] • 1,9,41,146,456,1312,3568,9312,23552,58112,140544,334336,784384,1818624,4173824,9494528,21430272,48037888,107020288,237109248,522715136,1147142144,2507145216,5458886656,11844714496 ⋆ Third diagonal of triangle A056242. • a(n)=sum _{ 0<=j<=n - 3 } (- 1) ^ (n - 3 - j) * binomial(n - 3, j) * binomial(n + 2j - 1, 2j), for n>=3. - Pab Ter (pabrlos2(AT)yahoo.com), Nov 06 2005 •

[A083584] • 1,9,41,169,681,2729,10921,43689,174761,699049,2796201,11184809,44739241,178956969,715827881,2863311529,11453246121,45812984489,183251937961,733007751849,2932031007401,11728124029609,46912496118441 ⋆ a(n) = (8*4^n - 5)/3. • a(n) = (8 * 4 ^ n - 5) / 3. • a(0)=1, a(1)=9, a(n) = 5 * a(n - 1) - 4 * a(n - 2). - _ Harvey P. Dale _ , Oct 23 2011 • a(n) = 4 * a(n - 1) + 5, a(0) = 1. - _ Philippe Deléham _ , Feb 24 2014 • a(n + 1) = 2 ^ (2 ^ n + 1) + a(n), a(1)=1. - _ Ben Paul Thurston _ , Dec 27 2015 •

[A199311] • 9,41,201,1001,5001,25001,125001,625001,3125001,15625001,78125001,390625001,1953125001,9765625001,48828125001,244140625001,1220703125001,6103515625001,30517578125001,152587890625001,762939453125001 ⋆ 8*5^n+1. • a(n) = 5 * a(n - 1) - 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A062783] • 0,9,42,99,180,285,414,567,744,945,1170,1419,1692,1989,2310,265

5,3024,3417,3834,4275,4740,5229,5742,6279,6840 ⋆ a(n) = 3*n*(4*n-1). • a(n) = 24 * n + a(n - 1) - 15 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A027441] • 0,1,9,42,130,315,651,1204,2052,3285,5005,7326,10374,14287,19215,25320,32776,41769,52497,65170,80010,97251,117139,139932,165900 ⋆ (n^4 + n)/2, (Row sums of an n X n X n magic cube, when it exists). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Wesley Ivan Hurt _ , Aug 13 2014 • a(n) = (sum _{ i=1..n ^ 3 } i) / n ^ 2, for n > 0. - _ Wesley Ivan Hurt _ , Aug 13 2014 •

[A292481] • 0,0,1,9,42,139,381,984,2685,8061,25434,79695,242577,721584,2131785,6333633,18984618,57194883,172319157,517851144,1552599333,4651054101,13939132698,41810229351,125475990057 ⋆ p-INVERT of the odd positive integers, where p(S) = 1 - S^3. • a(n) = 6 * a(n - 1) - 25 * a(n - 2) + 21 * a(n - 3) - 12 * a(n - 4) + 9 * a(n - 5) for n >= 6. •

[A051923] • 1,9,42,140,378,882,1848,3564,6435,11011,18018,28392,43316,64260,93024,131784,183141,250173,336490,446292,584430,756470,968760,1228500,1543815 ⋆ Partial sums of A051836. • a(n) = C(n + 5, 5) * (n + 2) / 2. •

[A180670] • 0,0,1,9,42,140,383,925,2056,4316,8705,17069,32810,62192,116743,217673,404000,747496,1380177,2544865,4688186,8631620,15886111,29230725,53776968 ⋆ a(n) = a(n-1)+a(n-2)+a(n-3)+(8*n^3-48*n^2+112*n-96)/3 with a(0)=0, a(1)=0 and a(2)=1. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + (8 * n ^ 3 - 48 * n ^ 2 + 112 * n - 96) / 3 with a(0)=0, a(1)=0 and a(2)=1. •

[A185918] • 1,9,43,101,183,289,419,573,751,953,1179,1429,1703,2001,2323,2669,3039,3433,3851,4293,4759,5249,5763,6301,6863 ⋆ a(n) = 12*n^2 - 2*n - 1. • a(n) = a(n - 1) + 24 * n - 14. • a(n) = 2 * a(n - 1) - a(n) + 24. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A244869] • 1,9,43,143,379,859,1738,3226,5597,9197,14453,21881,32095,45815,63876,87236,116985,154353,200719,257619,326755,410003,509422,627262,765973 ⋆ Number of magic labelings with magic sum n of first graph shown in link. • a(n) = (15 * (63 + (- 1) ^ n) + 2592 * n + 2880 * n ^ 2 + 1660 * n ^ 3 + 510 * n ^ 4 + 68 * n ^ 5) / 960. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - a(n - 7) for n>6. •

[A281773] • 0,0,1,9,43,165,571,1869,5923,18405,56491,172029,521203,1573845,4742011,14266989,42882883,128812485,386765131,1160950749,3484162963,10455110325,31370573851,94122207309,282387593443 ⋆ Number of distinct topologies on an n-set that have exactly 4 open sets. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>3. • a(n) = 2 - 5 * 2 ^ (n - 1) + 3 ^ n for n>0. (End) •

[A110125] • 1,1,1,9,43,213,1507,12537,114325,1144221,12512373,148351881,1892798733,25816700309,374406371121,5748436717505,93098093268755,1585364420710205,28305454044441843,528500175862180033,10295596472841577779 ⋆ Row sums of a scaled Legendre triangle. • a(n)=sum { k=0..n, 2 ^ (n - k) * LegendreP(n - k, k) } . •

[A275793] • 9,43,249,1451,8457,49291,287289,1674443,9759369,56881771,331531257,1932305771,11262303369,65641514443,382586783289,2229879185291,12996688328457,75750250785451,441504816384249,2573278647520043,14998167068736009,87415723764896011 ⋆ The x members of the positive proper solutions (x = x1(n), y = y1(n)) of the first class for the Pell equation x^2 - 2*y^2 = +7^2. • a(n) = 6 * a(n - 1) - a(n - 2) for n >= 1, with a(- 1) = 11 and a(0) = 9. • a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 8 + 9 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (8 + 9 * sqrt(2)))) / (2 * sqrt(2)). - _ Colin Barker _ , Sep 28 2016 •

[A050486] • 1,9,44,156,450,1122,2508,5148,9867,17875,30888,51272,82212,127908,193800,286824,415701,591261,826804,1138500,1545830,2072070,2744820,3596580,4665375 ⋆ a(n) = binomial(n+6,6)*(2n+7)/7. • a(n) = 2 * C(n + 7, 7) - C(n + 6, 6). - _ Paul Barry _ , Mar 04 2003 • a(n) = C(n + 6,6) + 2 * C(n + 6,7). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. - _ Wesley Ivan Hurt _ , Jan 01 2016 •

[A213755] • 1,9,44,160,491,1355,3486,8546,20245,46773,106048,236980,523535,1145935,2489202,5372534,11532633,24639513,52426420,111146280,234877811,494924179,1040183174,2181033290,4563397341 ⋆ Antidiagonal sums of the convolution array A213753. • a(n) = (1 / 6) * (84 - 21 * 2 ^ (n + 2) + 23 * n + 9 * n * 2 ^ (n + 2) - 3 * n ^ 2 - 2 * n ^ 3). • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 44 * a(n - 3) - 41 * a(n - 4) + 20 * a(n - 5) - 4 * a(n - 6). •

[A084903] • 1,9,44,170,576,1792,5248,14688,39680,104192,267264,672256,1662976,4055040,9764864,23257088,54853632,128253952,297533440,685375488,1568669696,3569352704,8078229504,18192793600,40785412096 ⋆ Binomial transform of positive cubes. • a(n) = 2 ^ (n - 3) * (n ^ 3 + 9n ^ 2 + 18n + 8). • a(n) = Sum _{ k=0..n } C(n, k) * (1 + k) ^ 3. •

[A099867] • 1,9,44,211,1011,4844,23209,111201,532796,2552779,12231099,58602716,280782481,1345309689,6445765964,30883520131,147971834691,708975653324,3396906431929,16275556506321,77980876099676,373628823992059,1790163243860619,8577187395311036 ⋆ a(n) = 5*a(n-1) - a(n-2) for n>1, a(0)=1, a(1)=9. • a(n) = 2 ^ (- 1 - n) * ((5 - sqrt(21)) ^ n * (- 13 + sqrt(21)) + (5 + sqrt(21)) ^ n * (13 + sqrt(21))) / sqrt(21). - _ Colin Barker _ , Mar 31 2017 •

[A228603] • 9,44,212,1024,4944,23872,115264,556544,2687232,12975104,62649344,302497792,1460588544,7052345344,34051735552,164416323584,793872236544,3833154240512,18508105908224,89365040594944,431492586012672,2083430506430464,10059692369772544 ⋆ a(1) = 9, a(2) = 44, a(n) = 4*(a(n-1) + a(n-2)) (n >=3). • a(n) = (8 - 5 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ (n) / 8 + (8 + 5 * sqrt(2)) * (2 + 2 * sqrt(2)) ^ (n) / 8. •

[A104470] • 1,1,1,9,44,270,1938,15764,143776,1453302,16128420,194980478,2550746400,35904118874,541097840528,8693290587030,148324680742912,2678504175897990,51039398650102776,1023458322628129882 ⋆ Tribonacci-equivalent of mousetrap sequence (A002467). • a(0) = a(1) = a(2) = 1; for n>2 a(n) = n * (a(n - 1) + a(n - 2) + a(n - 3)). •

[A152996] • 0,9,45,108,198,315,459,630,828,1053,1305,1584,1890,2223,2583,2970,3384,3825,4293,4788,5310,5859,6435,7038,7668 ⋆ 9 times pentagonal numbers: 9*n*(3*n-1)/2. • a(0)=0, a(1)=9, a(2)=45, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jan 14 2016 •

[A220443] • 0,9,45,126,270,495,819,1260,1836,2565,3465,4554,5850,7371,9135,11160,13464,16065,18981,22230,25830,29799,34155,38916,44100 ⋆ a(n) = Sum_{i=1..n} (3i)^2. • a(n) = (3 * n * (1 + 3 * n + 2 * n ^ 2)) / 2. G.f.: 9 * x * (x + 1) / (x - 1) ^ 4. - _ Colin Barker _ , Jul 22 2013 •

[A289721] • 1,9,45,135,306,585,999,1575,2340,3321,4545,6039,7830,9945,12411,15255,18504,22185,26325,30951,36090,41769,48015,54855,62316 ⋆ Let a(0)=1. Then a(n) = sums of consecutive strings of positive integers of length 3*n, starting with the integer 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 4. •

[A212089] • 0,1,9,45,139,333,684,1258,2133,3402,5167,7542,10656,14647,19665,25875,33451,42579,53460,66304,81333,98784,118903,141948,168192 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w>=average{x,y,z}. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) - 4 * a(n - 6) + a(n - 7). •

[A095166] • 1,9,45,155,420,966,1974,3690,6435,10615,16731,25389,37310,53340,74460,101796,136629,180405,234745,301455,382536,480194,596850,735150,897975 ⋆ Group the natural numbers so that the n-th group contains n(n+1)/2 numbers and obtain the group sum. • a(n) = (2n ^ 5 + 15n ^ 4 + 44n ^ 3 + 69n ^ 2 + 62n + 24) / 24. •

[A247609] • 1,9,45,165,495,1231,2639,5055,8885,14605,22761,33969,48915,68355,93115,124091,162249,208625,264325,330525,408471,499479,604935,726295,865085 ⋆ a(n) = Sum_{k=0..4} binomial(8,k)*binomial(n,k). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = (12 - 58 * n + 217 * n ^ 2 - 98 * n ^ 3 + 35 * n ^ 4) / 12. • a(n) = 1 + 8 * Binomial(n, 1) + 28 * Binomial(n, 2) + 56 * Binomial(n, 3) + 70 * Binomial(n, 4). •

[A008491] • 1,9,45,165,495,1287,3003,6435,12870,24309,43749,75537,125805,202995,318483,487311,729036,1068705,1537965,2176317,3032523,4166175,5649435,7568955,10027986 ⋆ Expansion of (1-x^9) / (1-x)^9. • a(n) = (n * (3044 + 1869 * n ^ 2 + 126 * n ^ 4 + n ^ 6)) / 560 for n>0. - _ Colin Barker _ , Jan 06 2017 •

[A000581] • 1,9,45,165,495,1287,3003,6435,12870,24310,43758,75582,125970,203490,319770,490314,735471,1081575,1562275,2220075,3108105,4292145,5852925,7888725,10518300 ⋆ Binomial coefficients C(n,8). • a(n) = n(n - 1)(n - 2)(n - 3)(n - 4)(n - 5)(n - 6)(n - 7) / 8!. - _ Artur Jasinski _ , Dec 02 2007 •

[A145137] • 0,1,9,45,165,496,1297,3058,6655,13586,26323,48829,87308,151282,255125,420234,678086,1074525,1675754,2576688,3912574,5875129,8734923,12872391,18820765 ⋆ Expansion of x/((1 - x - x^4)*(1 - x)^8). • a(n) = [9, - 36, 84, - 125, 118, - 56, - 20, 61, - 55, 28, - 8, 1] * [a(n - 1), ..., a(n - 12)]. •

[A036826] • 0,1,9,45,173,573,1725,4861,13053,33789,84989,208893,503805,1196029,2801661,6488061,14876669,33816573,76283901,170917885,380633085,843055101,1858076669,4076863485,8908701693 ⋆ A036800/2. • a(n) = 2 ^ n * (n ^ 2 - 2 * n + 3) - 3. • a(n) = sum { k=0..n, k ^ 2 * 2 ^ (k - 1) } . (End) • a(0) =0, a(1)=1, a(2)=9, a(3)=45, a(n)=7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Harvey P. Dale _ , Mar 04 2015 •

[A124647] • 1,9,45,189,729,2673,9477,32805,111537,373977,1240029,4074381,13286025,43046721,138706101,444816117,1420541793,4519905705,14334558093,45328197213,142958160441,449795187729,1412147682405,4424729404869 ⋆ a(n) = (2n + 1)*3^n. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) for n > 1; a(0) = 1, a(1) = 9. - _ Klaus Brockhaus _ , Sep 23 2009 •

[A270567] • 1,9,45,225,1125,5625,28125,140625,703125,3515625,17578125,87890625,439453125,2197265625,10986328125,54931640625,274658203125,1373291015625,6866455078125,34332275390625,171661376953125,858306884765625,4291534423828125,21457672119140625 ⋆ Expansion of (1+4*x)/(1-5*x). • a(n) = 5 * a(n - 1) for n>1. • a(n) = 9 * 5 ^ (n - 1) for n>0. •

[A001556] • 9,45,285,2025,15333,120825,978405,8080425,677313335743049854914341925,42364319625,367428536133,3202860761145,28037802953445,246324856379625,2170706132009733,19179318935377305,169842891165484965,1506994510201252425 ⋆ a(n) = 1^n + 2^n + ... + 9^n. • a(n) = sum _{ j=1..9 } j ^ n, n>=0. •

[A260513] • 1,9,46,164,460,1091,2289,4376,7779,13045,20856,32044,47606,68719,96755,133296,180149,239361,313234,404340,515536,649979,811141,1002824,1229175 ⋆ a(n) = (8*n+13*n^3+3*n^5)/24; also the sum of triangular numbers taken in successive groups of increasing size (see Example). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. - _ Colin Barker _ , Aug 07 2015 •

[A001781] • 1,9,46,174,541,1461,3544,7896,16414,32206,60172,107788,186142,311278,505912,801592,1241383,1883167,2803658,4103242,5911763,8395387,11764688,16284112,22282988 ⋆ Expansion of 1/((1+x)*(1-x)^10). • a(n) = + 9 * a(n - 1) - 35 * a(n - 2) + 75 * a(n - 3) - 90 * a(n - 4) + 42 * a(n - 5) + 42 * a(n - 6) - 90 * a(n - 7) + 75 * a(n - 8) - 35 * a(n - 9) + 9 * a(n - 10) - a(n - 11). - _ R. J. Mathar _ , Mar 22 2011 •

[A053308] • 1,9,46,175,551,1518,3785,8735,18955,39130,77533,148487,276408,502415,895103,1568062,2708322,4622488,7811510,13091798,21791338,36067176,59419294,97522270,159571139 ⋆ Partial sums of A053296. • a(n) = Sum _{

i=0..floor(n / 2) } C(n + 8 - i, n - 2i), n >= 0. • a(n) = Sum _{ k=1..n } C(n - k + 8,k + 7), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 •

[**A201458**] • 1,9,46,175,551,1520,3811,8921,19922,43211,92363,196608,419295,897565,1926458,4135255,8854359,18875392,40024059,84417521,177221602,370688979,773342163,1610612736,3350668423 ★ Expansion of 1/((1-2*x)*(1-3*x+3*x^2)*(1-4*x+6*x^2-4*x^3)). • a(n) = 9 * a(n - 1) - 35 * a(n - 2) + 76 * a(n - 3) - 98 * a(n - 4) + 72 * a(n - 5) - 24 * a(n - 6) for a(- 5)=a(- 4) =a(- 3)=a(- 2)=a(- 1)=0, a(0)=1. • a(n) = 8 * 2 ^ n * (n + 1) + 2 * ((1 - i) ^ (n - 1) + (1 + i) ^ (n - 1)) + ((3 + i * sqrt(3)) / 2) ^ (n + 4) + ((3 - i * sq rt(3)) / 2) ^ (n + 4), where i=sqrt(- 1). •

[**A035039**] • 0,0,0,0,0,0,0,1,9,46,176,562,1586,4096,9908,22819,50643,109294,230964,480492,988116,2014992,4084248,8243109,16587165 ★ a(n) = 2^n - C(n,0) - C(n,1) - ... - C(n,6). • a(n) = sum _{ k=0..n } , C(n, k + 7) = sum _{ k=7. .n } C(n, k); a(n) = 2a(n - 1) + C(n - 1, 6). - _ Paul Barry _ , Aug 23 2004 •

[**A213749**] • 1,9,46,180,603,1827,5164,13878,35905,90189,221274,532584,1261687,2949255,6815896,15597738,35389629,79691985,178258150,396361980,876609811,1929380139,4227858756,9227469150,20065550713 ★ Antidiagonal sums of the convolution array A213747. • a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 63 * a(n - 3) - 66 * a(n - 4) + 36 * a(n - 5) - 8 * a(n - 6). • a(n) = (1 / 2) * ((1 + n) * (4 - 2 ^ (2 + n) + n + 2 ^ (1 + n) * n)). - _ Colin Barker _ , Oct 30 2017 •

[**A085385**] • 0,1,9,46,184,640,2032,6048,17152,46848,124160,321024,813056,2023424,4960256,12001280,28704768,67960832,159449088,371064832,857210880,1967128576,4486856704,10177478656,22968008704 ★ Binomial transform of hexagonal pyramidal numbers A002412. • a(n)=n * 2 ^ n(2n ^ 2 + 9n + 1) / 4! •

[**A081193**] • 1,9,46,204,856,3504,14176,57024,228736,916224,3667456,14674944,58710016,234860544,939483136,3758014464,15032221696,60129214464,240517513216,962071363584,3848288075776,15393157545984,61572640669696 ★ a(n) = 6*a(n-1)-8*a(n-2) for n>1, a(0)=1, a(1)=9. • a(n) = 7 * 4 ^ n / 2 - 5 * 2 ^ n / 2. •

[**A100790**] • 1,9,47,183,560,1426,3164,6322,11643,20095,32901,51569,77922,114128,162730,226676,309349,414597,546763,710715,911876,1156254,1450472,1801798,2218175 ★ First differences of A047780. • a(0)=1, a(1)=9, a(2)=47, a(3)=183, a(4)=560, a(5)=1426, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Dec 18 2013 •

[**A055250**] • 1,9,47,187,630,1898,5282,13866,34831,84575,199977,462973,1053804,2365704,5250660,11543700,25177005,54539205,117456115,251676495,536892146,1140875254,2415947382,5100306062,10737455195 ★ Seventh column of triangle A055249. • a(n) = Sum _{ k=0..n + 5 } Sum _{ i=0..n + 5 } (i - k) * C(n - k + 5,i + 3). - _ Wesley Ivan Hurt _ , Sep 19 2017 •

[**A038740**] • 1,9,47,188,643,1993,5798,16193,44068,118013,312974,825277,2169045,5690426,14913861,39066661,102306471,267879086,701364436,1836256726,4807458872,12586185670,32951178868,86267449214,225851287529 ★ T(n,n-3), array T as in A038738. • a(3)=1, a(4)=9, a(5)=47, a(6)=188, a(7)=643, a (8)=1993, a(9)=5798, a(10)=16193, a(n)=9 * a(n - 1) - 34 * a(n - 2) + 71 * a (n - 3) - 90 * a(n - 4) + 71 * a(n - 5) - 34 * a(n - 6) + 9 * a(n - 7) - a (n - 8) [From Harvey P. Dale, Jan 06 2012] •

[**A163614**] • 1,9,47,219,985,4377,19367,85563,377809,1667913,7362815,32501499,143469289,633305241,2795546423,12340141851,54472026145,240451163913,1061402800463,4685258655387,20681732329081,91293583386777 ★ a(n) = ((1 + 3*sqrt(2))*(3 + sqrt(2))^n + (1 - 3*sqrt(2))*(3 - sqrt(2))^n)/2. • a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 9. •

[**A286437**] • 0,9,48,153,372,765,1404,2373,3768,5697,8280,11649,15948,21333,27972,36045,45744,57273,70848,86697,105060,126189,150348,177813,208872 ★ Number of ways to tile an n X n X n triangular area with two 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-8) of 1 X 1 X 1 tiles. • a(n) = (n ^ 4 - 6 * n ^ 3 + 5 * n ^ 2 + 30 * n - 54) / 2, n>=3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>7. •

[**A073979**] • 0,0,9,48,180,972,7056,48384,297432,1762560,10349856,60466176,356638464,2139830784,12958657344,78399995904,472093588224,2832129868032,16960580969472,101565116448768,608764662139392,3652526115938304,21926115464435712,131621703842267136 ★ Number of strings of length n over Z_6 with trace 1 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[**A055582**] • 1,9,48,198,699,2223,6562,18324,49029,126837,319332,786258,1900351,4521771,10616598,24641280,56622825,128974545,291503800,654311070,1459617411,3238002279,7147093578,15703473708,34359737869 ★ Sixth column of triangle A055252. • a(n)= (n ^ 2 - 3 * n + 8) * (2 ^ (n + 3) - 1) / 2 - 9 * (n + 3). [_ Yahia Kahloune _ , Aug 11 2013] •

[**A226751**] • 1,1,9,48,289,1761,10932,68664,435201,2777763,17829489,114968052,744178716,4832624044,31469746632,205422018288,1343734578561,8806130111847,57805893969531,380013533789928,2501507255441049,16486378106441697,108773240389894056 ★ G.f.: 1 / (1 + 6*x*G(x) - 7*x*G(x)^2), where G(x) = 1 + x*G(x)^3 is the g.f. of A001764. • a(n) = Sum _{ k=0..n } C(2 * k, n - k) * C(3 * n - 2 * k, k). • a(n) = Sum _{ k=0..n } C(n + 2 * k, n - k) * C(2 * n - 2 * k, k). • a(n) = Sum _{ k=0..n } C(2 * n + 2 * k, n - k) * C(n - 2 * k, k). • a(n) = Sum _{ k=0..n } C(3 * n + 2 * k, n - k) * C(- 2 * k, k). •

[**A028375**] • 1,9,49,81,121,169,289,361,441,529,729,841,961,1089,1369,1521,1681,1849,2209,2401,2601,2809,3249,3481,3721 ★ Squares of (odd numbers not divisible by 5). • a(n) = a(n - 1) + 2 * a(n - 4) - 2 * a(n - 5) - a(n - 8) + a(n - 9). - R. J. Mathar, Sep 22 2009 •

[**A016838**] • 9,49,121,225,361,529,729,961,1225,1521,1849,2209,2601,3025,3481,3969,4489,5041,5625,6241,6889,7569,8281,9025,9801 ★ a(n) = (4n + 3)^2. • a(n + 1) = a(n) + 16 + 8 * sqrt(a(n)). • a(n + 1) = 2 * a(n) - a(n - 1) + 32 = 3 * a(n) - 3 * a(n - 1) + a(n - 2). • a(n - 1) * a(n + 1) = (a(n) - 16) ^ 2; a(n + 1) - a(n - 1) = 16 * sqrt(a(n)). •

[**A014730**] • 1,9,49,121,841,2209,15129,39601,271441,710649,4870849,12752041,87403801,228826129,1568397609,4106118241,28143753121,73681302249,505019158609,1322157322201,9062201101801,23725150497409,162614600673849,425730551631121,2918000611027441 ★ Squares of odd Lucas numbers. • a(n) = 17 * a(n - 2) + 17 * a(n - 4) - a(n - 6). - _ R. J. Mathar _ , Feb 10 2012 •

[**A212503**] • 0,1,9,49,144,361,729,1369,2304,3721,5625,8281,11664,16129,21609,28561,36864,47089,59049,73441,90000,109561,131769,157609,186624 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y<2z. • a(n) = 2 * a (n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[**A273374**] • 9,49,169,289,529,729,1089,1369,1849,2209,2809,3249,3969,4489,5329,5929,6889,7569,8649,9409,10609,11449,12769,13689,15129 ★ Squares ending in digit 9. • a(n) = 6 + (50 * (n - 1) * n - 5 * (2 * n - 1) * (- 1) ^ n + 1) / 2. •

[**A058031**] • 1,1,9,49,169,441,961,1849,3249,5329,8281,12321,17689,24649,33489,44521,58081,74529,94249,117649,145161,177241,214369,257049,305809 ★ a(n) = n^4 - 2*n^3 + 3*n^2 - 2*n + 1, the Alexander polynomial for reef and granny knots. • a(n) = (n ^ 2 - n + 1) ^ 2. - _ Carmine Suriano _ , Feb 16 2012 • a(n) = (n - 2) * (n - 1) * n * (n + 1) + (2 * n - 1) ^ 2. - _ Charlie Marion _ , Apr 11 2013 • a(n) = (n * (n - 1)) ^ 2 + (n - 1) ^ 2 + n ^ 2, sum of three squares. - _ Carmine Suriano _ , Jun 16 2014 • a(n) = (n - 1) ^ 4 + 2 * (n - 1) ^ 3 + 3 * (n - 1) ^ 2 + 2 * (n - 1) + 1. - _ Bruce J. Nicholson _ , Apr 07 2017 •

[**A027608**] • 1,9,49,209,769,2561,7937,23297,65537,178177,471041,1216513,3080193,7667713,18808833,45547521,109051905,258473985,607125505,1414529025,3271557121,7516192769,17163091969 ★ Expansion of 1/((1-x)*(1-2x)^4). • a (n - 1) = 1 + (n - 1) * 2 ^ (n + 1) + ((n ^ 3 - 7 * n + 6) * 2 ^ (n - 1)) / 3, n >= 1. - Roger Voles, Dec 07 2004, index corrected by _ R. J. Mathar _ , Mar 14 2011 • a(n) = 1 + n * 2 ^ (n + 2) + (((n + 1) ^ 3 - 7 * (n + 1) + 6) * 2 ^ n) / 3 = (n / 3) * (n ^ 2 + 3n + 8) 2 ^ n + 1, n >= 0. - _ Daniel Forgues _ , Nov 01 2012 •

[**A060867**] • 1,9,49,225,961,3969,16129,65025,261121,1046529,4190209,16769025,67092481,268402689,1073676289,4294836225,17179607041,68718952449,274876858369,1099509530625,4398042316801,17592177655809 ★ a(n) = (2^n - 1)^2. • a(n) = sum _{ j=1..n } sum _{ k=1..n } binomial(n + j,n - k). - _ Yalcin Aktar _ , Dec 28 2011 •

[**A192814**] • 1,1,1,9,49,225,1041,4873,22817,106753,499425,2336585,10931921,51145825,239289457,1119533257,5237818689,24505519873,114650876097,536402551689,2509598769265,11741342323937,54932733173713,257006830281609 ★ Constant term in the reduction of the polynomial (2x+1)^n by x^3->x^2+x+1. See Comments. • a(n)=5 * a(n - 1) - 3 * a(n - 2) + 7a(n - 3). •

[**A081655**] • 1,9,49,249,1249,6249,31249,156249,781249,3906249,19531249,97656249,488281249,2441406249,12207031249,61035156249,305175781249,1525878906249,7629394531249,38146972656249,190734863281249 ★ 2*5^n-1. • a(n) = 5 * a(n - 1) + 4, with a(0)=1. - _ Vincenzo Librandi _ , Aug 01 2010 •

[**A123270**] • 1,1,9,49,281,1601,9129,52049,296761,1692001,9647049,55003249,313604441,1788035201,10194593769,58125109649,331403923321,1889520055201,10773215969289,61424160067249,350213664213401,1996764961336001 ★ a(0)=1, a(1)=1, a(n)=5*a(n-1)+4*a(n-2). • a(n)=(1 / 2) * [5 / 2 - (1 / 2) * sqrt(41)] ^ n - (3 / 82) * sqrt(41) * [5 / 2 + (1 / 2) * sqrt(41)] ^ n + (3 / 82) * sqrt(41) * [5 / 2 - (1 / 2) * sqrt(41)] ^ n + (1 / 2) * [5 / 2 + (1 / 2) * sqrt(41)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 07 2008 •

[**A114040**] • 1,9,49,281,1633,9513,55441,323129,1883329,10976841,63977713,372889433,2173358881,12667263849,73830224209,430314081401,2508054264193,14618011503753,85200014758321,496582077046169,2894292447518689,16869172608065961,98320743200877073 ★ a(0) = 1, a(1) = 9, a(n) = 6*a(n-1) - a(n-2) - 4. • a(n)=1 - sqrt(2) * [3 - 2 * sqrt(2)] ^ n + [3 + 2 * sqrt(2)] ^ n * sqrt(2), with n>=0 - _ Paolo P. Lava _ , Jun 25 2008 •

[**A090390**] • 1,1,9,49,289,1681,9801,57121,332929,1940449,11309769,65918161,384199201,2239277041,13051463049,76069501249,443365544449,2584123765441,15061377048201,87784138523761,511643454094369,2982076586042449,17380816062160329,101302819786919521,590436102659356801 ★ Repeatedly multiply (1,0,0) by ([1,2,2],[2,1,2],[2,2,3]); sequence gives leading entry. • a(0)=1, a (1)=1, a(2)=9, a(n)=5 * a(n - 1) + 5 * a(n - 2) - a(n - 3) - _ Harvey P. Dale _ , May 20 2012 •

[**A199411**] • 9,49,289,1729,10369,62209,373249,2239489,13436929,80621569,483729409,2902376449,17414258689,104485552129,626913312769,3761479876609,22568879259649,135413275557889,812479653347329,4874877920083969,29249267520503809 ★ 8*6^n+1. • a(n) = 6 * a(n - 1) - 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). •

[**A286810**] • 1,9,49,324,2209,15129,103684,710649,4870849,33385284,228826129,1568397609,10749957124,73681302249,505019158609,3461452808004,23725150497409,162614600673849,1114577054219524,7639424778862809,52361396397820129,358890350005878084,2459871053643326449,16860207025497407049 ★ Number of non-attacking bishop positions on a cylindrical 2 X 2n chessboard. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3) for n>3. - _ Colin Barker _ , May 21 2017 •

[**A066558**] • 9,49,333,2499,19999,166666,1428571,12499999,111111111,999999

999,9090909090,83333333333,769230769230,7142857142857,66666666666666,624999999999999,5882352941176470,55555555555555555,526315789473684210 ★ a(n) = A066557(n)/n. ● a(n) = floor((10 ^ n - 1) / n). ●

[A168597] ● 1,1,9,49,361,2601,19881,154449,1225449,9853321,80156209,658076409,5444816521,45343869481,379735715529,3195538786449,27004932177129,229066136374761,1949470542590481,16640188083903609,142415188146838161 ★ Squares of the central trinomial coefficients (A002426). ● a(n) = (- 1) ^ n * hypergeom([1 / 2, - n],[1],4) * hypergeom([(1 - n) / 2, - n / 2],[1],4). - _ Peter Luschny _ , Nov 10 2014 ●

[A169724] ● 9,49,361,3025,26569,237169,2128681,19140625,172213129,1549760689,13947373801,125524947025,1129720271689,10167469690609,91507188951721,823564585774225,7412080927594249,66708727315226929,600378542737678441,5403406875341014225 ★ (2*3^(n-1)+1)^2. ● a(n)= + 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). G.f.: x * (- 9 + 68 * x - 75 * x ^ 2) / ((x - 1) * (3 * x - 1) * (9 * x - 1)). [_ R. J. Mathar _ , Apr 26 2010] ●

[A084367] ● 0,9,50,147,324,605,1014,1575,2312,3249,4410,5819,7500,9477,11774,14415,17424,20825,24642,28899,33620,38829,44550,50807,57624 ★ n*(2*n+1)^2 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 04 2012 ●

[A006974] ● 1,9,50,220,840,2912,9408,28800,84480,239360,658944,1770496,4659200,12042240,30638080,76873728,190513152,466944000,1133117440,2724986880,6499598336,15386804224,36175872000,84515225600,196293427200 ★ Coefficients of Chebyshev polynomials. ● a(n)=sum { k=0..floor((n + 8) / 2), C(n + 8, 2k)C(k, 4) } - _ Paul Barry _ , May 15 2003 ● a(n) = 2 ^ (n - 1) / 4 * Binomial(n + 3,3) * (n + 8). - Brad Clardy, Mar 08 2012 ●

[A222993] ● 9,50,222,867,3123,10660,35064,112373,353517,1097430,3374226,10302919,31301991,94757960,286108908,862258905,2595165345,7803321850,23447714310,70422834731,211436276379,634661150700,1904721649632,5715708452797 ★ Number of n X 2 0..2 arrays with successive rows and columns fitting to straight lines with nondecreasing slope, with a single point array taken as having zero slope ● a(n) = (- 13 - 2 ^ (6 + n) + 3 ^ (4 + n) - 2 * (1 + 2 ^ (4 + n)) * n) / 4. ●

[A171480] ● 1,9,50,232,996,4124,16780,67692,271916,1089964,4364460,17467052,69886636,279583404,1118407340,4473776812,17895402156,71582198444,286329973420,1145322252972,4581293730476,18325184359084,73300756310700 ★ a(n) = 6*a(n-1)-8*a(n-2)+4 for n > 1; a(0) = 1, a(1) = 9. ● a(n) = (25 * 4 ^ n - 27 * 2 ^ n + 8) / 6. ●

[A054549] ● 1,9,51,219,786,2466,6974,18126,43929,100321,217683,451707,901128,1735752,3239928,5878328,10393902,17950878,30340682,50273658,81787476,130811124,205935756,319456044,488764246 ★ Number of symmetric nonnegative integer 9 X 9 matrices with sum of elements equal to 4*n, under action of dihedral group D_4. ● a(n) = ((85135050 * (256719 + 5425 * (- 1) ^ n) + 1890 * (30592018355 + 141137997 * (- 1) ^ n) * n + 9 * (7020005494399 + 6456074625 * (- 1) ^ n) * n ^ 2 + 15288 * (2534162507 + 393525 * (- 1) ^ n) * n ^ 3 + 455 * (33274853083 + 654885 * (- 1) ^ n) * n ^ 4 + 126126 * (31995443 + 45 * (- 1) ^ n) * n ^ 5 + 763179408992 * n ^ 6 + 104737240608 * n ^ 7 + 10538322080 * n ^ 8 + 777020244 * n ^ 9 + 41479438 * n ^ 10 + 1559376 * n ^ 11 + 39130 * n ^ 12 + 588 * n ^ 13 + 4 * n ^ 14)) / 22317642547200. - _ Colin Barker _ , Jan 15 2017 ●

[A220236] ● 9,51,231,975,3999,16191,65151,261375,1047039,4191231,16771071,67096575,268410879,1073692671,4294868991,17179672575,68719083519,274877120511,1099510054911,4398043365375,17592179752959,70368731594751,281474951544831,1125899856510975 ★ Binary palindromic numbers with only two 0 bits, both in the middle. ● a(n) = 2 ^ (2 * n + 2) - 2 ^ (n + 1) - 2 ^ n - 1. ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: 3 * x * (4 * x - 3) / ((x - 1) * (2 * x - 1) * (4 * x - 1)). - _ Colin Barker _ , May 31 2013 ●

[A213164] ● 1,9,51,235,966,3702,13546,47994,166095,564679,1893285,6277677,20626588,67260540,217924068,702199684,2251881645,7191492885,22882022695,72568700415,229473998466,723725687314,2277088137966,7148997642270,22400192612251 ★ Sequence of coefficients of x in marked mesh pattern generating function Q_{n,132}^(4,0,-,0)(x). ● a(n) = ((2 * n - 11) * 3 ^ (n - 2) + 2 * n ^ 2 - 2 * n + 3) / 16 ●

[A155617] ● 1,9,51,279,1551,8799,50751,296319,1745151,10339839,61514751,366991359,2193559551,13127802879,78632599551,471258726399,2825404874751,16943839313919,101628676145151,609634617917439,3657257951690751 ★ 6^n + 4^n - 1. ● a(n) = 10 * a(n - 1) - 24 * a(n - 2) - 15, n>1 - _ Gary Detlefs _ , Jun 21 2010 ● a(n) = 11 * a(n - 1) - 34 * a(n - 2) + 24 * a(n - 3). - _ Vincenzo Librandi _ , Feb 16 2013 ●

[A126477] ● 1,9,51,301,1787,10619,63111,375091,2229307,13249619,78747531,468026571,2781660187,16532466059,98258743211,583989138891,3470869901227,20628701920939,122604233247851,728683659684651 ★ Number of base 9 n-digit numbers with adjacent digits differing by three or less. ● a(n) = 7 * a(n - 1) - 6 * a(n - 2) - 2 * a(n - 3) + 2 * a(n - 4) for n>4. ●

[A275861] ● 1,1,9,51,305,1813,10784,64144,381543,2269503,13499513,80298135,477631347,2841058559,16899254596,100520563016,597918892325,3556555903317,21155193548465,125835844069155,748499871500621,4452245397810113,26482955892270832 ★ a(n) = floor(c*s*a(n-1)) + floor(d*r*a(n-2)), where r = 2 + sqrt(5), s = r/(r-1), c = 4, d = 1, a(0) = 1, a(1) = 1. ● a(n) = floor(c * s * a(n - 1)) + floor(d * r * a(n - 2)), where r = 2 + sqrt(5), s = r / (r - 1), c = 4, d = 1, a(0) = 1, a(1) = 1. ●

[A181161] ● 1,1,9,51,1275,8415,115005,805035,45886995,331406075,4838528695,35629165845,1056998586735,7886835608715,118302534130725,89121242378 4795,1078367032779601 95,818290277815109715 ★ Numerator in abs(binomial(-1/8,n)). ● a(n) = 2 ^ (e _ 2((2 * n)!) - n) / n! * Product[8k + 1, { k,0,n - 1 }] where e _ 2((2n)!) is the highest power of 2 that divides (2 * n)! (sequence A005187) ●

[A163941] ● 1,9,52,246,1039,4083,15274,55152,193957,668397,2266816,7589418,25143355,82571751,269173078,871958244,2809322833,9008574945,28768068460,91532284830,290283189991,917912770779,2894936303362 ★ Fourth right hand column of triangle A163940. ● a(n) = (1 / 4) * (2 ^ (n + 5) + (2 * n - 3) * 3 ^ (n + 2) - 1). ● a(n) = 9 * a(n - 1) - 29 * a(n - 2) + 39 * a(n - 3) - 18 * a(n - 4). ●

[A292488] ● 1,9,52,261,1323,6814,35077,180261,926348,4761289,24472527,125783886,646502873,3322895889,17079026852,87782799261,451186103523,2319006747614,11919233055677,61262485125261,314876977751548,1618404981969089,8318279426249127 ★ p-INVERT of the odd positive integers, where p(S) = 1 - S - 5 S^2. ● a(n) = 5 * a(n - 1) - 2 * a(n - 2) + 13 * a(n - 3) + 5 * a(n - 4) for n >= 5. ●

[A094793] ● 9,53,181,465,1001,1909,3333,5441,8425,12501,17909,24913,33801,44885,58501,75009,94793,118261,145845,178001,215209,257973,306821,362325,425001 ★ a(n) = (1/n!)*A001688(n). ● a(n) = n ^ 4 + 6 * n ^ 3 + 17 * n ^ 2 + 20 * n + 9. ● a(n) = sum((- 1) ^ i * binomial(4,i) * (n - i)! / (n - 4)!,i=0..4). - Fiona T. Brunk (fbrunk(AT)mcs.st - and.ac.uk), May 23 2006 ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Fung Lam _ , Apr 17 2014 ●

[A005025] ● 9,53,260,1156,4845,19551,76912,297275,1134705,4292145,16128061,60304951,224660626,834641671,3094322026,11453607152,42344301686,156404021389,577291806894,2129654436910,7853149169635,28949515515376,106692395098433,393137817645838 ★ Random walks. ● a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 35 * a(n - 3) - 15 * a(n - 4) + a(n - 5). (End) ● a(k) = Sum _{ j= - infinity..infinity } (binomial(9 + 2 * k, 11j + k - 2) - binomial(9 + 2 * k, 11j + k - 1)) (a finite sum). ●

[A038761] ● 1,9,53,309,1801,10497,61181,356589,2078353,12113529,70602821,411503397,2398417561,13979001969,81475594253,474874563549,2767771787041,16131756158697,94022765165141,548004834832149 ★ a(n) = 6*a(n-1)-a(n-2), n >= 2, a(0)=1, a(1)=9. ● a(n) = { 9 * ([3 + 2 * sqrt(2)] ^ n - [3 - 2 * sqrt(2)] ^ n) - ([3 + 2 * sqrt(2)] ^ (n - 1) - [3 - 2 * sqrt(2)] ^ (n - 1)) }/ (4 * sqrt(2)). ● a(n) = third binomial transform of 1,6,8,48,64,384. - Al Hakanson (hawkuu(AT)gmail.com), Aug 15 2009 ● a(n) = irrational part of z(n) = (3 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n, n >= 0. z(n) gives only part of the general positive solutions to the Pell equation x ^ 2 - 2 * y ^ 2 = 7). See the Nagell reference in A038762 on how to find z(n), and a comment above. - _ Wolfdieter Lang _ , Feb 05 2015 ●

[A003698] ● 1,9,53,341,2169,13825,88093,561357,3577121,22794425,145252485,925589701,5898117961,37584466929,239498796653,1526153708861,9725080775409,61970950592425,394896331045333,2516390514947637 ★ Number of 2-factors in C_4 X P_n. ● a(n) = 6a(n - 1) + 3a(n - 2) - 4a(n - 3), n>3. ●

[A152994] ● 0,9,54,135,252,405,594,819,1080,1377,1710,2079,2484,2925,3402,3915,4464,5049,5670,6327,7020,7749,8514,9315,10152 ★ Nine times hexagonal numbers: 9*n*(2*n-1). ● a(n) = a(n - 1) + 36 * n - 27 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 15 2010 ●

[A073974] ● 0,1,9,54,210,1008,6300,40824,262440,1679616,10478160,62868960,369476640,2176782336,12958657344,77751944064,468205557120,2820249944064,16957996040448,101758315958784,609954817881600,3656158440062976,21926486787222528,131558920723335168 ★ Number of strings of length n over Z_6 with trace 0 and subtrace 3. ● a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. ●

[A223927] ● 9,54,218,698,1915,4690,10511,21919,43045,80334,143496,246728,410255,662242,1041133,1598477,2402305,3541126,5128614,7309062,10263683,14217842,19449307,26297611,35174621 ★ Number of n X 2 0..2 arrays with rows, columns and antidiagonals unimodal and diagonals nondecreasing. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. ●

[A289254] ● 0,9,54,243,1008,4077,16362,65511,262116,1048545,4194270,16777179,67108824,268435413,1073741778,4294967247,17179869132,68719476681,274877906886,1099511627715,4398046511040,17592186044349,70368744177594,281474976710583,1125899906842548 ★ a(n) = 4^n - 3*n - 1. ● a(n) = 4 ^ n - 3 * n - 1. ● a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 2). ●

[A059597] ● 1,9,54,246,945,3177,9648,26928,70092,171820,399960,889560,1900380,3915900,7811280,15129168,28526562,52480242,94386908,166242780,287179794,487227906,812840976,1334891664,2160134700 ★ Ninth column (m=8) of convolution triangle A059594(n,m). ● a(2 * k)= binomial(k + 13, 13) * (8 * k ^ 4 + 190 * k ^ 3 + 1414 * k ^ 2 + 3488 * k + 1785) / (17 * 15 * 7); ● a(2 * k + 1)= binomial(k + 13, 13) * (8 * k ^ 4 + 258 * k ^ 3 + 2842 * k ^ 2 + 12192 * k + 16065) / (17 * 15 * 7), k >= 0. ●

[A027472] ● 1,9,54,270,1215,5103,20412,78732,295245,1082565,3897234,13817466,48361131,167403915,573956280,1951451352,6586148313,22082967873,73609892910,244074908070 ★ Third convolution of the powers of 3 (A000244). ● a(n) = 3 ^ (n - 3) * binomial(n - 1, 2); G.f.: (x / (1 - 3 * x)) ^ 3. (Third convolution of A000244, powers of 3) - _ Wolfdieter Lang _ . ●

[A276602] ● 0,9,54,315,1836,10701,62370,363519,2118744,12348945,71974926,419500611,2445028740,14250671829,83059002234,484103341575,2821561047216,16445262941721,95850016603110,558654836676939,3256079003458524,18977819184074205,110610836100986706 ★ Values of n such that n^2 + 10 is a triangular number (A000217). ● a(n) = - (9 * ((3 - 2 * sqrt(2)) ^ n * (3 + 2 *

sqrt(2)) + (- 3 + 2 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n)) / (4 * sqrt(2)). • a(n) = 6 * a(n - 1) - a(n - 2) for n>2. •

[A016269] • 1,9,55,285,1351,6069,26335,111645,465751,1921029,7859215,31964205,129442951,522538389,2104469695,8460859965,33972448951,136276954149,546269553775,2188563950925,8764714059751,35090233104309,140455067207455,562102681589085,2249257981411351 ★ Number of monotone Boolean functions of n variables with 2 mincuts. Also number of Sperner systems with 2 blocks. • a(n) = (2 ^ n) * (2 ^ n - 1) / 2 - 3 ^ n + 2 ^ n. • a(n) = Sum _{ 0<=i,j,k,<=n, i + j + k=n } 2 ^ i * 3 ^ j * 4 ^ k. - _ Hieronymus Fischer _ , Jun 25 2007 • a(n) = 2 ^ (n + 1) * (1 + 2 ^ (n + 2)) - 3 ^ (n + 2). - _ Hieronymus Fischer _ , Jun 25 2007 • a(n) = 3 * StirlingS2(n + 1,4) + StirlingS2(n + 1,3). - _ Ross La Haye _ , Jan 10 2008 • a(n) = binomial(2 ^ n,2) - (3 ^ n - 2 ^ n). - _ Ross La Haye _ , Jan 26 2016 •

[A037578] • 1,9,55,333,1999,11997,71983,431901,2591407,15548445,93290671,559744029,3358464175,20150785053,120904710319,725428261917,4352569571503,26115417429021,156692504574127,940155027444765,5640930164668591 ★ Base 6 digits are, in order, the first n terms of the periodic sequence with initial period 1,3. • a(n):=5 * a(n - 1) + 6 * a(n - 2) + 4, a(0)=0, a(1)=1. [_ Zerinvary Lajos _ , Dec 14 2008] • a(n)= 6 * a(n - 1) + a(n - 2) - 6 * a(n - 3). a(n) = 9 * 6 ^ n / 35 - 2 / 5 + (- 1) ^ n / 7. [_ R. J. Mathar _ , Oct 05 2009] •

[A242604] • 0,9,56,195,504,1085,2064,3591,5840,9009,13320,19019,26376,35685,47264,61455,78624,99161,123480,152019,185240,223629,267696,317975,375024 ★ (n - 1)*(n^3 + 1) = n^4 - n^3 + n - 1, for n >= 1. • a(n) = (n - 1) * (n ^ 3 + 1) = n ^ 4 - n ^ 3 + n - 1, n >= 1. •

[A172065] • 1,9,56,297,1444,6656,29618,128603,548591,2309467,9624964,39799813,163556776,668796712,2723729944,11055878188,44753742226,180746332690,728571706240,2932018571370,11783070278816,47297147250204 ★ Expansion of (2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=8. • a(n) = sum('(- 1) ^ (p) * binomial(2 * n + k - p,n - p)',p=0..n) (with k=8). •

[A002055] • 1,9,56,300,1485,7007,32032,143208,629850,2735810,11767536,50220040,212952285,898198875,3771484800,15775723920,65770848990,273420862110,1133802618000,4691140763400,19371432850770,79850555673174 ★ Number of diagonal dissections of a convex n-gon into n-4 regions. • a(n) = binomial(n - 3, 2) * binomial(2 * n - 6, n - 5) / (n - 4). •

[A045720] • 1,9,57,312,1578,7599,35401,161052,719790,3173090,13836426,59803104,256596276,1094249019,4642178601,19605872724,82483419846,345839048094,1445715336366,6027524015664,25070662980876,104056307673654 ★ 3-fold convolution of A001700(n), n >= 0. • a(n) = (n + 5) * binomial(2 * (n + 3), n + 3) / 4 - 3 * 2 ^ (2 * n + 3); •

[A014916] • 1,9,57,313,1593,7737,36409,167481,757305,3378745,14913081,65244729,283348537,1222872633,5249404473,22429273657,95443717689,404681363001,1710351420985,7207909559865,30297653743161,127054676987449 ★ a(1)=1, a(n) = n*4^(n-1) + a(n-1). • a(n) = (1 / 9) * (1 + 4 ^ n * (3 * n - 1)). - _ Paolo P. Lava _ , Jan 13 2009 • a(1)=1, a(2)=9, a(n) = 8 * a(n - 1) - 16 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 •

[A080961] • 1,9,57,321,1713,8889,45417,230001,1158753,5820009,29178777,146130081,731358993,3658920729,18300980937,91524036561,457677578433,2288560079049,11443316955897,57218134461441,286095321353073 ★ Fourth binomial transform of A010686 (period 2: repeat 1,5). • a(n) = 5 * a(n - 1) + 4 * 3 ^ (n - 1). • a(n) = 3 * 5 ^ n - 2 * 3 ^ n. • a(n) = 8 * a(n - 1) - 15 * a(n - 2) for n > 1. - _ Wesley Ivan Hurt _ , Dec 08 2016 •

[A262490] • 9,57,337,1969,11481,66921,390049,2273377,13250217,77227929,450117361,2623476241,15290740089,89120964297,519435045697,3027489309889,17645500813641,102845515571961,599427592618129,3493720040136817,20362892648202777,118683635849079849 ★ The index of the first of two consecutive positive triangular numbers (A000217) the sum of which is equal to the sum of four consecutive positive triangular numbers. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>3. • a(n) = - 1 + (1 - 1 / sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (1 + 1 / sqrt(2)) * (3 + 2 * sqrt(2)) ^ n. - _ Colin Barker _ , Mar 05 2016 •

[A180028] • 1,9,57,369,2385,15417,99657,644193,4164129,26917353,173996505,1124731089,7270376049,46996449561,303789825513,1963728301761,12693739287105,82053620627913,530402941628793,3428578511656497 ★ Eight white queens and one red queen on a 3 X 3 chessboard. G.f.: (1+3*x)/(1-6*x-3*x^2). • a(n) = 6 * a(n - 1) + 3 * a(n - 2) with a(0) = 1 and a(1) = 9. • a(n) = ((1 - A) * A ^ (- n - 1) + (1 - B) * B ^ (- n - 1)) / 4 with A=(- 1 + 2 * sqrt(3) / 3) and B=(- 1 - 2 * sqrt(3) / 3). •

[A155605] • 1,9,57,369,2481,17049,118377,825729,5771361,40373289,282534297,1977503889,13841818641,96890604729,678227855817,4747575858849,33232973616321,232630643127369,1628413985330937,11398896347634609 ★ 7^n+3^n-1. • a(n)=10 * a(n - 1) - 21 * a(n - 2) - 12 with a(0)=1, a(1)=9 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=9, a(2)=57, a(n)=11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3). - _ Harvey P. Dale _ , Nov 09 2012 •

[A199485] • 9,57,393,2745,19209,134457,941193,6588345,46118409,322828857,2259801993,15818613945,110730297609,775112083257,5425784582793,37980492079545,265863444556809,1861044111897657,13027308783283593,91191161482985145 ★ 8*7^n+1. • a(n) = 7 * a(n - 1) - 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A102303] • 1,9,57,401,2801,19609,137257,960801,6725601,47079209,329554457,2306881201,16148168401,113037178809,791260251657,5538821761601,38771752331201,271402266318409,1899815864228857,13298711049602001 ★ (1/6)*[7^(n+1) - 3*(-1)^n + 2]. • a(n) = Sum[7 ^ i, { i, 0, n }] + 1 - Mod[Sum[7 ^ i, { i, 0, n }], 2] •

[A026377] • 1,9,58,330,1770,9198,46928,236736,1185645,5909805,29362806,145570230,720606705,3563543025,17610412600,86989143480,429579843435,2121099312195,10472653252550,51708363376950,255326054688320 ★ a(n) = number of integer strings s(0),...,s(n) counted by array T in A026374 that have s(n)=4; also a(n)=T(2n,n-2). • a(n) = [t ^ (n + 2)](1 + 3t + t ^ 2) ^ n. • a(n) = Sum _{ j=ceil((n + 2) / 2),..,n } (3 ^ (2j - n - 2) * binomial(n, j) * binomial(j, n + 2 - j)). (End) • a(n) = Sum _{ k=0..n } binomial(n, k)binomial(2k, k + 2). (End) •

[A198847] • 9,59,359,2159,12959,77759,466559,2799359,16796159,100776959,604661759,3627970559,21767823359,130606940159,783641640959,4701849845759,28211099074559,169266594447359,1015599566684159,6093597400104959,36561584400629759 ★ 10*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A118674] • 0,9,60,93,140,429,620,893,2576,3689,5280,15089,21576,30849,88020,125829,179876,513093,733460,1048469,2990600,4274993,6111000,17430569,24916560 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2 + (x + 31)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 62 for n > 6; a(1)=0, a(2)=9, a(3)=60, a(4)=93, a(5)=140, a(6)=429. •

[A288962] • 0,1,9,60,250,765,1911,4144,8100,14625,24805,39996,61854,92365,133875,189120,261256,353889,471105,617500,798210,1018941,1285999,1606320,1987500 ★ Number of 4-cycles in the n X n rook graph. • a(n) = n * binomial(n,2) * (n ^ 2 - 4 * n + 5) / 2. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A081904] • 1,9,60,344,1794,8754,40636,181380,784251,3302451,13598280,54922860,218131380,853586100,3296508840,12581531064,47510175861,177681098205,658665849636,2422018974096,8840103322374,32044237392726 ★ A sequence related to C(n+6,6). • a(n)=3 ^ n(n ^ 6 + 93n ^ 5 + 3055n ^ 4 + 44055n ^ 3 + 282424n ^ 2 + 720132n + 524880) / 524880 G.f.: (1 - 2x) ^ 6 / (1 - 3x) ^ 7 •

[A085373] • 1,9,60,350,1890,9702,48048,231660,1093950,5080790,23279256,105462084,473227300,2106121500,9307051200,40873466520,178520875830,775924068150,3357800061000,14473885526100,62168784497820,266168518910580 ★ a(n)=C(2n+1,n+1)C(n+2,2). • a(n - 1)=sum(i1 + i2 + ... + in) where the sum is over 1<=i1<=i2<=...<=in<=n. G.f.: (1 - x) / (1 - 4x) ^ (5 / 2) - _ David Callan _ , Nov 20 2003 •

[A241976] • 0,9,60,357,2088,12177,70980,413709,2411280,14053977,81912588,477421557,2782616760,16218279009,94527057300,550944064797,3211137331488,18715879924137,109084142213340,635788973355909,3705649697922120,2159810921417681 7,125883005587138788 ★ Values of k such that k^2 + (k+3)^2 is a square. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). • a(n) = - 3 * (2 + (3 - 2 * sqrt(2)) ^ n * (1 + sqrt(2)) - (- 1 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4. - _ Colin Barker _ , Apr 13 2017 •

[A082150] • 0,0,1,9,60,360,2040,11088,58240,297216,1480320,7223040,34636800,163657728,763549696,3523645440,16107110400,73016672256,328570011648,1468890021888,6528375193600,28862235279360,126993714118656 ★ A transform of C(n,2). • a(n) = C(n, 2) * (2 ^ (n - 2) + 4 ^ (n - 2)) / 2. • a(n) = 2 ^ (n - 4) * (2 ^ (n - 2) + 1) * (n - 1) * n. (End) •

[A030507] • 9,61,243,732,1837,4056,8136,15149,26571,44374,71125,110094,165376,242014,346136,485103,667662,904109,1206463,1588650,2066688,2658897,3386099,4271843,5342629 ★ Graham-Sloane-type lower bound on the size of a ternary (n,3,7) constant-weight code. • a(n) = ceiling (binomial (n, w) * 2 ^ w / (2 * n + 1)) for w = 7. •

[A172208] • 1,9,61,260,927,2578,5965,12066,22135,37678,60457,92488,136043,193650,268093,362412,479903,624118,798865,1008208,1256467,1548218,1888293,2281780,2734023 ★ Number of ways to place 4 nonattacking bishops on a 4 X n board. • a(n) = (32 * n ^ 4 - 336 * n ^ 3 + 1702 * n ^ 2 - 4701 * n + 5844) / 3, n>=9. •

[A005060] • 0,1,9,61,369,2101,11529,61741,325089,1690981,8717049,44633821,227363409,1153594261,5835080169,29443836301,148292923329,745759583941,3745977788889,18798608421181,94267920012849 ★ a(n) = 5^n - 4^n. • a(n) = 5 * a(n - 1) + 4 ^ (n - 1). - Xavier Acloque Oct 20 2003 • a(0)=0, a(1)=1, a(n)=9 * a(n - 1) - 20 * a(n - 2). [_ Vincenzo Librandi _ , Jan 28 2011] •

[A190666] • 1,9,61,377,2241,13073,75517,433905,2485825,14218905,81270333,464387817,2653649025,15167050785,86716873725,495998874593,2838240338817,16248650965289,93065296937533,533285164334169,3057236753252161,17534423944871729,100609937775369981 ★ Number of walks from (0,0) to (n+3,n) which take steps from {E, N, NE}. • a(n) = Sum _{ k=0..n } C(n,k) * C(n + k + 3,k + 3) = A113139 (n + 3,3). - _ Alois P. Heinz _ , Jun 01 2011 • a(n) = 1 / 2 ^ (n + 1) * Sum _{ k = 3..inf } 1 / 2 ^ k * binomial(n + k, k) * binomial(n + k, n + 3). • a(n) = (- 1) ^ n * Sum _{ k = 0..n } (- 2) ^ k * binomial(n,k) * binomial(n + k + 3,k). • a(n) = (- 1) ^ n * hypergeom([- n, n + 4], [1], 2). - _ Peter Luschny _ , Mar 02 2017 •

[A016200] • 1,9,61,381,2317,13965,83917,503757,3023053,18139341,108838093,653032653,3918204109,23509241037,141055478989,846332939469,5077997767885,30467986869453,182807921741005,1096847531494605 ★ Expansion of 1/((1-x)(1-2x)(1-6x)). • a(n) = (9 * 6 ^ n - 5 * 2 ^ n + 1) / 5. - _ Bruno Berselli _ , Feb 09 2011 • a(0)=1, a(n) = 6 * a(n - 1) + 2 ^ (n + 1) - 1. - _ Vincenzo Librandi _ , Feb 09 2011 • a(n) = Sum _{ k=0..n } 2 ^ (n - 1 - k) * (3 ^ (n + 1 - k) - 1). - _ J. M. Bergot _ , Feb 06 2018 •

[A200674] • 0,1,9,61,385,2365,14353,86605,521089,3130909,18798577,112830829,677103073,4062972733,24378899281,146276584333,877669071937,5266043129437,31596344870065,189578327500717,1137470739845281,6824826763594621094896755513652 9 ★ Eccentricity of Tower of Hanoi graph H_n^{3} (divided by 3). • a(n) = - 2 * 3 ^ (n - 2) + 14 * 6 ^ n / 45 - 1 / 5, n>0. - _ R. J. Mathar _ , Dec 13 2011 •

[A162769] • 1,9,61,389,2441,15249,95141,593389,3700561,23077209,143911501,897442709,5596515161,34900251489,217640345141,1357219994749,846371616

1441,52780309349289,329141597018461,2052549373305509 ⋆ a(n) = ((1+sqrt(5))^n + (1-sqrt(5))^n)/2. ● a(n) = 8 * a(n - 1) - 11 * a(n - 2) for n > 1; a(0) = 1, a(1) = 9. ●

[A126504] ● 1,9,61,429,3011,21141,148433,1042167,7317185,51374875,360709449,2532586341,17781606753,124846894103,876565722303,6154478019155,43211363078111,303392406838867,2130156189729353,14956094122197975 ⋆ Number of base 9 n-digit numbers with adjacent digits differing by four or less. ● a(n) = 7 * a(n - 1) + a(n - 2) - 6 * a(n - 3) + a(n - 5) for n>5. ●

[A025014] ● 1,1,9,61,489,3951,32661,273127,2306025,19610233,167729959,1441383219,12434998005,107632809909,934263293679,8129320828911,70886845397481,619288973447049,5419332253680705,47494787636620701,416800775902696839 ⋆ Central "nonomial" coefficient: largest coefficient of (1+x+...+x^8)^n. ● a(n + 4) + 8 * (4 * n + 19) * (5 * n + 19) * (5 * n + 14) * (5 * n + 9) * (2 * n + 9) * (4 * n + 17) * (4 * n + 13) * (4 * n + 9) * (5 * n + 18) * (n + 5) * a(n + 5) = 0. - _ Doron Zeilberger _ , Apr 02 2013. ●

[A081574] ● 0,1,9,62,387,2305,13392,76733,436149,2467414,13919895,78398189,441105696,2480385673,13942462833,78354837710,440286745563,2473838793577,13899100976496,78088971710501,438717826841085 ⋆ Fourth binomial transform of Fibonacci numbers F(n). ● a(n) = 9 * a(n - 1) - 19 * a(n - 1), a(0)=0, a(1)=1. ● a(n) = ((sqrt(5) / 2 + 9 / 2) ^ n - (9 / 2 - sqrt(5) / 2) ^ n) / sqrt(5). ●

[A084151] ● 0,0,1,9,62,390,2359,14007,82412,482652,2820061,16457397,959833 70,559619970,3262267891,19015581699,110836005272,646014798840,3765295834489,21945889348257,127910427675542,745517838966462 ⋆ Binomial transform of a Pell convolution. ● a(n)=((3 + sqrt(8)) ^ n + (3 - sqrt(8)) ^ n - 2 * 3 ^ n) / 16; E.g.f.: exp(3x)(sinh(sqrt(2)x)) ^ 2 / 4. ●

[A073378] ● 1,9,63,345,1665,7227,29073,109791,394020,1354210,4486482,14397318,44932446,136817370,407566350,1190446866,3415935699,9645169743,26836557825,73670997015,199751003991,535449185469 ⋆ Eighth convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. ● a(n) = sum(binomial(n - k + 8, 8) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). ●

[A111997] ● 1,9,63,399,2403,14067,80949,460845,2605590,14666470,82320714,461238282,2581644378,14442658074,80785970838,451934259654,2528977211775,14157983986839,79302044283297,444448115168049,2492468172937125 ⋆ Ninth convolution of Schroeder's (second problem) numbers A001003(n), n>=0. ● a(n) = (9 / n) * Sum _{ k=1,..,n } binomial(n,k) * binomial(n + k + 8,k - 1). ● a(n) = 9 * hypergeom([1 - n, n + 10], [2], - 1), n>=1, a(0)= 1. ●

[A016137] ● 1,9,63,405,2511,15309,92583,557685,3352671,20135709,120873303,725416965,4353033231,26119793709,156723545223,940355620245,5642176768191,33853189749309,203119525916343,1218718317759525 ⋆ Expansion of 1/((1-3x)(1-6x)). ● a(n) = - 3 ^ n + 2 * 6 ^ n. ● a(n) = 9 * a(n - 1) - 18 * a(n - 2), n >= 2. - _ Vincenzo Librandi _ , Mar 14 2011 ●

[A037691] ● 1,9,63,444,3109,21765,152355,1066488,7465417,52257921,3658054 47,2560638132,17924466925,125471268477,878298879339,6148092155376,43036645087633,301256515613433,2108795609294031,14761569265058220,103330984855407541,723316893987852789 ⋆ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 1,2,0,3. ● a(n) = 7 * a(n - 1) + a(n - 4) - 7 * a(n - 5). ● a(n) = 1 / 200 * (25 * (- 1) ^ n - (6 - 8 * i) * (- i) ^ n - (6 + 8 * i) * i ^ n + 37 * 7 ^ n - 50) where i=sqrt(- 1). ●

[A206816] ● 1,9,63,447,3447,29367,276327,2856807,32250087,395130087,5225062887,74201293287,1126567808487,18213512883687,312440245683687,5668674457011687,108462341176755687,2182831421832627687,4609671266942097968 7 ⋆ Sum_{0<j<n} (n!-j!). ● a(n) = n * n! - p(n), where p(n) is the n - th partial sum of (j!). ● a(n) = t(n) - t(n - 1), where t = A206817. ●

[A165510] ● 1,9,63,585,3951,38169,246303,2501865,15231951,164902329,931798143,10941169545,56148296751,731615910489,3311061455583,49365284099625,189031140702351,3365269314470649,10244972816098623,232054417825788105 ⋆ a(0)=1, a(1)=9, a(n)=72*a(n-2)-a(n-1). ● a(n) = (18 * 8 ^ n - (- 9) ^ n) / 17. [From _ Klaus Brockhaus _ , Sep 26 2009] ●

[A016886] ● 9,64,169,324,529,784,1089,1444,1849,2304,2809,3364,3969,4624,5329,6084,6889,7744,8649,9604,10609,11664,12769,13924,15129 ⋆ a(n) = (5n + 3)^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. ●

[A181888] ● 0,0,9,64,259,784,1974,4368,8778,16368,28743,48048,77077,119392,179452,262752,375972,527136,725781,983136,1312311,1728496,2249170,2894320,3686670 ⋆ Second column of triangle in A182971. ● a(1)=0, a(2)=0, a(3)=0, a(4)=9, a(5)=64, a(6)=259, a(7)=784, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jul 03 2013 ●

[A000846] ● 0,1,9,64,425,2751,17640,112848,722601,4638205,29860259,192831288,1248973544,8112024844,52820112480,344712308064,2254247833257,14768735480505,96917273443305,636948624057900,4191706659276675,27618897144488595,182181063882796680 ⋆ C(3n,n) - C(2n,n). ● a(n) = sum(k = 1..n, binomial(n,k) * binomial(2 * n,n - k)). - _ Vladimir Kruchinin _ , Nov 12 2014 ●

[A049684] ● 0,1,9,64,441,3025,20736,142129,974169,6677056,45765225,313679521,2149991424,14736260449,101003831721,692290561600,4745030099481,32522920134769,222915410843904,1527884955772561,10472279279564025 ⋆ a(n) = Fibonacci(2n)^2. ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3) with n>2, a(0)=0, a(1)=1, a(2)=9. ● a(n) = 1 / 5 * (- 2 + ((7 + sqrt(45)) / 2) ^ n + ((7 - sqrt(45)) / 2) ^ n). - _ Ralf Stephan _ , Apr 14 2004 ● a(n) = F(n - 1) * F(n + 1) - 1. [_ Bruno Berselli _ , Feb 12 2015] ● a(n) = Sum _{ i=1..n } F(4 * i - 2) for n>0. [_ Bruno Berselli _ , Aug 25 2015] ●

[A037484] ● 1,9,64,450,3151,22059,154414,1080900,7566301,52964109,370748764,2595241350,18166689451,127166826159,890167783114,6231174481800,43618224376601,305327549608209,2137292847257464 ⋆ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. ● a(n) = 7a(n - 1) + a(n - 2) - 7a(n - 3). ● a(n) = (- 1) ^ n / 16 - 1 / 4 + 3 * 7 ^ n / 16. G.f. x * (1 + 2 * x) / ((x - 1) * (7 * x - 1) * (1 + x)). - _ R. J. Mathar _ , Nov 02 2011 ●

[A212668] ● 9,65,201,449,841,1409,2185,3201,4489,6081,8009,10305,13001,16129,19721,23809,28425,33601,39369,45761,52809,60545,69001,78209,88201 ⋆ a(n) = (16/3)*(n+1)*n*(n-1) + 8*n^2 + 1. ● a(n) = 2 / (2 * n + 1) * Sum _{ i=1..n } tan ^ 5(Pi * i / (2 * n + 1)) * sin(2 * Pi * i / (2 * n + 1)). ●

[A081040] ● 1,9,65,425,2625,15625,90625,515625,2890625,16015625,87890625,478515625,2587890625,13916015625,74462890625,396728515625,2105712890625,11138916015625,58746337890625,308990478515625,1621246337890625 ⋆ 5th binomial transform of (1,4,0,0,0,0,....). ● a(n) = 10 * a(n - 1) - 25 * a(n - 2), a(0)=1, a(1)=9. ● a(n) = (4n + 5) * 5 ^ (n - 1). ● a(n) = sum(k=0..n, (k + 1) * 4 ^ k Binomial(n, k)). ●

[A102902] ● 1,9,65,441,2929,19305,126881,833049,5467345,35877321,235418369,1544728185,10135859761,66507086889,436390025825,2863396842201,18788331166609,123280631024265,808912380552641,5307721328585529 ⋆ a(n)=9a(n-1)-16a(n-2). ● a(n)= - (9 / 34) * [9 / 2 - (1 / 2) * sqrt(17)] ^ n * sqrt(17) + (9 / 34) * sqrt(17) * [9 / 2 + (1 / 2) * sqrt(17)] ^ n + (1 / 2) * [9 / 2 - (1 / 2) * sqrt(17)] ^ n + (1 / 2) * [9 / 2 + (1 / 2) * sqrt(17)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 16 2008 ●

[A127534] ● 0,1,9,65,442,2940,19380,127281,834900,5476185,35937525,236030652,1551652424,10210456360,67254204696,443410005585,2926078447656,19325957314755,127746785056275,845069382939705,5594334252541650 ⋆ Number of jumps in all even trees with 2n edges. An even tree is an ordered tree in which each vertex has an even outdegree. In the preorder traversal of an ordered tree, any transition from a node at a deeper level to a node on a strictly higher level is called a jump. ● a(n)=(n - 1)(4n - 3)C(3n,n) / [3(2n + 1)(3n - 1)]. ●

[A238275] ● 1,9,65,457,3201,22409,156865,1098057,7686401,53804809,376633665,2636435657,18455049601,129185347209,904297430465,6330082013257,44310574092801,310174018649609,2171218130547265,15198526913830857,106389688396816001,744727818777712009 ⋆ (4*7^n - 1)/3 ● a(n) = 7 * a(n - 1) + 2, a(0) = 1. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2), a(0) = 1, a(1) = 9. ●

[A287816] ● 1,9,65,471,3413,24733,179233,1298853,9412437,68209395,494295113,3582023557,25957960001,188110345129,1363185009337,9878634630295,71587804656589,518777540353453,3759441118026705,27243657291488469,197427447142906157,1430703538380753875 ⋆ Number of nonary sequences of length n such that no two consecutive terms have distance 1. ● a(n) = 9 * a(n - 1) - 11 * a(n - 2) - 15 * a(n - 3) + 19 * a(n - 4) + a(n - 5), a(0)=1, a(1)=9, a(2)=65, a(3)=471, a(4)=3413. ●

[A154996] ● 1,1,9,65,505,3825,29225,222625,1697625,12940625,98655625,752090625,5733565625,43709640625,333219515625,2540290390625,19365842265625,147635019140625,1125491941015625,8580160087890625,65410639259765625 ⋆ a(n)=5*a(n-1)+20*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=9 . ● a(n)=(1 / 2) *{ [(5 / 2) - (1 / 2) * sqrt(105)] ^ (n - 1) + [(5 / 2) + (1 / 2) * sqrt(105)] ^ (n - 1) }+ (13 / 210) * sqrt(105) *{ [(5 / 2) + (1 / 2) * sqrt(105)] ^ (n - 1) - [(5 / 2) - (1 / 2) * sqrt(105)] ^ (n - 1) }+ (4 / 5) * [C(2 * n,n) mod 2], with n>= 0 [From _ Paolo P. Lava _ , Jan 20 2009] ●

[A128195] ● 1,9,65,511,4743,52525,683657,10256775,174369527,3313030741,69573667065,1600194389599,40004859842375,1080131215965309,31323805263469097 ⋆ Double Variations. ● a(n) = (2n + 1)! / (n! 2 ^ n) Sum(k=0..n, 4 ^ k * k! / (2k)!) [Gottfried Helms] ● a(n) = 2 ^ n (2n + 1) Sum(k=0..n, Gamma(n + 1 / 2) / Gamma(k + 1 / 2)) ● a(n) = 2 ^ (n + 1) Gamma(n + 3 / 2) Sum(k=0..n, 1 / Gamma(k + 1 / 2)) ● a(n) = 2 ^ (n + 1) * v(n + 1 / 2) with v(x) = if x <= 1 then x else x(v(x - 1) + 1). ● a(n) = (2n + 1) * (a(n - 1) + 2 ^ n), a(0) = 1 [Wolfgang Thumser] ● a(x) = 2 ^ (x + 1)(x + 1 / 2)(exp(1) Gamma(x + 1 / 2,1) + K Gamma(x + 1 / 2)) ●

[A103459] ● 1,9,65,513,4097,32769,262145,2097153,16777217,134217729,1073741825,8589934593,68719476737,549755813889,4398046511105,35184372088833,281474976710657,2251799813685249,18014398509481985,144115188075855873 ⋆ 8^n+1-0^n. ● a(n)=8 * a(n - 1) - 7, with a(1)=9. [From Vincenzo Librandi, Dec 29 2010] ● a(0)=1, a(1)=9, a(2)=65, a(n)=9 * a(n - 1) - 8 * a(n - 2) [From Harvey P. Dale, Oct 21 2011] ●

[A100311] ● 1,9,65,585,4097,36873,266305,2396745,16777217,150994953,1090519105,9814671945,68736258049,618626322441,4467856773185,40210710958665,281474976710657,2533274790395913,18295873486192705,164662861375734345 ⋆ Modulo 2 binomial transform of 8^n. ● a(n)=sum { k=0..n, mod(binomial (n, k), 2)8 ^ k } . ● a(2 ^ n) = 8 ^ (2 ^ n) + 1, n>=0. ● a(2 ^ t * n + 2 ^ (t - 1)) = 63 * (8 ^ (2 ^ (t - 1) + 1)) / (8 ^ (2 ^ (t - 1)) - 1) * a(2 ^ t * n + 2 ^ (t - 1) - 2), t>=2. ● a(4 * n + 2) = 65 * a(4 * n); ● a(8 * n + 4) = 4097 / 65 * a(8 * n + 2); ● a(16 * n + 8)= 16777217 / 266305 * a(16 * n + 6), etc. (End) ●

[A051375] ● 0,0,9,66,345,1590,6909,29106,120465,493230,2005509,8116746,32744985,131801670,529647309,2125861986,8525167905,34165634910,136857036309,548010848826,2193789933225,8780396200950,35137287916509 ⋆ Number of Boolean functions of n variables and rank 3 from Post class F(5,inf). ● a(n) = (4 ^ n - 3 ^ n - 3 * 2 ^ n + 5) / 2. ● a(n) = Sum _{ j=1..n } (- 1) ^ (j + 1) * C(n, j) * C(2 ^ (n - j) - 1, k - 1) (with k=3). ● a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). ●

[A081902] ● 1,9,66,434,2661,15525,87240,475920,2534400,13227520,67866624,343105536,1712390144,8449622016,41273524224,199782039552,959119884288,4570314964992,21629992173568,101729521631232,475697692803072 ⋆ A sequence related to C(n+5,5). ● a(n)=4 ^ n(n ^ 5 + 90n ^ 4 + 2635n ^ 3 + 29850n ^ 2 + 121024n + 122880) / 122880 G.f.: (1 - 3x) ^ 5 / (1 - 4x) ^ 6 ●

[A002695] • 1,9,66,450,2955,18963,119812,748548,4637205,28537245,174683718,1064611782,6464582943,39132819495,236256182280,1423046656008,8554078990377,51327262010673,307488810131530,1839455028693450 ★ P_n'(3), where P_n is n-th Legendre polynomial. • a(n)=Gegenbauer _ C(n,3 / 2,3). [From _ Paul Barry _ , Apr 20 2009] •

[A003408] • 1,9,66,455,3060,20349,134596,888030,5852925,38567100,254186856,1676056044,11058116888,73006209045,482320623240,3188675231420,21094923659355,139646485582065,925029565741050,6131164307078475,40661170824914640,269807672771096460 ★ a(n) = binomial(3n+6, n). • a(n) = Sum _{ k=0..n } binomial(2 * n + k + 5,k). - _ Arkadiusz Wesolowski _ , Apr 02 2012 •

[A037698] • 1,9,66,462,3235,22647,158532,1109724,7768069,54376485,3806353 98,2664447786,18651134503,130557941523,913905590664,6397339134648,44781373942537,313469617597761,2194287323184330 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,2,3,0. • a(n) = 7 * a(n - 1) + a(n - 4) - 7 * a(n - 5). • a(n) = (11 * 7 ^ (n + 1) + (7 - (- 1) ^ n) * (25 + 8 * i ^ (n(n + 1))) - 275) / 400 where i=sqrt(- 1). - Bruno Berselli , Dec 19 2011 •

[A014830] • 1,9,66,466,3267,22875,160132,1120932,7846533,54925741,3844801 98,2691361398,18839529799,131876708607,923136960264,6461958721864,45233711053065,316635977371473,2216451841600330 ★ a(1)=1; for n > 1, a(n) = 7*a(n-1) + n. • a(n) = (7 ^ (n + 1) - 6 * n - 7) / 36. - _ Rolf Pleisch _ , Oct 19 2010 • a(1)=1, a(2)=9, a(3)=66; for n > 3, a(n) = 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). - _ Harvey P. Dale _ , Jul 22 2013 • a(n) = Sum _{ i=0..n - 1 } 6 ^ i * binomial(n + 1,n - 1 - i). - _ Bruno Berselli _ , Nov 13 2015 •

[A134432] • 0,1,9,66,490,3915,34251,328804,3452436,39456405,488273005,6510306726,93097386174,1421850988831,23105078568495,398118276872520,7251440043035176,139227648826275369,2810658160680434001,59519819873232720010,1319356007189991960210 ★ Sum of entries in all the arrangements of the set {1,2,...,n} (to n=0 there corresponds the empty set). • a(n) = (d / dt)P[n](t) evaluated at t=1; here P[n](t)=Q[n](t,1) where the polynomials Q[n](t,x) are defined by Q[0]=1 and Q[n]=Q[n - 1] + xt ^ n (d / dx)xQ[n - 1]. (Q[n](t,x) is the bivariate generating polynomial of the arrangements of { 1,2,...,n } , where t (x) marks the sum (number) of the entries; for example, Q[2](t,x) = 1 + t x + t ^ 2 * x + 2t ^ 3 * x ^ 2, corresponding to: empty, 1, 2, 12 and 21, respectively.) •

[A098107] • 1,9,66,500,4110,37044,365904,3945024,46195920,584575200,7955893440,115942544640,1802051072640,29763892972800,520699560192000,9619862405529600,187181055358617600,3826464958007193600 ★ Sum of all matrix elements M(i,j) = n!*(i/j), (i,j = 1..n). • a(n) = n! * Sum[Sum[(i / j), { i, 1, n }], { j, 1, n }]. • a(n) = (- 1) ^ (n + 1) * (n * (n + 1) / 2) * Stirling1(n + 1, 2). •

[A226201] • 1,9,66,515,4100,32773,262150,2097159,16777224,134217737,1073741834,8589934603,68719476748,549755813901,4398046511118,35184372088847,281474976710672,2251799813685265,18014398509482002,144115188075855891,1152921504606846996 ★ 8^n + n. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) + 8 * a(n - 3). •

[A255877] • 1,9,67,221,519,1009,1739,2757,4111,5849,8019,10669,13847,17601,21979,27029,32799,39337,46691,54909,64039,74129,85227,97381,110639 ★ a(n) = (2n-2)^3 +(2n-2) - 1. • a(n) = (2 * n - 2) ^ 3 + (2 * n - 2) - 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. - _ Vincenzo Librandi _ , Mar 17 2015 •

[A163349] • 1,9,67,463,3089,20241,131363,848087,5459521,35089209,225323107,1446179263,9279361169,59531488641,381889579523,2449671556487,15713255235841,100790106559209,646496195167747,4146789500815663 ★ a(n) = 10*a(n-1) - 23*a(n-2) for n > 1; a(0) = 1, a(1) = 9. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 1, a(1) = 9. • a(n) = ((1 + 2 * sqrt(2)) * (5 + sqrt(2)) ^ n + (1 - 2 * sqrt(2)) * (5 - sqrt(2)) ^ n) / 2. •

[A016130] • 1,9,67,477,3355,23517,164683,1152909,8070619,56494845,395464939,2768256621,19377800443,135644611293,949512295435,6646586100813,46526102771227,325682719529661,2279779036969771 ★ Expansion of 1/((1-2x)(1-7x)). • a(0)=1, a(n)=7 * a(n - 1) + 2 ^ n. - _ Vincenzo Librandi _ , Jun 24 2013 •

[A115202] • 1,9,67,477,3363,23741,168451,1202685,8641539,62470141,454164483,3319054333,24371503107,179736723453,1330803769347,9889323810813,73733148770307,551423090098173,4135500638060547 ★ Fifth column of triangle A115193 (called C(1,2)). • a(n) = (- 1) ^ n * 8 ^ (n + 2) * (binomial(1 / 2, n + 3) * Hypergeometric2F1(1,n + 5 / 2; n + 4; - 8) + 20 * binomial(1 / 2, n + 4) * Hypergeometric2F1(1,n + 7 / 2; n + 5; - 8) + 32 * binomial(1 / 2, n + 5) * Hypergeometric2F1(1,n + 9 / 2; n + 6; - 8)). - _ G. C. Greubel _ , Feb 04 2016 •

[A287817] • 1,9,67,501,3747,28025,209609,1567743,11725731,87701095,655949055,4906086571,36694443381,274451368893,2052723708275,15353082914309,114831408642039,858866749063989,6423783365292409,48045861327359751,359352839194448551,2687733333725785179 ★ Number of nonary sequences of length n such that no two consecutive terms have distance 2. • a(n) = 8 * a(n - 1) - 1 * a(n - 2) - 23 * a(n - 3) + 10 * a(n - 4) + a(n - 5), a(0)=1, a(1)=9, a(2)=67, a(3)=501, a(4)=3747. •

[A155592] • 1,9,67,519,4111,32799,262207,2097279,16777471,134218239,1073742847,8589936639,68719480831,549755822079,4398046527487,35184372121599,281474976776191,2251799813816319,18014398509744127,144115188076380159 ★ 8^n+2^n-1^n. • a(n)=10 * a(n - 1) - 16 * a(n - 2) - 7 with a(0)=1, a(1)=9 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A194650] • 0,0,9,68,215,504,1001,1784,2943,4580,6809,9756,13559,18368,24345,31664,40511,51084,63593,78260,95319,115016,137609,163368,192575 ★ Number of ways to place 2 nonattacking kings on an n X n cylindrical chessboard. • a(n) = 1 / 2 * n * (n ^ 3 - 9 * n + 6), n>=3. •

[A121633] • 0,0,1,9,68,527,4408,40303,403046,4393339,51955528,663383135,9102982354,133668773755,2092209897524,34783032728383,612234346270510,11375905660965179,222544581264066400,4572536725690159999,98456173247669999978,2217126753620449439515 ★ Sum of the bottom levels of the last column over all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(1)=0; a(n) = n * a(n - 1) + (n - 1)! - 1 for n>=2 . •

[A198691] • 9,69,489,3429,24009,168069,1176489,8235429,57648009,403536069,2824752489,19773267429,138412872009,968890104069,6782230728489,47475615099429,332329305696009,2326305139872069,16284135979104489,113988951853731429 ★ 10*7^n-1. • a(n) = 7 * a(n - 1) + 6. a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>1. •

[A125372] • 1,9,69,489,3773,29359,229371,1793675,14030597,109759917,858660839,6717419531,52551380915,411117567181,3216236722495,25161121675789,196839383096437,1539905230937741,12046919094905577,94244929368967819 ★ Number of base-9 circular n-digit numbers with adjacent digits differing by 5 or less. • a(n) = 9 * a(n - 1) - 6 * a(n - 2) - 26 * a(n - 3) + 5 * a(n - 4) + 17 * a(n - 5) - a(n - 6) - 3 * a(n - 7) for n > 7. - _ Wesley Ivan Hurt _ , Oct 08 2017 •

[A165147] • 1,9,69,501,3561,25089,176109,1234221,8643921,60520569,423683349,2965901541,20761665081,145332718449,1017332217789,7121335090461,49849374331041,348945706410729,2442620203155429,17098342196928981 ★ a(n) = (3*7^n-3^n)/2. • a(n) = 10 * a(n - 1) - 21 * a(n - 2) for n > 1; a(0) = 1, a(1) = 9. •

[A126530] • 1,9,69,541,4231,33101,258953,2025831,15848391,123984439,969949627,7588067405,59362636295,464403174075,3633098554089,28422297349753,222352070721709,1739494972761653,13608340819322255,106460175369651261 ★ Number of base 9 n-digit numbers with adjacent digits differing by five or less. • a(n) = 7 * a(n - 1) + 7 * a(n - 2) - 4 * a(n - 3) - 3 * a(n - 4) for n>3. •

[A167534] • 9,70,88,149,167,228,246,307,325,386,404,465,483,544,562,623,641,702,720,781,799,860,878,939,957 ★ a(n) = 79*n - a(n-1) for n>0, a(0)=9. • a(n) = (79 / 4) - (43 / 4) * (- 1) ^ n + (79 / 2) * n, with a(0)=9. [_ Paolo P. Lava _ , Nov 10 2009] •

[A110201] • 1,9,70,535,3906,29274,215900,1628175,12197570,92830430,704127060,5400199350,41331491124,318871044756,2456608834680,19039140186495,147401590706370,1146463189301430,8909683732878500,69495629981713650 ★ a(n) = sum of squares of numbers < 2^n having exactly [n/2]+1 ones in their binary expansion. • a(n) = (4 ^ n - 1) / 3 * C(n - 2, n \ 2) + (2 ^ n - 1) ^ 2 * C(n - 2, n \ 2 - 1). •

[A045739] • 1,9,70,535,4101,31633,245512,1915875,15020545,118231212,933812892,7397179309,58746824150,467602683135,3729318261224,29795160492299,238421091129957,1910544426355420,15329353155160880,123138401704273620 ★ Number of edges in all noncrossing forests on n nodes on a circle. • a(n) = Sum _{ k=1..n - 1 } k * binomial(n, k + 1) * binomial(n + 2 * k - 1, k) / (n + k). •

[A081900] • 1,9,71,519,3606,24150,157250,1001250,6259375,38534375,234140625,1406640625,8367187500,49335937500,288632812500,1676757812500,9678955078125,55548095703125,317108154296875,1801483154296875 ★ A sequence related to C(n+4,4). • a(n)=5 ^ n(n ^ 4 + 74n ^ 3 + 1571n ^ 2 + 10354n + 15000) / 15000. •

[A164551] • 1,9,71,539,4041,30169,224911,1675899,12485681,93014729,692919351,5161913659,38453668921,286460329689,2133983587391,15897089609819,118425207937761,882207376791049,6571994817093031,48958008011900379 ★ a(n) = 10*a(n-1)-19*a(n-2) for n > 1; a(0) = 1, a(1) = 9. • a(n) = ((3 + 2 * sqrt(6)) * (5 + sqrt(6)) ^ n + (3 - 2 * sqrt(6)) * (5 - sqrt(6)) ^ n) / 6. •

[A178869] • 0,1,9,71,549,4231,32589,250991,1933029,14887351,114655869,883029311,6800705109,52376052871,403377424749,3106636294031,23925952398789,184267208648791,1419145353851229,10929636098173151,84175271345046069 ★ a(n) = 9*a(n-1) - 10*a(n-2); a(0)=0, a(1)=1. • a(n) = 9a(n - 1) - 10a(n - 2) , a(0)=0, a(1)=1. [_ Harvey P. Dale _ , May 06 2011] • a(n) = 1 / sqrt(41) * ((9 / 2 + 1 / 2 * sqrt(41)) ^ n - (9 / 2 - 1 / 2 * sqrt(41)) ^ n). - _ Paolo P. Lava _ , Jun 06 2011 •

[A057080] • 1,9,71,559,4401,34649,272791,2147679,16908641,133121449,1048062951,8251382159,64962994321,511452572409,4026657584951,31701808107199,249587807272641,1965000650073929,15470417393318791,121798338496476399 ★ Even-indexed Chebyshev U-polynomials evaluated at sqrt(10)/2. • a(n) = 8 * a(n - 1) - a(n - 2), a(- 1)= - 1, a(0)=1. • a(n) = [[(4 + sqrt(15)) ^ (n + 1) - (4 - sqrt(15)) ^ (n + 1)] + [(4 + sqrt(15)) ^ n - (4 - sqrt(15)) ^ n]] / (2 * sqrt(15)). - _ Gregory V. Richardson _ , Oct 13 2002 • a(n) = Jacobi _ P(n, 1 / 2, - 1 / 2,4) / Jacobi _ P(n, - 1 / 2,1 / 2,1); - _ Paul Barry _ , Feb 03 2006 • a(n + 1) = 4 * a(n) + ((3 * a(n) ^ 2 + 2) * 5) ^ 0.5. - _ Richard Choulet _ , Aug 30 2007 •

[A064201] • 0,9,72,189,360,585,864,1197,1584,2025,2520,3069,3672,4329,5040,5805,6624,7497,8424,9405,10440,11529,12672,13869,15120 ★ 9 times octagonal numbers: a(n) = 9n(3n-2). • a(n) = 9 * (n - 2) * (3 * n - 8), with offset 2. • a(n) = a(n - 1) + 54 * n - 45, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Dec 15 2010 •

[A244728] • 0,9,72,243,576,1125,1944,3087,4608,6561,9000,11979,15552,19773,24696,30375,36864,44217,52488,61731,72000,83349,95832,109503,124416 ★ a(n) = 9*n^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[A073988] • 0,0,9,72,300,1296,7056,42336,262440,1658880,10349856,62355744,367960320,2173796352,12958657344,77787495936,468419708160,2821109907456,16960580969472,101763485816832,609954817881600,3656096522698752,21926115464435712,131557435432187904 ★ Number of strings of length n over Z_6 with trace 2 and subtrace 5. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A162755] • 1,9,72,540,4032,29988,223020,1658160,12328596,91662732,681510816,5067014148,37673118252,280098623952,2082525799284,15483523651596,115119584685504,855911035979748,6363675682412076,47313758657548656 ★ Number of reduced words of length n in Coxeter group on 9 generators S_i with relations (S_i)^2 = (S_i S_j)^3 = I. • a(0)=1, a(1)=9, a(2)=72, a(3)=540, a(n)=7 * a(n - 1) + 7 * a(n - 2) - 28 * a(n - 3). - _ Harvey P. Dale _ , Jun 15 2011 •

[A045993] • 1,9,72,566,4436,34748,272160,2131624,16695344,130761488,1024151680,8021372768,62825089344,492059397056,3853913344512,30184665012864,236412685103872,1851634187563264,14502390863865856,113585794743350784 ★ Expansion of (1-x)/(1-10*x+18*x^2-8*x^3). • a(0)=1, a(1)=9, a(2)=72, a(n)=10 * a(n - 1) - 18 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Mar 12 2013 •

[A057085] • 0,1,9,72,567,4455,34992,274833,2158569,16953624,133155495,1045816839,8213952096,64513217313,506693386953,3979621526760,31256353258263,245490585583527,1928108090927376,15143557548094641,1189390451145053 85,934159388097696696 ★ a(0)=0, a(1)=1; for n>1, a(n) = 9a(n-1) - 9a(n-2). • a(n) = S(n, 3) * 3 ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = (1 / 3) * sum(k=0, n, binomial(n, k) * F(4 * k)) where F(k) denotes the k - th Fibonacci number. - _ Benoit Cloitre _ , Jun 21 2003 • a(n) = - (1 / 15) * [9 / 2 - (3 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 15) * sqrt(5) * [9 / 2 + (3 / 2) * sqrt(5)] ^ n. - _ Paolo P. Lava _ , Jun 16 2008 •

[A076765] • 1,9,72,568,4473,35217,277264,2182896,17185905,135304345,1065248856,8386686504,66028243177,519839258913,4092685828128,32221647366112,253680493100769,1997222297440041,15724097886419560,123795560793916440 ★ Partial sums of Chebyshev sequence S(n,8) = U(n,4) = A001090(n+1). • a(n + 3) = 9 * a(n + 2) - 9 * a(n + 1) + a(n); initial values: a(0) = 1, a(1) = 9, a(2) = 72 • a(n) = Sum _{ k=0..n } S(k, 8) with S(k, x) = U(k, x / 2) Chebyshev's polynomials of the second kind. • a(n) = 8 * a(n - 1) - a(n - 2) + 1; a(- 1)=0, a(0)=1. • a(n) = (S(n + 1, 8) - S(n, 8) - 1) / 6, n>=0. • a(n) = - 1 / 6 + (7 / 12) * (4 - sqrt(15)) ^ n - (3 / 20) * (4 - sqrt(15)) ^ n * sqrt(15) + (7 / 12) * (4 + sqrt(15)) ^ n + (3 / 20) * sqrt(15) * (4 + sqrt(15)) ^ n. - _ Paolo P. Lava _ , Jun 25 2008 •

[A003951] • 1,9,72,576,4608,36864,294912,2359296,18874368,150994944,1207959552,9663676416,77309411328,618475290624,4947802324992,39582418599936,316659348799488,2533274790395904,20266198323167232,162129586585337856,1297036692682702848 ★ G.f.: (1+x)/(1-8*x). • a(0) = 1; for n>0, a(n) = 9 * 8 ^ (n - 1). - _ Vincenzo Librandi _ , Nov 18 2010 • a(0) = 1, a(1) = 9, a(n) = 8 * a(n - 1). - _ Vincenzo Librandi _ , Dec 10 2012 •

[A001809] • 0,0,1,9,72,600,5400,52920,564480,6531840,81648000,1097712000,15807052800,242853811200,3966612249600,68652904320000,1255367393280000,24186745110528000,489781588488192000,10400656084955136000,231125690776780800000 ★ a(n) = n!n(n-1)/4. • a(n) = n * a(n - 1) + (n - 1)! * n * (n - 1) / 2, a(1) = 0, a(2) = 1; a(n) = sum (n! first terms of A034968); a(n) = sum of the rises j of permutations (p(j)<p(j + 1)). - Claude Lenormand (claude.lenormand(AT)free.fr), Feb 02 2001 •

[A218126] • 1,9,72,720,6480,59040,52920,564480,6531840,81648000,1097712000,15807052800,242853811200,3966612249600,68652904320000,1255367393280000,24186745110528000,489781588488192000,10400656084955136000,231125690776780800000 ★ a(n) = n!n(n-1)/4. • a(n) = n * a(n - 1) + (n - 1)! * n * (n - 1) / 2, a(1) = 0, a(2) = 1; a(n) = sum (n! first terms of A034968); a(n) = sum of the rises j of permutations (p(j)<p(j + 1)). - Claude Lenormand (claude.lenormand(AT)free.fr), Feb 02 2001 •

[A001809] • 0,0,1,9,72,600,5400,52920,564480,6531840,81648000,1097712000,15807052800,242853811200,3966612249600,68652904320000,1255367393280000,24186745110528000,489781588488192000,10400656084955136000,231125690776780800000 ★ a(n) = n!n(n-1)/4. • a(n) = n * a(n - 1) + (n - 1)! * n * (n - 1) / 2, a(1) = 0, a(2) = 1; a(n) = sum (n! first terms of A034968); a(n) = sum of the rises j of permutations (p(j)<p(j + 1)). - Claude Lenormand (claude.lenormand(AT)free.fr), Feb 02 2001 •

[A291700] • 1,1,1,1,1,1,1,1,9,73,361,1321,3961,10297,24025,51481,103081,196521,368425,720937,1589161,4069801,11511721,33341353,94142313 ★ Number of ways of writing n as an sum of n nonnegative cubes. • a(n) = [x ^ n] (Sum _{ k>=0 } x ^ (k ^ 3)) ^ n. •

[A126641] • 9,73,537,3625,22809,135913,777177,4308265,23329689,124104553,651267417,3382100905,17421964569,89180975593,454265623257,2304999893545,11660373751449,58845428989033,296407578308697,1490778208598185,7488908074594329,37584775814704873 ★ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digit 1, at least one of digits 2,3, at least one of digits 4,5, at least one of digits 6,7 and at least one of digits 8,9. • a(n) = 16 * 5 ^ n - 32 * 4 ^ n + 24 * 3 ^ n - 8 * 2 ^ n + 1. •

[A164588] • 1,9,73,577,4529,35481,277817,2174993,17027041,133295529,1043495593,8168931937,63949894289,500627099961,3919122796697,30680567267633,240180585132481,1880236207775049,14719292130498313,115228905772807297,902061091509601649 ★ a(n) = ((3 + sqrt(18))*(5 + sqrt(8))^n + (3 - sqrt(18))*(5 - sqrt(8))^n)/6. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 1, a(1) = 9. •

[A023001] • 0,1,9,73,585,4681,37449,299593,2396745,19173961,153391689,1227133513,9817068105,78536544841,628292358729,5026338869833,40210710958665,321685687669321,2573485501354569,20587884010836553,164703072086692425 ★ a(n) = (8^n - 1)/7. • a(0) = 0, a(n) = 8 * a(n - 1) + 1 for n>0. • a(n) = 7 * a(n - 1) + 8 * a(n - 2) + 2, a(0)=0, a(1)=1. • a(n) = 8 * a(n - 1) + a(n - 2) - 8 * a(n - 3) = 9 * a(n - 1) - 8 * a(n - 2), a(0)=0, a(1)=1, a(2)=9. Observation by _ Gary Detlefs _ . See the W. Lang comment and link. (End) • a(n) = Sum _{ k=0..n - 1 } 8 ^ k. - _ Doug Bell _ , May 26 2017 •

[A015454] • 1,1,9,73,593,4817,39129,317849,2581921,20973217,170367657,1383914473,11241683441,91317382001,741780739449,6025563297593,48946287120193,397595860259137,3229713169193289,26235301213805449,213112122879636881 ★ Generalized Fibonacci numbers. • a(n) = 8 * a(n - 1) + a(n - 2). • a(n) = (3 / 34) * sqrt(17) * [4 - sqrt(17)] ^ n - (3 / 34) * [4 + sqrt(17)] ^ n * sqrt(17) + (1 / 2) * [4 + sqrt(17)] ^ n + (1 / 2) * [4 - sqrt(17)] ^ n, with n>=0. - _ Paolo P. Lava _ , Nov 21 2008 •

[A086226] • 0,0,1,9,73,637,6220,68414,844067,11589987,175612351,2912695193,52502754076,1022091626496,21372127906257,477737240288353,11368449905784189,286935157928114989,7656210527253978232 ★ Number of permutations of length n containing exactly one occurrence of the pattern 1-32. • a(0)=0; a(n)=a(n - 1) + sum(k=1, n - 1, binomial(n, k) * a(k) + binomial(n - 1, k - 1) * B(k))) where B(k) is the k - th Bell number. •

[A199677] • 9,73,649,5833,52489,472393,4251529,38263753,344373769,3099363913,27894275209,251048476873,2259436291849,20334926626633,183014339639689,1647129056757193,14824161510814729,133417453597332553,1200757082375992969 ★ 8*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A178827] • 0,1,9,74,594,4755,38043,304348,2434788,19478309,155826477,1246611822,9972894582,79783156663,638265253311,5106122026496,40848976211976,326791809695817,2614334477566545,20914675820532370,167317406564258970,1338539252514071771,10708314020112574179,85666512160900593444,685332097287204747564 ★ Partial sums of floor(8^n/9)/7. • a(n)=a(n - 2) + (8 ^ (n - 1) - 1) / 7, n>2. • a(n)=9 * a(n - 1) - 7 * a(n - 2) - 9 * a(n - 3) + 8 * a(n - 4), n>4. •

[A190984] • 0,1,9,74,603,4909,39960,325277,2647773,21553018,175442751,1428113633,11624923440,94627515529,770273175681,6270065972426,51038681522067,415457671891621,3381848276370120,27528430784089733,224082939122216757,1824047436611322682 ★ a(n) = 9*a(n-1) - 7*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 53 * sqrt(53) * ((9 / 2 + 1 / 2 * sqrt(53)) ^ n - (9 / 2 - 1 / 2 * sqrt(53)) ^ n), Paolo P. Lava, May 31 2011 •

[A028991] • 1,9,75,111,261,325,559,651,969,1089,1491,1639,2125,2301,2871,3075,3729,3961,4699,4959,5781,6069,6975,7291,8281 ★ Odd 9-gonal (or enneagonal) numbers. • a(n) = (28 * n ^ 2 + 4 * n + 1 + (14 * n + 1) * (- 1) ^ n) / 2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. - _ Colin Barker _ , May 30 2015 •

[A102094] • 9,75,245,567,1089,1859,2925,4335,6137,8379,11109,14375,18225,22707,27869,33759,40425,47915,56277,65559,75809,87075,99405,112847,127449 ★ a(n) = (2*n-1)*(2*n+1)^2. • a(1)=9, a(2)=75, a(3)=245, a(4)=567, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) – From _ Harvey P. Dale _ , Jul 24 2012 •

[A274311] • 0,0,9,75,331,1055,2745,6209,12670,23886,42285,71115,114609,178165,268541,394065,564860,793084,1093185,1482171,1979895,2609355,3397009,4373105,5572026 ★ a(n) = 15*binomial(n,6)-6*binomial(n-2,4)+binomial(n-4,4). • a(n) = (240 + 452 * n - 220 * n ^ 2 - 101 * n ^ 3 + 75 * n ^ 4 - 15 * n ^ 5 + n ^ 6) / 48 for n>3. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>8. •

[A190983] • 0,1,9,75,621,5139,42525,351891,2911869,24095475,199388061,1649919699,13652948925,112977022131,934875505629,7736017417875,64014903727101,529718029036659,4383372838967325,36272047376485971,300148189354569789,2483701419932212275 ★ a(n) = 9*a(n-1) - 6*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / sqrt(57) * ((9 / 2 + 1 / 2 * sqrt(57)) ^ n - (9 / 2 - 1 / 2 * sqrt(57)) ^ n), Paolo P. Lava, May 31 2011 •

[A254664] • 1,9,75,627,5241,43809,366195,3060987,25586481,213874809,1787757915,14943687747,124912775721,1044133269009,8727804479235,72954835640907,609822098564961,5097441295442409,42608996659234155,356164297160200467 ★ Numbers of words on alphabet {0,1,...,8} with no subwords ii, where i is from {0,1,...,5}. • a(n) = 8 * a(n - 1) + 3 * a(n - 2) with n>1, a(0) = 1, a(1) = 9. • a(n) = ((1 + t) * (4 - t) ^ (n + 1) + (- 1 + t) * (4 + t) ^ (n + 1)) / (6 * t), where t=sqrt(19). [_ Bruno Berselli _ , Feb 04 2015] •

[A136659] • 1,9,75,660,6300,65520,740880,9072000,119750400,1696464000,25686460800,414096883200,7083236160000,128152088064000,2445351068160000,49084865077248000,1033983353475072000,22808456326656000000 ★ Unsigned third column (k=2) of triangle A136656 divided by 4. • a(n)=(n + 4)! / 2 * sum((k + 1)! / (k + 4)!,k=1..n), with offset 1 [From _ Gary Detlefs _ , Jul 27 2010] • a(n)= 1 / 48 * (n + 8) * (n + 1) * (n + 3)! [From _ Gary Detlefs _ , Aug 03 2010] •

[A190982] • 0,1,9,76,639,5371,45144,379441,3189249,26806036,225308079,1893742531,15917142384,133785568801,1124484407289,9451431821596,79440464357919,667707020113291,5612160859230024,47170912632503761,396477409396383729,3332442121404934756 ★ a(n) = 9*a(n-1) - 5*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 61 * sqrt(61) * ((9 / 2 + 1 / 2 * sqrt(61)) ^ n - (9 / 2 - 1 / 2 * sqrt(61)) ^ n), Paolo P. Lava, May 31 2011 •

[A282327] • 1,9,77,534,3320,18933,100770,506697,2428161,11161765,49469005,212246744,884491121,3589900607,14223638534,55122970206,209307080221,779837798559,2854660220661,10278494869342,36439277959593,127311828611819,438712861233581 ★ Expansion of exp(Sum_{n>=1} sigma_3(2*n)*x^n/n)

in powers of x. • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 3(2 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 04 2017 •

[**A126631**] • 9,77,633,5021,38409,283277,2019033,13963901,94144809,621444077,4031587833,25787305181,163054382409,1021372934477,6349128459033,39222102764861,241061530639209,1475385002210477,8998880800344633,54732125638998941 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digit 1, at least one of digits 2,3, at least one of digits 4,5 and at least one of digits 6,7,8,9. • a(n) = 16 * 6 ^ n - 40 * 5 ^ n + 44 * 4 ^ n - 26 * 3 ^ n + 8 * 2 ^ n - 1. •

[**A190981**] • 0,1,9,77,657,5605,47817,407933,3480129,29689429,253284345,2160801389,18434075121,157263470533,1341634934313,11445660526685,97644405002913,833017002919477,7106575406263641,60627110644694861,517217694177199185,4412450805016013221 ★ a(n) = 9*a(n-1) - 4*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 65 * sqrt(65) * ((9 / 2 + 1 / 2 * sqrt(65)) ^ n - (9 / 2 - 1 / 2 * sqrt(65)) ^ n), Paolo P. Lava, May 31 2011 •

[**A254659**] • 1,9,77,661,5673,48689,417877,3586461,30781073,264180889,2267352477,19459724261,167014556473,1433415073089,12302393367077,105586222302061,906201745251873,7777545073525289,66751369314461677,572898679883319861,4916946285638867273 ★ Numbers of words on alphabet {0,1,...,8} with no subwords ii, where i is from {0,1,2,3}. • a(n) = 8 * a(n - 1) + 5 * a(n - 2) with n>1, a(0) = 1, a(1) = 9. • a(n) = ((4 - r) ^ n * (- 5 + r) + (4 + r) ^ n * (5 + r)) / (2 * r), where r=sqrt(21). - _ Colin Barker _ , Jan 22 2017 •

[**A046196**] • 1,9,77,1519,12987,111035,2190397,18727245,160112393,3158550955,27004674303,230881959671,4554628286713,38940721617681,332931625733189,6567770830889191,56152493568021699,480087173425298867,9470720983513926709,80971856784365672277 ★ Indices of square numbers which are also heptagonal. • a(n + 6) = 1442 * a(n + 3) - a(n) with • a(- 2)= - 77; a(- 1)= - 9; a(0)= - 1; a(1)=1; a(2)=9; a(3)=77; • a(3 * k + 1) = (7 * (A - B) / sqrt(10) + 2 * (A + B)) / 4; • a(3 * k + 2) = (57 * (A - B) / sqrt(10) + 18 * (A + B)) / 4; • a(3 * k) = (7 * (A - B) / sqrt(10) - 2 * (A + B)) / 4; •

[**A190980**] • 0,1,9,78,675,5841,50544,437373,3784725,32750406,283399479,2452344093,21220898400,183631053321,1589016784689,13750257902238,118985270766075,1029616663187961,8909594156393424,77097497417976933,667148694292612125,5773045756379578326 ★ a(n) = 9*a(n-1) - 3*a(n-2), with a(0)=0, a(1)=1. • a(n) = (1 / 69) * sqrt(69) * ((9 / 2 + 1 / 2 * sqrt(69)) ^ n - (9 / 2 - 1 / 2 * sqrt(69)) ^ n). - _ Paolo P. Lava _ , May 31 2011 •

[**A254657**] • 1,9,78,678,5892,51204,444984,3867096,33606672,292055952,2538087648,22057036896,191684821056,1665820789824,14476675244928,125808326698368,1093326665056512,9501463280642304,82571666235477504,717582109567673856,6236086873954255872 ★ Numbers of words on alphabet {0,1,...,8} with no subwords ii, where i is from {0,1,2}. • a(n) = 8 * a(n - 1) + 6 * a(n - 2) with n>1, a(0) = 1, a(1) = 9. • a(n) = (((4 - sqrt(22)) ^ n * (- 5 + sqrt(22)) + (4 + sqrt(22)) ^ n * (5 + sqrt(22)))) / (2 * sqrt(22)). - _ Colin Barker _ , Nov 16 2016 •

[**A172203**] • 0,0,9,79,454,1566,4103,9009,17484,30984,51221,80163,120034,173314,242739,331301,442248,579084,745569,945719,1183806,1464358,1792159,2172249,2609924 ★ Number of ways to place 4 nonattacking kings on a 4 X n board. • a(n) = (64n ^ 4 - 720n ^ 3 + 3347n ^ 2 - 7569n + 6894) / 6, n>=3. •

[**A198857**] • 9,79,639,5119,40959,327679,2621439,20971519,167772159,1342177279,10737418239,85899345919,687194767359,5497558138879,43980465111039,351843720888319,2814749767106559,22517998136852479,180143985094819839 ★ a(n) = 10*8^n - 1. • a(n) = 8 * a(n - 1) + 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. •

[**A126632**] • 9,79,669,5431,42189,314119,2251629,15625591,105563469,697683559,4529641389,28986744151,183339095949,1148652643399,7141191155949,44118519949111,271168742599629,1659705919705639,10123331198091309,61571999920648471 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digit 1, at least one of digits 2,3, at least one of digits 4,5,6 and at least one of digits 7,8,9. • a(n) = 18 * 6 ^ n - 45 * 5 ^ n + 48 * 4 ^ n - 27 * 3 ^ n + 8 * 2 ^ n - 1. •

[**A125909**] • 9,79,681,5791,48729,405919,3340521,27094111,216288249,1699187359,13147825161,100334472031,756309350169,5639967562399,41669245538601,305413957523551,2223312590034489,16091187568891039,115885120813664841,831075819022712671 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digit 1, at least one of the digits 2,3 and at least one of digits 4,5,6,7,8,9. • a(n) = 12 * 7 ^ n - 36 * 6 ^ n + 55 * 5 ^ n - 50 * 4 ^ n + 27 * 3 ^ n - 8 * 2 ^ n + 1. •

[**A125421**] • 1,9,79,681,5987,52649,463087,4073225,35827395,315131721,2771845519,24380686185,214448408099,1886252068073,16591155401263,145933007686601,1283602149301635,11290348248219273,99308001030865615 ★ Number of base 9 circular n-digit numbers with adjacent digits differing by 7 or less. • a(n) = 1 + (4 - sqrt(23)) ^ n + (4 + sqrt(23)) ^ n for n>0. • a(n) = 9 * a(n - 1) - a(n - 2) - 7 * a(n - 3) for n>3. •

[**A163445**] • 1,9,79,683,5849,49785,422087,3569323,30132433,254095881,2141117983,18033145355,151831489769,1278083025081,10757082331991,90529250469067,761826636963361,6410698145440905,53943922098894703,453912096548803307 ★ a(n) = 14*a(n-1) - 47*a(n-2) for n > 1; a(0) = 1, a(1) = 9. • a(n) = ((1 + sqrt(2)) * (7 + sqrt(2)) ^ n + (1 - sqrt(2)) * (7 - sqrt(2)) ^ n) / 2. •

[**A190979**] • 0,1,9,79,693,6079,53325,467767,4103253,35993743,315737181,2769647143,24295349925,213118855039,1869478995501,16399073249431,143852701253877,1261876164786031,11069180080566525,97098868395526663,851751455398606917,7471565361796408927 ★ a(n) = 9*a(n-1) - 2*a(n-2), with a(0)=0, a(1)=1. • a(n) = ((9 / 2 + 1 / 2 * sqrt(73)) ^ n - (9 / 2 - 1 / 2 * sqrt(73)) ^ n) / sqrt(79). - _ Giorgio Balzarotti _ , May 27 2011 •

[**A254598**] • 1,9,79,695,6113,53769,472943,4159927,36590017,321839625,2830847119,24899654327,219013164449,1926402895881,16944315318191,149039342816695,1310924949760897,11530674997804041,101421874630758607,892089722030697143,7846670898660887393,69017995243501979145 ★ Numbers of n-length words on alphabet {0,1,...,8} with no subwords ii, for i from {0,1}. • a(n) = 8 * a(n - 1) + 7 * a(n - 2) with n>1, a(0) = 1, a(1) = 9. • a(n) = (((4 - sqrt(23)) ^ n * (- 5 + sqrt(23)) + (4 + sqrt(23)) ^ n * (5 + sqrt(23)))) / (2 * sqrt(23)). - _ Colin Barker _ , Sep 08 2016 •

[**A173808**] • 9,79,779,7779,77779,777779,7777779,77777779,777777779,7777777779,77777777779,777777777779,7777777777779,77777777777779,777777777777779,7777777777777779,77777777777777779 ★ (7*10^n+11)/9 for n>0. • a(n) = 10 * a(n - 1) - 11 with n>0, a(0)=2. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[**A081108**] • 1,9,80,704,6144,53248,458752,3932160,33554432,285212672,2415919104,20401094656,171798691840,1443109011456,12094627905536,101155069755392,844424930131968,7036874417766400,58546795155816448,486388759756013568 ★ 8th binomial transform of (1,1,0,0,0,0,.....). • a(n) = 16 * a(n - 1) - 64 * a(n - 2), a(0)=1, a(1)=9. • a(n) = (n + 8) * 8 ^ (n - 1). •

[**A176174**] • 1,9,80,710,6300,55900,496000,4401000,39050000,346490000,3074400000,27279100000,242047000000,2147679000000,19056320000000,169086410000000,1500300900000000,13312144900000000,118118440000000000 ★ Starting with 1, multiply the n-th term by 10, then subtract the sum of all terms up to and including the n-th, to make the (n+1)th term. • a(n + 1) = 10 * a(n) - sum(k=1..n - 1, a(k)). • a(n)= 10 * a(n - 1) - 10 * a(n - 2). G.f.: x * (1 - x) / (1 - 10 * x + 10 * x ^ 2). [_ R. J. Mathar _ , Apr 14 2010] •

[**A018913**] • 0,1,9,80,711,6319,56160,499121,4435929,39424240,350382231,3114015839,27675760320,245967827041,2186034683049,19428344320400,172669064200551,1534593233484559,13638670037160480,121213437100959761 ★ a(n) = 9*a(n - 1) - a(n - 2) for n>1, a(0)=0, a(1)=1. • a(n) = S(2 * n - 1, sqrt(11)) / sqrt(11) = S(n - 1, 9); S(n, x) := U(n, x / 2), Chebyshev polynomials of 2nd kind, A049310. S(- 1, x) := 0. • a(n) = (((9 + sqrt(77)) / 2) ^ n - ((9 - sqrt(77)) / 2) ^ n) / sqrt(77). - _ Barry E. Williams _ , Aug 21 2000 •

[**A207107**] • 9,81,271,643,1271,2239,3641,5581,8173,11541,15819,21151,27691,35603,45061,56249,69361,84601,102183,122331,145279,171271,200561,233413,270101 ★ Number of n X 4 0..1 arrays avoiding 0 0 0 and 0 1 1 horizontally and 0 0 1 and 1 1 0 vertically. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[**A208079**] • 9,81,441,2601,15129,88209,514089,2996361,17464041,101787921,593263449,3457792809,20153493369,117463167441,684625511241,3990289900041,23257113888969,135552393433809,790057246713849,4604791086849321 ★ Number of 4 X n 0..1 arrays avoiding 0 0 0 and 0 0 1 horizontally and 0 0 0 and 0 1 0 vertically. • a(n) = (9 / 4) * (2 * (- 1) ^ n + (3 - 2 * sqrt(2)) ^ n + (3 + 2 * sqrt(2)) ^ n). •

[**A223719**] • 9,81,484,2116,7396,21904,57121,134689,292681,594441,1140624,2085136,3655744,6180196,10118761,16104169,24990001,37908649,56340036,82192356,117896164,166513216,231861529,318658201,432681601 ★ Number of n X 2 0..2 arrays with rows, antidiagonals and columns unimodal. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[**A125910**] • 9,81,723,6381,55539,475461,3993243,32857101,264890019,2094889941,16282118763,124625344221,941303216499,7029057066021,51980086628283,381227207181741,2776407821318979,20100192515299701,144786930345697803,1038495372200033661 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digit 1, at least one of digits 2,3,4 and at least one of digits 5,6,7,8,9. • a(n) = 15 * 7 ^ n - 45 * 6 ^ n + 65 * 5 ^ n - 55 * 4 ^ n + 28 * 3 ^ n - 8 * 2 ^ n + 1. •

[**A125947**] • 9,81,729,6513,57369,495921,4194969,34689393,280607769,2224214961,17313344409,132651929073,1002605145369,7490229758001,55407572177049,406450276733553,2960529995462169,21435301615525041,154414691892116889,1107604165960750833 ★ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks the digit 1, at least one of digits 2,3,4,5 and at least one of digits 6,7,8,9. • a(n) = 16 * 7 ^ n - 48 * 6 ^ n + 68 * 5 ^ n - 56 * 4 ^ n + 28 * 3 ^ n - 8 * 2 ^ n + 1. •

[**A125630**] • 9,81,729,6561,59049,531441,4782969,43006401,385606089,3440214801,30482931609,267934415841,2334817386729,20170171738161,172797111134649,1468818073594881,12396189742824969,103943773544221521,866556801437680089,7187319207979903521 ★ a(n) is the number of integers k less than 10^n such that the decimal representation of k lacks the digit 1 and at least one of digits 2,3,4,5,6,7,8,9. • a(n) = 8 * 8 ^ n - 28 * 7 ^ n + 56 * 6 ^ n - 70 * 5 ^ n + 56 * 4 ^ n - 28 * 3 ^ n + 8 * 2 ^ n - 1. •

[**A100062**] • 9,81,729,6561,59049,531441,4782969,43046721,387420489,3486784401,31381059609,282429536481,2541865828329,22876792454961,205891132094649,1853020188851841,16677181699666569,150094635296999121 ★ Denominator of the probability that an integer n occurs in the cumulative sums of the decimal digits of a random real number between 0 and 1. • a(n) = 9 ^ n. - _ Max Alekseyev _ , Mar 03 2007 • a(n) = 9 * a(n - 1), n>1; a(1)=9. •

[**A001019**] • 1,9,81,729,6561,59049,531441,4782969,43046721,387420489,3486784401,31381059609,282429536481,2541865828329,22876792454961,205891132094649,1853020188851841,16677181699666569,150094635296999121,1350851717672992089 ★ Powers of 9: a(n) = 9^n. • a(n) = 9 ^ n. • a(0) = 1, a(n) = 9 * a(n - 1) for n > 0. • a(n) = det(|v(i + 2,j)|, 1 <= i,j <= n), where v(n,k) are central factorial numbers of the first kind with odd indices. - _ Mircea Merca _ , Apr 04 2013 •

[**A158779**] • 1,9,81,729,7290,66339,597780,5380749,53210439,488460618,4410

495198,39713589387,388827279666,3593617394364,32530876388442,293091736356549,2844187518245175,26421911242667379,239856991227235341 ★ Expansion of (1+8*x+72*x^2+648*x^3)/(1-x-6561*x^4). ● a(n)= a(n - 1) + 6561 * a(n - 4). [From R. J. Mathar, Mar 31 2009] ●

[A033145] ● 1,9,81,730,6570,59130,532171,4789539,43105851,387952660,3491573940,31424165460,282817489141,2545357402269,22908216620421,206173949583790,1855565546254110,16700089916286990,150300809246582911,1352707283219246199,12174365548973215791 ★ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,0. ● a(n) = + 9 * a(n - 1) + a(n - 3) - 9 * a(n - 4). G.f.: x / ((x - 1) * (9 * x - 1) * (1 + x + x ^ 2)). - _ R. J. Mathar _ , Jan 08 2011 ● a(n) = floor((81 / 728) * 9 ^ n). - _ Tani Akinari _ , Jul 18 2014 ●

[A158762] ● 1,9,81,738,6642,59787,544644,4901805,44129367,401947281,3617545212,32572255824,296637113061,2669762715372,24041811608757,218918218136841,1970298831114945,17745398880920694,161561679852872034 ★ Expansion of (1+9*x+80*x^2)/(1-x^2-729*x^3). ● a(n)=a(n - 2) + 729 * a(n - 3). [From R. J. Mathar, Mar 26 2009] ●

[A101601] ● 1,9,81,756,7290,72171,729729,7505784,78298974,826489170,8811646074,94753804536,1026499549140,11192793160815,122744496427425,1352917116177840,14979996753469110,166542316847391870 ★ G.f.: c(3x)^3, c(x) the g.f. of A000108. ● a(n) = (3 * n + 3) / (n + 3) * 3 ^ n * C(n + 1). ●

[A199689] ● 9,81,801,8001,80001,800001,8000001,80000001,800000001,8000000001,80000000001,800000000001,8000000000001,80000000000001,800000000000001,8000000000000001,80000000000000001,800000000000000001 ★ 8*10^n+1 ● a(n) = 10 * a(n - 1) - 9. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2). ●

[A067478] ● 9,81,841,8100,80089,801025,8003241,80013025,800041225,8000050249,80000162649,800001447184,8000004951184,80000001609984,8000000425 69984,8000000160998400,80000000297200369,800000000000150481 ★ Smallest n-digit square starting with 8. ● a(n) = ceiling(sqrt(8 * 10 ^ n))) ^ 2. - _ Sascha Kurz _ , Mar 18 2002 ●

[A061433] ● 9,81,961,9801,99856,998001,9998244,99980001,999950884,9999900001,99999515529,999998000001,9999995824729,99999980000001,9999999619 46176,9999999800000001,99999999989350756,999999998000000001 ★ Largest n-digit square. ● a(n)=(ceil(10 ^ (n / 2)) - 1) ^ 2 - Antonio G. Astudillo (afg _ astudillo(AT)lycos.com), Mar 30 2003 ●

[A288789] ● 1,9,82,701,5897,49854,427597,3740609,33479542,307119477,2890138160,27911144971,276632735047,2813333368854,29349063282197,3139404485 44057,3441759044602385,38652680805862224,444450158120668786,5229815283321976222,62942722623990478840 ★ Number of blocks of size >= seven in all set partitions of n. ● a(n) = Bell(n + 1) - Sum _{ j=0..6 } binomial(n,j) * Bell(n - j). ● a(n) = Sum _{ j=0..n - 7 } binomial(n,j) * Bell(j). ●

[A033119] ● 1,9,82,738,6643,59787,538084,4842756,43584805,392263245,3530369206,31773322854,285959905687,2573639151183,23162752360648,208464771245832,1876182941212489,16885646470912401,151970818238211610 ★ Base-9 digits are, in order, the first n terms of the periodic sequence with initial period 1,0. ● a(n) = round((9 * 9 ^ n - 9) / 80) = round((9 * 9 ^ n - 5) / 80) = floor ((9 * 9 ^ n - 1) / 80) = ceiling((9 * 9 - 9) / 80); a(n) = a(n - 2) + 9 ^ (n - 1), n > 1. - _ Mircea Merca _ , Dec 28 2010 ● a(n) = 9 * a(n - 1) + a(n - 2) - 9 * a(n - 3). (End) ●

[A033127] ● 1,9,82,739,6651,59860,538741,4848669,43638022,392742199,3534679791,31812118120,286309063081,2576781567729,23191034109562,208719306986059,1878473762874531 ★ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 1,0,1. ● a(n) = 9 * a(n - 1) + a(n - 3) - 9 * a(n - 4). ●

[A099371] ● 0,1,9,82,747,6805,61992,564733,5144589,46866034,426938895,3889316089,35430783696,322766369353,2940328107873,26785719340210,244011802169763,2222891938868077,20250039251982456,184473245206710181 ★ G.f.: x/(1 - 9*x - x^2). ● a(n) = 9 * a(n - 1) + a(n - 2), n>=2, a(0)=0, a(1)=1. ● a(n) = ((- i) ^ (n - 1)) * S(n - 1, 9 * i) with S(n, x) Chebyshev's polynomials of the second kind (see A049310) and i ^ 2= - 1. ● a(n) = (ap ^ n - am ^ p) / (ap - am) with ap:= (9 + sqrt(85)) / 2 and am:= (9 - sqrt(85)) / 2= - 1 / ap (Binet form). ● a(n) = Sum _{ k=0..floor((n - 1) / 2) } binomial(n - 1 - k, k) * 9 ^ (n - 1 - 2 * k) n>=1. ● a(n) = F(n, 9), the n - th Fibonacci polynomial evaluated at x=9. - _ T. D. Noe _ , Jan 19 2006 ● a(n) = ((9 + sqrt(85)) ^ n - (9 - sqrt(85)) ^ n) / (2 ^ n * sqrt(85)). Offset 1. a(3)=82. - Al Hakanson (hawkuu(AT)gmail.com), Jan 12 2009 ●

[A163460] ● 1,9,82,754,6980,64932,606152,5672648,53180944,499190928,4689836320,44087543584,414630845504,3900665825856,36703540792448,345415371476096,3251026414485760,30600669600254208,288047075905950208 ★ a(n) = 16*a(n-1) - 62*a(n-2) for n > 1; a(0) = 1, a(1) = 9. ● a(n) = ((2 + sqrt(2)) * (8 + sqrt(2)) ^ n + (2 - sqrt(2)) * (8 - sqrt(2)) ^ n) / 4. ●

[A060531] ● 1,9,82,756,7048,66384,631072,6048576,58388608,567108864,5536870912,54294967296,534359738368,5274877906944,52199023255552,517592186044416,5140737488355328,51125899906842624,509007199254740992,5072057594037927936,50576460752303423488 ★ 9th binomial transform of (1,0,1,0,1,...), A059841. ● a(n) = (8 ^ n + 10 ^ n) / 2 = 2 ^ (n - 1) * (4 ^ n - 5 ^ n). ● a(n) = 18 * a(n - 1) - 80 * a(n - 2), a(0) = 1, a(1) = 9. ● a(n) = 8 * a(n - 1) + 10 ^ (n - 1), a(1) = 9. ●

[A248848] ● 1,9,82,765,7129,66420,618841,5765805,53720578,500519961,4663394209,43449307200,404821512289,3771762252921,35141883671458,327420421852365,3050608602778201,28422823459498740,264818270254044889,2467338136208552925,22988434568917776562,214185529001504000169 ★ Norm of coefficients in the expansion of 1/(1 - 3*x - I*x^2), where I^2=-1. ● a(n) = 9 * a(n - 1) + 2 * a(n - 2) + 9 * a(n - 3) - a(n - 4). - _ Vaclav Kotesovec _ , Nov 09 2014 ● a(n) = (T(n,a) - T(n,b)) / (a - b), where T(n,x) denotes the Chebyshev polynomial of the first kind and where a = (9 + sqrt(97)) / 4 and b = (9 - sqrt(97)) / 4 denote the roots of the quadratic equation x ^ 2 - 9 / 2 * x - 1 = 0. ● a(n) = the bottom left entry of the 2 X 2 matrix 2 * T(n,1 / 2 * M), where M is the 2 X 2 matrix [0, 4; 1, 9]. See A100047. (End) ●

[A045741] ● 1,9,82,765,7266,69930,679764,6659037,65635570,650194974,6467730204,64562259762,646399361076,6488447895540,65276186864232,657998685456093,6644370824416530,67198463606576790,680568874690989900 ★ Number of edges in all noncrossing connected graphs on n nodes on a circle. ● a(n) = Sum _{ k = n - 1 .. 2 * n } (k * binomial(3 * n - 3, n + k) * binomial(k - 1, k - n + 1)) / (n - 1). ● a(n) = 1 mod 3 if n in A103457; a(n) = 0 mod 3 otherwise [Eu et al.]. - _ R. J. Mathar _ , Feb 27 2008 ●

[A015579] ● 0,1,9,83,765,7051,64989,599003,5521005,50887051,469025469,4323003323,39845080845,367251734251,3384955769949,31199105398043,287561860122285,2650454951896651,24429218287314429,225163874489623163,2075333306981237325,19128327511810382251 ★ Expansion of x/(1-9*x-2*x^2). ● a(n) = 9 * a(n - 1) + 2 * a(n - 2). ● a(n) = (1 / 89) * sqrt(89) *{ [(9 / 2) + (1 / 2) * sqrt(89)] ^ n - [(9 / 2) - (1 / 2) * sqrt(89)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Jan 13 2009 ●

[A162759] ● 1,9,83,779,7401,70897,682891,6601539,63968273,620798489,6030711171,58622670907,570089353081,5545446723969,53951697045563,524954902566899,5108224921291041,49709349684075817,483747874746459571 ★ a(n) = 16*a(n-1)-61*a(n-2) for n > 1; a(0) = 1, a(1) = 9. ● a(n) = ((3 + sqrt(3)) * (8 + sqrt(3)) ^ n + (3 - sqrt(3)) * (8 - sqrt(3)) ^ n) / 6. ●

[A147960] ● 1,9,83,783,7537,73809,733139,7365591,74662657,762046137,7818480563,80531005311,831898131121,8612216940609,89299952572403,927034007995143,9631915890692737,100138799400852969,1041577033850627219 ★ a(n) = ((9 + sqrt(2))^n + (9 - sqrt(2))^n)/2. ● a(n) = 18 * a(n - 1) - 79 * a(n - 2), n > 1; a(0)=1, a(1)=9. ●

[A181353] ● 0,1,9,84,783,7299,68040,634257,5912433,55114668,513769311,4789267803,44644718160,416170266849,3879466556121,36163709805636,337111787919087,3142497220688691,29293810349955480,273071784811665393,2545527494354854977 ★ a(n) = 9*a(n-1) + 3*a(n-2); a(0)=0, a(1)=1. ● a(n) = ((9 + sqrt(93)) ^ n - (9 - sqrt(93)) ^ n) / (2 ^ n * sqrt(93)). - _ Rolf Pleisch _ , May 14 2011 ●

[A152056] ● 1,9,84,810,8028,81324,837648,8734392,91882512,972602640,10340011584,110257202592,1178108743104,12605895573696,135013638364416,1446985635811200,15514677652177152,166399318145915136 ★ a(n) = ((9+sqrt(3))^n + (9-sqrt(3))^n)/2. ● a(n) = 18 * a(n - 1) - 78 * a(n - 2), n > 1; a(0)=1, a(1)=9. ●

[A228417] ● 1,9,85,708,6635,60640,535534,4737129,43297195,392641522,3536880527,31067514571 ★ Count of the first 10^n primes which do not contain the digit 5. ● a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 ●

[A015580] ● 0,1,9,85,801,7549,71145,670501,6319089,59553805,561260601,5289560629,49851088065,469818035101,4427766668169,41729172153925,393273616058001,3706379233137709,34930507562471385,329200084994793301,3102522795203025249,29239505496806400445 ★ Expansion of x/(1 - 9*x - 4*x^2). ● a(n) = 9 * a(n - 1) + 4 * a(n - 2). ● a(n) = (1 / 97) * sqrt(97) *{ [(9 / 2) + (1 / 2) * sqrt(97)] ^ n - [(9 / 2) - (1 / 2) * sqrt(97)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Jan 13 2009 ●

[A163308] ● 1,9,85,829,8249,83073,842477,8578325,87547057,894631737,9148831429,93598030381,957787431785,9802315116081,100327583381981,1026904742262917,10511148456669793,107590995513204585 ★ a(n) = 16*a(n-1) - 59*a(n-2) for n > 1; a(0) = 1, a(1) = 9. ● a(n) = ((5 + sqrt(5)) * (8 + sqrt(5)) ^ n + (5 - sqrt(5)) * (8 - sqrt(5)) ^ n) / 10. ●

[A108427] ● 1,9,85,833,8361,85305,880685,9173505,96220561,1014889769,10753517061,114375683009,1220435354425,13058529727833,140059477112925,1505357362548737,16209464357137953,174827809500822345,1888383038494338485,20424130116241366593,221164921352046545609,2397512484385887298681 ★ Number of peaks of the form Ud in all paths from (0,0) to (3n,0) that stay in the first quadrant (but may touch the horizontal axis), consisting of steps u=(2,1),U=(1,2), or d=(1,-1). ● a(n) = (1 / n) * Sum _{ k=0..n } k * binomial(n, k) * binomial(3n - k, n - 1). ● a(n) = binomial(3 * n - 1, n - 1) * hypergeom([1 - n, - 2 * n], [1 - 3 * n], - 1). - _ Peter Luschny _ , Oct 06 2015 ●

[A015581] ● 0,1,9,86,819,7801,74304,707741,6741189,64209406,611590599,5825362421,55486214784,528502745161,5033955780369,47948115749126,456702820643979,4350065964541441,41434107784092864,394657299879542981,3759086237836351149,35805062639924875246 ★ a(n) = 9*a(n-1) + 5*a(n-2). ● a(n) = (1 / 101) * sqrt(101) * (((9 / 2) + (1 / 2) * sqrt(101)) ^ n - ((9 / 2) - (1 / 2) * sqrt(101)) ^ n). - _ Paolo P. Lava _ , Jan 13 2009 ●

[A152261] ● 1,9,86,864,9016,96624,1054016,11628864,129214336,1442064384,16136869376,180866755584,2029199527936,22779718078464,255815761289216,2873425129242624,32279654468386816,362653470608523264 ★ a(n) = ((9 + sqrt(5))^n + (9 - sqrt(5))^n)/2. ● a(n) = 18 * a(n - 1) - 76 * a(n - 2), n > 1; a(0)=1, a(1)=9. ●

[A153191] ● 0,1,9,87,837,8055,77517,745983,7178949,69086439,664851645,6398183439,61572760821,592543948023,5702332097133,54876252562335,528100265643813,5082159906168327,48908040749377821,470665326181410351 ★ a(n) = 9*a(n-1) + 6*a(n-2); a(0)=0, a(1)=1 . ● a(n) = (1 / 105) * sqrt(105) *{ [(9 / 2) + (1 / 2) * sqrt(105)] ^ n - [(9 / 2) - (1 / 2) * sqrt(105)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 22 2008 ●

[A152264] ● 1,9,87,891,9513,104409,1165887,13155291,149353713,1701720009,19429431687,222100769691,2540606477913,29073358875609,33277497391

7487,3809447614844091,43611934023382113,499306241307571209 ⋆ a(n) = ((9+sqrt(6))^n + (9-sqrt(6))^n)/2. • a(n) = 18 * a(n - 1) - 75 * a(n - 2), n > 1; a(0)=1, a(1)=9. •

[A015583] • 0,1,9,88,855,8311,80784,785233,7632585,74189896,721137159,7009563703,68134033440,662273246881,6437397456009,62572489832248,608214190682295,5911935144966391,57464915639473584,558567786770026993,5429364490406558025,52774254921049211176 ⋆ a(n) = 9*a(n-1) + 7*a(n-2). • a(n) = (1 / 109) * sqrt(109) * [(9 + sqrt(109)) / 2] ^ n - [(9 - sqrt(109)) / 2] ^ n, with n>=0. - _ Paolo P. Lava _ , Jan 13 2009 •

[A152266] • 1,9,88,918,10012,112284,1280224,14735016,170493712,1978495632,22996386688,267526283616,3113740490176,36250383835584,422090112767488,4915093625981568,57237016922874112,666549376289097984 ⋆ a(n) = ((9 + sqrt(7))^n + (9 - sqrt(7))^n)/2. • a(n) = 18 * a(n - 1) - 74 * a(n - 2), n > 1; a(0)=1, a(1)=9. •

[A231155] • 9,88,999,9999,77777,999999,9999999,88888888,999999999,9999999999,77777777777,999999999999,9999999999999,888888888888888,99999999999999999,9999999999999999,777777777777777777,999999999999999999,9999999999999999999 ⋆ Largest k such that no sum of digits is divisible by n (zeros not allowed in the digits of k). • a(n) consists of n - 1 digits of d where d is the largest digit such that GCD(n,d)=1. •

[A133486] • 9,89,789,6789,56789,456789,3456789,23456789,123456789,9123456789,89123456789,789123456789,6789123456789,56789123456789,456789123456789,3456789123456789,23456789123456789,123456789123456789,9123456789123456789,89123456789123456789 ⋆ a(n) = Sum_{ k = 0 to n-1} (subtract k modulo 9 from 9, multiply this by k-th power of 10). • a(n) = sum(0 to n - 1 , ((9 - (k % 9)) * 10 ^ k)). •

[A198967] • 9,89,809,7289,65609,590489,5314409,47829689,430467209,3874204889,34867844009,313810596089,2824295364809,25418658283289,228767924549609,2058911320946489,18530201888518409,166771816996665689,1500946352969991209 ⋆ 10*9^n-1. • a(n) = 9 * a(n - 1) + 8. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A015584] • 0,1,9,89,873,8569,84105,825497,8102313,79524793,780541641,7661073113,75193991145,738034505209,7243862476041,71099038326041,697842244742697,6849372509292601,67227090541574985,659838794948515673,6476365878869240937,63566003269411293817 ⋆ Expansion of x/(1 - 9*x - 8*x^2). • a(n) = 9 * a(n - 1) + 8 * a(n - 2). • a(n) = - (1 / 113) * sqrt(113) * [(9 - sqrt(113)) / 2] ^ n + (1 / 113) * sqrt(113) * [(9 + sqrt(113)) / 2] ^ n, with n>=0. - _ Paolo P. Lava _ , Aug 05 2008 • a(n) = (- ((9 - sqrt(113)) / 2) ^ n + ((9 + sqrt(113)) / 2) ^ n) / sqrt(113). - _ Colin Barker _ , May 16 2017 •

[A072256] • 1,1,9,89,881,8721,86329,854569,8459361,83739041,828931049,8205571449,81226783441,804062262961,7959395846169,78789896198729,779939566141121,7720605765212481,76426118085983689,756540575094624409 ⋆ a(n) = 10*a(n-1) - a(n-2) for n>1, a(0) = a(1) = 1. • a(n) = (3 - sqrt(6)) / 6 * (5 + 2 * sqrt(6)) ^ n + (3 + sqrt(6)) / 6 * (5 - 2 * sqrt(6)) ^ n. • a(n) = U(n - 1, 5) - U(n - 2, 5) = T(2 * n - 1, sqrt(3)) / sqrt(3) with Chebyshev's U - and T - polynomials and U(- 1, x) := 0, U(- 2, x) := - 1, T(- 1, x) := x. • a(n) * a(n + 3) = 80 + a(n + 1) * a(n + 2). - _ Ralf Stephan _ , May 29 2004 •

[A138288] • 1,9,89,881,8721,86329,854569,8459361,83739041,828931049,8205571449,81226783441,804062262961,7959395846169,78789896198729,779939566141121,7720605765212481,76426118085983689,756540575094624409 ⋆ a(n) = A054320(n) - A001078(n). • a(n) = 10 * a(n - 1) - a(n - 2). a(- 1) = a(0) = 1 . • a(n) = sqrt(2 + (5 - 2 * sqrt(6)) ^ (1 + 2 * n) + (5 + 2 * sqrt(6)) ^ (1 + 2 * n)) / (2 * sqrt(3)). - _ Gerry Martens _ , Jun 04 2015 •

[A059482] • 1,9,89,889,8889,88889,888889,8888889,88888889,888888889,8888888889,88888888889,888888888889,8888888888889,88888888888889,888888888888889,8888888888888889,88888888888888889 ⋆ a(0)=1, a(n) = a(n-1) + 8*10^(n-1). • a(n) = (10 ^ n) * (1000 / 1125) + (1 / 9). • a(n) = 10 * a(n - 1) - 1 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 10 ^ n - sum(10 ^ i, i=0..n - 1) for n>0. - _ Bruno Berselli _ , Jun 20 2013 •

[A109002] • 9,89,899,8999,89999,899999,8999999,89999999,899999999,8999999999,89999999999,899999999999,8999999999999,89999999999999,899999999999999 ⋆ Maximal difference between two n-digit numbers. • a(n) = (10 ^ n - 1) - 10 ^ (n - 1), n >1. • a(n + 1) = 10 * a(n) + 9. [From _ Reinhard Zumkeller _ , May 28 2010] •

[A142991] • 1,9,89,936,10560,127800,1657080,22965120,339252480,5326819200,88651670400,1559600179200,28929882240000,564490975104000,11560712397696000,247991610230784000,5561409662613504000 ⋆ a(1) = 1, a(2) = 9, a(n+2) = 9*a(n+1)+(n+1)*(n+3)*a(n). • a(n) = (n + 2)! * p(n + 2) * sum { k = 1..n } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2) * p(k + 1) * p(k + 2)), where p(n) = (2 * n ^ 3 - 3 * n ^ 2 + 7 * n - 3) / 15. Recurrence: a(1) = 1, a(2) = 9, a(n + 2) = 9 * a(n + 1) + (n + 1) * (n + 3) * a(n). The sequence b(n) := 1 / 2 * (n + 2)! * p(n + 2) satisfies the same recurrence with b(1) = 9, b(2) = 84. Hence we obtain the finite continued fraction expansion a(n) / b(n) = 1 / (9 + 1 * 3 / (9 + 2 * 4 / (9 + 3 * 5 / (9 + ... + (n - 1) * (n + 1) / 9)))), for n >=2. Lim n - > infinity a(n) / b(n) = 1 / (9 + 1 * 3 / (9 + 2 * 4 / (9 + 3 * 5 / (9 + ... + (n - 1) * (n + 1) / (9 + ...))))) = 2 * sum { k = 1..inf } (- 1) ^ (k + 1) / (k * (k + 1) * (k + 2) * p(k + 1) * p(k + 2)) = 167 / 6 - 40 * log(2). •

[A152267] • 1,9,89,945,10513,120249,1397033,16368417,192648097,2272771305,26846572409,317325998097,3752068179889,44372429376921,524802751652681,6207262185233025,73420118463548737,868431992821866441 ⋆ a(n) = ((9 + sqrt(8))^n + (9 - sqrt(8))^n)/2. • a(n) = 18 * a(n - 1) - 73 * a(n - 2), n > 1; a(0)=1, a(1)=9. •

[A082147] • 1,1,9,89,945,10577,123129,1476841,18130401,226739489,2878666857,37006326777,480750990993,6301611631473,83240669582937,1106980509493641,14808497812637121,199138509770855489,2690461489090104009 ⋆ a(0)=1; for n >= 1, a(n) = Sum_{k=0..n} 8^k*N(n,k) where N(n,k) = (1/n)*C(n,k)*C(n,k+1) are the Narayana numbers (A001263). • a(n) = (9(2n - 1)a(n - 1) - 49(n - 2)a(n - 2)) / (n + 1) for n >= 2, a(0) = a(1) = 1. - _ Philippe Deléham _ , Aug 19 2005 • a(n) = upper left term in M ^ n, M = the production matrix: •

[A095722] • 1,9,89,961,11265,142601,1940089,28245729,438351041,7226001865,126122874201,2324074591169,45094140207169,919088049256521,19633713260950265,438708172312264801,10234490436580101249 ⋆ E.g.f.: exp(x)/(1-x)^8. • a(n) = Sum _{ k = 0..n } binomial(n, k) * (k + 7)! / 7!. • a(n) = 2F0(8, - n;; - 1). - _ Benedict W. J. Irwin _ , May 27 2016 •

[A199759] • 9,89,969,10649,117129,1288409,14172489,155897369,1714871049,18863581529,207499396809,2282493364889,25107427013769,276181697151449,3037998668665929,33417985355325209,367597838908577289,4043576227994350169 ⋆ 8*11^n+1. • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A097256] • 0,9,90,99,900,909,990,999,9000,9009,9090,9099,9900,9909,9990,9999,90000,90009,90090,90099,90900,90909,90990,90999,99000 ⋆ Numbers whose set of base 10 digits is {0,9}. • a(2n) = 10 * a(n), a(2n + 1) = a(2n) + 9. •

[A140160] • 1,9,90,154,779,995,3396,3908,10469,11469,26110,27838,56399,59143,109768,113864,197385,203217,333538,341538,536019,546667,826508,840332,1230957 ⋆ a(1)=1, a(n)=a(n-1)+n^4 if n odd, a(n)=a(n-1)+ n^3 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 4 +{ [1 + (- 1) ^ n] / 2 }* n ^ 3, with a(1)=1 a(n)= n) = (1 / 16) + (1 / 4) * (- 1) ^ n * n - (1 / 16) * (- 1) ^ n - (1 / 4) * (- 1) ^ n * n ^ 3 + (5 / 12) * n ^ 3 + (3 / 8) * (- 1) ^ n * n ^ 2 + (1 / 8) * n ^ 2 - (1 / 60) * n + (1 / 10) * n ^ 5 - (1 / 4) * (- 1) ^ n * n ^ 4 + (3 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A165135] • 9,90,252,1872,4464,29250,62946,393912,809442,4945140,9899910,59366286,116999892,692936460,1349989992,7919601912,15299999856,89099130960,170999999838,989995038012,1889999872488,10889990099100,20699999999802,118799939782206,224999999981964 ⋆ The number of n-digit positive papaya numbers. • a(n) = 9 * R(n,10) / 10 - Sum _{ d|n,d<n } phi(n / d) * a(d) where R(2 * k,r)=k * (r + 1) * r ^ k, R(2 * k + 1,r)=(2 * k + 1) * r ^ (k + 1). - _ Andrew Howroyd _ , Mar 29 2016 •

[A052386] • 0,9,90,819,7380,66429,597870,5380839,48427560,435848049,3922632450,35303692059,317733228540,2859599056869,25736391511830,231627523606479,2084647712458320,18761829412124889,168856464709124010,1519708182382116099,13677373641439044900 ⋆ Number of integers from 1 to 10^n-1 that lack 0 as a digit. • a(n) = 9 * a(n - 1) + 9. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). G.f.: 9 * x / ((x - 1) * (9 * x - 1)). - _ Colin Barker _ , Sep 26 2013 •

[A158609] • 1,9,90,819,8109,74448,731277,6761565,65995002,613681767,5959276929,55667500056,538368931305,5047436435841,48655319871546,457497671174667,4398578580769893,41455889945917920,397740754988279253 ⋆ Expansion of (1+8*x)/(1-x-81*x^2). • a(n)=a(n - 1) + 81 * a(n - 2), a(0)=1, a(1)= 9 . [From _ Philippe Deléham _ , Mar 26 2009] •

[A227713] • 1,9,90,836,6856,49787,326618,1977322,11244976,60908337,317509874,1605448440,7920487752,38297112551,182108066522,853884638758,3956279351760,18143381822941,82466719670866,371917534537524,1665777832832136,7415146800493139 ⋆ The Wiener index of the tree g[n] (n>=0) defined recursively in the following manner: denoting by P[n] the path on n vertices, we define g[0] =P[2] while g[n] (n>=1) is the tree obtained by identifying the roots of 2 copies of g[n-1] and one of the end-vertices of P[n+1]; the root of g[n] is defined to be the other end-vertex of P[n+1]. • a(n) = 80 + 128 * n / 3 + 19 * n ^ 2 / 2 + 5 * n ^ 3 / 6 + 2 ^ n * (- 64 + 38 * n + 21 * n ^ 2 / 2 + 3 * n ^ 3 / 2) + 4 ^ n * (- 15 - 27 * n / 2 + 9 * n ^ 2 / 2). •

[A057092] • 1,9,90,891,8829,87480,866781,8588349,85096170,843160671,8354311569,82777250160,820184055561,8126651751489,80521522263450,797833566134451,7905195795581109,78327264255440040,776092140459190341,7689774642431673429,76192801046017773930 ⋆ Scaled Chebyshev U-polynomials evaluated at i*3/2. Generalized Fibonacci sequence. • a(n) = 9 * (a(n - 1) + a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, i * 3) * (- i * 3) ^ n with S(n, x) := U(n , x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = (1 / 39) * [(9 / 2) + (3 / 2) * sqrt(13)] ^ (n + 1) * sqrt(13) - (1 / 39) * sqrt(13) * [(9 / 2) - (3 / 2) * sqrt(13)] ^ (n + 1), with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •

[A052268] • 9,90,900,9000,90000,900000,9000000,90000000,900000000,9000000000,90000000000,900000000000,9000000000000,90000000000000,900000000000000,9000000000000000 ⋆ First differences of 10^n (A011557). • a(n)=9 * 10 ^ (n - 1), n >= 1. •

[A155199] • 1,9,90,909,9180,92709,936270,9455409,95490360,964359009,9739080450,98355163509,993290715540,10031262318909,101305913904630,10230904013652 09,103322099275567 20,1043451896769324 09 ⋆ a(n)=10*a(n-1)+a(n-2), n>2 ; a(0)=1, a(1)=9, a(2)=90 . • a(n) = (9 / 2) * ((5 + sqrt(26)) ^ (n - 1) + (5 - sqrt(26)) ^ (n - 1)) + (45 / 52) * sqrt(26) * ((5 + sqrt(26)) ^ (n - 1) - (5 - sqrt(26)) ^ (n - 1)) + (C(2 * n,n) mod 2). - _ Paolo P. Lava _ , Jan 26 2009 •

[A147841] • 1,9,90,909,9189,92898,939177,9494865,95990922,970446357,9810991629,99186890706,1002756873105,10137643587801,102489267607866,1036143151396317,10475171256888693,105901595463208770 ⋆ a(n)=11*a(n-1)-9*a(n-2), a(0)=1, a(1)=9 . • a(n)=(1 / 2) * [(11 / 2) - (1 / 2) * sqrt(85)] ^ n - (7 / 170) * [(11 / 2) - (1 / 2) * sqrt(85)] ^ n * sqrt(85) + (7 / 170) * sqrt(85) * [(11 / 2) + (1 / 2) * sqrt(85)] ^ n + (1 / 2) * [(11 / 2) + (1 / 2) * sqrt(85)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Nov 18 2008] • a(n)= ((85 - 7 * sqrt(85)) / 170) * (5.5 - 0.5 * sqrt(85)) ^ n + ((85 + 7 * sqrt(85)) / 170) * (5.5 + 0.

5 * sqrt(85)) ^ n [From _ Richard Choulet _ , Nov 19 2008] •

[A036258] • 1,9,90,945,9700,98475,992250,9961125,99805000,999024375,9995118750,99975590625,999877937500,9999389671875,99996948281250,999984741328125,9999923706250000,99999618530859375,999998092652343750,9999999463259765625,99999952316289062500 ★ Number of inequivalent strings of n digits, when 2 strings are equivalent if turning 1 upside down gives the other. • a(n + 1) = (1 / 10) *{ 10 ^ n - 5 ^ n + (4 - (- 1) ^ n) * 5 ^ [n / 2] } (De Bruijn) • a(n) = 5 ^ ((n - 1) / 2 + 1 / 2) / 2 - 5 ^ n / 2 + 10 ^ n for n even. • a(n) = 3 * 5 ^ ((n - 1) / 2) / 2 - 5 ^ n / 2 + 10 ^ n for n odd. • a(n) = 15 * a(n - 1) - 45 * a(n - 2) - 75 * a(n - 3) + 250 * a(n - 4) for n>3. •

[A143079] • 1,9,90,972,11016,128304,1516320,18055872,215830656,2584929024,30988915200,371685583872,4459138615296,53503133036544,641998414356480,7703745879785472,92443540002471936,1109314016699940864 ★ a(n) = ((9+sqrt(9))^n + (9-sqrt(9))^n)/2. • a(n)=18 * a(n - 1) - 72 * a(n - 2). a(n)=6 ^ n * (2 ^ n + 1) / 2 . G.f.:(1 - 9x) / (1 - 18x + 72x ^ 2). - _ Philippe Deléham _ , Oct 18 2008 • a(n)=(12 ^ n + 6 ^ n) / 2. G.f.: (1 - 9x) / ((1 - 12x)(1 - 6x)). - _ R. J. Mathar _ , Oct 21 2008 •

[A165324] • 1,9,90,981,11349,136170,1667961,20661489,257463450,3218224941,40291734429,504866733930,6328837455921,79353706214169,995084584139610,124789568953049 01,1564983296954847 09,1962672755694512490 ★ a(0)=1, a(1)=9, a(n)= 19*a(n-1)-81*a(n-2) for n>1. • a(n) = ((37 - sqrt(37)) * (19 + sqrt(37)) ^ n + (37 + sqrt(37)) * (19 - sqrt(37)) ^ n) / (74 * 2 ^ n). [From _ Klaus Brockhaus _ , Sep 28 2009] •

[A082367] • 1,9,90,981,11430,140058,1782900,23369805,313426350,4281280686,59360821740,833312907522,11820849447420,169182862497108,2440064033240040,35428651752626109,517446157031236350 ★ G.f.: (1-8*x-sqrt(64*x^2-20*x+1))/(2*x). • a(0)=1; for n>0, a(n)=(1 / n) * sum(k=0..n, 9 ^ k * C(n, k) * C(n, k - 1)). •

[A049389] • 1,9,90,990,11880,154440,2162160,32432400,518918400,8821612800,158789030400,3016991577600,60339831552000,1267136462592000,27877002177024000,641171050071552000,15388105201717248000 ★ a(n) = (n+8)!/8!. • a(n) = (n + 8)! / 8!. •

[A015585] • 0,1,9,91,909,9091,90909,909091,9090909,90909091,909090909,9090909091,90909090909,909090909091,9090909090909,90909090909091,909090909090909,9090909090909091,90909090909090909,909090909090909091 ★ a(n) = 9*a(n-1) + 10*a(n-2). • a(n) = 9 * a(n - 1) + 10 * a(n - 2). • a(n) = 10 ^ (n - 1) - a(n - 1). • a(n) = round(10 ^ n / 11). • a(n) = (10 ^ n - (- 1) ^ n) / 11. •

[A109108] • 1,9,91,919,9281,93729,946571,9559439,96540961,974969049,9846231451,99437283559,1004219067041,10141627953969,102420498606731,1034346614021279,10445886638819521,105493213002216489 ★ a(n) = 10a(n-1) + a(n-2), a(0)=1, a(1)=9. • a(n) = (1 / 2 / sqrt(26))((sqrt(26) + 4)(5 + sqrt(26)) ^ n + (sqrt(26) - 4)(5 - sqrt(26)) ^ n). •

[A163456] • 1,9,91,969,10626,118755,1344904,15380937,177232627,2054455634,23930713170,279871768995,3284214703056,38650751381832,456002537343216,5391644226101705,63871405575418665,757929628541719755 ★ a(n) = binomial(5*n,n)/5. • a(n) = (5 * n - 1)! / (4 * n! * (4 * n - 1)!). • a(n) = binomial(5 * n,n) / 5. - _ Gary Detlefs _ , Aug 03 2013 • a(n) = 1 / 3 * [x ^ n] (C(x) ^ 3) ^ n, where C(x) = (1 - sqrt(1 - 4 * x)) / (2 * x) is the o.g.f. for the Catalan numbers A000108. Cf A224274. • a(n) = 1 / 6 * [x ^ n] (1 + x) / (1 - x) ^ (4 * n + 1). • a(n) = 1 / 6 * [x ^ n](1 / C(- x) ^ 5) ^ n. Cf. A227726. (End) • a(n) = 5 * (5 * n - 4) * (5 * n - 3) * (5 * n - 2) * (5 * n - 1) * a(n - 1) / (8 * n * (4 * n - 3) * (2 * n - 1) * (4 * n - 1)). (End) •

[A164913] • 1,9,92,917,9175,91742,917433,9174309,91743124,917431185,9174311939,91743119246,917431192693,9174311926553,91743119266140,917431192660413,9174311926605727,91743119266054686,917431192660551041,9174311926605503645 ★ Expansion of x/(1-9*x-11*x^2+10*x^3). • a(n) = + 9 * a(n - 1) + 11 * a(n - 2) - 10 * a(n - 3). [Joerg Arndt, May 14 2011] • a(n)=10 * a(n - 1) + F(n) for n=odd and a(n)=10 * a(n - 1) - F(n) for n=even, with a(0)= 0 and F(n) is the n - th Fibonacci number •

[A015587] • 0,1,9,92,927,9355,94392,952433,9610209,96968644,978430095,9872525939,99615464496,1005136965793,10142002801593,102334531838060,1032572817360063,10418835206459227,105127817849093736,1060757547912895121,1070322392755608718 5,1079973483750466309 96 ★ Expansion of x/(1 - 9*x - 11*x^2). • a(n) = 9 * a(n - 1) + 11 * a(n - 2). • a(n) = - (1 / 25) * [(9 - 5 * sqrt(5)) / 2] ^ n * sqrt(5) + (1 / 25) * [(9 + 5 * sqrt(5)) / 2] ^ n * sqrt(5), with n>=0. - _ Paolo P. Lava _ , Aug 06 2008 •

[A076456] • 9,93,390,1110,2535,5019,8988,14940,23445,35145,50754,71058,96915,129255,169080,217464,275553,344565,425790,520590,630399,756723,901140,1065300,1250925 ★ Sum of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly three ways. • a(n) = n * (n + 1) * (6 * n ^ 2 + 4 * n - 1) / 2. •

[A082724] • 1,9,93,1005,11001,120849,1328853,14615925,160770801,1768465689,19453083213,213983797245,2353821415401,25892034506529,284812376383173,3132936130648965,34462297408440801,379085271406755369 ★ (3*11^n+3^n)/4. • a(n) = (3 * 11 ^ n + 3 ^ n) / 4. •

[A000562] • 9,95,420,1225,2834,5652,10165,16940,26625,39949,57722,80835,110260,147050,192339,247342,313355,391755,484000,591629,716262,859600,1023425,1209600,1420069 ★ Number of discordant permutations. • a(n) = 27 / 8 n ^ 4 - 135 / 4n ^ 3 + 921 / 8n ^ 2 - 539 / 4n, n>4. (End) •

[A052389] • 0,1,9,95,1286,20681,360964,6452825,114920766,2018035121,34864971944,593281456505,9965368457746,165615181710161,2728984827320124,44665923097267385,727216852411490726,11791672548220250801 ★ Number of 4-element intersecting families (with not necessary distinct sets) of an n-element set. • a(n) = (16 ^ n - 6 * 12 ^ n + 12 * 10 ^ n - 9 ^ n - 10 * 8 ^ n + 15 * 7 ^ n - 24 * 6 ^ n + 19 * 5 ^ n + 5 * 4 ^ n - 11 * 3 ^ n + 6 * 2 ^ n - 6) / 24. •

[A090448] • 9,96,500,1800,5145,12544,27216,54000,99825,174240,290004,463736,716625,1075200,1572160,2247264,3148281,4332000,5865300,7826280,10305449,13406976,17250000,21970000,27720225 ★ Fourth column (m=3) of triangle A090447. • a(n) = (n ^ 6 - 4 * n ^ 5 + 5 * n ^ 4 - 2 * n ^ 3) / 12. G.f.: - x ^ 3 * (x ^ 3 + 17 * x ^ 2 + 33 * x + 9) / (x - 1) ^ 7. - _ Colin Barker _ , Jan 2 1 2013 •

[A024116] • 1,9,96,991,9984,99975,999964,9999951,99999936,999999919,9999999900,99999999879,999999999856,9999999999831,99999999999804,999999999999775,9999999999999744,99999999999999711,999999999999999676 ★ 10^n-n^2. • a(n) = 13 * a(n - 1) - 33 * a(n - 2) + 31 * a(n - 3) - 10 * a(n - 4) for n >3. - _ Vincenzo Librandi _ , Oct 06 2014 •

[A284668] • 9,97,871,6171,77031,837799,8400511,63728127,670617279,9780657631,75128138247 ★ Numbers that have the largest Collatz total stopping time of all numbers below 10^n. • a(n) = max { i } (steps(i) for i in range from 1 to 10 ^ n - 1). •

[A155601] • 1,9,97,993,9985,99969,999937,9999873,99999745,999999489,9999998977,99999997953,999999995905,9999999991809,99999999983617,999999999967233,9999999999934465,99999999999868929,999999999999737857 ★ 10^n-2^n+1^n • a(n)=12 * a(n - 1) - 20 * a(n - 2) + 9 with a(0)=1, a(1)=9 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A180675] • 1,1,1,9,97,1041,11169,119833,1285697,13794337,148000449,1587907625,17036776865,182788823089,1961154631009,21041371248697,225754408665729,2422135536207937,25987269043538817,278819307278968905 ★ The Ca3 sums of the Pell-Jacobsthal triangle A013609. • a(n) = 11 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0)=1, a(1)=1 and a(2)=1. •

[A083077] • 1,9,97,1065,11713,128841,1417249,15589737,171487105,1886358153,20749939681,228249336489,2510742701377,27618169715145,303798866866593,3341798535532521,36759783890857729,404357622799435017 ★ Fifth row of number array A083075. • a(n) = (4 * 11 ^ n + 1) / 5 • a(n) = 11 * a(n - 1) - 2, a(n) = 12 * a(n - 1) - 11 * a(n - 2). - Vincenzo Librandi, Nov 10 2011 •

[A057933] • 9,98,987,9876,98765,987654,9876543,98765432,987654320,9876543209,98765432098,987654320987,9876543209876,98765432098765,987654320987654,9876543209876543,98765432098765432,987654320987654320 ★ Floor[(80/81)*10^n • a(n)=10 * a(n - 1) - (n % 9) + 10 * (n % 9!=0). •

[A064617] • 9,98,987,9876,98765,987654,9876543,98765432,987654321,9876543210,98765432099,987654320988,9876543209877,98765432098766,987654320987655,9876543209876544,98765432098765433,987654320987654322,9876543209876543211,98765432098765432100 ★ a(n) = (10^n-1)*(80/81)+n/9. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). G.f.: x * (10 * x - 9) / ((x - 1) ^ 2 * (10 * x - 1)). - _ Colin Barker _ , Sep 15 2014 •

[A024115] • 1,9,98,997,9996,99995,999994,9999993,99999992,999999991,9999999990,99999999989,999999999988,9999999999987,99999999999986,999999999999985,9999999999999984,99999999999999983,999999999999999982 ★ 10^n-n. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). - _ Vincenzo Librandi _ , Jun 17 2013 •

[A066557] • 9,98,999,9996,99995,999996,9999997,99999992,999999999,9999999990,99999999990,999999999996,9999999999990,99999999999998,999999999999990,9999999999999984,99999999999999990,999999999999999990,99999999999999999990 ★ Largest n-digit multiple of n. • a(n) = floor((10 ^ n - 1) / n) * n. •

[A139280] • 9,99,189,279,369,459,549,639,729,819,909,999,1089,1179,1269,1359,1449,1539,1629,1719,1809,1899,1989,2079,2169 ★ a(n) = 90*n - 81. • a(n) = a(n - 1) + 90. • a(n) = 90 * n - 81, with n>=1. - _ Paolo P. Lava _ , Sep 06 2010 •

[A103456] • 1,9,99,999,9999,99999,999999,9999999,99999999,999999999,9999999999,99999999999,999999999999,9999999999999,99999999999999,999999999999999,9999999999999999,99999999999999999,999999999999999999 ★ 0^n+10^n-1. • a(n)=10 * a(n - 1) + 9 - 10 *{ C[2 * (n - 1),n - 1] mod 2 } , with a(0)=1 [From _ Paolo P. Lava _ , Jun 04 2009] •

[A002283] • 0,9,99,999,9999,99999,999999,9999999,99999999,999999999,9999999999,99999999999,999999999999,9999999999999,99999999999999,999999999999999,9999999999999999,99999999999999999,999999999999999999,9999999999999999999,99999999999999999999 ★ a(n) = 10^n - 1. • a(n) = 10 * a(n - 1) + 9, with a(0)=0. - _ Paolo P. Lava _ , Jan 23 2009 • a(n) = a(n - 1) + 9 * 10 ^ (n - 1) with a(0)=0; Also: a(n) = 11 * a(n - 1) - 10 * a(n - 2) with a(0)=0, a(1)=9. - _ Vincenzo Librandi _ , Jul 22 2010 • a(n) = Sum _{ k=1..n } 9 * 10 ^ k. - _ Carauleanu Marc _ , Sep 03 2016 •

[A155157] • 1,9,99,1080,11790,128700,1404900,15336000,167409000,1827450000,19948590000,217760400000,2377089900000,25948503000000,283255929000000,3092044320000000,33753002490000000,368450468100000000 ★ a(n)=10*a(n-1)+10*a(n-2), n>2 ; a(0)=1, a(1)=9, a(2)=99 . • a(n)=(9 / 2) *{ [5 - sqrt(35)] ^ (n - 1) + [5 + sqrt(35)] ^ (n - 1) }+ (27 / 35) * sqrt(35) *{ [5 + sqrt(35)] ^ (n - 1) - [5 - sqrt(35)] ^ (n - 1) }+ (1 / 10) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A017018] • 9,100,289,576,961,1444,2025,2704,3481,4356,5329,6400,7569,8836,10201,11664,13225,14884,16641,18496,20449,22500,24649,26896,29241 ★ (7*n+3)^2. • a(0)=9, a(1)=100, a(2)=289, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 19 2014 •

[A065736] • 9,100,961,10000,99856,1000000,9998244,100000000,999950884,10000000000,99999515529,1000000000000,9999995824729,100000000000000,99

9999961946176,10000000000000000,99999999989350756 ⋆ Largest square <= 10^n. ● a(n)=A048760[A011557]=A048760[10 ^ n] ●

[A092936] ● 1,9,100,1089,11881,129600,1413721,15421329,168220900,1835008569,20016873361,218350598400,2381839709041,25981886201049,283418908502500,3091626107326449,33724468272088441,367877524885646400 ⋆ Area of n-th triple of hexagons around a triangle. ● a(n) = 10 * (a(n - 1) + a(n - 2)) - a(n - 3). ● a(n) = ((3 - sqrt(13)) ^ n - (3 + sqrt(13)) ^ n) ^ 2 / (13 * 4 ^ n). ●

[A056002] ● 1,9,100,1100,12100,133100,1464100,16105100,177156100,1948717100,21435888100,235794769100,2593742460100,28531167061100,313842837672100,3452271214393100,37974983358324100,417724816941565100 ⋆ a(n) = (10^2)*11^(n-2); a(0)=1, a(1)=9. ● a(n)=11a(n - 1) + [(- 1) ^ n] * C(2, 2 - n). G.f.(x)=(1 - x) ^ 2 / (1 - 11x). ●

[A101563] ● 1,9,101,1009,10001,99909,1000001,10001009,100000101,999990009,10000000001,100000100909,1000000000001,9999999000009,10000000010101,1000000010001009,10000000000000001,99999999900099909 ⋆ a(n)=(-1)^n*coefficient of x^n in sum{k>=1,x^(k-1)/(1+10x^k)}. ● a(n)=sum { k=0..n, (- 1) ^ (n - k) * if(mod(n + 1, k + 1)=0, 1, 0) * 10 ^ k } ●

[A099676] ● 9,108,1107,11106,111105,1111104,11111103,111111102,1111111101,11111111100,111111111099,1111111111098,11111111111097,111111111110096,1111111111111095,11111111111111094,111111111111111093,1111111111111111092,11111111111111111091 ⋆ Partial sums of repdigits of A002283. ● a(n) = (10 / 9) * (10 ^ n - 1) - n. - R. Piyo (nagoya314(AT)yahoo.com), Dec 10 2004 ● a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). ●

[A268839] ● 9,108,1197,13176,144945,1594404,17538453,192922992,2122152921,23343682140,256780503549,2824585539048,31070440929537,341774850224916,3759523352474085,41354756877214944,454902325649364393,5003925582143008332,55043181403573091661 ⋆ a(n) = Sum_{j=1..10^n-1} 2^f(j) where f(j) is the number of zero digits in the decimal representation of j. ● a(n) = 11 * a(n - 1) + 9. - _ Vincenzo Librandi _ , Feb 15 2016 ●

[A199030] ● 9,109,1209,13309,146409,1610509,17715609,194871709,2143588809,23579476909,259374246009,2853116706109,31384283767209,345227121439309,3797498335832409,41772481694156509,459497298635721609,5054470284992937709 ⋆ 10*11^n-1. ● a(n) = 11 * a(n - 1) + 10. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2). ●

[A155624] ● 1,9,113,1305,14561,160809,1770833,19484985,214352321,2357928009,25937365553,285311493465,3138427845281,34522710549609,379749828800273,4177248155066745,45949729820525441,505447028370153609 ⋆ 11^n-3^n+1. ● a(n)=14 * a(n - 1) - 33 * a(n - 2) + 20 with a(0)=1, a(1)=9 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A165224] ● 1,9,113,1593,23137,338409,4957649,72655641,1064876737,15607654857,228758827313,3352883803641,49142725927201,720277760311209,10557006115168913,154732499817791193,2267891697076964737 ⋆ a(0)=1, a(1)=9, a(n)=18*a(n-1)-49*a(n-2) for n>1 . ● a(n) = ((9 - 4 * sqrt(2)) ^ n + (9 + 4 * sqrt(2)) ^ n) / 2. [From _ Klaus Brockhaus _ , Sep 25 2009] ●

[A243676] ● 1,9,113,1649,26225 ⋆ Number of hypoplactic classes of 4-parking functions of length n. ● a(n) = Sum _{ i=0..n } Sum _{ j=0..i } (- 2) ^ (n - i) * binomial(i,j) * binomial(4i + j, n) * binomial(n + 1,i) / (n + 1) (conjectured). - _ Michael D. Weiner _ , May 25 2017 ●

[A253655] ● 9,116,2580,19544,295020,804076,4022064,7839780,24670536,99133020,147912160,427612404,791672280,1053546956,1796518224,3694034916,7030054140,8586690620,15076346164,21349986840,25222305336,40514492720,54489965796,82830096360,138828513824 ⋆ Number of monic irreducible polynomials of degree 6 over GF(prime(n)). ● a(n) = (p ^ 6 - p ^ 3 - p ^ 2 + p) / 6, where p = prime(n). ●

[A139740] ● 0,9,117,1323,14625,161019,1771497,19487043,214358625,2357947179,25937423577,285311668563,3138428372625,34522712135739,379749833566857,4177248169382883,45949729863506625,505447028499162699,5559917313491969337,61159090448414022003 ⋆ 11^n - 2^n. ● a(n) = 13 * a(n - 1) - 22 * a(n - 2); - _ Vincenzo Librandi _ , Jun 02 2011 ●

[A130652] ● 9,119,1329,14639,161049,1771559,19487169,214358879,2357947689,25937424599,285311670609,3138428376719,34522712143929,379749833583239,4177248169415649,45949729863572159,505447028499293769 ⋆ 11^n - 2. ● a(1)=9, a(n) = 11 * a(n - 1) + 20. [From Vincenzo Librandi, Jun 08 2011] ●

[A167593] ● 9,120,952,5664,27888,120064,467712,1686528,5719296,18450432,57108480,170713088,495366144,1401028608,3874881536,10508304384,28005433344,73485778944,190154539008,485895438336,1227495571456 ⋆ The third left hand column of triangle A167591. ● a(n) = 2 ^ n * (7 * n ^ 5 - 40 * n ^ 4 + 110 * n ^ 3 - 155 * n ^ 2 + 78 * n) / 240. ● a(n) = 12 * a(n - 1) - 60 * a(n - 2) + 160 * a(n - 3) - 240 * a(n - 4) + 192 * a(n - 5) - 64 * a(n - 6). ● a(n) - 11 * a(n - 1) + 50 * a(n - 2) - 120 * a(n - 3) + 160 * a(n - 4) - 112 * a(n - 5) + 32 * a(n - 6) = 7 * 2 ^ (n - 2). ●

[A017102] ● 9,121,361,729,1225,1849,2601,3481,4489,5625,6889,8281,9801,11449,13225,15129,17161,19321,21609,24025,26569,29241,32041,34969,38025 ⋆ a(n) = (8n + 3)^2. ● a(0)=9, a(1)=121, a(2)=361, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 23 2014 ●

[A084769] ● 1,9,121,1809,28401,458649,7544041,125700129,2114588641,35836273449,610897146201,10463745263409,179939616743121,3104680678772409,53721299280288201,931852905510160449,16198821321758152641 ⋆ P_n(9), where P_n is n-th Legendre polynomial; also, a(n) = central coefficient of (1 + 9*x + 20*x^2)^n. ● a(n) = Sum _{ k=0..n } binomial(n,k) ^ 2 * 4 ^ k * 5 ^ (n - k). - _ Paul D. Hanna _ , Sep 29 2012 ● a(n) = hypergeom([- n, n + 1], [1], - 4). - _ Peter Luschny _ , May 23 2014 ●

[A229283] ● 0,9,126,1539,17496,190269,2007666,20726199,210450636,2109289329,20920706406,205720279659,2008387814976,19487638017189,188098071296346,1807266603941919,17294855095950516,164918796807813849,1567655079768657486,14859368894402912979 ⋆ Number of ascending runs in {1,...,9}^n. ● a(n) = 9 ^ (n - 1) * (5 * n + 4) for n>0, a(0) = 0. ●

[A064746] ● 1,9,129,1537,16385,163841,1572865,14680065,134217729,1207959553,10737418241,94489280513,824633720833,7146825580545,61572651155457,527765581332481,4503599627370497,38280596832649217,324259173170675713 ⋆ n*8^n + 1. ● a(0)=1, a(1)=9, a(2)=129, a(n)=17 * a(n - 1) - 80 * a(n - 2) + 64 * a(n - 3). – From _ Harvey P. Dale _ , Jul 24 2012 ●

[A200407] ● 1,9,131,209,3051,44539,71059,1037331,15143129,24159851,352689489,5148619321,8214278281,119913388929,1750515426011,2792830455689,40770199546371,595170096224419,949554140655979,13861747932377211,202356082200876449,322845614992577171 ⋆ The x-values in the solution to 19*x^2 - 18 = y^2. ● a(n)=340 * a(n - 3) + a(n - 6), a(1)=1, a(2)=9, a(3)=131, a(4)=209, a(5)=3051, a(6)=44539. ●

[A282820] ● 0,0,0,9,132,720,2580,7245,17304,36792,71640,130185,223740,367224,579852,885885,1315440,1905360,2700144,3752937,5126580,6894720,9142980,11970189,15489672 ⋆ Number of inequivalent ways to color the edges of a tetrahedron using at most n colors so that no color appears more than twice. ● a(n) = (n - 2) * n * (n - 1) * (n ^ 3 + 3 * n ^ 2 - 10 * n - 6) / 12. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>6. (End) ●

[A218326] ● 1,9,135,231,765,1045,2275,2835,5049,5985,9471,10879,15925,17901,24795,27435,36465,39865,51319,55575,69741,74949,92115,98371,118825 ⋆ Odd octagonal pyramidal numbers ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). ● a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 384. ● a(n) = (4 * n - (- 1) ^ n - 1) * (4 * n - (- 1) ^ n - 3) * (4 * n - (- 1) ^ n - 4) / 8. ●

[A017198] ● 9,144,441,900,1521,2304,3249,4356,5625,7056,8649,10404,12321,14400,16641,19044,21609,24336,27225,30276,33489,36864,40401,44100,47961 ⋆ a(n) = (9*n + 3)^2. ● a(0)=9, a(1)=144, a(2)=441, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 25 2015 ●

[A274502] ● 0,0,9,153,972,3996,12690,33858,79596,169884,335907,624195,1101672,1861704,3031236,4779108,7325640,10953576,16020477,22972653,32360724,44856900,61274070,82586790,109954260 ⋆ a(n) = 90*binomial(n-1,7) + 9*binomial(n-1,6). ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>11. ● a(n) = (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) * (n - 6) * (10 * n - 63) / 560. - _ Wesley Ivan Hurt _ , Jun 25 2016 ●

[A249642] ● 0,0,9,153,1449,13617,123129,1113273,10024569,90266553,812444409,7312407993,65812080249,592312391937,5330815197129,47977369796313,431796361188969,3886167547854657,34975508227845849,314779576724952633,2833016193198913689,25497145762858874817 ⋆ Number of strings of length n over a 9-letter alphabet that begin with a nontrivial palindrome. ● a(0) = 0; a(1) = 0; a(n + 1) = 9 * a(n) + 9 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)) ●

[A093849] ● 9,153,2097,26496,319995,3749994,42999985,484999992,5399999991,59499999990,649999999935,7049999999988,75999999999924,814999999999941,8699999999999985,92499999999999984,979999999999999902 ⋆ Row sums of triangle A093846. ● a(n) = n * [10 ^ (n - 1) - 1 + (n + 1) * floor(9 * 10 ^ (n - 1) / n) / 2]. ●

[A165232] ● 1,9,153,2673,46737,817209,14289129,249849441,4368687777,76387735017,1335661040313,23354409110481,408358414625841,7140261781270809,124849486331241993 ⋆ a(0)=1, a(1)=9, a(n)=18*a(n-1)-9*a(n-2) for n>1 . ● a(n)=(1 / 2) *{ [9 - 6 * sqrt(2)] ^ n + [9 + 6 * sqrt(2)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Sep 16 2009] ●

[A208545] ● 0,0,9,156,1170,5580,19995,58824,149796,341640,714285,1391940,2559414,4482036,7529535,12204240,19173960,29309904,43730001,63847980,91428570,128649180,178168419,243201816,327605100 ⋆ Number of 7-bead necklaces of n colors allowing reversal, with no adjacent beads having the same color. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. ●

[A020523] ● 1,9,161,1665,14849,124929,1024001,8290305,66715649,535298049,4288675841,34334572545,274777243649,2198620602369,17590575431681,140731045904385,1125874137038849,9007096175525889,72057181721067521,576459103035981825 ⋆ a(n) = 3rd Euler polynomial evaluated at 2^n and multiplied by 4. ● a(n) = 4 * 8 ^ n - 6 * 4 ^ n + 1. ● a(n) = 13 * a(n - 1) - 44 * a(n - 2) + 32 * a(n - 3) for n>2. - _ Colin Barker _ , May 04 2015 ●

[A023039] ● 1,9,161,2889,51841,930249,16692641,299537289,5374978561,96450076809,1730726404001,31056625195209,557288527109761,10000136862780489,179445175002939041,3220013013190122249,57780789062419261441 ⋆ a(n) = 18*a(n-1) - a(n-2). ● a(n) = ((9 + 4 * sqrt(5)) ^ n + (9 - 4 * sqrt(5)) ^ n) / 2. ● a(n) = cosh[2n * arcsinh[2]]. - _ Herbert Kociemba _ , Apr 24 2008 ● a(n) = 1 / 2 * Lucas(6 * n) = 1 / 2 * (sqrt(5) + 2) ^ (2 * n) + 1 / 2 * (sqrt(5) - 2) ^ (2 * n). ●

[A084874] ● 0,0,9,162,2025,21870,219429,2112642,19847025,183642390,1682955549,15327821322,139038251625,1257873017310,11360034454869,102475388237202,923689006041825,8321664254958630,74945757885541389,674816499677616282 ⋆ Number of (k,m,n)-antichains of multisets with k=3 and m=2. ● a(n) = (1 / 2!) * (9 ^ n - 2 * 6 ^ n + 3 ^ n). ●

[A158749] ● 0,9,162,2187,26244,295245,3188646,33480783,344373768,3486784401,34867844010,345191655699,3389154437772,33044255768277,320275094369454,3088366981419735,29648323021629456,283512088894331673 ⋆ n*9^n. ● a(n) = n * 9 ^ n. ●

[A133681] • 1,9,162,2268,34992,519048,7820712,117100728,1757770632,26359001208,395430367752,5931183418488,88969383864072,1334530962440568,20018023209731592,300269995507235448,4504052048440962312 ★ a(n)=9*a(n-1)+90*a(n-2) for n>=3, a(0)=1, a(1)=9, a(2)=162 . • a(n)= - (9 / 7) * (- 6) ^ (n - 1) + (72 / 7) * 15 ^ (n - 1) + (1 / 10) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Aug 28 2008] •

[A053130] • 9,165,1287,6435,24310,75582,203490,490314,1081575,2220075,4292145,7888725,13884156,23535820,38608020,61523748,95548245,145008513,215553195,314457495,450978066,636763050,886322710,1217566350 ★ Binomial coefficients C(2n-7,8). • a(n)= binomial(2 * n - 7, 8) if n >= 8 else 0; G.f.: (9 + 84 * x + 126 * x ^ 2 + 36 * x ^ 3 + x ^ 4) / (1 - x) ^ 9. •

[A119032] • 0,9,170,3059,54900,985149,17677790,317215079,5692193640,102142270449,1832868674450,32889493869659,590178020979420,10590314883759909,190035489886698950,3410048503076821199,61190837565496082640 ★ a(n+2)=18a(n+1)-a(n)+8. • a(n + 1) = 9 * a(n + 1) + 4 + (80 * a(n) ^ 2 + 80 * a(n) + 25) ^ 0.5. • a(n) = - (1 / 2) - (1 / 8) * sqrt(5) *{ [9 - 4 * sqrt (5)] ^ n - [9 + 4 * sqrt(5)) ^ n }+ (1 / 4) *{ [9 - 4 * sqrt(5)] ^ n + [9 + 4 * sq rt(5)] ^ n } , with n>=0. [_ Paolo P. Lava _ , Nov 25 2008] • a(n) = ((sqrt(5) + 2) / 8) * (9 + 4 * sqrt(5)) ^ n + ((- sqrt(5) + 2) / 8) * (9 - 4 * sqrt(5)) ^ n - 0.5 [From _ Richard Choulet _ , Nov 26 2008] •

[A033713] • 0,9,189,2889,38889,488889,5888889,68888889,788888889,8888888889,98888888889,1088888888889,11888888888889,128888888888889,1388888888888889,14888888888888889,158888888888888889 ★ Number of zeros in numbers 1 to 999..9 (n digits). • a(n) = (1 / 9) * ((n - 1) * (10 ^ n) - n * 10 ^ (n - 1) + 1); g.f.: (9 * x ^ 2) / ((1 - x)(1 - 10x) ^ 2). - Stephen G. Penrice (sp enrice(AT)ets.org), Oct 01 2000 • a(1)=0, a(2)=9, a(3)=189, a(n)=21 * a(n - 1) - 120 * a(n - 2) + 100 * a(n - 3) [From Harvey P. Dale, Jan 24 2012] •

[A017426] • 9,196,625,1296,2209,3364,4761,6400,8281,10404,12769,15376,18225,21316,24649,28224,32041,36100,40401,44944,49729,54756,60025,65536,71289 ★ (11n+3)^2. • a(0)=9, a(1)=196, a(2)=625, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 02 2013 •

[A001535] • 9,209,609,1209,2009,3009,4209,5609,7209,9009,11009,13209,15609,18209,21009,24009,27209,30609,34209,38009,42009,46209,50609,55209,60009 ★ (10n+1)(10n+9). • a(0)=9, a(1)=209, a(2)=609, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 15 2014 •

[A079913] • 1,9,221,2227,15458,80196,334072,1173240,3598120,9856552,24553080,56423032,121013800,244555560,469343992,860997880,1517994792,2583928360,4262971000,6839066232,10699415080,16362861352,24513820920,36042440440,52091711272 ★ Solution to the Dancing School Problem with 8 girls and n+8 boys: f(8,n). • a(0)=1, a(1)=9, a(2)=221, a(3)=2227, a(4)=15459, a(5)= 80196, for n >= 6, a(n)= n ^ 8 - 20 * n ^ 7 + 238 * n ^ 6 - 1820 * n ^ 5 + 9625 * n ^ 4 - 35000 * n ^ 3 + 84448 * n ^ 2 - 122240 * n + 80680. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9), for n>8. - _ Wesley Ivan Hurt _ , Sep 17 2015 •

[A120319] • 9,225,441,1089,1521,2025,2601,3249,4761,5625,6561,7569,8649,12321,15129,16641,19881,25281,31329,33489,35721,40401,45369,47961,50625 ★ RF(3): refactorable numbers with smallest prime factor 3. • a(n) = odd square, 3 is the smallest prime factor and refactorable. •

[A017558] • 9,225,729,1521,2601,3969,5625,7569,9801,12321,15129,18225,21609,25281,29241,33489,38025,42849,47961,53361,59049,65025,71289,77841,84681 ★ (12n+3)^2. • a(n) = a(n - 1) + 288 * n - 72, n>=1. - Vincenzo Librandi, Mar 20 2011 •

[A152101] • 9,231,3999,65151,1047039,16771071,268410879,4294868991,68719083519,1099510054911,17592179752959,281474951544831,4503599526707199,72057593635274751,1152921502996234239,18446744067267100671 ★ a(n)=16^n - 3*2^(2*n - 1) - 1. • a(n)=16 ^ n - 3 * 2 ^ (2 * n - 1) - 1=(2 ^ (2 * n - 1) - 1) * (2 ^ (2 * n + 1) + 1). •

[A135099] • 1,9,252,316,3441,3657,20464,20976,80025,81025,242076,243804,615097,617841,1377216,1381312,2801169,2807001,5283100,5291100,9375201,9385849,15822192,15836016,25601641 ★ a(1)=1, a(n) = a(n-1) + n^5 if n odd, a(n) = a(n-1) + n^3 if n is even. • a(n) = (1 / 48) * (9 * (1 - (- 1) ^ n) + 4 * n ^ 2 * (n + 1) ^ 2 * (n ^ 2 + n + 1) - •

[A001823] • 0,9,259,1974,8778,28743,77077,179452,375972,725781,1312311,2249170,3686670,5818995,8892009,13211704,19153288,27170913,37808043,51708462,69627922,92446431,121181181,157000116,201236140 ★ Central factorial numbers: column 2 in triangle A008956. • a(n) = n * (n - 1) * (2 * n + 1) * (2 * n - 1) * (2 * n - 3) * (10 * n + 7) / 90. • a(1)=0, a(2)=9, a(3)=259, a(4) =1974, a(5)=8778, a(6)=28743, a(7)=77077, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jun 09 2013 •

[A088672] • 1,9,265,27713,10363361,13906734081 ★ Number of n X n (0,1)-matrices with zero permanent. • a(n) is asymptotic to n(2 ^ (n ^ 2 - n + 1)). [Everett and Stein] •

[A180358] • 0,9,272,6585,65568,390665,1679664,5764857,16777280,43046793,100000080,214358969,429981792,815730825,1475789168,2562890745,4294967424,6975757577,11019960720,16983563193,25600000160,37822859529,54875873712 ★ n^8+8n • a(n)= + 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). G.f.: x * (- 9 - 191 * x - 4461 * x ^ 2 - 15339 * x ^ 3 - 15899 * x ^ 4 - 4125 * x ^ 5 - 303 * x ^ 6 + 7 * x ^ 7) / (x - 1) ^ 9 . [From _ R. J. Mathar _ , Sep 19 2010] •

[A279449] • 0,0,9,306,4361,34059,185181,777280,2710074,8181558,22067973,54285858,123791067,264749849,536146569,1035584592,1919530804,3430908108,5937810417,9984193986,16358592141,26181281511,41019234245,63028246512,95136210222 ★ Number of nonequivalent ways to place 5 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 10 - 30 * n ^ 8 + 90 * n ^ 7 - 27 * n ^ 6 - 218 * n ^ 5 + 340 * n ^ 4 - 340 * n ^ 3 + 376 * n ^ 2 - 192 * n) / 960 + IF(MOD(n, 2) = 1, 2 * n ^ 5 - 9 * n ^ 4 + 14 * n ^ 3 - 6 * n ^ 2 - 4 * n + 3) / 64. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 20 * a(n - 3) + 40 * a(n - 4) + 16 * a(n - 5) - 100 * a(n - 6) + 44 * a(n - 7) + 110 * a(n - 8) - 110 * a(n - 9) - 44 * a(n - 10) + 100 * a(n - 11) - 16 * a(n - 12) - 40 * a(n - 13) + 20 * a(n - 14) + 4 * a(n - 15) - 5 * a(n - 16) + a(n - 17). •

[A152437] • 0,1,9,307,2610,88741,754299,25646167,217992420,7411742281,62999809389,2141993519227,18206944913430,619036127056621,5261870799812791,178901440719363487,1520662246114589640,51702516367896047761 ★ (17^n - 1)/(2^(5 - (n % 2))). • a(n) = (- 1) * ((- 3 + (- 1) ^ n) * (- 1 + 17 ^ n)) / 64. • a(n) = 290 * a(n - 2) - 289 * a(n - 4). •

[A128788] • 0,9,324,6561,104976,1476225,19131876,234365481,2754990144,31381059609,348678440100,3797108212689,40669853253264,429575324987601,4483851321172356,46325504721296025,474373168346071296 ★ n^2*9^n. • a(n) = 27 * a(n - 1) - 243 * a(n - 2) + 729 * a(n - 3). - _ Vincenzo Librandi _ , Feb 07 2013 •

[A041619] • 1,9,325,2934,105949,956475,34539049,311807916,11259624025,101648424141,3670602893101,33137074462050,1196605283526901,10802584626204159,390089651826876625,3521609451068093784 ★ Denominators of continued fraction convergents to sqrt(328). • a(n) = 326 * a(n - 2) - a(n - 4). •

[A244503] • 9,339,3606,24474,121077,475353,1568712,4524540,11722134,27828138,61442460,127616970,251577939,474068124,858822579,1502804622,2549955858,4209357693,6778862319,10675429650,16473604089,24953782251,37162160802,54484513344,78736227726 ★ Number of ways to place 5 points on an n X n X n triangular grid so that no pair of them has distance sqrt(3). • a(n) = 1 / 3840 * n ^ 10 + 1 / 768 * n ^ 9 - 13 / 384 * n ^ 8 - 7 / 384 * n ^ 7 + 1589 / 768 * n ^ 6 - 24619 / 3840 * n ^ 5 - 1561 / 32 * n ^ 4 + 20965 / 64 * n ^ 3 - 11101 / 240 * n ^ 2 - 85143 / 20 * n + 9711 for n >= 7. •

[A102909] • 1,9,511,9841,87381,488281,2015539,6725601,19173961,48427561,111111111,235794769,469070941,883708281,1589311291,2745954241,4581298449,7411742281,11668193551,17927094321,26947368421,39714002329,57489010371 ★ a(n) = n^8 +n^7 +n^6 +n^5 +n^4 +n^3 +n^2 +n +1. • a(n) = (n ^ 9 - 1) / (n - 1) with a(1) = 9. - _ L. Edson Jeffery _ and _ M. F. Hasler _ , Dec 30 2012 •

[A291910] • 0,0,9,576,6900,44100,196245,686784,2023056,5232600,12224025,26310240,52936884,100663836,182452725,317318400,532407360,865571184,1368508041,2110550400,3183182100,4705372980,6829824309,9750223296,13709610000 ★ Number of 4-cycles in the n X n rook complement graph. • a(n) = (n - 2) * (n - 1) ^ 2 * n ^ 2 * (- 4 + 5 * n - 4 * n ^ 2 + n ^ 3) / 8. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[A128795] • 0,9,648,19683,419904,7381125,114791256,1640558367,22039921152,282429536481,3486784401000,41768190339579,488038239039168,5584479224838813,62773918496412984,694882570819440375 ★ n^3*9^n. • a(n) = 36 * a(n - 1) - 486 * a(n - 2) + 2916 * a(n - 3) - 6561 * a(n - 4). - _ Vincenzo Librandi _ , Feb 10 2013 •

[A120816] • 9,716,20466,365996,4939341,55098294,535240680,4680045630,37665984798,283492037268,2018852205700,13724440760376,89682252682256,566388685336800,3472428372731880,20740959695100150,121059468257664984 ★ Number of permutations of length n with exactly 8 occurrences of the pattern 2-13. • a(n) = (- 7983360 - 12956832n + 10475400n ^ 2 + 3647724n ^ 3 - 416326n ^ 4 - 249417n ^ 5 - 19971n ^ 6 + 2646n ^ 7 + 576n ^ 8 + 39n ^ 9 + n ^ 10) / (40320(n + 8)(n + 9)(n + 10))Binomial[2n, n - 7]; generating function = x ^ 7 C ^ 15(29 - 65536C + 499576C ^ 2 - 1679496C ^ 3 + 3298054C ^ 4 - 4270444C ^ 5 + 3911698C ^ 6 - 2671744C ^ 7 + 1439239C ^ 8 - 659504C ^ 9 + 279446C ^ 10 - 112922C ^ 11 + 41165C ^ 12 - 12362C ^ 13 + 2816C ^ 14 - 448C ^ 15 + 44C ^ 16 - 2C ^ 17) / (2 - C) ^ 15, where C=(1 - Sqrt[1 - 4x]) / (2x) is the Catalan function. •

[A228293] • 0,9,1022,29523,349524,2441405,12093234,47079207,153391688,435848049,1111111110,2593742459,5628851292,11488207653,22250358074,41189313615,73300775184,125999618777,210027483918,340614792099,538947368420,833994048909,1264758228162 ★ a(n) = Sum_{k=1..9} n^k. • a(1) = 9, else a(n) = (n ^ 10 - n) / (n - 1). • a(0)=0, a(1)=9, a(2)=1022, a(3)=29523, a(4)= 349524, a(5)=2441405, a(6)=12093234, a(7)=47079207, a(8)=153391688, a(9) =435848049, a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Dec 12 2013 •

[A054344] • 9,1064,21656,197484,1143366,4927524,17240292,51631617,137044523,330284988,735542444,1533609350,3024043008,5684167992,10249533240,17821214019,30006185613,49097892704,78305096016 ★ Number of ways of covering a 2n X 2n lattice with 2n^2 dominoes of which exactly 6 are horizontal (or vertical) dominoes. • a(n) = (1 / 720) * n * (n + 1) * (120 * n ^ 7 - 300 * n ^ 6 - 70 * n ^ 5 + 363 * n ^ 4 + 416 * n ^ 3 - 231 * n ^ 2 - 394 * n - 264). •

[A229151] • 0,9,3584,124659,1572864,11328125,57106944,224827239,738197504,2109289329,5400000000,12647173979,27518828544,56285419749,109208390144,202468359375,360777252864,620842412249,1035876294144,1681372741059,2662400000000,4122691670349 ★ n^8*(5*n+4). • a(0)=0, a(1)=9, a(2)=3584, a (3)=124659, a(4)=1572864, a(5)=11328125, a(6)=57106944, a(7)=224827239, a(8)=738197504, a(9)=2109289329, a(n)= 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 4

5 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Feb 11 2015 •

[**A162013**] • 0,9,3748,163160,2549775,22768402,141820764,685234196,2738273230,9438613635,28894483904,80240970524,205377597269,490460693060,1103418293480,2356809738456,4809498575164,9426116131517,17820475867500 ★ The sequence of the absolute values of the a(n-3) coefficients of A162011 • a(n) = (280 * n ^ 12 + 1680 * n ^ 11 - 252 * n ^ 10 - 16660 * n ^ 9 - 13758 * n ^ 8 + 63408 * n ^ 7 + 68705 * n ^ 6 - 104265 * n ^ 5 - 111657 * n ^ 4 + 66997 * n ^ 3 + 56682 * n ^ 2 - 11160 * n) / 45360 •

[**A242853**] • 1,9,40545,1372105,15003009,93149001,409389409,1423656585,4178507265,10783446409,25154396001,54085723209,108742564225,206671502025,374437978209,651009141001,1092011153409,1775000307465,2805897612385,4326746846409,6524966384001,9644275432009 ★ 256*n^8 - 448*n^6 + 240*n^4 - 40*n^2 + 1. • a(n) = (2 * n - 1) * (2 * n + 1) * (8 * n ^ 3 - 6 * n - 1) (8 * n ^ 3 - 6 * n + 1). •

[**A159344**] • 1,1,1,9,237675,777739016577752714 ★ Number of Hamiltonian cycles in the n-hypercube up to automorphism. • a(n) < n ^ (2 ^ n). •

[**A097041**] • 1,1,1,10,10,19,100,109,271,1009,1252,3448,10333,14716,41365,107713,173809,479998,1143226,2044279,5463208,12333313,23861719,61502185,134861536 ★ Expansion of (1+x)/(1-x^2-9*x^3). • a(n) = a(n - 2) + 9 * a(n - 3). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(floor((n - k) / 2), k) * 9 ^ k. •

[**A168461**] • 0,10,10,20,20,30,30,40,40,50,50,60,60,70,70,80,80,90,90,100,100,110,110,120,120 ★ a(n) = 10*floor(n/2). • a(n) = 10 * n - a(n - 1) - 10, with n >1, a(1)=0. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Vincenzo Librandi _ , Sep 19 2013 • a(n) = (5 / 2) * (2 * n + (- 1) ^ n - 1). •

[**A022093**] • 0,10,10,20,30,50,80,130,210,340,550,890,1440,2330,3770,6100,9870,15970,25840,41810,67650,109460,177110,286570,463680 ★ Fibonacci sequence beginning 0, 10. • a(n) = 10 * F(n) = F(n + 4) + F(n + 2) + F(n - 2) + F(n - 4) for n>3, where F=A000045. • a(n) = round((4 * phi - 2) * phi ^ n) for n >4. - _ Thomas Baruchel _ , Sep 08 2004 • a(n) = F(n + 5) + F(n - 5) - 5 * F(n) for n>0. - _ Bruno Berselli _ , Dec 29 2016 • a(n) = Lucas(n + 3) + Lucas(n - 3), where Lucas(- i) = (- 1) ^ i * Lucas(i) for the negative indices. - _ Bruno Berselli _ , Jun 13 2017 •

[**A285613**] • 1,10,10,100,1100,11000,111000,1110000,11110000,111100000,11111100000,111111000000,1111111000000,11111111000000,111111111000000,1111111110000000,11111111100000000,111111111000000000,1111111110000000000,11111111110000000000 ★ Binary representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 62", based on the 5-celled von Neumann neighborhood. • a(n) = (10 ^ n - 10 ^ (n / 2)) / 9 for n>1 and even. • a(n) = (10 ^ n - 10 ^ (n / 2 + 1 / 2)) / 9 for n>1 and odd. • a(n) = 10 * a(n - 1) + 10 * a(n - 2) - 100 * a(n - 3) for n>2. •

[**A174140**] • 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,35,36,37,38,39,40,41,42,43,44 ★ Numbers congruent to k mod 25, where 10 <= k <= 24. • a(n + 15) = a(n) + 25 for n >= 1. •

[**A058364**] • 1,1,1,1,1,1,1,1,10,11,12,13,14,15,16,17,18,28,39,51,64,78,93,109,126 ★ Number of ways to cover (without overlapping) a ring lattice (necklace) of n sites with molecules that are 9 sites wide. • a(n) = 1 + n * sum(binomial(n - 1 - 8 * i, i - 1) / i, i=1..n / 9). a(n) = a(n - 1) + a(n - 9), a(n) = 1 for n = 1..8, a(9) = 10. generating function = (x + 9 * x ^ 9) / (1 - x - x ^ 9). •

[**A112654**] • 0,1,10,11,12,21,22,23,32,33,34,43,44,45,54,55,56,65,66,67,76,77,78,87,88 ★ Numbers n such that n^3 is congruent to n (mod 11). • a(n) = a(n - 1) + a(n - 3) - a(n - 4). •

[**A153194**] • 10,11,13,14,38,40,44,46,84,87,93,96,148,152,160,164,230,235,245,250,330,336,348,354,448 ★ Numbers such that the numerator of floor(sqrt(n))/n, when reduced to its lowest terms, is equal to 3. • a(n + 4) = 2 * a(n) - a(n - 4) + 18 if n>0. - _ Michael Somos _ , Mar 28 2014 •

[**A290745**] • 10,11,13,16,20,25,31,38,46,55,64,74,85,97,110,124,139,155,172,190,208,227,247,268,290 ★ Maximum number of distinct Lyndon factors that can appear in words of length n over an alphabet of size 10. • a(n) = binomial(n + 1,2) - (s - p) * binomial(m + 1,2) - p * binomial(m + 2,2) + s where s=10, m=floor(n / s), p=n - m * s. - _ Andrew Howroyd _ , Aug 14 2017 •

[**A188165**] • 10,11,13,17,25,41,73,137,265,521,1033,2057,4105,8201,16393,32777,65545,131081,262153,524297,1048585,2097161,4194313,8388617,16777225 ★ 2^n + 9. • a(n) = 2 * a(n - 1) - 9 = 3 * a(n - 1) - 2 * a(n - 2). •

[**A214864**] • 10,11,14,15,26,27,30,31,42,43,46,47,58,59,62,63,74,75,78,79,90,91,94,95,106 ★ Numbers n such that n XOR 10 = n - 10. • a(n) = 4 * n + 6 + (3 * (- 1) ^ n + 1) / 2 + 2 * (- 1) ^ ((2 * n - 1 + (- 1) ^ n) / 4) for n >= 0. • a(n) = 16 * floor(n / 4) + ((n - 1) mod 2) + 4 * floor(((n - 1) mod 4) + 10. - _ Gary Detlefs _ , Oct 26 2013 •

[**A197652**] • 0,1,10,11,20,21,30,31,40,41,50,51,60,61,70,71,80,81,90,91,100,101,110,111,120 ★ Numbers that are congruent to 0 or 1 mod 10. • a(n) = a(n - 2) + 10. • a(n) = 5 * n - 7 - 2 * (- 1) ^ n. (End) • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. (End) •

[**A022100**] • 1,10,11,21,32,53,85,138,223,361,584,945,1529,2474,4003,6477,10480,16957,27437,44394,71831,116225,188056,304281,492337 ★ Fibonacci sequence beginning 1, 10. • a(n)= a(n - 1) + a(n - 2) for n>=2, a(0)=1, a(1)=10, a(- 1):=9. • a(n)=sum { k=0..n, Fib(n - k + 1)(9 * binomial(1, k) - 8 * binomial(0, k)) } . - _ Paul Barry _ , May 05 2005 • a(n) = ((1 + sqrt5) ^ n - (1 - sqrt5) ^ n) / (2 ^ n * sqrt5) + 4.5 * ((1 + sqrt5) ^ (n - 1) - (1 - sqrt5) ^ (n - 1)) / (2 ^ (n - 2) * sqrt5). Offset 1. a(3)=11. - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 •

[**A041475**] • 1,1,10,11,21,32,85,117,904,3733,8370,20473,49316,217737,1573475,1791212,5155899,6947111,12103010,19050121,183554099,202604220,6261680699,6464284919,64440244970 ★ Denominators of continued fraction convergents to sqrt(253). • a(n) = 6445234798 * a(n - 22) - a(n - 44) for n>43. [_ Bruno Berselli _ , Dec 18 2013] •

[**A041202**] • 10,11,21,53,74,127,2614,2741,5355,13451,18806,32257,663946,696203,1360149,3416501,4776650,8193151,168639670,176832821,345472491,867777803,1213250294,2081028097,42833812234 ★ Numerators of continued fraction convergents to sqrt(112). • a(n) = 254 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 10 * x ^ 10 + 11 * x ^ 9 - 21 * x ^ 8 + 53 * x ^ 7 - 74 * x ^ 6 - 127 * x ^ 5 - 74 * x ^ 4 - 53 * x ^ 3 - 21 * x ^ 2 - 11 * x - 10) / ((x ^ 6 - 16 * x ^ 3 + 1) * (x ^ 6 + 16 * x ^ 3 + 1)). [_ Colin Barker _ , Jul 19 2012] •

[**A041200**] • 10,11,21,137,158,295,6058,6353,12411,80819,93230,174049,3574210,3748259,7322469,47683073,55005542,102688615,2108777842,2211466457,4320244299,28132932251,32453176550,60586108801 ★ Numerators of continued fraction convergents to sqrt(111). • a(n) = 590 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 10 * x ^ 10 + 11 * x ^ 9 - 21 * x ^ 8 + 137 * x ^ 7 - 158 * x ^ 6 - 295 * x ^ 5 - 158 * x ^ 4 - 137 * x ^ 3 - 21 * x ^ 2 - 11 * x - 10) / (x ^ 12 - 590 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] •

[**A041847**] • 1,10,11,21,221,9303,93251,102554,195805,2060604,86741173,869472334,956213507,1825685841,19213071917,808774706355,8106960135467,8915734841822,17022694977289,179142684614712,7541015448795193,7558929717256642,83130312621361835 ★ Denominators of continued fraction convergents to sqrt(445). • a(n) = 9324 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 25 2013 •

[**A022315**] • 0,10,11,22,34,57,92,150,243,394,638,1033,1672,2706,4379,7086,11466,18553,30020,48574,78595,127170,205766,332937,538704 ★ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 0 and a(1) = 10. • a(n) = F(n + 2) + 9 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[**A041485**] • 1,10,11,32,107,460,1487,3434,4921,52644,1689529,16947934,18637463,54222860,181306043,779447032,2519647139,5818741310,8338388449,89202625800,2862822414049,28717426766290,31580249180339,91877925126968,307214024561243 ★ Denominators of continued fraction convergents to sqrt(259). • a(n) = 1694450 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 18 2013 •

[**A041206**] • 10,11,32,331,694,1025,21194,22219,65632,678539,1422710,2101249,43447690,45548939,134545568,1391004619,2916554806,4307559425,89067743306,93375302731,275818348768,2851558790411 ★ Numerators of continued fraction convergents to sqrt(114). • a(n) = 2050 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 10 * x ^ 10 + 11 * x ^ 9 - 32 * x ^ 8 + 331 * x ^ 7 - 694 * x ^ 6 - 1025 * x ^ 5 - 694 * x ^ 4 - 331 * x ^ 3 - 32 * x ^ 2 - 11 * x - 10) / (x ^ 12 - 2050 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] •

[**A042413**] • 1,10,11,54,65,119,3159,3278,6437,29026,35463,383656,20752887,207912526,228665413,1122574178,1351239591,2473813769,65670397585,68144211354,133814608939,603402647110,737217256049,7975575207600,4314182784664449 ★ Denominators of continued fraction convergents to sqrt(734). • a(n) = 20788350 * a(n - 12) - a(n - 24) for n>23. - _ Vincenzo Librandi _ , Jan 21 2014 •

[**A041212**] • 10,11,54,119,530,649,13510,14159,70146,154451,687950,842401,17535970,18378371,91049454,200477279,892958570,1093435849,22761675550,23855111399,118182121146,260219353691,1159059535910 ★ Numerators of continued fraction convergents to sqrt(117). • a(n) = 1298 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 10 * x ^ 10 + 11 * x ^ 9 - 54 * x ^ 8 + 119 * x ^ 7 - 530 * x ^ 6 - 649 * x ^ 5 - 530 * x ^ 4 - 119 * x ^ 3 - 54 * x ^ 2 - 11 * x - 10) / ((x ^ 2 - 3 * x - 1) * (x ^ 2 + 3 * x - 1) * (x ^ 4 - 3 * x ^ 3 + 10 * x ^ 2 + 3 * x + 1) * (x ^ 4 + 3 * x ^ 3 + 10 * x ^ 2 - 3 * x + 1)). [_ Colin Barker _ , Jul 19 2012] •

[**A007088**] • 0,1,10,11,100,101,110,111,1000,1001,1010,1011,1100,1101,1110,1111,10000,10001,10010,10011,10100,10101,10110,10111,11000 ★ The binary numbers: numbers written in base 2. • a(n) = Sum { d(i) * 10 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(n) = (1 / 2) * Sum _{ i>=0 } (1 - (- 1) ^ floor(n / 2 ^ i)) * 10 ^ i. - _ Benoit Cloitre _ , Nov 20 2001 • a(2n) = 10 * a(n), a(2n + 1) = a(2n) + 1. • a(n) = Sum _{ k=0..floor(log2(n)) } floor((Mod(n / 2 ^ k, 2))) * (10 ^ k). - _ José de Jesús Camacho Medina _ , Jul 24 2014 •

[**A204009**] • 0,1,10,11,100,101,110,1000,1001,1010,1011,10000,10001,10010,10011,10100,100000,100001,100010,100011,100100,100101,1000000,1000001,1000010 ★ a(n) is a binary vector for selecting distinct terms from A000124 that when summed give n; it uses the greedy algorithm. • a(n) x A000124 = n, where x is the inner product and the binary vector is in ascending powers of 2 with infinite trailing zeros. •

[**A203075**] • 0,1,10,11,101,110,111,1010,1011,1101,1110,1111,10001,10010,10011,10101,10110,10111,11010,11011,11101,11110,11111,100111,101010 ★ Write n as a sum of distinct terms from A203074; if there is more than one way, pick the smallest binary number. • a(n) x A203074 = n, where x is the inner product and the binary vector a(n) is in ascending powers of 2 with infinite trailing zeros. •

[**A094026**] • 0,1,10,11,110,111,1110,1111,11110,11111,111110,111111,1111110,1111111,11111110,11111111,111111110,111111111,1111111110,1111111111,11111111110,11111111111,111111111110,111111111111,1111111111110 ★ Expansion of x(1+10x)/((1-x^2)(1-10x^2)). • a(n)=10 ^ (n / 2)(5 / 9 + sqrt(10) / 18 + (5 / 9 - sqrt(10) / 18)(- 1) ^ n) - (- 1) ^ n / 2 - 11 / 18. •

[**A041217**] • 1,1,10,11,230,241,2399,2640,55199,57839,575750,633589,13247530,13881119,138177601,152058720,3179352001,3331410721,33162048490,36493459211,763031232710,799524691921,7958753459999,8758278151920,18312431649399 ★ Denominators of continued fraction convergents to sqrt(119). • a(n) = 240 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 13 2013 •

[**A041218**] • 10,11,230,241,5050,5291,110870,116161,2434090,2550251,53439

110,55989361,1173226330,1229215691,25757540150,26986755841,56549265697
0,592479412811,12415080913190,13007560326001 ★ Numerators of continued fraction convergents to sqrt(120). ● a(n) = 22 * a(n - 2) - a(n - 4). G.f.: (10 + 11 * x + 10 * x ^ 2 - x ^ 3) / (1 - 22 * x ^ 2 + x ^ 4). [_ Colin Barker _ , Ju l 15 2012] ●

[A041917] ● 1,1,10,11,472,483,4819,5302,227503,232805,2322748,2555553,109 655974,112211527,1119559717,1231771244,52853951965,54085723209,53962546 0846,593711184055,25475495191156,26069206375211,260098352568055,286167 558943266,12279135828185227 ★ Denominators of continued fraction convergents to sqrt(480). ● a(n) = 482 * a(n - 4) - a(n - 8). G.f.: - (x ^ 2 - x - 1) * (x ^ 4 + 11 * x ^ 2 + 1) / ((x ^ 4 - 22 * x ^ 2 + 1) * (x ^ 4 + 22 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 16 2012] ●

[A079026] ● 10,12,13,15,16,19,20,21,23,25,27,28,29,31,32,35,37,39,40,41,43,4 4,45,47,49 ★ Numbers that can be represented as 2*p + 3*q, where p and q are prime. ● a(n) = 2 * p + 3 * q, for some primes p and q. ● a(n) > 3n + O(n / log n). - _ Charles R Greathouse IV _ , Dec 04 2012 ●

[A187710] ● 10,12,16,22,30,40,52,66,82,100,120,142,166,192,220,250,282,316,3 52,390,430,472,516,562,610 ★ a(n) = n^2 + n + 10. ● a(0)=10, a(1)=12, a(2) =16; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jan 18 2014 ● a(n) = Sum _{ i=n - 5..n + 5 } i * (i + 1) / 11. (End) ●

[A270819] ● 0,0,0,0,10,12,16,36,44,84,90,144,160,210,230,312,406,420,528,56 0,576,702,820,880,1056 ★ a(n) is the number of arithmetic progressions of length 3 among the quadratic residues modulo prime(n). ● a(n) = (prime(n) - 1) * fl oor((prime(n) - 2) / 8). ●

[A255845] ● 10,12,18,28,42,60,82,108,138,172,210,252,298,348,402,460,522,58 8,658,732,810,892,978,1068,1162 ★ a(n) = 2*n^2 + 10. ● a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Mar 08 2015 ●

[A082927] ● 10,12,21,23,32,34,43,45,54,56,65,67,76,78,87,89,98,100,101,102,10 3,104,105,106,107 ★ Numbers such that at least one pair of adjacent digits are consecutive. ● a(n) = n + O(x ^ 0.915), where the exponent is the log(k) / lo g(10) with k the largest root of x ^ 5 - 9x ^ 4 + 4x ^ 3 + 21x ^ 2 - 9x - 5. - _ Charles R Greathouse IV _ , Mar 11 2014 ●

[A175885] ● 1,10,12,21,23,32,34,43,45,54,56,65,67,76,78,87,89,98,100,109,111,1 20,122,131,133 ★ Numbers that are congruent to {1, 10} mod 11. ● a(n) = (2 2 * n + 7 * (- 1) ^ n - 11) / 4. ● a(n) = - a(- n + 1) = a(n - 2) + 11 = a(n - 1) + a(n - 2) - a(n - 3). ●

[A022324] ● 1,10,12,23,36,60,97,158,256,415,672,1088,1761,2850,4612,7463,12 076,19540,31617,51158,82776,133935,216712,350648,567361 ★ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 10. ● a(n) = 2 * F(n + 2) + 7 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 ●

[A248336] ● 0,10,12,1000,1022,100000,100222,10000000,10002222,100000000 0,1000022222,100000000000,100000222222,1000000000000,10000002222222,1 000000000000000,1000000022222222,100000000000000000,1000000002222222 22,1000000000000000000 ★ Smallest number m such that the Levenshtein distance of m and its reversal equals n. ● a(2 * k) = 10 ^ (2 * k - 1) + 2 * (10 ^ k - 1) / 9; a(2 * k + 1) = 10 ^ (2 * k + 1). ●

[A129075] ● 10,13,19,25,37,43,55,61,73,91,97,115,127,133,145,163,181,187,20 5,217,223,241,253,271,295 ★ Numbers n such that (n-4)/3 is prime. ● a(n) = 3 * prime(n) + 4. - Zak Seidov, May 12 2007 ●

[A195313] ● 0,1,10,13,31,36,63,70,106,115,160,171,225,238,301,316,388,405,4 86,505,595,616,715,738,846 ★ Generalized 13-gonal numbers: n*(11*n-9)/2, n=0,1,-1,2,-2,... ● a(n) = (22 * n * (n + 1) + 7 * (2 * n + 1) * (- 1) ^ n - 7) / 16. ●

[A069960] ● 1,10,13,45,106,289,745,1962,5125,13429,35146,92025,240913,630 730,1651261,4323069,11317930,29630737,77574265,203092074,531701941,1392 013765,3644339338,9541004265,24978673441 ★ Define C(n) by the recursion C(0)=3*I where I^2=-1, C(n+1)=1/(1+C(n)); then a(n)=3*(-1)^n/Im(C(n)) where Im(z) denotes the imaginary part of the complex number z. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). G.f.: - (x - 1) * (9 * x + 1) / ((x + 1) * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Jun 14 2013 ● a(n) = (2 ^ (- 1 - n) * (- (- 1) ^ n * 2 ^ (5 + n) - (3 - sqrt(5)) ^ n * (- 21 + sqrt(5)) + (3 + sqrt(5)) ^ n * (21 + sqrt(5)))) / 5. - _ Colin Barker _ , Sep 30 2016 ●

[A154142] ● 0,10,13,63,80,370,469,2159,2736,12586,15949,73359,92960,4275 70,541813,2492063,3157920,14524810,18405709,84656799,107276336,49341598 6,625252309,2875839119,3644237520 ★ Indices k such that 9 plus the k-th triangular number is a perfect square. ● a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). ● a(1..4) = (0,10,13,63); a(n) = 6 * a(n - 2) - a(n - 4) + 2, for n > 4. - _ Ctibor O. Zizka _ , Nov 10 2009 ●

[A063920] ● 10,14,20,28,40,56,80,112,160,224,320,448,640,896,1280,1792,256 0,3584,5120,7168,10240,14336,20480,28672,40960 ★ Numbers n such that n = 2*phi(n) + phi(phi(n)). ● a(n) = (12 - 2 * (- 1) ^ n) * 2 ^ floor(n / 2). - _ R alf Stephan _ , Jul 19 2013 ●

[A168671] ● 1,10,14,23,27,36,40,49,53,62,66,75,79,88,92,101,105,114,118,127,1 31,140,144,153,157 ★ Numbers that are congruent to {1, 10} mod 13. ● a(n) = (26 * n + 5 * (- 1) ^ n - 17) / 4. ● a(n) = a(n - 2) + 13 = a(n - 1) + a(n - 2) - a(n - 3). (End) ●

[A074778] ● 10,14,30,36,42,50,54,70,74,90,98,100,108,110,114,126,130,134,15 0,154,162,170,174,178,180 ★ Numbers n such that 2^n+1 and F(n) are not relatively prime, where F(n) denotes the n-th Fibonacci number. ● a(n) seems to be asymptotic to c * n with c=5.8... ●

[A162899] ● 1,10,14,30,39,64,80,116,141,190,226,290,339,420,484,584,665,78 6,886,1030,1151,1320,1464,1660,1829 ★ Partial sums of [A052938(n)^2]. ● a(n) = (60 - 36 * (- 1) ^ n + (109 - 9 * (- 1) ^ n) * n + 24 * n ^ 2 + 2 * n ^ 3) / 24. G.f.: (4 * x ^ 4 - 4 * x ^ 3 - 7 * x ^ 2 + 8 * x + 1) / ((x - 1) ^ 4 * (x + 1) ^ 2). - _ Colin Barker _ , Jul 18 2013 ●

[A115391] ● 1,10,14,30,55,104,140,204,285,406,506,650,819,1044,1240,1496,17 85,2146,2470,2870,3311,3840,4324,4900,5525 ★ a(0)=0; then a(4*k+1)=a(4*k)+(4*k+1) a(4*k+2)=a(4*k+1)+(4*k+3)^2, a(4*k+3)=a(4*k+2)+(4*k+2)^2, a(4*k+4)=a(4*k+ ● a(n) = (2 * n + 1) * (2 * n * (n + 1) + 3 * (1 + cos(n * Pi) - 2 * cos(n * Pi / 2))) / 12. - _ Luce ETIENNE _ , Feb 01 2017 ●

[A164765] ● 1,10,14,30,66,91,140,221,285,385,529,650,819,1044,1240,1496,182 0,2109,2470,2911,3311,3795,4371,4900,5525 ★ Partial sums of [A080782^2] ● a(n) = (n(n + 1) + 6 - 8sin ^ 2(pi(n + 1) / 3))(2n + 1) / 6 ●

[A116955] ● 1,10,14,30,66,130,230,374,570,826,1150,1550,2034,2610,3286,407 0,4970,5994,7150,8446,9890,11490,13254,15190,17306 ★ a(n+1) = a(n) + (if a(n) is odd then (next odd square) else (next even square)), a(0) = 1. ● a(n) = 2 * (15 + n - 3 * n ^ 2 + 2 * n ^ 3) / 3 for n>0. G.f.: - (9 * x ^ 4 - 30 * x ^ 3 + 20 * x ^ 2 - 6 * x - 1) / (x - 1) ^ 4. - _ Colin Barker _ , Jul 18 2013 ●

[A258287] ● 1,1,10,14,82,145,652,1198,4880,9095,33810,61933,212087,40511 6,1261067,2366558,7163718,13477035,37969720,72363916,194919282 ★ Number of partitions of 9 copies of n into distinct parts. ● a(n) = 1 / 9! * [Product _{ i=1..9 } x _ i ^ n] Product _{ j>0 } (1 + Sum _{ i=1..9 } x _ i ^ j). ●

[A105156] ● 10,15,20,119,308,533,986,1463,2300,3741,4960,7289,9758,12083,1 5416,20193,25960,30561,38056,45369,51976,62489,72542,85707,102820 ★ The sum of a triangular array made from a negative 6 fold permutation product. ● a(n) = if 10 Mod[Prime[n], 10] is 1, 3 then - Prime[n] else Prime[n] a[1]=5 a[3] - 2 T(n, k)=a(k) * Prime[n] aout[n]=Sum[T(n, k], { k, 1, n] ●

[A109373] ● 10,15,22,26,34,35,39,58,86,87,94,95,119,122,123,134,142,143,146,1 59,178,202,203,206,214 ★ Semiprimes of the form semiprime + 1. ● a(n) is in t his sequence iff a(n) is in A001358 and (a(n) - 1) is in A001358. ●

[A231643] ● 10,15,25,45,85,165,325,645,1285,2565,5125,10245,20485,40965,81 925,163845,327685,655365,1310725,2621445,5242885,10485765,20971525,41943 045,83886085 ★ 5*2^n + 5. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>1, a(0)= 10, a(1)=15. - _ Philippe Deléham _ , Nov 15 2013 ●

[A254362] ● 10,15,27,57,135,345,927,2577,7335,21225,62127,183297,543735,1 618905,4832127,14447217,43243335,129533385,388206927,1163834337,3489930 135,10466644665,31393642527,94168344657,282479868135 ★ a(n) = 3*2^n + 3^n + 6. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Colin Barker _ , Jan 30 2015 ●

[A271743] ● 10,15,29,63,149,375,989,2703,7589,21735,63149,185343,547829,1 627095,4848509,14479983,43308869,129664455,388469069,1164358623,349097 8709,10468741815,31397836829,94176733263,282496645349 ★ Number of set partitions of [n] such that 4 is the largest element of the last block. ● a(n) = 4 + 2 ^ (n - 2) + 3 ^ (n - 4) for n>4. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>7. ●

[A276914] ● 0,1,10,15,36,45,78,91,136,153,210,231,300,325,406,435,528,561,66 6,703,820,861,990,1035,1176 ★ Subsequence of triangular numbers obtained by adding a square and two smaller triangles, a(n) = n^2 + 2*A000217(A052928(n)). ● a(n) = n * (2 * n + (- 1) ^ n). ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. ● a(n) = n * (2 * n + 1) for n even. ● a(n) = n * (2 * n - 1) for n odd. (End) ●

[A164285] ● 10,17,31,59,115,227,451,899,1795,3587,7171,14339,28675,57347,1 14691,229379,458755,917507,1835011,3670019,7340035,14680067,29360131,587 20259,117440515 ★ a(n) = 7*2^n + 3. ● a(n) = 2 * a(n - 1) - 3. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2). ●

[A058621] ● 0,1,1,10,17,126,262,1716,3985,24310,60626,352716,925190,52003 00,14168988,77558760,217721745,1166803110,3355615450,17672631900,518558 74642,269128937220,803232328548,4116715363800,12467572005382 ★ a(n) = 1/2*binomial(2*n,n) - (1+(-1)^n)/4*(binomial(n,floor(n/2)))^2. ● a(n) = Sum _{ i=0..(n - 1) / 2 } binomial(n,i) ^ 2 (see Equation 2 in section 4.2.5 of Prud nikov et al. reference). ●

[A245578] ● 1,10,18,22,32,38,50,58,72,82,98,110,128,142,162,178,200,218,242,2 62,288,310,338,362,392 ★ The number of permutations of {0,0,1,1,...,n-1,n-1} that begin with 0 and in which adjacent elements are adjacent mod n. ● a(n) = (3 + 5 * (- 1) ^ n + 8 * n + 2 * n ^ 2) / 4 if n>2. - _ Peter Luschny _ , J ul 26 2014 ●

[A090995] ● 10,18,32,58,104,188,338,610,1098,1980,3566,6428,11580,20870,37 602,67762,122096,220018,396448,714388,1287266,2319594,4179738,7531660,13 571542 ★ Number of meaningful differential operations of the n-th order on the space R^10. ● a(k + 6)=5 * a(k + 4) - 6 * a(k + 2) + a(k). ●

[A198309] ● 10,18,82,146,658,1170,5266,9362,42130,74898,337042,599186,269 6338,4793490,21570706,38347922,172565650,306783378,1380525202,245426702 6,11044201618,19634136210,88353612946,157073089682,706828903570 ★ Moore lower bound on the order of a (9,g)-cage. ● a(2 * i) = 2 Sum _{ j=0..i - 1 } 8 ^ j = string "2" ^ i read in base 8. ● a(2 * i + 1) = 8 ^ i + 2 Sum _{ j=0..i - 1 } 8 ^ j = string "1" * "2" ^ i read in base 8. ● a(n) = a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) for n>5. ● a(n) = 2 * (2 ^ (3 * n / 2) - 1) / 7 for n even. ● a(n) = (9 * 2 ^ ((3 * (n - 1)) / 2) - 2) / 7 for n odd. ●

[A240022] ● 10,18,270,360,4500,5400,63000,72000,810000,900000,9900000,10 800000,117000000,126000000,1350000000,1440000000,15300000000,162000000 00,171000000000,180000000000,1890000000000,1980000000000,2070000000000 0,21600000000000 ★ Total number of digits in palindromes with n digits. ● a(n) = 20 * a(n - 2) - 100 * a(n - 4) for n>5. G.f.: 2 * x * (50 * x ^ 4 + 35 * x ^ 2 + 9 * x + 5) / (10 * x ^ 2 - 1) ^ 2. - _ Colin Barker _ , Mar 31 2014 ●

[A017173] ● 1,10,19,28,37,46,55,64,73,82,91,100,109,118,127,136,145,154,163,1 72,181,190,199,208,217 ★ a(n) = 9n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2) with a(0)=1, a(1)=10. - _ Vincenzo Librandi _ , Aug 01 2010 ●

[**A083705**] • 10,19,37,73,145,289,577,1153,2305,4609,9217,18433,36865,73729,147457,294913,589825,1179649,2359297,4718593,9437185,18874369,37748737,75497473,150994945 ⋆ a(n) = 2*a(n-1) - 1 with a(0)=10. • a(n) = 1 + 9 * 2 ^ n = 3 * a(n - 1) - 2 * a(n - 2). •

[**A070199**] • 10,19,109,199,1099,1999,10999,19999,109999,199999,1099999,1999999,10999999,19999999,109999999,199999999,1099999999,1999999999,109999999999,199999999999,1099999999999,1999999999999,10999999999999,19999999999999,109999999999999,199999999999999,1099999999999999,10999999999999999 ⋆ Number of palindromes of length <= n. • a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3). • a(n)=(- 2 * Sqrt[10] + 10 ^ (n / 2) * (11 + 2 * Sqrt[10] + (- 1) ^ n * (- 11 + 2 * Sqrt[10]))) / (2 * Sqrt[10]). - _ Harvey P. Dale _ , Mar 18 2016 • a(n) = 2 ^ (n / 2 + 1) * 5 ^ (n / 2) - 1 for n even. • a(n) = 11 * 10 ^ ((n - 1) / 2) - 1 for n odd. •

[**A015445**] • 1,1,10,19,109,280,1261,3781,15130,49159,185329,627760,2295721,7945561,28607050,100117099,357580549,1258634440,4476859381,1580456934 1,56096303770,198337427839,703204161769,2488241012320 ⋆ Generalized Fibonacci numbers: a(n) = a(n-1) + 9*a(n-2). • a(n) = (((1 + sqrt(37)) / 2) ^ (n + 1) - ((1 - sqrt(37)) / 2) ^ (n + 1)) / sqrt(37). • a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k) * 9 ^ k. - _ Paul Barry _ , Jul 20 2004 • a(n) = Sum _{ k=0..n } binomial((n + k) / 2, (n - k) / 2) * (1 + (- 1) ^ (n - k)) * 3 ^ (n - k) / 2 } . - _ Paul Barry _ , Aug 28 2005 • a(n) = (1 / 37) * (1 / 2 + (1 / 2) * sqrt(37)) ^ n * sqrt(37) - (1 / 37) * (1 / 2 - (1 / 2) * sqrt(37)) ^ n * sqrt(37). - _ Paolo P. Lava _ , Oct 01 2008 (May produce sequence with a different offset.) • a(n) = Sum _{ 1<=k<=n + 1, k odd } C(n + 1,k) * 37 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 •

[**A253213**] • 10,19,109,1009,10009,100009,1000009,10000009,100000009,1000000009,10000000009,100000000009,1000000000009,10000000000009,100000000000009,1000000000000009,10000000000000009,100000000000000009,1000000000000000009,10000000000000000009 ⋆ a(n) = 10^n + 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>1. •

[**A293929**] • 0,10,19,118,3187,3014173 ⋆ Smallest number in base 10 that cannot be collapsed to a single digit using fewer than n plus signs. • a(n) <= ((a(n - 1) - 1) ^ 2) / 3 + a(n - 2) for n > 1 (conjectured). This would provide a relatively tight upper bound on a(n). Under this conjecture, a(6) < 3028410951715. If the Demers - Stauduhar conjecture in the Comments turns out to be true, this upper bound will always be an integer. - _ Simon Demers _ , Nov 29 2017 •

[**A121725**] • 1,1,10,19,190,442,4420,11395,113950,312814,3128140,8960878,89608780,264735892,2647358920,8006545891,80065458910,246643289830,2466432898300,7711583225338,77115832253380,244082045341036,2440820453410360,7805301802531534 ⋆ Generalized central coefficients for k=3. • a(n) = 18 * 6 ^ n * INT(x ^ n * sqrt(1 - x ^ 2) / (10 - 6x),x, - 1,1) / Pi. •

[**A179819**] • 10,20,25,35,45,50,60,70,75,85,95,100,110,120,125,135,145,150,160,170,175,185,195,200,210 ⋆ Numbers of cents such that the shortest way to get the value uses all denominations of dime and above • a(n)= + a(n - 1) + a(n - 3) - a(n - 4). G.f.: 5 * x * (2 + 2 * x + x ^ 2) / ((1 + x + x ^ 2) * (x - 1) ^ 2). [From _ R. J. Mathar _ , Aug 05 2010] •

[**A011540**] • 0,10,20,30,40,50,60,70,80,90,100,101,102,103,104,105,106,107,108,109,110,120,130,140,150 ⋆ Numbers that contain a digit 0. • a(n) <= 10 * (n - 1), equality holds for 1 <= n <= 11. • a(n) <= 9 * n, for n <> 11. • a(n) < n + 10 * n ^ log _ 10(9). • a(n) < n + 2 * n ^ log _ 10(9), for n > 6 * 10 ^ 8. • a(n) > n + 9 ^ log _ 10(9) / 8 * n ^ log _ 10(9). • a(n) = n + O(n ^ log _ 10(9)) = n + n ^ 0.95424250943932.... •

[**A008592**] • 0,10,20,30,40,50,60,70,80,90,100,110,120,130,140,150,160,170,180,190,200,210,220,230,240 ⋆ Multiples of 10. • a(n) = 2 * a(n - 1) - a(n - 2) for n>1. • a(n) = 10 * n. (End) • a(n) = Sum _{ i=2n - 2..2n + 2 } i. - _ Wesley Ivan Hurt _ , Apr 11 2016 •

[**A043489**] • 0,10,20,30,40,50,60,70,80,90,101,102,103,104,105,106,107,108,109,110,120,130,140,150,160 ⋆ Numbers n such that number of 0's in base 10 is 1. • a(1 + sum _{ 1<=j<=n } j * 9 ^ j) = 10 * (10 ^ n - 1). • a(2 + sum _{ 1<=j<=n } j * 9 ^ j) = 10 ^ (n + 1) + (10 ^ n - 1) / 9 = (91 * 10 ^ n - 1) / 9 . • a((9 ^ (n + 1) - 1) / 8 + 1 + sum _{ 1<=j<=n } j * 9 ^ j) = 10 * (10 ^ (n + 1) - 1) / 9, where sum _{ 1<=j<=n } j * 9 ^ j = (1 - (n + 1) * 9 ^ n + n * 9 ^ (n + 1)) * 9 / 64. • a(n + 1) = a(n) + 10 + (10 ^ j - 1) / 9, if i = 0. • a(n + 1) = a(n) + 1 + (10 ^ (j - 1) - 1) / 9, if i = j > 0. • a(n + 1) = a(n) + 1 + (10 ^ j - 1) / 9, if i > j. •

[**A020337**] • 10,20,30,40,50,60,70,80,738,820,902,984,1066,1148,1230,1312,1394,1476,1558,1640,1722,1804,1886,1968,2050 ⋆ Numbers n such that base 9 representation is the juxtaposition of two identical strings. • a(n) = n * 9 ^ floor(log _ 9(n) + 1) + n. - _ Ilya Gutkovskiy _ , Jan 26 2018 •

[**A172172**] • 0,1,10,20,39,68,116,193,318,520,847,1376,2232,3617,5858,9484,15351,24844,40204,65057,105270,170336,275615,445960,721584 ⋆ Sums of NW-SE diagonals of triangle A172171. • a(n) = a(n - 1) + a(n - 2) + 9 with a(0)=0 and a(1)=1. • a(n) = 2 * a(n - 1) - a(n - 3), a(0)=0, a(1)=1, a(2)=10 (Observation by G. Detlefs). • a(n) = (- 9 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + 9 * sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + 9 * sqrt(5)))) / sqrt(5)). - _ Colin Barker _ , Jul 13 2017 •

[**A254030**] • 10,20,50,146,470,1610,5750,21146,79430,303050,1169750,4554746,17852390,70322090,278050550,1102537946,4381257350,17438542730,69495104150,277204002746,1106488342310,4418973508970,17654960746550 ⋆ a(n) = 1*4^n + 2*3^n + 3*2^n + 4*1^n. • a(n) = (x + 1) * (Bernoulli(n + 1, x + 1) - Bernoulli(n + 1, 1)) / (n + 1) - (Bernoulli(n + 2, x + 1) - Bernoulli(n + 2, 1)) / (n + 2) at x = 4. • a(n) = 1 / 3! * Sum _{ k = 0..n } (- 1) ^ (k + n) * (k + 5)! * Stirling2(n,k) / •

[**A294473**] • 0,0,10,20,60,92,182,248,408,520,770,940,1300,1540,2030,2352,2992,3408,4218,4740,5740,6380,7590,8360,9800 ⋆ Sum of the areas of the squares on the sides of the distinct rectangles that can be made with positive integer sides such that L + W = n, W < L. • a(n) = 2 * Sum _{ i=1..floor((n - 1) / 2) } i ^ 2 + (n - i) ^ 2. • a(n) = n * (8 * n ^ 2 - 18 * n + 4) / 12 for n even. • a(n) = n * (8 * n ^ 2 - 12 * n + 4) / 12 for n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n > 7. •

[**A276764**] • 10,20,74,100,202,244,394,452,650,724,970,1060,1354,1460,1802,1924,2314,2452,2890,3044,3530,3700,4234,4420,5002 ⋆ 1^2 + 3^2, 2^2 + 4^2, 5^2 + 7^2, 6^2 + 8^2, ... • a(n) = (2n - 1 - ((n + 1) mod 2)) ^ 2 + (2n + (n mod 2)) ^ 2. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. • a(n) = 8 * n ^ 2 - 8 * n + 4 for n even. • a(n) = 8 * n ^ 2 + 2 for n odd. •

[**A215878**] • 10,20,80,100,460,620,2780,3700,16660,22220,99980,133300,599860,799820,3599180,4798900,21595060,28793420,129570380,172760500,777422260,1036563020,4664533580,6219378100,27987201460 ⋆ Lengths of loops in the P2 Penrose tiling. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) if n is odd. a(n) = 2 * a(n - 1) - 3 * a(n - 2) if n is even. - _ R. J. Mathar _ , Jun 18 2014 • a(n) = - 5 * (- 6 ^ ((n - 1) / 2) * (9 + 2 * sqrt(6) + (- 1) ^ n * (2 * sqrt(6) - 9)) + 4 * (cos(n * Pi / 2) + sin(n * Pi / 2))) / 7. - _ Benedict W. J. Irwin _ , Nov 01 2016 •

[**A161999**] • 0,1,1,10,20,101,301,1030,4040,10601,51001,110050,620060,1151501,7352101,12135070,85656080,128702801,985263601,1372684090,11225320100,14712104501,126965305501,158346365110,1427999420120 ⋆ For n even a(n) = a(n-1) + 10*a(n-2), for n odd a(n) = a(n-3) + 10 a(n-2); with a(0) = 0, a(1) = 1. • a(n)=20 * a(n - 2) - 99 * a(n - 4). G.f.: - x ^ 2 * (- 1 - x + 10 * x ^ 2) / ((3 * x - 1) * (3 * x + 1) * (11 * x ^ 2 - 1)). [From _ R. J. Mathar _ , Jul 13 2009] •

[**A185691**] • 10,21,31,52,83,135,218,353,571,924,1495,2419,3914,6333,10247,16580,26827,43407,70234,113641,183875,297516,481391,778907,1260298 ⋆ Fibonacci sequence with initial terms 10 and 21. • a(n + 2) = a(n + 1) + a(n) with a(0) = 10, a(1) = 21. • a(n) = 11 * Fibonacci(n) + 10 * Fibonacci(n + 1). • a(n) = 9 * Fibonacci(n + 2) + Lucas(n + 1). •

[**A041192**] • 10,21,31,300,331,962,19571,40104,59675,577179,636854,1850887,37654594,77160075,114814669,1110492096,1225306765,3561105626,72447419285,148455944196,220903363481,2136586215525,2357489579006 ⋆ Numerators of continued fraction convergents to sqrt(107). • a(n) = 1924 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 10 * x ^ 10 + 21 * x ^ 9 - 31 * x ^ 8 + 300 * x ^ 7 - 331 * x ^ 6 - 962 * x ^ 5 - 331 * x ^ 4 - 300 * x ^ 3 - 31 * x ^ 2 - 21 * x - 10) / (x ^ 12 - 1924 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] •

[**A051942**] • 0,10,21,33,46,60,75,91,108,126,145,165,186,208,231,255,280,306,333,361,390,420,451,483,516 ⋆ Truncated triangular numbers: a(n) = n*(n+1)/2-3*t*(t+1)/2, t = 5. • a(n) = (n ^ 2 + n - 90) / 2 = (n - 9) * (n + 10) / 2 = n * (n + 1) / 2 - 45. • a(n) = + 3 * a(n - 1) - 3 * a(n - 2) + 1 * a(n - 3), n>=13. • a(n) = n + a(n - 1) (with a(9)=0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(n) = 10n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[**A195142**] • 0,1,10,21,40,61,90,121,160,201,250,301,360,421,490,561,640,721,810,901,1000,1101,1210,1321,1440 ⋆ Concentric 10-gonal numbers. • a(n) = - a(n - 1) + 5 * n ^ 2 - 5 * n + 1, a(0)=0. - Vincenzo Librandi, Sep 27 2011 • a(n) = a(- n) = (10 * n ^ 2 + 3 * (- 1) ^ n - 3) / 4. a(n) = a(n - 2) + 10 * (n - 1). - Bruno Berselli, Sep 27 2011 • a(0)=0, a(1)=1, a(2)=10, a(3)=21, a(n)=2 * a(n - 1) + 0 * a(n - 2) - 2 * a(n - 3) + a(n - 4) [From Harvey P. Dale, Sep 29 2011] •

[**A086225**] • 10,21,43,87,175,351,703,1407,2815,5631,11263,22527,45055,90111,180223,360447,720895,1441791,2883583,5767167,11534335,23068671,46137343,92274687,184549375 ⋆ a(n) = 11*2^n - 1. • a(n) = 2 * a(n - 1) + 1. •

[**A042309**] • 1,10,21,52,73,125,323,2063,14764,46355,107474,153829,2568738,2722567,8013872,26764183,195363153,1198943101,2593249355,3792192456,6385441811,16563076078,39511593967,411679015748,21446820412863 ⋆ Denominators of continued fraction convergents to sqrt(681). • a(n) = 21486332006830 * a(n - 24) - a(n - 48) for n>47. - _ Vincenzo Librandi _ , Jan 20 2014 •

[**A048697**] • 1,10,21,52,125,302,729,1760,4249,10258,24765,59788,144341,348470,841281,2031032,4903345,11837722,28578789,68995300,166569389,402134078,970837545,2343809168,5658455881 ⋆ Generalized Pellian with second term equal to 10. • a(n) = 2 * a(n - 1) + a(n - 2); a(0)=1, a(1)=10. • a(n) = ((9 + sqrt(2))(1 + sqrt(2)) ^ n - (9 - sqrt(2))(1 - sqrt(2)) ^ n) / 2 * sqrt(2). •

[**A171067**] • 0,1,1,10,21,121,340,1561,5061,20890,72721,285121,1028160,3931201,14425201,54480250,201635301,756931801,2813339860,10529812921,39218508021,146573045290,546474598561,2040893746561,7612994269440 ⋆ G.f. -x*(x-1)*(1+x)/((x^2+3*x+1)*(x^2-4*x+1)). • a(n)= + a(n - 1) + 10 * a(n - 2) + a(n - 3) - a(n - 4). •

[**A041833**] • 1,1,10,21,199,220,8999,9219,91970,193159,1830401,2023560,82772801,84796361,845940050,1776676461,16836028199,18612704660,761344214599,779956919259,7780956487930,16341869895119,154857785544001,1711996554 39120,7002844003108801 ⋆ Denominators of continued fraction convergents to sqrt(437). • a(n) = 9198 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 25 2013 •

[**A041198**] • 10,21,430,881,18050,36981,757670,1552321,31804090,65160501,1335014110,2735188721,56038788530,114812765781,2352294104150,4819400974081,98740313585770,202300028145621,4144740876498190,8491781781142001,173980376499338210,356452534779818421 ⋆ Numerators of continued fraction convergents to sqrt(110). • a(0)=10, a(1)=21, a(2)=430, a(3)=881, a(n)=42 * a(n - 2) - a(n - 4). - _ Harvey P. Dale _ , Mar 04 2015 •

[**A017641**] • 10,22,34,46,58,70,82,94,106,118,130,142,154,166,178,190,202,21

4,226,238,250,262,274,286,298 ★ a(n) = 12n + 10. ● a(n) = 24 * n - a(n - 1) + 8, (with a(0)=10). - _ Vincenzo Librandi _ , Dec 24 2010 ●

[A217573] ● 10,22,34,47,60,72,84,98,110,122,135,148,160,172,186,198,210,223,236,248,260,274,286,298,311 ★ Number of integers between -(2*n+1)*Pi and (2*n+2)*Pi. ● a(n) = floor((2 * n + 1) * Pi) + floor((2 * n + 2) * Pi) + 1. ●

[A211482] ● 1,10,22,35,50,62,80,92,104,116,128,140,152,164,176,188,200,212,224,236,248,260,272,284,296 ★ Number of ordered triples (w,x,y) with all terms in {-n,...,0,...,n} and w*x+w*y+x*y=w*x*y. ● a(n) = 12 * n + 8 for n>5. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>7. ●

[A028569] ● 0,10,22,36,52,70,90,112,136,162,190,220,252,286,322,360,400,442,486,532,580,630,682,736,792 ★ a(n) = n*(n + 9). ● a(n) = 2 * n + a(n - 1) + 8. - _ Vincenzo Librandi _ , Aug 05 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Wesley Ivan Hurt _ , Sep 26 2014 ●

[A079861] ● 10,22,48,104,224,480,1024,2176,4608,9728,20480,43008,90112,188416,393216,819200,1703936,3538944,7340032,15204352,31457280,65011712,134217728,276824064,570425344 ★ a(i)=the number of occurrences of 7s in the palindromic compositions of n=2*i-1 = the number of occurrences of 8s in the palindromic compositions of n=2*i. ● a(i) = (2 + i) * 2 ^ (i - 8). ● a(n) = 4 * a(n - 1) - 4 * a(n - 2). - _ Colin Barker _ , Dec 16 2014 ●

[A014008] ● 10,22,48,105,230,504,1104,2418,5296,11600,25408,55652,121896,266992,584800,1280904,2805600,6145184,13459968,29481744,64574688,141439744,309799425,678562341,1486274065 ★ Pisot sequence E(10,22), a(n) = floor(a(n-1)^2/a(n-2)+1/2). ● a(n) = floor(r * s ^ n + 1 / 2), where r = 9.99722327450628273875296... and s = 2.19032795550177963912541433191473321856354566487467367848147309 4... . - _ Benoit Cloitre _ , Apr 21 2003 ●

[A140674] ● 0,10,23,39,58,80,105,133,164,198,235,275,318,364,413,465,520,578,639,703,770,840,913,989,1068 ★ a(n) = n*(3*n + 17)/2. ● a(n) = (3 * n ^ 2 + 17 * n) / 2. ● a(n) = 3 * n + a(n - 1) + 7 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ●

[A156202] ● 10,23,49,101,205,413,829,1661,3325,6653,13309,26621,53245,106493,212989,425981,851965,1703933,3407869,6815741,13631485,27262973,54525949,109051901,218103805 ★ a(n)=2*a(n-1)+3 with n>1, a(1)=10. ● a(n) = - 3 + 13 * 2 ^ (n - 1). ● a(n) = 3 * a(n - 1) - 2 * a(n - 2). - _ Vincenzo Librandi _ , May 02 2012 ●

[A164578] ● 10,23,65,94,168,213,319,380,518,595,765,858,1060,1169,1403,1528,1794,1935,2233,2390,2720,2893,3255,3444,3838 ★ Integers of the form (k+1)*(2k+1)/2 ● a(n) = + a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). G.f. x * (- 10 - 13 * x - 22 * x ^ 2 - 3 * x ^ 3) / ((1 + x) ^ 2 * (x - 1) ^ 3). - _ R. J. Mathar _ , Jan 25 2011 ● a(n) = (24 * n ^ 2 + 6 * n - (- 1) ^ n * (8 * n + 1) + 1) / 4. ● a(n) = (12 * n ^ 2 - n) / 2 for n even. ● a(n) = (12 * n ^ 2 + 7 * n + 1) / 2 for n odd. ●

[A101156] ● 10,24,34,58,92,150,242,392,634,1026,1660,2686,4346,7032,11378,18410,29788,48198,77986,126184,204170,330354,534524,864878,1399402 ★ a(n) = 2*Fibonacci(n) + 8*Fibonacci(n-5). ● a(n) = a(n - 1) + a(n - 2). ●

[A067728] ● 10,24,42,64,90,120,154,192,234,280,330,384,442,504,570,640,714,792,874,960,1050,1144,1242,1344,1450 ★ a(n) = 2*n^2 + 8*n. ● a(n + 1) = 2 * n * n + 12 * n + 10. - _ Frank Ellermann _ ● a(n) = Sum _{ k=0..n } Sum _{ j=4..n } (j - k), n >= 4. - _ Zerinvary Lajos _ , May 11 2007 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 ●

[A269457] ● 10,25,45,70,100,135,175,220,270,325,385,450,520,595,675,760,850,945,1045,1150,1260,1375,1495,1620,1750 ★ a(n) = 5*(n + 1)*(n + 4)/2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A163631] ● 1,10,25,46,71,98,131,166,205,250,299,350,405,462,525,590,659,734,811,892,977,1064,1155,1248,1343 ★ Partial sums of the odd nonprimes, A014076. ● a(n) = Sum _{ x= 1st odd nonprime..n - th odd nonprime } x. ●

[A100536] ● 1,10,25,46,73,106,145,190,241,298,361,430,505,586,673,766,865,970,1081,1198,1321,1450,1585,1726,1873 ★ a(n) = 3*n^2 - 2. ● a(n) = a(n - 1) + 6 * n - 3 for n>1. - _ Vincenzo Librandi _ , Nov 17 2010 ● a(n + 1) = binomial(n,0) + 9 * binomial(n,1) + 6 * binomial(n,2). - _ Philippe Deléham _ , Mar 16 2014 ● a(n) = floor(1 / (n * tan(1 / n) - 1)). - _ Clark Kimberling _ , Dec 02 2014 ●

[A072277] ● 10,25,51,91,148,225,325,451,606,793,1015,1275,1576,1921,2313,2755,3250,3801,4411,5083,5820,6625,7501,8451,9478 ★ Smallest integer > 1 which is both n-gonal and centered n-gonal. ● a(n) = (n ^ 3 - n ^ 2 + 2) / 2. ● a(3)=10, a(4)=25, a(5)=51, a(6)=91, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Aug 19 2011] ●

[A137930] ● 0,1,10,25,56,101,170,261,384,537,730,961,1240,1565,1946,2381,2880,3441,4074,4777,5560,6421,7370,8405,9536 ★ The sum of the principal diagonals of an n X n spiral. ● a(n) = mod(n ^ (n + 1),n + 1) + floor(n / 2) ^ 2 * (6 - 4(- 1) ^ n) + [16 * floor(n / 2) ^ 3 + floor(n / 2) * (14 - 12(- 1) ^ n)] / 3 ●

[A071289] ● 0,1,10,25,68,117,222,325,520,697,1010,1281,1740,2125,2758,3277,4112,4785,5850,6697,8020,9061,10670,11925,13848 ★ If n mod 2 = 0 then n*(n^2+1) else (n-1/2)*(n^2+1). ● a(n)= + a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). G.f.: x * (1 + 9 * x + 12 * x ^ 2 + 16 * x ^ 3 + 7 * x ^ 4 + 3 * x ^ 5) / ((1 + x) ^ 3 * (x - 1) ^ 4). [From _ R. J. Mathar _ , Oct 19 2010] ●

[A248833] ● 10,25,160,1225,9610,75625,595360,4687225,36902410,290532025,2287353760,18008298025,141779030410,1116223945225,8788012531360,69187876305625,544714997913610,4288532107003225,33763541858112160,265819802757894025,2092794880205040010,16476539238882426025 ★ The curvature of touching circles inscribed in a special way in the larger segment of circle of radius 1/6 divided by a chord of length sqrt(8/75). ● a(n) = 9 * a(n - 1) - 9 * a(n - 2) + a(n - 3). ● a(n) = 5 * (2 + (4 - sqrt(15)) ^ n + (4 + sqrt(15)) ^ n) / 2. - _ Colin Barker _ , Mar 03 2016 ●

[A067264] ● 10,26,33,35,49,57,69,88,90,96,136,142,160,178,198,201,206,209,215,216,253,262,265,276,302 ★ Numbers n such that prime(n+1)-prime(n)=bigomega(n). ● a(n) seems to be asymptotic to c * n * log(n) with c=2.2... ●

[A080059] ● 1,10,26,38,54,64,80,98,115,126,136,147,158,171,181,196,206,226,243,257,267,279,293,306,324 ★ Greedy powers of (1/zeta(3)): sum_{n=1..inf} (1/zeta(3))^a(n) = 1, where 1/zeta(3) = .83190737258070746868... ● a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(1 / zeta(3)) and frac(y) = y - floor(y). See A077468 for mathematica program by _ Robert G. Wilson v _ . ●

[A113770] ● 1,10,26,42,58,74,90,106,122,138,154,170,186,202,218,234,250,266,282,298,314,330,346,362,378 ★ Partial sums of A113311(n)^2. ● a(n) = 7 * 0 ^ n + 2 * (8 * n - 3). ● a(n) = sum { k=0..n, (4 - C(1, k) - 2 * C(0, k)) ^ 2 } . ● a(0)=1, a(1)=10, a(2)=26, a(n) = 2 * a(n - 1) - a(n - 2). [_ Harvey P. Dale _ , Aug 19 2011] ●

[A198017] ● 1,10,26,49,79,116,160,211,269,334,406,485,571,664,764,871,985,1106,1234,1369,1511,1660,1816,1979,2149 ★ a(n) = n*(7*n+11)/2 + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = 2 * a(n - 1) - a(n - 2) + 7. ●

[A242719] ● 10,26,50,170,170,362,362,842,842,1370,1370,1850,1850,2210,3722,3722,3722,4892,5042,7082,7922,7922,7922,10610,10610 ★ Smallest even k such that lpf(k-3) > lpf(k-1) >= prime(n), where lpf=least prime factor (A020639). ● a(n) = prime(n) ^ 2 + 1 for and only for numbers n>=2 which are in A137291. - _ Vladimir Shevelev _ , Sep 04 2014 ●

[A221568] ● 0,10,26,100,342,1210,4240,14898,52306,183684,645006,2264978,7953568,27929338,98075178,344395620,1209361446,4246729738,14912591664,52366268642,183886620962,645726538244,2267499179678,7962430263202,27960449231680 ★ Number of 0..3 arrays of length n with each element differing from at least one neighbor by something other than 1. ● a(n) = 3 * a(n - 1) + 2 * a(n - 2) - a(n - 3) + a(n - 4). ●

[A024168] ● 0,1,1,10,26,276,1212,14736,92304,1285920,10516320,166112640,1680462720,29753498880,359124192000,7053661440000,98989454592000,2137497610752000,34210080898560000,805846718380032000,14489879077804032000 ★ n!(1/2 - 1/3 + .. + c/n), where c = (-1)^n. ● a(1) = 0, a(n) = a(n - 1) * n + (- 1) ^ n * (n - 1)!. - _ Daniel Suteu _ , Feb 06 2017 ●

[A001107] ● 0,1,10,27,52,85,126,175,232,297,370,451,540,637,742,855,976,1105,1242,1387,1540,1701,1870,2047,2232 ★ 10-gonal (or decagonal) numbers: a(n) = 4*n^2 - 3*n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0)=0, a(1)=1, a(2)=10. - _ Jaume Oliver Lafont _ , Dec 02 2008 ● a(n) = 8 * n + a(n - 1) - 7 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Jul 10 2010 ● a(n) = 8 + 2 * a(n - 1) - a(n - 2). - _ Ant King _ , Sep 04 2011 ● a(8 * a(n) + 29 * n + 1) = a(8 * a(n) + 29 * n) + a(8 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 ●

[A060544] ● 1,10,28,55,91,136,190,253,325,406,496,595,703,820,946,1081,1225,1378,1540,1711,1891,2080,2278,2485,2701 ★ Centered 9-gonal (also known as nonagonal or enneagonal) numbers. Every third triangular number, starting with a(1)=1. ● a(1 - n) = a(n). ● a(n) = C(n - 1, 0) + 9 * C(n - 1, 1) + 9 * C(n - 1, 2); binomial transform of (1, 9, 9, 0, 0, 0, ...). ● a(n - 1) = Pochhammer(4,3 * n) / (Pochhammer(2,n) * Pochhammer(n + 1,2 * n)). ● a(n - 1) = 1 / Hypergeometric([- 3 * n,3 * n + 3,1],[3 / 2,2],3 / 4). - _ Peter Luschny _ , Jan 09 2012 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ● a(n) = 2 * a(n - 1) - a(n - 2) + 9. ●

[A048491] ● 1,10,28,64,136,280,568,1144,2296,4600,9208,18424,36856,73720,147448,294904,589816,1179640,2359288,4718584,9437176,18874360,37748728,75497464,150994936 ★ a(n) = T(8,n), array T given by A048483. ● a(n) = 9 * 2 ^ n - 8. - _ Ralf Stephan _ ● a(n) = 2 * a(n - 1) + 8 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 06 2010 ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) with a(0)=1, a(1)=10. - _ Philippe Deléham _ , Apr 15 2013 ●

[A116973] ● 1,10,28,91,271,820,2458,7381,22141,66430,199288,597871,1793611,5380840,16142518,48427561,145282681,435848050,1307544148,3922632451,11767897351,35303692060,105911076178,317733228541,953199685621 ★ If n mod 2 = 0 then (3^(n+3)-19)/8 else (3^(n+3)-1)/8. ● a(n):=2 * a(n - 1) + 3 * a(n - 2) + 5, a(0)=1; a(1)=1. [From _ Zerinvary Lajos _ , Dec 14 2008] ● a(n) = (3 ^ (n + 3) - 19 ^ ((n + 1) mod 2))) / 8. - _ Wesley Ivan Hurt _ , Nov 13 2013 ●

[A003665] ● 1,1,10,28,136,496,2080,8128,32896,130816,524800,2096128,8390656,33550336,134225920,536854528,2147516416,8589869056,34359869440,137438691328,549756338176,2199022206976,8796095119360 ★ a(n) = 2^(n-1)*(2^n + (-1)^n). ● a(n) = 2 * a(n - 1) + 8 * a(n - 2), a(0)=a(1)=1. a(n) = 4 ^ n / 2 + (- 2) ^ n / 2. G.f.: (1 - x) / ((1 + 2 * x) * (1 - 4 * x)). - _ Paul Barry _ , Mar 01 2003 ● a(n) = Sum _{ k=0..floor(n / 2) } C(n, 2 * k) * 9 ^ k; E.g.f. exp(x) * cosh(3 * x). - _ Paul Barry _ , Apr 05 2003 ● a(n) = ((1 + sqrt(9)) ^ n + (1 - sqrt(9)) ^ n) / 2. [Al Hakanson (hawkuu(AT)gmail.com), Dec 08 2008] ●

[A079273] ● 1,10,29,58,97,146,205,274,353,442,541,650,769,898,1037,1186,1345,1514,1693,1882,2081,2290,2509,2738,2977 ★ Octo numbers (a polygonal sequence): 5n^2-6n+2, or (n-1)^2 + (2n-1)^2. ● a(n) = 10 * n + a(n - 1) - 11 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 ● a(1) = 1, a(2) = 10, a(3) = 29, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 03 2011 ●

[A048469] ● 1,10,29,69,153,329,697,1465,3065,6393,13305,27641,57337,118777,245753,507897,1048569,2162681,4456441,9175033,18874361,38797305,79691769,163577849,335544313 ★ a(n) = T(8,n), array T given by A047858. ● a(n) = 2 ^ (n - 1) * (n + 16) - 7. a(0)=1, a(1)=10, a(2)=29, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2011 ● a(n) = 2 ^ (n - 1) * (n + 16) - 7. G.f.: (1 + 5 * x - 13 * x ^ 2) / ((1 - x) * (1 - 2 * x) ^ 2). -

_ Colin Barker _ , Feb 18 2016 •

[A048772] • 1,10,29,76,189,462,1121,2712,6553,15826,38213,92260,222741,537750,1298249,3134256,7566769,18267802,44102381,106472572,257047533,620567646,1498182833 ⋆ Partial sums of A048696. • a(n)=2 * a(n - 1) + a(n - 2) + 8; a(0)=1, a(1)=10. • a(n)=[{ (9 + 5 * sqrt(2))(1 + sqrt(2)) ^ n - (9 - 5 * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - 4. • a(0)=1, a(1)=10, a(2)=29, a(n)=3 * a(n - 1) - a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Apr 20 2012 •

[A055850] • 1,10,29,77,202,529,1385,3626,9493,24853,65066,170345,445969,1167562,3056717,8002589,20951050,54850561,143600633,375951338,984253381,2576808805,6746173034,17661710297,46238957857 ⋆ a(n) = 3a(n-1) - a(n-2); a(0)=1, a(1)=10. • a(n) = (10 * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) - (((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1))) / sqrt(5). • a(n) = Lucas(2n + 1) + 6 * Fibonacci(2n). •

[A124080] • 0,10,30,60,100,150,210,280,360,450,550,660,780,910,1050,1200,1360,1530,1710,1900,2100,2310,2530,2760,3000 ⋆ 10 times triangular numbers: a(n) = 5*n*(n+1). • a(n) = 10 * C(n,2), n>=1. • a(n) = 5 * n * (n + 1), n>=0. - _ Zerinvary Lajos _ , Mar 06 2007 • a(n) = 10 * n + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 12 2009 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(0)=0, a(1)=10, a(2)=30. - _ Harvey P. Dale _ , Jul 21 2011 •

[A211013] • 0,10,31,63,106,160,225,301,388,486,595,715,846,988,1141,1305,1480,1666,1863,2071,2290,2520,2761,3013,3276 ⋆ Second 13-gonal numbers: a(n) = n*(11*n+9)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) with a(0) = 0, a(1) = 10, a(2) = 31. - _ Philippe Deléham _ , Mar 27 2013 •

[A085473] • 1,10,31,64,109,166,235,316,409,514,631,760,901,1054,1219,1396,1585,1786,1999,2224,2461,2710,2971,3244,3529 ⋆ a(n) = 6*n^2 + 3*n + 1. • a(n) = C(2 * n + 3,3) - C(2 * n,3). • a(n)=12 * n + a(n - 1) - 3 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=10, a(2)=31, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 15 2011 •

[A051943] • 0,10,31,64,110,170,245,336,444,570,715,880,1066,1274,1505,1760,2040,2346,2679,3040,3430,3850,4301,4784,5300 ⋆ Truncated triangular pyramid numbers: a(n) = Sum_{k=9..n} (k*(k+1)/2 - 45). • a(n) = (n + 20) * (n - 8) * (n - 9) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 18 2012 •

[A192023] • 1,10,31,68,125,206,315,456,633,850,1111,1420,1781,2198,2675,3216,3825,4506,5263,6100,7021,8030,9131,10328,11625 ⋆ The Wiener index of the comb-shaped graph |_|_|...|_| with 2n (n>=1) nodes. The Wiener index of a connected graph is the sum of the distances between all unordered pairs of vertices in the graph. • a(n) = n * (2 * n ^ 2 + 6 * n - 5) / 3. •

[A163655] • 0,10,31,69,130,220,345,511,724,990,1315,1705,2166,2704,3325,4035,4840,5746,6759,7885,9130,10500,12001,13639,15420 ⋆ a(n) = n*(2*n^2 + 5*n + 13)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A111500] • 1,10,31,72,137,234,367,544,769,1050,1391,1800,2281,2842,3487,4224,5057,5994,7039,8200,9481,10890,12431,14112,15937 ⋆ Number of squares in an n X n grid of squares with diagonals. • a(n) = n ^ 3 + n ^ 2 / 2 - 1 / 4 + 1 / 4 * (- 1) ^ n. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>4. - _ Colin Barker _ , May 28 2015 •

[A042849] • 1,1,10,31,196,227,423,2342,28527,144977,173504,318481,2084390,6571651,61229249,67800900,4129283249,4197084149,41903040590,129906205919,821340276104,951246482023,1772586758127,9814180272658,119542750030023 ⋆ Denominators of continued fraction convergents to sqrt(955). • a(n) = 4190512498 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A202804] • 0,10,32,66,112,170,240,322,416,522,640,770,912,1066,1232,1410,1600,1802,2016,2242,2480,2730,2992,3266,3552 ⋆ a(n) = n*(6*n+4) • a(n) = 2 * n(3n + 2) = 6n ^ 2 + 4n = 2 * A045944. • a(0)=0, a(1)=10, a(2)=32, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 28 2015 •

[A198646] • 10,32,98,296,890,2672,8018,24056,72170,216512,649538,1948616,5845850,17537552,52612658,157837976,473513930,1420541792,4261625378,12784876136,38354628410,115063885232,345191655698,1035574967096,3106724901290 ⋆ 11*3^n-1. • a(n) = 3 * a(n - 1) + 2, a(0)=10 •

[A081437] • 1,10,33,76,145,246,385,568,801,1090,1441,1860,2353,2926,3585,4336,5185,6138,7201,8380,9681,11110,12673,14376,16225 ⋆ Diagonal in array of n-gonal numbers A081422. • a(n) = n ^ 3 + 4 * n ^ 2 + 4 * n + 1. • a(0)=1, a(1)=10, a(2)=33, a(3)=76; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 24 2012 •

[A162433] • 1,10,33,76,157,264,425,626,897,1230,1629,2174,2653,3448,4119,4978,6197,7114,8457,9870,11477,13070,15001,17104,19181 ⋆ Row 4 of table A162430. • a(n) = Sum _{ m=n(n + 1) / 2..n(n + 1) / 2 + n } [x ^ m] S(x) ^ 4 for n>=0 where S(x) = Sum _{ n>=0 } x ^ (n(n + 1) / 2). •

[A094170] • 0,0,1,10,33,88,187,360,625,1024,1581,2350,3361,4680,6343,8428,10977,14080,17785,22194,27361,33400,40371,48400,57553 ⋆ Number of quasi-triominoes in an n X n bounding box. • a(n) = (1 / 32) * (6 * n ^ 4 - 12 * n ^ 3 + 32 * n ^ 2 - 58 * n + 29 - (6 * n - 3) * (- 1) ^ n). - _ Ralf Stephan _ , Dec 03 2004 •

[A211033] • 1,10,33,152,297,528,1217,1834,2673,4744,6385,8448,13073,16506,20625,29336,35545,42768,57457,67642,79233,102152,117729,135168,168929 ⋆ Number of 2 X 2 matrices having all elements in {0,1,...,n} and determinant = 0 (mod 3). • a(n) = a(n - 1) + 4 * a(n - 3) - 4 * a(n - 4) - 6 * a(n - 6) + 6 * a(n - 7) + 4 * a(n - 9) - 4 * a(n - 10) - a(n - 12) + a(n - 13) for n > 12. • a(n) = r ^ 4 + 4 * r ^ 3 * s + 4 * r ^ 3 * t + 4 * r ^ 2 * s ^ 2 + 8 * r ^ 2 * s * t + 4 * r ^ 2 * t ^ 2 + s ^ 4 + 6 * s ^ 2 * t ^ 2 + t ^ 4. •

[A008527] • 1,10,34,74,130,202,290,394,514,650,802,970,1154,1354,1570,1802,2050,2314,2594,2890,3202,3530,3874,4234,4610 ⋆ Coordination sequence for body-centered tetragonal lattice. • a(0) = 1; a(n) = 8 * n ^ 2 + 2 for n>0. • a(n) = (2n + 1) ^ 2 + (2n - 1) ^ 2 for n>0. Binomial transform of [1, 9, 15, 1, - 1, 1, - 1, 1,...]. - _ Gary W. Adamson _ , Dec 27 2007 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. G.f.: (1 + x) * (1 + 6 * x + x ^ 2) / (1 - x) ^ 3. [Colin Barker, Apr 13 2012] •

[A007584] • 0,1,10,34,80,155,266,420,624,885,1210,1606,2080,2639,3290,4040,4896,5865,6954,8170,9520,11011,12650,14444,16400 ⋆ 9-gonal (or enneagonal) pyramidal numbers: a(n) = n*(n+1)*(7*n-4)/6. • a(n) = (7 * n - 4) * binomial(n + 1, 2) / 3. • a(n) = a(n - 1) + n * (7 * n - 5) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 7. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = binomial(n + 2,3) + 6 * binomial(n + 1,3). (End) • a(n) = sum((n - i) * (7 * i + 1), i=0..n - 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 •

[A218329] • 10,34,80,266,420,624,1210,1606,2080,3290,4040,4896,6954,8170,9520,12650,14444,16400,20826,23310,25984,31930,35216,38720,46410 ⋆ Even 9-gonal (nonagonal) pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 3) - 3 * a(n - 4) - 3 * a(n - 6) + 3 * a(n - 7) + a(n - 9) - a(n - 10). • a(n) = 3 * a(n - 3) - 3 * a(n - 6) + a(n - 9) + 448. • a(n) = phi(n) * (phi(n) + 9) * (7 * phi(n) - 36) / 4374, where phi(n) = 3 + 12 * n - 3 * cos(2 * n * Pi / 3) + sqrt(3) * sin(2 * n * Pi / 3). •

[A020877] • 10,34,106,344,1102,3546,11394,36628,117730,378426,1216378,3909832,12567446,40395794,129844994,417363332,1341539194,4312135922,13860583626,44552347608,143205490526,460308235562,1479577849602,4755836293844,15286778495570 ⋆ Number of matchings in Moebius ladder M_n. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - a(n - 3). - _ Eric W. Weisstein _ , Oct 03 2017 •

[A272365] • 10,34,250,1954,15370,120994,952570,7499554,59043850,464851234,3659766010,28813276834,226846448650,1785958312354,14060820050170,110700602088994,871543996661770,6861651371205154,54021666972979450,425311684412630434,3348471808328064010,26362462782211881634 ⋆ a(n) = 9a(n-1) - 9a(n-2) + a(n-3). • a(n) = 9a(n - 1) - 9a(n - 2) + a(n - 3). • a(n) = 2 * (2 * (4 + sqrt(15)) * (4 - sqrt(15)) ^ n - 2 * (sqrt(15) - 4) * (4 + sqrt(15)) ^ n + 1). (End) •

[A254674] • 1,10,34,601,2089,37234,129466,2307889,8024785,143051866,497407186,8866907785,30831220729,549605230786,1911038277994,34066657400929,118453542014881,2111583153626794,7342208566644610,130884088867460281,455098477589950921 ⋆ Indices of heptagonal numbers (A000566) which are also centered triangular numbers (A005448). • a(n) = a(n - 1) + 62 * a(n - 2) - 62 * a(n - 3) - a(n - 4) + a(n - 5). •

[A000447] • 0,1,10,35,84,165,286,455,680,969,1330,1771,2300,2925,3654,4495,5456,6545,7770,9139,10660,12341,14190,16215,18424 ⋆ a(n) = 1^2 + 3^2 + 5^2 + 7^2 + ... + (2*n-1)^2 = n*(4*n^2 - 1)/3. • a(n) = - a(- n) for all n in Z. • a(n + 1) = (2 * n + 1) * (2 * n + 2)(2 * n + 3) / 6. - Valentin Bakoev (v _ bakoev(AT)yahoo.com), Mar 03 2009 • a(0)=0, a(1)=1, a(2)=10, a(3)=35, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , May 25 2012 • a(n) = v(n,n - 1), where v(n,k) is the central factorial numbers of the first kind with odd indices. - _ Mircea Merca _ , Jan 25 2014 •

[A052472] • 0,10,35,84,168,300,495,770,1144,1638,2275,3080,4080,5304,6783,8550,10640,13090,15939,19228,23000,27300,32175,37674,43848 ⋆ Number of independent components for a Weyl tensor in n dimensions. • a(n) = n * (n + 1) * (n + 2) * (n - 3) / 12 for n >= 3. • a(n) = 2 * C(n,4) - C(n,3), n>=5. - _ Zerinvary Lajos _ , Nov 25 2006 •

[A272352] • 10,35,91,210,456,957,1969,4004,8086,16263,32631,65382,130900,261953,524077,1048344,2096898,4194027,8388307,16776890,33554080,67108485,134217321,268435020,536870446 ⋆ a(n) is the number of ways of putting n labeled balls into 2 indistinguishable boxes such that each box contains at least 3 balls. • a(n) = (2 ^ n - 2 - 2 * n - 2 * binomial(n, 2)) / 2. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4), for n>3. •

[A048507] • 1,10,35,101,269,685,1693,4093,9725,22781,52733,120829,274429,618493,1384445,3080189,6815741,15007741,32899069,71827453,156237821,338690045,731906045,1577058301,3388997629 ⋆ a(n) = T(2,n), array T given by A048505. • a(n) = (n ^ 2 + 9 * n + 16) * 2 ^ (n - 2) - 3. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Nov 27 2014 •

[A221907] • 1,10,35,140,645,3150,15655,78160,390665,1953170,9765675,48828180,244140685,1220703190,6103515695,30517578200,152587890705,762939453210,3814697265715,19073486328220,95367431640725,476837158203230 ⋆ 5^n + 5*n. • a(n) = 7 * a(n - 1) - 11 * a(n - 2) + 5 * a(n - 3). •

[A271912] • 0,10,36,68,108,150,200,252,312,374,444,516,596,678,768,860,960,1062,1172,1284 ⋆ Number of ways to choose three distinct points from a 3 X n grid so that they form an isosceles triangle. • a(n) = (- 3 * (47 + (- 1) ^ n) + 64 * n + 10 * n ^ 2) / 4 for n>2. • a(n) = (5 * n ^ 2 + 32 * n - 72) / 2 for n>2 and even. • a(n) = (5 * n ^ 2 + 32 * n - 69) / 2 for n>2 and odd. •

[A033585] • 0,10,36,78,136,210,300,406,528,666,820,990,1176,1378,1596,1830,2080,2346,2628,2926,3240,3570,3916,4278,4656 ⋆ a(n) = 2*n*(4*n+1). • a(n) = 16 * n + a(n - 1) - 6 (with a(0) = 0). - _ Vincenzo Librandi _ , Aug 05 2010 •

[A050509] • 1,10,36,88,175,306,490,736,1053,1450,1936,2520,3211,4018,4950,6016,7225,8586,10108,11800,13671,15730,17986,20448,23125 ⋆ House numbers (version 2): a(n) = (n+1)^3 + (n+1)*Sum_{i=0..n} i. • a(n) = (1 / 2) * (3 * n + 2) * (n + 1) ^ 2. • a(0)=1, a(1)=10, a(2)=36, a(3)=88, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 26 2011 • a(n) = Sum _{ i=0..n } (n + 1) * (3 * i + 1). - _ Bruno Berselli _ , Sep 08 2015 •

[A051959] • 1,10,36,104,273,686,1688,4112,9969,24114,58268,140728,339809,820438,1980784,4782112,11545121,27872474,67290196,162453000,392196337,946

845822,2285888136 ⋆ Expansion of (1+6x)/((1-2x-x^2)(1-x)^2). • a(n) = 2a(n - 1) + a(n - 2) + (7n + 1); a(0)=1, a(1)=10. • a(n) = ((((25 / 2) + 17 * sq rt(2) / 2)(1 + sqrt(2)) ^ n - ((25 / 2) - 17 * sqrt(2) / 2)(1 - sqrt(2)) ^ n) / 2 * sqrt(2)) - (7n + 15) / 2 • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 4). •

[A089222] • 0,0,0,0,10,36,322,2832,27954,299260,3474482,43546872,586722162,8463487844,130214368530,2129319003680,36889393903794,675098760648204,130158775666642418,2637267077571154 00,5603148830577775218 ⋆ Number of ways of sitting n people around a table for the second time without anyone sitting next to the same person as they did the first time. • a(n) = (3 * n - 30) * a(n - 11) + (6 * n - 45) * a(n - 10) + (5 * n + 18) * a(n - 9) - (8 * n - 139) * a(n - 8) - (26 * n - 204) * a(n - 7) - (4 * n - 30) * a(n - 6) + (26 * n - 148) * a(n - 5) + (8 * n - 74) * a(n - 4) - (9 * n - 18) * a(n - 3) - (2 * n - 15) * a(n - 2) + (n + 2) * a(n - 1), n>=14 [_ Vaclav Kotesovec _ , Apr 13 2010] •

[A139242] • 10,36,912,2212,58368,135168,3735552,260308992 ⋆ Second differences of Mersenne numbers A001348, divided by 2. • a(n) = 139241(n) / 2. •

[A247792] • 1,10,37,82,145,226,325,442,577,730,901,1090,1297,1522,1765,2026,2305,2602,2917,3250,3601,3970,4357,4762,5185 ⋆ a(n) = 9*n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Wesley Ivan Hurt _ , Jun 25 2016 •

[A096000] • 1,10,37,92,185,326,525,792,1137,1570,2101,2740,3497,4382,5405,6576,7905,9402,11077,12940,15001,17270,19757,22472,25425 ⋆ Cupolar numbers: a(n) = (n+1)*(5*n^2+7*n+3)/3. • a(n) = (1 / 2) * (Q(n) + 3n ^ 2 + 3n + 1), where Q(n) are the cuboctahedral numbers, A005902. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>4. - _ Wesley Ivan Hurt _ , May 23 2015 •

[A047672] • 1,10,37,94,193,346,565,862,1249,1738,2341,3070,3937,4954,6133,7486,9025,10762,12709,14878,17281,19930,22837,26014,29473 ⋆ Row 3 of square array defined in A047671. • a(n) = 2n ^ 3 - 3n ^ 2 + 4n - 2. •

[A200872] • 10,37,94,195,356,595,932,1389,1990,2761,3730,4927,6384,8135,10216,12665,15522,18829,22630,26971,31900,37467,43724,50725,58526 ⋆ Number of 0..n arrays x(0..3) of 4 elements without any interior element greater than both neighbors or less than both neighbors. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[A212755] • 1,10,37,96,205,386,665,1072,1641,2410,3421,4720,6357,8386,10865,13856,17425,21642,26581,32320,38941,46530,55177,64976,76025 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and |w-x|=max{w,x,y,z}-min{w,x,y,z}. • a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A048480] • 1,10,37,109,289,721,1729,4033,9217,20737,46081,101377,221185,479233,1032193,2211841,4718593,10027009,21233665,44826625,94371841,198180865,415236097,868220929,1811939329 ⋆ a(n) = T(8,n), array T given by A048472. • a(n) = 9 * n * 2 ^ (n - 1) + 1. • a(0)=1, a(1)=10, a(2)=37, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Harvey P. Dale _ , Jul 09 2014 •

[A116970] • 1,10,37,118,361,1090,3277,9838,29521,88570,265717,797158,2391481,7174450,21523357,64570078,193710241,581130730,1743392197,5230176598,15690529801,47071589410,141214768237,423644304718,1270932914161 ⋆ a(n) = (3^n - 7)/2. • a(n) = 3 * a(n - 1) + 7 with n > 2, a(2)=1. - _ Vincenzo Li brandi _ , Aug 02 2010 • a(2)=1, a(3)=10; for n > 3, a(n) = 4 * a(n - 1) - 3 * a(n - 2). - _ Harvey P. Dale _ , Jan 17 2013 •

[A199208] • 10,37,145,577,2305,9217,36865,147457,589825,2359297,9437185,37748737,150994945,603979777,2415919105,9663676417,38654705665,154618822657,618475290625,2473901162497,9895604649985,39582418599937 ⋆ 9*4^n+1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A110528] • 1,10,37,162,681,2890,12237,51842,219601,930250,3940597,16692642,70711161,299537290,1268860317,5374978562,22768774561,96450076810,408569081797,1730726404002,7331474697801,31056625195210 ⋆ a(n+3) = 3*a(n+2) + 5*a(n+1) + a(n), a(0) = 1, a(1) = 10, a(2) = 37. • a(n) = (2 - sqrt(5)) ^ n - (- 1) ^ n + (2 + sqrt(5)) ^ n + (1 / 2) * (2 + sqrt(5)) ^ n * sqrt(5) - (1 / 2) * (2 - sqrt(5)) ^ n * sqrt(5), with n >= 0. - _ Paolo P. Lava _ , Oct 02 2008 • a(n) = Lucas(3 * (n + 1)) / 2 - (- 1) ^ (n). - _ Ehren Metcalfe _ , Nov 18 2017 •

[A137280] • 1,10,37,181,802,3673,16633,75610,343261,1559053,7079986,32153329,146019889,663132970,3011538133,13676545189,62110402498,282067023817,1280973888937,5817390833530,26418989723149,119978705004157 ⋆ a(n) = 3*a(n-1) + 7*a(n-2). • a(1) = 1, a(2) = 10, a(n), n>2 = 3 * a(n - 1) + 7 * a(n - 2). a(n) = upper left term in [1,3; 3,2] ^ n • a(n)= - 17 / 74 * (3 / 2 - 1 / 2 * sqrt(37)) ^ n * sqrt(37) + 1 / 2 * (3 / 2 - 1 / 2 * sqrt(37)) ^ n + 17 / 74 * sqrt(37) * (3 / 2 + 1 / 2 * sqrt(37)) ^ n + 1 / 2 * (3 / 2 + 1 / 2 * sqrt(37)) ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 03 2008 •

[A154517] • 10,38,84,148,230,330,448,584,738,910,1100,1308,1534,1778,2040,2320,2618,2934,3268,3620,3990,4378,4784,5208,5650 ⋆ 9n^2 + n. • a(n) = 3 * a (n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 31 2012 •

[A257051] • 0,0,0,10,38,98,208,390,670,1078,1648,2418,3430,4730,6368,8398,10878,13870,17440,21658,26598,32338,38960,46550,55198 ⋆ a(n) = cpg(n, 3) + cpg(n, 4) + ... + cpg(n, n) where cpg(n, m) is the m-th n-th-order centered polygonal number. • a(n) = (n ^ 4 - n ^ 2 - 12) / 6 for n>1. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>6. •

[A027982] • 1,10,38,108,270,632,1426,3148,6854,14784,31674,67508,143278,303016,638882,1343388,2817942,5898128,12320650,25689988,53477246,111148920,230686578,478150508,989855590 ⋆ Sum{(k+1)*T(n,2n-k)}, 0<=k<=2n, T given by A027960. • a(n) = (- 10 + 11 * 2 ^ n + 2 * (- 3 + 2 ^ n) * n). • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). •

[A164298] • 1,10,38,132,452,1544,5272,18000,61456,209824,716384,2445888,8350784,28511360,97343872,332352768,1134723328,3874187776,13227304448,45160842240,154188760064,526433355776,1797355902976,6136556900352 ⋆ a(n) = ((1+4*sqrt(2))*(2+sqrt(2))^n + (1-4*sqrt(2))*(2-sqrt(2))^n)/2. • a(n) = 4 * a(n - 1) - 2 * a(n - 2) for n > 1; a(0)=1, a(1)=10. •

[A156674] • 10,39,59,88,108,137,157,186,206,235,255,284,304,333,353,382,402,431,451,480,500,529,549,578,598 ⋆ Numbers n such that n^2-2=0 mod 49. • a(n)=a(n - 1) + a(n - 2) - a(n - 3) = 49n / 2 - 49 / 4 + 9 * (- 1) ^ n / 4. G.f. : x(2x + 5)(5x + 2) / ((1 + x)(1 - x) ^ 2). [From _ R. J. Mathar _ , Feb 19 2009] •

[A022277] • 0,10,39,87,154,240,345,469,612,774,955,1155,1374,1612,1869,2145,2440,2754,3087,3439,3810,4200,4609,5037,5484 ⋆ a(n) = n*(19*n + 1)/2. • a (n) = 19 * n + a(n - 1) - 9 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Vincenzo Li brandi _ , Mar 31 2015 •

[A059722] • 0,1,10,39,100,205,366,595,904,1305,1810,2431,3180,4069,5110,6315,7696,9265,11034,13015,15220,17661,20350,23299,26520 ⋆ a(n) = n*(2*n^2 - 2*n + 1). • a(n) = sum(j=1..n, (n + j - 1) ^ 2 - j ^ 2 + 1). - _ Zerinvary Laj os _ , Sep 13 2006 •

[A210376] • 0,0,10,40,85,140,206,284,375,480,600,736,889,1060,1250,1460,1691,1944,2220,2520,2845,3196,3574,3980,4415 ⋆ Number of 2 X 2 matrices with all terms in {0,1,...,n} and (sum of terms) = n + 4. • a(n) = (- 270 + 107 * n + 18 * n ^ 2 + n ^ 3) / 6 for n>2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A033583] • 0,10,40,90,160,250,360,490,640,810,1000,1210,1440,1690,1960,2250,2560,2890,3240,3610,4000,4410,4840,5290,5760 ⋆ a(n) = 10*n^2. • a(n) = 2 0 * n + a(n - 1) - 10 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 05 2010 •

[A071233] • 0,10,40,102,208,370,600,910,1312,1818,2440,3190,4080,5122,6328,7710,9280,11050,13032,15238,17680,20370,23320,26542,30048 ⋆ 2*(n-1)*(n^2+1). • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) •

[A063490] • 1,10,40,105,219,396,650,995,1445,2014,2716,3565,4575,5760,7134,8711,10505,12530,14800,17329,20131,23220,26610,30315,34349 ⋆ a(n) = (2*n - 1)*(7*n^2 - 7*n + 6)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a (n - 4). •

[A002419] • 1,10,40,110,245,476,840,1380,2145,3190,4576,6370,8645,11480,14960,19176,24225,30210,37240,45430,54901,65780,78200,92300,108225 ⋆ 4-dimensional figurate numbers: (6n-2)*binomial(n+2,3)/4. • a(n) = (3 * n - 1) * binomial(n + 2, 3) / 2. • a(n) = (3 * n ^ 4 + 8 * n ^ 3 + 3 * n ^ 2 - 2 * n) / 12. - _ C hai Wah Wu _ , Jan 24 2016 •

[A027981] • 1,10,40,124,340,868,2116,4996,11524,26116,58372,129028,282628,614404,1327108,2850820,6094852,12976132,27525124,58195972,122683396,257949700,541065220,1132462084,2365587460 ⋆ Sum{(k+1)*T(n,k)}, 0<=k<=2n, T given by A027960. • a(2n + 1) = 6(4n + 1) * 4 ^ n + 4. - _ Ralf Stephan _ , Mar 22 2004 • a(n) = 4 + 3 * 2 ^ n * (2 * n - 1). G.f. (- 1 - 5 * x + 2 * x ^ 2) / ((x - 1) * (- 1 + 2 * x) ^ 2). - _ R. J. Mathar _ , May 22 2013 • a(0)=1, a(1)=10, a(2)=40, a(n)=5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). - _ Ha rvey P. Dale _ , Apr 17 2015 •

[A002066] • 10,40,160,640,2560,10240,40960,163840,655360,2621440,10485760,41943040,167772160,671088640,2684354560,10737418240,42949672960,171798691840,687194767360,2748779069440,10995116277760,43980465111040,175921860444160,703687441776640 ⋆ 10*4^n. • a(n)=4 * a(n - 1), n>0; a(0)=10. G .f.: 10 / (1 - 4 * x). - _ Philippe Deléham _ , Nov 23 2008 •

[A054885] • 0,0,0,10,40,260,1240,6510,32240,162760,812240,4069010,20337240,101725260,508587240,2543131510,12715462240,63578287760,317890462240,1589457194010,7947281087240,39736429850260 ⋆ Number of walks of length n along the edges of an icosahedron between two opposite vertices. • a(n) = (5 ^ n + (- 1) ^ n * 5 - 3 * (1 + (- 1) ^ n) * sqrt(5) ^ n) / 12. •

[A253674] • 1,10,40,931,3871,91180,379270,8934661,37164541,875505550,3641745700,85790609191,356853914011,8406604195120,34968041827330,823761420512521,3426511245164281,80720212606031890,335763133984272160,7909757073970612651,32901360619213507351 ⋆ Indices of centered octagonal numbers (A016754) which are also centered triangular numbers (A005448). • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). •

[A022278] • 0,10,41,93,166,260,375,511,668,846,1045,1265,1506,1768,2051,2355,2680,3026,3393,3781,4190,4620,5071,5543,6036 ⋆ a(n) = n*(21*n-1)/2. • a(n) = 21 * n + a(n - 1) - 11 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 •

[A266396] • 0,0,0,10,41,105,215,385,630,966,1410,1980,2695,3575,4641,5915,7420,9180,11220,13566,16245,19285,22715,26565,30866 ⋆ Number of orbits of Aut(Z^7) as function of the infinity norm n of the representative lattice point of the orbit, when the cardinality of the orbit is equal to 80640. • a(n) = (n ^ 4 + 30 * n ^ 3 - 205 * n ^ 2 + 390 * n - 216) / 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[A006323] • 1,10,41,115,260,511,910,1506,2355,3520,5071,7085,9646,12845,16780,21556,27285,34086,42085,51415,62216,74635,88826,104950,123175 ⋆ 4-dimensional analog of centered polygonal numbers. • a(n) = 7 * C(n + 2, 4) + C(n + 1, 2). •

[A178073] • 1,10,41,116,265,526,945,1576,2481,3730,5401,7580,10361,13846,18145,23376,29665,37146,45961,56260,68201,81950,97681,115576,135825 ⋆ Partial sums of sequence A177342. • a(n) = n * (n ^ 3 + n ^ 2 + 2 * n - 1) / 3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) wi th n>5. •

[A294604] • 10,41,120,283,566,1029,1738,2745,4150,6049,8504,11661,15646,20525,26496,33715,42246,52345,64198,77861,93654,111793,132320,155625,181954 ⋆ Number of ordinary double points of a family of threefolds. • a(n) = (1 / 18) * (7 * n ^ 4 - 24 * n ^ 3 + 39 * n ^ 2 - 36 * n + 18) if n is divisible by 3; a(n) = (1 / 18) * (7 * n ^ 4 - 24 * n ^ 3 + 37 * n ^ 2 - 30 * n + 10) otherwise. F or n = 3, 4, 5,... • a(n) = 2 * a(n - 1) - a(n - 2) + 3 * a(n - 3) - 6 * a(n - 4) + 3 * a(n - 5) - 3 * a(n - 6) + 6 * a(n - 7) - 3 * a(n - 8) + a(n - 9) - 2 * a(n - 10) + a(n - 11) for n>10. •

[A211064] • 1,10,41,160,337,810,1345,2560,3761,6250,8521,12960,16801,24010,30017,40960,49825,65610,78121,100000,117041,146410,168961,207360,236497 ⋆ Number of 2 X 2 matrices having all terms in {1,...,n} and even determinant. • a(n) = n ^ 4 - (2 * n + 1 - (- 1) ^ n) ^ 2 * (6 * n + 1 - (- 1) ^ n) * (2 * n - 1 + (- 1) ^ n) / 128. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. •

[A048879] • 1,10,41,174,737,3122,13225,56022,237313,1005274,4258409,18038910,76414049,323695106,1371194473,5808472998,24605086465,104228818858,441520361897,1870310266446,7922761427681,33561355977170,142168185336361,602234097322614 ⋆ Generalized Pellian with second term of 10. • a(n)=[(8 + sqrt(5))(2 + sqrt(5)) ^ n - (8 - sqrt(5))(2 - sqrt(5)) ^ n]2 * sqrt(5). • a(n) =4 * a(n - 1) + a(n - 2); a(0)=1, a(1)=10. G.f.: (1 + 6 * x) / (1 - 4 * x - x ^ 2). [_ Philippe Deléham _ , Nov 03 2008] •

[A041188] • 10,41,830,3361,68050,275561,5579270,22592641,457432090,1852321001,37503852110,151867729441,3074858440930,12451301493161,252100888304150,1020854854709761,20669197982499370,83697646784707241 ⋆ Numerators of continued fraction convergents to sqrt(105). • a(n) = 82 * a(n - 2) - a(n - 4). [_ Bruno Berselli _ , Oct 30 2013] •

[A163815] • 0,10,42,108,220,390,630,952,1368,1890,2530,3300,4212,5278,6510,7920,9520,11322,13338,15580,18060,20790,23782,27048,30600 ⋆ a(n) = n*(2*n^2) * (n ^ 3 + 18 * n ^ 2 + 17 * n - 120) / 120. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). _ Vincenzo Librandi _ , Jun 16 2012 • a(n) = binomial(n,3) + 6 * binomial(n,4) + 5 * binomial(n,5) + binomial(n,6) (see our comment in A026729). - _ Vla dimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(n) = Gegenba uerC(N, - n, - 1 / 2) where N = 6 if 6<n else 2 * n - 6. - _ Peter Luschny _ , May 10 2016 •

[A141499] • 0,1,10,45,190,780,3160,12720,51040,204480,818560,3275520,13104640,52423680,209704960,838840320,3355402240,13421690880,53686927360,214748037120,858992803840,3435972526080,13743892725760,54975576145920,219902315069440 ⋆ a(0)=0; a(1)=1; a(n) = triangular number at index 5*2^(n-2)-1. • a(n)=5 * 2 ^ (- 5 + n) * (- 4 + 5 * 2 ^ n) for n>1. a(n)=6 * a(n - 1) - 8 * a(n - 2) for n>3. G.f.: x * (1 + 4 * x - 7 * x ^ 2) / ((1 - 2 * x) * (1 - 4 * x)). [_ Colin Barker _ , Aug 16 2012] •

[A061772] • 10,45,300,2250,18000,150000,1285714,11250000,100000000,900000000,8181818181,75000000000,692307692307,6428571428571,60000000000000,562500000000000,5294117647058824 ⋆ Number of n-digit multiples of n. • a(n) = floor [{ 9 * 10 ^ (n - 1 }/ n] or floor [{ 9 * 10 ^ (n - 1) }/ n] + 1. •

[A032165] • 10,45,330,2475,19998,166485,1428570,12498750,111111000,999989991,9090909090,83333249175,769230769230,7142856428565,66666666659934,624999993750000,5882352941176470,55555555499944500 ⋆ Number of aperiodic necklaces of n beads of 10 colors. • a(n) = Sum _{ d|n } mu(d) * 10 ^ (n / d) / n. •

[A124174] • 0,1,10,45,351,1540,11935,52326,405450,1777555,13773376,60384555,467889345,2051297326,15894464365,69683724540,539943899076,2367195337045,18342198104230,80414957735001,623094791644755,2731741367653000,21166880717817451,92798791542467010 ⋆ Sophie Germain triangular numbers tr: 2*tr+1 is also a triangular number. • a(n) = 35 * (a(n - 2) - a(n - 4)) + a(n - 6). • a(n) = - 11 / 32 + (- 3 - 2 * sqrt(2)) ^ n / 64 + (5 * (3 - 2 * sqrt(2)) ^ n) / 32 + (- 3 - 2 * sqrt(2)) ^ n / (32 * sqrt(2)) - (5 * (3 - 2 * sqrt(2)) ^ n) / (32 * sqrt(2)) + (- 3 + 2 * sqrt(2)) ^ n / 64 - (- 3 + 2 * sqrt(2)) ^ n / (32 * sqrt(2)) + (5 * (3 + 2 * sqrt(2)) ^ n) / 32 + (5 * (3 + 2 * sqrt(2)) ^ n) / (32 * sqrt(2)); • a(n) = 34 * a(n - 2) - a(n - 4) + 11. - _ Kieren MacMillan _ , N ov 08 2008 • a(n) = a(n - 1) + 34 * a(n - 2) - 34 * a(n - 3) - a(n - 4) + a(n - 5) with a(0)=0, a(1)=1, a(2)=10, a(3)=45, a(4)=351. - _ Harvey P. Dale _ , Sep 28 2011 • a(n + 2) = 1 / 2 * ((3 / 2 * sqrt(8 * a(n) + 1) + sqrt(16 * a(n) + 9) - 1 / 2) * (3 / 2 * sqrt(8 * a(n) + 1) + sqrt(16 * a(n) + 9) + 1 / 2)); a(0) = 0, a(1) = 1. - _ Raphie Frank _ , Jan 29 2013 •

[A248575] • 0,10,46,128,272,498,822,1264,1840,2570,3470,4560,5856,7378,9142,11168,13472,16074,18990,22240,25840,29810,34166,38928,44112 ⋆ Rounded sums of the non-integer cube roots of n, as partitioned by the integer roots: round[sum(j from n^3+1 to (n+1)^3-1, j^(1/3))]. • a(n) = round[sum(j from n ^ 3 + 1 to (n + 1) ^ 3 - 1, j ^ (1 / 3))]. • a(n) = ((n + 1) * a(n - 2) + 3 * a (n - 1) - 30) / (n - 2) - 20. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5), for n > 5. This implies that the digital roots (A010888) of the terms are cyclic with a period of eighteen. - _ Ivan N. Ianakiev _ , Dec 13 2014 • a(n) = (1 - (- 1) ^ n + 8 * n + 18 * n ^ 2 + 12 * n ^ 3) / 4. - _ Co lin Barker _ , Dec 30 2014 •

[A081583] • 1,10,46,136,307,586,1000,1576,2341,3322,4546,6040,7831,9946,12412,15256,18505,22186,26326,30952,36091,41770,48016,54856,62317 ⋆ Third row of Pascal-(1,2,1) array A081577. • a(n) = (2 + 9 * n + 9 * n ^ 3) / 2. • a (n) = hypergeom([- n, - 3], [1], 3). - _ Peter Luschny _ , Nov 19 2014 •

[A213834] • 1,10,46,140,335,686,1260,2136,3405,5170,7546,10660,14651,19670,25880,33456,42585,53466,66310,81340,98791,118910,141956,168200,197925 ⋆ Antidiagonal sums of the convolution array A213833. • a(n) = n * (n + 1) * (3 * n ^ 2 - 2 * n + 2) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A164607] • 1,10,44,216,1040,5024,24256,117120,565504,2730496,13184000,63657984,307367936,1484103680,7165886464,34599960576,167063388160,806653394944,3894867132416,18806082109440,90803796967424,438439516307456 ⋆ a(n) = 4*a(n-1) + 4*a(n-2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = ((2 + 4 * sqrt(2)) * (2 + 2 * sqrt(2)) ^ n + (2 - 4 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ n) / 4. •

[A160970] • 0,1,10,44,341,1495,11584,50786,393515,1725229,13367926,58607000,454115969,1990912771,15426575020,67632427214,524049434711,2297511612505,17802254205154,78047762397956,604752593540525,2651326409917999,20543785926172696,90067050174814010 ⋆ Indices of square numbers that are also 18-gonal numbers. • a(n) = 34 * a(n - 2) - a(n - 4), n>5. - _ R. J. Mathar _ , Oct 04 2009 •

[A105938] • 10,45,126,280,540,945,1540,2376,3510,5005,6930,9360,12376,16065,20520,25840,32130,39501,48070,57960,69300,82225,96876,113400,131950 ⋆ a(n) = binomial(n+2,2)*binomial(n+5,2). • a(0)=10, a(1)=45, a(2)=126, a(3)=280, a(4)=540; for n>4, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Sep 05 2013 •

[A037270] • 0,1,10,45,136,325,666,1225,2080,3321,5050,7381,10440,14365,19306,25425,32896,41905,52650,65341,80200,97461,117370,140185,166176 ⋆ a(n) = n^2*(n^2+1)/2. • a(n) = a(n - 1) + n ^ 3 + (n - 1) ^ 3. • a(n) = Sum _{ k= 0..n ^ 2 } k. - _ William A. Tedeschi _ , Feb 27 2008 • a(n) = (1 / 8) * sinh(2 * arcsinh(n)). - _ Artur Jasinski _ , Feb 10 2010 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) n>4, a(0)=0, a(1)=1, a(2)= 10, a(3)=45, a(4)=136. - _ Yosu Yurramendi _ , Sep 02 2013 •

[A005714] • 1,10,45,141,357,784,1554,2850,4917,8074,12727,19383,28665,41328,58276,80580,109497,146490,193249,251713,324093,412896,520950,651430,807885 ⋆ Coefficient of x^6 in expansion of (1+x+x^2)^n. • a(n) = binomial(n, 3) * (n ^ 3 + 18 * n ^ 2 + 17 * n - 120) / 120. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). _ Vincenzo Librandi _ , Jun 16 2012 • a(n) = binomial(n,3) + 6 * binomial(n,4) + 5 * binomial(n,5) + binomial(n,6) (see our comment in A026729). - _ Vla dimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(n) = Gegenba uerC(N, - n, - 1 / 2) where N = 6 if 6<n else 2 * n - 6. - _ Peter Luschny _ , May 10 2016 •

[A141499] • 0,1,10,45,190,780,3160,12720,51040,204480,818560,3275520,13104640,52423680,209704960,838840320,3355402240,13421690880,53686927360,214748037120,858992803840,3435972526080,13743892725760,54975576145920,219902315069440 ⋆ a(0)=0; a(1)=1; a(n) = triangular number at index 5*2^(n-2)-1. • a(n)=5 * 2 ^ (- 5 + n) * (- 4 + 5 * 2 ^ n) for n>1. a(n)=6 * a(n - 1) - 8 * a(n - 2) for n>3. G.f.: x * (1 + 4 * x - 7 * x ^ 2) / ((1 - 2 * x) * (1 - 4 * x)). [_ Colin Barker _ , Aug 16 2012] •

[A061772] • 10,45,300,2250,18000,150000,1285714,11250000,100000000,900000000,8181818181,75000000000,692307692307,6428571428571,60000000000000,562500000000000,5294117647058824 ⋆ Number of n-digit multiples of n. • a(n) = floor [{ 9 * 10 ^ (n - 1 }/ n] or floor [{ 9 * 10 ^ (n - 1) }/ n] + 1. •

[A032165] • 10,45,330,2475,19998,166485,1428570,12498750,111111000,999989991,9090909090,83333249175,769230769230,7142856428565,66666666659934,624999993750000,5882352941176470,55555555499944500 ⋆ Number of aperiodic necklaces of n beads of 10 colors. • a(n) = Sum _{ d|n } mu(d) * 10 ^ (n / d) / n. •

[A124174] • 0,1,10,45,351,1540,11935,52326,405450,1777555,13773376,60384555,467889345,2051297326,15894464365,69683724540,539943899076,2367195337045,18342198104230,80414957735001,623094791644755,2731741367653000,21166880717817451,92798791542467010 ⋆ Sophie Germain triangular numbers tr: 2*tr+1 is also a triangular number. • a(n) = 35 * (a(n - 2) - a(n - 4)) + a(n - 6). • a(n) = - 11 / 32 + (- 3 - 2 * sqrt(2)) ^ n / 64 + (5 * (3 - 2 * sqrt(2)) ^ n) / 32 + (- 3 - 2 * sqrt(2)) ^ n / (32 * sqrt(2)) - (5 * (3 - 2 * sqrt(2)) ^ n) / (32 * sqrt(2)) + (- 3 + 2 * sqrt(2)) ^ n / 64 - (- 3 + 2 * sqrt(2)) ^ n / (32 * sqrt(2)) + (5 * (3 + 2 * sqrt(2)) ^ n) / 32 + (5 * (3 + 2 * sqrt(2)) ^ n) / (32 * sqrt(2)); • a(n) = 34 * a(n - 2) - a(n - 4) + 11. - _ Kieren MacMillan _ , N ov 08 2008 • a(n) = a(n - 1) + 34 * a(n - 2) - 34 * a(n - 3) - a(n - 4) + a(n - 5) with a(0)=0, a(1)=1, a(2)=10, a(3)=45, a(4)=351. - _ Harvey P. Dale _ , Sep 28 2011 • a(n + 2) = 1 / 2 * ((3 / 2 * sqrt(8 * a(n) + 1) + sqrt(16 * a(n) + 9) - 1 / 2) * (3 / 2 * sqrt(8 * a(n) + 1) + sqrt(16 * a(n) + 9) + 1 / 2)); a(0) = 0, a(1) = 1. - _ Raphie Frank _ , Jan 29 2013 •

[A248575] • 0,10,46,128,272,498,822,1264,1840,2570,3470,4560,5856,7378,9142,11168,13472,16074,18990,22240,25840,29810,34166,38928,44112 ⋆ Rounded sums of the non-integer cube roots of n, as partitioned by the integer roots: round[sum(j from n^3+1 to (n+1)^3-1, j^(1/3))]. • a(n) = round[sum(j from n ^ 3 + 1 to (n + 1) ^ 3 - 1, j ^ (1 / 3))]. • a(n) = ((n + 1) * a(n - 2) + 3 * a (n - 1) - 30) / (n - 2) - 20. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5), for n > 5. This implies that the digital roots (A010888) of the terms are cyclic with a period of eighteen. - _ Ivan N. Ianakiev _ , Dec 13 2014 • a(n) = (1 - (- 1) ^ n + 8 * n + 18 * n ^ 2 + 12 * n ^ 3) / 4. - _ Co lin Barker _ , Dec 30 2014 •

[A081583] • 1,10,46,136,307,586,1000,1576,2341,3322,4546,6040,7831,9946,12412,15256,18505,22186,26326,30952,36091,41770,48016,54856,62317 ⋆ Third row of Pascal-(1,2,1) array A081577. • a(n) = (2 + 9 * n + 9 * n ^ 3) / 2. • a (n) = hypergeom([- n, - 3], [1], 3). - _ Peter Luschny _ , Nov 19 2014 •

[A213834] • 1,10,46,140,335,686,1260,2136,3405,5170,7546,10660,14651,19670,25880,33456,42585,53466,66310,81340,98791,118910,141956,168200,197925 ⋆ Antidiagonal sums of the convolution array A213833. • a(n) = n * (n + 1) * (3 * n ^ 2 - 2 * n + 2) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[**A024166**] • 0,1,10,46,146,371,812,1596,2892,4917,7942,12298,18382,26663,37688,52088,70584,93993,123234,159334,203434,256795,320804,396980,486980 ⋆ a(n) = Sum_{1 <= i < j <= n} (j-i)^3. • a(n) = n * (n + 1) * (n + 2) * (3 * n ^ 2 + 6 * n + 1) / 60. (End) • a(n) = Sum _{ k=0..n } k ^ 3 * (n + 1 - k). - _ Paul Barry _ , Sep 14 2003; edited by _ Jon E. Schoenfield _ , Dec 29 2014 • a(n) = Sum _{ i=1..n } binomial(i + 1, 2) ^ 2. - _ André F. Labossière _ , Jul 03 2003 • a(n) = 2 * n * (n + 1) * (n + 2) * ((n + 1) ^ 2 + 2 * n * (n + 2)) / 5!. This sequence could be obtained from the general formula a(n) = n * (n + 1) * (n + 2) * (n + 3) * ... * (n + k) * (n * (n + k) + (k - 1) * k / 6) / ((k + 3)! / 6) at k=2. - _ Alexander R. Povolotsky _ , May 17 2008 • a(n) = (6 * n ^ 2 + 12 * n + 2) * (n + 2)! / (120 * (n - 1)!), n > 0. - _ Gary Detlefs _ , Mar 01 2013 • a(n) = Sum _{ i=1..n } Sum _{ j=1..n } i * j * (n - max(i, j) + 1) - _ Melvin Peralta _ , May 12 2016 •

[**A096045**] • 1,10,46,190,766,3070,12286,49150,196606,786430,3145726,12582910,50331646,201326590,805306366,3221225470,12884901886,51539607550,206158430206,824633720830,3298534883326,13194139533310,52776558133246 ⋆ a(n) = B(2*n,2)/B(2*n) (see comment). • a(n) = 3 * 4 ^ n - 2; a(0)=1 a(1)= 10. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). • a(n) = 4a(n - 1) + 6. First differences give A002063. - _ Paul Curtz _ , Jul 07 2008 •

[**A199313**] • 10,46,226,1126,5626,28126,140626,703126,3515626,17578126,87890626,439453126,2197265626,10986328126,54931640626,274658203126,1373291015626,6866455078126,34332275390626,171661376953126,858306884765626 ⋆ 9*5^n+1. • a(n) = 5 * a(n - 1) - 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[**A003765**] • 1,10,46,238,1170,5882,29278,146382,730434,3647994,18212046,90936494,454029874,2266968122,11318785790,56514147406,282171551586,1408866513082,7034386262766,35122279177902 ⋆ Number of Hamilton cycles in W_4 X P_n. • a(1) = 1, • a(2) = 10, • a(3) = 46, • a(4) = 238, • a(5) = 1170, • a(6) = 5882 and •

[**A138041**] • 1,10,46,244,1252,6472,33400,172432,890128,4595104,23721184,122455360,632148544,3263326336,16846196608,86964744448,448936157440,2317533096448,11963749330432,61760195900416,318823279584256 ⋆ a(1) = 1, a(2) = 10; for n>2, a(n+1) = 4*a(n) + 6*a(n-1). Also a(n) = upper left term in the 2 X 2 matrix [1,3; 3,3]. • a(n) / a(n - 1) tends to (2 + sqrt(10)) = 5.16227766... (a root of x ^ 2 - 4 * x - 6 and an eigenvalue of the matrix). • a(n) mod 9 == 1. • a(n)=(1 / 2) * (2 + sqrt(10)) ^ n - (13 / 20) * (2 - sqrt(10)) ^ n * sqrt(10) + (13 / 20) * (2 + sqrt(10)) ^ n * sqrt(10) + (1 / 2) * (2 - sqrt(10)) ^ n. - _ Paolo P. Lava _ , Jun 03 2008 •

[**A253477**] • 1,10,46,1045,5005,114886,550450,12636361,60544441,1389884770,6659338006,152874688285,732466636165,16814825826526,80564670640090,1849477966229521,8861381303773681,203425761459420730,974671378744464766,22374984282570050725 ⋆ Indices of centered heptagonal numbers (A069099) which are also centered triangular numbers (A005448). • a(n) = a(n - 1) + 110 * a(n - 2) - 110 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A213575**] • 1,10,47,158,441,1098,2539,5590,11909,24818,50967,103662,209521,421786,846947,1697990,3400893,6807618,13622095,27252190,54513641,109037930,218088027,436189878,872395381 ⋆ Antidiagonal sums of the convolution array A213573. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5). • a(n) = 2 ^ (n + 1) * 13 - (n ^ 3 + 6 * n ^ 2 + 18 * n + 2 6). - _ Stanislav Sykora _ , Nov 27 2013 •

[**A195023**] • 0,10,48,114,208,330,480,658,864,1098,1360,1650,1968,2314,2688,3090,3520,3978,4464,4978,5520,6090,6688,7314,7968 ⋆ 14n^2 - 4n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: 2 * x * (5 + 9 * x) / (1 - x) ^ 3. - Colin Barker, Apr 09 2012 •

[**A277229**] • 0,1,10,48,158,413,924,1848,3396,5841,9526,14872,22386,32669,46424,64464,87720,117249,154242,200032,256102,324093,405812,503240,618540 ⋆ Convolution of the odd indexed triangular numbers (A000384(n+1)) and the squares (A000290). • a(n) = binomial(n + 2, 3) * (4 * n ^ 2 + 3 * n + 3) / 10 = n * (n + 1) * (n + 2) * (4 * n ^ 2 + 3 * n + 3) / 60. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n> 5. - _ Colin Barker _ , Oct 21 2016 •

[**A271638**] • 1,10,48,170,512,1398,3580,8770,20808,48206,109652,245850,544864,1196134,2605164,5636210,12124280,25952382,55312516,117440650,248512656,524288150,1103102108,2315255970,4848615592 ⋆ The total sum of the cubes of all parts of all compositions of n. • a(n) = (13 * n - 36) * 2 ^ (n - 1) + 6 * n + 18. •

[**A084857**] • 0,1,10,48,176,560,1632,4480,11776,29952,74240,180224,430080,1011712,2351104,5406720,12320768,27852800,62521344,139460608,309329920,682622976,1499463680,3279945728,7147094016 ⋆ Inverse binomial transform of n^2*3^(n-1). • a(n)=n(3n - 1)2 ^ (n - 2). •

[**A271662**] • 1,10,49,164,434,980,1974,3648,6303,10318,16159,24388,35672,50792,70652,96288,128877,169746,220381,282436,357742,448316,556370,684320,834795 ⋆ Convolution of nonzero pentagonal numbers (A000326) with themselves. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = (n + 1) * (n + 2) * (n + 3) * (9 * n ^ 2 + 21 * n + 20) / 120. •

[**A051947**] • 1,10,49,168,462,1092,2310,4488,8151,14014,23023,36400,55692,82824,120156,170544,237405,324786,437437,580888,761530,986700,1264770,1605240,2018835 ⋆ Partial sums of A034263. • a(n) = C(n + 5, 5) * (2n + 3) / 3. •

[**A153780**] • 0,10,50,120,220,350,510,700,920,1170,1450,1760,2100,2470,2870,3300,3760,4250,4770,5320,5900,6510,7150,7820,8520 ⋆ 10 times pentagonal numbers: a(n) = 5*n*(3*n-1). • a(n) = 30 * n + a(n - 1) - 20 for n>0, a(0) = 0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A008413**] • 1,10,50,170,450,1002,1970,3530,5890,9290,14002,20330,28610,39210,52530,69002,89090,113290,142130,176170,216002,262250,315570,376650,446210 ⋆ Coordination sequence for 5-dimensional cubic lattice. • a(n) = (4 / 3) * n ^ 4 + (20 / 3) * n ^ 2 + 2 for n > 0. - _ Michael De Vlieger _ , Oct 04 2016 •

[**A006542**] • 1,10,50,175,490,1176,2520,4950,9075,15730,26026,41405,63700,95200,138720,197676,276165,379050,512050,681835,896126,1163800,1495000,1901250,2395575 ⋆ a(n) = binomial(n,3)*binomial(n-1,3)/4. • a(n) = sum(sum(sum(sum(1 + sum(5 * n))))) = sum (A006414). - Xavier Acloque, Oct 08 2003 • a(n) = C(n, 6) + 3 * C(n + 1, 6) + C(n + 2, 6). - _ Mike Zabrocki _ , Aug 26 2004 • a(n) = C(n - 2, n - 4) * C(n - 1, n - 3) * C(n, n - 2) / 18. - _ Zerinvary Lajos _ , Jul 29 2005 • a(n) = C(n,4)C(n,3) / n. - _ Mitch Harris _ , Jul 06 2006 • a(n + 2) = 1 / 4 * sum { 1 <= x _ 1, x _ 2 <= n } x _ 1 * x _ 2 * (det V(x _ 1,x _ 2)) ^ 2 = 1 / 4 * sum { 1 <= i,j <= n } i * j * (i - j) ^ 2, where V(x _ 1,x _ 2 } is the Vandermonde matrix of order 2. - _ Peter Bala _ , Sep 21 2007 • a(n) = C(n - 1,3) ^ 2 - C(n - 1,2) * C(n - 1,4). - _ Gary Detlefs _ , Dec 05 2011 •

[**A237655**] • 1,10,50,175,510,1376,3625,9500,24875,65125,170500,446375,1168625,3059500,8009875,20970125,54900500,143731375,376293625,985149500,2579154875,6752315125,17677790500,46281056375,121165378625 ⋆ G.f.: exp(Sum_{n>=1} 5*Fibonacci(n-2)*Fibonacci(n+2) * x^n/n). • a(n) = 3 * a(n - 1) - a(n - 2), n>=8. - _ Fung Lam _ , May 19 2014 •

[**A095687**] • 0,10,50,250,1250,6250,31250,156250,781250,3906250,19531250,97656250,488281250,2441406250,12207031250,61035156250,305175781250,1525878906250,7629394531250,38146972656250,190734863281250 ⋆ Numbers n such that n-th Pisano number = 6*n. • a(0) = 0, a(1) = 10, a(n) = 5 * a(n - 1); a(n) = sgn(n) * 2 * 5 ^ n [From _ Carl R. White _ , Sep 22 2009] •

[**A154410**] • 10,50,280,1640,9760,58400,350080,2099840,12597760,75584000,453498880,2720983040,16325877760,97955225600,587731271680,3526387466240,21158324469760,126949946163200,761699675668480,4570198051389440,27421188303093760 ⋆ a(n) = 5*(3*6^n + 2^n)/2. • a(n) = 8 * a(n - 1) - 12 * a(n - 2). • a(n) = 6 * a(n - 1) - 10 * 2 ^ (n - 1). •

[**A216156**] • 10,50,500,5000,50000,500000,5000000,50000000,500000000,5000000000,50000000000,500000000000,5000000000000,50000000000000,500000000000000,5000000000000000,50000000000000000,500000000000000000 ⋆ Period of powers of 11 mod 10^n. • a(n) = 5 * 10 ^ (n - 1), n >= 2. •

[**A143855**] • 1,10,51,124,229,366,535,736,969,1234,1531,1860,2221,2614,3039,3496,3985,4506,5059,5644,6261,6910,7591,8304,9049 ⋆ Ulam's spiral (ESE spoke). • a(n) = 16n ^ 2 - 39n + 24. - _ R. J. Mathar _ , Sep 08 2008 •

[**A077044**] • 0,1,10,51,155,381,780,1451,2460,3951,6000,8801,12435,17151,23030,30381,39280,50101,62910,78151,95875,116601,140360,167751,198780 ⋆ Largest coefficient in expansion of (1 + x + x^2 + ... + x^(n-1))^5 = ((1-x^n)/(1-x))^5, i.e., the coefficient of x^floor(5*(n-1)/2) and of x^ceiling(5*(n-1)/2); also number of compositions of floor(5*(n+1)/2) into exactly 5 positive integers each no more than n. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[**A069038**] • 0,1,10,51,180,501,1182,2471,4712,8361,14002,22363,34332,50973,73542,103503,142544,192593,255834,334723,432004,550725,694254,866295,1070904 ⋆ Expansion of x*(1+x)^4/(1-x)^6. • a(n) = 5 - crosspolytope(n) = n * (2 * n ^ 4 + 10 * n ^ 2 + 3) / 15. E.g. a(5) = 501 because 5 * (2 * 5 ^ 4 + 10 * 5 ^ 2 + 3) / 15 = 501. - _ Jonathan Vos Post _ , Nov 16 2004 • a(n) = C(n + 4,5) + 4 C(n + 3,5) + 6 C(n + 2,5) + 4 C(n + 1,5) + C(n,5) •

[**A213563**] • 1,10,51,182,518,1260,2730,5412,9999,17446,29029,46410,71708,107576,157284,224808,314925,433314,586663,782782,1030722,1340900,1725230,2197260,2772315 ⋆ Antidiagonal sums of the convolution array A213561. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[**A224327**] • 1,10,51,212,805,2910,10199,34984,118089,393650,1299067,4251516,13817453,44641030,143489055,459165008,1463588497,4649045850,14721978563,46490458660,146444944821,460255540910,1443528741991,4518872583672 ⋆ Number of idempotent n X n 0..2 matrices of rank n-1. • a(n) = n * (2 * 3 ^ (n - 1) - 1). • a(n) = 8 * a(n - 1) - 22 * a(n - 2) + 24 * a(n - 3) - 9 * a(n - 4). •

[**A041186**] • 10,51,1030,5201,105050,530451,10714070,54100801,1092730090,5517751251,111447755110,562756526801,11366578291130,57395647982451,1159279537940150,5853793337683201,118235146291604170,597029524795704051,1205882564220568519 0 ⋆ Numerators of continued fraction convergents to sqrt(104). • a(n) = 102 * a(n - 2) - a(n - 4). [_ Bruno Berselli _ , Oct 30 2013] •

[**A028994**] • 0,10,52,126,232,370,540,742,976,1242,1540,1870,2232,2626,3052,3510,4000,4522,5076,5662,6280,6930,7612,8326,9072 ⋆ Even 10-gonal (or decagonal) numbers. • a(n) = 2 * n * (8 * n - 3). - _ Omar E. Pol _ , Aug 19 2011 •

[**A257042**] • 0,10,52,144,304,550,900,1372,1984,2754,3700,4840,6192,7774,9604,11700,14080,16762,19764,23104,26800,30870,35332,40204,45504 ⋆ a(n) = (3*n+7)*n^2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Apr 15 2015 •

[**A092966**] • 0,10,52,149,324,600,1000,1547,2264,3174,4300,5665,7292,9204,11424,13975,16880,20162,23844,27949,32500,37520,43032,49059,55624 ⋆ Number of interior balls in a truncated tetrahedral arrangement. • a(n) = (1 / 6) * (n - 1) * (23 * n ^ 2 - 19 * n + 6). • a(0)=0, a(1)=10, a(2)=52, a(3)=149, a(n)= 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 15 2011 •

[**A050494**] • 1,10,52,192,570,1452,3300,6864,13299,24310,42328,70720,114036,178296,271320,403104,586245,836418,1172908,1619200,2203630,2960100,392

8860,5157360,6701175 ⋆ Partial sums of A051923. • a(n)=C(n + 6, 6) * (3n + 7) / 7. •

[A292058] • 0,10,54,168,400,810,1470,2464,3888,5850,8470,11880,16224,21658,28350,36480,46240,57834,71478,87400,105840,127050,151294,178848,210000 ⋆ Wiener index of the n X n rook complement graph. • a(n) = (n - 1) * n ^ 2 * (n + 3) / 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A152762] • 0,0,1,1,10,54,204,243,1594,4210,18484,62174,275828,1131980,7434360,10522755,72469530,268486410,1442238420,4284331050,18146556060,62021100660,248289237960,798007353390,2832660378756 ⋆ Sum of proper divisors of Catalan number A000108(n). • a(n)=sigma(binom(2n,n) / (n + 1)) - binom(2n,n) / (n + 1), where sigma(m) is the sum of the divisors of m. [From _ Emeric Deutsch _ , Dec 24 2008] •

[A053347] • 1,10,54,210,660,1782,4290,9438,19305,37180,68068,119340,201552,329460,523260,810084,1225785,1817046,2643850,3782350,5328180,7400250,10145070,13741650,18407025 ⋆ a(n) = binomial(n+7, 7)*(n+4)/4. • a(n) = 2 * C(n + 8, 8) - C(n + 7, 7). - _ Paul Barry _ , Mar 04 2003 • a(n) = C(n + 7, 7) + 2 * C(n + 7, 8). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 • a(n) = (n ^ 8 + 32 * n ^ 7 + 434 * n ^ 6 + 3248 * n ^ 5 + 14609 * n ^ 4 + 40208 * n ^ 3 + 65596 * n ^ 2 + 57312 * n + 20160) / 20160. - _ Chai Wah Wu _ , Jan 24 2016 •

[A058645] • 0,1,10,54,224,800,2592,7840,22528,62208,166400,433664,1105920,2768896,6823936,16588800,39845888,94699520,222953472,520486912,1205862400,2774532096,6343884800,14422114304,32614907904 ⋆ a(n) = 2^(n-3)*n^2*(n+3) • a(n) = Sum _{ k=0..n } k ^ 3 * binomial(n, k): binomial transform of A000578. •

[A213120] • 1,10,54,252,1110,4748,19964,83024,342678,1406748,5751636,23443240,95319484,386805112,1567130168,6340730552,25626393878,103472018492,417449893988,1682982404072,6780908053268,27306234108392,109907864408648 ⋆ Number of binary arrays of length 2*n+2 with fewer than n ones in any length 2n subsequence (=less than 50% duty cycle). • a(n) = 2 ^ (2 * n + 1) - (15 * n - 8) * C(2 * n - 2,n - 1) / n. - _ Vaclav Kotesovec _ , Oct 29 2012 •

[A198770] • 10,54,274,1374,6874,34374,171874,859374,4296874,21484374,107421874,537109374,2685546874,13427734374,67138671874,335693359374,1678466796874,8392333984374,41961669921874,209808349609374,1049041748046874 ⋆ 11*5^n-1. • a(n) = 5 * a(n - 1) + 4. • a(n)= = 6 * a(n - 1) - 5 * a(n - 2), n >1. •

[A244871] • 1,10,55,217,672,1755,4030,8386,16135,29140,49941,81915,129430,198037,294652,427780,607725,846846,1159795,1563805,2078956,2728495,3539130,4541382,5769907 ⋆ Number of magic labelings with magic sum n of 3rd graph shown in link. • a(n) = n ^ 6 / 48 + 3 * n ^ 5 / 16 + 77 * n ^ 4 / 96 + 2 * n ^ 3 + 37 * n ^ 2 / 12 - n * (- 1) ^ n / 32 + 89 * n / 32 - 3 * (- 1) ^ n / 64 + 67 / 64. [_ Bruno Berselli _ , Jul 08 2014] •

[A070212] • 1,10,55,220,715,2001,4995,11385,24090,47905,90376,162955,282490,473110,768570,1215126,1875015,2830620,4189405,6089710,8707501,12264175,17035525,23361975,31660200 ⋆ Number of 5 X 5 pandiagonal magic squares with sum n. • a(n) = (1 / 8064) * (n + 4) * (n + 3) * (n + 2) * (n + 1) * (n ^ 2 + 5n + 8) * (n ^ 2 + 5n + 42) •

[A008502] • 1,10,55,220,715,2002,5005,11440,24310,48619,92368,167905,293710,496705,815188,1302499,2031535,3100240,4638205,6814522,9847045,14013220,19662655,27231610,37259596 ⋆ 8-dimensional centered tetrahedral numbers. • a(n) = 1 + n * (n + 1) * (3 * n ^ 6 + 9 * n ^ 5 + 509 * n ^ 4 + 1003 * n ^ 3 + 11464 * n ^ 2 + 10964 * n + 36528) / 13440. - _ R. J. Mathar _ , Nov 02 2011 •

[A008492] • 1,10,55,220,715,2002,5005,11440,24310,48620,92377,167950,293875,497200,816475,1305502,2037970,3113110,4662515,6858280,9922627,14139190,19866145,27551380,37749910 ⋆ Expansion of (1-x^10) / (1-x)^10. • a(n) = (8064 + 26060 * n ^ 2 + 5985 * n ^ 4 + 210 * n ^ 6 + n ^ 8) / 4032 for n>0. - _ Colin Barker _ , Jan 06 2017 •

[A000582] • 1,10,55,220,715,2002,5005,11440,24310,48620,92378,167960,293930,497420,817190,1307504,2042975,3124550,4686825,6906900,10015005,14307150,20160075,28048800,38567100 ⋆ Binomial coefficients C(n,9). • a(n + 8) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8) / 9!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 •

[A290893] • 0,0,0,0,1,10,55,220,715,2003,5025,11650,25850,57475,134883,345090,952195,2722455,7765010,21615771,58293475,152593575,390679925,988851150,2502813930 ⋆ p-INVERT of the positive integers, where p(S) = 1 - S^5. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 253 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). •

[A249460] • 0,0,0,1,10,55,230,770,2156,5250,11460,22935,42790,75361,126490,203840,317240,479060,704616,1012605,1425570,1970395,2678830,3588046,4741220 ⋆ Number of proper colorings of the cube with at most n colors under rotational symmetry. • a(n) = (n * (n - 1) * (n - 2) * (n ^ 3 - 9 * n ^ 2 + 29 * n - 32) + 3 * n * (n - 1) * (n - 2) ^ 2) / 24 = (n - 2) * (n - 1) * n * (n ^ 3 - 9 * n ^ 2 + 32 * n - 38) / 24. •

[A202481] • 1,10,55,231,833,2720,8280,23920,66352,178176,465920,1191680,2991360,7389184,17999872,43315200,103116800,243138560,568393728,1318518784,3037265920,6952058880,15820390400,35809918976,80659611648 ⋆ Column k = 3 of triangular array in A165241. • a(n) = 2 ^ n * (n + 3) * (3 * n + 2) * (3 * n + 5) / 32 for n>0. - Bruno Berselli, Dec 21 2011 •

[A169720] • 1,10,55,253,1081,4465,18145,73153,293761,1177345,4713985,18865153,75479041,301953025,1207885825,4831690753,19327057921,77308821505,309236465665,1236948221953,4947797606401,19791199862785,79164818325505,316659311050753,1266637319700481 ⋆ a(n) = (3*2^(n-1)-1)*(3*2^n-1). • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Vincenzo Librandi _ , Dec 03 2012 •

[A188168] • 1,1,10,55,325,1900,11125,65125,381250,2231875,13065625,76487500,447765625,2621265625,15345156250,89832109375,525886328125,3078592187500,18022392578125,105504923828125,617636582031250,3615707529296875,21166720556640625 ⋆ a(0) = a(1) = 1; a(n) = 5*a(n-1) + 5*a(n-2). • a(n) = 1 / 5 2 ^- n (- (5 - 3 Sqrt[5]) ^ n (2 + Sqrt[5]) + (- 2 + Sqrt[5]) (5 + 3 Sqrt[5]) ^ n) •

[A199413] • 10,55,325,1945,11665,69985,419905,2519425,15116545,90699265,544195585,3265173505,19591041025,117546246145,705277476865,4231664861185,25389989167105,152339935002625,914039610015745,5484237660094465,32905425960566785 ⋆ 9*6^n+1. • a(n) = 6 * a(n - 1) - 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). •

[A001557] • 10,55,385,3025,25333,220825,1978405,18080425,167731333,1574304985,14914341925,142364319625,1367428536133,13202860761145,128037802953445,1246324856379625,12170706132009733,119179318935377305,1169842891165484965,11506994510201252425 ⋆ 1^n + 2^n + ... + 10^n. • a(n) = sum(j ^ n,j=1..10), n>=0. •

[A228888] • 10,56,165,364,680,1140,1771,2600,3654,4960,6545,8436,10660,13244,16215,19600,23426,27720,32509,37820,43680,50116,57155,64824,73150 ⋆ Binomial(3*n + 2, 3). • a(n) = binomial(3 * n + 2, 3) = 1 / 6 * (3 * n) * (3 * n + 1) * (3 * n + 2). •

[A137931] • 0,10,56,170,384,730,1240,1946,2880,4074,5560,7370,9536,12090,15064,18490,22400,26826,31800,37354,43520,50330,57816,66010,74944 ⋆ Sum of the principal diagonals of a 2n X 2n spiral. • a(n) = 2n ^ 2 + 2n + (16n ^ 3 + 2n) / 3 •

[A053493] • 1,10,56,214,641,1620,3616,7340,13825,24510,41336,66850,104321,157864,232576,334680,471681,652530,887800,1189870,1573121,2054140,2651936,3388164,4287361 ⋆ Number of symmetric 4 X 4 matrices of nonnegative integers with every row and column adding to n. • a(0)=1, a(1)=10, a(2)=56, a(3)=214, a(4)=641, a(5)=1620, a(6)=3616, a(7)=7340, a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 14 * a(n - 3) - 14 * a(n - 5) + 14 * a(n - 6) - 6 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , Oct 31 2011 • a(n) = (9 * (31 + (- 1) ^ n) + 768 * n + 928 * n ^ 2 + 624 * n ^ 3 + 238 * n ^ 4 + 48 * n ^ 5 + 4 * n ^ 6) / 288. - _ Colin Barker _ , Jan 14 2017 •

[A198833] • 1,10,56,220,680,1771,4060,8436,16215,29260,50116,82160,129766,198485,295240,428536,608685,848046,1161280,1565620,2081156,2731135,3542276,4545100,5774275 ⋆ The number of inequivalent ways to color the vertices of a regular octahedron using at most n colors. • a(n) = n * (n + 1) * (n ^ 2 + n + 2) * (n ^ 2 + n + 4) / 48. • a(n)=C(n,1) + 8C(n,2) + 29C(n,3) + 52C(n,4) + 45C(n,5) + 15Binomial(n,6). Each term indicates the number of ways to use n colors to color the octahedron vertices (cube faces) with exactly 1, 2, 3, 4, 5, or 6 colors. •

[A268462] • 0,0,0,0,10,56,224,768,2400,7040,19712,53248,139776,358400,901120,2228224,5431296,13074432,31129600,73400320,171573248,397934592,916455424,2097152000,4771020800 ⋆ Expansion of (2 x^4*(5 - 12*x + 8*x^2))/(1 - 2*x)^4. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>3. - _ Vincenzo Librandi _ , Feb 05 2016 • a(n) = 2 ^ (n - 4) * (n - 3) * (n + 1) * (n + 2) / 3 for n>2. - _ Colin Barker _ , Feb 08 2016 •

[A053309] • 1,10,56,231,782,2300,6085,14820,33775,72905,150438,298925,575333,1077748,1972851,3540913,6249235,10871723,18683233,31775031,53566369,89633545,149052839,246575109,406146248 ⋆ Partial sums of A053308. • a(n) = Sum _{ i=0..floor(n / 2) } C(n + 9 - i, n - 2i), n >= 0. • a(n) = Sum _{ k=1..n } C(n - k + 9,k + 8), with n>=0. - _ Paolo P. Lava _ , Apr 16 2008 •

[A035040] • 0,0,0,0,0,0,0,0,1,10,56,232,794,2380,6476,16384,39203,89846,199140,430104,910596,1898712,3913704,7997952,16241061 ⋆ a(n) = 2^n - C(n,0) - C(n,1) - ... - C(n,7). • a(n) = sum _{ k=0..n } C(n, k + 8) = sum _{ k=8..n } C(n, k); a(n) = 2a(n - 1) + C(n - 1, 7). - _ Paul Barry _ , Aug 23 2004 •

[A087076] • 0,1,10,56,240,880,2912,8960,26112,72960,197120,518144,1331200,3354624,8314880,20316160,49020928,116981760,276430848,647495680,1504706560,3471835136,7958691840,18136170496,41104179200 ⋆ Sums of the squares of the elements in the subsets of the integers 1 to n. • a(n) = 2 ^ (n - 2) * n * (n + 1) * (2 * n + 1) / 3. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). - _ Matthew House _ , Feb 13 2017 • a(n) = (1 / 2) * Sum _{ k=0..n } Sum _{ i=0..n } i ^ 2 * C(n,k). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A014483] • 1,10,56,240,880,2912,8960,26112,72960,197120,518144,1331200,3354624,8314880,20316160,49020928,116981760,276430848,647495680,1504706560,3471835136,7958691840,18136170496,41104179200,92694118400 ⋆ Expansion of (1+2*x) / (1-2*x)^4. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n>3. • a(n) = (2 ^ (n - 1) * (6 + 13 * n + 9 * n ^ 2 + 2 * n ^ 3)) / 3. (End) • a(n) = (1 / 2) * Sum _{ k=0..n + 1 } Sum _{ i=0..n + 1 } (n - i + 1) ^ 2 * C(n + 1,k). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A116971] • 10,56,242,988,3974,15920,63706,254852,1019438,4077784,16311170,65244716,260978902,1043915648,4175662634,16702650580,66810602366,267242409512,1068969638098,4275878552444,17103514209830,68414056839376 ⋆ a(n) = (35*2^((2*(3*n+2) + 2)/3) - 2*(3*n+2) - 46)/9. • a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). G.f.: 2 * (5 - 2 * x - 2 * x ^ 2) / ((1 - x) ^ 2 * (1 - 4 * x)). [_ Colin Barker _ , Sep 09 2012] •

[A055251] • 1,10,57,244,874,2772,8054,21920,56751,141326,341303,804276,1858080,4223784,9474444,21018144,46195149,100734354,218190469,469866964,1006759110,2147634364,4563581746,9663887808,20401343003 ⋆ Eighth column of triangle A055249. • a(n) = Sum _{ k=0..n + 6 } Sum _{ i=0..n + 6 } (i - k)

* C(n - k + 6,i + 4). - _ Wesley Ivan Hurt _ , Sep 19 2017 • a(n) = (1 / 120) * (38520 - 75 * 2 ^ (9 + n) + 2 * (9637 + 15 * 2 ^ (8 + n)) * n + 4285 * n ^ 2 + 525 * n ^ 3 + 35 * n ^ 4 + n ^ 5). - _ Colin Barker _ , Sep 20 2017 •

[A006529] • 0,1,1,10,57,272,885,2226,4725,8912,15417,24970,38401,56640,80717,111762,151005,199776,259505,331722,418057,520240,640101,779570,940677,1125552 ⋆ (25*n^4-120*n^3+209*n^2-108*n)/6. • a(0)=0, a(1)=1, a(2)=10, a(3)=57, a(4)=272, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Oct 30 2011] •

[A246754] • 1,10,57,387,2890,22934,189482,1611056,13993960,123579654,1105747503,10000000000,91239358932,838673386122,7758099162327,72158973089377,674359248152535,6328590417713813,59611349660814244,563355446524384647,5339735395113038337 ⋆ Least positive number k such that k^k is at least 10^n digits long. • a(n) = ceil(exp(W(10 ^ n * log 10))) for n > 0. - _ Charles R Greathouse IV _ , Nov 16 2014 •

[A060157] • 0,10,58,236,836,2766,8814,27472,84472,257522,780770,2358708,7108908,21392278,64307926,193185944,580082144,1741295034,5225982282,15682141180,47054812180,141181213790,423577195838,1270798696416 ⋆ Number of permutations of [n] with 3 sequences. • a(n) = 11 / 2 - n - 2 ^ (n + 1) + (1 / 2) * 3 ^ n. •

[A126478] • 1,10,58,350,2130,12990,79258,483646,2951370,18010366,109906170,670689902,4092809194,24975905246,152412637946,930080892110,5675713495690,34635399953406,211358612597658,1289792038765742 ⋆ Number of base 10 n-digit numbers with adjacent digits differing by three or less. • a(n) = 7 * a(n - 1) - 4 * a(n - 2) - 10 * a(n - 3) + 6 * a(n - 4) for n>4. •

[A045950] • 0,10,59,177,394,740,1245,1939,2852,4014,5455,7205,9294,11752,14609,17895,21640,25874,30627,35929,41810,48300,55429,63227,71724 ⋆ Triangles in Star of David matchstick arrangement of side n. • a(n) = n * (10 * n ^ 2 + 9 * n + 1) / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) . - _ Colin Barker _ , Dec 02 2014 •

[A054489] • 1,10,59,344,2005,11686,68111,396980,2313769,13485634,78600035,458114576,2670087421,15562409950,90704372279,528663823724,3081278570065,17959007596666,104672767009931,610077594462920 ⋆ Expansion of (1+4x)/(1-6x+x^2). • a(n) = 6a(n - 1) - a(n - 2), a(0)=1, a(1)=10. • a(n) = (10 * ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n) - ((3 + 2 * sqrt(2)) ^ (n - 1) - (3 - 2 * sqrt(2)) ^ (n - 1))) / (4 * sqrt(2)). •

[A144560] • 0,10,60,150,280,450,660,910,1200,1530,1900,2310,2760,3250,3780,4350,4960,5610,6300,7030,7800,8610,9460,10350,11280 ⋆ Ten times hexagonal numbers: 10*n*(2*n-1). • a(n) = a(n - 1) + 40 * n - 30 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 14 2010 •

[A266732] • 0,10,60,210,560,1260,2520,4620,7920,12870,20020,30030,43680,61880,85680,116280,155040,203490,263340,336490,425040,531300,657800,807300,982800 ⋆ a(n) = 10*binomial(n+4, 5). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) / 12. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n > 5. •

[A228581] • 0,0,0,1,10,60,246,777,2044,4704,9780,18777,33814,57772,94458,148785,226968,336736,487560,690897,960450,1312444,1765918,2343033,3069396 ⋆ The number of binary pattern classes in the (2,n)-rectangular grid with 6 '1's and (2n-6) '0's: two patterns are in same class if one of them can be obtained by a reflection or 180-degree rotation of the other. • a(n) = (1 / 4) * (binomial(2 * n,6) + 3 * binomial(n,3)). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) with n>6, a(0) =a(1)=a(2)=0, a(3)=1, a(4)=10, a(5)=60, a(6)=246. •

[A241929] • 1,10,60,264,930,2766,7205,16880,36279,72610,136906,245400,421200,696294,1113915,1731296,2622845,3883770,5634184,8023720,11236686,15497790,21078465,28303824,37560275 ⋆ Number of inequivalent colorings of the Fano plane with n colors. • a(n) = n * (n ^ 2 + 6) * (n ^ 4 + 15 * n ^ 2 + 8) / 168. •

[A112502] • 1,10,60,282,1149,4272,14932,49996,162369,515886,1613316,4987542,15290461,46592452,141350412,427459320,1289718225,3884883570,11688205420,35135919730,105558754461,316995030840,951656181540 ⋆ Third column of triangle A112500. • a(n) = - 81 / 8 - (11 / 4) * (n + 1) - (1 / 2) * binomial (n + 2, 2) - 16 * (n + 1) * 2 ^ n + (243 / 8) * 3 ^ n, n>=0 (from partial fractions for g.f.). •

[A292489] • 1,10,60,312,1656,8928,48024,257904,1385352,7442784,39985272,214811280,1154025000,6199749504,33306803352,178933509936,961281138888,5164272731808,27743925989304,149048175357648,800728728609384,4301739993919680,23110157427289560 ⋆ p-INVERT of the odd positive integers, where p(S) = 1 - S - 6 S^2. • a(n) = 5 * a(n - 1) - a(n - 2) + 16 * a(n - 3) + 6 * a(n - 4) for n >= 5. •

[A083585] • 1,10,60,320,1640,8280,41560,208120,1041240,5207480,26039960,130204920,651034840,3255194680,16276014360,81380153720,406900932440,2034504989880,10172525604760,50862629334520,254313149294040 ⋆ (8*5^n - 5*2^n)/3. • a(n) = (8 * 5 ^ n - 5 * 2 ^ n) / 3. •

[A155633] • 1,10,60,340,1920,10900,62280,358060,2070240,12030820,70231800,411625180,2420922960,14281397140,84467679720,500702562700,2973697798080,17689598897860,105374653934040,628433226338620 ⋆ 6^n+5^n-1. • a(n)= 11 * a(n - 1) - 30 * a(n - 2) - 20 with a(0)=1, a(1)=10 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A281863] • 1,10,60,600,3600,36000,216000,2160000,12960000,129600000,777600000,7776000000,46656000000,466560000000,2799360000000,27993600000000,167961600000000,1679616000000000,10077696000000000,100776960000000000,604661760000000000 ⋆ Alternating powers of 60 and 10 times powers of 60. • a(2 * n) = 60 ^ (n / 2), a(2 * n + 1) = 10 * 60 ^ ((n - 1) / 2), n >= 0. • a(n) = 60 * a(n - 2) for n>1. •

[A289799] • 1,10,62,377,2232,13015,75898,444014,2601503,15244128,89303905,523084546,3063814838,17945741321,105115487400,615706236199,3606449444722,21124456768934,123734572586495,724763983514112,4245239506761217,24866107799273146,145650985218990062 ⋆ p-INVERT of (n^3), where p(S) = 1 - S - S^2. • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 55 * a(n - 3) - 36 * a(n - 4) + 55 * a(n - 5) - 27 * a(n - 6) + 9 * a(n - 7) - a(n - 8). •

[A077616] • 1,10,63,324,1485,6318,25515,99144,373977,1377810,4979799,17714700,62178597,215765046,741360195,2525407632,8537599665,28669116186,95692860783,317684800980,1049522104701,3451916556990,11307641812443 ⋆ Binomial transform of n^2*2^n/2. • a(n) = n * (2 * n + 1) * 3 ^ (n - 2). - _ Paul Barry _ , Jul 24 2003 •

[A101467] • 10,63,841,9279,96601,983583,9919561,99602559,998026681,9990174303,99950992681,999755323839,9998777694361,99993891685023,999969468040201,9999847368997119,99999236931275641,999996184915051743,999998092 5350886121,99999904629080526399 ⋆ Number of distinct n-term ratios x_1 : x_2 : ... : x_n where each x_i is in the range [1-10]. • a(1) = 10; for n>1, a(n) = 10 ^ n - 5 ^ n - 3 ^ n - 2 ^ n + 1. • a(n + 4) = - 300 * a(n) + 340 * a(n + 1) - 131 * a(n + 2) + 20 * a(n + 3) + 72 for n >= 2. - _ Robert Israel _ , Dec 02 2014 •

[A155618] • 1,10,64,406,2656,17830,121744,839926,5830336,40615750,283523824,1981521046,13858064416,96956119270,678491508304,4748635251766,33237225536896,232647693856390,1628482317387184,11399170063280086 ⋆ a(n) = 7^n+4^n-1^n. • a(n) = 11 * a(n - 1) - 28 * a(n - 2) - 18 with a(0)=1, a(1)=10 [_ Vincenzo Librandi _ , Jul 21 2010] • a(0)=1, a(1)=10, a(2)=64, a(n) = 12 * a(n - 1) - 39 * a(n - 2) + 28 * a(n - 3). - _ Harvey P. Dale _ , Feb 04 2014 •

[A199487] • 10,64,442,3088,21610,151264,1058842,7411888,51883210,363182464,2542277242,17795940688,124571584810,872001093664,6104007655642,42728053589488,299096375126410,2093674625884864,14655722381194042,102590056668358288 ⋆ 9*7^n+1. • a(n) = 7 * a(n - 1) - 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A059598] • 1,10,65,320,1320,4752,15400,45760,126500,328680,809380,1901120,4282200,9289840,19482200,39619008,78337930,150954980,284060810,522920640,943206264,1669294000,2902420600,4963400000 ⋆ Tenth column (m=9) of convolution triangle A059594(n,m). • a(2 * k)= binomial(n + 14, 14) * (2 * n + 15) * (8 * n ^ 4 + 240 * n ^ 3 + 2185 * n ^ 2 + 5775 * n + 2907) / (19 * 9 * 17 * 15); • a(2 * k + 1)= binomial(k + 15, 15) * 2 * (8 * k ^ 4 + 256 * k ^ 3 + 2767 * k ^ 2 + 11504 * k + 14535) / (17 * 9 * 19), k >= 0 •

[A169797] • 1,10,65,340,1550,6412,24650,89440,309605,1030490,3317445,10377180,31655820,94451520,276313200,794169792,2246410560,6262748160,17230138880,46831339520,125870737408,334826700800,882159984640,2303540756480,5965195018240 ⋆ Expansion of ((1-x)/(1-2x))^10. • a(n) = 2 ^ (n - 17) * (n + 11) * (n ^ 8 + 124 * n ^ 7 + 5986 * n ^ 6 + 143944 * n ^ 5 + 1836529 * n ^ 4 + 12358156 * n ^ 3 + 42005484 * n ^ 2 + 64730736 * n + 33747840) / 2835, n>0. - R. J. Mathar, Mar 14 2011 •

[A073381] • 1,10,65,340,1555,6482,25235,93200,330070,1129580,3756950,12197320,38787770,121148300,372476410,1129367632,3382133695,10016694470,29370557375,85341915260,245939376949,703423066190 ⋆ Fourth convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. • a(n) = sum((2 ^ n) * binomial(n - k + 4, 4) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). • a(n) = F''''(n + 5, 2) / 4!, that is, 1 / 4! times the 4th derivative of the (n + 5)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[A092441] • 1,10,65,346,1637,7218,30529,126034,513125,2072698,8335505,33439914,133972165,536346850,2146369793,8587575586,34354757957,137428468074,549733794193,2198977118650,8795996553701,35184170762770 ⋆ Sequence arising from enumeration of domino tilings of Aztec Pillow-like regions. • a(n) = 2 ^ (2n + 3) - 2 ^ (n + 2) - 2(n + 2)(2 ^ (n + 1) - 1) + (n + 1) ^ 2. •

[A003519] • 1,10,65,350,1700,7752,33915,144210,600875,2466750,10015005,40320150,161280600,641886000,2544619500,10056336264,39645171810,155989499540,612815891050,2404551645100,9425842448792,36921502679600,144539291740025,565588532895750,2212449261033375 ⋆ a(n) = 10*C(2n+1, n-4)/(n+6). • a(n + 1) = 2 * (n + 1) * (2n + 3) / ((n + 7) * (n - 3)) * a(n). •

[A000453] • 1,10,65,350,1701,7770,34105,145750,611501,2532530,10391745,42355950,171798901,694337290,2798806985,11259666950,45232115901,181509070050,727778623825,2916342574750,11681056634501,46771289738810,187226356946265,749329038535350 ⋆ Stirling numbers of the second kind, S(n,4). • a(n) = (4 ^ n - 4 * 3 ^ n + 6 * 2 ^ n - 4) / 24. - Kevin Nowaczyk (beakerboy99(AT)yahoo.com), Aug 02 2007 • a(n) = det(|s(i + 4,j + 3)|, 1 <= i,j <= n - 4), where s(n,k) are Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 06 2013 •

[A291231] • 10,65,360,1831,8830,41104,186710,833401,3672840,16034303,69506930,299700192,1287010850,5509712833,23531008200,100312445063,427025152550,1815832379312,7714875191470,32756357939033,139008007848360,589672772732671,2500620567692890 ⋆ p-INVERT of (0,1,0,1,0,1,...), where p(S) = (1 - S)(1 - 2 S)(1 - 3 S)(1 - 4 S). • a(n) = 10 * a(n - 1) - 31 * a(n - 2) + 20 * a(n - 3) + 40 * a(n - 4) - 20 * a(n - 5) - 31 * a(n - 6) - 10 * a(n - 7) - a(n - 8) for n >= 7. •

[A198848] • 10,65,395,2375,14255,85535,513215,3079295,18475775,110854655,665127935,3990767615,23944605695,143667634175,862005805055,5172034830335,31032208982015,186193253892095,1117159523352575,6702957140115455,40217742840692735 ⋆ 11*6^n-1. • a(n) = 6 * a(n - 1) + 5. a(n) = 7 * a(n - 1) - 6 * a(n - 2), n>1. •

[A262342] • 10,65,442,3026,20737,142130,974170,6677057,45765226,313679522,2149991425,14736260450,101003831722,692290561601,4745030099482,325229

20134770,222915410843905,1527884955772562,10472279279564026,71778070001175617,491974210728665290,3372014050994814 10 ★ Area of Lewis Carroll's paradoxical F(2n+1) X F(2n+3) rectangle. ● a(n) = Fibonacci(2n + 1) * Fibonacci(2n + 3) = Fibonacci(2n + 2) ^ 2 + 1 for n > 0. ● a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). ● a(3 * k - 2) mod 2 = 0; a(3 * k - 1) mod 2 = 1; a(3 * k) mod 2 = 0, k > 0. - _ Altug Alkan _ , Oct 17 2015 ●

[A024391] ● 10,66,231,595,1275,2415,4186,6786,10440,15400,21945,30381,41041,54285,70500,90100,113526,141246,173755,211575,255255,305371,362526,427350,500500 ★ 2nd elementary symmetric function of the first n+1 positive integers congruent to 2 mod 3. ● a(n) = n * (n + 1) * (3 * n + 2) * (3 * n + 5) / 8. ●

[A080421] ● 1,10,66,360,1755,7938,34020,139968,557685,2165130,8227494,30705480,112842639,409209570,1466777160,5203870272,18294856425,63795240522,220829678730,759344158440,2595329855811,8821564534530,29832927334956 ★ (n+1)(n+2)(n+9)3^n/18. ● a(0)=1, a(1)=10, a(2)=66, a(3)=360, a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 108 * a(n - 3) - 81 * a(n - 4). - _ Harvey P. Dale _ , Mar 21 2012 ●

[A004310] ● 1,10,66,364,1820,8568,38760,170544,735471,3124550,13123110,54627300,225792840,927983760,3796297200,15471286560,62852101650,254661927156,1029530696964,4154246671960,16735679449896 ★ Binomial coefficient C(2n,n-4). ● a(n) = Sum _{ k=0..n } C(n, k) * C(n, k + 4). - _ Hermann Stamm - Wilbrandt _ , Aug 17 2015 ●

[A033504] ● 1,10,66,372,1930,9516,45332,210664,960858,4319100,19188796,84438360,368603716,1598231992,6889682280,29551095248,126193235194,536799072924,2275560109868,9616650989560,40527780684972,170368957887656 ★ a(n)/4^n is expected number of tosses of a coin required to obtain n heads or n tails. ● a(n - 1) = b(n, n), where b(n, m) = b(n - 1, m) / 2 + b(n, m - 1) / 2 + 1; b(n, 0)=b(0, n)=0. ● a(n) = sum 2 ^ (2 n - k - l) Binomial(k + l, k), where the sum is from 0 to n for k and l. ● a(n) = (2n + 1) * sum _{ 0<=i, j<=n } binomial(2n, i + j) / (i + j + 1). - _ Benoit Cloitre _ , Mar 05 2005 ● a(n) = (n + 1) * (2 ^ (2 * n + 1) - binomial(2 * n + 1,n + 1)). - _ Vladeta Jovovic _ , Aug 23 2007 ●

[A163615] ● 1,10,66,388,2180,12008,65544,356240,1932304,10471072,56716320,307135552,1663055936,9004549760,48753614976,263965223168,1429171175680,7737856281088,41894453789184,226825642378240,1228082785977344 ★ a(n) = ((1 + 3*sqrt(2))*(4 + sqrt(2))^n + (1 - 3*sqrt(2))*(4 - sqrt(2))^n)/2. ● a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 1, a(1) = 10. ●

[A086443] ● 0,0,1,10,67,376,1909,9094,41479,183412,792697,3367618,14120011,58605808,241331965,987648382,4022338063,16318934764,66007533313,266354656186,1072779614035,4314363685480,17330677214341,69552836627830 ★ Expansion of x^2/((1-4x)(1-3x)^2). ● a(n)=4 ^ n - 3 ^ n - n3 ^ (n - 1) ●

[A172066] ● 1,10,67,376,1912,9142,41941,186880,815083,3498146,14827487,62236064,259187048,1072567256,4415408372,18098359424,73915594466,300958990724,1222228100590,4952609171080,20030298812596,80876902778482 ★ Expansion of (2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=9. ● a(n)=sum('(- 1) ^ (p) * binomial(2 * n + k - p,n - p)',p=0..n) (with k=9). ●

[A192021] ● 1,10,68,392,2064,10272,49216,229504,1048832,4719104,20972544,92276736,402657280,1744838656,7516209152,32212287488,137439019008,584115683328,2473901424640,10445360988160,43980466159616,184717955563520,774056190148608 ★ The Wiener index of the binomial tree of order n. ● a(n) = 2 ^ n * (1 + 2 ^ (1 + n) * n). ● a(n) = 10 * a(n - 1) - 32 * a(n - 2) + 32 * a(n - 3). ●

[A104598] ● 1,10,68,394,2092,10516,50920,239962,1107836,5033020,22572376,100168260,440604088,1923626344,8344694224,35998921978,154546983580,660652406572,2813422792696,11940478362796,50522190460072 ★ Expansion of (1-z-sqrt(1-4z))/(1-4z)^2. ● a(n) = 2 ^ (2 * n - 2) * (3 * n + 4) - (n + 1) * C(2 * n + 1,n). - _ Vaclav Kotesovec _ , Oct 28 2012 ●

[A081656] ● 1,10,68,424,2576,15520,93248,559744,3358976,20154880,120931328,725592064,4353560576,26121379840,156728311808,940369936384,5642219749376,33853318758400,203119913074688,1218719479496704 ★ 2*6^n-2^n. ● a(0)=1, a(2)=10; for n>2, a(n) = 8 * a(n - 1) - 12 * a(n - 2). - _ Vincenzo Librandi _ , Aug 10 2013 ●

[A081280] ● 1,10,69,398,2057,9858,44685,194022,813969,3319866,13224789,51635070,198148761,749016882,2794021533,10300389462,37575535905,135782112618,486470994021,1729358969454,6104068084521,21404982017250,74609825192109 ★ Binomial transform of Chebyshev coefficients A006974. ● a(n) = (n ^ 4 + 24 * n ^ 3 + 164 * n ^ 2 + 378 * n + 243) * 3 ^ (n - 5). ● a(n) = 15 * a(n - 1) - 90 * a(n - 2) + 270a * (n - 3) - 405 * a(n - 4) + 243 * a(n - 5). ●

[A038806] ● 0,1,10,69,406,2186,11124,54445,259006,1205790,5519020,24918306,111250140,492051124,2159081192,9409526397,40766269774,175707380630,753876367356,3221460111958,13716223138388,58210889582796 ★ Convolution of A008549 with A000302 (powers of 4). ● a(n) = (n + 3) * 4 ^ n - (n + 2) * binomial(2 * n + 3, n + 1) / 2. ● a(n + 1), n >= 0 is convolution of A000346 with itself; a(n + 1), n >= 0 is convolution of Catalan numbers A000108 C(n + 1), n >= 0 with A002697; a(- 1)=0. ●

[A016273] ● 1,10,69,410,2261,11970,61909,315850,1598421,8050130,40425749,202656090,1014866581,5079099490,25409813589,127092049130,635589254741,3178333432050,15892828897429,79467630222970 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)). ● a(n) = Sum _{ 0<=i,j,k,<=n, i + j + k=n } 2 ^ i * 3 ^ j * 5 ^ k. - _ Hieronymus Fischer _ , Jun 25 2007 ● a(n) = (2 ^ (n + 3) + 5 ^ (n + 2) - 3 ^ (n + 3)) / 6. - _ Hieronymus Fischer _ , Jun 25 2007 ● a(n) = ((5 ^ n - 2 ^ n) / 3 - (3 ^ n - 2 ^ n)) / 2 , n >= 2. - _ Zerinvary Lajos _ , Jun 05 2009 ● a(n) = 10 * a(n - 1) - 31 * a(n - 2) + 30 * a(n - 3), n >= 3. ● a(n) = 8 * a(n - 1) - 15 * a(n - 2) + 2 ^ n, a(0)=1, a(1)=10. (End) ●

[A271040] ● 0,0,0,0,0,0,10,70,280,840,2100,4620,9240,17160,30030,50050,80080,123760,185640,271320,387600,542640,746130,1009470,1345960 ★ Number of different 3 against 3 matches given n players. ● a(n) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) / 72. ● a(n) = binomial(n,3) * binomial(n - 3,3) / 2. - _ Joerg Arndt _ , Mar 29 2016 ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>6. ●

[A005567] ● 10,70,308,1092,3414,9834,26752,69784,176306,434382,1048812,2490636,5833006,13500754,30933368,70255008,158335434,354419190,788529700,1744831060,3841983110,8422163130,18387829488 ★ Number of walks on square lattice. ● a(n) = 26 + 11 * n + n ^ 2 + (- 16 + 24 * n + 8 * n ^ 2) * 2 ^ n. - Fitted by _ John W. Layman _ ●

[A073391] ● 1,10,70,400,2020,9352,40600,167680,665440,2555840,9551936,34880000,124853120,439228160,1521839360,5202292736,17571249920,5871218432 0,194280061440,637228462080,2073332481024,6696470231040 ★ Fourth convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. ● a(n)= (2 ^ n) * sum(binomial(n - k + 4, 4) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). ●

[A002802] ● 1,10,70,420,2310,12012,60060,291720,1385670,6466460,29745716,135207800,608435100,2714556600,12021607800,52895074320,231415950150,1007340018300,4365140079300,18839025605400,81007810103220,347176329013800,1483389769422600 ★ a(n) = (2*n+3)!/(6*n!*(n+1)!). ● a(n - 1) = (1 / 4) * Sum _{ =1..n } k * (k + 1) * binomial(2 * k, k). - _ Benoit Cloitre _ , Mar 20 2004 ● a(n) = 4 ^ n * hypergeom([- n, - 3 / 2], [1], 1). - _ Peter Luschny _ , Apr 26 2016 ●

[A101029] ● 1,10,70,420,4620,60060,60060,408408,7759752,38798760,892371480,4461857400,13385572200,55454513400,1719089915400,3438179830800,240672258815600,890488576177200,890488576177200,36510031623265200 ★ Denominator of partial sums of a certain series. ● a(n)=denominator(s(n)) with s(n)=3 * sum(1 / ((2 * k - 1) * k * (2 * k + 1)), k=1..n). See A101028 for more information. ● a(n) = 1 / 3 * Denominator[Sum[Sum[1 / (i + j - 1), { i,1,n + 1 }], { j,1,n + 1 }] - Sum[Sum[1 / (i + j - 1), { i,1,n }], { j,1,n }]]. a(n) = 1 / 3 * Denominator[H(2n + 1) + H(2n) - 2H(n)], where H(n) = Sum[1 / k, (k, 1, n }] is a Harmonic number, H[n] = A001008 / A002805. - _ Alexander Adamchuk _ , Apr 11 2006 ●

[A229702] ● 1,10,70,440,2675,16106,96720,580440,3482805,20897050,125382586,752295880,4513775735,27082654970,162495930500,974975583816,5849853503865,35099121024330,210594726147310,1263568356885400,7581410141314171 ★ Expansion of 1/((1-x)^4*(1-6x)). ● a(n) = (6 ^ (n + 4) - (1 + 5 * C(n + 4,1) + 25 * C(n + 4,2) + 125 * C(n + 4,3))) / 625 = (6 ^ (n + 5) - (125 * n ^ 3 + 1200 * n ^ 2 + 3805 * n + 4026)) / 3750. ●

[A037705] ● 1,10,70,492,3445,24118,168826,1181784,8272489,57907426,405351982,2837463876,19862247133,139035729934,973250109538,6812750766768,47689255367377,333824787571642,2336773513001494,16357414591010460,114501902137073221,801513314959512550 ★ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 1,3,0,2. ● a(n) = 7 * a(n - 1) + a(n - 4) - 7 * a(n - 5). ● a(n) = 1 / 200 * (25 * (- 1) ^ n - (8 + 6 * i) * (- i) ^ n - (8 - 6 * i) * i ^ n + 41 * 7 ^ n - 50) where i=sqrt(- 1). ●

[A126505] ● 1,10,70,510,3720,27142,198034,1444904,10542368,76919662,561224422,4094828862,29876859864,217988781808,1590498774316,11604663002012,84670422615182,617775842744470,4507441679052256,32887382581680414 ★ Number of base 10 n-digit numbers with adjacent digits differing by four or less. ● a(n) = 7 * a(n - 1) + 3 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. ●

[A016218] ● 1,10,71,440,2541,14070,75811,400900,2091881,10808930,55442751,282806160,1436400421,7271480590,36715316891,185008240220,930767824161,4676745613050,23475354034231,117743274047080,590182385739101,2956775990710310,14807336201610771 ★ Expansion of 1/((1-x)*(1-4*x)*(1-5*x)). ● a(n) = a(n - 1) + 5 ^ (n + 1) - 4 ^ (n + 1), n >= 1. ● a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 1, n >= 2. (End) ● a(n) = 1 / 12 - 4 ^ (n + 2) / 3 + 5 ^ (n + 2) / 4. - _ R. J. Mathar _ , Mar 15 2011 ●

[A016098] ● 0,0,0,0,1,10,71,448,2710,16285,99179,619784,4005585,26901537,188224882,1373263700,10444784477,82735225014,681599167459,5830974941867,51717594114952,474845349889731,4506624255883683,44151662795470696,445957579390657965 ★ Number of crossing set partitions of {1,2,...,n}. ● a(n) = Sum _{ k=0..n } S2(n,k) - binomial(2 * n,n) / (n + 1); S2(n,k) Stirling numbers of the second kind. ●

[A129275] ● 1,10,71,474,3103,20190,131204,853176,5555674,36237258,236763125,1549496420,10156512792,66669881442,438226458380,2884072387268,19002479773355,125335000366692,827479642104143,5468060901435850 ★ Column 1 of triangle A129274; a(n) is the coefficient of q^(n+2) in the squared q-factorial of n+2. ● a(n) = [q ^ (n + 2)] Product _{ i=1..n + 2 } { (1 - q ^ i) / (1 - q) }^ 2. ●

[A037579] ● 1,10,71,500,3501,24510,171571,1201000,8407001,58849010,411943071,2883601500,20185210501,141296473510,989075314571,6923527202000,48464690414001,339252832898010,2374769830286071,16623388812002500,116363721684017501,814546051788122510 ★ Base 7 digits are, in order, the first n terms of the periodic sequence with initial period 1,3. ● a(n) = (5 * 7 ^ n - 3 * (- 1) ^ (n - 1) - 8) / 24. a(n) = 7 * a(n - 1) + a(n - 2) - 7 * a(n - 3). G.f.: x * (3 * x + 1) / ((x - 1) * (x + 1) * (7 * x - 1)). - _ Colin Barker _ , Dec 27 2012; corrected Apr 30 2014 ●

[A228316] ● 0,10,72,448,1450,4482,10388,23552,45360,86250,147620,250560,395122,619458,919800,1359872,1928208,2725002,3725520,5080000,6742890,8931010,11568172,14957568,18980000 ★ The hyper-Wiener index of the Cartesian product of the cycles C(n) and C(n) (a Torus Grid Graph). ● a(n) = n ^ 2 * (

n ^ 2 - 1) * (7 * n ^ 2 + 12 * n - 3) / 96 if n is odd; a(n) = n ^ 4 * (7 * n ^ 2 + 12 * n + 8) / 96 if n is even. •

[**A228310**] • 10,72,448,2560,13824,71680,360448,1769472,8519680,40370176,188743680,872415232,3992977408,18119393280,81604378624,365072220160,1623497637888,7181185318912,31610959298560,138538465099776,604731395276800,2630031813640192 ★ The hyper-Wiener index of the hypercube graph Q(n) (n>=2). • a(n) = 4 ^{ n - 2 }* n * (3 + n). •

[**A164546**] • 1,10,72,496,3392,23168,158208,1080320,7376896,50372608,343965696,2348744704,16038232064,109515898880,747821334528,5106443485184,34868977205248,238100269760512,1625850340442112,11102000565452800 ★ a(n) = 8*a(n-1)-8*a(n-2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = ((2 + 3 * sqrt(2)) * (4 + 2 * sqrt(2)) ^ n + (2 - 3 * sqrt(2)) * (4 - 2 * sqrt(2)) ^ n) / 4. •

[**A037712**] • 1,10,72,504,3529,24706,172944,1210608,8474257,59319802,415238616,2906670312,20346692185,142426845298,996987917088,6978915419616,48852407937313,341966855561194,2393767988928360,16756375922498520,117294631457489641,821062420202427490 ★ Base-7 digits are, in order, the first n terms of the periodic sequence with initial period 1,3,2,0. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4). • a(n) = 1 / 100 * ((2 - 11 * i) * (- i) ^ n + (2 + 11 * i) * i ^ n + 3 * 7 ^ (n + 1) - 25) where i=sqrt(- 1). •

[**A138782**] • 1,10,72,528,4200,36720,352800,3709440,42456960,526176000,7025356800,100590336000,1538074137600,25020169574400,431532541440000,7866968997888000,151167156940800000,3053932257632256000 ★ a(n) = n*(3*n-1)*n!/2. • a(n)=Sum((n + j - 1)n!, j=1..n). •

[**A155606**] • 1,10,72,538,4176,33010,262872,2099338,16783776,134237410,1073800872,8590111738,68720008176,549757408210,4398051294072,35184386437738,281475019757376,2251799942825410,18014398896902472,144115189238117338 ★ a(n) = 8^n + 3^n - 1. • a(n) = 11 * a(n - 1) - 24 * a(n - 2) - 14 with a(0)=1, a(1)=10. - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A016211**] • 1,10,73,478,2989,18298,110881,668566,4021237,24156946,145030249,870447214,5223480445,31343274154,188066819377,1128422439622,6770599207813,40623788957122,243743314873465 ★ Expansion of 1/((1-x)(1-3x)(1-6x)). • a(n) = 9 * a(n - 1) - 18 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = 2 * 6 ^ (n + 1) / 5 - 3 ^ (n + 1) / 2 + 1 / 10. - _ R. J. Mathar _ , Feb 10 2011 • a(n) = Sum _{ k=0...n } 2 ^ (k - 1) * (3 ^ (n + 1) - 3 ^ k). - _ J. M. Bergot _ , Feb 06 2018 •

[**A200580**] • 0,1,10,73,490,3246,21814,150535,1072786,7915081,60512348,479371384,3932969516,33392961185,293143783762,2658128519225,24872012040510,239916007100054,2383444110867378,24363881751014383,256034413642582418,2763708806499744097 ★ Sum of dimension exponents of supercharacter of unipotent upper triangular matrices. • a(n) = - 2 * B(n + 2) + (n + 4) * B(n + 1) where B(i) = Bell numbers A000110. [Chern et al.] - _ N. J. A. Sloane _ , Jun 10 2013 •

[**A206817**] • 1,10,73,520,3967,33334,309661,3166468,35416555,430546642,5655609529,79856902816,1206424711303,19419937594990,331860183278677,6000534640290364,114462875817046051,2297294297649673738,48394006967070653425 ★ Sum_{0<j<k<=n} (k!-j!). • a(n) = a(n - 1) + (n - 1)s(n) - p(n - 1), where s(n) = n! and p(k) = 1! + 2! + ... + k!. •

[**A199556**] • 10,73,577,4609,36865,294913,2359297,18874369,150994945,1207959553,9663676417,77309411329,618475290625,4947802324993,39582418599937,316659348799489,2533274790395905,20266198323167233,162129586585337857 ★ 9*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[**A279284**] • 0,1,10,74,469,2662,14115,71360,348143,1652200,7669883,34969286,157060011,696514465,3055404733,13277356490,57222978070,244831062184,1040760406476,4398642943496,18493603597214,77388169532299,322451025667910,1338291853544522,5534486308363461 ★ A self-composition of the pentagonal numbers: A(x) = G(G(x)), where G(x) = g.f. of A000326. • a(n) = 12 * a(n - 1) - 51 * a(n - 2) + 91 * a(n - 3) - 75 * a(n - 4) + 66 * a(n - 5) - 28 * a(n - 6) + 15 * a(n - 7) - 3 * a(n - 8) + a(n - 9). •

[**A103434**] • 0,1,10,74,515,3540,24276,166405,1140574,7817630,53582855,367262376,2517253800,17253514249,118257345970,810547907570,5555578007051,38078498141820,260993908985724,1788878864758285,12261158144322310 ★ Sum[i=1..n, Fibonacci(2i)^2]. • a(n) = (1 / 5) * (Fibonacci(4n + 2) - 2n - 1). •

[**A027778**] • 10,75,315,980,2520,5670,11550,21780,38610,65065,105105,163800,247520,364140,523260,736440,1017450,1382535,1850695,2443980,3187800,4111250,5247450,6633900,8312850 ★ 5*(n+1)*C(n+2,5)/2. • a(n) = C(n + 1, 4) * C(n + 2, 2) - _ Zerinvary Lajos _ , Apr 28 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[**A073379**] • 1,10,75,440,2255,10362,43945,174460,656370,2359500,8158722,27275040,88524930,279892380,864508590,2614740216,7759693095,22634343270,64990287285,183929970840,513661549401,1416970676550 ★ Ninth convolution of A001045(n+1) (generalized (1,2)-Fibonacci), n>=0, with itself. • a(n) = sum(binomial(n - k + 9, 9) * binomial(n - k, k) * 2 ^ k, k=0..floor(n / 2)). •

[**A283238**] • 1,10,75,447,2335,10977,47667,193775,745819,2738568,9653342,32821384,108061167,345622069,1076767956,3275039352,9743874779,28405248949,81256123017,228383836091,631427595230,1718990010867,4612234492354,12206598044861,31889379237288 ★ Expansion of exp(Sum_{n>=1} sigma_2(3*n)*x^n/n) in powers of x. • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 2(3 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 04 2017 •

[**A291003**] • 10,75,490,2956,16944,93800,506600,2687256,14064904,72873880,374671560,1914880856,9741440264,49378177560,249583291720,1258711575256,6336814854024,31857331730840,159980377179080,802678826106456,4024508089842184,20167014882109720 ★ p-INVERT of (1,1,1,1,1,...), where p(S) = (1 - S)(1 - 2*S)(1 - 3*S)(1 - 4*S). • a(n) = 14 * a(n - 1) - 71 * a(n - 2) + 154 * a(n - 3) - 120 * a(n - 4) for n >= 5. • a(n) = (- 2 ^ n + 16 * 3 ^ (1 + n) - 243 * 4 ^ n + 256 * 5 ^ n) / 6. - _ Colin Barker _ , Aug 23 2017 •

[**A053464**] • 0,1,10,75,500,3125,18750,109375,625000,3515625,19531250,107421875,585937500,3173828125,17089843750,91552734375,488281250000,2593994140625,13732910156250,72479248046875,381469726562500 ★ a(n) = n*5^(n-1). • a(n) = Sum _ (k=0..n, 5 ^ (n - k) * binomial(n - k + 1, k) * binomial(1, (k + 1) / 2) * (1 - (- 1) ^ k) / 2). - _ Paul Barry _ , Oct 15 2004 • a(n) = 10 * a(n - 1) - 25 * a(n - 2); n>1; a(0)=0, a(1)=1. • a(n) = - 25 ^ n * a(- n) for all n in Z. - _ Michael Somos _ , Jun 26 2017 •

[**A111998**] • 1,10,75,500,3135,18962,112125,653200,3766950,21571500,12292064 2,697994760,3953743250,22357130700,126273263510,712639689168,4019975635855,22671014908550,127846248597125,720994336613980 ★ Tenth convolution of Schroeder's (second problem) numbers A001003(n), n>=0. • a(n) = (10 / n) * Sum _{ k=1,..,n } binomial(n,k) * binomial(n + k + 9,k - 1). • a(n) = 10 * hypergeom([1 - n, n + 11], [2], - 1), n>=1, a(0)=1. •

[**A081017**] • 0,10,75,520,3570,24475,167760,1149850,7881195,54018520,370248450,2537720635,17393796000,119218851370,817138163595,5600748293800,38388099893010,263115950957275,1803423556807920,12360848946698170 ★ Lucas(4n+1)-1, or 5*Fibonacci(2n)*Fibonacci(2n+1). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 1 + (1 / 2) * (((7 / 2) - (3 / 2) * sqrt(5)) ^ n + ((7 / 2) + (3 / 2) * sqrt(5)) ^ n) + (1 / 2) * sqrt(5) * (((7 / 2) + (3 / 2) * sqrt(5)) ^ n - ((7 / 2) - (3 / 2) * sqrt(5)) ^ n). - _ Paolo P. Lava _ , Dec 01 2008 •

[**A025015**] • 1,1,10,75,670,6000,55252,512365,4816030,45433800,432457640,4123838279,39581170420,380242296850,3671331273480,35460394945125,343900019857310,3335361909606710,32458256583753952,315825118347405835 ★ Central decanomial coefficients: largest coefficient of (1 + x + ... + x^9)^n. • a(n) = Sum _{ k=0..floor(9 * n / 20) } (- 1) ^ (k) * binomial(n, k) * binomial(n + floor(9 * n / 2) - 10 * k - 1, n - 1). - _ Warut Roonguthai _ , Jun 08 2006 •

[**A228416**] • 1,10,75,721,6637,60605,514809,4730382,43254591,392344689,3421561753,31049600245 ★ Count of the first 10^n primes which do not contain the digit 4. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[**A061319**] • 0,1,10,76,430,1870,6601,19810,52326,124785,273790,560626,1083160,1991626,3509065,5957260,9789076,15628185,24317226,36975520,55067530,80483326,115632385,163552126,228032650 ★ Column 4 of A061315. • a(n) = n * (n + 1) * (n ^ 2 + n + 4) * (n ^ 4 + 2 * n ^ 3 + 5 * n ^ 2 + 4 * n + 36) / 576 . _ R. J. Mathar _ , Aug 11 2012 •

[**A016149**] • 1,10,76,520,3376,21280,131776,807040,4907776,29708800,179301376,1080002560,6496792576,39047864320,234555621376,1408407470080,8454739787776,50745618595840,304542431051776 ★ Expansion of 1/((1-4*x)*(1-6*x)). • a(n) = 10 * a(n - 1) - 24 * a(n - 2) for n>1, a(0)=1. - _ Barry E. Williams _ , Jan 13 2000 • a(n) = ((6 ^ (n + 1)) - 4 ^ (n + 1)) / 2. - _ Barry E. Williams _ , Jan 13 2000 • a(n) = sum(k=0..n, 6 ^ k * 4 ^ (n - k)). [_ Bruno Berselli _ , Aug 07 2013] •

[**A081199**] • 0,1,10,76,520,3376,21280,131776,807040,4907776,29708800,179301376,1080002560,6496792576,39047864320,234555621376,1408407470080,8454739787776,50745618595840,304542431051776,1827529464217600 ★ 5th binomial transform of (0,1,0,1,...), A000035. • a(n) = 10 * a(n - 1) - 24 * a(n - 2) with n>1, a(0)=0, a(1)=1. • a(n) = 6 ^ n / 2 - 4 ^ n / 2. •

[**A198692**] • 10,76,538,3772,26410,184876,1294138,9058972,63412810,443889676,3107227738,21750594172,152254159210,1065779114476,7460453801338,52223176609372,365562236265610,2558935653859276,17912549577014938 ★ a(n) = 11*7^n-1. • a(n) = 7 * a(n - 1) + 6. a(n) = 8 * a(n - 1) - 7 * a(n - 2), n>1. •

[**A215465**] • 0,1,10,76,540,3751,25840,177451,1217160,8344876,57202750,392089501,2687463360,18420257701,126254611990,865362736876,5931286406640,40653646980451,278644255208560,1909856172864751,13090349042248500 ★ a(n) = (Lucas(4n) - Lucas(2n))/4. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) + 10 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Jun 02 2016 • a(n) = 2 ^ (- 2 - n) * ((7 - 3 * sqrt(5)) ^ n - (3 - sqrt(5)) ^ n - (3 + sqrt(5)) ^ n + (7 + 3 * sqrt(5)) ^ n). - _ Colin Barker _ , Jun 02 2016 •

[**A107903**] • 1,10,76,568,4240,31648,236224,1763200,13160704,98232832,733219840,5472827392,40849739776,304906608640,2275853910016,16987204845568,126794223124480,946404965613568,7064062832410624,52726882796830720 ★ Generalized NSW numbers. • a(n) = sum { k=0..n, binomial(2 * n + 1, 2 * k) * 3 ^ k } . •

[**A081678**] • 0,1,10,77,538,3581,23170,147197,923338,5738621,35418130,217421117,1329029338,8096512061,49190221090,298195475837,1804438818538,10902948379901,65799224576050,396702889799357,2389754663090938 ★ (4*6^n-3*5^n-3^n)/6. • a(0)=0, a(1)=1, a(2)=10, a(n)=14 * a(n - 1) - 63 * a(n - 2) + 90 * a(n - 3) [From Harvey P. Dale, Jul 25 2011] •

[**A081182**] • 0,1,10,77,540,3629,23870,155233,1003320,6462841,41552050,266875157,1713054420,10992415589,70523904230,452413483753,2902085040240,18615340276081,119405446835290,765901642003037,4912691142818700 ★ 5th binomial transform of (0,1,0,2,0,4,0,8,0,16,...). • a(n) = 10a(n - 1) - 23a(n - 2), a(0)=0, a(1)=1. • a(n) = ((5 + sqrt(2)) ^ n - (5 - sqrt(2)) ^ n / (2 * sqrt(2)). • a(n) = Sum _{ k=0..n } C(n,2k + 1) 2 ^ k * 5 ^ (n - 2k - 1). •

[**A127536**] • 0,1,10,77,546,3740,25194,168245,1118260,7413705,49085400,324794316,2148789800,14217578856,94096891658,622997471685,4126520887720,27345271410275,181295437422330,1202538435463365,7980245606038650 ★ Sum of jump-lengths of all even trees with 2n edges. An even tree is an ordered tree in which each vertex has an even outdegree. In the preorder traversal of an ordered tree, any transition from a node at a deeper level to a node on a strictly higher level is called a jump; the positive difference of the levels is called the

jump distance; the sum of the jump distances in a given ordered tree is called the jump-length. • a(n)=(n - 1)(2n - 1)C(3n,n) / [3(n + 1) / (2n + 1)]. •

[A016201] • 1,10,77,554,3909,27426,192109,1345018,9415637,65910482,461375421,3229632042,22607432485,158252043778,1107764339213,7754350440026,54280453211253,379963172740914,2659742209710685 ★ Expansion of 1/((1-x)(1-2x)(1-7x)). • a(n) = (49 * 7 ^ n - 24 * 2 ^ n + 5) / 30. - _ Bruno Berselli _ , Feb 09 2011 • a(0)=1, a(n) = 7 * a(n - 1) + 2 ^ (n + 1) - 1. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A082136] • 0,1,10,78,560,3880,26400,177632,1185280,7853184,51699200,338331136,2201948160,14258137088,91894620160,589744496640,3770069811200,24015941435392,152494553825280,965472423378944,6096346179174400 ★ Expansion of e.g.f. x*exp(5*x)*cosh(x). • a(n) = n * (4 ^ (n - 1) + 6 ^ (n - 1)) / 2. •

[A153596] • 1,10,78,560,3884,26520,179752,1214080,8186256,55152800,371430368,2500942080,16837952704,113358801280,763153053312,5137636904960,34587001876736,232842006858240,1567506027294208,10552536122060800,71040228620135424 ★ a(n) = ((5 + sqrt(3))^n - (5 - sqrt(3))^n)/(2*sqrt(3)). • a(n) = 10 * a(n - 1) - 22 * a(n - 2) for n>1; a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 •

[A006469] • 10,79,340,1071,2772,6258,12768,24090,42702,71929,116116,180817,273000,401268,576096,810084,1118226,1518195,2030644,2679523,3492412,4500870,5740800,7252830,9082710 ★ Number of rooted genus-1 maps with 2 faces, n vertices and no isthmuses. • a(n) = (n * (474 + 1247 * n + 1215 * n ^ 2 + 545 * n ^ 3 + 111 * n ^ 4 + 8 * n ^ 5)) / 360. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[A081905] • 1,10,79,552,3567,21810,127905,725820,4009920,21664000,114840064,598865920,3078537216,15626600448,78431059968,389685706752,1918516592640,9367021682688,45387134009344,218388081147904 ★ A sequence related to C(n+6,6). • a(n)=4 ^ n(n ^ 6 + 129n ^ 5 + 5845n ^ 4 + 115215n ^ 3 + 993874n ^ 2 + 3308616n + 2949120) / 2949120 G.f.(1 - 3x) ^ 6 / (1 - 4x) ^ 7 • a(0)=1, a(1)=10, a(2)=79, a(3)=552, a(4)=3567, a(5)=21810, a(6)=127905, a(n)=28 * a(n - 1) - 336 * a(n - 2) + 2240 * a(n - 3) - 8960 * a(n - 4) + 21504 * a(n - 5) - 28672 * a(n - 6) + 16384 * a(n - 7). - _ Harvey P. Dale _ , Aug 14 2014 •

[A016138] • 1,10,79,580,4141,29230,205339,1439560,10083481,70604050,494287399,3460188940,24221854021,169554572470,1186886790259,8308221880720,58157596211761,407103302622490,2849723505777919 ★ Expansion of 1/((1-3x)(1-7x)). • a(n) = (7 ^ (n + 1) - 3 ^ (n + 1)) / 4. - Lambert Klasen (lambert.klasen(AT)gmx.net), Feb 05 2005 • a(n) = ((5 + sqrt4) ^ n - (5 - sqrt4) ^ n) / 4 in Fibonacci form. Offset 1. a(3)=79. - Al Hakanson (hawkuu(AT)gmail.com), Dec 31 2008 • a(n) = 10 * a(n - 1) - 21 * a(n - 2). - _ Philippe Deléham _ , Jan 01 2009 •

[A077245] • 1,10,79,622,4897,38554,303535,2389726,18814273,148124458,1166181391,9181326670,72284431969,569094129082,4480468600687,35274654676414,277716768810625,2186459495808586,17213959197658063 ★ Bisection (even part) of Chebyshev sequence with Diophantine property. • a(n)= 8 * a(n - 1) - a(n - 2), a(- 1) := - 2, a(0)=1. • a(n)=(1 / 2) * [4 - sqrt(15)] ^ n - (1 / 5) * [4 - sqrt(15)] ^ n * sqrt(15) + (1 / 2) * [4 + sqrt(15)] ^ n + (1 / 5) * sqrt(15) * [4 + sqrt(15)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jul 08 2008 •

[A244729] • 0,10,80,270,640,1250,2160,3430,5120,7290,10000,13310,17280,21970,27440,33750,40960,49130,58320,68590,80000,92610,106480,121670,138240 ★ 10*n^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[A000575] • 10,80,365,1246,3535,8800,19855,41470,81367,151580,270270,464100,771290,1245488,1960610,3016820,4547840,6729800,9791859,14028850,19816225,27627600,38055225,51833730,69867525 ★ Tenth column of quintinomial coefficients. • a(n) = 10 * C(n + 3,3) + 40 * C(n + 3,4) + 65 * C(n + 3,5) + 56 * C(n + 3,6) + 28 * C(n + 3,7) + 8 * C(n + 3,8) + C(n + 3,9) (see comment in A213887). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(n) = Sum _{ k=1..10 } (- 1) ^ k * binomial(10,k) * a(n - k), a(0)=10. - _ G. C. Greubel _ , Aug 03 2015 • a(n) = [x ^ 9] (1 + x + x ^ 2 + x ^ 3 + x ^ 4) ^ (n + 3). - _ Joerg Arndt _ , Aug 04 2015 •

[A036070] • 1,10,80,560,3584,21504,122880,675840,3604480,18743296,95420416,477102080,2348810240,11408506880,54760833024,260113956864,1224065679360,5712306503680,26456998543360,121702193299456 ★ Expansion of (-1+1/(1-4*x)^4)/(16*x); related to A038846. • a(n) = 4 ^ (n - 1) * binomial(n + 4, 3); G.f. (- 1 + (1 - 4 * x) ^ (- 4)) / (x * 4 ^ 2). •

[A257286] • 1,10,80,580,3980,26380,170780,1087180,6835580,42575980,263268380,1618672780,9907349180,60420657580,367406757980,2228854610380,13495197974780,81581539411180,492540994279580,2970504754739980,17899324737 52380 ★ a(n) = 5*6^n-4*5^n. • a(n) = 11 a(n - 1) - 30 a(n - 2). •

[A093145] • 0,1,10,80,600,4400,32000,232000,1680000,12160000,88000000,636800000,4608000000,33344000000,241280000000,1745920000000,12633600000000,91417600000000,661504000000000,4786688000000000,34636800000000000 ★ Third binomial transform of Fibonacci(3n)/Fibonacci(3). • a(n) = ((5 + sqrt(5)) ^ n - (5 - sqrt(5)) ^ n) / (2 * sqrt(5)). • a(n) = Sum _{ k=0..n } binomial(n, 2 * k + 1) * 5 ^ (n - k - 1). • a(n) = 10 * a(n - 1) - 20 * a(n - 2), n > 1; a(0)=0, a(1)=1. - _ Zerinvary Lajos _ , Apr 26 2009 •

[A126531] • 1,10,80,660,5430,44692,367826,3027314,24915652,205062892,1687725824,13890462738,114322452324,940906242802,7743925534706,63734705924048,524554726284436,4317234336897124,35532064407664766,292438978880594940 ★ Number of base 10 n-digit numbers with adjacent digits differing by five or less. • a(n) = 8 * a(n - 1) + 3 * a(n - 2) - 9 * a(n - 3) - a(n - 4) + 2 * a(n - 5) for n>4. •

[A165511] • 1,10,80,820,6380,67420,506780,5561020,40049180,460442620,3143983580,38295852220,244662669980,3201964029820,18817676268380,269359086415420,1424231777738780,22818085999649020,105362773996841180 ★ a(0)=1, a(1)=10, a(n)=90*a(n-2)-a(n-1). • a(n) = (20 * 9 ^ n - (- 10) ^ n) / 19. - _ Klaus Brockhaus _ , Sep 26 2009 •

[A154236] • 1,10,81,620,4661,34830,259741,1935640,14421321,107436050,800355401,5962269060,44415937981,330876267670,2464859855061,18361949464880,136787157402641,1018994534193690,7590989351286721,56548997363187100 ★ a(n) = ((5 + sqrt(6))^n - (5 - sqrt(6))^n)/(2*sqrt(6)). • a(n) = 10 * a(n - 1) - 19 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[A037485] • 1,10,81,650,5201,41610,332881,2663050,21304401,170435210,1363481681,10907853450,87262827601,698102620810,5584820966481,44678567731850,357428541854801,2859428334838410 ★ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. • a(n) = 8 * a(n - 1) + a(n - 2) - 8 * a(n - 3). •

[A154246] • 1,10,82,640,4924,37720,288568,2206720,16872976,129008800,986374432,7541585920,57661119424,440862647680,3370726327168,25771735613440,197044282245376,1506551581411840,11518718733701632,88069258871603200 ★ a(n) = ((5 + sqrt(7))^n - (5 - sqrt(7))^n)/(2*sqrt(7)). • a(n) = 10 * a(n - 1) - 18 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[A238276] • 1,10,82,658,5266,42130,337042,2696338,21570706,172565650,1380525202,11044201618,88353612946,706828903570,5654631228562,45237049828498,361896398627986,2895171189023890,23161369512191122,185290956097528978,1482327648780231826 ★ (9*8^n - 2)/7 • a(n) = 8 * a(n - 1) + 2, a(0) = 1. • a(n) = 9 * a(n - 1) - 8 * a(n - 2), a(0) = 1, a(1) = 10. •

[A103460] • 1,10,82,730,6562,59050,531442,4782970,43046722,387420490,3486784402,31381059610,282429536482,2541865828330,22876792454962,205891132094650,1853020188851842,16677181699666570,150094635296999122 ★ 9^n+1-0^n. • a(n)=9 * a(n - 1) - 8, with a(1)=10. [From Vincenzo Librandi, Dec 29 2010] •

[A154340] • 1,10,83,660,5189,40670,318487,2493480,19520521,152816050,1196311643,9365243580,73315137869,573942237830,4493065034527,35173632302160,275354217434641,2155590425209690,16874882555708003,132103788328515300 ★ a(n) = ((5 + 2*sqrt(2))^n - (5 - 2*sqrt(2))^n)/(4*sqrt(2)). • a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n>1, with a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 12 2009 •

[A037608] • 1,10,83,665,5322,42579,340633,2725066,21800531,174404249,1395233994,11161871955,89294975641,714359805130,5714878441043,45719027528345,365752220226762,2926017761814099,23408142094512793,187265136756102346,1498121094048818771 ★ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 1,2,3. • a(n) = 8 * a(n - 1) + a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Nov 28 2014 •

[A014831] • 1,10,83,668,5349,42798,342391,2739136,21913097,175304786,1402438299,11219506404,89756051245,718048409974,5744387279807,45955098238472,367640785907793,2941126287262362,23529010298098915,188232082384791340,1505856659078330741 ★ a(1)=1; for n>1, a(n) = 8*a(n-1)+n. • a(n) = (8 ^ (n + 1) - 7 * n - 8) / 49. - _ Rolf Pleisch _ , Oct 21 2010 • a(n) = Sum _{ i=0..n - 1 } 7 ^ i * binomial(n + 1,n - 1 - i). [_ Bruno Berselli _ , Nov 13 2015] •

[A226202] • 1,10,83,732,6565,59054,531447,4782976,43046729,387420498,3486784411,31381059620,282429536493,2541865828342,22876792454975,205891132094664,1853020188851857,16677181699666586,150094635296999139 ★ 9^n + n. • a(n) = 11 * a(n - 1) - 19 * a(n - 2) + 9 * a(n - 3). •

[A267031] • 0,10,84,286,680,1330,2300,3654,5456,7770,10660,14190,18424,23426,29260,35990,43680,52394,62196,73150,85320,98770,113564,129766,147440 ★ a(n) = (32*n^3 - 2*n)/3. • a(n) = 32 / 3 * n ^ 3 - 2 / 3 * n. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Colin Barker _ , Jan 10 2016 •

[A289163] • 0,0,0,10,84,322,1172,2780,7016,13532,27720,47318,84796,133294,217756,322392,492240,696216,1009680,1377474,1918500,2541946,3426852,4431988,5816888 ★ Number of 5-cycles in the n X n black bishop graph. • a(n) = (- 165 - 282 * n + 972 * n ^ 2 - 730 * n ^ 3 + 280 * n ^ 4 - 68 * n ^ 5 + 8 * n ^ 6 - 5 * (- 1) ^ n * (- 33 - 26 * n + 96 * n ^ 2 - 46 * n ^ 3 + 6 * n ^ 4)) / 240. • a(n) = 2 * a(n - 1) + 4 * a(n - 2) - 10 * a(n - 3) - 5 * a(n - 4) + 20 * a(n - 5) - 20 * a(n - 7) + 5 * a(n - 8) + 10 * a(n - 9) - 4 * a(n - 10) - 2 * a(n - 11) + a(n - 12). •

[A090763] • 1,10,84,660,5005,37128,271320,1961256,14060475,100150050,709634640,5006710800,35197176924,246681069040,1724337127920,12025860872784,83702724824775,581558091471630,4034231805704100,27945630038703300 ★ a(n) = (3*n+3)!/(3*n!*(2*n+2)!). • a(n)=1 / (2 * Beta(2n,n)) [_ Enrique Pérez Herrero _ , May 17 2009] • a(1)=1; a(n)=a(n - 1) * 2 * binomial(3n,3) / binomial(2n,3). - _ Enrique Pérez Herrero _ , May 19 2009 • a(n)=1 / 2 * Sum { j=1,n } (j * binomial(2n,j) * binomial(n,j)). - _ Enrique Pérez Herrero _ , May 22 2009 •

[A016131] • 1,10,84,680,5456,43680,349504,2796160,22369536,178956800,1431655424,11453245440,91625967616,733007749120,5864062009344,46912496107520,375299968925696,3002399751536640,24019198012555264,192153584100966400 ★ Expansion of 1/((1-2x)(1-8x)). • a(n) = binomial(2 ^ n,2) * (2 ^ n + 1) / 3, n >= 1. - _ Zerinvary Lajos _ , Jan 07 2008 • a(n - 1) = ((5 + sqrt 9) ^ n - (5 - sqrt 9) ^ n) / 6. - Al Hakanson (hawkuu(AT)gmail.com), Jan 07 2009 • a(n) = Sum _{ i=1...(2 ^ n - 1) } i * (i + 1) / 2. - _ Ctibor O. Zizka _ , Mar 03 2009 • a(0) = 1, a(n) = 8 * a(n - 1) + 2 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 • a(n) = 10 * a(n - 1) - 16 * a(n - 2), n > 1. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A287826] • 1,10,84,708,5968,50308,424080,3574860,30134944,254028100,2141377008,18051134892,152165391616,1282706408548,10812811724688,91148603152524,768354066287200,6476983198439812,54598931916359472,460251829451302764,3879778213203474880 ★ Number of sequences over the alphabet {0,1,...,9} such that no two consecutive terms have distance 2. • a(n) = 10 * a(n - 1) - 13 * a(n - 2) - 2a(n - 3), a(0)=1, a(1)=10, a(2)=84. •
[A155593] • 1,10,84,736,6576,59080,531504,4783096,43046976,387421000,3486785424,31381061656,282429540576,2541865836520,22876792471344,205891132127416,1853020188917376,16677181699797640,150094635297261264 ★ 9^n+2^n-1. • a(n)=11 * a(n - 1) - 18 * a(n - 2) - 8 with a(0)=1, a(1)=10 - _ Vincenzo Librandi _ , Jul 21 2010 •
[A291389] • 10,85,650,4700,32750,222375,1481250,9721875,63062500,405175000,2582687500,16353078125,102955156250,644991640625,4023367968750,250022201250,1548482226562 50,9561557324218 75,5888138769531250,36171585068359375,221714776953125000 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - 5 S)^2. • a(n) = 10 * a(n - 1) - 15 * a(n - 2) - 50 * a(n - 3) - 25 * a(n - 4) for n >= 5. •
[A081903] • 1,10,85,660,4830,33876,230030,1522400,9866375,62828750,394146875,2440812500,14944687500,90590625000,544242187500,3243437500000,19189111328125,112777832031250,658804931640625,3827075195312500 ★ A sequence related to C(n+5,5). • a(n)=5 ^ n(n ^ 5 + 115n ^ 4 + 4285n ^ 3 + 61325n ^ 2 + 309274n + 375000) / 375000 G.f. (1 - 4x) ^ 5 / (1 - 5x) ^ 6 •
[A038235] • 1,10,85,707,5864,48620,403104,3342081,27708726,229729153,1904652103,15791202736,130922641160,1085461206128,8999406210929,74612811302754,618604325665341,5128761469382475,42521840081752984,352542596245147348 ★ Bottom line of 4-wave sequence A038197, also bisection of A006357. • a(n) = 10a(n - 1) - 15a(n - 2) + 7a(n - 3) - a(n - 4). •
[A000454] • 1,10,85,735,6769,67284,723680,8409500,105258076,1414014888,20313753096,310989260400,5056995703824,87077748875904,1583313975727488,30321254007719424,610116075740491776 ★ Unsigned Stirling numbers of first kind s(n,4). • a(n) is coefficient of x ^ (n + 4) in (- log(1 - x)) ^ 4, multiplied by (n + 4)! / 4! • a(n) = det(S(i + 4,j + 3)|, 1 <= i,j <= n - 4), where S(n,k) are Stirling numbers of the second kind. [_ Mircea Merca _ , Apr 06 2013] • a(n) = y(n) * n! / 24, where y(0)=y(1)=y(2)=y(3)=0, y(4)=1 and n ^ 4 * y(n) + (- 1 - 5 * n - 10 * n ^ 2 - 10 * n ^ 3 - 4 * n ^ 4) * y(n + 1) + (1 + n) * (2 + n) * (7 + 12 * n + 6 * n ^ 2) * y(n + 2) - 2 * (1 + n) * (2 + n) * (3 + n) * (3 + 2 * n) * y(3 + n) + (1 + n) * (2 + n) * (3 + n) * (4 + n) * y(n + 4) = 0. - _ Benedict W. J. Irwin _ , Jul 12 2016 • a(n) = 2 * (2 * n - 5) * a(n - 1) - (6 * n ^ 2 - 36 * n + 55) * a(n - 2) + (2 * n - 7) * (2 * n ^ 2 - 14 * n + 25) * a(n - 3) - (n - 4) ^ 4 * a(n - 4). •
[A163412] • 1,10,86,692,5380,41032,309464,2318480,17299984,128771488,957058400,7106470208,52737656896,391231895680,2901702413696,21518544511232,159564652069120,1183145311447552,8772545567020544,65043606215029760 ★ a(n) = 12*a(n-1) - 34*a(n-2) for n>1, a(0)=1, a(1)=10. • a(n) = ((1 + 2 * sqrt(2)) * (6 + sqrt(2)) ^ n + (1 - 2 * sqrt(2)) * (6 - sqrt(2)) ^ n) / 2. •
[A198858] • 10,87,703,5631,45055,360447,2883583,23068671,184549375,1476395007,11811160063,94489280511,755914244095,6047313952767,48378511622143,387028092977151,3096224743817215,24769797950537727,198158383604301823 ★ a(n) = 11*8^n-1. • a(n) = 8 * a(n - 1) + 7. a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. •
[A165148] • 1,10,88,736,6016,48640,391168,3137536,25133056,201195520,1610088448,12882804736,103070826496,824600166400,6596935548928,52776021262336,422210317582336,3377691130593280,27021563404484608,216172644674830336 ★ a(n) = (3*8^n-4^n)/2. • a(n) = 12 * a(n - 1) - 32 * a(n - 2) for n > 1; a(0) = 1, a(1) = 10. •
[A057081] • 1,10,89,791,7030,62479,555281,4935050,43860169,389806471,3464398070,30789776159,273643587361,2432002510090,21614379003449,192097408520951,1707262297685110,15173263270645039,134852107138120241 ★ Even indexed Chebyshev U-polynomials evaluated at sqrt(11)/2. • a(n) = 9 * a(n - 1) - a(n - 2), a(- 1)= - 1, a(0)=1. •
[A228418] • 1,10,90,719,6696,60845,554933,4742037,43331008,392875212,3573268469,31207451849 ★ Count of the first 10^n primes which do not contain the digit 6. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •
[A159733] • 10,90,720,5400,38880,272160,1866240,12597120,83980800,554273280,3627970560,23581808640,152374763520,979552051200,6269133127680,39965723688960,253899891671040,1608032647249920,10155995666841600 ★ Number of permutations of 5 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. • a(n)=(copies * n) * (copies + 1) ^ (n - 2) •
[A291392] • 1,10,90,765,6264,49968,390960,3013740,22958640,173225952,1296640224,9640743120,71270772480,524277204480,3840015361536,28018969060032,203753553511680,1477232299307520,10681095982072320,77040637862485248,554445497303525376 ★ a(n) = (1/12)*A291391(n). • a(n) = 12 * a(n - 1) - 24 * a(n - 2) - 72 * a(n - 3) - 36 * a(n - 4) for n >= 5. •
[A004985] • 1,10,90,780,6630,55692,464100,3845400,31724550,260846300,2138939660,17500415400,142920059100,1165348174200,9489263704200,77179344794160,627082176452550,5090431785320700,41289057814267900,334658679126171400 ★ a(n) = 2^n/n!*Product_{k=0..n-1} (4*k + 5). • a(n) = 8 ^ n * binomial(1 / 4 + n, 1 / 4). •
[A164552] • 1,10,90,780,6660,56520,478440,4045680,34194960,288969120,2441780640,20632294080,174334109760,1473040494720,12446462643840,105166336884480,888602163298560,7508235853048320,63440765337623040,536042108460026880 ★ a(n) = 12*a(n-1)-30*a(n-2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = ((3 + 2 * sqrt(6)) * (6 + sqrt(6)) ^ n + (3 - 2 * sqrt(6)) * (6 - sqrt(6)) ^ n) / 6. •
[A057086] • 1,10,90,800,7100,63000,559000,4960000,44010000,390500000,3464900000,30744000000,272791000000,2420470000000,21476790000000,190563200000000,1690864100000000,15003009000000000,133121449000000000,1181184400000000000,10480629510000000000 ★ Scaled Chebyshev U-polynomials evaluated at sqrt(10)/2. • a(n) = 10 * (a(n - 1) - a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, sqrt(10)) * (sqrt(10)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = - (1 / 30) * [5 - sqrt(15)] ^ (n + 1) * sqrt(15) + (1 / 30) * sqrt(15) * [5 + sqrt(15)] ^ (n + 1), with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •
[A092420] • 1,10,90,801,7120,63280,562401,4998330,44422570,394804801,3508820640,31184580960,277152408001,2463187091050,21891531411450,194560595612001,1729153829096560,15367823866257040,136581260967216801 ★ a(n+2) = 9a(n+1) - a(n) + 1, with a(1)=1, a(2)=10. • a(n) = 10 * a(n - 1) - 10 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=10. • a(n) = (S(n,9) - S(n - 1, 9) - 1) / 7, n>=1. • a(n) = - 1 / 7 + (4 / 7) * [9 / 2 + (1 / 2) * sqrt(77)] ^ n - (5 / 77) * [9 / 2 - (1 / 2) * sqrt(77)] ^ n * sqrt(77) + (5 / 77) * [9 / 2 + (1 / 2) * sqrt(77)] ^ n * sqrt(77) + (4 / 7) * [9 / 2 - (1 / 2) * sqrt(77)] ^ n, with n >=0. - _ Paolo P. Lava _ , Jun 16 2008 •
[A003952] • 1,10,90,810,7290,65610,590490,5314410,47829690,430467210,3874204890,34867844010,313810596090,2824295364810,25418658283290,228767924549610,2058911320946490,18530201888518410,166771816996665690,1500946352969991210,13508517176729920890 ★ G.f.: (1+x)/(1-9*x). • a(n) = (10 * 9 ^ n - 0 ^ n) / 9. Binomial transform is A000042. - _ Paul Barry _ , Jan 29 2004 •
[A033136] • 1,10,90,811,7300,65700,591301,5321710,47895390,431058511,3879526600,34915739400,314241654601,2828174891410,25453574022690,229082166204211,2061739495837900,18555655462541100,167000899162869901,1503008092465829110,13527072832192461990 ★ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 1,1,0. • a(n) = round((45 / 364) * 9 ^ n). - _ Tani Akinari _ , Jul 15 2014 • a(n + 1) = 9 * a(n) if n = = 2 (mod 3), 9 * a(n) + 1 otherwise. - _ Robert Israel _ , Jul 15 2014 •
[A063945] • 10,90,900,9000,90000,900000,9000000,90000000,900000000,9000000000,90000000000,900000000000,9000000000000,90000000000000,900000000000000,9000000000000000,90000000000000000,900000000000000000,9000000000000000000 ★ Number of nonnegative integers with n digits. • a(1) = 10, a(2) = 90, a(n) = a(n - 1) * 10 for n>2. •
[A218127] • 1,10,90,990,9900,99990,998910,9999990,99990000,999999000,9999899910,99999999990,999998990100,9999999999990,99999989999910,999999999899010,9999999900000000,99999999999999990,999999998999001000,9999999999999999990,99999999989999990100 ★ Number of 10-ary sequences with primitive period n. • a(n) = Sum _{ d|n } 10 ^ d * mu(n / d) for n>0, a(0) = 1. •
[A231412] • 1,10,91,819,7122,61702,557224,5062320,45002763,395879190,3579400605,32487367715 ★ Count of the first 10^n primes which do not contain the digit 0. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •
[A002452] • 0,1,10,91,820,7381,66430,597871,5380840,48427561,435848050,3922632451,35303692060,317733228541,2859599056870,25736391511831,231627523606480,2084647712458321,18761829412124890,168856464709124011,1519708182382116100,13677373641439044901,123096362772951404110 ★ a(n) = (9^n - 1)/8. • a(n) = 9 * a(n - 1) + 1; a(1) = 1. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). - _ Ant King _ , Jan 05 2011 • a(n) = det(|v(i + 2,j + 1)|, 1 <= i,j <= n - 1), where v(n,k) are central factorial numbers of the first kind with odd indices (A008956) and n > 0. - _ Mircea Merca _ , Apr 06 2013 • a(n) = Sum _{ k =0..n - 1 } 9 ^ k. - _ Doug Bell _ , May 26 2017 •
[A096261] • 1,10,91,828,7534,68552,623756,5675568,51642104,469892512,4275561136,38903414208,353982925023,3220897542254,29307009588171,266665052127080,2426390512890816,22077774624328776,200886102122914612 ★ Number of n-tuples of 0,1,2,3,4,5,6,7,8,9 without consecutive digits. • a(n) = 10 * a(n - 1) - 9 * a(n - 2) + 8 * a(n - 3) - 7 * a(n - 4) + 6 * a(n - 5) - 5 * a(n - 6) + 4 * a(n - 7) - 3 * a(n - 8) + 2 * a(n - 9) - 1 * a(n - 10), a(0)=1, a(n)=0, for n<0. •
[A015455] • 1,1,10,91,829,7552,68797,626725,5709322,52010623,473804929,4316254984,39320099785,358197153049,3263094477226,29726047448083,270797521509973,2466903741037840,22472931190850533 ★ a(n) = 9*a(n-1) + a(n-2) for n>1; a(0) = a(1) = 1. • a(n) = round(1 / 2 * (9 / 2 - 1 / 2 * sqrt(85)) ^ n + 7 / 170 * sqrt(85) * (9 / 2 - 1 / 2 * sqrt(85)) ^ n - 7 / 170 * sqrt(85) * (9 / 2 + 1 / 2 * sqrt(85)) ^ n + 1 / 2 * (9 / 2 + 1 / 2 * sqrt(85)) ^ n). - _ Alexander R. Povolotsky _ , Jun 13 2008 •
[A051789] • 0,0,1,10,91,861,8646,91806,1021735,11817091,141044410,1727867505,21634392066,275949833550,3576313319580,46995004939590,625082396235615,8403885722249655,114069363630025650,1561609590480856455,21543838440848427990 ★ C(n)*(C(n)-1)/2, where C(n) are the Catalan numbers (A000108). • a(n) = binomial(binomial(2 * n,n) / (n + 1),2). - _ Zerinvary Lajos _ , May 29 2006 •
[A227512] • 10,92,318,760,1490,2581,4103,6129,8731,11981,15952,20714,26340,32902,40472,49123,58925,69951,82273,95963,111094,127736,145962,165844,187454 ★ Floor(-1/n + 1/log((2n+1)/(2n-1))). • a(n) = 12 * n ^ 3 - floor(9 * n / 5) - 1. (conjectured, based on computations by _ Peter J. C. Moses _ , Jul 14 2013) • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8) (conjectured; verified up to n = 100000). •
[A227513] • 10,92,319,761,1491,2581,4103,6130,8732,11982,15952,20714,26341,32903,40473,49123,58925,69952,82274,95964,111094,127736,145963,165845,187455 ★ Round(-1/n + 1/log((2n+1)/(2n-1))). • a(n) = 12 * n ^ 3 - round(9 * n / 5) (conjectured, based on computations by _ Peter J. C. Moses _ , Jul

14 2013). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8) (conjectured; verified up to n = 100000). •

[**A228420**] • 1,10,92,816,6712,60867,555878,5026796,43410238,395243878,3576361255,32461990759 ⋆ Count of the first 10^n primes which do not contain the digit 8. • a(n) <= 9 ^ n. - _ Charles R Greathouse IV _ , May 21 2014 •

[**A190990**] • 0,1,10,92,840,7664,69920,637888,5819520,53092096,484364800,4418911232,40314193920,367790649344,3355392942080,30611604226048,279272898723840,2547836153430016,23244178344509440,212059094217654272,1934637515420467200,17649902400463437824 ⋆ a(n) = 10*a(n-1) - 8*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 34 * sqrt(17) * ((5 + sqrt(17)) ^ n - (5 - sqrt(17)) ^ n), Paolo P. Lava, May 31 2011 •

[**A287829**] • 1,10,92,848,7816,72040,663992,6120008,56408056,519912520,4792028792,44168084168,407096815096,3752207504200,34584061167992,318760965520328,2938016812018936,27079673239211080,249593092776937592,2300497181470860488,21203660818791619576 ⋆ Number of sequences over the alphabet {0,1,...,9} such that no two consecutive terms have distance 6. • a(n) = 9 * a(n - 1) + 2 * a(n - 2), a(0)=1, a(1)=10. • a(n) = ((1 - 11 / sqrt(89)) / 2) * ((9 - sqrt(89)) / 2) ^ n + ((1 + 11 / sqrt(89)) / 2) * ((9 + sqrt(89)) / 2) ^ n. •

[**A103944**] • 1,10,93,836,7355,63750,546553,4646920,39250935,329789450,2758868981,22995369996,191074697203,1583463268366,13092015636465,108024564809744,889730213085167,7316434446188562,60078376613838829,492692533579612180 ⋆ Number of rooted unicursal n-edge maps in the plane (planar with a distinguished outside face). • a(n)=n * binomial(2n, n)sum _{ i=0..n - 2 } binomial(n - 2, i)(1 / (n + 1 + i) + n / (n + 2 + i)), for n>1. •

[**A190989**] • 0,1,10,93,860,7949,73470,679057,6276280,58009401,536160050,4955534693,45802226580,423333522949,3912719643430,36163861773657,334249580232560,3089348769910001,28553740637472090,263911964985350893,2439243465391204300,22545050899014586749 ⋆ a(n) = 10*a(n-1) - 7*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 12 * sqrt(2) * ((5 + 3 * sqrt(2)) ^ n - (5 - 3 * sqrt(2)) ^ n), Paolo P. Lava, May 31 2011 •

[**A126633**] • 10,94,832,6946,54880,412714,2975752,20722306,140285200,928323034,6031661272,38617025266,244322679520,1531014308554,9519483716392,58816232361826,361524350929840,2212804949145274,13497228660885112 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of digits 1, 2, at least one of digits 3,4, at least one of digits 5,6 and at least one of digits 7,8,9. • a(n) = 24 * 6 ^ n - 60 * 5 ^ n + 62 * 4 ^ n - 33 * 3 ^ n + 9 * 2 ^ n - 1. •

[**A190988**] • 0,1,10,94,880,8236,77080,721384,6751360,63185296,591344800,5534336224,51795293440,484746917056,4536697409920,42458492596864,397364741509120,3718896459510016,34804776146045440,325734382703394304,3048515170157670400,28530745405356338176 ⋆ a(n) = 10*a(n-1) - 6*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 38 * sqrt(19) * ((5 + sqrt(19)) ^ n - (5 - sqrt(19)) ^ n), Paolo P. Lava, May 31 2011 •

[**A287830**] • 1,10,94,886,8350,78694,741646,6989590,65872894,620814406,5850821230,55140648694,519669123166,4897584703270,46156938822094,435002788211926,4099652849195710,38636886795609094,364130592557264686,3431722880197818550,32342028292009425694 ⋆ Number of sequences over the alphabet {0,1,...,9} such that no two consecutive terms have distance 7. • a(n) = 9 * a(n - 1) + 4 * a(n - 2), a(0)=1, a(1)=10. • a(n) = ((1 - 11 / sqrt(97)) / 2) * ((9 - sqrt(97)) / 2) ^ n + ((1 + 11 / sqrt(97)) / 2) * ((9 + sqrt(97)) / 2) ^ n. •

[**A190987**] • 0,1,10,95,900,8525,80750,764875,7245000,68625625,650031250,6157184375,58321687500,552430953125,5232701093750,49564856171875,469485056250000,4447026281640625,42122837535156250,398993243943359375,3779318251757812500,35798216297861328125 ⋆ a(n) = 10*a(n-1) - 5*a(n-2), with a(0)=0, a(1)=1. • a(n) = 1 / 20 * sqrt(5) * ((5 + 2 * sqrt(5)) ^ n - (5 - 2 * sqrt(5)) ^ n). - _ Paolo P. Lava _ , May 31 2011 •

[**A197083**] • 0,10,96,445,1431,3681,8141,16142,29466,50412,81862,127347,191113,278187,394443,546668,742628,991134,1302108,1686649,2157099,2727109,3411705,4227354,5192030 ⋆ Number of solutions to a+b+c=d+e+f with 0<a<=n, 0<=b,c,d,e,f<=n. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5, a(0)=0, a(1)=10,a(2)=96, a(3)=445, a(4)=1431, a(5)=3681. • a(n) = (66 * n ^ 5 + 275 * n ^ 4 + 440 * n ^ 3 + 325 * n ^ 2 + 94 * n) / 120 = n * (n + 1) * (66 * n ^ 3 + 209 * n ^ 2 + 231 * n + 94) / 120. •

[**A125945**] • 10,96,892,8076,71500,619236,5241652,43355436,350740540,2780210676,21641505412,165814383996,1253254845580,9362782430916,69259450905172,508062802935756,3700662365318620,26794126632247956,193018363703408932,1384505203965202716 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of digits 1,2, at least one of digits 3,4 and at least one of digits 5,6,7,8,9. • a(n) = 20 * 7 ^ n - 60 * 6 ^ n + 85 * 5 ^ n - 70 * 4 ^ n + 34 * 3 ^ n - 9 * 2 ^ n + 1. •

[**A190986**] • 0,1,10,96,920,8816,84480,809536,7757440,74336256,712332800,6825982976,65410498560,626801053696,6006368542720,57556481212416,551539337953280,5285167454683136,50645517195018240,485314502131449856,4650562952534425600,44564371516818456576 ⋆ a(n) = 10*a(n-1) - 4*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 42 * sqrt(21) * ((5 + sqrt(21)) ^ n - (5 - sqrt(21)) ^ n), Paolo P. Lava, May 31 2011 •

[**A287831**] • 1,10,96,924,8892,85572,823500,7924932,76265388,733938084,7063035084,67970944260,654116708844,6294876045156,60578584659468,582976518206148,5610260171812140,53990200655546148,519573366930788172,5000101506310370436,48118353758378062956 ⋆ Number of sequences over the alphabet {0,1,...,9} such that no two consecutive terms have distance 8. • a(n) = 9 * a(n - 1) + 6 * a(n - 2), a(0)=1, a(1)=10. • a(n) = ((1 - 11 / sqrt(105)) / 2) * ((9 - sqrt(105)) / 2) ^ n + ((1 + 11 / sqrt(105)) / 2) * ((9 + sqrt(105)) / 2) ^ n . •

[**A190985**] • 0,1,10,97,940,9109,88270,855373,8288920,80323081,778364050,7542671257,73091620420,708288190429,6863607043030,66511205859013,644521237461040,6245678757033361,60523223857950490,586495202308404817,5683382351510196700,55074337908176752549 ⋆ a(n) = 10*a(n-1) - 3*a(n-2), with a(0)=0, a(1)=1. • a(n)=1 / 44 * sqrt(22) * ((5 + sqrt(22)) ^ n - (5 - sqrt(22)) ^ n), Paolo P. Lava, May 31 2011 •

[**A198968**] • 10,98,890,8018,72170,649538,5845850,52612658,473513930,4261625378,38354628410,345191655698,3106724901290,27960524111618,251644717004570,2264802453041138,20383222077370250,183448998696332258,1651040988266990330 ⋆ 11*9^n-1. • a(n) = 9 * a(n - 1) + 8. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[**A125946**] • 10,98,940,8798,80140,709238,6096100,50950718,415060060,3305238278,25807024660,198131841038,1499550640780,11213044626518,8299777754 3620,609099122145758,4437879770746300,32138240678881958,231547934781860980,1661033550903240878 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of digits 1,2, at least one of digits 3,4,5 and at least one of digits 6,7,8,9. • a(n) = 24 * 7 ^ n - 72 * 6 ^ n + 98 * 5 ^ n - 76 * 4 ^ n + 35 * 3 ^ n - 9 * 2 ^ n + 1. •

[**A125880**] • 10,98,946,9026,85330,800738,7463746,69054146,633214450,5746812578,51574432546,457575310466,4014480866770,34850492651618,2996153593 53346,2553264555537986,21587837904314290,181256003521421858,1512536914 179602146,12553861394003656706 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of the digits 1,2 and at least one of the digits 3,4,5,6,7,8,9. • a(n) = 14 * 8 ^ n - 49 * 7 ^ n + 91 * 6 ^ n - 105 * 5 ^ n + 77 * 4 ^ n - 35 * 3 ^ n + 9 * 2 ^ n - 1. •

[**A125445**] • 1,10,98,946,9282,91090,894050,8775154,86128770,845360146,8297271458,81438324274,799323090114,7845414405202,77003314367714,755793144551026,7418164815900930,72809828499516562,714633775022856482 ⋆ Number of base 10 circular n-digit numbers with adjacent digits differing by 8 or less. • a(n) = 1 + ((9 - sqrt(113)) / 2) ^ n + ((9 + sqrt(113)) / 2) ^ n for n>0. • a(n) = 10 * a(n - 1) - a(n - 2) - 8 * a(n - 3) for n>3. •

[**A163446**] • 1,10,98,948,9092,86696,823432,7799760,73743376,696308896,6568853024,61930496832,583619061824,5498214185600,51787045136512,487703442676992,4592458284368128,43241719103916544,407135092031840768 ⋆ a(n) = 16*a(n-1) - 62*a(n-2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = ((1 + sqrt(2)) * (8 + sqrt(2)) ^ n + (1 - sqrt(2)) * (8 - sqrt(2)) ^ n) / 2. •

[**A190869**] • 0,1,10,98,960,9404,92120,902392,8839680,86592016,848240800,8309223968,81395758080,797339132864,7810599812480,76511319859072,749491998965760,7341897349939456,71919989501463040,704516100314751488,6901321024144588800,676041780408163850 24 ⋆ a(n) = 10*a(n-1) - 2*a(n-2), a(0)=0, a(1)=1. • a(n) = ((5 + sqrt(23)) ^ n - (5 - sqrt(23)) ^ n) / (2 * sqrt(23)). •

[**A254599**] • 1,10,98,962,9442,92674,909602,8927810,87627106,860066434,8441614754,82855064258,813228496354,7981896981250,78342900802082,768941283068738,7547214754035298,74076463050867586,727065885490090658,7136204673817756610,70042369148280534754 ⋆ Numbers of words on alphabet {0,1,...,9} with no subwords ii, for i from {0,1}. • a(n) = 9 * a(n - 1) + 8 * a(n - 2) with n>1, a(0) = 1, a(1) = 10. • a(n) = (2 ^ (- 1 - n) * ((9 - r) ^ n * (- 11 + r) + (9 + r) ^ n * (11 + r))) / r, where r=sqrt(113). - _ Colin Barker _ , Jan 22 2017 •

[**A081109**] • 1,10,99,972,9477,91854,885735,8503056,81310473,774840978,7360989291,69735688020,659002251789,6213449802582,58462914051567,549043018919064,5147278302366225,48178524910147866,450283905890997363 ⋆ 9th binomial transform of (1,1,0,0,0,0,0,....). • a(n) = 18 * a(n - 1) - 81 * a(n - 2), a(0)=1, a(1)=10. • a(n) = (n + 9) * 9 ^ (n - 1). •

[**A004189**] • 0,1,10,99,980,9701,96030,950599,9409960,93149001,922080050,9127651499,90354434940,894416697901,8853812544070,87643708742799,8675832748883920,8588189040096401,85014307126080090,841554882220704499 ⋆ a(n) = 10*a(n-1) - a(n-2); a(0) = 0, a(1) = 1. • a(n) = S(2 * n - 1, sqrt(12)) / sqrt(12) = S(n - 1, 10); S(n, x) := U(n, x / 2), Chebyshev polynomials of 2nd kind, A049310. S(- 1, x) := 0. • a(n) = { [(5 + 2 * sqrt(6)) ^ n - (5 - 2 * sqrt(6)) ^ n] }/ 4 * sqrt(6). G.f.(x)=x / (1 - 10 * x + x ^ 2). - _ Barry E. Williams _ , Aug 18 2000 • a(- n) = - a(n). - _ Michael Somos _ , Sep 05 2006 • a(n) = 9 * (a(n - 1) + a(n - 2)) - a(n - 3), a(n) = 11 * (a(n - 1) - a(n - 2)) + a(n - 3). a(n)=10 * a(n - 1) - a(n - 2). - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), May 26 2007 •

[**A179558**] • 10,99,985,9825,98125,980625,9803125,98015625,980078125,9800390625,98001953125,980009765625,9800048828125,98000244140625,980001220703125,9800006103515625,98000030517578125,980000152587890625,9800000762939453125,98000003814697265625 ⋆ a(n-1)=10; a(n) = a(n-1)*10 - 5^(n-2). • a(n) = (1 / 5) * (49 * 10 ^ n + 5 ^ n), with n>=0. - _ Paolo P. Lava _ , Aug 26 2010 • a(n) = 15 * a(n - 1) - 50 * a(n - 2) for n>2. •

[**A179556**] • 10,99,988,9876,98752,987504,9875008,98750016,987500032,9875000064,98750000128,987500000256,9875000000512,98750000001024,987500000002048,9875000000004096,98750000000008192,987500000000016384,9875000000000032768,98750000000000065536 ⋆ a(1) = 10; a(n) = a(n-1)*10 - 2^(n-2). • a(n) = (1 / 8) * (2 ^ n + 79 * 10 ^ n), with n>=0. - _ Paolo P. Lava _ , Aug 26 2010 • a(n) = 12 * a(n - 1) - 20 * a(n - 2) for n>2. •

[**A179477**] • 10,99,988,9877,98766,987655,9876544,98765433,987654322,9876543211,98765432100,987654320989,9876543209878,98765432098767,987654320987656,9876543209876545,98765432098765434,987654320987654323,9876543209876543212,98765432098765432101 ⋆ Antonym of A014824: each term is 10 times the previous term minus n. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3) for n>2. • a(n) = (10 + 2 ^ (5 + n) * 5 ^ (2 + n) + 9 * n) / 81. - _

Colin Barker _ , Mar 25 2017 •

[A179555] • 10,99,989,9889,98889,988889,9888889,98888889,988888889,9888888889,98888888889,988888888889,9888888888889,98888888888889,988888888888889,9888888888888889,98888888888888889,988888888888888889,9888888888888888889,98888888888888888889,988888888888888888889,9888888888888888888889 ⋆ a(1)=10; a(n) = a(n-1)*10 - 1. • a(n) = (1 / 90) * (10 + 89 * 10 ^ n) with n>=1. - _ Paolo P. Lava _ , Aug 26 2010 • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>2. •

[A179557] • 10,99,991,9909,99091,990909,9909091,99090909,990909091,9909090909,99090909091,990909090909,9909090909091,99090909090909,990909090909091,9909090909090909,99090909090909091,990909090909090909,9909090909090909091,99090909090909090909 ⋆ a(1)=10; a(n)=a(n-1)*10 -/+ 1 (alternating) • a(n)=(1 / 11) * [(- 1) ^ (n - 1) + 109 * 10 ^ (n - 1)], with n>=1. [_ Paolo P. Lava _ , Aug 26 2010] • a(1)=10, a(2)=99, a(n)=9 * a(n - 1) + 10 * a(n - 2). - _ Harvey P. Dale _ , Jul 21 2014 •

[A007924] • 0,1,10,100,101,1000,1001,10000,10001,10010,10100,100000,100001,1000000,1000001,1000010,1000100,10000000,10000001,100000000,100000001,100000010,100000100,1000000000,1000000001 ⋆ The number n written using the greedy algorithm in the base where the values of the places are 1 and primes. • a(n) is the binary representation of b(n) = 2 ^ pi(n) + b(n - p(pi(n))) for n > 0 and a(0) = b(0)= 0, where pi(k) = number of primes <= k (A000720) and p(k) = k - th prime (A008578). - _ Frank Ellermann _ , Dec 18 2001 •

[A276349] • 10,100,110,1000,1100,1110,10000,11000,11100,11110,100000,110000,111000,111100,111110,1000000,1100000,1110000,1111000,1111100,1111110,10000000,11000000,11100000,11110000 ⋆ Numbers consisting of a nonempty string of 1's followed by a nonempty string of 0's. • a((m ^ 2 - m) / 2 + j) = 10 ^ (m + 1) * (1 - 10 ^ (- j)) / 9 for m>=1, 1<=j<=m. •

[A086115] • 10,100,390,1080,2470,4980,9170,15760,25650,39940,59950,87240,123630,171220,232410,309920,406810,526500,672790,849880,1062390,1315380,1614370,1965360,2374850 ⋆ Number of 5 X n (0,1) matrices such that each row and each column is nondecreasing or nonincreasing. • a(n) = 1 / 6 * n * (n ^ 4 + 10 * n ^ 3 + 35 * n ^ 2 + 50 * n - 36). More generally, number of m X n (0, 1) matrices such that each row and each column is increasing or decreasing is 2 * n * (2 * binomial(n + m - 1, n) - m) = 4 / Beta(m, n) - 2 * m * n. •

[A222716] • 0,10,100,460,1460,3710,8120,15960,28920,49170,79420,122980,183820,266630,376880,520880,705840,939930,1232340,1593340,2034340,2567950,3208040,3969800,4869800 ⋆ Numbers which are both the sum of n+1 consecutive triangular numbers and the sum of the n-1 immediately following triangular numbers. • a(n) = T(n ^ 2 - n - 1) + T(n ^ 2 - n) + ... + T(n ^ 2 - 1) = T(n ^ 2) + T(n ^ 2 + 1) + ... + T(n ^ 2 + n - 2), where T = A000217. • a(n) = (3 * n ^ 5 - 5 * n ^ 3 + 2 * n) / 6 = (n - 1) * n * (n + 1) * (3 * n ^ 2 - 2) / 6. • a(n) = TP(n ^ 2 - 1) - TP(n ^ 2 - n - 2) = TP(n ^ 2 + n - 2) - TP(n ^ 2 - 1) = TP(n - 1) * (3 * n ^ 2 - 2), where TP = A000292. [_ Jonathan Sondow _ , Mar 04 2013] •

[A125948] • 10,100,982,9388,86950,778780,6748822,56713708,463661830,3700940860,28941318262,222422713228,1684544507110,12602134130140,93308618633302,684912371803948,4999975002030790,36147245625290620,260449744313893942 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of digits 1,2,3, at least one of digits 4,5,6 and at least one of digits 7,8,9. • a(n) = 27 * 7 ^ n - 81 * 6 ^ n + 108 * 5 ^ n - 81 * 4 ^ n + 36 * 3 ^ n - 9 * 2 ^ n + 1. •

[A125897] • 10,100,994,9796,95650,924820,8845714,83575396,778945090,7156197940,64800104434,578648865796,5100362368930,44424892053460,382839350691154,3268062540952996,27665402010407170,232490197792427380,1941315874498269874 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of the digits 1,2,3 and at least one of the digits 4,5,6,7,8,9. • a(n) = 18 * 8 ^ n - 63 * 7 ^ n + 111 * 6 ^ n - 120 * 5 ^ n + 83 * 4 ^ n - 36 * 3 ^ n + 9 * 2 ^ n - 1. •

[A125904] • 10,100,1000,9976,98920,971440,9420400,90005176,846101080,7822770880,71163913600,637585923976,5633160763240,49148451899920,424055315011600,3623013325068376,30689130457473400,258015134469182560,2155143129458730400 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of the digits 1,2,3,4 and at least one of the digits 5,6,7,8,9. • a(n) = 20 * 8 ^ n - 70 * 7 ^ n + 120 * 6 ^ n - 125 * 5 ^ n + 84 * 4 ^ n - 36 * 3 ^ n + 9 * 2 ^ n - 1. •

[A125858] • 10,100,1000,10000,100000,1000000,10000000,100000000,999637120,9980041600,99381289600,985729744000,9726841354240,95404977568000,929690189228800,8999055703648000,86532737999167360,826798452380099200,7852626768025993600 ⋆ a(n) is the number of nonnegative integers k less than 10^n such that the decimal representation of k lacks at least one of digits 1,2,3,4,5,6,7,8,9. • a(n) = 9 * 9 ^ n - 36 * 8 ^ n + 84 * 7 ^ n - 126 * 6 ^ n + 126 * 5 ^ n - 84 * 4 ^ n + 36 * 3 ^ n - 9 * 2 ^ n + 1. •

[A178501] • 0,1,10,100,1000,10000,100000,1000000,10000000,100000000,1000000000,10000000000,100000000000,1000000000000,10000000000000,100000000000000,1000000000000000,10000000000000000,100000000000000000,1000000000000000000,10000000000000000000,100000000000000000000 ⋆ Zero followed by powers of ten. • a(n) = 10 ^ (n - 1) - (1 / 10) * [C(2 * n, n) mod 2], with n >= 0. - _ Paolo P. Lava _ , Jun 25 2010 •

[A011557] • 1,10,100,1000,10000,100000,1000000,10000000,100000000,1000000000,10000000000,100000000000,1000000000000,10000000000000,100000000000000,1000000000000000,10000000000000000,100000000000000000,1000000000000000000,10000000000000000000,100000000000000000000 ⋆ Powers of 10: a(n) = 10^n. • a(n) = 10 ^ n; a(n) = 10 * a(n - 1). •

[A267044] • 1,10,100,1000,10001,100010,1000101,10001010,100010101,1000101010,10001010101,100010101010,1000101010101,10001010101010,100010101010101,1000101010101010,10001010101010101,100010101010101010,1000101010101010101,10001010101010101010,100010101010101010101,1000101010101010101010 ⋆ Binary representation of the middle column of the "Rule 91" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 550 + 450 * (- 1) ^ n + 9901 * 10 ^ n) / 9900 for n>1. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. •

[A266445] • 1,10,100,1000,10001,100010,1000101,10001010,100010101,1000101011,10001010110,100010101100,1000101011000,10001010110001,100010101100010,1000101011000101,10001010110001010,100010101100010101,1000101011000101010,10001010110001010101 ⋆ Binary representation of the middle column of the "Rule 25" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 9 * (- 1) ^ n + 9901000008901 * 2 ^ (n - 10) * 5 ^ (n - 11) - 11) / 198 for n>10 •

[A281146] • 1,10,100,1000,10100,101000,1010100,10101000,101010100,1010101000,10101010100,101010101000,1010101010100,10101010101000,101010101010100,1010101010101000,10101010101010100,101010101010101000 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 515", based on the 5-celled von Neumann neighborhood. • a(n) = 100 * (10 ^ n - 1) / 99 for n>1 and even. • a(n) = 100 * (10 ^ n - 10) / 99 for n>1 and odd. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. •

[A033146] • 1,10,100,1001,10010,100100,1001001,10010010,100100100,1001001001,10010010010,100100100100,1001001001001,10010010010010,100100100100100,1001001001001001,10010010010010010 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,0,0. • a(n) = 10 * a(n - 1) + a(n - 3) - 10 * a(n - 4). • a(n) = sum { k=0..floor(n / 3), 10 ^ (n - 3 k) } , with offset 0. • a(n) = sum { k=0..n, 10 ^ k * (cos(2 * Pi * (n - k) / 3 + Pi / 3) / 3 + sqrt(3)sin(2 * Pi * (n - k) / 3 + Pi / 3) / 3 + 1 / 3) } , with offset 0. (End) • a(n) = 10 * a(n - 1) + (1 / 9) * ((n mod 3) + 4 * ((n + 1) mod 3) - 2 * ((n + 2) mod 3)), with a(0)=0. - _ Paolo P. Lava _ , Jul 30 2009 • a(n) = round((100 / 999) * 10 ^ n). - _ Tani Akinari _ , Jul 15 2014 •

[A262863] • 1,10,100,1001,10011,100110,1001100,10011001,100110011,1001100110,10011001100,100110011001,1001100110011,10011001100110,100110011001100,1001100110011001,10011001100110011,100110011001100110,1001100110011001100,10011001100110011001100 ⋆ Binary representation of the middle column of the "Rule 147" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 11 * a(n - 1) - 11 * a(n - 2) + 11 * a(n - 3) - 10 * a(n - 4) for n>3. •

[A267156] • 1,10,100,1001,10011,100111,1001111,10011111,100111111,1001111111,10011111110,100111111101,1001111111010,10011111110101,100111111101010,1001111111010101,10011111110101010,100111111101010101,1001111111010101010,10011111110101010101,100111111101010101010 ⋆ Binary representation of the middle column of the "Rule 107" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 9 * (- 1) ^ n + 9910999999 * 2 ^ (n - 7) * 5 ^ (n - 8) - 11) / 198 for n>7. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>4. •

[A267524] • 1,10,100,1001,10011,100111,1001111,10011111,100111111,1001111111,10011111111,100111111111,1001111111111,10011111111111,100111111111111,1001111111111111,10011111111111111,100111111111111111,1001111111111111111,10011111111111111111 ⋆ Binary representation of the middle column of the "Rule 139" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>1. •

[A277865] • 1,10,100,1011,10000,101111,1000000,10111111,100000000,1011111111,10000000000,101111111111,1000000000000,10111111111111,100000000000000,1011111111111111,10000000000000000,101111111111111111 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 3", based on the 5-celled von Neumann neighborhood. • a(n) = (- 10 - (- 10) ^ n + 10 * (- 1) ^ n + 181 * 10 ^ n) / 180. (End) •

[A283214] • 1,10,100,1011,10001,101110,1000100,10111011,100010001,1011101110,10001000100,101110111011,1000100010001,10111011101110,100010001000100,1011101110111011,10001000100010001,101110111011101110,100010001000100010001,1011101110111011101110 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 597", based on the 5-celled von Neumann neighborhood. • a(n) = 100 * a(n - 2) + a(n - 4) - 100 * a(n - 6) for n>5. •

[A283355] • 1,10,100,1011,10001,101110,1000110,10111110,100011110,1011111110,10001111110,101111111110,1000111111110,10111111111110,100011111111110,1011111111111110,10001111111111110,101111111111111110,1000111111111111110,10111111111111111110,100011111111111111110,1011111111111111111110 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 621", based on the 5-celled von Neumann neighborhood. • a(n) = (- 20000 - 99 * (- 10) ^ n + 18101 * 10 ^ n) / 18000 for n>4. • a(n) = a(n - 1) + 100 * a(n - 2) - 100 * a(n - 3) for n>5. •

[A199763] • 10,100,1090,11980,131770,1449460,15944050,175384540,1929229930,21221529220,233436821410,2567805035500,28245855390490,310704409295380,3417748502249170,37595233524740860,413547568772149450,4549023256493643940 ⋆ 9*11^n+1. • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A097178] • 1,10,100,1110,10000,122110,1000000,13333110,100000000,1446644110,10000000000,156111055110,1000000000000,16767216566110,100000000000000,1793488873177110,10000000000000000,191142376190888110 ⋆ Expansion of (1+10x-101x^2-900x^3)/((1-100x^2)(1-101x^2)). • a(n)=(55 / sqrt(101))((sqrt(101)) ^ n - (- sqrt(101)) ^ n) + 10 ^ n(11(- 1) ^ n - 9) / 2; a(n)=201a(n -

2) - 10100a(n - 4). •

[A283352] • 1,10,100,1110,11100,111110,1111100,11111110,111111100,1111111110,11111111100,111111111110,1111111111100,11111111111110,111111111111100,1111111111111110,11111111111111100,111111111111111110,1111111111111111100,11111111111111111110 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 619", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * (10 ^ n - 10) / 9 for n>0 and even. • a(n) = 10 * (10 ^ n - 1) / 9 for n odd. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>3. •

[A288790] • 1,10,101,947,8670,79249,730745,6838642,65197797,634656360,6316333291,64318009411,670336612614,7151290120037,78085166445577,872478836270306,9972817907218608,116575837400037486,1393037460835481622,17010118386233081680,212160149063581345610 ⋆ Number of blocks of size >= eight in all set partitions of n. • a(n) = Bell(n + 1) - Sum _{ j=0..7 } binomial(n,j) * Bell(n - j). • a(n) = Sum _{ j=0..n - 8 } binomial(n,j) * Bell(j). •

[A280371] • 1,10,101,1000,10000,101000,1010100,10000010,100000001,1010000000,10101000000,100000100000,1000000000000,10100000000000,101010000000000,1000001000000000,10000000000000000,101000000000000000,1010100000000000000,10000010000000000000 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 260", based on the 5-celled von Neumann neighborhood. • a(n) = 10000 * a(n - 4) for n>3. •

[A123522] • 0,10,101,1002,10003,100004,1000005,10000006,100000007,1000000008,10000000009,100000000010,1000000000011,10000000000012,100000000000013,1000000000000014,10000000000000015,100000000000000016 ⋆ Not of the form n + [log_10 n]. • a(n) = 10 ^ n + n - 1. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). (End) •

[A266612] • 1,10,101,1010,10100,101001,1010010,10100101,101001010,1010010101,10100101010,101001010101,1010010101010,101001010101010,1010010101010101,10100101010101010,101001010101010101,1010010101010101010,10100101010101010101 ⋆ Binary representation of the middle column of the "Rule 41" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 9 * (- 1) ^ n + 99991 * 2 ^ (n - 2) * 5 ^ (n - 3) - 11) / 198 for n>2. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. •

[A267588] • 1,10,101,1010,10100,101001,1010011,10100111,101001111,1010011111,10100111111,101001111111,1010011111111,10100111111111,101001111111111,1010011111111111,10100111111111111,101001111111111111,1010011111111111111,10100111111111111111,101001111111111111111,1010011111111111111111,10100111111111111111111,101001111111111111111111,1010011111111111111111111,10100111111111111111111111,101001111111111111111111111,1010011111111111111111111111,10100111111111111111111111111,101001111111111111111111111111,1010011111111111111111111111111,10100111111111111111111111111111,101001111111111111111111111111111,1010011111111111111111111111111111,10100111111111111111111111111111111,101001111111111111111111111111111111,1010011111111111111111111111111111111,10100111111111111111111111111111111111,101001111111111111111111111111111111111,1010011111111111111111111111111111111111,10100111111111111111111111111111111111111,101001111111111111111111111111111111111111,1010011111111111111111111111111111111111111,10100111111111111111111111111111111111111111,101001111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111111111111111111,101001111111111111111111111111111111111111111111111111111111111111111,1010011111111111111111111111111111111111111111111111111111111111111111,10100111111111111111111111111111111111111111111111111111111111111111111 ⋆ Binary representation of the middle column of the "Rule 169" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>3. •

[A267514] • 1,10,101,1010,10101,101010,1010100,10101001,101010010,1010100101,10101001010,101010010101,1010100101010,10101001010100,101010010101001,1010100101010010,10101001010100101,101010010101001010,1010100101010010101,10101001010100101010 ⋆ Binary representation of the middle column of the "Rule 137" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 10 * a(n - 1) + a(n - 7) - 10 * a(n - 8) for n>7. •

[A056830] • 0,1,10,101,1010,10101,101010,1010101,10101010,101010101,1010101010,10101010101,101010101010,1010101010101,10101010101010,101010101010101,1010101010101010,10101010101010101,101010101010101010 ⋆ Alternate digits 1 and 0. • a(n) = + 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3). • a(n) = floor(10 ^ (n + 1) / (10 ^ 2 - 1)) = a(n - 2) + 10 ^ (n - 1) = 10 * a(n - 1) + (1 - (- 1) ^ n) / 2. • a(n + 1) = Sum _{ k=0..floor(n / 2) } 10 ^ (n - 2 * k). • a(n + 1) = Sum _{ k=0..n } Sum _{ j=0..k } (- 1) ^ (j + k) * 10 ^ j. • a(n) = 9 * a(n - 1) + 10 * a(n - 2) + 1. • a(n) = 10 ^ (n + 1) / 99 - (- 1) ^ n / 22 - 1 / 18. (End) •

[A266247] • 1,10,101,1010,10101,101011,1010110,10101101,101011010,1010110101,10101101010,101011010101,1010110101010,10101101010101,101011010101010,1010110101010101,10101101010101010,101011010101010101,1010110101010101010,10101101010101010101 ⋆ Binary representation of the middle column of the "Rule 9" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 45000 * (- 1) ^ n + 1000009 * 10 ^ n - 55000) / 990000 for n>3. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. •

[A267879] • 1,10,101,1010,10101,101011,1010111,10101111,101011111,1010111111,10101111111,101011111111,1010111111111,10101111111111,101011111111111,1010111111111111,10101111111111111,101011111111111111,1010111111111111111,10101111111111111111,101011111111111111111,1010111111111111111111,10101111111111111111111,101011111111111111111111,1010111111111111111111111,10101111111111111111111111,101011111111111111111111111,1010111111111111111111111111,10101111111111111111111111111,101011111111111111111111111111,1010111111111111111111111111111,10101111111111111111111111111111,101011111111111111111111111111111,1010111111111111111111111111111111,10101111111111111111111111111111111,101011111111111111111111111111111111,1010111111111111111111111111111111111,10101111111111111111111111111111111111,101011111111111111111111111111111111111,1010111111111111111111111111111111111111,10101111111111111111111111111111111111111,101011111111111111111111111111111111111111,1010111111111111111111111111111111111111111,10101111111111111111111111111111111111111111,101011111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111111111111,10101111111111111111111111111111111111111111111111111111111111111111111 ⋆ Binary representation of the middle column of the "Rule 233" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>4. •

[A284179] • 1,10,101,1010,10111,101111,1010111,10101011,101111101,1011111110,10101111111,101010111111,1011111011111,10111111111111,101011111111111,1010101111111111,10111110111111111,101111111111111111,1010111111111111111,10111111111111111111,101011111111111111111,1010111111111111111111,10111111111111111111111,101011111111111111111111,1010111111111111111111111,10111111111111111111111111,101011111111111111111111111,1010111111111111111111111111,10111111111111111111111111111,101011111111111111111111111111,1010111111111111111111111111111,10111111111111111111111111111111,101011111111111111111111111111111,1010111111111111111111111111111111,10111111111111111111111111111111111,101011111111111111111111111111111111,1010111111111111111111111111111111111,10111111111111111111111111111111111111,101011111111111111111111111111111111111,1010111111111111111111111111111111111111,10111111111111111111111111111111111111111,101011111111111111111111111111111111111111,1010111111111111111111111111111111111111111,10111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111111111111111111,101011111111111111111111111111111111111111111111111111111111111111111,1010111111111111111111111111111111111111111111111111111111111111111111,10111111111111111111111111111111111111111111111111111111111111111111111 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 813", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 10000 * a(n - 4) - 10000 * a(n - 5) for n>10. •

[A096883] • 1,10,101,1010,10201,102010,1030301,10303010,104060401,1040604010,10510100501,105101005010,1061520150601,10615201506010,107213535210701,1072135352107010,10828567056280801,108285670562808010 ⋆ Expansion of (1+10x)/(1-101x^2). • a(n)=9a(n - 1) + 10a(n - 2) + 101 ^ floor((n - 2) / 2); a(n)=sum { k=0..floor(n / 2), binomial(floor(n / 2), k)10 ^ (n - 2k) } . •

[A266720] • 1,10,101,1011,10110,101101,1011010,10110101,101101010,1011010101,10110101010,101101010101,1011010101010,10110101010101,1011010101010101,10110101010101010,101101010101010101,1011010101010101010,10110101010101010101 ⋆ Binary representation of the middle column of the "Rule 59" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 450 * (- 1) ^ n + 10009 * 10 ^ n - 550) / 9900 for n>1. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>4. •

[A033128] • 1,10,101,1011,10110,101101,1011011,10110110,101101101,1011011011,10110110110,101101101101,1011011011011,10110110110110,101101101101101,1011011011011011,10110110110110110 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,0,1. • a(n) = 10 * a(n - 1) + (1 / 9) *{- (n mod 3) + 5 * [(n + 1) mod 3] + 2 * [(n + 2) mod 3] }, with a(0)=0. - _ Paolo P. Lava _ , Jul 30 2009 • a(n) = 10 * a(n - 1) + a(n - 3) - 10 * a(n - 4). G.f.: x * (1 + x ^ 2) / ((x - 1) * (10 * x - 1) * (1 + x + x ^ 2)). - _ R. J. Mathar _ , Oct 05 2009 • a(n) = floor((101 / 999) * 10 ^ n). - _ Tani Akinari _ , Jul 22 2015 •

[A267623] • 1,10,101,1011,10111,101111,1011111,10111111,101111111,1011111111,10111111111,101111111111,1011111111111,10111111111111,101111111111111,1011111111111111,10111111111111111,101111111111111111,1011111111111111111,10111111111111111111,101111111111111111111 ⋆ Binary representation of the middle column of the "Rule 187" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>2. • a(n) = (91 * 10 ^ n - 10) / 90 for n>0. - _ Colin Barker _ , Mar 10 2017 •

[A041041] • 1,10,101,1020,10301,104030,1050601,10610040,107151001,1082120050,10928351501,110365635060,1114584702101,11256212656070,113676711262801,1148023325284080,11593909964103601,117087122966320090,1182465139627304501,11941738519239365100 ⋆ Denominators of continued fraction convergents to sqrt(26). • a(n) = 10 * a(n - 1) + a(n - 2), n>=1; a(- 1):=0, a(0)=1. • a(n) = S(n, 10 * I) * (- I) ^ n with I ^ 2:= - 1 and S(n, x)=U(n, x / 2) Chebyshev's polynomials of the second kind. See A049310. • a(n) = (ap ^ (n + 1) - am ^ (n + 1)) / (ap - am) with ap = 5 + sqrt(26), am = 5 - sqrt(26) = - 1 / ap. • a(n) = F(n, 10), the n - th Fibonacci polynomial evaluated at x=10. - _ T. D. Noe _ , Jan 19 2006 • a(n) = ((5 + Sqrt[26]) ^ n - (5 - Sqrt[26]) ^ n) / (2Sqrt[26]); a(n) = Sum[Binomial[n - 1 - i,i] * 10 ^{ n - 1 - 2i } , { i,0,Floor[(n - 1) / 2] }]. - _ Sergio Falcon _ , Sep 24 2007 •

[A163461] • 1,10,101,1028,10525,108238,1116809,11551760,119703769,1242078802,12900820685,134090546972,1394465011381,14507216994070,150967169994161,1571338917363368,16357694083001905,170302719022328218 ⋆ a(n) = 18*a(n-1) - 79*a(n-2) for n > 1; a(0) = 1, a(1) = 10. • a(n) = ((2 + sqrt(2)) * (9 + sqrt(2)) ^ n + (2 - sqrt(2)) * (9 - sqrt(2)) ^ n) / 4. •

[A081192] • 1,10,101,1030,10601,110050,1151501,12135070,128702801,1372684090,14712104501,158346365110,1710428956601,18532288986130,201313313019101,2191569650755150,23901375026212001,261062105099480170 ⋆ 10th binomial transform of (1,0,1,0,1,.....), A059841. • a(n) = 20 * a(n - 1) - 99 * a(n - 2), a(0)=1, a(1)=10. • a(n) = 9 ^ n / 2 + 11 ^ n / 2. • a(n) = Sum _{ k=0..floor(n / 2) } C(n,2 * k) * 10 ^ (n - 2 * k). •

[A290070] • 1,10,101,1100,11101,111100,1111101,11111100,111111101,1111111100,11111111101,111111111100,1111111111101,11111111111100,111111111111101,1111111111111100,11111111111111101,111111111111111100,1111111111111111101,11111111111111111100,111111111111111111101,1111111111111111111100 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 641", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>4. •

[A290412] • 1,10,101,1110,11001,111111,1110000,11111111,111100000,1111111111,11111000000,111111111111,1111110000000,11111111111111,111111100000000,1111111111111111,11111111000000000,111111111111111111,1111111110000000000,11111111111111111111,111111111100000000000,1111111111111111111111 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 785", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + 11 * a(n - 2) - 110 * a(n - 3) - 10 * a(n - 4) + 100 * a(n - 5) for n>6. •

[A290525] • 1,10,101,1111,11000,111111,1110000,11111111,111100000,1111111111,11111000000,111111111111,1111110000000,11111111111111,111111100000000,1111111111111111,11111111000000000,111111111111111111,1111111100000000000,11111111111111111111,111111111100000000000,1111111111111111111111 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 833", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + 11 * a(n - 2) - 110 * a(n - 3) - 10 * a(n - 4) + 100 * a(n - 5) for n>4. •

[A290813] • 1,10,101,1111,11100,111111,1111100,11111111,111111100,1111111111,11111111100,111111111111,1111111111100,11111111111111,111111111100,1111111111111111,11111111111111100,1111111111111111111,111111111100,11111111111111111100,1111111111111111111111 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 961", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * (10 ^ n - 10) / 9 for n>2 and even. • a(n) = (10 ^ (n + 1) - 1) / 9 for n>2 and odd. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>5. •

[A290834] • 1,10,101,1111,11100,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111,111111111111111111111 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 969", based on the 5-celled von Neumann neighborhood. • a(n) = (10 ^ (1 + n) - 1) / 9 for n>4. • a(n) = 11 * a(n - 1)

- 10 * a(n - 2) for n>6. ●

[**A162849**] ● 0,1,10,101,2010,10201,303010,1040201,40703010,107050201,5140803010,11112050201,625200803010,1162613050201,74146210803010,122513313050201,8639754210803010,12992793413050201,993903355210803010 ★ Pairs of numbers n that add up to the 'backward decimal expansion' of fraction 1/109 and whose difference is the 'backward decimal expansion' of fraction 1/89 ● a(n)= 201 * a(n - 2) - 10100 * a(n - 4) + 9900 * a(n - 6). G.f.: x ^ 2 * (- 1 - 10 * x + 100 * x ^ 2) / ((x - 1) * (1 + x) * (90 * x ^ 2 - 1) * (110 * x ^ 2 - 1)). [From _ R. J. Mathar _ , Feb 11 2010] ●

[**A041182**] ● 10,101,2030,20401,410050,4120901,82828070,832401601,16730860090,168141002501,3379550910110,33963650103601,682652552982130,6860489179924901,137892436151480150,1385784850694726401 ★ Numerators of continued fraction convergents to sqrt(102). ● a(n) = 202 * a(n - 2) - a(n - 4). [_ Bruno Berselli _ , Oct 30 2013] ●

[**A053041**] ● 1,10,102,1000,10000,100002,1000006,10000000,100000008,1000000000,10000000010,100000000008,1000000000012,10000000000004,100000000000005,1000000000000000,10000000000000016,100000000000000008,1000000000000000018,10000000000000000000 ★ Smallest n-digit number divisible by n. ● a(n) = n * ceiling(10 ^ (n - 1) / n). - _ Vladeta Jovovic _ , Dec 27 2001 ●

[**A037503**] ● 1,10,102,1021,10210,102102,1021021,10210210,102102102,1021021021,10210210210,102102102102,1021021021021,10210210210210,1021021021021021 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,0,2. ● a(n)=10 * a(n - 1) + (1 / 3) *{- (n mod 3) + 2 * [(n + 1) mod 3] + 2 * [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[**A037680**] ● 1,10,102,1023,10231,102310,1023102,10231023,102310231,1023102310,10231023102,102310231023,1023102310231,10231023102310,1023102310231,10231023102310231023 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,0,2,3. ● a(n)=10 * a(n - 1) + (1 / 4) *{- [(n + 1) mod 4] + 2 * [(n + 2) mod 4] + 3 * [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[**A191014**] ● 0,1,10,102,1040,10604,108120,1102408,11240320,114608016,1168560800,11914824032,121485361920,1238683267264,12629803396480,128775400499328,1313013611786240,13387686918861056,136502896412183040,1391804337959552512,14191049172419891200 ★ a(n) = 10*a(n-1) + 2*a(n-2), with a(0)=0, a(1)=1. ● a(n)=1 / 18 * sqrt(3) * ((5 + 3 * sqrt(3)) ^ n - (5 - 3 * sqrt(3)) ^ n), Paolo P. Lava, May 31 2011 ●

[**A162666**] ● 1,10,102,1060,11204,120200,1306008,14340560,158822416,1771073440,19856872032,223572243520,2525471411264,28599348360320,324490768902528,3687079238739200,41941489422336256,477496023050283520 ★ a(n) = 20*a(n-1)-98*a(n-2) for n > 1; a(0) = 1, a(1) = 10. ● a(n) = ((10 + sqrt(2)) ^ n + (10 - sqrt(2)) ^ n) / 2. ●

[**A037687**] ● 1,10,103,1032,10321,103210,1032103,10321032,103210321,1032103210,10321032103,103210321032,1032103210321,10321032103210,1032103210321032,10321032103210321032 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,0,3,2. ● a(n)=10 * a(n - 1) + (1 / 2) *{ (n mod 4) - [(n + 1) mod 4] + [(n + 2) mod 4] + [(n + 3) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] ●

[**A015588**] ● 0,1,10,103,1060,10909,112270,1155427,11891080,122377081,1259444050,12961571743,133394049580,1372825211029,14128434259030,145402818223387,1496413485010960,15400343304779761,158492673502830490,1631127764942644183,16786755669934933300 ★ Expansion of x/(1 - 10*x - 3*x^2). ● a(n) = 10 * a(n - 1) + 3 * a(n - 2). ● a(n) = - (1 / 28) * [5 - 2 * sqrt(7)] ^ n * sqrt(7) + (1 / 28) * [5 + 2 * sqrt(7)] ^ n * sqrt(7), with n>=0. - _ Paolo P. Lava _ , Jul 15 2008 ●

[**A162667**] ● 1,10,103,1090,11809,130450,1463527,16616890,190375681,2195675290,25447064743,295960791730,3450850554529,40308814292770,471443782066087,5518920654923050,64648366238050561,757632021233475370 ★ a(n) = 20*a(n-1)-97*a(n-2) for n > 1; a(0) = 1, a(1) = 10. ● a(n) = ((10 + sqrt(3)) ^ n + (10 - sqrt(3)) ^ n) / 2. ●

[**A190954**] ● 0,1,10,104,1080,11216,116480,1209664,12562560,130464256,1354892800,14070785024,146127421440,1517557354496,15760083230720,163671061725184,1699750950174720,17652193748647936,183320941287178240,1903818187866374144,19771465643812454400 ★ a(n) = 10*a(n-1) + 4*a(n-2), with a(0)=0, a(1)=1. ● a(n) = (1 / 58) * sqrt(29) * ((5 + sqrt(29)) ^ n - (5 - sqrt(29)) ^ n). - _ Paolo P. Lava _ , Jun 01 2011 ●

[**A163309**] ● 1,10,104,1112,12112,133504,1482560,16539776,185041408,2073722368,23263855616,261146501120,2932583993344,32939377795072,370032416817152,4157190790283264,46706970546995200,524778969784385536 ★ a(n) = 18*a(n-1) - 76*a(n-2) for n > 1; a(0) = 1, a(1) = 10. ● a(n) = ((5 + sqrt(5)) * (9 + sqrt(5)) ^ n + (5 - sqrt(5)) * (9 - sqrt(5)) ^ n) / 10. ●

[**A163165**] ● 1,10,104,1120,12416,140800,1624064,18964480,223379456,2646999040,31495553024,375799152640,4492409962496,53771480596480,644158255529984,7721102973337600,92582866935873536,1110431453277061120 ★ a(n) = 20*a(n-1)-96*a(n-2) for n > 1; a(0) = 1, a(1) = 10. ● a(n) = (12 ^ n + 8 ^ n) / 2. ●

[**A190955**] ● 0,1,10,105,1100,11525,120750,1265125,13255000,138875625,1455031250,15244690625,159722062500,1673444078125,17533051093750,183697731328125,1924642568750000,20164914344140625,211272356285156250,2213548134572265625,23191843127148437500 ★ a(n) = 10*a(n-1) + 5*a(n-2), with a(0)=0, a(1)=1. ● a(n) = (1 / 60) * sqrt(30) * ((5 + sqrt(30)) ^ n - (5 - sqrt(30)) ^ n). - _ Paolo P. Lava _ , Jun 01 2011 ●

[**A163166**] ● 1,10,105,1150,13025,151250,1787625,21383750,257850625,3125556250,38015315625,463378468750,5656114390625,69101333281250,844695798515625,10329289308593750,126339685312890625,1545511221941406250 ★ a(n) = 20*a(n-1)-95*a(n-2) for n > 1; a(0) = 1, a(1) = 10. ● a(n) = ((10 + sqrt(5)) ^ n + (10 - sqrt(5)) ^ n) / 2. ●

[**A068767**] ● 1,1,10,105,1150,13050,152500,1825625,22293750,276758750,3483287500,44352006250,570333187500,7396680812500,96638930625000,1270796364765625,16806545339843750,223400240246093750 ★ Generalized Catalan numbers. ● a(n) = (5 ^ n) * p(n, - 4 / 5) with the row polynomials p(n, x) defined from array A068763. ● a(n + 1) = 5 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1=a(1). ●

[**A190956**] ● 0,1,10,106,1120,11836,125080,1321816,13968640,147617296,1559984800,16485551776,174215426560,1841067576256,19455968321920,205606088676736,2172796696698880,22961603499049216,242652815170685440,2564297772701149696,27098894618035609600 ★ a(n) = 10*a(n-1) + 6*a(n-2), with a(0)=0, a(1)=1. ● a(n) = (1 / 62) * sqrt(31) * ((5 + sqrt(31)) ^ n - (5 - sqrt(31)) ^ n). - _ Paolo P. Lava _ , Jun 01 2011 ●

[**A015589**] ● 0,1,10,107,1140,12149,129470,1379743,14703720,156695401,1669880050,17795668307,189645843420,2021028112349,21537802027430,229525217060743,2446016784799440,26066844367419601,277790561167792090,2960373522249858107,31548269150673125700 ★ Expansion of x/(1 - 10*x - 7*x^2). ● a(n) = 10 * a(n - 1) + 7 * a(n - 2). ● a(n) = (1 / 16) * [5 + 4 * sqrt(2)] ^ n * sqrt(2) - (1 / 16) * sqrt(2) * [5 - 4 * sqrt(2)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jul 15 2008 ●

[**A163192**] ● 1,10,107,1210,14249,172450,2123843,26439010,331262801,4166428090,52521121307,662944613770,8374427993849,105834710796370,1337872412499443,16914820145926450,213874268556080801 ★ a(n) = 20*a(n-1)-93*a(n-2) for n > 1; a(0) = 1, a(1) = 10. ● a(n) = ((10 + sqrt(7)) ^ n + (10 - sqrt(7)) ^ n) / 2. ●

[**A177060**] ● 10,108,304,598,990,1480,2068,2754,3538,4420,5400,6478,7654,8928,10300,11770,13338,15004,16768,18630,20590,22648,24804,27058,29410 ★ (7*n+2)*(7*n+5)=49*n^2+49*n+10 ● a(n)=98 * n + a(n - 1) with a(0)=10 ●

[**A157084**] ● 0,10,108,1078,10680,105730,1046628,10360558,102558960,1015229050,10049731548,99482086438,984771132840,9748229241970,96497521286868,955226983626718,9455772314980320 ★ Consider all consecutive integer Pythagorean quintuples (X, X+1, X+2, Z-1, Z) ordered by increasing Z; sequence gives X values. ● a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3). ● a(n) = (1 / 2 + sqrt(6) / 4) * (5 + 2 * sqrt(6)) ^ n - (sqrt(6) / 4 - 1 / 2) * (5 - 2 * sqrt(6)) ^ n - 1. (End) ●

[**A190957**] ● 0,1,10,108,1160,12464,133920,1438912,15460480,166116096,1784844800,19177376768,206052526080,2213944274944,23787862958080,255590183780352,2746204741468160,29506768884924416,317037326780989440,3406427418889289728,36600572803140812800 ★ a(n) = 10*a(n-1) + 8*a(n-2), with a(0)=0, a(1)=1. ● a(n) = (1 / 66) * sqrt(33) * ((5 + sqrt(33)) ^ n - (5 - sqrt(33)) ^ n). - _ Paolo P. Lava _ , Jun 01 2011 ●

[**A198700**] ● 10,109,1099,10999,109999,1099999,10999999,109999999,1099999999,10999999999,109999999999,1099999999999,10999999999999,109999999999999,1099999999999999,10999999999999999,109999999999999999 ★ 11*10^n-1. ● a(n) = 10 * a(n - 1) + 9. a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. ●

[**A015591**] ● 0,1,10,109,1180,12781,138430,1499329,16239160,175885561,1905008050,20633050549,223475577940,2420453234341,26215812544870,283942204557769,3075364358481520,33309123425835121,360769513484684890,3907477245679364989,42321698078155813900 ★ Expansion of x/(1 - 10x - 9x^2). ● a(n) = 10 * a(n - 1) + 9 * a(n - 2). ● a(n) = (1 / 68) * sqrt(34) * ((5 + sqrt(34)) ^ n - (5 - sqrt(34)) ^ n), with n >= 0. - _ Paolo P. Lava _ , Jan 13 2009 ●

[**A078922**] ● 1,10,109,1189,12970,141481,1543321,16835050,183642229,2003229469,21851881930,238367471761,2600190307441,28363725910090,309400794703549,3375045015828949,36816094379414890,401601993157734841 ★ a(n) = 11*a(n-1) - a(n-2). ● a(1)=1, a(2)=10 and for n>2 a(n) = ceiling(g * f ^ n) where f=(11 + sqrt(117)) / 2 and g=(1 - 3 / sqrt(13)) / 2 - _ Benoit Cloitre _ , Jan 12 2003 ● a(n)a(n + 3) = 99 + a(n + 1)a(n + 2). - _ Ralf Stephan _ , May 29 2004 ● a(n) = S(n - 1, 11) - S(n - 2, 11) = T(2 * n - 1, sqrt(13) / 2) / (sqrt(13) / 2). ● a(n + 1) = ((- 1) ^ n) * S(2 * n, I * 3), n>=0, with the imaginary unit I and S(n, x)=U(n, x / 2) Chebyshev's polynomials of the second kind, A049310. ●

[**A199760**] ● 1,10,109,1198,13177,144946,1594405,17538454,192922993,2122152922,23343682141,256780503550,2824585539049,31070440929538,341774850224917,3759523352474086,41354756877214945,454902325649364394,5003925582143008333 ★ (9*11^n+1)/10. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2). ● a(n) = 11 * a(n - 1) - 1. ● a(n) = 11 ^ n - sum(11 ^ i, i=0..n - 1) for n>0. [_ Bruno Berselli _ , Jun 20 2013] ●

[**A082181**] ● 1,1,10,109,1270,15562,198100,2596645,34825150,475697854,6595646860,92590323058,1313427716380,18798095833012,271118225915560,3936516861402901,57494017447915150,844109420603623030 ★ a(0)=1; for n>=1, a(n) = sum(k=0..n, 9^k*N(n,k)), where N(n,k) =1/n*C(n,k)*C(n,k+1) are the Narayana numbers (A001263). ● a(n) = (10(2n - 1)a(n - 1) - 64(n - 2)a(n - 2)) / (n + 1) for n>=2, a(0)=a(1)=1. - _ Philippe Deléham _ , Aug 19 2005 ●

[**A095740**] ● 1,10,109,1288,16417,224686,3288205,51263164,848456353,14862109042,274743964621,5346258202000,109249238631169,2339328151461718,52384307381414317,1224472783033479556,29826054965115774145 ★ E.g.f.: exp(x)/(1-x)^9. ● a(n) = Sum _{ k = 0..n } binomial(n, k) * (k + 8)! / 8!. ● a(n) = 2F0(9, - n;; - 1). - _ Benedict W. J. Irwin _ , May 27 2016 ● a(n) = ((n ^ 8 + 28 * n ^ 7 + 350 * n ^ 6 + 2492 * n ^ 5 + 10899 * n ^ 4 + 29596 * n ^ 3 + 48082 * n ^ 2 + 42048 * n + 14833) * Gamma(n + 1,1) * e + n ^ 7 + 28 * n ^ 6

+ 349 * n ^ 5 + 2465 * n ^ 4 + 10579 * n ^ 3 + 27501 * n ^ 2 + 40132 * n + 25487) / 40320. - _ Robert Israel _ , May 27 2016 •

[A097257] • 0,10,110,120,1210,1220,1320,1330,13310,13320,13420,13430,14520,14530,14630,14640,146410,146420,146520,146530,147620,147630,147730,147740,159720 ⋆ Numbers whose set of base 11 digits is {0,A}, where A base 11 = 10 base 10. • a(2n) = 11 * a(n), a(2n + 1) = a(2n) + 10. •

[A158492] • 10,110,410,910,1610,2510,3610,4910,6410,8110,10010,12110,14410,16910,19610,22510,25610,28910,32410,36110,40010,44110,48410,52910,57610 ⋆ 100n^2 + 10. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 21 2012 •

[A249845] • 10,110,560,1920,5170,11830,24080,44880,78090,128590,202400,306800,450450,643510,897760,1226720,1645770,2172270,2825680,3627680,4602290,5775990,7177840,8839600,10795850 ⋆ Number of length 1+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A110251] • 1,10,110,910,9910,109110,909110,10009910,110910910,889111110,9900110110,111108908910,901089008910,10089889910110,109110889111110,889091091110910,10090010109909910,110010900901009110 ⋆ A Jacobi transform of 10^n. • a(n)=sum { k=0..n, Jacobi(k, 2n - 2k + 1) * 10 ^ k } •

[A113705] • 1,10,110,1010,10110,100010,1001110,10000010,100010110,1000001010,10000100110,100000000010,1000001011110,10000000000010,1000000100001110,1000000000101010,10000000100010110,100000000000000010,10000000010010011110,100000000000000000010,10000000010000110110 ⋆ Inverse Moebius transform of powers of 10. • a(n) = Sum _{ k=0..n } if(mod(n, k)=0, 10 ^ k, 0). •

[A289405] • 1,10,110,1100,11100,111000,1111000,11110000,111110000,1111100000,11111100000,111111000000,1111111000000,11111111000000,111111110000000,1111111100000000,11111111000000000,111111111000000000,1111111110000000000,11111111110000000000,1111111111000000000 ⋆ Binary representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 566", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + 10 * a(n - 2) - 100 * a(n - 3) for n>2. •

[A285768] • 1,10,110,1100,11110,110990,1111110,11110000,111111000,1111099990,11111111110,111110998900,1111111111110,11111109999990,111111111099890,1111111100000000,11111111111111110,111111110999889000,1111111111111111110,1111111110999999898900,11111111111109999890 ⋆ Moebius transform of repunits (A002275). • a(n) = Sum _{ d|n } mu(n / d) * (10 ^ d - 1) / 9, where mu() is the Moebius function (A008683). •

[A105279] • 0,10,110,1110,11110,111110,1111110,11111110,111111110,1111111110,11111111110,111111111110,1111111111110,11111111111110,111111111111110,1111111111111110,11111111111111110,111111111111111110 ⋆ a(0)=0; a(n) = 10*a(n-1) + 10. • a(n) = (10 / 9) * (10 ^ n - 1), with n>=0. • a(n) = Sum _{ k=1..n } 10 ^ k. •

[A057093] • 1,10,110,1200,13100,143000,1561000,17040000,186010000,2030500000,22165100000,241956000000,2641211000000,28831670000000,314728810000000,3435604800000000,37503336100000000,409389409000000000,4468927451000000000,48783168600000000000 ⋆ Scaled Chebyshev U-polynomials evaluated at i*sqrt(10)/2. Generalized Fibonacci sequence. • a(n) = 10 * (a(n - 1) + a(n - 2)), a(- 1)=0, a(0)=1. • a(n) = S(n, i * sqrt(10)) * (- i * sqrt(10)) ^ n with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the 2nd kind, A049310. • a(n) = - (1 / 70) * [5 - sqrt(35)] ^ (n + 1) * sqrt(35) + (1 / 70) * sqrt(35) * [5 + sqrt(35)] ^ (n + 1), with n>=0. - _ Paolo P. Lava _ , Nov 20 2008 •

[A055276] • 1,10,110,1210,13310,146410,1610510,17715610,194871710,2143588810,23579476910,259374246010,2853116706110,31384283767210,345227121439310,3797498335832410,41772481694156510,459497298635721610 ⋆ First differences of 11^n (A001020). • a(n) = 11a(n - 1) + ((- 1) ^ n) * C(1, 1 - n). • a(n) = 10 * 11 ^ (n - 1); a(0)=1. •

[A143749] • 0,1,10,110,1310,16610,221010,3051510,43357110,630098810,9324499610,140046944510,2129440330510,32716182966610,507115641523810,7920881045935110,124548017695545510,1969917348711212010 ⋆ Series reversion of x * (1 - x) / (1 + 9*x). • a(n + 1) = 0 ^ n + (1 / (n + 0 ^ n)) * sum { k=0..n, C(n,k) * C(n,k - 1) * 10 ^ k } ; • a(n) = 9 * a(n - 1) + Sum _{ k=1..n - 1 } a(k) * a(n - k) if n>1. - _ Michael Somos _ , Jul 23 2011 •

[A284352] • 1,10,111,1011,11111,101111,1111111,10111111,111111111,1011111111,11111111111,101111111111,1111111111111,10111111111111,111111111111111,1011111111111111,11111111111111111,101111111111111111,1111111111111111111,10111111111111111111,111111111111111111111,1011111111111111111111 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 899", based on the 5-celled von Neumann neighborhood. • a(n) = (- 20 + 9 * (- 10) ^ n + 191 * 10 ^ n) / 180. • a(n) = a(n - 1) + 100 * a(n - 2) - 100 * a(n - 3) for n>2. •

[A290232] • 1,10,111,1100,11111,111000,1111111,11110000,111111111,1111100000,11111111111,111111000000,1111111111111,11111110000000,111111111111111,1111111100000000,11111111111111111,111111111000000000,1111111111111111111,11111111110000000000,111111111111111111111 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 773", based on the 5-celled von Neumann neighborhood. • a(n) = (10 ^ (n + 1) - 1) / 9 for n even. • a(n) = (10 ^ (n + 1) - 10 ^ ((n + 1) / 2)) / 9 for n odd. • a(n) = 10 * a(n - 1) + 11 * a(n - 2) - 110 * a(n - 3) - 10 * a(n - 4) + 100 * a(n - 5) for n>4. •

[A290680] • 1,10,111,1110,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111 ⋆ Binary representation of the diagonal from the corner to the origin of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. • a(n) = (10 ^ (1 + n) - 1) / 9 for n>3. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>5. •

[A015592] • 0,1,10,111,1220,13421,147630,1623931,17863240,196495641,2161452050,23775972551,261535698060,2876892678661,31645819465270,348104014117971,3829144155297680,42120585708274481 ⋆ a(n) = 10*a(n-1) + 11*a(n-2). • a(n) = 11 ^ (n - 1) - a(n - 1). G.f.: x / (1 - 10x - 11x ^ 2). - _ Emeric Deutsch _ , Apr 01 2004 • a(n) = - (1 / 12) * (- 1) ^ n + (1 / 12) * 11 ^ n, with n>=0. - _ Paolo P. Lava _ , Jul 15 2008 •

[A014484] • 1,10,112,1440,21120,349440,6451200,131604480,2941747200,71530905600,1880240947200,53137244160000,1606870263398400,51776930709504000,1771128112545792000,64103411041173504000 ⋆ Expansion of (1+2x)/(1-2x)^4 (E.g.f.). • a(n) = (n + 1)(n + 2)(2n + 3) / 6 * 2 ^ n * n!. - _ Ralf Stephan _ , Mar 24 2004 •

[A079678] • 1,10,115,1360,16265,195660,2361925,28577440,346316645,4201744870,51023399190,620022989200,7538489480075,91696845873760,1115794688036920,13581508654978560,165357977228808925,2013721466517360650 ⋆ a(n) = a(n,m) = sum(k=0,n,binomial(m*k,k)*binomial(m*(n-k),n-k)) for m=5. • a(n) = 5 / 8 * (3125 / 256) ^ n * (1 + c / sqrt(n) + o(n ^- 1 / 2)) where c=0.356... • a(n) = sum(k=0,n,binomial(5 * k + l,k) * binomial(5 * (n - k) - l,n - k)) for every real number l. - _ Rui Duarte _ and António Guedes de Oliveira, Feb 16 2013 • a(n) = sum(k=0,n,4 ^ (n - k) * binomial(5n + 1,k)). - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 • a(n) = sum(k=0,n, 5 ^ (n - k) * binomial(4n + k,k)). - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 •

[A155622] • 1,10,118,1324,14626,161020,1771498,19487044,214358626,2357947180,25937423578,285311668564,3138428372626,34522712135740,379749833566858,4177248169382884,45949729863506626,505447028499162700 ⋆ 11^n-2^n+1. • a(n)=13 * a(n - 1) - 22 * a(n - 2) + 10 with a(0)=1, a(1)=10 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A024128] • 1,10,119,1328,14637,161046,1771555,19487164,214358873,2357947682,25937424591,285311670600,3138428376709,34522712143918,379749833583227,4177248169415636,45949729863572145,505447028499293754 ⋆ 11^n-n. • a(n) = 13 * a(n - 1) - 23 * a(n - 2) + 11 * a(n - 3). - _ Vincenzo Librandi _ , Jun 17 2013 •

[A024127] • 0,10,120,1330,14640,161050,1771560,19487170,214358880,2357947690,25937424600,285311670610,3138428376720,34522712143930,379749833583240,4177248169415650,45949729863572160,505447028499293770 ⋆ a(n) = 11^n-1. • a(n) = 11 * a(n - 1) + 10 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 19 2010 • a(n) = Sum _{ i=1..n } 10 ^ i * binomial(n,n - i) for n>0, a(0)=0. - _ Bruno Berselli _ , Nov 11 2015 •

[A027770] • 10,121,792,3718,14014,45045,128128,330616,787644,1755182,3695120,7407036,14226212,26313518,47070144,81719000,138105110,227779695,367447080,580870290,901350450,1374917115,2064391680,3054514320,4458356760 ⋆ (n+1)*C(n+1,10). • a(n) = C(n + 1, 10) * C(n + 1, 1). - _ Zerinvary Lajos _ , Jun 08 2005, corrected by _ R. D. Mathar _ , Feb 13 2016 •

[A202808] • 1,10,121,1177,8232,43483,185051,666610,2105474,5980085,15560519,37618385,85418437,183739050,377000959,742024924,1407514167,2583094972,4601680965,7980089529,13504273038,22347278077,36230162235,57638635054 ⋆ Number of n X 4 nonnegative integer arrays with each row and column increasing from zero by 0, 1 or 2. • a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13) for n>13. •

[A098309] • 0,1,10,121,1440,17161,204490,2436721,29036160,345997201,4122930250,49129165801,585427059360,6975995546521,83126519498890,990542238440161,11803380341783040,140650021862956321,1675996882013692810,19971312562301357401,237979753865602596000 ⋆ Unsigned member r = -10 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n) = 12 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n) = 11 * a(n - 1) + 11 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=10. • a(n) = (- 2 * (- 1) ^ n + (6 - sqrt(35)) ^ n + (6 + sqrt(35)) ^ n) / 14. - _ Colin Barker _ , Jan 31 2017 •

[A056116] • 1,10,121,1452,17424,209088,2509056,30108672,361304064,4335648768,52027785216,624333422592,7492001071104,89904012853248,1078848154238976,12946177850867712,155354134210412544 ⋆ a(n) = 121*12^(n-2), a(0)=1, a(1)=10. • a(n) = 12 * a(n - 1) + (- 1) ^ n * C(2, 2 - n). •

[A173044] • 10,135,740,2545,6750,15155,30280,55485,95090,154495,240300,360425,524230,742635,1028240,1395445,1860570,2441975,3160180,4037985,5100590,6375715,7893720,9687725,11793730 ⋆ Product plus sum of five consecutive nonnegative numbers. • a(n) = (n + 2) * (n ^ 4 + 8 * n ^ 3 + 19 * n ^ 2 + 12 * n + 5) = n ^ 5 + 10 * n ^ 4 + 35 * n ^ 3 + 50 * n ^ 2 + 29 * n + 10. [_ Bruno Berselli _ , Jun 25 2012] •

[A240917] • 0,10,136,1378,12880,117370,1060696,9559378,86073760,774781930,6973391656,62761587778,564857478640,5083726873690,45753570561016,411782221142578,3706040248563520,33354363011912650,300189269431736776,2701703431859199778 ⋆ a(n) = 2*3^(2*n) - 3*3^n + 1. • a(n) = 1 - 3 ^ (1 + n) + 2 * 9 ^ n. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). •

[A128862] • 1,10,136,1891,26335,366796,5108806,71156485,991081981,13803991246,192264795460 ⋆ Numbers simultaneously triangular and centered triangular. • a(n + 2) = 14 * a(n + 1) - a(n) - 3, a(n + 1) = 7 * a(n) - 1.5 + 0.5 *

(192 * a(n) ^ 2 - 96 * a(n) - 15) ^ 0.5. G.f.: f(z)=a(1) * z + a(2) * z ^ 2 + ... =(z * (1 - 5 * z + z ^ 2)) / ((1 - z) * (1 - 14 * z + z ^ 2)). - _ Richard Choule t _ , Oct 01 2007 •

[A098270] • 1,10,148,2440,42256,752800,13660480,251113600,4660568320,87140108800,1638884021248,30970912737280,587599919386624,11185644310405120,213540626285805568,4086692369433395200,78378887309200261120 ⋆ a(n) = 2^n*P_n(5), 2^n times the Legendre polynomial of order n at 5. • a(n) = Sum _{ k=0..floor(n / 2) } (- 1) ^ k * binomial(n,k) * binomial(2(n - k), n) * 5 ^ (n - 2k). •

[A116156] • 0,10,150,1500,12500,93750,656250,4375000,28125000,175781250,1074218750,6445312500,38085937500,222167968750,1281738281250,7324218750000,41503906250000,233459472656250,1304626464843750,7247924804687500 ⋆ (n^2+n)*5^n. • a(n) = 15 * a(n - 1) - 75 * a(n - 2) + 125 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 •

[A025750] • 1,1,10,150,2625,49875,997500,20662500,439078125,9513359375,209293906250,4661546093750,104884787109375,2380077861328125,54401779687500000,1251240932812500000,28934946571289062500 ⋆ 5th-order Patalan numbers (generalization of Catalan numbers). • a(n) = (sum(k=0..n - 1, (- 1) ^ (n - k - 1) * binomial(n + k - 1,n - 1) * sum(j=0..k, 2 ^ j * binomial(k,j) * sum (i=j..n - k + j - 1, binomial(j,i - j) * binomial(k - j,n - 3 * (k - j) - i - 1) * 5 ^ (3 * (k - j) + i))))) / n, n>0, a(0)=1. - _ Vladimir Kruchinin _ , Dec 10 2011 • a(n) = ((- 5) ^ (n - 1) * sum(k=1..n, (5) ^ (n - k) * stirling1(n,k))) / n!, n> 0, a(0)=1. - _ Vladimir Kruchinin _ , Mar 19 2013 •

[A064747] • 1,10,163,2188,26245,295246,3188647,33480784,344373769,3486784402,34867844011,345191655700,3389154437773,33044255768278,320275094369455,3088366981419736,29648323021629457,283512088894331674,2701703435345984179 ⋆ n*9^n + 1. • a(0)=1, a(1)=10, a(2)=163, a(n)=19 * a(n - 1) - 99 * a(n - 2) + 81 * a(n - 3). - _ Harvey P. Dale _ , Jan 16 2016 •

[A078516] • 0,10,174,2298,27258,305574,3309444,35022618,364559760,3748221288,38170570414,385768464918,3874673308452,38718126671076,385227806897448,3818752082440794,37735160423265504,371852044352248824,3655440051907792536,35857177310350860328 ⋆ Sum of balls on the lawn for the s=4 tennis ball problem. • a(n) is asymptotic to c * sqrt(n) * (256 / 27) ^ n with c=2.8... - _ Benoit Cloitre _ , Jan 26 2003 •

[A053537] • 1,10,175,2500,38125,568750,8546875,128125000,1922265625,28832031250,432490234375 ⋆ Expansion of 1/((1+5*x)*(1-15*x)). • a(n) = (5 ^ n / 4) * ((3 ^ (n + 1)) + (- 1) ^ n). • a(n) = 10a(n - 1) + 75a(n - 2); a(0)=1. •

[A049380] • 1,10,175,3500,74375,1636250,36815625,841500000,19459687500,454059375000,10670395312500,252209343750000,5989971914062500,142837791796875000,3417904303710937500,82029703289062500000 ⋆ Expansion of (1-25*x)^(-2/5). • a(n) = (5 ^ n / n!) * product[k=0..n - 1] (5 * k + 2). •

[A095807] • 1,10,181,2620,33571,402130,4619161,51572440,564151951,6077367550,64696307941,682266771460,7140400943131,74263608488170,768372476393521,7915352287541680,81238170587875111 ⋆ Number of integers from 0 to 10^n-1 which contain at least one decimal digit = 0. • a(n) = 10 ^ n + 9 / 8 - 9 ^ (1 + n) / 8. • a(0)=1, a(1)=10, a(2)=181, a(n)=20 * a(n - 1) - 109 * a(n - 2) + 90 * a(n - 3). - _ Harvey P. Dale _ , Jun 20 2015 •

[A249643] • 0,0,10,190,1990,20710,207910,2087110,20879110,208870390,2088783190,20888623990,208887031990,2088878232790,20888790240790,208887981528790,2088879894408790,20888799735217510,208887998143304710,2088879989344263910,20888799901353855910 ⋆ Number of strings of length n over a 10-letter alphabet that begin with a nontrivial palindrome. • a(0) = 0; a(1) = 0; a(n + 1) = 10 * a(n) + 10 ^ ceiling((n + 1) / 2) - a(ceiling((n + 1) / 2)). •

[A134633] • 0,10,192,1314,5344,16050,39600,85162,165504,297594,503200,809490,1249632,1863394,2697744,3807450,5255680,7114602,9465984,12401794,16024800,20449170,25801072,32219274,39855744 ⋆ 5*n^5 + 3*n^3 + 2*n^2. Coefficients and exponents are the prime numbers in decreasing order. • a(n) = 5 * n ^ 5 + 3 * n ^ 3 + 2 * n ^ 2. • a(0)=0, a(1)=10, a(2)=192, a(3)=1314, a(4)=5344, a(5)=16050, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Apr 25 2012 •

[A249846] • 10,198,1500,6916,23526,65226,156184,335016,659682,1213102,2109492,3501420,5587582,8621298,12919728,18873808,26958906,37746198,51914764,70264404,93729174,123391642,160497864,206473080,262938130 ⋆ Number of length 2+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[A126431] • 0,10,200,3000,40000,500000,6000000,70000000,800000000,9000000000,100000000000,1100000000000,12000000000000,130000000000000,1400000000000000,15000000000000000,160000000000000000 ⋆ a(n) = n * 10^n. • a(0) =0, a(1)=10; for n>1, a(n) = 20 * a(n - 1) - 100 * a(n - 2). - _ Harvey P. Dale _ , Mar 30 2012 •

[A278125] • 10,215,665,1565,3365,6965,14165,28565,57365,114965,230165,460565,921365,1842965,3686165,7372565,14745365,29490965,58982165,117964565,235929365,471858965,943718165,1887436565,3774873365 ⋆ a(n) = 225*2^n - 235. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A053131] • 10,220,2002,11440,48620,167960,497420,1307504,3124550,6906900,14307150,28048800,52451256,94143280,163011640,273438880,445891810,708930508,1101716330,1677106640,2505433700,3679075400,5317936260 ⋆ Binomial coefficients C(2n-8,9). • a(n)= binomial(2 * n - 8, 9) if n >= 9 else 0; G.f. (10 + 120 * x + 252 * x ^ 2 + 120 * x ^ 3 + 10 * x ^ 4) / (1 - x) ^ 10. •

[A128013] • 10,250,3750,42500,406250,3468750,27343750,203125000,1441406250,9863281250,65527343750,424804687500,2697753906250,16833496093750,103454589843750,627441406250000,3761291503906250,22315979003906250 ⋆ (n^3+n)*5^n. • a(n) = 20 * a(n - 1) - 150 * a(n - 2) + 500 * a(n - 3) - 625 * a(n - 4). - _ Vincenzo Librandi _ , Feb 23 2013 •

[A001536] • 10,252,736,1462,2430,3640,5092,6786,8722,10900,13320,15982,18886,22032,25420,29050,32922,37036,41392,45990,50830,55912,61236,66802,72610 ⋆ (11n+1)(11n+10). • a(n) = 242 * n + a(n - 1) with a(0)=10. - _ Vincenzo Librandi _ , Nov 12 2010 •

[A089906] • 0,10,270,4650,66430,864210,10641990,126419770,1464197550,16641975330,186419753110,2064197530890,22641975308670,246419753086450,2664197530864230,28641975308642010,306419753086419790 ⋆ Sum of digits of numbers between 0 and (4/9)*(10^n-1). • a(n) = s(4, n - 1) where s(a, k)=a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)). • a(n) = (2 * (- 55 * (- 1 + 10 ^ n) + 9 * (10 + 9 * 10 ^ n) * n)) / 81. G.f.: 10 * x * (12 * x ^ 2 + 5 * x + 1) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 •

[A129005] • 0,10,300,4500,50000,468750,3937500,30625000,225000000,1582031250,10742187500,70898437500,457031250000,2888183593750,17944335937500,109863281250000,664062500000000,3968811035156250,23483276367187500 ⋆ (n^3+n^2)*5^n. • a(n) = 20 * a(n - 1) - 150 * a(n - 2) + 500 * a(n - 3) - 625 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[A180584] • 1,10,318,6114,126426,2588218,53055038,1087362018,22286085818,456763781330,9361593883038,191870363459178,3932475321605194,80597971743535618,1651894168575456078,33856364932336405826 ⋆ Number of Hamilton cycles in C_8 X P_n. • a(1) = 1, • a(2) = 10, • a(3) = 318, • a(4) = 6114, • a(5) = 126426, • a(6) = 2588218, •

[A249847] • 10,359,4064,25206,108250,363349,1022672,2522796,5618202,11530915,22141328,40225250,69742218,116180113,186961120,291914072,443818218,659023455,958152064,1366886990,1916851706,2646586701,3602627632 ⋆ Number of length 3+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[A079914] • 1,10,364,4664,40296,253072,1249768,5112544,17990600,56010096,157175032,403579328,959942664,2136701200,4488418616,8961185952,17105944648,31378295984,55549351800,95256535936,158727963272,257719103568 ⋆ Solution to the Dancing School Problem with 9 girls and n+9 boys: f(9,n). • a(0)=1, a(1)=10, a(2)=364, a(3)=4664, a(4)=40296, a(5)=253072, a(6)=1249768, for n >= 7: a(n)=n ^ 9 - 27n ^ 8 + 414n ^ 7 - 4158n ^ 6 + 29421n ^ 5 - 148743n ^ 4 + 530796n ^ 3 - 1276992n ^ 2 + 1866384n - 1255608. •

[A180359] • 0,10,530,19710,262180,1953170,10077750,40353670,134217800,387420570,1000000090,2357947790,5159780460,10604499490,20661046910,38443359510,68719476880,118587876650,198359290530,322687697950,512000000180 ⋆ n^9+9n • a(n)= + 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). G.f.: 10 * x * (1 + 43 * x + 1486 * x ^ 2 + 8773 * x ^ 3 + 15682 * x ^ 4 + 8773 * x ^ 5 + 1486 * x ^ 6 + 43 * x ^ 7 + x ^ 8) / (x - 1) ^ 10. [From _ R. J. Mathar _ , Sep 19 2010] •

[A249848] • 10,653,11052,92190,499654,2029683,6712760,19039308,47942370,109802473,232780196,462822282,871727454,1567698415,2708846832,4520158424,7314465594,11518015365,17701260700,26615543606,39236378742,56814086571 ⋆ Number of length 4+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[A166507] • 0,10,1023,2676,16867,111688,1522828,11386882,112273999,1212143716,11232152998,121321194596 ⋆ Least n-comma number: smallest non-negative integer that occurs in the sequence S[k+1]=S[k]+10*last_digit(S[k-1])+first_digit(S[k]) for at least n different splittings a(n)=concat(S[0],S[1]). • a(k) >= [10 ^ k / 9] * 10 = (10 ^ (k + 1) - 1) / 9 - 1. •

[A103623] • 1,10,1023,29524,349525,2441406,12093235,47079208,153391689,435848050,1111111111,2593742460,5628851293,11488207654,22250358075,41189313616,73300775185,125999618778,210027483919,340614792100,538947368421,833994048910,1264758228163 ⋆ n^9 + n^8 + n^7 + n^6 + n^5 + n^4 + n^3 + n^2 + n + 1. • a(n) = (n ^ 10 - 1) / (n - 1) with a(1) = 10. - _ Arkadiusz Wesolowski _ , Mar 30 2013 •

[A249849] • 10,1189,30080,337396,2307418,11342301,44075760,143723664,409195002,1045765501,2447657872,5325777236,10897117738,21155986693,39251185824,69997645248,120555724842,201316479477,327036629344,518272784212 ⋆ Number of length 5+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. •

[A228294] • 0,10,2046,88572,1398100,12207030,72559410,329554456,1227133512,3922632450,11111111110,28531167060,67546215516,149346699502,311505013050,617839704240,1172812402960,2141993519226,3780494710542,6471681049900,10778947368420,17513875027110 ⋆ a(n) = Sum_{k=1..10} n^k. • a(1) = 10, else a(n) = (n ^ 11 - n) / (n - 1). •

[A249850] • 10,2163,81816,1234328,10653298,63374127,289372688,1084868616,3492375066,9959590531,25736172264,61283393808,136218299906,285494859439,568743409824,1083950013296,1986962835498,3518666938611,6042075583672 ⋆ Number of length 6+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4)

+ 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>11. •

[A249851] • 10,3966,223505,4527441,49270055,354521087,1901506446,8194431990,29822392392,94893269020,270701817639,705393878111,1703213060445,3853520547653,8242557895820,16788311912316,32753314777686 ★ Number of length 7+4 0..n arrays with no five consecutive terms having the maximum of any two terms equal to the minimum of the remaining three terms. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12) for n>12. •

[A242854] • 0,10,151316,7997214,118118440,922080050,4878316860,19828978246,66593931344,193501094490,501827040100,1187422368110,2605282707576,5365498355074,10470873504140,19508549760150,34910198169760,60297759323306,100934312212404,164302439443390 ★ a(n) = 512*n^9 - 1024*n^7 + 672*n^5 - 160*n^3 + 10*n. • a(n) = 2 * n * (4 * n ^ 2 - 2 * n - 1) * (4 * n ^ 2 + 2 * n - 1) * (16 * n ^ 4 - 20 * n ^ 2 + 5). •

[A168459] • 1,11,11,21,21,31,31,41,41,51,51,61,61,71,71,81,81,91,91,101,101,111,111,121,121 ★ a(n) = (10*n + 5*(-1)^n - 3)/2. • a(n) = 10 * n - a(n - 1) - 8 with n>1, a(1)=1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). (End) • a(n) = 1 + 10 * floor(n / 2). - _ Vincenzo Librandi _ , Sep 19 2013 •

[A022345] • 0,11,11,22,33,55,88,143,231,374,605,979,1584,2563,4147,6710,10857,17567,28424,45991,74415,120406,194821,315227,510048 ★ Fibonacci sequence beginning 0, 11. • a(n) = 11 * F(n) = F(n + 4) + F(n + 2) + F(n) + F(n - 2) + F(n - 4) with n > 3 and F = A000045. • a(n) = Fibonacci(n + 5) - Fibonacci(n - 5), where Fibonacci(- 5.. - 1) = 5, - 3, 2, - 1, 1. - _ Bruno Berselli _ , May 22 2015 •

[A124297] • 1,11,11,31,61,151,361,911,2311,5951,15401,40051,104401,272611,712531,1863551,4875781,12760031,33398201,87424711,228859951,599129311,1568486161,4106261531,10750188961 ★ a(n) = 5*F(n)^2 + 5*F(n) + 1, where F(n) = Fibonacci(n). • a(n) = 5 * Fibonacci(n) ^ 2 + 5 * Fibonacci(n) + 1. •

[A266705] • 1,11,11,45,101,281,719,1899,4955,12989,33989,89001,232991,609995,1596971,4180941,10945829,28656569,75023855,196415019,514221179,1346248541,3524524421,9227324745,24157449791 ★ Coefficient of x^2 in minimal polynomial of the continued fraction [1^n,sqrt(5),1,1,1,...], where 1^n means n ones. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for n > 3. • a(n) = (2 ^ (- n) * (- 23 * (- 2) ^ n - (3 - sqrt(5)) ^ n * (- 9 + sqrt(5)) + (3 + sqrt(5)) ^ n * (9 + sqrt(5)))) / 5 for n>0. - _ Colin Barker _ , Sep 29 2016 •

[A277953] • 1,11,11,111,1011,10111,101011,1010111,10101011,101010111,1010101011,10101010111,101010101011,1010101010111,10101010101011,101010101010111,1010101010101011,10101010101010111,101010101010101011,1010101010101010111 ★ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 14", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. • a(n) = (539 - 450 * (- 1) ^ n + 10 ^ (1 + n)) / 99. (End) •

[A092805] • 1,11,11,1011,11011,11011,1011011,11011011,11011011,1011011011,11011011011,11011011011,1011011011011,1101101101101 1,1011011011011011,11011011011011011,11011011011011011 ★ Expansion of (1+10x)/((1-x)(1-1000x^3)). • a(n)=10 ^ (n + 1)(cos(2 * pi * n / 3) / 37 + 1 1 * sqrt(3)sin(2 * pi * n / 3) / 333 + 2 / 27) - 11 / 999 •

[A038687] • 11,12,13,14,15,16,17,18,19,21,22,23,24,25,26,27,28,29,31,32,33,34,35,36,37 ★ Concatenate i >= 1 and j >= 1, then sort. • a(n) = n + O(log n). - _ Charles R Greathouse IV _ , Jan 13 2015 •

[A061082] • 11,12,13,104,105,106,107,108,109,1010,1011,1012,1013,1014,1015,1016,1017,1018,1019,1020,1021,1022,1023,1024,1025 ★ a(n) = A053061(n)/n. • a(n) = 10 ^ floor(1 + 2log _ 10 n) + n. - _ Charles R Greathouse IV _ , Sep 20 2012 •

[A246139] • 11,12,14,18,26,42,74,138,266,522,1034,2058,4106,8202,16394,32778,65546,131082,262154,524298,1048586,2097162,4194314,8388618,16777226 ★ 2^n + 10. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A098752] • 1,11,12,21,101,102,201,1001,1002,2001,10001,10002,20001,100001,100002,200001,1000001,1000002,2000001,10000001,10000002,20000001,100000001,100000002,200000001 ★ a(n+1) = least number > a(n) that begins with the last digit of a(n) and doesn't end with 0. • a(n) = 11 * a(n - 3) - 10 * a(n - 6) for n > 7. •

[A112651] • 0,1,11,12,22,23,33,34,44,45,55,56,66,67,77,78,88,89,99,100,110,111,121,122,132 ★ Numbers n such that n^2 (mod 11) is congruent to n (mod 11). • a(n)=11 * n - a(n - 1) - 21 (with a(1)=0) - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 11 * n / 2 - 31 / 4 - 9 * (- 1) ^ n / 4. G.f. x ^ 2 * (1 + 10 * x) / ((1 + x) * (x - 1) ^ 2). - R. J. Mathar, Oct 08 2011 •

[A022101] • 1,11,12,23,35,58,93,151,244,395,639,1034,1673,2707,4380,7087,11467,18554,30021,48575,78596,127171,205767,332938,538705 ★ Fibonacci sequence beginning 1, 11. • a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=11. a(- 1)=10. • a(n - 1) = ((1 + sqrt5) ^ n - (1 - sqrt5) ^ n) / (2 ^ n * sqrt5) + 5 * ((1 + sqrt5) ^ (n - 1) - (1 - sqrt5) ^ (n - 1)) / (2 ^ (n - 2) * sqrt5). - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 •

[A042633] • 1,11,12,23,35,58,93,151,395,546,941,1487,2428,3915,6343,73688,4280247,47156405,51436652,98593057,150029709,248622766,398652475,647275241,1693202957 ★ Denominators of continued fraction convergents to sqrt(846). • a(n) = 4286590 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A042019] • 1,11,12,23,265,12213,134608,146821,281429,3242540,149438269,1647063499,1796501768,3443565267,39675719705,1828526671697,2015346910837 2,21981995780069,42135464888441,485472109552920,22373852504322761,246597849657103291,2689717021614260 52 ★ Denominators of continued fraction convergents to sqrt(533). • a(n) = 12236 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Jan 12 2014 •

[A022316] • 0,11,12,24,37,62,100,163,264,428,693,1122,1816,2939,4756,7696,12453,20150,32604,52755,85360,138116,223477,361594,585072 ★ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 0 and a(1) = 11. • a(n) = F(n + 2) + 10 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A172173] • 0,1,1,11,12,32,44,85,129,223,352,584,936,1529,2465,4003,6468,10480,16948,27437,44385,71831,116216,188056,304272 ★ Sums of NE-SW diagonals of triangle A172171. • a(n) = a(n - 1) + 2 * a(n - 2) - a(n - 3) - a(n - 4) for n >3. • a(n) = (2 ^ (- 1 - n) * (- 45 * ((- 2) ^ n + 2 ^ n) + (45 - 7 * sqrt(5)) * (1 + sqrt(5)) ^ n + (1 - sqrt(5)) ^ n * (45 + 7 * sqrt(5)))) / 5. - _ Colin Barker _ , Jul 13 2017 •

[A041256] • 11,12,59,71,1621,1692,8389,10081,230171,240252,1191179,1431431,32682661,34114092,169139029,203253121,4640707691,4843960812,24016550939,28860511751,658947809461,687808321212 ★ Numerators of continued fraction convergents to sqrt(140). • a(n) = 142 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A041258] • 11,12,83,95,2173,2268,15781,18049,412859,430908,2998307,3429215,78441037,81870252,569662549,651532801,14903384171,15554916972,108232886003,123787802975,2831564551453,2955352354428 ★ Numerators of continued fraction convergents to sqrt(141). • a(n) = 190 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A033047] • 0,1,11,12,121,122,132,133,1331,1332,1342,1343,1452,1453,1463,1464,14641,14642,14652,14653,14762,14763,14773,14774,15972 ★ Sums of distinct powers of 11. • a(n) = Sum { d(i) * 11 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 11 * a(n), a(2n + 1) = a(2n) + 1. •

[A094624] • 0,1,11,12,121,122,1221,1222,12221,12222,122221,122222,1222221,1222222,12222221,12222222,122222221,122222222,1222222221,1222222222,12222222221,12222222222,122222222221,122222222222,1222222222221 ★ Sequence whose n-th term digits sum to n. • a(n) = 10 ^ (n / 2)(11 / 18 + 11 * sqrt(10) / 180 - (11 * sqrt(10) / 180 - 11 / 18)(- 1) ^ n) - 13 / 18 - (- 1) ^ n / 2. • a(n) = 11 * a(n - 2) - 10 * a(n - 4) for n>3. •

[A249312] • 1,11,12,122,134,1354,1488,15028,16516,166796,183312,1851272,2034584,20547304,22581888,228054928,250636816,2531186096,2781822912,28093683872,30875506784,311812345504,342687852288,3460811307328,3803499159616 ★ Expansion of x*(1+11*x-10*x^3)/(1-12*x^2+10*x^4). • a(1)=1, a(2)=11, a(3)=12, a(4)=122, a(n)=12 * a(n - 2) - 10 * a(n - 4). - _ Harvey P. Dale _ , Feb 02 2015 •

[A041059] • 1,1,11,12,131,143,1561,1704,18601,20305,221651,241956,2641211,2883167,31472881,34356048,375033361,409389409,4468927451,4878316860,53252096051,58130412911,634556225161 ★ Denominators of continued fraction convergents to sqrt(35). • a(n) = product { k = 1..floor((n - 1) / 2) } (10 + 4 * cos ^ 2(k * Pi / n)). •

[A041260] • 11,12,131,143,3277,3420,37477,40897,937211,978108,10718291,11696399,268039069,279735468,3065393749,3345129217,76658236523,80003365740,876691893923,956695259663,21923987606509,22880682866172 ★ Numerators of continued fraction convergents to sqrt(142). • a(n) = 286 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A041261] • 1,1,11,12,275,287,3145,3432,78649,82081,899459,981540,22493339,23474879,257242129,280717008,6433016305,6713733313,73570349435,80284082748,1839820169891,1920104252639,21040862696281,22960966948920,526182135572521 ★ Denominators of continued fraction convergents to sqrt(142). • a(n) = 286 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 14 2013 •

[A041262] • 11,12,275,287,6589,6876,157861,164737,3782075,3946812,90611939,94558751,2170904461,2265463212,52011095125,54276558337,1246095378539,1300371936876,29854277989811,31154649926687 ★ Numerators of continued fraction convergents to sqrt(143). • a(n) = 24 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A041607] • 1,1,11,12,419,431,4729,5160,180169,185329,2033459,2218788,77472251,79691039,874382641,954073680,33312887761,34266961441,375982502171,410249463612,14324464264979,14734713728591,161671601550889,176406315279480,6159486321053209 ★ Denominators of continued fraction convergents to sqrt(321). • a(n) = 430 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A042097] • 1,1,11,12,563,575,6313,6888,323161,330049,3623651,3953700,185493851,189447551,2079969361,2269416912,106473147313,108742564225,1193898789563,1302641353788,61115401063811,62418042417599,685295825239801,747713867657400,35080133737480201 ★ Denominators of continued fraction convergents to sqrt(572). • a(n) = 574 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A008364] • 1,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97,101,103,107 ★ 11-rough numbers: not divisible by 2, 3, 5 or 7. • a(n) = a(n - 1) + a(n - 48) - a(n - 49). - _ Charles R Greathouse IV _ , Dec 21 2011 • a(n) = 35n / 8 + O(1). - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A230462] • 1,11,13,17,19,29,31,41,43,47,49,59,61,71,73,77,79,89,91,101,103,107,109,119,121 ★ Numbers congruent to {1, 11, 13, 17, 19, or 29} mod 30. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n>7; a(n) = a(n - 6) + 30 for n>6. • a(n) = (30 * n - 15 - 6 * cos(n * Pi / 3) + 6 * cos(2 * n * Pi / 3) + 9 * cos(n * Pi) + 6 * sqrt(3) * sin(n * Pi / 3) - 2 * sqrt(3) * sin(2 * n * Pi / 3)) / 6. • a(6k) = 30k - 1, a(6k - 1) = 30k - 11, a(6k - 2) = 30k - 13, a(6k - 3) = 30k - 17, a(6k - 4) = 30k - 19, a(6k - 5) = 30k - 29. (End) • a(n) = 5 * n + ceiling(7 / 79 - ((((14654 / 4883) ^ n mod 6) mod 5) + n mod 3 + 1) mod 7). - _ Mikk

Heidemaa _ , Dec 13 2017 • a(n + 6) = a(n) + 30. - _ David A. Corneth _ , Jan 15 2018 •

[A045798] • 11,13,17,19,31,33,37,39,51,53,57,59,71,73,77,79,91,93,97,99,111,113,117,119,131 ★ Oddish numbers (prime to 10 and 10's digit is odd). • a(n) = 5n + O(1). - _ Charles R Greathouse IV _ , Feb 07 2017 • a(n + 4) = a(n) + 20. This confirms Barker's conjecture. - _ Robert Israel _ , Mar 27 2017 •

[A088265] • 11,13,17,19,101,103,107,109,1001,1003,1007,1009,10001,10003,10007,10009,100001,100003,100007,100009,1000001,1000003,1000007,1000009,10000001 ★ Numbers of the form 10^n + 1, 3, 7, or 9 for n>=1. • a(4n + r) = 10 ^ (n + 1) + k, (r, k) = (1, 1), (2, 3), (3, 7) or (4, 9). •

[A048058] • 11,13,17,23,31,41,53,67,83,101,121,143,167,193,221,251,283,317,353,391,431,473,517,563,611 ★ a(n) = n^2 + n + 11. • a(n) = 2 * n + a(n - 1) (with a(0)=11). - _ Vincenzo Librandi _ , Aug 06 2010 •

[A091998] • 1,11,13,23,25,35,37,47,49,59,61,71,73,83,85,95,97,107,109,119,121,131,133,143,145 ★ Numbers that are congruent to {1, 11} mod 12. • a(n) = 12 * n - a(n - 1) - 12 (with a(1)=1). - _ Vincenzo Librandi _ , Nov 16 2010 • a(n) = 6 * n + 2 * (- 1) ^ n - 3. • a(n) - a(n - 1) - a(n - 2) + a(n - 3) = 0 for n > 3. • a(n) = a(n - 2) + 12 for n > 2. •

[A208296] • 11,13,23,25,35,37,47,59,61,73,83,85,95,107,119,121,133,143,145,157,167,179,193,203,205 ★ Smallest positive nontrivial odd solution of the congruence x^2 == 1 (mod A001748(n+2)), n>=1. • a(n) =sqrt(8 * T(K(n)) + 1), with the triangular numbers T = A000217, and K(n) = p(n + 2) - 1 if the prime p(n + 2) is of the form 6 * k + 1, i.e. from A002476, and K(n) = p(n + 2) if p(n + 2) is of the form 6 * k - 1, i.e. from A007528. •

[A022325] • 1,11,13,25,39,65,105,171,277,449,727,1177,1905,3083,4989,8073,13063,21137,34201,55339,89541,144881,234423,379305,613729 ★ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 11. • a(n) = 2 * F(n + 2) + 8 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[A154292] • 11,13,46,50,105,111,188,196,295,305,426,438,581,595,760,776,963,981,1190,1210,1441,1463,1716,1740,2015 ★ Integers of the form m*(6*m -+ 1)/2. • a(n) = (12 * n ^ 2 - 10 * (- 1) ^ n * n + 12 * n - 5 * (- 1) ^ n + 5) / 4 . • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A094621] • 0,11,13,141,143,1441,1443,14441,14443,144441,144443,1444441,1444443,14444441,14444443,144444441,144444443,1444444441,1444444443,14444444441,14444444443,144444444441,144444444443,1444444444441 ★ Sequence whose n-th term digits sum to 2n. • a(n)=10 ^ (n / 2)((11sqrt(10) / 20 - 1) + (13 / 18 - 13sqrt(10) / 18)(- 1) ^ n + 31sqrt(10) / 180 + 31 / 18) + (- 1) ^ n - 22 / 9. •

[A093605] • 0,1,11,13,211,271,1919,2597,67843,95259,588933,850251,10098967,14904091,85806311,128927573,5792144099,8834766227,48605936617,75096287791,812156618077,1268822838961,6760265315081,10665172132163 ★ Numerators of sqrt(2) term in expected number of complex eigenvalues in an n X n real matrix with entries chosen from a standard normal distribution. • a(n + 1)=sum { k=0..floor(n / 2), C(2(n - 2k),n - 2k) * 16 ^ k }/ sum { k=0..n, mod(C(n,k),2) } . - _ Paul Barry _ , Oct 26 2007 •

[A114948] • 11,14,19,26,35,46,59,74,91,110,131,154,179,206,235,266,299,334,371,410,451,494,539,586,635 ★ n^2 + 10. • a(n)=2 * n + a(n - 1) - 1 (with a(1) =11) - _ Vincenzo Librandi _ , Nov 13 2010 •

[A106389] • 1,11,14,24,27,37,40,50,53,63,66,76,79,89,92,102,105,115,118,128,131,141,144,154,157 ★ Numbers j such that 6j^2 + 6j + 1 = 13k. • a(n) = (- 15 + 7 * (- 1) ^ n + 26 * n) / 4. G.f.: x * (2 * x ^ 2 + 10 * x + 1) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Apr 16 2014 •

[A195818] • 0,1,11,14,34,39,69,76,116,125,175,186,246,259,329,344,424,441,531,550,650,671,781,804,924 ★ Generalized 14-gonal numbers: m*(6*m-5), m = 0,+1,-1,+2,-2,+3,-3,... • a(n) = (3 * n * (n + 1) + (2 * n + 1) * (- 1) ^ n - 1) / 2. - Vincenzo Librandi, Sep 30 2011 •

[A061087] • 11,14,109,116,1025,1036,1049,1064,1081,10100,10121 ★ A061086(n) / n. • a(n) = { n concatenated with n ^ 3 }/ n •

[A228205] • 11,15,24,41,80,141,249,440,869,1536,2715,4799,9479,16755,29616,52349,103400,182769,323061,571040,1127921,1993704,3524055,6229091,12303731 ★ x-values in the solution to x^2 - 13y^2 = 108. • a(n) = 11 * a(n - 4) - a(n - 8). •

[A214863] • 11,15,27,31,43,47,59,63,75,79,91,95,107,111,123,127,139,143,155,159,171,175,187,191,203 ★ Numbers n such that n XOR 11 = n - 11. • a(n)= 1 + 8 * n - 2 * (- 1) ^ n. •

[A097512] • 11,15,34,87,227,594,1555,4071,10658,27903,73051,191250,500699,1310847,3431842,8984679,23522195,61581906,161223523,422088663,1105042466,2893038735,7574073739,19829182482,51913473707 ★ a(n) = 6*Lucas(2n) - Fib(2n+2). • a(n + 1) / a(n) approaches the golden ratio phi + 1 = (3 + sqrt(5)) / 2. • a(n) = 3 * a(n - 1) - a(n - 2) with a(0)=11 and a(1)=15. G.f.: (11 - 18x) / (1 - 3x + x ^ 2). [_ Philippe Deléham _ , Nov 16 2008] • a(n) = (11 / 2) * [(3 / 2) + (1 / 2) * sqrt(5)] ^ n - (3 / 10) * [(3 / 2) + (1 / 2) * sqrt4(5)] ^ n * sqrt(5) + (3 / 10) * [(3 / 2) - (1 / 2) * sqrt(5] ^ n * sqrt(5) + (11 / 2) * [(3 / 2) - (1 / 2) * sqrt(5)] ^ n, with n>=0. [_ Paolo P. Lava _ , Nov 19 2008] • a(n) = 4 * Fibonacci(2n + 1) + 7 * Fibonacci(2n - 1) = 4 * Lucas(2n) + 3 * Fibonacci(2n - 1). [_ Ron Knott _ , Jul 01 2013] •

[A219389] • 0,11,15,48,56,111,123,200,216,315,335,456,480,623,651,816,848,1035,1071,1280,1320,1551,1595,1848,1896 ★ Numbers k such that 13*k+1 is a square. • a(n) = a(- n + 1) = (26 * n * (n - 1) + 9 * (- 1) ^ n * (2 * n - 1) + 1) / 8 + 1. •

[A074197] • 1,11,16,18,39,44,53,57,74,102,110,111,116,125,147,152,155,160,201,218,246,273 ★ Let b(1) = n, b(k+1) = b(k)/2 + k if b(k) is even, b(k+1)= b(k)-k otherwise; sequence gives values of b(1) = n such that b(k)= 2k-4 for k large enough. • a(n) / n / log(n) seems bounded and maybe a(n) is asymptotic to c * n * log(n) where 3<c<5. •

[A258588] • 1,11,16,22,27,33,38,44,49,55,60,66,71,77,82,88,93,99,104,110,115,121,126,132,137 ★ Minimal most likely sum for a roll of n 10-sided dice. • a(n) = floor(11 * n / 2) = (22 * n + (- 1) ^ n - 1) / 4 with n>1, a(1)=1. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. •

[A128835] • 11,16,32,37,38,40,53,58,74,79,80,82,95,100,116,121,122,124,137,142,158,163,164,166,179 ★ Numbers n such that n^n == 2 (mod 7), or 7 divides n^n-2. • a(1)=11, a(2)=16, a(3)=32, a(4)=37, a(5)=38, a(6)=40; n>=7: a(n) =a(n - 6) + 42. •

[A085487] • 1,11,16,71,151,506,1261,3791,10096,29051,79531,224786,622441,1746371,4858576,13590431,37883311,105835466,295252021,824429351,2300689456,6422836211,17926283491,50040464546,139671882001 ★ a(n) = p^n + q^n, p = (1 + sqrt(21))/2, q = (1 - sqrt(21))/2. • a(n) = n * sum(k=1..n, (C(k,n - k) * 1 ^ (2 * k - n) * (5) ^ (n - k)) / k). - _ Dmitry Kruchinin _ , May 16 2011 • a(n) = a(n - 1) + 5a(n - 2), n>1. • a(n) = [x ^ n] ((1 + x + sqrt(1 + 2 * x + 21 * x ^ 2)) / 2) ^ n. - _ Peter Bala _ , Jun 23 2015 •

[A258288] • 1,1,11,16,99,174,875,1657,7352,13655,55787,107946,393317,751343,2624771,5056414,16243829,31688464,96658985 ★ Number of partitions of 10 copies of n into distinct parts. • a(n) = 1 / 10! * [Product _{ i=1..10 } x _ i ^ n] Product _{ j>0 } (1 + Sum _{ i=1..10 } x _ i ^ j). •

[A184551] • 0,11,17,22,28,39,45,50,56,67,73,78,84,95,101,106,112,123,129,134,140,151,157,162,168 ★ Super-birthdays (falling on the same weekday), version 3 (birth within 2 and 3 years after a February 29). • a(n) = + 1 * a(n - 1) + 1 * a(n - 4) - 1 * a(n - 5). (End) •

[A128464] • 11,17,29,41,47,59,71,77,89,101,107,119,131,137,149,161,167,179,191,197,209,221,227,239,251 ★ Numbers that are congruent to {11, 17, 29} mod 30. • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>4. • a(n) = 10 * n - 1 + 4 * sin(2 * n * Pi / 3) / sqrt(3). • a(3k) = 30k - 1, a(3k - 1) = 30k - 13, a(3k - 2) = 30k - 19. (End) •

[A111255] • 11,17,29,41,67,73,89,97,107,127,151,157,181,191,271,307,337,347,389,409,439,461,491,499,547 ★ Primes in A111254. • a(n) = If Prime[n + 2] + Prime[n] is prime then Prime[n + 2] + Prime[n] •

[A271999] • 1,11,17,35,53,85,117,167,217,289,361,459,557,685,813,975,1137,1337,1537,1779,2021,2309,2597,2935,3273 ★ Halogen sequence: a(n) = A018227(n)-1. • a(n) = (1 / 12) * (2 * n ^ 3 + 12 * n ^ 2 + 28 * n - 12) for n>2 and even . • a(n) = (1 / 12) * (2 * n ^ 3 + 12 * n ^ 2 + 22 * n - 24) for n>2 and odd. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>8. •

[A004769] • 11,19,27,35,43,51,59,67,75,83,91,99,107,115,123,131,139,147,155,163,171,179,187,195,203 ★ Binary expansion ends 011. • a(n) = 8 * n + 11; [From Vincenzo Librandi, Jul 12 2011] •

[A271779] • 11,19,37,71,127,211,329,487,691,947,1261,1639,2087,2611,3217,3911,4699,5587,6581,7687,8911,10259,11737,13351,15107 ★ a(n) = n^3 + 2*n^2 + 5*n + 11. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n >3. •

[A034844] • 11,19,41,61,89,101,109,149,181,191,199,401,409,419,449,461,491,499,601,619,641,661,691,809,811 ★ Primes with only nonprime decimal digits. • a(n) >> n ^ 1.285. [_ Charles R Greathouse IV _ , Feb 20 2012] •

[A167535] • 11,19,41,149,181,251,449,491,499,641,811,1009,1289,1361,1699,2251,2549,4001,4289,4441,4729,6449,6481,6761,7841 ★ Primes which are the concatenation of two squares (in decimal notation). • a(n) = m ^ 2 * 10 ^ k + n ^ 2 for a k - digit square number n ^ 2 •

[A265802] • 1,11,19,59,145,389,1009,2651,6931,18155,47521,124421,325729,852779,2232595,5845019,15302449,40062341,104884561,274591355,718889491,1882077131,4927341889,12899948549,33772503745 ★ Coefficient of x^2 in minimal polynomial of the continued fraction [1^n,4,1,1,1,...], where 1^n means n ones. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3) for n>3. • a(n) = (2 ^ (- n) * (- 13 * (- 2) ^ n + 3 * (3 - sqrt(5)) ^ (1 + n) + 3 * (3 + sqrt(5)) ^ (1 + n))) / 5. - _ Colin Barker _ , Oct 20 2016 •

[A199338] • 1,11,19,89,151,701,1189,5519,9361,43451,73699,342089,580231,2693261,4568149,21203999,35964961,166938731,283151539,1314305849,2229247351,10347508061,17550827269,81465758639,138177370801 ★ y-values in the solution to 15*x^2 - 14 = y^2. • a(n + 4) = 8 * a(n + 2) - a(n) with a(1)=1, a(2)=11, a(3)=19, a(4)=89. •

[A100038] • 11,20,33,50,71,96,125,158,195,236,281,330,383,440,501,566,635,708,785,866,951,1040,1133,1230,1331 ★ Positions of occurrences of the natural numbers as third subsequence in A100035. • a(n) = 2 * n ^ 2 + 3 * n + 6 (conjectured). - _ Ralf Stephan _ , May 15 2007 •

[A160843] • 0,1,11,20,35,52,75,100,131,164,203,244,291,340,395,452,515,580,651,724,803,884,971,1060,1155 ★ Number of lines through at least 2 points of a 3 X n grid of points. • a(n) = 2 * n ^ 2 + 3 - n mod 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n > 5. - _ Colin Barker _ , May 24 2015 •

[A164576] • 1,11,20,46,63,105,130,188,221,295,336,426,475,581,638,760,825,963,1036,1190,1271,1441,1530,1716,1813 ★ Integer averages of the set of the first positive squares up to some n^2. • a(n) = 1 / 4 * (12 * n ^ 2 - 6 * n + (- 1) ^ n * (4 * n - 1) + 1). - _ Colin Barker _ , Dec 26 2015 •

[A198310] • 11,20,101,182,911,1640,8201,14762,73811,132860,664301,1195742,5978711,10761680,53808401,96855122,484275611,871696100,4358480501,7845264902,39226324511,70607384120,353036920601,635466457082,3177332285411 ★ Moore lower bound on the order of a (10,g)-cage. • a(2i) = 2 sum _{ j=0 }^{ i - 1 } 9 ^ j = string "2" ^ i read in base 9. • a(2i + 1) = 9 ^ i + 2 sum _{ j=0 }^{ i - 1 } 9 ^ j = string "1" * "2" ^ i read in base 9. • a(n) = (- 3 - (- 3) ^ n + 4 * 3 ^ n) / 12. a(n) = a(n - 1) + 9 * a(n - 2) - 9 * a(n - 3). G.f.: -

x ^ 3 * (18 * x ^ 2 - 9 * x - 11) / ((x - 1) * (3 * x - 1) * (3 * x + 1)). - _ Colin Barker _ , Feb 01 2013 ●

[A017281] ● 1,11,21,31,41,51,61,71,81,91,101,111,121,131,141,151,161,171,181,191,201,211,221,231,241 ★ a(n) = 10*n + 1. ● a(n) = 20 * n - a(n - 1) - 8, with a(0)=1. - _ Vincenzo Librandi _ , Nov 20 2010 ● a(n) = 2 * a(n - 1) - a(n - 2), for n > 2. - _ Wesley Ivan Hurt _ , Jun 17 2015 ●

[A081927] ● 1,11,21,31,41,51,61,71,81,109,137,165,193,257,294,376,467,567,676,785,894,1399,1778,1986,2887 ★ n-th positive integer whose digits sum up to n. ● a(9 * k - j) = (12 - j) * 10 ^ (k - 1) - 10 ^ (k - 10) - 10 ^ (j + k - 45) - 1 for j=2..9, k >= 45 - j. ● a(9 * k - 1) = 2 * 10 ^ k - 10 ^ (k - 9) - 10 ^ (k - 35) - 1, k >= 35. (End) ●

[A129638] ● 11,21,40,77,148,286,552,1069,2068,4010,7768,15074,29225,56736,110055,213705,414676,805314,1562977,3035514,5892257,11443768,22215753,43146726,83766396 ★ Number of meaningful differential operations of the k-th order on the space R^11. ● a(k + 6) = a(k + 5) + 5 * a(k + 4) - 4 * a(k + 3) - 6 * a(k + 2) + 3 * a(k + 1) + a(k). ●

[A015446] ● 1,1,11,21,131,341,1651,5061,21571,72181,287891,1009701,3888611,13985621,52871731,192727941,721445251,2648724661,9863177171,36350423781,134982195491,498486433301,1848308388211,6833172721221 ★ Generalized Fibonacci numbers: a(n) = a(n-1) + 10*a(n-2). ● a(n) = (((1 + sqrt(41)) / 2) ^ (n + 1) - ((1 - sqrt(41)) / 2) ^ (n + 1)) / sqrt(41). ● a(n) = Sum _{ k=0..n } binomial((n + k) / 2, k) * (1 + (- 1) ^ (n - k)) * 10 ^ ((n - k) / 2) / 2. ● a(n) = Sum _{ k=0..floor(n / 2) } binomial(n - k, k) * 10 ^ k. (End) ● a(n) is the entry (M ^ n) _ 1,1 where the matrix M = [1,2;5,0]. - _ Simone Severini _ , Jun 22 2006 ● a(n) = (sum { 1<=k<=n + 1, k odd } C(n + 1,k) * 41 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 ●

[A092806] ● 1,11,21,1031,14041,60051,1170061,17385071,108756081,1445344091,21412220101,168765465111,1888849170121,26593883436131,24304933337141,2540104369105151,33511642426760161,336206996880480171,3450730536835416181,42888724689051729191 ★ Expansion of (1+8x-9x^2)/(1-3x+3x^2-1001x^3). ● a(n)=91 ^ (n / 2)(cos(n * acot(- 4sqrt(3) / 15)) / 3 + sqrt(3)sin(n * acot(- 4sqrt(3) / 15)) / 3) + 2 * 11 ^ n / 3 ●

[A164006] ● 0,11,22,27,44,50,66,84,104,126,150,176,204,234,266,300,336,374,414,456,500,546,594,644,696 ★ Zero together with row 6 of the array in A163280. ● a(n) = n * (n + 5) for n > 4. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 7. ●

[A008593] ● 0,11,22,33,44,55,66,77,88,99,110,121,132,143,154,165,176,187,198,209,220,231,242,253,264 ★ Multiples of 11. ● a(n) = 11 * n. ●

[A059544] ● 11,22,33,44,55,66,77,89,100,111,122,133,144,155,167,178,189,200,211,222,233,245,256,267,278 ★ Beatty sequence for log(3)/(log(3)-1). ● a(n) = floor(n * log(3) / (log(3) - 1)). - _ Michel Marcus _ , Jan 05 2015 ●

[A026037] ● 11,22,40,67,105,156,222,305,407,530,676,847,1045,1272,1530,1821,2147,2510,2912,3355,3841,4372,4950,5577,6255 ★ a(n) = dot_product(1,2,...,n)*(3,2,1,...,n)/(n+1). ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 20 2012 ●

[A005015] ● 11,22,44,88,176,352,704,1408,2816,5632,11264,22528,45056,90112,180224,360448,720896,1441792,2883584,5767168,11534336,23068672,46137344,92274688,184549376 ★ 11*2^n. ● a(n) = 2 * a(n - 1), n>0; a(0)=11. - _ Philippe Deléham _ , Nov 23 2008 ●

[A094620] ● 0,11,22,141,242,1441,2442,14441,24442,144441,244442,1444441,2444442,14444441,24444442,144444441,244444442,1444444441,2444444442,14444444441,24444444442,144444444441,244444444442,1444444444441,2444444444442 ★ A palindromic sequence whose n-th term digits sum to 2n. (See Formula for definition.) ● a(n) = 10 ^ (n / 2) * (11 / 9 + 13 * sqrt(10) / 18 + (11 / 9 - 13 * sqrt(10) / 18) * (- 1) ^ n) + (- 1) ^ n / 2 - 53 / 18. ● a(n) = 11 * a(n - 2) - 10 * a(n - 4) for n>3. ●

[A097657] ● 11,23,34,57,91,148,239,387,626,1013,1639,2652,4291,6943,11234,18177,29411,47588,76999,124587,201586,326173,527759,853932,1381691 ★ Fibonacci sequence with first two terms 11 and 23. ● a(n) = a(n - 1) + a(n - 2) for n > 1, a(0) = 11, a(1) = 23. ● a(n) = h * Fibonacci(n + k) + Fibonacci(n + k - h) with h=7, k=3. - _ Bruno Berselli _ , Feb 20 2017 ●

[A041549] ● 1,11,23,34,125,1034,3227,4261,11749,133500,4550749,50191739,104934227,155125966,570312125,4717622966,14723181023,19440803989,5360478 9001,609093483000,20762783211001,228999708804011,478762200819023,707761909623034,2602047929688125 ★ Denominators of continued fraction convergents to sqrt(292). ● a(n) = 4562498 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 20 2013 ●

[A017653] ● 11,23,35,47,59,71,83,95,107,119,131,143,155,167,179,191,203,215,227,239,251,263,275,287,299 ★ a(n) = 12*n + 11. ● a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jun 08 2011 ●

[A101859] ● 0,11,23,36,50,65,81,98,116,135,155,176,198,221,245,270,296,323,351,380,410,441,473,506,540 ★ a(n) = 11 + (23*n)/2 + n^2/2. ● a(n) = C(n,2) - 10 * n, n>=21. - _ Zerinvary Lajos _ , Nov 26 2006 ● a(n) = n + a(n - 1) + 11 (with a(- 1)=0). - _ Vincenzo Librandi _ , Nov 16 2010 ● a(n) = 11n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 ● a(- 1)=0, a(0)=11, a(1)=23, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a (n - 3). - _ Harvey P. Dale _ , May 01 2016 ●

[A275591] ● 1,11,23,37,53,71,91,113,137,163,191,221,253,287,323,361,401,443,487,533,581,631,683,737,793 ★ a(n) = n^2 + 9*n + 1. ● a(n) = a(- n - 9) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Aug 03 2016 ● a(n) + a(- n) = (n - 1) ^ 2 + (n + 1) ^ 2. ●

[A195043] ● 0,1,11,23,44,67,99,133,176,221,275,331,396,463,539,617,704,793,891,991,1100,1211,1331,1453,1584 ★ Concentric 11-gonal numbers. ● a(n) = 11 * n ^ 2 / 4 + 7 * ((- 1) ^ n - 1) / 8. ● a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: - x * (x ^ 2 + 9 * x + 1) / ((x - 1) ^ 3 * (x + 1)). - _ Colin Barker _ , Sep 15 2013 ●

[A267437] ● 11,23,67,151,275,487,963,2039,4211,8327,16291,32407,65363,131623,263043,524087,1046579,2095559,4196707,8394199,16778003,33544039,67096899,134226551,268468211 ★ A linear recurrence related to the elliptic curves y^2 = x^3 -35*a^2*x - 98*a^3 with a = -1, -5, -6, -17, or -111. ● a(n) = 4 * a(n - 1) - 7 * a(n - 2) + 8 * a(n - 3) - 4 * a(n - 4). ● a(n) = 1 + 2 ^ (2 + n) + 2 * (1 / 2 - (i * sqrt(7)) / 2) ^ n + 2 * (1 / 2 + (i * sqrt(7)) / 2) ^ n where i=sqrt(- 1). - _ Colin Barker _ , Jul 02 2017 ●

[A195463] ● 11,23,71,263,1031,4103,16391,65543,262151,1048583,4194311,16777223,67108871,268435463,1073741831,4294967303,17179869191,68719476743,274877906951,1099511627783,4398046511111,17592186044423,70368744177671,281474976710663 ★ 4^(n+1) + 7. ● a(n) = 4 ^ (n + 1) + 7. ●

[A060160] ● 1,11,23,79,223,703,2175,6911,22015,70655,227327,733183,2367487,7651327,24739839,80019455,258867199,837550079,2710044671,8769241087,28376563711,91825897471,297149661183,961586135039,3111737360383 ★ 2^n - 1 + Fibonacci(n - 1)*2^(n+1). ● a(n)= 5 * a(n - 1) - 4 * a(n - 2) - 8 * a(n - 3) + 8 * a(n - 4). G.f.: x * (1 + 6 * x - 28 * x ^ 2 + 16 * x ^ 3) / ((1 - x) * (2 * x - 1) * (4 * x ^ 2 + 2 * x - 1)). [From _ R. J. Mathar _ , Feb 06 2010] ●

[A041238] ● 11,23,103,1156,4727,10610,238147,486904,2185763,24530297,100306951,225144199,5053479329,10332102857,46381890757,520532901184,2128513495493,4777559892170,107234831123233 ★ Numerators of continued fraction convergents to sqrt(131). ● a(n) = 21220 * a(n - 6) - a(n - 12). G.f.: - (x ^ 11 - 11 * x ^ 10 + 23 * x ^ 9 - 103 * x ^ 8 + 1156 * x ^ 7 - 4727 * x ^ 6 - 10610 * x ^ 5 - 4727 * x ^ 4 - 1156 * x ^ 3 - 103 * x ^ 2 - 23 * x - 11) / (x ^ 12 - 21220 * x ^ 6 + 1). [_ Colin Barker _ , Jul 19 2012] ●

[A106388] ● 11,23,131,167,383,443,767,851,1283,1391,1931,2063,2711,2867,3623,3803,4667,4871,5843,6071,7151,7403,8591,8867,10163 ★ Numbers k such that 11k = 6j^2 + 6j + 1. ● a(1)=11, a(2)=23; if n odd a(n)=a(n - 1) + 54 * (n - 1), if n even a(n)=a(n - 1) + 12 * (n - 1). ● a(n) = (66 * n * (n - 1) - 21 * (2 * n - 1) * (- 1) ^ n + 23) / 4. ● a(n) - a(n - 1) - 2 * a(n - 2) + 2 * a(n - 3) + a(n - 4) - a(n - 5) = 0 for n>5. ●

[A171068] ● 0,1,1,11,23,144,407,2003,6601,28897,103104,425569,1582009,6337475,24062039,94930704,364368599,1426330907,5505254161,21464332033,83084090112,323270665729,1253154734833,4870751815931,18895640474711 ★ G.f. -x*(x-1)*(1+x)/(1-x-11*x^2-x^3+x^4). ● a(n)= + a(n - 1) + 11 * a(n - 2) + a(n - 3) - a(n - 4). ●

[A042005] ● 1,1,11,23,241,264,11857,12121,133067,278255,2915617,3193872,143445985,146639857,1609844555,3366328967,35273134225,38639463192,1735409514673,1774048977865,19475899293323,40725847564511,426734374938433,467460222502944 ★ Denominators of continued fraction convergents to sqrt(525). ● a(n) = 12098 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Jan 12 2012 ●

[A063307] ● 1,11,24,36,48,60,72,82,96,106,120,132,144,152,168,178,192,202,216,224,240,248,264,274,288 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(34). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[A098603] ● 0,11,24,39,56,75,96,119,144,171,200,231,264,299,336,375,416,459,504,551,600,651,704,759,816 ★ n(n+10). ● a(n) = (n + 5) ^ 2 - 5 ^ 2 = n * (n + 10), n>=0. ● a(n) = 2 * n + a(n - 1) + 9, (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 ● a(0)=0, a(1)=11, a(2)=24, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 26 2014 ●

[A053061] ● 11,24,39,416,525,636,749,864,981,10100,11121,12144,13169,14196,15225,16256,17289,18324,19361,20400,21441,22484,23529,24576,25625 ★ a(n) = decimal concatenation of n and n^2. ● a(n) = n * (10 ^ floor(2 * log10(n) + 1) + n). - _ Henry Bottomley _ , May 18 2000 ●

[A140675] ● 0,11,25,42,62,85,111,140,172,207,245,286,330,377,427,480,536,595,657,722,790,861,935,1012,1092 ★ a(n) = n*(3*n + 19)/2. ● a(n) = (3 * n ^ 2 + 19 * n) / 2. ● a(n) = 3 * n + a(n - 1) + 8 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ●

[A161532] ● 1,11,25,43,65,91,121,155,193,235,281,331,385,443,505,571,641,715,793,875,961,1051,1145,1243,1345 ★ a(n) = 2n^2 + 8n + 1. ● a(n) = a(n - 1) + 4 * n + 6 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 30 2010 ●

[A139576] ● 0,11,26,45,68,95,126,161,200,243,290,341,396,455,518,585,656,731,810,893,980,1071,1166,1265,1368 ★ a(n) = n(2n+9). ● a(n) = 2 * n ^ 2 + 9 * n. ● a(n) = a(n - 1) + 4 * n + 7 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 ●

[A238147] ● 1,11,26,126,191,341,516,1516,2081,2731,3206,4706,5631,7381,9256,19256,24821,30471,33946,40446,44171,48921,52796,67796,76221 ★ The number of P-positions in the game of Nim with up to five piles, allowing for piles of zero, such that the total number of objects in all piles doesn't exceed 2n. ● a(2n + 1) = 11a(n) + 5a(n - 1), a(2n + 2) = a(n + 1) + 15a(n). ●

[A106839] ● 11,27,43,59,75,91,107,123,139,155,171,187,203,219,235,251,267,283,299,315,331,347,363,379,395 ★ Numbers congruent to 11 mod 16. ● a(n) = 11 + 16 * n; a(n) = 32 * n - a(n - 1) + 6, a(0)=11. - Vincenzo Librandi, Oct 10 2011 ●

[A140677] ● 0,11,28,51,80,115,156,203,256,315,380,451,528,611,700,795,896,1003,1116,1235,1360,1491,1628,1771,1920 ★ a(n) = n*(3*n + 8). ● a(n) = 3 * n ^ 2 + 8 * n. ● a(n) = 6 * n + a(n - 1) + 5, with a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 ●

[A264443] ● 0,11,28,52,84,125,176,238,312,399,500,616,748,897,1064,1250,1456,1683,1932,2204,2500,2821,3168,3542,3944 ★ a(n) = n*(n + 5)*(n + 10)/6. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Nov 16 2015 ●

[A061086] • 11,28,327,464,5125,6216,7343,8512,9729,101000,111331,121728,132197,142744,153375,164096,174913,185832,196859,208000,219261,2210648,2312167,2413824,2515625 ⋆ a(n) = concatenation of n with n^3. • a(n) = n * 10 ^ floor(1 + log10(n ^ 3)) + n ^ 3, with n>=1. - _ Paolo P. Lava _ , Nov 14 2008 •

[A201633] • 11,28,424,1001,14453,34054,491026,1156883,16680479,39300016,566645308,1335043709,19249260041,45352186138,653908196134,1540639285031,22213629408563,52336383504964,754609491695056,1777896399883793,25634509088223389,60396141212544046 ⋆ Numbers a(n) such that sum_{j=0..3} (a(n) + j)^2 is a triangular number. • a(n + 4) = 34 * a(n - 2) - a(n - 4) + 48 ; r=sqrt(2). • a(n + 5) = a(n + 4) + 34 * a(n + 3) - 34 * a(n + 2) - a(n + 1) + a(n). • a(n + 1) = (k1 * e1 + k2 * e2 ^ n + k3 * e3 ^ n + k4 * e4 ^ n + k5 * e5 ^ n) / 16 for k1= - 24, k2=70 + 50r, k3=30 + 21r, k4=70 - 50r, k5=30 - 21r. •

[A082108] • 1,11,29,55,89,131,181,239,305,379,461,551,649,755,869,991,1121,1259,1405,1559,1721,1891,2069,2255,2449 ⋆ a(n) = 4n^2 + 6n + 1. • a(n) = 8 * n + a(n - 1) + 2. - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A088460] • 11,29,137,239,641,1151,1931,2339,3851,4091,5639,6359,8231,9011,9431,11351,12161,14561,15731,17837,20441,25931,26951,29207,33767 ⋆ Lower twin primes with lower twin prime index. • a(n) == 5 (mod 6). •

[A249993] • 1,1,11,29,147,525,2227,8653,35123,139469,559923,2235597,8950579,35785933,143176499,572640461,2290692915,9162509517,36650562355,146601200845,586406900531,2345623407821,9382502019891,37529991302349,150119998763827 ⋆ Expansion of 1/((1+x)*(1+2*x)*(1-4*x)). • a(n) = (2 ^ (3 + 2 * n) + (5 * 2 ^ (1 + n) - 3) * (- 1) ^ n) / 15. _ Colin Barker _ , Dec 28 2014 • a(n) = a(n - 1) + 10 * a(n - 2) + 8 * a(n - 3). - _ Colin Barker _ , Dec 28 2014 •

[A051682] • 0,1,11,30,58,95,141,196,260,333,415,506,606,715,833,960,1096,1241,1395,1558,1730,1911,2101,2300,2508 ⋆ 11-gonal (or hendecagonal) numbers: a(n) = n*(9*n-7)/2. • a(n) = n * (9 * n - 7) / 2. • a(n) = 9 * n + a(n - 1) - 8 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(0)=0, a(1)=1, a(2)=11, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 07 2012 • a(9 * a(n) + 37 * n + 1) = a(9 * a(n) + 37 * n) + a(9 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 • a(n + y) - a(n - y - 1) = (a(n + x) - a(n - x - 1)) * (2 * y + 1) / (2 * x + 1), 0<=x<n, y<=x, a(0)=0. - _ Gionata Neri _ , May 03 2015 •

[A062786] • 1,11,31,61,101,151,211,281,361,451,551,661,781,911,1051,1201,1361,1531,1711,1901,2101,2311,2531,2761,3001 ⋆ Centered 10-gonal numbers. • a(n) = 5n(n - 1) + 1. • a(n) = 10 * n + a(n - 1) - 10 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 07 2010 •

[A139634] • 1,11,31,71,151,311,631,1271,2551,5111,10231,20471,40951,81911,163831,327671,655351,1310711,2621431,5242871,10485751,20971511,41943031,83886071,167772151 ⋆ 10*2^(n-1) - 9. • a(n) = 2 * a(n - 1) + 9, with n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 24 2010 • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: x * (8 * x + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Oct 10 2013 •

[A199112] • 11,31,91,271,811,2431,7291,21871,65611,196831,590491,1771471,5314411,15943231,47829691,143489071,430467211,1291401631,3874204891,11622614671,34867844011,104603532031,313810596091,941431788271,2824295364811 ⋆ 10*3^n+1. • a(n) = 3 * a(n - 1) - 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A124296] • 1,1,1,11,31,101,281,781,2101,5611,14851,39161,102961,270281,708761,1857451,4865911,12744061,33372361,87382901,228792301,599019851,1568309051,4105974961,10749725281 ⋆ a(n) = 5*F(n)^2 - 5*F(n) + 1, where F(n) = Fibonacci(n). • a(n) = 5 * Fibonacci(n) ^ 2 - 5 * Fibonacci(n) + 1. •

[A272263] • 1,1,11,31,111,351,1151,3711,12031,38911,125951,407551,1318911,4268031,13811711,44695551,144637951,468058111,1514668031,4901568511,15861809151,51329892351,166107021311,537533612031,1739495309311 ⋆ a(n) = numerators of A000032(n) - 1/2^n. • a(n) = (- 1 + (1 - sqrt(5)) ^ n + (1 + sqrt(5)) ^ n). • a(n) = 3 * a(n - 1) + 2 * a(n - 2) - 4 * a(n - 3) for n>2. •

[A001604] • 11,31,151,911,5951,40051,272611,1863551,12760031,87424711,599129311,4106261531,28144128251,192901135711,1322159893351,9062207833151,62113268013311,425730597768451,2918000731816531,20000274041790911,137083916295800111,939587136717207031,6440026032054760351 ⋆ Odd-indexed terms of A124297. • a(n) = (5 + sqrt(5)) / 2 * ((3 + sqrt(5)) / 2) ^ n + (5 - sqrt(5)) / 2 * ((3 - sqrt(5)) / 2) ^ n + (3 + sqrt(5)) / 2 * ((7 + 3 * sqrt(5)) / 2) ^ n + (3 - sqrt(5)) / 2 * ((7 - 3 * sqrt(5)) / 2) ^ n + 3. [_ Tim Monahan _ , Aug 15 2011] •

[A002535] • 1,1,11,31,161,601,2651,10711,45281,186961,781451,3245551,13524161,56258281,234234011,974792551,4057691201,16888515361,70296251531,292589141311,1217844546401,5068991364601,21098583646811,87818089575031 ⋆ a(n) = 2*a(n-1) + 9*a(n-2). • a(n)=(1 + sqrt(10)) ^ n / 2 + (1 - sqrt(10)) ^ n / 2; G.f.: (1 - x) / (1 - 2 * x - 9 * x ^ 2); E.g.f.: exp(x) * cosh(sqrt(10) * x). - _ Paul Barry _ , May 16 2003 •

[A098264] • 1,1,11,31,211,851,4901,22961,124531,623011,3313201,17086301,90453661,473616781,2509264811,13250049551,70368250451,373539254611,1989045489281,10597110956861,56566637447401,302196871378601,1616570627763311,8654955238504531,46384344189261661 ⋆ G.f.: 1/(1-2x-19x^2)^(1/2). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial(n - k, k) * 5 ^ k } . • a(n) = sum { k=0..floor(n / 2), binomial(n, 2k) * binomial(2k, k) * 5 ^ k } . •

[A023279] • 11,31,211,1151,3181,5051,5261,6101,6661,9391,9551,10501,11701,13171,15901,16481,19531,22051,24181,26261,27031,28351,28591,28661,29411 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 3x + 8. • a(n) == 1 (mod 10). - _ John Cerkan _ , Sep 16 2016 •

[A195857] • 1,11,32,76,168,360,760,1592,3320,6904,14328,29688,61432,126968,262136,540664,1114104,2293752,4718584,9699320,19922936,40894456,83886072,171966456,352321528 ⋆ a(n) = T(9, n), array T given by A047858. • a(n) = 2 ^ (n - 1) * (n + 18) - 8. • a(0)=1, a(1)=11, a(2)=32, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). •

[A048773] • 1,11,32,84,209,511,1240,3000,7249,17507,42272,102060,246401,594871,1436152,3467184,8370529,20208251,48787040,117782340,284351729,686485807,1657323352,4001132520,9659588401 ⋆ Partial sums of A048697. • a(n)= 2 * a(n - 1) + a(n - 2) + 9; a(0)=1, a(1)=11. • a(n)=[{ (10 + (11 / 2) * sqrt(2))(1 + sqrt(2)) ^ n - (10 - (11 / 2) * sqrt(2))(1 - sqrt(2)) ^ n }/ 2 * sqrt(2)] - 9 / 2. •

[A056123] • 1,11,32,85,223,584,1529,4003,10480,27437,71831,188056,492337,1288955,3374528,8834629,23129359,60553448,158530985,415039507,1086587536,2844723101,7447581767,19498022200,51046484833 ⋆ a(n) = 3a(n-1) - a(n-2); a(0)=1, a(1)=11. • a(n)= { 11 * [((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n] - [((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1)] }/ sqrt(5). •

[A152740] • 0,11,33,66,110,165,231,308,396,495,605,726,858,1001,1155,1320,1496,1683,1881,2090,2310,2541,2783,3036,3300 ⋆ 11 times triangular numbers. • a(n) = a(n - 1) + 11 * n with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2, a(0)=0, a(1)=11, a(2)=33. • a(n) = Sum _{ i=5n..6n } i. - _ Wesley Ivan Hurt _ , Dec 22 2015 •

[A080859] • 1,11,33,67,113,171,241,323,417,523,641,771,913,1067,1233,1411,1601,1803,2017,2243,2481,2731,2993,3267,3553 ⋆ a(n) = 6*n^2 + 4*n + 1. • a(n) = C(4,0) + C(4,1)n + C(4,2)n ^ 2. • a(n) = 12 * n + a(n - 1) - 2 with n > 0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = (n + 1) ^ 4 mod n ^ 3 for n >= 7. - _ J. M. Bergot _ , Aug 14 2017 •

[A163673] • 0,11,33,72,134,225,351,518,732,999,1325,1716,2178,2717,3339,4050,4856,5763,6777,7904,9150,10521,12023,13662,15444 ⋆ a(n) = n*(2*n^2 +5*n +15)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A120354] • 11,33,99,297,891,2673,8019,24057,72171,216513,649539,1948617,5845851,17537553,52612659,157837977,473513931,1420541793,4261625379,12784876137,38354628411,115063885233,345191655699,1035574967097,3106724901291 ⋆ a(n) = 11*3^n. • a(n) = 3 * a(n - 1), n>0 ; a(0)=11. G.f.: 11 / (1 - 3 * x). [_ Philippe Deléham _ , Nov 23 2008] •

[A211014] • 0,11,34,69,116,175,246,329,424,531,650,781,924,1079,1246,1425,1616,1819,2034,2261,2500,2751,3014,3289,3576 ⋆ Second 14-gonal numbers: n(6n+5). • a(n) = - 2 * Sum _{ k=0..n - 1 } binomial(6 * n + 5, 6 * k + 8) * bernoulli(6 * k + 8)). - _ Michel Marcus _ , Jan 11 2016 •

[A041539] • 1,1,11,34,113,260,893,2939,30283,33222,1093387,1126609,12359477,38205040,126974597,292154234,1003437299,3302466131,34028098609,37330564740,1228606170289,1265936735029,13887973520579,42929857296766,142677545410877 ⋆ Denominators of continued fraction convergents to sqrt(286). • a(n) = 1123670 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A118554] • 0,11,35,56,104,147,204,336,455,731,980,1311,2079,2772,4380,5831,7760,12236,16275,25647,34104,45347,71435,94976,149600 ⋆ a(n) = 6*a(n-5)-a(n-10)+98 with a(0)=0, a(1)=11, a(2)=35, a(3)=56, a(4)=104, a(5)=147, a(6)=204, a(7)=336, a(8)=455, a(9)=731. • a(0)=0, a(1)=11, a(2)=35, a(3)=56, a(4)=104, a(5)=147, a(6)=204, a(7)=336, a(8)=455, a(9)=731, a(10)=980, a(n)=a(n - 1) + 6 * a(n - 5) - 6 * a(n - 6) - a(n - 10) + a(n - 11). [From Harvey P. Dale, Aug 19 2011] •

[A003777] • 1,11,35,79,149,251,391,575,809,1099,1451,1871,2365,2939,3599,4351,5201,6155,7219,8399,9701,11131,12695,14399,16249 ⋆ a(n) = n^3 + n^2 - 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 4. - _ Wesley Ivan Hurt _ , Oct 08 2017 •

[A224790] • 11,35,251,2195,19691,177155,1594331,14348915,129140171,1162261475,10460353211,94143178835,847288609451,7625597484995,68630377364891,617673396283955,5559060566555531,50031545098999715,450283905890997371,4052555153018976275 ⋆ 3*9^n + 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A123749] • 1,11,35,965,8755,8783,237449,2138185,6415985,519743405,4677875401,14033861347,378916960525,3410263045325,3410267502725,30692424759805,276231889624955,828695755304725,67124359204727825,604119244624305025 ⋆ Numerators of partial sums of a series for 3/sqrt(5)=(3/5)*sqrt(5). • a(n)=numerator(r(n)) with the rationals r(n):=sum(binomial(2 * k,k) / 9 ^ k,k=0..n) in lowest terms. •

[A093500] • 11,36,76,131,201,286,386,501,631,776,936,1111,1301,1506,1726,1961,2211,2476,2756,3051,3361,3686,4026,4381,4751 ⋆ a(n) = (15*n^2 + 5*n + 2)/2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (11 + 3 * x + x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 30 2012 •

[A081438] • 1,11,36,82,155,261,406,596,837,1135,1496,1926,2431,3017,3690,4456,5321,6291,7372,8570,9891,11341,12926,14652,16525 ⋆ Diagonal in array of n-gonal numbers A081422. • a(n) = (2 * n ^ 3 + 9 * n ^ 2 + 9 * n + 2) / 2. • a(n) = (n + 1) * (2 * n ^ 2 + 7 * n + 2) / 2. • a(n) - 4 * a(n - 1) + 6 * a(n - 2) - 4 * a(n - 3) + a(n - 4) = 0, with n>3. (End) •

[A191296] • 11,36,140,540,2108,8316,33020,131580,525308,2099196,8392700,33562620,134234108,536903676,2147549180,8590065660,34360000508,137439477756,549756862460,2199025352700,8796097216508,35184380477436,140737505132540,562949986975740,2251799880794108 ⋆ Least k such that k-1 and k+1 in binary representation have same number n of 0's as 1's. • a(n) = 2 * (2 ^ (n - 1) + 2) * (2 ^ (n - 1) - 1) for n>=3. - _ Nathaniel Johnston _ , May 30 2011

• a(0)=11, a(1)=36, a(2)=140, a(3)=540, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Jun 10 2011 •

[A188135] • 1,11,37,79,137,211,301,407,529,667,821,991,1177,1379,1597,1831,2081,2347,2629,2927,3241,3571,3917,4279,4657 ⋆ 8*n^2 + 2*n + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A217947] • 11,37,87,172,305,501,777,1152,1647,2285,3091,4092,5317,6797,8565,10656,13107,15957,19247,23020,27321,32197,37697,43872,50775 ⋆ a(n) = (n+1)*(n^3+15*n^2+74*n+132)/12. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) n>4. - _ Vincenzo Librandi _ , Dec 12 2014 •

[A139276] • 0,11,38,81,140,215,306,413,536,675,830,1001,1188,1391,1610,1845,2096,2363,2646,2945,3260,3591,3938,4301,4680 ⋆ a(n) = n*(8*n+3). • a(n) = 8 * n ^ 2 + 3 * n. • a(n) = 16 * n + a(n - 1) - 5 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A007585] • 0,1,11,38,90,175,301,476,708,1005,1375,1826,2366,3003,3745,4600,5576,6681,7923,9310,10850,12551,14421,16468,18700 ⋆ 10-gonal (or decagonal) pyramidal numbers: a(n) = n*(n + 1)*(8*n - 5)/6. • a(n) = (8 * n - 5) * binomial(n + 1, 2) / 3. • a(n) = (8 * n ^ 3 + 3 * n ^ 2 - 5 * n) / 6. - _ Vincenzo Librandi _ , Aug 01 2010 • a(0)=0, a(1)=1, a(2)=11, a(3)=38, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 20 2011 • a(n) = a(n - 1) + n * (4 * n - 3). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 8. • a(n) = binomial(n + 2,3) + 7 * binomial(n + 1,3). •

[A024202] • 1,11,38,96,205,385,662,1068,1635,2401,3410,4706,6339,8365,10840,13826,17391,21603,26536,32270,38885,46467,55108,64900,75941 ⋆ a(n) = [(3rd elementary symmetric function of S(n))/(first elementary symmetric function of S(n))], where S(n) = {first n+2 odd positive integers}. • a(n) = (n ^ 4 + 4 * n ^ 3 + 4 * n ^ 2 + n - 4) / 6 if n == 1 (mod 3). •

[A213775] • 1,11,38,97,213,432,833,1555,2838,5097,9045,15904,27761,48171,83174,143009,244997,418384,712465,1210195,2050966,3468681,5855333,9867072,16600993 ⋆ Principal diagonal of the convolution array A213774. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 2 * a(n - 3) + 4 * a(n - 4) - a(n - 6). •

[A045801] • 11,39,73,77,111,139,173,177,211,239,273,277,311,339,373,377,411,439,473,477,511,539,573,577,611 ⋆ 1-ish numbers (end in 11, 39, 73, 77). • a(n) = (50 * n - 12 * i ^ (n * (n - 1)) - 9 * (- 1) ^ n - 25) / 2, where i=sqrt(- 1). - Bruno Berselli, Feb 23 2012 •

[A162261] • 0,11,39,90,170,285,441,644,900,1215,1595,2046,2574,3185,3885,4680,5576,6579,7695,8930,10290,11781,13409,15180,17100 ⋆ (2n^3+5n^2-7n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 04 2012 •

[A004188] • 0,1,11,39,94,185,321,511,764,1089,1495,1991,2586,3289,4109,5055,6136,7361,8739,10279,11990,13881,15961,18239,20724 ⋆ a(n) = n*(3*n^2 - 1)/2. • a(n) = C(2 * n + 1,3) + C(n + 1,3), n >= 0. - _ Zerinvary Lajos _ , Jan 21 2007 •

[A147296] • 0,11,40,87,152,235,336,455,592,747,920,1111,1320,1547,1792,2055,2336,2635,2952,3287,3640,4011,4400,4807,5232 ⋆ n*(9*n+2). • a(n) = n * (9 * n + 2), as conjectured by V. Librandi. - From M. F. Hasler, Mar 01 2009 • a(n) = floor((3 * n + 1 / 3) ^ 2). - _ Reinhard Zumkeller _ , Apr 14 2010 •

[A059142] • 11,40,105,242,523,1092,2237,4534,9135,18344,36769,73626,147347,294796,589701 ⋆ A hierarchical sequence (S(W2{3}*) - see A059126). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. • a(n) = (- 25 + 9 * 2 ^ (2 + n) - 7 * n). •

[A056124] • 1,11,40,117,319,848,2233,5859,15352,40205,105271,275616,721585,1889147,4945864,12948453,33899503,88750064,232350697,608302035,1592555416,4169364221,10915537255,28577247552,74816205409 ⋆ a(n) = 3a(n-1) - a(n-2) + 8; a(0)=1, a(1)=11. • a(n)= {{ 19 * [((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n] - 9 * [((3 + sqrt(5)) / 2) ^ (n - 1) - ((3 - sqrt(5)) / 2) ^ (n - 1)] }/ sqrt(5) } - 8. •

[A192820] • 11,41,59,97,149,151,227,229,233,239,263,307,367,373,401,409,569,571,587,593,599,641,643,647,653 ⋆ 2-Ramanujan primes; the interval (x/2,x] has at least n Ramanujan primes for x >= a(n) but not for x = a(n)-1. • a(n) < p(8n) for n >= 5315 (Paksoy 2012). •

[A128467] • 11,41,71,101,131,161,191,221,251,281,311,341,371,401,431,461,491,521,551,581,611,641,671,701,731 ⋆ a(n) = 30*n + 11. • a(n) = 30 * n + 11. (End) •

[A158187] • 1,11,41,91,161,251,361,491,641,811,1001,1211,1441,1691,1961,2251,2561,2891,3241,3611,4001,4411,4841,5291,5761 ⋆ 10*n^2 + 1. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A027086] • 11,41,108,246,517,1035,2010,3828,7199,13429,24920,46090,85065,156791,288758,531528,978099,1799521,3310404,6089406,11200845,20602307,37894354,69699452,128198215 ⋆ a(n) = T(n, n+4), T given by A027082. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) - a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>9. •

[A288795] • 11,41,143,497,1751,6281,22943,85217,321191,1225721,4725743,18371537,71891831,282784361,1116788543,4424107457,17567289671,69881738201,278364691343,1109971980977,4429427570711,17686329223241,70651173714143,282322265320097,1128441772670951 ⋆ a(n) = 4^n + 3^(n + 1) - 2. • a(n) = 4 ^ n + 3 ^ (n + 1) - 2. • a(n) = 8 * a(n - 1) - 19 * a(n - 2) + 12 * a(n - 3) . •

[A213659] • 11,41,155,593,2291,8921,34955,137633,543971,2156201,8565755,34085873,135812051,541653881,2161832555,8632981313,34488878531,137826373961,550918075355,2202510039953,8806553375411,35215753148441,140831631534155 ⋆ a(n) = 3^n + 2^(2*n+1) • a(n) = 3 ^ n + 2 ^ (2 * n + 1). •

[A199209] • 11,41,161,641,2561,10241,40961,163841,655361,2621441,10485761,41943041,167772161,671088641,2684354561,10737418241,42949672961,171798691841,687194767361,2748779069441,10995116277761,43980465111041 ⋆ 10*4^n+1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A156733] • 1,1,11,41,176,606,2391,8091,28636,95056,316048,1014240,3237325,10082015,31109500,94352346,283209381,838650191,2458835711,7127912979,20471486368,58224189612,164181018330,458982667630,1273039111210 ⋆ Euler transform of n*A065958(n). • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 2(k ^ 2) * a(n - k) for n>0, with a(0) = 1. •

[A082424] • 1,1,11,41,320,1917,14582,100562,688427,4380888,26324611,148136566,785175771,3925637781,18586683128,83578440418,358079558873,1465784048253,5748270468573,21649265291143,78483868584001 ⋆ Coefficient of s(2n) in s(n,n) * s(n,n) * s(n,n) * s(n,n) * s(n,n) * s(n,n), where s(n,n) is the Schur function indexed by two parts of size n, s(2n) is the Schur function corresponding to the trivial representation and * represents the inner or Kronecker product. • a(n) = Sum _{ gamma } Chi ^{ (n, n) } (gamma) ^ 6 / z(gamma) the sum is over all partitions gamma of 2n Chi ^ lambda(gamma) is the value of the symmetric group character z(gamma) is the size of the stablizer of the conjugacy class of symmetric group indexed by the partition gamma •

[A153173] • 11,41,341,2161,15251,103361,711491,4868641,33391061,228811001,1568437211,10749853441,73681573691,505018447961,3461454668501,23725145626561,162614613425891,1114577020834241,7639424866266611 ⋆ a(n) = L(5*n)/L(n) where L(n) = Lucas number A000204(n). • a(n) = 5 * a(n - 1) + 15 * a(n - 2) - 15 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A055437] • 11,42,93,164,255,366,497,648,819,1010,1221,1452,1703,1974,2265,2576,2907,3258,3629,4020,4431,4862,5313,5784,6275 ⋆ a(n) = 10*n^2+n. • a(n) = Sum _{ i=0..2 * n } (- 1) ^ i * (2 * n + i) ^ 2. • a(n) = Sum _{ i=1..2 * n } (- 1) ^ i * (4 * n + i) ^ 2. (End) • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. • a(n) = (1 / 5) * Sum _{ i=0..10 * n } i. (End) •

[A055436] • 11,42,93,164,255,366,497,648,819,10010,12111,14412,16913,19614,22515,25616,28917,32418,36119,40020,44121,48422,52923,57624,62525 ⋆ a(n) = concatenation of n^2 and n. • a(n) = n ^ 2 * floor(log10(n) + 1) + n. •

[A213772] • 1,11,42,106,215,381,616,932,1341,1855,2486,3246,4147,5201,6420,7816,9401,11187,13186,15410,17871,20581,23552,26796,30325 ⋆ Principal diagonal of the convolution array A213771. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A027978] • 1,11,42,145,473,1484,4529,13543,39870,115937,333781,953056,2702497,7618115,21365778,59657329,165926609,459905588,1270819025,3501855007,9625627686,26398369601,72248624077,197361589960,538199264833 ⋆ a(n) = self-convolution of row n of array T given by A027960. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) - a(n - 5). •

[A022279] • 0,11,43,96,170,265,381,518,676,855,1055,1276,1518,1781,2065,2370,2696,3043,3411,3800,4210,4641,5093,5566,6060 ⋆ a(n) = n*(21*n + 1)/2. • a(n) = 21 * n + a(n - 1) - 10 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(0)=0, a(1)=11, a(2)=43; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 06 2014 •

[A213763] • 1,11,43,127,331,807,1891,4319,9691,21463,47059,102351,221131,475079,1015747,2162623,4587451,9699255,20447155,42991535,90177451,188743591,394264483,822083487,1711275931 ⋆ Principal diagonal of the convolution array A213762. • a(n) = - 1 + 2 ^ n - 4 * n + n * 2 ^ (n + 1). • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 12 * a(n - 3) - 4 * a(n - 4). •

[A033584] • 0,11,44,99,176,275,396,539,704,891,1100,1331,1584,1859,2156,2475,2816,3179,3564,3971,4400,4851,5324,5819,6336 ⋆ 11n^2. • a(n)=22 * n + a(n - 1) - 11 (with a(0)=0) - _ Vincenzo Librandi _ , Aug 05 2010 •

[A111080] • 11,44,110,220,385,616,924,1320,1815,2420,3146,4004,5005,6160,7480,8976,10659,12540,14630,16940,19481,22264,25300,28600,32175 ⋆ Sum of numbers under a triangle on a spiral staircase of width 10. • a(n) = 11n(n ^ 2 + 3n + 2) / 6. - _ Charles R Greathouse IV _ , Jun 22 2013 • a(n) = (11 * (1 + n) * (2 + n) * (3 + n)) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A022816] • 1,11,44,121,271,532,952,1590,2517,3817,5588,7943,11011,14938,19888,26044,33609,42807,53884,67109,82775,101200,122728,147730,176605 ⋆ Number of terms in 6th derivative of a function composed with itself n times. • a(n) = n * (n + 1) * (n ^ 3 + 24 * n ^ 2 + 81 * n - 46) / 120. G.f.: x * (1 + 5 * x - 7 * x ^ 2 + 2 * x ^ 3) / (x - 1) ^ 6. - _ R. J. Mathar _ , Sep 15 2009 •

[A120537] • 1,11,44,145,431,1216,3329,8955,23836,63041,166079,436480,1145441,3003211,7869644,20614545,53988271,141373376,370169249,969194875,2537513276,6643503361,17393253119,45536670720,119217430081 ⋆ Sum of all matrix elements of n X n matrix M[i,j] = Lucas[i+j-1], (i,j = 1..n), where Lucas[n] = A000032[n] = Fibonacci[n-1] + Fibonacci[n+1]. • a(n) = Sum[Sum[Fibonacci[i + j - 2] + Fibonacci[i + j], { i,1,n }], { j,1,n }]. a(n) = Lucas[2n + 3] - 2 * Lucas[n + 3] + 4, where Lucas[k] = Fibonacci[k - 1] + Fibonacci [k + 1]. •

[A002089] • 11,44,176,704,2816,11264,45056,180224,720896,2883584,11534336,46137344,184549376,738197504,2952790016,11811160064,47244640256,188978561024,755914244096,3023656976384,12094627905536,48378511622144,193514046488576,774056185954304 ⋆ 11*4^n. • a(n)=4 * a(n - 1), n>0; a(0)=11. G.f.: 11 / (1 - 4 * x). - _ Philippe Deléham _ , Nov 23 2008 •

[A042521] • 1,11,45,56,101,258,875,1133,15604,47945,63549,175043,3214323,6603689,9818012,36057725,478568437,514626162,2022446923,4559520008,6581966931,11141486939,51147914687,573768548496,32182186630463 ⋆ Denominators of continued fraction convergents to sqrt(789). • a(n) = 32233334545150 * a(n - 24) - a(n - 48) for n>47. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A022280] • 0,11,45,102,182,285,411,560,732,927,1145,1386,1650,1937,2247,2580,2936,3315,3717,4142,4590,5061,5555,6072,6612 ⋆ a(n) = n*(23*n - 1)/2. •

a(n) = 23 * n + a(n - 1) - 12 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) ●

[A154106] ● 11,45,103,185,291,421,575,753,955,1181,1431,1705,2003,2325,2671,3041,3435,3853,4295,4761,5251,5765,6303,6865,7451 ★ a(n) = 12*n^2 + 22*n + 11. ● a(0) = 11; for n > 0, a(n) = a(n - 1) + 24 * n + 10. ●

[A051740] ● 1,11,45,125,280,546,966,1590,2475,3685,5291,7371,10010,13300,17340,22236,28101,35055,43225,52745,63756,76406,90850,107250,125775 ★ Partial sums of A007584. ● a(n) = C(n + 3, 3) * (7n + 4) / 4. ● a(n) = (7 * n + 4) * binomial(n + 3, 3) / 4. ●

[A072262] ● 11,45,181,725,2901,11605,46421,185685,742741,2970965,11883861,47535445,190141781,760567125,3042268501,12169074005,48676296021,194705184085,778820736341,3115282945365,12461131781461,49844527125845 ★ a(n) = 4*a(n-1) + 1, a(1)=11. ● a(n) = (17 * 2 ^ (2n - 1) - 1) / 3. ●

[A081587] ● 1,11,46,106,191,301,436,596,781,991,1226,1486,1771,2081,2416,2776,3161,3571,4006,4466,4951,5461,5996,6556,7141 ★ Third row of Pascal-(1,4,1) array A081579. ● a(n)=(2 - 5n + 25n ^ 2) / 2. G.f. (1 + 4x) ^ 2 / (1 - x) ^ 3. ● a(n)=25 * n + a(n - 1) - 15 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 ●

[A006324] ● 1,11,46,130,295,581,1036,1716,2685,4015,5786,8086,11011,14665,19160,24616,31161,38931,48070,58730,71071,85261,101476,119900,140725 ★ a(n) = n*(n + 1)*(2*n^2 + 2*n - 1)/6. ● a(n) = 8 * C(n + 2, 4) + C(n + 1, 2). ●

[A158463] ● 1,11,47,107,191,299,431,587,767,971,1199,1451,1727,2027,2351,2699,3071,3467,3887,4331,4799,5291,5807,6347,6911 ★ 12n^2 - 1. ● a(- n) = a(n). ●

[A267614] ● 1,1,11,47,191,767,3071,12287,49151,196607,786431,3145727,12582911,50331647,201326591,805306367,3221225471,12884901887,51539607551,206158430207,824633720831,3298534883327,13194139533311,52776558133247,211106232532991 ★ Decimal representation of the n-th iteration of the "Rule 185" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>3. ● a(n) = 3 * 4 ^ (n - 1) - 1 for n>1. - _ Colin Barker _ , Nov 25 2016 ●

[A117066] ● 1,11,48,140,325,651,1176,1968,3105,4675,6776,9516,13013,17395,22800,29376,37281,46683,57760,70700,85701,102971,122728,145200,170625 ★ Partial sums of cupolar numbers (1/3)*(n+1)*(5*n^2+7*n+3) (A096000). ● a(n) = Sum _{ i=1..n } (1 / 3) * (i + 1) * (5 * i ^ 2 + 7 * i + 3). ● a(n) = Sum _{ i=1..n } (1 / 2) * (Q(i) + 3 * i ^ 2 + 3 * i + 1), where Q(i) are the cub octahedral numbers (A005902). ● a(n) = n ^ 2 * (n + 1) * (5 * n + 1) / 12. - _ Vaclav Kotesovec _ , Jan 03 2017 ●

[A042984] ● 1,11,48,140,326,657,1197,2024,3231,4927,7238,10308,14300,19397,25803,33744,43469,55251,69388,86204,106050,129305,156377,187704,223755 ★ Number of n-dimensional partitions of 6. ● a(n) = (n + 1) * (n + 4) * (n ^ 3 + 40 * n ^ 2 + 61 * n + 30) / 120. - _ Robert Israel _ , Jul 06 2016 ●

[A101992] ● 1,1,11,49,59,131,559,14533,15289,33031,34417,441877,452173,2224829,9034451,152504587,155227307,2932982513,2967901397 ★ Numerator of Sum((-1)^i/(i phi(i))) 2<=i<=n. ● a(n) = numerator(Sum((- 1) ^ i / (i * phi(i)))) 2<=i<=n ●

[A241406] ● 11,50,72,111,133,172,194,233,255,294,316,355,377,416,438,477,499,538,560,599,621,660,682,721,743 ★ Numbers n such that n^2 == -1 (mod 61). ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. ● a(n) = a(n - 2) + 61 for all n>2. ● a(n) = - 11 * (- 1) ^ n + 61 * floor(n / 2). ●

[A212560] ● 0,1,11,50,150,355,721,1316,2220,3525,5335,7766,10946,15015,20125,26440,34136,43401,54435,67450,82670,100331,120681,143980,170500 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x<=y+z. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ● a(n) = (n + 2 * n ^ 3 + 3 * n ^ 4) / 6. - _ Clark Kimberling _ , Jul 10 2012 ●

[A185505] ● 1,11,51,156,375,771,1421,2416,3861,5875,8591,12156,16731,22491,29625,38336,48841,61371,76171,93500,113631,136851,163461,193776,228125 ★ a(n) = (7*n^4 + 5*n^2)/12. ● a(n) = (7 * n ^ 4 + 5 * n ^ 2) / 12. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 5. ●

[A051843] ● 0,1,11,51,161,406,882,1722,3102,5247,8437,13013,19383,28028,39508,54468,73644,97869,128079,165319,210749,265650,331430,409630,501930 ★ Partial sums of A002419. ● a(n) = C(n + 3,4) * (6 * n - 1) / 5 ● a(n) = n * (n + 1) * (n + 2) * (n + 3) * (6n - 1) / 120. - Derek I. Thomas (dithom02(AT)louisville.edu), Jun 30 2007 ●

[A107464] ● 11,51,175,527,1471,3903,9983,24831,60415,144383,339967,790527,1818623,4145151,9371647,21037055,46923775,104071167,229638143,504365055,1103101951,2403336191,5217714175,11291066367,24360517631 ★ Number of fuzzy subgroups of rank 3 cyclic group of order (p^n)*q*r where p, q and r are three distinct prime. ● a(n) = 2 ^ (n + 1) * (n ^ 2 + 6n + 6) - 1. ●

[A027942] ● 1,11,51,176,530,1490,4043,10773,28445,74770,196116,513876,1345861,3524111,9226935,24157220,63245318,165579398,433493615,1134902265,2971214081,7778740966,20365009896,53316289896,139583861065 ★ T(2n+1,n+2), T given by A027935. ● a(n) = Fibonacci(2 * n + 5) - 2 * n ^ 2 - 5 * n - 5. ●

[A059135] ● 11,54,161,396,887,1890,3917,7992,16163,32526,65273,130788,261839,523962,1048229 ★ A hierarchical sequence (S(W2{3}c) - see A059126). ● a(n) = - 53 + 2 ^ (6 + n) - 21 * n. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. ●

[A213840] ● 1,11,54,170,415,861,1596,2724,4365,6655,9746,13806,19019,25585,33720,43656,55641,69939,86830,106610,129591,156101,186484,221100,260325 ★ a(n) = n*(1 + n)*(3 - 4*n + 4*n^2)/6. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ●

[A153449] ● 0,11,55,132,242,385,561,770,1012,1287,1595,1936,2310,2717,3157,3630,4136,4675,5247,5852,6490,7161,7865,8602,9372 ★ 11 times pentagonal numbers: 11*n*(3n-1)/2. ● a(n) = 33 * n + a(n - 1) - 22 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A072025] ● 1,11,55,181,461,991,1891,3305,5401,8371,12431,17821,24805,33671,44731,58321,74801,94555,117991,145541,177661,214831,257555,306361,361801 ★ a(n) = n^4 + 2*n^3 + 4*n^2 + 3*n + 1 = ((n+1)^5+n^5) / (2*n+1). ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n >4. ●

[A098992] ● 0,0,1,11,55,190,526,1254,2682,5280,9735,17017,28457,45838,71500,108460,160548,232560,330429,461415,634315,859694,1150138,1520530,1988350 ★ Number of permutations of [n] with exactly 2 descents which avoid the pattern 1324. ● a(n) = (n * (- 540 + 476 * n + 469 * n ^ 2 - 490 * n ^ 3 + 70 * n ^ 4 + 14 * n ^ 5 + n ^ 6)) / 5040. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a (n - 8) for n>8. ●

[A032166] ● 11,55,440,3630,32208,295020,2783880,26793030,261994040,2593726344,25937424600,261535549220,2655593241840,27124986721140,278483211283552,2871858103075830,29732178147017280 ★ Number of aperiodic necklaces of n beads of 11 colors. ● a(n) = Sum _{ d|n } mu(d) * 11 ^ (n / d) / n. ●

[A079547] ● 0,1,11,56,192,517,1183,2408,4488,7809,12859,20240,30680,45045,64351,89776,122672,164577,217227,282568,362768,460229,577599,717784,883960 ★ a(n) = ((n^6 - (n-1)^6) - (n^2 - (n-1)^2))/60. ● a(n + 1) = Sum _{ i=1..n } (i ^ 2 + i ^ 4) / 2 = n * (2 * n + 1) * (n + 1) * (3 * n ^ 2 + 3 * n + 4) / 60. - _ Vladeta Jovovic _ , Mar 17 2006 ● a(n) = Sum _{ i=1..n - 1 } Sum _{ j=1..n - 1 } min(i,j) ^ 3. - _ Enrique Pérez Herrero _ , Jan 16 2013 ●

[A051946] ● 1,11,56,196,546,1302,2772,5412,9867,17017,28028,44408,68068,101388,147288,209304,291669,399399,538384,715484,938630,1216930,1560780,1981980,2493855 ★ G.f.: (1+4*x)/(1-x)^7. ● a(n) = C(n + 5,5) * (5 * n + 6) / 6 . ● a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (5 * n + 6) / 720 . - _ Emeric Deutsch _ , Jun 18 2005 ●

[A211614] ● 0,1,11,57,160,344,633,1051,1622,2370,3319,4493,5916,7612,9605,11919,14578,17606,21027,24865,29144,33888,39121,44867,51150 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+x+y>2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. ● a(n) = (8 * n ^ 3 - 15 * n ^ 2 + 15 * n - 12) / 2 for n>1. ●

[A244497] ● 1,11,57,197,533,1223,2494,4654,8105,13355,21031,31891,46837,66927,93388,127628,171249,226059,294085,377585,479061,601271,747242,920282,1123993 ★ Number of magic labelings of the prism graph I X C_5 with magic sum n. ● a(n) = (3 * (63 + (- 1) ^ n) + 576 * n + 720 * n ^ 2 + 460 * n ^ 3 + 150 * n ^ 4 + 20 * n ^ 5) / 192. ● a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - a(n - 7) for n>6. ●

[A101094] ● 1,11,57,203,574,1386,2982,5874,10791,18733,31031,49413,76076,113764,165852,236436,330429,453663,612997,816431,1073226,1394030,1791010,2277990,2870595 ★ a(n) = n*(n+1)*(n+2)*(n+3)*(1+3*n+n^2)/120. ● a(k) = MagicNKZ(3,k,7) where MagicNKZ(n,k,z) = Sum _{ j=0..k + 1 } (- 1) ^ j * binomial(n + 1 - z,j) * (k - j + 1) ^ n. (Cf. A101104.) - _ Danny Rorabaugh _ , Apr 23 2015 ●

[A187693] ● 0,0,1,11,57,229,815,2715,8701,27233,83979,256519,778745,2354637,7100743,21375923,64275189,193120441,579951107,1741032927,5225458033,15681092645,47052715071,141177019531,423568807277 ★ G.f.: x^2*(1+4*x-3*x^2)/((1-x)^2*(1-2*x)*(1-3*x)). ● a(n) = n + (7 + 3 ^ (n + 1) - 9 * 2 ^ n) / 2, n>0. - _ R. J. Mathar _ , Mar 18 2011 ●

[A289255] ● 1,11,57,247,1013,4083,16369,65519,262125,1048555,4194281,16777191,67108837,268435427,1073741793,4294967263,17179869149,68719476699,274877906905,1099511627735,4398046511061,17592186044371,70368744177617,281474976710607,1125899906842573 ★ a(n) = 4^n - 2*n - 1. ● a(n) = 4 ^ n - 2 * n - 1. ● a(n) = 6 * a(n - 1) - 9 * a(n - 2) + 4 * a(n - 3). ●

[A275795] ● 11,57,331,1929,11243,65529,381931,2226057,12974411,75620409,440748043,2568867849,14972459051,87265886457,508622859691,2964471271689,17278204770443,100704757350969,586950339335371,3420997278661257,19939033332632171,116213202717131769 ★ The x members of the positive proper solutions (x = x2(n), y = y2(n)) of the second class for the Pell equation x^2 - 2*y^2 = +7^2. ● a(n) = 6 * a(n - 1) - a(n - 2), n >= 1, with a(- 1) = 9 and a(0) = 11. ● a(n) = (((3 - 2 * sqrt(2)) ^ n * (- 12 + 11 * sqrt(2)) + (3 + 2 * sqrt(2)) ^ n * (12 + 11 * sqrt(2)))) / (2 * sqrt(2)). - _ Colin Barker _ , Sep 28 2016 ●

[A290360] ● 0,1,11,58,206,571,1337,2772,5244,9237,15367,24398,37258,55055,79093,110888,152184,204969,271491,354274,456134,580195,729905,909052,1121780 ★ Number of 6-leaf rooted trees with n levels. ● a(n) = (4 * n ^ 5 + 5 * n ^ 4 + 10 * n ^ 3 + 10 * n ^ 2 + n) / 30. ●

[A164299] ● 1,11,59,277,1249,5555,24587,108637,479713,2117819,9348923,41268805,182170369,804140579,3549650891,15668921293,69165971521,305313380075,1347718479803,5949117218293,26260673951137,115920223178771 ★ a(n) = ((1+4*sqrt(2))*(3+sqrt(2))^n + (1-4*sqrt(2))*(3-sqrt(2))^n)/2. ● a(n) = 6 * a(n - 1) - 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 11. ●

[A253207] ● 11,59,359,1799,7091,22995,64143,159093,359348,752180,1478204,2754752,4906202,8402522,13907394,22337388,34933761,53348561,79746821,116926733,168459797,238853045,333735545,460071495,626402322 ★ a(n) = number of permutations of (1,2,...,n) producible by an ordered quadruple of distinct transpositions. ● a(n) = n! * (1 / (384 * (n - 8)!) + 1 / (24 * (n - 7)!) + 13 / (72 * (n - 6)!) + 1 / (5 * (n - 5)!) + 1 / (8 * (n - 4)!) + 1 / (3 * (n - 3)!)) for n>=8. ●

[A050483] ● 1,11,60,228,690,1782,4092,8580,16731,30745,53768,90168,145860,228684,348840,519384,756789,1081575,1519012,2099900,2861430,3848130,51

12900,6718140,8736975 ★ Partial sums of A051947. ● a(n)=C(n + 6, 6) * (4n + 7) / 7. ●

[A066999] ● 1,11,60,244,857,2787,8704,26624,80601,242803,729740,2190948,6575041,19727867,59186976,177565024,532699985,1598105787,4794324220,14382980660,43148951241,129446864371,388340605280,1165021829664 ★ a(n) = 3^n * Sum_{i=1..n} i^3/3^i. ● a(n) = (11 * 3 ^ (n + 1) - 4 * n ^ 3 - 18 * n ^ 2 - 36 * n - 33) / 8. - _ Vaclav Kotesovec _ , Nov 28 2012 ●

[A222408] ● 1,11,61,211,551,1201,2311,4061,6661,10351,15401,22111,30811,41861,55651,72601,93161,117811,147061,181451,221551,267961,321311,382261,451501 ★ Partial sums of A008531, or crystal ball sequence for {A_4}* lattice. ● a(n) = (4 + 10 * n + 15 * n ^ 2 + 10 * n ^ 3 + 5 * n ^ 4) / 4. G.f.: - (x ^ 4 + 6 * x ^ 3 + 16 * x ^ 2 + 6 * x + 1) / (x - 1) ^ 5. [_ Colin Barker _ , Mar 08 2013] ●

[A001847] ● 1,11,61,231,681,1683,3653,7183,13073,22363,36365,56695,85305,124515,177045,246047,335137,448427,590557,766727,982729,1244979,1560549,1937199,2383409 ★ Crystal ball sequence for 5-dimensional cubic lattice. ● a(n) = (4 * n ^ 5 + 10 * n ^ 4 + 40 * n ^ 3 + 50 * n ^ 2 + 46 * n + 15) / 15. - S. Bujnowski & B. Dubalski (slawb(AT)atr.bydgoszcz.pl), Mar 07 2002 ● a(n) = sum(k=0..min(5,n), 2 ^ k * binomial(5,k) * binomial(n,k)). See Bump et al. - _ Tom Copeland _ , Sep 05 2014 ●

[A115565] ● 11,61,281,911,2311,4961,9461,16531,27011,41861,62161,89111,124031,168361,223661,291611,374011,472781,589961,727711,888311,1074161,1287781,1531811,1809011 ★ a(n) = 5*n^4 - 10*n^3 + 20*n^2 - 15*n + 11. ● a(1 - n) = a(n) = 5 * (n ^ 2 - n) ^ 2 + 15 * (n ^ 2 - n) + 11. - _ Michael Somos _ , May 15 2006 ● a(1)=11, a(2)=61, a(3)=281, a(4)=911, a(5)=2311, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 03 2011 ●

[A137410] ● 1,11,61,311,1561,7811,39061,195311,976561,4882811,24414061,122070311,610351561,3051757811,15258789061,76293945311,381469726561,1907348632811,9536743164061,47683715820311,238418579101561,1192092895507811,5960464477539061,29802322387695311,149011611938476561 ★ a(n) = (5^n - 3) / 2. ● a(n) = (5 ^ n - 3) / 2. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2). G.f.: (1 + 5 * x) / ((1 - x) * (1 - 5 * x)). [_ Colin Barker _ , May 01 2012] ● a(n) = 5 * a(n - 1) + 6, a(0) = 1. - _ Philippe Deléham _ , Feb 24 2014 ●

[A199414] ● 11,61,361,2161,12961,77761,466561,2799361,16796161,100776961,604661761,3627970561,21767823361,130606940161,783641640961,4701849845761,28211099074561,169266594447361,1015599566684161,6093597400104961,36561584400629761 ★ 10*6^n+1. ● a(n) = 6 * a(n - 1) - 5. ● a(n) = 7 * a(n - 1) - 6 * a(n - 2). ●

[A156095] ● 1,11,61,361,2311,15401,104401,712531,4875781,33398201,228859951,1568486161,10750188961,73681909211,505020747661,3461456968201,23725161388951,162614629188281,1114577128871281,7639424974303651,52361396909490901 ★ 5 F(2n) (F(2n) + 1) + 1 where F(n) denotes the n-th Fibonacci number. ● a(n)=((2 * sqrt(5)) / 2) * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n) + ((7 + 3 * sqrt(5)) / 2) ^ n + ((7 - 3 * sqrt(5)) / 2) ^ n - 1. - _ Tim Monahan _ , Aug 15 2011 ●

[A092164] ● 1,11,61,371,2221,13331,79981,479891,2879341,17276051,103656301,621937811,3731626861,22389761171,134338567021,806031402131,4836188412781,29017130476691,174102782860141,1044616697160851 ★ Let M = 2 X 2 matrix [1 2 / 5 4]; a(n) = (1,1) entry of M^n. ● a(n) = (2 * 6 ^ n + 5 * (- 1) ^ n) / 7. ● a(n)=5 * a(n - 1) + 6 * a(n - 2). G.f.: x * (1 + 6 * x) / ((1 + x) * (1 - 6 * x)). - _ R. J. Mathar _ , Apr 20 2009 ●

[A191596] ● 1,11,62,242,743,1925,4396,9108,17469,31471,53834,88166,139139,212681,316184,458728,651321,907155,1241878,1673882,2224607,2918861,3785156,4856060,6168565 ★ Expansion of (1+x)^4/(1-x)^7. ● a(n) = (n + 1) * (n + 2) * (2 * n ^ 4 + 12 * n ^ 3 + 40 * n ^ 2 + 66 * n + 45) / 90. ● a(n) = a(- n - 3) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ●

[A053367] ● 1,11,63,255,825,2277,5577,12441,25740,50050,92378,163098,277134,455430,726750,1129854,1716099,2552517,3725425,5344625,7548255,10508355,14437215,19594575 ★ Partial sums of A050494. ● a(n) = C(n + 7, 7) * (3n + 8) / 8. ●

[A054333] ● 1,11,65,275,935,2717,7007,16445,35750,72930,140998,260338,461890,791350,1314610,2124694,3350479,5167525,7811375,11593725,16921905,24322155,34467225,48208875,66615900 ★ 1/256 of tenth unsigned column of triangle A053120 (T-Chebyshev, rising powers, zeros omitted). ● a(n) = 2 * C (n + 9, 9) - C(n + 8, 8). - _ Paul Barry _ , Mar 04 2003 ● a(n) = C(n + 8,8) + 2 * C(n + 8,9). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 ●

[A054490] ● 1,11,65,379,2209,12875,75041,437371,2549185,14857739,86597249,504725755,2941757281,17145817931,99933150305,582453083899,3394785353089,19786259034635,115322768854721,672150354093691,3917579355707425,22833325780150859 ★ Expansion of (1+5*x)/(1-6*x+x^2). ● a(n) = 6 * a(n - 1) - a(n - 2) for n>1, a(0)=1, a(1)=11. ● a(n) = (11 * ((3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n) - ((3 + 2 * sqrt(2)) ^ (n - 1) - (3 - 2 * sqrt(2)) ^ (n - 1))) / (4 * sqrt(2)). ●

[A154617] ● 0,11,66,165,308,495,726,1001,1320,1683,2090,2541,3036,3575,4158,4785,5456,6171,6930,7733,8580,9471,10406,11385,12408 ★ Eleven times hexagonal numbers: 11*n*(2*n-1). ● a(n) = a(n - 1) + 44 * n - 33 (With a(0)=0). - _ Vincenzo Librandi _ , Dec 15 2010 ●

[A063842] ● 1,11,66,276,900,2451,5831,12496,24651,45475,79376,132276,211926,328251,493725,723776,1037221,1456731,2009326,2726900,3646776,4812291,6273411,8087376,10319375 ★ Number of colorings of K_4 using at most n colors. ● a(n) = (1 / 4!) * (n ^ 6 + 6 * n ^ 5 + 24 * n ^ 4 + 56 * n ^ 3 + 83 * n ^ 2 + 70 * n + 24). ●

[A247610] ● 1,11,66,286,1001,3003,7798,17858,36873,70003,124130,208110,333025,512435,762630,1102882,1555697,2147067,2906722,3868382,5070009,6554059,8367734,10563234,13198009 ★ a(n) = Sum_{k=0..5} binomial(10,k)*binomial(n,k). ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). ● a(n) = (20 + 508 * n - 925 * n ^ 2 + 820 * n ^ 3 - 245 * n ^ 4 + 42 * n ^ 5) / 20. ●

[A008503] ● 1,11,66,286,1001,3003,8008,19448,43758,92378,184755,352705,646580,1143780,1960255,3265757,5303727,8416837,13079352,19937632,29860259,43999449,63865594,91416974 ★ 9-dimensional centered tetrahedral numbers. ● a(n) = (2 * n + 1) * (5 * n ^ 8 + 20 * n ^ 7 + 1370 * n ^ 6 + 4040 * n ^ 5 + 56549 * n ^ 4 + 106388 * n ^ 3 + 425916 * n ^ 2 + 373392 * n + 362880) / 362880. [_ Bruno Berselli _ , Mar 22 2012] ●

[A008493] ● 1,11,66,286,1001,3003,8008,19448,43758,92378,184756,352715,646635,1144000,1960970,3267759,5308732,8428277,13103662,19986252,29952637,44167409,64159524,91914394,129984074 ★ Expansion of (1-x^11) / (1-x)^11. ● a(n) = 11 * (n * (193248 + 152900 * n ^ 2 + 16401 * n ^ 4 + 330 * n ^ 6 + n ^ 8)) / 362880 for n>0. - _ Colin Barker _ , Jan 06 2017 ●

[A001287] ● 1,11,66,286,1001,3003,8008,19448,43758,92378,184756,352716,646646,1144066,1961256,3268760,5311735,8436285,13123110,20030010,30045015,44352165,64512240,92561040,131128140 ★ Binomial coefficients C(n,10). ● a(n + 9) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9) / 10!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 ●

[A000460] ● 1,11,66,302,1191,4293,14608,47840,152637,478271,1479726,4537314,13824739,41932745,126781020,382439924,1151775897,3464764515,10414216090,31284590870,93941852511,282010106381,846416194536,2540053889352,7621839388981 ★ Eulerian numbers (Euler's triangle: column k=3 of A008292, column k=2 of A173018) ● a(n + 2) = 3 ^ (n + 2) - (n + 3) * 2 ^ (n + 2) + (1 / 2) * (n + 2) * (n + 3). - Randall L. Rathbun (randallr(AT)abac.com), Jan 22 2002 ● a(n) = 3 ^ n - (n + 1) * 2 ^ n + (1 / 2) * n * (n + 1). [_ Gary Detlefs _ , Nov 11 2011] ●

[A292490] ● 1,11,68,365,2019,11328,63321,353483,1974124,11026373,61584323,343956104,1921047729,10729356747,59925127764,334691142941,1869302113507,10440434236752,58310941508105,325675681470731,1818949357172988,10159115194159989,56740239146359107 ★ p-INVERT of the odd positive integers, where p(S) = 1 - S - 7 S^2. ● a(n) = 5 * a(n - 1) + 17 * a(n - 3) + 7 * a(n - 4) for n >= 5. ●

[A293550] ● 0,1,11,69,354,1650,7293,31213,130832,540702,2212550,8989090,36327810,146228940,586823265,2349424125,9389012160,37467344310,149345215290,594753416790,2366845396500,9413555798556,37423053793026,148719333293394,590842248452024 ★ a(n) = Sum_{k=0..n} k^3*binomial(2*n-k,n). ● a(n) = [x ^ n] x * (1 + 4 * x + x ^ 2) / (1 - x) ^ (n + 5). ● a(n) = 2 ^ (2 * n + 1) * n ^ 2 * (13 * n + 7) * Gamma(n + 3 / 2) / (sqrt(Pi) * Gamma(n + 5)). ●

[A173200] ● 0,11,70,225,524,1015,1746,2765,4120,5859,8030,10681,13860,17615,21994,27045,32816,39355,46710,54929,64060,74151,85250,97405,110664 ★ Solutions y of the Mordell equation y^2 = x^3 - 3a^2 - 1 for a = 0,1,2, ... (solutions x are given by A053755). ● a(n) = 8 * n ^ 3 - 24 * n ^ 2 + 27 * n - 11. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 02 2012 ●

[A211386] ● 1,11,71,351,1471,5503,18943,61183,187903,553983,1579007,4374527,11829247,31326207,81461247,208470015,525991935,1310457855,3228041215,7870611455,19012780031,45541752831,108246597631,255466668031,598980165631 ★ Expansion of 1/((1-2*x)^5*(1-x)). ● a(n) = 2 ^ n * (24 + 18 * n + 23 * n ^ 2 + 6 * n ^ 3 + n ^ 4) / 12 - 1. ● a(0)=1, a(1)=11, a(2)=71, a(3)=351, a(4)=1471, a(5)=5503, a(n)=11 * a(n - 1) - 50 * a(n - 2) + 120 * a(n - 3) - 160 * a(n - 4) + 112 * a(n - 5) - 32 * a(n - 6). - _ Harvey P. Dale _ , Mar 02 2015 ●

[A164559] ● 1,11,71,431,2591,15551,93311,559871,3359231,20155391,120932351,725594111,4353564671,26121388031,156728328191,940369969151,5642219814911,33853318889471,203119913336831,1218719480020991 ★ a(n) = 6^n/3 - 1. ● a(n) = 6 * a(n - 1) + 5 for n > 2; a(1) = 1, a(2) = 11. ●

[A123362] ● 1,1,11,71,481,3241,21851,147311,993121,6695281,45137291,304300151,2051487361,13830424921,93239986331,628592042591,4237752187201,28569473336161,192605600952971,1298480972398631,8753913839156641 ★ a(0)=1, a(1)=1, a(n) = 6*a(n-1) + 5*a(n-2) for n > 1. ● a(n) = (1 / 2) * (3 + sqrt(14)) ^ n + (1 / 2) * (3 - sqrt(14)) ^ n - (1 / 14) * (3 + sqrt(14)) ^ n * sqrt(14) + (1 / 14) * (3 - sqrt(14)) ^ n * sqrt(14), with n>=0. - _ Paolo P. Lava _ , Jun 25 2008 ●

[A199488] ● 11,71,491,3431,24011,168071,1176491,8235431,57648011,403536071,2824752491,19773267431,138412872011,968890104071,6782230728491,47475615099431,332329305696011,2326305139872071,16284135979104491,113988951853731431 ★ 10*7^n+1. ● a(n) = 7 * a(n - 1) - 6. ● a(n) = 8 * a(n - 1) - 7 * a(n - 2). ●

[A103998] ● 1,11,71,539,4271,34276,276119,2226851,17965151,144948419,1169523076,9436433171,76139155439,614339685971,4956888901511,39995380044004,322708555336511,2603821045832171,21009309912323639 ★ Number of dimer tilings of a 4 x 2n Moebius strip. ● a(0)=1, a(1)=11, a(2)=71, a(3)=539, a(4)=4271, a(n)=11 * a(n - 1) - 25 * a(n - 2) + 11 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 15 2011 ●

[A258402] ● 0,11,72,243,608,1275,2376,4067,6528,9963,14600,20691,28512,38363,50568,65475,83456,104907,130248,159923,194400,234171,279752,331683,390528 ★ a(n) = (n^2 + 4*n + 6) * n^2. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Jun 06 2015 ●

[**A006975**] • 1,11,72,364,1568,6048,21504,71808,228096,695552,2050048,5870592,16400384,44843008,120324096,317521920,825556992,2118057984,5369233408,13463453696,33426505728,82239815680,200655503360,485826232320 ⋆ Coefficients of Chebyshev polynomials. • a(n) = 2 ^ (n - 5) * n(n + 1)(n + 2)(n + 3)(n + 9) / 15. - _ Paul Barry _ , Feb 19 2003 • a(n) = sum { k=0..floor((n + 10) / 2), C(n + 10, 2k)C(k, 5) } . - _ Paul Barry _ , May 15 2003 • a(n) = binomial transform of b(n)= (2 * n ^ 5 + 10 * n ^ 4 + 30 * n ^ 3 + 50 * n ^ 2 + 43 * n + 15) / 15 offset 0. a(3) = 364. - Al Hakanson (hawkuu(AT)gmail.com), Jun 01 2009 • a(n) = 2 ^ (n - 1) / 5 * Binomial(n + 4,4) * (n + 10). - _ Brad Clardy _ , Mar 10 2012 •

[**A163775**] • 1,11,73,403,2021,9567,43611,193683,844213,3629083,15437951,65143503,273148279,1139548469,4734740493,19606960755,80969809797,333601494651 ⋆ Row sums of triangle A163772. • a(n) = Sum _{ k=0..n } Sum _{ i= k..n } (- 1) ^ (n - i) * binomial(n - k,n - i) * (2i + 1) $ where i $ denotes the s winging factorial of i (A056040). •

[**A155634**] • 1,11,73,467,3025,19931,133273,901667,6155425,42306731,292240873,2026154867,14085427825,98109713531,684326588473,4778079088067,33385518460225,233393453440331,1632228295176073,11417968671701267 ⋆ 7^n + 5^n - 1. • a(n)=12 * a(n - 1) - 35 * a(n - 2) - 24 with a(0)=1, a(1)=11 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[**A282816**] • 0,0,1,11,76,340,1135,3101,7336,15576,30405,55495,95876,158236,251251,385945,576080,838576,1193961,1666851,2286460,3087140,4108951,5398261,7008376 ⋆ Number of inequivalent ways to color the faces of a cube using at most n colors so that no two opposite sides have the same color. • a(n) = n * (n - 1) * (n ^ 4 - 2 * n ^ 3 + n ^ 2 + 8) / 24. •

[**A056914**] • 1,11,76,521,3571,24476,167761,1149851,7881196,54018521,370248451,2537720636,17393796001,119218851371,817138163596,5600748293801,38388099893011,263115950957276,1803423556807921,12360848946698171 ⋆ a(n) = L(4*n+1) where L() are the Lucas numbers. • a(n) = 7 * a(n - 1) - a(n - 2) ; a(0)=1, a(1)=11. •

[**A218395**] • 11,77,143,1529,2849,30503,56837,608531,1133891,12140117,22620983,242193809,451285769,4831736063,9003094397,96392527451,179610602171,1923018812957,3583208949023,38363983731689,71484568378289,765356655820823,1426108158616757 ⋆ If the sum of the squares of 11 consecutive numbers is a square, then a(n) is the square root of this sum. • a(n) = 20 * a(n - 2) - a(n - 4); b(n) = 20 * b(n - 2) - b(n - 4); • a(n) = 10 * a(n - 2) + 33 * b(n - 2); b(n) = 3 * a(n - 2) + 10 * b(n - 2). • a(n) = a(n - 1) + 20 * a(n - 2) - 20 * a(n - 3) - a(n - 4) + a(n - 5). • a(2 * n) = (11 + r) * s ^ n + (11 - r) * t ^ n. • a(2 * n + 1) = (77 + 23 * r) + s ^ n + (77 - 23 * r) * t ^ n. •

[**A059625**] • 1,11,77,407,1793,6875,23661,74503,217789,597311,1549977,3830619,9065485,20635967,45353033,96542523,199597519,401741989,788857795,1513922905,2844244975,5238604085,9471346755 ⋆ Eleventh column (m=10) of convolution triangle A059594. • a(2 * k) = binomial(k + 16, 16) * (128 * k ^ 5 + 4768 * k ^ 4 + 62272 * k ^ 3 + 336488 * k ^ 2 + 673644 * k + 305235) / (17 * 9 * 19 * 5 * 21); a(2 * k + 1) = binomial(k + 16, 16) * (128 * k ^ 5 + 6112 * k ^ 4 + 107968 * k ^ 3 + 860312 * k ^ 2 + 2975580 * k + 3357585) / (17 * 9 * 19 * 5 * 21), k >= 0. •

[**A172067**] • 1,11,79,468,2486,12323,58277,266492,1188679,5202523,22436251,95630272,403770544,1691678428,7042481236,29161852240,120212658034,493656394350,2020590599710,8247228533780,33579755528278,136434358356201 ⋆ Sequence whose G.f is given by: f(z)=(2/(3*sqrt(1-4*z)-1+4*z))*((1-sqrt(1-4*z))/(2*z))^k with k=10. • a(n)=sum('(- 1) ^ (p) * binomial(2 * n + k - p, n - p)',p=0..n) (with k=10). •

[**A101028**] • 1,11,79,479,5297,69071,69203,471181,8960447,44831407,1031626241,5160071143,15484789693,64166447971,1989542332021,3979714828967,27861681000449,103099680301097 3,1031094241305773,422782888849598913 ⋆ Numerator of partial sums of a certain series. First member (m=2) of a family. • a(n)=numerator(s(n)) with s(n)=6 * sum(1 / ((2 * k - 1) * (2 * k) * (2 * k + 1)), k=1..n). •

[**A155619**] • 1,11,79,575,4351,33791,266239,2113535,16842751,134479871,1074790399,8594128895,68736253951,549822922751,4398314946559,35185445830655,281479271677951,2251816993554431,18014467228958719,144115462953762815 ⋆ 8^n+4^n-1^n • a(n)=12 * a(n - 1) - 32 * a(n - 2) - 21 with a(0)=1, a(1)=11 [From _ Vincenzo Librandi _ , Jul 21 2010] • a(0)=1, a(1)=11, a(2)=79, a(n)=13 * a(n - 1) - 44 * a(n - 2) + 32 * a(n - 3). - _ Harvey P. Dale _ , Jun 19 2013 •

[**A021024**] • 1,11,80,490,2751,14721,76630,392480,1990901,10041031,50466780,253122870,1267989451,6347088941,31756902530,158848951660,794438206401,3972771638451,19865600535880,99333230758850,496681840129751,2483456263849561,12417422517238830 ⋆ Expansion of 1/((1-x)(1-2x)(1-3x)(1-5x)). • a(n) = stirling2(n + 4,4) + stirling2(n + 4,5). - _ Zerinvary Lajos _ , Oct 04 2007 • a(0)=1, a(1)=11, a(2)=80, a(3)=490; for n>3, a(n) = 11 * a(n - 1) - 41 * a(n - 2) + 61 * a(n - 3) - 30 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 • a(n) = 8 * a(n - 1) - 15 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 • a(n) = (5 ^ (n + 3) - 6 * 3 ^ (n + 3) + 8 * 2 ^ (n + 3) - 3) / 24. [_ Yahia Kahloune _ , Jul 07 2013] •

[**A181989**] • 1,11,81,621,4741,36211,276561,2112241,16132281,123210611,941023441,7187084861,54891500621,419234905211,3201914754721,2445468630848 1,186773143027761,1426483517982011,10894795654704401,83209214029813101,635511992964231701,4853735225243983011 ⋆ Number of independent sets of nodes in graph C_5 x P_n (n >= 0). • a(n) = 7 * a(n - 1) + 5 * a(n - 2) - a(n - 3) with a(0)=1, a(1)=11, a(2)=81. •

[**A199557**] • 11,81,641,5121,40961,327681,2621441,20971521,167772161,1342177281,10737418241,85899345921,687194767361,5497558138881,4398046511104 1,351843720888321,2814749767106561,22517998136852481,180143985094819841 ⋆ 10*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[**A003730**] • 1,11,81,666,5431,44466,364061,2981201,24412606,199912706,1637069691,13405842666,109779463516,898976005896,7361648869421,60284005131851,493661316969811,4042556485091321,33104199931650186 ⋆ Number of 2-factors in C_5 X P_n. • a(n) = 9a(n - 1) - 4a(n - 2) - 22a(n - 3) + 3a(n - 4), n>4. •

[**A261391**] • 0,11,82,393,1364,3775,8886,18557,35368,62739,105050,167761,257532,382343,551614,776325,1069136,1444507,1918818,2510489,3240100,4130511,5206982,6497293,8031864 ⋆ a(n) = n^5 + 5*n^3 + 5*n. • a(n) = ((n + sqrt(n ^ 2 + 4)) / 2) ^ 5 - 1 / ((n + sqrt(n ^ 2 + 4)) / 2) ^ 5. • a(n) = - a(- n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Colin Barker _ , Aug 18 2015 •

[**A016282**] • 1,11,83,535,3171,17871,97483,520055,2731091,14179231,72992283,373347975,1900290211,9635660591,48715157483,245723238295,1237206060531,6220389909951,31239388241083,156746696495015,785932504682051,3938458614335311,19727477439571083 ⋆ Expansion of 1/((1-2*x)*(1-4*x)*(1-5*x)). • a(n) = (2 / 3) * 2 ^ n - 8 * (4) ^ n + (25 / 3) * 5 ^ n. - _ Antonio Alberto Olivares _ , May 12 2012 •

[**A244975**] • 0,1,11,84,598,4199,29409,205882,1441196,10088397,70618807,494331680,3460321794,24222252595,169555768205,1186890377478,8308232642392,58157628496793,407103399477603,2849723796343276,19948066574402990,139636466020820991,977455262145747001 ⋆ (7^n - 2*n - 1)/4. • a(n) = 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). - _ Robert Israel _ , Jul 09 2014 •

[**A295168**] • 1,11,85,521,2869,15017,76717,387425,1945957,9749753,48793309,244064849,1220539285,6103163369,30516824461,152586284993,762936045253,3814690056665,19073471123773,95367399659057,476837091094261,2384185650506441,11920928661476845 ⋆ Chromatic invariant of the 2n-crossed prism graph. • a(n) = 5 ^ n - 2 ^ (n - 1) * (3 * n + 1). • a(n) = 9 * a(n - 1) - 24 * a(n - 2) + 20 * a(n - 3). •

[**A001240**] • 1,11,85,575,3661,22631,137845,833375,5019421,30174551,181222405,1087861775,6528756781,39177307271,235078159765,1410511939775,8463200647741,50779591044791,304678708005925 ⋆ Expansion of 1/((1-2x)(1-3x)(1-6x)). • a(n) = 11a(n - 1) - 36a(n - 2) + 36a(n - 3). - _ John W. Layman _ • a(n) = (6 ^ n - 2 * 3 ^ n + 2 ^ n) / 2. Also - x ^ 2 / 6 * Beta(x, 4) = Sum _{ n>=0 } a(n) * (- x / 6) ^ n. Thus x ^ 2 * Beta(x, 4) = x - 11 / 6 * x ^ 2 + 85 / 36 * x ^ 3 - 575 / 216 * x ^ 4 + 3661 / 1296 * x ^ 5 - ... . - _ Vladeta Jovovic _ , Aug 09 2002 • a(n) = Sum _{ 0<=i,j,k,<=n, i + j + k=n } 2 ^ i * 3 ^ j * 6 ^ k. - _ Hieronymus Fischer _ , Jun 25 2007 • a(n) = 2 ^ n + 3 ^ (n + 1) * (2 ^ n - 1). - _ Hieronymus Fischer _ , Jun 25 2007 • a(n) = Sum _{ k = 0..n - 1 } 2 ^ (n - 2 - k) * (3 ^ n - 3 ^ k). - _ J. M. Bergot _ , Feb 05 2018 •

[**A082365**] • 1,11,85,683,5461,43691,349525,2796203,22369621,178956971,1431655765,11453246123,91625968981,733007751851,5864062014805,46912496118443,375299968947541,3002399751580331,24019198012642645,192153584101141163 ⋆ A Jacobsthal number sequence. • a(n) = 4 * 8 ^ n / 3 - (- 1) ^ n / 3. • a(0)=1, a(1)=11, a(n + 1)=7 * a(n) + 8 * a(n - 1) for n>=1 . G.f.: (1 + 4x) / (1 - 7x - 8x ^ 2) . - _ Philippe Deléham _ , Nov 19 2007 •

[**A014917**] • 1,11,86,586,3711,22461,131836,756836,4272461,23803711,131225586,717163086,3890991211,20980834961,112533569336,600814819336,3194808959961,16927719116211,89406967163086,470876693725586 ⋆ a(1)=1, a(n) = n*5^(n-1)+a(n-1). • a(n) = (1 / 16) * (1 + 5 ^ n * (4 * n - 1)). - _ Paolo P. Lava _ , Jan 13 2009 • a(1)=1, a(2)=11, a(n) = 10 * a(n - 1) - 25 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 • a(1)=1, a(2)=11, a(3)=86, a(n) =11 * a(n - 1) - 35 * a(n - 2) + 25 * a(n - 3). - _ Harvey P. Dale _ , May 06 2013 •

[**A080962**] • 1,11,86,596,3896,24656,153056,938816,5714816,34616576,209010176,1259303936,7576795136,45544656896,273603485696,1642963091456,9863147257856,59200358383616,355288049647616,2132071895269376 ⋆ 5th binomial transform of the periodic sequence (1,6,1,1,6,1...). • a(n) = 6 * a(n - 1) + 5 * 4 ^ (n - 1). • a(n) = (7 / 2) * 6 ^ n - (5 / 2) * 4 ^ n. •

[**A016222**] • 1,11,87,607,3983,25263,157039,964079,5871855,35580655,214882031,1294884591,7791677167,46839541487,281395162863,1689802632943,10144542420719,60890161016559,365432592068335 ⋆ Expansion of 1/((1-x)(1-4x)(1-6x)). • a(n) = (1 / 15) - (8 / 3) * 4 ^ n + (18 / 5) * 6 ^ n. - _ Antonio Albert o Olivares _ , Feb 07 2010 • a(0) = 1, a(1) = 11, a(n) = 10 * a(n - 1) - 24 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0) = 1, a(1) = 11, a(2) = 87, a(n) = 11 * a(n - 1) - 34 * a(n - 2) + 24 * a(n - 3). - _ Harvey P. Dale _ , Nov 04 2011 •

[**A081013**] • 0,11,87,608,4179,28655,196416,1346267,9227463,63245984,433494435,2971215071,20365011072,139583862443,956722026039,6557470319840,44945570212851,308061521170127,2111485077978048,14472334024676219 ⋆ Fibonacci(4*n+3)-2, or Fibonacci(2*n)*Lucas(2*n+3). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 2 + [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n + (2 / 5) * sqrt(5) * [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 • a(n) = 7 * a(n - 1) - a(n - 2) + 10, n>=2. - _ R. J. Mathar _ , Nov 07 2015 •

[**A163616**] • 1,11,87,617,4169,27499,179103,1158553,7466161,48014891,308427207,1979929577,12705470009,81516319819,522937387983,3354498523993,21517425316321,138020787111371,885307088838327,5678592784821737 ⋆ a(n) = ((1 + 3*sqrt(2))*(5 + sqrt(2))^n + (1 - 3*sqrt(2))*(5 - sqrt(2))^n)/2. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 1, a(1) = 11. •

[**A192827**] • 11,88,231,440,715,1056,1463,1936,2475,3080,3751,4488,5291,6160,7095,8096,9163,10296,11495,12760,14091,15488,16951,18480,20075 ⋆ Molecu-

lar topological indices of the gear graphs • a(n) = 11 * n * (3 * n - 2). •

[A173731] • 0,0,1,11,88,638,4466,30856,212135,1455685,9981840,68428140,469043796,3214953456,22035826813,151036348463,1035219958696,7095506886986,48633337477670,333337879614520,2284731883069955,15659785467455305 ★ a(n) = a(n-1) * (11*a(n-1) - a(n-2)) / (a(n-1) + 4*a(n-2)), a(0) = a(1) = 0, a(2) = 1. • a(n) = 11 * a(n - 1) - 33 * a(n - 2) + 33 * a(n - 3) - 11 * a(n - 4) + a(n - 5). • a(n) = (12 + Fibonacci(4 * n + 1) + Fibonacci(4 * n + 3) - 15 * Fibonacci[2 * n + 1]) / 60. (End) •

[A081657] • 1,11,89,659,4721,33371,234569,1644899,11523041,80687531,564891449,3954476339,27682042961,193776426491,1356441362729,9495108670979,66465818092481,465260898834251,3256826808400409,22797789208484819 ★ 2*7^n-3^n. • a(0)=0, a(1)=11; for n>1, a(n) = 10 * a(n - 1) - 21 * a(n - 2). - _ Vincenzo Librandi _ Aug 10 2013 •

[A037580] • 1,11,89,715,5721,45771,366169,2929355,23434841,187478731,1499829849,11998638795,95989110361,767912882891,6143303063129,49146424505035,393171396040281,3145371168322251,25162969346578009,201303754772624075,1610430038180992601 ★ Base 8 digits are, in order, the first n terms of the periodic sequence with initial period 1,3. • a(n) = (11 * 8 ^ n + 7 * (- 1) ^ n - 18) / 63. a(n) = 8 * a(n - 1) + a(n - 2) - 8 * a(n - 3). G.f.: x * (3 * x + 1) / ((x - 1) * (x + 1) * (8 * x - 1)). [_ Colin Barker _ , Dec 27 2012] •

[A155607] • 1,11,89,755,6641,59291,532169,4785155,43053281,387440171,3486843449,31381236755,282430067921,2541867422651,22876797237929,205891146443555,1853020231898561,16677181828806731,150094635684419609 ★ 9^n+3^n-1. • a(n)=12 * a(n - 1) - 27 * a(n - 2) - 16 with a(0)=1, a(1)=11 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A110252] • 1,11,89,989,11111,89911,1008989,10900889,89108911,1011011011,10990909889,91109889089,989010989011,10890899089111,91011088899089,1010009008989989,1111111111111111,88909110109088911 ★ A Jacobi transform of 10^n. • a(n)=sum { k=0..n, Jacobi(n, 2n - 2k + 1) * 10 ^ k } •

[A199394] • 11,90,357,996,2255,4446,7945,13192,20691,31010,44781,62700,85527,114086,149265,192016,243355,304362,376181,460020,557151,668910,796697,941976,1106275 ★ The number of ways to color the vertices of all (11) simple unlabeled graphs on 4 nodes using at most n colors. • a(n)= 8 * n ^ 4 / 3 + 4 * n ^ 3 + 10 * n ^ 2 / 3 + n. •

[A171470] • 11,90,372,1512,6096,24480,98112,392832,1572096,6289920,25162752,100657152,402640896,1610588160,6442401792,25769705472,103079018496,412316467200,1649266655232,6597068193792,26388275920896 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 2; a(0) = 11, a(1) = 90, a(2) = 372. • a(n) = 24 * 4 ^ n - 3 * 2 ^ n for n > 0. •

[A016212] • 1,11,90,670,4811,34041,239380,1678940,11762421,82366471,576653870,4036842810,28258696831,197813269301,1384700059560,9692921940280,67850518152041,474953820774531,3324677326552450 ★ Expansion of 1/((1-x)(1-3x)(1-7x)). • a(0)=1, a(1)=11, a(n) = 10 * a(n - 1) - 21 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (7 ^ (n + 2) - 3 ^ (n + 3) + 2) / 24. - _ Yahia Kahloune _ , May 06 2013 • a(n) = 11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3). - _ Matthew House _ , Jan 13 2017 •

[A005062] • 0,1,11,91,671,4651,31031,201811,1288991,8124571,50700551,313968931,1932641711,11839990891,72260648471,439667406451,2668522016831,16163719991611,97745259402791,590286253682371 ★ 6^n - 5^n. • a(n) = 11 * a(n - 1) - 30 * a(n - 2), n>1 ; a(0)=0, a(1)=1 . - _ Philippe Deléham _ , Jan 01 2009 •

[A245599] • 1,11,91,731,5851,46811,374491,2995931,23967451 ★ Numbers n with A030101(n) XOR A030109(n) = n for the binary representation of n (assuming offset 1). • a(n) = 1(011) ^ (n - 1) in binary representation. •

[A199678] • 11,91,811,7291,65611,590491,5314411,47829691,430467211,3874204891,34867844011,313810596091,2824295364811,25418658283291,228767924549611,2058911320946491,18530201888518411,166771816996665691,1500946352969991211 ★ 10*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[A117611] • 1,11,91,1001,11011,91091,999001,10989011,90909091,1000000001,11000000011,91000000091,1001000001001,11011000011011,91091000091091,999001000999001,10989011010989011,90909091090909091,999999999000000001 ★ Legendre-binomial transform of 10^n for p=3. • a(n)=sum { k=0..n, L(C(n, k) / 3) * 10 ^ k } where L(j / p) is the Legendre symbol of j and p. •

[A081575] • 0,1,11,92,693,4955,34408,234793,1584891,10624804,70911005,471901739,3134499984,20794349393,137837343787,913174649260,6047638172037,40041955063867,265079998713464,1754663288995961,11613976216265115 ★ Fifth binomial transform of Fibonacci numbers F(n). • a(n) = 11 * a(n - 1) - 29 * a(n - 2), a(0)=0, a(1)=1. • a(n) = ((sqrt(5) / 2 + 11 / 2) ^ n - (11 / 2 - sqrt(5) / 2) ^ n) / sqrt(5). •

[A016150] • 1,11,93,715,5261,37851,269053,1899755,13363821,93808891,657710813,4608169995,32273967181,225984879131,1582162589373,11076211867435,77537778039341,542781626144571,3799540102488733 ★ Expansion of 1/((1-4x)(1-7x)). • a(n) = (7 ^ (n + 1) - 4 ^ (n + 1)) / 3. - _ Barry E. Williams _ , Jan 13 2000 • a(n) = 11 * a(n - 1) - 28 * a(n - 2) for n>0, a(0)=1. - _ Barry E. Williams _ , Jan 13 2000 • a(n) = sum(k=0..n, 7 ^ k * 4 ^ (n - k)). [_ Bruno Berselli _ , Aug 07 2013] •

[A115203] • 1,11,93,723,5437,40323,297469,2191875,16164861,119443459,884719613,6570430467,48927031293,365303660547,2734459846653,20518848036867,154328140087293,1163305103130627,8787088644243453 ★ Sixth column of triangle A115193 (called C(1,2)). • a(n) = (- 1) ^ (n + 1) * 2 ^ (10 + 3 * n) * (binomial(1 / 2,n + 4) * Hypergeometric2F1(1, 7 / 2 + n, 5 + n, - 8) + 7 * binomial(1 / 2,n + 5) * Hypergeometric2F1(1, 9 / 2 + n, 6 + n, - 8) + 8 * binomial(1 / 2,n + 6) * Hypergeometric2F1(1, 11 / 2 + n, 7 + n, - 8)). - _ G. C. Greubel _ , Feb 04 2016 •

[A164547] • 1,11,93,743,5849,45859,359157,2811967,22014001,172336571,1349127693,10561555223,82680381449,647257375699,5067007272357,39666697336687,310527849736801,2430944642644331,19030472980917693,148978670884223303 ★ a(n) = 10*a(n-1)-17*a(n-2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = ((2 + 3 * sqrt(2)) * (5 + 2 * sqrt(2)) ^ n + (2 - 3 * sqrt(2)) * (5 - 2 * sqrt(2)) ^ n) / 4. •

[A016203] • 1,11,95,775,6231,49911,399415,3195575,25565111,204521911,1636177335,13089422775,104715390391,837723139511,6701785148855,53614281256375,428914250182071,3431314001718711,27450512014273975 ★ Expansion of 1/((1-x)(1-2x)(1-8x)). • a(n) = (4 * 8 ^ (n + 1) - 7 * 2 ^ (n + 1) + 3) / 21. - _ Mitch Harris _ , Jun 27 2005 - corrected by _ Yahia Kahloune _ , May 06 2013 • a(0) = 1, a(n) = 8 * a(n - 1) + 2 ^ (n + 1) - 1. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A241606] • 1,11,95,781,6336,51205,413351,3335651,26915305,217172736,1752296281,14138673395,114079985111,920471087701,7426955448000,59925473898301,483517428660911,3901330906652795,31478457514091281,253988526230055936 ★ A linear divisibility sequence of the fourth order related to A003779. • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), n >= 1, where alpha = 1 / 4 * (11 + sqrt(29)), beta = 1 / 4 * (11 - sqrt(29)) and where T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n)= U(n - 1,1 / 4 * (7 - sqrt(5))) * U(n - 1,1 / 4 * (7 + sqrt(5))), n >= 1, where U(n,x) denotes the Chebyshev polynomial of the second kind. • a(n) = the bottom left entry of the 2X2 matrix T(n,M), where M is the 2 X 2 matrix [0, - 23 / 4; 1, 11 / 2]. • a(n) = 11 * a(n - 1) - 25 * a(n - 2) + 11 * a(n - 3) - a(n - 4). - _ Vaclav Kotesovec _ , Apr 28 2014 •

[A081041] • 1,11,96,756,5616,40176,279936,1912896,12877056,85660416,564350976,3688436736,23944605696,154551545856,992612745216,6347497291776,40435908673536,256721001578496,1624959306694656,10257555623510016 ★ 6th binomial transform of (1,5,0,0,0,0,0,0,.....). • a(n) = 12 * a(n - 1) - 36 * a(n - 2) for n>1, a(0)=1, a(1)=9. • a(n) = (5 * n + 6) * 6 ^ (n - 1). • a(n) = sum(k=0..n, (k + 1) * 5 ^ k * binomial(n, k)). •

[A154997] • 1,1,11,96,906,8316,77076,711936,6583896,60861456,562685616,5201957376,48092312736,444612597696,4110444968256,38001047740416,351319635490176,3247949245153536,30027284535626496,277602184568365056 ★ a(n)=6*a(n-1)+30*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=11 . • a(n)=(4 / 39) * sqrt(39) *{ [3 + sqrt(39)] ^ (n - 1) - [3 - sqrt(39)] ^ (n - 1) }+ (1 / 2) *{ [3 + sqrt(39)] ^ (n - 1) + [3 - sqrt(39)] ^ (n - 1) }+ (5 / 6) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 20 2009] •

[A016140] • 1,11,97,803,6505,52283,418993,3354131,26839609,214736555,1717951489,13743789059,109950843913,879608345627,7036871547985,56294986732787,450359936909017,3602879624412299,28823037382718881 ★ Expansion of 1/((1-3x)(1-8x)). • a(n) = (8 ^ (n + 1) - 3 ^ (n + 1)) / 5 = 11a(n - 1) - 24a(n - 2) = 3a(n - 1) + 8 ^ n = 8a(n - 1) + 3 ^ n = sum _ i[3 ^ i * 8 ^ (n - i)] with 0 <= i <= n. •

[A190870] • 0,1,11,99,847,7139,59895,501787,4201967,35182323,294562279,2466173963,20647543455,172867150819,1447292702999,12117142414971,101448127098703,849352264956371,7111016118348615,59535427472794603,498447347597071103,4173141419166300867 ★ a(n) = 11*a(n-1) - 22*a(n-2), a(0)=0, a(1)=1. • a(n) = ((11 + sqrt(33)) ^ n - (11 - sqrt(33)) ^ n) / (2 ^ n * sqrt(33)). •

[A098611] • 0,11,99,1001,9999,100001,999999,10000001,99999999,1000000001,9999999999,100000000001,999999999999,10000000000001,99999999999999,1000000000000001,9999999999999999,100000000000000001,999999999999999999,1000000000000000001 ★ a(n) = 10^n-(-1)^n. • a(n) = 9 * a(n - 1) + 10 * a(n - 2). (End) •

[A090337] • 1,11,99,1089,9801,107811,970299,10673289,96059601,1056655611,9509900499,104608905489,941480149401,10356281643411,93206534790699,1025271882697689,9227446944279201,101501916387071211,913517247483640899,1004868972232004988 9 ★ Let b(0) = 1, b(n) = b(n-1) + (-1)^(n-1)*b(n-1)/10; sequence gives numerator of b(n). • a(n) = 99 ^ (n / 2) if n is even else 11 * 99 ^ ((n - 1) / 2). a(n) = 99 * a(n - 2). G.f.: (1 + 11 * x) / (1 - 99 * x ^ 2). - _ Philippe Deléham _ , Jan 28 2004 • a(2n) = a(2n - 1) * 11 = 11 * 99 ^ (n - 1) . a(2n + 1)= a(2n) * 9 = 99 ^ n . G.f.: x * (1 + 11x) / (1 - 99 * x ^ 2) . - _ Philippe Deléham _ , Jan 28 2004 • a(n)= - (5 / 33) * (- 1) ^ n * 99 ^ [(1 / 4) * (- 1) ^ n] * 99 ^ (1 / 2) * n * 11979 ^ (1 / 4) + (2 / 11) * 99 ^ [(1 / 4) * (- 1) ^ n] * 99 ^ (1 / 2) * n * 11979 ^ (1 / 4), with n>=0 [From _ Paolo P. Lava _ , Nov 20 2008] •

[A081906] • 1,11,100,820,6290,46006,324556,2225060,14902075,97873625,632200000,4025225000,25307562500,157349687500,968628125000,5909609375000,35763408203125,214838427734375,1281885742187500,7601284179687500 ★ A sequence related to C(n+6,6). • a(n)=5 ^ n(n ^ 6 + 165n ^ 5 + 9535n ^ 4 + 238575n ^ 3 + 2590024n ^ 2 + 10661700n + 11250000) / 11250000 . •

[A098296] • 0,1,11,100,891,7921,70400,625681,5560731,49420900,439227371,3903625441,34693401600,308336988961,2740339499051,24354718502500,216452127023451,1923714424708561,17096977695353600,151949084833473841 ★ Member r=11 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 9 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. • a(n)= 10 * a(n - 1) - 10 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=11. •

[A037486] • 1,11,100,902,8119,73073,657658,5918924,53270317,479432855,4314895696,38834061266,349506551395,3145558962557,28310030663014,254790275967128,2293112483704153 ★ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 1,2. • a(n) = 9 * a(n - 1) + a(n - 2)

- 9 * a(n - 3). •

[A280606] • 1,11,100,1110,10001,111001,1000001,11100001,100000001,1110000001,10000000001,111000000001,1000000000001,11100000000001,10000000000001,1110000000000001,10000000000000001,111000000000000001,10000000000000000001,1110000000000000001 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 294", based on the 5-celled von Neumann neighborhood. • a(n) = (200 - 11 * (- 10) ^ n + 211 * 10 ^ n) / 200 for n>3. • a(n) = a(n - 1) + 100 * a(n - 2) - 100 * a(n - 3) for n>4. •

[A281214] • 1,11,100,1110,10001,111011,1000100,11101110,100010001,1110111011,10001000100,111011101110,1000100010001,11101110111011,10001000100100100,1110111011101110,10001000100010001,111011101110111011,100010001001000100,11101110111011101110 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 342", based on the 5-celled von Neumann neighborhood. • a(n) = 100 * a(n - 2) + a(n - 4) - 100 * a(n - 6) for n>5. •

[A285474] • 1,11,100,1111,10000,111111,1000000,11111111,100000000,1111111111,10000000000,111111111111,1000000000000,11111111111111,10000000000000,1111111111111111,100000000000000,11111111111111111,1000000000000000,111111111111111111 ⋆ Binary representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 3", based on the 5-celled von Neumann neighborhood. • a(n) = (- 1 - (- 10) ^ n + (- 1) ^ n + 19 * 10 ^ n) / 18. • a(n) = 101 * a(n - 2) - 100 * a(n - 4) for n>3. •

[A163146] • 1,11,101,871,7321,60851,503261,4152751,34231921,282047771,2323383701,19137123511,157620587401,1298196219971,10692116430221,88061314343551,725280162785761,5973461208779051,49197849458990021,405196896035729671 ⋆ a(n) = 12*a(n-1)-31*a(n-2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = ((1 + sqrt(5)) * (6 + sqrt(5)) ^ n + (1 - sqrt(5)) * (6 - sqrt(5)) ^ n) / 2. •

[A138894] • 1,11,101,911,8201,73811,664301,5978711,53808401,484275611,4358480501,39226324511,353036920601,3177332285411,28595990568701,257363915118311,2316275236064801,20846477124583211,187618294121248901 ⋆ Expansion of (1+x)/(1-10*x+9*x^2). • a(n) = (5 / 4) * 9 ^ n - 1 / 4. •

[A122105] • 0,0,1,11,101,932,9080,94852,1066644,12905784,167622984,2330016768,34551794304,544873631616,9110134903680,161038110977280,3001678242428160,58853489050759680,1211082030609016320 ⋆ Sum of the bottom levels of all columns in all deco polyominoes of height n. A deco polyomino is a directed column-convex polyomino in which the height, measured along the diagonal, is attained only in the last column. • a(n)=n![n - H(n) - (H(n)) ^ 2 / 2 + (1 / 2)Sum(1 / j ^ 2, j=1..n)], where H(n)=Sum(1 / j, j=1..n). - _ Emeric Deutsch _ , Apr 06 2008 •

[A000533] • 1,11,101,1001,10001,100001,1000001,10000001,100000001,1000000001,10000000001,100000000001,1000000000001,10000000000001,100000000000001,1000000000000001,10000000000000001 ⋆ a(0)=1; a(n) = 10^n + 1, n >= 1. • a(n) = 10 ^ n + 1 - 0 ^ n. - _ Reinhard Zumkeller _ , Jun 10 2003 • a(n) = Sum _{ k=0..n } binomial(n, k) * 0 ^ (k(n - k)) * 10 ^ k. (End) •

[A147759] • 1,11,101,1001,10101,101101,1010101,10100101,101010101,1010110101,10101010101,101010010101,1010101010101,10101011010101,101010101010101,1010101010010101,10101010101010101,101010100101010101 ⋆ Palindromes formed from the reflected decimal expansion of the infinite concatenation of 1's and 0's. • a(n) = 11 * a(n - 1) - 20 * a(n - 2) + 110 * a(n - 3) - 100 * a(n - 4). G.f.: x / ((1 - x) * (1 - 10 * x) * (1 + 10 * x ^ 2)). [_ R. J. Mathar _ , Feb 20 2009] •

[A147757] • 1,11,101,1001,10101,101101,1011101,10111101,101111101,1011111101,10111111101,101111111101,1011111111101,10111111111101,101111111111101,1011111111111101,10111111111111101 ⋆ Palindromes formed from the reflected decimal expansion of the concatenation of 1, 0 and infinite digits 1. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>2. _ Wesley Ivan Hurt _ , Dec 06 2015 •

[A283582] • 1,11,101,1011,10101,101011,1000101,11011011,100000101,1100011011,10100010101,101101101011,1010001010101,10110110101011,101000101000101,1011011011011011,10100010100000101,101101101100011011,101000101000010101,1011011010110110101 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 646", based on the 5-celled von Neumann neighborhood. • a(n) = 100 * a(n - 2) + a(n - 8) - 100 * a(n - 10) for n>11. •

[A266508] • 1,11,101,1011,10101,101011,1010101,10101011,101010101,1010101011,10101010101,101010101011,1010101010101,101010101011010101,1010101010101010101,10101010101010101011,101010101010101010101,1010101010101010101011,10101010101010101010101 ⋆ Binary representation of the n-th iteration of the "Rule 28" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (44 - 45 * (- 1) ^ n + 10 ^ (2 + n)) / 99. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. •

[A283645] • 1,11,101,1011,10101,101011,1011101,10110011,101110101,1011001011,10111011101,101100110011,1011101110101,101100111011001011,1011101110111011,1011001110110011,10111011101110101,1011001110110011011,101110111011101100110011 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 694", based on the 5-celled von Neumann neighborhood. • a(n) = 100 * a(n - 2) + a(n - 8) - 100 * a(n - 10) for n>11. •

[A283713] • 1,11,101,1011,10101,101011,1011101,10110011,101111101,1011111011,10111111101,101111110011,1011111111101,10111111111011,101111111111101,1011111111110011,10111111111111101,101111111111111011,1011111111111111101,10111111111111111011,101111111111111110011 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 758", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5) for n>4. •

[A283581] • 1,11,101,1101,10101,110101,1010001,11011011,1010000011,11011010011,10101000101,110101101101,1010101000101,11010101101101,101000101000101,1101101101101101,10100000101000101,110110001101101101,1010100010100010101,1101011011011011,101101101101101101 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 646", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 2) + 100000000 * a(n - 8) - 100000000 * a(n - 10) for n>11. •

[A283641] • 1,11,101,1101,10101,110101,1010101,11010101,1010101011,10101010101,110101010101,1010101010101,11010101010101,101010101010101,1101010101010101,10101010101010101,11010101010101010101,101010101010101010101 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 678", based on the 5-celled von Neumann neighborhood. • a(n) = (- 2 - 9 * (- 10) ^ n + 209 * 10 ^ n) / 198. • a(n) = a(n - 1) + 100 * a(n - 2) - 100 * a(n - 3) for n>2. •

[A283644] • 1,11,101,1101,10101,110101,1011101,11001101,1010111011,10100011101,101011101101,1011011011,110011001101,1010111011101,11010011001101,101110111011101,1100110111001101,10101110111011101,110100110111001101,1011101110111011101,110011001101110111001101 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 694", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 8) - 10 * a(n - 9) for n>11. •

[A283712] • 1,11,101,1101,10101,110101,1011101,11001101,1011111011,10111111101,101111110011,1011111111101,10111111111011,101111111111101,1011111111111011,10111111111111101,101111111111111011,1011111111111111101,10111111111111111011,101111111111111110011 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 758", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 10000 * a(n - 4) - 10000 * a(n - 5) for n>4. •

[A006943] • 1,11,101,1111,10001,110011,1010101,11111111,100000001,1100000011,10100000101,111100001111,1000100010001,11001100110011,1010101010101010101,1111111111111111,10000000000000001,110000000000000011 ⋆ Rows of Sierpiński's triangle (Pascal's triangle mod 2). • a(n) = [Sum _{ i=0..n } (binomial(n,i) mod 2) 2 ^ i] _ 2, n >= 0. • a(n) = [Product _{ i>=0 } (F _ i) ^ (floor(n / 2 ^ i) mod 2)] _ 2, F _ i = 2 ^ (2 ^ i) + 1. • a(0) = 1; a(n) = [Product _{ i=0..floor(log _ 2(n)) } (F _ i) ^ (floor(n / 2 ^ i) mod 2)] _ 2, F _ i = 2 ^ (2 ^ i) + 1, n >= 1. (End) • a(2 ^ n) = 10 ^ (2 ^ n) + 1, n>=0. • a(2 * n + 1) = 11 * a(2 * n). • a(n) = Product _{ b _ j != 0 } a(2 ^ j) where n = Sum _{ j>=0 } b _ j * 2 ^ j is the binary representation of n. •

[A265427] • 1,11,101,1111,11101,110111,1011101,11110111,111011101,1101110111,10111011101,111101110111,1110111011101,11011101110111,101110111011101,1111011101110111,11101110111011101,110111011101110111,1011101110111011101,11110111011101110111 ⋆ Binary representation of the n-th iteration of the "Rule 188" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 2) + 10000 * a(n - 4) - 10000 * a(n - 6) for n>5. •

[A284480] • 1,11,101,1111,11101,111111,1111101,11110111,1111111101,1111111111,11111111101,111111110111,1111111111101,11111111111111,111111111111101,1111111111110111,11111111111111101,111111111111111111,1111111111111111101,11111111111111111011,111111111111111110111 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 950", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5) for n>5. •

[A286519] • 1,11,101,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111,111111111111111111111 ⋆ Binary representation of the diagonal from the origin to the corner (or of the corner to the origin) of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 659", based on the 5-celled von Neumann neighborhood. • a(n) = (10 ^ (1 + n) - 1) / 9 for n>2. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>4. •

[A054421] • 0,1,11,102,882,7295,58533,459484,3547860,27043405,204016879,1526141666,11336059046,83703379691,614911337833,4497505562616,32769214114664,237956784843737,1722809101653651,12440161483566494,89616141395864986,644202131570116247 ⋆ Number of disconnected 3 X n binary matrices. • a(n) = 14 * a(n - 1) - 52 * a(n - 2) + 26 * a(n - 3) - 35 * a(n - 4). G.f.: - x ^ 2 * (3 * x - 1) / ((7 * x - 1) * (5 * x ^ 3 - 3 * x ^ 2 + 7 * x - 1)). - _ Colin Barker _ , Jan 13 2014 •

[A014832] • 1,11,102,922,8303,74733,672604,6053444,54481005,490329055,4412961506,39716653566,357449882107,3217048938977,28953440450808,260580964057288,2345228676515609,21107058088640499 ⋆ a(1)=1; for n>1, a(n) = 9*a(n-1)+n. • a(n) = (9 ^ (n + 1) - 8 * n - 9) / 64. - _ Rolf Pleisch _ , Oct 22 2010 • a(1)=1, a(2)=11, a(3)=102; for n>3, a(n) = 11 * a(n - 1) - 19 * a(n - 2) + 9 * a(n - 3). - _ Harvey P. Dale _ , May 01 2012 • a(n) = Sum _{ i=0..n - 1 } 8 ^ i * binomial(n + 1,n - 1 - i). [_ Bruno Berselli _ , Nov 13 2015] •

[A081552] • 1,11,102,1003,10004,100005,1000006,10000007,100000008,1000000009,10000000010,100000000011,1000000000012,10000000000013,100000000000014,1000000000000015,10000000000000016,100000000000000017,1000000000000000018 ⋆ Leading terms of rows in A081551. • a(n) = 10 ^ (n - 1) + n - 1. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). - _ Vincenzo Librandi

_ , Jun 16 2013 ●

[A016133] ● 1,11,103,935,8431,75911,683263,6149495,55345711,498111911,4483008223,40347076055,363123688591,3268113205511,29413018865983,264717169826615,2382454528505071,21442090756676711,192978816810352543 ★ Expansion of 1/((1-2*x)*(1-9*x)). ● a(n) = - 2 ^ (n + 1) / 7 + 9 ^ (n + 1) / 7. - _ Paolo P. Lava _ , Jun 16 2008 ● a(n) = 11 * a(n - 1) - 18 * a(n - 2). ● a(n) = 9 * a(n - 1) + 4 * a(n - 2) - 36 * a(n - 3); a(n) = 9 * a(n - 1) + 2 ^ n. - _ Paul Curtz _ , Feb 14 2008 ●

[A287833] ● 1,11,103,967,9079,85243,800351,7514541,70554457,662439857,6219685951,58396989455,548292695881,5147951686649,48334414751849,453814602701801,4260891430727991,40005754941255473,375616336261903907,3526683405274793053,33112233522155404139 ★ Number of words of length n over the alphabet {0,1,...,10} such that no two consecutive terms have distance 2. ● a(n) = 10 * a(n - 1) - 2 * a(n - 2) - 37 * a(n - 3) + 16 * a(n - 4) + 19 * a(n - 5) + a(n - 6), a(0)=1, a(1)=11, a(2)=103, a(3)=967, a(4)=9079, a(5)=85243. ●

[A155594] ● 1,11,103,1007,10015,100031,1000063,10000127,100000255,1000000511,10000001023,100000002047,1000000004095,10000000008191,100000000016383,1000000000032767,10000000000065535,100000000000131071 ★ 10^n+2^n-1. ● a(n)=12 * a(n - 1) - 20 * a(n - 2) - 9 with a(0)=1, a(1)=11 - _ Vincenzo Librandi _ , Jul 21 2010 ● a(0)=1, a(1)=11, a(2)=103, a(n)=13 * a(n - 1) - 32 * a(n - 2) + 20 * a(n - 3). - _ Harvey P. Dale _ , Mar 07 2015 ●

[A077250] ● 11,103,1019,10087,99851,988423,9784379,96855367,958769291,9490837543,93949606139,930005223847,9206102632331,91131021099463,902104108362299,8929910062523527,88396996516872971,875040055106206183,866200355545188859,8574499549034568240 7 ★ Bisection (odd part) of Chebyshev sequence with Diophantine property. ● a(n) = 10 * a(n - 1) - a(n - 2), a(- 1) =7, a(0)=11. ●

[A163933] ● 11,105,510,1750,4830,11466,24360,47520,86625,149435,246246,390390,598780,892500,1297440,1844976,2572695,3525165,4754750,6322470,8298906,10765150,13813800,17550000,22092525 ★ Third right hand column of triangle A163932 ● a(n) = (n - 2) * (n - 1) * stirling1(n + 1,n - 1) / 2 ●

[A287834] ● 1,11,105,1005,9621,92105,881753,8441329,80811789,773639469,7406320733,70903294113,678781988705,6498216958121,62209699634757,595555173609653,5701457600593525,54582044135967257,522532964509030377,5002390498942001761,47889630709552579709 ★ Number of words of length n over the alphabet {0,1,...,10} such that no two consecutive terms have distance 3. ● a(n) = 10 * a(n - 1) - 2 * a(n - 2) - 21 * a(n - 3) + 10 * a(n - 4), a(0)=1, a(1)=11, a(2)=105, a(3)=1005, a(4)=9621. ●

[A163413] ● 1,11,107,981,8705,75763,651547,5560797,47228449,399840827,3378034475,28499963781,240231872609,2023747918819,17041572850843,143465867727309,1207568224192705,10163059355514347,85527124440143723 ★ a(n) = 14*a(n-1) - 47*a(n-2) for n > 1; a(0) = 1, a(1) = 11. ● a(n) = ((1 + 2 * sqrt(2)) * (7 + sqrt(2)) ^ n + (1 - 2 * sqrt(2)) * (7 - sqrt(2)) ^ n) / 2. ●

[A165149] ● 1,11,109,1031,9529,87011,789349,7135391,64374769,580154171,5225293789,47047175351,423522234409,3812188390931,34312136924629,308821439352911,2779453989332449,25015391079773291,225140045596865869 ★ a(n) = (3*9^n-5^n)/2. ● a(n) = 14 * a(n - 1) - 45 * a(n - 2) for n > 1; a(0) = 1, a(1) = 11. ●

[A054320] ● 1,11,109,1079,10681,105731,1046629,10360559,102558961,1015229051,10049731549,99482086439,984771132841,9748229241971,96497521286869,955226983626719,9455772314980321,93602496166176491,926569189346784589 ★ G.f.: (1+x)/(1-10*x+x^2). ● a(n) = 10 * a(n - 1) - a(n - 2); a(n)=(sqrt(6) - 2) / 4 * (5 + 2 * sqrt(6)) ^ n - (sqrt(6) + 2) / 4 * (5 - 2 * sqrt(6)) ^ n. ● a(n) = [[(5 + 2 * sqrt(6)) ^ n - (5 - 2 * sqrt(6)) ^ n] + [(5 + 2 * sqrt(6)) ^ (n - 1) - (5 - 2 * sqrt(6)) ^ (n - 1)] / (4 * sqrt(6)) - _ Gregory V. Richardson _ , Oct 13 2002 ●

[A094703] ● 1,11,109,1103,11113,112067,1129909,11392679,114869521,1158202427,11677879357,117745285823,1187197753081,11970233026931,120693017030149,1216919029806743,12269905596087073,123714544394638187,1247384372674934029,12577080413686874159 ★ a(1)=1, a(2)=11, a(n+2) = 8*a(n+1) + 21*a(n). ● a(n) = (1 / 2) * [4 - sqrt(37)] ^ n + (7 / 74) * sqrt(37) * [4 + sqrt(37)] ^ n + (1 / 2) * [4 + sqrt(37)] ^ n - (7 / 74) * [4 - sqrt(37)] ^ n * sqrt(37), with n>=0. - _ Paolo P. Lava _ , Jul 08 2008 ●

[A132123] ● 0,11,110,469,1356,3135,6266,11305,18904,29811,44870,65021,91300,124839,166866,218705,281776,357595,447774,554021,678140,822031,987690,1177209,1392776 ★ n * (2*n + 1) * (6*n^2 + 4*n + 1) / 3. ● a(0)=0, a(1)=11, a(2)=110, a(3)=469, a(4)=1356, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jun 02 2015 ●

[A190871] ● 0,1,11,110,1089,10769,106480,1052821,10409751,102926230,1017681269,10062305429,99490865760,983714163641,9726456276691,961701632435 50,9508807766354 49,9401816747310889,92960295677429840,9191432682313084 61,9088012698092664831 ★ a(n) = 11*a(n-1) - 11*a(n-2), a(0)=0, a(1)=1. ● a(n) = ((11 + sqrt(77)) ^ n - (11 - sqrt(77)) ^ n) / (2 ^ n * sqrt(77)). ●

[A097784] ● 1,11,110,1090,10791,106821,1057420,10467380,103616381,1025696431,10153347930,100507782870,994924480771,9848737024841,97492445767640,965075720651560,9553264760747961,94567571886828051,936122454107532550,9266656969188497450 ★ Partial sums of Chebyshev sequence S(n,10) = U(n,5) = A004189(n+1). ● a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3) with n>=2, a(- 1)=0, a(0)=1, a(1)=11. ● a(n) = 10 * a(n - 1) - a(n - 2) + 1 with n>=1, a(- 1)=0, a(0)=1. ● a(n) = (S(n + 1, 10) - S(n, 10) - 1) / 8. ● a(n) = (- 6 + (27 - 11 * sqrt(6)) * (5 - 2 * sqrt(6)) ^ n + (5 + 2 * sqrt(6)) ^ n * (27 + 11 * sqrt(6))) / 48. - _ Colin Barker _ , Mar 05 2016 ●

[A003953] ● 1,11,110,1100,11000,110000,1100000,11000000,110000000,1100000000,11000000000,110000000000,1100000000000,11000000000000,110000000000000,1100000000000000,11000000000000000 ★ G.f.: (1+x)/(1-10*x). ● a(0) = 1, a(n) = 10 ^ n + 10 ^ (n - 1) = 11 * 10 ^ (n - 1) for n >= 1. - _ Jaroslav Krizek _ , Aug 17 2009 ●

[A278664] ● 1,11,110,1100,11000,110010,1100110,11000100,110000100,1100100100,11001110100,110001010100,1100001010100,11001001010100,110011101010100,1100010101010100,11000010101010100,110010010101010100,11001110101010100,1100010101010101010100 ★ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 62", based on the 5-celled von Neumann neighborhood. ● a(n) = a(n - 1) + 10000 * a(n - 4) - 10000 * a(n - 5) for n>7. ●

[A259661] ● 1,11,110,1100,11001,110011,1100110,11001100,110011001,1100110011,11001100110,110011001100,1100110011001,11001100110011,110011001100110,1100110011001100,11001100110011001,110011001100110011,1100110011001100110,11001100110011001100 ★ Binary representation of the middle column of the "Rule 54" elementary cellular automaton starting with a single ON cell. ● a(n) = 11 * a(n - 1) - 11 * a(n - 2) + 11 * a(n - 3) - 10 * a(n - 4) for n>3. ●

[A267538] ● 1,11,110,1100,11001,110011,1100111,11001111,110011111,1100111111,11001111111,110011111111,1100111111111,11001111111111,110011111111111,1100111111111111,11001111111111111,110011111111111111,1100111111111111111,11001111111111111111 ★ Binary representation of the middle column of the "Rule 143" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>2. ●

[A266219] ● 1,11,110,1101,11010,110101,1101010,11010101,110101010,1101010101,11010101010,110101010101,1101010101010,11010101010101,110101010101010,1101010101010101,11010101010101010,110101010101010101,1101010101010101010 ★ Binary representation of the middle column of the "Rule 7" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 1 / 198 * (- 9 * (- 1) ^ n + 109 * 2 ^ (n + 1) * 5 ^ n - 11). ● a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2. ●

[A033137] ● 1,11,110,1101,11011,110110,1101101,11011011,110110110,1101101101,11011011011,110110110110,1101101101101,11011011011011,1101101101101101 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,1,0. ● a(n) = 10 * a(n - 1) + (1 / 9) *{ 5 * (n mod 3) + 2 * [(n + 1) mod 3] - [(n + 2) mod 3] } , with a(0)=0. [_ Paolo P. Lava _ , Jul 30 2009] ●

[A266680] ● 1,11,110,1101,11011,110111,1101111,11011111,110111111,1101111111,11011111111,110111111111,1101111111111,11011111111111,110111111111111,1101111111111111,11011111111111111,110111111111111111,1101111111111111111 ★ Binary representation of the middle column of the "Rule 175" elementary cellular automaton starting with a single ON (black) cell. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>3. ●

[A277952] ● 1,11,110,1110,11010,111010,1101010,11101010,110101010,1110101010,11010101010,111010101010,1101010101010,11101010101010,110101010101010,1110101010101010,11010101010101010,111010101010101010,1110101010101010101 ★ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 14", based on the 5-celled von Neumann neighborhood. ● a(n) = a(n - 1) + 100 * a(n - 2) - 100 * a(n - 3) for n>2. ● a(n) = (- 200 - 9 * (- 10) ^ n + 2189 * 10 ^ n) / 1980. (End) ●

[A282482] ● 1,11,110,1111,11000,111110,1100011,11111110,110000011,1111101110,11000111011,111111101110,1100000111011,11111011101110,110001110111011,1111111011101110,11000001110111011,111110111011101110,1100011101110111011,11111110111011101110 ★ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 478", based on the 5-celled von Neumann neighborhood. ● a(n) = a(n - 2) + 10000 * a(n - 4) - 10000 * a(n - 6) for n>6. ●

[A282121] ● 1,11,110,1111,11010,111111,1101010,11111111,110101010,1111111111,11010101010,111111111111,1101010101010,11111111111111,110101010101010,1111111111111111,11010101010101010,111111111111111111,1101010101010101010,11111111111111111111 ★ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 430", based on the 5-celled von Neumann neighborhood. ● a(n) = (- 21 - (- 10) ^ n + (- 1) ^ n + 219 * 10 ^ n) / 198. ● a(n) = 101 * a(n - 2) - 100 * a(n - 4) for n>3. ●

[A285541] ● 1,11,110,1111,11100,111111,1111000,11111111,111110000,1111111111,11111100000,111111111111,1111111000000,11111111111111,111111110000000,1111111111111111,11111111100000000,111111111111111111,1111111110000000000,11111111111111111111 ★ Binary representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 35", based on the 5-celled von Neumann neighborhood. ● a(n) = (- 1 + (- 1) ^ n + 2 ^ (2 + n) * 5 ^ (1 + n) - 10 ^ (n / 2) - (- 1) ^ n * 10 ^ (n / 2)) / 18. ●

[A282912] ● 1,11,111,1011,10011,110111,1101111,11011011,110110011,1101110111,11011101111,110111011011,1101110110011,11011101110111,110111011101111,1101110111011011,11011101110111011,1101110111011101111,110111011101110111011,11011101110111011011 ★ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 526", based on the 5-celled von Neumann neighborhood. ● a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5) for n>5. ●

[A283586] ● 1,11,111,1011,10111,101011,1000111,11011011,110110111,1101101011,11011000111,110111011011,1101010110111,11010101101011,110101011000111,1101010111011011,11010101101101111,110101011101101011,11010101110

11000111,11010101110111011011 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 654", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 8) - 10 * a(n - 9) for n>12. •

[A284541] • 1,11,111,1011,10111,101011,1000111,11011011,111110111,1111101011,11111000111,111111011011,1111111110111,11111111101011,111111111000111,1111111111011011,11111111110110111,111111111111101011,1111111111111000111,11111111111111011011 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 974", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5) for n>8. •

[A267051] • 1,11,111,1011,10111,101011,1010111,10101011,101010111,1010101011,10101010111,101010101011,1010101010111,10101010101011,101010101010111,1010101010101011,10101010101010111,101010101010101011,1010101010101010111,10101010101010101011 ⋆ Binary representation of the n-th iteration of the "Rule 92" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (539 + 450 * (- 1) ^ n + 10 ^ (2 + n)) / 99 for n>0. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>3. •

[A101680] • 1,11,111,1011,10111,111011,1100111,10001011,100010111,1100111011,11101100111,101110001011,1011000010111,11100000111011,110000001100111,1000000010001011,10000000100010111,110000001100111011 ⋆ A modular binomial transform of 10^n. • a(n)=sum { k=0..n, mod(binomial(2n - k, k), 2)10 ^ k } •

[A164553] • 1,11,111,1081,10361,98571,934471,8844041,83634321,790586731,7471938431,70611908601,667273367881,6305515080491,59584456307991,563045239850761,5320501736667041,50276078999755851,475083531319899151 ⋆ a(n) = 14*a(n-1)-43*a(n-2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = ((3 + 2 * sqrt(6)) * (7 + sqrt(6)) ^ n + (3 - 2 * sqrt(6)) * (7 - sqrt(6)) ^ n) / 6. •

[A282911] • 1,11,111,1101,11001,111011,1111011,11011011,110011011,1110111011,11110111011,110110111011,1100110111011,11101110111011,111101110111011,1101101110111011,11001101110111011,111011101110111011,1110111011101110111011 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 526", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 10000 * a(n - 4) - 10000 * a(n - 5) for n>5. •

[A284540] • 1,11,111,1101,11101,110101,1110001,11011011,111011111,1101011111,11100011111,110110111111,1110111111111,11010111111111,111000111111111,1101101111111111,11101111111111111,110101111111111111,111000111111111111,11011011111111111111 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 974", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 1) + 10000 * a(n - 4) - 10000 * a(n - 5) for n>8. •

[A110437] • 1,11,111,1101,11111,111111,1101001,11111111,111111111,1101100101,111111111111,111101111011,1101101101101,11111111111111,111111111111111,1101101101001101,11110101101110011,111111111111111111 ⋆ A weighted sum of Jacobi function values. • a(n)=sum { k=0..n, abs(Jacobi(n - k, 2k + 1))10 ^ k } •

[A266790] • 1,11,111,1110,11101,111010,1110101,11101010,111010100,1110101001,11101010011,111010100111,1110101001110,11101010011101,111010100111010,1110101001110101,11101010011101010,111010100111010101,1110101001110101010,11101010011101010101 ⋆ Binary representation of the middle column of the "Rule 61" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 9 * (- 1) ^ n + 1098999991099 * 2 ^ (n - 9) * 5 ^ (n - 10) - 11) / 198 for n>9. •

[A266592] • 1,11,111,1110,11101,111010,1110101,11101010,111010101,1110101010,11101010101,111010101010,1110101010101,11101010101010,111010101010101,1110101010101010,11101010101010101,111010101010101010,1110101010101010101,11101010101010101010 ⋆ Binary representation of the middle column of the "Rule 37" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (45 * (- 1) ^ n + 1099 * 10 ^ n - 55) / 990 for n>0. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>3. •

[A267209] • 1,11,111,1110,11101,111011,1110110,11101101,111011011,1110110110,11101101101,111011011011,1110110110110,11101101101101,111011011011011,1110110110110110,11101101101101101,1110110110110110110,11101101101101101101 ⋆ Binary representation of the middle column of the "Rule 109" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 10 * a(n - 1) + a(n - 3) - 10 * a(n - 4) for n>3. •

[A110444] • 1,11,111,1110,11101,111011,1110111,11101110,111011100,1110111001,11101110011,111011100110,1110111001101110,11101110011011101,111011100110111010 ⋆ Binary expansion of A074988. • a(n)=sum { k=0..n, abs(mu(n - k + 1)) * 10 ^ k } •

[A265380] • 1,11,111,1110,11101,111011,1110111,11101110,111011101,1110111011,11101110111,111011101110,1110111011101,11101110111011,111011101110111,1110111011101110,11101110111011101,111011101110111011,1110111011101110111 ⋆ Binary representation of the middle column of the "Rule 158" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5) for n>4. •

[A138144] • 1,11,111,1111,11011,110011,1100011,11000011,110000011,1100000011,11000000011,110000000011,1100000000011,11000000000011,110000000000011,1100000000000011,11000000000000011 ⋆ Palindromes formed from the reflected decimal expansion of the concatenation of 1, 1 and infinite 0's. • a(n) = 11 + 11 * 10 ^ (n - 2) for n>3. a(n) = 11 * a(n - 1) - 10 * a(n - 2). G.f.: - x * (10 * x ^ 2 - 1) * (10 * x ^ 2 + 1) / ((x - 1) * (10 * x - 1)). - _ Colin Barker _ , Sep 15 2013 •

[A138145] • 1,11,111,1111,11111,111111,1110111,11100111,111000111,1110000111,11100000111,111000000111,1110000000111,11100000000111,111000000000111,1110000000000111,11100000000000111,111000000000000111 ⋆ Palindromes formed from the reflected decimal expansion of the concatenation of 1, 1, 1 and infinite 0's. • a(n) = 111 + 111 * 10 ^ (n - 3) for n>5. a(n) = 11 * a (n - 1) - 10 * a(n - 2). G.f.: - x * (10 * x ^ 2 - 1) * (100 * x ^ 4 + 10 * x ^ 2 + 1) / ((x - 1) * (10 * x - 1)). - _ Colin Barker _ , Sep 15 2013 •

[A267257] • 1,11,111,1111,11111,111111,1111111,11111111,111111110,1111111101,11111111010,111111110101,1111111101010,11111111010101,111111110101010,1111111101010101,11111111010101010,111111110101010101,1111111101010101010,11111111010101010101 ⋆ Binary representation of the middle column of the "Rule 111" elementary cellular automaton starting with a single ON (black) cell. • a(n) = (- 9 * (- 1) ^ n + 109999999 * 2 ^ (n - 5) * 5 ^ (n - 6) - 11) / 198 for n>5. •

[A000042] • 1,11,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111 ⋆ Unary representation of natural numbers. • a(n) = (10 ^ n - 1) / 9. • a(n)=10a(n - 1) + 1, n>1, a(1)=1. [Offset 1]. a(n) = Sum _{ k=0..n } binomial(n + 1, k + 1)9 ^ k. [Offset 0]. - _ Paul Barry _ , Aug 24 2004 • a(2n) - 2 * a(n) = { 3 * a(n) }^ 2. a(6) - 2 * a(3) = { 3 * a(3) }^ 2. 111111 - 222 = 110889. - _ Amar nath Murthy _ , Jul 21 2003 • a(n) = binary representation of n - th Mersen ne number (A000225). - _ Ross La Haye _ , Sep 13 2003 •

[A002275] • 0,1,1,11,111,1111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111 ⋆ Repunits: (10^n - 1)/9. Often denoted by R_n. • a(n) = 11 * a(n - 1) - 10 * a(n - 2), a(0)=0, a(1)=1. - _ Lekraj Be edassy _ , Jun 07 2006 • a(n) = 10 * a(n - 1) + 1, a(0)=0. • a(n) = a(n - 1) + 10 ^ (n - 1) with a(0)=0. - _ Vincenzo Librandi _ , Jul 22 2010 •

[A015456] • 1,1,11,111,1121,11321,114331,1154631,11660641,117761041,1189271051,12010471551,121293986561,1224950337161,12370797358171,124932923918871,1261700036546881,12741933289387681,128681032930423691,1299552262593624591,13124203658866669601 ⋆ Generalized Fibonacci numbers. • a(n) = 10 * a(n - 1) + a(n - 2). • a(n) = (1 / 2) * [5 + sqrt(26)] ^ n - (1 / 13) * [5 + sqrt(26)] ^ n * sqrt(26) + (1 / 2) * [5 - sqrt(26)] ^ n + (1 / 13) * sqrt(26) * [5 - sqrt(26)] ^ n, with n>=0. - _ Paolo P. Lava _ , Jul 15 2008 •

[A199764] • 11,111,1211,13311,146411,1610511,17715611,194871711,2143588811,23579476911,259374246011,2853116706111,31384283767211,345227121439311,3797498335832411,41772481694156511,459497298635721611,5054470284992937711 ⋆ 10*11^n+1. • a(n) = 11 * a(n - 1) - 10. • a(n) = 12 * a(n - 1) - 11 * a(n - 2). •

[A075842] • 11,112,1113,11114,111115,1111116,11111117,111111118,11111111119,111111111110,1111111111111,11111111111112,111111111111113,1111111111111114,11111111111111115,111111111111111116 ⋆ n 1's followed by n. • a(n) = (10 ^ n - 1) / 9 * 10 ^ L + n, where L is the number of decimal digits of n. •

[A037535] • 1,11,112,1121,11211,112112,1121121,11211211,112112112,1121121121,11211211211,112112112112,1121121121121,11211211211211,1121121121121121 ⋆ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,1,2. • a(n)=10 * a(n - 1) + (1 / 9) *{ (n mod 3) + 4 * [(n + 1) mod 3] + 7 * [(n + 2) mod 3] } , with a (0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A104720] • 1,11,112,1122,11223,112233,1122334,11223344,112233445,1122334455,11223344556,112233445566,1122334455667,11223344556677,112233445566778,1122334455667788,11223344556677889,112233445566778899,1122334455677789000 ⋆ Expansion of 1/((1-x)(1-x^2)(1-10x)). • a(n)=1000 * 10 ^ n / 891 + (- 1) ^ n / 44 - (18n + 47) / 324 • a(n) = floor((2 * 10 ^ (n + 3) - 99n) / 1782) - _ Hieronymus Fischer _ , Dec 05 2006 • a(n) = 10 * a(n - 1) + (2 * n + 3 + (- 1) ^ n) / 4, a(0)=1, a(1)=11. - Vincenzo Librandi, Mar 22 2011 •

[A094704] • 0,1,11,112,1123,11235,112358,1123593,11235951,112359544,1123595495,11235955039,112359550534,1123595505573,11235955056107,112359550561680,1123595505617787,11235955056179467,112359550561797254 ⋆ Convolution of Fibonacci(n) and 10^n. • a(n)=11 * a(n - 1) - 9 * a(n - 2) - 10 * a(n - 3), n>2. - _ Harvey P. Dale _ , Mar 18 2013 •

[A190872] • 0,1,11,112,1133,11455,115808,1170793,11836451,119663824,1209774005,12230539639,123647969984,1250052813073,12637749213947,127764766035760,1291672683467837,13058516623824367,132018628710857504,1334678266205013241,13493293269857428115 ⋆ a(n) = 11*a(n-1) - 9*a(n-2), a(0)=0, a(1)=1 • a(n) = ((11 + sqrt(85)) ^ n - (11 - sqrt(85)) ^ n) / (2 ^ n * sqrt(85)) . •

[A024145] • 1,11,112,1485,19712,245707,2978208,35815001,429948928,5159721303,61917264224,743008209637,8916100199424,106993205007779,1283918464011040,15407021573826993,184884258893987840 ⋆ 12^n-n^5. • a(0)=1, a(1)= 11, a(2)=112, a(3)=1485, a(4)=19712, a(5)=245707, a(6)=2978208, a(n)=18 * a(n - 1) - 87 * a(n - 2) + 200 * a(n - 3) - 255 * a(n - 4) + 186 * a(n - 5) - 73 * a(n - 6) + 12 * a(n - 7) [From Harvey P. Dale, Jul 19 2011] •

[A287838] • 1,11,115,1205,12625,132275,1385875,14520125,152130625,1593906875,16699721875,174966753125,1833166140625,19206495171875,201230782421875,2108340300078125,22089556912890625,231437270629296875,2424820490857421875,25405391261720703125 ⋆ Number of words of length n over the alphabet {0,1,...,10} such that no two consecutive terms have distance 8. • a(

n) = (((5 - sqrt(30)) ^ n * (- 6 + sqrt(30)) + (5 + sqrt(30)) ^ n * (6 + sqrt(30)))) / (2 * sqrt(30)). - _ Colin Barker _ , Nov 25 2017 •

[**A287839**] • 1,11,117,1247,13289,141619,1509213,16083463,171399121,1826575451,19465548357,207441511727,2210673955769,23558830139779,251063019088173,2675542001860183,28512861152219041,303857405535211691,3238164083417650197,34508642672922983807 ★ Number of words of length n over the alphabet {0,1,...,10} such that no two consecutive terms have distance 9. • a(n) = (((5 - 4 * sqrt(2)) ^ n * (- 3 + 2 * sqrt(2)) + (3 + 2 * sqrt(2)) * (5 + 4 * sqrt(2)) ^ n)) / (4 * sqrt(2)). - _ Colin Barker _ , Nov 25 2017 •

[**A268344**] • 0,1,11,118,1265,13561,145376,1558453,16706855,179100046,1919979941,20582479213,220647331520,2365373209081,25357163305331,271832676731398,2914087954129385,31239469465229041,334891900255131296,3590092494410757133 ★ a(n) = 11*a(n - 1) - 3*a(n - 2) for n>1, a(0)=0, a(1)=1. • a(n) = (((11 + sqrt(109)) / 2) ^ n - ((11 - sqrt(109)) / 2) ^ n) / sqrt(109). •

[**A125468**] • 1,11,119,1271,13763,149051,1614359,17485031,189379523,2051160491,22216020599,240620650391,2606150689283,28227092746331,305726286666839,3311306671385351,35864603266855043,388447792711018571 ★ Number of base 11 circular n-digit numbers with adjacent digits differing by 9 or less. • a(n) = 1 + (5 - sqrt(34)) ^ n + (5 + sqrt(34)) ^ n for n>0. • a(n) = 11 * a(n - 1) - a(n - 2) - 9 * a(n - 3) for n>3. •

[**A163447**] • 1,11,119,1273,13513,142667,1500479,15737929,164744881,1722111467,17983160807,187650088633,1957031891641,20402217047531,212634387415919,2215643826731593,23083472275311073,240466638643803467 ★ a(n) = 18*a(n-1) - 79*a(n-2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = ((1 + sqrt(2)) * (9 + sqrt(2)) ^ n + (1 - sqrt(2)) * (9 - sqrt(2)) ^ n) / 2. •

[**A254600**] • 1,11,119,1289,13961,151211,1637759,17738489,192124721,2080893611,22538058599,244108628489,2643928812281,28636265779211,310158017102639,3359306563039289,36384487784316641,394078636910520011,4268246759164049879,46229175323835178889 ★ Numbers of words on alphabet {0,1,...,10} with no subwords ii, for i from {0,1}. • a(n) = 10 * a(n - 1) + 9 * a(n - 2) with n>1, a(0) = 1, a(1) = 11. • a(n) = ((5 - sqrt(34)) ^ n * (- 6 + sqrt(34)) + (5 + sqrt(34)) ^ n * (6 + sqrt(34))) / (2 * sqrt(34)). - _ Colin Barker _ , Jan 21 2017 •

[**A274119**] • 11,120,435,1064,2115,3696,5915,8880,12699,17480,23331,30360,38675,48384,59595,72416,86955,103320,121619,141960,164451,189200,216315,245904,278075 ★ a(n) = (Product_{i=0..4}(i*n+2) - Product_{i=0..4}(-i*n-1))/(4*n+3). • a(n) = B(4,n,2,1) = (Product _{ i=0..4 } (i * n + 2) - Product _{ i=0..4 } (- i * n - 1)) / (4 * n + 3), n >= 0. - _ Hong - Chang Wang _ , Jun 14 2016 • a(n) = 11 + 42 * n + 49 * n ^ 2 + 18 * n ^ 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[**A081122**] • 1,11,120,1300,14000,150000,1600000,17000000,180000000,1900000000,20000000000,210000000000,2200000000000,23000000000000,240000000000000,2500000000000000,26000000000000000,270000000000000000 ★ 10th binomial transform of (1,1,0,0,0,0,.....). • a(n) = 20 * a(n - 1) - 100 * a(n - 2), a(0)=1, a(1)=11. • a(n) = (n + 10) * 10 ^ (n - 1). •

[**A004190**] • 1,11,120,1309,14279,155760,1699081,18534131,202176360,2205405829,24057287759,262424759520,2862615066961,31226340977051,340627135680600,3715672151509549,40531766530924439,442133759688659280 ★ Expansion of 1/(1-11*x+x^2). • a(n)=S(2 * n + 1, sqrt(13)) / sqrt(13) = S(n, 11); S(n, x) := U(n, x / 2), Chebyshev polynomials of 2nd kind, A049310. • a(n) = ((11 + 3 * sqrt(13)) ^ (n + 1) - (11 - 3 * sqrt(13)) ^ (n + 1)) / (2 ^ (n + 1) * 3 * sqrt(13)). - _ Rolf Pleisch _ , May 22 2011 •

[**A084969**] • 11,121,143,187,209,253,319,341,407,451,473,517,583,649,671,737,781,803,869,913,979,1067,1111,1133,1177 ★ Multiples of 11 whose GCD's with 210 is 1. • a(n) = a(n - 48) + 2310 = a(n - 1) + a(n - 48) - a(n - 49). - _ Charles R Greathouse IV _ , Nov 19 2014 •

[**A068179**] • 1,11,121,971,6721,43331,269641,1648091,9981841,60176051,361921561,2174145611,13052763361,78340331171,470113403881,2820895001531,16926014399281,101558020876691,609353931324601,3656141011383851 ★ prod(i=1..3, i+x) / prod(i=1..3, i-x) = sum(n>=0, a(n)/b(n)*x^n). • a(n) = 5 * 2 ^ (n + 1) + 6 ^ (n + 1) - 5 * 3 ^ (n + 1). • a(n) / b(n) = 12 - 30 / 2 ^ n + 20 / 3 ^ n. •

[**A106473**] • 1,11,121,1111,12321,111111,1214121,11311311,121252121,1111111111,12341614321,111111111111,1212127212121,11315311351311,1214121812141121,1111111111111111,12321612921612321,111111111111111111 ★ Rows of A003989 expressed as base 10 numbers. • a(n) = sum { k=0..n, GCD(n - k + 1, k + 1) * 10 ^ k } . •

[**A132583**] • 11,121,1221,12221,122221,1222221,12222221,122222221,1222222221,12222222221,122222222221,1222222222221,12222222222221,122222222222221,1222222222222221,12222222222222221,122222222222222221 ★ a(n) = n 2's sandwiched between two 1's. • a(0) = 11; a(n) = 10 * a(n - 1) + 11. - _ Jonathan Vos Post _ , Nov 24 2007 [corrected by _ Jon E. Schoenfield _ , Jan 28 2018] • a(n) = 20 * (10 ^ n - 1) / 9 + 10 ^ (n + 1) + 1, with n>=0. - _ Paolo P. Lava _ , Dec 19 2007 •

[**A007907**] • 1,11,121,1221,12321,123321,1234321,12344321,123454321,1234554321,12345654321,123456654321,1234567654321,12345677654321,123456787654321,1234567887654321,12345678987654321 ★ Concatenation of sequence (1,2,..,[(n-1)/2],[n/2],[n/2]-1,..,1) for n >= 1. • a(n)=a1 + a2 + a3, where a1 =floor { a(n - 1) / [10 ^ (k + y * w)] }* 10 ^ (k + w + y * k2) a2=(w2 * y2 + b * y) * 10 ^ (k + y * w) a3=a(n - 1) - floor { a(n - 1) / [10 ^ (k + y * w)] }* 10 ^ (k + y * w) being k=floor { (floor[1 + log10(a(n - 1))) - x * w] / 2 } k2=floor[1 + log10(b)] x=[3 + (- 1) ^ (n + 1)] / 2 y=[1 + (- 1) ^ (n + 1)] / 2 y2=[1 + (- 1) ^ n] / 2 b=[2 * n + 1 + (- 1) ^ (n + 1)] / 4 w=floor { 1 + log10[(2 * (n - 1) + 1 + (- 1) ^ n) / 4] } w2=[2 * (n - 1) + 1 + (- 1) ^ n] / 4. - _ Paolo P. Lava _ , Jun 04 2008 •

[**A059734**] • 1,11,121,1331,14641,150051,1650561,17155171,188606881,1964664691,10500200501,115502205511,1260524250621,13865766756831,141412323214141,1555535555355551,16000880008800061,176008680086800671 ★ Carryless 11^n base 10; a(n) is carryless sum of 10*a(n-1) and a(n-1). • a(n)=Sum[Mod[Binomial[n, m], 10] * 10 ^ m, { m, 0, n }]. - _ Roger L. Bagula _ and _ Gary W. Adamson _ , Sep 14 2008 •

[**A001020**] • 1,11,121,1331,14641,161051,1771561,19487171,214358881,2357947691,25937424601,285311670611,3138428376721,34522712143931,379749833583241,4177248169415651,45949729863572161,505447028499293771,5559917313492231481,61159090448414546291 ★ Powers of 11. • a(n) = 11 * a(n - 1), n>0 ; a(0)=1. - _ Philippe Deléham _ , Nov 23 2008 •

[**A214993**] • 11,121,1341,14871,164921,1829001,20283931,224952241,2494758581,27667296631,306835021521,3402852533361,37738212888491,418523194306761,4641493350262861,51474950047198231,570865943869443401,6331000332611075641,70211869602591275451 ★ Power floor sequence of (golden ratio)^5. • a(n) = [x * a(n - 1)], where x=((1 + sqrt(5)) / 2) ^ 5, a(0) = [x]. • a(n) = 1 (mod 10). • a(n) = 12 * a(n - 1) - 10 * a(n - 2) - a(n - 3). • a(n) = (1 / 55) * (5 + (300 - 134 * sqrt(5)) * ((11 - 5 * sqrt(5)) / 2) ^ n + 2 * (11 / 2 + (5 * sqrt(5)) / 2) ^ n * (150 + 67 * sqrt(5))). - _ Colin Barker _ , Nov 13 2017 •

[**A288791**] • 1,11,122,1245,12325,121136,1195147,11915997,120572790,1241499241,13030331671,139549798524,1525923634907,17041290249637,194394900237176,2264977282222371,26951265841776186,327445918493429897,4060993235341162405,51396034231430455550 ★ Number of blocks of size >= nine in all set partitions of n. • a(n) = Bell(n + 1) - Sum _{ j=0..8 } binomial(n,j) * Bell(n - j). • a(n) = Sum _{ j=0..n - 9 } binomial(n,j) * Bell(j). •

[**A049666**] • 0,1,11,122,1353,15005,166408,1845493,20466831,226980634,2517253805,27916772489,309601751184,3433536035513,38078498141827,422297015595610,4683345669693537,51939099382224517,576013438874163224 ★ a(n) = Fibonacci(5*n)/5. • a(n) = 11 * a(n - 1) + a(n - 2) for n>1, a(0)=0, a(1)=1. With a=golden ratio and b=1 - a, a(n)=(a ^ (5n) - b ^ (5n)) / (5 * Sqrt(5)). - Mario Catalani (mario.catalani(AT)unito.it), Jul 24 2003 • a(n) = F(n, 11), the n - th Fibonacci polynomial evaluated at x=11. - _ T. D. Noe _ , Jan 19 2006 • a(n) = ((11 + sqrt(125)) ^ n - (11 - sqrt(125)) ^ n) / (2 ^ n * sqrt(125)). - Al Hakanson (hawkuu(AT)gmail.com), Jan 12 2009 • a(n) = F(n) + (- 1) ^ n * 5 * F(n) ^ 3 + 5 * F(n) ^ 5, n >= 0. See the D. Jennings formula given in a comment on A111125, where also the reference is given. - _ Wolfdieter Lang _ , Aug 31 2012 • a(- n) = - (- 1) ^ n * a(n). - _ Michael Somos _ , May 28 2014 •

[**A163462**] • 1,11,122,1362,15284,172204,1946248,22048968,250247056,2844142256,32358633632,368446731552,4197788535104,47847991009984,545576543759488,6222427756211328,70982053835796736,809843156607224576 ★ a(n) = 20*a(n-1) - 98*a(n-2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = ((2 + sqrt(2)) * (10 + sqrt(2)) ^ n + (2 - sqrt(2)) * (10 - sqrt(2)) ^ n) / 4. •

[**A015593**] • 0,1,11,123,1375,15371,171831,1920883,21473375,240048891,2683484551,29998427843,335349675375,3748843284811,41907975483671,468485416890003,5237155536757375,58545681738111131,654476810192737191,7316336275596331363 ★ a(n) = 11*a(n-1) + 2*a(n-2). • a(n) = - (1 / 129) * (11 / 2 - (1 / 2) * sqrt(129)) ^ n * sqrt(129) + (1 / 129) * (11 / 2 + (1 / 2) * sqrt(129)) ^ n * sqrt(129), with n >= 0. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A015594**] • 0,1,11,124,1397,15739,177320,1997737,22507067,253570948,2856801629,32185530763,362611243280,4085280268369,46025916681899,518540924305996,5840227917411653,65817929864446171,741523312261142840,8354210224465909753 ★ a(n) = 11*a(n-1) + 3*a(n-2). • a(n) = (1 / 133) * (11 / 2 + (1 / 2) * sqrt(133)) ^ n * sqrt(133) - (1 / 133) * sqrt(133) * (11 / 2 - (1 / 2) * sqrt(133)) ^ n. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A015596**] • 0,1,11,125,1419,16109,182875,2076061,23568171,267554125,3037368059,34481265149,391443388875,4443802338221,50447599275931,572698801388125,6501477212373099,73807044541656589,837883398807714875,9511945565051489981 ★ a(n) = 11 a(n-1) + 4 a(n-2). • a(n) = - (1 / 137) * (11 / 2 - (1 / 2) * sqrt(137)) ^ n * sqrt(137) + (1 / 137) * (11 / 2 + (1 / 2) * sqrt(137)) ^ n * sqrt(137). - _ Paolo P. Lava _ , Jul 09 2008 •

[**A163310**] • 1,11,125,1455,17225,206275,2489125,30186375,367260625,4477506875,54660378125,667844409375,8164152265625,99837826421875,1221162063203125,14938647753984375,182762559075390625,2236079644879296875 ★ a(n) = 20*a(n-1) - 95*a(n-2) for n > 1; a(0) = 1, a(1) = 11. • a(n) = ((5 + sqrt(5)) * (10 + sqrt(5)) ^ n + (5 - sqrt(5)) * (10 - sqrt(5)) ^ n) / 10. •

[**A015597**] • 0,1,11,126,1441,16481,188496,2155861,24656951,282005766,3225348181,36888858821,421904187936,4825390361401,55188814915091,631203915873006,7219187149178521,82567078220328761,944333796169508976,10800507148966242541 ★ a(n) = 11 a(n-1) + 5 a(n-2). • a(n) = (1 / 141) * (11 / 2 + (1 / 2) * sqrt(141)) ^ n * sqrt(141) - (1 / 141) * sqrt(141) * (11 / 2 - (1 / 2) * sqrt(141)) ^ n. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A015598**] • 0,1,11,127,1463,16855,194183,2237143,25773671,296933239,3420907655,39411583639,454052865959,5231051027383,60265878496967,694310969630935,7999015936922087,92155041123928567,1061699547984746759,12231625274575785751 ★ a(n) = 11 a(n-1) + 6 a(n-2). • a(n) = - (1 / 145) * sqrt(145) * (11 / 2 - (1 / 2) * sqrt(145)) ^ n + (1 / 145) * sqrt(145) * (11 / 2 + (1 / 2) * sqrt(145)) ^ n. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A015601**] • 0,1,11,128,1485,17231,199936,2319913,26918595,312343936,3624213461,42052755623,487949806080,5661817156241,65695637361211,762284731067008,8845001503265565,102631009653390271,1190856116710151936,13817834351385403193 ★ a(n) = 11 a(n-1) + 7 a(n-2). • a(n) = - (1 / 149) * (11 / 2 - (1 / 2) * sqrt(149)) ^ n * sqrt(149) + (1 / 149) * (11 / 2 + (1 / 2) * sqrt(149)

) ^ n * sqrt(149). - _ Paolo P. Lava _ , Jul 09 2008 •

[**A015602**] • 0,1,11,129,1507,17609,205755,2404177,28091987,328245273,3835433899,44815735073,523656556995,6118748007529,71495480538779,835400269986801,9761366814165043,114058237115709881,1332731542786129035,15572512867573098433 ★ a(n) = 11 a(n-1) + 8 a(n-2). • a(n) = (1 / 51) * sqrt(17) * (11 / 2 + (3 / 2) * sqrt(17)) ^ n - (1 / 51) * (11 / 2 - (3 / 2) * sqrt(17)) ^ n * sqrt(17). - _ Paolo P. Lava _ , Jul 09 2008 •

[**A015603**] • 0,1,11,130,1529,17989,211640,2489941,29294111,344644690,4054738589,47703926689,561235840880,6602929589881,77683348056611,913943194931650,10752525276757649,126503266798718989,1488308662276727720,1750992468623247582 1 ★ a(n) = 11*a(n-1) + 9*a(n-2). • a(n) = - (1 / 157) * sqrt(157) * (11 / 2 - (1 / 2) * sqrt(157)) ^ n + (1 / 157) * sqrt(157) * (11 / 2 + (1 / 2) * sqrt(157)) ^ n. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A185127**] • 11,131,1331,13331,133331,1333331,13333331,133333331,1333333331,13333333331,133333333331,1333333333331,13333333333331,133333333333331,1333333333333331,13333333333333331,133333333333333331,1333333333333333331,13333333333333333331,133333333333333333331,1333333333333333333331,13333333333333333333331 ★ a(n) = n 3's sandwiched between two 1's. • a(0)=11; for n>0, a(n) = 10 * a(n - 1) + 21. • a(n) = (40 * 10 ^ n - 7) / 3 (see PARI's code by _ Charles R Greathouse IV _). • a(n) = ((2 * 10 ^ (n + 1) - 2) / 3) ^ 2 - ((2 * 10 ^ (n + 1) - 5) / 3) ^ 2. - _ Bruno Berselli _ , Feb 17 2015 •

[**A015606**] • 0,1,11,131,1551,18371,217591,2577211,30525231,361549651,4282298471,50720779691,600751561311,7115474971331,84277740297751,998209892988571,11823086225851791,140036047414255411,1658627383815327431,19645261696111155851 ★ a(n) = 11*a(n-1) + 10*a(n-2). • a(n) = (1 / 161) * (11 / 2 + (1 / 2) * sqrt(161)) ^ n * sqrt(161) - (1 / 161) * sqrt(161) * (11 / 2 - (1 / 2) * sqrt(161)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Jul 09 2008 • a(n) = 11 * a(n - 1) + 10 * a(n - 2), with a(0)=0, a(1)=1. - _ Harvey P. Dale _ , Feb 02 2015 •

[**A077417**] • 1,11,131,1561,18601,221651,2641211,31472881,375033361,4468927451,53252096051,634556225161,7561422605881,90102515045411,1073668757939051,12793922580223201,152453402204739361,1816646903876649131,21647309444315050211 ★ Chebyshev T-sequence with Diophantine property. • a(n) = 12 * a(n - 1) - a(n - 2), a(- 1)=1, a(0)=1. • a(n) = (ap ^ (2 * n + 1) + am ^ (2 * n + 1)) / sqrt(14) with ap := (sqrt(7) + sqrt(5)) / sqrt(2) and am := (sqrt(7) - sqrt(5)) / sqrt(2). • a(n) * a(n + 3) = 120 + a(n + 1) * a(n + 2). - _ Ralf Stephan _ , May 29 2004 •

[**A097258**] • 0,11,132,143,1584,1595,1716,1727,19008,19019,19140,19151,20592,20603,20724,20735,228096,228107,228228,228239,229680,229691,229812,229823,247104 ★ Numbers whose set of base 12 digits is {0,B}, where B base 12 = 11 base 10. • a(2n) = 12 * a(n), a(2n + 1) = a(2n) + 11. •

[**A158536**] • 11,132,495,1100,1947,3036,4367,5940,7755,9812,12111,14652,17435,20460,23727,27236,30987,34980,39215,43692,48411,53372,58575,64020,69707 ★ 121n^2 + 11. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: 11 * (1 + 9 * x + 12 * x ^ 2) / (1 - x) ^ 3. - _ R. J. Mathar _ , Oct 16 2009 •

[**A105280**] • 0,11,132,1463,16104,177155,1948716,21435887,235794768,2593742459,28531167060,313842837671,3452271214392,37974983358323,417724816941564,4594972986357215,50544702849929376,555991731349223147,6115909044841454628,67274999493256000919 ★ a(0)=0; a(n) = 11*a(n-1) + 11. • a(n) = (11 / 10)(11 ^ n - 1), with n>=0. - _ Paolo P. Lava _ , Jul 09 2008 • a(n) = 11 ^ n + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 •

[**A196731**] • 1,11,132,1584,19008,228096,2737152,32845824,394149888,4729798656,56757583872,681091006464,8173092077568,98077104930816,1176925259169792,14123103110037504,169477237320450048 ★ Expansion of (1-x)/(1-12x). • a(n + 1)=12 * a(n) for n>0. - M. F. Hasler, Oct 05 2011 •

[**A015609**] • 0,1,11,133,1595,19141,229691,2756293,33075515,3969061814762874171,57154490053,685853880635,8230246567621,98762958811451,1185155505737413,14221866068848955,170662392826187461 ★ a(n) = 11*a(n-1) + 12*a(n-2). • a(n) = 12 ^ (n - 1) - a(n - 1). • a(n) = (1 / 13) * [12 ^ n - (- 1) ^ n], with n>=0. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A057718**] • 1,11,136,1787,24376,341048,4859968,70223483,1025790616,151164164136,2243655479683350371999928,50287277411008,758124098549696,1147331826459136,1742215785565722832,6534378850928680840520013896165905928 ★ A036917/8 (omitting leading term of A036917). • a(n) = (1 / 8) * sum (binomial(2k,k) ^ 2 * binomial(2n - 2k,n - k) ^ 2, k=0..n) for n >= 1. - _ Emanuele Munarini _ , Mar 12 2011 •

[**A141907**] • 1,11,141,1111,16661,172271,1016101,17399371,128404821,1302442031,16784848761,131546645131,1860584850681,19465322356491,129218121812921,1955997557995591,14000280008200041,154002080080200451 ★ a(n) = sum(mod(sum((-1)^j*binomial(n + 1, j)*(k + 1 - j)^n, j=0..k+1), 10)*10^k, k=0..n-1). • a(n)=Sum[Mod[Sum[(- 1) ^ j Binomial[n + 1, j](k + 1 - j) ^ n, { j, 0, k + 1 }], 10] * 10 ^ k, { k, 0, n - 1 }]. •

[**A205084**] • 11,141,1441,14441,144441,1444441,14444441,144444441,1444444441,14444444441,144444444441,1444444444441,14444444444441,144444444444441,1444444444444441,14444444444444441,144444444444444441,1444444444444444441,14444444444444444441,144444444444444444441 ★ a(n)=n 4's sandwiched between two 1's. • a(0)=11, a(n)=10 * a(n - 1) + 31. • a(n) = (130 * 10 ^ n - 31) / 9 (see PARI's code by Charles R Greathouse IV). •

[**A083078**] • 1,11,141,1831,23801,309411,4022341,52290431,679775601,8837082811,114882076541,1493466995031,19415070935401,252395922160211,3281146988082741,42654910845075631,554513840985983201 ★ 6th row of number array A083075. • a(n) = (5 * 13 ^ n + 1) / 6. • a(n) = 13 * a(n - 1) - 2; a(n) = 14 * a(n - 1) - 13 * a(n - 2). - Vincenzo Librandi, Nov 11 2011 •

[**A024141**] • 1,11,142,1725,20732,248827,2985978,35831801,429981688,5159780343,61917364214,743008370677,8916100448244,106993205379059,1283918464548850,15407021574586353,184884258895036400 ★ 12^n-n. • a(n) = 14 * a(n - 1) - 25 * a(n - 2) + 12 * a(n - 3). - _ Vincenzo Librandi _ , Jun 17 2013 •

[**A024140**] • 0,11,143,1727,20735,248831,2985983,35831807,429981695,5159780351,61917364223,743008370687,8916100448255,106993205379071,1283918464548863,15407021574586367,184884258895036415 ★ a(n) = 12^n-1. • a(n) = 12 * a(n - 1) + 11 for n>0, a(0)=0. [_ Vincenzo Librandi _ , Nov 18 2010] • a(n) = Sum _{ i=1..n } 11 ^ i * binomial(n,n - i) for n>0, a(0)=0. [_ Bruno Berselli _ , Nov 11 2015] •

[**A027771**] • 11,144,1014,5096,20475,69888,210392,572832,1436058,3359200,7407036,15519504,31097794,59907456,111435000,200880160,352023165,601277040,1003321410,1638819000,2624841765,4128783360,6386711760,9727323840,14602906500 ★ (n+1)*C(n+1,11). • a(n) = C(n + 1, 11) * C(n + 1, 1) - _ Zerinvary Lajos _ , Jun 08 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[**A098310**] • 0,1,11,144,1859,24025,310464,4012009,51845651,669981456,8657913275,111882891121,1445819671296,18683772835729,241443227193179,3120078180675600,40319573121589619,521034372399989449 ★ Unsigned member r=-11 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 13 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 12 * a(n - 1) + 12 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=11. •

[**A205085**] • 11,151,1551,15551,155551,1555551,15555551,155555551,1555555551,15555555551,155555555551,1555555555551,15555555555551,155555555555551,1555555555555551,15555555555555551,155555555555555551,1555555555555555551,15555555555555555551 ★ a(n)=n 5's sandwiched between two 1' s. • a(0)=11, a(n)=10 * a(n - 1) + 41 • a(n) = (140 * 10 ^ n - 41) / 9 (see PARI's code by Charles R Greathouse IV). • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - Vincenzo Librandi, Jan 23 2012 •

[**A122769**] • 1,11,153,2131,29681,413403,5757961,80198051,1117014753,15558008491,216695104121,3018173449203,42037733184721,585510091136891,8155103542731753,113585939507107651,1582048049556775361 ★ Numbers k such that k^2 is of the form 3*m^2 + 2*m + 1 (A056109). • a(0) = 1, a(1) = 11, a(n) = 14 * a(n - 1) - a(n - 2), and • a(n) = ((3 - b) * (7 - 4 * b) ^ n + (3 + b) * (7 + 4 * b) ^ n) / 6, b=sqrt(3). • a(n) = - (1 / 6) * sqrt(3) * (7 - 4 * sqrt(3)) ^ n + (1 / 6) * sqrt(3) * (7 + 4 * sqrt(3)) ^ n + (1 / 2) * (7 + 4 * sqrt(3)) ^ n + (1 / 2) * (7 - 4 * sqrt(3)) ^ n. [_ Paolo P. Lava _ , Aug 06 2008] •

[**A205086**] • 11,161,1661,16661,166661,1666661,16666661,166666661,1666666661,16666666661,166666666661,1666666666661,16666666666661,166666666666661,1666666666666661,16666666666666661,166666666666666661,1666666666666666661,16666666666666666661 ★ a(n)=n 6's sandwiched between two 1' s • a(0) = 11, a(n)=10 * a(n - 1) + 51. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - Vincenzo Librandi, Jan 22 2012 • a(n) = (50 * 10 ^ n - 17) / 3. - Paolo P. Lava, Jan 30 2012 •

[**A064182**] • 0,11,171,2126,24300,266400,2853708,30130317,315037281,3271067968,33787242719,347589015681,3564432632541,36457601891708,372096179850464,3790896863469849,38562555830676602,391760068087338367,3975397006170581823,40066272402579605194 ★ Sum_{k <= 10^n} number of distinct primes dividing k (A001221). • a(n) = Sum _{ k, 1, limit } , PrimePi(10 ^ n / k); which seems to be about 10 ^ n / 2. •

[**A025758**] • 1,1,11,171,3056,58916,1191376,24896436,532911346,11617952106,256966100966,5750337968926,129926216608236,2959472057112396,67877180959091156,1566072624078270516,36319953436423545851 ★ 5th-order Vatalan numbers (generalization of Catalan numbers). • a(n) = sum(m=1..n - 1, 5 ^ (n - m) * m / n * sum(k=1..n - m, binomial(n + k - 1,n - 1) * sum(i=0..k, binomial(k,i) * 2 ^ (k - i) * sum(j=0..i, binomial(j, - 3 * i + n - m - k + 2 * j) * (- 1) ^ (j - i) * 5 ^ (j - i) * (- 2) ^ (3 * i - n + m + k - j) * binomial(i,j))))) + 1. - _ Vladimir Kruchinin _ , Feb 09 2011 •

[**A243677**] • 1,11,171,3101,61381 ★ Number of hypoplactic classes of 5-parking functions of length n. • a(n) = Sum _{ i=0..n } Sum _{ j=0..i } (- 2) ^ (n - i) * binomial(i,j) * binomial(5i + j, n) * binomial(n + 1,i) / (n + 1) (conjectured). - _ Michael D. Weiner _ , May 25 2017 •

[**A218330**] • 1,11,175,301,1005,1375,3003,3745,6681,7923,12551,14421,21125,23751,32915,36425,48433,52955,68191,73853,92701,99631,122475,130801,158025 ★ Odd decagonal pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 512. • a(n) = (16 * n - 4 * (- 1) ^ n - 17) * (4 * n - (- 1) ^ n - 3) * (4 * n - (- 1) ^ n - 1) / 24. •

[**A003729**] • 11,176,2911,48301,801701,13307111,220880176,3666315811,60855946601,1010127453401,16766766924211,278305942640176,4619507031938711,76677648402694901,1272746577484955101,21125893715367851311 ★ Number of perfect matchings (or domino tilings) in graph C_{5} X P_{2n}. • a(n) = 19a(n - 1) - 41a(n - 2) + 19a(n - 3) - a(n - 4), n>4. •

[**A205088**] • 11,181,1881,18881,188881,1888881,18888881,188888881,1888888881,18888888881,188888888881,1888888888881,18888888888881,188888888888881,1888888888888881,18888888888888881,188888888888888881,1888888888888888881,18888888888888888881 ★ a(n)=n 8's sandwiched between two 1's. • a(0) = 11, a(n) = 10 * a(n - 1) + 71. • a(n) = 1 / 9 * (17 * 10 ^ (n + 1) - 71). [From Alexander R. Povolotsky, Jan 25 2012] •

[**A185123**] • 11,191,1991,19991,199991,1999991,19999991,199999991,1999999991,19999999991,199999999991,1999999999991,19999999999991,199999999999991,1999999999999991,19999999999999991,199999999999999991,1999999999999999991,19999999999999999991,199999999999999999991,1999999999999999999991,19999999999999999999991,199999999999999999999991,1999999999999999999999991,19999999999999999999999991,199999999999999999999999991,1999999999999999999999999991,19999999999999999999999999991,199999999999999999999999999991,1999999999999999999999999999991,19999999999999999999999999999991,199999999999999999999999999999991,1999999999999999999999999999999991,19999999999999999999999999999999991,199999999999999999999999999999999991,1999999999999999999999999999999999991,19999999999999999999999999999999999991,199999999999999999999999999999999999991,1999999999999999999999999999999999999991,19999999999999999999999999999999999999991,199999999999999999999999999999999999999991,1999999999999999999999999999999999999999991,19999999999999999999999999999999999999999991,199999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,1999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,19999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999991,199999

[**A243646**] • 0,0,0,0,11,196,1195,4544,13215,32276,69671,137120,251139,434180,715891,1134496,1738295,2587284,3754895,5329856,7418171,10145220,13657979,18127360,23750671 ⋆ Number of ways three L-tiles can be placed on an n X n square. • a(n) = (n ^ 6 - 6 * n ^ 5 - 6 * n ^ 4 + 88 * n ^ 3 - 73 * n ^ 2 - 310 * n + 426) / 6 for n>=4, a(n) = 0 for n<4. •

[**A075858**] • 11,211,3111,41111,511111,6111111,71111111,811111111,9111111111,101111111111,1111111111111,12111111111111,131111111111111,1411111111111111,15111111111111111,161111111111111111 ⋆ n followed by n 1's. • a(n) = n * 10 ^ n + (10 ^ n - 1) / 9. •

[**A179339**] • 11,221,461,1091,1571,2621,3341,4811,5771,7661,8861,11171,12611,15341,17021,20171,22091,25661,27821,31811,34211,38621,41261,46091,48971 ⋆ Positive integers of the form (30*m^2+1)/11. • a(n) = (330 * n * (n - 1) + 45 * (2 * n - 1) * (- 1) ^ n + 89) / 4. • a(n) = a(- n + 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A015287**] • 1,11,231,3311,56287,875007,14208447,225683007,3624203583,57881286463,926949282623,14824402656063,237244744338239,3795481554332479,60731179948567359,971671079497526079,15546959673214593855 ⋆ Gaussian binomial coefficient [n,4] for q = -2. • a(n) = (1 - 2 ^ (2n - 5) * (15 - 2 ^ (2n - 1)) - (- 1) ^ n * 5 * 2 ^ (n - 3) * (1 - 2 ^ (2n - 3))) / 1215. - _ Bruno Berselli _ , Oct 30 2012 •

[**A219089**] • 0,11,244,1838,8303,27680,75418,177978,377149,735091,1340095,2313060,3814697,6053445,9294114,13867245,20179187,28722900,40089475,54980371,74220378,98771297,129746337,168425239,216270112 ⋆ Floor((n + 1/2)^6]). • a(n) = [(n + 1 / 2) ^ 6]. •

[**A003389**] • 11,266,521,776,1031,1286,1541,1796,2051,2306,2561,2816,6571,6826,7081,7336,7591,7846,8101,8356,8611,8866,9121,13131,13386 ⋆ Sum of 11 nonzero 8th powers. • a(n) > 8n / 3. (Work mod 32.) - _ Charles R Greathouse IV _ , May 04 2015 •

[**A243210**] • 0,11,266,2344,12907,53307,180876,530654,1391647,3335627,7426885,15544434,30867669,58574800,106838511,188190111,321383808,533857914 ⋆ Number of inequivalent (mod D_3) ways to place 5 points on a triangular grid of side n so that no three of them are vertices of an equilateral triangle with sides parallel to the grid. • a(n) = (n ^ 10 + 5 * n ^ 9 - 10 * n ^ 8 - 195 * n ^ 7) / 23040 + O(n ^ 6) •

[**A001538**] • 11,299,875,1739,2891,4331,6059,8075,10379,12971,15851,19019,22475,26219,30251,34571,39179,44075,49259,54731,60491,66539,72875,79499,86411 ⋆ (12n+1)(12n+11). • a(n) = 288 * n + a(n - 1) with a(0)=11. - _ Vincenzo Librandi _ , Nov 12 2010 •

[**A179897**] • 1,11,547,52429,8138021,1865813431,593445188743,250199979298361,135085171767299209,90909090909090909091 ⋆ Numbers a_n with property that a(n) is arithmetic mean of sequence "n-times n^-1, once n^(2*n+1)" that has integer valued both arithmetic and geometric means even though some of the sequence members are (for n>1) non-integer. • a(n) = (n ^ (2 * n + 1) + 1) / (n + 1). a(n) = \ sum _{ i=0 }^{ 2 * n } (- n) ^ i. •

[**A243130**] • 1,11,564719,46611179,929944511,9127651499,58130412911,276182038859,1061324394239,3472236254411,10011386405999,26069206375211,62418042417599,139296285729899,292810020137711,584605483663499,1116034330278911,2048348816684939,3630829342034159 ⋆ 1024*n^10 - 2304*n^8 + 1792*n^6 - 560*n^4 + 60*n^2 - 1. • a(n) = (32 * n ^ 5 - 16 * n ^ 4 - 32 * n ^ 3 + 12 * n ^ 2 + 6 * n - 1) * (32 * n ^ 5 + 16 * n ^ 4 - 32 * n ^ 3 - 12 * n ^ 2 + 6 * n + 1). •

[**A064161**] • 12,12,20,42,66,78,102,114,138,174,186,222,246,258,282,318,354,366,402,426,438,474,498,534,582 ⋆ Least abundant number divisible by the n-th prime number. • a(n) = 6 * prime(n) for n>=4. - Jose Brox (tautocrona(AT)terra.es), Mar 24 2003 •

[**A022346**] • 0,12,12,24,36,60,96,156,252,408,660,1068,1728,2796,4524,7320,11844,19164,31008,50172,81180,131352,212532,343884,556416 ⋆ Fibonacci sequence beginning 0, 12. • a(n) = 12 * F(n) = F(n + 5) + F(n - 1) + F(n - 3) + F(n - 6) for n > 5, where F=A000045. • a(n) = F(n + 6) + F(n - 6) - 6 * F(n). - _ Bruno Berselli _ , Dec 29 2016 •

[**A133894**] • 12,13,14,15,28,29,30,31,44,45,46,47,60,61,62,63,76,77,78,79,92,93,94,95,108 ⋆ Numbers m such that binomial(m+4,m) mod 4 = 0. • a(n)= 4n + 12 - 3 * (n mod 4). • a(n) = 4 * n + 3 * ((1 - i) * i ^ n + (1 + i) * (- i) ^ n + (- 1) ^ n + 5) / 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Apr 08 2011 •

[**A267615**] • 12,13,15,19,27,43,75,139,267,523,1035,2059,4107,8203,16395,32779,65547,131083,262155,524299,1048587,2097163,4194315,8388619,16777227 ⋆ a(n) = 2^n + 11. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>1, a(0)=12, a(1)= 13. •

[**A241748**] • 12,13,16,21,28,37,48,61,76,93,112,133,156,181,208,237,268,301,336,373,412,453,496,541,588 ⋆ a(n) = n^2 + 12. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[**A022102**] • 1,12,13,25,38,63,101,164,265,429,694,1123,1817,2940,4757,7697,12454,20151,32605,52756,85361,138117,223478,361595,585073 ⋆ Fibonacci sequence beginning 1, 12. • a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=12. a(- 1):=11. • a(n) = ((1 + sqrt5) ^ n - (1 - sqrt5) ^ n) / (2 ^ n * sqrt5) + 5.5 * ((1 + sqrt5) ^ (n - 1) - (1 - sqrt5) ^ (n - 1)) / (2 ^ (n - 2) * sqrt5). Offset 1. a(3)=13. - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 •

[**A022317**] • 0,12,13,26,40,67,108,176,285,462,748,1211,1960,3172,5133,8306,13440,21747,35188,56936,92125,149062,241188,390251,631440 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 0 and a(1) = 12. • a(n) = F(n + 2) + 11 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[**A033048**] • 0,1,12,13,144,145,156,157,1728,1729,1740,1741,1872,1873,1884,1885,20736,20737,20748,20749,20880,20881,20892,20893,22464 ⋆ Sums of distinct powers of 12. • a(n) = Sum { d(i) * 12 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 12 * a(n), a(2n + 1) = a(2n) + 1. •

[**A041309**] • 1,1,12,13,324,337,4031,4368,108863,113231,1354404,1467635,36577644,38045279,455075713,493120992,12289979521,12783100513,152904085164,165687185677,4129396541412,4295083727089,51375317539391,55670401266480,1387464947934911 ⋆ Denominators of continued fraction convergents to sqrt(167). • a(n) = 336 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 15 2013 •

[**A255842**] • 12,14,20,30,44,62,84,110,140,174,212,254,300,350,404,462,524,590,660,734,812,894,980,1070,1164 ⋆ a(n) = 2*n^2 + 12. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A175886**] • 1,12,14,25,27,38,40,51,53,64,66,77,79,90,92,103,105,116,118,129,131,142,144,155,157 ⋆ Numbers that are congruent to {1, 12} mod 13. • a(n) = (26 * n + 9 * (- 1) ^ n - 13) / 4. • a(n) = - a(- n + 1) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = a(n - 2) + 13. •

[**A022326**] • 1,12,14,27,42,70,113,184,298,483,782,1266,2049,3316,5366,8683,14050,22734,36785,59520,96306,155827,252134,407962,660097 ⋆ a(n) = a(n-1) + a(n-2) + 1, with a(0) = 1 and a(1) = 12. • a(n) = 2 * F(n + 2) + 9 * F(n) - 1, where F = A000045. - _ G. C. Greubel _ , Aug 25 2017 •

[**A196224**] • 12,15,19,44,51,63,76,83,108,112,115,140,143,147,172,179,204,211,236,240,243,255,268,271,275 ⋆ Numbers n such that n^2 + n is not of the form x^2 + y^2 + z^2. • a(n) = 12n + O(log(n)). - _ David W. Wilson _ , Oct 21 2011 •

[**A277082**] • 0,1,12,15,37,42,75,82,126,135,190,201,267,280,357,372,460,477,576,595,705,726,847,870,1002 ⋆ Generalized 15-gonal (or pentadecagonal) numbers: n*(13*n - 11)/2, n = 0,+1,-1,+2,-2,+3,-3, ... • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (26 * n ^ 2 + 26 * n + 9 * (- 1) ^ n * (2 * n + 1) - 9) / 16. •

[**A024875**] • 12,15,38,45,82,94,148,166,240,265,362,395,518,560,712,764,948,1011,1230,1305,1562,1650,1948,2050,2392 ⋆ a(n) = s(1)s(n) + s(2)s(n-1) + ... + s(k)s(n-k+1), where k = floor(n/2), s = natural numbers >= 3. • a(n) = (4 * n ^ 3 + 3 * ((- 1) ^ n + 19) * n ^ 2 + 2 * (15 * (- 1) ^ n + 61) * n + 75 * ((- 1) ^ n - 1)) / 48. • a(n) = (2 * n ^ 3 + 30 * n ^ 2 + 76 * n) / 24 for n even. • a(n) = (2 * n ^ 3 + 27 * n ^ 2 + 46 * n - 75) / 24 for n odd. (End) •

[**A219390**] • 0,12,16,52,60,120,132,216,232,340,360,492,516,672,700,880,912,1116,1152,1380,1420,1672,1716,1992,2040 ⋆ Numbers k such that 14*k+1 is a square. • a(n) = a(- n + 1) = (14 * n * (n - 1) + 5 * (- 1) ^ n * (2 * n - 1) + 1) / 4 + 1. •

[**A155096**] • 12,17,41,46,70,75,99,104,128,133,157,162,186,191,215,220,244,249,273,278,302,307,331,336,360 ⋆ Numbers n such that n^2 = -1 mod (29). • a(n) = 12 * (- 1) ^ (n + 1) + 29 [n / 2]. - _ M. F. Hasler _ , Jun 16 2010 • a(n) = a(n - 2) + 29 for all n>2. - _ M. F. Hasler _ , Jun 16 2010 •

[**A007624**] • 12,18,20,24,28,30,32,40,42,44,45,48,50,52,54,56,60,63,66,68,70,72,75,76,78 ⋆ Product of proper divisors of n = n^k, k>1. • a(n) = n + O(n / log n). - _ Charles R Greathouse IV _ , Oct 23 2015 •

[**A177425**] • 12,18,20,24,28,40,44,45,48,50,52,54,56,63,68,72,75,76,80,88,92,96,98,99,104 ⋆ Integers with multiple and strictly distinct powers. • a(n) < < n log n. - _ Charles R Greathouse IV _ , Mar 25 2014 •

[**A005101**] • 12,18,20,24,30,36,40,42,48,54,56,60,66,70,72,78,80,84,88,90,96,100,102,104,108 ⋆ Abundant numbers (sum of divisors of n exceeds 2n). • a(n) is asymptotic to C * n with C=4.038... (Deleglise 1998). - _ Benoit Cloitre _ , Sep 04 2002 •

[**A280014**] • 12,18,22,28,42,48,52,58,72,78,82,88,102,108,112,118,132,138,142,148,162,168,172,178,192 ⋆ Numbers n == +- 2 (mod 10) but not n == 2 (mod 6). • a(n + 4) = a(n) + 30. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. •

[**A143800**] • 0,12,19,24,28,31,34,36,38,40,42,43,44,46,47,48,49,50,51,52,53,54,54,55,56 ⋆ In acoustics, using 12-tone equal temperament, the rounded number of semitones in the interval perceived when a vibrating string is divided into n congruent segments. • a(n) = round(log2(n) * 12) •

[**A272100**] • 12,19,44,51,76,83,108,115,140,147,172,179,204,211,236,243,268,275,300,307,332,339,364,371,396 ⋆ Integers n that are the sum of three nonzero squares while n*(n+1) is not. • a(n) = (32 * n - 17 - 9 * (- 1) ^ n) / 2. • a(n) = 16 * n - 13 for n even. • a(n) = 16 * n - 4 for n odd. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[**A035511**] • 12,20,25,38,46,59,72,80,93,109,114,127,135,148,164,169,182,198,203,216,224,237,253,258,271 ⋆ 3rd column of Inverse Stolarsky array. • a(n)=(2round(n * tau) + 1) + 3(floor((round(n * tau) + 1 / 2)tau) + 1) for n>0 and a(0)=12, tau=(1 + sqrt(5)) / 2 - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Jan 01 2005 •

[**A082296**] • 12,20,34,42,56,64,78,86,100,108,122,130,144,152,166,174,188,196,210,218,232,240,254,262,276 ⋆ Solutions to 13^x+17^x == 19 mod 23. • a(n) = (- 1 - 3 * (- 1) ^ n + 22 * n) / 2. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[**A229355**] • 12,20,44,122,392,1370,5024,18962,72872,283370,1110704,4377602,17320952,68727770,273267584,1088189042,4338210632,17309402570,69107683664,276041741282,1103001557912,4408513155770,17623579686944,70462912522322,281757456578792 ⋆ Total sum of n-th powers of parts in all partitions of 4. • a(n) = 7 + 3 * 2 ^ n + 3 ^ n + 4 ^ n. •

[**A137480**] • 12,21,48,84,192,336,768,1344,3072,5376,12288,21504,49152,86016,196608,344064,786432,1376256,3145728,5505024,12582912,22020096,50331648,88080384,201326592 ⋆ a(n)=4a(n-2). • a(n) = - (9 / 4) * sqrt(2) * (1 / 2) ^ (- 1 / 2 * (- 1) ^ n) * (- 2) ^ n + (33 / 4) * 2 ^ n * sqrt(2) * (1 / 2) ^ (- (1 / 2) * (- 1) ^ n) - _ Alexander R. Povolotsky _ , Apr 25 2008 •

[A098955] • 1,12,22,32,42,52,62,72,82,92,103,113,123,133,143,153,163,173,183,193,203,213,223,233,243 ⋆ Numbers with property that the last digit is the length of the number (written in base 10). • a(n) = 10(n - 1) + 2 = 10n - 8 for n=2,...,10, • a(n) = 10(n - 1) + 3 = 10n - 7 for n=11,...,100, • a(n) = 10(n - 1) + 4 = 10n - 6 for n=101,...,1000, and so on, • a(n) = 10(n - 1) + k + 1 = 10n - (9 - k) for 10 ^ (k - 1) < n <= 10 ^ k, up to • a(n) = 10(n - 1) + 9 = 10n - 1 for n=10 ^ 7 + 1,...,10 ^ 8. - _ M. F. Hasler _ , Jan 06 2013 •

[A285470] • 12,22,32,42,52,62,72,82,92,120,121,122,123,124,125,126,127,128,129,220,221,222,223,224,225 ⋆ Numbers n where "2" appears as the second digit of the decimal representation. • a(10 * n + j) = 10 * a(n) + j for 0<=j<=9 and n >= 1. •

[A014633] • 0,12,22,70,92,176,210,330,376,532,590,782,852,1080,1162,1426,1520,1820,1926,2262,2380,2752,2882,3290,3432 ⋆ Even pentagonal numbers. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = 48 + 2 * a(n - 2) - a(n - 4). • a(n) = 1 / 8 * (1 - 3 * (- 1) ^ (n + 1) + 12 * (n + 1)) * (1 - (- 1) ^ (n + 1) + 4 * (n + 1)).(End) •

[A228157] • 12,23,34,45,56,67,78,89,101,112,123,134,145,156,167,178,189,201,212,223,234,245,256,267,278 ⋆ Numbers n which are anagrams of n+9. • a(n) = a(n - 1) + a(n - 9) - a(n - 10) for n > 10. •

[A127421] • 1,12,23,34,45,56,67,78,89,910,1011,1112,1213,1314,1415,1516,1617,1718,1819,1920,2021,2122,2223,2324,2425 ⋆ Numbers whose decimal expansion is a concatenation of 2 consecutive increasing nonnegative numbers. • a(n)=n * 10 ^{ 1 + floor[log(n + 1)] }+ n + 1, with n>=0 - _ Paolo P. Lava _ , May 09 2008 •

[A001704] • 12,23,34,45,56,67,78,89,910,1011,1112,1213,1314,1415,1516,1617,1718,1819,1920,2021,2122,2223,2324,2425,2526 ⋆ a(n) = concatenation {n,n+1}. • a(n) = n * 10 ^ (1 + floor(log(n + 1))) + n + 1, with n >= 1. - _ Paolo P. Lava _ , May 09 2008 •

[A083683] • 12,23,45,89,177,353,705,1409,2817,5633,11265,22529,45057,90113,180225,360449,720897,1441793,2883585,5767169,11534337,23068673,46137345,92274689,184549377 ⋆ a(n) = 11*2^n + 1. • a(n) = 2 * a(n - 1) - 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2), n>1. - _ Vincenzo Librandi _ , Nov 03 2011 •

[A294139] • 0,0,12,23,70,105,210,282,468,590,880,1065,1482,1743,2310,2660,3400,3852,4788,5355,6510,7205,8602,9438,11100 ⋆ Sum of the areas of the distinct rectangles (and the areas of the squares on their sides) with positive integer sides such that L + W = n, W < L. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } 2 * i ^ 2 + 2 * (n - i) ^ 2 + i * (n - i). • a(n) = n * (6 * n - 1) * (n - 2) / 8 for n even. • a(n) = n * (3 * n - 1) * (n - 1) / 4 for n odd. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) for n > 7. •

[A015447] • 1,1,12,23,155,408,2113,6601,29844,102455,430739,1557744,6295873,23431057,92685660,350427287,1369969547,5224669704,20294334721,77765701465,301003383396,1156426099511,4467463316867,17188150411488 ⋆ Generalized Fibonacci numbers: a(n) = a(n-1) + 11*a(n-2). • a(n) = (((1 + 3 * sqrt(5)) / 2) ^ (n + 1) - ((1 - 3 * sqrt(5)) / 2) ^ (n + 1)) / 3 * sqrt(5). • a(n - 1) = (1 / 3) * (- 1) ^ n * Sum _{ i=0..n } (- 3) ^ i * Fibonacci(i) * C(n, i). - _ Benoit Cloitre _ , Mar 06 2004 • a(n) = (Sum _{ 1<=k<=n + 1, k odd } C(n + 1,k) * 45 ^ ((k - 1) / 2)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 •

[A119588] • 12,24,25,36,48,50,56,60,72,75,84,91,96,100,108,110,112,120,132,144,150,153,156,168,175 ⋆ Numbers n such that the number of divisors of Fibonacci(n), tau(Fibonacci(n)), is not a perfect power of 2. • a(n) = { k: tau(Fibonacci(k)) != 2 ^ i for all i } . •

[A008594] • 0,12,24,36,48,60,72,84,96,108,120,132,144,156,168,180,192,204,216,228,240,252,264,276,288 ⋆ Multiples of 12. • a(n) = 12 * n. a(n) = 2 * a(n - 1) - a(n - 2) for n>1. G.f.: 12 * x / (1 - x) ^ 2. - _ Vincenzo Librandi _ , Jun 11 2011 •

[A019550] • 12,24,36,48,510,612,714,816,918,1020,1122,1224,1326,1428,1530,1632,1734,1836,1938,2040,2142,2244,2346,2448,2550 ⋆ n followed by 2n. • a(n) = n * 10 ^ floor(log10(2 * n) + 1) + 2 * n. - _ Paolo P. Lava _ , Mar 24 2010 • a(n + 2) - 2 * a(n + 1) + a(n) = 45 * 10 ^ (2 * k + 1) if n = 5 * 10 ^ k - 2, 90 * 10 ^ k - 450 * 10 ^ (2 * k) if n = 5 * 10 ^ k - 1, 0 otherwise. (End) •

[A081808] • 12,24,48,96,192,384,768,1536,3072,6144,12288,24576,49152,98304,196608,393216,786432,1572864,3145728,6291456,12582912,25165824,50331648,100663296,201326592 ⋆ Numbers n such that the largest prime power in the factorization of n equals phi(n). • a(n) = 3 * 2 ^ (n + 1). •

[A260261] • 0,1,12,24,48,97,188,199,211,233,255,277,299,322,355,388,422,466,511,566,622,688,755,833,922 ⋆ Concatenation of their first digits yields the difference of two subsequent terms, a(1)=1. This is the lexicographically first infinite sequence with this property. • a(10 ^ 7)=178567225. •

[A042851] • 1,1,12,25,37,62,99,161,1226,9969,11195,32359,75913,108272,292457,400729,5902663,6303392,18509447,24812839,68135125,161083089,229218214,1994828801,14193019821 ⋆ Denominators of continued fraction convergents to sqrt(956). • a(n) = 153518047257598 * a(n - 32) - a(n - 64) for n>63. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A132754] • 0,12,25,39,54,70,87,105,124,144,165,187,210,234,259,285,312,340,369,399,430,462,495,529,564 ⋆ a(n) = n(n+23)/2. • a(n) = n * (n + 23) / 2. • a(n) = n + a(n - 1) + 11 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=12, a(2)=25, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 21 2011 • a(n) = 12n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A224669] • 12,25,41,70,115,189,308,501,813,1318,2135,3457,5596,9057,14657,23718,38379,62101,100484,162589,263077,425670,688751,1114425,1803180 ⋆ Number of (n+1) X 2 0..2 matrices with each 2 X 2 subblock idempotent. • a(n) = - 4 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 19 + 13 * sqrt(5)) + (1 + sqrt(5)) ^ n * (19 + 13 * sqrt(5)))) / sqrt(5). •

[A195143] • 0,1,12,25,48,73,108,145,192,241,300,361,432,505,588,673,768,865,972,1081,1200,1321,1452,1585,1728 ⋆ a(n) = n-th concentric 12-gonal number. • a(n) = 3 * n ^ 2 + (- 1) ^ n - 1. • a(n) = - a(n - 1) + 6 * n ^ 2 - 6 * n + 1. (End) • a(n) = sum _{ k=1..n } (2 * (- 1) ^ (n - k + 1) + 3 * (2 * k - 1)), n >0, a(0) = 0. - _ L. Edson Jeffery _ , Sep 14 2014 •

[A280321] • 1,12,25,49,81,121,169,225,289,361,441,529,625,729,841,961,1089,1225,1369,1521,1681,1849,2025,2209,2401 ⋆ Number of 2 X 2 matrices with all elements in {0,..,n} having determinant = n*permanent. • a(n + 1) = (((n - 2) * a(n)) / (n - 1)) + ((12 * (n) ^ 2 - 12 * (n) + 1) / (n - 1)) for n>=1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. •

[A198274] • 12,25,51,103,207,415,831,1663,3327,6655,13311,26623,53247,106495,212991,425983,851967,1703935,3407871,6815743,13631487,27262975,54525951,109051903,218103807 ⋆ a(n) = 13*2^n-1. • a(n + 1) = 2 * a(n) + 1. •

[A292493] • 1,1,12,25,61,266,963,3053,10220,35413,120345,405682,1376119,4676201,15859212,53768225,182400581,618792826,2098887003,7119249973,24149097580,81915342653,277858469505,942504046562,3197013067439 ⋆ p-INVERT of the odd positive integers, where p(S) = 1 + S - 3 S^2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) + 11 * a(n - 3) + a(n - 4) for n >= 5. •

[A041284] • 12,25,112,249,6088,12425,55788,124001,3031812,6187625,27782312,61752249,1509836288,3081424825,13835535588,30752496001,751895439612,1534543375225,6890068940512,15314681256249 ⋆ Numerators of continued fraction convergents to sqrt(155). • a(n) = 498 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A171069] • 0,1,1,12,25,169,480,2521,8425,38988,142129,615889,2352000,9845809,38543569,158429388,628446025,2558296441,10219534560,41389108489,165953373625,670283913612,2692893971041,10860865199521,43679923392000 ⋆ G.f. -x*(x-1)*(1+x)/(1-x-12*x^2-x^3+x^4). • a(n)= + a(n - 1) + 12 * a(n - 2) + a(n - 3) - a(n - 4). •

[A041286] • 12,25,612,1249,30588,62425,1528788,3120001,76408812,155937625,3818911812,7793761249,190869181788,389532124825,9539640177588,19468812480001,476791139697612,973051091875225,23830017344703012 ⋆ Numerators of continued fraction convergents to sqrt(156). • a(n) = 50 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A184826] • 12,26,40,53,67,81,96,109,123,137,150,164,179,192,205,219,233,246,261,275,289,302,316,330,344 ⋆ a(n) = n + floor(n*t) + floor(n*t^2) + floor(n*t^3) where t is the tetranacci constant. • a(n) = n + floor(n * q / p) + floor(n * r / p) + floor(n * s / p), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, and t is the tetranacci constant. •

[A119412] • 0,12,26,42,60,80,102,126,152,180,210,242,276,312,350,390,432,476,522,570,620,672,726,782,840 ⋆ a(n) = n*(n+11). • a(n) = 2 * a(n - 1) - a(n - 2) + 2 with a(0)=0, a(1)=12. - _ Vincenzo Librandi _ , Aug 01 2010 •

[A105814] • 12,26,42,60,80,102,126,152,180,1110,1232,1356,1482,1610,1740,1872,2006,2142,2280,2420,2562,2706,2852,3000,3150 ⋆ a(n) = n^2 + (n concatenated with n). • a(n) = n ^ 2 + n * (1 + 10 ^ (1 + floor(log _ 10(n)))). - _ Robert Israel _ , Jul 30 2015 •

[A151542] • 0,12,27,45,66,90,117,147,180,216,255,297,342,390,441,495,552,612,675,741,810,882,957,1035,1116 ⋆ Generalized pentagonal numbers: a(n) = 12*n + 3*n*(n-1)/2. • a(n) = a(n - 1) + 3 * n + 9 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * n * (n + 7) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A184838] • 12,28,42,58,72,88,103,117,132,147,162,178,192,208,221,237,252,267,282,297,312,328,341,357,371 ⋆ a(n) = n + floor(n*t) + floor(n*t^2) + floor(n*t^3) + floor(n/t), where t is the pentanacci constant. • a(n) = n + floor(n * p / q) + floor(n * r / q) + floor(n * s / q) + floor(n * u / q), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, u=t ^ 5, and t is the pentanacci constant. •

[A097427] • 12,28,78,153,380,530,907,1134,1661,2642,3019,4300,5281,5808,6939,8824,10935,11689,14102,15836,16741,19606,21642,24884,29559 ⋆ Integer part of the area of circles with prime radii. • a(n) = floor(Pi * prime(n) ^ 2). - _ Michel Marcus _ , Mar 11 2015 •

[A019557] • 1,12,30,48,66,84,102,120,138,156,174,192,210,228,246,264,282,300,318,336,354,372,390,408,426 ⋆ Coordination sequence for G_2 lattice. • a(n) = 18 * n - 6, n >= 1; G.f.: (1 + 10 * x + 7 * x ^ 2) / (1 - x) ^ 2. •

[A131874] • 1,12,30,55,87,126,172,225,285,352,426,507,595,690,792,901,1017,1140,1270,1407,1551,1702,1860,2025,2197 ⋆ (7n^2 + 15n + 2) / 2. • a(n) = a(n - 1) + 7 * n + 4, (with a(0)=1). - _ Vincenzo Librandi _ , Nov 23 2010 • a(n) = (2 + 15 * n + 7 * n ^ 2) / 2; • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3); •

[A111396] • 0,12,30,55,88,130,182,245,320,408,510,627,760,910,1078,1265,1472,1700,1950,2223,2520,2842,3190,3565,3968 ⋆ a(n) = n(n+7)(n+8)/6. • a(n) = binomial(n + 8,3) - 2 * binomial(n + 8,2). - _ Zerinvary Lajos _ , Nov 25 2006, corrected by _ R. J. Mathar _ , Mar 15 2011 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 27 2012 •

[A120090] • 12,30,56,90,132,154,182,208,234,240,306,340,374,380,408,418,456,462,494,546,552,598,644,650,690 ⋆ Numbers whose square is the perimeter of a primitive Pythagorean triangle. • a(n) = 2 * u * v, where u=sqrt(j / 2) and v=sqrt(j + k) { for coprime pairs(j,k) j>k with odd k such that pairs (u,v) are coprime with v odd } . •

[A280344] • 0,12,30,56,90,132,182,240,306,380,462,552,650,756,870,992,1122,1260,1406,1560,1722,1892,2070,2256,2450 ⋆ Number of 2 X 2 matrices with all elements in {0,...,n} with determinant = permanent^n. • a(n) = (((n - 2) * a(n - 1)) / (n - 4)) - (6 * (3 * (n - 1) + 1) / (n - 4)) for n>=4. • a(n) = 2 + 6 * n + 4 * n ^ 2 for n>0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[**A242371**] • 12,32,40,72,84,128,144,200,220,288,312,392,420,512,544,648,684,800,840,968,1012,1152,1200,1352,1404 ★ Modified eccentric connectivity index of the cycle graph with n vertices, C[n]. • a(n) = 2 * n * (n - 1) if n is odd; and a(n) = 2 * n ^ 2 if n is even (n>2). •

[**A166959**] • 12,32,56,76,100,120,144,164,188,208,232,252,276,296,320,340,364,384,408,428,452,472,496,516,540 ★ Numbers congruent to (12,32) mod 44. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = 22 * n - (- 1) ^ n - 11. •

[**A134582**] • 0,12,32,60,96,140,192,252,320,396,480,572,672,780,896,1020,1152,1292,1440,1596,1760,1932,2112,2300,2496 ★ a(n) = (2*n)^2 - 4. • a(n) = a(n - 1) + 8 * n - 4 (with a(1)=0). - _ Vincenzo Librandi _ , Nov 23 2010 •

[**A081268**] • 1,12,32,61,99,146,202,267,341,424,516,617,727,846,974,1111,1257,1412,1576,1749,1931,2122,2322,2531,2749 ★ Diagonal of triangular spiral in A051682. • a(n) = C(n, 0) + 11C(n, 1) + 9C(n, 2); binomial transform of (1, 11, 9, 0, 0, 0, ...). • a(n) = (9n ^ 2 + 13n + 2) / 2. • a(n) = 9 * n + a(n - 1) + 2 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[**A183682**] • 12,32,80,208,528,1360,3472,8912,22800,58448,149648,383440,982032,2515792,6443920,16507088,42282768,108311120,277442192,710686672,1820455440,4663202128,11945023888,30597832400,78377927952 ★ Number of (n+1) X 3 binary arrays with every 2 X 2 subblock nonsingular. • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(17)) ^ n * (- 19 + 5 * sqrt(17)) + (1 + sqrt(17)) ^ n * (19 + 5 * sqrt(17)))) / sqrt(17). •

[**A194644**] • 12,32,90,256,732,2102,6060,17536,50922,148352,433500,1270246,3731532,10987232,32418810,95835136,283784412,841611542,2499330540,7431221056,22118855562,65898914432,196498594140,586358987206,1750864725132 ★ Number of ways to place 2n nonattacking kings on a 4 X 2n cylindrical chessboard. • a(n) = 2 * 3 ^ n + 2 * ((3 + sqrt(5)) / 2) ^ n + 2 * ((3 - sqrt(5)) / 2) ^ n. •

[**A102091**] • 12,32,108,392,1452,5408,20172,75272,280908,1048352,3912492,14601608,54493932,203374112,759002508,2832635912,10571541132,3945352860 8,147242573292,549516764552,2050824484908,7653781175072,2856430021537 2,106603419686408,397849378530252 ★ Number of perfect matchings in the C_{2n} X P_3 graph (C_{2n} is the cycle graph on 2n vertices and P_3 is the path graph on 3 vertices). • a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3) with a(1)=12, a(2)=32 and a(3)=108. • a(n) = 2 * (2 + (2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n). - _ Colin Barker _ , Nov 03 2016 •

[**A063296**] • 1,12,33,55,77,99,121,143,165,187,209,229,253,275,297,317,341,361,385,405,429,449,473,491,517 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(23). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n> 13. •

[**A051624**] • 0,1,12,33,64,105,156,217,288,369,460,561,672,793,924,1065,1216,1377,1548,1729,1920,2121,2332,2553,2784 ★ 12-gonal (or dodecagonal) numbers: a(n) = n*(5*n-4). • a(n) = Sum _{ k=0..n - 1 } 10 * k + 1. - _ Klaus Brockhaus _ , Nov 20 2008 • a(n) = 10 * n + a(n - 1) - 9 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(10 * a(n) + 46 * n + 1) = a(10 * a(n) + 46 * n) + a(10 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(0)=0, a(1)=1, a(2)=12. - _ G. C. Greubel _ , Jul 31 2015 •

[**A118337**] • 0,12,33,69,133,252,460,832,1525,2737,4905,8944,16008,28644,52185,93357,167005,304212,544180,973432,1773133,3171769,5673633,10334632,18486480 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2 + (x + 23)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 46 for n > 6; a(1)=0, a(2)=12, a(3)=33, a(4)=69, a(5)=133, a(6)=252. •

[**A117476**] • 12,33,133,252,832,1525,4905,8944,28644,52185,167005,304212,973432,1773133,5673633,10334632,33068412,60234705,192736885,351073644,1123352944,2046207205,6547380825,11926169632,38160932052 ★ The values of a in a^2 + b^2 = c^2 where b - a = 23 and gcd(a,b,c)=1. • a(1)=12, a(2)=33, a(3)=133, a(4)=252, a(n) = 6 * a(n - 2) - a(n - 4) + 46. •

[**A069125**] • 1,12,34,67,111,166,232,309,397,496,606,727,859,1002,1156,1321,1497,1684,1882,2091,2311,2542,2784,3037,3301 ★ a(n) = (11*n^2 - 11*n + 2)/2. • a(n) = 1 + sum _{ j=0..n - 1 } (11 * j). - Xavier Acloque, Oct 22 2003 • a(n) = 11 * n + a(n - 1) - 11 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=12, a(2)=34, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 25 2011 •

[**A142245**] • 0,12,34,68,124,214,360,596,978,1596,2596,4214,6832,11068,17922,29012,46956,75990,122968,198980,321970,520972,842964,1363958,2206944 ★ Expansion of 2*x*(6 + 5*x) / ((1 - x)*(1 - x - x^2)). • a(n) = (1 / 5) * (- 110 + (55 - 23 * sqrt(5)) * ((1 - sqrt(5)) / 2) ^ n + ((1 + sqrt(5)) / 2) ^ n * (55 + 23 * sqrt(5))). - _ Colin Barker _ , Nov 13 2017 •

[**A139635**] • 1,12,34,78,166,342,694,1398,2806,5622,11254,22518,45046,90102,180214,360438,720886,1441782,2883574,5767158,11534326,23068662,46137334,92274678,184549366 ★ Binomial transform of [1, 11, 11, 11,...]. • a(n) = 11 * 2 ^ (n - 1) - 10. - _ Emeric Deutsch _ , May 03 2008 • a(n) = 2 * a(n - 1) + 10, with n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 24 2010] • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: x * (9 * x + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Mar 11 2014 •

[**A199114**] • 12,34,100,298,892,2674,8020,24058,72172,216514,649540,1948618,5845852,17537554,52612660,157837978,473513932,1420541794,4261625380,12784876138,38354628412,115063885234,345191655700,1035574967098,3106724901292 ★ 11*3^n+1. • a(n) = 3 * a(n - 1) - 2. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[**A083101**] • 1,12,34,188,716,3312,13784,60688,259216,1125312,4842784,20938688,90305216,389997312,1683046784,7266066688,31362601216,135385869312,584397750784,2522654194688,10889285897216,47005113741312 ★ a(n) = 2*a(n-1) + 10*a(n-2). • a(n) = (1 / 2) * (1 + sqrt(11)) ^ n - (1 / 2) * sqrt(11) * (1 - sqrt(11)) ^ n + (1 / 2) * (1 - sqrt(11)) ^ n + (1 / 2) * (1 + sqrt(11)) ^ n * sqrt(11), with n >= 0. - _ Paolo P. Lava _ , Jun 10 2008 •

[**A133294**] • 1,1,12,34,188,716,3312,13784,60688,259216,1125312,4842784,20938688,90305216,389997312,1683046784,7266066688,31362601216,135385869312,584397750784,2522654194688,10889285897216,47005113741312 ★ a(n) = 2*a(n-1) + 10*a(n-2), a(0)=1, a(1)=1 . • a(n) = (1 / 2) * (1 + sqrt(11)) ^ n + (1 / 2) * (1 - sqrt(11)) ^ n. - _ Paolo P. Lava _ , Jun 10 2008 •

[**A280364**] • 0,12,35,56,99,132,195,240,323,380,483,552,675,756,899,992,1155,1260,1443,1560,1763,1892,2115,2256,2499 ★ Number of 2 X 2 matrices with all elements in {0,...,n} with permanent = determinant^n. • a(n - 1) = (((- 2 * (n - 1) - 1) * a(n - 1)) / (2 * (n - 1) - 1)) + 8 * (n - 1) ^ 2 + 10 * (n - 1) + 3 for n>=2, with a(0)=0. • a(n) = 4 * n ^ 2 + 8 * n + 3 for n>0 and even. • a(n) = 4 * n ^ 2 + 6 * n + 2 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[**A033570**] • 1,12,35,70,117,176,247,330,425,532,651,782,925,1080,1247,1426,1617,1820,2035,2262,2501,2752,3015,3290,3577 ★ Pentagonal numbers with odd index: a(n) = (2*n+1)*(3*n+1). • a(n) = a(n - 1) + 12 * n - 1 for n>0, a(0)=1. - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = Sum _{ i=1..2 * (n + 1) - 1 } 4 * (n + 1) - 2 - i. - _ Wesley Ivan Hurt _ , Mar 18 2014 •

[**A163661**] • 0,12,35,75,138,230,357,525,740,1008,1335,1727,2190,2730,3353,4065,4872,5780,6795,7923,9170,10542,12045,13685,15468 ★ a(n) = n*(2*n^2 +5*n +17)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A142074**] • 12,35,81,147,213,321,411,477,589,677,783,873,987,1113,1179,1257,1447,1539,1667,1797,1909,2001,2127,2201,2457 ★ Prime number superposition a(n) = 10*A008578(2n-1) + A008578(2n). • a(n) = 10 * prime(2n - 2) + prime(2n - 1), n>1. •

[**A195858**] • 1,12,35,83,183,391,823,1719,3575,7415,15351,31735,65527,135159,278519,573431,1179639,2424823,4980727,10223607,20971511,42991607,88080375,180355063,369098743 ★ a(n) = T(10, n), array T given by A047858 • a(n) = 2 ^ (n - 1) * (n + 20) - 9. • a(0)=1, a(1)=12, a(2)=35, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3). •

[**A063298**] • 1,12,36,59,82,105,128,151,174,197,220,244,266,289,312,336,358,382,404,428,450,474,496,521,542 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(25). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n> 13. •

[**A073762**] • 12,36,60,84,108,132,156,180,204,228,252,276,300,324,348,372,396,420,444,468,492,516,540,564,588 ★ a(n) = 24*n - 12. • a(n) = 24n - 12. - _ Max Alekseyev _ , Mar 03 2007 •

[**A049598**] • 0,12,36,72,120,180,252,336,432,540,660,792,936,1092,1260,1440,1632,1836,2052,2280,2520,2772,3036,3312,3600 ★ 12 times triangular numbers. • a(n) = 6 * n * (n + 1). • a(n) = 12 * n + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Aug 06 2010 •

[**A152135**] • 12,36,74,134,216,328,470,650,868,1132,1442,1806,2224,2704,3246,3858,4540,5300,6138,7062,8072,9176,10374,11674,13076 ★ Maximal length of rook tour on an n X n+4 board. • a(n) = + 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). a(n) = 19 * n / 3 + 3 / 2 + 2 * n ^ 3 / 3 + 4 * n ^ 2 + (- 1) ^ n / 2. [From _ R. J. Mathar _ , May 13 2010] •

[**A212963**] • 0,0,0,12,36,84,156,264,408,600,840,1140,1500,1932,2436,3024,3696,4464,5328,6300,7380,8580,9900,11352,12936 ★ Number of (w,x,y) with all terms in {0,...,n} and |w-x|!=|x-y|!=|y-z|. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[**A172218**] • 1,12,36,100,213,408,712,1148,1745,2528,3524,4760,6263,8060,10178,12644,15485,18728,22400,26528,31139,36260,41918,48140,54953 ★ Number of ways to place 3 nonattacking nightriders on a 3 X n board. • a(n) = (9n ^ 3 - 57n ^ 2 + 210n - 344) / 2, n>=8. •

[**A172212**] • 1,12,36,100,233,456,796,1280,1935,2788,3866,5196,6805,8720,10968,13576,16571,19980,23830,28148,32961,38296,44180,50640,57703 ★ Number of ways to place 3 nonattacking knights on a 3 X n board. • a(n) = (9n ^ 3 - 45n ^ 2 + 122n - 144) / 2, n>=4. •

[**A005892**] • 1,12,37,76,129,196,277,372,481,604,741,892,1057,1236,1429,1636,1857,2092,2341,2604,2881,3172,3477,3796,4129 ★ Truncated square numbers: 7*n^2 + 4*n + 1. • a(n) = a(n - 1) + 14 * n - 3 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 18 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A266398**] • 0,0,12,37,76,130,200,287,392,516,660,825,1012,1222,1456,1715,2000,2312,2652,3021,3420,3850,4312,4807,5336 ★ Number of orbits of Aut(Z^7) as function of the infinity norm n of the representative lattice point of the orbit, when the cardinality of the orbit is equal to 13440. • a(n) = (n ^ 3 + 30 * n ^ 2 - 97 * n + 66) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[**A041278**] • 12,37,900,2737,66588,202501,4926612,14982337,364502700,1108490437,26968273188,82013310001,1995287713212,6067876449637,147624322504500,448940843963137,10922204577619788,33215554576822501,808095514421359812,2457502097840901937 ★ Numerators of continued fraction convergents to sqrt(152). • a(0)=12, a(1)=37, a(2)=900, a(3)=2737; for n>3, a(n)=74 * a(n - 2) - a(n - 4). [_ Harvey P. Dale _ , May 19 2011] •

[**A212510**] • 0,0,0,0,12,38,81,185,336,549,900,1365,1944,2794,3822,5070,6720,8680,10935,13821,17100,20853,25410,30569,36288 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y>3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[**A213490**] • 0,0,0,0,0,12,38,92,160,286,422,632,870,1194,1542,2010,2502,3126,3788,4598,5446,6472,7532,8786,10092 ★ Number of (w,x,y) with all terms in {0,...,n} and the numbers w,x,y,|w-x|,|x-y| distinct. • a(n) = a(n - 1) + a(n - 2) - 2 * a(n - 5) + a(n - 8) + a(n - 9) - a(n - 10). •

[A154266] • 12,39,66,93,120,147,174,201,228,255,282,309,336,363,390,417,444,471,498,525,552,579,606,633,660 ⋆ a(n) = 27*n + 12. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 02 2012 •

[A236267] • 1,12,39,82,141,216,307,414,537,676,831,1002,1189,1392,1611,1846,2097,2364,2647,2946,3261,3592,3939,4302,4681 ⋆ a(n) = 8n^2 + 3n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Jan 21 2014 •

[A033586] • 0,12,40,84,144,220,312,420,544,684,840,1012,1200,1404,1624,1860,2112,2380,2664,2964,3280,3612,3960,4324,4704 ⋆ a(n) = 4*n*(2*n + 1). • a(n) = 16 * n + a(n - 1) - 4 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 05 2010 • a(0)=0, a(1)=12, a(2)=40, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. - _ Harvey P. Dale _ , May 10 2011 • a(n) = Sum _{ i=3n..5n } i. •

[A211786] • 1,12,40,96,187,324,514,768,1093,1500,1996,2592,3295,4116,5062,6144,7369,8748,10288,12000,13891,15972,18250,20736,23437 ⋆ n^3 + floor(n^3/2). • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). • a(n) = floor(3 * n ^ 3 / 2) = (6 * n ^ 3 + (- 1) ^ n - 1) / 4. [_ Bruno Berselli _ , May 06 2012] •

[A228203] • 12,40,220,768,14808,51700,285520,996852,19220772,67106560,370604740,1293913128,24948547248,87104263180,481044667000,1679498243292,32383195107132,113061266501080,624395607161260,2179987425879888,42033362300510088,146753436814138660 ⋆ x-values in the solution to x^2 - 13y^2 = 27. • a(n) = 1298 * a(n - 4) - a(n - 8). •

[A270700] • 12,42,78,114,150,186,222,258,294,330,366,402,438,474,510,546,582,618,654,690,726,762,798,834,870 ⋆ Triangular Star of David numbers (the figurate number of triangles framing a hexagram: a(0) = 12; thereafter a(n) = 36*n+6). • a(0) = 12; thereafter, a(n) = 36 * n + 6. • a(n) = 2 * a(n - 1) - a(n - 2) for n>2. - _ Colin Barker _ , Mar 22 2016 •

[A045945] • 0,12,42,90,156,240,342,462,600,756,930,1122,1332,1560,1806,2070,2352,2652,2970,3306,3660,4032,4422,4830,5256 ⋆ Hexagonal matchstick numbers: a(n) = 3*n(3*n+1). • a(n) = a(n - 1) + 6 * (3 * n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 18 2010 •

[A009948] • 1,12,42,96,170,264,378,516,674,852,1050,1272,1514,1776,2058,2364,2690,3036,3402,3792,4202,4632,5082,5556,6050 ⋆ Coordination sequence for alpha-Nd, Position Nd1. • a(n) = (5 - (- 1) ^ n + 2 * (- i) ^ n + 2 * i ^ n + 42 * n ^ 2) / 4 for n>0, where i=sqrt(- 1). • a(n) = 2 * a(n - 1) - a(n - 2) + a(n - 4) - 2 * a(n - 5) + a(n - 6) for n>6. •

[A193068] • 12,42,98,188,320,502,742,1048,1428,1890,2442,3092,3848,4718,5710,6832,8092,9498,11058,12780,14672,16742,18998,21448,24100 ⋆ Generating primitive Pythagorean triangles by using (n, n+1) gives perimeters for each n. This sequence list the sum of these perimeters for each n triangles. • a(n) = n * (4 * n ^ 2 + 15 * n + 17) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 04 2012 •

[A007586] • 0,1,12,42,100,195,336,532,792,1125,1540,2046,2652,3367,4200,5160,6256,7497,8892,10450,12180,14091,16192,18492,21000 ⋆ 11-gonal (or hendecagonal) pyramidal numbers: n(n+1)(3n-2)/2. • a(0)=0, a(1)=1, a(2)=12, a(3)=42; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Apr 09 2012 • a(n) = sum((n - i) * (9 * i + 1), i=0..n - 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 •

[A228391] • 1,12,42,100,196,339,538,804,1145,1570,2090,2714,3451,4310,5301,6433,7717,9160,10774,12566,14547,16725,19111,21714,24543 ⋆ Volume of elliptic cone (rounded down) with semi-minor axis = height = n and semi-major axis = 3*n/2. • a(n) = floor(Pi * n ^ 3 / 2). •

[A122973] • 1,12,42,162,642,2562,10242,40962,163842,655362,2621442,10485762,41943042,167772162,671088642,2684354562,10737418242,42949672962,171798691842,687194767362,2748779069442,10995116277762,43980465111042,175921860444162,703687441776642 ⋆ Number of vertices on the surface of an icosahedron. • a(n) = 1 if n=0, 10 * 4 ^ (n - 1) + 2 otherwise. •

[A074356] • 0,0,0,0,12,42,180,561,1833,5373,15798,44367,123561,336243,906054,2408094,6344832,16561824,42922602,110472933,282678423,719404803,1822117962,4594816221,11540742615 ⋆ Coefficient of q^2 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(1,3). • a(n) = 3 * a(n - 1) + 6 * a(n - 2) - 17 * a(n - 3) - 18 * a(n - 4) + 27 * a(n - 5) + 27 * a(n - 6) for n>7. •

[A007899] • 1,12,44,96,170,264,380,516,674,852,1052,1272,1514,1776,2060,2364,2690,3036,3404,3792,4202,4632,5084,5556,6050 ⋆ Coordination sequence for hexagonal close-packing. • a(n) = floor(21 * n ^ 2 / 2) + 2, for n>= 1. • a(0)=1, a(1)=12, a(2)=44, a(3)=96, a(4)=170, a(n)=2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). - _ Harvey P. Dale _ , Feb 15 2014 •

[A100156] • 1,12,44,108,215,376,602,904,1293,1780,2376,3092,3939,4928,6070,7376,8857,10524,12388,14460,16751,19272,22034,25048,28325 ⋆ Structured truncated tetrahedral numbers. • a(n) = (1 / 6) * (11 * n ^ 3 - 3 * n ^ 2 - 2 * n). • a(0)=1, a(1)=12, a(2)=44, a(3)=108, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: x * (2 * x * (x + 4) + 1) / (x - 1) ^ 4. - Harvey P. Dale, Sep 28 2011 •

[A015237] • 0,1,12,45,112,225,396,637,960,1377,1900,2541,3312,4225,5292,6525,7936,9537,11340,13357,15600,18081,20812,23805,27072 ⋆ a(n) = (2*n - 1)*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 12, a(0)=1, a(1)=1, a(2)=12. - _ G. C. Greubel _ , Jul 31 2015 • a(n) = Sum _{ i=0..n - 1 } n * (4 * i + 1) for n>0. - _ Bruno Berselli _ , Sep 08 2015 • a(n) = Sum _{ i=n ^ 2 - n + 1..n ^ 2 + n - 1 } i. - _ Wesley Ivan Hurt _ , Dec 27 2016 •

[A199211] • 12,45,177,705,2817,11265,45057,180225,720897,2883585,11534337,46137345,184549377,738197505,2952790017,11811160065,47244640257,188978561025,755914244097,3023656976385,12094627905537,48378511622145 ⋆ 11*4^n+1. • a(n) = 4 * a(n - 1) - 3. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A100183] • 1,12,46,116,235,416,672,1016,1461,2020,2706,3532,4511,5656,6980,8496,10217,12156,14326,16740,19411,22352,25576,29096,32925 ⋆ Structured hexagonal anti-prism numbers. • a(n)=(1 / 6) * (13 * n ^ 3 - 9 * n ^ 2 + 2 * n) [Corrected by Luca Colucci, Mar 01 2011] •

[A022281] • 0,12,47,105,186,290,417,567,740,936,1155,1397,1662,1950,2261,2595,2952,3332,3735,4161,4610,5082,5577,6095,6636 ⋆ a(n) = n*(23*n + 1)/2. • a(n) = 23 * n + a(n - 1) - 11 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 •

[A244803] • 1,12,47,106,189,296,427,582,761,964,1191,1442,1717,2016,2339,2686,3057,3452,3871,4314,4781,5272,5787,6326,6889 ⋆ The 360º spoke (or ray) of a hexagonal spiral of Ulam. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A024183] • 12,47,119,245,445,742,1162,1734,2490,3465,4697,6227,8099,10360,13060,16252,19992,24339,29355,35105,41657,49082,57454,66850,77350 ⋆ Second elementary symmetric function of 3,4,...,n+3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Colin Barker _ , Aug 15 2014 •

[A051673] • 0,1,12,47,120,245,436,707,1072,1545,2140,2871,3752,4797,6020,7435,9056,10897,12972,15295,17880,20741,23892,27347,31120 ⋆ Cubic star numbers: a(n) = n^3 + 4*Sum_{i=0..n-1} i^2. • a(n) = n * (n * (7 * n - 6) + 2) / 3. • a(0)=0, a(1)=1, a(2)=12, a(3)=47, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jul 22 2011 •

[A213493] • 0,0,0,0,0,0,12,48,96,204,300,480,684,972,1260,1692,2124,2700,3288,4044,4812,5784,6744,7932,9144 ⋆ Number of (w,x,y) with all terms in {0,...,n} and the numbers w,x,y,|w-x|,|x-y|,|y-w| distinct. • a(n) = a(n - 1) + a(n - 2) - 2a(n - 5) + a(n - 8) + a(n - 9) - a(n - 10). •

[A135453] • 0,12,48,108,192,300,432,588,768,972,1200,1452,1728,2028,2352,2700,3072,3468,3888,4332,4800,5292,5808,6348,6912 ⋆ a(n) = 12*n^2. • a(n) = a(n - 1) + 24 * n - 12, n>0. - _ Vincenzo Librandi _ , Nov 24 2010 •

[A280058] • 0,0,0,12,48,120,240,420,672,1008,1440,1980,2640,3432,4368,5460,6720,8160,9792,11628,13680,15960,18480,21252,24288 ⋆ Number of 2 X 2 matrices with entries in {0,1,...,n} with determinant = permanent with no entries repeated. • a(n) = 2 * ((n + 1) ^ 3 - 6 * (n + 1) ^ 2 + 11 * (n + 1) - 6), for n>0. • a(n) == 12 (mod 12). • a(n) = 2 * n * (n - 1) * (n - 2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). (End) •

[A006564] • 1,12,48,124,255,456,742,1128,1629,2260,3036,3972,5083,6384,7890,9616,11577,13788,16264,19020,22071,25432,29118,33144,37525 ⋆ Icosahedral numbers: a(n) = n*(5*n^2 - 5*n + 2)/2. • a(n) = C(n + 2,3) + 8 * C(n + 1, 3) + 6 * C(n,3). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) with a(0)=1, a(1)=12, a(2)=48, a(3)=124. - _ Harvey P. Dale _ , May 26 2011 •

[A239352] • 0,0,1,12,48,130,285,546,952,1548,2385,3520,5016,6942,9373,12390,16080,20536,25857,32148,39520,48090,57981,69322,82248 ⋆ van Heijst's upper bound on the number of squares inscribed by a real algebraic curve in R^2 of degree n, if the number is finite. • a(n) = (n ^ 4 - 5n ^ 2 + 4n) / 4 = n * (n - 1) * (n ^ 2 + n - 4) / 4, which shows the formula is an integer. •

[A292022] • 12,48,132,288,540,912,1428,2112,2988,4080,5412,7008,8892,11088,13620,16512,19788,23472,27588,32160,37212,42768,48852,55488,62700 ⋆ a(n) = 4n(n^2+2). • a(n) = 4 * n * (n ^ 2 + 2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A059162] • 12,48,144,384,960,2304,5376,12288,27648,61440,135168,294912,638976,1376256,2949120,6291456,13369344,28311552,59768832,125829120,264241152,553648128,1157627904,2415919104,5033164800 ⋆ A hierarchical sequence (S(W'2{3}*c) - see A059126). • a(n) = 3 * (2 ^ (2 + n) * (1 + n)). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>1. •

[A161171] • 0,0,12,48,174,238,318,414,526,654,798,958,1134,1326,1534 ⋆ Erroneous version of A035008. • a(n)= 8 (n - 4) ^ 2 + (n - 2) 16 + 46 + (n - 2) 24 for n > 4 •

[A221908] • 1,12,48,234,1320,7806,46692,279978,1679664,10077750,60466236,362797122,2176782408,13060694094,78364164180,470184984666,2821109907552,16926659444838,101559956668524,609359740010610 ⋆ 6^n + 6*n. • a(n) = 8 * a(n - 1) - 13 * a(n - 2) + 6 * a(n - 3). •

[A242026] • 0,12,48,240,960,4032,16128,65280,261120,1047552,4190208,16773120,67092480,268419072,1073676288,4294901760,17179607040,68719214592,274876858368,1099510579200,4398042316800,17592181850112,70368727400448,281474959933440,1125899839733760 ⋆ Number of non-palindromic n-tuples of 4 distinct elements. • a(n) = 2 ^ (n - 1) * (2 ^ (n + 1) + (- 1) ^ n - 3). • a(n) = 4 * a(n - 1) + 4 * a(n - 2) - 16 * a(n - 3). - _ Colin Barker _ , Aug 12 2014 •

[A077612] • 0,0,0,12,48,720,4320,60480,483840,7257600,72576000,1197504000,14370048000,261534873600,3661488230400,73229764608000,1171676233728000,25609494822912000,460970906812416000 ⋆ Number of adjacent pairs of form (even,even) among all permutations of {1,2,...,n}. • a(n) = floor(n / 2) * floor (n / 2 - 1) * (n - 1)!. Proof: There are floor(n / 2) * floor(n / 2 - 1) pairs (r, s) with r and s even and distinct. For each pair, there are n - 1 places it can occur in a permutation and (n - 2)! possible arrangements of the other numbers. •

[A022282] • 0,12,49,111,198,310,447,609,796,1008,1245,1507,1794,2106,2443,2805,3192,3604,4041,4503,4990,5502,6039,6601,7188 ⋆ a(n) = n*(25*n - 1)/2. • a(n) = 25 * n + a(n - 1) - 13 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 •

[A218832] • 0,1,12,49,132,289,552,961,1560,2401,3540,5041,6972,9409,12432,16129,20592,25921,32220,39601,48180,58081,69432,82369,97032 ⋆ Number of positive integer solutions to the Diophantine equation x + y + 2z = n^2. • a(n) = floor(n ^ 4 / 4 - n ^ 2 + 1). •

[A288516] • 1,12,49,146,373,872,1929,4118,8589,17644,35889,72538,146021,293200,587801,1177278,2356541,4715412,9433537,18870210,37744021,75492152,150988969,301983206,603972333 ⋆ Number of (undirected) paths in the ladder graph P_2 X P_n. • a(n) = 18 * (2 ^ n - 1) - n * (n ^ 2 + 9 * n + 41) / 3. - _ Eric W. Weisstein _ , Jun 30 2017 • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) for n > 5. • a(n) = 18 * (2 ^ n - 1) - (41 * n) / 3 - 3 * n ^ 2 - n ^ 3 / 3. - _ Colin Barker _ , Jun 11 2017 •

[A041274] • 12,49,1188,4801,116412,470449,11407188,46099201,1117788012,4517251249,109531817988,442644523201,10733000374812,43374646022449,1051724504913588,4250272665676801,103058268481156812,416483346590304049 ⋆ Numerators of continued fraction convergents to sqrt(150). • a(n) = 9602 * a(n - 4) - a(n - 8) = 98 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ and _ Bruno Berselli _ , Nov 01 2013 •

[A110907] • 1,12,50,108,194,300,434,588,770,972,1202,1452,1730,2028,2354,2700,3074,3468,3890,4332,4802,5292,5810,6348,6914 ⋆ Number of points in the standard root system version of the D_3 (or f.c.c.) lattice having L_infinity norm n. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4), n>4. • a(n) = 1 + (- 1) ^ n + 12 * n ^ 2, n>0. •

[A009930] • 1,12,50,110,216,356,528,704,968,1230,1514,1838,2276,2562,3074,3540,3998,4490,5244,5570,6374,7052,7662,8300,9438 ⋆ Coordination sequence for MgCu2, Cu position. • a(n) = - 3 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 6 * a(n - 4) + 11 * a(n - 5) + 9 * a(n - 6) - 9 * a(n - 8) - 11 * a(n - 9) - 6 * a(n - 10) + a(n - 11) + 4 * a(n - 12) + 3 * a(n - 13) + a(n - 14) for n>15. •

[A066644] • 12,50,113,201,314,452,615,804,1017,1256,1520,1809,2123,2463,2827,3216,3631,4071,4536,5026,5541,6082,6647,7238,7853 ⋆ a(n) = floor(surface area of a sphere with radius n). • a(n) = floor(4 * Pi * n ^ 2). •

[A063491] • 1,12,50,133,279,506,832,1275,1853,2584,3486,4577,5875,7398,9164,11191,13497,16100,19018,22269,25871,29842,34200,38963,44149 ⋆ a(n) = (2*n - 1)*(3*n^2 - 3*n + 2)/2. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) n > 3, a(1)=1, a(2)=12, a(3)=50, a(4)=133. - _ Yosu Yurramendi _ , Sep 04 2013 •

[A083559] • 1,12,50,134,280,507,834,1277,1855,2586,3489,4580,5878,7401,9168,11195,13501,16104,19023,22274,25876,29847,34206,38969,44155 ⋆ Nearest integer to 1/sum(k>=n,1/k^4). • a(n) = floor(3 * n ^ 3 - 9 / 2 * n ^ 2 + 15 / 4 * n - 3 / 4) for n>3. •

[A051797] • 1,12,50,140,315,616,1092,1800,2805,4180,6006,8372,11375,15120,19720,25296,31977,39900,49210,60060,72611,87032,103500,122200,143325 ⋆ Partial sums of A007585. • a(n) = C(n + 3,3) * (2 * n + 1) = (n + 1) * (n + 2) * (n + 3) * (2 * n + 1) / 6. •

[A268351] • 0,12,51,117,210,330,477,651,852,1080,1335,1617,1926,2262,2625,3015,3432,3876,4347,4845,5370,5922,6501,7107,7740 ⋆ a(n) = 3*n*(9*n - 1)/2. • a(n) = binomial(9 * n,2) / 3. •

[A200887] • 12,51,144,325,636,1127,1856,2889,4300,6171,8592,11661,15484,20175,25856,32657,40716,50179,61200,73941,88572,105271,124224,145625,169676 ⋆ Number of 0..n arrays x(0..3) of 4 elements without any interior element greater than both neighbors. • a(n) = (1 + n) ^ 2 * (3 + 5 * n + n ^ 2) / 3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[A236770] • 0,1,12,51,145,330,651,1162,1926,3015,4510,6501,9087,12376,16485,21540,27676,35037,43776,54055,66045,79926,95887,114126,134850 ⋆ a(n) = n*(n + 1)*(3*n^2 + 3*n - 2)/8. • a(n) = a(- n - 1) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A054410] • 1,12,52,148,328,620,1052,1652,2448,3468,4740,6292,8152,10348,12908,15860,19232,23052,27348,32148,37480,43372,49852,56948,64688 ⋆ Susceptibility series H_3 for 2-dimensional Ising model (divided by 2). • a(n) = 2 * (n * (11 + 7 * n ^ 2)) / 3 for n>0. • a(0)=1, a(1)=12, a(2)=52, a(3)=148, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A185355] • 0,1,12,52,150,345,686,1232,2052,3225,4840,6996,9802,13377,17850,23360,30056,38097,47652,58900,72030,87241,104742,124752,147500 ⋆ Number of n X n symmetric (0,1)-matrices containing four ones. • a(n) = Sum _{ k=0..2 } C(C(n,2),k) * C(n,4 - 2 * k). • a(n) = n ^ 2 * (n - 1) * (5 * n - 7) / 12. •

[A213549] • 1,12,53,155,360,721,1302,2178,3435,5170,7491,10517,14378,19215,25180,32436,41157,51528,63745,78015,94556,113597,135378,160150,188175 ⋆ Principal diagonal of the convolution array A213548. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = (11 * n ^ 4 + 14 * n ^ 3 + n ^ 2 - 2 * n) / 24 = n * (n + 1) * (11 * n ^ 2 + 3 * n - 2) / 24. •

[A060785] • 0,12,54,126,228,360,522,714,936,1188,1470,1782,2124,2496,2898,3330,3792,4284,4806,5358,5940,6552,7194,7866,8568 ⋆ a(n) = 3*(n-2)*(5*n -11). • a(n) = 30 * n + a(n - 1) - 78 with n>2, a(2)=0. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A059986] • 0,12,54,144,300,540,882,1344,1944,2700,3630,4752,6084,7644,9450,11520,13872,16524,19494,22800,26460,30492,34914,39744,45000 ⋆ Number of rods required to make a 3-D cube of side length n. • a(n) = 3 * n * (n + 1) ^ 2. - Neven Juric (neven.juric(AT)apis - it.hr), Sep 28 2005 • a(n) = a(n - 1) + 9 * n ^ 2 + 3 * n. • a(n) = (n - 1) * t(n + 1) + n * (t(n) + t(n + 1)) + (n + 1) * (t(n - 1) + t(n) + t(n + 1)), where t = A000217. - _ J. M. Bergot _ , May 30 2017 •

[A088941] • 0,12,54,154,349,685,1217,2009,3134,4674,6720,9372,12739,16939,22099,28355,35852,44744,55194,67374,81465,97657,116149,137149,160874 ⋆ a(n)=12*sum(1<=i<=j<=k<=n,i*j/k). • a(n)=(n / 24) * (9 * n ^ 3 + 58 * n ^ 2 + 123 * n + 98). •

[A019582] • 0,0,1,12,54,160,375,756,1372,2304,3645,5500,7986,11232,15379,20580,27000,34816,44217,55404,68590,84000,101871,122452,146004 ⋆ n*(n-1)^3/2. • a(n + 1) = sum(k=0..n, n ^ 2(n - k)) = n ^ 3 * (n + 1) / 2. - _ Paul Barry _ , Sep 02 2003 •

[A143856] • 1,12,55,130,237,376,547,750,985,1252,1551,1882,2245,2640,3067,3526,4017,4540,5095,5682,6301,6952,7635,8350,9097 ⋆ Ulam's spiral (ENE spoke). • a(n) = 16 * n ^ 2 - 37 * n + 22. [From R. J. Mathar, Sep 08 2008] • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 10 2012 •

[A104188] • 0,12,56,132,240,380,552,756,992,1260,1560,1892,2256,2652,3080,3540,4032,4556,5112,5700,6320,6972,7656,8372,9120 ⋆ a(n) = 4n*(4n - 1). • a(n) = (4(n - 1)!) / ((4(n - 1)) - 2)!). • a(n) = 32 * n + a(n - 1) - 20 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A035005] • 0,12,56,152,320,580,952,1456,2112,2940,3960,5192,6656,8372,10360,12640,15232,18156,21432,25080,29120,33572,38456,43792,49600 ⋆ Number of possible queen moves on an n X n chessboard. • a(n) = (n - 1) * 2 * n ^ 2 + (4 * n ^ 3 - 6 * n ^ 2 + 2 * n) / 3. • a(0)=0, a(1)=12, a(2)=56, a(3)=152, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 24 2011 • a(n) = 2 * n * (1 - 6 * n + 5 * n ^ 2) / 3. G.f.: 4 * x ^ 2 * (3 + 2 * x) / (1 - x) ^ 4. - _ Colin Barker _ , Mar 11 2012 •

[A212507] • 0,1,12,56,168,399,810,1480,2496,3965,6000,8736,12312,16891,22638,29744,38400,48825,61236,75880,93000,112871,135762,161976,191808 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y<=2z. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). • a(n) = (2 * n * (9 * n ^ 3 + 6 * n ^ 2 + 1) - (2 * n - 1) * (- 1) ^ n - 1) / 32. [_ Bruno Berselli _ , May 31 2012] •

[A212508] • 0,1,12,56,168,418,837,1554,2640,4209,6375,9373,13176,18161,24402,32110,41472,52948,66339,82384,101100,122801,147741,176665,209088 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y<3z. • a(n)=2a(n - 2) + 2a(n - 3) - a(n - 4) - 4a(n - 5) + 2a(n - 7) - 2a(n - 9) + 4a(n - 11) + a(n - 12) - 2a(n - 13) - 2a(n - 14) + a(n - 16). •

[A035289] • 0,12,56,192,504,1100,2112,3696,6032,9324,13800,19712,27336,36972,48944,63600,81312,102476,127512,156864,191000,230412,275616,327152,385584 ⋆ Number of ways to place a non-attacking white and black knight on n X n chessboard. • a(n) = n ^ 4 - 9 n ^ 2 + 24 n - 16. •

[A199316] • 12,56,276,1376,6876,34376,171876,859376,4296876,21484376,107421876,537109376,2685546876,13427734376,67138671876,335693359376,1678466796876,8392333984376,41961669921876,209808349609376,1049041748046876 ⋆ 11*5^n+1. • a(n) = 5 * a(n - 1) - 4. • a(n) = 6 * a(n - 1) - 5 * a(n - 2). •

[A204674] • 1,12,57,160,345,636,1057,1632,2385,3340,4521,5952,7657,9660,11985,14656,17697,21132,24985,29280,34041,39292,45057,51360,58225 ⋆ 4*n^3 + 5*n^2 + 2*n + 1 • a(n) = (4 * n ^ 2 + n + 1) * (n + 1), cf. A054567. •

[A212682] • 0,1,12,57,168,395,792,1435,2400,3789,5700,8261,11592,15847,21168,27735,35712,45305,56700,70129,85800,103971,124872,148787,175968 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and |x-y|>=|y-z|. • a(n)=3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[A212134] • 0,1,12,57,172,405,816,1477,2472,3897,5860,8481,11892,16237,21672,28365,36496,46257,57852,71497,87420,105861,127072,151317,178872 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and median<=mean. • a(n) = n * (n ^ 3 + 2 * n ^ 2 - 3 * n + 2) / 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A071270] • 0,1,12,57,176,425,876,1617,2752,4401,6700,9801,13872,19097,25676,33825,43776,55777,70092,87001,106800,129801,156332,186737,221376 ⋆ a(n) = n^2*(2*n^2+1)/3. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with n>4, a(0)=0, a(1)=1, a(2)=12, a(3)=57, a(4)=176. [_ Yosu Yurramendi _ , Sep 03 2013] •

[A051877] • 1,12,57,182,462,1008,1974,3564,6039,9724,15015,22386,32396,45696,63036,85272,113373,148428,191653,244398,308154,384560,475410,582660,708435 ⋆ Partial sums of A051740. • a(n) = C(n + 4, 4) * (7n + 5) / 5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * (7 * n + 5) / 120. (End) •

[A121693] • 0,0,1,12,57,216,741,2412,7617,23616,72381,220212,666777,2012616,6062421,18236412,54807537,164619216,494250861,1483539012,4452189897,13359715416,40085437701,120268896012,360831853857 ⋆ Number of deco polyominoes of height n and vertical height 3 (i.e., having 3 rows). • a(n) = 23 * 3 ^ (n - 3) / 2 + 3 / 2 - 3 * 2 ^ (n - 1) for n >= 3. •

[A167533] • 12,59,83,130,154,201,225,272,296,343,367,414,438,485,509,556,580,627,651,698,722,769,793,840,864 ⋆ a(n) = 71*n - a(n-1) for n>0, a(0)=12. • a(n) = (71 / 4) - (23 / 4) * (- 1) ^ n + (71 / 2) * n, with n(0)=12. - _ Paolo P. Lava _ , Nov 10 2009 •

[A158443] • 12,60,140,252,396,572,780,1020,1292,1596,1932,2300,2700,3132,3596,4092,4620,5180,5772,6396,7052,7740,8460,9212,9996 ⋆ 16n^2 - 4. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A153792] • 0,12,60,144,264,420,612,840,1104,1404,1740,2112,2520,2964,3444,3960,4512,5100,5724,6384,7080,7812,8580,9384,10224 ⋆ 12 times pentagonal numbers: a(n) = 6*n*(3*n-1). • a(n) = 36 * n + a(n - 1) - 24 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=12, a(2)=60; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 11 2012 •

[A033486] • 0,12,60,180,420,840,1512,2520,3960,5940,8580,12012,16380,21840,28560,36720,46512,58140,71820,87780,106260,127512,151800,179400,210600 ⋆ a(n) = n*(n+1)*(n+2)*(n+3)/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) with a(0)=0, a(1)=12, a(2)=60, a(3)=180, a(4)=420. - _ Harvey P. Dale _ , Feb 04 2015 •

[**A112415**] ● 12,60,180,420,840,1512,2520,3960,5940,8580,12012,16380,21840,28560,36720,46512,58140,71820,87780,106260,127512,151800,179400,210600,245700 ⋆ C(1+n,1)*C(2+n,1)*C(4+n,2). ● a(0)=12, a(1)=60, a(2)=180, a(3)=420, a(4)=840, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Jul 24 2011] ●

[**A213818**] ● 1,12,60,190,465,966,1792,3060,4905,7480,10956,15522,21385,28770,37920,49096,62577,78660,97660,119910,145761,175582,209760,248700,292825 ⋆ Antidiagonal sums of the convolution array A213773. ● a(n) = (2 * n - n ^ 2 + 3 * n ^ 4) / 4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). ●

[**A004302**] ● 0,1,12,60,200,525,1176,2352,4320,7425,12100,18876,28392,41405,58800,81600,110976,148257,194940,252700,323400,409101,512072,634800,780000 ⋆ a(n) = n^2*(n+1)^2*(n+2)/12. ● a(n) = C(n, 2) * C(n + 1, 3). (End) ● a(n) = 3 * C(n,3) ^ 2 / n, n>= 2. - _ Zerinvary Lajos _ , May 09 2008 ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. - _ Harvey P. Dale _ , Oct 19 2014 ● a(n) = Sum _{ k=0..n } Sum _{ i=0..n } i * C(k + 1,k - 1). - _ Wesley Ivan Hurt _ , Sep 21 2017 ● a(n) = Sum _{ i=0..n } (n + 2) * (n - i) ^ 3 / 3. - _ Bruno Berselli _ , Oct 31 2017 ●

[**A277106**] ● 12,60,204,636,1932,5820,17484,52476,157452,472380,1417164,4251516,12754572,38263740,114791244,344373756,1033121292,3099363900,9298091724,27894275196,83682825612,251048476860,753145430604,2259436291836,6778308875532 ⋆ a(n) = 8*3^n - 12. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2). ●

[**A000554**] ● 12,60,210,630,1736,4536,11430,28050,67452,159588,372554,859950,1965840,4456176,10026702,22412970,49806980,110100060,242220594,530578950,1157627352,2516581800,5452594550,11777604930,25367149836 ⋆ Number of labeled trees of diameter 3 with n nodes. ● a(n) = n(n - 1) * S2(n - 2, 2) where S2(n, k) denotes the Stirling numbers of 2nd kind. - Victor Adamchik (adamchik(AT)cs.cmu.edu), Jul 19 2001 ● a(n) = Sum _{ k=1..n - 3 } binomial(n,2) * binomial(n - 2,k). The sum gives the number of Prüfer sequences with exactly 2 distinct digits. - _ Geoffrey Critzer _ , Sep 17 2016 ● a(n) = (2 ^ n - 8) * (n - 1) * n / 8. - _ Colin Barker _ , Sep 18 2016 ●

[**A120571**] ● 12,60,220,612,1404,2812,5100,8580,13612,20604,30012,42340,58140,78012,102604,132612,168780,211900,262812,322404,391612,471420,562860,667012,785004 ⋆ 2n^4+6n^2+4 = 2(n^2+1)(n^2+2). ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 5. ●

[**A086950**] ● 0,1,12,60,224,720,2112,5824,15360,39168,97280,236544,565248,1331200,3096576,7127040,16252928,36765696,82575360,184287232,408944640,902823936,1983905792,4341104640,9462349824 ⋆ Binomial transform of decagonal numbers A001107. ● a(n) = n * 2 ^ n * (2 * n - 1) / 2. ● a(0)=0, a(1)=1, a(2)=12, a(n)=6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Dec 13 2015 ●

[**A114307**] ● 12,60,300,3000,30000,300000,3000000,30000000,300000000,3000000000,30000000000,300000000000,3000000000000,30000000000000,3000000000000,3000000000000000,30000000000000000,300000000000000000,3000000000000000000 ⋆ Length of the cycle for Lucas numbers mod 10^n. ● a(1)=12, a(2)=60, a(n)=3 * 10 ^ (n - 1) for n>2. ● a(n)=lcm(3 * 2 ^ (n - 1),4 * 5 ^ (n - 1)). In particular, for n>=3, a(n) = 3 * 10 ^ (n - 1). - _ Max Alekseyev _ , May 17 2006 ●

[**A177677**] ● 12,62,147,266,419,607,828,1084,1375,1699,2057,2450,2877,3338,3833,4362,4926,5523,6155,6821,7521,8256,9024,9827,10664 ⋆ The maximum integer dimension in which the volume of the hypersphere of radius n remains larger than 1. ● a(n) = max { d: Pi ^ d / 2 * n ^ d / Gamma(1 + d / 2) > 1 } . ●

[**A267472**] ● 12,62,204,515,1096,2072,3592,5829,8980,13266,18932,26247,35504,47020,61136,78217,98652,122854,151260,184331,222552,266432,316504,373325,437476 ⋆ Number of length-4 0..n arrays with no following elements larger than the first repeated value. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. ●

[**A212509**] ● 0,1,12,63,180,437,891,1628,2736,4392,6600,9646,13608,18669,24990,32955,42432,54033,67797,84010,102900,125118,150282,179444,212544 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x and y<=3z. ● a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). ●

[**A212249**] ● 0,1,12,63,202,496,1034,1923,3289,5280,8062,11820,16761,23110,31111,41030,53151,67777,85233,105862,130026,158109,190513,227659,269990 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 3w<x+y+z+n. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 5 * a(n - 3) - 5 * a(n - 4) + 6 * a(n - 5) - 4 * a(n - 6) + a(n - 7). ● a(n) = (59 * n ^ 4 - 10 * n ^ 3 + 5 * n ^ 2 - 6 * n - 8 * ((((n + 1) mod 3) + (- 1) ^ ((n + 1) mod 3)) * (- 1) ^ (n mod 3))) / 72. [_ Bruno Berselli _ , Jun 05 2012] ●

[**A085463**] ● 1,12,63,219,594,1365,2786,5202,9063,14938,23529,35685,52416,74907,104532,142868,191709,253080,329251,422751,536382,673233,836694,1030470,1258595 ⋆ Number of 5-tuples (v1,v2,v3,v4,v5) of nonnegative integers less than n such that v1<=v4, v1<=v5, v2<=v4, v2<=v5 and v3<=v4. ● a(n) = n + 10 * binomial(n, 2) + 30 * binomial(n, 3) + 35 * binomial(n, 4) + 14 * binomial(n, 5). ● a(n) = n * (n + 1) * (2 * n + 1) * (7 * n ^ 2 + 7 * n + 6) / 120. ●

[**A258617**] ● 0,12,64,180,384,700,1152,1764,2560,3564,4800,6292,8064,10140,12544,15300,18432,21964,25920,30324,35200,40572,46464,52900,59904 ⋆ a(n) = (4*n+8)*n^2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 06 2015 ●

[**A289223**] ● 0,0,12,66,204,480,960,1722,2856,4464,6660,9570,13332,18096,24024,31290,40080,50592,63036,77634,94620,114240,136752,162426,191544 ⋆ Number of ways to select 2 disjoint point triples from an n X n X n triangular point grid, each point triple forming an 2 X 2 X 2 triangle. ● a(n) = (n ^ 4 - 4 * n ^ 3 - 7 * n ^ 2 + 46 * n - 48) / 2 for n>=2. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>6. ●

[**A271870**] ● 1,12,66,236,651,1512,3108,5832,10197,16852,26598,40404,59423,85008,118728,162384,218025,287964,374794,481404,610995,767096,953580,1174680,1435005 ⋆ Convolution of nonzero hexagonal numbers (A000384) with themselves. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). ● a(n) = (n + 1) * (n + 2) * (n + 3) * (4 * n ^ 2 + 6 * n + 5) / 30. ●

[**A114243**] ● 1,12,66,245,714,1764,3864,7722,14355,25168,42042,67431,104468,157080,230112,329460,462213,636804,863170,1152921,1519518,1978460,2547480,3246750,4099095 ⋆ a(n) = (n+1)(n+2)^2*(n+3)(n+4)(3n+5)/240. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Wesley Ivan Hurt _ , May 03 2015 ●

[**A032167**] ● 12,66,572,5148,49764,497354,5118828,53745120,573308736,6191711526,67546215516,743008120140,8230246567620,91708459194066,1027134771622388,11555266154065920,130506535690613940 ⋆ Number of aperiodic necklaces of n beads of 12 colors. ● a(n) = Sum _{ d|n } mu(d) * 12 ^ (n / d) / n. ●

[**A091074**] ● 12,67,79,146,225,371,596,967,1563,2530,4093,6623,10716,17339,28055,45394,73449,118843,192292,311135,503427,814562,1317989,2132551,3450540 ⋆ Fibonacci sequence beginning 12, 67. ● a(n) = (61 * sqrt(5) / 5 + 6) * (1 / 2 + sqrt(5) / 2) ^ n + (- 61 * sqrt(5) / 5 + 6) * (1 / 2 - sqrt(5) / 2) ^ n. - _ Antonio Alberto Olivares _ , May 23 2013 ●

[**A212687**] ● 0,1,12,67,212,527,1096,2045,3496,5621,8580,12591,17852,24627,33152,43737,56656,72265,90876,112891,138660,168631,203192,242837,287992 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 2|w-x|<n+|y-z|. ● a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). ●

[**A117088**] ● 1,12,67,342,1717,8592,42967,214842,1074217,5371092,26855467,134277342,671386717,3356933592,16784667967,83923339842,419616699217,2098083496092,10490417480467,52452087402342,262260437011717,1311302185058592,6556510925292967 ⋆ a(n) = (11*5^n - 7)/4. ● a(n) = 5 * a(n - 1) + 7 with a(0) = 1. ● a(n) = 6 * a(n - 1) - 5 * a(n - 2), a(0) = 1, a(1) = 12. - _ Philippe Deléham _ , Feb 22 2014 ● a(n) = (11 * 5 ^ n - 7) / 4. - _ Ralf Stephan _ , Feb 23 2014 ●

[**A199415**] ● 12,67,397,2377,14257,85537,513217,3079297,18475777,110854657,665127937,3990767617,23944605697,143667634177,862005805057,5172034830337,31032208982017,186193253892097,1117159523352577,6702957140115457,40217742840692737 ⋆ 11*6^n+1. ● a(n) = 6 * a(n - 1) - 5. ● a(n) = 7 * a(n - 1) - 6 * a(n - 2). ●

[**A059585**] ● 0,0,12,68,235,636,1478,3088,5958,10800,18612,30756,49049,75868,114270,168128,242284,342720,476748,653220,882759,1178012,1553926,2028048,2620850 ⋆ Number of labeled 3-node T_0-hypergraphs with n hyperedges (empty hyperedges and multiple hyperedges included). ● a(n) = binomial(n + 7, n) - 3 * binomial(n + 3, n) + 2 * binomial(n + 1, n) = n * (n - 1) * (n + 1) * (n ^ 4 + 28 * n ^ 3 + 323 * n ^ 2 + 1988 * n + 4572) / 5040. ●

[**A213547**] ● 1,12,68,260,777,1960,4368,8856,16665,29524,49764,80444,125489,189840,279616,402288,566865,784092,1066660,1429428,1889657,2467256,3185040,4069000,5148585 ⋆ Antidiagonal sums of the convolution array A213505. ● a(n) = (n ^ 6 + 6 * n ^ 5 + 15 * n ^ 4 + 20 * n ^ 3 + 14 * n ^ 2 + 4 * n) / 60. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ● a(n) = a(- 2 - n) and a(n - 1) = (n ^ 6 - n ^ 2) / 60 for all n in Z. - _ Michael Somos _ , Oct 08 2017 ●

[**A050484**] ● 1,12,68,264,810,2112,4884,10296,20163,37180,65208,109616,177684,279072,426360,635664,927333,1326732,1865116,2580600,3519230,4736160,6296940,8278920,10772775 ⋆ Partial sums of A051946. ● a(n) = C(n + 6, 6) * (5n + 7) / 7. ●

[**A238536**] ● 1,12,68,504,3355,23256,158717,1089648,7463884,51170460,350695511,2403786672,16475579353,112925875764,774003961940,5305106018016,36361727272627,249227013404808,1708227291909269,11708364225400920,80250321774226396,550043889533755332,3770056901455017263 ⋆ A fourth-order linear divisibility sequence related to the Fibonacci numbers: a(n) = (1/2)*Fibonacci(3*n)*Lu ● a(n) = (1 / 2) * Fibonacci(2 * n) * Fibonacci(3 * n) / Fibonacci(n). ● a(n) = (1 / (2 * sqrt(5))) * (((7 + 3 * sqrt(5)) / 2) ^ n - ((7 - 3 * sqrt(5)) / 2) ^ n + (- 1) ^ n * ((3 + sqrt(5)) / 2) ^ n - (- 1) ^ n * ((3 - sqrt(5)) / 2) ^ n). ● a(n) = (1 / 2) * (Fibonacci(4 * n) + (- 1) ^ n * Fibonacci(2 * n)). - _ Ralf Stephan _ , Mar 01 2014 ●

[**A212753**] ● 0,12,69,228,568,1192,2225,3816,6136,9380,13765,19532,26944,36288,47873,62032,79120,99516,123621,151860,184680,222552,265969,315448,371528 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of these conditions holds: w<R, x<R, y>R, z>R, where R = max{w,x,y,z} - min{w,x,y,z}. ● a(n)=4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). ●

[**A210427**] ● 0,1,12,69,260,751,1812,3843,7400,13221,22252,35673,54924,81731,118132,166503,229584,310505,412812,540493,698004,890295,1122836,1401643,1733304 ⋆ Number of semistandard Young tableaux over all partitions of 5 with maximal element <= n. ● a(n) = n * (12 + (35 + 13 * n ^ 2) * n ^ 2) / 60. ●

[**A169725**] ● 12,70,532,4510,39772,355510,3192292,28708750,258313132,2324621350,20921001652,188287243390,1694579876092,15251202941590,137260778644612,1235346864312430,11118121348344652,100063090843700230,900567813719097172,8105110311849259870 ⋆ 3^(n-1)*(6*3^(n-1)+5)+1. ● a(n)= + 13 *

a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). G.f.: x * (- 12 + 86 * x - 90 * x ^ 2) / ((x - 1) * (3 * x - 1) * (9 * x - 1)). [_ R. J. Mathar _ , Apr 26 2010] •

[A143698] • 0,12,72,180,336,540,792,1092,1440,1836,2280,2772,3312,3900,4536,5220,5952,6732,7560,8436,9360,10332,11352,12420,13536 ⋆ 12 times hexagonal numbers: 12*n*(2*n-1). • a(n)=a(n - 1) + 48 * n - 36 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 14 2010 •

[A047928] • 0,12,72,240,600,1260,2352,4032,6480,9900,14520,20592,28392,38220,50400,65280,83232,104652,129960,159600,194040,233772,279312,331200,390000 ⋆ a(n) = n*(n-1)^2*(n-2). • a(n) = floor((n - 1) ^ 6 / ((n - 1) ^ 2 + 1)). - _ Gary Detlefs _ , Feb 11 2010 •

[A008533] • 1,12,72,272,762,1752,3512,6372,10722,17012,25752,37512,52922,72672,97512,128252,165762,210972,264872,328512,403002,489512,589272,703572,833762 ⋆ Coordination sequence for {A_5}* lattice. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. - _ Colin Barker _ , Mar 03 2015 •

[A010024] • 1,12,72,292,862,2052,4212,7772,13242,21212,32352,47412,67222,92692,124812,164652,213362,272172,342392,425412,522702,635812,766372,916092,1086762 ⋆ Coordination sequence for squashed {D_5}* lattice, perhaps the smallest example of a "non-superficial" lattice. • a(n) = 10 / 3 * n ^ 4 - 5 / 3 * n ^ 3 + 20 / 3 * n ^ 2 + 5 / 3 * n + 2 for n>0 (from Maple section). •

[A008414] • 1,12,72,292,912,2364,5336,10836,20256,35436,58728,93060,142000,209820,301560,423092,581184,783564,1038984,1357284,1749456,2227708,2805528,3497748,4320608 ⋆ Coordination sequence for 6-dimensional cubic lattice. • a(n) = 4 * n * (2 / 15 * n ^ 4 + 4 / 3 * n ^ 2 + 23 / 15) for n > 0. - S. Bujnowski (slawb(AT)atr.bydgoszcz.pl), Nov 26 2002 •

[A052181] • 1,12,72,300,990,2772,6864,15444,32175,62920,116688,206856,352716,581400,930240,1449624,2206413,3287988,4807000,6906900,9768330,13616460,18729360,25447500 ⋆ Partial sums of A050483. • a(n) = (n + 2) * C(n + 7, 7) / 2. •

[A035472] • 1,12,72,356,1296,3708,8920,18900,36384,65004,109416,175428,270128,402012,581112,819124,1129536,1527756,2031240,2659620,3434832,4381244,5525784,6898068,8530528 ⋆ Coordination sequence for lattice D*_6 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n =6. •

[A088166] • 12,72,504,3410,23184,159094,1089648,7465176,51170460,350713222,2403763488,16475700746,112925875764,774004377960,5305106018016,36361732975514,249227005939632,1708227330997438,11708364225400920 ⋆ Smallest integer divisible by fibonacci(2n) such that second partial quotient in continued fraction expansion of a(n)/phi is 2 (phi is the golden ratio), n>=2. • a(n) = fibonacci(2n) * ceil(lucas(2n) / 2) •

[A069039] • 0,1,12,73,304,985,2668,6321,13504,26577,48940,85305,142000,227305,351820,528865,774912,1110049,1558476,2149033,2915760,3898489,5143468,6704017,8641216 ⋆ Expansion of x(1+x)^5/(1-x)^7. • a(n) = 6 - crosspolytope(n) = (n ^ 2) * (2 * n ^ 4 + 20 * n ^ 2 + 23) / 45. E.g. a(12) = 142000 because (12 ^ 2) * (2 * 12 ^ 4 + 20 * 12 ^ 2 + 23) / 45. - _ Jonathan Vos Post _ , Nov 16 2004 •

[A041270] • 12,73,1764,10657,257532,1555849,37597908,227143297,5489037036,33161365513,801361809348,4841332221601,116993335127772,706801342988233,17080225566845364,103188154744060417,2493595939424295372 ⋆ Numerators of continued fraction convergents to sqrt(148). • a(n) = 146 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 01 2013 •

[A292532] • 0,0,1,12,75,329,1158,3606,10971,35601,126168,467541,1722714,6173070,21563906,74452230,257613930,899546303,3166966692,11185908147,39459021883,138761604786,486746839758,1705955898935,5982257083623 ⋆ p-INVERT of the squares (A000290), where p(S) = 1 - S^3. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 85 * a(n - 3) - 123 * a(n - 4) + 129 * a(n - 5) - 83 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n >= 10. •

[A053310] • 1,12,75,330,1155,3432,9009,21450,47190,97240,189618,352716,629850,1085280,1812030,2941884,4657983,7210500,10935925,16280550,23828805,34337160,48774375,68368950,94664700 ⋆ a(n) = (n+3)*C(n+8, 8)/3. • a(n) = binomial(n + 8,n + 2) * binomial(n + 3,n) / 28. - _ Zerinvary Lajos _ , May 12 2006 •

[A006235] • 1,12,75,384,1805,8100,35287,150528,632025,2620860,10759331,43804800,177105253,711809364,2846259375,11330543616,44929049777,177540878700,699402223099,2747583822720,10766828545725,42095796462852,164244726238343,639620518118400 ⋆ Complexity of doubled cycle (regarding case n = 2 as a multigraph). • a(n) = (1 / 2) * n * (- 2 + (2 - sqrt(3)) ^ n + (2 + Sqrt(3)) ^ n) (Kreweras). - _ Eric W. Weisstein _ , Jul 15 2011 • a(n) = 10a(n - 1) - 35a(n - 2) + 52a(n - 3) - 35a(n - 4) + 10a(n - 5) - a(n - 6), n>5. • a(k) = det(S(4,k,(1, - 1,1))) = k * b(k) ^ 2, where b(1)=1, b(2)=sqrt(6), b(k)=sqrt(6) * b(k - 1) - b(k - 2) = b(2) * b(k - 1) - b(k - 2). - _ Ryan Stees _ , Dec 14 2014 •

[A054334] • 1,12,77,352,1287,4004,11011,27456,63206,136136,277134,537472,999362,1790712,3105322,5230016,8580495,13748020,21559395,33153120,50075025,74397180,108864405,157073280,223689180 ⋆ 1/512 of 11th unsigned column of triangle A053120 (T-Chebyshev, rising powers, zeros omitted). • a(n) = 2 * binomial(n + 10, 10) - binomial(n + 9, 9). - _ Paul Barry _ , Mar 04 2003 • a(n) = binomial(n + 9,9) + 2 * binomial(n + 9,10). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 • a(n) = binomial(n + 9,9) * (n + 5) / 5. - _ Antal Pinter _ , Dec 27 2015 •

[A210695] • 0,1,12,77,456,2665,15540,90581,527952,3077137,17934876,104532125,609257880,3551015161,20696833092,120629983397,703083067296,4097868420385,23884127455020,139206896309741,811357250403432,4728936606110857,27562262386261716 ⋆ a(n) = 6*a(n-1) - a(n-2) + 6 with n>1, a(0)=0, a(1)=1. • a(n) = ((1 - 2 * sqrt(2)) * (1 - sqrt(2)) ^ (2n - 1) + (1 + 2 * sqrt(2)) * (1 + sqrt(2)) ^ (2n - 1) - 6) / 4. [_ Bruno Berselli _ , Jun 26 2012] •

[A008504] • 1,12,78,364,1365,4368,12376,31824,75582,167960,352716,705431,1352066,2496066,4457036,7724795,13033527,21461804,34565466,54551718,84504355,128671764,192831288,284745682 ⋆ 10-dimensional centered tetrahedral numbers. • a(n) = 1 + 11n(n + 1)(n ^ 8 + 4n ^ 7 + 416n ^ 6 + 1234n ^ 5 + 28019n ^ 4 + 53986n ^ 3 + 395644n ^ 2 + 368856n + 966240) / 3628800. - Bruno Berselli, Mar 22 2012 •

[A008494] • 1,12,78,364,1365,4368,12376,31824,75582,167960,352716,705432,1352077,2496132,4457322,7725796,13036530,21469812,34584914,54595476,84596733,128856520,193184004,285392328,415873822 ⋆ Expansion of (1-x^12) / (1-x)^12. • a(n) = (604800 + 2286636 * n ^ 2 + 696905 * n ^ 4 + 39963 * n ^ 6 + 495 * n ^ 8 + n ^ 10) / 302400 for n>0. •

[A001288] • 1,12,78,364,1365,4368,12376,31824,75582,167960,352716,705432,1352078,2496144,4457400,7726160,13037895,21474180,34597290,54627300,84672315,129024480,193536720,286097760,417225900 ⋆ a(n) = binomial(n,11). • a(n + 10)=n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9)(n + 10) / 11!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 •

[A290894] • 0,0,0,0,0,1,12,78,364,1365,4368,12377,31848,75882,170560,370266,803712,1827099,4531980,12346791,35783396,105681186,308229948,873545479,2392395276 ⋆ p-INVERT of the positive integers, where p(S) = 1 - S^6. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 923 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 22 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12). •

[A227707] • 12,78,444,2328,11568,55392,258240,1180032,5309184,23594496,103812096,452990976,1962946560,8455741440,36238835712,154618920960,657130192896,2783139201024,11751031308288,49478024822784,207807700795392,870813215490048,3641582523777024,15199648767541248 ⋆ The terminal Wiener index of the dendrimer D_n defined pictorially in Fig. 1 of the Heydari et al. reference. • a(n) = 3 * 2 ^ n + 9 * 4 ^ n * (n + 1). •

[A199492] • 12,78,540,3774,26412,184878,1294140,9058974,63412812,443889678,3107227740,21750594174,152254159212,1065779114478,7460453801340,52223176609374,365562236265612,2558935653859278,17912549577014940 ⋆ 11*7^n+1. • a(n) = 7 * a(n - 1) - 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). •

[A061593] • 12,79,408,1847,7698,30319,114606,419933,1501674,5266069,18174084,61892669,208424880,695179339,2299608732,7552444115,24648046806,79994460139,258339007890,830619734681,2660070154542,8488515938929,27000079296648,85629004867577 ⋆ Number of ways to place 2n nonattacking kings on a 4 X 2n chessboard. • a(n) = 9 * a(n - 1) - 28 * a(n - 2) + 33 * a(n - 3) - 9 * a(n - 4), a(1)=12, a(2)=79, a(3)=408, a(4)=1847. • a(n) = (17 * n - 109) * 3 ^ n + 2 * Fibonacci(2 * n + 10). •

[A058962] • 1,12,80,448,2304,11264,53248,245760,1114112,4980736,22020096,96468992,419430400,1811939328,7784628224,33285996544,141733920768,601295421440,2542620639232,10720238370816,45079976738816,189115999997747 2,791648371998720 ⋆ a(n) = 2^(2*n)*(2*n+1). • a(n) = 4((2n + 1) / (2n - 1)) * a(n - 1) = 4 * a(n - 1) + 2 ^ (2n + 1) = 8 * a(n - 1) - 16 * a(n - 2). - _ Jaume Oliver Lafont _ , Dec 09 2008 • a(n) = - a(- 1 - n) * 4 ^ (2 * n + 1) for all n in Z. - _ Michael Somos _ , Jun 18 2017 •

[A007010] • 1,12,81,372,1332,3984,10420,24540,53145,107436,205065,372792,649936,1092672,1779408,2817288,4350105,6567660,9716905,14114892,20163924,28368912,39357396,53902212,72947329 ⋆ Number of 4-voter voting schemes with n linearly ranked choices. • a(n) = (n ^ 8 + 16 * n ^ 7 + 106 * n ^ 6 + 376 * n ^ 5 + 784 * n ^ 4 + 1024 * n ^ 3 + 864 * n ^ 2 + 384 * n) / 3840 for n even. • a(n) = (n ^ 8 + 16 * n ^ 7 + 106 * n ^ 6 + 376 * n ^ 5 + 784 * n ^ 4 + 1024 * n ^ 3 + 894 * n ^ 2 + 504 * n + 135) / 3840 for n odd. •

[A069996] • 1,12,81,432,2025,8748,35721,139968,531441,1968300,7144929,25509168,89813529,312487308,1076168025,3673320192,12440502369,41841412812,139858796529,464904586800,1537671920841,5062810950252,16600580533161 ⋆ Number of spanning trees on the bipartite graph K_{3,n}. • a(n) = n ^ 2 * 3 ^ (n - 1). • a(n) = 9 * a(n - 1) - 27 * a(n - 2) + 27 * a(n - 3). G.f.: x * (1 + 3 * x) / (1 - 3 * x) ^ 3. - _ Colin Barker _ , Aug 10 2012 •

[A164300] • 1,12,82,488,2756,15216,83144,452128,2453008,13294272,72012064,389976704,2111644736,11433484032,61904845952,335169991168,1814692086016,9825156811776,53195565289984,288012326955008 ⋆ a(n) = ((1+4*sqrt(2))*(4+sqrt(2) + (1-4*sqrt(2))*(4-sqrt(2))^n)/2. • a(n) = 8 * a(n - 1) - 14 * a(n - 2) for n > 1; a(0) = 1, a(1) = 12. •

[A102105] • 1,12,83,486,2645,13872,71303,362346,1829225,9198612,46150523,231225006,1157542205,5791962552,28972567343,144901100466,724620293585,3623445841692,18118262329763,90594411012726,452981353155365,2264934660052032,11324756983085783 ⋆ a(n) = (19*5^n - 16*3^n + 1) / 4. • a(n) = 9 * a(n - 1) - 23 * a(n - 2) + 15 * a(n - 3), a(0)=1,a(1)=12,a(2)=83 (derived from the minimal polynomial of the matrix M). •

[A085409] • 0,12,84,270,624,1200,2052,3234,4800,6804,9300,12342,15984,20280,25284,31050,37632,45084,53460,62814,73200,84672,97284,111090,126144 ⋆ Sum of three solutions of the Diophantine equation x^2 - y^2 = z^3. • a(n) = 9n ^ 3 + 3n ^ 2 •

[A155645] • 1,12,84,558,3696,24582,164304,1103478,7444416,50431302,342941424,2340123798,16018069536,109949704422,756587236944,5217746494518,36054040477056,249557173431942,1729973554578864,12008254925383638 ⋆ 7^n+6^n-1. • a(n)=13 * a(n - 1) - 42 * a(n - 2) - 30 with a(0)=1, a(1)=12 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=12, a(2)=84, a(n)=14 * a(n - 1) - 55 * a(n - 2) + 42 * a(n - 3) [From Harvey P. Dale, May 08 2012] •

[A118017] • 12,84,3612,6526884,21300113901612 ⋆ Largest denominators in even Egyptian fraction representation of 1. • a(n + 1) = 1 / 2 * a(n) ^ 2 + a(n). •

[A283119] • 1,12,86,469,2141,8594,31247,104945,330094,982284,2786861,7584060,19893185,50494558,124437410,298555264,699017259,1600364304,3589048673,7896510620,17067607791,36283650153,75947406513,156672628539,318804641925 ⋆ Expansion of exp(Sum_{n>=1} sigma(6*n)*x^n/n) in powers of x. • a(n) = (1 / n) * Sum _{ k=1..n } sigma(6 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 05 2017 •

[A046023] • 0,1,12,87,416,1475,4236,10437,22912,45981,85900,151371,254112,409487,637196,962025,1414656,2032537,2860812,3953311,5373600,7196091,9507212,12406637,16008576 ⋆ Number of ways to color edges of a tetrahedron using <= n colors. • a(n) = (n ^ 6 + 3 * n ^ 4 + 8 * n ^ 2) / 12. •

[A137207] • 12,87,584,3835,25008,162792,1060048,6910695,45119100,295038315,1932260256,12673336052,83236707232,547388545740,3604063891104,23755630474079,156740823815940,1035157282013085,6842413166034600 ⋆ Number of exceptional sets of roots of type D_n. Also the number of unordered factorizations of the Coxeter element. • a(n) = (2 * (n - 1) / (2 * n - 1)) * binomial(3 * n - 3,n - 1) - binomial(3 * n - 5,n - 2) + 4 * binomial(3 * n - 3,n - 3) • a(n) = (16 * n ^ 2 - 41 * n + 24) / (n * (2 * n - 1)) * binomial(3 * n - 5,n - 2) •

[A164608] • 1,12,88,608,4160,28416,194048,1325056,9048064,61784064,421888000,2880831488,19671547904,134325731328,917233467392,6263261888512,42768227368960,292039723843584,1994171971796992,13617057983627264 ⋆ Expansion of (1+4*x)/(1-8*x+8*x^2). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 12. • a(n) = ((2 + 4 * sqrt(2)) * (4 + 2 * sqrt(2)) ^ n + (2 - 4 * sqrt(2)) * (4 - 2 * sqrt(2)) ^ n) / 4. •

[A081009] • 1,12,88,609,4180,28656,196417,1346268,9227464,63245985,434394436,2971215072,20365011073,139583862444,956722026040,6557470319841,44945570212852,308061521170128,2111485077978049,14472334024676220,99194853094755496 ⋆ Fibonacci(4n+3)-1, or Fibonacci(2n+2)*Lucas(2n+1). • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 1 + [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n + (2 / 5) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A155635] • 1,12,88,636,4720,35892,277768,2175276,17167840,136170852,1083507448,8638762716,68963617360,550976517012,4404150026728,35214889666956,281627564601280,2252562753138372,18018213206747608,144134261562183996 ⋆ 8^n+5^n-1. • a(n)=13 * a(n - 1) - 40 * a(n - 2) - 28 with a(0)=1, a(1)=12 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A199558] • 12,89,705,5633,45057,360449,2883585,23068673,184549377,1476395009,11811160065,94489280513,755914244097,6047313952769,48378511622145,387028092977153,3096224743817217,24769797950537729,198158836043018255 ⋆ 11*8^n+1. • a(n) = 8 * a(n - 1) - 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2). •

[A084485] • 1,12,90,522,2595,11673,49014,195828,753813,2819475,10308144,36998118,130786695,456452493,1575799290,5389290792,18281487081,61569776727,206040460212,685584843450,2269566343611,7478425876977,24538396875870,80206515476892,261239771497725 ⋆ Number of 3 X n 0-1 matrices which have n+2 1's and have no zero rows or zero columns. • a(n) = n * (4 * (3 * n - 1) * 3 ^ n - 9 * (n - 1) * 2 ^ n) / 24. - _ Vladeta Jovovic _ , May 28 2003 •

[A130072] • 0,12,90,528,2850,14832,75810,383808,1932930,9705552,48648930,243605088,1219100610,6098716272,30503196450,152544778368,762810181890,3814309582992,19072323542370,95363943807648,476826695752770 ⋆ 5^n - 3^n - 2^n. • a(n) = 5 ^ n - 3 ^ n - 2 ^ n. •

[A073382] • 1,12,90,532,2709,12432,52808,211248,805374,2951576,10465476,36079848,121412942,400054032,1293997416,4117416496,12910964103,39956039172,122193599822,369685154076,1107503284923,3288114790112 ⋆ Fifth convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. • a(n) = sum((2 ^ n) * binomial(n - k + 5, 5) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). • a(n) = F''''''(n + 6, 2) / 5!, that is, 1 / 5! times the 5th derivative of the (n + 6)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[A036216] • 1,12,90,540,2835,13608,61236,262440,1082565,4330260,16888014,64481508,241805655,892820880,3252418920,11708708112,41712272649,147219785820,515269250370,1789882659180,6175095174171,21171754882872 ⋆ Expansion of 1/(1-3*x)^4; 4-fold convolution of A000244 (powers of 3). • a(n) = 3 ^ n * binomial(n + 3, 3); g.f. 1 / (1 - 3 * x) ^ 4. •

[A002544] • 1,12,90,560,3150,16632,84084,411840,1969110,9237800,42678636,194699232,878850700,3931426800,17450721000,76938289920,337206098790,1470171918600,6379820115900,27569305764000,118685861314020 ⋆ a(n) = binomial(2*n+1,n)*(n+1)^2. • a(n - 1) = sum(i _ 1 + i _ 2 + ... + i _ n) where the sum is over 0 <= i _ 1 <= i _ 2 <= ... <= i _ n <= n; a(n) = (n + 1) ^ 2 C(2n + 1, n). - _ David Callan _ , Nov 20 2003 • a(n) = n ^ 2 * binomial(2 * n,n) / 2. - _ Zerinvary Lajos _ , May 31 2006 •

[A093801] • 1,12,90,594,3726,22842,138510,835434,5025726,30193722,181280430,1088036874,6529284126,39178893402,235082926350,1410526255914,8463243628926,50779720053882,304679095164270,1828076895508554,10968468346620126 ⋆ b(n)*integral_{x=0 to 1/(4^n)} 1-sqrt(x) dx, with b(n)=3*24^n. • a(n)=3 * 6 ^ n - 2 * 3 ^ n. - _ R. J. Mathar _ , Nov 24 2008 • a(n)=9 * a(n - 1) - 18 * a(n - 2), n>1 ; a(0)=1, a(1)=12 . G.f.: (1 + 3 * x) / (1 - 9 * x + 18 * x ^ 2). [From _ Philippe Deléham _ , Nov 26 2008] •

[A004311] • 1,12,91,560,3060,15504,74613,346104,1562275,6906900,30045015,129024480,548354040,2310789600,9669554100,40225345056,166509721602,686353797976,2818953098830,11541847896480 ⋆ Binomial coefficient C(2n,n-5). • a(n) = Sum { k=0..n } C(n, k) * C(n, k + 5). - _ Hermann Stamm - Wilbrandt _ , Aug 17 2015 •

[A160869] • 1,12,91,600,3751,22932,138811,836400,5028751,30203052,181308931,1088123400,6529545751,39179682372,235085301451,1410533397600,8463265086751,50779784492892,304679288612371,1828077476115000,10968470088963751,65810836228506612 ⋆ a(n) = sigma(6^(n-1)). • a(n) = 12 * a(n - 1) - 47 * a(n - 2) + 72 * a(n - 3) - 36 * a(n - 4). - _ Colin Barker _ , Nov 24 2014 •

[A045894] • 1,12,94,608,3525,19044,97954,486000,2345930,11081880,51447036,235454848,1064832173,4767347796,21160397050,93223960784,408037319262,1775744775592,7688699122724,33140226601920,142262721338146 ⋆ 4-fold convolution of A001700(n), n >= 0. • a(n) = (n + 11) * 4 ^ (n + 2) - (n + 5) * binomial(2 * (n + 4), n + 4) / 2; •

[A038836] • 1,12,95,624,3682,20264,106203,536840,2639230,12692360,59957846,279081152,1282981380,5835994768,26305678739,117635236344,522394992358,2305593653960,10120007354562,44201842781536,192208416186716 ⋆ Convolution of Catalan numbers {1,2,5,14,...} with A002802 (5-fold convoluted central binomial coefficients). • a(n) = binomial(n + 5, 2) * binomial(2 * (n + 3), n + 2) / 6 - (n + 3) * 2 ^ (2 * n + 3); G.f. c(x) ^ 2 / (1 - 4 * x) ^ (5 / 2), where c(x) = g.f. for Catalan numbers A000108; •

[A021074] • 1,12,95,630,3801,21672,119155,639210,3370301,17549532,905418154,63889790,2364180001,11999840592,60714998075,306438236370,1543644296901,7764034206852,39003422447935 ⋆ Expansion of 1/((1-x)(1-2x)(1-4x)(1-5x)). • a(0)=1, a(1)=12, a(2)=95, a(3)=630, a(n)=12 * a(n - 1) - 49 * a(n - 2) + 78 * a(n - 3) - 40 * a(n - 4). [_ Harvey P. Dale _ , Oct 01 2011] • a(n) = (5 ^ (n + 3) - 2 * 4 ^ (n + 3) + 2 * 2 ^ (n + 3) - 1) / 12. [_ Yahia Kahloune _ , Apr 29 2013] • a(0)=1, a(1)=12; for n>1, a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 •

[A192848] • 12,96,300,672,1260,2112,3276,4800,6732,9120,12012,15456,19500,24192,29580,35712,42636,50400,59052,68640,79212,90816,103500,117312,132300 ⋆ Molecular topological indices of the graph join C_n + C_n of cycle graphs. • a(n) = 4 * n * (2 + n) * (- 1 + 2 * n). •

[A138162] • 12,96,526,2593,12165,55482,248509,1099255,4817998,20968680,90747564,390927869,1677551078,7174848666,30598014925,130155932685,552386655300,2339526458640,9890067346740,41737405295250,175859194700958 ⋆ Number of permutations of {1,2,...,n} containing exactly 4 occurrences of the 132 pattern. • a(n) = (n ^ 9 + 102n ^ 8 - 282n ^ 7 - 12264n ^ 6 + 32589n ^ 5 + 891978n ^ 4 - 7589428n ^ 3 + 25452024n ^ 2 - 39821760n + 23950080)(2n - 12)! / [24n!(n - 6)!] for n>=6, a(5)=12. •

[A073392] • 1,12,96,616,3444,17472,82432,367488,1565280,6421376,25525248,98773248,373450112,1383674880,5036089344,18041821184,63727070976,222249968640,766234140672,2614196680704,8834194123776 ⋆ Fifth convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(binomial(n - k + 5, 5) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). •

[A038845] • 1,12,96,640,3840,21504,114688,589824,2949120,14417920,69206016,327155712,1526726656,7046430720,32212254720,146028888064,657129996288,2937757630464,13056700579840,57724360458240,253987186016256 ⋆ 3-fold convolution of A000302 (powers of 4). • a(n) = (n + 2) * (n + 1) * 2 ^ (2 * n - 1). • a(n) = binomial(n + 2,n) * 4 ^ n. - _ Rui Duarte _ , Oct 08 2011 •

[A270568] • 1,12,96,768,6144,49152,393216,3145728,25165824,201326592,1610612736,12884901888,103079215104,824633720832,6597069766656,52776558133248,422212465065984,3377699720527872,27021597764222976,216172782113783808,1729382256910270464 ⋆ Expansion of (1+4*x)/(1-8*x). • a(n) = 8 * a(n - 1) for n>1. • a(n) = 12 * 8 ^ (n - 1) for n>0. •

[A155620] • 1,12,96,792,6816,60072,535536,4799352,43112256,387682632,3487832976,31385253912,282446313696,2541932937192,22877060890416,205892205836472,1853024483819136,16677198879535752,150094704016475856 ⋆ 9^n+4^n-1. • a(n)=13 * a(n - 1) - 36 * a(n - 2) - 24 with a(0)=1, a(1)=12 [From _ Vincenzo Librandi _ , Jul 21 2010] • a(0)=1, a(1)=12, a(2)=96, a(n)=14 * a(n - 1) - 49 * a(n - 2) + 36 * a(n - 3). - _ Harvey P. Dale _ , Feb 02 2015 •

[A016753] • 1,12,97,660,4081,23772,133057,724260,3863761,20308332,105558817,544039860,2785713841,14192221692,72020501377,364354427460,1838822866321,9262446387852,46585947584737 ⋆ Expansion of 1/((1-3x)(1-4x)(1-5x)). • a(n) = 5 ^ (n + 2) / 2 - 4 ^ (n + 2) + 3 ^ (n + 2) / 2. - _ Paul Barry _ , May 13 2003 • a(n) = 9 * a(n - 1) - 20 * a(n - 2) + 3 ^ n, n >= 2. - _ Vincenzo Librandi _ , Mar 20 2011 •

[A021029] • 1,12,97,672,4333,26964,164809,998184,6017605,36192156,217414561,1305276336,7834033117,47011340388,282089500153,1692601439928,10155802087669,60935393132460,365614101138385 ⋆ Expansion of 1/((1-x)*(1-2*x)*(1-3*x)*(1-6*x)). • a(n) = (- 1 + 5 * 2 ^ (n + 2) - 5 * 3 ^ (n + 2) + 6 ^ (n + 2)) / 10. - Bruno Berselli, Sep 02 2011 •

[A128594] • 1,12,97,696,4784,32230,214978,1426566,9441417,62405645,412278981,2723566163,17996243101,118957645301,786700165122,5205396517853,34461624895701,228274455988134,1512920531980961,10032446308837778 ⋆ Column 2 of triangle A128592; a(n) = coefficient of q^(2n+6) in the q-analog of the odd double factorials (2n+5)!! for n>=0. • a(n) = [q ^ (2n + 6)] Product _{ j=1..n + 3 } (1 - q ^ (2j - 1)) / (1 - q) for n>=0. •

[A004058] • 1,12,99,686,4305,25368,143263,785202,4211229,22226204,115899147,598832598,3072304873,15676477920,79649367351,403336249274,2037103422837,10267399442916,51665107485475 ⋆ Expansion of (1-x)/((1+x)*(1-2*x)*(1-3*x)*(1-4*x)*(1-5*x)). • a(n) = (1 / 180) * (2500 * 5 ^ n - 3456 * 4 ^ n + 1215 * 3 ^ n - 80 * 2 ^ n + (- 1) ^ n). •

[**A016283**] • 0,0,1,12,100,720,4816,30912,193600,1194240,7296256,44301312,267904000,1615810560,9728413696,58504691712,351565004800,2111537479680,12677814747136,76101248090112,456744927232000 ⋆ a(n) = 6^n/8 - 4^(n-1) + 2^(n-3). • a(n) =((6 ^ n - 2 ^ n) / 4 - (4 ^ n - 2 ^ n) / 2) / 2 , n >= 0. - _ Zerinvary Lajos _ , Jun 05 2009 •

[**A199681**] • 12,100,892,8020,72172,649540,5845852,52612660,473513932,4261625380,38354628412,345191655700,3106724901292,27960524111620,251644717004572,2264802453041140,20383222077370252,183448998696332260 ⋆ 11*9^n+1. • a(n) = 9 * a(n - 1) - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). •

[**A109020**] • 0,1,12,101,760,5481,38852,273421,1918320,13441361,94128892,659020341,4613496680,32295539641,226071966132,1582513328861,11077621999940,77543440092321,542804338926572,3799631147326981,26597420355811800,186181949464251401,1303273667170466212 ⋆ (2*7^n - 3*3^n + 1)/6. • a(0)=0, a(1)=1, a(2)=12, a(n)=11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3) – From _ Harvey P. Dale _ , Aug 10 2012 •

[**A082151**] • 0,0,1,12,102,760,5295,35364,228956,1445616,8936685,54252220,324214242,1911205608,11132579003,64170616020,366497915640,2076171038176,11676266706969,65242364726124,362433045180830,2002838101907160,11015341078090503,60321223747375492 ⋆ A transform of C(n,2). • a(n) = C(n, 2) * (3 ^ (n - 2) + 5 ^ (n - 2)) / 2. • a(n) = x ^ 2 * (76 * x ^ 3 - 51 * x ^ 2 + 12 * x - 1) / ((1 - 3 * x) ^ 3 * (5 * x - 1) ^ 3). •

[**A133384**] • 12,102,1002,10002,100002,1000002,10000002,100000002,1000000002,10000000002,100000000002,1000000000002,10000000000002,100000000000002,1000000000000002,10000000000000002,100000000000000002 ⋆ Numbers with n 0's between 1 and 2. • a(n)=10 ^ n + 2, with n>=1 - _ Paolo P. Lava _ , Dec 19 2007 • a(n) = 10 ^ (n + 1) + 2; [From Vincenzo Librandi, Aug 10 2011] • a(0)=12, a(1)=102, a(n)=11 * a(n - 1) - 10 * a(n - 2). - _ Harvey P. Dale _ , Oct 03 2013 •

[**A016228**] • 1,12,103,774,5425,36456,238267,1527258,9651829,60352380,374321311,2306963022,14146953913,86407602384,526075008835,3194597025666,19358317017277,117103576420068,707389830102439,4268180838524790,25728294320699521,154965812371951032 ⋆ Expansion of 1/((1-x)*(1-5*x)(1-6*x)). • a(n) = (1 / 20) - (25 / 4) * 5 ^ n + (36 / 5) * 6 ^ n. [_ Antonio Alberto Olivares _ , Feb 06 2010] • a(0)=1, a(1)=12, a(n)=11 * a(n - 1) - 30 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 •

[**A016276**] • 1,12,103,786,5713,40656,286651,2012862,14109205,98822460,691932319,4844053578,33909961177,237374494824,1661635779907,11631493440534,81420583092829,569944468808148,3989612443394215 ⋆ Expansion of 1/((1-2x)(1-3x)(1-7x)). • a(n) = 4 * 2 ^ n / 5 - 9 * 3 ^ n / 4 + 49 * 7 ^ n / 20. - _ Antonio Alberto Olivares _ , Feb 03 2010 • a(n) = 12 * a(n - 1) - 41 * a(n - 2) + 42 * a(n - 3), n >= 3. • a(n) = 10 * a(n - 1) - 21 * a(n - 2) + 2 ^ n, a(0)=1, a(1)=12. •

[**A266959**] • 1,12,103,1004,10005,100006,1000007,10000008,100000009,1000000010,10000000011,100000000012,1000000000013,10000000000014,100000000000015,1000000000000016,10000000000000017,100000000000000018,1000000000000000019,10000000000000000020 ⋆ Smallest n-digit number ending in n. • a(n) = n + 10 ^ (n - 1) for n>1 with a(1) = 1. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3) for n>3. •

[**A173835**] • 1,12,104,1006,10008,100010,1000012,10000014,100000016,1000000018,10000000020,100000000022,1000000000024,10000000000026,100000000000028,1000000000000030,10000000000000032,100000000000000034 ⋆ 10^n+2*n. • a(n) = 11 * a(n - 1) - 10 * a(n - 2) - 18. - _ Vincenzo Librandi _ , Jul 06 2012 •

[**A004321**] • 1,12,105,816,5985,42504,296010,2035800,13884156,94143280,635745396,4280561376,28760021745,192928249296,1292706174900,8654327655120,57902201338905,387221678682300,2588713818544245 ⋆ Binomial coefficient C(3n, n-3). • a(n) = binomial(3n, n - 3), n > 2. - _ Wesley Ivan Hurt _ , Feb 04 2014 •

[**A016223**] • 1,12,105,820,6081,43932,312985,2212740,15576561,109385452,767096265,5375266260,37649233441,263634112572,1845796701945,12922008569380,90459786608721,633241412753292,4432781515242025,31029837110570100,217210325789494401,1520478144588475612 ⋆ Expansion of 1/((1-x)(1-4x)(1-7x)). • a(n) = (1 / 18) - (16 / 9) * 4 ^ (n - 1) + (49 / 18) * 7 ^ (n - 1). - _ Antonio Alberto Olivares _ , Feb 07 2010 • a(0)=1, a(1)=12, a(n) = 11 * a(n - 1) - 28 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 •

[**A037972**] • 0,1,12,108,800,5250,31752,181104,988416,5212350,26741000,134132856,660284352,3199016548,15288882000,72209880000,337535723520,1563410094390,7182839945160,32761238433000 ⋆ n^2*(n+1)*C(2*n-2,n-1)/2. • a(n)= sum(k ^ 3 * (C(n,k)) ^ 2,k,0,n) [From heruneedollar (heruneedollar(AT)gmail.com), Mar 20 2010] •

[**A053469**] • 1,12,108,864,6480,46656,326592,2239488,15116544,100776960,665127936,4353564672,28298170368,182849716224,1175462461440,7522959753216,47958868426752,304679870005248,1929639176699904,12187194800209920 ⋆ a(n) = n*6^(n-1). • a(n) = 12 * a(n - 1) - 36 * a(n - 2), n>0; a(0)=1. •

[**A155608**] • 1,12,108,1026,10080,100242,1000728,10002186,100006560,1000019682,10000059048,100000177146,1000000531440,10000001594322,100000000478296 8,1000000014348906,10000000043046720,100000000129140162 ⋆ 10^n + 3^n - 1. • a(n) = 13 * a(n - 1) - 30 * a(n - 2) - 18 with a(0)=1, a(1)=12. - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A016161**] • 1,12,109,888,6841,51012,372709,2687088,19200241,136354812,964249309,6798573288,47834153641,336059778612,2358521965909,16540171339488,115933787267041,812299450322412,5689910849522509 ⋆ Expansion of 1/((1-5x)(1-7x)). • a(n) = 7 * a(n - 1) + 5 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 •

[**A081200**] • 0,1,12,109,888,6841,51012,372709,2687088,19200241,136354812,964249309,6798573288,47834153641,336059778612,2358521965909,16540171339488,115933787267041,812299450322412,5689910849522509,39848449432985688 ⋆ 6th binomial transform of (0,1,0,1,0,1,....), A000035. • a(n) = 12 * a(n - 1) - 35 * a(n - 2), a(0)=0, a(1)=1. • a(n) = 7 ^ n / 2 - 5 ^ n / 2. • a(n) = sum(k =0..n - 1, 7 ^ k * 5 ^ (n - k - 1)), with a(0)=0. [_ Reinhard Zumkeller _ , Aug 01 2010] •

[**A016214**] • 1,12,109,912,7417,59700,478693,3832824,30672433,245408988,1963360477,15707149536,125657993449,1005266339076,8042137887061,64337124619848,514697061528865,4117576685941164,32940614068660045 ⋆ Expansion of 1/((1-x)(1-3x)(1-8x)). • a(n) = 11 * a(n - 1) - 24. • a(n) = (2 * 8 ^ (n + 2) - 7 * 3 ^ (n + 2) + 5) / 70. - _ Yahia Kahloune _ , May 19 2013 •

[**A037581**] • 1,12,109,984,8857,79716,717445,6457008,58113073,523017660,4707158941,42364430472,381279874249,3431518868244,30883669814197,277953028327776,2501577254949985,22514195294549868,202627757650948813,1823649818858539320,16412848369726853881 ⋆ Base 9 digits are, in order, the first n terms of the periodic sequence with initial period 1,3. • a(n) = (3 ^ (1 + 2 * n) + 2 * (- 1) ^ n - 5) / 20. a(n) = 9 * a(n - 1) + a(n - 2) - 9 * a(n - 3). G.f.: x * (3 * x + 1) / ((x - 1) * (x + 1) * (9 * x - 1)). [_ Colin Barker _ , Dec 27 2012] •

[**A177071**] • 12,110,306,600,992,1482,2070,2756,3540,4422,5402,6480,7656,8930,10302,11772,13340,15006,16770,18632,20592,22650,24806,27060,29412 ⋆ (7n + 3)(7n + 4). • a(n) = 98 * n + a(n - 1) with n>0, a(0)=12. • a(0)=12, a(1)=110, a(2)=306, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Oct 09 2011] •

[**A081183**] • 0,1,12,110,912,7204,55440,420344,3159168,23618320,176008128,1309074656,9724619520,72186895936,535605687552,3972913788800,29464372088832,218493396246784,1620132103941120,12012809774902784,89069225764835328 ⋆ 6th binomial transform of (0,1,0,2,0,4,0,8,0,16,...). • a(n) = 12 * a(n - 1) - 34 * a(n - 2) with n > 1, a(0)=0, a(1)=1. • a(n) = ((6 + sqrt(2)) ^ n - (6 - sqrt(2)) ^ n) / (2 * sqrt(2)). • a(n) = Sum _{ k=0..n } C(n,2k + 1) * 2 ^ k * 6 ^ (n - 2k - 1). •

[**A000559**] • 1,12,110,945,8092,70756,638423,5971350,57996774,585092607,6128147610,66579524648,749542556193,8733648533696,105203108066962,1308549777461505,16787682400875456,221901108871482760,3018891886411332135,42230736603244134242 ⋆ Generalized Stirling numbers of second kind. • a(n) = Sum _{ k=0..n } stirlingS2(n,k) * stirlingS2(k,3). •

[**A153597**] • 1,12,111,936,7569,59940,469503,3656016,28378593,219894588,1702241487,13170376440,101870548209,787824155988,6092161780959,47107744223904,364251591915201,2816463543593580,21777259989921327,168383822940467784 ⋆ a(n) = ((6 + sqrt(3))^n - (6 - sqrt(3))^n)/(2*sqrt(3)). • a(n) = 12 * a(n - 1) - 33 * a(n - 2) for n>1; a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 •

[**A199691**] • 12,111,1101,11001,110001,1100001,11000001,110000001,1100000001,11000000001,110000000001,1100000000001,11000000000001,110000000000001,1100000000000001,11000000000000001,110000000000000001 ⋆ 11*10^n+1. • a(n) = 10 * a(n - 1) - 9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[**A016152**] • 0,1,12,112,960,7936,64512,520192,4177920,33488896,268173312,2146435072,17175674880,137422176256,1099444518912,8795824586752,70367670435840,562945658454016,4503582447501312,36028728299487232 ⋆ a(n) = 4^(n-1)*(2^n-1). • a(n) = ((8 ^ (n + 1)) - 4 ^ (n + 1)) / 4. • a(n) = 12a(n - 1) - 32a(n - 2), n>0; a(0)=1. (End) • a(n) = - 4 ^ (n - 1) + 2 * 8 ^ (n - 1). •

[**A153882**] • 1,12,113,984,8305,69156,572417,4725168,38957089,321004860,2644388561,21781512072,179402099473,1477598319444,12169714749665,100231029093216,825511191878977,6798972400658028,55996821859648049,461193717895377720 ⋆ a(n) = ((6 + sqrt(5))^n - (6 - sqrt(5))^n)/(2*sqrt(5)). • a(n) = 12 * a(n - 1) - 31 * a(n - 2) for n>1, with a(0)=0, a(1)=1. • a(n) = 12 * a(n - 1) - 31 * a(n - 2). - _ G. C. Greubel _ , Aug 31 2016 •

[**A257287**] • 1,12,114,978,7926,61962,472614,3541578,26190726,191733162,1392520614,10049975178,72163811526,516030592362,3677517616614,26134444136778,185292033880326,1311149786699562,9262681804120614,65346572412186378 ⋆ a(n) = 6*7^n - 5*6^n. • a(n) = 13 * a(n - 1) - 42 * a(n - 2). - _ Vincenzo Librandi _ , May 04 2015 •

[**A154237**] • 1,12,114,1008,8676,73872,626184,5298048,44791056,378551232,3198883104,27030060288,228394230336,1929828955392,16306120554624,137778577993728,1164159319286016,9836554491620352,83113874320863744,702269857101754368 ⋆ a(n) = ((6 + sqrt(6))^n - (6 - sqrt(6))^n)/(2*sqrt(6)). • a(n) = 12 * a(n - 1) - 30 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[**A154247**] • 1,12,115,1032,9049,78660,681499,5896848,50998705,440975868,3812747971,32964675480,285006414601,2464101386292,21304030612075,184189427142432,1592456237959009,13767981468377580,119034546719719699 ⋆ a(n) = ((6 + sqrt(7))^n - (6 - sqrt(7))^n)/(2*sqrt(7)). • a(n) = 12 * a(n - 1) - 29 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[**A016204**] • 1,12,115,1050,9481,85392,768655,6918150,62263861,560375772,5043383995,45390460050,408514148641,3676627354152,33089646220135,297806816046750,2680261344551821,24122352101228532,217101168911581075 ⋆ Expansion of 1/((1-x)(1-2x)(1-9x)). • a(n) = (81 * 9 ^ n - 32 * 2 ^ n + 7) / 56. - _ Bruno Berselli _ , Feb 09 2011 • a(n) = 9 * a(n - 1) + 2 ^ (n + 1) - 1. - _ Vincenzo Librandi _ , Feb 09 2011 • a(0)=1, a(1)=12, a(2)=115, a(n) = 12 * a(n - 1) - 29 * a(n - 2) + 18 * a(n - 3). - _ Harvey P. Dale _ , Jun 05 2012 •

[**A154346**] • 1,12,116,1056,9424,83520,738368,6521856,57587968,508443648,4488860672,39629905920,349870772224,3088811900928,27269361188864,240745601040384,2125405099196416,18763984361226240,165656469557215232 ⋆ a(n)

= 12*a(n-1) - 28*a(n-2) for n>1, with a(0)=0, a(1)=1. • a(n) = 12 * a(n - 1) - 28 * a(n - 2) for n>1, with a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 12 2009 • a(n) = ((6 + 2 * sqrt(2)) ^ n - (6 - 2 * sqrt(2)) ^ n) / (4 * sqrt(2)). •

[A016142] • 1,12,117,1080,9801,88452,796797,7173360,64566801,581120892,5230147077,47071500840,423644039001,3812797945332,34315186290957,308836690967520,2779530261754401,25015772484929772,225141952751788437 ★ Expansion of 1/((1-3x)(1-9x)). • a(n) = (1 / 6) * (9 ^ (n + 1) - 3 ^ (n + 1)). • a(n - 1) = Sum _{ i=1..n } binomial(n, i) * 3 ^ (n - i) * 6 ^ (i - 1). - Sam Handler (sam _ 5 _ 5 _ 5 _ 0(AT)yahoo.com), Jun 29 2004 • a(n) = 12 * a(n - 1) - 27 * a(n - 2), a(0)=1, a(1)=12. - _ Vincenzo Librandi _ , Mar 14 2011 •

[A077251] • 1,12,119,1178,11661,115432,1142659,11311158,111968921,1108378052,10971811599,108609737938,1075125567781,10642645939872,105351333830939,1042870692369518,10323355589864241,102190685206272892,1011583496472864679,10013644279522373898 ★ Bisection (even part) of Chebyshev sequence with Diophantine property. • a(n) = 10 * a(n - 1) - a(n - 2), a(- 1) = - 2, a(0)=1. •

[A133386] • 0,0,0,0,12,120,750,3780,16856,69552,272250,1026300,3762132,13498056,47615750,165683700,570024240,1942538592,6566094450,22038141420,73510278380,243854707320,804962754750,2645408201700,8658857196552 ★ Number of forests of labeled rooted trees with n nodes, containing exactly 2 trees of height one, all others having height zero. • a(n) = n * (n - 1) * stirling2(n - 1,3). • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=12, a(5)=120, a(6)=750, a(7)=3780, a(8)=16856, a(n)=18 * a(n - 1) - 141 * a(n - 2) + 630 * a(n - 3) - 1767 * a(n - 4) + 3222 * a(n - 5) - 3815 * a(n - 6) + 2826 * a(n - 7) - 1188 * a(n - 8) + 216 * a(n - 9). - _ Harvey P. Dale _ , May 02 2015 •

[A059155] • 12,120,1008,8160,65472,524160,4194048,33553920,268434432,2147481600,17179865088,137438945280,1099511611392,8796092989440,70368744112128,562949953290240,4503599627108352,36028797018439680,288230376150663168,2305843009211596800,18446744073705357312 ★ A hierarchical sequence (S(W'2{3}c) - see A059126). • a(n) = 2 ^ (n + 2) * (4 ^ (n + 1) - 1). - _ Peter Luschny _ , May 08 2014 •

[A291391] • 12,120,1080,9180,75168,599616,4691520,36164880,275503680,2078711424,15559682688,115688917440,855249269760,6291326453760,46080184338432,336227628720384,2445042642140160,17726787591690240,128173151784867840,924487654349822976 ★ p-INVERT of (1,1,0,0,0,0,...), where p(S) = (1 - 6 S)^2. • a(n) = 12 * a(n - 1) - 24 * a(n - 2) - 72 * a(n - 3) - 36 * a(n - 4) for n >= 5. •

[A115902] • 1,12,120,1120,10080,88704,768768,6589440,56010240,472975360,3972993024,33228668928,276905574400,2300446310400,19060840857600,157569617756160,1299949346488320,10705465206374400,88022713919078400,722712809019801600,5926245033962373120 ★ Expansion of (1-8*x)^(-3/2). • a(n) = Jacobi _ P(n,1 / 2,1 / 2,1) * 8 ^ n. • a(n) = 2 ^ n * (2 * n + 1) * binomial(2 * n,n). •

[A277491] • 1,12,120,1128,10344,93864,847848,7642920,68835432,619715496,5578225896,50207178792,451877192040,4066945060008,36602706866664,329425167106344,2964829725182568,26683480411545000,240151375243512552,2161362583350043176,19452264074784109416 ★ Number of triangles in the standard triangulation of the n-th approximation of the Koch snowflake fractal. • a(n) = 13 * a(n - 1) - 36 * a(n - 2) for n>1, a(0)=1, a(1)=12. • a(n) = (8 * 9 ^ n - 3 * 4 ^ n) / 5. •

[A266393] • 12,120,1152,11520,122400,1391040,16934400,220631040,3069964800,45505152000,716586393600,11955879936000,210797108121600,3917792406528000,76577410990080000,1570715682471936000,33740509429186560000 ★ Number of permutations of n letters that contain exactly 3 distinguishable A's, 2 distinguishable B's and n-5 distinguishable other letters, where no A's are adjacent and no B's are adjacent. • a(n) = (n - 3)! * (n ^ 3 - 11 * n ^ 2 + 44 * n - 64). •

[A004291] • 1,12,120,1188,11760,116412,1152360,11407188,112919520,1117788012,11064960600,109531817988,1084253219280,10733000374812,106245750528840,1051724504913588,10410999298607040,103058268481156812,1020171685512961080,10098658586648453988 ★ Expansion of (1 + 2*x + x^2)/(1 - 10*x + x^2). • a(n) = sqrt(3 / 2) * (- (5 - 2 * sqrt(6)) ^ n + (5 + 2 * sqrt(2)) ^ n) for n > 0. - _ Colin Barker _ , Jan 25 2016 •

[A037511] • 1,12,120,1201,12012,120120,1201201,12012012,120120120,1201201201,12012012012,120120120120,1201201201201,120120120120120,1201201201201201 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,2,0. • a(n)=10 * a(n - 1) + (n mod 3), with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A098297] • 0,1,12,121,1200,11881,117612,1164241,11524800,114083761,1129312812,11179044361,110661130800,1095432263641,10843661505612,107341182792481,1062568166419200,10518340481399521,104120836647576012 ★ Member r=12 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n) = 10 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. • a(n)= 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=12. •

[A037543] • 1,12,121,1211,12112,121121,1211211,12112112,121121121,1211211211,12112112112,121121121121,1211211211211,121121121121121,1211211211211211 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,2,1. • a(n)=10 * a(n - 1) + (1 / 9) *{ 7 * (n mod 3) + [(n + 1) mod 3] + 4 * [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037487] • 1,12,121,1212,12121,121212,1212121,12121212,121212121,1212121212,12121212121,121212121212,1212121212121,12121212121212,121212121212121,1212121212121212,12121212121212121,121212121212121212,1212121212121212121,12121212121212121212 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,2. • a(n) = 10 * a(n - 1) + (1 / 2) * (3 + (- 1) ^ n), with a(0)=0. Closed form: a(n)= - (1 / 6) + (1 / 22) * (- 1) ^ n + (4 / 33) * 10 ^ n, with n>=1. - _ Paolo P. Lava _ , Jul 30 2009, typo corrected by _ M. F. Hasler _ , Jan 13 2013 • a(n) = floor(4 / 33) * 10 ^ n). - _ Hieronymus Fischer _ , Jan 03 2013 • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3). G.f.: x * (2 * x + 1) / ((x - 1) * (x + 1) * (10 * x - 1)). - _ Colin Barker _ , Apr 30 2014 •

[A037551] • 1,12,122,1221,12212,122122,1221221,12212212,122122122,1221221221,12212212212,122122122122,1221221221221,12212212212212,1221221221221221,122122122122122122,1221221221221221 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,2,2. • a(n)=10 * a(n - 1) + (1 / 9) *{ 5 * (n mod 3) + 2 * [(n + 1) mod 3] + 8 * [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] • a(1)=1, a(2)=12, a(3)=122, a(4)=1221, a(n)=10 * a(n - 1) + a(n - 3) - 10 * a(n - 4). - _ Harvey P. Dale _ , Jan 20 2015 •

[A090843] • 1,12,122,1222,12222,122222,1222222,12222222,122222222,1222222222,12222222222,122222222222,1222222222222,12222222222222,122222222222222,1222222222222222,12222222222222222 ★ Number of nodes on a tree with degree 11 interior nodes and degree 1 boundary nodes. • a(n) = (11 * 10 ^ n - 2) / 9. • a(n) = 10 * a(n - 1) + 2, a(0) = 1. - _ Philippe Deléham _ , Feb 23 2014 • a(n) = 11 * a(n - 1) - 10 * a(n - 2), a(0) = 1, a(1) = 12. - _ Philippe Deléham _ , Feb 23 2014 •

[A001703] • 12,123,234,345,456,567,678,789,8910,91011,101112,111213,121314,131415,141516,151617,161718,171819,181920,192021,202122,212223,222324,232425,242526 ★ Decimal concatenation of n, n+1, and n+2. • a(n) = (n - 1) * 10 ^ floor[log10(b) + 1] + b, with b=n * 10 ^ floor[log10(n + 1) + 1] + n + 1 and n>=1. - _ Paolo P. Lava _ , Aug 04 2008 •

[A037701] • 1,12,123,1230,12301,123012,1230123,12301230,123012301,1230123012,12301230123,123012301230,1230123012301,12301230123012,123012301230123,1230123012301230,12301230123012301,123012301230123012,1230123012301230123,12301230123012301230 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,2,3,0. • a(n)=10 * a(n - 1) + (n mod 4), with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] • a(0)=1, a(1)=12, a(2)=123, a(3)=1230, a(4)=12301, a(n)=10 * a(n - 1) + a(n - 4) - 10 * a(n - 5). - _ Harvey P. Dale _ , Jun 07 2011 •

[A037610] • 1,12,123,1231,12312,123123,1231231,12312312,123123123,1231231231,12312312312,123123123123,1231231231231,12312312312312,1231231231231231 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,2,3. • a(n) = 10 * a(n - 1) + ((n + 2) mod 3) + 1, with a(0)=0. - _ Paolo P. Lava _ , Jul 30 2009 • a(n) = floor((41 / 333) * 10 ^ n). - _ Hieronymus Fischer _ , Jan 03 2013 • a(n) = 10 * a(n - 1) + a(n - 3) - 10 * a(n - 4). G.f.: x * (3 * x ^ 2 + 2 * x + 1) / ((x - 1) * (10 * x - 1) * (x ^ 2 + x + 1)). - _ Colin Barker _ , Apr 30 2014 •

[A057137] • 0,1,12,123,1234,12345,123456,1234567,12345678,123456789,1234567890,12345678901,123456789012,1234567890123,12345678901234,123456789012345,1234567890123456,12345678901234567,123456789012345678 ★ Concatenate next digit at right hand end (where the next digit after 9 is again 0). • a(n) = 10 * a(n - 1) + (n mod 10). - _ Paolo P. Lava _ , Feb 01 2008 • a(n) = floor((137174210 / 1111111111) * 10 ^ n). - _ Hieronymus Fischer _ , Jan 03 2013, corrected by _ M. F. Hasler _ , Jan 13 2013 •

[A252043] • 1,12,123,1234,12345,123456,1234567,12345678,123456789,1234567891,12345678910,123456789101,1234567891011,12345678910111,123456789101112,1234567891011121,12345678910111213,123456789101112131,1234567891011121314 ★ a(n) is the concatenation of first n terms of A033307. • a(n) = floor(C * 10 ^ n) with C the Champernowne constant, 0.12345678910111213141 5..., A033307. •

[A014824] • 0,1,12,123,1234,12345,123456,1234567,12345678,123456789,1234567900,12345679011,123456790122,1234567901233,12345679012344,1234567901234455,12345679012345566,123456790123456677,1234567901234567788,12345679012345679899,123456790123456789010 ★ a(0) = 0; for n>0, a(n) = 10*a(n-1) + n. • a(n) = (10 ^ n - 1) * (10 / 81) - n / 9. - _ Henry Bottomley _ , Jul 04 2000 • a(n) / 10 ^ n converges to 10 / 81 = 0.123456790123456790... • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3), n>2. - _ Wesley Ivan Hurt _ , Sep 15 2015 • a(n) = Sum _{ i=0..n } 9 ^ i * binomial(n + 1,n - 1 - i). [_ Bruno Berselli _ , Nov 13 2015] •

[A226737] • 1,12,123,1334,14645,161056,1771567,19487178,214358889,2357947700,25937424611,285311670622,3138428376733,34522712143944,379749833583255,4177248169415666,45949729863572177,505447028499293788,5559917313492231499,61159090448414546310 ★ 11^n + n. • a(n) = 13 * a(n - 1) - 23 * a(n - 2) + 11 * a(n - 3). •

[A163147] • 1,12,124,1208,11456,107232,997184,9242368,85517056,790574592,7305293824,67488831488,623410712576,5758241390592,53185308114944,491231692423168,4537090136866816,41905067449516032,387038978271084544 ★ a(n) = 14*a(n-1)-44*a(n-2) for n > 1; a(0) = 1, a(1) = 12. • a(n) = ((1 + sqrt(5)) * (7 + sqrt(5)) ^ n + (1 - sqrt(5)) * (7 - sqrt(5)) ^ n) / 2. •

[A016134] • 1,12,124,1248,12496,124992,1249984,12499968,124999936,1249999872,12499999744,124999999488,1249999998976,12499999997952,124999999995904,1249999999991808,12499999999983616,124999999999967232 ★ Expansion of 1/((1-2x)(1-10x)). • a(n) = 125 * 10 ^ (n - 2) - 2 ^ (n - 2) = a(n - 1) * 10 + 2 ^ n. - _ Henry Bottomley _ , Jun 06 2000 • a(n) = (5 * 10 ^ n - 2 ^ n) / 4. - _ Michael Somos _ , Dec 03 2016 •

[A155595] • 1,12,124,1338,14656,161082,1771624,19487298,214359136,2357948202,25937425624,285311672658,3138428380816,34522712152122,379749833599624,4177248169448418,45949729863637696,505447028499424842 ★ 11^n+2^n-

1. • a(n)=13 * a(n - 1) - 22 * a(n - 2) - 10 with a(0)=1, a(1)=12 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A178626**] • 1,12,125,1262,12649,126560,1265769,12658098,126581965,1265822028,12658226021,126582274070,1265822774161,12658227822392,1265822784 18945,1265822784660282,12658227847739509,126582278480139300 ★ Convolution of Pell(n) and 10^n • a(n)= 10 * a(n - 1) + Pell(n) with a(1)= Pell(1) = 1 • a(n)= + 12 * a(n - 1) - 19 * a(n - 2) - 10 * a(n - 3) G.f.: x / ((10 * x - 1) * (x ^ 2 + 2 * x - 1)). [From _ R. J. Mathar _ , May 31 2010] •

[**A159736**] • 12,126,1176,10290,86436,705894,5647152,44471322,345888060,2663338062,20338217928,154231485954,1162668124884,8720010936630,65109414993504,484251274014186,3589156501516908,26519878594541598,195409631749253880 ★ Number of permutations of 6 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. • a(n)=(copies * n) * (copies + 1) ^ (n - 2) •

[**A004991**] • 1,12,126,1260,12285,117936,1120392,10563696,99034650,924323400,8596207620,79710288840,737320171770,6806032354800,62712726697800,576957085619760 ★ (3^n/n!)*product[k=0..n-1](3*k + 4). • a(n)=(3 ^ (2 * n)) / (integral _{ x=0 to 1 } (1 - x ^ 3) ^ n dx). E.g. a(3)=1260. - Al Hakanson (hawkuu(AT)excite.com), Dec 04 2003 •

[**A215774**] • 0,12,127,742,3157,10857,31899,82929,195459,425139,864864,1662661,3045406,5349526,9059946,14858646,23684298,36804558,55902693,83180328,121478203,174416935,246559885,343600335,472575285 ★ Number of undirected labeled graphs on n+4 nodes with exactly n cycle graphs as connected components. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (15 * n ^ 3 + 30 * n ^ 2 + 245 * n + 286) / 5760. •

[**A163414**] • 1,12,130,1336,13316,130224,1257992,12053984,114868240,1090544832,10326886432,97616403328,921595494464,8693310905088,8195405382464 0,7722795850787 84,7275322024132864,6852381811241216,64531112428362188 8 ★ a(n) = 16*a(n-1) - 62*a(n-2) for n>1, a(0)=1, a(1)=12. • a(n) = ((1 + 2 * sqrt(2)) * (8 + sqrt(2)) ^ n + (1 - 2 * sqrt(2)) * (8 - sqrt(2)) ^ n) / 2. •

[**A111777**] • 1,12,130,1380,15435,182280,2302020,30958200,444230325,6771510900,109568809350,1874844071100,33875023557375,644264598978000,12877256933541000,269789087886318000,5915648230774907625 ★ Fourth column (m=3) of unsigned triangle A111595. • a(n)=(n! / 3!) * sum(binomial(2 * k, k) * binomial(n - 2 * k - 1, 2) / (4 ^ k), k=0..floor((n - 3) / 2)), n>=3. •

[**A097783**] • 1,12,131,1429,15588,170039,1854841,20233212,220710491,2407582189,26262693588,286482047279,3125039826481,34088956044012,371853476657651,4056299287190149,44247438682433988,482665526219583719,5265073349732986921,57433141320843272412 ★ Chebyshev polynomials S(n,11) + S(n-1,11) with Diophantine property. • a(n) = S(n, 11) + S(n - 1, 11) = S(2 * n, sqrt(13)), with S(n, x)=U(n, x / 2) Chebyshev's polynomials of the 2nd kind, A049310. S(- 1, x)= 0 = U(- 1, x). • a(n) = (- 2 / 3) * I * ((- 1) ^ n) * T(2 * n + 1, 3 * I / 2) with the imaginary unit I and Chebyshev's polynomials of the first kind. See the T - triangle A053120. • a(n) = 11 * a(n - 1) - a(n - 2) with a(0)=1 and a(1)=12. - _ Philippe Deléham _ , Nov 17 2008 •

[**A111085**] • 1,12,132,847,3921,14286,43687,116757,280656,619219,1273125,2467302,4547458,8027223,13648170,22454470,35884827,55883718,85034962,126719913,185303679,266351932,376882089,525651699,723488194 ★ Number of semi-magic 3-dimensional hypercubes with 27 entries and magic sum n. • a(n) = 81 * (- 1) ^ n / 256 + 513 * n ^ 3 / 160 + 3653 * n ^ 2 / 1120 + 27 * (- 1) ^ n * n / 128 + 1341 * n ^ 4 / 640 + 297 * n ^ 5 / 320 + 87 * n ^ 6 / 320 + 27 * n ^ 7 / 560 + 9 * n ^ 8 / 2240 + 175 / 256 + 9087 * n / 4480. - R. J. Mathar, Nov 04 2011 •

[**A002721**] • 1,12,132,847,3921,14506,45402,124707,308407,699766,1477686,2936517,5540107,9993192,17333536,29048541,47220357,74703832,115341952,174223731,257989821,375191422,536708382,756232687,1050823851 ★ Number of 3 X 3 X 3 arrays M_ijk (1 <= i,j,k <= 3) with entries satisfying 0 <= M_ijk <= n and all line sums equal to n. • a(n) = (1 / 4032) * m * (m * (m * (31 * m + 1004) + 6820) + 4272) + 1, where m = n * (n + 1) (from the Bell reference). - _ Sean A. Irvine _ , Jul 01 2014 •

[**A165150**] • 1,12,132,1392,14352,146112,1476672,14860032,149160192,1494961152,14969766912,149818601472,1498911608832,14993469652992,149960817917952,149976490750771 2,149985894450462 72,149991536670277632 ★ a(n) = (3*10^n-6^n)/2. • a(n) = 16 * a(n - 1) - 60 * a(n - 2) for n > 1; a(0) = 1, a(1) = 12. •

[**A190873**] • 0,1,12,132,1440,15696,171072,1864512,20321280,221481216,2413919232,26309256192,286744043520,3125217447936,34061680852992,371237560860672,4046110560092160,44098475990777856,480628385168228352,5238358910129405952,57092766299534131200 ★ a(n) = 12*a(n-1) - 12*a(n-2), a(0)=0, a(1)=1. • a(n) = 2 ^ (n - 2) * ((3 + sqrt(6)) ^ n - (3 - sqrt(6)) ^ n) / sqrt(6). •

[**A097826**] • 1,12,132,1441,15720,171480,1870561,20404692,222581052,2427986881,26485274640,288910034160,3151525101121,34377866078172,375005001758772,4090677153268321,44622443684192760,486756203372852040,5309695793417179681,57919897524216124452 ★ Partial sums of Chebyshev sequence S(n,11) = U(n,11/2) = A004190(n). • a(n) = 12 * a(n - 1) - 12 * a(n - 2) + a(n - 3) with n>=2, a(- 1)=0, a(0)=1, a(1)=12. • a(n) = 11 * a(n - 1) - a(n - 2) + 1 with n>=1, a(- 1)=0, a(0)=1. • a(n) = (S(n + 1, 11) - S(n, 11) - 1) / 9. • a(n) = (2 ^ (- n) * (- 13 * 2 ^ n + (65 - 18 * sqrt(13)) * (11 - 3 * sqrt(13)) ^ n + (11 + 3 * sqrt(13)) ^ n * (65 + 18 * sqrt(13)))) / 117. - _ Colin Barker _ , Mar 06 2016 •

[**A003954**] • 1,12,132,1452,15972,175692,1932612,21258732,233846052,2572306572,28295372292,311249095212,3423740047332,37661140520652,414272545727172,4556998002998892,50126978032987812 ★ G.f.: (1+x)/(1-11*x). • a(0) = 1; for n>0, a(n) = 12 * 11 ^ (n - 1). - _ Vincenzo Librandi _ , Nov 18 2010 • a(0) = 1, a(1)=12, a(n) = 11 * a(n - 1). - _ Vincenzo Librandi _ , Dec 10 2012 •

[**A016123**] • 1,12,133,1464,16105,177156,1948717,21435888,235794769,2593742460,28531167061,313842837672,3452271214393,37974983358324,417724816941565,4594972986357216,50544702849929377,555991731349223148 ★ a(n) = (11^(n+1) - 1)/10. • a(n) = Sum _{ k=0..n } 11 ^ k = (11 ^ (n + 1) - 1) / 10. • a(0)=1, a(n) = 11 * a(n - 1) + 1. - _ Vincenzo Librandi _ , Feb 05 2011 • a(0)=0, a(1)=1, a(n) = 12 * a(n - 1) - 11 * a(n - 2). - _ Harvey P. Dale _ , Apr 05 2012 •

[**A015457**] • 1,1,12,133,1475,16358,181413,2011901,22312324,247447465,2744234439,30434026294,337518523673,3743137786697,41512034177340,460375513737437,5105642685289147,56622445051918054,627952538256387741,6964100365872183205,77233056562850402996 ★ Generalized Fibonacci numbers. • a(n) = 11 * a(n - 1) + a(n - 2). • a(n) = (9 / 50) * [11 / 2 - (5 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 2) * [11 / 2 - (5 / 2) * sqrt(5)] ^ n - (9 / 50) * sqrt(5) * [11 / 2 + (5 / 2) * sqrt(5)] ^ n + (1 / 2) * [11 / 2 + (5 / 2) * sqrt(5)] ^ n, with n>= 0. - _ Paolo P. Lava _ , Jul 09 2008 •

[**A214994**] • 12,134,1487,16492,182900,2028393,22495224,249475858,2766729663,30683502152,340285253336,3773821288849,41852319430676,464149335026286,5147495004719823,57086594386944340,633100033261107564,7021186960259127545,77866156596111510560 ★ Power ceiling sequence of (golden ratio)^5. • a(n) = ceiling(x * a(n - 1)), x=((1 + sqrt(5)) / 2) ^ 5, a(0) = ceiling(x). • a(n) = 12 * a(n - 1) - 10 * a(n - 2) - a(n - 3). • a(n) = (1 / 550) * (- 50 + (3325 - 1487 * sqrt(5)) * ((11 - 5 * sqrt(5)) / 2) ^ n + ((11 + 5 * sqrt(5)) / 2) ^ n * (3325 + 1487 * sqrt(5))). - _ Colin Barker _ , Nov 13 2017 •

[**A059517**] • 0,0,12,138,1056,7050,44472,273378,1659936,10018650,60289032,362265618,2175188016,13055911050,78349815192,470141937858,2820980767296,16926272024250,101558794406952,609356253226098,3656147979709776,21936919259318250,131621609699088312 ★ The sequence A059515(3,n). Number of ways of placing n identifiable nonnegative intervals with a total of exactly three starting and/or finishing points. • a(n) = 10 * a(n - 1) - 27 * a(n - 2) + 18 * a(n - 3) for n>3. - _ Colin Barker _ , Sep 13 2014 •

[**A163448**] • 1,12,142,1664,19364,224208,2586488,29757376,341671696,3917211072,44860395232,513321219584,5870105658944,67096633659648,766662318616448,8757776273683456,100022618249257216,1142190290164165632 ★ a(n) = 20*a(n-1) - 98*a(n-2) for n > 1; a(0) = 1, a(1) = 12. • a(n) = ((1 + sqrt(2)) * (10 + sqrt(2)) ^ n + (1 - sqrt(2)) * (10 - sqrt(2)) ^ n) / 2. • a(n) = (31 * (10 - sqrt(2)) ^ n - 41 * sqrt(2) * (10 - sqrt(2)) ^ n + 49 * (10 + sqrt(2)) ^ n + 49 * sqrt(2) * (10 + sqrt(2)) ^ n) / (98 * (10 + sqrt(2))). - _ Harvey P. Dale _ , Nov 14 2011 •

[**A172210**] • 1,12,143,770,3368,12632,38566,98968,222351,450682,843169,1479116,2460912,3917228,6006056,8917888,12878847,18153806,25049515,33917724,45158308,59222392,76615476,97900560,123701269 ★ Number of ways to place 5 nonattacking bishops on a 5 X n board. • a(n) = (625n ^ 5 - 11250n ^ 4 + 98875n ^ 3 - 515250n ^ 2 + 1566016n - 2194944) / 24, n>=16. •

[**A001021**] • 1,12,144,1728,20736,248832,2985984,35831808,429981696,5159780352,61917364224,743008370688,8916100448256,106993205379072,1283918464548864,15407021574586368,184884258895036416,2218611106740436992 ★ Powers of 12. • a(n) = 12 * a(n - 1). - _ Zerinvary Lajos _ , Apr 27 2009 • a(n) = det(|ps(i + 2, j)|, 1 <= i, j <= n), where ps(n, k) are Legendre - Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 04 2013 •

[**A174227**] • 1,1,12,145,1764,21602,266232,3301349,41178660,516512462,6513158376,82542517386,1051024082472,13442267711940,172638285341040,2225824753934445,28802104070304420,373966734921011990 ★ Expansion of (1-10x+sqrt((1-10x)(1-14x))/(2x). • a(n) = sqrt(5 / 7) * 10 ^ n * (6 * hypergeom([1 / 2, n + 1],[1],2 / 7) - 7 * hypergeom([1 / 2, n],[1],2 / 7)) / (n + 1) for n > 0. [From _ Mark van Hoeij _ , Jul 02 2010] •

[**A015610**] • 0,1,12,149,1848,22921,284292,3526109,43734768,542447761,6728046972,83448802469,1035025864488,12837554386201,159225781956852,1974897155413229,24494894774743008,303813223073982241,3768233150761501932,46737863924507934389 ★ a(n) = 12*a(n-1) + 5*a(n-2). • a(n) = (1 / 82) * sqrt(41) * ((6 + sqrt(41)) ^ n - (6 - sqrt(41)) ^ n). - _ Paolo P. Lava _ , Jan 13 2009 •

[**A068768**] • 1,1,12,150,1944,25992,356832,5008824,71629920,1040509152,15315578496,227981324736,3426473187072,51929043390720,792725911280640,12178706839758720,188158789025809920,2921622674591946240 ★ Generalized Catalan numbers. • a(n) = (6 ^ n) * p(n, - 5 / 6) with the row polynomials p(n, x) defined from array A068763. • a(n + 1) = 6 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1=a(1). •

[**A015611**] • 0,1,12,151,1896,23809,298980,3754423,47145936,592032193,7434407868,93357119767,1172326292280,14721415345729,184863268194708,2321409125756599,29150952386442144,366061292517601921,4596792176916318060,57723935170619030167 ★ a(n) = 12*a(n-1) + 7*a(n-2). • a(n) = (1 / 86) * sqrt(43) * ((6 + sqrt(43)) ^ n - (6 - sqrt(43)) ^ n). - _ Paolo P. Lava _ , Jan 13 2009 •

[**A015612**] • 0,1,12,155,1992,25609,329220,4232339,54409488,699469585,8992139388,115599838091,1486111590360,19104937303321,245606475133812,3157432011942275,40590855369779232,521822016568715809,6708363607892161260,86240405476961809019 ★ a(n) = 12*a(n-1) + 11*a(n-2). • a(n) = (1 / 94) * (6 + sqrt(47)] ^ n * sqrt(47) - (1 / 94) * sqrt(47) * (6 - sqrt(47)) ^ n, with n >= 0. - _ Paolo P. Lava _ , Aug 06 2008 •

[**A082173**] • 1,1,12,155,2124,30482,453432,6936799,108507180,1727970542,27924685416,456820603086,7550600079672,125905525750500,211551134983704

0,357825478917274 95,6087877603500454 20,10411451736723707990 ⋆ a(0)=1, for n>=1 a(n)=sum(k=0,n,11^k*N(n,k)) where N(n,k) =1/n*C(n,k)*C(n,k+1) are the Narayana numbers (A001263). • a(n) = [12(2n - 1)a(n - 1) - 100(n - 2)a(n - 2)] / (n + 1) for n>=2, a(0) = a(1) = 1 . - _ Philippe Deléham _ , Aug 19 2005 • a(n) = upper left term in M ^ n, M = the production matrix: •

[A097259] • 0,12,156,168,2028,2040,2184,2196,26364,26376,26520,26532,28392,28404,28548,28560,342732,342744,342888,342900,344760,344772,344916,344928,369096 ⋆ Numbers whose set of base 13 digits is {0,C}, where C base 13 = 12 base 10. • a(2n) = 13 * a(n), a(2n + 1) = a(2n) + 12. •

[A158546] • 12,156,588,1308,2316,3612,5196,7068,9228,11676,14412,17436,20748,24348,28236,32412,36876,41628,46668,51996,57612,63516,69708,76188,82956 ⋆ 144n^2 + 12. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A098400] • 1,12,160,2240,32256,473088,7028736,105431040,1593180160,24216338432,369849532416,5671026163712,87246556364800,1346089726771200,20819521107394560,322702577164615680,5011381198321090560 ⋆ a(n) = 4^n*binomial(2n+1,n). • a(n) = 4 ^ n * hypergeom([1 - n, - n],[2],1) * (2 * n + 1). - _ Peter Luschny _ , Sep 22 2014 •

[A143583] • 1,12,164,2352,34596,516912,7806224,118803648,1818757924,27972399792,431824158864,6686855325888,103814819552016,1615296581684928,25180747436810304,393189646497706752,6148451986328464164 ⋆ Apery-like numbers: a(n) = (1/C(2n,n))*sum {k = 0..n} C(2k,k)*C(4k,2k)*C(2n-2k,n-k)*C(4n-4k,2n-2k). • a(n) = (1 / C(2n,n)) * sum { k = 0..n } C(2k,k) * C(4k,2k) * C(2n - 2k,n - k) * C(4n - 4k,2n - 2k). • a(0) = 1, a(1) = 12, n ^ 2 * a(n) = 4 * (8 * n ^ 2 - 8 * n + 3) * a(n - 1) - 256 * (n - 1) ^ 2 * a(n - 2). • a(n) = sum { k = 0..n } 4 ^ (n - k) C(2k,k) ^ 2 * C(2n - 2k,n - k). - _ Tito Piezas III _ , Dec 12 2014 • a(n) = hypergeom([1 / 2,1 / 2,n + 1],[1,n + 3 / 2],1) * 2 ^ (5 * n + 1) * n! / ((2 * n + 1)!! * Pi) - _ G. A. Edgar _ , Dec 10 2016 •

[A046174] • 0,1,12,165,2296,31977,445380,6203341,86401392,1203416145,16761424636,233456528757,3251629977960,45289363162681,630799454299572,8785902997031325,122371842504138976,1704419892060914337 ⋆ Indices of pentagonal numbers which are also triangular. • a(n) = 14 * a(n - 1) - a(n - 2) - 2; g.f.: x * (1 - 3 * x) / ((1 - x) * (1 - 14 * x + x ^ 2)). - _ Warut Roonguthai _ , Jan 05 2001 • a(n + 1) = 7 * a(n) - 1 + 2 * (12 * a(n) ^ 2 - 4 * a(n) + 1) ^ 0.5. - _ Richard Choulet _ , Sep 19 2007 • a(n) = (1 / 6) - (1 / 12) * sqrt(3) *{ [7 - 4 * sqrt(3)] ^ n - [7 + 4 * sqrt(3)] ^ n } - (1 / 12) *{ [7 + 4 * sqrt(3)] ^ n + [7 - 4 * sqrt(3)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Nov 25 2008 • a(n + 1) = 15 * a(n) - 15 * a(n - 1) + a(n - 2), a(1)=1, a(2)=12, a(3)=165. - _ Sture Sjöstedt _ , May 29 2009 •

[A099745] • 0,0,0,0,12,168,1409,9187,51362,258674,1207855,5326205,22459080,91368900,360977373,1391835607,5257593566,19515948358,71358739003,257521313441,918732810340,3244576312440,11355547678665,39423281302875,135876498446042 ⋆ Number of permutations of [n] with exactly 2 valleys which avoid the permutation 1324. • a(n) = (162 * (- 239 * 2 ^ n + 80 * 3 ^ (1 + n)) - (9909 * 2 ^ n + 6128 * 3 ^ n) * n - 24 * (27 * 2 ^ n - 2 * 3 ^ n) * n ^ 2 + (27 * 2 ^ n + 32 * 3 ^ n) * n ^ 3) / 2592. - _ Colin Barker _ , Feb 14 2017 •

[A079679] • 1,12,168,2424,35400,520236,7674144,113482584,1681028136,24932533800,370144424376,5499182587416,81748907485248,1215834858032820,18090048027643200,269246037610828656,4008495234662771688 ⋆ a(n) = a(n,m) = sum(k=0,n,binomial(m*k,k)*binomial(m*(n-k),n-k)) for m=6. • a(n) = 3 / 5 * (46656 / 3125) ^ n * (1 + c / sqrt(n) + o(n ^- 1 / 2)) where c=0.388... • a(n) = sum(k=0,n,binomial(6 * k + l,k) * binomial(6 * (n - k) - l,n - k)) for every real number l. - _ Rui Duarte _ and António Guedes de Oliveira, Feb 16 2013 • a(n) = sum(k=0,n,5 ^ (n - k) * binomial(6n + 1,k)). - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 • a(n) = sum(k=0,n,6 ^ (n - k) * binomial(5n + k,k)) - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 •

[A027772] • 12,169,1274,6825,29120,105196,334152,957372,2519400,6172530,14226212,31097794,64899744,130007500,251100200,469364220,851809140,1504982115,2594796750,4374736275,7225370880,11708971560,18644037360,29205813000,45060397200 ⋆ (n+1)*C(n+1,12). • a(n) = C(n + 1, 12) * C(n + 1, 1). - _ Zerinvary Lajos _ , Jun 08 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[A099270] • 0,1,12,169,2352,32761,456300,6355441,88519872,1232922769,17172398892,239180661721,3331356865200,46399815451081,646266059449932,9001325016847969,125372284176421632,1746210653453054881 ⋆ Unsigned member r=-12 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n) = 13 * a(n - 1) + 13 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=12. • a(n) = 14 * a(n - 1) - a(n - 2) - 2 * (- 1) ^ n, a(0)=0, a(1)=1. a(- n)=a(n). •

[A120662] • 0,12,173,861,4979,25545,132419,670689,3390203,17039337,85505555,428366577,2144524907,10730349369,53675623811,268448345025,1342455212891,6712910908041,33566470310387,167838076383633 ⋆ Sequence produced by 10 X 10 Markov chain based on 10 X 10 pentagonal prism bonding graph (3d analog of D5 dihedral and so(5) groups). • a(n) = 6 * a(n - 1) + a(n - 2) - 30 * a(n - 3) for n>3. G.f.: - x * (189 * x ^ 2 - 101 * x - 12) / ((2 * x + 1) * (3 * x - 1) * (5 * x - 1)). [_ Colin Barker _ , Nov 01 2012] •

[A099930] • 1,12,174,2436,34307,482664,6791772,95567064,1344731653,18921807828,266250046986,3746422451772,52716164405255,741772724044560,10437534301224120,146867252940711408,2066579075472320521 ⋆ a(n) = Pell(n)*Pell(n-1)*Pell(n-2) / 10. • a(3)=1, a(4)=12, a(5)=174, a(6)=2436, a(n)=12 * a(n - 1) + 30 * a(n - 2) - 12 * a(n - 3) - a(n - 4). [_ Harvey P. Dale _ , Feb 26 2012] •

[A227714] • 1,12,178,2688,35995,407992,3952943,33615105,257526804,1815863659,11982128854,74936243346,448516091145,2588488505682,14488775962673,79019272700951,421449109356322,2204733396548381,11340131754176896,5746457706375460 8 ⋆ The hyper-Wiener index of the tree g[n] (n>=0) defined recursively in the following manner: denoting by P[n] the path on n vertices, we define g[0] =P[2] while g[n] (n>=1) is the tree obtained by identifying the roots of 2 copies of g[n-1] and one of the end-vertices of P[n+1]; the root of g[n] is defined to be the other end-vertex of P[n+1]. • a(n) = - 2026 - 14671 * n / 12 - 8077 * n ^ 2 / 24 - 605 * n ^ 3 / 12 - 83 * n ^ 4 / 24 + 2 ^ n * (2961 / 2 - 9783 * n / 20 - 1049 * n ^ 2 / 8 - 147 * n ^ 3 / 8 + 9 * n ^ 4 / 8 + 21 * n ^ 5 / 40) + 4 ^ n * (1093 / 2 - 279 * n / 4 + 51 * n ^ 2 / 2 - 27 * n ^ 3 / 2 + 9 * n ^ 4 / 4). •

[A130550] • 1,12,180,1008,8400,118800,75675600,302702400,15437822400,26665329600,3226504881600,5708431713600,964724959598400,964724959598400,46628373047256000,340112838697632000,98292610383615648000 ⋆ Denominators of partial sums for a series for 2*Zeta(2)/3 = (Pi^2)/9. • a(n) = denominator(2n+1)), n>=1. •

[A073975] • 0,0,0,12,180,1440,9072,54432,308448,1700352,9722592,58335552,356638464,2173796352,13144674816,78940272384,472093588224,2821539889152,16894457846784,101366747080704,608795590588416,3656220357427200,21947538146863104,131685228881178624 ⋆ Number of strings of length n over Z_6 with trace 0 and subtrace 4. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A239294] • 0,1,12,189,2808,42201,632772,9492309,142382448,2135743281,32036129532,480542002029,7208129853288,108121948330761,1621829223367092,24327438355289349,364911575314991328,5473673629767916641,82105104446389609452 ⋆ (15^n-(-3)^n)/18. • a(n) = 12 * a(n - 1) + 45 * a(n - 2), for n>=2, a(0)=0, a(1)=1. •

[A086948] • 12,192,1992,19992,199992,1999992,19999992,199999992,1999999992,19999999992,199999999992,1999999999992,19999999999992,199999999999992,1999999999999992,19999999999999992,199999999999999992 ⋆ a(n) = k where R(k+8)=2. • a(n) = 2 * (10 ^ n - 4) •

[A115865] • 1,12,198,3672,71766,1444392,29623644,615614256,12918175974,273112332552,5808412280628,124127223181776,2663248527920124,57334738304731536,1237861064261885688,26791929483836768352 ⋆ a(n) = Legendre_P(n,2)*6^n. • a(n) = Jacobi _ P(n,0,0,sqrt(4)) * (3 * sqrt(4)) ^ n. •

[A036240] • 0,0,12,200,2280,22420,205212,1806000,15522960,131383340,1100093412,9138243400,75445046040,619838752260,5072272077612,41371548418400,336519691295520,2730963319321180,22119245290765812,178854325039467000,1444135501669535400 ⋆ Number of 3-way interactions when 3 subsets of power set on {1..n} are chosen at random; number of Boolean functions of n variables and rank 3 from Post class F(8,inf). • a(n) = (8 ^ n - 7 ^ n - 3 * 4 ^ n + 3 * 3 ^ n + 2 * 2 ^ n - 2) / 6. • a(n) = 25 * a(n - 1) - 241 * a(n - 2) + 1135 * a(n - 3) - 2734 * a(n - 4) + 3160 * a(n - 5) - 1344 * a(n - 6). - _ Wesley Ivan Hurt _ , Oct 23 2014 •

[A116164] • 0,12,216,2592,25920,233280,1959552,15676416,120932352,906992640,6651279360,47889211392,339578044416,2377046310912,16456474460160,112844396298240,767341894828032,5179557790089216,34733505180598272 ⋆ (n^2+n)*6^n. • a(n) = 18 * a(n - 1) - 108 * a(n - 2) + 216 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 •

[A098647] • 1,12,224,4608,96256,2015232,42205184,883949568,18513657856,387755016192,8121246285824,170093589823488,3562486393470976,74613683694600192,1562729279488262144,32730226951263879168 ⋆ Trace sequence associated to the 4 X 4 Krawtchouk matrix and its transpose. • a(n) = ((12 + 4 * sqrt(5)) ^ n + (12 - 4 * sqrt(5)) ^ n) / 2. • a(n) = 2 ^ (n - 1) * ((sqrt(5) - 1) ^ (2 * n) + (sqrt(5) + 1) ^ (2 * n)). •

[A089343] • 0,12,231,3735,52239,672243,8222247,97222251,1122222255,12722222259,142222222263,1572222222267,17222222222271,187222222222275,2022222222222279,21722222222222283,232222222222222287,2472222222222222291,26222222222222222295 ⋆ Sum of all digits in all even numbers from 0 to 6(10^(k+1)-1)/9 (with (k+1) 6's). • a(k + 1) = 3((10 ^ k)(110 * 3 + 405k - 135) - 3(18k + 29) + 162k + 216) / 81. • a(n) = (- 7 / 9 * (- 1 + 10 ^ n) + 1 / 2 * (8 + 3 * 10 ^ n) * n). • a(n) = 22 * a(n - 1) - 141 * a(n - 2) + 220 * a(n - 3) - 100 * a(n - 4) for n>3. •

[A133285] • 1,12,253,5544,121705,2671956,58661317,1287877008,28274632849,620754045660,13628314371661,299202162130872,6568819252507513,144214821393034404,3166157251394249365,69511244709280451616 ⋆ Indices of the centered 12-gonal numbers which are also 12-gonal number, or numbers X such that 120*X^2-120*X+36 is a square. • a(n + 2) = 22 * a(n + 1) - a(n) - 10 ; a(n + 1)=11 * a(n) - 5 + (120 * a(n) ^ 2 - 120 * a(n) + 36) ^ 0.5 • a(n) = (1 / 2) + (1 / 4) * [11 + 2 * sqrt(30)] ^ n + (1 / 20) * [11 + 2 * sqrt(30)] ^ n * sqrt(30) + (1 / 4) * [11 - 2 * sqrt(30)] ^ n - (1 / 20) * sqrt(30) * [11 - 2 * sqrt(30)] ^ n, with n>=0. - _ Paolo P. Lava _ , Aug 06 2008 •

[A120813] • 0,0,0,0,0,12,352,5392,59670,541044,4285127,30772896,205200710,1291195620,7754735430,44827592160,251003101440,1368033658992,7285815623268,38033923266368,195107105534280,985573624414808,4911044001390648 ⋆ Number of permutations of length n with exactly 5 occurrences of the pattern 2-13. • a(n) = ((n + 4)(- 108 - 192 n + 3 n ^ 2 + 8 n ^ 3 + n ^ 4)) / (120(n + 7))binomial[2n, n - 6]; generating function = x ^ 6 C ^ 13 (- 14 - 540C + 1519 C ^ 2 - 1517C ^ 3 + 616C ^ 4 + 70C ^ 5 - 199C ^ 6 + 97C ^ 7 - 22C ^ 8 + 2C ^ 9) / (2 - C) ^ 9, where C=(1 - Sqrt[1 - 4x]) / (2x) is the Catalan function. •

[A003772] • 12,408,6648,90672,1103088,12509256,135409896,1419480288,14545113696,146607233784,1460033574744,14411647534224,141321405768144,137

9055205227432,13408489143753672,130019327919243840,125825279216287315 2,121586372959407212 40 ★ Number of Hamiltonian paths in K_4 X P_n. ● a (1) = 12, ● a(2) = 408, ● a(3) = 6648, ● a(4) = 90672, ● a(5) = 1103088, ● a(6) = 12509256, ●

[A129006] ● 12,432,7776,103680,1166400,11757312,109734912,967458816,8162 933760,66512793600,526781325312,4074936532992,30901602041856,230390642 442240,1692665944473600,12277470317248512,88052482431516672 ★ (n^3+n^2)*67 2,179,181,197,199,211 ★ Primes of form 2*3*5*7*11 - p, where p is prime. ● a ● a(n) = 24 * a(n - 1) - 216 * a(n - 2) + 864 * a(n - 3) - 1296 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 ●

[A281780] ● 0,0,0,0,12,660,20400,445620,7977732,126860580,1873839000,2638 1789940,359484471852,4784481401700,62538498859200,805447464281460,1024 1415118476372,1287229979692900 20,1600670708273985000,1970591583847951 2180,2403300096376689352 92 ★ Number of distinct topologies on an n-set that have exactly 12 open sets. ● a(n) = 1 / 2 * 4! StirlingS2(n, 4) + 9 / 2 * 5! Sti rlingS2(n, 5) + 16 * 6! StirlingS2(n, 6) + 295 / 12 * 7! StirlingS2(n, 7) + 85 / 4 * 8! StirlingS2(n, 8) + 49 / 4 * 9! StirlingS2(n, 9) + 9 / 2 * 10! StirlingS2 (n, 10) + 11! * StirlingS2(n, 11). ●

[A201246] ● 0,0,12,780,16286,159452,992412,4567836,16959488,53617596,149 618794,377841356,879314442,1911495356,3922051616,7657895196,1432176486 0,25791609308,44921419134,75946019596,125016699158,200899440924,3158729 75684,486869916572,736910896536 ★ Number of ways to place 5 non-attacking ferses on an n X n board. ● a(n) = n ^ 10 / 120 - 5n ^ 8 / 12 + 2n ^ 7 / 3 + 191n ^ 6 / 24 - 24n ^ 5 - 661n ^ 4 / 12 + 880n ^ 3 / 3 - 937n ^ 2 / 15 - 1176n + 1436, n>=4. ●

[A022347] ● 0,13,13,26,39,65,104,169,273,442,715,1157,1872,3029,4901,7930,1 2831,20761,33592,54353,87945,142298,230243,372541,602784 ★ Fibonacci se- quence beginning 0, 13. ● a(n) = 13 * Fibinacci(n). - _ G. C. Greubel _ , Au g 25 2017 ●

[A241749] ● 13,14,17,22,29,38,49,62,77,94,113,134,157,182,209,238,269,302,33 7,374,413,454,497,542,589 ★ a(n) = n^2 + 13. ● a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. ●

[A112653] ● 0,1,13,14,26,27,39,40,52,53,65,66,78,79,91,92,104,105,117,118,13 0,131,143,144,156 ★ a(n) squared is congruent to a(n) (mod 13). ● a(n) = (11 * (- 1 + (- 1) ^ n) + 26 * n) / 4. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n > 2. ●

[A022103] ● 1,13,14,27,41,68,109,177,286,463,749,1212,1961,3173,5134,8307,1 3441,21748,35189,56937,92126,149063,241189,390252,631441 ★ Fibonacci se- quence beginning 1, 13. ● a(n) = a(n - 1) + a(n - 2) for n>=2, a(0)=1, a(1)= 13, and a(- 1):=12. ● a(n) = ((1 + sqrt(5)) ^ n - (1 - sqrt(5)) ^ n) / (2 ^ n * sqrt(5)) + 6 * ((1 + sqrt(5)) ^ (n - 1) - (1 - sqrt(5)) ^ (n - 1)) / (2 ^ (n - 2) * sqrt(5)) for n>0. - Al Hakanson (hawkuu(AT)gmail.com), Jan 14 2009 ● a(n) = Lucas(n + 5) - 5 * Lucas(n). - _ Bruno Berselli _ , Dec 30 2016 ●

[A033049] ● 0,1,13,14,169,170,182,183,2197,2198,2210,2211,2366,2367,2379,23 80,28561,28562,28574,28575,28730,28731,28743,28744,30758 ★ Sums of distinct powers of 13. ● a(n) = Sum { d(i) * 13 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. ● a(2n) = 13 * a(n), a(2n + 1) = a(2n) + 1. ●

[A041083] ● 1,1,13,14,181,195,2521,2716,35113,37829,489061,526890,681174 1,7338631,94875313,102213944,1321442641,1423656585,18405321661,19828978 246,256353060613,276182038859,3570537526921,3846719565780,497311723162 81 ★ Denominators of continued fraction convergents to sqrt(48). ● a(n) = 14 * a(n - 2) - a(n - 4). G.f.: (1 + x - x ^ 2) / ((1 - 4 * x + x ^ 2) * (1 + 4 * x + x ^ 2)). [_ Colin Barker _ , Jul 15 2012] ● a(n) = product { k = 1..floor((n - 1) / 2) } (12 + 4 * cos ^ 2(k * Pi / n)). ●

[A041361] ● 1,1,13,14,377,391,5069,5460,147029,152489,1976897,2129386,573 40933,59470319,770984761,830455080,22362816841,23193271921,30068207989 3,323875351814,8721441227057,9045316578871,117265240173509,12631055675 2380,3401339715735389 ★ Denominators of continued fraction convergents to sqrt(194). ● a(n) = 390 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 1 6 2013 ●

[A041835] ● 1,1,13,14,573,587,7617,8204,335777,343981,4463549,4807530,196 764749,201572279,2615632097,2817204376,115303807137,118121011513,153275 5945293,1650876956806,67567834217533,69218711174339,898192368309601,96 7411079483940 ★ Denominators of continued fraction convergents to sqrt(438). ● a(n) = 586 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 25 2 013 ●

[A180642] ● 13,15,16,20,21,24,25,26,28,29,30,33,36,42,44,50,53,58,66,69,92,10 6,138,141,149 ★ Numbers n such that phi(n)/4 is a prime, where phi is the Euler totient function. ● a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Feb 04 2013 ●

[A113801] ● 1,13,15,27,29,41,43,55,57,69,71,83,85,97,99,111,113,125,127,139,1 41,153,155,167,169 ★ Numbers that are congruent to {1, 13} mod 14. ● a(n) = 14 * (n - 1) - a(n - 1), n>1. - _ R. J. Mathar _ , Jan 30 2010 ● a(n) = - a(- n + 1) = (14 * n + 5 * (- 1) ^ n - 7) / 2. ● a(n) = a(n - 2) + 14 for n>2. ● a (0)=1, a(1)=13, a(2)=15, a(n)=a(n - 1) + a(n - 2) - a(n - 3) [From Harvey P. Dale, May 11 2011] ●

[A274978] ● 0,1,13,16,40,45,81,88,136,145,205,216,288,301,385,400,496,513,62 1,640,760,781,913,936,1080 ★ Integers of the form m*(m + 6)/7. ● a(n) = (14 * (n - 1) * n - 5 * (2 * n - 1) * (- 1) ^ n - 5) / 8. ●

[A049482] ● 13,17,19,23,29,31,41,47,53,59,61,67,71,73,83,97,101,103,107,127,1 37,139,149,157,163 ★ Primes p such that p + 210 is also prime. ● a(n) >> n l og ^ 2 n. - _ Charles R Greathouse IV _ , Feb 23 2017 ●

[A156666] ● 13,17,19,23,29,37,47,59,67,79,89,103,107,109,113,127,137,139,14 9,157,167,179,223,227,229 ★ Primes where the last digit is greater than any other digit. ● a(n) >> n ^ k where k = log 10 / log 9 = 1.04795.... - _ Charle s R Greathouse IV _ , Feb 23 2017 ●

[A168447] ● 13,17,19,23,31,43,47,67,71,79,83,103,107,139,179,191,223,227,25 1,263,283,359,367,431,439 ★ Primes p such that floor(p/6) is also prime. ● a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Feb 23 2017 ●

[A141076] ● 13,17,23,29,37,41,43,59,67,71,73,89,97,103,107,131,149,157,167,1 a(n) + a(229 - n) = 2 * 3 * 5 * 7 * 11. ●

[A129070] ● 13,17,25,33,49,57,73,81,97,121,129,153,169,177,193,217,241,249,2 73,289,297,321,337,361,393 ★ Numbers n such that (n-5)/4 is prime. ● a(n) = 4 * prime(n) + 5. - Zak Seidov, May 12 2007 ●

[A155923] ● 13,17,25,53,85,137,305,493,797,1777,2873,4645,10357,16745,2707 3,60365,97597,157793,351833,568837,919685,2050633,3315425,5360317,119519 65 ★ Positive numbers y such that y^2 is of the form x^2+(x+17)^2 with integer x. ● a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1) = 13, a(2) = 17, a(3) = 25, a(4) = 53, a(5) = 85, a(6) = 137. ●

[A283358] ● 1,1,1,13,17,29,49,125,241,509,1009,2045,4081,8189,16369,32765,6 5521,131069,262129,524285,1048561,2097149,4194289,8388605,16777201 ★ Dec- imal representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 621", based on the 5-celled von Neumann neighborhood. ● a(n) = 2 ^ n - 15 f or n>4 and even. ● a(n) = 2 ^ n - 3 for n>4 and odd. ● a(n) = 2 * a(n - 1) + a(n - 2) - 2 * a(n - 3) for n>5. ●

[A248474] ● 13,17,43,47,73,77,103,107,133,137,163,167,193,197,223,227,253,2 57,283,287,313,317,343,347,373 ★ Numbers congruent to 13 or 17 mod 30. ● a(n) = (- 15 - 11 * (- 1) ^ n + 30 * n) / 2. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ●

[A214393] ● 13,17,53,73,125,161,229,281,365,433,533,617,733,833,965,1081,12 29,1361,1525,1673,1853,2017,2213,2393,2605 ★ Numbers of the form (4k+3)^2+4 or (4k+5)^2-8. ● a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). ● a(n) = 4 * n * (n + 3) + 6 * (- 1) ^ n + 7. ●

[A131019] ● 13,18,24,30,36,44,51,60,69,76,84,92,101,110,120,129,136,145,153,1 62,174,185,195,204,210 ★ Semiperimeters of quadrilaterals whose sides are 4 consecutive odd primes. ● a(n) = (prime(n) + prime(n + 1) + prime(n + 2) + prime(n + 3)) / 2 for n>1. ●

[A037158] ● 13,18,28,35,44,52,61,70,80,91,104,120,141,170,212,275,372,524,76 5,1150,1768,2763,4368,6960,11149 ★ Convolution of natural numbers n >= 1 with Fibonacci numbers F(k), for k >= -7, with F(-n)=(-1)^(n+1)*F(n). ● a(n) = F(n - 3) + (11 + 8 * n); G.f. (13 - 21 * x) / ((1 - x - x ^ 2) * (1 - x) ^ 2) ; 11=L(5) Lucas number; ●

[A274407] ● 13,19,23,26,29,39,46,49,59,69,79,89,101,102,104,105,148,167,201,2 02,204,205,208,257,301 ★ Numbers n with the property that when divided by their last digit the remainder of the division is their penultimate digit. ● a(n) = a(n - 1134) + 12600. - _ Charles R Greathouse IV _ , Jun 20 2016 ● a(n) = 100n / 9 + O(1), in particular |a(n) - 100n / 9| <= 192. - _ Charles R Gre athouse IV _ , Jun 20 2016 ●

[A258589] ● 1,13,19,26,32,39,45,52,58,65,71,78,84,91,97,104,110,117,123,130,1 36,143,149,156,162 ★ Minimal most likely sum for a roll of n 12-sided dice. ● a (n) = floor(13 * n / 2) = (26 * n + (- 1) ^ n - 1) / 4 with n>1, a(1)=1. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>4. ●

[A282844] ● 13,21,31,39,55,61,73,87,97,113,119,139,151,163,179,193,209,215,2 29,253,261,277,287,301,323 ★ n-th even semiprime plus n-th odd semiprime. ● a(n) = A100484 (n) + A046315 (n). ●

[A164485] ● 13,21,33,53,85,137,221,357,577,933,1509,2441,3949,6389,10337,1 6725,27061,43785,70845,114629,185473,300101,485573,785673,1271245 ★ Num- ber of binary strings of length n with no substrings equal to 0001, 1000 or 1001. ● a(n) = 4 * Fibonacci(n) + 1. - _ Bruno Berselli _ , Jul 26 2017 ● a(n) = 1 - (4 * (((1 - sqrt(5)) / 2) ^ n - ((1 + sqrt(5)) / 2) ^ n)) / sqrt(5) for n>3. ● a(n) = 2 * a(n - 1) - a(n - 3) for n>6. ●

[A164459] ● 13,21,35,58,96,159,264,439,730,1215,2023,3369,5612,9349,15576,2 5952,43241,72050,120054,200043,333329,555423,925499,1542157,2569695 ★ Num- ber of binary strings of length n with no substrings equal to 0001 0011 or 1100 ● a(0)=13, a(1)=21, a(2)=35, a(3)=58, a(4)=96, a(5)=159, a(6)=264, a(n)= 2 * a(n - 1) - 2 * a(n - 4) + a(n - 5) - a(n - 6) + a(n - 7) [From Harvey P. Dal e, May 06 2011] ●

[A164495] ● 13,22,37,62,105,178,301,508,857,1446,2441,4122,6961,11754,1984 5,33504,56565,95502,161245,272246,459657,776074,1310301,2212276,3735153 ★ Number of binary strings of length n with no substrings equal to 0010 0101 or 1011 ● a(4)=13, a(5)=22, a(6)=37, a(7)=62, a(8)=105, a(9)=178, a(n)=2 * a(n - 1) - a(n - 2) + a(n - 4) + a(n - 6). - _ Harvey P. Dale _ , Mar 07 2015 ●

[A213655] ● 13,23,41,77,141,259,477,877,1613,2967,5457,10037,18461,33955,6 2453,114869,211277,388599,714745,1314621,2417965,4447331,8179917,150452 13,27672461 ★ Number of dominating subsets of the theta-graph TH(2,2,n) (n>=1). A tribonacci sequence with initial values 13, 23, and 41. ● a(n) = a(n - 1) + a(n - 2) + a(n - 3) for n>=4; a(1)=13, a(2)=23, a(3)=41. ●

[A213665] ● 13,23,43,79,145,267,491,903,1661,3055,5619,10335,19009,34963,6 4307,118279,217549,400135,735963,1353647,2489745,4579355,8422747,1549184 7,28493949 ★ Number of dominating subsets of the graph G(n) obtained by joining a vertex with two consecutive vertices of the cycle graph C_n (n >=3). ● a(3)=13, a(4)=23, a(5)=43, a(n)=a(n - 1) + a(n - 2) + a(n - 3) for n>=6 ●

[A104342] ● 13,24,35,46,57,68,79 ★ Numbers n such that (digital reversal of n) - n = 18. ● a(n)=11n + 2, n=1, ..., 7. ●

[A266912] ● 13,24,35,46,57,68,79,102,113,124,135,146,157,168,179,202,213,22 4,235,246,257,268,279,302,313 ★ Numbers n which are anagrams of n+18. ● a(

n) = a(n - 1) + a(n - 8) - a(n - 9) for n > 9. •

[A032607] • 13,24,35,46,57,68,79,810,911,1012,1113,1214,1315,1416,1517,1618,1719,1820,1921,2022,2123,2224,2325,2426,2527 ⋆ Concatenation of n and n + 2 or {n,n+2}. • a(n)=n * floor(log10(n + 2) + 1) + n + 2, with n>=1 [From _ Paolo P. Lava _ , Oct 09 2008] •

[A017533] • 1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181,193,205,217,229,241,253,265,277,289 ⋆ a(n) = 12n + 1. • a(n) = 12n + 1, n >= 0. • a(n) = 24 * n - a(n - 1) - 10, (with a(0)=1). - _ Vincenzo Librandi _ , Dec 24 2010 •

[A026058] • 13,25,41,63,90,123,162,209,263,325,395,475,564,663,772,893,1025,1169,1325,1495,1678,1875,2086,2313,2555 ⋆ a(n) = (d(n)-r(n))/2, where d = A026057 and r is the periodic sequence with fundamental period (0,0,1,0). • a(n)= - 0.125 - 0.125 * (- 1) ^ n + 0.25 * cos(n * Pi / 2) + (n + 4) * (n ^ 2 + 20 * n + 39) / 12 [From _ Richard Choulet _ , Dec 13 2008] •

[A163551] • 1,1,1,1,1,1,1,1,1,1,1,1,13,25,49,97,193,385,769,1537,3073,6145,12289,24577 ⋆ 13th order Fibonacci numbers: a(n) = a(n-1) +...+ a(n-13) with a(1)=...=a(13)=1. • a(n) = a(n - 1) + a(n - 2) + ... + a(n - 13) for n > 12, a(0)=a(1)=...=a(12)=1 •

[A053404] • 1,1,13,25,181,481,2653,8425,40261,141361,624493,2320825,9814741,37664641,155441533,607417225,2472715621,9761722321,39434309773,156574977625,629786694901,2508686426401,10066126765213,40170363882025 ⋆ Expansion of 1/((1+3*x)*(1-4*x)). • a(n) = ((4 ^ (n + 1)) - (- 3) ^ (n + 1)) / 7. • a(n) = a(n - 1) + 12 * a(n - 2), n > 1; a(0)=1, a(1)=1. • a(n) = (sum _{ 1<=k<=n + 1, k odd } C(n + 1,k) * 7 ^ (k - 1)) / 2 ^ n. - _ Vladimir Shevelev _ , Feb 05 2014 •

[A164007] • 0,13,26,33,52,55,78,91,112,135,160,187,216,247,280,315,352,391,432,475,520,567,616,667,720 ⋆ Zero together with row 7 of the array in A163280. • a(n) = n * (n + 6), n >= 7. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), n >= 7. •

[A008595] • 0,13,26,39,52,65,78,91,104,117,130,143,156,169,182,195,208,221,234,247,260,273,286,299,312 ⋆ Multiples of 13. • a(n) = 13 * n = 2 * a(n - 1) - a(n - 2). G.f.: 13x / (x - 1) ^ 2. - _ Vincenzo Librandi _ , Dec 24 2010 •

[A019551] • 13,26,39,412,515,618,721,824,927,1030,1133,1236,1339,1442,1545,1648,1751,1854,1957,2060,2163,2266,2369,2472,2575 ⋆ n followed by 3n. • a(n) = n * 10 ^ floor(log10(3 * n) + 1) + 3 * n. [_ Paolo P. Lava _ , Mar 24 2010]. •

[A005029] • 13,26,52,104,208,416,832,1664,3328,6656,13312,26624,53248,106496,212992,425984,851968,1703936,3407872,6815744,13631488,27262976,54525952,109051904,218103808 ⋆ 13*2^n. • a(n) = 2 * a(n - 1), n>0; a(0)=13. G.f.: 13 / (1 - 2 * x). - _ Philippe Deléham _ , Nov 23 2008 •

[A041765] • 1,13,27,40,147,187,708,895,2498,33369,1337258,17417723,36172704,53590427,196943985,250534412,948547221,1199081633,3346710487,4470637964,1791599429047,23335498895575,484625972201 97,71798096115772,263856885567513 ⋆ Denominators of continued fraction convergents to sqrt(403). • a(n) = 1339756 * a(n - 10) - a(n - 20) for n>19. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A132755] • 0,13,27,42,58,75,93,112,132,153,175,198,222,247,273,300,328,357,387,418,450,483,517,552,588 ⋆ a(n) = n*(n + 25)/2. • a(n) = n + a(n - 1) + 12 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 13 * n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 • a(0)=0, a(1)=13, a(2)=27; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 09 2014 •

[A195045] • 0,1,13,27,52,79,117,157,208,261,325,391,468,547,637,729,832,937,1053,1171,1300,1431,1573,1717,1872 ⋆ Concentric 13-gonal numbers. • a(n) = 13 * n ^ 2 / 4 + 9 * ((- 1) ^ n - 1) / 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) for n>3. - _ Wesley Ivan Hurt _ , Nov 22 2015 •

[A041336] • 13,27,715,1457,38597,78651,2083523,4245697,112471645,229188987,6071385307,12371959601,327742334933,667856629467,17692014701075,36051886031617,955041051523117,1946133989077851,51554524767547243,105055183524172337,2782989296396028005 ⋆ Numerators of continued fraction convergents to sqrt(182). • a(0)=13, a(1)=27, a(2)=715, a(3)=1457, a(n)=54 * a(n - 2) - a(n - 4). - _ Harvey P. Dale _ , Mar 27 2015 •

[A098847] • 0,13,28,45,64,85,108,133,160,189,220,253,288,325,364,405,448,493,540,589,640,693,748,805,864 ⋆ a(n) = n(n + 12). • a(n) = (n + 6) ^ 2 - 6 ^ 2 = n * (n + 12), n>=0. • a(n) = 2 * n + a(n - 1) + 11 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 • a(0)=0, a(1)=13, a(2)=28, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 24 2012 •

[A026054] • 13,28,50,80,119,168,228,300,385,484,598,728,875,1040,1224,1428,1653,1900,2170,2464,2783,3128,3500,3900,4329 ⋆ dot_product(n,n-1,...2,1).(3,4,...n+2). • a(n) = n * (n ^ 2 + 9 * n - 10) / 6. G.f.: x ^ 3 * (13 - 24 * x + 16 * x ^ 2 - 4 * x ^ 3) / (1 - x) ^ 4. [_ Colin Barker _ , Sep 17 2012] •

[A082285] • 13,29,45,61,77,93,109,125,141,157,173,189,205,221,237,253,269,285,301,317,333,349,365,381,397 ⋆ a(n) = 16n + 13. • a(n) = 16n + 13. - _ Max Alekseyev _ , Mar 03 2007 • a(n) = 32 * n - a(n - 1) + 10; a(0)=13. - _ Vincenzo Librandi _ , Oct 10 2011 •

[A243138] • 13,29,47,67,89,113,139,167,197,229,263,299,337,377,419,463,509,557,607,659,713,769,827,887,949 ⋆ n^2 + 15*n + 13. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A195878] • 1,13,29,209,463,3331,7379,53087,117601,846061,1874237,13483889,29870191,214896163,476048819,3424854719,7586910913,54582779341,120914525789,869899614737,1927045501711,13863811056451,30711813501587,220951077288479,489461970523681 ⋆ y-values in the solution to 7*x^2-6 = y^2. • a(n + 4) = 16 * a(n + 2) - a(n) with a(1)=1, a(2)=13, a(3)=29, a(4)=209. • a(n) = ((- (- 1) ^ n + t) * (8 + 3 * t) ^ floor(n / 2) - ((- 1) ^ n + t) * (8 - 3 * t) ^ floor(n / 2)) / 2 with t=sqrt(7). •

[A139577] • 0,13,30,51,76,105,138,175,216,261,310,363,420,481,546,615,688,765,846,931,1020,1113,1210,1311,1416 ⋆ a(n) = n(2n+11). • a(n) = 2 * n ^ 2 + 11 * n. • a(n) = a(n - 1) + 4 * n + 9 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 •

[A023274] • 13,31,37,67,73,181,367,541,661,997,1087,1117,1327,1861,2179,2293,2473,2713,2719,3271,3727,4363,5281,5443,5749 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 2x + 5. • a(n) == 1 (mod 6). - _ John Cerkan _ , Sep 16 2016 •

[A166143] • 1,13,31,55,85,121,163,211,265,325,391,463,541,625,715,811,913,1021,1135,1255,1381,1513,1651,1795,1945 ⋆ a(n) = 3n^2 + 3n - 5. • a(n) = a(n - 1) + 6n, a(1)=1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A160772] • 13,31,91,133,241,307,463,757,871,1261,1561,1723,2071,2653,3307,3541,4291,4831,5113,6007,6643,7657,9121,9901,10303 ⋆ Number of nodes (or order) of a graph model obtained using an automata scheme on sets of order prime(n) >= 5 and in which all not halt states are linked by arcs (edges). • a(n) = (prime(n) - 2) * (prime(n) - 1) + 1. •

[A023304] • 13,31,181,541,661,1087,1861,2179,2719,3727,7459,8089,8707,9109,10639,17341,19333,22501,23293,29287,32797,39847,40387,42703,46591 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 2x + 5. • a(n) == 1 (mod 6). - _ John Cerkan _ , Sep 27 2016 •

[A212757] • 1,1,13,32,56,80,177,213,297,472,580,688,1037,1169,1385,1872,2124,2376,3133,3421,3829,4784,5240,5696,7017 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and 2w=max{w,x,y,z}-min{w,x,y,z}. • a(n)= - a(n - 1) + a(n - 2) + 4 * a(n - 3) + 3 * a(n - 4) - 3 * a(n - 5) - 6 * a(n - 6) - 3 * a(n - 7) + 3 * a(n - 8) + 4 * a(n - 9) + a(n - 10) - a(n - 11) - a(n - 12). •

[A140678] • 0,13,32,57,88,125,168,217,272,333,400,473,552,637,728,825,928,1037,1152,1273,1400,1533,1672,1817,1968 ⋆ a(n) = n*(3*n + 10). • a(n) = 3 * n ^ 2 + 10 * n. • a(n) = 6 * n + a(n - 1) + 7, with a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=0, a(1)=13, a(2)=32. - _ Harvey P. Dale _ , Jun 05 2012 •

[A082109] • 1,13,33,61,97,141,193,253,321,397,481,573,673,781,897,1021,1153,1293,1441,1597,1761,1933,2113,2301,2497 ⋆ Third row of number array A082105. • a(n) = 4n ^ 2 + 8n + 1. • a(n) = 8 * n + a(n - 1) + 4 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A164539] • 1,13,33,157,545,2189,8193,31709,120769,463501,1772385,6789277,25985249,99495437,380887617,1458243293,5582699905,21373102861,81825105057,313261930141,1199299595681,4591432702349,17577962574465,67295954065373 ⋆ a(n) = 2*a(n-1) + 7*a(n-2) for n > 1; a(0) = 1, a(1) = 13. • a(n) = 2 * a(n - 1) + 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 13. • a(n) = ((1 + 3 * sqrt(2)) * (1 + 2 * sqrt(2)) ^ n + (1 - 3 * sqrt(2)) * (1 - 2 * sqrt(2)) ^ n) / 2. •

[A134864] • 13,34,47,68,89,102,123,136,157,178,191,212,233,246,267,280,301,322,335,356,369,390,411,424,445 ⋆ Wythoff BBB numbers. • a(n) = B(B(B(n))), n>=1, with B=A001950, the upper Wythoff sequence. •

[A081271] • 1,13,34,64,103,151,208,274,349,433,526,628,739,859,988,1126,1273,1429,1594,1768,1951,2143,2344,2554,2773 ⋆ Vertical of triangular spiral in A051682. • a(n) = binomial(n, 0) + 12 * binomial(n, 1) + 9 * binomial(n, 2). • a(n) = (9 * n ^ 2 + 15 * n + 2) / 2. • a(0) = 1, a(n) = a(n - 1) + 9 * n + 3 for n > 0 - _ Gerald McGarvey _ , Aug 18 2004 •

[A180673] • 0,13,34,68,123,212,356,589,966,1576,2563,4160,6744,10925,17690,28636,46347,75004,121372,196397,317790,514208,832019,1346248,2178288 ⋆ a(n) = Fibonacci(n+8) - Fibonacci(8). • a(n) = F(n + 8) - F(8) with F(n) the Fibonacci numbers A000045. • a(n) = a(n - 1) + a(n - 2) + 21 for n>1, a(0)=0, a(1)=13, and where 21 = F(8). • a(n) = (- 21 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 47 + 21 * sqrt(5)) + (1 + sqrt(5)) ^ n * (47 + 21 * sqrt(5)))) / sqrt(5)). • a(n) = 2 * a(n - 1) - a(n - 3) for n>2. •

[A214729] • 0,13,34,102,267,712,1864,4893,12810,33550,87835,229968,602064,1576237,4126642,10803702,28284459,74049688,193864600,507544125,1328767770,3478759198,9107509819,23843770272,62423800992 ⋆ Member m=6 of the m-family of sums b(m,n) = Sum_{k=0..n} F(k+m)*F(k), m >= 0, n >= 0, with the Fibonacci numbers F. • a(n) = (9 * (- 1) ^ (n + 1) - 20 + Lucas(2 * n + 7)) / 5. - _ Ehren Metcalfe _ , Aug 21 2017 • a(n) = (2 ^ (- 1 - n) * (- 2 ^ (1 + n) * (20 + 9 * (- 1) ^ n) + (29 - 13 * sqrt(5)) * (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n * (29 + 13 * sqrt(5)))) / 5. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) for n>3. •

[A063300] • 1,13,35,56,77,99,120,141,163,184,205,227,248,269,291,312,333,355,376,397,419,440,461,483,504 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(27). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>6. •

[A221592] • 0,13,35,169,651,2715,11011,45099,184063,752155,3072247,12550859,51270383,209444163,855592375,3495156539,14277953839,58326437619,238267540647,973339457803,3976159254687,16242886662499,66353319815959,271057918757755,1107290419059023 ⋆ Number of 0..4 arrays of length n with each element differing from at least one neighbor by 1 or less. • a(n) = 3 * a(n - 1) + 4 * a(n - 2) + 6 * a(n - 4) + 4 * a(n - 5) + 4 * a(n - 6). •

[A101103] • 1,13,36,60,84,108,132,156,180,204,228,252,276,300,324,348,372,396,420,444,468,492,516,540,564 ⋆ Partial sums of A101104. First differences of A005914. • a(n)= + 2 * a(n - 1) - a(n - 2), n>4. • a(n) = 24 * n - 36, n>=3. • a(n) = sum _{ j=0..n } (- 1) ^ j * binomial(3, j) * (n - j) ^ 4. [Indices shifted, Nov 01 2010] •

[A051865] • 0,1,13,36,70,115,171,238,316,405,505,616,738,871,1015,1170,1336,1513,1701,1900,2110,2331,2563,2806,3060 ⋆ 13-gonal (or tridecagonal) numbers: a(n) = n*(11*n - 9)/2. • a(n) = 11 * n + a(n - 1) - 10 with n > 0, a(0)

= 0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(11 * a(n) + 56 * n + 1) = a(11 * a(n) + 56 * n) + a(11 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A220462] • 13,37,41,67,73,97,127,137,173,179,181,211,229,239,263,307,311,347,367,379,431,433,443,449,479 ⋆ Chebyshev numbers C_v(n) for v=3/2: a(n) is the smallest number such that if x>=a(n), then theta(x)-theta(2*x/3)>=n*log(x), where theta(x) = sum_{prime p<=x} log p. • a(n)<=prime(4 * (n + 1)). •

[A045809] • 13,37,59,91,113,137,159,191,213,237,259,291,313,337,359,391,413,437,459,491,513,537,559,591,613 ⋆ 9-ish numbers (end in 13, 37, 59, 91). • a (n) = (50 * n + 4 * i ^ (n * (n - 1)) + 3 * (- 1) ^ n - 25) / 2, where i=sqrt(- 1). - _ Bruno Berselli _ , Feb 22 2012 •

[A003154] • 1,13,37,73,121,181,253,337,433,541,661,793,937,1093,1261,1441,1633,1837,2053,2281,2521,2773,3037,3313,3601 ⋆ Centered 12-gonal numbers. Also star numbers: 6*n*(n-1) + 1. • a(n) = 1 + (sum(12 * n)). E.g., a(2)=37 because 1 + 12 * 0 + 12 * 1 + 12 * 2 = 37. - _ Xavier Acloque _ , Oct 06 2003 • a(n) = numerator in B _ 2(x) = (1 / 2)x ^ 2 - (1 / 2)x + 1 / 12 = Bernoulli polynomial of degree 2. - _ Gary W. Adamson _ , May 30 2005 • a(n) = 12 * (n - 1) + a(n - 1), with n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A222964] • 0,13,37,76,124,189,261,352,448,565,685,828,972,1141,1309,1504,1696,1917,2133,2380,2620,2893,3157,3456,3744 ⋆ Numbers n such that 25n+36 is a square. • a(n) = (50 * n * (n - 1) + (2 * n - 1) * (- 1) ^ n + 1) / 8. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A163675] • 0,13,37,78,142,235,363,532,748,1017,1345,1738,2202,2743,3367,4080,4888,5797,6813,7942,9190,10563,12067,13708,15492 ⋆ a(n) = n*(2*n^2 + 5*n + 19)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A139697] • 1,13,37,85,181,373,757,1525,3061,6133,12277,24565,49141,98293,196597,393205,786421,1572853,3145717,6291445,12582901,25165813,50331637,100663285,201326581 ⋆ Binomial transform of [1, 12, 12, 12,...]. • a(n) = 12 * 2 ^ (n - 1) - 11. - _ Emeric Deutsch _ , May 05 2008 • a(n) = 2 * a(n - 1) + 11 (with a(1)=1). - _ Vincenzo Librandi _ , Nov 24 2010 • a(n) = 3 * 2 ^ (n + 1) - 11. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A090042] • 1,1,13,37,217,841,4069,17389,79537,350353,1575613,7005109,31341961,139740121,624241813,2785624957,12437909857,55517694241,247852396909,1106399430469,4939175226937,22048744189033,98428415874373 ⋆ a(n) = 2*a(n-1) + 11*a(n-2) for n > 1, a(0) = a(1) = 1. • a(n) = (1 + 2sqrt(3)) ^ n / 2 + (1 - 2sqrt(3)) ^ n / 2. • a(n) = (i * sqrt(11)) ^ n * (S(n, - 2 * i / sqrt(11)) + (i / sqrt(11)) * S(n - 1, - 2 * i / sqrt(11))), n >= 0, with Chebyshev S polynomials (coefficients in A049310), with S(- 2, x) = - 1, S(- 1, x) = 0 and i = sqrt(- 1). Via Cayley - Hamilton. See the _ Gary W. Adamson _ comment above or the Mathematica program of _ Robert G. Wilson v _ with another matrix. (End) •

[A098265] • 1,1,13,37,289,1201,7741,38053,227137,1207009,6995053,38591653,221446369,1245188881,7130897437,40516456357,232260610177,1327920945601,7627285093069,43787832627493,252042452907169,1451244932278129,8370001674641917,48303478743113893,279083099450496961 ⋆ G.f. : 1/(1-2x-23x^2)^(1/2). • a(n) = sum { k=0..floor(n / 2), binomial(n, k) * binomial (n - k, k) * 6 ^ k } . • a(n) = sum { k=0..floor(n / 2), binomial(n, 2k) * binomial(2k, k) * 6 ^ k } . •

[A152741] • 0,13,39,78,130,195,273,364,468,585,715,858,1014,1183,1365,1560,1768,1989,2223,2470,2730,3003,3289,3588,3900 ⋆ 13 times triangular numbers. • a(n) = a(n - 1) + 13 * n (with a(0)=0). - _ Vincenzo Librandi _ , Nov 26 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. • a(n) = Sum _{ i=6n..7n } i. (End) •

[A168235] • 13,39,79,133,201,283,379,489,613,751,903,1069,1249,1443,1651,1873,2109,2359,2623,2901,3193,3499,3819,4153,4501 ⋆ 1+5*n+7*n^2. • a(1)=13, a(2)=39, a(3)=79, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 07 2015 •

[A258597] • 13,39,117,351,1053,3159,9477,28431,85293,255879,767637,2302911,6908733,20726199,62178597,186535791,559607373,1678822119,5036466357,15109399071,45328197213,135984591639,407953774917,1223861324751,3671583974253 ⋆ a(n) = 13*3^n. • a(n) = 3 * a(n - 1). •

[A041324] • 13,40,53,199,5227,15880,21107,79201,2080333,6320200,8400533,31521799,827967307,2515423720,3343391027,12545596801,329528907853,1001132320360,1330661228213,4993116004999,131151677358187,398448148079560,529599825437747 ⋆ Numerators of continued fraction convergents to sqrt(176). • a(n) = 398 * a(n - 4) - a(n - 8) for n > 7. - _ Wesley Ivan Hurt _ , Oct 15 2017 •

[A041755] • 1,1,13,40,173,1597,1770,5137,6907,18951,25858,44809,115476,160285,436046,596331,5803025,23808431,77228318,950548247,1027776565,4000605 7717,41033834282,532412069101,1638270041585 ⋆ Denominators of continued fraction convergents to sqrt(397). • a(n) = 40956605964 * a(n - 21) + a(n - 42) for n>41. - _ Vincenzo Librandi _ , Dec 24 2013 •

[A102083] • 1,13,41,85,145,221,313,421,545,685,841,1013,1201,1405,1625,1861,2113,2381,2665,2965,3281,3613,3961,4325,4705 ⋆ a(n) = 8*n^2 + 4*n + 1. • a(n) = 4 * (4 * n - 1) + a(n - 1) (with a(0)=1). - _ Vincenzo Librandi _ , Nov 16 2010 •

[A167585] • 13,41,93,169,269,393,541,713,909,1129,1373,1641,1933,2249,2589,2953,3341,3753,4189,4649,5133,5641,6173,6729,7309 ⋆ a(n) = 12*n^2 - 8*n + 9. • a(n) = a(n - 1) + 24 * n - 20, with a(1)=13. - _ Vincenzo Librandi _ , Dec 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ G. C. Greubel _ , Jun 17 2016 •

[A028468] • 1,1,13,41,281,1183,6728,31529,167089,817991,4213133,21001799,106912793,536948224,2720246633,13704300553,69289288909,349519610713,1765722581057,8911652846951,45005025662792 ⋆ Number of perfect matchings in graph P_{6} X P_{n}. • a(1) = 1, • a(2) = 13, • a(3) = 41, • a(4) = 281 , • a(5) = 1183, • a(6) = 6728, •

[A139277] • 0,13,42,87,148,225,318,427,552,693,850,1023,1212,1417,1638,1875,2128,2397,2682,2983,3300,3633,3982,4347,4728 ⋆ a(n) = n*(8*n+5). • a(n) = 8 * n ^ 2 + 5n. • a(n) = 16 * n + a(n - 1) - 3 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A162265] • 1,13,42,94,175,291,448,652,909,1225,1606,2058,2587,3199,3900,4696,5593,6597,7714,8950,10311,11803,13432,15204,17125 ⋆ a(n) = (2*n^3 + 5*n^2 - 5*n)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Mar 05 2012 •

[A146507] • 1,13,43,55,85,97,127,139,169,181,211,223,253,265,295,307,337,349,379,391,421,433,463,475,505 ⋆ Numbers congruent to {1, 13} mod 42. • a(2k - 1) = 42 * (k - 1) + 1, a(2k) = 42 * (k - 1) + 13, where k>0. •

[A082369] • 13,43,73,103,133,163,193,223,253,283,313,343,373,403,433,463,493,523,553,583,613,643,673,703,733 ⋆ Numbers congruent to 13 mod 30. • a(n) = 30n + 13. •

[A187677] • 13,43,89,151,229,433,701,859,1033,1223,1429,1889,2143,2699,3001,3319,4003,4751,5563,7873,10009,11173,11779,12401,13693 ⋆ Primes of the form 8n^2 + 6n - 1 for positive n. • a(n) = 2((2n - 1) ^ 2 - n) - 1 (or, find the number in the corresponding spot in the better known Ulam spiral, double it and subtract 1) •

[A082040] • 1,13,43,91,157,241,343,463,601,757,931,1123,1333,1561,1807,2071,2353,2653,2971,3307,3661,4033,4423,4831,5257 ⋆ 9n^2 + 3n + 1. • a(n) = 18 * n + a(n - 1) - 6 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A023262] • 13,43,103,139,199,349,397,577,727,733,829,967,1039,1303,1567,1597,1753,2131,2161,2311,2707,2719,2857,3109,3319 ⋆ Numbers n such that n remains prime through 2 iterations of function f(x) = 8x + 5. • a(n) = 1 mod 6 - _ John Cerkan _ , Sep 16 2016 •

[A243894] • 13,43,149,317,853,1277,2281,2957,4507,7433,8693,12671,15887,17839,21701,28099,35407,38327,46997,53359,56911,67511,75289,87541,105173 ⋆ a(n) = prime(k+1) with k = n^2 + prime(n)^2. • a(n) = prime((n ^ 2 + prime(n) ^ 2) + 1). •

[A063650] • 1,1,13,43,269,1213,6427,31387,159651,795611,4005785,20064827,100764343,505375405,2536323145,12724855013,63851706457,320373303983,1607526474153,8065864257905,40471399479495,203068825478591 ⋆ Number of ways to tile a 6 X n rectangle with 1 X 1 and 2 X 2 tiles. • a(n) = 2a(n - 1) + 16a(n - 2) + a(n - 3) - 27a(n - 4) + a(n - 5) + 4a(n - 6) - Keith Schneider (kschneid(AT)bulldog.unca.edu), Apr 02 2006 •

[A033652] • 13,44,88,176,847,1595,7546,14003,44044,88088,176176,847847,1596595,7553546,14007103,44177144,88354288,176599676,853595347,1597190705,6668108656,13236127322,35608290553,71117571206 ⋆ Reverse and Add!. • a (n + 1) = a(n) + { a(n) reversed } . •

[A226514] • 13,44,99,184,305,468,679,944,1269,1660,2123,2664,3289,4004,4815,5728,6749,7884,9139,10520,12033,13684,15479,17424,19525 ⋆ Column 3 of array in A226513. • a(n) = (n + 1) * (n ^ 2 + 8 * n + 13). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 17 2013 •

[A159742] • 13,44,108,236,492,1004,2028,4076,8172,16364,32748,65516,131052,262124,524268,1048556,2097132,4194284,8388588,16777196,33554412,67108844,134217708,268435436,536870892 ⋆ If an array is made of columns of -nacci sequences, fibo-, tribo- etc. all starting w. 1,1,2 etc, the NW to SE diagonals can be extended by computation. The above is diagonal 6. See A159741 for details. • a(n)=3 * a(n - 1) - 2 * a(n - 2), n>3. a(n)=16 * 2 ^ n - 20, n>1. [From _ R. J. Mathar _ , Apr 22 2009] •

[A254675] • 1,13,44,776,2697,48069,167140,2979472,10359953,184679165,642149916,11447128728,39802934809,709537301941,2467139808212,43979865591584,152922865174305,2726042129376237,9478750500998668,168970632155735080,587529608196743081 ⋆ Indices of centered triangular numbers (A005448) which are also heptagonal numbers (A000566). • a(n) = a(n - 1) + 62 * a(n - 2) - 62 * a(n - 3) - a(n - 4) + a(n - 5). •

[A007587] • 0,1,13,46,110,215,371,588,876,1245,1705,2266,2938,3731,4655,5720,6936,8313,9861,11590,13510,15631,17963,20516,23300 ⋆ 12-gonal (or dodecagonal) pyramidal numbers: n(n+1)(10n-7)/6. • a(n) = (10 * n - 7) * binomial(n + 1, 2) / 3. • a(n) = Sum _{ k=0..n } k * (5 * k - 4). - _ Klaus Brockhaus _ , Nov 20 2008 • a(n) = sum((n - i) * (10 * i + 1), i=0..n - 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Wesley Ivan Hurt _ , Oct 23 2014 •

[A004467] • 0,1,13,47,114,225,391,623,932,1329,1825,2431,3158,4017,5019,6175,7496,8993,10677,12559,14650,16961,19503,22287,25324 ⋆ a(n) = n*(11*n^2 - 5)/6. • a(0)=0, a(1)=1, a(2)=13, a(3)=47; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 22 2013 •

[A135712] • 1,13,48,118,235,411,658,988,1413,1945,2596,3378,4303,5383,6630,8056,9673,11493,13528,15790,18291,21043,24058,27348,30925 ⋆ a(n) = (4*n^3 + 11*n^2 + 9*n + 2)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A158480] • 13,49,109,193,301,433,589,769,973,1201,1453,1729,2029,2353,2701,3073,3469,3889,4333,4801,5293,5809,6349,6913,7501 ⋆ 12n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A274974] • 1,13,49,117,225,381,593,869,1217,1645,2161,2773,3489,4317,5265,6341,7553,8909,10417,12085,13921,15933,18129,20517,23105 ⋆ Centered octahemioctahedral numbers: a(n) = (4*n^3+24*n^2+8*n+3)/3. • a(n) = (4 * n ^ 3 + 24 * n ^ 2 + 8 * n + 3) / 3. •

[**A289999**] • 13,49,217,937,3913,16009,64777,260617,1045513,4188169,16764937,67084297,268386313,1073643529,4294770697,17179475977,68718690313,274876334089,1099508482057,4398040219657,17592173461513,70368719011849,281474926379017,1125899806179337,4503599426043913 ★ Sierpinski cuboctahedral numbers: a(n) = 16*4^n - 12*2^n + 9. • a(n) = - 3 * 2 ^ (n + 2) + 2 ^ (2n + 4) + 9. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>2. •

[**A050410**] • 0,1,13,50,126,255,451,728,1100,1581,2185,2926,3818,4875,6111,7540,9176,11033,13125,15466,18070,20951,24123,27600,31396 ★ Truncated square pyramid numbers: a(n) = Sum_{k = n..2*n-1} k^2. • a(n)=n * (7 * n - 1) * (2 * n - 1) / 6. • a(0)=0, a(1)=1, a(2)=13, a(3)=50, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [_ Harvey P. Dale _ , Feb 29 2012] •

[**A121991**] • 0,1,13,50,148,393,993,2450,5976,14497,35077,84770,204748,494409,1193721,2882018,6957936,16798081,40554301,97906898,236368324,570643785,1377656145,3325956338,8029569096 ★ a(n) = 3*a(n-1) - a(n-2) - a(n-3) + 12. • a(n) = ((11 - 7 * sqrt(2)) * (1 - sqrt(2)) ^ n + (1 + sqrt(2)) ^ n * (11 + 7 * sqrt(2)) - 24 * n - 22) / 4 . •

[**A121990**] • 1,13,50,149,409,1090,2873,7541,19762,51757,135521,354818,928945,2432029,6367154,16669445,43641193,114254146,299121257,783109637,2050207666,5367513373,14052332465,36789484034,96316119649 ★ Expansion of x*(1+9*x+2*x^2)/((1-x)*(x^2-3*x+1)). • a(n) = 3 * a(n - 1) - a(n - 2) + 12. • a(n) = (1 / 10) * (- 120 + (65 - 11 * sqrt(5)) * ((1 / 2) * (3 - sqrt(5))) ^ n + ((1 / 2) * (3 + sqrt(5))) ^ n * (65 + 11 * sqrt(5))). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). •

[**A022283**] • 0,13,51,114,202,315,453,616,804,1017,1255,1518,1806,2119,2457,2820,3208,3621,4059,4522,5010,5523,6061,6624,7212 ★ a(n) = n*(25*n + 1)/2. • a(n) = a(n - 1) + 25 * n - 12 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 • a(0)=0, a(1)=13, a(2)=51; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 04 2014 •

[**A152742**] • 0,13,52,117,208,325,468,637,832,1053,1300,1573,1872,2197,2548,2925,3328,3757,4212,4693,5200,5733,6292,6877,7488 ★ 13 times the squares: 13n^2. • a(n)=a(n - 1) + 26 * n - 13 (with a(0)=0) [From Vincenzo Librandi, Nov 26 2010] • a(0)=0, a(1)=13, a(2)=52, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 18 2015 •

[**A213837**] • 1,13,52,134,275,491,798,1212,1749,2425,3256,4258,5447,6839,8450,10296,12393,14757,17404,20350,23611,27203,31142,35444,40125 ★ Principal diagonal of the convolution array A213836. • a(n) = n * (5 - 15 * n + 16 * n ^ 2) / 6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A022284**] • 0,13,53,120,214,335,483,658,860,1089,1345,1628,1938,2275,2639,3030,3448,3893,4365,4864,5390,5943,6523,7130,7764 ★ a(n) = n*(27*n - 1)/2. • a(n) = a(n - 1) + 27 * n - 14 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 •

[**A156156**] • 13,53,305,1777,10357,60365,351833,2050633,11951965,69661157,406014977,2366428705,13792557253,80388914813,468540931625,2730856674937,15916599117997,92768738033045,540695829080273,3151406236448593 ★ a(n) = 6*a(n-1)-a(n-2) for n > 2; a(1) = 13, a(2) = 53. • a(n) = ((50 + 31 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (50 - 31 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4. •

[**A254895**] • 1,13,53,1241,5161,121573,505693,11912881,49552721,1167340733,4855660933,114387478921,475805218681,11208805593493,46624055769773,1098348560683361,4568681660219041,107626950141375853,447684178645696213,10546342765294150201 ★ Indices of octagonal numbers (A000567) that are also centered square numbers (A001844). • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A195024**] • 0,13,54,123,220,345,498,679,888,1125,1390,1683,2004,2353,2730,3135,3568,4029,4518,5035,5580,6153,6754,7383,8040 ★ n*(14*n - 1). • a(n) = 14 * n ^ 2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (13 + 15 * x) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 09 2012 •

[**A071230**] • 0,1,13,54,142,295,531,868,1324,1917,2665,3586,4698,6019,7567,9360,11416,13753,16389,19342,22630,26271,30283,34684,39492 ★ n*(6*n^2-7*n+3)/2 • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) •

[**A158485**] • 13,55,125,223,349,503,685,895,1133,1399,1693,2015,2365,2743,3149,3583,4045,4535,5053,5599,6173,6775,7405,8063,8749 ★ 14n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A274973**] • 1,13,55,139,277,481,763,1135,1609,2197,2911,3763,4765,5929,7267,8791,10513,12445,14599,16987,19621,22513,25675,29119,32857 ★ Centered cubohemioctahedral numbers: a(n) = 2*n^3+9*n^2+n+1. • a(n) = 2 * n ^ 3 + 9 * n ^ 2 + n + 1. •

[**A005902**] • 1,13,55,147,309,561,923,1415,2057,2869,3871,5083,6525,8217,10179,12431,14993,17885,21127,24739,28741,33153,37995,43287,49049 ★ Centered icosahedral (or cuboctahedral) numbers, also crystal ball sequence for f.c.c. lattice. • a(n) = (2 * n + 1) * (5 * n ^ 2 + 5 * n + 3) / 3. • a(- 1 - n) = - a(n). - _ Michael Somos _ , Jun 03 2012 •

[**A051798**] • 1,13,55,155,350,686,1218,2010,3135,4675,6721,9373,12740,16940,22100,28356,35853,44745,55195,67375,81466,97658,116150,137150,160875 ★ a(n) = (n+1)*(n+2)*(n+3)*(9n+4)/24. • a(n) = C(n + 3, 3) * (9 * n + 4) / 4. • a(0)=1, a(1)=13, a(2)=55, a(3)=155, a(4)=350, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 19 2012 •

[**A206372**] • 13,55,223,895,3583,14335,57343,229375,917503,3670015,14680063,58720255,234881023,939524095,3758096383,15032385535,60129542143,240518168575,962072674303,3848290697215,15393162788863,61572651155455,246290604621823,985162418487295 ★ 14*4^n - 1. • a(n) = 14 * 4 ^ n - 1. •

[**A290396**] • 13,55,277,1513,8593,49825,292417,1729153,10275073,61254145,365945857,2189371393,13111037953,78565515265,470990340097,2824331231233,16939544543233,101611496669185,609565899227137,3656983075356673,21940249178406913,131634897988091905,789782999624318977 ★ a(n) = 3*2^n + 3*4^n + 6^(n+1) + 1. • a(n) = 3 * 2 ^ n + 3 * 4 ^ n + 6 ^ (n + 1) + 1. • a(n) = 13 * a(n - 1) - 56 * a(n - 2) + 92 * a(n - 3) - 48 * a(n - 4) for n>3. •

[**A264853**] • 0,1,13,56,160,365,721,1288,2136,3345,5005,7216,10088,13741,18305,23920,30736,38913,48621,60040,73360,88781,106513,126776,149800 ★ a(n) = n*(n + 1)*(5*n^2 + 5*n - 4)/12. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Nov 27 2015 •

[**A007202**] • 1,13,57,153,323,587,967,1483,2157,3009,4061,5333,6847,8623,10683,13047,15737,18773,22177,25969,30171,34803,39887,45443,51493 ★ Crystal ball sequence for hexagonal close-packing. • a(n) = 7 * (2 * n + 1) * (2 * n ^ 2 + 2 * n + 1) / 8 + (- 1) ^ n / 8. - R. J. Mathar, Mar 24 2011 • a(0)=1, a(1)=13, a(2)=57, a(3)=153, a(4)=323, a(n)=3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) [From Harvey P. Dale, Jul 15 2011] •

[**A212405**] • 13,57,236,959,3872,15586,62632,251419,1008536,4043582,16206152,64933782,260114976,1041797124,4171943056,16704821779,66880877896,267747443494,1071808583176,4290243456514,17172082337536,68729504287324 ★ Number of binary arrays of length 2*n+3 with no more than n ones in any length 2n subsequence (=50% duty cycle) • a(n) = 2 ^ (2 * n + 2) - (3 * n + 1) / n * C(2 * n - 2,n - 1), for n>1. - _ Vaclav Kotesovec _ , Oct 28 2012 •

[**A103220**] • 0,1,13,58,170,395,791,1428,2388,3765,5665,8206,11518,15743,21035,27560,35496,45033,56373,69730,85330,103411,124223,148028,175100 ★ a(n) = n*(n+1)*(3*n^2+n-1)/6. • a(n) = sum(i=1..n, sum(j=1..n, max(i,j) ^ 2)). - _ Enrique Pérez Herrero _ , Jan 15 2013 • a(n) = a(n - 1) + (2 * n - 1) * n ^ 2 with a(0)=0. - _ J. M. Bergot _ , Jun 10 2017 •

[**A086221**] • 13,58,244,1000,4048,16288,65344,261760,1047808,4192768,16774144,67102720,268423168,1073717248,4294918144,17179770880,68719280128,274877513728,1099510841344,4398044938240,17592182898688,70368737886208 ★ Bisection of A086652. • a(n) = 2 ^ (2n + 2) - 3 * 2 ^ (n - 1). • a(n + 1) = 4 * a(n) + 3 * 2 ^ n. •

[**A163833**] • 0,13,59,156,322,575,933,1414,2036,2817,3775,4928,6294,7891,9737,11850,14248,16949,19971,23332,27050,31143,35629,40526,45852 ★ a(n) = n*(6*n^2 + 15*n + 5)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A213567**] • 1,13,59,183,476,1108,2409,4993,10007,19559,37504,70832,132145,244029,446763,811847,1465676,2630836,4697945,8350305,14779671,26058903,45784224,80179968,139995361 ★ Principal diagonal of the convolution array A213566. • a(n) = 6 * a(n - 1) - 12 * a(n - 2) - 5 * a(n - 3) + 12 * a(n - 4) - 12 * a(n - 5) - 3 * a(n - 6) + 6 * a(n - 7) - a(n - 9). •

[**A228282**] • 13,60,1034,10414,126119,1428523,16566199,190540884,2197847780,253253586 87,291935092921,3364727410265,38782728207101,447011297075966,5152298718205939,59385855860517581,684486816741728022 ★ Number of nX7 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or nw-se diagonally. • a(n) = a(n - 1) + 85 * a(n - 2) + 432 * a(n - 3) + 192 * a(n - 4) - 3711 * a(n - 5) - 5096 * a(n - 6) + 21164 * a(n - 7) + 27340 * a(n - 8) - 112654 * a(n - 9) - 37244 * a(n - 10) + 477721 * a(n - 11) - 464722 * a(n - 12) - 897815 * a(n - 13) + 3102284 * a(n - 14) - 4149918 * a(n - 15) + 2761082 * a(n - 16) - 138325 * a(n - 17) - 1353257 * a(n - 18) + 942033 * a(n - 19) + 64683 * a(n - 20) - 365483 * a(n - 21) + 80904 * a(n - 22) + 92350 * a(n - 23) - 27097 * a(n - 24) - 23292 * a(n - 25) + 2585 * a(n - 26) + 5635 * a(n - 27) + 1405 * a(n - 28) - 561 * a(n - 29) - 545 * a(n - 30) - 173 * a(n - 31) - 14 * a(n - 32) + 5 * a(n - 33) + a(n - 34) •

[**A118711**] • 1,13,61,82,898,2962,2989,9133,20077,20653,28669,29266,35581,35842,37501,99133,236674,286717,424621,424957,821698,941650,1704301,1722370,2978413 ★ Integers n such that the n-th triangular number t_n has all its base 12 digits contained in {1,5,7,11}. • a(n)=m if the m - th triangular number t _ m=m * (m + 1) / 2 has its base 12 digits contained in { 1,5,7,11 } . •

[**A081589**] • 1,13,61,145,265,421,613,841,1105,1405,1741,2113,2521,2965,3445,3961,4513,5101,5725,6385,7081,7813,8581,9385,10225 ★ Third row of Pascal-(1,5,1) array A081580. • a(n) = 1 - 6 * n + 18 * n ^ 2. •

[**A127876**] • 1,13,61,172,373,691,1153,1786,2617,3673,4981,6568,8461,10687,13273,16246,19633,23461,27757,32548,37861,43723,50161,57202,64873 ★ Integers of the form (x^3)/6 + (x^2)/2 + x + 1. • a(n) = (9 * n ^ 3 - 18 * n ^ 2 + 15 * n - 4) / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[**A141725**] • 1,13,61,253,1021,4093,16381,65533,262141,1048573,4194301,16777213,67108861,268435453,1073741821,4294967293,17179869181,68719476733,274877906941,1099511627773,4398046511101,17592186044413,70368744177661 ★ a(n) = 4^(n+1) - 3. • a(n) = 4 * a(n - 1) + 9 for n>0, a(0)=1. • a(n) = 4 ^ n - 3, with offset 1. - _ Omar E. Pol _ , Aug 22 2011 • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>1, a(0)=1, a(1)=13. - _ Harvey P. Dale _ , Sep 25 2011 •

[**A122885**] • 1,13,61,385,2185,12853,74677,435721,2538625,14798077,86245741,502684561,2929845241,17076419653,99528607141,580095354265,3381043256305,19706164707853,114855943942237,669429501042721 ★ The (3,3)-entry in the n-th power of the 3 X 3 matrix M = [1,1,1; 4,2,1; 9,3,1]. • a(n + 1) = 4 * a(n) + 11 * a(n - 1) - 2 * a(n - 2). • a(n)= - (45 / 68) * sqrt(2) * [3 - 2 * sqrt(2)] ^ (n - 1) + (33 / 34) * [3 + 2 * sqrt(2)] ^ (n - 1) + (45 / 68) * [3 + 2 * sqrt(2)] ^ (n - 1) * sqrt(2) + (33 / 34) * [3 - 2 * sqrt(2)] ^ (n - 1) - (16 / 17) * (- 2) ^ (n - 1), with n>=1 - _ Paolo P. Lava _ , Jul 09 2008 •

[**A268201**] • 0,13,62,171,364,665,1098,1687,2456,3429,4630,6083,7812,9841,12194,14895,17968,21437,25326,29659,34460,39753,45562,51911,58824 ★ a(n) = 4*n^3 - 6*n^2 + 3*n - 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. - _ Wesley Ivan Hurt _ , Apr 17 2016 •

[A213843] • 1,13,62,190,455,931,1708,2892,4605,6985,10186,14378,19747,26495,34840,45016,57273,71877,89110,109270,132671,159643,190532,225700,265525 ★ Antidiagonal sums of the convolution array A213841. • a(n) = n * (1 + n) * (1 - 2 * n + 4 * n ^ 2) / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A175109] • 1,13,63,171,365,665,1099,1687,2457,3429,4631,6083,7813,9841,12195,14895,17969,21437,25327,29659,34461,39753,45563,51911,58825 ★ a(n) = ((2*n+1)^3+(-1)^n)/2. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5). •

[A051878] • 1,13,63,203,518,1134,2226,4026,6831,11011,17017,25389,36764,51884,71604,96900,128877,168777,217987,278047,350658,437690,541190,663390,806715 ★ Partial sums of A051797. • a(n) = C(n + 4, 4) * (8n + 5) / 5. •

[A054477] • 1,13,64,307,1471,7048,33769,161797,775216,3714283,17796199,85266712,408537361,1957420093,9378563104,44935395427,215298414031,1031556674728,4942484959609,23680868123317,113461855656976,543628410161563,2604680195150839,12479772565592632 ★ A Pellian-related sequence. • a(n) = 5 a(n - 1) - a(n - 2); a(0)=1, a(1)=13. • a(n) = (2 ^ (- 1 - n) * ((5 - sqrt(21)) ^ n * (- 21 + sqrt(21)) + (5 + sqrt(21)) ^ n * (21 + sqrt(21)))) / sqrt(21). - _ Colin Barker _ , May 26 2016 •

[A153793] • 0,13,65,156,286,455,663,910,1196,1521,1885,2288,2730,3211,3731,4290,4888,5525,6201,6916,7670,8463,9295,10166,11076 ★ 13 times pentagonal numbers: a(n) = 13*n*(3*n-1)/2. • a(n) = 39 * n + a(n - 1) - 26 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A086689] • 1,13,67,227,602,1358,2730,5034,8679,14179,22165,33397,48776,69356,96356,131172,175389,230793,299383,383383,485254,607706,753710,926510,1129635 ★ a(n) = Sum_{i=1..n} i^2*t(i), where t = A000217. • a(n) = n * (n + 1) * (n + 2) * (12 * n ^ 2 + 9 * n - 1) / 120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Wesley Ivan Hurt _ , Nov 19 2014 • a(n) = Sum _{ i=1..n } (i * Sum _{ k=1..i } i * k). - _ Wesley Ivan Hurt _ , Nov 19 2014 •

[A213355] • 13,67,59899999 ★ Smallest prime p whose k-fold digit sum s(s(..s(p)..)) is also prime for all k < n, but whose n-fold digit sum is not prime. • a(n) <= s(a(n + 1)). (Proof: a(n) and s(a(n + 1)) share the same property, but a(n) is minimal.) •

[A258618] • 0,13,68,189,400,725,1188,1813,2624,3645,4900,6413,8208,10309,12740,15525,18688,22253,26244,30685,35600,41013,46948,53429,60480 ★ a(n) = (4*n+9)*n^2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 06 2015 •

[A085461] • 1,13,70,246,671,1547,3164,5916,10317,17017,26818,40690,59787,85463,119288,163064,218841,288933,375934,482734,612535,768867,955604,1176980,1437605 ★ Number of 5-tuples (v1,v2,v3,v4,v5) of nonnegative integers less than n such that v1<=v5, v2<=v5, v2<=v4 and v3<=v4. • a(n) = n + 11 * binomial(n, 2) + 34 * binomial(n, 3) + 40 * binomial(n, 4) + 16 * binomial(n, 5) = 1 / 30 * n * (n + 1) * (2 * n + 1) * (2 * n ^ 2 + 2 * n + 1). •

[A050403] • 1,13,70,252,714,1722,3696,7260,13299,23023,38038,60424,92820,138516,201552,286824,400197,548625,740278,984676,1292830,1677390,2152800,2735460,3443895 ★ Partial sums of A051877. • a(n) = C(n + 5, 5) * (7n + 6) / 6. •

[A060103] • 1,13,71,259,742,1806,3906,7722,14223,24739,41041,65429,100828,150892,220116,313956,438957,602889,814891,1085623,1427426,1854490,2383030,3031470,3820635 ★ Fourth column (m=3) of triangle A060102. • a(n)=(4 * n ^ 2 + 20 * n + 15) * binomial(n + 4, 4) / 15. • a(0)=1, a(1)=13, a(2)=71, a(3)=259, a(4)=742, a(5)=1806, a(6)=3906, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 16 2012 •

[A106173] • 0,0,0,0,1,13,72,255,691,1574,3177,5867,10121,16543,25882,39051,57147,81472,113555,155175,208385,275537,359308,462727,589203 ★ 7th diagonal of triangle in A059317. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 10. •

[A060886] • 1,1,13,73,241,601,1261,2353,4033,6481,9901,14521,20593,28393,38221,50401,65281,83233,104653,129961,159601,194041,233773,279313,331201 ★ a(n) = n^4 - n^2 + 1. • a(n) = (n ^ 2 - 1 / 2) ^ 2 + 3 / 4. - _ Alonso del Arte _ , Dec 20 2015 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), for n>4. - _ Vincenzo Librandi _ , Dec 20 2015 •

[A081586] • 1,13,73,245,593,1181,2073,3333,5025,7213,9961,13333,17393,22205,27833,34341,41793,50253,59785,70453,82321,95453,109913,125765,143073 ★ Fourth row of Pascal-(1,3,1) array A081578. • a(n) = (3 + 28n - 24n ^ 2 + 32 n ^ 3) / 3. • a(0)=1, a(1)=13, a(2)=73, a(3)=245, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). (End) •

[A143008] • 1,13,73,253,661,1441,2773,4873,7993,12421,18481,26533,36973,50233,66781,87121,111793,141373,176473,217741,265861,321553,385573,458713,541801 ★ Crystal ball sequence for the A2 x A2 lattice. • a(0)=1, a(1)=13, a(2)=73, a(3)=253, a(4)=661, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jun 14 2011 •

[A006230] • 1,13,73,301,1081,3613,11593,36301,111961,342013,1038313,3139501,9467641,28501213,85700233,257493901,773268121,2321377213,6967277353,20908123501,62736953401,188236026013,564758409673,1694375892301,5083329003481 ★ Bitriangular permutations. • a(n) = 12 * (3 - 3 * 2 ^ (n - 2) + 3 ^ (n - 2)) / 6 + 1. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3) for n>6 •

[A220414] • 13,73,425,2477,14437,84145,490433,2858453,16660285,97103257,565959257,3298652285,19225954453,112057074433,653116492145,3806641878437,22186734778477,129313766792425,753695865976073,4392861429064013,25603472708408005,149227974821384017 ★ a(n) = 6*a(n-1) - a(n-2), with a(1) = 13, a(2) = 73. • a(n) = 1 / 4 * (sqrt(2) * ((3 - 2 * sqrt(2)) ^ n - (3 + 2 * sqrt(2)) ^ n) + 10 * ((3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n)). [_ Paolo P. Lava _ , Feb 01 2013] • a(n) = 13 * S(n - 1, 6) - 5 * S(n - 2, 6), n >= 1, with Chebyshev's S - polynomials evaluated at x = 6 (see A049310). • a(n) = 6 * a(n - 1) - a(n - 2), n >= 2, with a(0) = 5 and a(1) = 13. • a(n) = irrational part of z(n), where z(n) = (- 1 + 5 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n, n >= 1. (End) •

[A051361] • 0,0,0,13,75,263,720,1688,3550,6882,12516,21615,35761,57057,88244,132834,195260,281044,396984,551361,754167,1017355,1355112,1784156,2324058 ★ A class of Boolean functions of n variables and rank 3. • a(n) = n * (n - 1) * (n - 2) * (n ^ 4 + 31 * n ^ 3 + 287 * n ^ 2 + 1499 * n + 2922) / 7!. • a(0)=0, a(1)=0, a(2)=0, a(3)=13, a(4)=75, a(5)=263, a(6)=720, a(7)=1688, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) [From Harvey P. Dale, Jul 19 2011] •

[A034265] • 1,13,76,300,930,2442,5676,12012,23595,43615,76648,129064,209508,329460,503880,751944,1097877,1571889,2211220,3061300,4177030,5624190,7480980,9839700,12808575 ★ a(n) = C(n+6,6)*(6n+7)/7. • a(0)=1, a(1)=13, a(2)=76, a(3)=300, a(4)=930, a(5)=2442, a(6)=5676, a(7)=12012, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Jul 29 2014 •

[A182077] • 13,76,435,2461,13971,79197,449188,2547179,14445169,81917079,464547653,2634418076,14939621779,84721638085,480451043995,2724607324221,15451075136020,87622065595371,496899168779481,2817883624638175,15980039054921477,90621786488479756 ★ Number of independent sets of nodes in the generalized Petersen graph G(2n+1,2) (n>=1). • a(n) = 3 * a(n - 1) + 15 * a(n - 2) + 3 * a(n - 3) - 13 * a(n - 4) + 4 * a(n - 5) with a(0)=13,a(1)=76,a(2)=435,a(3)=2461,a(4)=13971. •

[A072474] • 1,13,77,294,855,2071,4403,8492,15189,25585,41041,63218,94107,136059,191815,264536,357833,475797,623029,804670,1026431,1294623,1616187,1998724,2450525 ★ Sum of next n squares. • a(n) = k(k + 1)(2k + 1) / 6 - r(r + 1)(2r + 1) / 6, where k = n(n + 1) / 2 and r = n(n - 1) / 2. • a(n) = (n / 12) * (3n ^ 2 + 1) * (n ^ 2 + 2). - _ Benoit Cloitre _ , Jun 26 2002 •

[A194713] • 0,13,78,195,364,585,858,1183,1560,1989,2470,3003,3588,4225,4914,5655,6448,7293,8190,9139,10140,11193,12298,13455,14664 ★ 13 times hexagonal numbers: 13*n*(2*n-1). • a(0)=0, a(n) = a(n - 1) + 52 * n - 39. - _ Vincenzo Librandi _ , Oct 03 2011 •

[A060216] • 13,78,728,7098,74256,804076,8964072,101962770,1178277464,13785812040,162923672184,1941506688940,23298085122480,281241165925044,3412392867581152,41588538022965570 ★ Number of orbits of length n under the full 13-shift (whose periodic points are counted by A001022). • a(n) = (1 / n) * Sum _{ d|n } mu(d) 13 ^ (n / d). •

[A081584] • 1,13,79,307,886,2086,4258,7834,13327,21331,32521,47653,67564,93172,125476,165556,214573,273769,344467,428071,526066,640018,771574,922462,1094491 ★ Fourth row of Pascal-(1,2,1) array A081577. • a(n) = (8 + 6 * n + 81 * n ^ 2 - 18 * n ^ 3 + 27 * n ^ 4) / 8. •

[A052255] • 1,13,81,345,1155,3267,8151,18447,38610,75790,140998,250614,428298,707370,1133730,1769394,2696727,4023459,5888575,8469175,11988405,16724565,23021505,31300425 ★ Partial sums of A050484. • a(n) = (5n + 8) * C(n + 7, 7) / 8. •

[A101102] • 1,13,82,354,1200,3432,8646,19734,41613,82225,153868,274924,472056,782952,1259700,1972884,3016497,4513773,6624046,9550750,13550680,18944640,26129610,35592570,47926125 ★ Fifth partial sums of cubes (A000578). • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (10 + 3 * n * (n + 5)) / 20160. •

[A213572] • 1,13,82,406,1809,7659,31588,128476,518611,2084809,8361918,33497010,134094757,536608663,2146926472,8588754808,34357247847,137433710421,549744803650,2199000186670,8796044787481,35184271425283 ★ Principal diagonal of the convolution array A213571. • a(n) = (2 ^ (n + 2) * (2 ^ n - 1) - (2 ^ (n + 1) + n + 1) * n) / 2. • a(n) = 11 * a(n - 1) - 47 * a(n - 2) + 101 * a(n - 3) - 116 * a(n - 4) + 68 * a(n - 5) - 16 * a(n - 6). •

[A001848] • 1,13,85,377,1289,3653,8989,19825,40081,75517,134245,227305,369305,579125,880685,1303777,1884961,2668525,3707509,5064793,6814249,9041957,11847485,15345233,19665841 ★ Crystal ball sequence for 6-dimensional cubic lattice. • a(n) = 4 / 45 * n ^ 6 + 4 / 15 * n ^ 5 + 14 / 9 * n ^ 4 + 8 / 3 * n ^ 3 + 196 / 45 * n ^ 2 + 46 / 15 * n + 1. - S. Bujnowski & B. Dubalski (slawb(AT)atr.bydgoszcz.pl), Nov 25 2002 • a(n)= sum(k=0..min(6,n), 2 ^ k * binomial(6,k) * binomial(n,k)). See Bump et al. - _ Tom Copeland _ , Sep 05 2014 •

[A055843] • 1,13,85,385,1375,4147,11011,26455,58630,121550,238238,445094,797810,1379210,2309450,3759074,5965487,9253475,14060475,20967375,30735705,44352165,63081525,88529025,122713500 ★ Expansion of (1+3x)/(1-x)^10. • a(n) = (4n + 9) * C(n + 8, 8) / 9. •

[A233325] • 1,13,85,517,3109,18661,111973,671845,4031077,24186469,145118821,870712933,5224277605,31345665637,188073993829,1128443962981,6770663777893,40623982667365,243743896004197,1462463376025189,8774780256151141,52648681536906853 ★ (2*6^(n+1) - 7) / 5. • a(n) = 7 * a(n - 1) - 6 * a(n - 2) for n>1, a(0)=1, a(1)=13. • a(n) = 6 * a(n - 1) + 7 for n>0, a(0)=1. •

[A003764] • 1,13,85,673,5021,38237,289089,2191309,16594837,125714929,952245373,7213225309,54639088433,413885098253,3135127983381,23748220228801,179889887447581,1362644200671133,10321865130390817 ★ Number of 2-factors in W_4 X P_n. • a(1) = 1, • a(2) = 13, • a(3) = 85, • a(4) = 673, • a(5) = 5021 and • a(n) = 6a(n - 1) + 16a(n - 2) - 29a(n - 3) - 16a(n - 4) + 16 a(n - 5). •

[A228481] • 13,88,1181,13050,152373,1748684,20185842,232542935,2680777055,30897168815,356129525933,4104762592860,47311923541451,5453214328328 44,6285425006257311,72446383973495105,835023655383918595 ★ Number of nX7 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or antidiagonally. • a(n) = a(n - 1) + 85 * a(n - 2) + 432 * a(n - 3) + 192 * a(n - 4) - 3711 * a(n - 5) - 5096 * a(n - 6) + 21164 * a(n - 7) + 27340 * a(n - 8) - 112654 * a(n - 9) - 37244 * a(n - 10) + 477721 * a(n - 11) - 464722 * a(n - 12) - 897815 * a(n - 13) + 3102284 * a(n - 14) - 4149918 * a(n - 15) + 2761082 * a(n - 16) - 138325 * a(n - 17) - 1353257 * a(n - 18) + 942033 * a(n - 19) + 64683 * a(n - 20) - 365483 * a(n - 21) + 80904 * a(n - 22) + 92350 * a(n - 23) - 27097 * a(n - 24) - 23292 * a(n - 25) + 2585 * a(n - 26) + 5635 * a(n - 27) + 1405 * a(n - 28) - 561 * a(n - 29) - 545 * a(n - 30) - 173 * a(n - 31) - 14 * a(n - 32) + 5 * a(n - 33) + a(n - 34) •

[A057788] • 1,13,90,442,1729,5733,16744,44200,107406,243542,520676,1058148,2057510,3848222,6953544,12183560,20764055,34512075,56071470,89224590,139299615,213696795,322561200,479634480,703323660 ★ Expansion of (1+x)/(1-x)^12. • a(n) = 2 * C(n + 11, 11) - C(n + 10, 10). - _ Paul Barry _ , Mar 04 2003 • a(n) = C(n + 10,10) + 2 * C(n + 10,11). - Borislav St. Borisov (b.st.borisov(AT)abv.bg), Mar 05 2009 • a(n) = C(n + 10,10) * (2n + 11) / 11. - _ Antal Pinter _ , Dec 27 2015 • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12) for n > 11. - _ Vincenzo Librandi _ , Feb 14 2016 •

[A247611] • 1,13,91,455,1820,6188,18564,49596,119139,260743,527065,996205,1778966,3027038,4942106,7785882,11891061,17673201,25643527,36422659,50755264,69525632,93774176,124714856,163753527 ★ a(n) = Sum{k=0..6} binomial(12,k)*binomial(n,k). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). • a(n) = (120 - 8042 * n + 20581 * n ^ 2 - 17380 * n ^ 3 + 7645 * n ^ 4 - 1518 * n ^ 5 + 154 * n ^ 6) / 120. •

[A008505] • 1,13,91,455,1820,6188,18564,50388,125970,293930,646646,1352078,2704155,5200287,9657609,17383405,30419935,51889747,86474661,141070137,225666870,354523390,547707394,833099722 ★ 11-dimensional centered tetrahedral numbers. • a(n) = (2n + 1)(3n ^ 10 + 15n ^ 9 + 1835n ^ 8 + 7250n ^ 7 + 195629n ^ 6 + 561575n ^ 5 + 4970585n ^ 4 + 9013640n ^ 3 + 28095948n ^ 2 + 23681520n + 19958400) / 19958400. - Bruno Berselli, Mar 22 2012 •

[A008495] • 1,13,91,455,1820,6188,18564,50388,125970,293930,646646,1352078,2704156,5200299,9657687,17383769,30421300,51894115,86487037,141101961,225742452,354691350,548060110,833805154,1250325622 ★ Expansion of (1-x^13) / (1-x)^13. • a(n) = 13 * (n * (19056960 + 18128396 * n ^ 2 + 2641925 * n ^ 4 + 88803 * n ^ 6 + 715 * n ^ 8 + n ^ 10)) / 39916800 for n>0. •

[A010965] • 1,13,91,455,1820,6188,18564,50388,125970,293930,646646,1352078,2704156,5200300,9657700,17383860,30421755,51895935,86493225,141120525,225792840,354817320,548354040,834451800,1251677700 ★ a(n) = binomial(n,12). • a(n + 11) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9)(n + 10)(n + 11) / 12!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 •

[A090020] • 0,1,13,91,529,2851,14833,75811,383809,1932931,9705553,48648931,243605089,1219100611,6098716273,30503196451,152544778369,762810181891,3814309582993,19072323542371,95363943807649,476826695752771 ★ Number of distinct lines through the origin in the n-dimensional lattice of side length 4. • a(n) = 5 ^ n - 3 ^ n - 2 ^ n + 1. •

[A153703] • 1,13,94,526,2551,11299,47020,186988,718429,2686729,9831658,35340826,125154355,437641663,1513809688,5187129880,17627632249,59469045061,199327841590,664232428390,2201904349231,7264715299483,23865295832644,78091766836996 ★ Partial sums of A069996. • a(n) = (3 ^ n * (n ^ 2 - n + 1) - 1) / 2. • a(n) = 10 * a(n - 1) - 36 * a(n - 2) + 54 * a(n - 3) - 27a(n - 4) for n>4. •

[A211388] • 1,13,97,545,2561,10625,40193,141569,471041,1496065,4571137,13516801,38862849,109051905,299565057,807600129,2141192193,5592842241,14413725697,36698062849,92408905729,230359564289,568965726209,13933981204 49 ★ Expansion of 1/((1-2*x)^6*(1-x)). • a(n) = 1 + 2 ^ (n - 2) * n * (n ^ 4 + 10 * n ^ 3 + 55 * n ^ 2 + 110 * n + 184) / 15. - _ Bruno Berselli _ , Feb 08 2013 •

[A049294] • 1,13,97,625,3841,23233,139777,839425,5038081,30231553,181395457,1088385025,6530334721,39182057473,235092443137,1410554855425,8463329525761,50779977940993,304679869218817,1828079218458625 ★ Number of subgroups of index 3 in free group of rank n+1. • a(n) = 3 * 6 ^ n - 3 * 2 ^ n + 1. •

[A198480] • 1,13,97,685,4801,33613,235297,1647085,11529601,80707213,564950497,3954653485,27682574401,193778020813,1356446145697,9495123019885,66465861139201,465261027974413,3256827195820897,22797790370746285 ★ 2*7^n - 1. • a(n) = 7 * a(n - 1) + 6, n>0. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). - _ Vincenzo Librandi _ , Jul 06 2012 •

[A006976] • 1,13,98,560,2688,11424,44352,160512,549120,1793792,5637632,17145856,50692096,146227200,412778496,1143078912,3111714816,8341487616,22052208640,57567870976,148562247680,379364311040,959384125440 ★ Coefficients of Chebyshev polynomials. • a(n) = 2 ^ n * binomial(n + 5,5) * (n + 12) / 12. • a(n) = 2 ^ n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 12) / 1440. • a(n) = sum { k = 0..floor((n + 12) / 2), C(n + 12,2 * k) * C(k,6) } . - _ Paul Barry _ , May 15 2003 • a(n) = 2 ^ (n - 1) / 6 * binomial(n + 5,5) * (n + 12). - _ Brad Clardy _ , Mar 10 2012 •

[A155646] • 1,13,99,727,5391,40543,308799,2377087,18456831,144295423,1134207999,8952731647,70896259071,562816507903,4476410675199,35654557073407,284296086618111,2268726473129983,18115958466150399,144724547815866367 ★ 8^n + 6^n - 1. • a(n)=14 * a(n - 1) - 48 * a(n - 2) - 35 with a(0)=1, a(1)=13 [From _ Vincenzo Librandi _ , Jul 21 2010] • a(0)=1, a(1)=13, a(2)=99, a(n)=15 * a(n - 1) - 62 * a(n - 2) + 48 * a(n - 3) [From Harvey P. Dale, Jul 17 2011] •

[A216179] • 13,103,1003,10003,100003,1000003,10000003,100000003,1000000003,10000000003,100000000003,1000000000003,10000000000003,100000000000003,1000000000000003,10000000000000003,100000000000000003,1000000000000000003 ★ a(n) = 10^n + 3. • a(n) = 10a(n - 1) - 27 with n > 1, a(1) = 13. •

[A129762] • 1,13,104,615,3149,14912,67537,297945,1293832,5564911,23795465,101383680,431003105,1829784725,7761645928,32906509335,139466630773,590979780544,2503927125041,10608105770625,44940061502216 ★ Sum of all elements of n X n X n cubic array M[i,j,k] = Fibonacci[i+j+k-2]. • a(n) = Sum[Sum[Sum[Fibonacci[i + j + k - 2], { i,1,n }], { j,1,n }], { k,1,n }]. • a(n) = Fibonacci[3n + 4] - 3 * Fibonacci[2n + 4] + 3 * Fibonacci[n + 4] - 3. • a(n) = 9 * a(n - 1) - 26 * a(n - 2) + 24 * a(n - 3) + 6 * a(n - 4) - 14 * a(n - 5) + a(n - 6) + a(n - 7). - _ Joerg Arndt _ , Apr 21 2011 •

[A283121] • 1,13,104,633,3224,14404,58151,216294,751582,2464860,7689669,22961822,65955677,182985947,492016590,1285829996,3274100475,8139933477,19795490575,47165634583,110259083454,253208634687,571880965638,1271549402110,2785836824325 ★ Expansion of exp(Sum_{n>=1} sigma(9*n)*x^n/n) in powers of x. • a(n) = (1 / n) * Sum _{ k=1..n } sigma(9 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 05 2017 •

[A080422] • 1,13,105,675,3780,19278,91854,415530,1804275,7577955,30961359,123589557,483611310,1860043500,7046907660,26344593252,97328636181,355781149065,1288173125925,4623863536215,16466920464456,58222325927898 ★ (n+1)(n+2)(n+3)(n+12)3^n/72. • a(0)=1, a(1)=13, a(2)=105, a(3)=675, a(4)=3780; for n>4, a(n)=15 * a(n - 1) - 90 * a(n - 2) + 270 * a(n - 3) - 405 * a(n - 4) + 243 * a(n - 5). [_ Harvey P. Dale _ , Oct 22 2011] •

[A155636] • 1,13,105,853,7185,62173,547065,4861093,43437345,389373613,3496550025,31429887733,282673677105,2543086531453,22882895970585,205921649672773,1853172776742465,16677944639119693,150098449994264745 ★ 9^n+5^n-1. • a(n)=14 * a(n - 1) - 45 * a(n - 2) - 32 with a(0)=1, a(1)=13 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A164301] • 1,13,107,771,5249,34757,226843,1469019,9472801,60940573,391531307,2513679891,16131578849,103501150997,663985196443,4259325491499,27321595396801,175251467663533,1124117982508907,7210396068827811,46249247090573249,296653361322692837 ★ a(n) = ((1+4*sqrt(2))*(5+sqrt(2))^n + (1-4*sqrt(2))*(5-sqrt(2))^n)/2. • a(n) = 10 * a(n - 1) - 23 * a(n - 2) for n > 1; a(0) = 1, a(1) = 13. •

[A021344] • 1,13,110,770,4851,28623,161680,885940,4749701,25058033,130616850,674656710,3460370551,17652592243,89673093620,454027521080,2292850387401,11555296775253,58141244359990 ★ Expansion of 1/((1-x)(1-3x)(1-4x)(1-5x)). • a(0)=1, a(1)=13, a(2)=110, a(3)=770; for n>3, a(n) = 13 * a(n - 1) - 59 * a(n - 2) + 107 * a(n - 3) - 60 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 • a(0)=1, a(1)=13; for n>1, a(n) = 9 * a(n - 1) - 20 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 •

[A099111] • 1,13,112,798,5103,30471,173734,958936,5170165,27396369,143295516,742128114,3814432987,19490910907,99140278258,502476527532,2539579950369,12806979393285,64472086878760,324111808432390 ★ Expansion of 1 / ((1+x)*(1-2*x)*(1-3*x)*(1-4*x)*(1-5*x)). • a(n) = (1 / 360) * (6250 * 5 ^ n - 9216 * 4 ^ n + 3645 * 3 ^ n - 320 * 2 ^ n + (- 1) ^ n). •

[A021076] • 1,13,113,833,5649,36561,230161,1424401,8720657,53021969,320925969,1936736529,11665150225,70169841937,421734846737,2533272326417,15211087073553,91312335163665,548057262395665 ★ Expansion of 1/((1-x)(1-2x)(1-4x)(1-6x)). • a(n) = - (1 / 15) + 2 ^ n - (16 / 3) * 4 ^ n + (27 / 5) * 6 ^ n. [_ Antonio Alberto Olivares _ , May 22 2012] • a(0)=1, a(1)=13, a(2)=113, a(3)=833, a(n)=13 * a(n - 1) - 56 * a(n - 2) + 92 * a(n - 3) - 48 * a(n - 4) From _ Harvey P. Dale _ , Jul 19 2012 • a(0)=1, a(1)=13; for n>1, a(n) = 10 * a(n - 1) - 24 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 •

[A164609] • 1,13,113,909,7169,56237,440497,3448941,27000961,211377613,1654759793,12954178509,101410868609,793887651437,6214891748017,48652827405741,380875114341121,2981653077513613,23341653831337073,182728435956939309 ★ a(n) = 10*a(n-1) - 17*a(n-2) for n > 1; a(0) = 1, a(1) = 13. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 1, a(1) = 13. • a(n) = ((2 + 4 * sqrt(2)) * (5 + 2 * sqrt(2)) ^ n + (2 - 4 * sqrt(2)) * (5 - 2 * sqrt(2)) ^ n) / 4. •

[A287471] • 13,115,666,3234,14379,60981,251968,1026124,4145241,16670823,66879606,267944070,1072693399,4292739241,17175150780,68709515472,274856935653,1099467587835,4397954236690,17591993106730,70368341524803,281474137850205,1125898162012536 ★ Number of connected dominating sets in the n-crown graph. • a(n) = (2 ^ n - n - 1) ^ 2 - n * (n - 1) / 2. - _ Andrew Howroyd _ , Jun 03 2017 • a(n) = 11 * a(n - 1) - 47 * a(n - 2) + 101 * a(n - 3) - 116 * a(n - 4) + 68 * a(n - 5) - 16 * a(n - 6) for n>8. •

[A016765] • 1,13,115,865,5971,39193,249355,1555105,9573091,58428073,354585595,2143759345,12928070611,77832076153,468051849835,2812563019585,16892428846531,101422905135433,608811146458075,3653962903591825,21928165007708851,131586550851237913 ★ Expansion of 1/((1-3x)(1-4x)(1-6x)). • a(n) = 6 ^ (n + 1) - 2 ^ (2 * n + 3) + 3 ^ (n + 1). - _ Vincenzo Librandi _ , Mar 20 2011 • a(n) = 10 * a(n - 1) - 24 * a(n - 2) + 3 ^ n, n>=2. - _ Vincenzo Librandi _ , Mar 20 2011 •

[A155621] • 1,13,115,1063,10255,101023,1004095,10016383,100065535,1000262143,10001048575,100004194303,1000016777215,10000067108863,100000268435455,1000001073741823,10000004294967295,100000017179869183 ★ 10^n+4^n-

1^n • a(n)=14 * a(n - 1) - 40 * a(n - 2) - 27 with a(0)=1, a(1)=13 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[A021034] • 1,13,116,902,6615,47271,333922,2346784,16455989,115278449,807210768,5651264346,39561225523,276935720347,1938571500254,13570064940788,94990648033617,664935116841765,4654547560235980 ★ Expansion of 1/((1-x)(1-2x)(1-3x)(1-7x)). • a(0)=1, a(1)=13; for n>1, a(n) = 10 * a(n - 1) - 21 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 • a(0)=1, a(1)=13, a(2)=116, a(3)=902; for n>3, a(n) = 13 * a(n - 1) - 53 * a(n - 2) + 83 * a(n - 3) - 42 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 • a(n) = (7 ^ (n + 3) - 15 * 3 ^ (n + 3) + 24 * 2 ^ (n + 3) - 10) / 120. [_ Yahia Kahloune _ , Jul 07 2013] •

[A016295] • 1,13,117,905,6461,43953,289717,1868425,11861421,74423393,462815717,2858273145,17556537181,107373722833,654414852117,3977351721065,24118423433741,145982106270273,882250466222917 ★ Expansion of 1/((1-2x)(1-5x)(1-6x)). • a(n) = 13 * a(n - 1) - 52 * a(n - 2) + 60 * a(n - 3), n >= 3. • a(n) = 11 * a(n - 1) - 30 * a(n - 2) + 2 ^ n, n >= 2. - _ Vincenzo Librandi _ , Mar 16 2011 • a(n) = 7 * a(n - 1) - 10 * a(n - 2) + 6 ^ n, n >= 2. - _ Vincenzo Librandi _ , Mar 16 2011 • a(n) = 8 * a(n - 1) - 12 * a(n - 2) + 5 ^ n, n >= 2. - _ Vincenzo Librandi _ , Mar 16 2011 • a(n) = - 5 ^ (n + 2) / 3 + 9 * 6 ^ n + 2 ^ n / 3. - _ R. J. Mathar _ , Mar 18 2011 •

[A016285] • 1,13,119,953,7167,52185,373423,2646601,18657023,131122937,919956687,6448083369,45170133919,316325146969,2214812883311,15505837634057,108549453307455,759880532759481,5319301168007695 ★ Expansion of 1/((1-2x)(1-4x)(1-7x)). • a(n) = (2 / 5) * 2 ^ n - (8 / 3) * 4 ^ n + (49 / 15) * 7 ^ n. - _ Antonio Alberto Olivares _ , Feb 06 2010 • a(n) = 13 * a(n - 1) - 50 * a(n - 2) + 56 * a(n - 3). - _ Vincenzo Librandi _ , Jun 25 2013 •

[A253512] • 0,13,120,847,5460,33883,206640,1249807,7528620,45260803,271831560,1631788567,9793126980,58765944523,352617206880,2115767844127,12694800840540,76169386305043,457018061484600,2742113599608487,16452697289229300,98716230809062363 ★ (2^n - 1) * (3^(n+2) - 1) / 2. • a(n) = 12 * a(n - 1) - 47 * a(n - 2) + 72 * a(n - 3) - 36 * a(n - 4) for n>4. - _ Colin Barker _ , Jan 09 2015 •

[A014918] • 1,13,121,985,7465,54121,380713,2620201,17736745,118513705,783641641,5137206313,33435376681,216285092905,1391747554345,8914707307561,56873575734313,361553445739561,2291192622439465,14478387422649385 ★ a(1)=1, a(n) = n*6^(n-1) + a(n-1). • a(n) = (1 / 25) * (1 - 6 ^ n * (5 * n - 1)). - _ Paolo P. Lava _ , Jan 13 2009 • a(1)=1, a(2)=13, a(n) = 12 * a(n - 1) - 36 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 •

[A081033] • 1,13,121,997,7729,57853,423721,3059797,21887329,155555053,1100604121,7762822597,54632726929,383893932253,2694581744521,18898693305397,132473958606529,928233237589453,6502210299844921,45538360282508197 ★ 6th binomial transform of the periodic sequence (1,7,1,1,7,1...). • a(n) = 7 * a(n - 1) + 6 * 5 ^ (n - 1). • a(n) = 4 * 7 ^ n - 3 * 5 ^ n. •

[A096053] • 1,13,121,1093,9841,88573,797161,7174453,64570081,581130733,5230176601,47071589413,423644304721,3812798742493,34315188682441,308836698141973,2779530283277761,25015772549499853,225141952945498681 ★ a(n) = (3*9^n - 1)/2. • a(n - 1) = (- 9 ^ n / 3) * B(2n,1 / 3) / B(2n) where B(n,x) is the n - th Bernoulli polynomial and B(k)=B(k,0) is the k - th Bernoulli number. • a(n) = 10 * a(n - 1) - 9 * a(n - 2). • a(n) = 9 * a(n - 1) + 4. - _ Vincenzo Librandi _ , Nov 01 2011 •

[A016230] • 1,13,122,1010,7851,58863,431572,3118660,22318901,158673713,1122923022,7921496310,55755649951,391815428563,2750337394472,19290508733960,135224296001001,947523746323413,6637434595845922 ★ Expansion of 1/((1-x)(1-5x)(1-7x)). • a(0)=1, a(1)=13, a(n)=12 * a(n - 1) - 35 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (2 * 7 ^ (n + 2) - 3 * 5 ^ (n + 2) + 1) / 24. - _ Yahia Kahloune _ , Aug 13 2013 •

[A115204] • 1,13,123,1037,8291,64509,494595,3761661,28486659,215277565,1625688067,12277764093,92783468547,701828038653,5314762113027,40297495658493,305941006516227,2325794003091453,17704219384479747 ★ Seventh column of triangle A115193 (called C(1,2)). • a(n) = (- 1) ^ n * 2 ^ (8 + 3 * n) * (Binomial[1 / 2, 4 + n] * Hypergeometric2F1[1, 7 / 2 + n, 5 + n, - 8] + 4 * (9 * Binomial[1 / 2, 5 + n] * Hypergeometric2F1[1, 9 / 2 + n, 6 + n, - 8] + 36 * Binomial[1 / 2, 6 + n] * Hypergeometric2F1[1, 11 / 2 + n, 7 + n, - 8] + 32 * Binomial[1 / 2, 7 + n] * Hypergeometric2F1[1, 13 / 2 + n, 8 + n, - 8])). - _ G. C. Greubel _ , Feb 04 2016 •

[A016277] • 1,13,123,1049,8603,69489,557971,4470073,35779755,286296065,2290543619,18324876297,146600596507,1172809538641,9382490625267,75059967983321,600479872875659,4803839370163617,38430716123046115 ★ Expansion of 1/((1-2x)(1-3x)(1-8x)). • a(n) = 2 * 2 ^ n / 3 - 9 * 3 ^ n / 5 + 32 * 8 ^ n / 15. - _ Antonio Alberto Olivares _ , Feb 06 2010 • a(n) = 13 * a(n - 1) - 46 * a(n - 2) + 48 * a(n - 3), n>=3. • a(n) = 11 * a(n - 1) - 24 * a(n - 2) + 2 ^ n, a(0)=1, a(1)=13. (End) •

[A016224] • 1,13,125,1085,9021,73533,593725,4771645,38260541,306433853,2452868925,19628543805,157050720061,1256495238973,10052319825725,80419990261565,643365648715581,5146948096216893,41175676395704125 ★ Expansion of 1/((1-x)(1-4x)(1-8x)). • a(n) = (1 / 21) - (4 / 3) * 4 ^ n + (16 / 7) * 8 ^ n. - _ Antonio Alberto Olivares _ , Feb 07 2010 • a(0)=1, a(1)=13, a(n) = 12 * a(n - 1) - 32 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0)=1, a(1)=13, a(2)=125, a(n) = 13 * a(n - 1) - 44 * a(n - 2) + 32 * a(n - 3). - _ Harvey P. Dale _ , Aug 16 2012 •

[A016169] • 0,1,13,127,1105,9031,70993,543607,4085185,30275911,222009073,1614529687,11664504865,83828316391,599858908753,4277376525367,30411820662145,215703854542471,1526853641242033,10789535445362647 ★ a(n) = 7^n - 6^n. • a(0)=0, a(n) = 7 * a(n - 1) + 6 ^ (n - 1). [_ Vincenzo Librandi _ , Feb 09 2011] • a(0)=0, a(1)=1, a(n) = 13 * a(n - 1) - 42 * a(n - 2). [_ Vincenzo Librandi _ , Feb 09 2011] •

[A076457] • 13,129,534,1510,3435,6783,12124,20124,31545,47245,68178,95394,130039,173355,226680,291448,369189,461529,570190,696990,843843,1012759,1205844,1425300,1673425 ★ Sum of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly four ways. • a(n) = n * (n + 1) * (8 * n ^ 2 + 6 * n - 1) / 2. •

[A016162] • 1,13,129,1157,9881,82173,673009,5462197,44088201,354658733,2847035489,22825112037,182845036921,1463980998493,11717951503569,93774129606677,750345624744041,6003527937405453,48032038196509249 ★ Expansion of 1/((1-5x)(1-8x)). • a(n) = (8 ^ (n + 1) - 5 ^ (n + 1)) / 3. - Lambert Klasen (lambert.klasen(AT)gmx.net), Feb 05 2005 • a(0)=1, a(n) = 8 * a(n - 1) + 5 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 • a(0)=1, a(1)=13, a(n)= 13 * a(n - 1) - 40 * a(n - 2). - _ Harvey P. Dale _ , Feb 02 2015 •

[A155623] • 1,13,129,1357,14721,161293,1772289,19489357,214365441,2357967373,25937483649,285311847757,3138428908161,34522713738253,379749838366209,4177248183764557,45949729906618881,505447028628433933 ★ 11^n+3^n-1. • a(n)=14 * a(n - 1) - 33 * a(n - 2) - 20 with a(0)=1, a(1)=13 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A006100] • 1,13,130,1210,11011,99463,896260,8069620,72636421,653757313,5883904390,52955405230,476599444231,4289397389563,38604583680520,347441274648040,3126971536402441 ★ Gaussian binomial coefficient [n,2] for q=3. • a(n) = (9 ^ n - 4 * 3 ^ n + 3) / 48. - _ Mitch Harris _ , Mar 23 2008 • a(n) = 4 * a(n - 1) - 3 * a(n - 2) + 9 ^ (n - 2), n>=4. - _ Vincenzo Librandi _ , Mar 20 2011 •

[A037603] • 1,13,130,1301,13013,130130,1301301,13013013,130130130,1301301301,13013013013,130130130130,1301301301301,13013013013013,1301301301301301,130130130130130130,1301301301301301 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,3,0. • a(n)=10 * a(n - 1) + (1 / 9) *{ 13 * (n mod 3) - 2 * [(n + 1) mod 3] + [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] • a(n)=10 * a(n - 1) + a(n - 3) - 10 * a(n - 4). G.f.: x * (1 + 3 * x) / ((x - 1) * (10 * x - 1) * (1 + x + x ^ 2)). [From _ R. J. Mathar _ , Aug 03 2009] •

[A037708] • 1,13,130,1302,13021,130213,1302130,13021302,130213021,1302130213,13021302130,130213021302,1302130213021,13021302130213,130213021302130,1302130213021302 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,3,0,2. • a(n)=10 * a(n - 1) + (1 / 4) *{ 3 * (n mod 4) + 2 * [(n + 1) mod 4] - [(n + 2) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037582] • 1,13,131,1313,13131,131313,1313131,13131313,131313131,1313131313,13131313131,131313131313,1313131313131,13131313131313,131313131313131,1313131313131313,13131313131313131,131313131313131313 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,3. • a(n)=10 * a(n - 1) + 2 + (- 1) ^ n, with a(0)=0. Closed form: a(n)= - (2 / 9) + (1 / 11) * (- 1) ^ n + (13 / 99) * 10 ^ n, with n>=1 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A293580] • 13,132,924,5546,30720,162396,834004,4204080,20932656,103365416,507538320,2482394448,12108785680,58954149792,286654114176,1392524616032,6760326357888,32804684941248,159135076864576,771789378620928,3742512930335232,18145949724380288 ★ Number of compositions of n where each part i is marked with a word of length i over a ternary alphabet whose letters appear in alphabetical order and all three letters occur at least once in the composition. • a(n) = 12 * a(n - 1) - 52 * a(n - 2) + 102 * a(n - 3) - 96 * a(n - 4) + 44 * a(n - 5) - 8 * a(n - 6). •

[A161498] • 1,13,132,1261,11809,109824,1018849,9443629,87504516,810723277,7510988353,69584925696,644660351425,5972359368781,55329992188548,512595960817837,4748863783286881,43995092132369664,407585519020921249 ★ Expansion of x*(1-x)*(1+x)/(1-13*x+36*x^2-13*x^3+x^4). • a(n) = 13 * a(n - 1) - 36 * a(n - 2) + 13 * a(n - 3) - a(n - 4). • a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), where alpha = 1 / 4 * (13 + sqrt(33)), beta = 1 / 4 * (13 - sqrt(33)) and where T(n,x) denotes the Chebyshev polynomial of the first kind. • a(n) = U(n - 1,1 / 2 * (4 + sqrt(3))) * U(n - 1,1 / 2 * (4 - sqrt(3))) for n >= 1, where U(n,x) denotes the Chebyshev polynomial of the second kind. • a(n) = bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, - 17 / 2; 1, 13 / 2]. •

[A037715] • 1,13,132,1320,13201,132013,1320132,13201320,132013201,1320132013,13201320132,132013201320,1320132013201,13201320132013,1320132013201320,1320132013201320132,13201320132013201320 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,3,2,0. • a(n)=10 * a(n - 1) + (1 / 4) *{ 3 * (n mod 4) + 2 * [(n + 1) mod 4] - [(n + 2) mod 4] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A037617] • 1,13,132,1321,13213,132132,1321321,13213213,132132132,1321321321,13213213213,132132132132,1321321321321,13213213213213,1321321321321321,132132132132132132,1321321321321321 ★ Decimal expansion of a(n) is given by the first n terms of the periodic sequence with initial period 1,3,2. • a(n)=10 * a(n - 1) +{ (n mod 3) + [(n + 2) mod 3] } , with a(0)=0 [From _ Paolo P. Lava _ , Jul 30 2009] •

[A081042] • 1,13,133,1225,10633,88837,722701,5764801,45294865,351652861,2703691669,20620693177,156208812697,1176509412085,8816899947037,65787638066353,488998835524129,3622389432086509,26752509108528805,197038045347164329 ★ 7th binomial transform of (1,6,0,0,0,0,0,0,.....). • a(n) = 14 * a(n - 1) - 49 * a(n - 2) for n>1, a(0)=1, a(1)=13. • a(n) = (6 * n + 7) * 7 ^ (n - 1). • a(n) = sum(k=0..n, (k + 1) * 6 ^ k * binomial(n, k)). •

[A187732] • 0,1,13,133,1274,11942,111098,1030791,9554727,88535307,820278004,7599523660,70405203700,652259875085,6042764572481,55982252063633,518638725390318,4804846035350514,44513730857759982,412390365056271763,3820524794586339931,35394642842712164887,327908025365023678952 ★ Expansion of x/(x^4 - 13x^3 + 36x^2 - 13x + 1). • a(0)=0, a(1)=1, a(2)=13, a(3)=133, a(n)=13 * a(n - 1) - 36 * a(n - 2) + 13 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 10 2015 •

[A031138] • 1,13,133,1321,13081,129493,1281853,12689041,125608561,1243396573,12308357173,121840175161,1206093394441,11939093769253,118184844298093,1169909349211681,11580908647818721,114639177128975533,1134810862641936613,11233469449290390601 ★ 1^5 + 2^5 + ... + n^5 is a square. • a(n) = 11 * (a(n - 1) - a(n - 2)) + a(n - 3). • a(n) = - 1 / 2 + ((3 - sqrt(6)) / 4) * (5 + 2 * sqrt(6)) ^ n + ((3 + sqrt(6)) / 4) * (5 - 2 * sqrt(6)) ^ n. • a(n) ^ 2 + (a(n) + 1) ^ 2 = (b(n) - 1) ^ 2 + b(n) ^ 2 + (b(n) + 1) ^ 2 = c(n) = 3 * d(n) + 2; where b(n) is A054320, c(n) is A007667 and d(n) is A006061. •

[A097166] • 1,13,133,1333,13333,133333,1333333,13333333,133333333,1333333333,13333333333,133333333333,1333333333333,13333333333333,133333333333333,1333333333333333,13333333333333333 ★ Expansion of (1+2*x)/((1-x)*(1-10*x)). • a(n) = 4 * 10 ^ n / 3 - 1 / 3. • a(n) = 10 * a(n - 1) + 3, n>0. a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. - _ Vincenzo Librandi _ , Nov 01 2011 •

[A154999] • 1,1,13,133,1477,15925,173509,1883413,20471269,222402229,2416608901,26257155925,285297665317,3099884206069,33681691385797,365966976355477,3976399872691813,43205412115772725,469446679463465221 ★ a(n)=7*a(n-1)+42*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=13 . • a(n)=(19 / 434) * sqrt(217) *{ [(7 / 2) + (1 / 2) * sqrt(217)] ^ (n - 1) - [(7 / 2) - (1 / 2) * sqrt(217)] ^ (n - 1) } + (1 / 2) *{ [(7 / 2) + (1 / 2) * sqrt(217)] ^ (n - 1) + [(7 / 2) - (1 / 2) * sqrt(217)] ^ (n - 1) }+ (6 / 7) * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 20 2009] •

[A179619] • 1,13,135,1357,13579,135801,1358023,13580245,135802467,1358024689,13580246911,135802469133,1358024691355,13580246913577,135802469135799,1358024691358021,13580246913580243,135802469135802465,1358024691358024687,13580246913580246909 ★ a(1)=1, a(n+1) = 10*a(n)+2*n-1 • a(n) = (11 / 81) * (10 ^ n - 1) - (2 / 9) * n, with n>=1. - _ Paolo P. Lava _ , Aug 26 2010 • a(1)=1, a(2)=13, a(3)=135, a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). - _ Harvey P. Dale _ , Aug 16 2012 •

[A052262] • 0,1,13,136,1370,13715,137171,1371738,13717416,137174205,1371742105,13717421116,137174211238,1371742112471,13717421124815,137174211248270,1371742112482836,13717421124828513,137174211248285301,1371742112482853200,13717421124828532210 ★ Partial sums of A014824. • a(n) = 100 * (10 ^ n - 1) / 729 - 10 * n / 81 - binomial(n + 1, 2) / 9. • a(n) = 10 * a(n - 1) + binomial(n + 1,2). •

[A065550] • 13,136,1391,14030,140865,1411444,14128309,141352267,1413868217,14140409111,141412724154,1414170403052,14141919829640,1414202772727213,14142081675638 79,14142108649717546,141421221367320688 ★ Sqrt[Phi[w]*Sigma[w]/2] where w=10^n. • a(n) = A062354[10 ^ n] + A000290[10 ^ n] tends to sqrt(2) * (10 ^ n), •

[A016205] • 1,13,137,1385,13881,138873,1388857,13888825,138888761,1388888633,13888888377,138888887865,1388888886841,13888888884793,138888888880697,1388888888872505,13888888888856121,138888888888823353 ★ Expansion of 1/((1-x)(1-2x)(1-10x)). • a(n) = (25 * 10 ^ n - 9 * 2 ^ n + 2) / 18. - _ Bruno Berselli _ , Feb 09 2011 • a(n) = 10 * a(n - 1) + 2 ^ (n + 1) - 1 if n > 0; a(0)=1. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A023329] • 13,139,293,1889,2939,3719,6089,7741,12823,19753,21391,22861,28513,36721,37967,40949,60899,76519,83621,101747,121687,127549,128239,142099,149197 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 10x + 9. • a(n) == 9 or 13 (mod 14). - _ John Cerkan _ , Oct 09 2016 •

[A016145] • 1,13,139,1417,14251,142753,1428259,14284777,142854331,1428562993,14285688979,142857066937,1428571200811,14285713602433,142857140807299,1428571422421897,14285714267265691,142857142801797073 ★ Expansion of 1/((1-3x)(1-10x)). • a(n) = (10 ^ (n + 1) - 3 ^ (n + 1)) / 7 = 10 * a(n - 1) + 3 ^ n = 3 * a(n - 1) + 10 ^ n. - _ Henry Bottomley _ , Jul 25 2001 • a(n) = 13 * a(n - 1) - 30 * a(n - 2), n >= 2. - _ Vincenzo Librandi _ , Mar 14 2011 •

[A045742] • 0,1,13,141,1456,14778,149031,1499773,15089932,151927854,1531242362,15451614738,156114597744,1579223536788,15993825704427,162159485143581,1645827425223220,16720488433727910,170023231905932790 ★ Number of interior faces in all noncrossing connected graphs on n nodes on a circle. • a(n) = Sum _{ k=1..n - 2 } k * binomial(n + k - 2, k) * binomial(3 * n - 3, n - 2 - k) / (n - 1). •

[A122011] • 0,1,13,141,1499,15899,168585,1787533,18953419,200965203,2130856217,22593703397,239563527915,2540118496459,26933156445577,285575226955869,3027985613779691,32106065273909411,340424149534129305 ★ G.f. x^2*(1+x)/(1-12*x+15*x^2-2*x^3). • a(n)= 12 * a(n - 1) - 15 * a(n - 2) + 2 * a(n - 3). •

[A266806] • 13,143,527,4859,30119,214847,1450643,10000367,68393039,469166939,3214686407,22036489343,151033273907,1035215971919,7095427362959,48632909524667,333334588608743,2284710128883647,15659633909836499,107332733533045679,735669484346002127 ★ Coefficient of x^2 in the minimal polynomial of the continued fraction [1^n,sqrt(6),1,1,...], where 1^n means n ones. S • a(n) = 5 * a(n - 1) + 15 * a(n - 2) - 15 * a(n - 3) - 5 * a(n - 4) + a(n - 5) . •

[A098298] • 0,1,13,144,1573,17161,187200,2042041,22275253,242985744,2650567933,28913261521,315395308800,3440435135281,37529391179293,409382867836944,4465682155027093,48713120837461081,531378647057044800,5796451996790031721,63229593317633304133 ★ Member r=13 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 11 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. • a(n)= 12 * a(n - 1) - 12 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=13. •

[A199023] • 1,13,145,1597,17569,193261,2125873,23384605,2572306572829537229,31124909521,342374004733,3766114052065,41427254572717,455699800299889,5012697803298781,55139675836286593,606536434199152525 ★ (6*11^n - 1) / 5. • a(n) = 11 * a(n - 1) + 2. • a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. •

[A014881] • 1,13,146,1610,17715,194871,2143588,23579476,2593742452853116705,31384283766,345227121438,3797498335831,41772481694155,459497298635720,5054470284992936,55599173134922313,611590904484145461,6727499949325600090 ★ a(1)=1, a(n)=11*a(n-1)+n. • a(n) = - 11 / 100 + 11 / 100 * 11 ^ n - 1 / 10 * n, with n>=1. - _ Paolo P. Lava _ , Jan 14 2009 • a(1)=1, a(2)=13, a(3)=146, a(n)=13 * a(n - 1) - 23 * a(n - 2) + 11 * a(n - 3). - _ Vincenzo Librandi _ , Oct 20 2012 •

[A051524] • 0,1,13,146,1650,19524,245004,3272688,46536624,703404576,11277554400,191338156800,3427105248000,64651956364800,1281740285145600,26648514872985600,579892995734169600,13183403757582643200 ★ Second unsigned column of triangle A051338. • a(n) = n! * [5]h(n), where [k]h(n) denotes the k - th successive summation of h(n) from 0 to n. - _ Gary Detlefs _ Jan 04 2011 •

[A016135] • 1,13,147,1625,17891,196833,2165227,23817625,2619941312881935953,31701296507,348714263625,3835856903971,42194425951873,464138685486987,5105525540389625,56160780944351411,617768590387996593 ★ Expansion of 1/((1-2*x)*(1-11*x)). • a(n) = (11 ^ (n + 1) - 2 ^ (n + 1)) / 9. - _ Zerinvary Lajos _ , Jun 05 2009 • a(n) = 13 * a(n - 1) - 22 * a(n - 2). - _ Vincenzo Librandi _ , Jun 02 2011 •

[A090667] • 1,1,13,149,1490,13624,117920,987568,8111200,65866496,531372800,4270866688,34254920192,274425014272,2197077311488,17583865032704,140702055981056,1125749585477632,9006563605151744,72054913990721536,576449482336632832,4611638739487686656 ★ Number of compositions of 3n with each part less than or equal to n. • a(n) = 2 ^ (3n - 1) - (2n + 1) * 2 ^ (2n - 2) + (n + 2) * (n - 1) * 2 ^ (n - 4), n>0. •

[A163148] • 1,13,149,1617,17081,177893,1838509,18920457,194255281,1991977533,20407378949,209003188737,2140015661801,21909062453333,224284075207069,2295910518566457,23501807859846241,240570205162118893 ★ a(n) = 16*a(n-1)-59*a(n-2) for n > 1; a(0) = 1, a(1) = 13. • a(n) = ((1 + sqrt(5)) * (8 + sqrt(5)) ^ n + (1 - sqrt(5)) * (8 - sqrt(5)) ^ n) / 2. •

[A097168] • 1,13,151,1693,18571,200473,2137591,22571653,236478211,2461637233,25488068431,262725949213,2697866876251,27614135219593,281860550309671,2870078286120373,29164037908416691,295809674509083553 ★ Expansion of (1-7x)/(1-x)(1-9x)(1-10x). • a(n)=10 * 10 ^ n / 3 - 9 * 9 ^ n / 4 - 1 / 12; a(n)=20a(n - 1) - 109a(n - 2) + 90a(n - 3). •

[A204766] • 13,154,180,321,347,488,514,655,681,822,848,989,1015,1156,1182,1323,1349,1490,1516,1657,1683,1824,1850,1991,2017 ★ a(n) = 167*(n-1)-a(n-1) with n>1, a(1)=13. • a(n) = (- 167 + 115 * (- 1) ^ n + 334 * n) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A163415] • 1,13,155,1763,19489,211525,2267819,24110267,254827105,2682176797,28147841051,294769171955,3082165652161,32192217154453,335968822259435,3504253645468043,36535028659929409,380794477886753965 ★ a(n) = 18*a(n-1) - 79*a(n-2) for n>1, a(0)=1, a(1)=13. • a(n) = ((1 + 2 * sqrt(2)) * (9 + sqrt(2)) ^ n + (1 - 2 * sqrt(2)) * (9 - sqrt(2)) ^ n) / 2. •

[A077416] • 1,13,155,1847,22009,262261,3125123,37239215,443745457,5287706269,63008729771,750817050983,8946795882025,106610733533317,1270382006517779,15137973344680031,180385298129642593 ★ Chebyshev S-sequence with Diophantine property. • a(n) = 12 * a(n - 1) - a(n - 2), a(- 1)= - 1, a(0)=1. • a(n) = (ap ^ (2 * n + 1) - am ^ (2 * n + 1)) / (ap - am) with ap := (sqrt(7) + sqrt(5)) / sqrt(2) and am := (sqrt(7) - sqrt(5)) / sqrt(2). • a(n) = Sum _{ k=0..n } (- 1) ^ k * binomial(2 * n - k,k) * 14 ^ (n - k). •

[A097827] • 1,13,156,1860,22165,264121,3147288,37503336,446892745,5325209605,63455622516,756142260588,9010251504541,107366875793905,1279392258022320,15245340220473936,181664690387664913 ★ Partial sums of Chebyshev sequence S(n,12)= U(n,6)=A004191(n). • a(n) = 13 * a(n - 1) - 13 * a(n - 2) + a(n - 3) with n>=2, a(- 1)=0, a(0)=1, a(1)=13. • a(n) = 12 * a(n - 1) - a(n - 2) + 1 with n>=1, a(- 1)=0, a(0)=1. • a(n) = (S(n + 1, 12) - S(n, 12) - 1) / 10. •

[A165151] • 1,13,157,1825,20761,233173,2598517,28818985,318655921,3516744733,38764899277,426978842545,4700721921481,51735623710693,569285638838437,6263498473368505,68907978330073441,758054227491947053 ★ a(n) = (3*11^n-7^n)/2. • a(n) = 18 * a(n - 1) - 77 * a(n - 2) for n > 1; a(0) = 1, a(1) = 13. •

[A016125] • 1,13,157,1885,22621,271453,3257437,39089245,469070941,5628851293,67546215517,810554586205,9726655034461,116719860413533,1400638324962397,16807659899548765,201691918794585181 ★ Expansion of 1/((1-x)*(1-12*x)). • a(n) = (12 ^ (n + 1) - 1) / 11. • a(n) = 12 * a(n - 1) + 1 for n>0, a(0)=1. - _ Vincenzo Librandi _ , Nov 19 2010 • a(n) = Sum _{ i=0...n } 11 ^ i * binomial(n + 1,n - i). [_ Bruno Berselli _ , Nov 11 2015] •

[A084328] • 0,1,13,158,1911,23105,279344,3377317,40832337,493669894,5968552915,72160819061,872436565728,10547906344793,127525980259301,1541810773578190,18640754273664159,225369887048273977 ★ a(0)=0 a(1)=1 a(n)=13a(n-1)-11a(n-2). • a(n)=(1 / 5) * sum(k=0, n, binomial(n, k) * F(5 * k)) where F

(k) denotes the k - th Fibonacci number. • a(n)= - (1 / 25) * [13 / 2 - (5 / 2) * sqrt(5)] ^ n * sqrt(5) + (1 / 25) * sqrt(5) * [13 / 2 + (5 / 2) * sqrt(5)] ^ n, with n>=0 - _ Paolo P. Lava _ , Jun 19 2008 •

[A205163] • 13,159,2277,33831,506493,7594479,113908437,1708600311,25628925933,384433652799,5766504083397,86497559125191,1297463380500573,19461950688376719,291929260268255157,4378938903851640471 ⋆ Number of (n+1) X 2 0..3 arrays with every 2 X 2 subblock having unequal diagonal elements or unequal antidiagonal elements, and new values 0..3 introduced in row major order. • a(n) = 3 ^ (n - 1) * (2 * 5 ^ n + 3). •

[A118673] • 0,13,160,213,280,1113,1420,1809,6660,8449,10716,38989,49416,62629,227416,288189,365200,1325649,1679860,2128713,7726620,9791113,12407220,45034213,57066960 ⋆ Positive solutions x to the equation x^2+(x+71)^2=y^2. • a(n)=6 * a(n - 3) - a(n - 6) + 142 with a(0)=0, a(1)=13, a(2)=160, a(3)=213, a(4)=280, a(5)=1113. •

[A216300] • 13,160,376,391,421,547,586,712,745,748,754,808,883,985,1006,1210,1291,1333,1375,1462,1513,1588,1702,1798,2203 ⋆ Numbers n such that 10n+3 is composite but 10n+1, 10n+7, 10n+9 are all prime. • a(n) >> n log ^ 3 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A078362] • 1,13,168,2171,28055,362544,4685017,60542677,782369784,10110264515,130651068911,1688353631328,21817946138353,281944946167261,3643466354036040,47083117656301259,608437063177880327 ⋆ A Chebyshev S-sequence with Diophantine property. • a(n) = 13 * a(n - 1) - a(n - 2), n>=1; a(- 1)=0, a(0)=1. • a(n) = S(2 * n + 1, sqrt(15)) / sqrt(15) = S(n, 13); S(n, x) := U(n, x / 2), Chebyshev polynomials of the 2nd kind, A049310. • a(n) = (ap ^ (n + 1) - am ^ (n + 1)) / (ap - am) with ap = (13 + sqrt(165)) / 2 and am = (13 - sqrt(165)) / 2. •

[A084970] • 13,169,221,247,299,377,403,481,533,559,611,689,767,793,871,923,949,1027,1079,1157,1261,1313,1339,1391,1417 ⋆ Numbers whose smallest prime factor is 13. • a(n) = a(n - 480) + 30030 = a(n - 1) + a(n - 480) - a(n - 481). - _ Charles R Greathouse IV _ , Nov 19 2014 •

[A053153] • 0,0,13,170,1605,13390,104993,794010,5867245,42681830,307120473,2192847250,15570312485,110116458270,776528783953,5464646634890,38398786511325,269529019274710,1890415785439433,13251574765596930 ⋆ Number of 3-element intersecting families whose union is an n-element set. • a(n) = 1 / 3! * (7 ^ n - 3 * 5 ^ n + 3 * 4 ^ n - 4 * 3 ^ n + 3 * 2 ^ n + 2). •

[A140455] • 0,1,13,170,2223,29069,380120,4970629,64998297,849948490,11114328667,145336221161,1900485203760,24851643870041,324971855514293,4249485765555850,55568286807740343,726637214266180309 ⋆ 13-Fibonacci sequence. • a(n) = 13 * a(n - 1) + a(n - 2). • a(n - r) * a(n + r) - a(n) ^ 2 = (- 1) ^ (n + 1 - r) * a(r) ^ 2. • a(n) = sum _{ i=0..floor((n - 1) / 2) } binomial(n,2i + 1) * 13 ^ (n - 1 - 2 * i) * (13 ^ 2 + 4) ^ i / 2 ^ (n - 1). • a(n) = ((13 + sqrt(173)) ^ n - (13 - sqrt(173)) ^ n) / (2 ^ n * sqrt(173)). - Al Hakanson (hawkuu(AT)gmail.com), Jan 12 2009 •

[A122571] • 1,1,13,181,2521,35113,489061,6811741,94875313,1321442641,18405321661,256353060613,3570537526921,49731172316281,692665874901013,9647591076297901,134373609193269601,1871582937629476513 ⋆ a(1)=a(2)=1, a(n) = 14*a(n-1) - a(n-2). • a(n) = (1 / 4) * sqrt(3) * (7 - 4 * sqrt(3)) ^ n - (1 / 4) * sqrt(3) * (7 + 4 * sqrt(3)) ^ n + (1 / 2) * (7 + 4 * sqrt(3)) ^ n + (1 / 2) * (7 - 4 * sqrt(3)) ^ n, with n>=0. - _ Paolo P. Lava _ , Jun 19 2008 • a(n) = 1 / 4 * sqrt(2 + (2 - sqrt(3)) ^ (4 * n - 2) + (2 + sqrt(3)) ^ (4 * n - 2)). - _ Gerry Martens _ , Jun 03 2015 •

[A097260] • 0,13,182,195,2548,2561,2730,2743,35672,35685,35854,35867,38220,38233,38402,38415,499408,499421,499590,499603,501956,501969,502138,502151,535080 ⋆ Numbers whose set of base 14 digits is {0,D}, where D base 14 = 13 base 10. • a(2n) = 14 * a(n), a(2n + 1) = a(2n) + 13. •

[A158548] • 13,182,689,1534,2717,4238,6097,8294,10829,13702,16913,20462,24349,28574,33137,38038,43277,48854,54769,61022,67613,74542,81809,89414,97357 ⋆ 169n^2 + 13. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A000563] • 13,192,1085,3880,10656,24626,50380,94128,163943,270004,424839,643568,944146,1347606,1878302,2564152,3436881,4532264,5890369,7555800,9577940,12011194,14915232,18355232,22402123 ⋆ Number of discordant permutations. • a(n) = 81 / 40n ^ 5 - 135 / 4n ^ 4 + 1719 / 8n ^ 3 - 2487 / 4n ^ 2 + 3463 / 5n, n>4. (End) •

[A099271] • 0,1,13,196,2925,43681,652288,9740641,145457325,2172119236,32436331213,484372848961,7233156403200,108012973199041,1612961441582413,24086408650537156,359683168316474925,5371161116096586721 ⋆ Unsigned member r=-13 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 15 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 14 * a(n - 1) + 14 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=13. •

[A015253] • 1,13,221,3485,55965,894621,14317213,229062301,3665049245,58640578205,938250090141,15011998086813,240191982810781,3843071671285405,61489146955314845,983826350426044061,15741221610252678813 ⋆ Gaussian binomial coefficient [n,2] for q = -4. • a(2) = 1, a(3) = 13, a(4) = 221 a(n) = 13 * (n - 1) + 52 * a(n - 2) - 64 * a(n - 3). - _ Vincenzo Librandi _ , Oct 27 2012 •

[A051180] • 0,0,0,13,222,2585,25830,238833,2111382,18142585,152937510,1271964353,10476007542,85662034185,696700867590,5643519669073,45575393343702,367206720319385,2953481502692070,23723872215168993,190372457332919862 ⋆ Number of 3-element intersecting families of an n-element set. • a(n) = (1 / 3!) * (8 ^ n - 3 * 6 ^ n + 3 * 5 ^ n - 4 * 4 ^ n + 3 * 3 ^ n + 2 * 2 ^ n - 2). • a(0)=0, a(1)=0, a(2)=0, a(3)=13, a(4)=222, a(5)=2585, a(6)=25830, a(n) = 29 * a(n - 1) - 343 * a(n - 2) + 2135 * a(n - 3) - 7504 * a(n - 4) + 14756 * a(n - 5) - 14832 * a(n - 6) + 5760 * a(n - 7). - _ Harvey P. Dale _ , Jul 07 2013 •

[A133284] • 1,13,277,6073,133321,2926981,64260253,1410798577,30973308433,680001986941,14929070404261,327759546906793,7195780961545177,15797942160708709 3,3468351494394370861,76145753455069071841 ⋆ Indices of the 12-gonal numbers which are also centered 12-gonal number or numbers X such that 30*X^2-24*X+3 is a square. • a(n + 2)=22 * a(n + 1) - a(n) - 8 ; a(n + 1)=11 * a(n) - 4 + 2 * (30 * a(n) ^ 2 - 24 * a(n) + 3) ^ 0.5 • a(n)=(2 / 5) + (3 / 10) * [11 + 2 * sqrt(30)] ^ n + (1 / 20) * [11 + 2 * sqrt(30)] ^ n * sqrt(30) + (3 / 10) * [11 - 2 * sqrt(30)] ^ n - (1 / 20) * sqrt(30) * [11 - 2 * sqrt(30)] ^ n, with n>=0 [From _ Paolo P. Lava _ , Aug 06 2008] •

[A023357] • 13,293,6089,12823,37967,40949,121687,192037,243487,379679,409499,471841,1006193,1217131,1397311,1438793,1503613,1541063,1754591,2058629,2088421,2346791,2360357,2428243,2458609 ⋆ Numbers n such that n remains prime through 5 iterations of the function f(x) = 10x + 9. • a(n) == 13 mod 14. - _ John Cerkan _ , Aug 26 2016 •

[A217674] • 13,313,613,3613,4513,21013,52813,86113,99013,148513,165313,241513,255613,332113,787513,800113,904513,1073113,1720513,2279113,2679613,2940313,3471613,4307113,4605613 ⋆ Primes p = a^2 + b^2 such that (x - a)^2 + (y - b)^2 = 2 and q - p = 4, where q = x^2 + y^2 is prime, assuming that a > b > 0 and x > y > 0. • a(n) == 13 (mod 300). •

[A284824] • 1,1,1,13,401,93151,88853970,482430702570 ⋆ Number of partitions of n copies of n^2 into distinct parts. • a(n) = 1 / n! * [Product _{ i=1..n } x _ i ^ (n ^ 2)] Product _{ j>0 } (1 + Sum _{ i=1..n } x _ i ^ j). •

[A023332] • 13,541,1087,1861,3727,23293,40387,87643,98899,109111,115153,116329,119101,131617,133597,163909,197521,214021,215389,218227,238207,263239,294751,489901,493693 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 2x + 5. • a(n) == 1 (mod 6). - _ John Cerkan _ , Oct 09 2016 •

[A076461] • 13,571,5306,26470,93455,264313,640276,1383276,2736465,5047735,8796238,14621906,23357971,36066485,54076840,79027288,112909461,158115891,217490530,294382270,392701463,516979441,672431036,865020100,1101528025 ⋆ Sum of squares of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly two ways. • a(n) = n * (n + 1) * (25 * n ^ 4 + 26 * n ^ 3 - 6 * n ^ 2 - 7 * n + 1) / 6. •

[A108223] • 1,13,703,61681,9762501,2140365529,678222249307,280379743338241,150087010086914941,99902428887422922553 ⋆ sigma_{2n}(n^2)/sigma_n(n^2), where sigma_n(m) = sum{k|m} k^n. • a(n) = product { p=primes } (sum { k=0 to 2 * b(n, p) } p ^ (n * k) * (- 1) ^ k), where p ^ b(n, p) is the highest power of p dividing n. •

[A289225] • 0,13,859,9585,56520,231635,749223,2051819,4965960,10924065,22268395,42654733,77575104,135020535,226306535,367085655,578573168,889013589,1335417435,1965599305,2840550040,4037177403,5651451399,7801992035,10634139000 ⋆ Number of ways to select 4 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = (n ^ 8 - 8 * n ^ 7 - 50 * n ^ 6 + 556 * n ^ 5 + 231 * n ^ 4 - 12388 * n ^ 3 + 17914 * n ^ 2 + 86648 * n - 198528) / 24. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>12. •

[A270872] • 13,2278,19439,117910,550009,2072078,6584443,18269614,45445445,103390294,218437543,433677158,816642289,1469399230,2541499379,4246292158,6881138173,10852102214,16703746015,25154681014,37139581673,53858400238,76833564139,107975977550 ⋆ a(n) = n^8 + 7*n^7 + 34*n^6 + 111*n^5 + 275*n^4 + 511*n^3 + 703*n^2 + 623*n + 13. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[A134159] • 13,3433,31591,130351,370273,846613,1679323,3013051,5017141,7885633,11837263,17115463,23988361,32748781,43714243,57226963,73653853,93386521,116841271,144459103,176705713,214071493,257071531,306245611 ⋆ a(n) = 13 + 165 n + 756 n^2 + 1470 n^3 + 1029 n^4. • a(n) = (3(7n + 2) ^ 4 + 6(7n + 2) ^ 3 - 3 (7n + 2) + 1) / 7 a(n) = Sum[k ^ 6] / Sum[k ^ 2], { k, 1, 7n + 2 }] •

[A060887] • 1,13,8191,797161,22369621,305175781,2612138803,16148168401,78536544841,317733228541,1111111111111,3452271214393,9726655034461,25239592216021,61054982558011,139013933454241,300239975158033,619036127056621 ⋆ n^12 + n^11 + n^10 + n^9 + n^8 + n^7 + n^6 + n^5 + n^4 + n^3 + n^2 + n + 1. • a(n) = (n ^ 13 - 1) / (n - 1) with a(1) = 13 = lim _{ x - >1 } a(x). - _ M. F. Hasler _ , Dec 31 2012 •

[A114962] • 14,15,18,23,30,39,50,63,78,95,114,135,158,183,210,239,270,303,338,375,414,455,498,543,590 ⋆ a(n) = n^2 + 14. • a(n) = 2 * n + a(n - 1) - 3 for n>1, with a(1)=14. - _ Vincenzo Librandi _ , Nov 13 2010 •

[A022104] • 1,14,15,29,44,73,117,190,307,497,804,1301,2105,3406,5511,8917,14428,23345,37773,61118,98891,160009,258900,418909,677809 ⋆ Fibonacci sequence beginning 1, 14. • a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=14. a(- 1):=13. •

[A041398] • 14,15,29,44,117,395,512,2443,22499,24942,47441,262147,833882,11936495,36643367,195153330,231796697,426950027,4074346940,16724337787,20798684727,79120391968,179039468663 ⋆ Numerators of continued fraction convergents to sqrt(214). • a(n) = 1390718379850 * a(n - 26) - a(n - 52) for n >51. [_ Bruno Berselli _ , Nov 16 2013] •

[A041919] • 1,1,14,15,29,44,205,864,1069,1933,3002,40959,43961,1887321,1931282,26993987,28925269,55919256,84844525,395297356,1666033949,2061331305,3727365254,5788696559,78980420521 ⋆ Denominators of continued fraction convergents to sqrt(481). • a(n) = 1928280 * a(n - 13) + a(n - 26) for n>25. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A041929] • 1,14,15,44,191,235,426,1513,3452,18773,22225,152123,174348,326471,7030239,7356710,14386949,93678404,108065353,634005169,1376075691,4762232242,6138307933,10900540175,49740468633 ★ Denominators of continued fraction convergents to sqrt(487). • a(n) = 103812147681136 * a(n - 28) - a(n - 56) for n>55. - _ Vincenzo Librandi _ , Dec 27 2013 •

[A041410] • 14,15,74,89,2566,2655,13186,15841,456734,472575,2347034,2819609,81296086,84115695,417758866,501874561,14470246574,14972121135,74358731114,89330852249,2575622594086,2664953446335 ★ Numerators of continued fraction convergents to sqrt(220). • a(n) = 178 * a(n - 4) - a(n - 8). G.f.: - (x ^ 7 - 14 * x ^ 6 + 15 * x ^ 5 - 74 * x ^ 4 - 89 * x ^ 3 - 74 * x ^ 2 - 15 * x - 14) / (x ^ 8 - 178 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A033050] • 0,1,14,15,196,197,210,211,2744,2745,2758,2759,2940,2941,2954,2955,38416,38417,38430,38431,38612,38613,38626,38627,41160 ★ Numbers whose set of base 14 digits is {0,1}. • a(n) = Sum { d(i) * 14 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 14 * a(n), a(2n + 1) = a(2n) + 1. •

[A041416] • 14,15,209,224,6481,6705,93646,100351,2903474,3003825,41953199,44957024,1300749871,1345706895,18794939506,20140646401,582733038734,602873685135,8420090945489,9022964630624 ★ Numerators of continued fraction convergents to sqrt(223). • a(0)=14, a(1)=15, a(2)=209, a(3)=224, a(4)=6481, a(5)=6705, a(6)=93646, a(7)=100351, a(n)=448 * a(n - 4) - a(n - 8). - _ Harvey P. Dale _ , Jan 10 2016 •

[A041417] • 1,1,14,15,434,449,6271,6720,194431,201151,2809394,3010545,87104654,90115199,1258602241,1348717440,39022690561,40371408001,563850994574,604222402575,17482078266674,18086300669249,252603986966911,270690287636160,7831932040779391 ★ Denominators of continued fraction convergents to sqrt(223). • a(n) = 448 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 17 2013 •

[A255846] • 14,16,22,32,46,64,86,112,142,176,214,256,302,352,406,464,526,592,662,736,814,896,982,1072,1166 ★ a(n) = 2*n^2 + 14. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A228207] • 14,16,26,34,64,86,166,224,434,586,1136,1534,2974,4016,7786,10514,20384,27526,53366,72064,139714,188666,365776,493934,957614 ★ x-values in the solution to x^2 - 20y^2 = 176. • a(n) = 3 * a(n - 2) - a(n - 4). •

[A175887] • 1,14,16,29,31,44,46,59,61,74,76,89,91,104,106,119,121,134,136,149,151,164,166,179,181 ★ Numbers that are congruent to {1, 14} mod 15. • a(n) = (30 * n + 11 * (- 1) ^ n - 15) / 4. • a(n) = - a(- n + 1) = a(n - 1) + a(n - 2) - a(n - 3). •

[A067844] • 14,16,34,36,54,56,74,76,94,96,114,116,134,136,154,156,174,176,194,196,214,216,234,236,254 ★ Numbers n such that n and 2^n end with the same digit. • a(n) = 10 * n - 4 * (- 1) ^ n. a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: 2 * x * (2 * x ^ 2 + x + 7) / ((x - 1) ^ 2 * (x + 1)). [_ Colin Barker _ , Dec 01 2012] •

[A165719] • 14,17,45,50,92,99,155,164,234,245,329,342,440,455,567,584,710,729,869,890,1044,1067,1235,1260,1442 ★ Integers of the form k*(k+9)/8. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - R. J. Mathar, Sep 25 2009 • a(n)= 2 * n ^ 2 + 6 * n + 9 / 4 - 3 * (- 1) ^ n * (2 * n + 3) / 4. - R. J. Mathar, Sep 25 2009 •

[A154146] • 0,14,17,87,104,510,609,2975,3552,17342,20705,101079,120680,589134,703377,3433727,4099584,20013230,23894129,116645655,139265192,679860702,811697025 ★ Indices n such that 16 plus the n-th triangular number is a perfect square. • a(n)= + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A241199] • 14,19,31,38,54,63,83,94,118,131,159,174,206,223,259,278,318,339,383,406,454,479,531,558,614 ★ Numbers n such that 4 consecutive terms of binomial(n,k) satisfy a quadratic relation for 0 <= k <= n/2. • a(n) = (55 - 7 * (- 1) ^ n - 2 * (- 21 + (- 1) ^ n) * n + 6 * n ^ 2) / 8. G.f.: - x * (6 * x ^ 4 - 3 * x ^ 3 - 16 * x ^ 2 + 5 * x + 14) / ((x - 1) ^ 3 * (x + 1) ^ 2). - _ Colin Barker _ , Apr 18 2014 and Apr 29 2015 • a(2 * k - 1) = 3 * k ^ 2 + 8 * k + 3, a(2 * k) = 3 * k ^ 2 + 10 * k + 6. - _ Robert Israel _ , Apr 28 2015 •

[A074851] • 14,20,21,33,34,35,38,39,44,45,50,51,54,55,56,57,62,68,74,75,76,85,86,87,91 ★ Numbers n such that n and n+1 have 2 distinct prime factors. • a(n) seems to be asymptotic to c * n * log(n) ^ 2 with c=0.13... •

[A224771] • 14,21,26,29,30,35,38,41,42,45,46,49,50,53,54,59,61,62,65,66,69,70,74,75,77 ★ Numbers that are the sum of 3 distinct and primitive nonzero squares. • a(n) is the n - th largest number m which satisfies: m = a ^ 2 + b ^ 2 + c ^ 2, with integers a, b, and c, 0 < a < b < c, and gcd(a,b,c) = 1. Such a solution is denoted by the triplet (a, b, c). •

[A253810] • 0,14,21,33,38,80,84 ★ The life of Diophantus. • a(0): birth (all numbers a(n) in years), a(1): boyhood ended, a(2): beard started to grow, a(3): marriage, a(4): birth of son, a(5): death of son, a(6): death of Diophantus. •

[A259750] • 14,22,38,46,62,70,86,94,110,118,134,142,158,166,182,190,206,214,230,238,254,262,278,286,302 ★ Numbers that are congruent to {14,22} mod 24. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. •

[A026065] • 14,23,36,51,69,90,114,143,175,211,251,295,345,399,458,522,591,667,748,835,928,1027,1134,1247,1367 ★ (d(n)-r(n))/5, where d = A026063 and r is the periodic sequence with fundamental period (1,4,0,0,0). • a(n)=(n + 6) * (n ^ 2 + 30 * n + 71) / 30 - 1 / 5 * (1 + 2 / 5 * 5 ^ (1 / 2) * cos(2 * n * Pi / 5) + 2 / 5 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2) * sin(2 * n * Pi / 5) - 2 / 5 * 5 ^ (1 / 2) * cos(4 * n * Pi / 5) + 2 / 5 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2) * sin(4 * n * Pi / 5)) [_ Richard Choulet _ , Dec 14 2008] •

[A032608] • 14,25,36,47,58,69,710,811,912,1013,1114,1215,1316,1417,1518,1619,1720,1821,1922,2023,2124,2225,2326,2427,2528 ★ Concatenation of n and n + 3. • a(n)=n * 10 ^ floor(log10(n + 3) + 1) + n + 3, with n>=1 [From _ Paolo P. Lava _ , Oct 09 2008] •

[A079505] • 14,25,61,121,211,337,505,721,991,1321,1717,2185,2731,3361,4081,4897,5815,6841,7981,9241,10627,12145,13801,15601,17551 ★ The last number for which a determinant of base n numbers is nonzero. • a(n)=n ^ 3 - n + 1 (except for n=2, a(2)=14) •

[A199405] • 1,14,25,155,274,1691,2989,18446,32605,201215,355666,2194919,3879721,23942894,42321265,261176915,461654194,2849003171,5035874869,31077857966,54932969365,339007434455,599226788146,3698003921039,6536561700241 ★ y-values in the solution to 13*x^2 - 12 = y^2. • a(n + 4) = 11 * a(n + 2) - a(n) with a(1)=1, a(2)=14, a(3)=25, a(4)=155. • a(n) = 2 ^ (- 1 - n) * (2 * (3 - sqrt(13)) ^ n + (- 3 - sqrt(13)) ^ n * (- 3 + sqrt(13)) - 3 * (- 3 + sqrt(13)) ^ n - sqrt(13) * (- 3 + sqrt(13)) ^ n + 2 * (3 + sqrt(13)) ^ n). - _ Colin Barker _ , Mar 27 2016 •

[A190991] • 1,14,27,40,53,66,79,92,105,118,131,144,157,170,183,196,209,222,235,248,261,274,287,300,313 ★ 13*n + 1. • a(n) = 13 * n + 1; a(n) = 2 * a(n - 1) - a(n - 2). [From Vincenzo Librandi, Jun 11 2011] •

[A168596] • 14,27,53,105,209,417,833,1665,3329,6657,13313,26625,53249,106497,212993,425985,851969,1703937,3407873,6815745,13631489,27262977,54525953,109051905,218103809 ★ a(n) = 2*a(n-1) - 1 with a(0)=14. • a(n) = 13 * 2 ^ n + 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). (End) •

[A008596] • 0,14,28,42,56,70,84,98,112,126,140,154,168,182,196,210,224,238,252,266,280,294,308,322,336 ★ Multiples of 14. • a(n) = 14n = 2 * a(n - 1) - a(n - 2). G.f.: 14x / (x - 1) ^ 2. - _ R. J. Mathar _ , Jun 23 2009 •

[A077265] • 14,28,52,94,170,312,584,1114,2158,4228,8348,16566,32978,65776,131344,262450,524630,1048956,2097572,4194766,8389114,16777768,33555032,67109514,134218430 ★ Number of cycles in the n-th order prism graph. • a(n) = 2 ^ n + n * (n - 1). - _ Eric W. Weisstein _ , Dec 16 2013 • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4). - _ Colin Barker _ , May 06 2014 •

[A067295] • 14,28,76,227,715,2333,7810,26663,92456,324700,1152464,4127294,14895145,54115895,197764350,726473055,2680979820,9934884960,36953107320,137913387450,516295313430,1938260223354 ★ Fourth column of triangle A028364. • a(n)= (3 * (31 * n ^ 3 + 163 * n ^ 2 + 254 * n + 112) / (8 * (2 * n + 1) * (2 * n + 3) * (2 * n + 5))) * C(n + 3). •

[A212890] • 0,14,28,152,276,702,1128,2144,3160,5150,7140,10584,14028,19502,24976,33152,41328,52974,64620,80600,96580,117854,139128,166752,194376 ★ Number of (w,x,y,z) with all terms in {0,...,n} and odd range. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A019552] • 14,28,312,416,520,624,728,832,936,1040,1144,1248,1352,1456,1560,1664,1768,1872,1976,2080,2184,2288,2392,2496,25100 ★ n concatenated with 4n. • a(n) = n * 10 ^ floor[log10(4 * n) + 1] + 4 * n, with n>=1. [_ Paolo P. Lava _ , Mar 24 2010] •

[A132756] • 0,14,29,45,62,80,99,119,140,162,185,209,234,260,287,315,344,374,405,437,470,504,539,575,612 ★ a(n) = n*(n + 27)/2. • a(n) = n + a(n - 1) + 13 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 14 * n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. •

[A192836] • 14,29,48,83,126,193,272,383,510,677,864,1099,1358,1673,2016,2423,2862,3373,3920,4547,5214,5969,6768,7663,8606 ★ Molecular topological indices of the pan graphs. • a(n) = (1 / 4) * (26 + 27 * n + 4 * n ^ 2 + 2 * n ^ 3 + (- 1) ^ n * (2 + n)). •

[A195145] • 0,1,14,29,56,85,126,169,224,281,350,421,504,589,686,785,896,1009,1134,1261,1400,1541,1694,1849,2016 ★ Concentric 14-gonal numbers. • a(n) = (14 * n ^ 2 + 5 * (- 1) ^ n - 5) / 4; a(n) = a(- n) = - a(n - 1) + 7 * n ^ 2 - 7 * n + 1. - Vincenzo Librandi, Sep 27 2011 •

[A196305] • 14,29,59,119,239,479,959,1919,3839,7679,15359,30719,61439,122879,245759,491519,983039,1966079,3932159,7864319,15728639,31457279,62914559,125829119,251658239 ★ 15*2^n - 1. • a(n) = 15 * 2 ^ n - 1. • a(n) = 2 * a(n - 1) + 1. a(n)=3 * a(n - 2) - 2 * a(n - 2). - _ Philippe Deléham _ , Feb 17 2014 •

[A063311] • 1,14,30,45,60,75,90,103,120,133,150,165,180,191,210,223,240,253,270,281,300,311,330,343,360 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(38). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n> 13. •

[A132759] • 0,14,30,48,68,90,114,140,168,198,230,264,300,338,378,420,464,510,558,608,660,714,770,828,888 ★ a(n) = n(n+13). • a(n) = 2 * n + a(n - 1) + 12 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A027575] • 14,30,54,86,126,174,230,294,366,446,534,630,734,846,966,1094,1230,1374,1526,1686,1854,2030,2214,2406,2606 ★ a(n) = n^2 + (n+1)^2 + (n+2)^2 + (n+3)^2. • a(n) = 4 * n ^ 2 + 12 * n + 14. - Al Hakanson (hawkuu(AT)gmail.com), May 20 2009 • a(n) = a(n - 1) + 8 * (n + 1) for n>0, a(0)=14. - _ Vincenzo Librandi _ , Nov 19 2010 • a(n) is defined for n < 0 and a(- n) = a(n - 3) for any n. •

[A228124] • 1,14,30,91,140,285,385,650,819,1240,1496,2109,2470,3311,3795,4900,5525,6930,7714,9455,10416,12529,13685,16206,17575 ★ Number of blocks in a Steiner Quadruple System of order A047235(n+1). • a(n) = (n * (1 + 3 * n) * (1 + 3 * (- 1) ^ n + 6 * n)) / 16. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). •

[A015222] • 14,30,140,204,506,650,1240,1496,2470,2870,4324,4900,6930,7714,10416,11440,14910,16206,20540,22140,27434,29370,35720,38024,45526 ★ Even square pyramidal numbers. • a(n) = (3 + 4 * n - (- 1) ^ n) * (2 + 4 * n - (-

1) ^ n) * (1 + 4 * n - (- 1) ^ n) / 24. ● a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 128. ●

[A156203] ● 14,31,65,133,269,541,1085,2173,4349,8701,17405,34813,69629,139261,278525,557053,1114109,2228221,4456445,8912893,17825789,35651581,71303165,142606333,285212669 ★ a(n) = 2*a(n-1) + 3 for n>1, a(1)=14. ● a(n) = 17 * 2 ^ (n - 1) - 3. ●

[A116150] ● 1,14,33,130,341,1134,3193,10010,29181,89254,264353,799890,2386021,7185374,21501513,64613770,193622861,581305494,1743042673,5230875650,15689131701,47074385614,141209175833,423655489530,1270910544541 ★ a(n)= Sum[3^i+(-2)^i,{i,n}]. ● a(n)=(1 / 6) * (9 * 3 ^ n + 4 * (- 2) ^ n - 13) ●

[A178933] ● 1,1,14,35,205,521,2507,6709,26712,73834,262431,724537,2384988,6552033,20289864,55244988,163342701,439201501,1251532060,3321188863,9177476977,24028568664,64709650590,167153761523,440300702427 ★ Generating function exp(sum(n>=1, sigma(n)^3*x^n/n)). ● a(0)=0 and a(n)=1 / n * sum(k=1,n,sigma(k) ^ 3 * a(n - k)) for n>0. ●

[A182753] ● 1,14,35,490,1225,17150,42875,600250,1500625,21008750,52521875,735306250,1838265625,25735718750,64339296875,900750156250,2251875390625,31526255468750,78815638671875,1103418941406250,2758547353515625,38619662949218750,96549157373046875 ★ Expansion of (1 + 14*x)/(1 - 35*x^2). ● a(2n) = 14 * a(2n - 1), a(2n + 1) = 5 / 2 * a(2n). ● a(2n) = 14 * 35 ^ (n - 1), a(2n + 1) = 35 ^ n. ●

[A051866] ● 0,1,14,39,76,125,186,259,344,441,550,671,804,949,1106,1275,1456,1649,1854,2071,2300,2541,2794,3059,3336 ★ 14-gonal (or tetradecagonal) numbers: a(n) = n*(6*n-5). ● a(n) = 12 * n + a(n - 1) - 11, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 ● a(12 * a(n) + 67 * n + 1) = a(12 * a(n) + 67 * n) + a(12 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 ●

[A162266] ● 14,39,81,146,240,369,539,756,1026,1355,1749,2214,2756,3381,4095,4904,5814,6831,7961,9210,10584,12089,13731,15516,17450 ★ (2n^3+5n^2+21n)/2 ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - Vincenzo Librandi, Mar 05 2012 ●

[A069126] ● 1,14,40,79,131,196,274,365,469,586,716,859,1015,1184,1366,1561,1769,1990,2224,2471,2731,3004,3290,3589,3901 ★ Centered 13-gonal numbers. ● a(n) = (13n ^ 2 - 13n + 2) / 2 ● a(n) = 13 * n + a(n - 1) - 13 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 ●

[A125816] ● 1,1,14,40,248,976,4928,21568,102272,463360,2153984,9868288,45584384,209588224,966189056,4447436800,20489142272,94347526144,434564759552,2001299832832,9217376780288,42450351554560,195509224472576 ★ a(n) = ((1+sqrt(13))^n+(1-sqrt(13))^n)/2. ● a(0)=1, a(1)=1, a(n)=2 * a(n - 1) + 12 * a(n - 2) for n>=2. G.f.:(1 - x) / (1 - 2 * x - 12 * x ^ 2). - _ Philippe Deléham _ , Dec 12 2006 ●

[A199710] ● 1,1,14,41,223,979,3878,20483,70897,408073,1329734,7964417,25250959,154039339,482301806,2967115019,9237038497,57046572241,177128072702,1095861584537,3398526529663,21043253658307,65224098543926,404010494645843,1251923775716881 ★ Expansion of (1+x-14*x^2+13*x^3)/(1-28*x^2+169*x^4) ● a(n) = ((1 + 3 * sqrt(3)) ^ n + (1 - 3 * sqrt(3)) ^ n) / (2 * 2 ^ floor(n / 2)). ● a(n) = 28 * a(n - 2) - 169 * a(n - 4). ●

[A005587] ● 0,14,42,90,165,275,429,637,910,1260,1700,2244,2907,3705,4655,5775,7084,8602,10350,12350,14625,17199,20097,23345,26970 ★ a(n) = n*(n+5)*(n+6)/6 ● a(n) = C(7 + n, 4) - C(7 + n, 3). - _ Zerinvary Lajos _ , Dec 09 2005 ●

[A212514] ● 0,0,0,0,14,42,90,200,364,585,960,1440,2052,2926,4004,5280,7000,9000,11340,14280,17670,21483,26180,31416,37296 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w<=2x and y>3z. ● a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). ●

[A292051] ● 0,1,14,42,124,251,506,852,1432,2165,3270,4606,6484,8687,11634,15016,19376,24297,30462,37330,45740,55011,66154,78332,92744 ★ Wiener index of the n X n black bishop graph. ● a(n) = (3 - 10 * n + 6 * n ^ 2 - 8 * n ^ 3 + 6 * n ^ 4 - 3 * (- 1) ^ n * (1 - 2 * n + 2 * n ^ 2)) / 24. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). ●

[A120714] ● 0,14,42,232,974,4522,20180,91422,411782,1858856,8384078,37827386,170648724,769875718,3473203086,15669055544,70689396502,318908566622,1438725432052,6490672907694,29282051536966,132103184740456 ★ Sequence produced by 7 X 7 Markov chain based on adjacency matrix of 7-vertex graph with 10 edges, derived from the Fano plane. ● a(n)=the first entry of the vector v(n), where v(1)=transpose(0,1,1,2,3,5,8) and v(n)=Mv(n - 1) for n >=2, where M = {{ 0, 1, 0, 0, 0, 1, 1 } , { 1, 0, 1, 1, 0, 1, 1 } , { 0, 1, 0, 1, 0, 0, 1 } , { 0, 1, 1, 0, 1, 1, 1 } , { 0, 0, 0, 1, 0, 1, 1 } , { 1, 1, 0, 1, 1, 0, 1 } , { 1, 1, 1, 1, 1, 1, 0 }} . ●

[A033587] ● 0,14,44,90,152,230,324,434,560,702,860,1034,1224,1430,1652,1890,2144,2414,2700,3002,3320,3654,4004,4370,4752 ★ a(n) = 2*n*(4*n+3). ● a(n)=16 * n + a(n - 1) - 2 (with a(0)=0) - _ Vincenzo Librandi _ , Aug 05 2010 ●

[A090197] ● 1,14,45,100,185,306,469,680,945,1270,1661,2124,2665,3290,4005,4816,5729,6750,7885,9140,10521,12034,13685,15480,17425 ★ a(n) = n^3 + 6*n^2 + 6*n + 1. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 24 2012 ●

[A121202] ● 0,14,48,254,1824,13742,102096,745502,5374272,38400590,272709744,1928498750,13597146720,95668307438,672119557392,4717043931998,33080342679168,231867574534286,1624598900645040,11379821699045246 ★ 12n+7^n-5^n. ● a(n) = 14 * a(n - 1) - 60 * a(n - 2) + 82 * a(n - 3) - 35 * a(n - 4). - _ Vincenzo Librandi _ , Feb 27 2013 ●

[A005914] ● 1,14,50,110,194,302,434,590,770,974,1202,1454,1730,2030,2354,2702,3074,3470,3890,4334,4802,5294,5810,6350,6914 ★ Number of points on surface of hexagonal prism: 12n^2 + 2 for n>0 (coordination sequence for W(2)). ● a(n) = (2n - 1) ^ 2 + (2n) ^ 2 + (2n + 1) ^ 2 for n>0. - _ Bruno Berselli _ , Jan 30 2012 ● a(0)=1, a(1)=14, a(2)=50, a(3)=110, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 09 2012 ●

[A050441] ● 0,1,14,50,120,235,406,644,960,1365,1870,2486,3224,4095,5110,6280,7616,9129,10830,12730,14840,17171,19734,22540,25600 ★ Partial sums of A051865. ● a(n) = n(n + 1)(11n - 8) / 6. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Bruno Berselli _ , Aug 19 2010 ● a(n) = sum((n - i) * (11 * i + 1), i=0..n - 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 ●

[A205354] ● 14,50,194,770,3074,12290,49154,196610,786434,3145730,12582914,50331650,201326594,805306370,3221225474,12884901890,51539607554,206158430210,824633720834,3298534883330,13194139533314,52776558133250 ★ Number of (n+1) X 2 0..2 arrays with every 2 X 2 subblock having the same number of equal diagonal or antidiagonal elements, and new values 0..2 introduced in row major order. ● a(n) = 2 + 3 * 4 ^ n. ●

[A281699] ● 14,50,218,938,3914,16010,64778,260618,1045514,4188170,16764938,67084298,268386314,1073643530,4294770698,17179475978,68718690314,274876334090,1099508482058,4398040219658,17592173461514,70368719011850,281474926379018,1125899806179338,4503599426043914 ★ Sierpinski stellated octahedron numbers: a(n) = 2*(-3*2^(n+1) + 2^(2n+3) + 5). ● a(n) = 8 * (2 ^ (2 * n + 1) + 2) - 6 * (2 ^ (n + 1) + 1). ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>2. ●

[A244804] ● 1,14,51,112,197,306,439,596,777,982,1211,1464,1741,2042,2367,2716,3089,3486,3907,4352,4821,5314,5831,6372,6937 ★ The 300º spoke (or ray) of a hexagonal spiral of Ulam. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. ●

[A059997] ● 14,51,120,230,390,609,896,1260,1710,2255,2904,3666,4550,5565,6720,8024,9486,11115,12920,14910,17094,19481,22080,24900,27950 ★ a(n) = (n/2)*(n + 1)*(3*n + 11). ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A007588] ● 0,1,14,51,124,245,426,679,1016,1449,1990,2651,3444,4381,5474,6735,8176,9809,11646,13699,15980,18501,21274,24311,27624 ★ Stella octangula numbers: a(n) = n*(2*n^2 - 1). ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n>3. - _ Harvey P. Dale _ , Sep 16 2011 ●

[A214659] ● 0,1,14,53,132,265,466,749,1128,1617,2230,2981,3884,4953,6202,7645,9296,11169,13278,15637,18260,21161,24354,27853,31672 ★ a(n) = n*(7*n^2 - 3*n - 1)/3. ● a(n) = (7 * n ^ 3 - 3 * n ^ 2 - n) / 3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). (End) ●

[A006597] ● 0,1,14,54,136,275,486,784,1184,1701,2350,3146,4104,5239,6566,8100,9856,11849,14094,16606,19400,22491,25894,29624,33696 ★ a(n) = n^2*(5*n-3)/2. ● a(n) = (1 / 6) * (15 * n ^ 3 - 9 * n ^ 2). - James A. Record (james.record(AT)gmail.com), Nov 07 2004 ● a(n) = Sum _{ i=0..n - 1 } n * (5 * i + 1) for n>0. [_ Bruno Berselli _ , Sep 08 2015] ●

[A022285] ● 0,14,55,123,218,340,489,665,868,1098,1355,1639,1950,2288,2653,3045,3464,3910,4383,4883,5410,5964,6545,7153,7788 ★ a(n) = n*(27*n + 1)/2. ● a(n) = a(n - 1) + 27 * n - 13 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ● a(0)=0, a(1)=14, a(2)=55; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). -_ Harvey P. Dale _ , Sep 20 2011 ● a(n) = 12 / (n + 2)! * Sum _{ j=0..n } (- 1) ^ (n - j) * binomial(n,j) * (j + n) ^ (n + 2). - _ Vladimir Kruchinin _ , Jun 04 2013 ●

[A100157] ● 1,14,55,140,285,506,819,1240,1785,2470,3311,4324,5525,6930,8555,10416,12529,14910,17575,20540,23821,27434,31395,35720,40425 ★ Structured rhombic dodecahedral numbers (vertex structure 9). ● a(n) = (16 * n ^ 3 - 12 * n ^ 2 + 2 * n) / 6. ● a(n) = binomial(2n + 1,3) + binomial(2n,3). - _ John Molokach _ , Jul 10 2013 ● a(n) = sum((n + i) ^ 2, i= - (n - 1)..(n - 1)). - _ Bruno Berselli _ , Jul 24 2014 ●

[A144555] ● 0,14,56,126,224,350,504,686,896,1134,1400,1694,2016,2366,2744,3150,3584,4046,4536,5054,5600,6174,6776,7406,8064 ★ a(n) = 14*n^2. ● a(n) = a(n - 1) + 14 * (2 * n - 1), with a(0) = 0. - Vincenzo Librandi, Nov 25 2010 ●

[A192846] ● 14,56,126,256,430,696,1022,1472,1998,2680,3454,4416,5486,6776,8190,9856,11662,13752,15998,18560,21294,24376,27646,31296,35150 ★ Molecular topological indices of the sunlet graphs ● a(n) = n * (2 * n * (n + 3) + (- 1) ^ n + 7). ●

[A115129] ● 14,56,146,311,586,1015,1652,2562,3822,5522,7766,10673,14378,19033,24808,31892,40494,50844,63194,77819,95018,115115,138460,165430,196430 ★ Partial sums of A005587. Fourth column of triangle A115127. ● a(0)=14, a(1)=56, a(2)=146, a(3)=311, a(4)=586, a(5)=1015, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Apr 24 2016 ●

[A022286] ● 0,14,57,129,230,360,519,707,924,1170,1445,1749,2082,2444,2835,3255,3704,4182,4689,5225,5790,6384,7007,7659,8340 ★ a(n) = n*(29*n - 1)/2. ● a(n) = 29 * n + a(n - 1) - 15 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ●

[A005915] ● 1,14,57,148,305,546,889,1352,1953,2710,3641,4764,6097,7658,9465,11536,13889,16542,19513,22820,26481,30514,34937,39768,45025 ★ Hexagonal prism numbers: a(n) = (n + 1)*(3*n^2 + 3*n + 1). ● a(n)=(n + 1) ^ 3 + 6 * (n * (n + 1) * (2 * n + 1) / 6). - Klaus Strassburger (strass(AT)ddfi.uni - duesseldorf.de) ● a(0)=1, a(1)=14, a(2)=57, a(3)=148, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 25 2011 ●

[A212675] ● 0,1,14,57,158,353,688,1217,2004,3121,4650,6681,9314,12657,16828,21953,28168,35617,44454,54841,66950,80961,97064,115457,136348 ★ Number

of (w,x,y,z) with all terms in {1,...,n} and w>=|x-y|+|y-z|. • a(n)=4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). •

[A143861] • 1,14,59,136,245,386,559,764,1001,1270,1571,1904,2269,2666,3095,3556,4049,4574,5131,5720,6341,6994,7679,8396,9145 ⋆ Ulam's spiral (NNE spoke). • a(n) = 16n ^ 2 - 35n + 20. - _ R. J. Mathar _ , Sep 08 2008 •

[A100174] • 1,14,59,156,325,586,959,1464,2121,2950,3971,5204,6669,8386,10375,12656,15249,18174,21451,25100,29141,33594,38479,43816,49625 ⋆ Structured tetrakis hexahedral numbers (vertex structure 5). • a(n)=(1 / 6) * (20 * n ^ 3 - 24 * n ^ 2 + 10 * n). •

[A277986] • 14,60,134,208,282,356,430,504,578,652,726,800,874,948,1022,1096,1170,1244,1318,1392,1466,1540,1614,1688,1762 ⋆ a(n) = 74*n - 14. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Nov 13 2016 •

[A158058] • 14,60,138,248,390,564,770,1008,1278,1580,1914,2280,2678,3108,3570,4064,4590,5148,5738,6360,7014,7700,8418,9168,9950 ⋆ 16n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A100171] • 1,14,60,160,335,606,994,1520,2205,3070,4136,5424,6955,8750,10830,13216,15929,18990,22420,26240,30471,35134,40250,45840,51925 ⋆ Structured triakis octahedral numbers (vertex structure 4). • a(n)=(1 / 6) * (21 * n ^ 3 - 27 * n ^ 2 + 12 * n). • a(0)=1, a(1)=14, a(2)=60, a(3)=160, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 28 2011 •

[A063492] • 1,14,60,161,339,616,1014,1555,2261,3154,4256,5589,7175,9036,11194,13671,16489,19670,23236,27209,31611,36464,41790,47611,53949 ⋆ a(n) = (2*n - 1)*(11*n^2 - 11*n + 6)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. - _ Wesley Ivan Hurt _ , Dec 16 2015 •

[A051799] • 1,14,60,170,385,756,1344,2220,3465,5170,7436,10374,14105,18760,24480,31416,39729,49590,61180,74690,90321,108284,128800,152100,178425 ⋆ Partial sums of A007587. • a(n) = C(n + 3, 3) * (5 * n + 2) / 2 = (n + 1) * (n + 2) * (n + 3) * (5 * n + 2) / 12. •

[A164540] • 1,14,60,296,1424,6880,33216,160384,774400,3739136,18054144,87173120,420909056,2032328704,9812951040,47381118976,228776280064,1104629596160,5333623504896,25753012404224,124346543636480,600398224162816 ⋆ a(n) = 4*a(n-1) + 4*a(n-2) for n > 1; a(0) = 1, a(1) = 14. • a(n) = 4 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 1, a(1) = 14. • a(n) = ((1 + 3 * sqrt(2)) * (2 + 2 * sqrt(2)) ^ n + (1 - 3 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ n) / 2. •

[A140184] • 1,14,60,360,1904,10528,57280,313472,1711872,9355776,51117056,279316480,1526198272,8339333120,45566902272,248982306816,1360464379904,7433716105216,40618579197952,221944046157824,1212724817166336,6626451640025088,36207605093236736 ⋆ a(n) = 2*a(n-1) + 16*a(n-2) + 16*a(n-3). • a(n) - 2 * a(n - 1) + 16 * a(n - 2) + 16 * a(n - 3); for n>3, given a(1) = 1, a(2) = 14, a(3) = 60. Term (1,1) of X ^ n, where X = the 3x3 matrix [1,2,3; 2,0,2; 3,2,1]. • a(n) = (2 / 3) * [2 + 2 * sqrt(3)] ^ n * sqrt(3) + [2 + 2 * sqrt(3)] ^ n + [2 - 2 * sqrt(3)] ^ n - (- 2) ^ n - (2 / 3) * sqrt(3) * [2 - 2 * sqrt(3)] ^ n, with n>= 0 - _ Paolo P. Lava _ , Jun 06 2008 •

[A264854] • 0,1,14,61,175,400,791,1414,2346,3675,5500,7931,11089,15106,20125,26300,33796,42789,53466,66025,80675,97636,117139,139426,164750 ⋆ a(n) = n*(n + 1)*(11*n^2 + 11*n - 10)/24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Nov 27 2015 •

[A003695] • 1,14,62,276,1006,3610,12010,38984,122188,375122,1128446,3342794,9767588,28217820,80709424,228864620,644060262,1800346140,5002457832,13825549136,38026348240,104133664506,284037629690,771953153918,2091075938320 ⋆ Number of Hamiltonian paths in P_4 X P_n. • a(1) = 1, • a(2) = 14, • a(3) = 62, • a(4) = 276, • a(5) = 1006, • a(6) = 3610, •

[A050492] • 1,14,63,172,365,666,1099,1688,2457,3430,4631,6084,7813,9842,12195,14896,17969,21438,25327,29660,34461,39754,45563,51912,58825 ⋆ Thickened cube numbers: n*(n^2+(n-1)^2)+(n-1)*2*n*(n-1). • a(n) = n * (4 * n ^ 2 - 6 * n + 3). • a(1)=1, a(2)=14, a(3)=63, a(4)=172, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 02 2011 • a(n) = ((2n - 1) ^ 3 + 1) / 2. - _ Dave Durgin _ , May 07 2014 •

[A255499] • 0,1,14,63,184,425,846,1519,2528,3969,5950,8591,12024,16393,21854,28575,36736,46529,58158,71839,87800,106281,127534,151823,179424 ⋆ a(n) = n^4/2+n^3-n^2/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Sep 05 2015 •

[A221909] • 1,14,63,364,2429,16842,117691,823592,5764857,40353670,282475319,1977326820,13841287285,96889010498,678223072947,4747561510048,33232930569713,232630513987326,1628413597910575 ⋆ 7^n + 7*n. • a(n) = 9 * a(n - 1) - 15 * a(n - 2) + 7 * a(n - 3). •

[A074354] • 0,0,0,0,0,14,64,218,692,1982,5496,14562,37692,95142,236032,576074,1387780,3304078,7787656,18190386,42151116,96972534,221651472,503650970,1138286740 ⋆ Coefficient of q^3 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(1,2). • a(n) = 4 * a(n - 1) + 2 * a(n - 2) - 20 * a(n - 3) - a(n - 4) + 40 * a(n - 5) + 8 * a(n - 6) - 32 * a(n - 7) - 16 * a(n - 8) for n>10. •

[A212743] • 0,14,64,224,528,1134,2064,3584,5680,8750,12720,18144,24864,33614,44128,57344,72864,91854,113760,140000,169840,204974,244464,290304,341328 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and max{w,x,y,z}>2*min{w,x,y,z}. • a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A213757] • 1,14,65,214,597,1518,3649,8462,19157,42646,93777,204294,441781,949598,2030849,4324510,9174069,19397574,40893265,85981910,180353621,377485774,788527425,1644165294,3422550037 ⋆ Principal diagonal of the convolution array A213756. • a(n) = - 2 + 2 ^ (n + 1) - 6 * n + n * 2 ^ (n + 2) - 3 * n ^ 2. • a(n) = 7 * a(n - 1) - 19 * a(n - 2) + 25 * a(n - 3) - 16 * a(n - 4) + 4 * a(n - 5). •

[A064096] • 1,14,67,190,413,766,1279,1982,2905,4078,5531,7294,9397,11870,14743,18046,21809,26062,30835,36158,42061,48574,55727,63550,72073 ⋆ Fifth diagonal of triangle A064094. • a(n)= 1 + 3 * n + 5 * n ^ 2 + 5 * n ^ 3. Fourth row polynomial (n=3) of Catalan triangle A009766. •

[A008354] • 0,1,14,69,216,525,1086,2009,3424,5481,8350,12221,17304,23829,32046,42225,54656,69649,87534,108661,133400,162141,195294,233289,276576 ⋆ a(n) = (5*n^2 + 1)*n^2 / 6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4, a(0)=0, a(1)=1, a(2)=14, a(3)=69, a(4)=216. - _ Harvey P. Dale _ , Feb 12 2015 •

[A051879] • 1,14,69,224,574,1260,2478,4488,7623,12298,19019,28392,41132,58072,80172,108528,144381,189126,244321,311696,393162,490820,606970,744120,904995 ⋆ Partial sums of A051798. • a(n) = C(n + 4, 4) * (9n + 5) / 5. •

[A212751] • 1,14,70,198,477,924,1696,2768,4405,6510,9486,13134,18025,23828,31312,39984,50841,63198,78310,95270,115621,138204,164880,194208,228397 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of these conditions holds: w=R, x=R, y=R, z<R, where R = max{w,x,y,z} - min{w,x,y,z}. • a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A212749] • 1,14,70,222,537,1116,2056,3512,5605,8550,12486,17694,24325,32732,43072,55776,71001,89262,110710,135950,165121,198924,237480,281592,331357 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of these conditions holds: w=R, x<R, y<R, z<R, where R = max{w,x,y,z} - min{w,x,y,z}. • a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A201106] • 0,1,14,70,230,595,1316,2604,4740,8085,13090,20306,30394,44135,62440,86360,117096,156009,204630,264670,338030,426811,533324,660100,809900 ⋆ Binomial(n^2,3)/(2*n). • a(n) = (n - 1) * n * (n ^ 3 + n ^ 2 - 2 * n - 2) / 12. •

[A212572] • 0,1,14,71,220,533,1094,2015,3416,5449,8270,12071,17044,23421,31430,41343,53424,67985,85326,105799,129740,157541,189574,226271,268040 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and |w-x| <= |x-y| + |y-z|. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). • a(n) = 1 / 48 * (38 * n ^ 4 + 20 * n ^ 3 - 32 * n ^ 2 - 2 * (3 * (- 1) ^ n - 11) * n + 3 * ((- 1) ^ n - 1)). •

[A186707] • 1,14,71,224,547,1134,2101,3584,5741,8750,12811,18144,24991,33614,44297,57344,73081,91854,114031,140000,170171,204974,244861,290304,341797 ⋆ Partial sums of A007202 (crystal ball sequence for hexagonal close-packing). • a(n)= + 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6) = 7 * n * (n ^ 3 / 8 + n ^ 2 / 2 + 3 * n / 4 + 1 / 2) + (15 + (- 1) ^ n) / 16. G.f. (- 1 - 10 * x - 20 * x ^ 2 - 10 * x ^ 3 - x ^ 4) / ((1 + x) * (x - 1) ^ 5). - R. J. Mathar, Mar 24 2011 •

[A212752] • 0,14,71,238,580,1224,2265,3896,6236,9550,13975,19854,27336,36848,48545,62944,80200,100926,125271,153950,187100,225544,269401,319608,376260 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of these conditions holds: w<R, x<R, y<R, z>R, where R=max{w,x,y,z}-min{w,x,y,z}. • a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A074086] • 0,0,0,0,0,14,71,282,997,3298,10439,32012,95834,281494,814131,2324422,6564135,18362810,50947395,140329400,384031508,1044880222,2828084399,7618214354,20432838121 ⋆ Coefficient of q^3 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(2,1). • a(n)=8a(n - 1) - 20a(n - 2) + 8a(n - 3) + 26a(n - 4) - 8a(n - 5) - 20a(n - 6) - 8a(n - 7) - a(n - 8) for n>=11. •

[A212750] • 1,14,72,216,529,1070,1984,3336,5345,8070,11816,16624,22897,30646,40384,52080,66369,83166,103240,126440,153681,184734,220672,261176,307489 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of these conditions holds: w=R, x=R, y<R, z<R, where R = max{w,x,y,z} - min{w,x,y,z}. • a(n)=2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). •

[A279447] • 0,1,14,73,301,890,2321,5166,10654,20055,35880,60511,98419,153608,233331,343820,496076,699261,969234,1318885,1770185,2340646,3059749,3950618,5051786 ⋆ Number of nonequivalent ways to place 3 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 6 - 5 * n ^ 4 + 14 * n ^ 3 - 14 * n ^ 2 + 4 * n) / 48 + IF(MOD(n, 2) = 1, 2 * n ^ 3 - 3 * n ^ 2 + 1) / 16. • a(n) = 3 * a(n - 1) + a(n - 2) - 11 * a(n - 3) + 6 * a(n - 4) + 14 * a(n - 5) - 14 * a(n - 6) - 6 * a(n - 7) + 11 * a(n - 8) - a(n - 9) - 3 * a(n - 10) + a(n - 11). •

[A213284] • 0,1,14,74,276,895,2506,6104,13224,26061,47590,81686,133244,208299,314146,459460,654416,910809,1242174,1663906,2193380,2850071,3655674,4634224,5812216 ⋆ Number of 5-length words w over n-ary alphabet such that in every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (94 - 204 * n + 155 * n ^ 2 - 45 * n ^ 3 + 6 * n ^ 4) / 6. •

[A108650] • 1,14,75,260,700,1596,3234,6000,10395,17050,26741,40404,59150,84280,117300,159936,214149,282150,366415,469700,595056,745844,925750,1138800,1389375 ⋆ a(n) = (n+1)^2*(n+2)*(n+3)*(3*n+4)/24. • a(n) = (n + 1) * stirling2(n + 3,n + 1). - _ Zerinvary Lajos _ , Jan 20 2007 •

[A270704] • 0,14,76,186,344,550,804,1106,1456,1854,2300,2794,3336,3926,4564,5250,5984,6766,7596,8474,9400,10374,11396,12466,13584 ⋆ Even 14-gonal (or tetradecagonal) numbers. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) = 2 * n * (12 * n - 5). •

[A152100] • 1,14,76,218,472,870,1444,2226,3248,4542,6140,8074,10376,13078,16212,19810,23904,28526,33708,39482,45880,52934,60676,69138,78352 ⋆ G.f.: 1 - 2*x*(-7 - 10*x + x^2)/(x - 1)^4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 *

a(n - 3) - a(n - 4), n > 4. a(n) = 2 * n * (8 * n ^ 2 + 12 * n + 1) / 3, n > 0. - _ R. J. Mathar _ , Sep 22 2009 ●

[A173962] ● 14,76,234,536,1030,1764,2786,4144,5886,8060,10714,13896,17654,22036,27090,32864,39406,46764,54986,64120,74214,85316,97474,110736,125150 ★ Averages of two consecutive odd cubes; (n^3+(n+2)^3)/2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Jan 17 2015 ●

[A085462] ● 1,14,77,273,748,1729,3542,6630,11571,19096,30107,45695,67158,96019,134044,183260,245973,324786,422617,542717,688688,864501,1074514,1323490,1616615 ★ Number of 5-tuples (v1,v2,v3,v4,v5) of nonnegative integers less than n such that v1<=v4, v1<=v5, v2<=v4 and v3<=v4. ● a(n) = n + 12 * binomial(n, 2) + 38 * binomial(n, 3) + 45 * binomial(n, 4) + 18 * binomial(n, 5). ● a(n) = n * (n + 1) * (2 * n + 1) * (3 * n + 1) * (3 * n + 2) / 120. ● a(n) = sum(i=1..n, sum(j=1..n, i ^ 2 * Min(i,j))). - _ Enrique Pérez Herrero _ , Jan 30 2013 ●

[A050404] ● 1,14,77,280,798,1932,4158,8184,15015,26026,43043,68432,105196,157080,228684,325584,454461,623238,841225,1119272,1469930,1907620,2448810,3112200,3918915 ★ Partial sums of A051878. ● a(n)=C(n + 5, 5) * (4n + 3) / 3. ●

[A058895] ● 0,0,14,78,252,620,1290,2394,4088,6552,9990,14630,20724,28548,38402,50610,65520,83504,104958,130302,159980,194460,234234,279818,331752 ★ a(n) = n^4 - n. ● a(n) = floor(n ^ 7 / (n ^ 3 + 1)). - _ Gary Detlefs _ , Feb 11 2010 ● a(n) ^ 3 = (a(n) / n) ^ 4 + (a(n) / n) ^ 3. - _ Vincenzo Librandi _ , Feb 23 2012 ● a(n) = 14 * C(n,2) + 36 * C(n,3) + 24 * C(n,4). - _ Dennis P. Walsh _ , Mar 21 2013 ●

[A082971] ● 1,14,82,410,1918,8657,38225,166322,716170,3059864,12994936,54924212,231235054,970347575,4060697955,16952812170,70629116910,293720506860,1219498444500,5055891511980,20933654593020,86571545598642 ★ Number of permutations of {1,2,...,n} containing exactly 3 occurrences of the 132 pattern. ● a(n) = (2 * n - 9)! / n! / 6 / (n - 5)! * (n ^ 6 + 51 * n ^ 5 - 407 * n ^ 4 - 99 * n ^ 3 + 7750 * n ^ 2 - 22416 * n + 20160). ● a(n) = (n ^ 6 + 51n ^ 5 - 407n ^ 4 - 99n ^ 3 + 7750n ^ 2 - 22416n + 20160)(2n - 9)! / [6 n!(n - 5)! for n>=5; a(4)=1. G.f.=(1 / 2)(P(x) + Q(x) / (1 - 4x) ^ (5 / 2), where P(x) =2x ^ 3 - 5x ^ 2 + 7x - 2, Q(x)= - 22x ^ 6 - 106x ^ 5 + 292x ^ 4 - 302x ^ 3 + 135x ^ 2 - 27x + 2. - _ Emeric Deutsch _ , Mar 27 2008 ●

[A176010] ● 14,83,111,180,208,277,305,374,402,471,499,568,596,665,693,762,790,859,887,956,984,1053,1081,1150,1178 ★ Positive numbers n such that n^2=2 mod(97) ● a(n) = (- 97 + 41 * (- 1) ^ n + 194 * n) / 4. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) with n>3, a(1)=14, a(2)=83, a(3)=111. ● a(n) = a(n - 1) + 69 for n even, a(n) = a(n - 1) + 28 for n odd, a(1)=14. ●

[A033276] ● 0,14,84,300,825,1925,4004,7644,13650,23100,37400,58344,88179,129675,186200,261800,361284,490314,655500,864500,1126125,1450449,1848924,2334500,2921750 ★ Number of diagonal dissections of an n-gon into 4 regions. ● a(n) = binomial(n + 2, 3) * binomial(n - 3, 3) / 4. ●

[A006858] ● 0,1,14,84,330,1001,2548,5712,11628,21945,38962,65780,106470,166257,251720,371008,534072,752913,1041846,1417780,1900514,2513049,3281916,4237520,5414500 ★ Expansion of x*(1 + x)*(1 + 6*x + x^2)/(1 - x)^7. ● a(n) = (n + 1) * binomial(2n + 4, 5) / 12. - _ Philippe Deléham _ , Mar 06 2004 ●

[A027818] ● 1,14,84,336,1050,2772,6468,13728,27027,50050,88088,148512,241332,379848,581400,868224,1268421,1817046,2557324,3542000,4834830,6512220,8665020,11400480,14844375 ★ a(n) = (n+1)*binomial(n+6,6). ● a(n) = C(n + 1, 1) * C(n + 6, 6). - _ Zerinvary Lajos _ , May 26 2005 ● a(n) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) ^ 2 / 6!, n=>6. - _ Zerinvary Lajos _ , Oct 19 2006 ●

[A054149] ● 1,14,84,410,1820,7648,31008,122584,475600,1818656,6874560,25742624,95645888,353032960,1295729664,4732541824,17211685120,62362187264,225201546240,810825419264,2911520685056,10429433085952 ★ T(2n-1,n), array T as in A054144. ● a(n) = 8 * a(n - 1) - 20 * a(n - 2) + 16 * a(n - 3) - 4 * a(n - 4). ●

[A273182] ● 14,84,490,2856,16646,97020,565474,3295824,19209470,111960996,652556506,3803378040,22167711734,129202892364,753049642450,4389094962336,25581520131566,149100025827060,869018634830794,5065011783157704,29521052064115430,172061300601534876 ★ a(n) is the second number in a triple consisting of 3 numbers, which when squared are part of a right diagonal of a magic square of squares. ● a(0)=14, a(1)= 84, a(n + 1)= a(n) * 6 - a(n - 1). ●

[A272103] ● 1,14,85,320,910,2156,4494,8520,15015,24970,39611,60424,89180,127960,179180,245616,330429,437190,569905,733040,931546,1170884,1457050,1796600,2196675 ★ Convolution of nonzero heptagonal numbers (A000566) with themselves. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). ● a(n) = (n + 1) * (n + 2) * (n + 3) * (5 * n ^ 2 + 5 * n + 4) / 24. ●

[A244865] ● 1,14,85,336,1023,2610,5860,11942,22555,40068,67677,109578,171157,259196,382096,550116,775629,1073394,1460845,1958396,2589763,3382302,4367364,5580666,7062679 ★ Number of 3 X 3 symmetric matrices with row and column sums <= n. ● a(n) = (15 * (127 + (- 1) ^ n) + 6432 * n + 8936 * n ^ 2 + 6480 * n ^ 3 + 2570 * n ^ 4 + 528 * n ^ 5 + 44 * n ^ 6) / 1920. ● a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 14 * a(n - 3) - 14 * a(n - 5) + 14 * a(n - 6) - 6 * a(n - 7) + a(n - 8) for n>7. ●

[A059600] ● 1,14,85,344,1086,2892,6798,14520,28743,53482,94523,159952,260780,411672,631788,945744,1384701,1987590,2802481,3888104,5315530,7170020,9553050,12584520,16405155 ★ Expansion of (1+6*x+x^2)/(1-x)^8. ● a(n)= binomial(n + 5, 5) * (4 * n ^ 2 + 24 * n + 21) / 21. ●

[A213121] ● 1,14,86,424,1926,8404,35836,150604,626726,2589844,10646676,43594464,177950236,724578824,2944375096,11944652884,48388816486,195794585044,791434666276,3196307541904,12898839944116,52019043912664 ★ Number of binary arrays of length 2*n+3 with fewer than n ones in any length 2n subsequence (=less than 50% duty cycle). ● a(n) = 2 ^ (2 * n + 2) - 5 * (7 * n - 4) * C(2 * n - 2,n - 1) / n. - _ Vaclav Kotesovec _ , Oct 29 2012 ●

[A114242] ● 1,14,90,385,1274,3528,8568,18810,38115,72358,130130,223587,369460,590240,915552,1383732,2043621,2956590,4198810,5863781,8065134,10939720,14651000,19392750,25393095 ★ a(n) = (n+1)(n+2)^2*(n+3)^2*(n+4)(2n+5)/720. ● a(n - 2) = 1 / 6 * sum _{ 1 <= x _ 1, x _ 2 <= n } (x _ 1) ^ 2 * x _ 2 * (det V(x _ 1,x _ 2)) ^ 2 = 1 / 6 * sum { 1 <= i,j <= n } i ^ 2 * j * (i - j) ^ 2 , where V(x _ 1,x _ 2 } is the Vandermonde matrix of order 2. - _ Peter Bala _ , Sep 21 2007 ● a(0)=1, a(1)=14, a(2)=90, a(3)=385, a(4)=1274, a(5)=3528, a(6)=8568, a(7)=18810, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Aug 21 2013 ●

[A220892] ● 1,14,91,364,1085,2666,5719,11096,19929,33670,54131,83524,124501,180194,254255,350896,474929,631806,827659,1069340,1364461,1721434,2149511,2658824,3260425 ★ G.f.: (1+8*x+22*x^2+8*x^3+x^4)/(1-x)^6. ● a(n) = (3 + 9 * n + 13 * n ^ 2 + 11 * n ^ 3 + 5 * n ^ 4 + n ^ 5) / 3. [_ Colin Barker _ , Jan 03 2013] ●

[A224328] ● 1,14,93,508,2555,12282,57337,262136,1179639,5242870,23068661,100663284,436207603,1879048178,8053063665,34359738352,146028888047,618475290606,2611340115949,10995116277740,46179488366571,193514046488554 ★ Number of idempotent n X n 0..3 matrices of rank n-1 ● a(n) = n * (2 * 4 ^ (n - 1) - 1). ● a(n) = 10 * a(n - 1) - 33 * a(n - 2) + 40 * a(n - 3) - 16 * a(n - 4). ●

[A241205] ● 0,0,1,14,95,436,1554,4632,12078,28380,61347,123838,236093,428792,746980,1255008,2042652,3232584,4989381,7530270,11137819,16174796,23101430,32495320,45074250 ★ Sum of x*y^2*z^3 for positive integers x,y,z with x + y + z = n. ● a(n) = n ^ 2 * (n - 1) * (n - 2) * (n + 2) * (n + 1) * (3 * n ^ 2 + 1) / 10080. - corrected by _ Eric Rowland _ , Aug 15 2017 ●

[A055844] ● 1,14,95,440,1595,4862,13013,31460,70070,145860,286858,537472,965770,1673140,2806870,4576264,7272991,11296450,17185025,25654200,37642605,54367170,77388675,108689100,150762300 ★ A second-order recursive sequence. ● a(n) = (5n + 9) * C(n + 8, 8) / 9. ●

[A254469] ● 1,14,96,450,1650,5082,13728,33462,75075,157300,311168,586092,1058148,1841100,3100800,5073684,8090181,12603954,19228000,28778750,42329430,61274070,87403680,122996250,170922375 ★ Sixth partial sums of cubes (A000578). ● a(n) = n * (1 + n) ^ 2 * (2 + n) * (3 + n) * (4 + n) * (5 + n) ^ 2 * (6 + n) / 60480. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + n ^ 3. ●

[A008534] ● 1,14,98,462,1596,4410,10374,21658,41272,73206,122570,195734,300468,446082,643566,905730,1247344,1685278,2238642,2928926,3780140,4818954,6074838,7580202,9370536 ★ Coordination sequence for {A_6}* lattice. ● a(n) = (7 / 6) * n * (n ^ 2 + 2) * (n ^ 2 + 3) for n>0, a(0)=1 (see Maple line). [_ Bruno Berselli _ , Feb 28 2013] ●

[A008415] ● 1,14,98,462,1666,4942,12642,28814,59906,115598,209762,361550,596610,948430,1459810,2184462,3188738,4553486,6376034,8772302,11879042,15856206,20889442,27192718,35011074 ★ Coordination sequence for 7-dimensional cubic lattice. ● a(n) = 4 * n * n * (2 * n * n + 7) * (n * n + 14) / 45 + 2 - 0 ^ n. - _ George F. Johnson _ , Feb 21 2013 ●

[A099193] ● 0,1,14,99,476,1765,5418,14407,34232,74313,149830,284075,511380,880685,1459810,2340495,3644272,5529233,8197758,11905267,16970060,23784309,32826266,44673751,60018984 ★ Figurate numbers based on the 7-dimensional regular convex polytope called the 7-dimensional cross-polytope, or 7-dimensional hyperoctahedron, which is represented by the Schlaefli symbol {3, 3, 3, 3, 3, 4}. It is the dual of the 7-dimensional hypercube. ● a(n) = 7 - crosspolytope(n) = n * (4 * n ^ 6 + 70 * n ^ 4 + 196 * n ^ 2 + 45) / 315. ●

[A244883] ● 1,14,100,472,1691,4988,12744,29160,61149,119482,220220,386464,650455,1056056,1661648,2543472,3799449,5553510,7960468,11211464,15540019,21228724,28616600,38107160,50177205 ★ Expansion of (1+6*x+16*x^2+8*x^3+x^4)x)^8. ● a(n) = ((n + 1) * (n + 2) * (n + 3) * (n * (n + 4) * (n * (16 * n + 57) + 137) + 420)) / 2520. - _ Todd Silvestri _ , Nov 16 2014 ●

[A266561] ● 1,14,104,546,2275,8008,24752,68952,176358,419900,940576,1998724,4056234,7904456,14858000,27041560,47805615,82317690,138389160,227613750,366913365,580610160,903171360,1382805840,2086129500 ★ 12-dimensional square numbers. ● a(n) = binomial(n + 11,11) * (n + 6) / 6. ● a(n) = 2 * binomial(n + 12,12) - binomial(n + 11,11). ● a(n) = binomial(n + 11,11) + 2 * binomial(n + 11,12) for n>0. ●

[A131709] ● 1,14,104,904,8004,71004,630004,5590004,49600004,440100004,3905000004,34649000004,307440000004,2727910000004,24204700000004,214767900000004,1905632000000004,16908641000000004,150030090000000004,1331214490000000004,11811844000000000004,104806295100000000004,929944511000000000004,8251382159000000000004,73214376480000000000004 ★ Number of partitions into "bus routes" of an n X 1 grid. ● a(n) = Product _{ v _ i } m _ i + Sum _{ c _ j } (se _ j - 1) * (Product _{ v _ k E (G _ n - c _ j) } m _ k - { number of partitions of (G _ n - c _ i) which has cycles }) where: ●

[A139614] ● 14,105,196,287,378,469,560,651,742,833,924,1015,1106,1197,1288,1379,1470,1561,1652,1743,1834,1925,2016,2107,2198 ★ 91n + 14. ● a(0)=14, a(1)=105, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Feb 25 2015 ●

[A008506] ● 1,14,105,560,2380,8568,27132,77520,203490,497420,1144066,2496144,5200300,10400599,20058286,37442055,67863355,119757470,206244507,347346468,573088920,927780270,1475840380,2309645534,3559971156 ★ 12-dimensional

centered tetrahedral numbers. • a(n) = 1 + 13n(n + 1)(n ^ 10 + 5n ^ 9 + 86 4n ^ 8 + 3426n ^ 7 + 136197n ^ 6 + 396621n ^ 5 + 5502866n ^ 4 + 10348684 n ^ 3 + 56939592n ^ 2 + 51830784n + 114341760) / 479001600. - _ Bruno B erselli _ , Mar 22 2012 •

[A010966] • 1,14,105,560,2380,8568,27132,77520,203490,497420,1144066,249 6144,5200300,10400600,20058300,37442160,67863915,119759850,206253075,34 7373600,573166440,927983760,1476337800,2310789600,3562467300 ⋆ a(n) = binomial(n,13). • a(n + 12) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9)(n + 10)(n + 11)(n + 12) / 13!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 • a(n) = n / (n - 13) * a(n - 1), n > 13. - _ Vincenzo Librandi _ , Mar 26 2011 •

[A290895] • 0,0,0,0,0,0,1,14,105,560,2380,8568,27132,77521,203518,497826,11 48126,2527609,5401676,11508168,25437917,60978022,162008098,468103230,140 9724358 ⋆ p-INVERT of the positive integers, where p(S) = 1 - S^7. • a(n) = 14 * a(n - 1) - 91 * a(n - 2) + 364 * a(n - 3) - 1001 * a(n - 4) + 2002 * a(n - 5) - 3003 * a(n - 6) + 3433 * a(n - 7) - 3003 * a(n - 8) + 2002 * a(n - 9) - 1001 * a(n - 10) + 364 * a(n - 11) - 91 * a(n - 12) + 14 * a(n - 13) - a(n - 14). •

[A155655] • 1,14,112,854,6496,49574,379792,2920694,22542016,174571334,13 56217072,10567261334,82560763936,646644824294,5076269583952,3993193359 8774,314707907280256,2484430327672454,19642812107392432,15551408326122 9014 ⋆ 8^n+7^n-1^n. • a(n)=15 * a(n - 1) - 56 * a(n - 2) - 42 with a(0)=1, a(1)=14 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A007817] • 1,14,113,720,4033,20864,102356,483680,2223482,10009570,44330 931,193798624,838329841,3595080184,15305823256,64766503744,27263502652 6,1142528179324,4769415499234,19842220567264,82303947852506,3404916038 05344,1405318295426488,5788074933453632,23794580648906708 ⋆ Number of abstract simplicial 2-complexes on {1,2,3,...,n+4} which triangulate a Moebius band in such a way that all vertices lie on the boundary and are traversed in the order 1,2,3,... as one goes around the boundary. • a(n) = 4 ^ (n - 1) - 2 * (29 * n ^ 3 - 77 * n ^ 2 + 106 * n - 88) * binomial(2 * n - 5,n - 1) / ((n - 3) * (n + 1) * (n + 2)). - _ Mark van Hoeij _ , Oct 30 2011 •

[A071573] • 1,14,114,594,2532,9658,34066,113930,366358,1141614,3465398,10 291022,29988178,85961454,242870564,677436550,1867877934 ⋆ a(1) = 1; a(n) = a(n-1)-th nontotient number. • a(3)=114 is the 14th = a(2) - th term in A0 05277. •

[A155647] • 1,14,116,944,7856,66824,578096,5062904,44726336,397498184,3 547250576,31743856664,284606318816,2554926522344,22955156619056,2063 61317079224,1855841298759296,16694108359111304,150196195253667536 ⋆ 9^n+6^n-1^n • a(n)=15 * a(n - 1) - 54 * a(n - 2) - 40 with a(0)=1, a(1)= 14 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=14, a(2)=116, a(n) =16 * a(n - 1) - 69 * a(n - 2) + 54 * a(n - 3). - _ Harvey P. Dale _ , Dec 04 2012 •

[A073383] • 1,14,119,784,4396,22008,101220,435696,1777986,6943244,261299 50,95282992,338108876,1171554776,3975215844,13239402960,43364985867,139 925413866,445409413421,1400429394784,4353771487912 ⋆ Sixth convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. • a(n) = sum((2 ^ n) * binomial(n - k + 6, 6) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). • a(n) = F’’’’’’(n + 7, 2) / 6!, that is, 1 / 6! times the 6th derivative of the (n + 7)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[A268446] • 1,14,119,798,4655,24794,123970,592020,2731365,12271350,5399 3940,233646504,997490844,4211628008,17620076360,73153696336,3017589973 86,1237956266316,5054988087457,20558563992050,83322650532485,33669152 6641470,1356968880100470,5456577564869340,21898107332699325 ⋆ Number of North-East lattice paths from (0,0) to (n,n) that cross the diagonal y = x horizontally exactly three times. • a(n) = 14 * binomial(2 * n + 13,n) / (n + 14). •

[A002056] • 1,14,120,825,5005,28028,148512,755820,3730650,17978180,8498 7760,395482815,1816357725,8250123000,37119350400,165645101160,73391915 6190,3231337461300,14147884842000,61636377252450 ⋆ Number of diagonal dissections of a convex n-gon into n-5 regions. • a(n) = binomial(n - 3, 3) * bi nomial(2n - 7, n - 6) / (n - 5). •

[A163942] • 1,14,121,834,5037,27918,145777,728858,3526933,16640262,76952 793,350167122,1572467389,6984206846,30735634369,134202204426,582040933 605,2509672804470,10766469841705,45982221941570,195609944400781 ⋆ Fifth right hand column of triangle A163940. • a(n) = (1 / 18) * (3 ^ (n + 6) + (3 * n - 10) * 4 ^ (n + 3) - 9 * 2 ^ (n + 3) + 1). • a(n) = 14 * a(n - 1) - 75 * a(n - 2) + 190 * a(n - 3) - 224 * a(n - 4) + 96 * a(n - 5). •

[A167567] • 0,14,124,601,2120,6096,15168,33858,69432,132990,240812,41598 7,690352,1106768,1721760,2608548,3860496,5595006,7957884,11128205,153237 04,20806720,27890720,36947430,48414600 ⋆ The fourth left hand column of triangle A167565. • a(n) = (27 * n ^ 7 - 287 * n ^ 6 + 1113 * n ^ 5 - 1925 * n ^ 4 + 1428 * n ^ 3 - 308 * n ^ 2 - 48 * n) / 7!. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). • a(n) - 7 * a(n - 1) + 21 * a(n - 2) - 35 * a(n - 3) + 35 * a(n - 4) - 21 * a(n - 5) + 7 * a(n - 6) - a(n - 7) = 27. •

[A155637] • 1,14,124,1124,10624,103124,1015624,10078124,100390624,100195 3124,10009765624,100048828124,1000244140624,10001220703124,10000610351 5624,1000030517578124,10000152587890624,100000762939453124 ⋆ 10^n+5^n-1. • a(n)=15 * a(n - 1) - 50 * a(n - 2) - 36 with a(0)=1, a(1)=14 - _ Vincenz o Librandi _ , Jul 21 2010 • a(0)=1, a(1)=14, a(2)=124, a(n)=16 * a(n - 1) - 65 * a(n - 2) + 50 * a(n - 3) [From Harvey P. Dale, Oct 17 2011] •

[A041001] • 1,14,125,906,5810,34364,191901,1026610,5312230,26767940,131 990066,639210404,3048892740,14354652152,66828135005,308078809794,14080 22619806,6385966846580,28765327498278,128777533131500 ⋆ Convolution of A000108(n+1), n >= 0, (Catalan numbers) with A038845 (3-fold convolution of powers of 4). • a(n) = (n + 3) * (3 * (n + 6) * 2 ^ (2 * n + 3) - (n + 4) * binomial(2 * n + 7, n + 3)) / 12; G.f. (c(x) ^ 2) / (1 - 4 * x) ^ 3, where c(x) = g.f. for Catalan numbers. •

[A025211] • 1,14,125,910,5901,35574,204205,1132670,6129101,32566534,170 691885,885423630,4556561101,23305343894,118631189165,601616805790,3042 056477901,15346559343654,77279066272045,388583895311150,1951684190615 501,9793511186181814,49108010998116525 ⋆ Expansion of 1/((1-2x)(1-3x)(1- 4x)(1-5x)). • a(n) = 3 ^ (n + 3) / 2 - 2 * 4 ^ (n + 2) - 2 ^ (n + 2) / 3 + 5 ^ (n + 3) / 6. - _ R. J. Mathar _ , Mar 22 2011 •

[A073393] • 1,14,126,896,5488,30240,153888,735744,3344544,14581952,6137 8240,250693632,997593856,3880249856,14791776768,55385874432,20408237337 6,741186464256,2656771815936,9410113241088 ⋆ Sixth convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(bino mial(n - k + 6, 6) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). • a(0)=1, a(1)=14, a(2)=126, a(3)=896, a(4)=5488, a(5)=30240, a(6)=153888, a(7)=735744, a(8)=3344544, a(9)=14581952, a(10)=61378240, a(11)=250693632, a(12)=997593856, a(13)=3880249856, a(n)= 14 * a(n - 1) - 70 * a(n - 2) + 11 2 * a(n - 3) + 196 * a(n - 4) - 728 * a(n - 5) - 168 * a(n - 6) + 1920 * a(n - 7) + 336 * a(n - 8) - 2912 * a(n - 9) - 1568 * a(n - 10) + 1792 * a(n - 11) + 2240 * a(n - 12) + 896 * a(n - 13) + 128 * a(n - 14). - _ Harvey P. Dale _ , Jan 2 4 2013 •

[A020918] • 1,14,126,924,6006,36036,204204,1108536,5819814,29745716,1487 28580,730122120,3528923580,16830250920,79342611480,370265520240,1712478 031110,7857252142740,35794148650260 ⋆ Expansion of 1/(1-4*x)^(7/2). • a(n) = ((2n + 5)(2n + 3)(2n + 1) / (5 * 3 * 1)) * binomial(2n, n), a(n) = binomi al(2n + 6, 6) * binomial(2n, n) / binomial(n + 3, 3), a(n) = binomial(n + 3, 3) * binomial(2n + 6, n + 3) / binomial(6, 3). - _ Rui Duarte _ , Oct 08 201 1 • a(n) = 4 ^ n * hypergeom([- n, - 5 / 2], [1], 1). - _ Peter Luschny _ , Ap r 26 2016 •

[A021354] • 1,14,129,994,6965,46158,295513,1850618,11423709,69851782,424 437377,2568196722,15496267333,93328343486,561380193321,3373943212906,20 266372059437,121689277194870,730500423652945 ⋆ Expansion of 1/((1-x)(1- 3x)(1-4x)(1-6x)). • a(0)=1, a(1)=14; for n>1, a(n) = 10 * a(n - 1) - 24 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 • a(0)=1, a(1)= 14, a(2)=129, a(3)=994; for n>3, a(n) = 14 * a(n - 1) - 67 * a(n - 2) + 126 * a(n - 3) - 72 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 •

[A021114] • 1,14,131,1036,7497,51450,341167,2209592,14071013,88494406,5 51310123,3409583268,20966120449,128339843282,782754695399,476010641646 4,28878529850205,174860636120478,1057111102343395 ⋆ Expansion of 1/((1- x)(1-2x)(1-5x)(1-6x)). • a(0)=1, a(1)=14; for n>1, a(n) = 11 * a(n - 1) - 30 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 • a(0)=1, a(1)=14 , a(2)=131, a(3)=1036; for n>2, a(n) = 14 * a(n - 1) - 65 * a(n - 2) + 112 * a (n - 3) - 60 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 • a(n) = (3 * 6 ^ (n + 3) - 5 ^ (n + 4) + 5 * 2 ^ (n + 3) - 3) / 60. [_ Yahia Kahloune _ , J ul 07 2013] •

[A113976] • 14,133,616,2128,6664,20272,61096,183568,550984,1653232,49599 76,14880208,44640904,133922992,401769256,1205308048,3615924424,10847773 552,32543320936,97629963088,292889889544,878669668912 ⋆ a(n)= 4*a(n-1) -3*a(n-2), n>4. • a(n) = 84 * 3 ^ n - 140, n>1. [Sep 28 2009] •

[A017269] • 1,14,133,1070,7861,54614,365653,2385950,15282421,96547814,6 03612373,3743478830,23070427381,141471930614,864083198293,526077161171 0,31946034826741,193583363883014,1171036345331413 ⋆ Expansion of 1/((1- 3x)(1-5x)(1-6x)). • a(n) = 14 * a(n - 1) - 63 * a(n - 2) + 90 * a(n - 3). - _ Vi ncenzo Librandi _ , Jun 26 2013 • a(n) = 11 * a(n - 1) - 30 * a(n - 2) + 3 ^ n . - _ Vincenzo Librandi _ , Jun 26 2013 • a(n) = (2 * 6 ^ (n + 2) - 3 * 5 ^ (n + 2) + 3 ^ (n + 2)) / 6. [_ Yahia Kahloune _ , Aug 12 2013] •

[A021079] • 1,14,133,1086,8253,60438,433861,3080462,21737485,152860422,1 072817109,7520900478,52691034397,369016181366,2583829064677,180896666 98734,126639120006189,886519652765670,6205820820773365 ⋆ Expansion of 1/((1-x)(1-2x)(1-4x)(1-7x)). • a(n) = - (1 / 18) + (4 / 5) * 2 ^ n - (32 / 9) * 4 ^ n + (343 / 90) * 7 ^ n. [_ Antonio Alberto Olivares _ , May 22 2012] • a(0)=1, a(1)=14; for n>1, a(n) = 11 * a(n - 1) - 28 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 06 2013 • a(0)=1, a(1)=14, a(2)=133, a(3)=1086; f or n>3, a(n) = 14 * a(n - 1) - 63 * a(n - 2) + 106 * a(n - 3) - 56 * a(n - 4). - _ Vincenzo Librandi _ , Jul 06 2013 •

[A164598] • 1,14,134,1132,9028,69848,531224,3999856,29936656,223244768,1 661090912,12342768832,91636134976,679979479424,5044125163904,374101996 66432,2774221404424448,20571188964348688,152530739827850 24,1130948453146 40896 ⋆ a(n) = 12*a(n - 1) - 34*a(n - 2) for n > 1; a(0) = 1, a(1) = 14. • a(n) = ((1 + 4 * sqrt(2)) * (6 + sqrt(2)) ^ n + (1 - 4 * sqrt(2)) * (6 - sqrt(2)) ^ n) / 2. •

[A016801] • 1,14,135,1120,8621,63714,460195,3280340,23204841,163423414,1 147981055,8052113160,56430306661,395275799114,2767989986715,193801818 27580,135678323522081,949816596710814,6648989892621175 ⋆ Expansion of 1/((1-3x)(1-4x)(1-7x)). • a(0)=1, a(1)=14, a(2)=135, a(n)=14 * a(n - 1) - 61 * a(n - 2) + 84 * a(n - 3). - _ Harvey P. Dale _ , May 10 2012 • a(n) = 9 * 3 ^ n / 4 - 16 * 4 ^ n / 3 + 49 * 7 ^ n / 12. _ R. J. Mathar _ , Jun 23 2013 • a (n) = 11 * a(n - 1) - 28 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 •

[A004004] • 0,1,14,135,1228,11069,99642,896803,8071256,72641337,65377207 0,5883948671,52955538084,476599842805,4289398585298,38604587267739,3474 41285409712,3126971568687473 ⋆ a(n) = (3^{2n+1} - 8*n - 3)/16. • a(n) = 1

1 * a(n - 1) - 19 * a(n - 2) + 9 * a(n - 3). - _ Johannes W. Meijer _ , Jun 27 2009 • a(n) = a(n - 1) + (3 ^ (2 * n - 1) - 1) / 2. - _ Lechoslaw Ratajczak _ , Jul 06 2016 •

[**A155625**] • 1,14,136,1394,14896,162074,1775656,19503554,214424416,2358209834,25938473176,285315864914,3138445153936,34522779252794,379750102018696,4177249243157474,45949734158539456,505447045679162954 ★ 11^n+4^n-1. • a(n)=15 * a(n - 1) - 44 * a(n - 2) - 30 with a(0)=1, a(1)=14 - _ Vincenzo Librandi _ , Jul 21 2010 •

[**A016296**] • 1,14,137,1162,9165,69342,511393,3709874,26619989,189594790,1343438889,9485451066,66805055773,469669890158,3297861746225,23135894831938,162205576930917,1136710604184246,7963332057891001 ★ Expansion of 1/((1-2x)(1-5x)(1-7x)). • a(n - 2) = ((7 ^ n - 2 ^ n) / 5 - (5 ^ n - 2 ^ n) / 3) / 2. - _ Zerinvary Lajos _ , Jun 05 2009 • a(n) = 14 * a(n - 1) - 59 * a(n - 2) + 70 * a(n - 3), n >= 3. - _ Vincenzo Librandi _ , Mar 16 2011 • a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 2 ^ n, n >= 2. - _ Vincenzo Librandi _ , Mar 16 2011 •

[**A021044**] • 1,14,137,1186,9789,79278,637249,5107322,40887077,327183142,2617726761,20942603058,167543199565,1340352738206,10722843363473,85782811346794,686262684222453,5490102054386070,43920818177432185,351366550647536930,2810932420866630941 ★ Expansion of 1/((1-x)(1-2x)(1-3x)(1-8x)). • a(n) = - (1 / 14) + (4 / 3) * 2 ^ n - (27 / 10) * 3 ^ n + (256 / 105) * 8 ^ n. - _ Antonio Alberto Olivares _ , May 12, 2012 • a(0)=1, a(1)=14; for n>1, a(n) = 11 * a(n - 1) - 24 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 • a(0)=1, a(1)=14, a(2)=137, a(3)=1186; for n>3, a(n) = 14 * a(n - 1) - 59 * a(n - 2) + 94 * a(n - 3) - 48 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 •

[**A016290**] • 1,14,140,1240,10416,85344,690880,5559680,44608256,357389824,2861214720,22898104320,183218384896,1465881288704,11727587164160,93822844764160,750591347982336,6004765143465984,48038258586419200,384306618446643200,3074455146595352576,24595649968853745664 ★ Expansion of 1/((1-2x)(1-4x)(1-8x)). • a(n) = (2 ^ n - 6 * 4 ^ n + 8 * 8 ^ n) / 3. - _ James R. Buddenhagen _ , Dec 14 2003 • a(n) = Sum _{ 0<=i,j,k,<=n; i + j + k= n } 2 ^ i * 4 ^ j * 8 ^ k. - _ Hieronymus Fischer _ , Jun 25 2007 • a(n) = 14 * a(n - 1) - 56 * a(n - 2) + 64 * a(n - 3) for n >= 3. • a(n) = 12 * a(n - 1) - 32 * a(n - 2) + 2 ^ n with a(0)=1, a(1)=14. (End) •

[**A016241**] • 1,14,141,1246,10277,81270,624877,4710062,34985973,256995046,1871524733,13536029598,97364345989,697223254742,4974599780109,35386420442254,251090274984725,1777943916226758,12567479361589405,88703587219138430,625312500662044581 ★ Expansion of 1/((1-x)*(1-6*x)*(1-7*x)). • a(0)=1, a(1)=14, a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0)=1, a(1)=14, a(2)=141, a(n) = 14 * a(n - 1) - 55 * a(n - 2) + 42 * a(n - 3). - _ Harvey P. Dale _ , Aug 05 2011 •

[**A039916**] • 1,14,141,1415,14159,141592,1415926,14159265,141592653,1415926535,14159265358,141592653589,1415926535897,14159265358979,141592653589793,1415926535897932,14159265358979323,141592653589793238 ★ Concatenation of the decimal digits of Pi-3. • a(n) = floor((Pi - 3) * 10 ^ n). G.f.: (f(x) - 3 * x) / (x - 10 * x ^ 2) where f(x) is the G.f. of A000976. - _ Robert Israel _ , Oct 06 2014 •

[**A241217**] • 1,14,142,1428,14285,142857,1428571,14285714,142857142,1428571428,14285714285,142857142857,1428571428571,14285714285714,142857142857142,1428571428571428,14285714285714285,142857142857142857,1428571428571428571,14285714285714285714 ★ Largest number that when multiplied by 7 produces an n-digit number. • a(n) = floor(10 ^ n / 7). - _ Michel Marcus _ , Apr 21 2014 •

[**A238473**] • 14,143,612,1771,4095,8184,14763,24682,38916,58565,84854,119133,162877,217686,285285,367524,466378,583947,722456,884255,1071819,1287748,1534767,1815726,2133600 ★ C(5*n+8, 4)/5 for n>= 0. • a(n) = binomial(5 * n + 8, 4) / 5 = (5 * n + 8) * (5 * n + 7) * (5 * n + 6) * (n + 1) / 4! for n >= 0. •

[**A016233**] • 1,14,143,1300,11181,93354,766363,6228560,50316761,404975494,3252010983,26077123020,208922159941,1672903158434,13390854662003,107164984268680,857510609012721,6861038546418174,54893076742927423 ★ Expansion of 1/((1-x)(1-5x)(1-8x)). • a(n) = (1 / 28) - (5 / 12) * 5 ^ n + (8 / 21) * 8 ^ n. - _ Antonio Alberto Olivares _ , Feb 06 2010 • a(0)=1, a(1)=14, a(n) = 13 * a(n - 1) - 40 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0)=1, a(1)=14, a(2)=143, a(n) = 14 * a(n - 1) - 53 * a(n - 2) + 40 * a(n - 3). - _ Harvey P. Dale _ , Dec 26 2015 •

[**A099914**] • 1,14,144,1444,14444,144444,1444444,14444444,144444444,1444444444,14444444444,144444444444,1444444444444,14444444444444,144444444444444,1444444444444444,14444444444444444,144444444444444444 ★ Expansion of (1+3x)/((1-x)(1-10x)). • a(n)=10 ^ n * 13 / 9 - 4 / 9; a(n)=11a(n - 1) - 10a(n - 2), a(0)=1, a(1)=14. •

[**A016278**] • 1,14,145,1370,12541,113534,1023865,9221090,83008981,747138854,6724424785,60520350410,544684739821,4902167424974,44119521140905,397075733249330,3573681728253061,32163135941435894,289468224634660225 ★ Expansion of 1/((1-2x)(1-3x)(1-9x)). • a(n) = 14 * a(n - 1) - 51 * a(n - 2) + 54 * a(n - 3); a(n) = (4 / 7) * 2 ^ (n - 1) + (- 3 / 2) * 3 ^ (n - 1) + (27 / 14) * 9 ^ (n - 1). - _ Antonio Alberto Olivares _ , Apr 21 2008, Apr 22 2008 •

[**A027473**] • 1,14,147,1372,12005,100842,823543,6588344,51883209,403536070,3107227739,23727920916,179936733613,1356446145698,10173346092735,75960984159088,564959819683217,4187349251769726,30939858360298531 ★ Second column of A027466. • a(n) = n * 7 ^ (n - 1). • a(n) = 14 * a(n - 1) - 49 * a(n - 2) with a(1) = 1, a(2) = 14. •

[**A002451**] • 1,14,147,1408,13013,118482,1071799,9668036,87099705,784246870,7059619931,63542171784,571901915677,5147206719578,46325218390143,416928397167052,3752361301126529,33771274616631006,303941563175648035,2735474435084708240,24619271381777877861 ★ Expansion of 1/((1-x)(1-4x)(1-9x)). • a(n) = 1 / 24 - 4 ^ (n + 2) / 15 + 9 ^ (n + 2) / 40. - _ Antonio Alberto Olivares _ , Feb 03 2010 • a(n) = 13 * a(n - 1) - 36 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 23 2011 •

[**A016170**] • 1,14,148,1400,12496,107744,908608,7548800,62070016,506637824,4113568768,33271347200,268347559936,2159841173504,17357093552128,139326933401600,1117436577120256,8956419276406784,71752914167922688 ★ Expansion of 1/((1-6x)(1-8x)). • a(n) = Sum _{ k=1..n } 2 ^ (n - 1) * 3 ^ (n - k) * binomial(n,k). - _ Zerinvary Lajos _ , Sep 24 2006 • a(n) = 8 * a(n - 1) + 6 ^ n. [_ Vincenzo Librandi _ , Feb 09 2011] • a(0)=1, a(1)=14, a(n) = 14 * a(n - 1) - 48 * a(n - 2) [_ Harvey P. Dale _ , Dec 08 2011] •

[**A081201**] • 0,1,14,148,1400,12496,107744,908608,7548800,62070016,506637824,4113568768,33271347200,268347559936,2159841173504,17357093552128,139326933401600,1117436577120256,8956419276406784,71752914167922688 ★ Binomial transform of (0,1,0,1,0,1,....), A000035. • a(n) = 14 * a(n - 1) - 48 * a(n - 2) with n>1, a(0)=0, a(1)=1. • a(n) = 8 ^ n / 2 - 6 ^ n / 2. •

[**A081184**] • 0,1,14,149,1428,12989,114730,995737,8548008,72872473,618458246,5233409213,44200191420,372832446869,3142245259426,26468308629121,222870793614672,1876180605036721,15791601170624510,132901927952017253 ★ 7th binomial transform of (0,1,0,2,0,4,0,8,0,16,...). • a(n) = 14 * a(n - 1) - 47 * a(n - 2), a(0)=0, a(1)=1. • a(n) = ((7 + sqrt(2)) ^ n - (7 - sqrt(2)) ^ n) / (2 * sqrt(2)). • a(n) = Sum _{ k=0..n } C(n,2 * k + 1) * 2 ^ k * 7 ^ (n - 2 * k - 1). •

[**A032343**] • 0,1,14,149,1506,15085,150886,1508909,15089154,150891621,1508916310,15089163221,150891632354,1508916323709,15089163237286,1508916323730085,15089163237311349,150891632373113814 ★ a(n) = 10*a(n-1)+n^2, a(0)=0. • a(n) =(10 ^ n - 1) * (110 / 729) - n ^ 2 / 9 - n * (20 / 81). •

[**A153598**] • 1,14,150,1456,13484,121800,1084936,9586304,84301200,739246816,6471600224,56597049600,494665084096,4321846895744,37751262672000,329712720203776,2879419999940864,25145094869798400,219578008179897856,1917417750507843584 ★ a(n) = ((7 + sqrt(3))^n - (7 - sqrt(3))^n)/(2*sqrt(3)). • a(n) = 14 * a(n - 1) - 46 * a(n - 2) for n>1; a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 •

[**A262183**] • 0,1,14,150,1520,15235,152406,1524144,15241560,152415765,1524157870,15241578986,152415790224,1524157902695,15241579027510,152415790275780,1524157902758616,15241579027587129,152415790275872430,1524157902758725630,15241579027587257840 ★ a(0) = 0, a(n) = 10*a(n-1) + n*(n+1)*(n+2)/6. • a(n) = (1 / 9 ^ 4) * 10 ^ (n + 3) - (243 * n ^ 3 + 1539 * n ^ 2 + 3096 * n + 2000) / 13122. • a(n) = 14 * a(n - 1) - 46 * a(n - 2) + 64 * a(n - 3) - 41 * a(n - 4) + 10 * a(n - 5) for n>4. - _ Colin Barker _ , Sep 20 2015 •

[**A016163**] • 1,14,151,1484,13981,128954,1176211,10664024,96366841,869254694,7833057871,70546348964,635161281301,5717672234834,51465153629131,463216900240304,4169104690053361,37522705149933374,337708161046665991 ★ Expansion of 1/((1-5x)(1-9x)). • a(n) = ((7 + sqrt4) ^ n - (7 - sqrt4) ^ n) / 4. Offset 1. a(3)=151. - Al Hakanson (hawkuu(AT)gmail.com), Dec 31 2008 • a(n) = 14 * a(n - 1) - 45 * a(n - 2). - _ Philippe Deléham _ , Jan 01 2009 • a(0)=1, a(n) = 9 * a(n - 1) + 5 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 •

[**A153884**] • 1,14,152,1512,14480,136192,1269568,11781504,109080064,1008734720,9322763264,86134358016,795679428608,7349600247808,67884508610560,627000709644288,5791091556155392,53487250561826816,494013479394738176 ★ a(n) = ((7 + sqrt(5))^n - (7 - sqrt(5))^n)/(2*sqrt(5)). • a(n) = 14 * a(n - 1) - 44 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[**A154239**] • 1,14,153,1540,14981,143514,1365013,12939080,122451561,1157941414,10945762673,103449196620,977620957741,9238377953714,87299590169133,824944010358160,7795333767741521,73662080302980414,696069772228840393 ★ a(n) = ((7 + sqrt(6))^n - (7 - sqrt(6))^n)/(2*sqrt(6)). • a(n) = 14 * a(n - 1) - 43 * a(n - 2)for n>1, with a(0)=0, a(1)=1. •

[**A016215**] • 1,14,153,1570,15821,158574,1586833,15871610,158725941,1587288934,15872977913,158730044850,1587301245661,15873014848094,158730155655393,1587301578077290,15873015845342981,158730158647140054,1587301587052531273,15873015872268704930 ★ Expansion of 1/((1-x)(1-3x)(1-10x)). • a(0)=1, a(1)=14, a(n)=13 * a(n - 1) - 30 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (1 / 18) - (9 / 14) * (3) ^ n + (100 / 63) * (10) ^ n. _ Antonio Alberto Olivares _ , May 12, 2012 •

[**A154248**] • 1,14,154,1568,15484,150920,1462552,14137088,136492048,1317130976,12707167648,122580846080,1182430803904,11405635719296,110016806306176,1061198588076032,10236074368205056,98734700455677440 ★ a(n) = ((7 + sqrt(7))^n - (7 - sqrt(7))^n)/(2*sqrt(7)). • a(n) = 14 * a(n - 1) - 42 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[**A154347**] • 1,14,155,1596,15989,158410,1562191,15375864,151212265,1486561286,14612155139,143621159220,1411597868381,13873902629314,136359124206775,1340197731092976,13172044142823889,129460511024722430 ★ a(n) = ((7 + 2*sqrt(2))^n - (7 - 2*sqrt(2))^n)/(4*sqrt(2)). • a(n) = 14 * a(n - 1) - 41 * a(n - 2) for n>1, with a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 12 2009 •

[**A016157**] • 1,14,156,1624,16496,165984,1663936,16655744,166622976,1666491904,16665967616,166663870464,1666655481856,16666621927424,166666487709696,1666665950838784,16666663803355136,166666655213420544 ★ Expansion of 1/((1-4x)(1-10x)). • a(n) = ((7 + sqrt(9)) ^ (n + 1) - (7 - sqrt(9)) ^ (n + 1)) / 6. - Al Hakanson (hawkuu(AT)gmail.com), Jan 07 2009 • a(n) = 14 * a(

n - 1) - 40 * a(n - 2), n >= 2. - _ Vincenzo Librandi _ , Mar 18 2011 ● a(n) = 10 * a(n - 1) + 4 ^ n = 4 * a(n - 1) + 10 ^ n, n >= 1. - _ Vincenzo Libran di _ , Mar 18 2011 ● a(n) = (5 * 10 ^ n - 2 * 4 ^ n) / 3. - _ Bruno Berselli _ , Mar 19 2011 ●

[A122187] ● 1,14,157,1782,20216,229347,2601899,29518061,334876920,3799116465,43100270734,488964567014,5547212203625,62932092237197,713952898856653,8099663044168346,91889172989041221,1042465602157270162 ★ First row sum of the matrix M^n, where M is the 3 X 3 matrix [[6, 5, 3], [5, 4, 2], [3, 2, 1]] (n>=0). ● a(n) = 11a(n - 1) + 4a(n - 2) - a(n - 3), a(0)=1, a(1)=14, a(2) =157 (derived from the minimal polynomial of the matrix M). ●

[A229611] ● 1,14,160,1770,19485,214356,2357944,25937420,285311665,3138428370,34522712136,379749833574,4177248169405,45949729863560,505447028499280,5559917313492216,61159090448414529,672749994932559990,7400249944258160080,81402749386839761090 ★ Expansion of 1/((1-x)^3*(1-11x)) ● a(n) = (11 ^ (n + 3) - (1 + 10 * C(n + 3,1) + 100 * C(n + 3,2))) / 1000 = (11 ^ (n + 3) - (50 * n ^ 2 + 260 * n + 331)) / 1000. ● a(n) = 14 * a(n - 1) - 36 * a(n - 2) + 34 * a(n - 3) - 11 * a(n - 4). - _ Vincenzo Librandi _ , Sep 27 2013 ●

[A016206] ● 1,14,161,1786,19677,216510,2381737,26199362,288193493,3170129446,34871425953,383585689578,4219442593549,46413868545422,510552554032409,5616078094422034,61776859038773445,679545449426770038 ★ Expansion of 1/((1-x)(1-2x)(1-11x)). ● a(n) = (121 * 11 ^ n - 40 * 2 ^ n + 9) / 90. - Bruno Berselli, Feb 09 2011 ● a(0)=1, a(n)=11 * a(n - 1) + 2 ^ (n + 1) - 1. - Vincenzo Librandi, Feb 09 2011] ● a(0)=1, a(1)=14, a(2)=161, a(n)=14 * a(n - 1) - 35 * a(n - 2) + 22 * a(n - 3) [From Harvey P. Dale, Nov 02 2011] ●

[A161158] ● 1,14,161,1792,19809,218638,2412353,26614784,293628097,3239445006,35739069409,394290020096,4349990523425,47991114171406,529460241815169,5841251080892416,64443392518654337,710969410782059534 ★ A003696(n+1) ● a(n)= 14 * a(n - 1) - 34 * a(n - 2) + 14 * a(n - 3) - a(n - 4). G.f.: (1 - x ^ 2) / (1 - 14 * x + 34 * x ^ 2 - 14 * x ^ 3 + x ^ 4). ● a(n) = (1 / sqrt(17)) * (T(n,(7 + sqrt(17)) / 2) - T(n,(7 - sqrt(17)) / 2)), where T(n,x) is the Chebyshev polynomial of the first kind. ● a(n) = the bottom left entry of the 2 X 2 matrix T(n,M), where M is the 2 X 2 matrix [0, - 8; 1, 7]. ● a(n) = U(n - 1,1 / 2 * (4 + sqrt(2))) * U(n - 1,1 / 2 * (4 - sqrt(2))), where U(n,x) is the Chebyshev polynomial of the second kind. ●

[A016146] ● 1,14,163,1820,20101,221354,2435623,26794040,294741001,3242170694,35663936683,392303480660,4315338818701,47468728600034,522156019383343,5743716227565680,63180878546269201,694989664138101374 ★ Expansion of 1/((1-3x)(1-11x)). ● a(n) = 14 * a(n - 1) - 33 * a(n - 2), n >= 2. - _ Vincenzo Librandi _ , Mar 14 2011 ● a(n) = (- 3 ^ (n + 1) + 11 ^ (n + 1)) / 8. - _ R. J. Mathar _ , Mar 15 2011 ●

[A159738] ● 14,168,1792,17920,172032,1605632,14680064,132120576,1174405120,10334765056,90194313216,781684047872,6734508720128,57724360458240,492581209243648,4186940278571008,35465847065542656,299489375220137984 ★ Number of permutations of 7 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. ● a(n)=(copies * n) * (copies + 1) ^ (n - 2) ●

[A098299] ● 0,1,14,169,2016,24025,286286,3411409,40650624,484396081,5772102350,68780832121,819597883104,9766393765129,116377127298446,1386759133816225,16524732478496256,196910030608138849 ★ Member r=14 of the family of Chebyshev sequences S_r(n) defined in A092184. ● a(n)= 12 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. ● a(n)= 13 * a(n - 1) - 13 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=14. ●

[A014882] ● 1,14,171,2056,24677,296130,3553567,42642812,511713753,6140565046,73686780563,884241366768,10610896401229,127330756814762,1527969081777159,18335628981325924,220027547775911105,2640330573310933278,31683966879731199355 ★ a(1)=1, a(n)=12*a(n-1)+n. ● a(n) = - 12 / 121 + 12 / 121 * 12 ^ n - 1 / 11 * n, with n>=1. - _ Paolo P. Lava _ , Jan 14 2009 ● a(1) =1, a(2)=14, a(3)=171, a(n)=14 * a(n - 1) - 25 * a(n - 2) + 12 * a(n - 3). - _ Vincenzo Librandi _ , Oct 20 2012 ●

[A016136] ● 1,14,172,2072,24880,298592,3583168,42998144,515977984,6191736320,74300836864,891610044416,10699320537088,128391846453248,1540702157455360,18488425889497088,221861110674030592 ★ Expansion of 1/((1-2*x)*(1-12*x)). ● a(n) = (12 ^ n - 2 ^ n) / 10 for n>0. [_ Zerinvary Lajos _ , Jun 05 2009] ● a(n) = 2 ^ n * (6 ^ (n + 1) - 1) / 5 = 14 * a(n - 1) - 24 * a(n - 2). - _ Vincenzo Librandi _ , Oct 09 2011 ● a(n) = Sum _{ i=0..n } 2 ^ (n + i) * 3 ^ i. [_ Bruno Berselli _ , Aug 28 2013] ●

[A177072] ● 14,176,500,986,1634,2444,3416,4550,5846,7304,8924,10706,12650,14756,17024,19454,22046,24800,27716,30794,34034,37436,41000,44726,48614 ★ (9*n+2)*(9*n+7). ● a(n) = 162 * n + a(n - 1) with n>0, a(0)=14. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Apr 08 2013 ●

[A097828] ● 1,14,182,2353,30408,392952,5077969,65620646,847990430,1095825454945,1416093238956,18299629551842,236479090935374,3055928552607984,39490592096296838,510321768655980970,6594692400434784 24 ★ Partial sums of Chebyshev sequence S(n,13)= U(n,13/2)=A078362(n). ● a(n) = 14 * a(n - 1) - 14 * a(n - 2) + a(n - 3) with n>=2, a(- 1)=0, a(0)=1, a(1)=14. ● a(n) = 13 * a(n - 1) - a(n - 2) + 1 with n>=1, a(- 1)=0, a(0)=1. ● a(n) = (S(n + 1, 13) - S(n , 13) - 1) / 11. ●

[A091030] ● 1,14,183,2380,30941,402234,5229043,67977560,883708281,11488207654,149346699503,1941507093540,25239592216021,328114698808274,4265491084507563,55451384098598320,720867993281778161 ★ Partial sums of powers of 13 (A001022). ● a(n)= Sum _{ k=0..n - 1 } 13 ^ k = (13 ^ n - 1) / 12. ● a(n) = 13 * a(n - 1) + 1 for n>1, a(1)=1. - _ Vincenzo Librandi _ , Feb 05 2011 ● a(n) = Sum _{ k=0...n - 1 } 12 ^ k * binomial(n,n - 1 - k). [_ Bruno Berselli _ , Nov 12 2015] ●

[A165152] ● 1,14,184,2336,29056,356864,4347904,52699136,636583936,7672561664,92339175424,1110217588736,13339790934016,160214930161664,1923678673567744,23092940175835136,277185650854199296 ★ a(n) = (3*12^n-8^n)/2. ● a(n) = 20 * a(n - 1) - 96 * a(n - 2) for n > 1; a(0) = 1, a(1) = 14. ●

[A086946] ● 14,194,1994,19994,199994,1999994,19999994,199999994,1999999994,19999999994,199999999994,1999999999994,19999999999994,199999999999994,1999999999999994,19999999999999994,199999999999999994 ★ a(n) = k where R(k+6)=2. ● a(n) = 2 * (10 ^ n - 3) ●

[A068769] ● 1,1,14,203,3038,46746,736764,11853051,194053622,3224557406,54265836548,923218762270,15854602773100,274500192707860,4786546243533432,83989334625037947,1481965556616225702 ★ Generalized Catalan numbers. ● a(n) = (7 ^ n) * p(n, - 6 / 7) with the row polynomials p(n, x) defined from array A068763. ● a(n + 1) = 7 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1= a(1). ●

[A109764] ● 0,14,204,1240,4900,14910,38024,85344,173880,328350,583220,984984,1594684,2490670,3771600,5559680,8004144,11284974,15616860,21253400,28491540,37676254,49205464,63535200,81185000 ★ Sum of the first n^2 squares. ● a(n) = n ^ 2 * (n ^ 2 - 1) * (2 * n ^ 2 - 1) / 6. G.f.: 2 * x ^ 2 * (1 + x) * (7 * x ^ 2 + 46 * x + 7) / (1 - x) ^ 7. [From _ R. J. Mathar _ , Jun 28 2010] ●

[A097261] ● 0,14,210,224,3150,3164,3360,3374,47250,47264,47460,47474,50400,50414,50610,50624,708750,708764,708960,708974,711900,711914,712110,712124,756000 ★ Numbers whose set of base 15 digits is {0,E}, where E base 15 = 14 base 10. ● a(2n) = 15 * a(n), a(2n + 1) = a(2n) + 14. ●

[A158555] ● 14,210,798,1778,3150,4914,7070,9618,12558,15890,19614,23730,28238,33138,38430,44114,50190,56658,63518,70770,78414,86450,94878,103698,112910 ★ 196n^2 + 14. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A097183] ● 1,14,210,3220,49910,778596,12198004,191682920,3019005990,47[illegible]0,4736359092184068 0,751502309293205456,11930099160029636614 ★ Main diagonal of triangle A097181, in which the n-th row polynomial R_n(y) is formed from the initial (n+1) terms of g.f. A097182(y)^(n+1), where R_n(1/2) = 8^n for all n>=0. ● a(n) = (n + 1) * 16 ^ n * GAMMA(n + 7 / 8) / (GAMMA(7 / 8) * GAMMA(n + 2)). - _ Vaclav Kotesovec _ , Feb 09 2014 ●

[A099272] ● 0,1,14,225,3584,57121,910350,14508481,231225344,3685097025,58730327054,936000135841,14917271846400,237740349406561,3788928318658574,60385112749130625,962372875667431424,15337580897929772161 ★ Unsigned member r=-14 of the family of Chebyshev sequences S_r(n) defined in A092184. ● a(n)= 16 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. ● a(n)= 15 * a(n - 1) + 15 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)= 14. ●

[A079563] ● 1,14,231,3934,67851,1177974,20531770,358788696,6281076123,110103674128,1931983053056,33926800240578,596145343139514,10480467311987778,184327560283768776,3243034966775972144,57074433199551436347 ★ a(n) = a(n,m) = sum(k=0,n,binomial(m*k,k)*binomial(m*(n-k),n-k)) for m=7. ● a(n) = (7 / 12) * (823543 / 46656) ^ n * (1 + c / sqrt(n) + o(n ^- 1 / 2)) where c=0.41... ● a(n) = sum(k=0,n,binomial(7 * k + l,k) * binomial(7 * (n - k) - l,n - k)) for every real number l. - _ Rui Duarte _ and António Guedes de Oliveira, Feb 16 2013 ● a(n) = sum(k=0,n,6 ^ (n - k) * binomial(7n + 1,k)). - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 ● a(n) = sum(k=0,n,7 ^ (n - k) * binomial(6n + k,k)). - _ Rui Duarte _ and António Guedes de Oliveira, Feb 17 2013 ●

[A215544] ● 0,14,275,1260,3705,8602,17199,31000,51765,81510,122507,177284,248625,339570,453415,593712,764269,969150,1212675,1499420,1834217,2222154,2668575,3179080,3759525 ★ Number of standard Young tableaux of shape [4n,4]. ● a(n) = (4 * n - 3) * (4 * n + 3) * (2 * n + 1) * (n + 1) / 3 for n>0, a(0) = 0. ●

[A279113] ● 0,0,1,14,277,2154,10855,39926,120961,315150,737089,1577406,3150841,5934034,10651567,18332614,30452605,49011606,76753681,117268590,175315789,256949306,369978631,524114454,731604457 ★ Number of non-equivalent ways to place 4 non-attacking kings on an n X n board. ● a(n) = (n ^ 8 - 54 * n ^ 6 + 72 * n ^ 5 + 1024 * n ^ 4 - 2640 * n ^ 3 - 4928 * n ^ 2 + 21888 * n - 17280 + IF(MOD(n, 2) = 1, 14 * n ^ 4 - 72 * n ^ 3 + 154 * n ^ 2 - 240 * n - 51)) / 192 for n>=3. ● a(n) = 4 * a(n - 1) - a(n - 2) - 16 * a(n - 3) + 19 * a(n - 4) + 20 * a(n - 5) - 45 * a(n - 6) + 45 * a(n - 8) - 20 * a(n - 9) - 19 * a(n - 10) + 16 * a(n - 11) + a(n - 12) - 4 * a(n - 13) + a(n - 14) for n>=17. ●

[A181192] ● 1,14,290,6392,141696,3142704,69705920,1546100352,34293030016,760631058944,16871055411200,374205743270912,8300010573582336,184097055591849984,4083335265314938880,90569764059295875072 ★ Number of n X 5 matrices containing a permutation of 1..n*5 in increasing order rowwise, columnwise, diagonally and (downwards) antidiagonally. ● a(n) = 2 ^ (n - 2) + ((11 - 5 * sqrt(5)) ^ n * (2 + sqrt(5)) + (- 2 + sqrt(5)) * (11 + 5 * sqrt(5)) ^ n) / (4 * sqrt(5)). ●

[A116165] ● 0,14,294,4116,48020,504210,4941258,46118408,415065672,3631824630,31072277390,261007130076,2159240803356,17633799894074,142426845298290,1139414762386320,9039357114931472,71184937280085342,556917450485373558 ★ (n^2+n)*7^n. ● a(n) = 21 * a(n - 1) - 147 * a(n - 2) + 343 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 ●

[A129007] ● 14,588,12348,192080,2521050,29647548,322828856,3320525376,32686421670,310722773900,2871078430836,25910889640272,229239398622962,1993975834176060,17091221435794800,144629713838903552 ★ (n^3+n^2)*7^n. ● a(1)=14, a(2)=588, a(3)=12348, a(4)=192080, a(n)=28 * a(n - 1) - 294 * a(n - 2) + 1372 * a(n - 3) - 2401 * a(n - 4). - _ Harvey P. Dale _ , Nov 21 2012 ●

[A157824] ● 14,4063,15312,33761,59410,92259,132308,179557,234006,295655,364504,440553,523802,614251,711900,816749,928798,1048047,1174496,13081

45,1448994,1597043,1752292,1914741,2084390 ⋆ 3600n^2 - 6751n + 3165. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A022349] • 0,15,15,30,45,75,120,195,315,510,825,1335,2160,3495,5655,9150,14805,23955,38760,62715,101475,164190,265665,429855,695520 ⋆ Fibonacci sequence beginning 0, 15. • a(n) = Lucas(n + 4) - Lucas(n - 4), where Lucas(i) for i = 0..3 gives 7, - 4, 3, - 1. (End) •

[A241750] • 15,16,19,24,31,40,51,64,79,96,115,136,159,184,211,240,271,304,339,376,415,456,499,544,591 ⋆ a(n) = n^2 + 15. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[A022105] • 1,15,16,31,47,78,125,203,328,531,859,1390,2249,3639,5888,9527,15415,24942,40357,65299,105656,170955,276611,447566,724177 ⋆ Fibonacci sequence beginning 1, 15. • a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=15. a(- 1):=14. •

[A041456] • 15,16,31,47,78,125,328,453,2593,3046,5639,53797,59436,410413,469849,4639054,5108903,9747957,53848688,63596645,181041978,244638623,425680601,670319224,1095999825 ⋆ Numerators of continued fraction convergents to sqrt(244). • a(n) = 3532638098 * a(n - 26) - a(n - 52) for n>51. [_ Bruno Berselli _ , Nov 16 2013] •

[A042867] • 1,15,16,31,481,29853,448276,478129,926405,14374204,892127053,13396279999,14288407052,27684687051,429558712817,26660324881705,400334431938392,426994756820097,827329188758489,12836932588197432,796717149656999273,11963594177443186527 ⋆ Denominators of continued fraction convergents to sqrt(965). • a(n) = 29884 * a(n - 5) + a(n - 10) for n>9. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A033051] • 0,1,15,16,225,226,240,241,3375,3376,3390,3391,3600,3601,3615,3616,50625,50626,50640,50641,50850,50851,50865,50866,54000 ⋆ Numbers whose set of base 15 digits is {0,1}. • a(n) = Sum { d(i) * 15 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 15 * a(n), a(2n + 1) = a(2n) + 1. •

[A041111] • 1,1,15,16,239,255,3809,4064,60705,64769,967471,1032240,15418831,16451071,245733825,262184896,3916322369,4178507265,62415424079,665939931344,994730462895,1061324394239,15853271982241 ⋆ Denominators of continued fraction convergents to sqrt(63). • a(n) = 16 * a(n - 2) - a(n - 4). G.f.: (1 + x - x ^ 2) / (1 - 16 * x ^ 2 + x ^ 4). [_ Colin Barker _ , Jul 15 2012] •

[A041477] • 1,1,15,16,495,511,7649,8160,252449,260609,3900975,4161584,128748495,132910079,1989489601,2122399680,65661480001,67783879681,1014635795535,1082419675216,33487226052015,34569645727231,517462266233249,552031911960480,17078419625047649 ⋆ Denominators of continued fraction convergents to sqrt(254). • a(n) = 510 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 18 2013 •

[A041478] • 15,16,495,511,15825,16336,505905,522241,16173135,16695376,517034415,533729791,16528928145,17062657936,528408666225,545471324161,16892548391055,17438019715216,540033139847535 ⋆ Numerators of continued fraction convergents to sqrt(255). • a(n) = 32 * a(n - 2) - a(n - 4). G.f.: - (x ^ 3 - 15 * x ^ 2 - 16 * x - 15) / (x ^ 4 - 32 * x ^ 2 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A042099] • 1,1,15,16,751,767,11489,12256,575265,587521,8800559,9388080,440652239,450040319,6741216705,7191257024,337539039809,344730296833,5163763195471,5508493492304,258554463841455,264062957333759,3955435866514081,4219498823847840 ⋆ Denominators of continued fraction convergents to sqrt(573). • a(n) = 766 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 14 2014 •

[A157716] • 0,15,17,62,66,141,147,252,260,395,405,570,582,777,791,1016,1032,1287,1305,1590,1610,1925,1947,2292,2316 ⋆ One-eighth of triangular numbers (integers only). • a(n) = (2 * n - 1 + 7 / 8 * (- 1) ^ n) ^ 2 - 1 / 64. - _ Robert Israel _ , Apr 20 2014 •

[A113968] • 0,0,1,1,15,17,239,273,3823,4369,61167,69905,978671,1118481,15658735,17895697,250539759,286331153,4008636143,4581298449,64138178287,73300775185,1026210852591,1172812402961,16419373641455 ⋆ Series expansion of Farey rational polynomial based on A112627. • a(n) = (5 * (- 4) ^ n + 16 * (- 1) ^ n + 9 * 4 ^ n) / 240 for n>0. G.f.: - x ^ 2 * (2 * x + 1) / ((x + 1) * (4 * x - 1) * (4 * x + 1)). [_ Colin Barker _ , Dec 03 2012] •

[A274979] • 0,1,15,18,46,51,93,100,156,165,235,246,330,343,441,456,568,585,711,730,870,891,1045,1068,1236 ⋆ Integers of the form m*(m + 7)/8. • a(n) = (8 * (n - 1) * n - 3 * (2 * n - 1) * (- 1) ^ n - 3) / 4. •

[A219394] • 0,15,19,64,72,147,159,264,280,415,435,600,624,819,847,1072,1104,1359,1395,1680,1720,2035,2079,2424,2472 ⋆ Numbers k such that 17*k+1 is a square. • a(n) = a(- n + 1) = (34 * n * (n - 1) + 13 * (- 1) ^ n * (2 * n - 1) + 5) / 8 + 1. •

[A273061] • 15,21,25,30,34,37,41,44,47,50,53,56,59,62,64,67,70,72,75,77,80,82,85,87,90 ⋆ Nearest integer to the França-Leclair approximation 2*Pi*(n - 11/8)/LambertW((n - 11/8)/exp(1)) of the Riemann zeta zeros. • a(n) = round(2 * Pi * (n - 11 / 8) / LambertW((n - 11 / 8) / exp(1))). • a(n) = round(2 * Pi * exp(1) * exp(LambertW((n - 11 / 8) / exp(1)))). - _ Mats Granvik _ , Feb 27 2017 • a(n) = round(2 * Pi * exp(1 + LambertW((8 * (n - 3 / 2) + 1) / (8 * e)))) after the formula in MathWorld. - _ Mats Granvik _ , Feb 25 2017 •

[A026048] • 15,21,28,39,52,68,88,111,140,173,211,255,304,361,424,494,572,657,752,855,967,1089,1220,1363,1516 ⋆ (d(n)-r(n))/5, where d = A026046 and r is the periodic sequence with fundamental period (1,0,4,0,0). • a(n)=(n + 6) * (n ^ 2 + 6 * n + 38) / 15 - 1 / 5 * (1 - 2 / 5 * 5 ^ (1 / 2) * cos(2 * n * Pi / 5) + 2 / 5 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2) * sin(2 * n * Pi / 5) + 2 / 5 * 5 ^ (1 / 2) * cos(4 * n * Pi / 5) - 2 / 5 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2) * sin(4 * n * Pi / 5)) [From _ Richard Choulet _ , Dec 14 2008] •

[A254365] • 15,21,35,69,155,381,995,2709,7595,21741,63155,185349,547835,1627101,4848515,14479989,43308875,129664461,388469075,1164358629,3490978715,10468741821,31397836835,94176733269,282496645355 ⋆ a(n) = 2^(n+2) + 3^n + 10. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Colin Barker _ , Jan 30 2015 •

[A242412] • 15,23,39,63,95,135,183,239,303,375,455,543,639,743,855,975,1103,1239,1383,1535,1695,1863,2039,2223,2415 ⋆ a(n) = normalized inverse radius of the inscribed circle that is tangent to the left circle of the symmetric arbelos and the n-th and (n-1)-st circles in the Pappus chain. • a(n) = 4 * n ^ 2 - 4 * n + 15. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: - x * (15 * x ^ 2 - 22 * x + 15) / (x - 1) ^ 3. - _ Colin Barker _ , May 14 2014 •

[A195036] • 0,15,23,53,69,114,138,198,230,305,345,435,483,588,644,764,828,963,1035,1185,1265,1430,1518,1698,1794 ⋆ Vertex number of a square spiral in which the length of the first two edges are the legs of the primitive Pythagorean triple [15, 8, 17]. The edges of the spiral have length A195035. • a(n) = (2 * n * (23 * n + 53) - (14 * n + 37) * (- 1) ^ n + 37) / 16. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). (End) •

[A079721] • 15,24,34,51,72,76,88,102,110,131,153,162,173,189,255,324,342,353,374,545,705,721,736,741,747 ⋆ Interemirp sequence: average of emirp pairs, analogous to interprimes. • a(n) = (x(n) + x(n + 1)) / 2 where x(n) is the n - th emirp number •

[A154150] • 1,15,24,94,145,551,848,3214,4945,18735,28824,109198,168001,636455,979184,3709534,5707105,21620751,33263448,126014974 ⋆ Indices n such that 24 plus the n-th triangular number is a perfect square. • a(n) = + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A167709] • 0,1,15,24,220,351,560,5124,8175,74801,119340,190399,1742145,2779476,25432120,40575249,64735100,592324176,945013665,8646845999,13795465320,22009743601,201388477695,321301866624,2939902207540 ⋆ Numbers y such that 19*y^2+81 is a square of integer. • a(n + 10) = 340 * a(n + 5) - a(n). • a(n + 5) = 170 * a(n) + 39 * sqrt(19 * a(n) ^ 2 + 81). •

[A032609] • 15,26,37,48,59,610,711,812,913,1014,1115,1216,1317,1418,1519,1620,1721,1822,1923,2024,2125,2226,2327,2428,2529 ⋆ Concatenation of n and n + 4 or {n,n+4}. • a(n)=n * 10 ^ floor(log10(n + 4) + 1) + n + 4, with n>= 1 [From _ Paolo P. Lava _ , Oct 09 2008] •

[A096022] • 15,27,39,51,75,87,99,111,135,147,159,171,195,207,219,231,255,267,279,291,315,327,339,351,375 ⋆ Numbers that are congruent to {15, 27, 39, 51} mod 60. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. • a(n) = 3 * (10 * n - 3 - i ^ (2 * n) - (1 - i) * i ^ (- n) - (1 + i) * i ^ n) / 2 where i=sqrt(- 1). (End) •

[A227804] • 15,27,48,85,150,264,464,815,1431,2512,4409,7738,13580,23832,41823,73395,128800,226029,396654,696080,1221536,2143647,3761839,6601568,11584945 ⋆ a(1) = greatest k such that H(k) - H(8) < H(8) - H(4); a(2) = greatest k such that H(k) - H(a(1)) < H(a(1)) - H(8), and for n > 2, a(n) = greatest k such that H(k) - H(a(n-1) > H(a(n-1)) - H(a(n-2)), where H = harmonic number. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + 2 * a(n - 3) - a(n - 4) (conjectured). •

[A213661] • 15,27,53,103,199,387,753,1467,2863,5595,10949,21455,42095,82691,162625,320179,631031,1244907,2458261,4858487,9610231,19024131,37687153,74710123,148198623 ⋆ Number of dominating subsets of the wheel graph W_n (n >= 4). • a(n) = a(n - 1) + a(n - 2) + a(n - 3) + 2 ^ (n - 4) (n >= 7); a(4) = 15, a(5)=27, a(6)=53. •

[A106499] • 15,28,40,45,66,77,84,91,104,120,126,144,153,170,187,190,198,209,220,228,231,260,273,276,286 ⋆ Ordered perimeter of primitive integer-sided triangle one of whose angles is twice another. • a(n)=s * (r + s), where r<s< 2r and (r, s)=1. •

[A014095] • 1,1,15,29,135,310,870,1830,3993,7535,14157,24427,41535,66812,105740,160956,241281,351405,504811,709225,984423,1342418,1811250,2408770,3173625 ⋆ Molien series for real extraspecial group 2^{1+2*3} of degree 8 and order 128 formed from tensor products of Pauli matrices (0,1, 1,0) and (1,0, 0,-1). • a(n) = n * (n + 1) * (n + 2) * (2 * n * (n + 2) * (2 * n ^ 2 + 4 * n - 1) - 735 * (- 1) ^ n + 915) / 10080. [_ Bruno Berselli _ , Jan 31 2013] • a(0)=1, a(1)=1, a(2)=15, a(3)=29, a(4)=135, a(5)=310, a(6)=870, a(7)=1830, a(8)=3993, a(9)=7535, a(10)=14157, a(11)=24427, a(n)=4 * a(n - 1) - 2 * a(n - 2) - 12 * a(n - 3) + 17 * a(n - 4) + 8 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) + 17 * a(n - 8) - 12 * a(n - 9) - 2 * a(n - 10) + 4 * a(n - 11) - a(n - 12). - _ Harvey P. Dale _ , Nov 13 2013 •

[A110286] • 15,30,60,120,240,480,960,1920,3840,7680,15360,30720,61440,122880,245760,491520,983040,1966080,3932160,7864320,15728640,31457280,62914560,125829120,251658240 ⋆ 15*2^n. • a(n)=2 * a(n - 1) (with a(0)=15). - _ Vincenzo Librandi _ , Dec 26 2010 •

[A125169] • 15,31,47,63,79,95,111,127,143,159,175,191,207,223,239,255,271,287,303,319,335,351,367,383,399 ⋆ 16n+15. • a(0)=15, a(1)=31, a(n)=2 * a(n - 1) - a(n - 2). - Harvey P. Dale, Jan 03 2012 •

[A249452] • 15,31,47,63,95,127,191,255,383,511,767,1023,1535,2047,3071,4095,6143,8191,12287,16383,24575,32767,49151,65535,98303 ⋆ Numbers n such that A249441(n) = 3. • a(n) has either form 2 ^ k - 1 or 3 * 2 ^ m - 1, k, m >= 4 (cf. A000225, A055010). Since, for •

[A132757] • 0,15,31,48,66,85,105,126,148,171,195,220,246,273,301,330,360,391,423,456,490,525,561,598,636 ⋆ a(n) = n(n+29)/2. • a(n) = n + a(n - 1) + 14 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) = 15n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A195046] • 0,1,15,31,60,91,135,181,240,301,375,451,540,631,735,841,960,1081,1215,1351,1500,1651,1815,1981,2160 ⋆ Concentric 15-gonal numbers. • a(n)

= 15 * n ^ 2 / 4 + 11 * ((- 1) ^ n - 1) / 8. • a(0)=0, a(1)=1, a(2)=15, a(3)=31, a(n)=2 * a(n - 1) - 2 * a(n - 3) + a(n - 4) [From Harvey P. Dale, Feb 23 2012] •

[A042853] • 1,1,15,31,449,480,29249,29729,445455,920639,13334401,14255040,868636801,882891841,13229122575,27341136991,396005040449,42334617744 0,25796775686849,26220121864289,392878481786895,811977085438079,11760557677920001,12572534763358080 ⋆ Denominators of continued fraction convergents to sqrt(957). • a(n) = 29698 * a(n - 6) - a(n - 12) for n>11. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A098848] • 0,15,32,51,72,95,120,147,176,207,240,275,312,351,392,435,480,527,576,627,680,735,792,851,912 ⋆ a(n) = n*(n + 14). • a(n) = (n + 7) ^ 2 - 7 ^ 2 = n * (n + 14), n>=0. • a(n) = 2 * n + a(n - 1) + 13 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 16 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A199743] • 15,32,96,960,5280,640320 ⋆ Numbers which are very close to exp(Pi*sqrt(h)-744)^(1/3) where h is A003173(n+4) (Heegner numbers of the form 4p-1 where p is prime). • a(n) for n=3,4,5,6 could be expressed as the solutions of: k=floor(exp(Pi / 3 * sqrt(19 + 24 * (4 ^ (n - 4) * Pochhammer[1 / 2,n - 4]) / Pochhammer[1,n - 4]))), { n=3,4,5,6 } . - _ Alexander R. Povolotsky _ , Jul 21 2014 •

[A228318] • 15,33,59,93,135,185,243,309,383,465,555,653,759,873,995,1125,1263,1409,1563,1725,1895,2073,2259,2453,2655 ⋆ The Wiener index of the graph obtained by applying Mycielski's construction to the star graph K(1,n). • a(n) = 4n ^ 2 + 6n + 5. •

[A228321] • 15,33,62,103,156,221,298,387,488,601,726,863,1012,1173,1346,1531,1728,1937,2158,2391,2636,2893,3162,3443,3736 ⋆ The Wiener index of the graph obtained by applying Mycielski's construction to the path graph on n vertices (n>=2). • a(2)=15; a(n) = 6n ^ 2 - 13n + 18 (n>=3). •

[A277385] • 15,33,65,105,153,209,273,345,425,513,609,713,825,945,1073,1209,1353,1505,1665,1833,2009,2193,2385,2585,2793 ⋆ Records in A277384. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. • a(n) = 4 * n ^ 2 + 12 * n - 7 for n>1. •

[A139578] • 0,15,34,57,84,115,150,189,232,279,330,385,444,507,574,645,720,799,882,969,1060,1155,1254,1357,1464 ⋆ a(n) = n(2n+13). • a(n) = 2 * n ^ 2 + 13 * n. • a(n) = a(n - 1) + 4 * n + 11 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 24 2010 •

[A254031] • 15,35,105,371,1449,6035,26265,117971,542409,2538515,12044025,57756371,279305769,1359736595,6654800985,32708239571,161307227529,797687136275,3953299529145,19626731023571,97576919443689,485664640673555 ⋆ a(n) = 1*5^n + 2*4^n + 3*3^n + 4*2^n + 5*1^n. • a(n) = (x + 1) * (Bernoulli(n + 1, x + 1) - Bernoulli(n + 1, 1)) / (n + 1) - (Bernoulli(n + 2, x + 1) - Bernoulli(n + 2, 1)) / (n + 2) at x = 5. • a(n) = 1 / 4! * Sum _{ k = 0..n } (- 1) ^ (k + n) * (k + 6)! * Stirling2(n,k) / •

[A067707] • 15,36,63,96,135,180,231,288,351,420,495,576,663,756,855,960,1071,1188,1311,1440,1575,1716,1863,2016,2175 ⋆ a(n) = 3*n^2 + 12*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[A166146] • 1,15,36,64,99,141,190,246,309,379,456,540,631,729,834,946,1065,1191,1324,1464,1611,1765,1926,2094,2269 ⋆ a(n) = (7*n^2 + 7*n - 12)/2. • a(n) = a(n - 1) + 7n, a(1)=1. • a(n) = - 6 + (7 / 2) * n ^ 2 + (7 / 2) * n, a(1)=1. - _ Paolo P. Lava _ , Nov 10 2009 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(1)=1, a(2)=15, a(3)=36. •

[A293156] • 15,36,99,292,876,2628,7884,23652,70956,212868,638604,1915812,5747436,17242308,51726924,155180772,465542316,1396626948,4189880844,12569642532,37708927596,113126782788,339380348364,1018141045092,3054423135276 ⋆ Number of linear chord diagrams with n+2 chords such that every chord has length at least n. • a(n) = 292 * 3 ^ (n - 4) for n>3. • a(n) = 3 * a(n - 1) for n>4. •

[A082112] • 1,15,37,67,105,151,205,267,337,415,501,595,697,807,925,1051,1185,1327,1477,1635,1801,1975,2157,2347,2545 ⋆ a(n) = 4n^2 + 10n + 1. • a(n) = 8 * n + a(n - 1) + 6 (with a(0)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A055131] • 15,39,51,87,111,123,159,183,219,267,291,303,327,339,411,447,471,519,543,579,591,687,699,723,771 ⋆ Those composite s for which A055095[s] = 2. • a(n) = 3 * ((4 * A005098[n]) + 1) = 3 * A002144[n] ??? (Conjecture, not yet proved) •

[A126950] • 1,15,39,89,161,271,415,609,849,1151,1511,1945,2449,3039,3711,4481,5345,6319,7399,8601,9921,11375,12959,14689,16561 ⋆ a(1) = 1; for n>1, a(n) = the smallest number p > a(n-1) such that (a(n-1)+p)/2 is a cube. • a(n) = ((2 * n + 1) * (2 * n ^ 2 + 2 * n - 1) + 5 * (- 1) ^ n) / 4; a(n) = a(n - 1) + 2n ^ 3; G.f. = (1 - 2 * x + 14 * x ^ 2 - 2 * x ^ 3 + x ^ 4) / ((1 + x)(1 - x) ^ 4). •

[A067724] • 15,40,75,120,175,240,315,400,495,600,715,840,975,1120,1275,1440,1615,1800,1995,2200,2415,2640,2875,3120,3375 ⋆ a(n) = 5*n^2 + 10*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 •

[A005337] • 15,40,76,124,185,260,350,456,579,720,880,1060,1261,1484,1730,2000,2295,2616,2964,3340,3745,4180,4646,5144,5675 ⋆ Number of ways in which n identical balls can be distributed among 4 boxes in a row such that each pair of adjacent boxes contains at least 4 balls. • a(n) = (546 - 169 * n + 6 * n ^ 2 + n ^ 3) / 6. [_ Colin Barker _ , Jul 08 2012] •

[A239325] • 1,15,41,79,129,191,265,351,449,559,681,815,961,1119,1289,1471,1665,1871,2089,2319,2561,2815,3081,3359,3649 ⋆ a(n) = 6*n^2 + 8*n + 1. • a(0) = 1, a(1) = 15, a(2) = 41; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(n) = C(n,0) + 14 * C(n,1) + 12 * C(n,2). •

[A154267] • 15,42,69,96,123,150,177,204,231,258,285,312,339,366,393,420,447,474,501,528,555,582,609,636,663 ⋆ a(n) = 27*n + 15. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 02 2012 •

[A051867] • 0,1,15,42,82,135,201,280,372,477,595,726,870,1027,1197,1380,1576,1785,2007,2242,2490,2751,3025,3312,3612 ⋆ 15-gonal (or pentadecagonal) numbers: n(13n-11)/2. • a(n) = 13 * n + a(n - 1) - 12 (with a(0)=0) - _ Vincenzo Librandi _ , Aug 06 2010 • a(0)=0, a(1)=1, a(2)=15, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 29 2012 • a(13 * a(n) + 79 * n + 1) = a(13 * a(n) + 79 * n) + a(13 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069127] • 1,15,43,85,141,211,295,393,505,631,771,925,1093,1275,1471,1681,1905,2143,2395,2661,2941,3235,3543,3865,4201 ⋆ Centered 14-gonal numbers. • a(n) = 7 * n ^ 2 - 7 * n + 1. • a(n) = 14 * n + a(n - 1) - 14 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A173873] • 1,15,43,99,211,435,883,1779,3571,7155,14323,28659,57331,114675,229363,458739,917491,1834995,3670003,7340019,14680051,29360115,58720243,117440499,234881011 ⋆ a(n)=2*a(n-1)+13 (with a(1)=1) • a(n) = 3 * a(n - 1) - 2 * a(n - 2). - Vincenzo Librandi _ , Jul 15 2012 •

[A133343] • 1,1,15,43,281,1121,5895,26363,129361,601441,2884575,13587883,64675241,305992961,1452764055,6883436603,32652805921,154790287681,73406705233 5,3480407844523,16503687369401,78252676717601 ⋆ a(n)=2a(n-1)+13a(n-2) for n>1, a(0)=1, a(1)=1 . • a(n)=(1 / 2) * [1 - sqrt(14)] ^ n + (1 / 2) * [1 + sqrt(14)] ^ n, n>=0 - _ Paolo P. Lava _ , Jun 10 2008 •

[A292018] • 1,15,44,88,147,221,310,414,533,667,816,980,1159,1353,1562,1786,2025,2279,2548,2832,3131,3445,3774,4118,4477 ⋆ Wiener index for the n-Andrasfai graph. • a(n) = (5 * n - 4) * (3 * n - 1) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A194715] • 0,15,45,90,150,225,315,420,540,675,825,990,1170,1365,1575,1800,2040,2295,2565,2850,3150,3465,3795,4140,4500 ⋆ 15 times triangular numbers. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. • a(n) = Sum _{ i=7n..8n } i. (End) •

[A014634] • 1,15,45,91,153,231,325,435,561,703,861,1035,1225,1431,1653,1891,2145,2415,2701,3003,3321,3655,4005,4371,4753 ⋆ a(n) = (2*n+1)*(4*n+1). • a(n) = a(n - 1) + 16 * n - 2 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 20 2010 •

[A139278] • 0,15,46,93,156,235,330,441,568,711,870,1045,1236,1443,1666,1905,2160,2431,2718,3021,3340,3675,4026,4393,4776 ⋆ a(n) = n*(8*n+7). • a(n) = 8 * n ^ 2 + 7 * n. • a(n) = 16 * n + a(n - 1) - 1 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A166118] • 15,47,111,239,495,1007,2031,4079,8175,16367,32751,65519,131055,262127,524271,1048559,2097135,4194287,8388591,16777199,33554415,67108847,134217711,268435439,536870895 ⋆ Fixed points of the mapping f(x) = (x + 2^x) mod (17 + x). • a(n) = 2 * a(n - 1) + 17, a(1) = 15. • a(n) = 16 * 2 ^ n - 17. • a(n) = 3 * a(n - 1) - 2 * a(n - 2), a(1)=15, a(2)=47. •

[A065906] • 15,48,55,197,206,221,235,283,297,408,444,472,489,577,578,623,641,677,701,703,763,854,930,1049,1081 ⋆ Integers i > 1 for which there are three primes p such that i is a solution mod p of x^4 = 2. • a(n) = n - th integer i s uch that i ^ 4 - 2 has three prime factors > i. •

[A272039] • 1,15,49,103,177,271,385,519,673,847,1041,1255,1489,1743,2017,2311,2625,2959,3313,3687,4081,4495,4929,5383,5857 ⋆ a(n) = 10*n^2 + 4*n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A199899] • 15,49,111,209,351,545,799,1121,1519,2001,2575,3249,4031,4929,5951,7105,8399,9841,11439,13201,15135,17249,19551,22049,24751 ⋆ Number of -n..n arrays x(0..3) of 4 elements with zero sum, and adjacent elements not both strictly positive and not both strictly negative. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A193608] • 15,52,125,246,427,680,1017,1450,1991,2652,3445,4382,5475,6736,8177,9810,11647,13700,15981,18502,21275,24312,27625,31226,35127 ⋆ The consecutive squares of numbers multiplied by their next consecutive integer. • a(n) = (n + 2) * (n ^ 2 + (n + 1) ^ 2). •

[A063436] • 0,15,54,117,204,315,450,609,792,999,1230,1485,1764,2067,2394,2745,3120,3519,3942,4389,4860,5355,5874,6417,6984 ⋆ Write 1,2,3,4,... counterclockwise in a hexagonal spiral around 0 starting left down, then a(n) is the sequence found by reading from 0 in the vertical upward direction. • a(n) = 24 * n + a(n - 1) - 9 (with a(0)=0). [_ Vincenzo Librandi _ , Aug 07 2010] • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: 3 * x * (5 + 3 * x) / (1 - x) ^ 3. [_ Colin Barker _ , Jul 07 2012] •

[A172073] • 0,1,15,54,130,255,441,700,1044,1485,2035,2706,3510,4459,5565,6840,8296,9945,11799,13870,16170,18711,21505,24564,27900 ⋆ a(n) = (4*n^3 + n^2 - 3*n)/2. • a(n) = n * (n + 1) * (4 * n - 3) / 2. • a(0)=0, a(1)=1, a(2)=15, a(3)=54; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 29 2013 • a(n) = Sum _{ i=0..n - 1 } (n - i) * (12 * i + 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 •

[A059145] • 15,54,141,324,699,1458,2985,6048,12183,24462,49029,98172,196467,393066,786273 ⋆ A hierarchical sequence (S(W3{2,2}*cc) - see A059126). • a(n) = 3 * (- 11 + 2 ^ (4 + n) - 3 * n). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. •

[A179741] • 1,15,55,119,207,319,455,615,799,1007,1239,1495,1775,2079,2407,2759,3135,3535,3959,4407,4879,5375,5895,6439,7007 ⋆ a(n) = (2*n+1)*(6*n-1). • a(n) = a(n - 1) + 24 * n + 16. • a(n) = 2 * a(n - 1) - a(n - 2) + 16. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A144312] • 0,15,55,120,210,325,465,630,820,1035,1275,1540,1830,2145,2485,2850,3240,3655,4095,4560,5050,5565,6105,6670,7260 ⋆ 5*n*(5*n+1)/2. • a(n)= a(n - 1) + 25 * n - 10 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 25 2010 •

[**A062025**] ● 0,1,15,55,134,265,461,735,1100,1569,2155,2871,3730,4745,5929,7295,8856,10625,12615,14839,17310,20041,23045,26335,29924 ★ a(n) = n*(13*n^2 - 7)/6. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[**A228322**] ● 15,56,232,1008,4432,19328,82944,349952,1454848,5978112,24352768,98594816,397479936,1597865984,6411452416,25695289344,102901940224,411899002880,1648290693120,6594803793920,26383058206720,105541162500096,422185252421632 ★ The Wiener index of the graph obtained by applying Mycielski's construction to the hypercube graph Q(n) (n>=1). ● a(n) = 6 * 2 ^{ 2 * n } - 2 ^{ n - 2 }* (4 + 12 * n + n ^ 2 + n ^ 3). ●

[**A158482**] ● 15,57,127,225,351,505,687,897,1135,1401,1695,2017,2367,2745,3151,3585,4047,4537,5055,5601,6175,6777,7407,8065,8751 ★ 14n^2 + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A022287**] ● 0,15,59,132,234,365,525,714,932,1179,1455,1760,2094,2457,2849,3270,3720,4199,4707,5244,5810,6405,7029,7682,8364 ★ a(n) = n*(29*n + 1)/2. ● a(n) = 29 * n + a(n - 1) - 14 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ●

[**A064761**] ● 0,15,60,135,240,375,540,735,960,1215,1500,1815,2160,2535,2940,3375,3840,4335,4860,5415,6000,6615,7260,7935,8640 ★ a(n) = 15*n^2. ● a(n) = a(n - 1) + 30 * n - 15 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Dec 15 2010 ●

[**A005945**] ● 0,1,15,60,154,315,561,910,1380,1989,2755,3696,4830,6175,7749,9570,11656,14025,16695,19684,23010,26691,30745,35190,40044 ★ Number of n-step mappings with 4 inputs. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 18 2012 ●

[**A022288**] ● 0,15,61,138,246,385,555,756,988,1251,1545,1870,2226,2613,3031,3480,3960,4471,5013,5586,6190,6825,7491,8188,8916 ★ a(n) = n*(31*n-1)/2. ● a(n) = 31 * n + a(n - 1) - 16 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ● a(0)=0, a(1)=15, a(2)=61; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 31 2014 ●

[**A072201**] ● 15,61,245,981,3925,15701,62805,251221,1004885,4019541,16078165,64312661,257250645,1029002581,4116010325,16464041301,65856165205,263424660821,1053698643285,4214794573141,16859178292565 ★ a(n) = 4*a(n-1) + 1, a(1) = 15. ● a(n) = (23 * 4 ^ n - 2) / 6. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2). ●

[**A157446**] ● 15,62,141,252,395,570,777,1016,1287,1590,1925,2292,2691,3122,3585,4080,4607,5166,5757,6380,7035,7722,8441,9192,9975 ★ 16n^2 - n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 ●

[**A220084**] ● 1,15,62,162,335,601,980,1492,2157,2995,4026,5270,6747,8477,10480,12776,15385,18327,21622,25290,29351,33825,38732,44092,49925 ★ a(n) = (n + 1)*(20*n^2 + 19*n + 6)/6. ● a(0)=1, a(1)=15, a(2)=62, a(3)=162; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 23 2012 ●

[**A104473**] ● 15,63,168,360,675,1155,1848,2808,4095,5775,7920,10608,13923,17955,22800,28560,35343,43263,52440,63000,75075,88803,104328,121800,141375 ★ a(n) = binomial(n+2,2)*binomial(n+6,2). ● a(n) = (1 / 4) * (n + 1) * (n + 2) * (n + 5) * (n + 6). ● a(n) = Sum _{ i=1..n + 1 } i * (i + 2) * (i + 4). [_ Bruno Berselli _ , Apr 28 2014] ●

[**A005917**] ● 1,15,65,175,369,671,1105,1695,2465,3439,4641,6095,7825,9855,12209,14911,17985,21455,25345,29679,34481,39775,45585,51935,58849 ★ Rhombic dodecahedral numbers: n^4 - (n-1)^4. ● a(n) = (2 * n - 1) * (2 * n ^ 2 - 2 * n + 1). ● a(n) = sum of the next (2 * n - 1) odd numbers; i.e., group the odd numbers so that the n - th group contains (2 * n - 1) elements like this: (1), (3, 5, 7), (9, 11, 13, 15, 17), (19, 21, 23, 25, 27, 29, 31), ... E.g., a(3)=65 because 9 + 11 + 13 + 15 + 17 = 65. - Xavier Acloque Oct 11 2003 ● a(n) = 2 * n - 1 + 12 * Sum _{ i = 1..n } (i - 1) ^ 2. - Xavier Acloque Oct 16 2003 ● a(n) = (4 * binomial(n, 2) + 1) * sqrt(8 * binomial(n, 2) + 1). - _ Paul Barry _ , Mar 14 2004 ●

[**A152729**] ● 0,0,1,15,65,176,384,736,1281,2079,3201,4720,6720,9296,12545,16575,21505,27456,34560,42960,52801,64239,77441,92576,109824 ★ a(n)+a(n+1)+a(n+2)=n^4. ● a(n)= - (1 / 3) + (4 / 3) * (n - 1) ^ 3 + (2 / 3) * (n - 1) ^ 2 - (4 / 3) * (n - 1) - [(1 / 6) * I] * sqrt(3) * [- (1 / 2) + (1 / 2) * I * sqrt(3)] ^ (n - 1) + (1 / 6) * [- (1 / 2) - (1 / 2) * I * sqrt(3)] ^ (n - 1) + (1 / 3) * (n - 1) ^ 4 + (1 / 6) * [- (1 / 2) + (1 / 2) * I * sqrt(3)] ^ (n - 1) + (1 / 6) * I * sqrt(3) * [- (1 / 2) - (1 / 2) * I * sqrt(3)] ^ (n - 1) with n>=0 and I=sqrt(- 1). - _ Paolo P. Lava _ , Dec 19 2008 ●

[**A062392**] ● 0,1,15,66,190,435,861,1540,2556,4005,5995,8646,12090,16471,21945,28680,36856,46665,58311,72010,87990,106491,127765,152076,179700 ★ a(n) = n^4 - (n-1)^4 + (n-2)^4 - ... 0^4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. - _ Harvey P. Dale _ , Oct 19 2011 ●

[**A085474**] ● 1,15,69,195,425,791,1325,2059,3025,4255,5781,7635,9849,12455,15485,18971,22945,27439,32485,38115,44361,51255,58829,67115,76145 ★ C(2*n+4,4)/C(2*n,4). ● a(n) = (16 * n ^ 3 + 12 * n ^ 2 + 14 * n + 3) / 3. ●

[**A253476**] ● 1,15,70,1596,7645,175491,840826,19302360,92483161,2123084055,10172306830,233519943636,1118861268085,25685070715851,123064567182466,2825124258799920,13535983528803121,310737983397275295,1488835123601160790,34178353049441482476 ★ Indices of centered triangular numbers (A005448) which are also centered heptagonal numbers (A069099). ● a(n) = a(n - 1) + 110 * a(n - 2) - 110 * a(n - 3) - a(n - 4) + a(n - 5). ●

[**A126274**] ● 1,15,72,220,525,1071,1960,3312,5265,7975,11616,16380,22477,30135,39600,51136,65025,81567,101080,123900,150381,180895,215832,255600,300625 ★ Partial sum of hexagonal prism numbers (A005915). ● a(n) = sum(i=0..n, (i + 1) * (3 * i ^ 2 + 3 * i + 1)) = (3 * n ^ 4 + 6 * n ^ 3 + 3 * n ^ 2) / 4 + 2 * n ^ 3 + 5 * n ^ 2 + 4 * n + 1. ● a(n) = (1 / 4) * (n + 1) ^ 2 * (n + 2) * (3 * n + 2). - _ N - E. Fahssi _ , May 03 2008 ● a(n) = sum _{ i=1..n } sum _{ j=1..n } sum _{ k=1..n } max(i,j,k). - _ Enrique Pérez Herrero _ , Feb 26 2013 ●

[**A212562**] ● 0,1,15,73,228,551,1137,2097,3568,5701,8675,12681,17940,24683,33173,43681,56512,71977,90423,112201,137700,167311,201465,240593,285168 ★ Number of (w,x,y,z) with all terms in {1,...,n} and w+x<2y+2z. ● a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). ● a(n) = 1 / 96 * (82 * n ^ 4 + 12 * n ^ 3 + 8 * n ^ 2 + 6 * ((- 1) ^ n - 1) * n - 3 * (- 1) ^ n + 3). ●

[**A022817**] ● 1,15,74,237,599,1301,2541,4586,7785,12583,19536,29327,42783,60893,84827,115956,155873,206415,269686,348081,444311,561429,702857,872414,1074345 ★ Number of terms in 7th derivative of a function composed with itself n times. ● a(n) = n / 720 * (n ^ 5 + 39 * n ^ 4 + 355 * n ^ 3 + 645 * n ^ 2 - 356 * n + 36). ●

[**A135916**] ● 0,0,15,75,222,510,1005,1785,2940,4572,6795,9735,13530,18330,24297,31605,40440,51000,63495,78147,95190,114870,137445,163185,192372 ★ (n^4 - 10*n^2 + 15*n - 6)/2. ● a(1)=0, a(2)=0, a(3)=15, a(4)=75, a(5)=222, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 12 2013 ●

[**A266395**] ● 0,0,0,0,15,75,225,525,1050,1890,3150,4950,7425,10725,15015,20475,27300,35700,45900,58140,72675,89775,109725,132825,159390 ★ Number of orbits of Aut(Z^7) as function of the infinity norm n of the representative lattice point of the orbit, when the cardinality of the orbit is equal to 161280. ● a(n) = 5 * (n - 1) * (n - 2) * (n - 3) * (n - 4) / 8. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. ●

[**A051880**] ● 1,15,75,245,630,1386,2730,4950,8415,13585,21021,31395,45500,64260,88740,120156,159885,209475,270655,345345,435666,543950,672750,824850,1003275 ★ a(n) = binomial(n+4,4)*(2*n+1). ● a(n) = C(n + 4, 4) * (2n + 1). ●

[**A000477**] ● 0,1,15,76,275,720,1666,3440,6129,11250,17545,28896,41405,65072,85950,128960,162996,238545,286995,404600,482160,662112,756470,1042560,1150625 ★ a(n) = Sum_{k=1..n-1} k^2*sigma(k)*sigma(n-k). ● a(n) = Sum _{ k=1..n - 1 } k ^ 2 * sigma(k) * sigma(n - k). - _ Sean A. Irvine _ , Nov 14 2010 ●

[**A041430**] ● 15,76,2295,11551,348825,1755676,53019105,266851201,8058555135,40559626876,1224847361415,6164796433951,186168740379945,937008498333676,28296423690390225,142419126950284801,4300870232198934255 ★ Numerators of continued fraction convergents to sqrt(231). ● a(n) = 152 * a(n - 2) - a(n - 4). G.f.: - (x ^ 3 - 15 * x ^ 2 - 76 * x - 15) / (x ^ 4 - 152 * x ^ 2 + 1). [_ Colin Barker _ , Jul 15 2012] ●

[**A257925**] ● 1,15,77,247,609,1271,2365,4047,6497,9919,14541,20615,28417,38247,50429,65311,83265,104687,129997,159639,194081,233815,279357,331247,390049 ★ a(n) = (n^2 - n + 1)*(n^2 + n - 1). ● a(n) = (n ^ 2 - n + 1) * (n ^ 2 + n - 1). ●

[**A180579**] ● 15,78,189,348,555,810,1113,1464,1863,2310,2805,3348,3939,4578,5265,6000,6783,7614,8493,9420,10395,11418,12489,13608,14775 ★ The Wiener index of the Dutch windmill graph D(5,n) (n>=1). The Dutch windmill graph D(m,n) (also called friendship graph) is the graph obtained by taking n copies of the cycle graph C_m with a vertex in common (i.e., a bouquet of n C_m graphs). The Wiener index of a connected graph is the sum of distances between all unordered pairs of vertices in the graph. ● a(n) = 3n(8n - 3). ●

[**A081591**] ● 1,15,78,190,351,561,820,1128,1485,1891,2346,2850,3403,4005,4656,5356,6105,6903,7750,8646,9591,10585,11628,12720,13861 ★ Third row of Pascal-(1,6,1) array A081581. ● a(n) = (2 - 21 * n + 49 * n ^ 2) / 2. ● a(0)=1, a(1)=15, a(2)=78, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) – From _ Harvey P. Dale _ , Aug 03 2012 ●

[**A212746**] ● 1,15,79,225,529,975,1711,2625,3985,5535,7711,10065,13249,16575,20959,25425,31201,36975,44335,51585,60721,69615,80719,91425,104689 ★ Number of (w,x,y,z) with all terms in {0,...,n} and at least one of them is the range of {w,x,y,z}. ● a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 5) + 3 * a(n - 6) + a(n - 7) - a(n - 8). ● a(n) = (3 * n * (10 * n ^ 2 + n + (- 1) ^ n * (n - 1) + 9) + 2 * ((- 1) ^ n + 1)) / 4. ● a(n) = (15 * n ^ 3 + 3 * n ^ 2 + 12 * n + 2) / 2 for n even. ● a(n) = (15 * n ^ 3 + 15 * n) / 2 for n odd. ●

[**A212741**] ● 1,15,79,239,593,1199,2239,3759,6049,9119,13391,18815,25969,34719,45823,59039,75329,94319,117199,143439,174481,209615,250559,296399,349153 ★ Number of (w,x,y,z) with all terms in {0,...,n} and max{w,x,y,z}>=2*min{w,x,y,z}. ● a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8). ●

[**A082540**] ● 1,15,79,239,607,1199,2303,3823,6223,9279,13919,19183,27007,35743,47519,60735,78719,97103,122447,148527,181839,216959,262543,306863,365343 ★ Number of ordered quadruples (a,b,c,d) with gcd(a,b,c,d)=1 (1<= {a,b,c,d} <= n.). ● a(n)=sum(k=1, n, mu(k) * floor(n / k) ^ 4); a(n) is asymptotic to c * n ^ 4 with c=0.92393.... ●

[**A180577**] ● 15,80,195,360,575,840,1155,1520,1935,2400,2915,3480,4095,4760,5475,6240,7055,7920,8835,9800,10815,11880,12995,14160,15375 ★ The Wiener index of the windmill graph D(6,n). The windmill graph D(m,n) is the graph obtained by taking n copies of the complete graph K_m with a vertex in common (i.e., a bouquet of n pieces of K_m graphs). ● a(n) = 5n(5n - 2). ●

[**A059377**] ● 1,15,80,240,624,1200,2400,3840,6480,9360,14640,19200,28560,36000,49920,61440,83520,97200,130320,149760,192000,219600,279840,307200,390000 ★ Jordan function J_4(n). ● a(n) = sum(d|n, d ^ 4 * mu(n / d)). - _ Benoit Cloitre _ , Apr 05 2002 ● a(n) = Sum _{ k=1..n } GCD(k,n) ^ 4 * Cos(2 * Pi * k / n). - _ Enrique Pérez Herrero _ , Jan 18 2013 ● a(n) = n ^ 4 * Prod

uct _{ distinct primes p dividing n } (1 - 1 / p ^ 4). - _ Tom Edgar _ , Jan 09 2015 •

[A266288] • 1,15,81,241,624,1215,2402,3855,6561,9360,14640,19521,28562,36030,50544,61681,83520,98415,130322,150384,194562,219600,279840,312255,390001 ⋆ Expansion of a(q)^2 * (c(q)/3)^3 in powers of q where a(), c() are cubic AGM theta functions. • a(n) is multiplicative with a(p ^ e) = ((p ^ 4) ^ (e + 1) - s ^ (e + 1)) / (p ^ 4 - s) where s = 0 if p = 3, s = 1 if p == 1 (mod 3), s = - 1 if p == 2 (mod 3). •

[A213552] • 1,15,81,281,756,1722,3486,6462,11187,18337,28743,43407,63518,90468,125868,171564,229653,302499,392749,503349,637560,798974,991530,1219530,1487655 ⋆ Principal diagonal of the convolution array A213551. • a(n) = n * (1 + n) * (2 + n)(- 3 + 7 * n + 16 * n ^ 2) / 120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A279395] • 1,15,82,271,626,1230,2402,4367,6643,9390,14642,22222,28562,36030,51332,69903,83522,99645,130322,169646,196964,219630,279842,358094,391251 ⋆ a(n) = Sum_{ d >= 1, d divides n} (-1)^(n-d)*d^4. • a(n) = Sum _{ d >= 1, d divides n } (- 1) ^ (n - d) * d ^ 4. •

[A050405] • 1,15,84,308,882,2142,4620,9108,16731,29029,48048,76440,117572,175644,255816,364344,508725,697851,942172,1253868,1647030,2137850,2744820,3488940,4393935 ⋆ Partial sums of A051879. • a(n)=C(n + 5, 5) * (3n + 2) / 2. •

[A160747] • 1,15,85,295,771,1681,3235,5685,9325,14491,21561,30955,43135,58605,77911,101641,130425,164935,205885,254031,310171,375145,449835,535165,632101 ⋆ Expansion of (1+10*x+20*x^2+10*x^3+x^4)/(1-x)^5. • a(n) = 1 + 7 * n * (n + 1) * (n ^ 2 + n + 2) / 4. [_ R. J. Mathar _ , Dec 16 2009] •

[A064058] • 1,15,85,320,951,2415,5475,11385,22110,40612,71214,120055,195650,309570,477258,718998,1061055,1537005,2189275,3070914,4247617,5800025,7826325,10445175,13798980 ⋆ Ninth column of quintinomial coefficients. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) with a(0)=1, a(1)=15, a(2)=85, a(3)=320, a(4)=951, a(5)=2415, a(6)=5475, a(7)=11385, a(8)=22110. [From Harvey P. Dale, Oct 30 2011] • a(n) = C(n + 2,2) + 12 * C(n + 2,3) + 31 * C(n + 2,4) + 35 * C(n + 2,5) + 21 * C(n + 2,6) + 7 * C(n + 2,7) + C(n + 2,8) (see comment in A213887). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 •

[A138322] • 1,15,85,575,3725,24375,159125,1039375,6788125,44334375,289553125,1891109375,12351078125,80666484375,526843203125,3440880859375,22472836328125,146772990234375,958593314453125,6260696474609375 ⋆ a(n) = 5*a(n-1) + 10*a(n-2). • a(n), n>1 = 5 * a(n - 1) + 10 * a(n - 2), given a(0) = 1, a(1) = 15. [a(n), a(n + 1)] = the 2 X 2 matrix [0,1; 10,5] ^ n * [1,15] • a(n)=5 / 26 * sqrt(65) * (5 / 2 + 1 / 2 * sqrt(65)) ^ n + 1 / 2 * (5 / 2 - 1 / 2 * sqrt(65)) ^ n - 5 / 26 * (5 / 2 - 1 / 2 * sqrt(65)) ^ n * sqrt(65) + 1 / 2 * (5 / 2 + 1 / 2 * sqrt(65)) ^ n, where n>=0 - _ Paolo P. Lava _ , Jun 03 2008 •

[A164541] • 1,15,89,519,3025,17631,102761,598935,3490849,20346159,118586105,691170471,4028436721,23479449855,136848262409,797610124599,4648812485185,27095264786511,157922776233881,920441392616775 ⋆ a(n) = 6*a(n-1) - a(n-2) for n > 1; a(0) = 1, a(1) = 15. • a(n) = 6 * a(n - 1) - a(n - 2) for n > 1; a(0) = 1, a(1) = 15. • a(n) = ((1 + 3 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (1 - 3 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n) / 2. •

[A151974] • 0,15,90,315,840,1890,3780,6930,11880,19305,30030,45045,65520,92820,128520,174420,232560,305235,395010,504735,637560,796950,986700,1210950,1474200 ⋆ a(n) = n*(n+1)*(n+2)*(n+3)*(n+4)/8. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) / 8. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Eric W. Weisstein _ , Aug 14 2017 •

[A001297] • 0,1,15,90,350,1050,2646,5880,11880,22275,39325,66066,106470,165620,249900,367200,527136,741285,1023435,1389850,1859550,2454606,3200450,4126200,5265000 ⋆ Stirling numbers of the second kind S(n+3, n). • a(n) = (binomial(n + 4, n - 1) - binomial(n + 3, n - 2)) * (binomial(n + 2, n - 1) - binomial(n + 1, n - 2)). - _ Zerinvary Lajos _ , May 12 2006 • a(n) = binomial(n + 1, 2) * binomial(n + 3, 4). - _ Vladimir Shevelev _ , Dec 18 2011 • a(n) = Sum _{ k=1..n } Sum _{ i=1..n } i * C(k + 2,k - 1). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A005716] • 1,15,90,357,1107,2907,6765,14355,28314,52624,93093,157950,258570,410346,633726,955434,1409895,2040885,2903428,4065963,5612805,7646925,10293075,13701285,18050760 ⋆ Coefficient of x^8 in expansion of (1+x+x^2)^n • a(n) = binomial(n + 1, 5) * (n ^ 2 + 23 * n - 84) * (n + 10) / 336, n >= 4. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). _ Vincenzo Librandi _ , Jun 16 2012 • a(n) = binomial(n,4) + 10 * binomial(n,5) + 15 * binomial(n,6) + 7 * binomial(n,7) + binomial(n,8) (see our comment in A026729). - _ Vladimir Shevelev _ and _ Peter J. C. Moses _ , Jun 22 2012 • a(n) = GegenbauerC(N, - n, - 1 / 2) where N = 8 if 8<n else 2 * n - 8. - _ Peter Luschny _ , May 10 2016 •

[A292055] • 0,1,15,90,435,1926,8175,33930,139035,565326,2287335,9224370,37116435,149110326,598350495,2399080410,9613258635,38503648926,154166045655,617117746050,2469830101635,9883394613126,39545794780815,158219815525290,632989146141435 ⋆ Wiener index of the n-Mycielski graph. • a(n) = (216 - 27 * 2 ^ (n + 3) - 56 * 3 ^ n + 81 * 4 ^ n) / 144 for n > 1. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). •

[A237516] • 1,15,91,325,861,1891,3655,6441,10585,16471,24531,35245,49141,66795,88831,115921,148785,188191,234955,289941,354061,428275,513591,611065,721801 ⋆ Pyramidal centered square numbers. • a(n) = 2n ^ 4 - 4n ^ 3 + 5n ^ 2 - 3n + 1. • a(n) = Sum _{ i = 1..(2n(n + 1) + 1) } i. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Colin Barker _ , Jan 17 2015 •

[A052226] • 1,15,92,372,1170,3102,7260,15444,30459,56485,99528,167960,273156,430236,658920,984504,1438965,2062203,2903428,4022700,5492630,7400250,9849060,12961260,16880175 ⋆ Partial sums of A050404. • a(n) = (8n + 7) * C(n + 6, 6) / 7. •

[A289705] • 0,0,15,96,330,855,1866,3624,6468,10818,17193,26208,38598,55209,77028,105168,140904,185652,241011,308736,390786,489291,606606,745272,908076 ⋆ Number of 4-cycles in the n-triangular honeycomb queen graph. • a(n) = (24 * n ^ 5 + 170 * n ^ 4 - 660 * n ^ 3 + 160 * n ^ 2 + 606 * n - 165 + (- 1) ^ n * (165 - 30 * n)) / 320. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 4 * a(n - 3) + 10 * a(n - 4) - 4 * a(n - 5) - 4 * a(n - 6) + 4 * a(n - 7) - a(n - 8). •

[A000973] • 1,15,99,429,1430,3978,9690,21318,43263,82225,148005,254475,420732,672452,1043460,1577532,2330445,3372291,4790071,6690585,9203634,12485550,16723070,22137570,28989675 ⋆ Fermat coefficients. • a(n) = binomial(2 * n - 8, 7) / 8. •

[A034266] • 0,1,15,99,435,1485,4257,10725,24453,51480,101530,189618,338130,579462,959310,1540710,2408934,3677355,5494401,8051725,11593725,16428555,22940775,31605795,43006275 ⋆ Partial sums of A027818. • a(n + 1) = (7 * n + 8) * C(n + 7, 7) / 8. •

[A085465] • 1,15,102,442,1443,3885,9100,19188,37269,67771,116754,192270,304759,467481,696984,1013608,1442025,2011815,2758078,3722082,4951947,6503365,8440356,10836060,13773565 ⋆ Number of monotone n-weightings of complete bipartite digraph K(3,3). • a(n) = n + 13 * binomial(n, 2) + 60 * binomial(n, 3) + 120 * binomial(n, 4) + 108 * binomial(n, 5) + 36 * binomial(n, 6) = 1 / 20 * n * (n + 1) * (n ^ 2 + 1) * (n ^ 2 + 2 * n + 2) = Sum _{ i=1..n } ((n + 1 - i) ^ 3 - (n - i) ^ 3) * i ^ 3. More generally, number of monotone n - weightings of complete bipartite digraph K(s, t) is Sum _{ i=1..n } ((n + 1 - i) ^ s - (n - i) ^ s) * i ^ t = Sum _{ i=1..n } ((n + 1 - i) ^ t - (n - i) ^ t) * i ^ s. •

[A061550] • 15,105,315,693,1287,2145,3315,4845,6783,9177,12075,15525,19575,24273,29667,35805,42735,50505,59163,68757,79335,90945,103635,117453,132447 ⋆ a(n) = (2n+1)*(2n+3)*(2n+5). • a(n)=(- 1) ^ (n + 1) * (4 * n ^ 2 + 12 * n + 7) / Integral _{ x=0..Pi / 2 } (cos((2 * n + 3) * x)) * (sin(x)) ^ 2 d x. - _ Francesco Daddi _ , Aug 03 2011 •

[A090454] • 15,105,396,1110,2600,5390,10220,18096,30345,48675,75240,112710,164346,234080,326600,447440,603075,801021,1049940,1359750,1741740,2208690,2774996,3456800,4272125 ⋆ Fourth column (m=5) of array A090452. • a(n)= (n + 9) * (n + 6) * (n + 2) * (n + 1) * (n ^ 2 + 15 * n + 20) / 144, •

[A240440] • 0,0,15,105,420,1260,3150,6930,13860,25740,45045,75075,120120,185640,278460,406980,581400,813960,1119195,1514205,2018940,2656500,3453450,4440150,5651100 ⋆ Number of ways to place 3 points on a triangular grid of side n so that they are not vertices of an equilateral triangle of any orientation. • a(n) = (n + 3) * (n + 2) * (n + 1) * n * (n - 1) * (n - 2) / 48. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. - _ Wesley Ivan Hurt _ , Dec 03 2015 •

[A006857] • 1,15,105,490,1764,5292,13860,32670,70785,143143,273273,496860,866320,1456560,2372112,3755844,5799465,8756055,12954865,18818646,26883780,37823500,52474500,71867250,97260345 ⋆ a(n) = binomial(n+5,5) * binomial(n+5,4)/(n+5). • a(n) = (4 + n)! * (5 + n)! / (2880 * n! * (n + 1)!). • a(n) = C(n + 5,8) + 6 * C(n + 6,8) + 6 * C(n + 7,8) + C(n + 8,8). • a(n) = C(n + 4,4) * C(n + 5,4) / 5. • a(n)= C(n + 4,4) ^ 2 - C(n + 4,3) * C(n + 4, 5). - _ Gary Detlefs _ , Dec 05 2011 •

[A000478] • 15,105,490,1918,6825,22935,74316,235092,731731,2252341,6879678,20900922,63259533,190957923,575363776,1731333808,5205011031,15638101281,46962537810,140988276150,423174543025,1269959836015,3810785476980,11434235478348,34306598748315 ⋆ Number of ways of placing n labeled balls into 3 indistinguishable boxes with at least 2 balls in each box. • a(n) = (1 + n + n ^ 2) / 2 - (1 / 2 + n / 4) * 2 ^ n + 3 ^ n / 6. - Michael Steyer (m.steyer(AT)osram.de), Jan 09 2005 • a(n) = 10 * a(n - 1) - 40 * a(n - 2) + 82 * a(n - 3) - 91 * a(n - 4) + 52 * a(n - 5) - 12 * a(n - 6), n>11. - _ Harvey P. Dale _ based on Michael Steyer's formula, Jul 17 2011 •

[A055848] • 1,15,105,495,1815,5577,15015,36465,81510,170170,335478,629850,1133730,1967070,3304290,5393454,8580495,13339425,20309575,30341025,44549505,64382175,91695825,128849175,178811100 ⋆ Expansion of (1+5*x)/(1-x)^10. • a(n)=(2n + 3) * C(n + 8, 8) / 3. G.f.(x)=(1 + 5x) / (1 - x) ^ 10. •

[A266503] • 0,0,0,0,0,15,105,735,4095,26775,162855,1105335,7187895,51126075,356831475,2676468795,19890931515,156769986555,1232704469115,10178240218875,84190426730235,725667326178795 ⋆ Number of symmetric difference-closed 4-sets consisting of sets consisting of an even number of pairwise disjoint 2-subsets of {1,2,...,n}. • a(n) = n! * sum(sum(sum((2 ^ (k - 2 * i - 2 * j)) / (k! * (2 * i - k)! * (2 * j - k)! * (n - 4 * i - 4 * j + 2 * k)! * (delta(i, j) + delta(i, k) + 1)!), k=max(i, 2 * i + 2 * j - [n / 2])..min(2 * j, [1 / 4 * (4 * i + 4 * j - 1)])), j=1..i), i=1..[n / 2]). •

[A293263] • 1,15,106,582,2952,14488,69982,335356,1600624,7624266,36279784,172546968,820420150,3900386212,18541702744,88140749906,418982915000,1991645550032,9467293435654,45002706816100,213919774521224,1016864234903874,4833646472767104 ⋆ Number of fixed polyominoes without holes that have a width of n and height of 3. • a(n) = 10 * a(n - 1) - 34 * a(n - 2) + 49 * a(n - 3) - 29 * a(n - 4) + 2 * a(n - 5) + 10 * a(n - 6) - 5 * a(n - 7) - 2 * a(n - 8) for n > 9. •

[A243212] • 0,15,107,428,1282,3198,7022,14020,26000,45445,75665,120960,186802,280028,409052,584088,817392,1123515,1519575,2025540,2664530,346313

0,4451722,5664828,7141472 ⋆ Number of ways to place 3 points on a triangular grid of side n so that no three of them are vertices of an equilateral triangle with sides parallel to the grid. • a(n) = C(n * (n + 1) / 2, 3) - floor((n - 1) * (n + 1) * (2 * n - 1) / 8). • a(n) = (- 3 + 3 * (- 1) ^ n + 20 * n + 8 * n ^ 2 - 23 * n ^ 3 - 3 * n ^ 4 + 3 * n ^ 5 + n ^ 6) / 48. - _ Colin Barker _ , Jun 09 2014 •

[A290361] • 0,1,15,111,518,1789,5026,12166,26328,52221,96613,168861,281502,450905,697984,1048972,1536256,2199273,3085467,4251307,5763366,7699461,10149854,13218514,17024440 ⋆ Number of 7-leaf rooted trees with n levels. • a(n) = (61 * n ^ 6 + 69 * n ^ 5 + 145 * n ^ 4 + 195 * n ^ 3 + 154 * n ^ 2 + 96 * n) / 6!. •

[A254869] • 1,15,111,561,2211,7293,21021,54483,129558,286858,598026,1184118,2242266,4083366,7184166,12257850,20348031,32951985,52179985,80958735,123288165,184562235,271965915,394962165,565884540 ⋆ Seventh partial sums of cubes (A000578). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (7 + n) * (7 + 7 * n + n ^ 2) / 604800. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) + n ^ 3. •

[A222410] • 1,15,113,575,2171,6581,16955,38613,79885,153091,275661,471395,771863,1217945,1861511,2767241,4014585,5699863,7938505,10867431,14647571,19466525,25541363,33121565,42492101 ⋆ Partial sums of A008534, or crystal ball sequence for {A_6}* lattice. • a(n) = 1 + (7 / 36) * n * (n + 1) * (n ^ 4 + 2 * n ^ 3 + 8 * n ^ 2 + 7 * n + 18). [_ Bruno Berselli _ , Feb 28 2013] •

[A001849] • 1,15,113,575,2241,7183,19825,48639,108545,224143,433905,795455,1392065,2340495,3800305,5984767,9173505,13726991,20103025,28875327,40754369,56610575,77500017,104692735,139703809 ⋆ Crystal ball sequence for 7-dimensional cubic lattice. • a(n) = (8 * n ^ 7 + 28 * n ^ 6 + 224 * n ^ 5 + 490 * n ^ 4 + 1232 * n ^ 3 + 1372 * n ^ 2 + 1056 * n + 315) / 315 - _ Johannes W. Meijer _ , Jul 14 2013 •

[A233326] • 1,15,113,799,5601,39215,274513,1921599,13451201,94158415,659108913,4613762399,32296336801,226074357615,1582520503313,11077643523199,77543504662401,542804532636815,3799631728457713,26597422099203999,186181954694428001 ⋆ (7^(n+1) - 4) / 3. • a(n) = 8 * a(n - 1) - 7 * a(n - 2) for n>1, a(0)=1, a(1)=15. • a(n) = 7 * a(n - 1) + 8 for n>0, a(0)=1. •

[A244872] • 1,15,114,569,2138,6562,17329,40765,87512,174452,327137,582784,993895,1632561,2595510,4009958,6040323,8895861,12839284,18196419,25366968,34836428,47189231,63123163,83465122 ⋆ Number of magic labelings with magic sum n of 4th graph shown in link. • a(n) = 17 * n ^ 7 / 1440 + 119 * n ^ 6 / 960 + 28 * n ^ 5 / 45 + 721 * n ^ 4 / 384 + 5243 * n ^ 3 / 1440 + 721 * n ^ 2 / 160 + 129 * n / 40 + (- 1) ^ n / 256 + 255 / 256. [_ Bruno Berselli _ , Jul 08 2014] •

[A091347] • 0,1,15,115,675,3451,16275,72955,316275,1340251,5590035,23054395,94314675,383578651,1553331795,6270493435,25253701875,101530450651,407669649555,1635323974075,6555235693875,26262769508251 ⋆ a(n)=6*4^n - 12*3^n + 7*2^n - 1. • a(n)=Sum(i!i ^ 3 Stirling2(n, i)(- 1) ^ (n - i), i=1, .., n) •

[A196506] • 0,15,120,435,1128,2415,4560,7875,12720,19503,28680,40755,56280,75855,100128,129795,165600,208335,258840,318003,386760,466095,557040,660675,778128 ⋆ a(n) = 1*3*5 + 3*5*7 + 5*7*9 + ... (n terms). • a(n) = ((4n ^ 2 - 1) * (2n + 3) * (2n + 5) + 15) / 8 = Sum _{ i=1..n } (2i - 1) * (2i + 1) * (2i + 3). • a(n) = 2 n ^ 4 + 8 n ^ 3 + 7 n ^ 2 - 2 n. - _ Harvey P. Dale _ , Mar 14 2015, corrected by _ Eric Rowland _ , Aug 15 2017 •

[A247612] • 1,15,120,680,3060,11628,38760,116280,316767,788161,1805100,3840420,7660250,14446134,25947612,44668692,74091645,118941555,185495056,281936688,418766304,609260960,869994720,1221419808,1688512539 ⋆ a(n) = Sum_{k=0..7} binomial(14,k)*binomial(n,k). • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). • a(n) = (1680 + 386012 * n - 958048 * n ^ 2 + 943761 * n ^ 3 - 455455 * n ^ 4 + 123123 * n ^ 5 - 17017 * n ^ 6 + 1144 * n ^ 7) / 1680. •

[A010967] • 1,15,120,680,3060,11628,38760,116280,319770,817190,1961256,4457400,9657700,20058300,40116600,77558760,145422675,265182525,471435600,818809200,1391975640,2319959400,3796297200,6107086800,9669554100 ⋆ a(n) = binomial coefficient C(n,14). • a(n + 13) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9)(n + 10)(n + 11)(n + 12)(n + 13) / 14!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 • a(n) = n / (n - 14) * a(n - 1), n > 14. - _ Vincenzo Librandi _ , Mar 26 2011 •

[A081079] • 0,15,120,840,5775,39600,271440,1860495,12752040,87403800,599074575,4106118240,28143753120,192900153615,1322157322200,9062201101800,62113250390415,425730551631120,2918000611027440,20000273725560975 ⋆ Lucas(4n+2) - 3, or 5*Fibonacci(2n)*Fibonacci(2n+2). • a(n) = 8a(n - 1) - 8 a(n - 2) + a(n - 3). • a(n) = - 3 + (3 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (1 / 2) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A171220] • 1,15,125,875,5625,34375,203125,1171875,6640625,37109375,205078125,1123046875,6103515625,32958984375,177001953125,946044921875,5035400390625,26702880859375,141143798828125,743865966796875 ⋆ (2n+1)*5^n. • a(n)=10 * a(n - 1) - 25 * a(n - 2) •

[A027779] • 15,126,588,2016,5670,13860,30492,61776,117117,210210,360360,594048,946764,1465128,2209320,3255840,4700619,6662502,9287124,12751200,17267250,23088780,30515940,39901680,51658425 ⋆ a(n) = 3*(n+1)*C(n+2,6). • a(n) = C(n + 1, 5) * C(n + 2, 2). - _ Zerinvary Lajos _ , May 13 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[A198850] • 1,15,127,1023,8191,65535,524287,4194303,33554431,268435455,2147483647,17179869183,137438953471,1099511627775,8796093022207,70368744177663,562949953421311,4503599627370495,36028797018963967 ⋆ 2*8^n-1 • a(n) = 8 * a(n - 1) + 7. a(n) = 9 * a(n - 1) - 8 * a(n - 2), n>1. •

[A283120] • 1,15,128,815,4289,19663,81057,306799,1081986,3594142,11338690,34193246,99080387,277046893,750192227,1973050940,5053026949,12628736331,30859262181,73849589786,173333118663,399528823032,905418038792,2019454523623,4437187104779 ⋆ Expansion of exp(Sum_{n>=1} sigma(8*n)*x^n/n) in powers of x. • a(n) = (1 / n) * Sum _{ k=1..n } sigma(8 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 05 2017 •

[A209404] • 1,15,128,816,4320,20064,84480,329472,1208064,4209920,14057472,45260800,141213696,428654592,1270087680,3683254272,10478223360,29297934336,80648077312,218864025600,586290298880,1551944908800,4063273940400 ⋆ Coefficients of Chebyshev polynomials. • a(n) = 2 ^ (n - 1) * Binomial(n + 6,6) * (n + 14) / 7. •

[A127595] • 0,1,15,128,945,6655,46080,317057,2176335,14925184,102320625,701373311,4807434240,32951037313,225850798095,1548007091840,10610205501105,72723448842367,498453982018560,3416454544730369,23416728143799375 ⋆ a(n)=F(4n)-2F(2n) where F(n)= Fibonacci numbers A000045. • a(2n) = 5 * (F(2n)) ^ 3 * L(2n), a(2n + 1) = F(2n + 1) * L(2n + 1) ^ 3. • a(n) = [(Phi ^ (2n)) - 1] ^ 2 * [(Phi ^ (4n)) - 1] / [sqrt(5) * (Phi ^ (4n))]. •

[A156922] • 1,15,129,877,5280,29658,159742,838038,4323003,22057825,111750519,563535483,2833221970,14216330916,71243079660,356731958812,1783503630981,8931761831331,44675371382365 ⋆ Third right hand column (n-m=2) of the A156920 triangle • a(n) = 14 * a(n - 1) - 75 * a(n - 2) + 196 * a(n - 3) - 263 * a(n - 4) + 174 * a(n - 5) - 45 * a(n - 6) • a(n) = (4 * n ^ 2 - 108 * n * 3 ^ n + 24 * n - 378 * 3 ^ n + 375 * 5 ^ n + 35) / 32 •

[A155656] • 1,15,129,1071,8961,75855,649089,5606511,48811521,427774095,3769259649,33358386351,296270823681,2638754838735,23555015527809,210638693604591,1886253119421441,16909812213653775,151723048894909569 ⋆ 9^n+7^n-1. • a(n)=16 * a(n - 1) - 63 * a(n - 2) - 48 with a(0)=1, a(1)=15 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A244878] • 1,15,130,760,3355,12043,36935,100135,245870,556580,1177295,2351165,4469610,8141210,14284170,24247962,39970575,64178685,100639000,154470030,232524589,343854445,500269705,717006745,1013519780 ⋆ Number of 6 X 6 traceless symmetric magic squares with magic sum n. • a(n) = (945 * (507 + 5 * (- 1) ^ n) + 1480896 * n + 2062800 * n ^ 2 + 1747040 * n ^ 3 + 989100 * n ^ 4 + 383628 * n ^ 5 + 100800 * n ^ 6 + 17160 * n ^ 7 + 1710 * n ^ 8 + 76 * n ^ 9) / 483840. - _ Colin Barker _ , Jan 12 2017 •

[A228583] • 0,0,0,0,1,15,135,777,3270,11034,31650,80190,184239,391105,777777,1464255,2630940,4540836,7567380,12228780,19229805,29512035,44313643,65239845,94345218 ⋆ The number of binary pattern classes in the (2,n)-rectangular grid with 8 '1's and (2n-8) '0's: two patterns are in same class if one of them can be obtained by a reflection or 180-degree rotation of the other. • a(n) = (1 / 4) * (binomial(2 * n,8) + 3 * binomial(n,4)). • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) n>8, with a(0)=0, a(1)=0, a(2)=0, a(3)=1, a(4)=15, a(5)=135, a(6)=777, a(7)=3270, a(8)=11034. •

[A027630] • 1,15,135,870,3992,14142,41400,104870,237288,490654,942888,1705510,2932344,4829246,7664856,11782374,17612360,25686558,36652744,51290598,70528600,95461950,127371512,167743782,218291880 ⋆ Molien series for Gamma_3(2). • a(n) = 2 * (3060 - 6138 * n + 5933 * n ^ 2 - 3120 * n ^ 3 + 1100 * n ^ 4 - 192 * n ^ 5 + 32 * n ^ 6) / 45 for n>2. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>9. •

[A027629] • 1,15,135,870,3993,14157,41535,105740,241281,504811,984423,1811250,3173625,5334057,8649279,13593624,20785985,31020615,45302023,64884222,91314585,126482565,172673535,232628004,309606465 ⋆ Molien series for complex 8-dimensional group N_3 of order 2^(2.3+2), a central extension of an extraspecial 2-group. • a(n) = (630 + 2376 * n + 2891 * n ^ 2 + 1673 * n ^ 3 + 980 * n ^ 4 + 644 * n ^ 5 + 224 * n ^ 6 + 32 * n ^ 7) / 630. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. •

[A036217] • 1,15,135,945,5670,30618,153090,721710,3247695,14073345,59108049,241805655,967222620,3794488740,14635885140,55616363532,208561363245,772903875555,2833980877035,10291825290285,37050571045026 ⋆ Expansion of 1/(1-3*x)^5; 5-fold convolution of A000244 (powers of 3). • a(n) = 3 ^ n * binomial(n + 4, 4); G.f. 1 / (1 - 3 * x) ^ 5. •

[A155648] • 1,15,135,1215,11295,107775,1046655,10279935,101679615,1010077695,10060466175,100362797055,1002176782335,10013060694015,100078364164095,1000470184984575,10002821109907455,100016926659444735 ⋆ 10^n+6^n-1^n • a(n)=16 * a(n - 1) - 60 * a(n - 2) - 45 with a(0)=1, a(1)=15 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=15, a(2)=135, a(n)=17 * a(n - 1) - 76 * a(n - 2) + 60 * a(n - 3). - _ Harvey P. Dale _ , Mar 30 2014 •

[A030056] • 1,15,136,969,5985,33649,177100,888030,4292145,20160075,92561040,417225900,1852482996,8122425444,35240152720,151532656696,646626422970,2741188875414,11554258485616,48459472266975 ⋆ C(2n+1,n-6). • a(n + 1) = a(n) * (2 * n + 2) * (2 * n + 3) / ((n - 5) * (n + 8)). - _ Chai Wah Wu _ , Jan 26 2016 •

[A175707] • 1,15,139,862,4079,15791,52450,154279,411180,1009741,2314278,5000125,10264997,20152950,38037517,69323949,122448455,210271756,351989816,575711716,921889652,1447822620,2233501928,3389114724,5064582169 ⋆ Number of ways to put n copies of 1,2,3,4 into sets. • a(n) = (5382 * n ^ 11 + 236808 * n ^ 10 + 4643760 * n ^ 9 + 53507520 * n ^ 8 + 402098796 * n ^ 7 + 2067612624 * n ^ 6 + 7421736960 * n ^ 5 + 18616942080 * n ^ 4 + 321014680

47 * n ^ 3 + 36555545268 * n ^ 2 + 25131098880 * n + 8024016000 + 701662 5 * (- 1) ^ n * n ^ 3 + 84199500 * (- 1) ^ n * n ^ 2 + 359251200 * (- 1) ^ n * n + 538876800 * (- 1) ^ n) / (2 ^ 11 * 3 ^ 7 * 5 ^ 2 * 7 * 11) + 5 / 3 ^ 6 * (- 1) ^ n * (sin(n * Pi / 3) / sqrt(3) + cos(n * Pi / 3)). •

[A123955] • 0,0,0,0,1,15,139,1029,6691,40041,226435,1230009,6487195,33464145,169720915,849504825,4208146411,20674387905,100901918659,4898260444 89,2367517203931,11402423910801,54755709794995,262308279256089 ★ G.f.: x^5/((1-3*x) * (1-2*x) * (1-4*x) * (6*x^2-6*x+1)). • a(n)= 15 * a(n - 1) - 8 6 * a(n - 2) + 234 * a(n - 3) - 300 * a(n - 4) + 144 * a(n - 5). •

[A027802] • 15,140,700,2520,7350,18480,41580,85800,165165,300300,520520,8 66320,1392300,2170560,3294600,4883760,7088235,10094700,14132580,1948100 0,26476450,35521200,47092500,61752600,80159625 ★ 5*(n+1)*C(n+4,6). • a(n) = C(n + 1, 3) * C(n + 4, 4) - _ Zerinvary Lajos _ , May 10 2005, correcte d by _ R. J. Mathar _ , Feb 10 2016 •

[A000481] • 1,15,140,1050,6951,42525,246730,1379400,7508501,40075035,210 766920,1096190550,5652751651,28958095545,147589284710,749206090500,379 1262568401,19137821912055,96416888184100,485000783495250,2436684974110 751,12230196160292565,61338207158409090 ★ Stirling numbers of the second kind, S(n,5). • a(n) = sum(sum(binomial(k,r) * (15) ^ (k - r) * sum((- 85) ^ (r - m) * binomial(r,m) * sum(binomial(m,j) * binomial(j,n - m - k - j - r) * (2 25) ^ (m - j) * (- 274) ^ (r + m + k + 2 * j - n) * (120) ^ (n - m - k - j - r),j,0 ,m),m,0,r),r,0,k),k,1,n), n>0. - _ Vladimir Kruchinin _ , Aug 30 2010 • a(n) = det(|s(i + 5,j + 4)|, 1 <= i,j <= n - 5), where s(n,k) are Stirling numbers o f the first kind. - _ Mircea Merca _ , Apr 06 2013 •

[A096046] • 1,15,141,1275,11481,103335,930021,8370195,75331761,67798585 5,6101872701,54916854315,494251688841,4448265199575,40034386796181,360 309481165635,3242785330490721,29185067974416495,262665611769748461 ★ a(n)=B(2n,3)/B(2n) (see comment). • a(n)=(1 / 4) * (7 * 9 ^ n - 3); a(0)=1 a(1)=15 and a(n)=10 * a(n - 1) - 9 * a(n - 2) •

[A093117] • 1,15,141,1443,14505,146343,1475349,14875995,149990289,15123 18207,152483417 25,1537454161 47,1550178505401,15630081782295,1575944028 71781,1588986940402443,16021377983526945,161539749616666863 ★ a(1)=1, a(2)=15, a(n+2) = 8*a(n+1) + 21*a(n). • a(n)=(1 / 2) * [4 - sqrt(37)] ^ n + (11 / 74) * sqrt(37) * [4 + sqrt(37)] ^ n + (1 / 2) * [4 + sqrt(37)] ^ n - (11 / 74) * [4 - sqrt(37)] ^ n * sqrt(37), with n>=0 - _ Paolo P. Lava _ , Jul 08 20 08 •

[A177065] • 15,143,399,783,1295,1935,2703,3599,4623,5775,7055,8463,9999,1 1663,13455,15375,17423,19599,21903,24335,26895,29583,32399,35343,38415 ★ a(n) = (8*n+3)*(8*n+5). • a(n) = 128 * n + a(n - 1) with n>0, a(0)=15. • a(0)=15, a(1)=143, a(2)=399, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 13 2013 •

[A071700] • 15,143,3599,5183,11663,32399,36863,51983,57599,97343,12110 3,176399,186623,359999,435599,685583,1040399,1065023,1192463,1327103,17 42399,2039183,2108303,2214143,2585663 ★ Product of twin primes of form (4*k+3,4*(k+1)+1), k>=0. • a(n) >> n ^ 2 log ^ 4 n. - _ Charles R Gr eathouse IV _ , Jul 03 2013 •

[A206810] • 15,145,670,2146,5501,12131,23996,43716,74667,121077,188122,28 2022,410137,581063,804728,1092488,1457223,1913433,2477334,3166954,400222 9,5005099,6199604,7611980,9270755 ★ Sum_{0<j<n} (n^4-j^4). • a(n) = n ^ 5 - p(n), where p(n) is the n - th partial sum of (j ^ 4). • a(n) = t(n) - t(n - 1), where t = A206811. • a(n) = (n - 10 * n ^ 3 - 15 * n ^ 4 + 24 * n ^ 5) / 30. G.f.: x ^ 2 * (x ^ 3 + 25 * x ^ 2 + 55 * x + 15) / (x - 1) ^ 6. - _ Colin Barke r _ , Jul 11 2014 •

[A025440] • 1,15,145,1155,8281,55755,360865,2276835,14126761,86681595,5 27948785,3199656915,19327384441,116486845035,701025539905,421461409939 5,25321657045321,152066219226075,912943584910225,5479850073412275,3288 7865154533401,197362281160304715 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-6x)). • a(n) = - 2 ^ n + 9 * 3 ^ n - 16 * 4 ^ n + 9 * 6 ^ n. - _ R. J. Mathar _ , Jun 30 2013 • a(n) = 15 * a(n - 1) - 80 * a(n - 2) + 180 * a(n - 3) - 144 * a(n - 4). - _ Vincenzo Librandi _ , Jul 03 2015 • a(n) = 3 ^ n - 2 ^ n + 10 * a(n - 1) - 24 * a(n - 2). - _ Vincenzo Librandi _ , Jul 03 2015 •

[A155638] • 1,15,145,1455,15265,164175,1787185,19565295,214749505,235990 0815,259471902 25,285360498735,3138672517345,34523932847055,37975593709 8865,41772786869775,45949882451462785,505447791438746895 ★ 11^n+5^n-1^n • a(n)=16 * a(n - 1) - 55 * a(n - 2) - 40 with a(0)=1, a(1)=15 - _ Vincen zo Librandi _ , Jul 21 2010 •

[A021414] • 1,15,148,1218,9079,63693,429346,2815296,18097717,114645531,7 18257904,4461736734,27532164115,169004094729,1033087293022,62938589047 32,38239893731473,231823257614487,1402859602945900 ★ Expansion of 1/((1-x)(1-3x)(1-5x)(1-6x)). • a(0)=1, a(1)=15, a(2)=148, a(3)=1218, a(n)=15 * a(n - 1) - 77 * a(n - 2) + 153 * a(n - 3) - 90 * a(n - 4). - _ Harvey P. Dale _ , Mar 31 2013 • a(n) = (8 * 6 ^ (n + 3) - 15 * 5 ^ (n + 3) + 10 * 3 ^ (n + 3) - 3) / 120. - _ Yahia Kahloune _ , May 07 2013 • a(0)=1, a(1)=15; for n>1, a (n) = 11 * a(n - 1) - 30 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 •

[A085375] • 1,15,150,1225,8820,58212,360360,2123550,12033450,66050270,35 3068716,1845586470,9464546000,47738754000,237329805600,1164893795820,56 53161067950,27157342385250,129275302348500,610315506350550 ★ a(n)=C(2n+14,n)*13/(n+4). • a(n)=C(n+3,4) / 2 * C(2 * n,n), n>=1 . - _ Zerinvary Lajos _ , Jan 18 2 007 • a(n + 1) = a(n) * 2 * (n + 5) * (2 * n + 3) / ((n + 1) * (n + 2)). - _ Chai Wah Wu _ , Jan 26 2016 •

[A081135] • 0,0,1,15,150,1250,9375,65625,437500,2812500,17578125,10742187 5,644531250,3808593750,22216796875,128173828125,732421875000,4150390625 000,23345947265625,130462646484375,724792480468750 ★ 5th binomial transform of (0,0,1,0,0,0,...). • a(n) = 15a(n - 1) - 75a(n - 2) + 125a(n - 3), a(0)=a (1)=0, a(2)=1. • a(n) = 5 ^ (n - 2) * binomial(n, 2). •

[A021364] • 1,15,150,1270,9891,73605,533800,3814140,27018981,190442395,1 338423450,9390536610,65820843271,461096642385,3229086629100,2260926845 6680,158287591978761,1108104188689575,7757094081310750 ★ Expansion of 1/((1-x)(1-3x)(1-4x)(1-7x)). • a(n) = 15 * a(n - 1) - 75 * a(n - 2) + 145 * a(n - 3) - 84 * a(n - 4), with a(0)=1, a(1)=15, a(2)=150, a(3)=1270. [_ Harvey P. Dale _ , Jun 09 2011] • a(n) = (7 ^ (n + 3) - 2 * 4 ^ (n + 4) + 3 ^ (n + 5) - 2) / 72. [_ Yahia Kahloune _ , Jun 26 2013] • a(0)=1, a(1)=15; for n>1, a (n) = 11 * a(n - 1) - 28 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 •

[A016103] • 1,15,151,1275,9751,70035,481951,3216795,20991751,134667555,8 52639151,5343198315,33212784151,205111785075,1260114546751,77089802038 35,46999640806951,285743822630595,1733261544204751 ★ Expansion of 1/((1-4x)(1-5x)(1-6x)). • a(n) = (4 ^ n + 6 ^ n - 2 * 5 ^ n) / 2. - _ Andy Fugard _ , Jul 22 2008 • a(n) = 15 * a(n - 1) - 74 * a(n - 2) + 120 * a(n - 3). - _ Vince nzo Librandi _ , Jun 24 2013 •

[A021124] • 1,15,152,1314,10479,79821,591214,4301088,30921077,22051586 7,1563954756,11049405822,77854461595,547524351753,3845386097978,2698128 0929916,189186857860833,1325897462045079,9289229519936080 ★ Expansion of 1/((1-x)(1-2x)(1-5x)(1-7x)). • a(0)=1, a(1)=15, a(2)=152, a(3)=1314; for n >3, a(n) = 15 * a(n - 1) - 73 * a(n - 2) + 129 * a(n - 3) - 70 * a(n - 4). - _ Vi ncenzo Librandi _ , Jul 07 2013 • a(0)=1, a(1)=15]; for n>1, a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 • a(n) = (2 * 7 ^ (n + 3) - 5 ^ (n + 4) + 2 ^ (n + 6) - 5) / 120. - _ Yahia Kahloune _ , Jul 07 2013 •

[A010035] • 1,15,153,1431,13041,117855,1062153,9563751,86086881,77482129 5,6973509753,62761942071,564858541521,5083730062335,45753580126953,4117 82249840391,3706040334656961,33354363270192975,300189270206577753,2701 703434183722711,24315330914627073201 ★ a(n) = 2*3^(2*n)-3^n. • a(n) = 1 2 * a(n - 1) - 27 * a(n - 2). G.f.: (3 * x + 1) / ((3 * x - 1) * (9 * x - 1)). - _ C olin Barker _ , Oct 01 2014 •

[A017389] • 1,15,154,1350,10891,83685,623764,4558380,32875381,23498095 5,1669192174,11806149810,83252603071,585817587825,4115974729384,2888809 5527640,20259807384996 1,1420093671872295,9950191865139394 ★ Expansion of 1/((1-3x)(1-5x)(1-7x)). • a(n) = 15 * a(n - 1) - 71 * a(n - 2) + 105 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 • a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jun 26 2012 • a(n) = (7 ^ (n + 2) - 2 * 5 ^ (n + 2) + 3 ^ (n + 2)) / 8. - _ Yahia Kahloune _ , Aug 13 2013 •

[A099915] • 1,15,155,1555,15555,155555,1555555,15555555,155555555,155555 5555,15555555555,155555555555,1555555555555,15555555555555,155555555555 5555,1555555555555555,15555555555555555,155555555555555555 ★ Expansion of (1+4x)/((1-x)(1-10x)). • a(n)=10 ^ n * 14 / 9 - 5 / 9; a(n)=11a(n - 1) - 10 a(n - 2), a(0)=1, a(1)=15. •

[A016304] • 1,15,157,1419,11869,94731,733069,5551323,41378557,30476618 7,2224062061,16112628987,116053574365,831966057483,5941308640333,42294 437942811,300292730428093,2127439102098219,15044413649559085 ★ Expan sion of 1/((1-2*x)*(1-6*x)*(1-7*x)). • a(n) = (7 ^ (n + 2) - 2 ^ (n + 2)) / 5 - (6 ^ (n + 2) - 2 ^ (n + 2)) / 4. - _ Zerinvary Lajos _ , Jun 05 2009 [corrected by _ Joerg Arndt _ , Aug 25 2011] • a(0)=1, a(1)=15, a(2)=157, a(n) = 15 * a(n - 1) - 68 * a(n - 2) + 84 * a(n - 3); • a(0)=1, a(1)=15, a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 2 ^ n. (End) •

[A016849] • 1,15,157,1431,12229,101199,823789,6649287,53436757,42848358 3,3431885821,27471332343,219836173285,1758953038767,14072683703053,112 585721544999,900702823089013,7205690916768351,57645801049792285 ★ Ex pansion of 1/((1-3x)(1-4x)(1-8x)). • a(0)=1, a(1)=15, a(2)=157, a(n)=15 * a(n - 1) - 68 * a(n - 2) + 96 * a(n - 3). - _ Harvey P. Dale _ , Mar 23 2012 • a (n) = 9 * 3 ^ n / 5 - 4 * 4 ^ n + 16 * 8 ^ n / 5. - _ R. J. Mathar _ , Jun 23 2 013 • a(n) = 12 * a(n - 1) - 32 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 •

[A016297] • 1,15,159,1475,12831,107835,888679,7239555,58567311,47179335 5,3790622199,30406356435,243657749791,1951296498075,15620544499719,1250 15218606115,1000376061956271,8004280061317995,64040598319145239 ★ Ex pansion of 1/((1-2x)(1-5x)(1-8x)). • a(n) = 15 * a(n - 1) - 66 * a(n - 2) + 80 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 16 2011 • a(n) = 13 * a(n - 1) - 40 * a(n - 2) + 2 ^ n, n >=2 . - Vincenzo Librandi, Mar 16 2011 • a(n) =4 * 8 ^ (n + 1) / 9 + 2 ^ (n + 1) / 9 - 5 ^ (n + 2) / 9. - R. J. Mathar, Mar 18 2011 •

[A206811] • 15,160,830,2976,8477,20608,44604,88320,162987,284064,472186,7 54208,1164345,1745408,2550136,3642624,5099847,7013280,9490614,12657568,1 6659797,21664896,27864500,35476480,44747235 ★ Sum_{0<j<k<=n} (k^4-j^4). • a(n) = (n * (1 + n) ^ 2 * (1 - 6 * n + n ^ 2 + 4 * n ^ 3)) / 30. G.f.: - x ^ 2 * (x ^ 3 + 25 * x ^ 2 + 55 * x + 15) / (x - 1) ^ 7. - _ Colin Barker _ , Jul 11 2014 •

[A021048] • 1,15,160,1530,14071,127605,1151470,10372560,93381541,840520 395,7564945180,68085295590,612770035411,5514937460385,49634458601290,44 6710191850620,4020391920103681,36183527861539575,325651752496199800 ★ Expansion of 1/((1-x)(1-2x)(1-3x)(1-9x)). • a(n) = (243 / 112) * 9 ^ n - (9 / 4) * 3 ^ (n + 4) / 7) * 2 ^ n - 1 / 16. - Neven Juric, Oct 22 2009 • a(0)=1, a(1)=15; for n>1, a(n) = 12 * a(n - 1) - 27 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo L ibrandi _ , Jul 05 2013 • a(0)=1, a(1)=15, a(2)=160, a(3)=1530; for n>3, a(n) = 15 * a(n - 1) - 65 * a(n - 2) + 105 * a(n - 3) - 54 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 •

[A095685] • 1,15,160,1600,15856,156976,1553920,15382240,152268496,15073 02736,14920758880,147700286080,1462082101936,14473120733296,1432691252

31040,14182181315771 20,140389121905401 76,138970903773824656,137567012 5547706400,13617730351703239360 ⋆ Expansion of (1+x)^4/(1-11*x+11*x^2-x^3). • a(n) = - 2 + 3 * (5 - 2 * sqrt(6)) ^ n * (3 + sqrt(6)) - 3 * (- 3 + sqrt(6)) * (5 + 2 * sqrt(6)) ^ n for n>1. - _ Colin Barker _ , Mar 05 2016 •

[A014920] • 1,15,162,1534,13539,114381,937924,7526268,59409477,46294554 7,3570173286,27298094202,207234827815,1563680973513,11737027066248,8769 8011225336,652657830908553,4840007082678279,35779865442976810 ⋆ a(1)=1, a(n) = n*7^(n-1) + a(n-1). • a(1)=1, a(2)=15, a(n) = 14 * a(n - 1) - 49 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 • a(n) = (1 / 36) * (1 + 7 ^ n * (6 * n - 1)). - _ Vincenzo Librandi _ , Oct 26 2012 • a(1)=1, a(2)=15, a(3)=162, a(n) = 15 * a(n - 1) - 63 * a(n - 2) + 49 * a(n - 3). - _ Harvey P. Dale _ , Jun 26 2013 •

[A081034] • 1,15,162,1548,13896,120240,1016352,8457408,69618816,56870784 0,4620206592,37384915968,301618907136,2428188733440,19516934725632,1566 84026953728,1256763510521856,10073855853527040,80709333444329472 ⋆ 7th binomial transform of the periodic sequence (1,8,1,1,8,1...). • a(n)=8 * a(n - 1) + 7 * 6 ^ (n - 1) a(n)=(9 / 2) * 8 ^ n - (7 / 2)6 ^ n. • a(0)=1, a(1)=15, a(n)=14 * a(n - 1) - 48 * a(n - 2). - _ Harvey P. Dale _ , Jun 16 2013 •

[A016243] • 1,15,163,1563,14059,121803,1030411,8579211,70649227,5772870 51,4690855819,37962203019,306309762955,2466150936459,19823244488587,15 9150177890187,1276586755010443,10233006031417227,81985920199339915 ⋆ Expansion of 1/((1-x)(1-6x)(1-8x)). • a(n) = 14 * a(n - 1) - 48 * a(n - 2) + 1 with a(0)=1, a(1)=15. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (5 * 8 ^ (n + 2) - 7 * 6 ^ (n + 2) + 2) / 70. - _ Yahia Kahloune _ , May 19 2013 •

[A164599] • 1,15,163,1577,14417,127719,1110467,9543745,81420481,6913307 19,5851867459,49433600633,417032638289,3515077706295,29610553888547,24 9339102243793,2099051398651393,17667781775661231,148693529122641763 ⋆ a(n) = 14*a(n - 1) - 47*a(n - 2) for n > 1; a(0) = 1, a(1) = 15. • a(n) = ((1 + 4 * sqrt(2)) * (7 + sqrt(2)) ^ n + (1 - 4 * sqrt(2)) * (7 - sqrt(2)) ^ n) / 2. •

[A016291] • 1,15,163,1587,14779,135027,1223371,11042979,99517627,896182 419,8067737899,72618027651,653595799195,5882496402291,52943004475147,47 6489187727203,4288411279413883,38595735874332243,347361760307681515,31 2625639252442323 5,2813630973174201 6091 ⋆ Expansion of 1/((1-2x)(1-4x)(1-9x)). • a(n) = (2 / 7) * 2 ^ n - (8 / 5) * (4) ^ n + (81 / 35) * 9 ^ n. - _ Antonio Alberto Olivares _ , May 12, 2012 • a(n) = 15 * a(n - 1) - 62 * a(n - 2) + 72 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 •

[A167615] • 1,15,165,1665,16664,166664,1666663,16666663,166666661,16666 66662,166666666661,1666666666660,16666666666661,166666666666660,1666666666 66659,16666666666666660,166666666666666658,1666666666666666657,1666666666 666666660,16666666666666666656 ⋆ Total number of positive integers below 10^n with 4 positive squares in their representation as sum of squares. • a(n) = Sum(ceil(10 ^ n / 2 ^ (2 * i + 3) - 7 / 8),i=0..k) with minimal k for which ceil(10 ^ n / 2 ^ (2 * k + 3) - 7 / 8) = 0 •

[A016234] • 1,15,166,1650,15631,144585,1320796,11984820,108351661,97760 6355,8810664226,79357013190,714518294491,6432190529325,57897344158456,5 21114244398760,4690218934452121,42212924084385495 ⋆ Expansion of 1/((1-x)(1-5x)(1-9x)). • a(0)=1, a(1)=15, a(n) = 14 * a(n - 1) - 45 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (9 ^ (n + 2) - 2 * 5 ^ (n + 2) + 1) / 32. - _ Yahia Kahloune _ , Aug 13 2013 • a(0)=1, a(1)=15, a(2)=166, a(n) = 15 * a(n - 1) - 59 * a(n - 2) + 45 * a(n - 3). - _ Harvey P. Dale _ , Oct 16 2014 •

[A055660] • 15,168,1260,7920,45045,240240,1225224,6046560,29099070,13728 7920,637408200,2920488480,13233463425,59400885600,264475371600,11692595 37600,5137434093330,22449291836400,97620405409800 ⋆ Number of (2,2; n,n)-partitions of a chain of length n^2+n. • a(n)=2 * (2 * n - 3) * (n - 3) * (2 * n - 5)! / (n - 3)! ^ 2 / n •

[A016177] • 0,1,15,169,1695,15961,144495,1273609,11012415,93864121,79126 6575,6612607849,54878189535,452866803481,3719823438255,30436810578889,2 48242046141055,2019169299698041,16385984911571535,132716292890482729 ⋆ a(n) = 8^n - 7^n. • a(n) = 15 * a(n - 1) - 56 * a(n - 2), n>1. - _ Philippe Deléham _ , Jan 01 2009 • a(0)=0, a(n)=8 * a(n - 1) + 7 ^ (n - 1). [From Vincenzo Librandi, Feb 09 2011] •

[A016279] • 1,15,169,1755,17761,178275,1784809,17854395,178563121,178568 9235,17857067449,178571201835,1785713604481,17857140811395,17857142243 0089,1785714267282075,17857142801829841,178571428405456755 ⋆ Expansion of 1/((1-2x)(1-3x)(1-10x)). • a(n) = 2 ^ n / 2 - 9 * 3 ^ n / 7 + 25 * 10 ^ n / 14. - _ Antonio Alberto Olivares _ , Feb 03 2010 • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 60 * a(n - 3). - _ Vincenzo Librandi _ , Jun 24 2013 •

[A016172] • 1,15,171,1755,17091,161595,1501011,13789035,125780931,1142 106075,10339420851,93417584715,842935044771,7599476096955,68473649036 691,616733026314795,5553418346740611,49997691780110235 ⋆ Expansion of 1/((1-6x)(1-9x)). • a(n) = (9 ^ (n + 1) - 6 ^ (n + 1)) / 3. - Lambert Klasen (lambert.klasen(AT)gmx.net), Feb 05 2005 • a(0)=1, a(n) = 9 * a(n - 1) + 6 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 • a(0)=1, a(1)=15, a(n) = 15 * a(n - 1) - 54 * a(n - 2). - _ Vincenzo Librandi _ , Feb 09 2011 •

[A016225] • 1,15,171,1795,18291,184275,1848211,18503955,185126931,185161 8835,18517586451,185181456915,1851836938771,18518458866195,18518494657 5891,1851850897414675,18518514700769811,185185169914190355 ⋆ Expansion of 1/((1-x)(1-4x)(1-10x)). • a(n) = (50 * 10 ^ n - 24 * 4 ^ n + 1) / 27. - _ Paul Barry _ , Feb 17 2003 • a(n) = 14 * a(n - 1) - 40 * a(n - 2) + 1, n>=2. - _ Vincenzo Librandi _ , Feb 10 2011 •

[A036083] • 1,15,175,1750,15750,131250,1031250,7734375,55859375,39101562 5,2666015625,17773437500,116210937500,747070312500,4731445312500,295715 33203125,182647705078125,1116180419921875,6755828857421875 ⋆ Expansion of (-1+1/(1-5*x)^5)/(25*x); related to A036071. • a(n) = 5 ^ (n - 1) * binomial(n + 5, 4); G.f. (- 1 + (1 - 5 * x) ^ (- 5)) / (x * 5 ^ 2). •

[A051588] • 0,1,15,175,1827,17791,164955,1475335,12844707,109581871,920 591595,7643833495,62904774387,514168732351,4180996130235,3386429612765 5,273465115692867,2203291473841231,17721094011796875,14234405443690181 5 ⋆ Number of 3 X n binary matrices such that any 2 rows have a common 1. • a(n) = 8 ^ n - 3 * 6 ^ n + 3 * 5 ^ n - 4 ^ n. • a(0)=0, a(1)=1, a(2)=15, a(3)=175, a(n)=23 * a(n - 1) - 194 * a(n - 2) + 712 * a(n - 3) - 960 * a(n - 4). - _ Harvey P. Dale _ , Mar 07 2012 •

[A016164] • 1,15,175,1875,19375,196875,1984375,19921875,199609375,199804 6875,19990234375,199951171875,1999755859375,19998779296875,19999389648 4375,1999969482421875,19999847412109375,199999237060546875 ⋆ Expansion of 1/((1-5x)(1-10x)). • a(n) = - 5 ^ n + 2 * 10 ^ n. • a(0)=1, a(n) = 10 * a(n - 1) + 5 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A120995] • 1,15,175,3675,14553,231231,920205,234652275,2807136475,14933 966047,59612442981,11425718238025,15211755050625,243077636829375,97123 0202264925,993568496917018275,3970836034391543625 ⋆ Denominators of rationals related to John Wallis' product formula for Pi/2 (from his 'Arithmetica infinitorum' from 1659). • a(n) = denominators((3 / 4) * W(n)), n>=1. •

[A024197] • 15,176,950,3480,10045,24640,53676,106800,197835,345840,57629 0,922376,1426425,2141440,3132760,4479840,6278151,8641200,11702670,156186 80,20570165,26765376,34442500,43872400,55361475 ⋆ a(n) = 3rd elementary symmetric function of the first n+2 odd positive integers. • a(n) = n * (n + 1) * (n + 2) ^ 2 * (n ^ 2 + 3 * n + 1) / 6. •

[A071535] • 1,15,176,1680,13824,102144,696320,4460544,27197440,15931801 6,902823936,4975493120,26776436736,141180272640,731218182144,372830004 8384,18747532247040,93110596009984,457328117678080,2223830986653696,10 71584032430489 6,51209754063667200 ⋆ (-1)^(n+1) * Determinant of n X n matrix of form [1^2 2^2 3^2 4^2 5^2 / 2^2 1^2 2^2 3^2 4^2 / 3^2 2^2 1^2 2^2 3^2 / 4^2 3^2 2^2 1^2 2^2 / 5^2 4^2 3^2 2^2 1^2]. • a(n) = 2 ^ (- 5 + 2 * n) * (6 + 8 * n + 5 * n ^ 2 + 4 * n ^ 3 + n ^ 4) / 3. - _ Colin Barker _ , Oct 24 2014 •

[A081043] • 1,15,176,1856,18432,176128,1638400,14942208,134217728,11911 82336,10468982784,91268055040,790273982464,6803228196864,5827411627212 8,496979255754752,4222124650659840,35747322042253312,30174117503382323 2 ⋆ 8th binomial transform of (1,7,0,0,0,0,0,.....). • a(n)=16 * a(n - 1) - 64 * a(n - 2), a(0)=1, a(1)=15. a(n)=(7n + 8)8 ^ (n - 1) a(n)= Sum { k=0..n, (k + 1) * 7 ^ k Binomial(n, k) } G.f. (1 - x) / (1 - 8x) ^ 2 •

[A155000] • 1,1,15,176,2248,27840,348608,4347904,54305280,677924864,8464 494592,105679749120,1319449690112,16473663471616,205678490419200,25679 53077764096,32061620085587968,400298333039493120 ⋆ a(n)=8*a(n-1)+56*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=15 • a(n)=(11 / 24) * sqrt(2) *{ [4 + 6 * sqrt(2)] ^ (n - 1) - [4 - 6 * sqrt(2)] ^ (n - 1) }+ (1 / 2) *{ [4 + 6 * sqrt(2)] ^ (n - 1) + [4 - 6 * sqrt(2)] ^ (n - 1) }+ 7 / 8 * [C(2 * n,n) mod 2], with n>=0 [From _ Paolo P. Lava _ , Jan 26 2009] •

[A016216] • 1,15,178,1998,22099,243453,2679076,29473116,324214117,356638 4811,39230321494,431533802154,4746872620855,52215601220889,57437162060 4232,6318087848169912,69498966394439113,764488630532540487,84093749364 39076090,925031243025732291 90 ⋆ Expansion of 1/((1-x)(1-3x)(1-11x)). • a(0)=1, a(1)=15, a(n)=14 * a(n - 1) - 33 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (1 / 20) - (9 / 16) * (3) ^ n + (121 / 80) * (11) ^ n. _ Antonio Alberto Olivares _ , May 12, 2012 •

[A293476] • 0,15,180,1050,4200,13230,35280,83160,178200,353925,660660,11 7170,1987440,3248700,5140800,7907040,11860560,17398395,25017300,3533145 0,49092120,67209450,90776400,121095000,159705000 ⋆ a(n) = ((n + 1)/2)*(n + 2)*Pochhammer(n, 5) / 4!. • a(n) = n * Stirling2(4 + n, 1 + n). • a(n) = (1 / 48) * (n * (2 + 3 * n + n ^ 2) ^ 2 * (12 + 7 * n + n ^ 2)). • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. •

[A016158] • 1,15,181,2055,22861,252495,2781541,30613335,336812221,370519 6575,40758210901,448344514215,4931806433581,54249937878255,59674958509 6261,6564246509800695,72206715902774941,794273892110393535 ⋆ Expansion of 1/((1-4*x)(1-11*x)). • a(n) = 15 * a(n - 1) - 44 * a(n - 2) for n >= 2. - _ Vincenzo Librandi _ , Mar 18 2011 • a(n) = 11 * a(n - 1) + 4 ^ n for n >= 1. - _ Vincenzo Librandi _ , Mar 18 2011 • a(n) = (11 ^ (n + 1) - 2 ^ (2 * n + 2)) / 7. - _ R. J. Mathar _ , Mar 20 2011 •

[A273654] • 15,185,1485,9905,59850,341082,1872990,10032990,52814025,274 436305,1411449039,7195628895,36390053700,182622509860,909578754540,449 6410556268,22062707386875,107464431586995,519700280676885,24958273157 31365,119057919782085 90,5642941487639555 0 ⋆ Number of forests of labeled rooted trees of height at most 1, with n labels, four of which are used for root nodes and any root may contain >= 1 labels. • a(n) = C(n,4) * Sum _{ j=0..4 } Stirling2(4,j) * j ^ (n - 4). •

[A016207] • 1,15,187,2259,27139,325731,3908899,46907043,562885027,675462 1347,81055458211,972665502627,11671986039715,140063832492963,168076598 9948323,20169191879445411,242030302553476003 ⋆ Expansion of 1/((1-x)(1-2x)(1-12x)). • a(n) = (72 * 12 ^ n - 22 * 2 ^ n + 5) / 55. - _ Bruno Berselli _ , Feb 09 2011 • a(n)=12 * a(n - 1) + 2 ^ (n + 1) - 1, n>0. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A016147] • 1,15,189,2295,27621,331695,3981069,47775015,573306741,687970 0575,82556465949,990677768535,11888133753861,142657606640655,171189128 4470829,20542695427998855,246512345179032981 ⋆ Expansion of 1/((1-3x)(1-12x)). • a(n) = 15 * a(n - 1) - 36 * a(n - 2). - _ Vincenzo Librandi _ , Mar 14 2011 • a(n) = (4 * 12 ^ n - 3 ^ n) / 3. - _ Zak Seidov _ , Mar 14 2011 •

[**A145601**] • 1,15,189,2352,29700,382239,5010005,66745536,901995588,12342120700,170724392916,2384209771200,33577620944400,476432168185575,6805332732133125,97790670976838400,1412830549632694500 ⋆ a(n) is the number of walks from (0,0) to (0,2) that remain in the upper half-plane y >= 0 using 2*n unit steps either up (U), down (D), left (L) or right (R). • a(n) = 3 / (2 * n + 1) * binomial(2 * n + 1,n + 2) * binomial(2 * n + 1,n - 1). •

[**A051545**] • 0,1,15,191,2414,31594,434568,6314664,97053936,1576890000,27046454400,488849155200,9293295110400,185464792800000,3878247384345600,84822225638169600,1937048605944883200,46113230058645657600 ⋆ Second unsigned column of triangle A051339. • a(n) = n! * Sum _{ k=0,..,n - 1 } ((- 1) ^ k * binomial(- 7,k) / (n - k)), for n>=1. - _ Milan Janjic _ , Dec 14 2008 • a(n) = n! * [6]h(n), where [k]h(n) denotes the k - th successive summation o f The harmonic numbers from 0 to n. - _ Gary Detlefs _ Jan 04 2011 •

[**A172204**] • 0,0,15,194,1974,9856,34475,95466,224589,468854,893646,1585850,2656976,4246284,6523909,9693986,13997775,19716786,27175904,36746514,48849626,63959000,82604271,105374074,132919169 ⋆ Number of ways to place 5 nonattacking kings on a 5 X n board. • a(n) = (625n ^ 5 - 9750n ^ 4 + 66415 n ^ 3 - 247626n ^ 2 + 504664n - 446544) / 24, n>=4. •

[**A098300**] • 0,1,15,196,2535,32761,423360,5470921,70698615,913611076,11806245375,152567578801,1971572279040,25477872048721,329240764354335,4254652064557636,54981236074894935,710501416909076521 ⋆ Member r=15 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 13 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. • a(n)= 14 * a(n - 1) - 14 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=15. •

[**A028230**] • 1,15,209,2911,40545,564719,7865521,109552575,1525870529,21252634831,296011017105,4122901604639,57424611447841,799821658665135,11140078609864049,155161278879431551,2161117825702177665 ⋆ Bisection of A001353. Indices of square numbers which are also octagonal. • a(n) = 14 * a (n - 1) - a(n - 2) for n>1. • a(n) = (ap ^ (2 * n + 1) - am ^ (2 * n + 1)) / (ap - am) with ap := 2 + sqrt(3) and am := 2 - sqrt(3). • a(n + 1) = sum(((- 1) ^ k) * binomial(2 * n - k, k) * 16 ^ (n - k), k=0..n), n>=0. • a(n) = 1 / 6 * s qrt(3) * ((tan(5 * Pi / 12)) ^ (2n - 1) - (tan(Pi / 12)) ^ (2n - 1)). • a(n) = fl oor (1 / 6 * sqrt(3) * (tan(5 * Pi / 12)) ^ (2n - 1)). •

[**A019553**] • 15,210,315,420,525,630,735,840,945,1050,1155,1260,1365,1470,1575,1680,1785,1890,1995,20100,21105,22110,23115,24120,25125 ⋆ n followed by 5n. • a(n) = n * 10 ^ floor[log10(5 * n) + 1] + 5 * n, with n>=1. - _ Paolo P. Lava _ , Mar 24 2010 •

[**A234249**] • 15,210,1365,5985,20475,58905,148995,341055,720720,1426425,2672670,4780230,8214570,13633830,21947850,34389810,52602165,78738660,115584315,166695375,236561325,330791175,456326325,621682425,837222750 ⋆ Number of ways to choose 4 points in an n X n X n triangular grid. • a(n) = n * (n + 1) * (n - 1) * (n + 2) * (n - 2) * (n + 3) * (n ^ 2 + n - 4) / 384. • a(n) = C(C(n + 1, 2), 4). •

[**A135519**] • 1,15,211,2955,41371,579195,8108731,113522235,1589311291,22250358075,311505013051,4361070182715,61054982558011,854769755812155,11966776581370171,167534872139182395,2345488209948553531 ⋆ Generalized repunits in base 14. • a(n) = (14 ^ n - 1) / 13. • a(n) = 14 * a(n - 1) + 1 for n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = Sum _{ i=0.. n - 1 } 13 ^ i * binomial(n,n - 1 - i). - _ Bruno Berselli _ , Nov 12 2015 •

[**A289160**] • 0,0,0,15,220,1253,5412,15642,44368,97158,218816,410209,797052,1350435,2367668,3733284,6068736,9065724,13907808,19916451,29188092,40399953,57056164,76789790,105186576 ⋆ Number of 6-cycles in the n X n black bishop graph. • a(n) = 2 * a(n - 1) + 5 * a(n - 2) - 12 * a(n - 3) - 9 * a(n - 4) + 30 * a(n - 5) + 5 * a(n - 6) - 40 * a(n - 7) + 5 * a(n - 8) + 30 * a(n - 9) - 9 * a(n - 10) - 12 * a(n - 11) + 5 * a(n - 12) + 2 * a(n - 13) - a(n - 14). •

[**A078364**] • 1,15,224,3345,49951,745920,11138849,166336815,2483913376,37092363825,553901543999,8271430796160,123517560398401,1844491975179855,27543862067299424,411313439034311505 ⋆ A Chebyshev S-sequence with Diophantine property. • a(n) = 15 * a(n - 1) - a(n - 2), n>= 1; a(- 1)=0, a(0)=1. • a(n) = S(2 * n + 1, sqrt(17)) / sqrt(17) = S(n, 15); S(n, x) := U(n, x / 2), Chebyshev polynomials of the 2nd kind, A049310. • a(n) = (ap ^ (n + 1) - am ^ (n + 1)) / (ap - am) with ap = (15 + sqrt(221)) / 2 and am = (15 - sqrt(221)) / 2. •

[**A154597**] • 1,15,226,3405,51301,772920,11645101,175449435,2643386626,39826248825,600037119001,9040383033840,136205782626601,2052127122432855,30918112619119426,465828316409224245,7018275358757483101 ⋆ a(n) = 15*a(n-1) + a(n-2) with a(0)=0, a(1)=1. • a(n) = ((15 + sqrt(229)) ^ n - (15 - sqrt(229)) ^ n) / (2 ^ n * sqrt(229)). •

[**A129836**] • 0,15,228,291,368,1575,1940,2387,9416,11543,14148,55115,67512,82695,321468,393723,482216,1873887,2295020,2810795,10922048,13376591,16382748,63658595,77964720 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2 + (x + 97)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 194 for n > 6; a(1)=0, a(2)=15, a(3)=228, a(4)=291, a(5)=368, a(6)=1575. •

[**A097262**] • 0,15,240,255,3840,3855,4080,4095,61440,61455,61680,61695,65280,65295,65520,65535,983040,983055,983280,983295,986880,986895,987120,987135,1044480 ⋆ Numbers whose set of base 16 digits is {0,F}, where F base 16 = 15 base 10. • a(2n) = 16 * a(n), a(2n + 1) = a(2n) + 15. •

[**A158557**] • 15,240,915,2040,3615,5640,8115,11040,14415,18240,22515,27240,32415,38040,44115,50640,57615,65040,72915,81240,90015,99240,108915,119040,129615 ⋆ 225n^2 + 15. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A055659**] • 0,15,253,1653,6786,21115,54615,123753,253828,481671,858705,1454365,2359878,3692403,5599531,8264145,11909640,16805503,23273253,31692741,42508810,56238315,73477503,94909753,121313676 ⋆ Number of (2,n)-partitions of a chain of length n^3. • a(n)= (1 / 2) * (n - 1) * (n ^ 2 + n - 1) * (n ^ 3 - 2 * n + 2). •

[**A099273**] • 0,1,15,256,4335,73441,1244160,21077281,357069615,6049106176,102477735375,1736072395201,29410752983040,498246728316481,8440783628397135,142995074954434816,2422475490596994735 ⋆ Unsigned member r=-15 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 17 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 16 * a(n - 1) + 16 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=15. •

[**A249961**] • 15,285,2010,8790,28785,77595,181860,383580,745155,1355145,2334750,3845010,6094725,9349095,13939080,20271480,28839735,40235445,55160610,74440590,99037785,130066035,168805740,216719700,275469675 ⋆ Number of length 1+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[**A177074**] • 15,285,2985,29985,299985,2999985,29999985,299999985,2999999985,29999999985,299999999985,2999999999985,29999999999985,299999999999985,2999999999999985,29999999999999985,299999999999999985 ⋆ 3*(10^n-5). • a(n) = 11 * a(n - 1) - 10 * a(n - 2), n>1. - _ Vincenzo Librandi _ , Apr 26 2014 •

[**A105491**] • 15,312,4263,49112,521640,5329044,53580450,537427440,5422899339,55344162874,573270663966,6040762924560,64851119605636,709986204480672,7931189102016852,90430835147203728,1052534895931584828 ⋆ Number of partitions of {1...n} containing 5 detached pairs of consecutive integers, i.e., partitions in which only 1- or 2-strings of consecutive integers can appear in a block and there are exactly five 2-strings. • a(n)=binomial(n - 5, 5) * Bell(n - 6), which is the case r=5 in the general case of r pairs, d(n, r)=binomial(n - r, r) * Bell(n - r - 1), which is the case t=2 of the general formula d(n, r, t)=binomial(n - r * (t - 1), r) * B(n - r * (t - 1) - 1). •

[**A133766**] • 15,315,1287,3315,6783,12075,19575,29667,42735,59163,79335,103635,132447,166155,205143,249795,300495,357627,421575,492723,571455,658155,753207,856995,969903 ⋆ a(n) = (4*n+1)*(4*n+3)*(4*n+5). • a(0)=15, a(1) =315, a(2)=1287, a(3)=3315; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , May 06 2012 •

[**A087330**] • 0,15,370,6150,86430,1114210,13641990,161419770,1864197550,21141975330,236419753110,2614197530890,28641975308670,311419753086450,3364197530864230,36141975308642010,386419753086419790 ⋆ Sum of all digits of all integers less than or equal to 555...55 (with n 5's) in base 10. • a(n)=20 / 9 * n - 110 / 81 * 10 ^ n + 110 / 81 + 5 / 2 * n * 10 ^ n (formula from B. Greco) •

[**A219561**] • 1,15,457,14595,407287,10200931,233051939,4909342744,96272310302,1771597038279 ⋆ Number of 4-partite partitions of (n,n,n,n) into distinct quadruples. • a(n) = [(w * x * y * z) ^ n] 1 / 2 * Product _{ i,j,k,m>=0 } (1 + w ^ i * x ^ j * y ^ k * z ^ m). •

[**A079610**] • 15,480,2145,5760,12075,21840,35805,54720,79335,110400,148665,194880,249795,314160,388725,474240,571455,681120,803985,940800,1092315,1259280,1442445,1642560,1860375 ⋆ (5*n+1)*(5*n+3)*(5*n+5). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). _ Vincenzo Librandi _ , Jun 23 2012 •

[**A249962**] • 15,505,5300,31180,129095,422065,1164800,2830080,6226935,12655665,24104740,43494620,74973535,124270265,199108960,309691040,469249215,694678665,1007250420,1433411980,2005680215,2763631585,3754994720 ⋆ Number of length 2+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[**A249963**] • 15,897,14094,111746,585069,2319123,7532380,21069828,52478667,119135973,250738026,495501318,928465577,1662329463,2861289912,4758396424,7676971911,12056692041,18484955334,27734216586,40805996517,58982320859 ⋆ Number of length 3+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[**A249964**] • 15,1593,37584,402010,2662039,12791191,48882360,157381572,443628615,1124698773,2615110872,5658900702,11524855615,22285365715,41203369552,73256257608,125830345119,209624636913,339808080960,537480344226 ⋆ Number of length 4+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. •

[**A249965**] • 15,2825,100236,1447334,12123567,70617807,317518832,1176570012,3753186183,10625460549,27293238764,64668634914,143140038743,298924843947,593647442496,1128342108536,2063388866271,3646247928129 ⋆ Number of length 5+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>11. •

[**A249966**] • 15,4999,267004,5207128,55191061,389769865,2062131616,8794967112,31750272891,100377252987,284840809660,738995422048,1777772706385,4009552754989,8552986503328,17379265831600,33835476742695 ⋆ Number of length 6+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 1

2 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12) for n>12. •

[A249967] • 15,8823,709814,18707320,251002319,2149795141,13385651492,65717571120,268511791119,948021599547,2972106528666,8443442678840,22076610372895,53774915777897,123215084622184,267660712891040,55479268376276 7 ★ Number of length 7+5 0..n arrays with no six consecutive terms having the maximum of any two terms equal to the minimum of the remaining four terms. • a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13) for n>13. •

[A104682] • 1,15,32767,7174453,357913941,7629394531,94036996915,791260251657,5026338869833,25736391511831,111111111111111,417724816941565,140063832496239 7,4265491084507563,11966776581370171,31278135027204241,76861433640456465,178901440719363487 ★ n^14+n^13+n^12+n^11+n^10+n^9+n^8+n^7+n^6+n^5+n^4+n^3+n^2+n+1. • a(n) = (n ^ 2 + n + 1) * (n ^ 4 + n ^ 3 + n ^ 2 + n + 1) * (n ^ 8 - n ^ 7 + n ^ 5 - n ^ 4 + n ^ 3 - n + 1). - _ Jonathan Vos Post _ , Apr 23 2005 •

[A241751] • 16,17,20,25,32,41,52,65,80,97,116,137,160,185,212,241,272,305,340,377,416,457,500,545,592 ★ a(n) = n^2 + 16. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[A151977] • 0,1,16,17,32,33,48,49,64,65,80,81,96,97,112,113,128,129,144,145,160,161,176,177,192 ★ Numbers that are congruent to {0, 1} mod 16. • a(n) = (32 * n - 14 * (- 1) ^ n - 46) / 4. - _ Vincenzo Librandi _ , Jul 11 2012 •

[A022106] • 1,16,17,33,50,83,133,216,349,565,914,1479,2393,3872,6265,10137,16402,26539,42941,69480,112421,181901,294322,476223,770545 ★ Fibonacci sequence beginning 1, 16. • a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=16. a(- 1):=15. •

[A042195] • 1,1,16,17,33,50,233,283,2214,4711,115278,235267,1762147,1997414,9751803,11749217,21501020,33250237,520254575,553504812,27088485551,27641990363,441718340996,469360331359,911078672355 ★ Denominators of continued fraction convergents to sqrt(622). • a(n) = 27608740126 * a(n - 20) - a(n - 40) for n>39. - _ Vincenzo Librandi _ , Jan 16 2014 •

[A042205] • 1,16,17,50,267,1118,2503,3621,9745,23111,79078,102189,385645,4729929,14575432,19305361,72491515,164288391,401068297,565356688,1531781673,6692483380,34994198573,76680880526,111675079099 ★ Denominators of continued fraction convergents to sqrt(628). • a(n) = 93397457463698 * a(n - 26) - a(n - 52) for n>51. - _ Vincenzo Librandi _ , Jan 16 2014 •

[A033052] • 0,1,16,17,256,257,272,273,4096,4097,4112,4113,4352,4353,4368,4369,65536,65537,65552,65553,65792,65793,65808,65809,69632 ★ a(1) = 1, a(2n) = 16a(n), a(2n+1) = a(2n)+1. • a(n) = Sum { d(i) * 16 ^ i: i=0, 1, ..., m } , where Sum { d(i) * 2 ^ i: i=0, 1, ..., m } is the base 2 representation of n. • a(2n) = 16 * a(n), a(2n + 1) = a(2n) + 1. •

[A041541] • 1,1,16,17,560,577,9215,9792,322559,332351,5307824,5640175,185793424,191433599,3057297409,3248731008,107016689665,110265420673,1760997999760,1871263420433,61641427453616,63512690874049,1014331790564351,1077844481438400 ★ Denominators of continued fraction convergents to sqrt(287). • a(n) = 576 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 19 2013 •

[A255847] • 16,18,24,34,48,66,88,114,144,178,216,258,304,354,408,466,528,594,664,738,816,898,984,1074,1168 ★ a(n) = 2*n^2 + 16. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A219395] • 0,16,20,68,76,156,168,280,296,440,460,636,660,868,896,1136,1168,1440,1476,1780,1820,2156,2200,2568,2616 ★ Numbers k such that 18*k+1 is a square. • a(n) = a(- n + 1) = (18 * n * (n - 1) + 7 * (- 1) ^ n * (2 * n - 1) - 1) / 4 + 2. •

[A179370] • 16,23,163,184,464,499,919,968,1528,1591,2291,2368,3208,3299,4279,4384,5504,5623,6883,7016,8416,8563,10103,10264,11944 ★ Positive integers of the form (7*m^2+1)/11. • a(n) = (154 * n * (n - 1) - 63 * (2 * n - 1) * (- 1) ^ n + 65) / 8. • a(n) = a(- n + 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A247065] • 1,16,24,32,40,49,64,65,80,88,96,104,113,128,129,144,152,160,168,177,192,193,208,216,224 ★ Dynamic Betting Game D(n,6,1). • a(n) = a(n - 1) + a(n - 7) - a(n - 8). - _ Colin Barker _ , Sep 14 2014 •

[A273801] • 16,24,32,48,56,72,80,96,120,128,152,168,176,192,216,240,248,272,288,296,320,336,360,392,408 ★ Numbers n for which n = (x - phi(x)) * (y - phi(y)), where n = x + y and x - phi(x) is the Euler cototient function of x. • a(n) = 4 * (prime(n + 1) + 1). - _ Paolo P. Lava _ , Sep 06 2017 •

[A100316] • 16,24,34,48,70,108,178,312,574,1092,2122,4176,8278,16476,32866,65640,131182,262260,524410,1048704,2097286,4194444,8388754,16777368,33554590 ★ Number of 4 X n 0-1 matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (01;0), (10;0) and (01;1). • a(n) = 2 ^ n + 6 * n + 8. •

[A140135] • 16,24,36,54,54,81,100,140,140,140,196,225,315,315,315,315,315,441,484,550,550,625,676,858,858 ★ Product of largest semiprime <= n and smallest semiprime >= n. • a(n) = MAX { j in A001358 and j <= n } * MIN { j in A001358 and j >= n } •

[A111026] • 16,25,27,32,49,121,125,128,169,225,243,289,343,361,512,529,625,729,841,961,1000,1225,1331,1369,1681 ★ Perfect powers (A001597) of the form 3p + q + 3, p & q are primes. • a(n)=3p + q + 3 where p and q are primes and a(n) is a perfect power. •

[A088247] • 16,27,32,64,81,125,128,243,256,343,512,625,729,1024,1331,2048,2187,2197,2401,3125,4096,4913,6561,6859,8192 ★ Orders of proper semifields. • a(n) = n ^ 3 log ^ 3 n + O(n ^ 3 log ^ 2 n log log n). - _ Charles R Greathouse IV _ , Mar 11 2014 •

[A032610] • 16,27,38,49,510,611,712,813,914,1015,1116,1217,1318,1419,1520,1621,1722,1823,1924,2025,2126,2227,2328,2429,2530 ★ Concatenation of n and n + 5 or {n,n+5}. • a(n) = n * 10 ^ floor(log10(n + 5) + 1) + n + 5, with n >= 0. [From _ Paolo P. Lava _ , Oct 09 2008] •

[A286429] • 0,0,0,0,16,27,40,55,72,91,112,135,160,187,216,247,280,315,352,391,432,475,520,567,616 ★ Highest elevation of an island above sea level in a number square. • a(n) = n ^ 2 + 2 * n - 8 for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. •

[A206259] • 16,28,78,260,932,3440,12878,48628,184764,705440,2704164,10400608,40116608,155117528,601080398,2333606228,9075135308,35345263808,137846528828,538257874448,2104098963728,8233430727608,32247603683108 ★ Number of (n+1) X (n+1) 0..1 arrays with the number of rightwards and downwards edge increases in each 2 X 2 subblock equal to the number in all its horizontal and vertical neighbors. • a(n) = 8 + 2 * C(2 * n + 1,n), for n>1. - Vincenzo Librandi, Oct 28 2012 •

[A220000] • 16,31,47,63,78,94,109,125,141,156,172,188,203,219,234,250,266,281,297,313,328,344,359,375,391 ★ Sixty fourths of an inch in thousandths, rounded to nearest integer. • a(n) = round(125n / 8), with 0.5 rounded up. •

[A122614] • 16,32,48,64,80,81,96,97,112,113,128,129,144,145,160,161,162,176,177,178,192,193,194,208,209 ★ Sums of 4th powers of primes. • a(n) = a * 16 + b * 81 + c * 625 + d * 2401 + e * 14641 + ... where a,b,c,d,e,... are nonnegative integers. Sumset of A030514 4th powers of primes. •

[A008598] • 0,16,32,48,64,80,96,112,128,144,160,176,192,208,224,240,256,272,288,304,320,336,352,368,384 ★ Multiples of 16. • a(n) = sum((i ^ k + 1) * (i ^ (8n - k) + 1), k=1..8n), where i=sqrt(- 1). - _ Bruno Berselli _ , Mar 19 2012 •

[A018923] • 16,32,63,124,244,480,944,1856,3649,7174,14104,27728,54512,107168,210687,414200,814296,1600864,3147216,6187264,12163841,23913482,47012668,92424472,181701728 ★ Define the generalized Pisot sequence T(a(0),a(1)) by: a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n). This is T(16,32). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for n>0. - _ Bruno Berselli _ , Feb 15 2016 •

[A151981] • 0,1,16,33,48,49,64,81,96,97,112,129,144,145,160,177,192,193,208,225,240,241,256,273,288 ★ Numbers n such that n^2 - n is divisible by 48. • a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. (End) • a(n) = 12 * n - (35 + 3 * i ^ (2 * n)) / 2 + (2 + 2 * i) * i ^ (- n) + (2 - 2 * i) * i ^ n where i=sqrt(- 1). - _ Wesley Ivan Hurt _ , Jun 07 2016 •

[A132758] • 0,16,33,51,70,90,111,133,156,180,205,231,258,286,315,345,376,408,441,475,510,546,583,621,660 ★ n(n+31)/2. • a(n) = n * (n + 31) / 2. • a(n) =n + a(n - 1) + 15 (with a(0)=0) - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=16, a(2)=33, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 21 2012 • a(n) = 16n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A195146] • 0,1,16,33,64,97,144,193,256,321,400,481,576,673,784,897,1024,1153,1296,1441,1600,1761,1936,2113,2304 ★ Concentric 16-gonal numbers. • a(n) = (8 * n ^ 2 + 3 * (- 1) ^ n - 3) / 2; a(n) = - a(n - 1) + 8 * n ^ 2 - 8 * n + 1. - Vincenzo Librandi, Sep 27 2011 •

[A198275] • 16,33,67,135,271,543,1087,2175,4351,8703,17407,34815,69631,139263,278527,557055,1114111,2228223,4456447,8912895,17825791,35651583,71303167,142606335,285212671 ★ 17*2^n - 1. • a(n + 1) = 2 * a(n) + 1. • a(0)=16, a(1)=33, a(n)=3 * a(n - 1) - 2 * a(n - 2). - _ Harvey P. Dale _ , Dec 03 2011 • a(n) + a(n - 1) ^ 2 = (a(n - 1) + 1) ^ 2. - _ Vincenzo Librandi _ , Jun 11 2014 •

[A144533] • 0,1,16,33,544,1121,18480,38081,627776,1293633,21325904,43945441,724452960,1492851361,24610074736,50713000833,836018088064,1722749176961,28400004919440,58522759015841,964764149172896,1988051057361633,32773581066959024,67535213191279681 ★ Numerators of continued fraction convergents to sqrt(8/9). • a(n) = 16 * a(n - 1) + a(n - 2) if n odd, otherwise a(n) = 2 * a(n - 1) + a(n - 2), for n >= 2. • a(n) = 34 * a(n - 2) - a(n - 4). G.f.: - x * (x ^ 2 - 16 * x - 1) / ((x ^ 2 - 6 * x + 1) * (x ^ 2 + 6 * x + 1)). [_ Colin Barker _ , Jul 16 2012] •

[A132760] • 0,16,34,54,76,100,126,154,184,216,250,286,324,364,406,450,496,544,594,646,700,756,814,874,936 ★ a(n) = n(n+15). • a(n) = n * (n + 15). • a(n) = 2 * n + a(n - 1) + 14 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A153819] • 16,34,88,232,610,1600,4192,10978,28744,75256,197026,515824,1350448,3535522,9256120,24232840,63442402,166094368,434840704,1138427746,2980442536,7802899864,20428257058,53481871312,140017356880 ★ Linear recurrence with a(n) = 3a(n-1) - a(n-2) + 2 = 4a(n-1) - 4a(n-2) + a(n-3). Full sequence for A153466. • a(n) = (2 ^ (- n) * (- 5 * 2 ^ (1 + n) - 9 * (3 - sqrt(5)) ^ n * (- 5 + sqrt(5)) + 9 * (3 + sqrt(5)) ^ n * (5 + sqrt(5)))) / 5. - _ Colin Barker _ , Nov 02 2016 •

[A109287] • 16,36,40,56,88,135,156,184,204,210,220,248,250,260,296,306,315,328,330,340,342,372,414,459,472 ★ 4-almost primes equal to p*q + 1, where p and q are (not necessarily distinct) primes. • a(n) is in this sequence iff a(n) is in A014613 and (a(n) - 1) is in A001358. •

[A022040] • 16,36,80,177,391,863,1904,4200,9264,20433,45067,99399,219232,483532,1066464,2352161,5187855,11442175,25236512,55660880,122763936,270764385,597189651,1317143239,2905050864 ★ Define the sequence T(a(0),a(1)) by a(n+2) is the greatest integer such that a(n+2)/a(n+1) < a(n+1)/a(n) for n >= 0. This is T(16,36). • a(n + 1) = ceiling(a(n) ^ 2 / a(n - 1)) - 1 for n>0. - _ Bruno Berselli _ , Feb 15 2016 •

[A182461] • 16,40,88,184,376,760,1528,3064,6136,12280,24568,49144,98296,196600,393208,786424,1572856,3145720,6291448,12582904,25165816,50331640,10

0663288,201326584,402653176 ★ a(n) = 3*a(n-1) - 2*a(n-2) with a(0)=16 and a(1)=40. ● a(n) = a(n - 1) * 2 + 8. ●

[A185761] ● 16,40,104,264,680,1736,4456,11400,29224,74824,191720,491016,1257896,3221960,8253544,21141384,54155560,138721096,355343336,910227720,2331601064,5972511944,15298916200,39188963976,100384628776 ★ Number of (n+1) X 2 binary arrays with no 2 X 2 subblock trace equal to any horizontal or vertical neighbor 2 X 2 subblock trace. ● a(n) = (2 ^ (- n) * ((1 - sqrt(17)) ^ n * (- 13 + 3 * sqrt(17)) + (1 + sqrt(17)) ^ n * (13 + 3 * sqrt(17)))) / sqrt (17). ●

[A205248] ● 16,40,112,328,976,2920,8752,26248,78736,236200,708592,2125768,6377296,19131880,57395632,172186888,516560656,1549681960,4649045872,13947137608,41841412816,125524238440,376572715312,1129718145928,3389154437776 ★ Number of (n+1) X 2 0..1 arrays with the number of clockwise edge increases in every 2 X 2 subblock the same. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2). ● a(n) = 4 * (3 ^ n + 1). ●

[A205186] ● 16,40,124,256,736,1408,3904,7168,19456,34816,93184,163840,434176,753664,1982464,3407872,8912896,15204352,39583744,67108864,174063616,293601280,759169024,1275068416,3288334336 ★ Number of (n+1) X (n+1) 0..1 arrays with the number of clockwise edge increases in every 2 X 2 subblock differing from each horizontal or vertical neighbor. ● a(n) = 8 * a(n - 2) - 16 * a(n - 4) for n>3. ●

[A197903] ● 16,40,124,327,732,1447,2604,4359,6892,10407,15132,21319,29244,39207,51532,66567,84684,106279,131772,161607,196252,236199,281964,334087,393132 ★ Ceiling((n+1/n)^4). ● a(n) = n ^ 4 + 4 * n ^ 2 + 7, n>=3. ●

[A188861] ● 16,41,68,95,122,149,176,203,230,257,284,311,338,365,392,419,446,473,500,527,554,581,608,635,662 ★ Number of n X 4 binary arrays without the pattern 0 1 diagonally, vertically or antidiagonally. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>3. ●

[A134593] ● 1,16,41,76,121,176,241,316,401,496,601,716,841,976,1121,1276,1441,1616,1801,1996,2201,2416,2641,2876,3121 ★ 5n^2 + 10n + 1. Coefficients of the rational part of (1 + sqrt(n))^5. ● a(n)=5 * n ^ 2 + 10 * n + 1 ● a(n)=a(n - 1) + 10 * n + 5 (with a(0)=1) [From Vincenzo Librandi, Nov 23 2010] ●

[A200408] ● 1,16,41,121,316,841,2201,5776,15121,39601,103676,271441,710641,1860496,4870841,12752041,33385276,87403801,228826121,599074576,1568397601,4106118241,10749957116,28143753121,73681302241 ★ -4 + 5*Fibonacci(n+1)^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). G.f.: - x * (x ^ 3 - 7 * x ^ 2 + 13 * x + 1) / ((x - 1) * (x + 1) * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Sep 01 2013 ●

[A210375] ● 0,1,16,44,80,125,180,246,324,415,520,640,776,929,1100,1290,1500,1731,1984,2260,2560,2885,3236,3614,4020 ★ Number of 2 X 2 matrices with all terms in {0,1,...,n} and (sum of terms) = n + 3. ● a(n) = (- 120 + 74 * n + 15 * n ^ 2 + n ^ 3) / 6 for n > 1. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 5. ●

[A051868] ● 0,1,16,45,88,145,216,301,400,513,640,781,936,1105,1288,1485,1696,1921,2160,2413,2680,2961,3256,3565,3888 ★ 16-gonal (or hexadecagonal) numbers: a(n) = n*(7*n-6). ● a(n) = 14 * n + a(n - 1) - 13, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 ● a(0)=0, a(1)=1, a(2)=16; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 07 2011 ● a(14 * a(n) + 92 * n + 1) = a(14 * a(n) + 92 * n) + a(14 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 ●

[A069128] ● 1,16,46,91,151,226,316,421,541,676,826,991,1171,1366,1576,1801,2041,2296,2566,2851,3151,3466,3796,4141,4501 ★ Centered 15-gonal numbers: (15*n^2 - 15*n + 2)/2. ● a(n) = (15 * n ^ 2 - 15 * n + 2) / 2. ● a(n) = 15 * n + a(n - 1) - 15 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 ●

[A099003] ● 1,16,46,106,226,466,946,1906,3826,7666,15346,30706,61426,122866,245746,491506,983026,1966066,3932146,7864306,15728626,31457266,62914546,125829106,251658226 ★ Number of 4 X n 0-1 matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (10;0) and (11;0). ● a(n) = 15 * 2 ^ n - 14. ●

[A244094] ● 16,46,109,222,407,690,1099,1669,2437,3445,4737,6363,8376,10834,13797,17330,21503,26389,32064,38608,46108,54651,64331,75243,87489 ★ Rounded down ratio of area of a unit circle and one of the circles inscribed between a regular n-gon and a circumscribed unit circle. ● a(n) = floor(Pi / area(n)) where area(n) = Pi * r(n) ^ 2, r(n) = (1 - cos(Pi / n)) / 2 = sin(Pi / (2 * n)) ^ 2, n >= 3. ●

[A133345] ● 1,1,16,46,316,1276,6976,31816,161296,768016,3794176,18340576,89799616,436367296,2129929216,10369000576,50557010176,246280028416,1200358199296,5848636796416,28502288382976,138885491915776 ★ a(n)=2a(n-1)+14a(n-2) for n>1, a(0)=1, a(1)=1. ● a(n)=(1 / 2) * [1 - sqrt(15)] ^ n + (1 / 2) * [1 + sqrt(15)] ^ n, n>=0 - _ Paolo P. Lava _ , Jun 10 2008 ●

[A194268] ● 1,16,47,94,157,236,331,442,569,712,871,1046,1237,1444,1667,1906,2161,2432,2719,3022,3341,3676,4027,4394,4777 ★ 8*n^2 + 7*n + 1. ● a(0)=1, a(1)=16, a(2)=47, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 06 2014 ●

[A204609] ● 16,47,125,335,907,2470,6740,18406,50278,137354,375250,1025194,2800874,7652122,20905978,57116186,156044314,426320986,1164730586,3182103130,8693667418,23751541082,64890416986,177283916122,484348666202 ★ Number of (n+1) X 2 0..1 arrays with the determinants of 2 X 2 subblocks nondecreasing rightwards and downwards. ● a(n) = (112 + (193 - 113 * sqrt(3)) * (1 - sqrt(3)) ^ n + (1 + sqrt(3)) ^ n * (193 + 113 * sqrt(3))) / 24 for n>2. ●

[A035008] ● 0,16,48,96,160,240,336,448,576,720,880,1056,1248,1456,1680,1920,2176,2448,2736,3040,3360,3696,4048,4416,4800 ★ Total number of possible knight moves on an (n+2) X (n+2) chessboard, if the knight is placed anywhere. ● a(n) = 8 * n * (n + 1). ● a(n) = C(n + 1,2) * 4 ^ 2, n>=0. - _ Zerinvary Lajos _ , Aug 07 2008 ● a(n) = a(n - 1) + 16 * n, (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 ●

[A016778] ● 1,16,49,100,169,256,361,484,625,784,961,1156,1369,1600,1849,2116,2401,2704,3025,3364,3721,4096,4489,4900,5329 ★ a(n) = (3*n+1)^2. ● a(n) = a(n - 1) + 3 * (6 * n - 1) (with a(0)=1). [_ Vincenzo Librandi _ , Nov 20 2010] ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=1, a(1)=16, a(2)=49. - _ Harvey P. Dale _ , Mar 03 2013 ●

[A080860] ● 1,16,51,106,181,276,391,526,681,856,1051,1266,1501,1756,2031,2326,2641,2976,3331,3706,4101,4516,4951,5406,5881 ★ 10*n^2 + 5*n + 1. ● a(n) = C(5,0) + C(5,1) * n + C(5,2) * n ^ 2. ● a(n) = 20 * n + a(n - 1) - 5 with n>0, a(0)=1. - _ Vincenzo Librandi _ , Aug 08 2010 ●

[A009931] ● 1,16,52,130,244,380,538,784,986,1268,1588,1930,2236,2764,3086,3592,4126,4676,5084,5962,6364,7096,7846,8624,9094 ★ Coordination sequence for MgCu2, Mg position. ● a(n) = - 3 * a(n - 1) - 4 * a(n - 2) - a(n - 3) + 6 * a(n - 4) + 11 * a(n - 5) + 9 * a(n - 6) - 9 * a(n - 8) - 11 * a(n - 9) - 6 * a(n - 10) + a(n - 11) + 4 * a(n - 12) + 3 * a(n - 13) + a(n - 14) for n>14. ●

[A137741] ● 1,16,54,119,218,360,555,814,1149,1573,2100,2745,3524,4454,5553,6840,8335,10059,12034,14283,16830,19700,22919,26514,30513 ★ Number of different strings of length n+4 obtained from "123...n" by iteratively duplicating any substring. ● a(n) = n ^ 4 for n=1,2; a(n) = 1 / 24 * (n + 3) * (n ^ 3 + 15 * n ^ 2 + 50 * n - 96) for n>2 (conjectured). ●

[A122658] ● 0,0,16,54,512,1000,3888,6174,16384,23328,50000,66550,124416,158184,268912,330750,524288,628864,944784,1111158,1600000,1852200,2576816,2944414,3981312 ★ a(n) = if n mod 2 = 1 then n^3*(n-1)^2/2 else n^5/2. ● a(n) = (n ^ 3 * (1 - (- 1) ^ n + 2 * (- 1 + (- 1) ^ n) * n + 2 * n ^ 2)) / 4. G.f.: 2 * x ^ 2 * (x ^ 8 + 7 * x ^ 7 + 95 * x ^ 6 + 113 * x ^ 5 + 379 * x ^ 4 + 149 * x ^ 3 + 189 * x ^ 2 + 19 * x + 8) / ((x - 1) ^ 6 * (x + 1) ^ 5). - _ Colin Barker _ , Sep 20 2013 ●

[A244805] ● 1,16,55,118,205,316,451,610,793,1000,1231,1486,1765,2068,2395,2746,3121,3520,3943,4390,4861,5356,5875,6418,6985 ★ The 240º spoke (or ray) of a hexagonal spiral of Ulam. ● a(n) = 12 * n ^ 2 - 21 * n + 10 (see A056105). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. ●

[A295986] ● 1,1,1,16,56,192,624,1920,5632,15872,43264,114688,296960,753662,1880064,4620288,11206656,26869760,63766528,149946368,349700096,809500672,1861222400,4253024256,9663676416 ★ Number of maximal cliques in the n-halved cube graph. ● a(n) = 2 ^ (n - 4) * (n ^ 2 - 5 * n + 12) * (n + 2) / 3 for n > 3. ● a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4) for n > 7. ●

[A202993] ● 1,1,16,56,296,1052,4952,17292,70512,249712,931226,3212690,11399590,38331770,130310820,428389292,1408697596,4524980036,14486512316,45558807176,142488702483,439559056419,1347096766984,4082169772704,12286806024269 ★ G.f.: A(x) = exp(Sum_{n>=1} sigma(n^4)*x^n/n), a power series in x with integer coefficients. ● a(n) = (1 / n) * Sum _{ k=1..n } sigma (k ^ 4) * a(n - k) for n>0, with a(0)=1. ●

[A177890] ● 0,1,16,58,140,275,476,756,1128,1605,2200,2926,3796,4823,6020,7400,8976,10761,12768,15010,17500,20251,23276,26588,30200 ★ 15-gonal (or pentadecagonal) pyramidal numbers: a(n) = n*(n+1)*(13*n-10)/6. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 04 2012 ● a(n) = sum((n - i) * (13 * i + 1), i=0..n - 1), with a(0)=0. [_ Bruno Berselli _ , Feb 10 2014] ●

[A027117] ● 16,59,155,352,738,1475,2861,5444,10232,19079,35395,65452,120786,222615,409965,754616,1388592,2554723,4699643,8644840,15901266,29247995,53796541,98948444,181995832 ★ a(n) = T(n, n+4), T given by A027113. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) - a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>9. ●

[A292537] ● 16,59,227,899,3587,14339,57347,229379,917507,3670019,14680067,58720259,234881027,939524099,3758096387,15032385539,60129542147,240518168579,962072674307,3848290697219,15393162788867,61572651155459,246290604621827,985162418487299 ★ Number of cliques in the n-Sierpinski tetrahedron graph. ● a(n) = 7 * 4 ^ n / 2 + 3 for n > 1. ● a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n > 1. ●

[A022289] ● 0,16,63,141,250,390,561,763,996,1260,1555,1881,2238,2626,3045,3495,3976,4488,5031,5605,6210,6846,7513,8211,8940 ★ a(n) = n*(31*n + 1)/2. ● a(n) = 31 * n + a(n - 1) - 15, for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 04 2010 ●

[A143860] ● 1,16,63,142,253,396,571,778,1017,1288,1591,1926,2293,2692,3123,3586,4081,4608,5167,5758,6381,7036,7723,8442,9193 ★ Ulam's spiral (NNW spoke). ● a(n) = 16 * n ^ 2 - 33 * n + 18. [From R. J. Mathar, Sep 08 2008] ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 10 2012 ●

[A100176] ● 1,16,63,160,325,576,931,1408,2025,2800,3751,4896,6253,7840,9675,11776,14161,16848,19855,23200,26901,30976,35443,40320,45625 ★ Structured octagonal prism numbers. ● a(n) = 3 * n ^ 3 - 2 * n ^ 2. ● a(n) = Sum _{ i=0..n - 1 } n * (6 * i + 1). - _ Bruno Berselli _ , Sep 08 2015 ●

[A060091] ● 0,0,0,16,63,162,341,636,1092,1764,2718,4032,5797,8118,11115,14924,19698,25608,32844,41616,52155,64714,79569,97020,117392 ★ Number of 4-block ordered bicoverings of an unlabeled n-set. ● a(n) = binomial(n + 5, 5) - 4 * binomial(n + 2, 2) - 3 * binomial(n + 1, 1) + 12 * binomial(n, 0) - 6 * binomial(n - 1, - 1); ● a(n) = (n + 5) * (n - 1) * (n - 2) * (n ^ 2 + 13 * n + 72) / 120, n>0. - _ R. J. Mathar _ , Aug 15 2017 ●

[A016802] ● 0,16,64,144,256,400,576,784,1024,1296,1600,1936,2304,2704,3136,3600,4096,4624,5184,5776,6400,7056,7744,8464,9216 ★ a(n) = (4n)^2. ● a(n)

= a(n - 1) + 16 * (2 * n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 20 2010 •

[**A102860**] • 0,16,64,160,320,560,896,1344,1920,2640,3520,4576,5824,7280,8960,10880,13056,15504,18240,21280,24640,28336,32384,36800,41600 ⋆ Number of ways to change three non-identical letters in the word aabbccdd..., where there are n types of letters. • a(n) = 16 * C(n, 3) = 2 * C(2 * n, 3) - 8 * C(n, 2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = 8 * n * (n - 1) * (n - 2) / 3. (End) •

[**A100184**] • 1,16,64,164,335,596,966,1464,2109,2920,3916,5116,6539,8204,10130,12336,14841,17664,20824,24340,28231,32516,37214,42344,47925 ⋆ Structured octagonal anti-prism numbers. • a(n) = (1 / 6) * (19 * n ^ 3 - 15 * n ^ 2 + 2 * n). [Corrected by _ Luca Colucci _ , Mar 01 2011] • a(n) = Sum _{ i = 0..n - 1 } (n + i) * (n + 2 * i). - _ Bruno Berselli _ , Feb 14 2018 •

[**A212506**] • 0,1,16,64,196,441,900,1600,2704,4225,6400,9216,12996,17689,23716,30976,40000,50625,63504,78400,96100,116281,139876,166464,197136 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<=2x and y<=2z. • a(n) = 2 a(n - 1) + 2a(n - 2) - 6a(n - 3) + 6a(n - 5) - 2a(n - 6) - 2a(n - 7) + a(n - 8). •

[**A212512**] • 0,1,16,64,196,462,930,1680,2860,4485,6800,9888,13908,19019,25564,33440,43200,54900,68796,85120,104470,126511,152218,181560,214896 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<=2x and y<3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[**A034720**] • 1,16,65,168,345,616,1001,1520,2193,3040,4081,5336,6825,8568,10585,12896,15521,18480,21793,25480,29561,34056,38985,44368,50225 ⋆ Number of different words that can be formed from n X n grid of letters, reading horizontally, vertically or diagonally. • a(n) =n(2n - 1)(5n - 2) / 3 - _ Henry Bottomley _ , Apr 11 2002 •

[**A253673**] • 1,16,65,1520,6321,148896,619345,14590240,60689441,1429694576,5946945825,140095478160,582740001361,13727927165056,57102573187505,1345196766697280,5595469432374081,131815555209168336,548298901799472385,12916579213731799600 ⋆ Indices of centered triangular numbers (A005448) that are also centered octagonal numbers (A016754). • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A216306**] • 16,67,121,220,229,247,283,295,334,361,379,394,481,592,604,673,724,757,760,772,793,844,880,913,988 ⋆ Values of k such that 10*k+3 and 10*k+7 alone are prime between 10*k and 10*k+9. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[**A100186**] • 1,16,67,176,365,656,1071,1632,2361,3280,4411,5776,7397,9296,11495,14016,16881,20112,23731,27760,32221,37136,42527,48416,54825 ⋆ Structured heptagonal anti-diamond numbers (vertex structure 7). • a(n) = (1 / 6) * (22 * n ^ 3 - 24 * n ^ 2 + 8 * n). •

[**A271913**] • 0,16,68,148,248,360,488,620,768,924,1096,1272,1464,1660,1872,2088,2320,2556,2808,3064,3336,3612,3904,4200 ⋆ Number of ways to choose three distinct points from a 4 X n grid so that they form an isosceles triangle. • a(n) = - 3 / 2 * (143 + (- 1) ^ n) + 64 * n + 5 * n ^ 2 for n>8. • a(n) = 5 * n ^ 2 + 64 * n - 216 for n>8 and even. • a(n) = 5 * n ^ 2 + 64 * n - 213 for n>8 and odd. •

[**A005906**] • 1,16,68,180,375,676,1106,1688,2445,3400,4576,5996,7683,9660,11950,14576,17561,20928,24700,28900,33551,38676,44298,50440,57125 ⋆ Truncated tetrahedral numbers: (1/6)*(n+1)*(23*n^2 + 19*n + 6). • a(n) = binomial(3 * n, 3) - 4 * binomial(n + 1, 3) = n * (23 * n ^ 2 - 27 * n + 10) / 6. •

[**A235643**] • 16,68,296,1300,5728,25268,111512,492196,2172592,9590180,42332936,186866356,824867584,3641141012,16072772984,70948650820,313182494032,1382454408452,6102448992488,26937513095764,118907935627168,524885022092660,2316954583165784 ⋆ Total number of sides of a tetraflake-like fractal after n iterations, a(1) = 16 (see comments). • a(n) = sqrt(2) * ((3 - sqrt(2)) ^ n * (- 1 + sqrt(2)) + (1 + sqrt(2)) * (3 + sqrt(2)) ^ n). • a(n) = 6 * a(n - 1) - 7 * a(n - 2). •

[**A200839**] • 16,69,194,435,846,1491,2444,3789,5620,8041,11166,15119,20034,26055,33336,42041,52344,64429,78490,94731,113366,134619,158724,185925,216476 ⋆ Number of 0..n arrays x(0..3) of 4 elements without any two consecutive increases or two consecutive decreases. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[**A063493**] • 1,16,70,189,399,726,1196,1835,2669,3724,5026,6601,8475,10674,13224,16151,19481,23240,27454,32149,37351,43086,49380,56259,63749 ⋆ a(n) = (2*n-1)*(13*n^2-13*n+6)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 16 2015 •

[**A220212**] • 0,1,16,70,200,455,896,1596,2640,4125,6160,8866,12376,16835,22400,29240,37536,47481,59280,73150,89320,108031,129536,154100,182000 ⋆ Convolution of natural numbers (A000027) with tetradecagonal numbers (A051866). • a(n) = n * (n + 1) * (n + 2) * (3 * n - 2) / 6. •

[**A212513**] • 0,1,16,72,210,483,990,1760,2964,4680,7040,10176,14364,19551,26180,34320,44200,56025,70308,86800,106330,128898,154836,184416,218448 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<=2x and y<=3z. • a(n) = 2 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 4 * a(n - 5) + 2 * a(n - 7) - 2 * a(n - 9) + 4 * a(n - 11) + a(n - 12) - 2 * a(n - 13) - 2 * a(n - 14) + a(n - 16). •

[**A279905**] • 0,0,0,16,72,216,480,960,1680,2800,4320,6480,9240,12936,17472,23296,30240,38880,48960,61200,75240,91960,110880,133056,157872 ⋆ Number of 2 X 2 matrices with entries in {0,1,...,n} and odd trace with no elements repeated. • a(n) = ((n - 2) * (n - 1) * (2 * (n + 1) ^ 2 - (- 1) ^ n - 1)) / 4 for n>=0 . • a(n) = (n ^ 4 - n ^ 3 - 4 * n ^ 2 + 4 * n) / 2 for n even. • a(n) = (n ^ 4 - n ^ 3 - 3 * n ^ 2 + n + 2) / 2 for n odd. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - 6 * a(n - 3) + 6 * a(n - 5) - 2 * a(n - 6) - 2 * a(n - 7) + a(n - 8) for n>7. •

[**A200786**] • 16,75,225,530,1071,1946,3270,5175,7810,11341,15951,21840,29225,38340,49436,62781,78660,97375,119245,144606,173811,207230,245250,288275,336726 ⋆ Number of 0..n arrays x(0..3) of 4 elements without any two consecutive increases. • a(n) = (24 + 106 * n + 151 * n ^ 2 + 86 * n ^ 3 + 17 * n ^ 4) / 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. •

[**A212690**] • 0,1,16,75,236,567,1172,2157,3672,5861,8920,13031,18436,25355,34076,44857,58032,73897,92832,115171,141340,171711,206756,246885,292616 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and 2|w-x|<=n+|y-z|. • a(n)= 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). •

[**A200873**] • 16,77,236,567,1168,2163,3704,5973,9184,13585,19460,27131,36960,49351,64752,83657,106608,134197,167068,205919,251504,304635,366184,437085,518336 ⋆ Number of 0..n arrays x(0..4) of 5 elements without any interior element greater than both neighbors or less than both neighbors. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[**A082966**] • 0,1,16,77,319,920,2397,5278,10874,20355,36390,61171,99441,154882,235179,346060,499172,702933,974124,1324585,1777555,2349116,3070441,3962762,5066814 ⋆ Number of inequivalent ways (mod D_4) three checkers can be placed on an n X n board. • a(n) = 1 / 48 * (n - 1) * (n ^ 5 + n ^ 4 - 2 * n ^ 3 + 14 * n ^ 2 - 5 * n + 3) if n is odd; • a(n) = 1 / 48 * n * (n - 1) * (n ^ 2 - n + 2) * (n ^ 2 + 2 * n - 2) if n is even. •

[**A061995**] • 0,0,0,16,78,228,520,1020,1806,2968,4608,6840,9790,13596,18408,24388,31710,40560,51136,63648,78318,95380,115080,137676,163438 ⋆ Number of ways to place 2 nonattacking kings on an n X n board. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n >= 6. • a(n) = (n - 1) * (n - 2) * (n ^ 2 + 3 * n - 2) / 2, n >= 1. •

[**A212563**] • 0,1,16,78,240,577,1182,2172,3680,5865,8900,12986,18336,25193,33810,44472,57472,73137,91800,113830,139600,169521,204006,243508,288480 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w+x<=2y+2z. • a(n) = 3 * a(n - 1) - a(n - 2) - 5 * a(n - 3) + 5 * a(n - 4) + a(n - 5) - 3 * a(n - 6) + a(n - 7). • a(n) = 1 / 96 * (82 * n ^ 4 + 36 * n ^ 3 - 16 * n ^ 2 - 6 * ((- 1) ^ n - 1) * n + 9 * ((- 1) ^ n - 1)). •

[**A212896**] • 1,16,79,240,551,1066,1839,2924,4375,6246,8591,11464,14919,19010,23791,29316,35639,42814,50895,59936,69991,81114,93359,106780,121431 ⋆ Number of (w,x,y,z) with all terms in {0,...,n} and (least gapsize)<2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>=6. • a(n) = 9 * n ^ 3 - 6 * n ^ 2 + 20 * n - 9 with n>1, a(0)=1, a(1)=16. [_ Bruno Berselli _ , Jun 12 2012] •

[**A008511**] • 0,16,80,240,544,1040,1776,2800,4160,5904,8080,10736,13920,17680,22064,27120,32896,39440,46800,55024,64160,74256,85360,97520,110784 ⋆ Number of points on surface of 4-dimensional cube. • a(n) = (n + 1) ^ 4 - (n - 1) ^ 4. • a(0)=0, a(1)=16, a(2)=80, a(3)=240, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 15 2012 •

[**A130810**] • 16,80,240,560,1120,2016,3360,5280,7920,11440,16016,21840,29120,38080,48960,62016,77520,95760,117040,141680,170016,202400,239200,280800,327600 ⋆ If X_1,...,X_n is a partition of a 2n-set X into 2-blocks then a(n) is equal to the number of 4-subsets of X containing none of X_i, (i=1,...,n). • a(n) = binomial(2 * n,4) + binomial(n,2) - n * binomial(2 * n - 2,2). • a(n) = C(n,n - 4) * 2 ^ 4, n>=4. - _ Zerinvary Lajos _ , Dec 07 2007 •

[**A212090**] • 0,1,16,80,251,610,1261,2331,3970,6351,9670,14146,20021,27560,37051,48805,63156,80461,101100,125476,154015,187166,225401,269215,319126 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<x+y+z. • a(n) = 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5). • a(n) = n * (- 2 + (1 + (2 + 23 * n) * n) * n) / 24. •

[**A050468**] • 1,16,80,256,626,1280,2400,4096,6481,10016,14640,20480,28562,38400,50080,65536,83522,103696,130320,160256,192000,234240,279840,327680,391251 ⋆ Sum_{d|n, n/d=1 mod 4} d^4 - Sum_{d|n, n/d=3 mod 4} d^4. • a(n) is multiplicative with a(2 ^ e) = 16 ^ e, a(p ^ e) = ((p ^ 4) ^ (e + 1) - 1) / (p ^ 4 - 1) if p == 1 (mod 4), a(p ^ e) = ((p ^ 4) ^ (e + 1) - (- 1) ^ (e + 1)) / (p ^ 4 + 1) if p == 3 (mod 4). - _ Michael Somos _ , Jan 14 2012 •

[**A247817**] • 0,16,80,336,1360,5456,21840,87376,349520,1398096,5592400,22369616,89478480,357913936,1431655760,5726623056,22906492240,91625968976,366503875920,1466015503696,5864062014800,23456248059216,93824992236880,375299968947536,1501199875790160 ⋆ Sum(4^k, k=2..n). • a(n) = a(n - 1) + 4 ^ n = (4 ^ (n + 1) - 16) / 3 = 5 * a(n - 1) - 4 * a(n - 2). •

[**A221910**] • 1,16,80,536,4128,32808,262192,2097208,16777280,134217800,1073741904,8589934680,68719476832,549755813992,4398046511216,35184372088952,281474976710784,2251799813685384,18014398509482128 ⋆ 8^n + 8*n. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) + 8 * a(n - 3). •

[**A069840**] • 16,80,666,6588,80886,1146916,18583160,337808300,6812539360,150922350288,3643698427650,95221941543232,2678117152113428,80658585770586368,2590036811212597862,88333886984966359596 ⋆ Number of different (unlabeled) 2-cell embeddings of the n-wheel graph W_(n+1) on n+1 nodes into orientable surfaces. • a(n)=1 / (2 * n) * sum _ (d|n) phi(d) ^ 2 * 2 ^ (n / d) * (n / d - 1)! * d ^ (n / d - 1), n odd; a(n)=1 / (2 * n) * sum _ (d|n) phi (d) ^ 2 * 2 ^ (n / d) * (n / d - 1)! * d ^ (n / d - 1) + 2 ^ (n - 3) * (n / 2 - 1)!, n even, where phi(n) is the Euler totient function A000010. •

[**A016898**] • 16,81,196,361,576,841,1156,1521,1936,2401,2916,3481,4096,4761,5476,6241,7056,7921,8836,9801,10816,11881,12996,14161,15376 ⋆ a(n) = (5n + 4)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[**A212898**] • 1,16,81,254,609,1234,2215,3640,5599,8182,11479,15580,20575,26554,33607,41824,51295,62110,74359,88132,103519,120610,139495,160264,183007

⋆ Number of (w,x,y,z) with all terms in {0,...,n} and (least gapsize)<=2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>=9. • a(n) = 15 * n ^ 3 - 48 * n ^ 2 + 144 * n - 161 with n>4, a(0)=1, a(1)=16, a(2)=81, a(3)=254, a(4)=609. [_ Bruno Berselli _ , Jun 12 2012] •

[A212145] • 0,1,16,81,255,621,1285,2377,4050,6481,9870,14441,20441,28141,37835,49841,64500,82177,103260,128161,157315,191181,230241,275001,325990 ⋆ Number of (w,x,y,z) with all terms in {1,...,n} and w<2x+y+z. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6). • a(n) = (3 - 3 * (- 1) ^ n - 8 * n - 4 * n ^ 2 + 8 * n ^ 3 + 94 * n ^ 4) / 96. - _ Colin Barker _ , Nov 21 2014 •

[A000583] • 0,1,16,81,256,625,1296,2401,4096,6561,10000,14641,20736,28561,38416,50625,65536,83521,104976,130321,160000,194481,234256,279841,331776 ⋆ Fourth powers: a(n) = n^4. • a(n) = C(n + 3,4) + 11 * C(n + 2,4) + 11 * C(n + 1,4) + C(n,4). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 24. - _ Ant King _ , Sep 23 2013 •

[A056118] • 1,16,81,266,686,1512,2982,5412,9207,14872,23023,34398,49868,70448,97308,131784,175389,229824,296989,378994,478170,597080,738530,905580,1101555 ⋆ a(n) = (11*n+5)*(n+4)*(n+3)*(n+2)*(n+1)/120. • a(n) = (11 * n + 5) * binomial(n + 4,4) / 5. • a(0)=1, a(1)=16, a(2)=81, a(3)=266, a(4)=686, a(5)=1512; for n>5, a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Oct 18 2013 •

[A056571] • 0,1,1,16,81,625,4096,28561,194481,1336336,9150625,62742241,429981696,2947295521,20200652641,138458410000,949005240561,6504586067281,44583076827136,305577005139121,2094455819300625,14355614096087056 ⋆ Fourth power of Fibonacci numbers A000045. • a(n) = F(n - 2) * F(n - 1) * F(n + 1) * F(n + 2) + 1. • a(n) = (F(n) * F(3n) - 3 * F(n) ^ 2 * (- 1) ^ n) / 5. - _ Gary Detlefs _ , Dec 26 2010 •

[A231303] • 0,1,16,82,272,707,1568,3108,5664,9669,15664,24310,36400,52871,74816,103496,140352,187017,245328,317338,405328,511819,639584,791660,971360 ⋆ Recurrence a(n) = a(n-2) + n^M for M=4, starting with a(0)=0, a(1)=1. • a(n) = Sum _{ k=0..floor(n / 2) } (n - 2k) ^ 4. • a(n) = 1 / 30 * n * (3 * n ^ 4 + 15 * n ^ 3 + 20 * n ^ 2 - 8). •

[A172219] • 1,16,84,412,1126,2760,5739,10982,19695,33068,52801,80638,118731,169368,235135,318890,423733,553028,710389,899690,1125059,1390880,1701793,2062694,2478735 ⋆ Number of ways to place 4 nonattacking nightriders on a 4 X n board. • a(n) = (32n ^ 4 - 432n ^ 3 + 3190n ^ 2 - 13323n + 25530) / 3, n>=18. •

[A118675] • 0,16,85,141,225,616,940,1428,3705,5593,8437,21708,32712,49288,126637,190773,287385,738208,1112020,1675116,4302705,6481441,9763405,25078116,37776720 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+47)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 94 for n > 6 ; a(1)=0, a(2)=16, a(3)=85, a(4)=141, a(5)=225, a(6)=616. •

[A050256] • 16,86,185,307,448,606,778,965,1164,1376,1599,1832,2077,2331,2595,2868,3150,3440,3739,4047,4362,4685,5016,5354,5699 ⋆ Diaconis-Mosteller approximation to the Birthday problem function. • a(n) = floor(47 * (n - 1.5) ^ (3 / 2)). - _ Derek Orr _ , Sep 05 2015 •

[A225007] • 16,86,296,791,1792,3612,6672,11517,18832,29458,44408,64883,92288,128248,174624,233529,307344,398734,510664,646415,809600,1004180,1234480,1505205,1821456 ⋆ Number of nX5 0..1 arrays with rows unimodal and columns nondecreasing • a(n) = (2 / 15) * n ^ 5 + (7 / 6) * n ^ 4 + (23 / 6) * n ^ 3 + (35 / 6) * n ^ 2 + (121 / 30) * n + 1. •

[A070052] • 16,87,384,1516,5535,19030,62347,196301,597725,1768733,5105853,14423037,39968765,108884733,292116989,772923389,2019573757,5216813053,13334904829,33758183421,84702265341,210777210877,520498839549,1276178857981,3108165910525 ⋆ Number of Bottleneck-Monge matrices with 4 rows. • a(N) = a(4, N), where a(P, N) is defined recursively in A070050. •

[A035291] • 0,0,16,88,280,680,1400,2576,4368,6960,10560,15400,21736,29848,40040,52640,68000,86496,108528,134520,164920,200200,240856,287408,340400 ⋆ Number of ways to place a non-attacking white and black queen on n X n chessboard. • a(n) = (3 n ^ 4 - 10 n ^ 3 + 9 n ^ 2 - 2 n) / 3. •

[A055920] • 1,16,90,328,886,2016,3986,7208,12050,19096,28802,41936,59030,81048,108586,142816,184386,234688,294410,365176,447702,543856,654370,781368,925586 ⋆ Susceptibility series H_4 for 2-dimensional Ising model (divided by 2) for 1 particle excitation. • a(n) = (133 * n ^ 4 + 524 * n ^ 2 + 96) / 48 for n>0 and even. • a(n) = (133 * n ^ 4 + 542 * n ^ 2 + 93) / 48 for n odd. •

[A195591] • 16,90,344,1082,3036,7918,19648,47058,109796,251126,565512,1257754,2769196,6046014,13107536,28246370,60555636,129237382,274727320,581960106,1228931516,2587886030,5435818464,11391730162,23823647236 ⋆ Number of ways to place 3n nonattacking kings on a vertical cylinder 6 X 2n. • a(n) = (31 * n - 65) * 2 ^ n + 18 * n + 66. •

[A050406] • 1,16,91,336,966,2352,5082,10032,18447,32032,53053,84448,129948,194208,282948,403104,562989,772464,1043119,1388464,1824130,2368080,3040830,3865680,4868955 ⋆ Partial sums of A051880. • a(n)=C(n + 5, 5) * (5n + 3) / 3. •

[A294433] • 1,16,94,331,871,1906,3676,6469,10621,16516,24586,35311,49219,66886,88936,116041,148921,188344,235126,290131,354271,428506,513844,611341,722101 ⋆ Expansion of (1+11*x+24*x^2+11*x^3+x^4)/(1-x)^5. • a(n) = 1 + 7 * n / 2 + 11 * n ^ 2 / 2 + 4 * n ^ 3 + 2 * n ^ 4. - _ Robert Israel _ , Oct 30 2017 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. •

[A160750] • 1,16,94,331,880,1951,3811,6784,11251,17650,26476,38281,53674,73321,97945,128326,165301,209764,262666,325015,397876,482371,579679,691036,817735 ⋆ Expansion of (1+11*x+24*x^2+11*x^3+10*x^4)/(1-x)^5. • a(n) = 19 * n ^ 4 / 8 + 7 * n ^ 3 / 4 + 77 * n ^ 2 / 8 + 5 * n / 4 + 1. - _ R. J. Mathar _ , Sep 11 2011 •

[A277044] • 0,0,0,16,96,216,600,1008,2064,3040,5280,7200,11280,14616,21336,26656,36960,44928,59904,71280,92160,107800,135960,156816,193776 ⋆ Number of 2 X 2 matrices with entries in {0,1,...,n} and even determinant with no entry repeated. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n>8. • a(n) = (5 * n ^ 4 - 8 * n ^ 3 + 4 * n ^ 2 - 16 * n) / 8 for n even. • a(n) = (5 * n ^ 4 - 12 * n ^ 3 + 2 * n ^ 2 + 12 * n - 7) / 8 for n odd. •

[A100313] • 16,96,400,1408,4480,13312,37632,102400,270336,696320,1757184,4358144,10649600,25690112,61276160,144703488,338690048,786432000,1812987904,4152360960,9453961216,21407727616,48234496000,108179488768 ⋆ Number of 4 X n binary matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (10;0) and (01;1). • a(n) = (1 / 3) n * (n ^ 2 + 9n + 14) * 2 ^ n. •

[A277225] • 1,16,97,241,3302449,123402049,2163898897,4168758049,10062413521,18006326449,21376916449,55487798449,77248867921,108396336049,141466251697,183357512449,198504183697,200642120449,278584843921,282955076449,341261911249,723039200449,770057874097,847823354449 ⋆ Initial values of runs of 5 consecutive numbers all of which are squares, primes, or products of one prime and one square. • a(n) >> n ^ 2. - _ Charles R Greathouse IV _ , Oct 14 2016 •

[A001249] • 1,16,100,400,1225,3136,7056,14400,27225,48400,81796,132496,207025,313600,462400,665856,938961,1299600,1768900,2371600,3136441,4096576,5290000,6760000,8555625 ⋆ Squares of tetrahedral numbers: binomial(n+3,n)^2. • a(n) = (n + 3) * C(n + 2, 2) * C(n + 3, 3) / 3. - _ Gary Detlefs _ , Jan 06 2014 •

[A052206] • 1,16,100,408,1290,3432,8052,17160,33891,62920,110968,187408,304980,480624,736440,1100784,1609509,2307360,3249532,4503400,6150430,8288280,11033100,14522040,18915975 ⋆ Partial sums of A050405. • a(n) = (9n + 7) * C(n + 6, 6) / 7. •

[A169721] • 1,16,100,484,2116,8836,36100,145924,586756,2353156,9424900,37724164,150945796,603881476,2415722500,9663283204,38653919236,154617249796,618472144900,2473894871044,9895592067076,39582393434116,158329624068100,633318596935684 ⋆ a(n) = (2*(3*2^(n-1)-1))^2. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Vincenzo Librandi _ , Dec 04 2012 •

[A061432] • 1,16,100,1024,10000,100489,1000000,10004569,100000000,1000014129,10000000000,100000147984,1000000000000,10000002149284,100000000000000,1000000025191729,10000000000000000,100000000621806289 ⋆ a(n) = smallest n-digit square. • a(n)=ceil(10 ^ ((n - 1) / 2)) ^ 2 - Antonio G. Astudillo (afg _ astudillo(AT)lycos.com), Mar 30 2003 •

[A199773] • 1,16,103,169,1072,6799,11153,70736,448631,735929,4667504,2960287,48560161,307984528,1953339271,3204234697,20322311344,128890789039,211430929841,1340964564176,8504838737303,13951237134809,88483338924272,561190465872959,920570219967553 ⋆ y-values in the solution to 17*x^2 - 16 = y^2. • a(n) = 66 * a(n - 3) - a(n - 6), a(1)=1, a(2)=16, a(3)=103, a(4)=169 , a(5)=1072, a(6)=6799. •

[A210687] • 16,104,303,653,1196,1978,3032,4410,6148,8292,10875,13955,17556,21730,26522,31966,38104,44988,52645,61133,70482,80738,91940,104140,117368 ⋆ The number of triangles in an equipotential triangle divided by medians into n rows of smaller triangles. • a(n) = (1678 * n ^ 3 + 3117 * n ^ 2 + 88 * n - 345 * Mod[n,2] - 320 * Mod[n,3] - 90 * Mod[n,4] - 288 * Mod[n ^ 3 - n ^ 2 + n,5]) / 240. (Bill Daly) •

[A010079] • 1,16,104,344,792,1528,2632,4152,6200,8792,12072,16024,20824,26424,33032,40568,49272,59032,70120,82392,96152,111224,127944,146104,166072 ⋆ Coordination sequence for net formed by holes in D_4 lattice. • a(n) = 2 * (- 4 * (- 1) ^ n + (3 + (- 1) ^ n) * n + 6 * n ^ 3) for n>1. G.f.: - (8 * x ^ 7 - 25 * x ^ 6 + 2 * x ^ 5 - 63 * x ^ 4 - 124 * x ^ 3 - 71 * x ^ 2 - 14 * x - 1) / ((x - 1) ^ 4 * (x + 1) ^ 2). - _ Colin Barker _ , Jul 07 2013 •

[A081588] • 1,16,106,396,1011,2076,3716,6056,9221,13336,18526,24916,32631,41796,52536,64976,79241,95456,113746,134236,157051,182316,210156,240696,274061 ⋆ Fourth row of the Pascal-(1,4,1) array A081579. • a(n) = (6 + 115 * n - 150 * n ^ 2 + 125 * n ^ 3) / 6. •

[A276159] • 1,16,106,416,1211,2912,6132,11712,20757,34672,55198,84448,124943,179648,252008,345984,466089,617424,805714,1037344,1319395,1659680,2066780,2550080,3119805 ⋆ Convolution of nonzero octagonal numbers (A000567) with themselves. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = (n + 1) * (n + 2) * (n + 3) * (9 * n ^ 2 + 6 * n + 5) / 30. •

[A056001] • 1,16,108,480,1650,4752,12012,27456,57915,114400,213928,381888,655044,1085280,1744200,2728704,4167669,6229872,9133300,13156000,18648630,26048880,35897940,48859200,65739375 ⋆ A second-order recursive sequence. • a(n) = (n + 1) * C(n + 7, 7). •

[A053526] • 0,0,0,0,16,110,435,1295,3220,7056,14070,26070,45540,75790,121121,187005,280280,409360,584460,817836,1124040,1520190,2026255,2665355,3464076 ⋆ Number of bipartite graphs with 3 edges on nodes {1..n}. • a(n) = (n - 3) * (n - 2) * (n - 1) * n * (n ^ 2 + 3 * n + 4) / 48. •

[A107908] • 1,16,110,490,1666,4704,11592,25740,52635,100672,182182,314678,522340,837760,1303968,1976760,2927349,4245360,6042190,8454754,11649638,15827680,21229000,28138500,36891855 ⋆ a(n) = (n+1)(n+2)^2*(n+3)^2*(n+4)(3n+5 • a(0)=1, a(1)=16, a(2)=110, a(3)=490, a(4)=1666, a(5)=4704, a(6)=11592, a(7)=25740, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Aug 07 2013 •

[A177046] • 16,111,143,238,270,365,397,492,524,619,651,746,778,873,905,1000,1032,1127,1159,1254,1286,1381,1413,1508,1540 ★ a(n) = 127*(n-1)-a(n-1) with n>1, a(1)=16. • a(n) = (127 - 63 * (- 1) ^ (n - 1) + 254 * (n - 1)) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A234250] • 0,16,111,439,1305,3240,7091,14126,26154,45660,75955,121341,187291,280644,409815,585020,818516,1124856,1521159,2027395,2666685,3465616,4454571,5668074,7145150 ★ Number of ways to choose 3 points in an n X n X n triangular grid so that they do not form a 2 X 2 X 2 triangle. • a(n) = (n - 1) * (n - 2) * (n ^ 4 + 6 * n ^ 3 + 13 * n ^ 2 + 16 * n - 24) / 48. •

[A213754] • 1,16,111,576,2631,11292,46927,191680,775599,3122076,12531591,50220912,201088855,804798268,3220143903,12882607872,51534757599,2061482062 68,824612224663,3298489794160,13194045161031,52776361000476 ★ Principal diagonal of the convolution array A213753. • a(n) = - 3 * 2 ^ n + 3 * 2 ^ (2 * n) - n * 2 ^ (n + 1) - n ^ 2. • a(n) = 11 * a(n - 1) - 47 * a(n - 2) + 101 * a(n - 3) - 116 * a(n - 4) + 68 * a(n - 5) - 16 * a(n - 6) for n>5. Corrected by _ Colin Barker _ , Nov 07 2017 •

[A144449] • 16,112,280,520,832,1216,1672,2200,2800,3472,4216,5032,5920,6880,7912,9016,10192,11440,12760,14152,15616,17152,18760,20440,22192 ★ 36*n^2 + 60*n + 16. • a(n) = 4 * (4 + 9 * n ^ 2 + 15 * n), with n>=0 [From Paolo P. Lava, Oct 28 2008] • a(n)=a(n - 1) + 24 * (3n + 1)=a(n - 1) + 72n + 24, a(0)=16. •

[A081194] • 1,16,113,664,3617,18976,97553,495784,2502977,12587056,63151793,316408504,1583991137,7925801536,39646545233,198285338824,991584532097,4958396174416,24793401413873,123971268694744,619869128349857 ★ a(n) = 8*a(n-1) -15*a(n-2), a(0)=1, a(1)=16. • a(n) = 13 * 5 ^ n / 2 - 11 * 3 ^ n / 2. •

[A055994] • 1,16,115,550,2035,6292,17017,41470,92950,194480,384098,722228,1301690,2261000,3801710,6210644,9887999,15382400,23434125,35027850,51456405,74397180,106002975,149009250,206859900 ★ Expansion of (1+6x)/(1-x)^10. • a(n) = (7n + 9) * C(n + 8, 8) / 9. •

[A145216] • 1,16,118,560,2003,5888,14988,34176,71445,139216,255970,448240,752999,1220480,1917464,2931072,4373097,6384912,9142990,12865072,17817019,24320384,32760740,43596800,57370365 ★ Self-convolution of (1^3, 2^3, 3^3, 4^3, ...). • a(n) = C(n + 2,3) * (3 * n * (n + 2) * (n ^ 2 + 2 * n + 3) + 16) / 70 •

[A226761] • 1,1,16,118,1004,8601,75076,662796,5903676,52949332,477533356,4326309406,39343725716,358943047438,3283745710968,30112624408488,276715616909148,2547523969430508,23491659440021920,216942761366305144,2006084011596742384,18572529488934397689 ★ G.f.: 1 / (1 + 12*x*G(x)^2 - 13*x*G(x)^3) where G(x) = 1 + x*G(x)^4 is the g.f. of A002293. • a(n) = Sum _{ k=0..n } C(3 * k, n - k) * C(4 * n - 3 * k, k). • a(n) = Sum _{ k=0..n } C(n + 3 * k, n - k) * C(3 * n - 3 * k, k). • a(n) = Sum _{ k=0..n } C(2 * n + 3 * k, n - k) * C(2 * n - 3 * k, k). • a(n) = Sum _{ k=0..n } C(3 * n + 3 * k, n - k) * C(n - 3 * k, k). • a(n) = Sum _{ k=0..n } C(4 * n + 3 * k, n - k) * C(- 3 * k, k). •

[A210428] • 0,1,16,119,560,1955,5552,13573,29632,59229,110320,193963,325040,523055,813008,1226345,1801984,2587417,3639888,5027647,6831280,9145115,12078704,15758381,20328896 ★ Number of semistandard Young tableaux over all partitions of 6 with maximal element <= n. • a(n) = n ^ 2 * (76 + (85 + 19 * n ^ 2) * n ^ 2) / 180. •

[A248621] • 0,16,120,456,1240,2760,5376,9520,15696,24480,36520,52536,73320,99736,132720,173280,222496,281520,351576,433960,530040,641256,769120,915216,1081200 ★ Floor of sums of the squares of the non-integer cube roots of n, as partitioned by the integer roots: floor[sum(j from n^3+1 to (n+1)^3-1, j^(2/3))]. • a(n) = floor[sum(j from n ^ 3 + 1 to (n + 1) ^ 3 - 1, j ^ (2 / 3))]. • a(n) = 2 * n + 5 * n ^ 2 + 6 * n ^ 3 + 3 * n ^ 4. •

[A190049] • 16,120,482,1412,3402,7168,13692,24264,40524,64504,98670,145964,209846,294336,404056,544272,720936,940728,1211098,1540308,1937474,2412608,2976660,3641560,4420260 ★ Expansion of (16+24*x+2*x^2)/(x-1)^6. • a(n) = 16 * binomial(n + 5,5) + 24 * binomial(n + 4,5) + 2 * binomial(n + 3,5). • a(n) = (21 * n ^ 5 + 245 * n ^ 4 + 1105 * n ^ 3 + 2395 * n ^ 2 + 2474 * n + 960) / 60. •

[A014805] • 1,16,120,576,2060,6048,15424,35200,73518,143280,263584,461376,775160,1256928,1973760,3017088,4503557,6572880,9411984,13249280,18340932,25034976,33739520,44879616,59057510 ★ Expansion of Jacobi theta constant (theta_2/2)^16. • a(n) = 1 / 192 * Sum _{ a, b, x, y > 0, a * x + b * y = 2 * n + 4, a == b == x == y == 1 mod 2 and a > b } a * b * (a ^ 2 - b ^ 2) ^ 2. - _ Seiichi Manyama _ , May 05 2017 •

[A164542] • 1,16,120,832,5696,38912,265728,1814528,12390400,84606976,577732608,3945005056,26938179584,183945396224,1256057733120,8576898695168,58566727696384,399918632009728,2730815234506752,18647172819976192 ★ a(n) = 8*a(n-1) - 8*a(n-2) for n > 1; a(0) = 1, a(1) = 16. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 16. • a(n) = ((1 + 3 * sqrt(2)) * (4 + 2 * sqrt(2)) ^ n + (1 - 3 * sqrt(2)) * (4 - 2 * sqrt(2)) ^ n) / 2. •

[A060219] • 16,120,1360,16320,209712,2795480,38347920,536862720,7635496960,109951057896,1599289640400,23456246655680,346430740566960,5146970983535160,76861433640386288,1152921504338411520 ★ Number of orbits of length n under the full 16-shift (whose periodic points are counted by A001025). • a(n) = (1 / n) * Sum _{ d|n } mu(d) * 16 ^ (n / d). •

[A191902] • 0,16,121,512,1562,3888,8403,16384,29524,50000,80525,124416,185646,268912,379687,524288,709928,944784,1238049,1600000,2042050,2576816,3218171,3981312,4882812 ★ Number of compositions of odd natural numbers into 5 parts <=n • a(n)=((n + 1) ^ 5 - (1 + (- 1) ^ n) / 2) / 2. •

[A081071] • 1,16,121,841,5776,39601,271441,1860496,12752041,87403801,599074576,4106118241,28143753121,192900153616,1322157322201,9062201101801,62113250390416,425730551631121,2918000611027441,20000273725560976 ★ a(n) = Lucas(4*n+2)-2, or Lucas(2*n+1)^2. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) + a(n - 3). • a(n) = - 2 + (3 / 2) * ((7 / 2 - (3 / 2) * sqrt(5)) ^ n + (7 / 2 + (3 / 2) * sqrt(5)) ^ n) + (1 / 2) * sqrt(5) * ((7 / 2 + (3 / 2) * sqrt(5)) ^ n - (7 / 2 - (3 / 2) * sqrt(5)) ^ n), with n >= 0. - _ Paolo P. Lava _ , Dec 01 2008 •

[A191484] • 1,16,122,512,1563,3888,8404,16384,29525,50000,80526,124416,185647,268912,379688,524288,709929,944784,1238050,1600000,2042051,2576816,3218172,3981312,4882813 ★ Number of compositions of even natural numbers into 5 parts <=n • a(n)= ((n + 1) ^ 5 + (1 + (- 1) ^ n) / 2) / 2. • a(n) = + 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - 1 * a(n - 7) •

[A030508] • 16,122,549,1837,5069,12203,26510,53141,99840,177811,302759,496128,786545,1211476,1819136,2670647,3842461,5429083,7546084,10333440,13959209,18623545,24563096,32055772,41425920 ★ Graham-Sloane-type lower bound on the size of a ternary (n,3,8) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[A060633] • 16,123,361,778,1428,2371,3673,5406,7648,10483,14001,18298,23476,29643,36913,45406,55248,66571,79513,94218,110836,129523,150441,173758,199648 ★ Surround numbers of an n x 1 rectangle. • a(n) = (n ^ 4 + 22n ^ 3 + 105n ^ 2 - 56n - 8) / 4. •

[A213748] • 1,16,125,758,4071,20424,98185,458506,2096651,9436172,41941005,184545294,805298191,3489644560,15032352785,64424443922,274877775891,1168230842388,4947801800725,20890719879190,87960928124951 ★ Principal diagonal of the convolution array A213747. • a(n) = 12 * a(n - 1) - 53 * a(n - 2) + 106 * a(n - 3) - 96 * a(n - 4) + 32 * a(n - 5). • a(n) = 2 - 2 ^ n + 4 ^ n * (n - 1) + n. - _ Colin Barker _ , Nov 07 2017 •

[A007787] • 1,16,125,976,8512,79384,752061,7110272,67005561,630588698,5933085772,55827318685,525343024814,4943673540576,46521924780255,437788749723725,4119750109152730,38768318191017931,364823700357765771 ★ Number of nonintersecting rook paths joining opposite corners of 5 X n board. • a(1) = 1, • a(2) = 16, • a(3) = 125, • a(4) = 976, • a(5) = 8512, • a(6) = 79384, •

[A133111] • 0,0,0,1,16,126,672,2772,9504,28314,75504,184041,416416,884884,1782144,3426384,6325632,11267532,19442016,32605881,53300016,85131970,133138720,204246900,307850400 ★ a(n) = 1/(1!*2!*3!*4!)*sum {1 <= x_1, x_2, x_3, x_4 <= n} |det V(x_1,x_2,x_3,x_4)|, where V(x_1,x_2,x_3,x_4} is the Vandermonde matrix of order 4. • a(n) = 1 / 288 * sum { 1 <= i,j,k,l <= n } |(i - j)(i - k)(j - k)(i - l)(j - l)(k - l)|. G.f.: x ^ 4 * (1 + 5x + 5x ^ 2 + x ^ 3) / (1 - x) ^ 11 . a(n) = n ^ 2(n ^ 2 - 1) ^ 2(n ^ 2 - 4)(n ^ 2 - 9) / 302400. a(n) = sum { i + j + k + l = n } i * j * k ^ 2 * l ^ 3. •

[A290031] • 0,0,0,16,128,640,2560,8960,28672,86016,245760,675840,1802240,4685824,11927552,29818880,73400320,178257920,427819008,1016070144,2390753280,5578424320,12918456320,29712449536,67914170368 ★ Number of 6-cycles in the n-hypercube graph. • a(n) = 2 ^ (n + 1) * binomial(n, 3). • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 4) - 16 * a(n - 4). •

[A035473] • 1,16,128,688,3072,11472,36224,99184,241664,535440,1097344,2107952,3834880,6661200,11119488,17932016,28057600,42745616,63597696,92637616,132389888,185967568,257169792,350589552,471732224 ★ Coordination sequence for lattice D*_8 (with edges defined by l_1 norm = 1). • a(m) = sum(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1), where n=8, a(0)=1. •

[A067488] • 1,16,128,1024,16384,131072,1048576,16777216,134217728,1073741824,17179869184,137438953472,1099511627776,17592186044416,140737488355328,1125899906842624,18014398509481984,144115188075855872 ★ Powers of 2 with initial digit 1. • a(n) = 2 ^ ceil(log(10) / log(2) * n). - _ Benoit Cloitre _ , Aug 29 2002 •

[A099195] • 0,1,16,129,704,2945,10128,29953,78592,187137,411280,845185,1640640,3032705,5373200,9173505,15158272,24331777,38058768,58161793,87037120,127791489,184402064,261902081,366594816 ★ Figurate numbers based on the 8-dimensional regular convex polytope called the 8-dimensional crosspolytope, or 8-dimensional hyperoctahedron, which is represented by the Schlaefli symbol {3, 3, 3, 3, 3, 3, 4}. It is the dual of the 8-dimensional hypercube. • a(n) = 8 - crosspolytope(n) = (n ^ 2) * (n ^ 6 + 28 * n ^ 4 + 154 * n ^ 2 + 132) / 315. •

[A010968] • 1,16,136,816,3876,15504,54264,170544,490314,1307504,3268760,7726160,17383860,37442160,77558760,155117520,300540195,565722720,1037158320,1855967520,3247943160,5567902560,9364199760,15471286560,25140840660 ★ a(n) = binomial(n,15). • a(n + 14) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9)(n + 10)(n + 11)(n + 12)(n + 13)(n + 14) / 15!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 • a(n) = n / (n - 15) * a(n - 1), n > 15. - _ Vincenzo Librandi _ , Mar 26 2011 •

[A290896] • 0,0,0,0,0,0,0,1,16,136,816,3876,15504,54264,170544,490315,1307536,3269288,7732144,17436220,37819152,79883544,167737776,362063944,839161648 ★ p-INVERT of the positive integers, where p(S) = 1 - S^8. • a(n) = 16 * a(n - 1) - 120 * a(n - 2) + 560 * a(n - 3) - 1820 * a(n - 4) + 4368 * a(n - 5) - 8008 * a(n - 6) + 11440 * a(n - 7) - 12869 * a(n - 8) + 11440 * a(n - 9) - 8008 * a(n - 10) + 4368 * a(n - 11) - 1820 * a(n - 12) + 560 * a(n - 13) - 120 * a(n - 14) + 16 * a(n - 15) - a(n - 16). •

[A114182] • 0,16,137,978,6754,46355,317796,2178292,14930333,102334134,701408710,4807526951,32951280072,225851433688,1548008755889,10610209857690,72723460248106,498454011879227,3416454622906668,23416728348467644 ★

F(4n) - 2n - 1 where F(n) = Fibonacci numbers. Also, the floor of the log base phi of sequence A090162 (phi = (1+Sqrt(5))/2). • a(0)=0, a(1)=16, a(2)=137, a(3)=978, a(n)=9 * a(n - 1) - 16 * a(n - 2) + 9 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , May 28 2015 •

[A128985] • 0,16,144,768,3200,11520,37632,114688,331776,921600,2478080,6488064,16613376,41746432,103219200,251658240,606076928,1443889152,3406823424,7969177600,18496880640,42630905856,97626619904,222264557568 ★ a(n) = (n^3 - n^2)*2^n. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 •

[A155663] • 1,16,144,1240,10656,91816,793584,6880120,59823936,521638216,4560526224,39970994200,351149013216,3091621642216,27274838966064,241075504183480,2134495165562496,18928981513351816,168109033806481104 ★ 9^n+8^n-1. • a(n)=17 * a(n - 1) - 72 * a(n - 2) - 56 with a(0)=1, a(1)=16 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A052388] • 0,1,16,146,955,4905,20907,76851,250530,739612,2009177,5085119,12109526,27348478,58955082,121956402,243172488,469115187,878387366,1600751976,2845918041,4946262815,8419256605,14057377245,23055913530 ★ Number of 4 X n binary matrices such that any 2 rows have a common 1, up to column permutations. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n ^ 10 + 110 * n ^ 9 + 5445 * n ^ 8 + 160050 * n ^ 7 + 2906463 * n ^ 6 + 30644250 * n ^ 5 + 176659055 * n ^ 4 + 711220750 * n ^ 3 + 1781493036 * n ^ 2 + 4034382840 * n + 4159814400) / 1307674368000. •

[A027651] • 1,16,146,1066,6902,41506,237686,1315666,7107302,37712866,197451926,1023358066,5262831302,26903268226,136887643766,693968021266,3508093140902,17693879415586,89084256837206,447884338361266,2249284754708102,11285908565322946,56587579617416246 ★ Poly-Bernoulli numbers B_n^(k) with k=-4. • a(n) = 24 * 5 ^ n - 36 * 4 ^ n + 14 * 3 ^ n - 2 ^ n. - _ Vladeta Jovovic _ , Nov 14 2003 •

[A155657] • 1,16,148,1342,12400,116806,1117648,10823542,105764800,1040353606,10282475248,101977326742,1013841287200,10096889010406,100678223072848,1004747561509942,10033232930569600,100232630513987206 ★ 10^n+7^n-1. • a(n)=17 * a(n - 1) - 70 * a(n - 2) - 54 with a(0)=1, a(1)=16 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A073384] • 1,16,152,1104,6756,36624,181224,834768,3628746,15035504,59829704,229977904,857894388,3117321456,11067753144,38492230704,131417200419,441252045408,1459330704656,4760342849504 ★ Seventh convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. • a(n) = sum((2 ^ n) * binomial(n - k + 7, 7) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). • a(n) = F'''''''(n + 8, 2) / 7!, that is, 1 / 7! times the 7th derivative of the (n + 8)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[A155649] • 1,16,156,1546,15936,168826,1818216,19767106,216038496,2368025386,25997890776,285674467666,3140605159056,34535772837946,379828197747336,4177718354400226,45952550973479616,505463955158738506 ★ a(n) = 11^n+6^n-1^n. • a(n) = 17 * a(n - 1) - 66 * a(n - 2) - 50 with a(0)=1, a(1)=16 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A041005] • 1,16,159,1260,8722,55152,326811,1844084,10015566,52754624,270976342,1362986520,6734927460,32775704608,157408497171,747269225028,3511471892470,16351481223840,75525932249922,346305571781224 ★ Convolution of Catalan numbers A000108(n+1), n >= 0, with A020918. • a(n)=binomial(n + 7, 3) * binomial(2 * (n + 4), n + 2) / 20 - (n + 4) * (n + 3) * 4 ^ (n + 1); G.f. (c(x) ^ 2) / (1 - 4 * x) ^ (7 / 2), where c(x) = g.f. for Catalan numbers. •

[A073394] • 1,16,160,1248,8304,49344,269184,1372800,6628512,30584576,135804416,583471616,2436145920,9919484928,39503038464,154230921216,591550292736,2232748892160,8305370185728 ★ Seventh convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(binomial(n - k + 7, 7) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). •

[A038846] • 1,16,160,1280,8960,57344,344064,1966080,10813440,57671680,299892736,1526726656,7633633280,37580963840,182536110080,876173328384,4161823309824,19585050869760,91396904058880,423311976693760 ★ 4-fold convolution of A000302 (powers of 4); expansion of 1/(1-4*x)^4. • a(n) = binomial(n + 3, 3) * 4 ^ n. •

[A053410] • 0,16,160,1600,15840,156816,1552320,15366400,152111680,1505750416,14905392480,147548174400,1460576351520,14458215340816,143121577056640,1416757555225600,14024453975199360,138827782196768016 ★ a(1) = 0, a(2) = 16, a(2n+1) = 10*a(2n) - a(2n-1), a(2n) = 10*a(2n-1) - a(2n-2) + 16. • a(n) = 10 * a(n - 1) - 10 * a(n - 3) + a(n - 4). •

[A025930] • 1,16,165,1400,10661,75936,517525,3421000,22124421,140796656,885205685,5513890200,34098207781,209668346176,1283419890645,7827611393000,47601257612741,288785879108496,1748608103548405 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-6x)). • a(n) = 16 * a(n - 1) - 91 * a(n - 2) + 216 * a(n - 3) - 180 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 19 2011 • a(n) = 11 * a(n - 1) - 30 * a(n - 2) + 3 ^ (n + 1) - 2 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 • a(n) = 3 * 6 ^ (n + 1) - 5 ^ (n + 3) / 6 + 3 ^ (n + 2) / 2 - 2 ^ (n + 1) / 3. - R. J. Mathar, Mar 19 2011 •

[A246057] • 1,16,166,1666,16666,166666,1666666,16666666,166666666,1666666666,16666666666,166666666666,1666666666666,16666666666666,166666666666666,1666666666666666,16666666666666666,166666666666666666,1666666666666666666 ★ a(n) = (5*10^n-2)/3. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A021744] • 1,16,167,1442,11193,81228,563179,3779974,24771725,159439280,1012078431,6355276746,39568060897,244679845972,1504794392723,9213774596558,56213415403509,341957238034104,2075218782238855 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-6x)). • a(n) = (6 ^ (n + 4) - 3 * 5 ^ (n + 4) + 10 * 4 ^ (n + 3) - 1) / 60. - _ Yahia Kahloune _ , May 07 2013 •

[A025445] • 1,16,167,1454,11529,86772,633739,4547818,32300477,228024368,1604029791,11260172742,78950652145,553177103404,3874344193523,27128870214626,189936063951333,1329688724613480,9308367341848135 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-7x)). • a(n)=(2 * 7 ^ (n + 3) - 5 * 4 ^ (n + 4) + 10 * 3 ^ (n + 4) - 3 * 2 ^ (n + 5)) / 120. [_ Yahia Kahloune _ , May 30 2013] • a(0)=1, a(1)=16, a(2)=167, a(3)=1454, a(n)=16 * a(n - 1) - 89 * a(n - 2) + 206 * a(n - 3) - 168 * a(n - 4). - _ Harvey P. Dale _ , Dec 07 2015 •

[A021424] • 1,16,170,1520,12411,96096,719860,5278240,38153621,273134576,1942326750,13748476560,97001079631,682818667456,4798793396840,33686888924480,236284962774441,1656378634646736,11606570499786130 ★ Expansion of 1/((1-x)(1-3x)(1-5x)(1-7x)). • a(n) = (7 ^ n - 3 * 5 ^ n + 3 ^ (n + 1) - 1) / 48. - Victor Adamchik (adamchik(AT)cs.cmu.edu), Jul 21 2001 • a(n) = 12 * a(n - 1) - 35 * a(n - 2) + (3 ^ n - 1) / 2 with a(0)=1, a(1)=16. - _ Vincenzo Librandi _ , Jul 09 2013 • a(n) = 16 * a(n - 1) - 86 * a(n - 2) + 176 * a(n - 3) - 105 * a(n - 4), with a(0)=1, a(1)=16, a(2)=170, a(3)=1520. - _ Vincenzo Librandi _ , Jul 09 2013 •

[A018209] • 1,16,173,1580,13161,103656,787333,5836420,42545921,306538496,2190403293,15560186460,110074899481,776359376536,5463959472053,38396009227700,269517824177841,1890370747033776,13251393837657613 ★ Expansion of 1/((1-4x)(1-5x)(1-7x)). • a(n) = 16 * 4 ^ n / 3 - 25 * 5 ^ n / 2 + 49 * 7 ^ n / 6. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=16, a(2)=173; for n>2, a(n) = 16 * a(n - 1) - 83 * a(n - 2) + 140 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[A021174] • 1,16,173,1592,13461,108192,841261,6392584,47771141,352537328,2576599389,18689228376,134742802741,966708860224,6908017500557,49202455443368,349495185871461,2476934287969680,17521347937528765 ★ Expansion of 1/((1-x)(1-2x)(1-6x)(1-7x)). • a(0)=1, a(1)=16, a(2)=173, a(3)=1592; for n>3, a(n) = 16 * a(n - 1) - 83 * a(n - 2) + 152 * a(n - 3) - 84 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 • a(0)=1, a(1)=16; for n>1, a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 • a(n) = (2 * 7 ^ (n + 3) - 3 * 6 ^ (n + 3) + 3 * 2 ^ (n + 3) - 2) / 60. [_ Yahia Kahloune _ , Jul 07 2013] •

[A021374] • 1,16,173,1604,13833,115032,938821,7588108,61024865,489508448,3921394269,31392726612,251228899897,2010181938664,16082865641717,128668587186716,1029371410275729,8235062327044080,65880863376836365 ★ Expansion of 1/((1-x)(1-3x)(1-4x)(1-8x)). • a(0)=1, a(1)=16; for n>1, a(n) = 12 * a(n - 1) - 32 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 • a(0)=1, a(1)=16, a(2)=173, a(3)=1604; for n>3, a(n) = 16 * a(n - 1) - 83 * a(n - 2) + 164 * a(n - 3) - 96 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 •

[A215687] • 0,16,174,690,1876,4140,7986,14014,22920,35496,52630,75306,104604,141700,187866,244470,312976,394944,492030,605986,738660,891996,1068034,1268910,1496856 ★ Number of solid standard Young tableaux of shape [[2*n,2],[2]]. • a(n) = n * (2 * n - 1) * (2 * n ^ 2 + 7 * n + 7). •

[A017931] • 1,16,175,1630,13921,112756,881875,6730810,50468341,373414096,2734771975,19868820790,143434778761,1030163245036,7367866260475,52515419443570,373250112873181,2646603979861576,18729347384947375 ★ Expansion of 1/((1-3x)(1-6x)(1-7x)). • a(0)=1, a(1)=16, a(2)=175; for n>2, a(n) = 16 * a(n - 1) - 81 * a(n - 2) + 126 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (3 * 7 ^ (n + 2) - 4 * 6 ^ n + 2) + 3 ^ (n + 2)) / 12. [_ Yahia Kahloune _ , Jul 06 2013] •

[A021129] • 1,16,175,1650,14481,122316,1010995,8250550,66817861,538611216,4329233415,34735589850,278393339641,2229689837716,17850234337435,142865452943550,1143241514899821,9147521576217816,73188119895363055 ★ Expansion of 1/((1-x)(1-2x)(1-5x)(1-8x)). • a(0)=1, a(1)=16, a(2)=175, a(3)=1650; for n>3, a(n) = 16 * a(n - 1) - 81 * a(n - 2) + 146 * a(n - 3) - 80 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 • a(0)=1, a(1)=16; for n>1, a(n) = 13 * a(n - 1) - 40 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 • a(n) = (2 * 8 ^ (n + 3) - 7 * 5 ^ (n + 3) + 14 * 2 ^ (n + 3) - 9) / 252. [_ Yahia Kahloune _ , Jul 07 2013] •

[A017521] • 1,16,177,1688,14945,127008,1054033,8624296,69961089,564542000,4540661489,36447096504,292186326433,2340539977792,18739571436945,149992843917512,1200324156496577,9604500406895184,76845539417194801 ★ Expansion of 1/((1-3x)(1-5x)(1-8x)). • a(n) = 16 * a(n - 1) - 79 * a(n - 2) + 120 * a(n - 3). - _ Vincenzo Librandi _ , Jun 27 2013 • a(n) = 13 * a(n - 1) - 40 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jun 27 2013 • a(n) = (2 ^ (7 + 3 * n) + 3 ^ (3 + n) - 5 ^ (3 + n)) / 30. - _ Bruno Berselli _ , Jun 27 2013 •

[A021084] • 1,16,179,1766,16545,151572,1374943,12417922,111935549,1008117968,9075855867,81693883518,735289682713,6617786085004,59560790560151,536049978287354,4824461257701237,43420197132033480 ★ Expansion of 1/((1-x)(1-2x)(1-4x)(1-9x)). • a(0)=1, a(1)=16; for n>1, a(n) = 13 * a(n - 1) - 36 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 06 2013 • a(0)=1, a(1)=16, a(2)=179, a(3)=1766; for n>3, a(n) = 16 * a(n - 1) - 77 * a(n - 2) + 134 * a(n - 3) - 72 * a(n - 4). - _ Vincenzo Librandi _ , Jul 06 2013 • a(n) = (3 * 9 ^ (n + 3) - 28 * 4 ^ (n + 3) + 60 * 2 ^ (n + 3) - 35) / 840. [_ Yahia Kahloune _ , Jul 07 2013] •

[A016305] • 1,16,180,1760,16016,139776,1188160,9925120,81920256,670478336,5454525440,44180398080,356708356096,2873257885696,23103609323520,185534152048640,1488504881217536,11933429038841856,95619772245606400 ★ Expansion of 1/((1-2*x)*(1-6*x)*(1-8*x)). • a(n) = 2 ^ (n - 1) * (2 ^ (2 * n +

5) - 3 ^ (n + 3) + 1) / 3. - _ Zerinvary Lajos _ , Jun 05 2009 ● a(n) = 16 * a (n - 1) - 76 * a(n - 2) + 96 * a(n - 3) for n > 2; ● a(n) = 14 * a(n - 1) - 48 * a (n - 2) + 2 ^ n for n > 1. (End) ●

[A016909] ● 1,16,181,1804,17017,156520,1422877,12864868,116026273,1045225984,9411051013,84715704892,762506858569,6862825379608,61766487809389,555902642205076,5003140830574705,45028335807228592 ★ Expansion of 1/((1-3x)(1-4x)(1-9x)). ● a(n) = 3 * 3 ^ n / 2 - 16 * 4 ^ n / 5 + 27 * 9 ^ n / 10. _ R. J. Mathar _ , Jun 23 2013 ● a(n) = 16 * a(n - 1) - 75 * a(n - 2) + 108 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 ● a(n) = 13 * a(n - 1) - 36 * a(n - 2) + 3 ^ n, for n>1, a(0)=1, a(1)=16. - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A199018] ● 1,16,181,1996,21961,241576,2657341,29230756,321538321,3536921536,38906136901,427967505916,4707642565081,51784068215896,569624750374861,6265872254123476,68924594795358241,758170542748940656,8339875970238347221 ★ (3*11^n-1)/2. ● a(n) = 11 * a(n - 1) + 5. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. ●

[A016298] ● 1,16,183,1850,17681,164316,1504843,13673710,123714261,1116683216,10066424303,90679197570,816519676441,7350711587716,66166576804563,595550053849430,5360204797752221,48243114745437816 ★ Expansion of 1/((1-2x)(1-5x)(1-9x)). ● a(n) = 16 * a(n - 1) - 73 * a(n - 2) + 90 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 16 2011 ● a(n) = 14 * a(n - 1) - 45 * a(n - 2) + 2 ^ n, n>=2. - Vincenzo Librandi, Mar 16 2011 ● a(n) = 2 ^ (n + 2) / 21 + 9 ^ (n + 2) / 28 - 5 ^ (n + 2) / 12 . - R. J. Mathar, Mar 18 2011 ●

[A288720] ● 0,1,16,184,1744,15136,126016,1028224,8306944,66781696,535561216,4289726464,34338770944,274794029056,2198687727616,17590843899904,140732119711744,1125878432137216,9007113355657216,72057250441068544,576459377914937344 ★ Detour index of the n-hypercube graph. ● a(n) = 2 ^ n * (2 ^ (2 * n - 1) - 5 * 2 ^ (n - 2) + 1) for n > 0. - _ Andrew Howroyd _ , Jun 19 2017 ● a(n) = 14 * a(n - 1) - 56 * a(n - 2) + 64 * a(n - 3). ●

[A016249] ● 1,16,185,1880,17841,162336,1435945,12448360,106312481,897579056,7510186905,62388376440,515255179921,4235078618176,34671889197065,282913935338120,2302083235036161,18688068146607696,151404361037090425,1224533599346325400,9889359772117817201 ★ Expansion of 1/((1-x)*(1-7*x)*(1-8*x)). ● a(0)=1, a(1)=16, a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ●

[A021049] ● 1,16,185,1940,19701,197976,1982785,19837180,198400301,1984089536,19841156985,198412358820,1984125963301,19841266774696,198412689204785,1984126956486860,19841269758316701,198412698163773456 ★ Expansion of 1/((1-x)(1-2x)(1-3x)(1-10x)). ● a(n) = - (1 / 18) + 2 ^ n - (27 / 14) * 3 ^ n + (125 / 63) * 10 ^ n. [_ Antonio Alberto Olivares _ , May 22 2012] ● a(0)=1, a(1)=16; for n>1, a(n) = 13 * a(n - 1) - 30 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 ● a(0)=1, a(1)=16, a(2)=185, a(3)=1940; for n>3, a(n) = 16 * a(n - 1) - 71 * a(n - 2) + 116 * a(n - 3) - 60 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 ●

[A016244] ● 1,16,187,1942,19033,180628,1681639,15470674,141251605,1283357680,11622778531,105040363246,947975408017,8547451504972,77021100541663,693754126856458,6247172473597069,56244864253707304 ★ Expansion of 1/((1-x)(1-6x)(1-9x)). ● a(n) = 1 / 40 - (12 / 5) * 6 ^ n + (27 / 8) * 9 ^ n. - Neven Juric, Oct 22 2009 ● a(0)=1, a(1)=16, a(n) = 15 * a(n - 1) - 54 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ●

[A016292] ● 1,16,188,2000,20496,206976,2077888,20811520,208246016,2082983936,20831935488,208327741440,2083310964736,20833243856896,208332975423488,2083331901685760,20833327606726656,208333310426873856,208333324171429888,20833332966829588480 ★ Expansion of 1/((1-2x)(1-4x)(1-10x)). ● a(n) = (1 / 4) * 2 ^ n - (4 / 3) * (4) ^ n + (25 / 12) * 10 ^ n. - _ Antonio Alberto Olivares _ , May 12, 2012 ● a(n) = 16 * a(n - 1) - 68 * a(n - 2) + 80 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A016237] ● 1,16,191,2066,21441,218316,2202691,22124566,221733941,2219780816,22210015191,222161187066,2221917046441,22220696343316,222214592827691,2222184075249566,22222031487358941,222221268547905816,2222217453850640191,22222198380364312066 ★ Expansion of 1/((1-x)(1-5x)(1-10x)). ● a(0)=1, a(1)=16, a(n)=15 * a(n - 1) - 50 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ● a(n) = (8 * 10 ^ (n + 1) - 9 * 5 ^ (n + 1) + 1) / 36. - _ Yahia Kahloune _ , Aug 13 2013 ●

[A120994] ● 1,16,192,4096,16384,262144,1048576,268435456,3221225472,17179869184,68719476736,13194139533312,17592186044416,281474976710656,1125899906842624,1152921504606846976,4611686018427387904 ★ Numerators of rationals related to John Wallis' product formula for Pi/2 from his 'Arithmetica infinitorum' from 1659. ● a(n) = numerator((3 / 4) * W(n)), n>=1, with the rationals W(n) given above. An equivalent form is W(n) = (((4 ^ n) / binomial(2 * n,n)) ^ 2) / (2 * n + 1). ●

[A016178] ● 1,16,193,2080,21121,206896,1979713,18640960,173533441,1602154576,14701866433,134294124640,1222488408961,11099284691056,100571785292353,909893629141120,8222275592839681,74233110849544336 ★ Expansion of 1/((1-7x)(1-9x)). ● a(n)=9 * a(n - 1) + 7 ^ n, with a(0)=1. [From Vincenzo Librandi, Feb 09 2011] ● a(n)=16 * a(n - 1) - 63 * a(n - 2), n>=2. [From Vincenzo Librandi, Feb 09 2011] ●

[A081202] ● 0,1,16,193,2080,21121,206896,1979713,18640960,173533441,1602154576,14701866433,134294124640,1222488408961,11099284691056,100571785292353,909893629141120,8222275592839681,74233110849544336,669726411243809473 ★ 8th binomial transform of (0,1,0,1,0,1,....), A000035. ● a(n) = 16a(n - 1) - 63a(n - 2), a(0)=0, a(1)=1. ● a(n) = (9 ^ n - 7 ^ n) / 2. ●

[A081185] ● 0,1,16,194,2112,21764,217280,2127112,20562432,197117968,1879016704,17842953248,168988216320,1597548359744,15083504344064,142288071200896,1341431869882368,12641049503662336,119088016125890560 ★ 8th binomial transform of (0,1,0,2,0,4,0,8,0,16,...). ● a(n) = 16 * a(n - 1) - 62 * a(n - 2), a(0)=0, a(1)=1. ● a(n) = ((8 + sqrt(2)) ^ n - (8 - sqrt(2)) ^ n) / (2 * sqrt(2)). ● a(n) = Sum _{ k=0..n } C(n,2 * k + 1) * 2 ^ k * 7 ^ (n - 2 * k - 1). ●

[A153599] ● 1,16,195,2144,22409,227760,2277211,22542016,221762385,2173135184,21242657459,207321273120,2021338264921,19694814578416,191815399094475,1867662696228224,18181863794888609,176982396248296080,1722624648484532131,16766068204606453216 ★ a(n) = ((8 + sqrt(3))^n - (8 - sqrt(3))^n)/(2*sqrt(3)) ● a(n) = 16 * a(n - 1) - 61 * a(n - 2) for n>1; a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 ●

[A016280] ● 1,16,195,2210,24521,270396,2976415,32746870,360234741,3962640176,43589217035,479481914730,5274302648161,58017333896356,638190687176055,7020097601917790,77221073750104781,849431811638310936 ★ Expansion of 1/((1-2x)(1-3x)(1-11x)). ● a(n) = 4 * 2 ^ n / 9 - 9 * 3 ^ n / 8 + 121 * 11 ^ n / 72. - _ Antonio Alberto Olivares _ , Feb 06 2010 ● a(n) = 16 * a(n - 1) - 61 * a(n - 2) + 66 * a(n - 3). - _ Vincenzo Librandi _ , Jun 25 2013 ●

[A126981] ● 1,16,196,1936,19881,199809,1999396,19998784,199996164,1999967841,19999899241,199999467369,1999998409369,19999991458225,199999982358225,1999999950806881,19999999932878736,199999999552824025 ★ Largest perfect square less than 2*10^n. ● a(n) = floor(sqrt(2 * 10 ^ n)) ^ 2. ●

[A086940] ● 16,196,1996,19996,199996,1999996,19999996,199999996,1999999996,19999999996,199999999996,1999999999996,19999999999996,199999999999996,1999999999999996,19999999999999996,199999999999999996 ★ a(n) = k where R(k+4)=2. ● a(n) = 2 * (10 ^ n - 2) ● a(1)=16, a(2)=196, a(n)=11 * a(n - 1) - 10 * a(n - 2) - _ Harvey P. Dale _ , Aug 11 2012 ●

[A016173] ● 1,16,196,2176,23056,238336,2430016,24580096,247480576,2484883456,24909300736,249455804416,2496734826496,24980408958976,249882453753856,2499294722523136,24995768335138816,249974610010832896 ★ Expansion of 1/((1-6x)(1-10x)). ● a(n)=16 * a(n - 1) - 60 * a(n - 2). [From _ Philippe Deléham _ , Jan 01 2009] ● a(0)=1, a(n)=10 * a(n - 1) + 6 ^ n. [From Vincenzo Librandi, Feb 09 2011] ●

[A144844] ● 0,1,16,196,2304,26896,313600,3655744,42614784,496754944,5790601216,67500196864,786839961600,9172078759936,106917585289216,1246322708463616,14528202160472064,169353135091941376,1974124812461670400,23012085209172803584 ★ a(n) = ((2 + sqrt(2))^n - (2 - sqrt(2))^n)^2/8. ● a(n) = 14 * a(n - 1) - 28 * a(n - 2) + 8 * a(n - 3) for n > 2; a(0) = 0, a(1) = 1; a(2) = 16. - _ Klaus Brockhaus _ , Jul 15 2009 ●

[A153885] ● 1,16,197,2208,23705,249008,2585533,26677056,274286449,2814636880,28851289589,295557057504,3026686834313,30989122956272,317251444075885,3247664850794112,33244802412228577,340304612398804624,3483430456059387941,35656915165420734240 ★ a(n) = ((8 + sqrt(5))^n - (8 - sqrt(5))^n)/(2*sqrt(5)) ● a(n) = 16 * a(n - 1) - 59 * a(n - 2) for n>1, with a(0)=0, a(1)=1. ●

[A016226] ● 1,16,197,2252,25113,277608,3059149,33672484,370484705,4075681280,44833892181,493178406396,5424984839977,59674922718232,656424507814493,7220671017615188,79427386920390129,873701279030783664 ★ Expansion of 1/((1-x)(1-4x)(1-11x)). ● a(n) = (1 / 30) - (16 / 21) * 4 ^ (n - 1) + (121 / 70) * 11 ^ (n - 1). - _ Antonio Alberto Olivares _ , Feb 07 2010 ● a(0)=1, a(1)=16, a(n) = 15 * a(n - 1) - 44 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ●

[A154240] ● 1,16,198,2240,24356,259776,2743768,28833280,302193936,3162772736,33077115488,345793029120,3614215767616,37771456592896,394718790964608,4124756173045760,43102408892784896,450402684247904256 ★ a(n) = ((8 + sqrt(6))^n - (8 - sqrt(6))^n)/(2*sqrt(6)). ● a(n) = 16 * a(n - 1) - 58 * a(n - 2) for n>1, with a(0)=0, a(1)=1. ●

[A154249] ● 1,16,199,2272,25009,270640,2904727,31049152,331216993,3529670224,37595354983,400334476960,4262416397329,45379597170544,483115820080951,5143216082574208,54753855576573121,582898372518440080 ★ a(n) = ((8 + sqrt(7))^n - (8 - sqrt(7))^n)/(2*sqrt(7)). ● a(n) = 16 * a(n - 1) - 57 * a(n - 2) for n>1, with a(0)=0, a(1)=1. ●

[A154348] ● 1,16,200,2304,25664,281600,3068416,33325056,361369600,3915710464,42414669824,459354931200,4974457389056,53867442077696,583309459456000,6316374594945024,68396663789584384,740629643316428800 ★ a(n) = 16*a(n-1) - 56*a(n-2) for n>1, with a(0)=0, a(1)=1. ● a(n) = 16 * a(n - 1) - 56 * a(n - 2) for n>1, with a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 12 2009 ● a(n) = ((8 + 2 * sqrt(2)) ^ n - (8 - 2 * sqrt(2)) ^ n) / (4 * sqrt(2)). ●

[A016165] ● 1,16,201,2336,26321,292656,3234841,35661376,392665761,4321276496,47543807081,523030706016,5753581906801,63290621677936,696202941972921,7658262879280256,84241044259973441,926652249799160976 ★ Expansion of 1/((1-5x)(1-11x)). ● a(0)=1, a(n)=11 * a(n - 1) + 5 ^ n. [From Vincenzo Librandi, Feb 09 2011] ●

[A161729] ● 1,16,204,2432,28304,326400,3750592,43036672,493555968,5658988544,64878906368,743795097600,8527018430464,97754949812224,1120674238611456,12847530427547648,147285426432966656,1688495240694988800 ★ a(n) = ((4+sqrt(3))*(8+2*sqrt(3))^n-(4-sqrt(3))*(8-2*sqrt(3))^n)/(2*sqrt(3)). ● a(n) = 16 * a(n - 1) - 52(n - 2) for n > 1; a(0) = 1, a(1) = 16. ●

[A157707] ● 16,205,1165,4415,13055,32606,72030,144930,270930,477235,800371,1288105,2001545,3017420,4430540,6356436,8934180,12329385,16737385,22386595,29542051,38509130,49637450,63324950 ★ The z^2 coefficients of the polynomials in the GF3 denominators of A156927 divided by 2 ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) ● a(n) = 1 / 4 * n ^ 6 + 7 / 4 * n ^ 5 + 37 / 8 * n ^ 4 + 34 / 6 * n ^ 3 + 25 / 8 * n ^ 2 + 7 / 12 * n ●

[A016159] ● 1,16,208,2560,30976,372736,4476928,53739520,644939776,7739539456,92875522048,1114510458880,13374142283776,160489774514176,19258775

62605568,231105318250086 40,277326386195070976 ★ Expansion of 1/((1-4x)(1-12x)). ● a(n) = 2 ^ (2 * n - 1) * (3 ^ (n + 1) - 1). - Bruno Berselli, Feb 09 2011 ● a(n) = 12 * a(n - 1) + 4 ^ n with a(0)=1. - Vincenzo Librandi, Feb 09 2011 ● a(n) = 2 ^ (2n - 3) * (3 ^ n - 1) [From Harvey P. Dale, Nov 30 2011] ●

[A245828] ● 0,16,216,1280,5000,15120,38416,86016,174960,330000,585640,988416,1599416,2497040,3780000,5570560,8018016,11302416,15638520,21280000,28523880,37715216,49252016,63590400,81250000 ★ Szeged index of the grid graph P_n X P_n. ● a(n) = (1 / 3) * n ^ 4 * (n ^ 2 - 1). ●

[A239096] ● 0,0,0,16,216,1584,8096,32256,106992,308352,795168,1873872,4098952,8422128,16406208,30522752,54556128,94140288,157458624,256141584,406401336,630447664,958234464,1429591680,2096803280 ★ (n^9 + 21*n^5 - 190*n^3 + 168*n)/1260. ● a(n) = (n - 2) * (n - 1) * n * (n + 1) * (n + 2) * (n ^ 4 + 5 * n ^ 2 + 42) / 1260. [_ Bruno Berselli _ , May 12 2014] ●

[A159739] ● 16,216,2592,29160,314928,3306744,34012224,344373768,3443737680,34093003032,334731302496,3263630199336,31632108085872,305023899399480,2928229434235008,28001193964872264,266834907194665104,2534931618349318488,24015141647519859360 ★ Number of permutations of 8 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. ● a(n) = (copies * n) * (copies + 1) ^ (n - 2) with copies = 8. ● a(n) = 8 * n * 9 ^ (n - 2). ● a(n) = 18 * a(n - 1) - 81 * a(n - 2) for n>3. ●

[A017438] ● 16,225,676,1369,2304,3481,4900,6561,8464,10609,12996,15625,18496,21609,24964,28561,32400,36481,40804,45369,50176,55225,60516,66049,71824 ★ (11n+4)^2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. ●

[A097829] ● 1,16,240,3585,53536,799456,11938305,178275120,2662188496,39754552321,593656096320,8865086892480,132382647290881,1976874622470736,29520736689770160,440834175724081665,6582991899171454816 ★ Partial sums of Chebyshev sequence S(n,15)= U(n,15/2)=A078364(n). ● a(n) = 16 * a(n - 1) - 16 * a(n - 2) + a(n - 3) with n>=2, a(- 1)=0, a(0)=1, a(1)=16. ● a(n) = 15 * a(n - 1) - a(n - 2) + 1 with n>=1, a(- 1)=0, a(0)=1. ● a(n) = (S(n + 1, 15) - S(n, 15) - 1) / 13. ●

[A135518] ● 1,16,241,3616,54241,813616,12204241,183063616,2745954241,41189313616,617839704241,9267595563616,139013933454241,2085209001813616,31278135027204241,469172025408063616,7037580381120954241 ★ Generalized repunits in base 15. ● a(n) = (15 ^ n - 1) / 14. ● a(n) = 15 * a(n - 1) + 1 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 03 2010 ● a(1)=1, a(2)=16; for n>2, a(n) = 16 * a(n - 1) - 15 * a(n - 2). - _ Harvey P. Dale _ , Jul 08 2013 ● a(n) = Sum _{ i=0..n - 1 } 14 ^ i * binomial(n,n - 1 - i). - _ Bruno Berselli _ , Nov 12 2015 ●

[A207995] ● 16,243,3891,63267,1034073,16932816,277458045,4547477370,74538711609,1221819475953,20027983390866,328298744831580,5381481886580865,88213445048426316,1445998260462433698,23702862077090281716 ★ Number of nX6 0..2 arrays with new values 0..2 introduced in row major order and no element equal to any horizontal or vertical neighbor (colorings ignoring permutations of colors). ● a(n) = 30 * a(n - 1) - 291 * a(n - 2) + 1278 * a(n - 3) - 2901 * a(n - 4) + 3519 * a(n - 5) - 2152 * a(n - 6) + 516 * a(n - 7). ●

[A077412] ● 1,16,255,4064,64769,1032240,16451071,262184896,4178507265,66593931344,1061324394239,16914596376480,269572217629441,4296240885694576,68470281953483775,1091228270370045824,17391182043967249409 ★ Chebyshev U(n,x) polynomial evaluated at x=8. ● a(n) = 16 * a(n - 1) - a(n - 2), n >=1, a(- 1)=0, a(0)=1. ● a(n) = S(n, 16) with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the second kind. See A049310. ● a(n) = (((8 + 3 * sqrt(7)) ^ (n + 1) - (8 - 3 * sqrt(7)) ^ (n + 1))) / (6 * sqrt(7)). ●

[A017570] ● 16,256,784,1600,2704,4096,5776,7744,10000,12544,15376,18496,21904,25600,29584,33856,38416,43264,48400,53824,59536,65536,71824,78400,85264 ★ (12n+4)^2. ● a(n) = a(n - 1) + 288 * n - 48, n>=1. - Vincenzo Librandi, Mar 20 2011 ●

[A223756] ● 16,256,2500,16900,87616,372100,1352569,4338889,12559936,33362176,82373776,190992400,419266576,877225924,1759047481,3396208729,6338070544,11471266816,20192978404,34657779556,58123423744,95427859396 ★ Number of n X 2 0..3 arrays with rows, antidiagonals and columns unimodal. ● a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13) for n>13. ●

[A223565] ● 16,256,3136,34496,379456,4174016,45914176,505055936,5555615296,61111768256,672229450816,7394523958976,81339763548736,894737399036096,9842111389397056,108263225283367616,1190895478117043776 ★ Number of nX4 0..1 arrays with antidiagonals unimodal ● a(n) = product { (1 + (i * (i + 1) / 2)) ^ 2 , i=1..(min(n,4) - 1) } * (1 + (min(n,4) * (min(n,4) + 1) / 2)) ^ (max(n,4) - min(n,4) + 1) ● a(n) = 11 * a(n - 1) for n>3 ●

[A068770] ● 1,1,16,264,4480,77952,1386496,25135616,463233024,8658673664,163829383168,3132565553152,60446638866432,1175715287400448,23028562592268288,453848132868898816,8993594212565909504 ★ Generalized Catalan numbers. ● a(n) = (8 ^ n) * p(n, - 7 / 8) with the row polynomials p(n, x) defined from array A068763. ● a(n + 1) = 8 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1=a(1). ● a(n) = (4 ^ (n - 1) * 14 ^ (1 / 2 * n + 1 / 2) * Legendre P(n + 1,2 / 7 * 14 ^ (1 / 2)) - LegendreP(n,2 / 7 * 14 ^ (1 / 2)) * 4 ^ n * 14 ^ (1 / 2 * n)) / n for n > 0. - _ Mark van Hoeij _ , Apr 23 2010 ●

[A158574] ● 16,272,1040,2320,4112,6416,9232,12560,16400,20752,25616,30992,36880,43280,50192,57616,65552,74000,82960,92432,102416,112912,123920,135440,147472 ★ a(n) = 256*n^2 + 16. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A000487] ● 16,272,2880,24576,185856,1304832,8728576,56520704,357888000,2230947840,13754155008,84134068224,511780323328,3100738912256,18733264797696,112949304754176,680032201605120,4090088616099840,24582312700149760,147669797096652800 ★ Number of permutations of length n with exactly two valleys. ● a(n) = (6 ^ n + (2 - 2n)4 ^ n + (2n ^ 2 - 4n - 1)2 ^ n) / 32. - Mitchell Harris, Apr 02 2004 ●

[A158610] ● 1,16,272,4368,74000,1192208,20136208,325341456,5480210704,88767623440,1491701563664,24216213164304,406091813462288,6605442383524112,110564946629869840,1801558196812042512,30106184534058721552 ★ Expansion of (1+15*x)/(1-x-256*x^2). ● a(n)=a(n - 1) + 256 * a(n - 2), a(0)=1, a(1)=16 . G.f.: (1 + 15x) / (1 - x - 256 * x ^ 2). [From _ Philippe Deléham _ , Mar 26 2009] ● a(n)=(1 / 2) *{ [(1 / 2) - (5 / 2) * sqrt(41)] ^ n + [(1 / 2) + (5 / 2) * sqrt(41)] ^ n }+ (31 / 410) * sqrt(41) *{ [(1 / 2) + (5 / 2) * sqrt(41)] ^ n - [(1 / 2) - (5 / 2) * sqrt(41)] ^ n } , with n>=0 [From _ Paolo P. Lava _ , Mar 30 2009] ●

[A038758] ● 16,281,1785,7175,22015,56406,126966,259170,490050,871255,1472471,2385201,3726905,5645500,8324220,11986836,16903236,23395365,31843525,42693035,56461251,73744946,95228050,121689750,154012950 ★ Number of ways of covering a 2n X 2n lattice by 2n^2 dominoes with exactly 4 horizontal (or vertical) dominoes. ● a(n) = (1 / 24) * n * (n - 1) * (n + 1) * (12 * n ^ 3 - 11 * n - 10). ●

[A099279] ● 0,1,16,289,5184,93025,1669264,29953729,537497856,9645007681,173072640400,3105662519521,55728852710976,1000013686278049,17944517500293904,322001301319012225,5778078906241926144 ★ Squares of A001076 (generalized Fibonacci). ● a(n) = 17 * a(n - 1) + 17 * a(n - 2) - a(n - 3), n>=3; a(0)=0, a(1)=1, a(2)=16. ● a(n) = 18 * a(n - 1) - a(n - 2) - 2 * (- 1) ^ n, n>=2; a(0)=0, a(1)=1. ● a(n) = - (1 / 10) * (- 1) ^ n + (1 / 20) * [9 - 4 * sqrt(5)] ^ n + (1 / 20) * [9 + 4 * sqrt(5)] ^ n, with n>=0. - _ Paolo P. Lava _ , Aug 27 2008 ●

[A172211] ● 1,16,313,2320,12160,53744,209428,683524,1905625,4664384,10297579,20907590,39664250,71114916,121559433,199459466,315906248,485124352,725031335,1057839684,1510706686,2116429956,2914190277,3950340692 ★ Number of ways to place 6 nonattacking bishops on a 6 X n board. ● a(n) = (648n ^ 6 - 17820n ^ 5 + 240930n ^ 4 - 2011545n ^ 3 + 10806047n ^ 2 - 35094560n + 53430940) / 10, n>=25. ●

[A155122] ● 0,16,360,1920,6160,15120,31416,58240,99360,159120,242440,354816,502320,691600,929880,1224960,1585216,2019600,2537640,3149440,3865684697616,5657080,6756480,8008800 ★ 4*(3*n+2)*(2*n+1)*(n+2)*(n+1). ● a(n)=16 + 80 * n + 140 * n ^ 2 + 100 * n ^ 3 + 24 * n ^ 4. ●

[A116166] ● 0,16,384,6144,81920,983040,11010048,117440512,1207959552,12079595520,118111600640,1133871366144,10720238370816,100055558127616,923589767331840,8444249301319680,76561193665298432,689050742987685888 ★ (n^2+n)*8^n. ● a(n) = 24 * a(n - 1) - 192 * a(n - 2) + 512 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 ●

[A051360] ● 0,0,0,16,389,3112,16231,66177,228438,697219,1932601,4953493,11892484,27003029,58421782,121154728,241995312,467422242,875997590,1597434614,2841382379,4940146414,8411111897,14046656347,23041951126 ★ A class of Boolean functions of n variables and rank 4. ● a(n) = n * (n - 1) * (n - 2) * (n ^ 12 + 123 * n ^ 11 + 6947 * n ^ 10 + 238995 * n ^ 9 + 5406153 * n ^ 8 + 81325989 * n ^ 7 + 826126601 * n ^ 6 + 6015252225 * n ^ 5 + 31515483346 * n ^ 4 + 95237254188 * n ^ 3 + 64213530552 * n ^ 2 - 798617063520 * n - 2101517913600) / 15!. ●

[A172205] ● 0,0,16,408,8544,62266,291908,1021254,2916232,7179314,15790572,31795390,59638832,105546666,177953044,287974838,449932632,681918370,1006409660,1450930734,2048760064,2839684634,3870800868,5197362214,6883673384 ★ Number of ways to place 6 nonattacking kings on a 6 X n board. ● a(n) = 2 * (162n ^ 6 - 3240n ^ 5 + 29160n ^ 4 - 151830n ^ 3 + 483798n ^ 2 - 895085n + 749335) / 5, n>=5. ●

[A000489] ● 1,16,435,7136,99350,1234032,14219212,155251840,1628202762,16550991200,164111079110,1594594348800,15235525651840,143518352447680,1335670583147400,12301278983461376,112264111607438906,1016361486936571680,9136254276320346046 ★ Card matching: Coefficients B[n,3] of t^3 in the reduced hit polynomial A[n,n,n](t). ● a(n) = 3 * binomial(n, 3) * sum(binomial(n, k + 3) * binomial(n, k) * binomial(n - 3, k), k=0..n - 3) + 6n * binomial(n, 2) * sum(binomial(n, k + 1) * binomial(n - 1, k + 2) * binomial(n - 2, k), k=0..n - 3) + n ^ 3 * sum(binomial(n - 1, k) ^ 3, k=0..n - 1). ●

[A016792] ● 16,625,4096,14641,38416,83521,160000,279841,456976,707281,1048576,1500625,2085136,2825761,3748096,4879681,6250000,7890481,9834496,12117361,14776336,17850625,21381376,25411681 ★ a(n) = (3*n+2)^4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). (End) ●

[A128048] ● 16,640,15360,278528,4259840,58195968,734003200,8724152320,99052683264,1084479242240,11527692222464,119571889520640,1214960348692480,12129812277624832,119275021381140480,1157425104234217472 ★ (n^3+n)*8^n. ● a(n) = 32 * a(n - 1) - 384 * a(n - 2) + 2048 * a(n - 3) - 4096 * a(n - 4). - _ Vincenzo Librandi _ , Feb 23 2013 ●

[A129008] ● 16,768,18432,327680,4915200,66060288,822083584,9663676416,108716359680,1181116006400,12472585027584,128642860449792,1300722255659008,12930256742645760,126663739519795200,1224979098644774912 ★ (n^3+n^2)*8^n. ● a(n) = 32 * a(n - 1) - 384 * a(n - 2) + 2048 * a(n - 3) - 4096 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 ●

[A289707] ● 0,0,16,911,8013,38130,129932,358272,851710,1815124,3554910,6510729,11289019,18704640,29823436,46014402,69002190,100930284,144424446,202667301,279473821,379377584,507719550,670746120,875712560 ★ Number of 6-cycles in the n-triangular honeycomb queen graph. ● a(n) = 3 * a(n - 1) + a(n - 2) - 10 * a(n - 3) + 3 * a(n - 4) + 13 * a(n - 5) - 3 * a(n - 6) - 12 * a(n - 7) - 3 * a(n - 8) + 13 * a(n - 9) + 3 * a(n - 10) - 10 * a(n - 11) + a(n - 12) + 3 * a(n - 13) - a(n - 14). ●

[A290940] • 0,0,16,920,7800,36260,122080,334656,794640,1696200,3334320,6137560,10706696,17859660,28683200,44591680,67393440,99365136,143334480,202771800,281890840,385759220,520418976,693017600,911950000 ★ Number of 6-cycles in the n-triangular graph. • a(n) = 2 * binomial(n, 4) (n ^ 3 + 27 * n ^ 2 - 220 * n + 392). • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A016828] • 16,1296,10000,38416,104976,234256,456976,810000,1336336,2085136,3111696,4477456,6250000,8503056,11316496,14776336,18974736,24010000,29986576,37015056,45212176,54700816,65610000,78074896,92236816 ★ a(n) = (4*n+2)^4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A016936] • 16,4096,38416,160000,456976,1048576,2085136,3748096,6250000,9834496,14776336,21381376,29986576,40960000,54700816,71639296,92236816,116985856,146410000,181063936,221533456,268435456 ★ (6n+2)^4. • a(0)=16, a(1)=4096, a(2)=38416, a(3)=160000, a(4)=456976, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Aug 22 2012 •

[A272358] • 0,16,4112,65208,387424,1439480,4068096,9611392,20012288,37931904,66862960,111243176,176568672,269507368,398012384,571435440,800640256,1098115952,1478090448,1956643864,2551821920,3283749336,4174743232,5249426528,6534841344 ★ a(n) = n*(945*n^4 - 3150*n^3 + 4095*n^2 - 2370*n + 496). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), for n>5. •

[A201241] • 0,0,0,16,4450,442980,11281312,139580160,1103589198,6433276500,30047250222,118507673088,408912072478,1265701033492,3579712962750,9380986518528,23027843919870,53409035159316,117860600410206,248890790976000,505371757001454,990655558290772 ★ Number of ways to place 7 non-attacking wazirs on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 12 - 105n ^ 10 + 4795n ^ 8 - 122115n ^ 6 + 1834084n ^ 4 - 15461460n ^ 2 + 57441600) / 5040, n>=8. •

[A017416] • 16,28561,331776,1500625,4477456,10556001,21381376,38950081,65610000,104060401,157351936,228886641,322417936,442050625,592240896,777796321,1003875856,1275989841,1600000000,1982119441 ★ (11n+2)^4. • a(0)=16, a(1)=28561, a(2)=331776, a(3)=1500625, a(4)=4477456, a(n)= 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) From _ Harvey P. Dale _ , Jun 05 2012 •

[A241847] • 17,18,21,26,33,42,53,66,81,98,117,138,161,186,213,242,273,306,341,378,417,458,501,546,593 ★ a(n) = n^2 + 17. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[A151978] • 0,1,17,18,34,35,51,52,68,69,85,86,102,103,119,120,136,137,153,154,170,171,187,188,204 ★ Numbers that are congruent to {0, 1} mod 17. • a(n) = (34 * n - 15 * (- 1) ^ n - 49) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) = a(n - 2) + 17. • a(n) + a(n + 1) = a(2n). (End) •

[A022107] • 1,17,18,35,53,88,141,229,370,599,969,1568,2537,4105,6642,10747,17389,28136,45525,73661,119186,192847,312033,504880,816913 ★ Fibonacci sequence beginning 1, 17. • a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=17. a(- 1):=16. •

[A041582] • 17,18,35,88,123,334,1459,1793,3252,5045,43612,266717,310329,3370007,3680336,25452023,207296520,232748543,440045063,672793606,3131219487,6935232580,10066452067,27068136714 ★ Numerators of continued fraction convergents to sqrt(309). • a(n) = 128405450990 * a(n - 26) - a(n - 52) for n>51. [_ Bruno Berselli _ , Nov 16 2013] •

[A140142] • 1,17,18,274,275,1571,1572,5668,5669,15669,15670,36406,36407,74823,74824,140360,140361,245337,245338,405338,405339,639595,639596,971372,971373 ★ a(1)=1, a(n)=a(n-1)+n^0 if n odd, a(n)=a(n-1)+ n^4 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }+{ [1 + (- 1) ^ n] / 2 }* n ^ 4, with a(1)=1 a(n)=(1 / 4) - (1 / 4) * (- 1) ^ n * n - (1 / 4) * (- 1) ^ n + (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 6) * n ^ 3 + (29 / 60) * n + (1 / 10) * n ^ 5 + (1 / 4) * (- 1) ^ n * n ^ 4 + (1 / 4) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A041143] • 0,1,1,17,18,305,323,5473,5796,98209,104005,1762289,1866294,31622993,33489287,567451585,600940872,10182505537,10783446409,182717648081,193501094490,3278735159921,3472236254411,58834515230497,623067514849 ★ Denominators of continued fraction convergents to sqrt(80). • a(n) = 18 * a(n - 2) - a(n - 4). • a(n) = product { k = 1..floor((n - 1) / 2) } (16 + 4 * cos ^ 2(k * Pi / n)). •

[A041609] • 1,1,17,18,629,647,10981,11628,406333,417961,7093709,7511670,262490489,270002159,4582525033,4852527192,169568449561,174420976753,2960304077609,3134725054362,109540955925917,112675680980279,1912351851610381,2025027532590660 ★ Denominators of continued fraction convergents to sqrt(322). • a(n) = 646 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 21 2013 •

[A008366] • 1,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97,101,103,107,109,113 ★ Smallest prime factor is >= 17. • a(n) = a(n - 1) + a(n - 5760) - a(n - 5761). - _ Vaclav Kotesovec _ , Mar 18 2016 •

[A205646] • 17,19,25,43,97,259,745,2203,6577,19699,59065,177163,531457,1594339,4782985,14348923,43046737,129140179,387420505,1162261483,3486784417,10460353219,31381059625,94143178843,282429536497 ★ Number of empty faces in Freij's family of Hansen polytopes. • a(n) = 3 ^ n + 16. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). G.f.: - (49 * x - 17) / ((x - 1) * (3 * x - 1)). - _ Colin Barker _ , May 02 2013 •

[A045803] • 17,19,31,33,117,119,131,133,217,219,231,233,317,319,331,333,417,419,431,433,517,519,531,533,617 ★ 3-ish numbers (end in 17, 19, 31, 33). • a(n) = - 75 / 2 - (23 * (- 1) ^ n) / 2 - (9 - 9 * i) * (- i) ^ n - (9 + 9 * i) * i ^ n + 25 * n where i=sqrt(- 1). - _ Colin Barker _ , Oct 16 2015 •

[A218864] • 0,1,17,20,52,57,105,112,176,185,265,276,372,385,497,512,640,657,801,820,980,1001,1177,1200,1392 ★ Numbers of the form 9*k^2 + 8*k, k an integer. • a(n) = (18 * n * (n - 1) - 7 * (- 1) ^ n * (2 * n - 1) - 7) / 8. [_ Bruno Berselli _ , Nov 13 2012] •

[A069961] • 1,17,20,73,169,464,1193,3145,8212,21521,56321,147472,386065,1010753,2646164,6927769,18137113,47483600,124313657,325457401,852058516,2230718177,5840095985,15289569808,40028613409 ★ Define C(n) by the recursion C(0)=4*I where I^2=-1, C(n+1)=1/(1+C(n)); then a(n)=4*(-1)^n/Im(C(n)) where Im(z) denotes the imaginary part of the complex number z. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). G.f.: - (x - 1) * (16 * x + 1) / ((x + 1) * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Jun 14 2013 • a(n) = (2 ^ (- 1 - n) * (- 15 * (- 1) ^ n * 2 ^ (2 + n) - (3 - sqrt(5)) ^ n * (- 35 + sqrt(5)) + (3 + sqrt(5)) ^ n * (35 + sqrt(5)))) / 5. - _ Colin Barker _ , Oct 01 2016 •

[A140146] • 1,17,20,276,281,1577,1584,5680,5689,15689,15700,36436,36449,74865,74880,140416,140433,245409,245428,405428,405449,639705,639728,971504,971529 ★ a(1)=1, a(n)=a(n-1)+n^1 if n odd, a(n)=a(n-1)+ n^4 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n +{ [1 + (- 1) ^ n] / 2 }* n ^ 4, with a(1)=1 a(n)=(1 / 8) - (1 / 2) * (- 1) ^ n * n - (1 / 8) * (- 1) ^ n + (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 6) * n ^ 3 + (1 / 4) * n ^ 2 + (7 / 30) * n + (1 / 10) * n ^ 5 + (1 / 4) * (- 1) ^ n * n ^ 4 + (1 / 4) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A259555] • 17,21,29,41,57,77,101,129,161,197,237,281,329,381,437,497,561,629,701,777,857,941,1029,1121,1217 ★ a(n) = 2*n^2 - 2*n + 17. • a(n) = 2 * n ^ 2 - 2 * n + 17. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Jul 01 2015 •

[A219396] • 0,17,21,72,80,165,177,296,312,465,485,672,696,917,945,1200,1232,1521,1557,1880,1920,2277,2321,2712,2760 ★ Numbers k such that 19*k+1 is a square. • a(n) = a(- n + 1) = (38 * n * (n - 1) + 15 * (- 1) ^ n * (2 * n - 1) - 1) / 8 + 2. •

[A156567] • 17,23,37,65,115,205,373,667,1193,2173,3887,6953,12665,22655,40525,73817,132043,236197,430237,769603,1376657,2507605,4485575,8023745,14615393 ★ Positive numbers y such that y^2 is of the form x^2+(x+23)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=17, a(2)=23, a(3)=37, a(4)=65, a(5)=115, a(6)=205. •

[A267984] • 17,23,47,53,77,83,107,113,137,143,167,173,197,203,227,233,257,263,287,293,317,323,347,353,377 ★ Numbers congruent to {17, 23} mod 30. • a(n) = a(n - 1) + a(n - 2) - a(n - 3), n >= 4. • a(n) = a(n - 2) + 30. • a(n) = 10 * (3 * n - 2) - a(n - 1). • a(n) = (30 * n - 9 * (- 1) ^ n - 5) / 2 for n>0. • a(n) = 15 * n - 7 for n>0 and even. • a(n) = 15 * n + 2 for n odd. •

[A214493] • 17,23,65,89,149,191,269,329,425,503,617,713,845,959,1109,1241,1409,1559,1745,1913,2117,2303,2525,2729,2969 ★ Numbers of the form ((6k+5)^2+9)/2 or 2(3k+4)^2-9. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = (6 * n * (3 * n + 10) + 27 * (- 1) ^ n + 41) / 4. •

[A231963] • 17,24,31,48,55,62,79,86,93,109,116,123,130,147,154,161,178,185,192,208,215,222,239,246,253 ★ Concatenate n with its UPC check digit. • a(n) = 10n + c(n), where c(n) = - ((sum(i = 1 .. floor(L / 2), d(2i - 1)) + 3(sum(j = 0 .. floor(L / 2), d(2j)))) mod 10, where L is how many digits n has, d(L - 1) is the most significant digit of n, ..., and d(0) is the one's place digit. •

[A158803] • 17,24,58,65,99,106,140,147,181,188,222,229,263,270,304,311,345,352,386,393,427,434,468,475,509 ★ Numbers n such that n^2 == 2 (mod 41). • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = (1 / 4) * (41 + 27 * (- 1) ^ (n - 1) + 82 * (n - 1)). •

[A154277] • 17,26,197,530,1025,1682,2501,3482,4625,5930,7397,9026,10817,12770,14885,17162,19601,22202,24965,27890,30977,34226,37637,41210,44945 ★ a(n) = 81*n^2 - 72*n + 17. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 02 2012 •

[A140150] • 1,17,26,282,307,1603,1652,5748,5829,15829,15950,36686,36855,75271,75496,141032,141321,246297,246658,406658,407099,641355,641884,973660,974285 ★ a(1)=1, a(n)=a(n-1)+n^2 if n odd, a(n)=a(n-1)+ n^4 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 2 +{ [1 + (- 1) ^ n] / 2 }* n ^ 4, with a(1)=1 a(n)= - (1 / 2) * (- 1) ^ n * n + (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 3) * n ^ 3 - (1 / 4) * (- 1) ^ n * n ^ 2 + (1 / 4) * n ^ 2 + (1 / 15) * n + (1 / 10) * n ^ 5 + (1 / 4) * (- 1) ^ n * n ^ 4 + (1 / 4) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A032611] • 17,28,39,410,511,612,713,814,915,1016,1117,1218,1319,1420,1521,1622,1723,1824,1925,2026,2127,2228,2329,2430,2531 ★ Concatenation of n and n + 6 or {n,n+6}. • a(n)=n * 10 ^ floor(log10(n + 6) + 1) + n + 6, with n>=0 [From _ Paolo P. Lava _ , Oct 09 2008] •

[A069755] • 17,29,89,125,251,323,539,659,989,1169,1637,1889,2519,2855,3671,4103,5129,5669,6929,7589,9107,9899,11699,12635,14741 ★ Frobenius number of the numerical semigroup generated by 3 consecutive triangular numbers. • a(n) = (- 14 + 6 * (- 1) ^ n + (3 + 9 * (- 1) ^ n) * n + 3 * (5 + (- 1) ^ n) * n ^ 2 + 6 * n ^ 3) / 8. • a(n) = (6 * n ^ 3 + 18 * n ^ 2 + 12 * n - 8) / 8 for n even. • a(n) = (6 * n ^ 3 + 12 * n ^ 2 - 6 * n - 20) / 8 for n odd. (End) •

[A267781] • 17,31,47,61,107,137,151,167,181,197,211,227,241,257,271,287,301,317,331,347,361,377,391,407,421 ★ Expansion of (x*(-14x^6-32x^5+16x^4+30x^3-x+14)+17)/((x-1)^2*(x+1)). • a(n) = (30 * n - (- 1) ^ n + 123) / 2 for n>4. - _ Colin Barker _ , Jan 21 2016 •

[A158057] • 1,17,33,49,65,81,97,113,129,145,161,177,193,209,225,241,257,273,289,305,321,337,353,369,385 ★ First differences of A051870: 16*n + 1. • a(n) = 16 * n + 1. • a(n) = 2 * a(n - 1) - a(n - 2), a(0) = 1, a(1) = 17. •

[A249356] • 1,17,33,49,65,97,129,161,193,241,289,337,385,449,513,577,641,721,801,881,961,1057,1153,1249,1345 ★ 8*A200975(n)-7 where A200975 are the numbers on the diagonals in Ulam's spiral. • a(n) = 2 * n * (n + 2) + (- 1) ^ n - 4 * sin((Pi * n) / 2). • a(n) = 2 * a(n - 1) - a(n - 2) + 16 if n == 2 mod 4 , a(n) = 2 * a(n - 1) - a(n - 2) otherwise. - _ Robert Israel _ , Nov 04 2014 • a(n) = 2 * n * (n + 2) - (1 - (- 1) ^ n) * (1 - 2 * i ^ (n + 1)) + 1, where i=sqrt(- 1). - _ Bruno Berselli _ , Nov 18 2014 •

[A168579] • 1,1,17,33,305,833,5713,19041,110449,415105,2182289,8823969,43740593,184924097,884773585,3843559137,17999936497,79496882689,367495866641,1639445989665,7519379855921,33750515690561,154060593385297 ★ G.f.: 1/(1-x-16*x^2). • a(0)=a(1)=1, a(n) = a(n - 1) + 16 * a(n - 2) for n>1. • a(n) = (1 / sqrt(65)) * (((1 + sqrt(65)) / 2) ^ (n + 1) - ((1 - sqrt(65)) / 2) ^ (n + 1)), for n >= 0 [Binet representation] - _ Felix P. Muga II _ , Mar 12 2014 •

[A008599] • 0,17,34,51,68,85,102,119,136,153,170,187,204,221,238,255,272,289,306,323,340,357,374,391,408 ★ Multiples of 17. • a(n) = 17 * n = 2 * a(n - 1) - a(n - 2). G.f.: 17x / (x - 1) ^ 2. - _ Vincenzo Librandi _ , Dec 24 2010 •

[A249988] • 0,17,34,52,69,87,104,121,139,156,173,190,207,224,241,258,275,292,309,325,342,358,374,390,406 ★ Integer part of sine of n degrees multiplied by 1000. • a(n) = round(1000 * sin(pi * n / 180)), where round() is the rounding towards zero function. • a(360 + n) = a(n). • a(180 + n) = - a(n). •

[A110287] • 17,34,68,136,272,544,1088,2176,4352,8704,17408,34816,69632,139264,278528,557056,1114112,2228224,4456448,8912896,17825792,35651584,71303168,142606336,285212672 ★ 17*2^n. • a(n)=2 * a(n - 1) (with a(0)=17). - _ Vincenzo Librandi _ , Dec 26 2010 •

[A042305] • 1,17,35,52,295,2412,2707,5119,130682,135801,266483,2267665,11604808,13872473,39349754,682818291,35545900886,604963133353,1245472167592,1850435300945,10497648672317,85831624679481,96329273351798,182160898031279,4650351724133773 ★ Denominators of continued fraction convergents to sqrt(679). • a(n) = 35585250640 * a(n - 16) - a(n - 32) for n>31. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A041566] • 17,35,52,347,1093,1440,3973,9386,13359,22745,195319,2171254,4537827,20322562,45182951,517335023,4183863135,4701198158,8885061293,22471320744,53827702781,76299023525,282724773356 ★ Numerators of continued fraction convergents to sqrt(301). • a(n) = 11766785075390 * a(n - 26) - a(n - 52) for n>51. [_ Bruno Berselli _ , Nov 16 2013] •

[A239129] • 17,35,53,71,89,107,125,143,161,179,197,215,233,251,269,287,305,323,341,359,377,395,413,431,449 ★ a(n) = 18*n - 1, n >= 1, the second column of triangle A239127 related to the Collatz problem. • a(n) = 18 * n - 1 for n >= 1. •

[A212427] • 0,17,35,54,74,95,117,140,164,189,215,242,270,299,329,360,392,425,459,494,530,567,605,644,684 ★ a(n) = 17*n + A000217(n-1). • a(n) = (16 + n) * (17 + n) / 2 - 16 * 17 / 2 = 17 * n + (n - 1) * n / 2 = n * (n + 33) / 2. • a(n) = 17n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A195047] • 0,1,17,35,68,103,153,205,272,341,425,511,612,715,833,953,1088,1225,1377,1531,1700,1871,2057,2245,2448 ★ Concentric 17-gonal numbers. • a(n) = 17 * n ^ 2 / 4 + 13 * ((- 1) ^ n - 1) / 8. •

[A144534] • 1,1,17,35,577,1189,19601,40391,665857,1372105,22619537,46611179,768398401,1583407981,26102926097,53789260175,886731088897,1827251437969,30122754096401,62072759630771,1023286908188737,2108646576008245,34761632124320657,71631910824649559 ★ Denominators of continued fraction convergents to sqrt(8/9). • a(n) = 16 * a(n - 1) + a(n - 2) if n odd, otherwise a(n) = 2 * a(n - 1) + a(n - 2), for n >= 2. • a(n) = 34 * a(n - 2) - a(n - 4). G.f.: (x ^ 3 - 17 * x ^ 2 + x + 1) / ((x ^ 2 - 6 * x + 1) * (x ^ 2 + 6 * x + 1)). [_ Colin Barker _ , Jul 16 2012] •

[A098849] • 0,17,36,57,80,105,132,161,192,225,260,297,336,377,420,465,512,561,612,665,720,777,836,897,960 ★ a(n) = n*(n + 16). • a(n) = (n + 8) ^ 2 - 8 ^ 2 = n * (n + 16), n>=0. • a(n) = a(n - 1) + 2 * n + 15 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A161549] • 1,17,37,61,89,121,157,197,241,289,341,397,457,521,589,661,737,817,901,989,1081,1177,1277,1381,1489 ★ a(n) = 2n^2 + 14n + 1. • a(n) = a(n - 1) + 4 * n + 12 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 30 2010 •

[A269788] • 17,37,61,89,157,197,241,397,457,521,661,1277,1381,1489,1601,2089,2221,2357,2789,3257,3761,4877,5077,5281,5701 ★ Primes p such that 2*p + 47 is a square. • a(1) = 17 because 2 * 17 + 47 = 81, which is a square. •

[A139579] • 0,17,38,63,92,125,162,203,248,297,350,407,468,533,602,675,752,833,918,1007,1100,1197,1298,1403,1512 ★ a(n) = 2*n^2 + 15*n. • a(n) = a(n - 1) + 4 * n + 13; a(0) = 0. - _ Vincenzo Librandi _ , Nov 24 2010 •

[A140679] • 0,17,40,69,104,145,192,245,304,369,440,517,600,689,784,885,992,1105,1224,1349,1480,1617,1760,1909,2064 ★ a(n) = n*(3*n+14). • a(n) = 3 * n ^ 2 + 14 * n. • a(n) = a(n - 1) + 6 * n + 11, with a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3a(n - 1) - 3a(n - 2) + a(n - 3), with a(1)=0, a(2)=17, a(3)=40. - Harvey P. Dale, Apr 29 2011 •

[A166147] • 1,17,41,73,113,161,217,281,353,433,521,617,721,833,953,1081,1217,1361,1513,1673,1841,2017,2201,2393,2593 ★ a(n) = 4n^2 + 4n - 7. • a(n) = a(n - 1) + 8 * n with n>1, a(1)=1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A164602] • 1,17,41,201,689,2785,10393,40281,153313,588593,2250377,8620905,32994449,126335233,483631609,1851609849,7088640961,27138550865,103897588457,397765032969,1522813185137,5829981601057,22319655498073 ★ a(n) = ((1+4*sqrt(2))*(1+2*sqrt(2))^n + (1-4*sqrt(2))*(1-2*sqrt(2))^n)/2. • a(n) = 2 * a(n - 1) + 7 * a(n - 2) for n > 1; a(0) = 1, a(1) = 17. •

[A118587] • 17,43,47,131,397,947,1883,3307,5321,8027,11527,15923,21317,27811,35507,44507,54913,66827,80351,95587,112637,131603,152587,175691,201017 ★ Expansion of (17-25*x-23*x^2+133*x^3)/(1-x)^4. • a(n) = 17 * n ^ 3 - 62 * n ^ 2 + 71 * n + 17. •

[A172044] • 1,17,43,79,125,181,247,323,409,505,611,727,853,989,1135,1291,1457,1633,1819,2015,2221,2437,2663,2899,3145 ★ 5*n^2+11*n+1. • a(n)= + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: (- 1 - 14 * x + 5 * x ^ 2) / (x - 1) ^ 3. - _ R. J. Mathar _ , Jan 04 2011 •

[A227721] • 17,44,83,134,197,272,359,458,569,692,827,974,1133,1304,1487,1682,1889,2108,2339,2582,2837,3104,3383,3674,3977 ★ Floor(1/s(n)), where s(n) = (2n+1)/(2n+2) - n*log((n+1)/n). • a(n) = 2 + 9 * n + 6 * n ^ 2 (conjectured). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) (conjectured). •

[A140155] • 1,17,44,300,425,1721,2064,6160,6889,16889,18220,38956,41153,79569,82944,148480,153393,258369,265228,425228,434489,668745,680912,1012688,1028313 ★ a(1)=1, a(n)=a(n-1)+n^3 if n odd, a(n)=a(n-1)+ n^4 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 3 +{ [1 + (- 1) ^ n] / 2 }* n ^ 4, with a(1)=1 a(n)= (- 1 / 16) - (1 / 4) * (- 1) ^ n * n + (1 / 16) * (- 1) ^ n + (1 / 4) * (- 1) ^ n * n ^ 3 + (5 / 12) * n ^ 3 - (3 / 8) * (- 1) ^ n * n ^ 2 + (1 / 8) * n ^ 2 - (1 / 60) * n + (1 / 10) * n ^ 5 + (1 / 4) * (- 1) ^ n * n ^ 4 + (3 / 8) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A051869] • 0,1,17,48,94,155,231,322,428,549,685,836,1002,1183,1379,1590,1816,2057,2313,2584,2870,3171,3487,3818,4164 ★ 17-gonal (or heptadecagonal) numbers: n(15n-13)/2. • a(n) = 15 * n + a(n - 1) - 14 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(15 * a(n) + 106 * n + 1) = a(15 * a(n) + 106 * n) + a(15 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069129] • 1,17,49,97,161,241,337,449,577,721,881,1057,1249,1457,1681,1921,2177,2449,2737,3041,3361,3697,4049,4417,4801 ★ Centered 16-gonal numbers. • a(n) = 8 * n ^ 2 - 8 * n + 1. • a(n) = 16 * n + a(n - 1) - 16 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Aug 08 2010 •

[A120612] • 1,1,17,49,353,1441,8177,37969,198593,966721,4912337,24325489,122336033,609554401,3054149297,15251614609,76315468673,381405156481,1907542343057,9536162033329,47685459212513,238413348924961,1192108586037617,5960417405949649 ★ For n>1, a(n) = 2*a(n-1) + 15*a(n-2); a(0)=1, a(1)=1. • a(n) = (5 ^ n + (- 1) ^ n * 3 ^ n) / 2. - _ Alexander Adamchuk _ , Aug 31 2006 •

[A098329] • 1,1,17,49,481,2081,16241,85457,600769,3489601,23391697,143000177,938797729,5897385313,38397492017,244866166289,1590355308929,10231490804353,66456634775441,429898281869489,2795449543782241,18150017431150241,118194927388259057,769438418283309649 ★ Expansion of 1/(1-2x-31x^2)^(1/2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k) * binomial(n, k) * 8 ^ k } . •

[A005570] • 17,50,99,164,245,342,455,584,729,890,1067,1260,1469,1694,1935,2192,2465,2754,3059,3380,3717,4070,4439,4824,5225 ★ Number of walks on cubic lattice. • a(n) = 8 * n ^ 2 + 9 * n. •

[A195037] • 0,17,51,102,170,255,357,476,612,765,935,1122,1326,1547,1785,2040,2312,2601,2907,3230,3570,3927,4301,4692,5100 ★ 17 times triangular numbers. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. • a(n) = Sum _{ i=8n..9n } i. (End) •

[A258598] • 17,51,153,459,1377,4131,12393,37179,111537,334611,1003833,3011499,9034497,27103491,81310473,243931419,731794257,2195382771,6586148313,19758444939,59275334817,177826004451,533478013353,1600434040059,4801302120177 ★ a(n) = 17*3^n. • a(n) = 3 * a(n - 1). •

[A078757] • 1,17,51,449,1853,12853,61557,382024,1971559,11585969,62088471,355111613,1939427729,10943439733,60338602299,338172377293,1873494595072,10464657396101,58113694771149,324052035315389,1801727076022631,10038214290617749,55845947547948897 ★ Values of A028470(n)/A000045(n+1). • a(n) = a(n - 1) + 25a(n - 2) + 11a(n - 3) - 47a(n - 4) - 11a(n - 5) + 25a(n - 6) - a(n - 7) - a(n - 8). •

[A042295] • 1,1,17,52,277,606,2095,2701,4796,31477,36273,212842,249115,461957,711072,1173029,1884101,3057130,4941231,7998361,44933036,52931397,362521418,415452815,777974233 ★ Denominators of continued fraction convergents to sqrt(673). • a(n) = 97626910587864 * a(n - 31) + a(n - 62) for n>61. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A180456] • 17,53,109,157,173,193,227,229,281,349,439,607,659,701,709,827,883,977,1153,1187,1301,1619,1667,1867,2207 ★ Central term of seven successive primes whose average is a prime. • a(n)=[p(n - 3) + p(n - 2) + p(n - 1) + p(n) + p(n + 1) + p(n + 2) + p(n + 3)] / 7 •

[A072895] • 17,54,110,186,281,396,532,686,861,1055,1269,1503,1757,2030,2323,2636,2968,3320,3692,4084,4495,4927,5377,5848,6338 ★ Least k for the Theodorus spiral to complete n revolutions. • a(n) = k means k is the least integer such that Sum _{ i=1..k } arctan(1 / sqrt(i)) > 2n * Pi. •

[A048508] • 1,17,58,160,408,1000,2392,5624,13048,29944,68088,153592,344056,765944,1695736,3735544,8191992,17891320,38928376,84410360,182452216,393215992,845152248,1811939320,3875536888 ★ a(n) = T(3,n), array T given by A048505. • a(n) = (n + 4) * (n + 9) * 2 ^ (n - 2) - 8. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Feb 25 2015 •

[A104165] • 17,59,101,311,353,479,521,941,983,1109,1361,1571,1613,1823,1949,2243,2663,2789,2999,3083,3251,3671,3881,4133,4259 ★ Sophie Germain type primes where 7*Prime[n]=2*Prime[m]+1. • a(n) = If (7 * Prime[n] - 1) / 2 is prime, then a[m]=(7 * Prime[n] - 1) / 2 •

[A195025] • 0,17,62,135,236,365,522,707,920,1161,1430,1727,2052,2405,2786,3195,3632,4097,4590,5111,5660,6237,6842,7475,8136 ★ n*(14*n + 3). • a(n) = 14 * n ^ 2 + 3 * n. •

[**A172076**] • 0,1,17,62,150,295,511,812,1212,1725,2365,3146,4082,5187,6475,7960,9656,11577,13737,16150,18830,21791,25047,28612,32500 ★ a(n) = n*(n+1)*(14*n-11)/6. • a(n) = Sum _{ i=0..n - 1 } (n - i) * (14 * i + 1), with a(0)=0. [_ Bruno Berselli _ , Feb 10 2014] •

[**A130885**] • 1,17,65,163,329,581,937,1415,2033,2809,3761,4907,6265,7853,9689,11791,14177,16865,19873,23219,26921,30997,35465,40343,45649 ★ 3n^3 - 2n^2 + n - 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A036545**] • 1,17,65,209,641,1937,5825,17489,52481,157457,472385,1417169,4251521,12754577,38263745,114791249,344373761,1033121297,3099363905,9298091729,27894275201,83682825617,251048476865,753145430609 ★ a(n) = T(4,n), array T given by A048471. • a(n) = 8 * 3 ^ n - 7. - _ Ralf Stephan _ , Feb 17 2004 • a(n) = 3 * a(n - 1) + 14. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[**A156570**] • 17,65,373,2173,12665,73817,430237,2507605,14615393,85184753,496493125,2893773997,16866150857,98303131145,572952636013,3339412684933,19463523473585,113441728156577,661186845465877,3853679344638685 ★ a(n) = 6*a(n-1)-a(n-2) for n > 2; a(1)=17, a(2)=65. • a(n) = ((74 + 47 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (74 - 47 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4. •

[**A157474**] • 17,66,147,260,405,582,791,1032,1305,1610,1947,2316,2717,3150,3615,4112,4641,5202,5795,6420,7077,7766,8487,9240,10025 ★ a(n) = 16n^2 + n. • a(1)=17, a(2)=66, a(3)=147, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 08 2011 •

[**A024215**] • 1,17,66,166,335,591,952,1436,2061,2845,3806,4962,6331,7931,9780,11896,14297,17001,20026,23390,27111,31207,35696,40596,45925 ★ Sum of squares of first n positive integers congruent to 1 mod 3. • a(n) = n * (6 * n ^ 2 - 3 * n - 1) / 2. •

[**A244630**] • 0,17,68,153,272,425,612,833,1088,1377,1700,2057,2448,2873,3332,3825,4352,4913,5508,6137,6800,7497,8228,8993,9792 ★ 17*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[**A157910**] • 17,71,161,287,449,647,881,1151,1457,1799,2177,2591,3041,3527,4049,4607,5201,5831,6497,7199,7937,8711,9521,10367,11249 ★ 18*n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 08 2012 •

[**A130748**] • 17,72,190,395,711,1162,1772,2565,3565,4796,6282,8047,10115,12510,15256,18377,21897,25840,30230,35091,40447,46322,52740,59725,67301 ★ Place n points on each of the three sides of a triangle, 3n points in all; a(n) = number of nondegenerate triangles that can be constructed using these points (plus the 3 original vertices) as vertices. • a(n) = C(3 * (n + 1), 3) - 3 * C(n + 2, 3) where n>0. • a(n) = (8n ^ 3 + 15n ^ 2 + 9n + 2) / 2 \\ _ Charles R Greathouse IV _ , Feb 14 2013 •

[**A172045**] • 0,1,17,80,240,565,1141,2072,3480,5505,8305,12056,16952,23205,31045,40720,52496,66657,83505,103360,126560,153461,184437,219880,260200 ★ a(n) = (9*n^4+10*n^3-3*n^2-4*n)/12. • a(n) = n * (n + 1) * (9 * n ^ 2 + n - 4) / 12. - _ Bruno Berselli _ , Apr 21 2010 •

[**A228602**] • 17,80,388,1872,9040,43648,210752,1017600,4913408,23724032,114549760,553095168,2670579712,12894699520,62261116928,300623265792,1451537530880,7008643186688,33840722870272,163397464227840,788952748392448,3809400850481152 ★ a(1) = 17, a(2) = 80, a(n) = 4*(a(n-1) + a(n-2)) for n >= 3. • a(n) = (1 / 8) * (12 - 11 * sqrt(2)) * (2 - 2 * sqrt(2)) ^ n + (1 / 8) * (12 + 11 * sqrt(2)) * (2 + 2 * sqrt(2)) ^ n. •

[**A065960**] • 1,17,82,272,626,1394,2402,4352,6642,10642,14642,22304,28562,40834,51332,69632,83522,112914,130322,170272,196964,248914,279842,356864,391250 ★ n^4*Product_{distinct primes p dividing n} (1+1/p^4). • a(n) = n ^ 4 * sum(d|n, mu(d) ^ 2 / d ^ 4). - _ Benoit Cloitre _ , Apr 07 2002 •

[**A001159**] • 1,17,82,273,626,1394,2402,4369,6643,10642,14642,22386,28562,40834,51332,69905,83522,112931,130322,170898,196964,248914,279842,358258,391251 ★ sigma_4(n): sum of 4th powers of divisors of n. • a(n) = Sum _{ d|n } tau _{- 2 }^ (d) * J _ 4(n / d), where tau _{- 2 } is A007427 and J _ 4 A059377. - _ Enrique Pérez Herrero _ , Jan 19 2013 •

[**A294288**] • 0,0,17,82,354,898,2275,4420,8772,14708,25333,38678,60710,86870,127687,174216,243848,320808,432345,552666,722666,902506,1151403,1410508,1763020 ★ Sum of the fourth powers of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 4 + (n - i) ^ 4. • a(n) = (1 / 480) * (n * (- 16 + 160 * n ^ 2 - 15 * (17 + (- 1) ^ n) * n ^ 3 + 96 * n ^ 4)). • a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) - 10 * a(n - 4) + 10 * a(n - 5) + 10 * a(n - 6) - 10 * a(n - 7) - 5 * a(n - 8) + 5 * a(n - 9) + a(n - 10) - a(n - 11) for n>11. •

[**A193046**] • 1,1,17,83,275,727,1673,3505,6873,12843,23155,40639,69889,118353,198097,328659,541667,888311,1451433,2365089,3846201,6245771,10131747,16423103,26606785 ★ Constant term of the reduction by x^2->x+1 of the polynomial p(n,x) defined at Comments. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 6 * a(n - 3) + a(n - 4) - 3 * a(n - 5) + a(n - 6). •

[**A213436**] • 1,17,84,260,625,1281,2352,3984,6345,9625,14036,19812,27209,36505,48000,62016,78897,99009,122740,150500,182721,219857,262384,310800,365625 ★ Principal diagonal of the convolution array A212891. • a(n) = (11 * n ^ 4 + 6 * n ^ 3 - 5 * n ^ 2) / 12. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[**A156157**] • 17,85,493,2873,16745,97597,568837,3315425,19323713,112626853,656437405,3825997577,22299548057,129971290765,757528196533,4415197888433,25733659134065,149986756915957,874186882361677,5095134537254105 ★ a(n) = 6*a(n-1)-a(n-2) for n > 2; a(1) = 17, a(2) = 85. • a(n) = ((2 + sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (2 - sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) * 17 / 4. •

[**A080770**] • 17,86,157,260,401,586,821,1112,1465,1886,2381,2956,3617,4370,5221,6176,7241,8422,9725,11156,12721,14426,16277,18280,20441 ★ a(n)=[e*(n+3)!]-(n+3)(n+2)(n+1)(n)*[e*(n-1)!]. • a(1)=17 n>1 a(n)=n ^ 3 + 7 * n ^ 2 + 1 - n * n + 16 •

[**A061679**] • 17,87,277,647,1257,2167,3437,5127,7297,10007,13317,17287,21977,27447,33757,40967,49137,58327,68597,80007,92617,106487,121677,138247,156257 ★ n^3 followed by 7. • a(n) = 10 * n ^ 3 + 7. •

[**A271567**] • 1,17,87,287,742,1638,3234,5874,9999,16159,25025,37401,54236,76636,105876,143412,190893,250173,323323,412643,520674,650210,804310,986310,1199835 ★ Convolution of nonzero triangular numbers (A000217) and nonzero tetradecagonal numbers (A051866). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). • a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * (12 * n + 5) / 120. •

[**A213574**] • 1,17,93,349,1093,3093,8221,20957,51861,125509,298477,699789,1621285,3718325,8453181,19069885,42728245,95156901,210762253,464517485,1019214021,2227173397,4848613213,10519312029,22749902293 ★ Principal diagonal of the convolution array A213573. • a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 63 * a(n - 3) - 66 * a(n - 4) + 36 * a(n - 5) - 8 * a(n - 6). • a(n) = (- 3 - 4 * n - 4 * n ^ 2 + 2 ^ n * (3 + 2 * n + n ^ 2)). - _ Colin Barker _ , Oct 30 2017 •

[**A081593**] • 1,17,97,241,449,721,1057,1457,1921,2449,3041,3697,4417,5201,6049,6961,7937,8977,10081,11249,12481,13777,15137,16561,18049 ★ Third row of Pascal-(1,7,1) array A081582. • a(n) = 1 - 16 * n + 32 * n ^ 2. •

[**A008514**] • 1,17,97,337,881,1921,3697,6497,10657,16561,24641,35377,49297,66977,89041,116161,149057,188497,235297,290321,354481,428737,514097,611617,722401 ★ 4-dimensional centered cube numbers. • a(n) = 2 * n ^ 4 + 4 * n ^ 3 + 6 * n ^ 2 + 4 * n + 1. - Al Hakanson (hawkuu(AT)gmail.com), May 27 2009, corrected _ R. J. Mathar _ , May 29 2009 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(0) = 1, a(1) = 17, a(2) = 97, a(3) = 337, a(4) = 881. - _ Harvey P. Dale _ , Jan 28 2013 • a(n) = 4 * (n + n ^ 2) + 2 * (n + n ^ 2) ^ 2 + 1. - _ Avi Friedlich _ , Mar 31 2015 •

[**A184327**] • 1,17,97,577,3361,19601,114241,665857,3880897,22619537,131836321,768398401,4478554081,26102926097,152139002497,886731088897,5168247530881,30122754096401,175568277047521,1023286908188737,5964153172084897,34761632124320657 ★ a(1)=1, a(2)=17; thereafter a(n) = 6*a(n-1)-a(n-2)+c, where c=-4 if n is odd, c=12 if n is even. • a(n) = a(- n) = 6 * a(n - 1) - 6 * a(n - 3) + a(n - 4). • a(n) = ((1 + sqrt(2)) ^ (2n) + (1 - sqrt(2)) ^ (2n)) / 2 + (- 1) ^ n - 1. •

[**A282997**] • 17,97,16561,89041,2579199841,3497992081,5645806321,2110320768 1,428888025121,686770904161,2726023770721,4017427557361,6831989588161,6933052766641,10138513506001,19387278797041,23452359542401,35287577206801,40057354132561,62093498771041,64116963608881 ★ Primes of the form (p^2 + q^2)/2 such that |q^2 - p^2| is square, where p and q are prime. • a(n) == 1 (mod 16). •

[**A253707**] • 17,98,291,644,1205,2022,3143,4616,6489,8810,11627,14988,18941,23534,28815,34832,41633,49266,57779,67220,77637,89078,101591,115224,130025 ★ Numbers M(n) which are the number of terms in the sums of consecutive cubed integers equaling a squared integer, b^3 + (b+1)^3 + ... + (b+M-1)^3 = c^2, for a first term b(n) being an odd squared integer (A016754). • a(n) = n(8n(n + 1) + 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Jan 10 2015 •

[**A000538**] • 0,1,17,98,354,979,2275,4676,8772,15333,25333,39974,60710,89271,127687,178312,243848,327369,432345,562666,722666,917147,1151403,1431244,1763020 ★ Sum of fourth powers: 0^4 + 1^4 + ... + n^4. • a(n) = n * (1 + n) * (1 + 2 * n) * (- 1 + 3 * n + 3 * n ^ 2) / 30. • a(n) = Sum _{ i = 1..n } J _ 4(i) * floor(n / i)), where J _ 4 is A059377. - _ Enrique Pérez Herrero _ , Feb 26 2012 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + 24. - _ Ant King _ , Sep 23 2013 • a(n) = - Sum _{ j=1..4 } j * s(n + 1,n + 1 - j) * S(n + 4 - j,n), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 • a(n) = (n + 1) * (n + 1 / 2) * n * (n + 1 / 2 + sqrt(7 / 12)) * (n + 1 / 2 - sqrt(7 / 12)) / 5, see the Graham et al. reference, p. 275. - _ Wolfdieter Lang _ , Apr 02 2015 •

[**A023873**] • 1,1,17,98,490,2411,11940,56093,256274,1140980,4977222,21273772,89281011,368408970,1496993290,5996312751,23700208290,92510062036,358687002352,1361671469470,5141380256124,19221678032134,71190778935805,261320839754142,951091521384860 ★ Expansion of Product_{k>=1} (1 - x^k)^(-k^4). • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 5(k) * a(n - k). - _ Seiichi Manyama _ , Mar 04 2017 •

[**A257449**] • 1,17,99,373,1115,2901,6907,15509,33483,70405,145451,296997,601819,1213493,2439195,4893301,9804587,19630629,39286603,78602885,157240251,314520277,629086139,1258224213,2516507275 ★ a(n) = 75*(2^n - 1) - 4*n^3 - 18*n^2 - 52*n. • a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 16 * a(n - 3) - 9 * a(n - 4) + 2 * a(n - 5) for n>5. •

[**A160767**] • 1,17,103,367,971,2131,4117,7253,11917,18541,27611,39667,55303,75167,99961,130441,167417,211753,264367,326231,398371,481867,577853,687517,812101 ★ Expansion of (1+12*x+28*x^2+12*x^3+x^4)/(1-x)^5. • a(n) = 9 * n ^ 4 / 4 + 9 * n ^ 3 / 2 + 23 * n ^ 2 / 4 + 7 * n / 2 + 1. - _ R. J. Mathar _ , Sep 11 2011 • a(0)=1, a(1)=17, a(2)=103, a(3)=367, a(4)=971, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Feb 28 2015 •

[**A254757**] • 17,103,601,3503,20417,118999,693577,4042463,23561201,137324743,800387257,4664998799,27189605537,158472634423,923646201001,5383404571583,31376781228497,182877282799399,1065886915567897,6212444210607983 ★ Part of the positive proper solutions x of the Pell equation x^2 - 2*y^2 = -7^2 based on the fundamental solution (x0, y0)= (-1, 5). • a(n) = rational part of z(n), where z(n) = (- 1 + 5 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n, n >= 1. •

a(n) = 6 * a(n - 1) - a(n - 2), n >= 2, with a(0) = - 1 and a(1) = 17. • a(n) = 17 * S(n - 1, 6) + S(n - 2, 6), n >= 1, with Chebyshev's S - polynomials ev aluated at x = 6 (see A049310). •

[A194131] • 0,0,1,17,105,407,1216,3036,6696,13428,25005,43861,73277,117471,181880,273268,399960,572076,801825,1103625,1494541,1994387,2626152,3416300,4395148 ⋆ Number of ways to arrange 3 indistinguishable points on an n X n X n triangular grid so that no three points are collinear at any angle. • a(n) = ((n ^ 2 + n + 2) / 2) * binomial(n + 2,4) - (3 / 2) * Sum _{ k=2..n } (n - k + 1) * (n - k + 2) * Sum _{ m=2..k } gcd(k - 1,m - 1). - _ David Beva n _ , Jan 01 2012 •

[A135400] • 1,17,108,382,995,2151,4102,7148,11637,17965,26576,37962,52663,71267,94410,122776,157097,198153,246772,303830,370251,447007,535118,635652,749725 ⋆ a(n) = (4*n^4 - 4*n^3 - n^2 + 3*n)/2. • a(1)=1, a(2)=17, a(3)=108, a(4)=382, a(5)=995, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , May 25 2012 •

[A052254] • 1,17,108,444,1410,3762,8844,18876,37323,69355,122408,206856,336804,531012,813960,1217064,1780053,2552517,3595636,4984100,6808230,9176310,12217140,16082820,20951775 ⋆ Partial sums of A050406. • a(n) = (10n + 7) * C(n + 6, 6) / 7. •

[A108649] • 1,17,111,457,1428,3710,8442,17382,33099,59191,100529,163527,256438,389676,576164,831708,1175397,1630029,2222563,2984597,3952872,5169802,6684030,8551010,10833615 ⋆ a(n) = (n+1)(n+2)(n+3)(13n^3 + 69n^2 + 113n + 60)/360. • a(0)=1, a(1)=17, a(2)=111, a(3)=457, a(4)=1428, a(5)=3710, a(6)=8442, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jul 01 2012 •

[A086020] • 1,17,117,517,1742,4878,11934,26334,53559,101959,183755,316251,523276,836876,1299276,1965132,2904093,4203693,5972593,8344193,11480634,15577210,20867210,27627210,36182835 ⋆ a(n) = Sum_(i=1..n) C(i+2,3)^2 [Sequential sums of the tetragonal numbers or "tetras" (pyramidal, square) raised to power 2 (drawn from the 4th diagonal - left or right - of the Pascal's Triangle)]. • a(n) = Sum _ (i=1..n) C(i + 2, 3) ^ 2. • a(n) = (C(n + 3, 4) / 35) * (35 + 84 * C(n - 1, 1) + 70 * C(n - 1, 2) + 20 * C(n - 1, 3)). • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (2 * n + 3)(5 * n ^ 2 + 15 * n + 1) / 2520. - _ Emeric Deutsch _ , Aug 02 2005 •

[A056117] • 1,17,117,525,1815,5247,13299,30459,64350,127270,238238,425646,730626,1211250,1947690,3048474,4657983,6965343,10214875,14718275,20868705,29156985,40190085,54712125,73628100 ⋆ Expansion of (1+8x)/(1-x)^9. • a(n)=[9n + 8] * C(n + 7, 7) / 8. G.F.(x)=(1 + 8x) / (1 - x) ^ 9. •

[A083200] • 0,1,17,118,514,1681,4529,10612,22380,43473,79057,136202,224302,355537,545377,813128,1182520,1682337,2347089,3217726,4342394,5777233,7587217,9847036,12642020 ⋆ Polynexus numbers of order 7. • a(n) = ((n ^ 7 - (n - 1) ^ 7) - (n ^ 3 - (n - 1) ^ 3)) / 120. •

[A274325] • 1,1,17,122,513,1563,3889,8404,16385,29525,50001,80526,124417,185647,268913,379688,524289,709929,944785,1238050,1600001,2042051,2576817,3218172,3981313 ⋆ Number of partitions of n^5 into at most two parts. • a(n) = (3 + (- 1) ^ n + 2 * n ^ 5) / 4. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - a(n - 7) for n>6. •

[A108682] • 1,17,122,560,1946,5586,13944,31284,64515,124267,226226,392756,654836,1054340,1646688,2503896,3718053,5405253,7710010,10810184,14922446,20308310,27280760,36211500,47538855 ⋆ a(n) = (n+1)*(n+2)^2*(n+3)*(n+4)*(3*n^2 + 6*n - 15)/720. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Wesley Ivan Hurt _ , May 23 2015 •

[A021003] • 0,1,17,123,514,1565,3891,8407,16388,29529,50005,80531,124422,185653,268919,379695,524296,709937,944793,1238059,1600010,2042061,2576827,3218183,3981324 ⋆ a(n) = (n/2)*(n^4+1). • a(0)=0, a(1)=1, a(2)=17, a(3)=123, a(4)=514, a(5)=1565, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Dec 18 2011 • a(n) = - a(- n) for all n in Z. - _ Michael Somos _ , Jul 11 2017 •

[A056122] • 1,17,125,605,2255,7007,19019,46475,104390,218790,432718,814606,1469650,2554930,4299130,7027834,11195503,17425375,26558675,39714675,58363305,84412185,120310125,169169325,234908700 ⋆ a(n) = (8n+9)*C(n+8,8)/9. • a(n) = (362880 + 1308816 * n + 1939788 * n ^ 2 + 1550548 * n ^ 3 + 740313 * n ^ 4 + 220416 * n ^ 5 + 41202 * n ^ 6 + 4692 * n ^ 7 + 297 * n ^ 8 + 8 * n ^ 9) / 362880. - _ Harvey P. Dale _ , Mar 09 2011 •

[A036828] • 0,1,17,125,637,2637,9549,31501,97037,283661,795661,2158605,5697549,14696461,37175309,92471309,226689037,548667405,1313079309,3111125005,7305429005,17016291341,39346765837,90378862605,206342979597 ⋆ A036827/2. • a(n) = 2 ^ n * (n ^ 3 - 3 * n ^ 2 + 9 * n - 13) + 13. - Bruno Berselli, Mar 06 2012 •

[A244874] • 1,17,137,707,2709,8417,22408,53008,114251,228431,429325,766167,1308451,2151643,3423880,5293736,7979133,11757477,16977097,24070067,33566489,46110317,62476800,83591624,110551831 ⋆ Number of magic labelings with magic sum n of 6th graph shown in link. • a(n) = (- 315 * (- 129 + (- 1) ^ n) + 138528 * n + 202104 * n ^ 2 + 171248 * n ^ 3 + 93030 * n ^ 4 + 32312 * n ^ 5 + 6636 * n ^ 6 + 632 * n ^ 7) / 40320. - _ Colin Barker _ , Jan 11 2017 •

[A277387] • 1,17,138,670,2355,6671,16212,35148,69765,129085,225566,375882,601783,931035,1398440,2046936,2928777,4106793,5655730,7663670,10233531,13484647,17554428,22600100,28800525 ⋆ Number of nonnegative solutions of a certain system of linear Diophantine equations depending on an even parameter. • a(n) = n * (1 + n) * (3 + 2 * n + n ^ 2 + n ^ 3 + 2 * n ^ 4) / 18. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[A008417] • 1,17,145,833,3649,13073,40081,108545,265729,598417,1256465,2485825,4673345,8405905,14546705,24331777,39490049,62390545,96220561,145198913,214828609,312193553,446304145,628496897,872893441 ⋆ Crystal ball sequence for 8-dimensional cubic lattice. • a(n) = (2 * n ^ 8 + 8 * n ^ 7 + 84 * n ^ 6 + 224 * n ^ 5 + 798 * n ^ 4 + 1232 * n ^ 3 + 1636 * n ^ 2 + 1056 * n + 315) / 315. - _ Alexander Adamchuk _ , May 23 2006 •

[A233328] • 1,17,145,1169,9361,74897,599185,4793489,38347921,306783377,2454267025,19634136209,157073089681,1256584717457,10052677739665,80421421917329,643371375338641,5146971002709137,41175768021673105,329406144173384849,2635249153387078801 ⋆ (2*8^(n+1) - 9) / 7. • a(n) = 9 * a(n - 1) - 8 * a(n - 2) for n>1, a(0)=1, a(1)=17. • a(n) = 8 * a(n - 1) + 9 for n>0, a(0)=1. •

[A247613] • 1,17,153,969,4845,20349,74613,245157,735471,2031535,5189327,12316239,27322191,57029103,112740255,212383935,383358645,666220005,1119362365,1824861005,2895653673,4484253081,6793194849,10087438257,14708950035 ⋆ a(n) = Sum_{k=0..8} binomial(16,k)*binomial(n,k). • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). • a(n) = (20160 - 15076944 * n + 40499716 * n ^ 2 - 42247940 * n ^ 3 + 23174515 * n ^ 4 - 7234136 * n ^ 5 + 1335334 * n ^ 6 - 134420 * n ^ 7 + 6435 * n ^ 8) / 20160. •

[A010969] • 1,17,153,969,4845,20349,74613,245157,735471,2042975,5311735,13037895,30421755,67863915,145422675,300540195,601080390,1166803110,2203961430,4059928950,7307872110,12875774670,22239974430,37711260990,62852101650 ⋆ a(n) = binomial(n,16). • a(n + 15) = n(n + 1)(n + 2)(n + 3)(n + 4)(n + 5)(n + 6)(n + 7)(n + 8)(n + 9)(n + 10)(n + 11)(n + 12)(n + 13)(n + 14)(n + 15) / 16!. - _ Artur Jasinski _ , Dec 02 2007 • a(n) = n / (n - 16) * a(n - 1), n > 16. - _ Vincenzo Librandi _ , Mar 26 2011 •

[A164543] • 1,17,153,1241,9809,76993,603177,4722889,36974881,289459697,2266023993,17739425081,138871842929,1087148202913,8510660699337,66625087543849,521569643549761,4083069947252177,31964015532175833,250227966218471321 ⋆ a(n) = 10*a(n-1) - 17*a(n-2) for n > 1; a(0) = 1, a(1) = 17. • a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 1, a(1) = 17. • a(n) = ((1 + 3 * sqrt(2)) * (5 + 2 * sqrt(2)) ^ n + (1 - 3 * sqrt(2)) * (5 - 2 * sqrt(2)) ^ n) / 2. •

[A295932] • 17,153,1289,10521,84809,680409,5449097,43610265,348934601,2791634265,22333546505,178669789209,1429362565193,11434913276121,91479344472713,731834870572953,5854679308957385,46837435504780377,374699487137606921,2997595906398947097,23980767279085851977 ⋆ Number of (not necessarily maximum) cliques in the n-Sierpinski carpet graph. • a(n) = (13 * 8 ^ n - 8 * 3 ^ n + 5) / 5. • a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 24 * a(n - 3). •

[A160699] • 0,17,154,531,1268,2485,4302,6839,10216,14553,19970,26587,34524,43901,54838,67455,81872,98209,116586,137123,159940,185157,212894,243271,276408 ⋆ A bisection of A063522. • a(0)=0, a(1)=17, a(2)=154, a(3)=531, a(n)=4a(n - 1) - 6a(n - 2) + 4a(n - 3) - a(n - 4) - _ Harvey P. Dale _ , May 07 2011 •

[A198859] • 1,17,161,1457,13121,118097,1062881,9565937,86093441,774840977,6973568801,62762119217,564859072961,5083731656657,45753584909921,411782264189297,3706040377703681,33354363399333137,300189270593998241 ⋆ 249m^2 + 6m + 15 / 720. • a(n) = 8 * a(n - 1) + 8. a(n) = 10 * a(n - 1) - 9 * a(n - 2), n>1. •

[A155664] • 1,17,163,1511,14095,132767,1262143,12097151,116777215,1134217727,11073741823,108589934591,1068719476735,10549755813887,104398046511103,1035184372088831,10281474976710655,102251799813685247 ⋆ 10^n+8^n-1 • a(n)=18 * a(n - 1) - 80 * a(n - 2) - 63 with a(0)=1, a(1)=17 - _ Vincenzo Librandi _ , Jul 21 2010 • a(0)=1, a(1)=17, a(2)=163, a(n)=19 * a(n - 1) - 98 * a(n - 2) + 80 * a(n - 3) [From Harvey P. Dale, Oct 11 2011] •

[A076458] • 17,165,678,1910,4335,8547,15260,25308,39645,59345,85602,119730,163163,217455,284280,365432,462825,578493,714590,873390,1057287,1268795,1510548,1785300,2095925 ⋆ Sum of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly five ways. • a(n) = n * (n + 1) * (10 * n ^ 2 + 8 * n - 1) / 2. •

[A155658] • 1,17,169,1673,17041,177857,1889209,20310713,220123681,2398301297,26219899849,287288997353,3152269663921,34619601154337,380428056656089,4181995730925593,45982962794141761,505679659013280977 ⋆ 11^n+7^n-1. • a(n)=18 * a(n - 1) - 77 * a(n - 2) - 60 with a(0)=1, a(1)=17 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A119273] • 1,17,171,540,1889,27702,53546,82657,2884642,5851737,36936352,297970002,472542992,5721476626,29898400626,65107456694,570299062913,2997997000002 ⋆ Difference between largest square and cube with n decimal digits. • a(n) = (ceil(10 ^ (n / 2)) - 1) ^ 2 - (ceil(10 ^ (n / 3)) - 1) ^ 3 •

[A246058] • 1,17,177,1777,17777,177777,1777777,17777777,177777777,1777777777,17777777777,177777777777,1777777777777,17777777777777,177777777777777,1777777777777777,17777777777777777,177777777777777777,1777777777777777777 ⋆ (16*10^n-7)/9. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[A025958] • 1,17,185,1645,13041,96117,674185,4565165,30122081,194911717,1242462585,7828123485,48869031121,302849847317,1865814241385,11440608686605,69880858180161,425505538990917,2584272622186585 ⋆ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-6x)). • a(n) = - 2 ^ n / 3 + 16 * 4 ^ n / 1 - 125 * 5 ^ n / 3 + 27 * 6 ^ n / 1. - _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=17, a(2)=185, a(3)=1645, a(n)=17 * a(n - 1) - 104 * a(n - 2) + 268 * a(n - 3) - 240 * a(n - 4). - _ Harvey P. Dale _ , Oct 10 2015 •

[A025931] • 1,17,188,1726,14343,112371,848506,6255392,45386165,325753285,2320698744,16447547298,116147697667,818112983159,5752200695702,40392

496919044,283383067688049,1986859807248393,13923911479636180 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-7x)). ● a(n) = 12 * a(n - 1) - 35 * a(n - 2) + 3 ^ (n + 1) - 2 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 ● a(n) = 7 ^ (n + 3) / 40 - 2 ^ (n + 3) / 15 + 3 ^ (n + 3) / 8 - 5 ^ (n + 3) / 12. - R. J. Mathar, Mar 19 2011 ●

[A021754] ● 1,17,190,1770,14931,118587,905920,6742340,49288261,355826757,2546230050,18106416510,128181315991,904540692527,6368500164580,44764509392280,314282333570121,2204653080603897,15456046918261510,108310071701877650,758760684298882651 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-7x)). ● a(n) = (2 * 7 ^ (n + 3) - 9 * 5 ^ (n + 3) + 8 * 4 ^ (n + 3) - 1) / 72. [_ Yahia Kahloune _ , May 08 2013] ●

[A025467] ● 1,17,191,1813,15855,132909,1089607,8828501,71093759,570671101,4573228023,36617788389,293071750063,2345096538893,18762876780839,150111475106677,1200925773302367,9607542463373085,76860885976538455 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-8x)). ● a(n)=(8 ^ (n + 3) - 15 * 4 ^ (n + 3) + 24 * 3 ^ (n + 3) - 10 * 2 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , May 27 2013] ●

[A021494] ● 1,17,192,1822,15743,128499,1010374,7741184,58209525,431623621,3166395596,23035216386,166469995147,1196633240183,8564499500658,61079918944228,434330031817409,3080934011678985,21810281396626360 ★ Expansion of 1/((1-x)(1-3x)(1-6x)(1-7x)). ● a(n) = (5 * 7 ^ (n + 3) - 8 * 6 ^ (n + 3) + 5 * 3 ^ (n + 3) - 2) / 120. [_ Yahia Kahloune _ , Jul 05 2013] ● a(0)=1, a(1)=17; for n>1, a(n) = 13 * a(n - 1) - 42 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 ● a(0)=1, a(1)=17, a(2)=192, a(3)=1822; for n>3, a(n) = 17 * a(n - 1) - 97 * a(n - 2) + 207 * a(n - 3) - 126 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 ●

[A021434] ● 1,17,194,1882,16827,143835,1197868,9822164,79783253,644325253,5184986742,41632083246,333818409679,2674358387471,21413929824416,171406773741928,1371730930238505,10976231337133689,87821770754328490 ★ Expansion of 1/((1-x)(1-3x)(1-5x)(1-8x)). ● a(n) = (8 ^ (n + 4) - 7 * 5 ^ (n + 4) + 14 * 3 ^ (n + 4) - 15) / 840. - _ Yahia Kahloune _ , Jul 05 2013 ● a(0)=1, a(1)=17; for n>1, a(n) = 13 * a(n - 1) - 40 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 ● a(0)=1, a(1)=17, a(2)=194, a(3)=1882; for n>3, a(n) = 17 * a(n - 1) - 95 * a(n - 2) + 199 * a(n - 3) - 120 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 ●

[A019316] ● 1,17,195,1885,16571,137277,1092715,8456045,64100091,478409437,3528167435,25777174605,186937014811,1347606967997,9667804397355,69083038251565,492036007548731,3494997671436957,24769526131110475 ★ Expansion of 1/((1-4x)(1-6x)(1-7x)). ● a(n) = 8 * 4 ^ n / 3 - 18 * 6 ^ n + 49 * 7 ^ n / 3. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=17, a(2)=195; for n>2, a(n) = 17 * a(n - 1) - 94 * a(n - 2) + 168 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ●

[A018250] ● 1,17,197,1945,17661,152817,1284277,10599305,86485421,700600417,5649437157,45422860665,364536479581,2922126916817,23406459170837,187399966290025,1499945489904141,12003309897022017,96045277784597317 ★ Expansion of 1/((1-4x)(1-5x)(1-8x)). ● a(n) = (3 * 4 ^ (n + 1) - 5 ^ (n + 2) + 2 * 8 ^ (n + 1)) / 3. - _ Bruno Berselli _ , Apr 05 2011 ●

[A021184] ● 1,17,197,1957,17973,157749,1345909,11271029,93191285,763669621,6218195061,50398593141,407106949237,3280364834933,26383974158453,211918126207093,1700423007424629,13633852046266485,109253624291872885 ★ Expansion of 1/((1-x)(1-2x)(1-6x)(1-8x)). ● a(n) = (10 * 8 ^ (n + 3) - 21 * 6 ^ (n + 3) + 35 * 2 ^ (n + 3) - 24) / 840. [_ Yahia Kahloune _ , Jul 05 2013] ● a(0)=1, a(1)=17; for n>1, a(n) = 14 * a(n - 1) - 48 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 ● a(0)=1, a(1)=17, a(2)=197, a(3)=1957; for n>3, a(n) = 17 * a(n - 1) - 92 * a(n - 2) + 172 * a(n - 3) - 96 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 ●

[A021379] ● 1,17,198,2002,19019,175539,1598416,14463284,130489557,1175715541,10586766554,95302471446,857809330015,7720634709623,69487122519012,625389764724088,5628530595298793,50656866402527385 ★ Expansion of 1/((1-x)(1-3x)(1-4x)(1-9x)). ● a(0)=1, a(1)=17; for n>1, a(n) = 13 * a(n - 1) - 36 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 ● a(0)=1, a(1)=17, a(2)=198, a(3)=2002; for n>3, a(n) = 17 * a(n - 1) - 91 * a(n - 2) + 183 * a(n - 3) - 108 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 ●

[A017932] ● 1,17,199,1997,18487,163205,1398223,11743469,97300423,798539093,6509186047,52798905341,426744275959,3440074001381,27677315556271,222358880070413,1784513217331495,14309958928401269,114682790953126495 ★ Expansion of 1/((1-3x)(1-6x)(1-8x)). ● a(0)=1, a(1)=17, a(2)=199; for n>2, a(n) = 17 * a(n - 1) - 90 * a(n - 2) + 144 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 14 * a(n - 1) - 48 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) =(3 * 8 ^ (n + 2) - 5 * 6 ^ (n + 2) + 2 * 3 ^ (n + 2)) / 30. [_ Yahia Kahloune _ , Jul 06 2013] ●

[A021134] ● 1,17,200,2050,19731,184047,1688890,15362600,139076861,1255760077,11322184380,102001381950,918521058391,8269232646107,74435809450670,669985863300100,6030190661052321,54273305406490137 ★ Expansion of 1/((1-x)(1-2x)(1-5x)(1-9x)). ● a(0)=1, a(1)=17; for n>1, a(n) = 14 * a(n - 1) - 45 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 ● a(0)=1, a(1)=17, a(2)=200, a(3)=2050; for n>3, a(n) = 17 * a(n - 1) - 89 * a(n - 2) + 163 * a(n - 3) - 90 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 ● a(n) = (3 * 9 ^ (n + 3) - 14 * 5 ^ (n + 3) + 32 * 2 ^ (n + 3) - 21) / 672. [_ Yahia Kahloune _ , Jul 07 2013] ●

[A279448] ● 0,1,17,202,1397,6582,24185,73496,195086,463875,1013505,2061426,3956947,7222992,12640817,21312992,34801420,55215621,85424721,129174250,191397185,278361226,398108777,560635032,778491962 ★ Number of nonequivalent ways to place 4 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. ● a(n) = (n ^ 8 - 14 * n ^ 6 + 30 * n ^ 5 + 12 * n ^ 4 - 60 * n ^ 3 + 40 * n ^ 2) / 192 + IF(MOD(n, 2) = 1, 4 * n ^ 4 - 20 * n ^ 3 + 22 * n ^ 2 - 2 * n - 7) / 64. ● a(n) = 4 * a(n - 1) - a(n - 2) - 16 * a(n - 3) + 19 * a(n - 4) + 20 * a(n - 5) - 45 * a(n - 6) + 45 * a(n - 8) - 20 * a(n - 9) - 19 * a(n - 10) + 16 * a(n - 11) + a(n - 12) - 4 * a(n - 13) + a(n - 14). ●

[A017897] ● 1,17,202,2090,20251,189707,1745332,15900020,144066901,1301455397,11737424062,105758621150,952437144751,8574983669087,77190104636392,694787214149480,6253466332501801,56283104147438777,506557473488982322,4559064943373269010 ★ Expansion of 1/((1-3x)(1-5x)(1-9x)). ● a(n) = term (1,1) in the 3x3 matrix [17,1,0; - 87,0,1; 135,0,0] ^ n. - _ Alois P. Heinz _ , Aug 04 2008 ● a(0)=1, a(1)=17, a(2)=202, a(n) = 17 * a(n - 1) - 87 * a(n - 2) + 135 * a(n - 3). - _ Vincenzo Librandi _ , Jul 01 2013 ● a(n) = 14 * a(n - 1) - 45 * a(n - 2 + 3 ^ n. - _ Vincenzo Librandi _ , Jul 01 2013 ● a(n) = (9 ^ (n + 2) - 3 * 5 ^ (n + 2) + 2 * 3 ^ (n + 2)) / 24. [_ Yahia Kahloune _ , Aug 13 2013] ●

[A016311] ● 1,17,203,2101,20163,184821,1643251,14298917,122461955,1036190485,8684988819,72248167173,597363137827,4914549713909,40265910006707,328773866154469,2676717032006979,21739418975585493 ★ Expansion of 1/((1-2*x)*(1-7*x)*(1-8*x)). ● a(n) = 4 * 8 ^ (n + 1) / 3 - 7 ^ (n + 2) / 5 + 2 ^ (n + 1) / 15. - _ R. J. Mathar _ , Mar 14 2011 ● a(n) = (160 * 8 ^ n - 147 * 7 ^ n + 2 * 2 ^ n) / 15; ● a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 2 ^ n. (End) ● a(n) = 17 * a(n - 1) - 86 * a(n - 2) + 112 * a(n - 3), with a(0)=1, a(1)=17, a(2)=203. - _ Harvey P. Dale _ , Jul 12 2012 ●

[A140961] ● 1,17,205,2129,20341,184457,1615405,13808609,116015461,962575097,7913168605,64610052689,524855128981,4247421698537,34274519697805,275985344786369,2218709434248901,17815093293410777,142915542082163005,1145704555158361649,9179974972732223221 ★ Number of 3 X n {0,1}-matrices such that: (a) first and second row have a common 1, (b) second and third row have a common 1. ● a(n) = 8 ^ n - 2 * 6 ^ n + 5 ^ n. ●

[A021092] ● 1,17,205,2205,22701,229677,2307565,23119085,231365101,2314349037,23146284525,231474025965,2314784990701,23148028847597,231481004271085,2314812905956845,23148140512683501,231481450939557357 ★ Expansion of 1/((1-x)(1-2x)(1-4x)(1-10x)). ● a(n) = - (1 / 27) + (1 / 2) * 2 ^ n - (16 / 9) * 4 ^ n + (125 / 54) * 10 ^ n. [_ Antonio Alberto Olivares _ , May 22 2012] ● a(0)=1, a(1)=17; for n>1, a(n) = 14 * a(n - 1) - 40 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 06 2013 ● a(0)=1, a(1)=17, a(2)=205, a(3)=2205; for n>3, a(n) = 17 * a(n - 1) - 84 * a(n - 2) + 148 * a(n - 3) - 80 * a(n - 4). - _ Vincenzo Librandi _ , Jul 06 2013 ●

[A016981] ● 1,17,207,2245,23231,235677,2370967,23768645,237928911,2380278637,23806803527,238084281045,2380908324991,23809346902397,238094528416887,2380949536089445,23809512411623471,238095192448290957 ★ Expansion of 1/((1-3x)(1-4x)(1-10x)). ● a(0)=1, a(1)=17, a(2)=207, a(n)=17 * a(n - 1) - 82 * a(n - 2) + 120 * a(n - 3). - _ Harvey P. Dale _ , Aug 25 2012 ● a(n) = 9 * 3 ^ n / 7 - 8 * 4 ^ n / 3 + 50 * 10 ^ n / 21. - _ R. J. Mathar _ , Jun 23 2013 ● a(n) = 14 * a(n - 1) - 40 * a(n - 2) + 3 ^ n for n>1, a(0)=1, a(1)=17. - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A014921] ● 1,17,209,2257,22737,219345,2054353,18831569,169826513,1512003793,13323163857,116402378961,1009755576529,8706336970961,74677034637521,637626988058833,5422701592139985,45955098238474449 ★ a(1)=1, a(n) = n*8^(n-1) + a(n-1). ● a(n) = (1 / 49) * (1 + 8 ^ n * (7 * n - 1)). - _ Paolo P. Lava _ , Jan 13 2009 ● a(1)=1, a(2)=17, a(n) = 16 * a(n - 1) - 64 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 ●

[A081035] ● 1,17,209,2273,23201,228017,2186609,20620673,192174401,1775688017,16304021009,148995991073,1356782533601,12321773100017,111671069983409,1010465414433473,9132169221980801,82455386442384017,743959522093353809 ★ 8th binomial transform of the periodic sequence (1,9,1,1,9,1...). ● a(n) = 9 * a(n - 1) + 8 * 7 ^ (n - 1). ● a(n) = 5 * 9 ^ n - 4 * 7 ^ n. ● a(0)=1, a(1)=17, a(n)=16 * a(n - 1) - 63 * a(n - 2). - _ Harvey P. Dale _ , Oct 07 2014 ●

[A016299] ● 1,17,209,2293,23961,244797,2473969,24869813,249349001,2496744877,24983724129,249918620133,2499593099641,24997965496157,249989827476689,2499949137375253,24999745686859881,249998728434266637 ★ Expansion of 1/((1-2*x)*(1-5*x)*(1-10*x)). ● a(0)=1, a(1)=17, a(2)=209, a(n) = 17 * a(n - 1) - 80 * a(n - 2) + 100 * a(n - 3). - Harvey P. Dale, Aug 24 2011 ● a(0)=1, a(1)=17, a(n) = 15 * a(n - 1) - 50 * a(n - 2) + 2 ^ n. - Vincenzo Librandi, Aug 25 2011 ● a(n) = (1 / 6) * (2 ^ n - 10 * 5 ^ n + 15 * 10 ^ n). - Bruno Berselli, Aug 25 2011 ●

[A016250] ● 1,17,210,2290,23411,230307,2210020,20850980,194384421,1796538997,16498405430,150792530070,1373280939031,12472565630087,113044350922440,1022937980063560,9245213572903241,83478324422447577,753204735666657050,6792141332045915450 ★ Expansion of 1/((1-x)(1-7x)(1-9x)). ● a(0)=1, a(1)=17, a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ● a(n) = (3 * 9 ^ (n + 2) - 4 * 7 ^ (n + 2) + 1) / 48. - _ Yahia Kahloune _ , Jul 09 2013 ● a(n) = 17 * a(n - 1) - 79 * a(n - 2) + 63 * a(n - 3) for n > 2. - _ Colin Barker _ , Sep 01 2015 ●

[A021054] ● 1,17,212,2422,26943,297339,3273754,36020624,396255365,4358895541,47948112576,527430027306,5801732675467,63819066571823,702009753747878,7722107355665668,84943181105770449,934374992744081385 ★ Expansion of 1/((1-x)(1-2x)(1-3x)(1-11x)). ● a(0)=1, a(1)=17; for n>1, a(n) = 14 * a(n - 1) - 33 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 ● a(0)=1, a(1)=17, a(2)=212, a(3)=2422; for n>3, a(n) = 17 * a(n - 1) - 77 * a(n - 2) + 127 * a(n - 3) - 66 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 ● a(n) = (11 ^ (n + 3) - 45 * 3 ^ (n + 3) + 80 * 2 ^ (n + 3) - 36) / 720. [_ Yahia

Kahloune _ , Jul 07 2013] •

[A016246] • 1,17,213,2389,25445,263781,2693797,27273893,274754469,2759637925,27668938661,277124743077,2773859569573,27754268528549,27763672228 2405,277693144805541,27772699779944357,277747309790777253 ★ Expansion of 1/((1-x)(1-6x)(1-10x)). • a(0)=1, a(1)=17, a(n) = 16 * a(n - 1) - 60 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0)=1, a(1)=17, a(2)=213, a(n) = 17 * a(n - 1) - 76 * a(n - 2) + 60 * a(n - 3). - _ Harvey P. Dale _ , Ja n 27 2013 • a(n) = (5 * 10 ^ (n + 2) - 9 * 6 ^ (n + 2) + 4) / 180. - _ Yahia Kahloune _ , Aug 13 2013 •

[A016185] • 0,1,17,217,2465,26281,269297,2685817,26269505,253202761,2413042577,22791125017,213710059745,1992110014441,18478745943857,170706760005817,1571545212141185,14425381885981321,132080236787517137 ★ 9^n - 8^n. • a(0)=0, a(n)=9 * a(n - 1) + 8 ^ (n - 1). [From Vincenzo Librandi, Feb 09 2011] • a(0)=0, a(1)=1, a(n)=17 * a(n - 1) - 72 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] •

[A016238] • 1,17,218,2554,28875,321531,3556372,39217748,431883509,4753160005,52296967086,575327673102,6328909579903,69619531257839,7658224732 30760,84240853525110 16,926651296124844 57,1019317379411645433 ★ Expansion of 1/((1-x)*(1-5*x)*(1-11*x)). • a(0)=1, a(1)=17, a(n)=16 * a(n - 1) - 55 * a(n - 2) + 1. - Vincenzo Librandi, Feb 10 2011 •

[A016181] • 1,17,219,2533,27731,294117,3058819,31411733,319882131,3239174917,32674224419,328719570933,3301036996531,33107258975717,33175081283 0019,3322255689810133,33255789828670931,332790528800696517 ★ Expansion of 1/((1-7x)(1-10x)). • a(0)=1, a(n)=10 * a(n - 1) + 7 ^ n. [From Vincenzo L ibrandi, Feb 09 2011] • a(0)=1, a(1)=17, a(n)=17 * a(n - 1) - 70 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] •

[A016174] • 1,17,223,2669,30655,344981,3841447,42535853,469573999,5175391685,56989774711,627250318877,6901930289983,75934293883829,83535559688 6215,9189381750732941,101086020367969807,1111963150707112613 ★ Expansion of 1/((1-6x)(1-11x)). • a(0)=1, a(n)=11 * a(n - 1) + 6 ^ n. [From Vince nzo Librandi, Feb 09 2011] •

[A016281] • 1,17,223,2741,33103,397901,4776871,57328757,687964255,8255629085,99067724119,1188813216773,14265760187407,171189127015469,20542695 38501767,246512345050023 89,295814814189037759 ★ Expansion of 1/((1-2x)(1-3x)(1-12x)). • a(n) = (2 / 5) * 2 ^ (n - 1) - 3 ^ (n - 1) + (8 / 5) * 12 ^ (n - 1) . - _ Antonio Alberto Olivares _ , Feb 06 2010 • a(n) = 17 * a(n - 1) - 66 * a (n - 2) + 72 * a(n - 3). - _ Vincenzo Librandi _ , Jun 25 2013 •

[A081044] • 1,17,225,2673,29889,321489,3365793,34543665,349156737,3486784401,34480423521,338218086897,3295011258945,31914537622353,30756576522 7809,2951106226689969,28207085096966913,268687927383516945 ★ 9th binomial transform of (1,8,0,0,0,0,0,0,.....). • a(n) = 18 * a(n - 1) - 81 * a(n - 2), a (0)=0, a(1)=17. • a(n) = (8n + 9) * 9 ^ (n - 1). • a(n) = Sum _{ k=0..n } (k + 1) * 8 ^ k * binomial(n, k). •

[A016227] • 1,17,225,2785,33761,406497,4883425,58622945,703562721,8443102177,101318624225,1215829083105,14589971366881,175079745881057,2100957308486625,25211489133495265,302537875328566241 ★ Expansion of 1/((1-x)(1-4x)(1-12x)). • a(n) = (1 / 33) - (2 / 3) * 4 ^ (n - 1) + (18 / 11) * 12 ^ (n - 1) . - _ Antonio Alberto Olivares _ , Feb 07 2010 • a(0)=1, a(1)=17, a(n) = 16 * a(n - 1) - 48 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 •

[A155001] • 1,1,17,225,3249,45441,642897,9057825,127809009,1802444481,25424248977,358594243425,5057894117169,71339832581121,1006226869666257,14192509772837025,200180922571503729,2823489006787799361 ★ a(n)=9*a(n-1)+72*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=17 . • a(n)=(1 / 2) *{ [(9 / 2) + (3 / 2) * sqrt(41)] ^ (n - 1) + [(9 / 2) - (3 / 2) * sqrt(41)] ^ (n - 1) }+ (25 / 24 6) * sqrt(41) *{ [(9 / 2) + (3 / 2) * sqrt(41)] ^ (n - 1) - [(9 / 2) - (3 / 2) * sqr t(41)] ^ (n - 1) + (8 / 9) * [C(2 * n,n) mod 2], n>=0 [From _ Paolo P. Lava _ , Jan 20 2009] •

[A164600] • 1,17,227,2743,31441,349241,3802499,40854943,434991553,4602307457,48477201539,509007338599,5332433173201,55772217368297,582637691946467,6081473282940943,63438141429166081,661450156372654961 ★ a(n) = 18*a(n - 1) - 79*a(n - 2) for n > 1; a(0) = 1, a(1) = 17. • a(n) = ((1 + 4 * sq rt(2)) * (9 + sqrt(2)) ^ n + (1 - 4 * sqrt(2)) * (9 - sqrt(2)) ^ n) / 2. •

[A051560] • 0,1,17,242,3382,48504,725592,11393808,188204400,3270729600,59753750400,1146140409600,23046980025600,485075533132800,10669304848204800,244861798361241600,5854837379724748800 ★ Second unsigned column of triangle A051379. • a(n) = n! * Sum _{ k=0..n - 1 } ((- 1) ^ k * binomial(- 8,k) / (n - k)), for n>=1. - _ Milan Janjic _ , Dec 14 2008 • a(n) = n! * [7]h (n), where [k]h(n) denotes the k - th successive summation of the harmonic nu mbers from 0 to n. - _ Gary Detlefs _ Jan 04 2011 •

[A098302] • 0,1,17,256,3825,57121,852992,12737761,190213425,2840463616,42416740817,633410648641,9458742988800,141247734183361,2109257269761617,31497611312240896,470354912413851825,7023826074895536481 ★ Member r=17 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n) = 15 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. • a(n)= 16 * a(n - 1) - 16 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=17. •

[A014898] • 1,17,258,3874,58115,871731,13075972,196139588,2942093829,44131407445,661971111686,9929566675302,148943500129543,2234152501943159,33512287529147400,502684312937211016,7540264694058165257 ★ a(1)=1, a(n) = 15*a(n-1) + n. • a(n) = - 15 / 196 + (15 / 196) * 15 ^ n - (1 / 14) * n, wit h n >= 1. -_ Paolo P. Lava _ , Jan 14 2009 • a(1)=1, a(2)=17, a(3)=258, a(n) = 17 * a(n - 1) - 31 * a(n - 2) + 15 * a(n - 3). - _ Vincenzo Librandi _ , O ct 20 2012 •

[A135214] • 1,17,260,516,3641,4937,21744,25840,84889,94889,255940,276676,647969,686385,1445760,1511296,2931153,3036129,5512228,5672228,9756329,9990585,16426928,16758704,26524329 ★ a(1)=1, a(n) = a(n-1) + n^5 if n odd, a(n) = a(n-1) + n^4 if n is even. • a(2 * n - 1) = n * (- 8 + 80 * n ^ 2 + 48 * n ^ 4 + 80 * n ^ 5 + 35 * n - 220 * n ^ 3) / 15. • a(2 * n) = n * (- 8 + 80 * n ^ 2 + 48 * n ^ 4 + 80 * n ^ 5 + 35 * n + 20 * n ^ 3) / 15 . (End) •

[A131865] • 1,17,273,4369,69905,1118481,17895697,286331153,4581298449,73300775185,1172812402961,18764998447377,300239975158033,4803839602528529,76861433640456465,1229782938247303441,19676527011956855057 ★ Partial sums of powers of 16. • a(n) = (16 ^ (n + 1) - 1) / 15. - _ Bernard Schott _ , Jun 06 2017 • a(n) = 16 * a(n - 1) + 1. - _ Paul Curtz _ , May 20 2008 •

[A245940] • 0,0,17,279,1960,8875,30555,87122,216384,483570,994125,1909985,3469752,6013189,10010455,16096500,25111040,38144532,56590569,82205115,117173000,164182095,226505587,308092774,413668800 ★ (2n^7 + 4n^6 - n^5 - 4n^4 - n^3) / 24. • a(n) = n ^ 3 * (2 * n ^ 3 + 2 * n ^ 2 - 3 * n - 1) * (n + 1) / 24 = n ^ 3 * (n + 1) * (2 * n ^ 2 + 4 * n + 1) / 24. •

[A078366] • 1,17,288,4879,82655,1400256,23721697,401868593,6808044384,115334885935,1953885016511,33100710394752,560758191694273,9499788548407889,160935647131239840,2726406212682669391 ★ A Chebyshev S-sequence with Diophantine property. • a(n) = 17 * a(n - 1) - a(n - 2), n >= 1; a(- 1)=0, a(0)=1. • a(n) = S(2 * n + 1, sqrt(19)) / sqrt(19) = S(n, 17); S(n, x) := U(n, x / 2), Chebyshev polynomials of the 2nd kind, A049310. • a(n) = (ap ^ (n + 1) - am ^ (n + 1)) / (ap - am) with ap = (17 + sqrt(285)) / 2 and am = (17 - sqrt(285)) / 2. •

[A007805] • 1,17,305,5473,98209,1762289,31622993,567451585,10182505537,182717648081,3278735159921,58834515230497,1055742538989025,18944531186571953,339945818819306129,6100080207560938369 ★ a(n) = Fibonacci(6*n+3)/2. • a(n) = 18 * a(n - 1) - a(n - 2), n>1, a(0)=1, a(1)=17. • a(n + 1) = 9 * a(n) + 4 * (5 * a(n) ^ 2 - 1) ^ 0.5. - _ Richard Choulet _ , Aug 30 2007, Dec 28 2 007 • a(n) = ((2 + sqrt(5)) ^ (2 * n + 1) - (2 - sqrt(5)) ^ (2 * n + 1)) / (2 * s qrt(5)). - _ Dean Hickerson _ , Dec 09 2002 • a(n) = 19 * a(n - 1) - 19 * a(n - 2) + a(n - 3); f(x) = (sqrt(5) / 10) * ((2 + sqrt(5)) * (9 + 4 * sqrt(5)) ^ (x - 1) - (2 - sqrt(5)) * (9 - 4 * sqrt(5)) ^ (x - 1)). - _ Antonio Alberto Olivares _ , May 15 2008 • a(n) = 17a(n - 1) + 17a(n - 2) - a(n - 3). - _ Antonio Albert o Olivares _ , Jun 19 2008 • a(n) = S(n,18) - S(n - 1,18) with the Chebyshev S - polynomials (A049310). - _ Wolfdieter Lang _ , Jun 20 2013 •

[A158585] • 17,306,1173,2618,4641,7242,10421,14178,18513,23426,28917,34986,41633,48858,56661,65042,74001,83538,93653,104346,115617,127466,139893,152898,166481 ★ 289n^2 + 17. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A129992] • 0,17,308,381,468,2117,2540,3045,12648,15113,18056,74025,88392,105545,431756,515493,615468,2516765,3004820,3587517,14669088,17513681,20909888,85498017,102077520 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+127)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 254 for n > 6; a(1)=0, a(2)=17, a(3)=308, a(4)=381, a(5)=468, a(6)=2117. •

[A099275] • 0,1,17,324,6137,116281,2203200,41744521,790942697,14986166724,283946225057,5379992109361,101935903852800,1931402181093841,36594705536930177,693368003020579524,13137397351854080777 ★ Unsigned member r=-17 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 19 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n)= 18 * a(n - 1) + 18 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=17. •

[A180676] • 1,1,1,1,17,337,6641,130865,2578785,50816737,1001378849,19732860833,388849631729,7662550168241,150995835638929,2975477077435217,58633827885912001,1155420016046016193,22768348266078953793 ★ The Gi3 sums of the Pell-Jacobsthal triangle A013609. • a(n) = 20 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) with a(0)=1, a(1)=1, a(2)=1 and a(3)=1. •

[A136270] • 1,17,337,6689,132769,2635313,52307953,1038253121,20608138561,409048011857,8119135821457,161155572393569,3198754040407009,63491614090959473,1260236019697968433,25014245551686490241 ★ a(n) = 20*a(n-1) - 3*a(n-2). • a(n) = 20 * a(n - 1) - 3 * a(n - 2), n>2; a(1) = 1, a(2) = 17. • a(n) = (1 / 2) * (10 - sqrt(97)) ^ n - (9 / 194) * sqrt(97) * (10 + sqrt(97)) ^ n + (1 / 2) * (10 + sqrt(97)) ^ n + (9 / 194) * (10 - sqrt(97)) ^ n * sqrt(97) - _ Alexander R. Povolotsky _ , Mar 31 2008 •

[A120287] • 1,17,355,7715,203413,492527,49601051,1823359051,16684019407,186004308017,2275793105507,29863093770454 1,508725389987673 29,5122373172025550 9,1030637838923010 61,7045407930432340853 ★ Numerator of 1/n^3 + 2/(n-1)^3 + 3/(n-2)^3 +...+ (n-1)/2^3 + n. • a(n) = numerator[Sum[Sum[1 / i ^ 3, { i,1,k }], { k,1,n }]]. •

[A219090] • 0,17,610,6433,37366,152243,490222,1334838,3205770,6983372,14071004,26600198,47683715,81721509,134764658,214942297,332956585,502650756,741655290,1072117239,1521517764,2123582899,2919292602,3957993128 ★ Floor((n + 1/2)^7]). • a(n) = [(n + 1 / 2) ^ 7]. •

[A022352] • 0,18,18,36,54,90,144,234,378,612,990,1602,2592,4194,6786,10980,17766,28746,46512,75258,121770,197028,318798,515826,834624 ★ Fibonacci sequence beginning 0, 18. • a(n) = 9 * (Lucas(n) - Fibonacci(n)). - _ Harvey P. Dale _ , Oct 09 2013 •

[A241848] • 18,19,22,27,34,43,54,67,82,99,118,139,162,187,214,243,274,307,342,379,418,459,502,547,594 ★ a(n) = n^2 + 18. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[A118510] • 1,18,19,36,37,54,55,72,73 ★ Define sequence S_m by: initial term = m, reverse digits and add 1 to get next term. It is conjectured that S_m always reaches a cycle of length 9, as in A117230. Sequence gives records for number of steps to reach cycle. • a(n) = 1 + 9 * (n - 1) for odd n; a(n) = 9 * n for even n. Recursion: a(1) = 1; a(2) = 18; a(n + 1) = a(n - 1) + 18. - (Klaus Brockhaus, Jul 28 2006) •

[A022108] • 1,18,19,37,56,93,149,242,391,633,1024,1657,2681,4338,7019,11357,18376,29733,48109,77842,125951,203793,329744,533537,863281 ★ Fibonacci sequence beginning 1, 18. • a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=18. a(- 1):=17. •

[A042507] • 1,1,18,19,37,56,317,373,690,3133,3823,6956,38603,45559,84162,129721,2289419,2419140,132922979,135342119,2433739002,2569081121,5002820123,7571901244,42862326343 ★ Denominators of continued fraction convergents to sqrt(781). • a(n) = 135212398 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A042517] • 1,18,19,56,299,355,3139,3494,6633,182585,189218,371803,3163642,3535445,20840867,45217179,66058046,1234262007,69184730438,124655940991,1315744140329,3878047690549,20705982593074,24584030283623,217378224862058 ★ Denominators of continued fraction convergents to sqrt(787). • a(n) = 69250788484 * a(n - 18) - a(n - 36) for n>35. - _ Vincenzo Librandi _ , Jan 23 2014 •

[A041668] • 18,19,75,94,263,357,620,977,1597,2574,4171,10916,15087,56177,71264,2621681,2692945,10700516,13393461,37487438,50880899,88368337,139249236,227617573,366866809 ★ Numerators of continued fraction convergents to sqrt(353). • a(n) = 142528 * a(n - 15) + a(n - 30) for n>29. [_ Bruno Berselli _ , Nov 06 2013] •

[A041666] • 18,19,75,394,3621,18499,59118,77617,2853330,2930947,11646171,61161802,562102389,2871673747,9177123630,12048797377,442933829202,454982626579,1807881708939,9494391171274,87257402250405,445781402423299,1424601609520302,1870383011943601 ★ Numerators of continued fraction convergents to sqrt(352). • a(n) = 155234 * a(n - 8) - a(n - 16) for n>15. [_ Bruno Berselli _ , Nov 06 2013] •

[A041670] • 18,19,94,207,508,9351,19210,47771,210294,258065,9500634,9758699,48535430,106829559,262194548,4826331423,9914857394,24656046211,108539042238,133195088449,4903562226402,5036757314851,25050591485806,55137940286463,135326472058732 ★ Numerators of continued fraction convergents to sqrt(354). • a(n) = 516130 * a(n - 10) - a(n - 20) for n>19. [_ Bruno Berselli _ , Nov 06 2013] •

[A041672] • 18,19,113,358,1187,1545,10457,12002,46463,151391,803418,954809,35176542,36131351,215833297,683631242,2266727023,2950358265,19968876613,22919234878,88726581247,289098978619 ★ Numerators of continued fraction convergents to sqrt(355). • a(n) = 1909618 * a(n - 12) - a(n - 24) for n>23. [_ Bruno Berselli _ , Nov 06 2013] •

[A041674] • 18,19,132,151,283,717,1000,8717,9717,28151,37868,66019,433982,500001,18434018,18934019,132038132,150972151,283010283,716992717,1000003000,8717016717,9717019717,28151056151 ★ Numerators of continued fraction convergents to sqrt(356). • a(n) = 1000002 * a(n - 14) - a(n - 28) for n>27. [_ Bruno Berselli _ , Nov 06 2013] •

[A041676] • 18,19,170,359,3042,3401,125478,128879,1156510,2441899,20691702,23133601,853501338,876634939,7866580850,16609796639,140744953962,157354750601,5805515975598,5962870726199,53508481785190,112979834296579,957347156157822 ★ Numerators of continued fraction convergents to sqrt(357). • a(n) = 6802 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 06 2013 •

[A041681] • 1,1,18,19,702,721,12959,13680,505439,519119,9330462,9849581,363915378,373764959,6717919681,7091684640,262018566721,269110251361,4836892839858,5106003091219,188653004123742,193759007214961,3482556126778079,3676315133993040 ★ Denominators of continued fraction convergents to sqrt(359). • a(n) = 720 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 22 2013 •

[A255848] • 18,20,26,36,50,68,90,116,146,180,218,260,306,356,410,468,530,596,666,740,818,900,986,1076,1170 ★ a(n) = 2*n^2 + 18. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Mar 08 2015 •

[A072904] • 18,20,27,32,45,48,50,52,54,63,68,72,75,80,84,90,96,98,99,108,112,116,117,125,126 ★ Nonsquares n such that the discriminant of the quadratic field Q(sqrt(n)) < n. • a(n) appears to be asymptotic to C * n with C=3.4..... •

[A113541] • 1,18,20,37,39,56,58,75,77,94,96,113,115,132,134,151,153,170,172,189,191,208,210,227,229 ★ Numbers n such that 18n^2+1 is multiple of 19. • a(1)=1, a(2)=18 then add alternatively 2 and 17. • a(n) = 19 * (n - 1) - a(n - 1), (with a(1)=1). - _ Vincenzo Librandi _ , Nov 13 2010 •

[A088341] • 0,1,18,21,28,38,42,45,46,49,51,52,56,58,62,69,74,77,79,81,82,83,86,88,93 ★ Numbers n such that frac(x^n)=frac(x^2*frac(x^(n-2))) where x=3/2 and frac(x) denotes the fractional part of x. • a(n) appears to be asymptotic to 4 * n. •

[A154151] • 0,18,21,111,128,650,749,3791,4368,22098,25461,128799,148400,750698,864941,4375391,5041248,25501650,29382549,148634511,171254048,866305418,998141741,5049197999,5817596400 ★ Indices k such that 25 plus the k-th triangular number is a perfect square. • a(n)= + a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - a(n - 4) + a(n - 5). •

[A002505] • 18,23,28,32,35,39,42,46,49,52,55,58,60,63,66,68,71,74,76,79,81,84,86,88,91 ★ Nearest integer to the n-th Gram point. • a(n) = round(2 * Pi * exp(1 + LambertW((8 * n + 1) / (8 * exp(1))))), Eric Weisstein's World of Mathematics. • a(n + 1) = round(2 * Pi * (n - 7 / 8) / LambertW((n - 7 / 8) / exp(1))), after Guilherme França, André LeClair formula (163) page 47 . •

[A154920] • 1,18,27,324,405,4374,5103,52488,59049,590490,649539,6377292,6908733,66961566,71744535,688747536,731794257,6973568802,7360989291,69735688020,73222472421,690383311398,721764371007,6778308875544 ★ Denominators of a ternary BBP-type formula for log(3). • a(n) = (n + 1) * 9 ^ [(n + 1) / 2] = 18 * a(n - 2) - 81 * a(n - 4). • a(n) = (2 - (- 1) ^ n) * (n + 1) * 3 ^ n. - _ Jaume Oliver Lafont _ , Sep 27 2009 •

[A032612] • 18,29,310,411,512,613,714,815,916,1017,1118,1219,1320,1421,1522,1623,1724,1825,1926,2027,2128,2229,2330,2431,2532 ★ Concatenation of n and n+7. • a(n)=n * 10 ^ floor(log10(n + 7) + 1) + n + 7, with n>=0 [From _ Paolo P. Lava _ , Oct 09 2008] •

[A014640] • 0,18,34,112,148,286,342,540,616,874,970,1288,1404,1782,1918,2356,2512,3010,3186,3744,3940,4558,4774,5452,5688 ★ Even heptagonal numbers (A000566). • a(0)=0, a(1)=18, a(2)=34, a(3)=112, a(4)=148, a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jun 16 2014 • a(n) = (20 * n ^ 2 - 10 * (- 1) ^ n * n + 4 * n - (- 1) ^ n + 1) / 2. • a(n) = 10 * n ^ 2 - 3 * n for n even. • a(n) = 10 * n ^ 2 + 7 * n + 1 for n odd. •

[A160844] • 0,1,18,35,62,93,136,181,238,299,370,445,532,621,722,827,942,1061,1192,1325,1470,1619,1778,1941,2116 ★ Number of lines through at least 2 points of a 4 X n grid of points. • a(n) = 2 * a(n - 1) - a(n - 2) + C(mod(n + 2,6) + 1)), C=(10,4,12,2,12,4). •

[A154575] • 18,36,58,84,114,148,186,228,274,324,378,436,498,564,634,708,786,868,954,1044,1138,1236,1338,1444,1554 ★ 2n^2+12n+4. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 26 2012 •

[A097926] • 18,36,70,134,258,498,960,1850,3566,6874,13250,25540,49230,94894,182914,352578,679616,1310002,2525110,4867306,9382034,18084452,34858902,67192694,129518082 ★ Number of (n,4) Freiman-Wyner sequences. • a(n) = 2a(n - 1) - a(n - k - 1), k=4, n >= 2k + 2. - _ R. J. Mathar _ , Oct 31 2006 •

[A212428] • 0,18,37,57,78,100,123,147,172,198,225,253,282,312,343,375,408,442,477,513,550,588,627,667,708 ★ a(n) = 18*n + A000217(n-1). • a(n) = (17 + n) * (18 + n) / 2 - 17 * 18 / 2 = 18 * n + (n - 1) * n / 2 = n * (n + 35) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 10 2012 • a(n) = 18n - floor(n / 2) + floor(n ^ 2 / 2). - _ Wesley Ivan Hurt _ , Jun 15 2013 •

[A195147] • 0,1,18,37,72,109,162,217,288,361,450,541,648,757,882,1009,1152,1297,1458,1621,1800,1981,2178,2377,2592 ★ Concentric 18-gonal numbers. • a(n) = (18 * n ^ 2 + 7 * (- 1) ^ n - 7) / 4; a(n) = - a(n - 1) + 9 * n ^ 2 - 9 * n + 1. - Vincenzo Librandi, Sep 27 2011 •

[A198276] • 18,37,75,151,303,607,1215,2431,4863,9727,19455,38911,77823,155647,311295,622591,1245183,2490367,4980735,9961471,19922943,39845887,79691775,159383551,318767103 ★ 19*2^n-1. • a(n + 1) = 2 * a(n) + 1. • a(n) + a(n - 1) ^ 2 = (a(n - 1) + 1) ^ 2. - _ Vincenzo Librandi _ , Jun 11 2014 •

[A041646] • 18,37,1350,2737,99882,202501,7389918,14982337,546754050,1108490437,40452409782,82013310001,2992931569818,6067876449637,221436483756750,448940843963137,16383306866429682,33215554576822501 ★ Numerators of continued fraction convergents to sqrt(342). • a(n) = 74 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 06 2013 •

[A114698] • 1,18,38,58,78,98,118,138,158,178,198,218,238,258,278,298,318,338,358,378,398,418,438,458,478 ★ Let M(n) be the n X n matrix m(i,j)=min(i,j) for 1<=i,j<=n then a(n) is the trace of M(n)^(-3). • a(1)=1 then a(n)=20n - 22. •

[A132761] • 0,18,38,60,84,110,138,168,200,234,270,308,348,390,434,480,528,578,630,684,740,798,858,920,984 ★ a(n) = n(n+17). • a(n) = n * (n + 17). • a(n) = 2 * n + a(n - 1) + 16 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A079862] • 18,38,80,168,352,736,1536,3200,6656,13824,28672,59392,122880,253952,524288,1081344,2228224,4587520,9437184,19398656,39845888,81788928,167772160,343932928,704643072 ★ a(i) = the number of occurrences of 9s in the palindromic compositions of n=2*i-1 = the number of occurrences of 10's in the palindromic compositions of n=2*i. • a(n) = (n + 8) * 2 ^ (n - 10). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>11. •

[A106521] • 18,38,456,854,9192,17132,183474,341876,3660378,6820478,73024176,136067774,1456823232,2714535092,29063440554,54154634156,579811987938,1080378148118,11567176318296,21553408328294 ★ Numbers a(n) such that Sum[k=0..10, (a(n)+k)^2] is square. • a(1)=18, a(2)=38, a(3)=456, a(4)=854, a(5)=9192; thereafter a(n)=a(n - 1) + 20 * a(n - 2) - 20 * a(n - 3) - a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , May 07 2011 • a(1)=18, a(2)=38, a(3)=456, a(4)=854; thereafter a(n) = 20 * a(n - 2) - a(n - 4) + 90. - _ Daniel Mondot _ , Aug 05 2016 •

[A097972] • 18,40,154,340,928,1804,3658,5254,10504,11770,19180,22648,32578,37054,39400,52210,57838,73168,79804,97654,121450,176818,187054,213904,273004 ★ Least m such that both p|m and p+2|m+2 for twin prime pairs (p,p+2) (p=A001359). • a(n)=p * (p + 3), with p=A001359. •

[A252747] • 18,42,602,1418,20442,48162,694418,1636082,23589762,55578618,801357482,1888036922,27222564618,64137676722,924765839522,2178792971618,31414815979122,74014823358282,1067178977450618,2514325201209962,36252670417341882,85413042017780418 ★ Numbers n such that the hexagonal number H(n) is equal to the sum of four consecutive squares. • a(n) = a(n - 1) + 34 * a(n - 2) - 34 * a(n - 3) - a(n - 4) + a(n - 5). •

[A067726] • 18,48,90,144,210,288,378,480,594,720,858,1008,1170,1344,1530,1728,1938,2160,2394,2640,2898,3168,3450,3744,4050 ★ 6*n^2 + 12*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 •

[A273459] • 18,50,578,1458,3362,4802,6962,10082,15842,20402,31250,34322,55778,57122,59858,167042,171698,293378,559682,916658,982802,1062882,1104098,1158242,1195058 ★ Even numbers such that the sum of the odd divisors is a prime p and the sum of the even divisors is 2p. • a(n) >> n ^ 2. - _ Charles R Greathouse IV _ , Jun 08 2016 •

[A051870] • 0,1,18,51,100,165,246,343,456,585,730,891,1068,1261,1470,1695,1936,2193,2466,2755,3060,3381,3718,4071,4440 ★ 18-gonal (or octadecagonal) numbers: a(n) = n*(8*n-7). • a(n) = 16 * n + a(n - 1) - 15, with n > 0, a(0)

= 0. - _ Vincenzo Librandi _ , Aug 06 2010 ● a(16 * a(n) + 121 * n + 1) = a(16 * a(n) + 121 * n) + a(16 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 ●

[A069130] ● 1,18,52,103,171,256,358,477,613,766,936,1123,1327,1548,1786,2041,2313,2602,2908,3231,3571,3928,4302,4693,5101 ★ Centered 17-gonal numbers: (17*n^2 - 17*n + 2)/2. ● a(n) = (17 * n ^ 2 - 17 * n + 2) / 2. ● a(n) = 17 * n + a(n - 1) - 17 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 ● a(0)=1, a(1)=18, a(2)=52, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 05 2011 ●

[A133356] ● 1,1,18,52,392,1616,9504,44864,241792,1201408,6271488,31765504,163874816,835997696,4293992448,21963948032,112631775232,576686718976,2955481841664,15137951186944,77563611840512,397334442672128 ★ a(n)=2a(n-1)+16a(n-2) for n>1, a(0)=1, a(1)=1 . ● a(n)=(1 / 2) * [1 - sqrt(17)] ^ n + (1 / 2) * [1 + sqrt(17)] ^ n, n>=0 - _ Paolo P. Lava _ , Jun 10 2008 ●

[A033571] ● 1,18,55,112,189,286,403,540,697,874,1071,1288,1525,1782,2059,2356,2673,3010,3367,3744,4141,4558,4995,5452,5929 ★ a(n) = (2*n + 1)*(5*n + 1). ● a(n) = a(n - 1) + 20 * n - 3 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 17 2010 ●

[A155155] ● 18,58,178,538,1618,4858,14578,43738,131218,393658,1180978,3542938,10628818,31886458,95659378,286978138,860934418,2582803258,7748409778,23245229338,69735688018,209207064058,627621192178,1882863576538 ★ 2*(10*3^n-1). ● a(n)= + 4 * a(n - 1) - 3 * a(n - 2). ● a(n)=3a(n - 1) - a(n - 2) + 3a(n - 3) + 8. ●

[A244806] ● 1,18,59,124,213,326,463,624,809,1018,1251,1508,1789,2094,2423,2776,3153,3554,3979,4428,4901,5398,5919,6464,7033 ★ The 180º spoke (or ray) of a hexagonal spiral of Ulam. ● a(n) = 12 * n ^ 2 - 19 * n + 8. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. ●

[A027055] ● 1,18,59,146,319,652,1281,2456,4637,8670,16111,29822,55067,101528,187013,344276,633561,1165674,2144419,3944650,7255831,13346084,24547849,45151152,83046581 ★ a(n) = T(n, n+4), T given by A027052. ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) - a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>9. ●

[A275155] ● 18,64,338,1936,11250,65536,381938,2226064,12974418,75620416,440748050,2568867856,14972459058,87265886464,508622859698,2964471271696,17278204770450,100704757350976,586950339335378,3420997278661264,19939033332632178,116213202717131776 ★ a(1) = 18; a(n) = 3*a(n - 1) + 2*sqrt(2*a(n - 1)*(a(n - 1) - 14)) - 14 for n > 1. ● a(n + 1) = 3 * a(n) + 2 * sqrt(2 * a(n) * (a(n) - 14)) - 14. ● a(n) = (14 + (9 - 4 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (3 - 2 * sqrt(2)) ^ n * (9 + 4 * sqrt(2))) / 2. ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>3. ●

[A010006] ● 1,18,66,146,258,402,578,786,1026,1298,1602,1938,2306,2706,3138,3602,4098,4626,5186,5778,6402,7058,7746,8466,9218 ★ Coordination sequence for C_3 lattice: a(n)=16*n^2+2 (n>0), a(0)=1. ● a(0)=1, a(n) = 16 * n ^ 2 + 2, n >= 1; G.f.: (1 + 15 * x + 15 * x ^ 2 + x ^ 3) / (1 - x) ^ 3. ● a(0)=1, a(1)=18, a(2)=66, a(3)=146, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 15 2012 ●

[A143859] ● 1,18,67,148,261,406,583,792,1033,1306,1611,1948,2317,2718,3151,3616,4113,4642,5203,5796,6421,7078,7767,8488,9241 ★ Ulam's spiral (WNW spoke). ● a(n) = 16n ^ 2 - 31n + 16. - _ R. J. Mathar _ , Sep 08 2008 ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), a(1)=1, a(2)=18, a(3)=67. - _ Harvey P. Dale _ , Mar 24 2012 ●

[A063523] ● 0,1,18,67,164,325,566,903,1352,1929,2650,3531,4588,5837,7294,8975,10896,13073,15522,18259,21300,24661,28358,32407,36824 ★ a(n) = n*(8*n^2 - 5)/3. ● a(0)=0, a(1)=1, a(2)=18, a(3)=67, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jul 11 2011 ●

[A158056] ● 18,68,150,264,410,588,798,1040,1314,1620,1958,2328,2730,3164,3630,4128,4658,5220,5814,6440,7098,7788,8510,9264,10050 ★ 16n^2 + 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A059224] ● 18,70,224,648,1760,4576,11520,28288,68096,161280,376832,870400,1990656,4513792,10158080,22708224,50462720,111542272,245366784,537395200,1172307968,2548039680,5519704064,11920211968,25669140480 ★ a(n) = 2^(n-3)*(n + 3)*(2*n - 3). ● a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). ●

[A262000] ● 0,1,18,72,184,375,666,1078,1632,2349,3250,4356,5688,7267,9114,11250,13696,16473,19602,23104,27000,31311,36058,41262,46944 ★ a(n) = n^2*(7*n - 5)/2. ● a(n) = Sum _{ i=0..n - 1 } n * (7 * i + 1) for n>0, a(0)=0. ●

[A211619] ● 0,1,18,73,192,395,710,1157,1764,2551,3546,4769,6248,8003,10062,12445,15180,18287,21794,25721,30096,34939,40278,46133,52532 ★ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and 2w+x+y>2. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>6. ● a(n) = 4 * n ^ 3 - 5 * n ^ 2 + 5 * n - 4 for n>1 and even. ● a(n) = 4 * n ^ 3 - 5 * n ^ 2 + 5 * n - 5 for n>1 and odd. ●

[A022145] ● 1,18,74,170,306,482,698,954,1250,1586,1962,2378,2834,3330,3866,4442,5058,5714,6410,7146,7922,8738,9594,10490,11426 ★ Coordination sequence for root lattice B_3. ● a(n) = 20 * n ^ 2 - 4 * n + 2, for n>0. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. G.f.: (1 + 15 * x + 23 * x ^ 2 + x ^ 3) / (1 - x) ^ 3. [_ Colin Barker _ , Apr 13 2012] ●

[A139757] ● 1,18,75,196,405,726,1183,1800,2601,3610,4851,6348,8125,10206,12615,15376,18513,22050,26011,30420,35301,40678,46575,53016,60025 ★ a(n) = (n+1)*(2n+1)^2. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4); G.f.: (1 + 14 * x + 9 * x ^ 2) / (x - 1) ^ 4. - _ R. J. Mathar _ , Sep 19 2010 ● a(n) = Sum _{ i=1..2n - 1 } (n ^ 2 + n * i - i). - _ Wesley Ivan Hurt _ , Sep 29 2014 ●

[A262402] ● 0,18,76,200,412,738,1200,1824,2632,3650,4900,6408,8196,10290,12712,15488,18640,22194,26172,30600,35500,40898,46816,53280,60312 ★ a(n) = number of triangles that can be formed from the points of a 3 X n grid. ● a(n) = n ^ 2 * (8 * n - 7) / 2 - (n mod 2) / 2. - _ Jared Nash _ , Dec 14 2017 ● a(n) = n ^ 2 * (8 * n - 7) / 2 for n even. ● a(n) = (8 * n ^ 3 - 7 * n ^ 2 - 1) / 2 for n odd. ● a(n) = 3 * a(n - 1) - 2 * a(n - 2) - 2 * a(n - 3) + 3 * a(n - 4) - a(n - 5) for n>5. ●

[A164603] ● 1,18,76,376,1808,8736,42176,203648,983296,4747776,22924288,110688256,534450176,2580553728,12460015616,60162277376,290489171968,1402605797376,6772379877376,32699942699008,157889290305536 ★ a(n) = ((1+4*sqrt(2))*(2 + (1-4*sqrt(2))*(2-2*sqrt(2))^n)/2. ● a(n) = 4 * a(n - 1) + 4 * a(n - 2) for n > 1; a(0) = 1, a(1) = 18. ●

[A100187] ● 1,18,77,204,425,766,1253,1912,2769,3850,5181,6788,8697,10934,13525,16496,19873,23682,27949,32700,37961,43758,50117,57064,64625 ★ Structured octagonal anti-diamond numbers (vertex structure 7). ● a(n) = (1 / 6) * (26 * n ^ 3 - 30 * n ^ 2 + 10 * n). ● a(1)=1, a(2)=18, a(3)=77, a(4)=204, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 24 2012 ●

[A063495] ● 1,18,80,217,459,836,1378,2115,3077,4294,5796,7613,9775,12312,15254,18631,22473,26810,31672,37089,43091,49708,56970,64907,73549 ★ a(n) = (2*n-1)*(5*n^2-5*n+2)/2. ● a(1)=1, a(2)=18, a(3)=80, a(4)=217, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ●

[A264850] ● 0,1,18,80,230,525,1036,1848,3060,4785,7150,10296,14378,19565,26040,34000,43656,55233,68970,85120,103950,125741,150788,179400,211900 ★ a(n) = n*(n + 1)*(n + 2)*(7*n - 5)/12. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Nov 27 2015 ●

[A085504] ● 0,1,18,81,405,1944,9477,45927,223074,1082565,5255361,25509168,123825753,601059771,2917611090,14162371209,68745613437,333698181192,1619805064509,7862698824255,38166342053346,185263315578333,899287025215113,4365230915850336 ★ Horadam sequence (0,1,9,3). ● a(n) = s * a(n - 1) + r * a(n - 2); for n > 3, where a(0) = 0, a(1) = 1, a(2) = 18, a(4) = 81, s = 3, r = 9. ●

[A250101] ● 0,18,86,198,3646,15078,69806,712758,3029566,18311238,140238926,655858518,4289313886,28250282598,145561230446,954150191478,5838715924606,32329836673158,207348403892366,1231435592095638,7130307943789726,44648052096906918,263148726196032686 ★ Expansion of (18*x+86*x^2)/(1-11*x^2-150*x^3). ● a(n) = 2 ^ (1 + n) * 3 ^ n - (- 3 - 4 * i) ^ n - (- 3 + 4 * i) ^ n where i is the imaginary unit. ● a(n) = 11 * a(n - 2) + 150 * a(n - 3) for n>2. ●

[A059138] ● 18,90,270,666,1494,3186,6606,13482,27270,54882,110142,220698,441846,884178,1768878 ★ A hierarchical sequence (S(W3{2,2}cc) - see A059126). ● a(n) = 18 * (- 5 + 3 * 2 ^ (1 + n) - 2 * n). ● a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. ●

[A177371] ● 1,18,98,812,5748,43120,316600,2343120,17290256,127726400,943159584,6965532736,51439836352,379886330112,2805462584192,20718413985536,153005867110656,1129951564794880,8344715027364352,61625891492889600 ★ Expansion of (1+12*x-24*x^2+8*x^4)/((1-8*x+4*x^2+4*x^3)*(1+2*x-2*x^2)). ● a(0)=1, a(1)=18, a(2)=98, a(3)=812, a(4)=5748, a(n)=6a(n - 1) + 14a(n - 2) - 28a(n - 3) + 8a(n - 5). (End) ●

[A221911] ● 1,18,99,756,6597,59094,531495,4783032,43046793,387420570,3486784491,31381059708,282429536589,2541865828446,22876792455087,205891132094784,1853020188851985,16677181699666722,150094635296999283 ★ 9^n + 9*n. ● a(n) = 11 * a(n - 1) - 19 * a(n - 2) + 9 * a(n - 3). ●

[A008528] ● 1,18,102,318,732,1410,2418,3822,5688,8082,11070,14718,19092,24258,30282,37230,45168,54162,64278,75582,88140,102018,117282,133998,152232 ★ Coordination sequence for 4-dimensional RR-centered di-isohexagonal orthogonal lattice. ● a(n) = n * (11 * n ^ 2 + 7) with n>0, a(0)=1 (see MAPLE line). ●

[A285043] ● 1,18,102,500,2310,10332,45276,195624,836550,3549260,14965236,62783448,262303132,1092063000,4533175800,18769219920,77539370310,319704052140,1315894618500,5407825361400,22193291140020 ★ Expansion of cosh(3*arctanh(2*sqrt(x))). ● a(n) = (8 * n + 1) * binomial(2 * n,n). ●

[A019584] ● 0,0,1,18,108,400,1125,2646,5488,10368,18225,30250,47916,73008,107653,154350,216000,295936,397953,526338,685900,882000,1120581,1408198,1752048 ★ a(n) = n^2*(n-1)^3/4. ● a(n) = Sum _{ j=1..n - 2 } Sum _{ i=1..n - 2 } (i ^ 3 + j ^ 3) / 2. - _ Alexander Adamchuk _ , Oct 24 2004 ● a(n) = Sum _{ i=0..n - 1 } (n - 1) * (n - 1 - i) ^ 3 for n>0. - _ Bruno Berselli _ , Oct 31 2017 ●

[A213562] ● 1,18,109,407,1152,2723,5670,10746,18939,31504,49995,76297,112658,161721,226556,310692,418149,553470,721753,928683,1180564,1484351,1847682,2278910,2787135 ★ Principal diagonal of the convolution array A213561. ● a(n) = (4 / 15) * n ^ 5 + (11 / 24) * n ^ 4 + (1 / 4) * n ^ 3 + (1 / 24) * n ^ 2 - (1 / 16) * n. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). ●

[A160765] ● 1,18,112,403,1071,2356,4558,8037,13213,20566,30636,44023,61387,83448,110986,144841,185913,235162,293608,362331,442471,535228,641862,763693,902101 ★ Expansion of (1+13*x+32*x^2+13*x^3+x^4)/(1-x)^5. ● a(n) = (n ^ 2 + n + 1) * (5 * n ^ 2 + 5 * n + 2) / 2. - _ R. J. Mathar _ , Sep 11 2011 ●

[A244866] ● 1,18,114,438,1263,3024,6356,12132,21501,35926,57222,87594,129675,186564,261864,359720,484857,642618,839002,1080702,1375143,1730520,2155836,2660940,3256565 ★ Let G denote the 7-node, 12-edge graph formed from a hexagon with main diagonals drawn and a node at the center; a(n) = number of magic labelings of G with magic sum 2n. ● a(n) = (n + 1) * (n + 2) * (19

* n ^ 3 + 63 * n ^ 2 + 68 * n + 30) / 60. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. ●

[A061803] ● 1,18,115,452,1333,3254,6951,13448,24105,40666,65307,100684,149981,216958,305999,422160,571217,759714,995011,1285332,1639813,2068550,2582647,3194264,3916665 ★ Sum of n-th row of triangle of 4th powers: 1; 1 16 1; 1 16 81 16 1; 1 16 81 256 81 16 1; ... ● a(n) = n(6n ^ 4 + 10n ^ 2 - 1) / 15. - Dean Hickerson, Jun 06 2001 ●

[A101089] ● 1,18,116,470,1449,3724,8400,17172,32505,57838,97812,158522,247793,375480,553792,797640,1125009,1557354,2120020,2842686,3759833,4911236,6342480,8105500,10259145 ★ Second partial sums of fourth powers (A000583). ● a(n) = (1 / 60) * n * (n + 1) ^ 2 * (n + 2) * (2 * n * (n + 2) - 1). ● a(n) = Sum _{ i=1..n } i * (n + 1 - i) ^ 4, by the definition. - _ Bruno Berselli _ , Jan 31 2014 ● a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 4. - _ Luciano Ancora _ , Jan 08 2015 ●

[A190705] ● 0,18,120,378,864,1650,2808,4410,6528,9234,12600,16698,21600,27378,34104,41850,50688,60690,71928,84474,98400,113778,130680,149178,169344 ★ 6*n^2*(2*n+1). ● a(0)=0, a(1)=18, a(2)=120, a(3)=378, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 20 2016 ●

[A107417] ● 1,18,126,560,1890,5292,12936,28512,57915,110110,198198,340704,563108,899640,1395360,2108544,3113397,4503114,6393310,8925840,12273030,16642340,22281480,29484000,38595375 ★ C(n+2,2)*C(n+5,5). ● a(0)=1, a(1)=18, a(2)=126, a(3)=560, a(4)=1890, a(5)=5292, a(6)=12936, a(7)=28512, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) [From Harvey P. Dale, Feb 18 2012] ●

[A056125] ● 1,18,126,570,1980,5742,14586,33462,70785,140140,262548,469404,806208,1337220,2151180,3368244,5148297,7700814,11296450,16280550,23088780,32265090,44482230,60565050,81516825 ★ a(n) = (5n+4)*C(n+7,7)/4. ● a(0)=1, a(1)=18, a(2)=126, a(3)=570, a(4)=1980, a(5)=5742, a(6)=14586, a(7)=33462, a(8)=70785, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jan 18 2013 ●

[A244879] ● 1,18,129,571,1884,5103,11998,25362,49347,89848,154935,255333,404950,621453,926892,1348372,1918773,2677518,3671389,4955391,6593664,8660443,11241066,14433030,18347095 ★ Number of magic labelings of the cycle-of-loops graph LOOP X C_6 having magic sum n, where LOOP is the 1-vertex, 1-loop-edge graph. ● a(n) = (120 + 438 * n + 677 * n ^ 2 + 570 * n ^ 3 + 275 * n ^ 4 + 72 * n ^ 5 + 8 * n ^ 6) / 120. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 6. ●

[A142965] ● 1,18,129,646,2685,10002,34777,115566,372453,1175290,3654369,11245110,34349005,104373282,315969705,954002878,2874983541,8652474378,26015617585,78169534470,234766551261,704840716978,2115654610809,6349329417486,19052920751365 ★ One fourth of third column (m=2) of triangle A142963. ● a(n) = 10a(n - 1) - 40a(n - 2) + 82a(n - 3) - 91a(n - 4) + 52a(n - 5) - 12a(n - 6). ● a(n) = 35 / 2 + 2 * n ^ 2 + 12 * n - 84 * 2 ^ n - 24 * 2 ^ n * n + 135 / 2 * 3 ^ n ●

[A058649] ● 0,1,18,132,680,2880,10752,36736,117504,357120,1041920,2939904,8067072,21618688,56770560,146472960,372113408,932511744,2308571136,5653135360,13707509760,32942063616,78525759488,185799278592,436627046400 ★ 2^(n-4)*n*(n+1)*(n^2+5*n-2). ● a(n) = Sum(i ^ 4 * binomial(n, i), i=1..n): binomial transform of A000583. ●

[A056003] ● 1,18,135,660,2475,7722,21021,51480,115830,243100,481338,906984,1637610,2848860,4796550,7845024,12503007,19468350,29683225,44401500,65270205,94427190,134617275,189329400,262957500 ★ A second-order recursive sequence. ● a(n) = (n + 1) * C(n + 8, 8). ●

[A114239] ● 1,18,136,650,2331,6860,17472,39852,83325,162382,298584,522886,878423,1423800,2236928,3419448,5101785,7448874,10666600,15008994,20786227,28373444,38220480,50862500,66931605 ★ a(n) = (n+1)(n+2)^3*(n+3)(n^2 + 4n + 5)/120. ● a(n - 2) = (n ^ 7 - n ^ 3) / (2 ^ 7 - 2 ^ 3). - _ David Radcliffe _ , Dec 27 2008 ●

[A108680] ● 1,18,140,700,2646,8232,22176,53460,117975,242242,468468,861224,1516060,2570400,4217088,6720984,10439037,15844290,23554300,34364484,49286930,69595240,96876000,133087500,180626355 ★ Kekulé numbers for certain benzenoids. ● a(n) = (n + 1) * (n + 2) ^ 3 * (n + 3) ^ 2 * (n + 4) * (n + 5) / 1440 (from Maple section). ●

[A081074] ● 0,18,141,984,6762,46365,317808,2178306,14930349,102334152,701408730,4807526973,32951280096,225851433714,1548008755917,10610209857720,72723460248138,498454011879261,3416454622906704,23416728348467682 ★ Fibonacci(4n)-3, or Fibonacci(2n-2)*Lucas(2n+2). ● a(n) = 8a(n - 1) - 8a(n - 2) + a(n - 3). ● a(n) = - 3 + (3 / 2) *{ [(7 / 2) - (3 / 2) * sqrt(5)] ^ n + [(7 / 2) + (3 / 2) * sqrt(5)] ^ n }+ (7 / 10) * sqrt(5) *{ [(7 / 2) + (3 / 2) * sqrt(5)] ^ n - [(7 / 2) - (3 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 01 2008 ●

[A127408] ● 18,144,625,1980,5145,11648,23814,45000,79860,134640,217503,338884,511875,752640,1080860,1520208,2098854,2850000,3812445,5031180,6558013,8452224,10781250,13621400,17058600 ★ Negative value of coefficient of x^(n-3) in the characteristic polynomial of a certain n X n integer circulant matrix. ● a(n + 2) = n * (n + 1) * (n + 2) ^ 3 * (2n + 14) / (2 * 4!) for n>=1. ● a(n) = (n ^ 6 + 2 * n ^ 5 - 13 * n ^ 4 + 10 * n ^ 3) / 4! for n>=3. ●

[A178759] ● 0,0,0,18,144,750,3240,12642,46368,163350,559800,1881066,6229872,20406750,66273480,213759090,685601856,2188698150,6959413080,22053083514,69672773520,219535296750,690106487400,2164714299138,6777100916064 ★ Expansion of e.g.f. 3*x*exp(x)*(exp(x)-1)^2. ● a(n) = (3 ^ n - 3 * 2 ^ n + 3) * n. - _ Mark van Hoeij _ , May 13 2013 ●

[A224329] ● 1,18,147,996,6245,37494,218743,1249992,7031241,39062490,214843739,1171874988,6347656237,34179687486,183105468735,976562499984,5187988281233,27465820312482,144958496093731,762939453124980 ★ Number of idempotent n X n 0..4 matrices of rank n-1 ● a(n) = n * (2 * 5 ^ (n - 1) - 1) ● a(n) = 12 * a(n - 1) - 46 * a(n - 2) + 60 * a(n - 3) - 25 * a(n - 4) ●

[A244876] ● 1,18,154,813,3157,9880,26429,62713,135470,271285,510485,911840,1558368,2564093,4082142,6313934,9519951,14031732,20265700,28738335,40083439,55070862,74627587,99860383,132081092 ★ Number of magic labelings with magic sum n of 8th graph shown in link. ● a(n) = 3 * n ^ 7 / 160 + 63 * n ^ 6 / 320 + 151 * n ^ 5 / 160 + 339 * n ^ 4 / 128 + 2251 * n ^ 3 / 480 + n ^ 2 * (- 1) ^ n / 64 + 1677 * n ^ 2 / 320 + 3 * n * (- 1) ^ n / 64 + 3259 * n / 960 + 9 * (- 1) ^ n / 256 + 247 / 256. [_ Bruno Berselli _ , Jul 08 2014] ●

[A271899] ● 1,18,162,927,3906,13248,38256,97614,225819,482482,965250,1827189,3299556,5720976,9574128,15531132,24508917,37735938,56831698,83900619,121641894,173477040,243696960,337630410,461835855 ★ a(n) = 1 + 471*n/140 + 1594*n^2/315 + 73*n^3/16 + 161*n^4/60 + 83*n^5/80 + 61*n^6/240 + n^7/28 + 11*n^8/5040. ● a(n) = (n + 4) * (n + 3) * (n + 2) * (n + 1) * (11 * n ^ 4 + 70 * n ^ 3 + 196 * n ^ 2 + 269 * n + 210) / 5040. ●

[A099196] ● 0,1,18,163,996,4645,17718,57799,166344,432073,1030490,2286955,4772780,9446125,17852030,32398735,56730512,96220561,158611106,254831667,400030580,614859189,927052742,1373356887,2001853784 ★ Figurate numbers based on the 9-dimensional regular convex polytope called the 9-dimensional cross-polytope, or 9-dimensional hyperoctahedron, which is represented by the Schlaefli symbol {3, 3, 3, 3, 3, 3, 3, 4}. It is the dual of the 9-dimensional hypercube. ● a(n) = 9 - crosspolytope(n) = n * (2 * n ^ 8 + 84 * n ^ 6 + 798 * n ^ 4 + 1636 * n ^ 2 + 315) / 2835. ●

[A041618] ● 18,163,5886,53137,1918818,17322499,625528782,5647081537,203920464114,1840931258563,66477445772382,600137943210001,2167144340133 2418,195643128555201763,7064824071388595886 ★ Numerators of continued fraction convergents to sqrt(328). ● a(n) = 326 * a(n - 2) - a(n - 4). G.f.: - (x ^ 3 - 18 * x ^ 2 - 163 * x - 18) / ((x ^ 2 - 18 * x - 1) * (x ^ 2 + 18 * x - 1)). [_ Colin Barker _ , Jul 16 2012] ●

[A071539] ● 0,18,168,1170,7440,45738,277368,1672290,10056480,60404058,362613768,2176238610,13059075120,78359331978,470170537368,2821066664130,16926529911360,101559568461498,609358576176168,3656154950132850,21936940173733200,131621672448624618,789730128885258168 ★ Number of n-tuples of elements e_1,e_2,...,e_n in the symmetric group S_3 such that the subgroup generated by e_1,e_2,...,e_n is S_3. ● a(n) = 6 ^ n - 3 * 2 ^ n - 3 ^ n + 3. ●

[A010970] ● 1,18,171,1140,5985,26334,100947,346104,1081575,3124550,8436285,21474180,51895935,119759850,265182525,565722720,1166803110,2333606220,4537567650,8597496600,15905368710,28781143380,51021117810,88732378800,151584480450 ★ a(n) = binomial(n,17). ● a(n + 16) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) * (n + 10) * (n + 11) * (n + 12) * (n + 13) * (n + 14) * (n + 15) * (n + 16) / 17!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 ● a(n) = n / (n - 17) * a(n - 1), n > 17. - _ Vincenzo Librandi _ , Mar 26 2011 ●

[A071910] ● 0,18,180,900,3150,8820,21168,45360,89100,163350,283140,468468,745290,1146600,1713600,2496960,3558168,4970970,6822900,9216900,12273030,16130268,20948400,26910000,34222500 ★ a(n) = t(n)*t(n+1)*t(n+2), where t() are the triangular numbers. ● a(n) = ((n + 1)(n + 2)) ^ 3 / 8 - sum(i=1, n + 1, i ^ 3) - _ Jon Perry _ , Feb 13 2004 ● a(n) = C(2 + n, n) * C(3 + n, 1 + n) * C(4 + n, 2 + n) - _ Zerinvary Lajos _ , Jul 29 2005 ●

[A199299] ● 1,18,180,1512,11664,85536,606528,4199040,28553472,191476224,1269789696,8344332288,54419558400,352638738432,2272560758784,14575734521856,93096626946048,592433080565760,3757718396731392 ★ (2*n+1)*6^n ● a(n)=12 * a(n - 1) - 36 * a(n - 2) ● a(n) = 6 * a(n - 1) + 2 * 6 ^ n. - Vincenzo Librandi, Nov 05 2011 ●

[A155669] ● 1,18,180,1728,16560,159048,1531440,14782968,143046720,1387420488,13486784400,131381059608,1282429536480,12541865828328,122876792454960,1205891132094648,11853020188851840,116677181699666568 ★ 10^n+9^n-1. ● a(n)=19 * a(n - 1) - 90 * a(n - 2) - 72 with a(0)=1, a(1)=18 - _ Vincenzo Librandi _ , Jul 21 2010 ●

[A155665] ● 1,18,184,1842,18736,193818,2033704,21584322,231136096,2492165418,27011166424,293901605202,3207147853456,35072467957818,384147880094344,4212432541504482,46231204840282816,507698828312979018 ★ 11^n+8^n-1. ● a(n)=19 * a(n - 1) - 88 * a(n - 2) - 70 with a(0)=1, a(1)=18 - _ Vincenzo Librandi _ , Jul 21 2010 ● a(0)=1, a(1)=18, a(2)=184, a(n)=20 * a(n - 1) - 107 * a(n - 2) + 88 * a(n - 3) [From Harvey P. Dale, May 18 2011] ●

[A246059] ● 1,18,188,1888,18888,188888,1888888,18888888,188888888,1888888888,18888888888,188888888888,1888888888888,18888888888888,188888888888888,1888888888888888,18888888888888888,188888888888888888,1888888888888888888 ★ (17*10^n-8)/9. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2). ●

[A073385] ● 1,18,189,1500,9945,58014,307197,1507176,6950295,30443270,127666539,515754252,2017069431,7667214570,28419251715,102997948704,365832349542,1275914693196,4376992440590 ★ Eighth convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. ● a(n) = sum((2 ^ n) * binomial(n - k + 8, 8) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). ● a(n) = F’’’’’’’’(n + 9, 2) / 8!, that is, 1 / 8! times the 8th derivative of the (n + 9)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 ●

[A036219] ● 1,18,189,1512,10206,61236,336798,1732104,8444007,39405366,177324147,773778096,3288556908,13660159464,55616363532,222465454128,875957725629,3400777052442,13036312034361,49400761393368 ★ Expansion of 1/(1-

3*x)^6; 6-fold convolution of A000244 (powers of 3). • a(n) = 3 ^ n * binomial(n + 5, 5); G.f. 1 / (1 - 3 * x) ^ 6. •

[A073397] • 1,18,198,1680,12060,76824,446952,2420352,12363120,60151520,280833696,1265442048,5528697408,23507763840,97575960960,396398370816,1579498956288,6184543546368,23833455191040 ★ Eighth convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(binomial(n - k + 8, 8) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). •

[A020920] • 1,18,198,1716,12870,87516,554268,3325608,19122246,106234700,573667380,3024791640,15628090140,79342611480,396713057400,1957117749840,9540949030470,46021048264620,219878341708740 ★ Expansion of 1/(1-4*x)^(9/2). • a(n) = ((2n + 7)(2n + 5)(2n + 3)(2n + 1) / (7 * 5 * 3 * 1)) * binomial(2n, n), a(n) = binomial(2n + 8, 8) * binomial(2n, n) / binomial(n + 4, 4), a(n) = binomial(n + 4, 4) * binomial(2n + 8, n + 4) / binomial(8, 4). [_ Rui Duarte _ , Oct 08 2011] •

[A086573] • 0,18,198,1998,19998,199998,1999998,19999998,199999998,1999999998,19999999998,199999999998,1999999999998,19999999999998,199999999999998,1999999999999998,19999999999999998,199999999999999998 ★ a(n) = k where R(k+2)=2. • a(n) = 2 * (10 ^ n - 1) • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[A083812] • 18,198,1998,19998,199998,1999998,19999998,199999998,1999999998,19999999998,199999999998,1999999999998,19999999999998,199999999999998,1999999999999998,19999999999999998,199999999999999998,1999999999999999998,19999999999999999998,199999999999999999998 ★ 4n-1 is the digit reversal of n-1. • a(n) = 2 * (10 ^ n - 1). • a(1)=18, a(2)=198, a(n)=11 * a(n - 1) - 10 * a(n - 2). - _ Harvey P. Dale _ , Apr 24 2015 •

[A028025] • 1,18,205,1890,15421,116298,830845,5709330,38119741,249026778,1599719485,10142356770,63639854461,396031348458,2448208592125,15053605980210,92160458747581,562225198873338,3419937140824765 ★ Expansion of 1/((1-3x)(1-4x)(1-5x)(1-6x)). • a(n) = - 5 ^ (n + 3) / 2 + 2 * 4 ^ (n + 2) + 6 ^ (n + 2) - 3 ^ (n + 2) / 2. - _ R. J. Mathar _ , Mar 22 2011 •

[A055528] • 0,1,18,207,2134,21465,214866,2149003,21490542,214906149,2149062490,21490626231,214906264038,2149062642577,21490626428514,214906264288515,2149062642889246,21490626428897373,214906264288979562,2149062642889802479,21490626428898032790 ★ a(n)=10*a(n-1)+n^3, a(0)=0. • a(n) = (10 ^ n - 1) * (470 / 2187) - n ^ 3 / 9 - n ^ 2 * (10 / 27) - n * (110 / 243). •

[A025959] • 1,18,209,1998,17157,137970,1063273,7962966,58471853,423482202,3037367697,21634921854,153344743189,1083048862914,7630057197881,53656123623462,376830071424765,2644030889883306,18539455617424225 ★ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-7x)). • a(n) = - 4 * 2 ^ n / 15 + 32 * 4 ^ n / 3 - 125 * 5 ^ n / 6 + 343 * 7 ^ n / 30. - _ R. J. Mathar _ , Jun 20 2013 •

[A025937] • 1,18,211,2052,18025,148806,1179487,9089784,68647909,510709914,3756191803,27381204396,198197187553,1426557620142,10220981500759,72957382445088,519164877763357,3684933735388290,26099214855723955 ★ Expansion of 1/((1-2x)(1-3x)(1-6x)(1-7x)). • a(n) = - 3 * 6 ^ (n + 1) - 2 ^ (n + 1) / 5 + 7 ^ (n + 3) / 20 + 3 ^ (n + 2) / 4. - _ R. J. Mathar _ , May 22 2013 •

[A021804] • 1,18,213,2098,18669,155946,1248661,9704706,73804797,552214234,4080381669,29857556274,216794571085,1564401539082,11232205936437,80315244188002,572351251736733,4067348923173690,28836875054284165 ★ Expansion of 1/((1-x)(1-4x)(1-6x)(1-7x)). • a(n) = - 1 / 90 + 2 ^ (2n + 5) / 9 - 2 ^ (n + 2) * 3 ^ (n + 3) / 5 + 7 ^ (n + 3) / 18. [_ Bruno Berselli _ , May 08 2013] • a(0)=1, a(1)=18, a(2)=213, a(3)=2098, a(n)=18 * a(n - 1) - 111 * a(n - 2) + 262 * a(n - 3) - 168 * a(n - 4). - _ Harvey P. Dale _ , May 28 2015 •

[A025932] • 1,18,213,2114,19173,165354,1384741,11393778,92748645,750039290,6040740069,48528576642,389243479717,3119026937226,24977625311397,199948094540306,1600220345577189,12804941098049562,102455421613293925 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-8x)). • a(n) = 18 * a(n - 1) - 111 * a(n - 2) + 278 * a(n - 3) - 240 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 19 2011 • a(n) = 13 * a(n - 1) - 40 * a(n - 2) + 3 ^ (n + 1) - 2 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 • a(n) = 4 * 8 ^ (n + 2) / 45 - 2 ^ (n + 2) / 9 - 5 ^ (n + 3) / 18 + 3 ^ (n + 3) / 10. - R. J. Mathar, Mar 19 2011 •

[A021764] • 1,18,215,2160,19821,172638,1456915,12056220,98541641,799142058,6448579215,51871439880,416407919461,3338534836278,26744994007115,214144960297140,1714090450201281,13717400347223298,109762678131820615 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-8x)). • a(n) = - 1 / 84 + 4 ^ (n + 2) / 3 - 5 ^ (n + 3) / 12 + 2 ^ (3n + 7) / 21. [_ Bruno Berselli _ , May 07 2013] •

[A111991] • 1,18,216,2136,18864,154656,1203072,9000576,65339136,463112704,3219204096,22019254272,148577427456,990973034496,6543595044864,42832379117568,278217855664128,1794871415144448,11508930723708928 ★ Second convolution of A111989. • a(0)=1, a(1)=18, a(2)=216, a(3)=2136, a(4)=18864, a(5)=154656, a(6)=1203072, a(7)=9000576, a(8)=65339136, a(n)=18 * a(n - 1) - 108 * a(n - 2) + 192 * a(n - 3) + 288 * a(n - 4) - 864 * a(n - 5) - 192 * a(n - 6) + 1152 * a(n - 7) - 512 * a(n - 9). - _ Harvey P. Dale _ , Oct 10 2013 •

[A081136] • 0,0,1,18,216,2160,19440,163296,1306368,10077696,75582720,554273280,3990767616,28298170368,198087192576,1371372871680,9403699691520,63945157902336,431629815840768,2894458765049856,19296391766999040 ★ 6th binomial transform of (0,0,1,0,0,0,.....). • a(n) = 18 * a(n - 1) - 108 * a(n - 2) + 216 * a(n - 3), a(0)=a(1)=0, a(2)=1. • a(n) = 6 ^ (n - 2) * C(n, 2). •

[A019757] • 1,18,217,2190,19981,170898,1398097,11075670,85654261,650280378,4865931577,35994162750,263799130141,1918854559458,13871649322657,99770067275430,714554190919621,5099624595840138,36287658424563337,257574399980365710,1824480913344734701,12900603911464394418 ★ Expansion of 1/((1-5*x)(1-6*x)(1-7*x)). • a(n) = (7 ^ (n + 2) + 5 ^ (n + 2) - 2 * 6 ^ (n + 2)) / 2. • a(n) = 18 * a(n - 1) - 107 * a(n - 2) + 210 * a(n - 3), n >= 3. • a(n) = 13 * a(n - 1) - 42 * a(n - 2) + 5 ^ n, a(0)=1, a(1)=18. (End) •

[A021503] • 1,18,217,2214,20701,183906,1582129,13325598,110626021,909165114,7418351161,60217256502,486961532461,3927035533842,31604351090113,253963231160526,2038476448492021,16348435376893290 ★ Expansion of 1/((1-x)(1-3x)(1-6x)(1-8x)). • a(n) = (3 * 8 ^ (n + 3) - 7 * 6 ^ (n + 3) + 7 * 3 ^ (n + 3) - 3) / 210. - _ Yahia Kahloune _ , May 06 2013 • a(0)=1, a(1)=18; for n>1, a(n) = 14 * a(n - 1) - 48 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 • a(0)=1, a(1)=18, a(2)=217, a(3)=2214; for n>3, a(n) = 18 * a(n - 1) - 107 * a(n - 2) + 234 * a(n - 3) - 144 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 •

[A025470] • 1,18,217,2238,21493,199506,1821889,16508646,149043565,1343313114,12097677241,108911059374,980328977317,8823483334242,79413454477873,714729551160822,6432599932896349,57893535673021290 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-9x)). • a(n) = - 4 * 2 ^ n / 7 + 9 * 3 ^ n / 2 - 32 * 4 ^ n / 5 + 243 * 9 ^ n / 70. - _ R. J. Mathar _ , Jun 30 2013 •

[A046915] • 1,18,217,2340,24211,246078,2480437,24902280,249511591,2497558338,24987792457,249938963820,2499694822171,24998474116998,249992370597277,2499961853010960,24999809265103951,249999046325618058,2499995231628286897 ★ Sum of divisors of 10^n. • a(n) = 1 / 4 * (2 ^ (n + 1) - 1) * (5 ^ (n + 1) - 1). E.g., a(1) = 1 / 4 * (2 ^ 2 - 1) * (5 ^ 2 - 1) = 18. - _ Vladeta Jovovic _ , Dec 18 2001 • a(n) = 18 * a(n - 1) - 97 * a(n - 2) + 180 * a(n - 3) - 100 * a(n - 4). - _ Colin Barker _ , Jan 27 2015 •

[A019333] • 1,18,220,2280,21616,194208,1685440,14290560,119232256,983566848,8047836160,65462691840,530198327296,4280634482688,34479631482880,277245459333120,2226418414452736,17862092934217728 ★ Expansion of 1/((1-4x)(1-6x)(1-8x)). • a(n) = 2 * 4 ^ n - 9 * 6 ^ n + 8 * 8 ^ n. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=18, a(2)=220; for n>2, a(n) = 18 * a(n - 1) - 104 * a(n - 2) + 192 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 14 * a(n - 1) - 48 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[A021454] • 1,18,220,2310,22561,212268,1957600,17857620,161924521,1463379918,13200803980,118959425130,1071396569881,9646380238968,86836484875360,781623699024840,7035090031526641,63318194178965418 ★ Expansion of 1/((1-x)(1-3x)(1-5x)(1-9x)). • a(0)=1, a(1)=18, a(2)=220, a(3)=2310, a(n)=18 * a(n - 1) - 104 * a(n - 2) + 222 * a(n - 3) - 135 * a(n - 4). - _ Harvey P. Dale _ , Nov 05 2011 • a(n) = (3 * 9 ^ (n + 2) - 2 * 5 ^ (n + 3) + 8 * 3 ^ (n + 2) - 1) / 64. - _ Yahia Kahloune _ , Jun 26 2013 • a(0)=1, a(1)=18; for n>1, a(n) = 14 * a(n - 1) - 45 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 •

[A021224] • 1,18,221,2322,22485,207306,1850557,16149474,138611429,1174801914,9859790733,82107957906,679471095733,5594020809642,45859930816349,374633796970818,3051350828977797,24790769804563290 ★ Expansion of 1/((1-2x)(1-7x)(1-8x)). • a(n)=(5 * 8 ^ (n + 3) - 7 ^ (n + 4) + 7 * 2 ^ (n + 3) - 5) / 210. [_ Yahia Kahloune _ , Jun 26 2013] • a(0)=1, a(1)=18, a(2)=221, a(3)=2322; for n>3, a(n) = 18 * a(n - 1) - 103 * a(n - 2) + 198 * a(n - 3) - 112 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=18; for n>1, a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A017997] • 1,18,223,2364,23053,213654,1914571,16756128,144132505,1223664090,10283600119,85728989892,710053773157,5849984757726,47986764852067,392202340697256,3195776321789809,25973313876940962 ★ Expansion of 1/((1-3x)(1-7x)(1-8x)). • a(n) = (4 * 8 ^ (n + 2) - 5 * 7 ^ (n + 2) + 3 ^ (n + 2)) / 20. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=18, a(2)=223; for n>2, a(n) = 18 * a(n - 1) - 101 * a(n - 2) + 168 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[A018911] • 1,18,223,2376,23485,222894,2067787,18935172,172107529,1557684810,14063797111,126801537408,1142367430933,10287141958566,92613721463395,833671786093884,7503791834428897,67537872487648962 ★ Expansion of 1/((1-4x)(1-5x)(1-9x)). • a(n) = 16 * 4 ^ n / 5 - 25 * 5 ^ n / 4 + 81 * 9 ^ n / 20. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=18, a(2)=223; for n>2, a(n)= 18 * a(n - 1) - 101 * a(n - 2) + 180 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 14 * a(n - 1) - 45 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[A021194] • 1,18,223,2388,23809,228246,2138131,19746936,180745477,1644848634,14912475799,134865314844,1217706037705,10982863580382,98986827702427,891727782261312,8030628038119693,72306120329946690 ★ Expansion of 1/((1-x)(1-2x)(1-6x)(1-9x)). • a(0)=1, a(1)=18, a(2)=223, a(3)=2388, a(n)=18 * a(n - 1) - 101 * a(n - 2) + 192 * a(n - 3) - 108 * a(n - 4) [From Harvey P. Dale, Jul 18 2011] • a(n)=(5 * 9 ^ (n + 3) - 14 * 6 ^ (n + 3) + 30 * 2 ^ (n + 3) - 21) / 840. [_ Yahia Kahloune _ , Jun 26 2013] • a(0)=1, a(1)=18; for n>1, a(n) = 15 * a(n - 1) - 54 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A017933] • 1,18,225,2430,24381,234738,2205225,20404710,186995061,1703091258,15448694625,139763668590,1262226050541,11386154248578,102632111782425,924629361662070,8327306431726821,74979611075290698 ★ Expansion of 1/((1-3x)(1-6x)(1-9x)). • a(n) = (3 ^ n - 8 * 6 ^ n + 9 * 9 ^ n) / 2. • a(0)=1, a(1)=18, a(2)=225; for n > 2, a(n) = 18 * a(n - 1) - 99 * a(n - 2) + 162 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 15 * a(n - 1) - 54 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[A021384] • 1,18,225,2470,25701,261378,2632345,26400990,264329901,2644608538,26451412065,264535693110,2645444018101,26454790920498,264549319337385,2645498855426830,26455011267050301,264550203715341258 ★ Expansion of 1/((1-x)(1-3x)(1-4x)(1-10x)). • a(0)=1, a(1)=18, a(2)=225, a(3)=2470, a(n)=18 * a(n - 1) - 99 * a(n - 2) + 202 * a(n - 3) - 120 * a(n - 4). [_ Harvey P.

Dale _ , Oct 21 2011] • a(0)=1, a(1)=18; for n>1, a(n) = 14 * a(n - 1) - 40 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 • a(n) = (10 ^ (n + 3) - 21 * 4 ^ (n + 3) + 27 * 3 ^ (n + 3) - 7) / 378. [_ Yahia Kahloune _ , Sep 16 2013] •

[A021144] • 1,18,227,2520,26481,271278,2745247,27615060,276964061,2773708938,27757433067,277676053200,2777269152841,27775234648998,277765062125687,2777714199500940,27777459886360821,277776188320627458 ⋆ Expansion of 1/((1-x)(1-2x)(1-5x)(1-10x)). • a(0)=1, a(1)=18, a(2)=227, a(3)=2520; for n>2, a(n) = 18 * a(n - 1) - 97 * a(n - 2) + 180 * a(n - 3) - 100 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 • a(0)=1, a(1)=18; for n>1, a(n) = 15 * a(n - 1) - 50 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 • a(n) = (10 ^ (n + 3) - 6 * 5 ^ (n + 3) + 15 * 2 ^ (n + 3) - 10) / 360. [_ Yahia Kahloune _ , Jul 07 2013] •

[A016312] • 1,18,229,2538,26197,259290,2498293,23637546,220808533,2043771642,18789409717,171872944074,1566234297109,14231753285274,129035291862901,1167964212866922,10558204018573525,95349518886691386 ⋆ Expansion of 1/((1-2x)(1-7x)(1-9x)). • a(n) =((9 ^ n - 2 ^ n) / 7 - (7 ^ n - 2 ^ n) / 5) / 2 , n>=2. [_ Zerinvary Lajos _ , Jun 05 2009] • a(n) = 18 * a(n - 1) - 95 * a(n - 2) + 126 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 •

[A017916] • 1,18,229,2562,27061,278058,2818549,28377522,284741941,2852272698,28547052469,285592329282,2856532847221,28568377838538,285699029999989,2857066572421842,28571047129374901,285712378448671578 ⋆ Expansion of 1/((1-3x)(1-5x)(1-10x)). • a(0)=1, a(2)=18, a(3)=229, a(n) = 18 * a(n - 1) - 95 * a(n - 2) + 150 * a(n - 3). - _ Vincenzo Librandi _ , Jul 01 2013 • a(n) = 15 * a(n - 1) - 50 * a(n - 2) - 3 ^ n. - _ Vincenzo Librandi _ , Jul 01 2013 • a(n) = (2 * 10 ^ (n + 2) - 7 * 5 ^ (n + 2) + 5 * 3 ^ (n + 2)) / 70. [_ Yahia Kahloune _ , Aug 13 2013] •

[A021094] • 1,18,233,2718,30549,338706,3736561,41145606,452775917,4981233114,54796358409,602771123214,6630527086405,72935976891042,802296461596577,8825263940808342,97077914802006813,1067857108634797290 ⋆ Expansion of 1/((1-x)(1-2x)(1-4x)(1-11x)). • a(n) = - (1 / 30) + (4 / 9) * 2 ^ n - (32 / 21) * 4 ^ n + (1331 / 630) * 11 ^ n. [_ Antonio Alberto Olivares _ , May 22 2012] • a(0)=1, a(1)=18; for n>1, a(n) = 15 * a(n - 1) - 44 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 06 2013 • a(0)=1, a(1)=18, a(2)=233 , a(3)=2718; for n>3, a(n) = 18 * a(n - 1) - 91 * a(n - 2) + 162 * a(n - 3) - 88 * a(n - 4). - _ Vincenzo Librandi _ , Jul 06 2013 •

[A016256] • 1,18,235,2700,28981,298278,2984095,29253600,282456361,2695498938,25486623955,239196683700,2231306698141,20710052641998,191416812647815,1762962024789000,16188343910770321,148268580698287458,1355005110295423675,12359749064745505500 ⋆ Expansion of 1/((1-x)*(1-8*x)*(1-9*x)). • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = 9 ^ (n + 2) / 8 - 8 ^ (n + 2) / 7 + 1 / 56. - _ R. J. Mathar _ , Mar 14 2011 •

[A017065] • 1,18,235,2760,31141,345918,3819295,42071220,463025881,5094274218,56041033555,616467614880,6781209278221,74593565712918,820530282235015,9025837356505740,99284227972292161,1092126576027270018 ⋆ Expansion of 1/((1-3x)(1-4x)(1-11x)). • a(n) = 9 * 3 ^ n / 8 - 16 * 4 ^ n / 7 + 121 * 11 ^ n / 56. - _ R. J. Mathar _ , Jun 23 2013 • a(n) = 18 * a(n - 1) - 89 * a(n - 2) + 132 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 • a(n) = 15 * a(n - 1) - 44 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 •

[A016252] • 1,18,237,2770,30501,324618,3383437,34795170,354677301,3593852218,36268076637,364987647570,3666024644101,36773283619818,368524096449837,3690779786259970,36946569614930901,369737098415627418 ⋆ Expansion of 1/((1-x)(1-7x)(1-10x)). • a(0)=1, a(1)=18, a(n)=17 * a(n - 1) - 70 * a(n - 2) + 1. - Vincenzo Librandi, Feb 10 2011 • a(n) = (2 * 10 ^ (n + 2) - 3 * 7 ^ (n + 2) + 1) / 54. [_ Yahia Kahloune _ , Jul 09 2013] •

[A016301] • 1,18,237,2810,31941,356538,3947917,43557210,479780181,5280836858,58105480797,639241667610,7032065242021,77354752161978,850912446296877,9360087771874010,102961219803721461,1132574689406603898 ⋆ Expansion of 1/((1-2*x)*(1-5*x)*(1-11*x)). • a(1)=1, a(2)=18, a(3)=237, a(n) = 18 * a(n - 1) - 87 * a(n - 2) + 110 * a(n - 3); a(1)=1, a(2)=18, a(n) = 16 * a(n - 1) - 55 * a(n - 2) + 2 ^ n. - Vincenzo Librandi, Aug 25 2011 • a(n) = (1 / 54) * (2 * 2 ^ (2 + n) - 3 * 5 ^ (2 + n) + 11 ^ (2 + n)). - Bruno Berselli, Aug 25 2011 •

[A016247] • 1,18,241,2910,33565,378546,4219993,46755846,516329845,5691721530,62681496241,689931815118,7591862105101,83526155988930,918881752875145,10108263503608086,111194283871577893,1223157434578690506 ⋆ Expansion of 1/((1-x)(1-6x)(1-11x)). • a(0)=1, a(1)=18, a(n)=17 * a(n - 1) - 66 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(0)=1, a(1)=18, a(2)=241, a(n)=18 * a(n - 1) - 83 * a(n - 2) + 66 * a(n - 3). - _ Harvey P. Dale _ , Sep 23 2012 • a(n) = (11 ^ (n + 2) - 2 * 6 ^ (n + 2) + 1) / 50. [_ Yahia Kahloune _ , Aug 13 2013] •

[A021064] • 1,18,241,2982,36085,433986,5210857,62539614,750503869,9006132954,108073857073,1296887073846,15562647261253,186751774276722,2241021312778489,26892255817780878,322707070006818637 ⋆ Expansion of 1/((1-x)(1-2x)(1-3x)(1-12x)). • a(0)=1, a(1)=18; for n>1, a(n)= 15 * a(n - 1) - 36 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 05 2013 • a(0)=1, a(1)=18, a(2)=241, a(3)=2982; for n>3, a(n) = 18 * a(n - 1) - 83 * a(n - 2) + 138 * a(n - 3) - 72 * a(n - 4). - _ Vincenzo Librandi _ , Jul 05 2013 • a(n) = (12 ^ (n + 3) - 55 * 3 ^ (n + 3) + 99 * 2 ^ (n + 3) - 45) / 990. [_ Yahia Kahloune _ , Jul 07 2013] •

[A053540] • 1,18,243,2916,32805,354294,3720087,38263752,387420489,3874204890,38354628411,376572715308,3671583974253,35586121596606,343151886824415,3294258113514384,31501343210481297,300189270593998242,2851798070642983299,27017034353459841780 ⋆ a(n) = n*9^(n-1). • a(n) = 18 * a(n - 1) - 81 * a(n - 2). •

[A016186] • 1,18,244,2952,33616,368928,3951424,41611392,432891136,4463129088,45705032704,465640261632,4725122093056,47800976744448,482407813955584,4859262511644672,48874100093157376,490992800745259008 ⋆ Expansion of 1/((1-8x)(1-10x)). • a(n) = 8 * a(n - 1) + 10 ^ (n - 1). - _ Geoffrey Critzer _ , Jan 24 2011 • a(0)=1, a(n)=10 * a(n - 1) + 8 ^ n. - _ Vincenzo Librandi _ , Feb 09 2011 • a(0)=1, a(1)=18, a(n)=18 * a(n - 1) - 80 * a(n - 2). - _ Vincenzo Librandi _ , Feb 09 2011 •

[A081203] • 0,1,18,244,2952,33616,368928,3951424,41611392,432891136,4463129088,45705032704,465640261632,4725122093056,47800976744448,482407813955584,4859262511644672,48874100093157376,490992800745259008 ⋆ 9th binomial transform of (0,1,0,1,0,1,.....), A000035. • a(n) = 18 * a(n - 1) - 80 * a(n - 2), a(0)=0, a(1)=1. • a(n) = 10 ^ n / 2 - 8 ^ n / 2. •

[A016294] • 1,18,244,3048,37072,446880,5370688,64480896,773901568,9287342592,111450207232,1337410873344,16048964030464,192587702575104,2311052967755776,27732637760520192,332791661716111360 ⋆ Expansion of 1/((1-2x)(1-4x)(1-12x)). • a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 96 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 16 2011 • a(n) = 16 * a(n - 1) - 48 * a(n - 2) + 2 ^ n, n>=2. - Vincenzo Librandi, Mar 16 2011 • a(n) = 9 * 12 ^ n / 5 + 2 ^ n / 5 - 4 ^ n. - R. J. Mathar, Mar 17 2011 •

[A153593] • 1,18,245,2988,34429,383670,4186169,45041112,480032665,5082340122,53559541661,562566880260,5895000053461,61667217421758,644304909368225,6725778192309168,70163919621475249,731614075994130210 ⋆ a(n) = ((9 + sqrt(2))^n - (9 - sqrt(2))^n)/(2*sqrt(2)). • a(n) = 18 * a(n - 1) - 79 * a(n - 2) for n>1; a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 01 2009 • a(n) = Sum[Binomial[n - 1 - i, i] (- 1) ^ i * 18 ^ (n - 1 - 2 i) * 79 ^ i, { i, 0, Floor[(n - 1) / 2] }]. - _ Sergio Falcon _ , Sep 21 2009 •

[A016183] • 1,18,247,3060,36061,413478,4665907,52148520,579398521,6413737338,70833585967,781146772380,8606455783381,94767902627598,1043125151976427,11479124233250640,126303599496326641 ⋆ Expansion of 1/((1-7x)(1-11x)). • a(n)=18 * a(n - 1) - 77 * a(n - 2). [From _ Philippe Deléham _ , Jan 01 2009] • a(0)=1, a(n)=11 * a(n - 1) + 7 ^ n. [From Vincenzo Librandi, Feb 09 2011] •

[A016239] • 1,18,247,3120,38221,462558,5570227,66940380,803772841,9647715498,115784793007,1389478551240,16674047790661,200090099366838,2401088821796587,28813104008531700,345757438837243681 ⋆ Expansion of 1/((1-x)(1-5x)(1-12x)). • a(0)=1, a(1)=18; for n>1, a(n)=17 * a(n - 1) - 60 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (4 * 12 ^ (n + 2) - 11 * 5 ^ (n + 2) + 7) / 308. [_ Yahia Kahloune _ , Aug 13 2013] •

[A153886] • 1,18,248,3096,36880,428544,4910912,55827072,631657984,7126986240,80279745536,903384465408,10159659716608,114216655527936,1283765661040640,14427316078608384,162125499175862272,1821782963191283712,20470555400077574144 ⋆ a(n) = ((9 + sqrt(5))^n - (9 - sqrt(5))^n)/(2*sqrt(5)). • a(n) = 18 * a(n - 1) - 76 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[A154241] • 1,18,249,3132,37701,443718,5159349,59589432,685658601,7872647418,90283258449,1034650095732,11852457339501,135745474931118,1554484248297549,17799805849522032,203810186669080401 ⋆ a(n) = ((9 + sqrt(6))^n - (9 - sqrt(6))^n)/(2*sqrt(6)). • a(n) = 18 * a(n - 1) - 75 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[A154250] • 1,18,250,3168,38524,459000,5411224,63436032,741418000,8651257632,100857705376,1175245632000,13690951178176,159468944439168,1857310612720000,21630889140461568,251915019187028224 ⋆ a(n) = ((9 + sqrt(7))^n - (9 - sqrt(7))^n)/(2*sqrt(7)). • a(n) = 18 * a(n - 1) - 74 * a(n - 2) for n>1, with a(0)=0, a(1)=1. •

[A154350] • 1,18,251,3204,39349,474390,5666543,67367304,798953833,9463355802,112016774627,1325476969740,15681360907549,185504677544862,2194344849556439,25956365831240976,307027410944717521 ⋆ a(n) = ((9 + 2*sqrt(2))^n - (9 - 2*sqrt(2))^n)/(4*sqrt(2)). • a(n) = 18 * a(n - 1) - 73 * a(n - 2) for n>1 , with a(0)=0, a(1)=1. - _ Philippe Deléham _ , Jan 12 2009 •

[A088924] • 1,18,252,3168,37512,427608,4748472,51736248,555626232,5900636088,62105724792,648951523128,6740563708152,69665073373368,716985660360312,7352870943242808,75175838489185272,766582546402667448 ⋆ Number of "9ish numbers" with n digits. • a(n) = 9 * 10 ^ (n - 1) - 8 * 9 ^ (n - 1). • a(n) = 19 * a(n - 1) - 90 * a(n - 2). - _ Vincenzo Librandi _ , May 04 2015 •

[A255371] • 0,1,18,252,3177,37764,432315,4821867,52767711,569171142,6070198824,64154357361,673034324472,7017585817887,72795938474871,751858421307975,7736579039166894,79354228046171004,811679794900979769,8282239107946760700,84331460977774328115 ⋆ Number of strings of n decimal digits that contain at least one "0" digit that is not part of a string of two or more consecutive "0" digits. • a(0)=0, a(1)=1, a(n) = 9 * (10 ^ (n - 2) - a(n - 2) + sum _{ i=1..n - 1 } a(i)) for n>=2. • a(n) = 20 * a(n - 1) - 109 * a(n - 2) + 99 * a(n - 3) - 90 * a(n - 4) for n>3. - _ Colin Barker _ , Feb 27 2015 •

[A016175] • 1,18,252,3240,40176,489888,5925312,71383680,858283776,10309483008,123774262272,1485653944320,17830024114176,213973350064128,2567758564933632,30813572964188160,369765696680165376 ⋆ Expansion of 1/((1-6x)(1-12x)). • a(n) = - 6 ^ n + 2 * 12 ^ n. • a(n - 1) = ((9 + sqrt9) ^ n - (9 - sqrt9) ^ n) / 6. - Al Hakanson (hawkuu(AT)gmail.com), Jan 07 2009 • a(n) = 12 * a(n - 1) + 6 ^ n, n >= 1. - _ Vincenzo Librandi _ , Feb 09 2011 • a(n) = 18 * a(n - 1) - 72 * a(n - 2), n >= 2. - _ Vincenzo Librandi _ , Feb 09 2011 •

[A062141] • 1,18,252,3360,45360,635040,9313920,143700480,2335132800,39956716800,719220902400,13599813427200,269729632972800,5602076992512000,121645100408832000,2757288942600192000 ⋆ Third column sequence of coeffi-

cient triangle A062137 of generalized Laguerre polynomials n!*L(n,3,x). • a(n)= (n + 2)! * binomial(n + 5, 5) / 2!; e.g.f.: (1 + 10 * x + 10 * x ^ 2) / (1 - x) ^ 8. •

[A157708] • 18,254,1571,6335,19615,50743,115234,237066,451320,807180,1371293,2231489,3500861,5322205,7872820,11369668,16074894,22301706,30420615,40866035,54143243,70835699,91612726 ⋆ The z^2 coefficients of the polynomials in the GF4 denominators of A156933 • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) • a(n) = 1 / 2 * n ^ 6 + 5 / 2 * n ^ 5 + 41 / 8 * n ^ 4 + 67 / 12 * n ^ 3 + 27 / 8 * n ^ 2 + 11 / 12 * n •

[A255372] • 0,0,1,18,261,3411,42057,499383,5775480,65506986,731953926,8082054387,88382960316,958831580700,10332164902851,110698940875149,1180155371168034,12527193711780981,132468636134059128,1396061253467955315,14668489189614036627 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 2 consecutive "0" digits. • a(0) = a(1) = 0, a(2) = 1, a(n) = 9 * (10 ^ (n - 3) - a(n - 3) + sum _{ i=2..n - 1 } a(i)) for n>=3. •

[A255373] • 0,0,0,1,18,261,3420,42291,503757,5845383,66525399,745904151,8264888316,90700808526,987461965116,10678505242392,114817381566435,1228431892382460,13086248073415290,138875261344657416,1468815363559657773,15488131104999233505 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 3 consecutive "0" digits. • a(0) = a(1) = a(2) = 0, a(3) = 1, a(n) = 9 * (10 ^ (n - 4) - a(n - 4) + sum _{ i=3..n - 1 } a(i)) for n>=4. •

[A255374] • 0,0,0,0,1,18,261,3420,42300,503991,5849757,66595383,746925399,8278904070,90884885481,989800742916,10707460718526,115168484215116,1232617054343121,13135427089598511,139446180653268195,1475374347592901460,15562803326717545290 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 4 consecutive "0" digits. • a(0) = a(1) = a(2) = a(3) = 0, a(4) = 1, a(n) = 9 * (10 ^ (n - 5) - a(n - 5) + sum _{ i=4..n - 1 } a(i)) for n>=5. •

[A255375] • 0,0,0,0,0,1,18,261,3420,42300,504000,5849991,66599757,746995383,8279925399,90898904070,989984885400,10709800740081,115197460652916,1232968482968526,13139617033315116,139495426762343121,1475946175849599240,15569374280153300271 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 5 consecutive "0" digits. • a(0) = a(1) = ... = a(4) = 0, a(5) = 1, a(n) = 9 * (10 ^ (n - 6) - a(n - 6) + sum _{ i=5..n - 1 } a(i)) for n>=6. •

[A255376] • 0,0,0,0,0,0,1,18,261,3420,42300,504000,5850000,66599991,746999757,8279995383,90899925399,989998904070,10709984885400,115199800740000,1232997460650081,13139968482902916,139499617032068526,1475995426741315116,15569946175522343121 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 6 consecutive "0" digits. • a(0) = a(1) = ... = a(5) = 0, a(6) = 1, a(n) = 9 * (10 ^ (n - 7) - a(n - 7) + sum _{ i=6..n - 1 } a(i)) for n>=7. •

[A255377] • 0,0,0,0,0,0,0,1,18,261,3420,42300,504000,5850000,66600000,746999991,8279999757,90899995383,989999925399,10709998904070,1151999848854 00,1232999800740000,13139997460650000,139499968482900081,1475999617032002916 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 7 consecutive "0" digits. • a(0) = a(1) = ... = a(6) = 0, a(7) = 1, a (n) = 9 * (10 ^ (n - 8) - a(n - 8) + sum _{ i=7..n - 1 } a(i)) for n>=8. •

[A255378] • 0,0,0,0,0,0,0,0,0,1,18,261,3420,42300,504000,5850000,66600000,747000000,8279999991,90899999757,989999995383,10709999925399,115199998904070,1232999984885400,13139999800740000,139499997460650000 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 8 consecutive "0" digits. • a(0) = a(1) = ... = a(7) = 0, a(8) = 1, a(n) = 9 * (10 ^ (n - 9) - a(n - 9) + sum _{ i=8..n - 1 } a(i)) for n>=9. •

[A255379] • 0,0,0,0,0,0,0,0,0,0,1,18,261,3420,42300,504000,5850000,66600000,747000000,8280000000,90899999991,989999999757,10709999995383,115199999925399,1232999998904070,13139999984885400 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 9 consecutive "0" digits. • a(0) = a(1) = ... = a(8) = 0, a(9) = 1, a(n) = 9 * (10 ^ (n - 10) - a(n - 10) + sum _{ i=9..n - 1 } a(i)) for n>=10. •

[A255380] • 0,0,0,0,0,0,0,0,0,0,1,18,261,3420,42300,504000,5850000,66600000,747000000,8280000000,90900000000,989999999991,10709999999757,115199999995383,1232999999925399 ⋆ Number of strings of n decimal digits that contain at least one string of exactly 10 consecutive "0" digits. • a(0) = a(1) = ... = a(9) = 0, a(10) = 1, a(n) = 9 * (10 ^ (n - 11) - a(n - 11) + sum _{ i=10..n - 1 } a(i)) for n>=11. •

[A083445] • 18,270,3438,40950,468558,5217030,56953278,612579510,6513215598,68618940390,717570463518,7458134171670,77123207545038,794108867905350,8146979811148158,83322818300333430,849905364703000878,8649148282327007910,87842334540943071198 ⋆ Largest n-digit number minus the product of its digits; i.e., a(n) = 99999... (n 9's) - 9^n. • a(n) = (10 ^ n - 1) - 9 ^ n. • a(n) = 20 * a(n - 1) - 109 * a(n - 2) + 90 * a(n - 3) with a(2)=18, a(3)=270, a(4)=3438. - _ Harvey P. Dale _ , Sep 05 2015 •

[A159740] • 18,270,3600,45000,540000,6300000,72000000,810000000,900000000,99000000000,108000000000,117000000000,126000000000,135000000000000,144000000000000000,153000000000000000 ⋆ Number of permutations of 9 indistinguishable copies of 1..n arranged in a circle with exactly 1 local maximum. • a(n)=(copies * n) * (copies + 1) ^ (n - 2) •

[A115903] • 1,18,270,3780,51030,673596,8756748,112586760,1435481190,18182761740,229102797924,2874198737592,35927484219900,447711726432600,5564417171376600,68998772925069840,853859814947739270 ⋆ Expansion of (1-12*x)^(-3/2). • a(n)=Jacobi _ P(n,1 / 2,1 / 2,1) * 12 ^ n. •

[A288959] • 0,18,288,1800,7200,22050,56448,127008,259200,490050,871200,1472328,2384928,3726450,5644800,8323200,11985408,16901298,23392800,31840200,42688800,56455938,73738368,95220000,121680000 ⋆ a(n) = n^2*(n^2 - 1)^2/2. • a(n) = n ^ 2 * (n ^ 2 - 1) ^ 2 / 2. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A098303] • 0,1,18,289,4608,73441,1170450,18653761,297289728,4737981889,75510420498,1203428746081,19179349516800,305666163522721,4871479266846738,77638002106025089,1237336554429554688 ⋆ Member r=18 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n)= 16 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. • a(n)= 17 * a(n - 1) - 17 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=18. •

[A167713] • 1,18,294,4724,75654,1210716,19372380,309961512,4959397062,79350401612,1269606610548,20313706474200,325019306291356,5200308911062296,83204942617113336,1331279082028930896,21300465313063974726 ⋆ a(n) = 16^n*Sum_{ k=0..n } binomial(2*k,k)/16^k. • a(n) = 16 ^ n * sum(k=0..n, (2k)! / (k!) ^ 2 / 16 ^ k). • a(n) = 16 ^ n * sum(k=0..n, binomial(2k,k) / 16 ^ k). •

[A166927] • 1,18,296,4768,76416,1223168,19572736,313171968,5010784256,80172679168,1282763390976,20524216352768,328387470032896,5254199554080768,84067192999510016,1345075088529031168,21521201418611982336 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) for n > 1; a(0) = 1, a(1) = 18. • a(n) = (7 * 16 ^ n - 4 ^ n) / 6. •

[A097831] • 1,18,306,5185,87840,1488096,25209793,427078386,7235122770,122570008705,2076455025216,35177165419968,595935357114241,10095723905522130,171031371036761970,2897437583719431361,49085407552193571168 ⋆ Partial sums of Chebyshev sequence S(n,17)= U(n,17/2)=A078366(n). • a(n) = 18 * a(n - 1) - 18 * a(n - 2) + a(n - 3), n>=2, a(- 1)=0, a(0)=1, a(1)=18. • a(n) = 17 * a(n - 1) - a(n - 2) + 1, n>=1, a(- 1)=0, a(0)=1. • a(n) = (S(n + 1, 17) - S(n, 17) - 1) / 15. •

[A091045] • 1,18,307,5220,88741,1508598,25646167,435984840,7411742281,125999618778,2141993519227,36413889826860,619036127056621,10523614159962558,178901440719363487,3041324492229179280,51702516367896047761 ⋆ Partial sums of powers of 17 (A001026). • a(n) = Sum _{ k=0..n - 1 } 17 ^ k = (17 ^ n - 1) / 16. • a(n) = 17 * a(n - 1) + 1 (with a(1)=1). - _ Vincenzo Librandi _ , Nov 16 2010 •

[A208537] • 0,0,18,312,2340,11160,39990,117648,299592,683280,1428570,2783880,5118828,8964072,15059070,24408480,38347920,58619808,87460002,127695960,182857140,257298360,356336838,486403632,655210200 ⋆ Number of 7-bead necklaces of n colors not allowing reversal, with no adjacent beads having the same color. • a(n + 2) = delta(- n) = - delta(n) for n >= 0, where delta is the p - derivation over the integers with respect to prime p = 7. - _ Danny Rorabaugh _ , Nov 10 2017 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. • a(n) = ((n - 1) ^ 7 - (n - 1)) / 7. (inspired by Hassler's formula in A208536) - _ Eric M. Schmidt _ , Dec 08 2017 •

[A292299] • 0,0,0,0,18,312,3798,41544,438270,4566120,47368110,490668936,5080145070,52588590888,544355820750,5634640292424,58323941179182,603707608725096,6248936971173390,64682313170747016,669522088312069614,6930176023749038760,71733763792342350798 ⋆ Sum of values of vertices of type E at level n of the hyperbolic Pascal pyramid. • a(n) = 18 * a(n - 1) - 99 * a(n - 2) + 226 * a(n - 3) - 224 * a(n - 4) + 92 * a(n - 5) - 12 * a(n - 6), n >= 7. •

[A041145] • 1,18,325,5868,105949,1912950,34539049,623615832,11259624025,203296848282,3670602893101,66274148924100,1196605283526901,21605169252408318,390089651826876625,7043218902136187568 ⋆ Denominators of continued fraction convergents to sqrt(82). • a(n) = F(n,18), the n - th Fibonacci polynomial evaluated at x=18. - _ T. D. Noe _ , Jan 19 2006 • a(n) = 18 * a (n - 1) + a(n - 2) for n>1, a(0)=1, a(1)=18. G.f.: 1 / (1 - 18 * x - x ^ 2). - _ Philippe Deléham _ , Nov 21 2008 •

[A222812] • 0,18,329,5000,65931,779504,8517616,88555255,897147508,8997325290,90000000000,900000000000,9000000000000,90000000000000,900000000000000,9000000000000000,90000000000000000,900000000000000000,9000000000000000000 ⋆ Number of n-digit numbers N such that the number formed by some nontrivial permutation of the digits of N divides N. • a(n) = 9 * 10 ^ (n - 1) for n >= 11. - _ Hiroaki Yamanouchi _ , Sep 03 2014. •

[A068771] • 1,1,18,333,6318,122634,2429028,48974949,1002875094,20814628158,437088964860,9272342710962,198456435657036,4280758166952756,92972201833888200,2031520673763657621,44630859892110807654 ⋆ Generalized Catalan numbers. • a(n) = (9 ^ n) * p(n, - 8 / 9) with the row polynomials p(n, x) defined from array A068763. • a(n + 1) = 9 * sum(a(k) * a(n - k), k=0..n), n>=1, a(0)=1=a(1). •

[A212669] • 18,340,2022,7400,20602,48060,99022,186064,325602,538404,850102,1291704,1900106,2718604,3797406,5194144,6974386,9212148,11990406,15401608,19548186,24543068,30510190,37585008,45915010 ⋆ a(n) = 2/15 * (32*n^5 + 80*n^4 + 40*n^3 - 20*n^2 + 3*n). • a(n) = 2 / (2 * n + 1) * Sum _{ i=1..n } tan ^ 6(Pi * i / (2 * n + 1)). •

[A158590] • 18,342,1314,2934,5202,8118,11682,15894,20754,26262,32418,39222,46674,54774,63522,72918,82962,93654,104994,116982,129618,142902,156834,171414,186642 ⋆ 324n^2 + 18. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A127585] • 1,18,345,10243,437769,25260317 ⋆ Exponential error term from Stirling's Approximation. • a(n) = Floor[sqrt(2 * pi) * (n ^ n) * (n ^ (n / 2))] - n!. •

[**A099276**] • 0,1,18,361,7200,143641,2865618,57168721,1140508800,22753007281,453919636818,9055639729081,180658874944800,3604121859166921,71901778308393618,1434431444308705441,28616727107865715200 ⋆ Unsigned member r=-18 of the family of Chebyshev sequences S_r(n) defined in A092184. • a(n) = 20 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. • a(n) = 19 * a(n - 1) + 19 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=18. •

[**A172135**] • 0,1,18,412,4436,26133,111066,376560,1080942,2732909,6253408,13204356,26100160,48819677,87137934,149398608,247349946,397168485,620696612,946921684,1413726108,2069939461,2977725410,4215337872 ⋆ Number of ways to place 4 nonattacking knights on an n X n board. • a(n) = (n ^ 8 - 54 n ^ 6 + 144n ^ 5 + 1019n ^ 4 - 5232n ^ 3 - 2022n ^ 2 + 51120n - 77184) / 24, n >= 6. (Karl Fabel, 1966) •

[**A116176**] • 0,18,486,8748,131220,1771470,22320522,267846264,3099363912,34867844010,383546284110,4142299868388,44059007691036,462619580755878,4804126415541810,49413871702715760,504021491367700752 ⋆ (n^2+n)*9^n. • a(n) = 27 * a(n - 1) - 243 * a(n - 2) + 729 * a(n - 3). - _ Vincenzo Librandi _ , Feb 28 2013 •

[**A126276**] • 18,504,5200,31500,136710,471968,1378944,3547800,8258250,17728920,35603568,67606084,122399550,212688000,356602880,579419568,915652674,1411582200,2128266000,3145097340,4563969718,6514114464,9157680000,12696125000,17377501050 ⋆ Moment of inertia of all magic cubes of order n. • a(n) = (n ^ 3) * (n ^ 3 + 1) * (n ^ 2 - 1) / 12. •

[**A128074**] • 0,18,810,21870,446148,7676370,117979902,1674039150,2238429492 0,285916320882,3521652245010,42113381995278,491427393476940,5617523480607090,63094193590782438,697970937800860110 ⋆ (n^3+n)*9^n. • a(1)=18, a(2)=810, a(3)=21870, a(4)=446148, a(n)=36 * a(n - 1) - 486 * a(n - 2) + 2916 * a(n - 3) - 6561 * a(n - 4). - _ Harvey P. Dale _ , Jun 16 2011 •

[**A129009**] • 18,972,26244,524880,8857350,133923132,1874923848,24794911296,313810596090,3835462841100,45565298552268,528708092292432,6014054549826414,67257769817585340,741208075540736400 ⋆ (n^3+n^2)*9^n. • a(n) = 36 * a(n - 1) - 486 * a(n - 2) + 2916 * a(n - 3) - 6561 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A243215**] • 0,0,0,18,2593,39979,281514,1301950,4618099,13628193,35115244,81502564,174076485,347418199,655313518,1178436234,2034127639,3388621645,5472091824,8596923568,13179641449,19766948739,29066362930,41981957974,59655750843 ⋆ Number of 4-matchings of the n X n grid graph. • a(n) = (4 * n ^ 8 - 16 * n ^ 7 - 60 * n ^ 6 + 308 * n ^ 5 + 171 * n ^ 4 - 1942 * n ^ 3 + 872 * n ^ 2 + 3963 * n - 3366) / 6 for n>=4, a(3) = 18, a(n) = 0 for n<=2. •

[**A266804**] • 19,19,361,1795,14011,91489,638899,4348051,29883145,204609571,1402971259,9614651329,65903614291,451700107795,3096024736681,21220400800579,145446970016059,996907894114081,6832909585226995,46833455808339091,321001289959109449 ⋆ Coefficient of x^0 in the minimal polynomial of the continued fraction [1^n,sqrt(6),1,1,...], where 1^n means n ones. • a(n) = 5 * a(n - 1) + 15 * a(n - 2) - 15 * a(n - 3) - 5 * a(n - 4) + a(n - 5) . •

[**A241849**] • 19,20,23,28,35,44,55,68,83,100,119,140,163,188,215,244,275,308,343,380,419,460,503,548,595 ⋆ a(n) = n^2 + 19. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[**A151979**] • 0,1,19,20,38,39,57,58,76,77,95,96,114,115,133,134,152,153,171,172,190,191,209,210,228 ⋆ Numbers congruent to {0, 1} mod 19. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Colin Barker _ , Apr 09 2012 •

[**A022109**] • 1,19,20,39,59,98,157,255,412,667,1079,1746,2825,4571,7396,11967,19363,31330,50693,82023,132716,214739,347455,562194,909649 ⋆ Fibonacci sequence beginning 1, 19. • a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=19. a(- 1):=18. •

[**A041730**] • 19,20,39,59,98,157,569,726,2021,2747,10262,13009,23271,36280,59551,95831,3701129,3796960,7498089,11295049,18793138,30088187,109057699,139145886,387349471 ⋆ Numerators of continued fraction convergents to sqrt(385). • a(n) = 191662 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Nov 07 2013] •

[**A041724**] • 19,20,39,215,2619,2834,16789,19623,36412,92447,313753,406200,7625353,8031553,31720012,71471577,103191589,174663166,976507419,1151170585,14790554439,75103942780,89894497219 ⋆ Numerators of continued fraction convergents to sqrt(382). • a(n) = 329996879998 * a(n - 24) - a(n - 48) for n>47. [_ Bruno Berselli _ , Nov 08 2013] •

[**A041722**] • 19,20,39,488,527,1015,39097,40112,79209,990620,1069829,2060449,79366891,81427340,160794231,2010958112,2171752343,4182710455,161114749633,165297460088,326412209721,4082243976740,4408656186461,84909001632 01,327062862388099 ⋆ Numerators of continued fraction convergents to sqrt(381). • a(n) = 2030 * a(n - 6) - a(n - 12) for n>11. [_ Bruno Berselli _ , Nov 07 2013] •

[**A041736**] • 19,20,59,197,847,10361,11208,100025,111233,1434821,5850517,18986372,43823261,62809633,2430589315,2493398948,7417387211,24745560581,106399629535,1301541115001,1407940744536,12565067071289 ⋆ Numerators of continued fraction convergents to sqrt(388). • a(n) = 125619266 * a(n - 14) - a(n - 28) for n>27. [_ Bruno Berselli _ , Nov 08 2013] •

[**A041742**] • 19,20,79,178,435,613,1048,2709,52519,107747,160266,268013,696292,1660597,5678083,7338680,284547923,291886603,1160207732,2612302067,6384811866,8997113933,15381925799,39760965531 ⋆ Numerators of continued fraction convergents to sqrt(391). • a(n) = 14677360 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Nov 07 2013] •

[**A041746**] • 19,20,99,119,337,1467,1804,3271,5075,8346,105227,113573,218800,332373,551173,2537065,5625303,8162368,38274775,46437143,1802886209,18493323352,9200179617,11049502969 ⋆ Numerators of continued fraction convergents to sqrt(393). • a(n) = 92874286 * a(n - 20) - a(n - 40) for n>39. [_ Bruno Berselli _ , Nov 07 2013] •

[**A041748**] • 19,20,119,139,258,397,1449,1846,6987,36781,80549,197879,1069944,3407711,4477655,16840676,21318331,38159007,59477338,335545697,395023035,15346421027,15741444062,94053641337 ⋆ Numerators of continued fraction convergents to sqrt(394). • a(n) = 790046070 * a(n - 21) + a(n - 42) for n>41. [_ Bruno Berselli _ , Nov 07 2013] •

[**A041750**] • 19,20,139,159,6181,6340,44221,50561,1965539,2016100,14062139,16078239,625035221,641113460,4471715981,5112829441,198759234739,203872064180,1421991619819,1625863683999,63204811611781 ⋆ Numerators of continued fraction convergents to sqrt(395). • a(n) = 318 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 07 2013 •

[**A041754**] • 19,20,259,797,3447,31820,35267,102354,137621,377596,515217,892813,2300843,3193656,8688155,11881811,115624454,474379627,1538763335,18939539647,20478302982,797115052963,817593355945 ⋆ Numerators of continued fraction convergents to sqrt(397). • a(n) = 40956605964 * a(n - 21) + a(n - 42) for n>41. [_ Bruno Berselli _ , Nov 07 2013] •

[**A041179**] • 1,1,19,20,379,399,7561,7960,150841,158801,3009259,3168060,60034339,63202399,1197677521,1260879920,23893516081,25154396001,476672644099,501827040100,9509559365899,10011386405999,189714514673881,199725901079880,3784780734111721 ⋆ Denominators of continued fraction convergents to sqrt(99). • a(n) = 20 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 12 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (18 + 4 * cos ^ 2(k * Pi / n)). •

[**A041756**] • 19,20,379,399,15541,15940,302461,318401,12401699,12720100,241363499,254083599,9896540261,10150623860,192607769741,202758393601,7897426726579,8100185120180,153700758889819 ⋆ Numerators of continued fraction convergents to sqrt(398). • a(n) = 798 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 08 2013 •

[**A041757**] • 1,1,19,20,779,799,15161,15960,621641,637601,12098459,12736060,496068739,508804799,9654555121,10163359920,395862232081,406025592001,7704322888099,8110348480100,315897565131899,324007913611999,6148040010147881,6472047923759880 ⋆ Denominators of continued fraction convergents to sqrt(398). • a(n) = 798 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 24 2013 •

[**A041758**] • 19,20,779,799,31141,31940,1244861,1276801,49763299,51040100,1989287099,2040327199,79521720661,81562047860,3178879539341,3260441587201,127075659852979,130336101440180,5079847514579819,5210183616019999,203066824923339781 ⋆ Numerators of continued fraction convergents to sqrt(399). • a(n) = 40 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 07 2013 •

[**A042735**] • 1,1,19,20,1179,1199,22761,23960,1412441,1436401,27267659,28704060,1692103139,1720807199,32666632721,34387439920,2027138148081,2061525588001,39134598732099,41196124320100,2428509809297899,2469705933617999,46883216614421881 ⋆ Denominators of continued fraction convergents to sqrt(897). • a(n) = 1198 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 27 2014 •

[**A129071**] • 19,25,37,49,73,85,109,121,145,181,193,229,253,265,289,325,361,373,409,433,445,481,505,541,589 ⋆ Numbers n such that (n-7)/6 is prime. • a(n) = 6 * prime(n) + 7. - Zak Seidov, May 12 2007 •

[**A259054**] • 19,27,43,67,99,139,187,243,307,379,459,547,643,747,859,979,1107,1243,1387,1539,1699,1867,2043,2227,2419 ⋆ a(n) = 4*n^2 - 4*n + 19, n >= 1. • a(n) = 4 * n ^ 2 - 4 * n + 19, n >= 1. •

[**A141417**] • 1,1,1,1,19,27,863,1375,33953,57281,3250433,5675265,13695779093,24466579093,132282840127,240208245823,111956703448001,205804074290625,151711881512390095,281550972898020815,865600562642898602 03,161867055619224199787,209538162862426744951 91,394279360104794744951 91 ⋆ (-1)^(n+1)*A091137(n)*a(0,n), where a(i,j) = int_{x=i..i+1} x*(x-1)*(x-2)*..*(x-j+1)/j! dx. • a(i,j) = a(i - 1,j) + a(i - 1,j - 1), see reference page 33. • a(n) = numerator(n * (n + 1) * Sum _{ k=1..n } ((- 1) ^ (n - k) * stirling2(n + k,k) * binomial(2 * n - 1,n - k)) / ((n + k) * (n + k - 1))), n>0, a(0)= - 1. - _ Vladimir Kruchinin _ , Dec 12 2016 •

[**A264834**] • 1,19,27,1293,41419,41493,41519,41521,41601 ⋆ Integers k such that A008347(k) is divisible by k. • a(n) mod 2 = 1. •

[**A094677**] • 19,28,37,46,55,64,73,82,91,109,118,127,136,145,154,163,172,181,190,208,217,226,235,244,253 ⋆ Sum of digits is divisible by 10. • a(n)=10n + r(n) where r(n) takes values in { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 } . •

[**A121458**] • 1,1,19,28,406,721,8722,17983,188209,438697,4078270,10530100,88714549,249679990,1936716229,5864281633,42418800739,136706927896,931844786950,3167777090989,20525689021222,73046232419419,453213909082585 ⋆ Expansion of (1+x-2*x^2)/(1-21*x^2-7*x^3). • a(0)=a(1)=1, a(2)=19, a(n + 1) = 21 * a(n - 1) + 7 * a(n - 2) for n>=2. • a(n) = (1 / 7) * ((s(2)) ^ 2 * (1 + 3 * c(1)) ^ n + (s(4)) ^ 2 * (1 + 3 * c(2)) ^ n + (s(1)) ^ 2 * (1 + 3 * c(4)) ^ n), where c(j):=2 * cos(2 * Pi * j / 7) and s(j):=2 * sin(2 * Pi * j / 7) (for the proof see Witula - Slota - Warzynski paper). - _ Roman Witula _ , Aug 11 2012 •

[**A265804**] • 1,19,29,95,229,619,1601,4211,11005,28831,75461,197579,517249,1354195,3545309,9281759,24299941,63618091,166554305,436044851,1141580221,2988695839,7824507269,20484825995,53629970689 ⋆ Coefficient of x^2 in minimal polynomial of the continued fraction [1^n,5,1,1,1,...], where 1^n means n ones. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). •

[**A184750**] • 0,0,0,0,19,32,48,67,89,114,142,173,207,244,284,327,373,422,474,529,587,648,712,779,849 ⋆ a(n) = largest k such that A000326(n+1) = A000326(n) + (A000326(n) mod k), or 0 if no such k exists. • a(n) = (3n ^ 2 - 7n - 2) / 2 for n >= 5 and a(n) = 0 for n <= 4. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(

n - 3) for n>7. G.f.: x ^ 5 * (9 * x ^ 2 - 25 * x + 19) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 05 2014 •

[A161705] • 1,19,37,55,73,91,109,127,145,163,181,199,217,235,253,271,289,307,325,343,361,379,397,415,433 ⋆ a(n) = 18*n + 1. • a(n) = 18 * n + 1, n >= 0. • a(n) = a(n - 1) + 18 (with a(0)=1). - _ Vincenzo Librandi _ , Dec 27 2010 • a(n) = 2 * a(n - 1) - a(n - 2). (End) •

[A131600] • 19,37,55,397,1063,2053,9199,28333,65287,230869,740863,1916029,6071671,19407205,53895727,163185805,512515495,1482638581,4419983071,13645261981,40332756439,119892451717,365507167375,1091496783277,3249560914183 ⋆ Number of different configurations of an n-block of a shift space with k symbols where each symbol but the first must appear isolated and separated from others by a block of length at least m made of first symbols. Here k=19 and m=2. • a(n) = a(n - 1) + (k - 1) * a(n - m - 1), where k=19, m=2. •

[A008601] • 0,19,38,57,76,95,114,133,152,171,190,209,228,247,266,285,304,323,342,361,380,399,418,437,456 ⋆ Multiples of 19. • a(n) = 19 * n = 2 * a(n - 1) - a(n - 2). G.f.: 19x / (x - 1) ^ 2. - _ Vincenzo Librandi _ , Dec 24 2010 •

[A041712] • 19,39,58,97,349,446,1241,2928,12953,28834,70621,99455,368986,468441,837427,2143295,82282637,166708569,248991206,415699775,1496090531,1911790306,5319671143,12551132592 ⋆ Numerators of continued fraction convergents to sqrt(376). • a(n) = 4286590 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Nov 08 2013] •

[A042629] • 1,19,39,58,329,387,1490,1877,3367,5244,8611,13855,36321,231781,268102,2108495,4485092,15563771,35612634,86789039,990292063,4047957291,5038249354,19162705353,273316124296 ⋆ Denominators of continued fraction convergents to sqrt(844). • a(n) = 309924629320335257289998 * a(n - 48) - a(n - 96) for n>95. - _ Vincenzo Librandi _ , Jan 26 2014 •

[A079044] • 19,39,59,78,98,118,138,157,177,197,217,236,256,276,296,315,335,355,375,394,414,434,454,473,493 ⋆ Numbers n such that sum(k=0,n,sin(k/Pi)) < 0. • a(n) is asymptotic to c * n where c=19.7... •

[A195048] • 0,1,19,39,76,115,171,229,304,381,475,571,684,799,931,1065,1216,1369,1539,1711,1900,2091,2299,2509,2736 ⋆ Concentric 19-gonal numbers. • a(n) = 19 * n ^ 2 / 4 + 15 * ((- 1) ^ n - 1) / 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: x * (1 + 17 * x + x ^ 2) / ((1 - x) ^ 3 * (1 + x)). - _ Colin Barker _ , Sep 16 2012 •

[A041718] • 19,39,292,915,2122,5159,33076,402071,435147,2142659,2577806,4720465,7298271,26615278,113759383,2188043555,8865933603,28785844364,37651777967,66437622331,104089400298,482795223523 ⋆ Numerators of continued fraction convergents to sqrt(379). • a(n) = 25882394441081380 * a(n - 30) - a(n - 60) for n>59. [_ Bruno Berselli _ , Nov 06 2013] •

[A041720] • 19,39,1501,3041,117059,237159,9129101,18495361,711952819,1442400999,55523190781,112488782561,4330096928099,8772682638759,337692037200941,684156757040641,26335648804745299,53355454366531239 ⋆ Numerators of continued fraction convergents to sqrt(380). • a(n) = 78 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 07 2013 •

[A098850] • 0,19,40,63,88,115,144,175,208,243,280,319,360,403,448,495,544,595,648,703,760,819,880,943,1008 ⋆ a(n) = n*(n + 18). • a(n) = (n + 9) ^ 2 - 9 ^ 2 = n * (n + 18), n>=0. • a(n) = 2 * n + a(n - 1) + 17 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 17 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A248339] • 19,41,63,85,107,129,151,173,195,217,239,261,283,305,327,349,371,393,415,437,459,481,503,525,547 ⋆ a(n) = 22*n+19. • a(n) = 22 * n + 19. • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: (3 * x + 19) / (x - 1) ^ 2. - _ Colin Barker _ , Oct 05 2014 •

[A139580] • 0,19,42,69,100,135,174,217,264,315,370,429,492,559,630,705,784,867,954,1045,1140,1239,1342,1449,1560 ⋆ a(n) = n(2n+17). • a(n) = 2 * n ^ 2 + 17 * n. • a(n) = a(n - 1) + 4 * n + 15; a(0) = 0. - _ Vincenzo Librandi _ , Nov 24 2010 •

[A063313] • 1,19,44,67,94,117,144,165,194,215,244,263,294,313,344,361,394,411,444,459,494,509,544,557,594 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(40). • a(n) = a(n - 2) + a(n - 4) - a(n - 6) for n>8. •

[A140680] • 0,19,44,75,112,155,204,259,320,387,460,539,624,715,812,915,1024,1139,1260,1387,1520,1659,1804,1955,2112 ⋆ a(n) = n*(3*n+16). • a(n) = 3 * n ^ 2 + 16 * n. • a(n) = 6 * n + a(n - 1) + 13 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A183624] • 19,45,115,309,859,2445,7075,20709,61099,181245,539635,1610709,4815739,14414445,43177795,129402309,387944779,1163310045,3488881555,10464547509,31389448219,94159956045,282463090915,847355718309,2542000046059 ⋆ Number of (n+1) X 2 0..2 arrays with every 2 x 2 subblock summing to 4. • a(n) = 2 + 2 ^ (2 + n) + 3 ^ (1 + n). •

[A166148] • 1,19,46,82,127,181,244,316,397,487,586,694,811,937,1072,1216,1369,1531,1702,1882,2071,2269,2476,2692,2917 ⋆ (9n^2 + 9n - 16)/2. • a(n) = a(n - 1) + 9 * n with n>1, a(1)=1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A156376] • 19,49,79,109,139,169,199,229,259,289,319,349,379,409,439,469,499,529,559,589,619,649,679,709,739 ⋆ a(n) = 30*n + 19. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A051871] • 0,1,19,54,106,175,261,364,484,621,775,946,1134,1339,1561,1800,2056,2329,2619,2926,3250,3591,3949,4324,4716 ⋆ 19-gonal (or enneadecagonal) numbers: n(17n-15)/2. • a(n) = n(17n - 15) / 2. • a(n) = 17 * n + a(n - 1) - 16 (with a(0) = 0). - _ Vincenzo Librandi _ , Aug 06 2010 • a(17 * a(n) + 137 * n + 1) = a(17 * a(n) + 137 * n) + a(17 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069131] • 1,19,55,109,181,271,379,505,649,811,991,1189,1405,1639,1891,2161,2449,2755,3079,3421,3781,4159,4555,4969,5401 ⋆ Centered 18-gonal numbers. • a(n) = 9 * n ^ 2 - 9 * n + 1. • a(n) = 18 * n + a(n - 1) - 18 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(1)=1, a(2)=19, a(3)=55, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jan 20 2014 •

[A125818] • 1,1,19,55,433,1801,10963,52543,291457,1476145,7907059,40908583,216237169,1127920249,5931872371,31038388975,162918608257,853489829084476595998547,23462519091607,123027170158513,644917164874345,3381296222443411,17726184247750687 ⋆ a(n)=((1 + 3Sqrt[2])^n + (1 - 3Sqrt[2])^n)/(2). • a(0)=1, a(1)=1, a(n)=2 * a(n - 1) + 17 * a(n - 2) for n>=2 . G.f.:(1 - x) / (1 - 2 * x - 17 * x ^ 2) - _ Philippe Deléham _ , Dec 12 2006 •

[A250024] • 19,59,99,139,179,219,259,299,339,379,419,459,499,539,579,619,659,699,739,779,819,859,899,939,979 ⋆ 40n - 21. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Nov 11 2014 •

[A093485] • 1,19,64,136,235,361,514,694,901,1135,1396,1684,1999,2341,2710,3106,3529,3979,4456,4960,5491,6049,6634,7246,7885 ⋆ (27*n^2 + 9*n + 2)/2. • a(n) = (n + 1) * (3 * (n + 1) - 1) * (3 * (n + 1) - 2) / 2 - n * (3 * n - 1) * (3 * n - 2) / 2. •

[A165806] • 19,67,145,253,391,559,757,985,1243,1531,1849,2197,2575,2983,3421,3889,4387,4915,5473,6061,6679,7327,8005,8713,9451 ⋆ a(n) = 15n^2 + 3n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A172078] • 0,1,19,70,170,335,581,924,1380,1965,2695,3586,4654,5915,7385,9080,11016,13209,15675,18430,21490,24871,28589,32660,37100 ⋆ a(n) = (16*n^3+3*n^2-13*n)/6. • a(n) = n * (n + 1) * (16 * n - 13) / 6. • a(n) = Sum _{ i=0..n - 1 } (n - i) * (16 * i + 1), with a(0)=0. - _ Bruno Berselli _ , Feb 10 2014 •

[A157889] • 19,73,163,289,451,649,883,1153,1459,1801,2179,2593,3043,3529,4051,4609,5203,5833,6499,7201,7939,8713,9523,10369,11251 ⋆ 18n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 05 2012 •

[A244631] • 0,19,76,171,304,475,684,931,1216,1539,1900,2299,2736,3211,3724,4275,4864,5491,6156,6859,7600,8379,9196,10051,10944 ⋆ 19*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A213832] • 1,19,78,202,415,741,1204,1828,2637,3655,4906,6414,8203,10297,12720,15496,18649,22203,26182,30610,35511,40909,46828,53292,60325 ⋆ Principal diagonal of the convolution array A213831. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = (n - 7 * n ^ 2 + 8 * n ^ 3) / 2. • a(n) = Sum _{ i = 0..n - 1 } (n + i) * (n + 3 * i). - _ Bruno Berselli _ , Feb 14 2018 •

[A158491] • 19,79,179,319,499,719,979,1279,1619,1999,2419,2879,3379,3919,4499,5119,5779,6479,7219,7999,8819,9679,10579,11519,12499 ⋆ 20n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A063496] • 1,19,85,231,489,891,1469,2255,3281,4579,6181,8119,10425,13131,16269,19871,23969,28595,33781,39559,45961,53019,60765,69231,78449 ⋆ a(n) = (2*n-1)*(8*n^2-8*n+3)/3. • a(n + 1) = integral((sin((n + 1 / 2)x) / sin(x / 2)) ^ 4, x=0..Pi) / Pi. - _ Yalcin Aktar _ , Nov 02 2011, corrected by _ R. J. Mathar _ , Dec 01 2011 •

[A027005] • 1,19,101,370,1148,3278,8967,23993,63483,167040,438346,1148844,3009181,7879855,20631713,54016798,141420392,370246298,969320643,2537718005,6643835991,17393792844,45537545686,119218847640,312119000953 ⋆ a(n) = T(2*n+1,n+2), T given by A026998. • a(n) = (- 6 + (2 ^ (- 1 - n) * ((3 - sqrt(5)) ^ n * (- 25 + 11 * sqrt(5)) + (3 + sqrt(5)) ^ n * (25 + 11 * sqrt(5)))) / sqrt(5) + 7 * (1 + n) - 6 * (1 + n) * (2 + n)). • a(n) = 6 * a(n - 1) - 13 * a(n - 2) + 13 * a(n - 3) - 6 * a(n - 4) + a(n - 5) for n>5. •

[A191566] • 1,1,19,109,811,5581,39259,274429,1921771,13450861,94159099,659107549,4613765131,32296331341,226074368539,1582520481469,11077643566891,77543504575021,542804532811579,3799631728108189 ⋆ a(n) = 7*a(n-1) + ((-1)^n)*6*2^(n-1). • a(n) = (7 ^ n + 2 * (- 2) ^ n) / 3 - _ Charles R Greathouse IV _ , Jun 06 2011 • a(n)= 5 * a(n - 1) + 14 * a(n - 2). •

[A164604] • 1,19,113,659,3841,22387,130481,760499,4432513,25834579,150574961,877615187,5115116161,29813081779,173763374513,1012767165299,5902839617281,34404270538387,200522783613041,1168732431139859 ⋆ a(n) = ((1+4*sqrt(2))*(3+2*sqrt(2))^n + (1-4*sqrt(2))*(3-2*sqrt(2))^n)/2. • a(n) = 6 * a(n - 1) - a(n - 2) for n > 1; a(0) = 1, a(1) = 19. •

[A213556] • 1,19,118,446,1271,3017,6300,11964,21117,35167,55858,85306,126035,181013,253688,348024,468537,620331,809134,1041334,1324015,1664993,2072852,2556980,3127605 ⋆ Principal diagonal of the convolution array A213555. • a(n) = (9 * n ^ 5 + 15 * n ^ 4 + 5 * n ^ 3 + n) / 30. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A252054] • 19,121,176,725,1471,5041,11989,37584,97021,290521,783511,2289869,6323504,18241441,51026011,146160725,411720121,1174844176,3322046089,9459791909,26804466571,76241702161,216275875376,614789884829,1745053751719 ⋆ Number of perfect matchings in the P_4 X C_n graph. • a(n) = product(13 - 14 * cos(2 * (2 * j - 1) * Pi / n) + 2 * cos(4 * (2 * j - 1) * Pi / n), j =1..floor(n / 2)). • a(n) = a(n - 1) + 13 * a(n - 2) - 7 * a(n - 3) - 61 * a(n - 4) + 12 * a(n - 5) + 128 * a(n - 6) - 128 * a(n - 8) - 12 * a(n - 9) + 61 * a(n - 10) + 7 * a(n - 11) - 13 * a(n - 12) - a(n - 13) + a(n - 14). •

[A070302] • 1,19,121,439,1171,2581,4999,8821,14509,22591,33661,48379,67471,91729,122011,159241,204409,258571,322849,398431,486571,588589,705871,839869,992101 ⋆ Number of 3 X 3 X 3 magic cubes with sum 3n. • a(n) = 25 * n ^ 2 / 4 - 7 * n / 2 - 11 * n ^ 3 / 2 + 11 * n ^ 4 / 4 + 1. - _ R. J. Mathar _ , Sep 04 2011 •

[A182193] • 1,1,19,125,743,4345,25339,147701,860879,5017585,29244643,170450285,993457079,5790292201,33748296139,196699484645,1146448611743,6681992185825,38945504503219,226991034833501,1323000704497799,7711013192153305,44943078448422043 ⋆ Sequence of row differences related to table A182355.

• a(n) = 6 * a(n - 1) - a(n - 2) + 12. • a(0)= - 1, a(1)=1, a(2)=19, a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 09 2014 • a(n) = (- 3 + 1 / 4 * (3 - 2 * sqrt(2)) ^ n * (4 + sqrt(2)) - 1 / 4 * (- 4 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n). •

[A169727] • 1,19,127,631,2791,11719,48007,194311,781831,3136519,12564487,50294791,201252871,805158919,3220930567,12884312071,51538427911,206156070919,824629002247,3298525446151,13194120658951,52776520384519,211106157035527,844424779137031 ★ a(n) = 3*(2^(n+1)-2)*(2^(n+1)-1) + 1. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). •

[A085464] • 1,19,134,586,1919,5173,12124,25572,49677,90343,155650,256334,406315,623273,929272,1351432,1922649,2682363,3677374,4962706,6602519,8671069,11253716,14447980,18364645 ★ Number of monotone n-weightings of complete bipartite digraph K(4,2). • a(n) = n + 17 * binomial(n, 2) + 80 * binomial(n, 3) + 160 * binomial(n, 4) + 144 * binomial(n, 5) + 48 * binomial(n, 6). • a(n) = (1 / 30) * n * (n + 1) * (2 * n ^ 4 + 4 * n ^ 3 + 6 * n ^ 2 + 4 * n - 1). • a(n) = Sum _{ i=1..n } ((n + 1 - i) ^ 4 - (n - i) ^ 4) * i ^ 2. • a(n) = Sum _{ i=1..n } ((n + 1 - i) ^ 2 - (n - i) ^ 2) * i ^ 4. • a(n) = sum(i=1..n, sum (j=1..n, min(i,j) ^ 4)). - _ Enrique Pérez Herrero _ , Jan 16 2013 •

[A215863] • 0,19,135,540,1610,3990,8694,17220,31680,54945,90805,144144,221130,329420,478380,679320,945744,1293615,1741635,2311540,3028410,3920994,5022050,6368700,8002800 ★ Number of simple labeled graphs on n+3 nodes with exactly n connected components that are trees or cycles. • a(n) = C(n + 3,4) * (n ^ 2 + 13 * n + 24) / 2. •

[A101090] • 1,19,135,605,2054,5778,14178,31350,63855,121693,219505,378027,625820,1001300,1555092,2352732,3477741,5035095,7155115,9997801,13757634,18668870,25011350,33116850,43375995 ★ Third partial sums of fourth powers (A000583). • a(n) = (n * (1 + n) * (2 + n) * (3 + n) * (3 + 2 * n) * (- 1 + 2 * n * (3 + n))) / 840. • a(n)= (2 * n + 3) * (12 * n ^ 2 + 36 * n - 6) * (n + 3)! / (5040 * (n - 1)!), n>0 - _ Gary Detlefs _ , Mar 01 2013 •

[A060104] • 1,19,140,660,2370,7062,18348,42900,92235,185185,351208,634712,1100580,1841100,2984520,4705464,7237461,10887855,16055380,23250700,33120230,46473570,64314900,87878700 ★ Fifth column (m=4) of triangle A060102. • a(n)=(2 * n ^ 2 + 10 * n + 7) * binomial(n + 6, 6) / 7. • a(0)=1, a(1)=19, a(2)=140, a(3)=660, a(4)=2370, a(5)=7062, a(6)=18348, a(7)=42900, a(8)=92235, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Nov 08 2012 •

[A110694] • 1,19,142,664,2330,6726,16848,37884,78243,150865,274846,477412,796276,1282412,2003280,3046536,4524261,6577743,9382846,13156000,18160846,24715570,33200960,44069220,57853575 ★ Kekulé numbers for certain benzenoids. • a(n) = (n + 1) * (n + 2) * (n + 3) * (n + 4) * (34 * n ^ 3 + 199 * n ^ 2 + 355 * n + 210) / 7!. • a(0)=1, a(1)=19, a(2)=142, a(3)=664, a(4)=2330, a(5)=6726, a(6)=16848, a(7)=37884, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Feb 16 2014 •

[A081590] • 1,19,145,595,1585,3331,6049,9955,15265,22195,30961,41779,54865,70435,88705,109891,134209,161875,193105,228115,267121,310339,357985,410275,467425 ★ Fourth row of Pascal-(1,5,1) array A081580. • a(n)=1 + 36 * n - 54 * n ^ 2 + 36 * n ^ 3. G.f. (1 + 5x) ^ 3 / (1 - x) ^ 4. • a(0)=1, a(1)=19, a(2)=145, a(3)=595, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Sep 07 2011] •

[A093646] • 1,19,145,715,2695,8437,23023,56485,127270,267410,529958,999362,1805570,3142790,5293970,8662214,13810511,21511325,32807775,49088325,72177105,104442195,148924425,209489475,291006300 ★ Higher dimensional figurate numbers based on 12-gonal numbers A051624. • a(n)= (10 * n + 9) * binomial(n + 8, 8) / 9. G.f.: (1 + 9 * x) / (1 - x) ^ 10. •

[A107891] • 1,19,155,805,3136,9996,27468,67320,150645,313027,611611,1134497,2012920,3436720,5673648,9093096,14194881,21643755,32310355,47319349,68105576,96479020,134699500,185562000,252493605 ★ a(n) = (n+1)*(n+2)^2*(n+3)/2880 (A000537). • a(n) = (n^4 + 15n + 20)/2880. • a(n - 2) = 1 / 8 * sum { 1 <= x _ 1, x _ 2 <= n } (x _ 1 * x _ 2) ^ 2 * (det V(x _ 1,x _ 2)) ^ 2 = 1 / 8 * sum { 1 <= i,j <= n } (i * j * (i - j)) ^ 2, where V(x _ 1,x _ 2 } is the Vandermonde matrix of order 2. - _ Peter Bala _ , Sep 21 2007 •

[A261791] • 19,157,532,1263,2467,4263,6770,10106,14389,19739,26272,34109,43367,54164,66619,80851,96978,115119,135391,157913,182804,210183,240166,272874,308425 ★ The integer part of the surface area of the 4-dimensional sphere of radius n. • a(n) = floor(2 * Pi ^ 2 * n ^ 3). •

[A008419] • 1,19,181,1159,5641,22363,75517,224143,598417,1462563,3317445,7059735,14218905,27298155,50250765,89129247,152951073,254831667,413442773,654862247,1014889769,1541911931,2300409629,3375210671,4876601009 ★ Crystal ball sequence for 9-dimensional cubic lattice. • a(n) = (4 * n ^ 9 + 18 * n ^ 8 + 240 * n ^ 7 + 756 * n ^ 6 + 3612 * n ^ 5 + 7182 * n ^ 4 + 14360 * n ^ 3 + 14724 * n ^ 2 + 10134 * n + 2835) / 2835 - _ Johannes W. Meijer _ , Jul 14 2013 • a(0)=1, a(1)=19, a(2)=181, a(3)=1159, a(4)=5641, a(5)=22363, a(6)=75517, a(7)=224143, a(8)=598417, a(9)=1462563, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Jul 25 2013 •

[A211866] • 1,19,181,1639,14761,132859,1195741,10761679,96855121,871696099,7845264901,70607384119,635466457081,5719198113739,51472783023661,463255047212959,4169295424916641,37523658824249779,337712929418248021,3039416364764232199,27354747282878089801 ★ (9^n - 5) / 4. • a(n) = 9 * a(n - 1) + 10, a(1) = 1. - _ Philippe Deléham _ , Feb 24 2014 •

[A193575] • 0,19,189,936,3250,9045,21609,46144,90396,165375,286165,472824,751374,1154881,1724625,2511360,3576664,4994379,6852141,9253000,12317130,16183629,21012409,26986176,34312500 ★ T(n)^3 - n^3 where T(n) is a triangular number. • a(n) = (n ^ 3 * (n ^ 3 + 3 * n ^ 2 + 3 * n - 7) / 8) = (1 / 8) * (n - 1) * (n ^ 2 + 4 * n + 7) * n ^ 3. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). • a(n) = sum _{ i=1..n } sum _{ j=1..n } sum _{ k=1..n } (i * j * k - 1). •

[A139619] • 19,190,361,532,703,874,1045,1216,1387,1558,1729,1900,2071,2242,2413,2584,2755,2926,3097,3268,3439,3610,3781,3952,4123 ★ a(n) = 171*n + 19. • a(n) = 2 * a(n - 1) - a(n - 2) for n > 1. •

[A247614] • 1,19,190,1330,7315,33649,134596,480700,1562275,4686825,13079352,34084128,83204745,191006115,414237570,852920310,1675575165,3155247975,5719519850,10018268150,17013571223,28096825757,45238870040,71179679480,109665022415 ★ a(n) = Sum_{k=0..9} binomial(18,k)*binomial(n,k). • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). • a(n) = (181440 + 462101904 * n - 1283316876 * n ^ 2 + 1433031524 * n ^ 3 - 853620201 * n ^ 4 + 303063726 * n ^ 5 - 66245634 * n ^ 6 + 8905416 * n ^ 7 - 678249 * n ^ 8 + 24310 * n ^ 9) / 181440. •

[A010971] • 1,19,190,1330,7315,33649,134596,480700,1562275,4686825,13123110,34597290,86493225,206253075,471435600,1037158320,2203961430,4537567650,9075135300,17672631900,33578000610,62359143990,113380261800,202112640000,353697121050 ★ a(n) = binomial(n,18). • a(n + 17) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) * (n + 10) * (n + 11) * (n + 12) * (n + 13) * (n + 14) * (n + 15) * (n + 16) * (n + 17) / 18!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 •

[A135162] • 0,1,19,199,1711,13471,101359,743359,5367871,38381311,272651599,1928323519,13596619231,95666721151,672114790639,4717029615679,33080299697791,231867445524991,1624598513486479,11379820537307839,79696895380235551,558069016466824831,3907436831415107119 ★ a(n) = 7^n - 5^n - 3^n + 2^n. Constants are the prime numbers in decreasing order. • a(n) = 7 ^ n - 5 ^ n - 3 ^ n + 2 ^ n. • a(0)=0, a(1)=1, a(2)=19, a(3)=199, a(n) = 17 * a(n - 1) - 101 * a(n - 2) + 247 * a(n - 3) - 210 * a(n - 4). - _ Harvey P. Dale _ , Dec 13 2013 •

[A067272] • 1,19,199,1999,19999,199999,1999999,19999999,199999999,1999999999,19999999999,199999999999,1999999999999,19999999999999,199999999999999,1999999999999999,19999999999999999,199999999999999999 ★ 2*10^(n-1)-1. • a(n) = 2 * 10 ^ (n - 1) - 1 - _ Benoit Cloitre _ , Feb 28 2002 • a(n) = 10 * a(n - 1) + 9. - _ Vincenzo Librandi _ , Nov 01 2011 •

[A113596] • 0,1,19,200,1320,6230,23086,71484,192900,467115,1036585,2140996,4164524,7698600,13623260,23210440,38252856,61222389,95462175,145416880,216905920,317444666,456618954,646518500,902235100 ★ P(P(n))-P(P(n-1)), where P(n) = n(n+1)(n+2)/6 (cf. A000292). • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) •

[A155670] • 1,19,201,2059,21201,220099,2303001,24270139,257405601,2745368179,29424209001,316692730219,3420857913201,37064577972259,402626626038201,4383139301510299,47802750052424001,522124210198960339 ★ 11^n+9^n-1^n • a(n)=20 * a(n - 1) - 99 * a(n - 2) - 80 with a(0)=1, a(1)=19 - _ Vincenzo Librandi _ , Jul 21 2010 •

[A032613] • 19,210,311,412,513,614,715,816,917,1018,1119,1220,1321,1422,1523,1624,1725,1826,1927,2028,2129,2230,2331,2432,2533 ★ Concatenation of n and n + 8 or {n,n+8}. • a(n)=n * 10 ^ floor(log10(n + 8) + 1) + n + 8, with n>=0 [From _ Paolo P. Lava _ , Oct 09 2008] •

[A220978] • 1,19,217,2107,19441,176419,1592137,14342347,129120481,1162202419,10460176057,94142647387,847287015121,7625592702019,68630363015977,617673353237227,5559060437415361,50031544711579219,450283904728735897,4052555153291867 ★ a(n) = 3^(2*n+1) - 3^(n+1) + 1: The left Aurifeuillian factor of 3^(6*n+3) + 1. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). •

[A028026] • 1,19,230,2270,19971,163569,1278040,9670540,71557541,521211119,3754036650,26822296410,190541788711,1347984742669,9507913700060,66919750327880,470277075161481,3301201972518219,23154999755212270 ★ Expansion of 1/((1-3x)(1-4x)(1-5x)(1-7x)). • a(n) = (7 ^ (n + 3) - 6 * 5 ^ (n + 3) + 8 * 4 ^ (n + 3) - 3 ^ (n + 4)) / 24. - _ Yahia Kahloune _ , May 22 2013. •

[A025965] • 1,19,233,2351,21273,179823,1452361,11360767,86821625,652052687,4832272809,35441720223,257820455257,1863247878511,13394300154377,95871638560319,683779284669369,4862556240775695,34494638612661865 ★ Expansion of 1/((1-2x)(1-4x)(1-6x)(1-7x)). • a(n) = - 2 ^ n / 5 + 16 * 4 ^ n / 3 - 27 * 6 ^ n / 1 + 343 * 7 ^ n / 15. - _ R. J. Mathar _ , Jun 20 2013 •

[A025960] • 1,19,235,2415,22491,197799,1679875,13959055,114403531,929407479,7508252115,60439364895,485415209371,3892957335559,31192373841955,249784713973935,1999514917852011,16002339732726039 ★ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-8x)). • a(n) = (8 ^ (n + 3) - 8 * 5 ^ (n + 3) + 9 * 4 ^ (n + 3) - 2 ^ (n + 4)) / 72. [_ Yahia Kahloune _ , May 25 2013] •

[A022033] • 1,19,236,2426,22407,193305,1591402,12667072,98321333,748601711,5614533288,41608696038,305407826179,2224262385637,16095911708294,115865978983724,830420169903345,5930044765743483,42217703190306820 ★ Expansion of 1/((1-x)(1-5x)(1-6x)(1-7x)). • a(n) = (10 * 7 ^ (n + 3) - 24 * 6 ^ (n + 3) + 15 * 5 ^ (n + 3) - 1) / 120. - _ Yahia Kahloune _ , May 22 2013. • a(0)=1, a(1)=19, a(2)=236, a(3)=2426; for n>3, a(n) = 19 * a(n - 1) - 125 * a(n - 2) + 317 * a(n - 3) - 210 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 • a(0)=1, a(1)=19; for n>1, a(n) = 13 * a(n - 1) - 42 * a(n - 2) + (5 ^ n -

1) / 4. - _ Vincenzo Librandi _ , Jul 12 2013 ●

[A025938] ● 1,19,237,2471,23429,210063,1818349,15380167,128060757,1054660607,8618507261,70035919863,566816115685,4573706232751,36824728021773,296008336113959,2376529889559413,19063018707520095 ★ Expansion of 1/((1-2x)(1-3x)(1-6x)(1-8x)). ● a(n) = (2 * 8 ^ (n + 3) - 5 * 6 ^ (n + 3) + 8 * 3 ^ (n + 3) - 5 * 2 ^ (n + 3)) / 120. - _ Yahia Kahloune _ , May 24 2013 ●

[A229026] ● 1,19,238,2490,23631,211509,1823908,15348100,127057261,1040261799,8453319978,68343722910,550640774491,4426107030889,35521389816448,284771933350920,2281370275767321,18267889925254779,146232526369201318,1170331087647336130,9365122293936867751 ★ Expansion of 1/((1-x)*((1-5x)^2)*(1-8x)). ● a(n) = (2 * 8 ^ (n + 4) - (84 * n + 287) * 5 ^ (n + 2) - 9) / 1008. ●

[A021814] ● 1,19,239,2519,24135,218343,1903783,16194343,135426599,1118993447,91668296607,74629521447,604827848743,4885462331431,39365093814311,316610553147431,2543028967600167,20405121901817895 ★ Expansion of 1/((1-x)(1-4x)(1-6x)(1-8x)). ● a(n) = - 1 / 105 + 2 ^ (2n + 3) / 3 - 2 ^ (n + 1) * 3 ^ (n + 3) / 5 + 8 ^ (n + 2) / 7. [_ Bruno Berselli _ , May 08 2013] ●

[A025933] ● 1,19,240,2570,25391,240489,2226310,20352640,184772181,1670999759,15079423580,135917468310,1224272081371,11023527831829,99237160300050,893261534749580,8039989402000961,72363082951440699,651283639391863720,5861632222156996450,52755087348022338951 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-9x)). ● a(0)=1, a(1)=19, a(2)=240; a(n)=(9 ^ (n + 3) - 7 * 5 ^ (n + 3) + 14 * 3 ^ (n + 3) - 8 * 2 ^ (n + 3)) / 168. [_ Yahia Kahloune _ , May 08 2013] ●

[A021544] ● 1,19,242,2606,25659,239313,2153884,18910012,163042517,1386706607,11670306726,97399296618,807453069775,6657437827501,54644202679568,446846543376824,3642622865166633,29615936742107595 ★ Expansion of 1/((1-x)(1-3x)(1-7x)(1-8x)). ● a(n) = (3 * 8 ^ (n + 4) - 5 * 7 ^ (n + 4) + 7 * 3 ^ (n + 4) - 10) / 840. - _ Yahia Kahloune _ , May 24 2013 ● a(0)=1, a(1()=19; for n>1, a(n) = 15 * a(n - 1) - 56 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 11 2013 ● a(0)=1, a(1)=19, a(2)=242, a(3)=2606; for n>3, a(n) = 19 * a(n - 1) - 119 * a(n - 2) + 269 * a(n - 3) - 168 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 ●

[A021772] ● 1,19,242,2618,26103,248997,2316784,21251956,193359485,1751044295,15814841406,142616378814,1284983809747,11572125768313,104185847231708,937857633325592,8441649467754489,75979521955403451 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-9x)). ● a(0)=1, a(1)=19, a(2)=242, a(3)=2618, a(n)=19 * a(n - 1) - 119 * a(n - 2) + 281 * a(n - 3) - 180 * a(n - 4). [_ Harvey P. Dale _ , Jul 23 2011] ● a(n) = (3 * 9 ^ (n + 3) - 30 * 5 ^ (n + 3) + 32 * 4 ^ (n + 3) - 5) / 480. - _ Yahia Kahloune _ , May 23 2013. ●

[A019783] ● 1,19,243,2615,25571,235599,2086603,17981815,151979091,1266533279,10446235163,85502523015,695860175011,5639142048559,45552803794923,367090952376215,2952891339001331,23720875971413439 ★ Expansion of 1/((1-5x)(1-6x)(1-8x)). ● a(n) = [(8 ^ (n + 2) + 2 * 5 ^ (n + 2) - 3 * 6 ^ (n + 2)) / 6. ● a(n) = 14 * a(n - 1) - 48 * a(n - 2) + 5 ^ n. ● a(n) = 19 * a(n - 1) - 118 * a(n - 2) + 240 * a(n - 3), n>=3. (End) ●

[A021504] ● 1,19,244,2674,27055,261793,2467018,22871728,209866789,1912958047,17361652672,157125321262,1419351371803,12805505620381,115437617402806,1040066979064876,9367373410791697,84346984486082395 ★ Expansion of 1/((1-x)(1-3x)(1-6x)(1-9x)). ● a(n) = (5 * 9 ^ (n + 3) - 16 * 6 ^ (n + 3) + 20 * 3 ^ (n + 3) - 9) / 720. - _ Yahia Kahloune _ , May 21 2013 ● a(0)=1, a(1)=19; for n>1, a(n) = 15 * a(n - 1) - 54 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 ● a(0)=1, a(1)=19, a(2)=244, a(3)=2674; for n>3, a(n) = 19 * a(n - 1) - 117 * a(n - 2) + 261 * a(n - 3) - 162 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 ●

[A019512] ● 1,19,245,2675,26661,251139,2278165,20125075,174364421,1488724259,12567504885,105148209075,873459639781,7213661997379,59291458568405,485407880414675,3960800821356741,32229188196998499 ★ Expansion of 1/((1-4x)(1-7x)(1-8x)). ● a(n) = (3 * 8 ^ (n + 2) - 4 * 7 ^ (n + 2) + 4 ^ (n + 2)) / 12. [_ Yahia Kahloune _ , May 06 2013] ● a(0)=1, a(1)=19, a(2)=245; for n>2, a(n) = 19 * a(n - 1) - 116 * a(n - 2) + 224 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[A025927] ● 1,19,245,2735,28701,293079,2957125,29682895,297294701,2974868039,29756539605,297597360255,2976103045501,29761552993399,297617634403685,2976184804896815,29761882021417101,297618956491125159 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-10x)). ● a(n) = 19 * a(n - 1) - 116 * a(n - 2) + 284 * a(n - 3) - 240 * a(n - 4), with a(0)=1, a(1)=19, a(2)=245, a(3)=2735. [_ Harvey P. Dale _ , Oct 18 2011] ● a(n) = (10 ^ (n + 3) - 7 * 4 ^ (n + 4) + 16 * 3 ^ (n + 4) - 21 * 2 ^ (n + 3)) / 336. - _ Yahia Kahloune _ , May 19 2013 ●

[A019443] ● 1,19,247,2743,28063,273847,2596399,24174631,222479455,2032023895,18467516431,167287650439,1512085646527,13647818683063,123064923768943,1108992721390567,9989389232302879,89955248709321751 ★ Expansion of 1/((1-4x)(1-6x)(1-9x)). ● a(n) = 8 * 4 ^ n / 5 - 6 * 6 ^ n + 27 * 9 ^ n / 5. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=19, a(2)=247; for n>2, a(n) = 19 * a(n - 1) - 114 * a(n - 2) + 216 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 15 * a(n - 1) - 54 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[A021229] ● 1,19,248,2786,28983,288273,2786566,26424112,247232645,2291004287,21080414004,192953358078,1759187655187,15990940940461,145026232803362,1312990445670284,11871194464243809,107220713350935195 ★ Expansion of 1/((1-x)(1-2x)(1-7x)(1-9x)). ● a(n) = (15 * 9 ^ (n + 3) - 28 * 7 ^ (n + 3) + 48 * 2 ^ (n + 3) - 35) / 1680. - _ Yahia Kahloune _ , May 19 2013 ● a(0)=1, a(1)=19, a(2)=248, a(3)=2786; for n>3, a(n) = 19 * a(n - 1) - 113 * a(n - 2) + 221 * a(n - 3) - 126 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 ● a(0)=1, a(1)=19; for n>1, a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 ●

[A021464] ● 1,19,248,2810,29871,307929,3126478,31504000,316245941,3168518639,31715571108,317307900390,3173840747611,31742218586149,317441248586138,3174507821007980,31745554950382881,317457933399054459 ★ Expansion of 1/((1-x)(1-3x)(1-5x)(1-10x)). ● a(n) = (8 * 10 ^ (n + 3) - 63 * 5 ^ (n + 3) + 90 * 3 ^ (n + 3) - 35) / 2520. - _ Yahia Kahloune _ , May 19 2013 ● a(0)=1, a(1)=19; for n>1, a(n) = 15 * a(n - 1) - 50 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 ● a(0)=1, a(1)=19, a(2)=248, a(3)=2810; for n>3, a(n) = 19 * a(n - 1) - 113 * a(n - 2) + 245 * a(n - 3) - 150 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 ●

[A017998] ● 1,19,250,2830,29611,295729,2866900,27241660,255258421,2367929839,21805655950,199711092490,1821621686431,16564149750349,150264234543400,1360686332771320,12304334591153641,111146114623005259 ★ Expansion of 1/((1-3x)(1-7x)(1-9x)). ● a(0)=1, a(1)=19, a(2)=250, a(n)=19 * a(n - 1) - 111 * a(n - 2) + 189 * a(n - 3). - _ Harvey P. Dale _ , Oct 31 2011 ● a(n) = (2 * 9 ^ (n + 2) - 3 * 7 ^ (n + 2) + 3 ^ (n + 2)) / 24. - _ Yahia Kahloune _ , Jun 30 2013 ● a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ●

[A018912] ● 1,19,251,2879,30891,320439,3266131,32986399,331554971,3324266759,33287301411,333100377519,3332157369451,33327408774679,333303531583091,3333183608754239,33332581847126331,333329564449052199 ★ Expansion of 1/((1-4x)(1-5x)(1-10x)). ● a(n) = 8 * 4 ^ n / 3 - 5 * 5 ^ n / 1 + 10 * 10 ^ n / 3. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=19, a(2)=251; for n>2, a(n) = 19 * a(n - 1) - 110 * a(n - 2) + 200 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 15 * a(n - 1) - 50 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ●

[A021202] ● 1,19,251,2891,31227,326235,3346267,33966427,342687323,3445012571,34558963803,346242670683,3466344910939,34686958350427,347010638983259,3470952722772059,34714605225488475,347176520241754203,3471948010339283035,34720576950924324955 ★ Expansion of 1/((1-x)(1-2x)(1-6x)(1-10x)). ● a(n) = (5 * 10 ^ (n + 3) - 18 * 6 ^ (n + 3) + 45 * 2 ^ (n + 3) - 32) / 1440. - _ Yahia Kahloune _ , May 20 2013 ● a(0)=1, a(1)=19; for n>1, a(n) = 16 * a(n - 1) - 60 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 ● a(0)=1, a(1)=19, a(2)=251, a(3)=2891; for n>3, a(n) = 19 * a(n - 1) - 110 * a(n - 2) + 212 * a(n - 3) - 120 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 ●

[A017952] ● 1,19,253,2935,31861,333919,3431773,34875415,352106821,3541203919,35532912493,356054541895,3564898452181,35675104315519,356907766700413,3570018022624375,35705822403011941,357092077219868719,3571123891724603533,35712457635563794855 ★ Expansion of 1/((1-3x)(1-6x)(1-10x)). ● a(n) = (3 * 10 ^ (n + 2) - 7 * 6 ^ (n + 2) + 4 * 3 ^ (n + 2)) / 84. - _ Yahia Kahloune _ , May 19 2013 ● a(0)=1, a(1)=19, a(2)=253; for n>2, a(n) = 19 * a(n - 1) - 108 * a(n - 2) + 180 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 16 * a(n - 1) - 60 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ●

[A021394] ● 1,19,254,3014,34155,380073,4199368,46270588,509296469,5603570687,61644604242,678112219122,7459321497343,82052887210261,902583169445276,9928420525951016,109212648498243177,1201339224525513195 ★ Expansion of 1/((1-x)(1-3x)(1-4x)(1-11x)). ● a(0)=1, a(1)=19; for n>1, a(n) = 15 * a(n - 1) - 44 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 ● a(0)=1, a(1)=19, a(2)=254, a(3)=3014; for n>3, a(n) = 19 * a(n - 1) - 107 * a(n - 2) + 221 * a(n - 3) - 132 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 ● a(n) = (3 * 11 ^ (n + 3) - 80 * 4 ^ (n + 3) + 105 * 3 ^ (n + 3) - 28) / 1680. [_ Yahia Kahloune _ , Aug 12 2013] ●

[A016316] ● 1,19,255,2975,32231,333759,3353335,32976175,319155111,3051352799,28893830615,271497720975,2535105456391,23548956856639,217804673719095,2007154559579375,18439691005140071,168959618797797279 ★ Expansion of 1/((1-2x)(1-8x)(1-9x)). ● a(n) = 19 * a(n - 1) - 106 * a(n - 2) + 144 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 ● a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 2 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A021154] ● 1,19,256,3066,35007,391545,4339462,47896672,527676853,5808513711,63913994508,703155662118,7735220904139,85089973066117,936002419362994,10296090191237004,113257309994958465,1245831999401562363 ★ Expansion of 1/((1-x)(1-2x)(1-5x)(1-11x)). ● a(0)=1, a(1)=19, a(2)=256, a(3)=3066, a(n)=19 * a(n - 1) - 105 * a(n - 2) + 197 * a(n - 3) - 110 * a(n - 4). - _ Harvey P. Dale _ , Sep 09 2012 ● a(0)=1, a(1)=19; for n>1, a(n) = 16 * a(n - 1) - 55 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 ● a(n) = (2 * 11 ^ (n + 3) - 15 * 5 ^ (n + 3) + 40 * 2 ^ (n + 3) - 27) / 1080. [_ Yahia Kahloune _ , Jul 07 2013] ●

[A016313] ● 1,19,257,3047,33825,361767,3782353,38976439,397835009,4034844935,40743914289,410207399511,4121451795553,41350162566823,414451137963665,4151157965737463,41558105760145857,415906740320988231 ★ Expansion of 1/((1-2x)(1-7x)(1-10x)). ● a(0)=1, a(1)=19, a(2)=257, a(n)=19 * a(n - 1) - 104 * a(n - 2) + 140 * a(n - 3). - _ Harvey P. Dale _ , May 02 2012 ● a(n) = 2 ^ n / 10 - 49 * 7 ^ n / 15 + 25 * 10 ^ n / 6. - _ R. J. Mathar _ , Jun 23 2013 ● a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 2 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A017917] ● 1,19,258,3110,35651,399609,4433668,48962380,539552901,5939935199,65363612678,719121544050,7910946538951,87023461294789,957273325857288,10530082856852120,115831292830529801,1274146128290750379 ★ Expansion of 1/((1-3x)(1-5x)(1-11x)). ● a(0)=1, a(1)=19, a(2)=258; for n>2, a(n) = 19 * a(n - 1) - 103 * a(n - 2) + 165 * a(n - 3). - _ Vincenzo Librandi _ , Jul 01 2013 ● a(n) = 16 * a(n - 1) - 55 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _

, Jul 01 2013 ● a(n) = (11 ^ (n + 2) - 4 * 5 ^ (n + 2) + 3 ^ (n + 3)) / 48. [_ Yahia Kahloune _ , Jul 06 2013] ●

[A014923] ● 1,19,262,3178,35983,390277,4110364,42374116,429794605,4303999495,42658627906,419231343214,4090815317467,39676936914073,382828823738488,3677086937252872,35178430147734169 ★ a(1)=1, a(n)=n*9^(n-1)+a(n-1). ● a(n)=(1 / 64) * [1 + 9 ^ n * (8 * n - 1)], with n>=1 [From _ Paolo P. Lava _ , Jan 13 2009] ● a(1)=1, a(2)=19, a(n) = 18 * a(n - 1) - 81 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 ●

[A081036] ● 1,19,262,3196,36568,402544,4320352,45562816,4745025284896020224,50168161792,511345294336,5190762354688,52526098837504,530208790700032,5341670325600256,53733362604802048,539866900838416384 ★ 9th binomial transform of the periodic sequence (1,10,1,1,10,1...). ● a(n) = 10 * a(n - 1) + 9 * 8 ^ (n - 1). ● a(n) = (11 / 2) * 10 ^ n - (9 / 2) * 8 ^ n. ● a(0)=1, a(1)=19, a(n)=18 * a(n - 1) - 80 * a(n - 2). - _ Harvey P. Dale _ , Aug 16 2014 ●

[A016257] ● 1,19,263,3215,36831,405759,4357183,45968575,478859711,4941988799,50647021503,516287283135,5241409376191,53042386120639,535450200076223,5394712711720895,54268812804878271,545261613550137279 ★ Expansion of 1/((1-x)(1-8x)(1-10x)). ● a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 ● a(n) = (1 / 63) * (7 * 2 ^ (n + 1) * 5 ^ (n + 2) - 9 * 2 ^ (3 * n + 5) + 1). - _ Vincenzo Librandi _ , Mar 21 2011 ● a(0)=1, a(1)=19, a(2)=263, a(n) = 19 * a(n - 1) - 98 * a(n - 2) + 80 * a(n - 3). - _ Harvey P. Dale _ , Dec 14 2011 ●

[A021104] ● 1,19,263,3311,40383,487263,5857951,70338847,844240415,10131583007,121581790239,1458992663583,17507956694047,210095659269151,2521148627024927,30253786387545119,363045448103656479 ★ Expansion of 1/((1-x)(1-2x)(1-4x)(1-12x)). ● a(n) = - (1 / 33) + (2 / 5) * 2 ^ n - (4 / 3) * 4 ^ n + (108 / 55) * 12 ^ n. - _ Antonio Alberto Olivares _ , May 22 2012 ● a(0)=1, a(1)=19; for n>1, a(n) = 16 * a(n - 1) - 48 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 ● a(0)=1, a(1)=19, a(2)=263, a(3)=3311; for n>3, a(n) = 19 * a(n - 1) - 98 * a(n - 2) + 176 * a(n - 3) - 96 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 ●

[A017161] ● 1,19,265,3355,41041,495859,5964505,71633035,859838881,10319056099,123832690345,1486008529915,17832167873521,213986278134739,2567836397009785,30814041016037995,369768509243184961 ★ Expansion of 1/((1-3x)(1-4x)(1-12x)). ● a(n) = 3 ^ n - 2 * 4 ^ n + 2 * 12 ^ n. - _ R. J. Mathar _ , Jun 23 2013 ● a(n) = 19 * a(n - 1) - 96 * a(n - 2) + 144 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 ● a(n) = 16 * a(n - 1) - 48 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 ●

[A016254] ● 1,19,266,3326,39387,452865,5118772,57267292,636665813,7050403151,77883989118,859030761498,9465486544879,104233389172477,1147358541148904,12626482774399544,138930082270726185 ★ Expansion of 1/((1-x)(1-7x)(1-11x)). ● a(0)=1, a(1)=19, a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ● a(n) = (3 * 11 ^ (n + 2) - 5 * 7 ^ (n + 2) + 2) / 120. - _ Yahia Kahloune _ , Jul 09 2013 ●

[A016189] ● 0,1,19,271,3439,40951,468559,5217031,56953279,612579511,6513215599,68618940391,717570463519,7458134171671,77123207545039,794108867905351,8146979811148159,83322818300333431,849905364703000879,8648148282327007911,87842334540943071199,890581010868487640791 ★ a(n) = 10^n - 9^n. ● a(0) = 0, a(1) = 1, then a(n + 1) = 9 * a(n) + 10 ^ n. ● a(n) = 19 * a(n - 1) - 90 * a(n - 2), n>1; a(0)=0, a(1)=1 . - _ Philippe Deléham _ , Jan 01 2009 ●

[A016248] ● 1,19,271,3511,43687,533575,6458887,77842567,936126343,11245609351,135019871623,1620673815943,19450697930119,233424047994247,2801182612927879,33614755577116039,403380452257281415 ★ Expansion of 1/((1-x)(1-6x)(1-12x)). ● a(0)=1, a(1)=19, a(n)=18 * a(n - 1) - 72 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 ● a(n) = (5 * 12 ^ (n + 2) - 11 * 6 ^ (n + 2) + 6) / 330. [_ Yahia Kahloune _ , Aug 13 2013] ●

[A016187] ● 1,19,273,3515,42761,503139,5796673,65860555,741243321,8287894259,92240578673,1023236299995,11324318776681,125117262357379,1380687932442273,15222751628953835,167731742895202841 ★ Expansion of 1/((1-8x)(1-11x)). ● a(0)=1, a(n)=11 * a(n - 1) + 8 ^ n. [From Vincenzo Librandi, Feb 09 2011] ● a(0)=1, a(1)=19, a(n)=19 * a(n - 1) - 88 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] ●

[A016184] ● 1,19,277,3667,46405,573667,7001653,84843379,1023885349,12326977795,148206208789,1780451832211,21379263273733,256648048295203,3080454802615285,36970205192893363,443675695245289957 ★ Expansion of 1/((1-7x)(1-12x)). ● a(0)=1, a(n)=12 * a(n - 1) + 7 ^ n. [From Vincenzo Librandi, Feb 09 2011] ● a(0)=1, a(1)=19, a(n)=19 * a(n - 1) - 84 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] ●

[A081045] ● 1,19,280,3700,46000,550000,6400000,73000000,820000000,9100000000,100000000000,1090000000000,11800000000000,127000000000000,1360000000000000,14500000000000000,154000000000000000 ★ 10th binomial transform of (1,9,0,0,0,0,0,.....). ● a(n) = 20 * a(n - 1) - 100 * a(n - 2), a(0)=1, a(1)=19. ● a(n) = sum(k=0..n, (k + 1) * 9 ^ k Binomial(n, k)). ●

[A155017] ● 1,1,19,280,4510,70300,1108900,17416000,273961000,4307050000,67726990000,1064904400000,16744473100000,263286127000000,4139863849000000,65094389920000000,1023531645610000000 ★ a(n) = 10*a(n-1) + 90*a(n-2), n>2 ; a(0)=1, a(1)=1, a(2)=19 . ● a(n) = (7 / 115) * sqrt(115) *{ [5 + sqrt(115)] ^ (n - 1) - [5 - sqrt(115)] ^ (n - 1) }+ (1 / 2) *{ [5 - sqrt(115)] ^ (n - 1) + [5 + sqrt(115)] ^ (n - 1) }+ (9 / 10) * [C(2 * n,n) mod 2], with n>=0. - _ Paolo P. Lava _ , Jan 26 2009 ●

[A051562] ● 0,1,19,299,4578,71394,1153956,19471500,343976400,6366517200,123418922400,2503748556000,53091962697600,1175271048201600,27123099523027200,651708291206649600,16282170039031142400 ★ Second unsigned column of triangle A051380. ● a(n) = n! * Sum _{ k=0..n - 1 } ((- 1) ^ k * binomial(- 9,k) / (n - k)), for n>=1. - _ Milan Janjic _ , Dec 14 2008 ● a(n) = n! * [8]h(n), where [k]h(n) denotes the k - th successive summation of the harmonic numbers from 0 to n. - _ Gary Detlefs _ Jan 04 2011 ●

[A180845] ● 0,1,19,313,5035,80641,1290499,20648713,330381595,5286112081,84577812979,1353245066713,21651921244555,346430740444321,5542891848703459,88686269584038313,1418980313358961915 ★ a(n) = (16^n-3^n)/13 ● a(n) = (16 ^ n - 3 ^ n) / 13 ●

[A166965] ● 1,19,316,5104,81856,1310464,20970496,335540224,5368692736,85899280384,1374389272576,21990231506944,351843716694016,5629499517435904,90071992480301056,1441151880490123264,23058430091063197696 ★ a(n) = 20*a(n-1) - 64*a(n-2) for n > 1; a(0) = 1, a(1) = 19. ● a(n) = (5 * 16 ^ n - 4 ^ n) / 4. ●

[A143699] ● 0,1,19,319,5301,88000,1460701,24245719,402446619,6680076601,110880352000,1840465787401,30549274537419,507077165538919,8416803858813901,139707705280792000,2318961358994380101 ★ a(n) = 19*a(n-1) - 41*a(n-2) + 19*a(n-3) - a(n-4). ● a(- n) = a(n). - _ Michael Somos _ , Feb 24 2009 ● a(n) = (r1 ^ n + r2 ^ n - r3 ^ n - r4 ^ n) / s1 where s1 = sqrt(205), s2 = sqrt(550 + 38 * s1), s3 = 36 * sqrt(5) / s2, r1 = (19 + s1 + s2) / 4, r2 = 1 / r1, r3 = (19 - s1 + s3) / 4, r4 = 1 / r3. - _ Michael Somos _ , Feb 12 2012 ● a(n) = (T(n,alpha) - T(n,beta)) / (alpha - beta), n >= 1, where alpha = 1 / 4 * (19 + sqrt(205)), beta = 1 / 4 * (19 - sqrt(205)) and where T(n,x) denotes the Chebyshev polynomial of the first kind. ● a(n)= U(n - 1,1 / 4 * (sqrt(5) - 9)) * U(n - 1,1 / 4 * (- sqrt(5) - 9)) for n >= 1, where U(n,x) denotes the Chebyshev polynomial of the second kind. ● a(n) = the bottom left entry of the 2 X 2 matrix T(n, M), where M is the 2 X 2 matrix [0, - 39 / 4; 1, 19 / 2]. See the remarks in A100047 for the general connection between Chebyshev polynomials of the first kind and 4th - order linear divisibility sequences. (End) ●

[A098304] ● 0,1,19,324,5491,93025,1575936,26697889,452288179,7662201156,129805131475,2199025033921,37253620445184,631112522534209,10691659262636371,181127094942284100,3068468954756193331 ★ Member r=19 of the family of Chebyshev sequences S_r(n) defined in A092184. ● a(n)= 17 * a(n - 1) - a(n - 2) + 2, n>=2, a(0)=0, a(1)=1. ● a(n)= 18 * a(n - 1) - 18 * a(n - 2) + a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=19. ●

[A121324] ● 1,19,328,4437,55546,666655,7777764,88888873,999999982,11111111091,122222222200,1333333333309,14444444444418,155555555555527,1666666666666636,17777777777777745,188888888888888854,1999999999999999963 ★ Number of digits in quotient {R_(n*R_n)}/(R_n)^2, where R_n=A002275(n),n*R_n= ● a(n)=round[log _ 10 { 9 * (10 ^ (n * (10 ^ n - 1) / 9) - 1) / (10 ^ n - 1) ^ 2 }] ●

[A078368] ● 1,19,360,6821,129239,2448720,46396441,879083659,16656193080,315588584861,5979526919279,113295422881440,2146633507828081,40672741225852099,770635449783361800,14601400804658022101 ★ A Chebyshev S-sequence with Diophantine property. ● a(n) = 19 * a(n - 1) - a(n - 2), n >= 1 ; a(- 1)=0, a(0)=1. ● a(n) = (ap ^ (n + 1) - am ^ (n + 1)) / (ap - am) with ap = (19 + sqrt(357)) / 2 and am = (19 - sqrt(357)) / 2. ● a(n) = S(2 * n + 1, sqrt(21)) / sqrt(21) = S(n, 19); S(n, x) := U(n, x / 2), Chebyshev polynomials of the 2nd kind, A049310. ●

[A023283] ● 19,373,607,1171,1381,1867,2137,2539,3181,4021,5689,5827,5857,6163,7213,7507,11497,12007,13291,13687,14173,15193,16453,21997,22501 ★ Numbers n such that n remains prime through 3 iterations of function f(x) = 5x + 2. ● a(n) == 1 (mod 6). - _ John Cerkan _ , Sep 20 2016 ●

[A158592] ● 19,380,1463,3268,5795,9044,13015,17708,23123,29260,36119,43700,52003,61028,70775,81244,92435,104348,116983,130340,144419,159220,174743,190988,207955 ★ 361n^2 + 19. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A099277] ● 0,1,19,400,8379,175561,3678400,77070841,1614809259,33833923600,708897586339,14853015389521,311204425593600,6520439922076081,136618033938004099,2862458272776010000,59975005694358205899 ★ Unsigned member r=-19 of the family of Chebyshev sequences S_r(n) defined in A092184. ● a(n)= 21 * a(n - 1) - a(n - 2) + 2 * (- 1) ^ (n + 1), n>=2, a(0)=0, a(1)=1. ● a(n)= 20 * a(n - 1) + 20 * a(n - 2) - a(n - 3), n>=3, a(0)=0, a(1)=1, a(2)=19. ●

[A162012] ● 0,19,663,6501,36729,149842,491274,1375206,3413982,7710813,16133689,31690659,59028879,105082068,179893252,297641916,477906924,747198807,1140797259,1704931921,2499346773,3600290694,5103978990,7130572930 ★ The sequence of the absolute values of the a(n-2) coefficients of A162011 ● a(n) = (20 * n ^ 8 + 80 * n ^ 7 + 4 * n ^ 6 - 268 * n ^ 5 - 155 * n ^ 4 + 230 * n ^ 3 + 131 * n ^ 2 - 42 * n) / 360 ●

[A133895] ● 20,21,22,23,24,45,46,47,48,49,70,71,72,73,74,95,96,97,98,99,120,121,122,123,124 ★ Numbers m such that binomial(m+5,m) mod 5 = 0. ● a(n)= 5n + 20 - 4 * (n mod 5). ●

[A241850] ● 20,21,24,29,36,45,56,69,84,101,120,141,164,189,216,245,276,309,344,381,420,461,504,549,596 ★ a(n) = n^2 + 20. ● a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. ●

[A022110] ● 1,20,21,41,62,103,165,268,433,701,1134,1835,2969,4804,7773,12577,20350,32927,53277,86204,139481,225685,365166,590851,956017 ★ Fibonacci sequence beginning 1, 20. ● a(n)= a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=20. a(- 1):=19. ●

[A042855] ● 1,1,20,21,41,62,413,1714,2127,3841,5968,9809,25586,35395,167166,202561,1990215,4182991,127479945,259142881,2459765874,2718908755,13335400894,16054309649,45444020192 ★ Denominators of continued fraction convergents to sqrt(958). ● a(n) = 33525044660851198 * a(n - 36) - a(n - 72) for

n>71. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A041812] • 20,21,41,62,2521,2583,5104,7687,312584,320271,632855,953126,38757895,39711021,78468916,118179937,4805666396,4923846333,9729512729,14653359062,595863875209,610517234271,1206381109480 ★ Numerators of continued fraction convergents to sqrt(427). • a(n) = 124 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 09 2013 •

[A041800] • 20,21,41,554,2811,3365,12906,16271,45448,61719,107167,168886,444939,4173337,4618276,36501269,114122083,378867518,871857119,2122581756,7239602387,23841388917,174129324806 ★ Numerators of continued fraction convergents to sqrt(421). • a(n) = 88084891393642836 * a(n - 37) + a(n - 74) for n>73. [_ Bruno Berselli _ , Nov 09 2013] •

[A042865] • 1,20,21,62,393,455,848,2999,3847,6846,10693,17539,203622,221161,1088266,3485959,4574225,67525109,72099334,283823111,1207391778,1491214889,17610755557,19101970446,36712726003 ★ Denominators of continued fraction convergents to sqrt(964). • a(n) = 20170287114002498 * a(n - 34) - a(n - 68) for n>67. - _ Vincenzo Librandi _ , Jan 31 2014 •

[A041826] • 20,21,104,125,5104,5229,26020,31249,1275980,1307229,6504896,7812125,318989896,326802021,1626197980,1953000001,79746198020,81699198021,406542990104,488242188125,19936230515104,20424472703229 ★ Numerators of continued fraction convergents to sqrt(434). • a(n) = 250 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 09 2013 •

[A041824] • 20,21,104,437,978,2393,3371,12506,165949,178455,344404,522859,867263,11797278,36259097,48056375,132371847,312800069,1383572123,5847088561,7230660684,295073515921,302304176605 ★ Numerators of continued fraction convergents to sqrt(433). • a(n) = 14461321368 * a(n - 21) + a(n - 42) for n>41. [_ Bruno Berselli _ , Nov 09 2013] •

[A041830] • 20,21,167,355,522,877,1399,19064,58591,136246,331083,1791661,2122744,3914405,17780364,181718045,744652544,926370589,1671023133,9281486254,20233995641,49749477536,169482428249 ★ Numerators of continued fraction convergents to sqrt(436). • a(n) = 316141343972498 * a(n - 30) - a(n - 60) for n>59. [_ Bruno Berselli _ , Nov 09 2013 •

[A041834] • 20,21,272,293,11992,12285,159412,171697,7027292,7198989,93415160,100614149,4117981120,4218595269,54741124348,58959719617,2413129909028,2472089628645,32078205452768,34550295081413 ★ Numerators of continued fraction convergents to sqrt(438). • a(n) = 586 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 10 2013 •

[A063013] • 0,1,20,21,300,301,320,321,4000,4001,4020,4021,4300,4301,4320,4321,50000,50001,50020,50021,50300,50301,50320,50321,54000 ★ Numbers where k-th digit from right is either 0 or k. • a(n) = a(n - 2 ^ [log2(n)]) + [log2(n) + 1] * 10 ^ [log2(n)] •

[A063012] • 0,1,20,21,400,401,420,421,8000,8001,8020,8021,8400,8401,8420,8421,160000,160001,160020,160021,160400,160401,160420,160421,168000 ★ Sum of distinct powers of 20; i.e., numbers with digits in {0,1} base 20; i.e., write n in base 2 and read as if written in base 20. • a(n) = a(n - 2 ^ [log2(n)]) + 20 ^ [log2(n)]. a(2n) = 20 * a(n); a(2n + 1) = a(2n) + 1 = 20 * a(n) + 1. •

[A041836] • 20,21,419,440,18019,18459,368740,387199,15856700,16243899,324490781,340734680,13953877981,14294612661,285551518540,299846131201,12279396766580,12579242897781,251285011824419 ★ Numerators of continued fraction convergents to sqrt(439). • a(n) = 880 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 10 2013 •

[A041837] • 1,1,20,21,860,881,17599,18480,756799,775279,15487100,16262379,665982260,682244639,13628630401,14310875040,586063632001,600374507041,11993179265780,12593553772821,515735330178620,528328883951441,10553984125255999,11082313009207440 ★ Denominators of continued fraction convergents to sqrt(439). • a(n) = 880 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A041838] • 20,21,860,881,36100,36981,1515340,1552321,63608180,65160501,2670028220,2735188721,112077577060,114812765781,4704588208300,4819400974081,197480627171540,202300028145621,8289481752996380 ★ Numerators of continued fraction convergents to sqrt(440). • a(n) = 42 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 10 2013 •

[A171696] • 0,20,24,31,34,36,41,48,50,54,57,69,71,79,86,88,89,92,97,104,106,111,116,119,130 ★ Nonnegative numbers n such that neither 6*n+-1 is prime. • a(n) = n + O(n / log n). - _ Charles R Greathouse IV _ , Feb 17 2017 •

[A219392] • 0,20,24,84,92,192,204,344,360,540,560,780,804,1064,1092,1392,1424,1764,1800,2180,2220,2640,2684,3144,3192 ★ Numbers k such that 22*k+1 is a square. • a(n) = a(- n + 1) = (22 * n * (n - 1) + 9 * (- 1) ^ n * (2 * n - 1) + 1) / 4 + 2. •

[A254363] • 20,35,77,203,605,1955,6677,23723,86765,324275,1231877,4738043,18396125,71940995,282882677,1116985163,4424500685,17568076115,69883311077,278367837083,1109978272445,4429440153635,17686354389077,70651224045803,282322365983405 ★ a(n) = 4^n + 6*2^n + 3^(n+1) + 10. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). - _ Colin Barker _ , Jan 30 2015 •

[A229356] • 20,35,87,287,1119,4775,21447,99407,470319,2256695,10936407,53384927,261997119,1291033415,6381582567,31620148847,156969213519,780378126935,3884192631927,19350690855167,96473921031519,481256133809255,2401840755956487,11991486019167887 ★ Total sum of n-th powers of parts in all partitions of 5. • a(n) = 12 + 4 * 2 ^ n + 2 * 3 ^ n + 4 ^ n + 5 ^ n. •

[A061830] • 0,20,40,60,80,200,220,240,260,280,400,420,440,460,480,600,620,640,660,680,800,820,840,860,880 ★ Multiples of 5 having only even digits. • a(0)=0, a(1)=20, a(2)=40, a(3)=60, a(4)=80, a(5)=200, a(6)=220, a(7)=240, a(8)=260, a(9)=280, a(10)=400, a(11)=420, a(12)=440, a(13)=460, a(14)=480, a(15)=600, a(16)=620, a(17)=640, a(18)=660, a(19)=680, a(20)=800, a(21)=820, a(22)=840, a(23)=860, a(24)=880, a(25)=2000, a(n)=a(n - 1) + a(n - 25) - a(n - 26). - _ Harvey P. Dale _ , Feb 24 2014 •

[A195148] • 0,1,20,41,80,121,180,241,320,401,500,601,720,841,980,1121,1280,1441,1620,1801,2000,2201,2420,2641,2880 ★ Concentric 20-gonal numbers. • a(n) = 5 * n ^ 2 + 2 * (- 1) ^ n - 2; a(n) = - a(n - 1) + 10 * n ^ 2 - 10 * n + 1. - Vincenzo Librandi, Sep 27 2011 •

[A171389] • 20,41,83,167,335,671,1343,2687,5375,10751,21503,43007,86015,172031,344063,688127,1376255,2752511,5505023,11010047,22020095,44040191,88080383,176160767,352321535 ★ a(n) = 21*2^n - 1. • a(n + 1) = 2 * a(n) + 1. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). - _ Vincenzo Librandi _ , Jul 06 2012 • a(n) + a(n - 1) ^ 2 = (a(n - 1) + 1) ^ 2. - _ Vincenzo Librandi _ , Jun 11 2014 •

[A041792] • 20,41,102,143,245,388,2185,9128,11313,144884,156197,769672,4004557,4774229,8778786,13553015,35884816,85322647,3448790696,6982904039,17414598774,24397502813,41812101587,66209604400 ★ Numerators of continued fraction convergents to sqrt(417). • a(n) = 170645294 * a(n - 18) - a(n - 36) for n>35. [_ Bruno Berselli _ , Nov 09 2013] •

[A041794] • 20,41,184,3721,15068,33857,1369348,2772553,12459560,251963753,1020314572,2292592897,92724030452,187740653801,843686645656,1706147356692 1,69089580913340,155240635393601,6278714996657380 ★ Numerators of continued fraction convergents to sqrt(418). • a(n) = 67714 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 09 2013 •

[A041796] • 20,41,307,348,1003,3357,4360,12077,16437,324380,340817,1006014,1346831,5046507,11439845,16486352,126844309,270174970,10933843109,22137861188,165898871425,188036732613,541972336651 ★ Numerators of continued fraction convergents to sqrt(419). • a(n) = 540349940 * a(n - 18) - a(n - 36) for n>35. [_ Bruno Berselli _ , Nov 09 2013] •

[A041798] • 20,41,1660,3361,136100,275561,11158540,22592641,914864180,1852321001,75007704220,151867729441,6149716881860,12451301493161,504201776608300,1020854854709761,41338395964998740,83697646784707241 ★ Numerators of continued fraction convergents to sqrt(420). • a(n) = 82 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 09 2013 •

[A132762] • 0,20,42,66,92,120,150,182,216,252,290,330,372,416,462,510,560,612,666,722,780,840,902,966,1032 ★ a(n) = n(n+19). • a(n) = n * (n + 19). • a(n) = 2 * n + a(n - 1) + 18 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. •

[A228319] • 20,45,82,131,192,265,350,447,556,677,810,955,1112,1281,1462,1655,1860,2077,2306,2547,2800,3065,3342,3631,3932 ★ The hyper-Wiener index of the graph obtained by applying Mycielski's construction to the star graph K(1,n). • a(n) = 6n ^ 2 + 7n + 7. •

[A264444] • 0,20,48,85,132,190,260,343,440,552,680,825,988,1170,1372,1595,1840,2108,2400,2717,3060,3430,3828,4255,4712 ★ a(n) = n*(n + 7)*(n + 14)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Nov 16 2015 •

[A182462] • 20,50,110,230,470,950,1910,3830,7670,15350,30710,61430,122870,245750,491510,983030,1966070,3932150,7864310,15728630,31457270,62914550,125829110,251658230,503316470 ★ a(n) = 3a(n-1) - 2a(n-2) with a(0)=20 and a(1)=50. • a(n) = a(n - 1) * 2 + 10. •

[A128905] • 20,51,59,60,65,68,69,76,77,83,91,92,105,110,114,115,123,129,131,139,154,156,165,182,185 ★ Numbers n such that n-th triangular number has exactly four distinct prime factors. • a(n)=k and T(k)=k(k + 1) / 2=p * q * r * s for some k, p, q, r, s where T(k) is triangular number and p, q, r, s are distinct primes. •

[A051872] • 0,1,20,57,112,185,276,385,512,657,820,1001,1200,1417,1652,1905,2176,2465,2772,3097,3440,3801,4180,4577,4992 ★ 20-gonal (or icosagonal) numbers: a(n) = n*(9*n-8). • a(n) = 18 * n + a(n - 1) - 17, with n > 0, a(0) = 0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(18 * a(n) + 154 * n + 1) = a(18 * a(n) + 154 * n) + a(18 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069132] • 1,20,58,115,191,286,400,533,685,856,1046,1255,1483,1730,1996,2281,2585,2908,3250,3611,3991,4390,4808,5245,5701 ★ Centered 19-gonal numbers. • a(n) = (19 * n ^ 2 - 19 * n + 2) / 2. • a(n) = 19 * n + a(n - 1) - 19 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=20, a(2)=58, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 21 2011 •

[A116530] • 20,60,180,540,1620,4860,14580,43740,131220,393660,1180980,3542940,10628820,31886460,95659380,286978140,860934420,2582803260,7748409780,23245229340,69735688020,209207064060,627621192180,1882863576540 ★ a(n) = 3*a(n-1), with a(1) = 20. • a(n) = 20 * 3 ^ (n - 1). •

[A041780] • 20,61,81,142,223,4379,4602,8981,13583,49730,2002783,6058079,8060862,14118941,22179803,435535198,457715001,893250199,1350965200,4946145799,199196797160,602536537279,801733334439,1404269871718,2206003206157 ★ Numerators of continued fraction convergents to sqrt(411). • a(n) = 99460 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Nov 08 2013 •

[A041782] • 20,61,142,203,751,954,4567,14655,33877,455056,4584437,60052737,124689911,434122470,1861179791,2295302261,8747086574,11042388835,30831864244,103537981567,4172351126924,12620591362339 ★ Numerators of continued fraction convergents to sqrt(412). • a(n) = 207075963134 * a(n - 20) - a(n - 40) for n>39. [_ Bruno Berselli _ , Nov 09 2013] •

[A033577] • 1,20,63,130,221,336,475,638,825,1036,1271,1530,1813,2120,2451,2806,3185,3588,4015,4466,4941,5440,5963,6510,7081 ★ a(n) = (3*n+1) * (4*n+1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A187156] • 0,0,20,64,132,224,340,480,644,832,1044,1280,1540,1824,2132,2464,2820,3200,3604,4032,4484,4960,5460,5984,6532 ★ Number of 3-step one space

at a time bishop's tours on an n X n board summed over all starting positions. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. •

[A053741] • 20,70,120,170,220,270,320,370,420,470,520,570,620,670,720,770,820,870,920,970,1020,1070,1120,1170,1220 ⋆ Sum of even numbers in range 10n to 10n+9. • a(n) = 50 * n + 20. • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 10 * (2 + 3 * x) / (1 - x) ^ 2. [_ Colin Barker _ , Jun 27 2012] •

[A052516] • 0,0,0,0,0,0,20,70,182,420,912,1914,3938,8008,16172,32526,65262,130764,261800,523906,1048154,2096688,4193796,8388054,16776614 ⋆ Number of pairs of sets of cardinality at least 3. • a(n) = max(0,2 ^ n - n ^ 2 - n - 2). - _ Dennis P. Walsh _ , Dec 09 2014 •

[A143854] • 1,20,71,154,269,416,595,806,1049,1324,1631,1970,2341,2744,3179,3646,4145,4676,5239,5834,6461,7120,7811,8534,9289 ⋆ Ulam's spiral (WSW spoke). • a(n) = 14 - 29 * n + 16 * n ^ 2. G.f.: x * (1 + 17 * x + 14 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Aug 03 2012 •

[A010008] • 1,20,74,164,290,452,650,884,1154,1460,1802,2180,2594,3044,3530,4052,4610,5204,5834,6500,7202,7940,8714,9524,10370 ⋆ a(0) = 1, a(n) = 18*n^2 + 2 for n>0. • a(n) = (3 * n - 1) ^ 2 + (3 * n + 1) ^ 2 = (n - 1) ^ 2 + (n + 1) ^ 2 + (4 * n) ^ 2 for n>0. - _ Bruno Berselli _ , Feb 06 2012 •

[A005565] • 20,75,189,392,720,1215,1925,2904,4212,5915,8085,10800,14144,18207,23085,28880,35700,43659,52877,63480,75600,89375,104949,122472,142100 ⋆ Number of walks on square lattice. • a(n) = 1 / 4 * (n ^ 4 + 14n ^ 3 + 69n ^ 2 + 136n + 80). G.f.: (20 - 25x + 14x ^ 2 - 3x ^ 3) / (1 - x) ^ 5. - _ Ralf Stephan _ , Apr 23 2004 • a(n) = binomial(n + 4,2) ^ 2 - binomial(n + 4,1) ^ 2 . - _ Gary Detlefs _ , Nov 22 2011 •

[A228025] • 20,76,285,1065,3976,14840,55385,206701,771420,2878980,10744501,40099025,149651600,558507376,2084377905,7779004245,29031639076,108347552060,404358569165,1509086724601,5631988329240,21018866592360,78443478040201,292755045568445 ⋆ a(1) = least k such that 1/2+1/3+1/4+1/5 < H(k) - H(5); a(2) = least k such that H(a(1)) - H(5) < H(k) -H(a(1)), and for n > 2, a(n) = least k such that H(a(n-1)) - H(a(n-2) > H(k) - H(a(n-1)), where H = harmonic number. • a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3) (conjectured). •

[A211613] • 0,1,20,78,199,407,726,1180,1793,2589,3592,4826,6315,8083,10154,12552,15301,18425,21948,25894,30287,35151,40510,46388,52809 ⋆ Number of ordered triples (w,x,y) with all terms in {-n,...-1,1,...,n} and w+x+y>1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. • a(n) = (- 6 + 9 * n - 9 * n ^ 2 + 8 * n ^ 3) / 2 for n>0. •

[A292360] • 0,1,20,78,300,980,3120,9527,28560,84114,244750,704836,2013120,5709613,16097900,45155190,126099120,350765012,972333360,2687024099,7404969000,20355783546,55829853970,152808294148,417451104000 ⋆ a(n) = n*(Lucas(n)*Lucas(n+1) - 2). • a(n) = n * Sum _{ k=1..n } Lucas(k) ^ 2 (by Adnan Ali, see References). • a(n) = 6 * a(n - 1) - 9 * a(n - 2) - 6 * a(n - 3) + 20 * a(n - 4) - 6 * a(n - 5) - 9 * a(n - 6) + 6 * a(n - 7) - a(n - 8) for n > 7. (End) • a(n) = n * (Lucas(2 * n + 1) - 1) for n even, otherwise a(n) = n * (Lucas(2 * n + 1) - 3). - _ Bruno Berselli _ , Sep 15 2017 •

[A195322] • 0,20,80,180,320,500,720,980,1280,1620,2000,2420,2880,3380,3920,4500,5120,5780,6480,7220,8000,8820,9680,10580,11520 ⋆ a(n) = 20*n^2. • a(0)=0, a(1)=20, a(2)=80; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jan 18 2013 •

[A103532] • 1,20,81,208,425,756,1225,1856,2673,3700,4961,6480,8281,10388,12825,15616,18785,22356,26353,30800,35721,41140,47081,53568,60625 ⋆ Number of divisors of 240^n. • a(n) = (4 * n + 1) * (n + 1) ^ 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Harvey P. Dale _ , Jan 21 2013 • a(n) = Sum _{ i=0..n } (n + 1) * (8 * i + 1). [_ Bruno Berselli _ , Sep 08 2015] •

[A041778] • 20,81,3260,13121,528100,2125521,85548940,344321281,13858400180,55777922001,2244975280220,9035679042881,363672136995460,1463724227024721,58912641217984300,237114289098961921 ⋆ Numerators of continued fraction convergents to sqrt(410). • a(n) = 162 * a(n - 2) - a(n - 4). G.f.: - (x ^ 3 - 20 * x ^ 2 - 81 * x - 20) / (x ^ 4 - 162 * x ^ 2 + 1). - _ Colin Barker _ , Jul 16 2012 •

[A172221] • 1,20,84,200,403,720,1180,1808,2631,3676,4970,6540,8413,10616,13176,16120,19475,23268,27526,32276,37545,43360,49748,56736,64351 ⋆ Number of ways to place 3 nonattacking zebras on a 3 X n board. • a(n) = (9 * n ^ 3 - 21 * n ^ 2 + 50 * n - 48) / 2, n>=6. •

[A006566] • 0,1,20,84,220,455,816,1330,2024,2925,4060,5456,7140,9139,11480,14190,17296,20825,24804,29260,34220,39711,45760,52394,59640 ⋆ Dodecahedral numbers: a(n) = n*(3*n - 1)*(3*n - 2)/2. • a(n) = C(n + 2,3) + 16 C(n + 1,3) + 10 C(n,3). • a(0)=0, a(1)=1, a(2)=20, a(3)=84, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jul 24 2013 •

[A211158] • 20,84,528,1040,3060,4788,10304,14400,26100,34100,55440,69264,104468,126420,180480,213248,291924,338580,448400,512400,660660,745844,940608,1051200,1301300 ⋆ Number of 2 X 2 matrices having all terms in {-n,...,0,..,n} and positive odd determinant. • a(n) = n * (n + 1) * (3 * n + 1 + 3 * n ^ 2 - (- 1) ^ n * (2 * n + 1)). Therefore: • a(n) = n ^ 2 * (n + 1) * (3 * n + 1) if n is even, • a(n) = n * (n + 1) ^ 2 * (3 * n + 2) if n is odd. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. • a(n) = a(- n - 1). - _ Bruno Berselli _ , Dec 14 2016 •

[A027849] • 1,20,87,232,485,876,1435,2192,3177,4420,5951,7800,9997,12572,15555,18976,22865,27252,32167,37640,43701,50380,57707,65712,74425 ⋆ a(n) = (n+1)*(5*n^2+4*n+1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 3. •

[A243645] • 0,0,0,1,20,87,244,545,1056,1855,3032,4689,6940,9911,13740,18577,24584,31935,40816,51425,63972,78679,95780,115521,138160 ⋆ Number of ways two L-tiles can be placed on an n X n square. • a(n) = (n ^ 4 - 4 * n ^ 3 - n ^ 2 + 18 * n - 16) / 2 for n>=2, a(n) = 0 for n<2. •

[A213839] • 1,20,89,240,505,916,1505,2304,3345,4660,6281,8240,10569,13300,16465,20096,24225,28884,34105,39920,46361,53460,61249,69760,79025 ⋆ Principal diagonal of the convolution array A213838. • a(n) = (8 * n - 21 * n ^ 2 + 16 * n ^ 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A264851] • 0,1,20,90,260,595,1176,2100,3480,5445,8140,11726,16380,22295,29680,38760,49776,62985,78660,97090,118580,143451,172040,204700,241800 ⋆ a(n) = n*(n + 1)*(n + 2)*(4*n - 3)/6. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Nov 27 2015 •

[A169711] • 1,20,93,256,545,996,1645,2528,3681,5140,6941,9120,11713,14756,18285,22336,26945,32148,37981,44480,51681,59620,68333,77856,88225 ⋆ The function W_n(6) (see Borwein et al. reference for definition). • a(n) = 6 * n ^ 3 - 9 * n ^ 2 + 4 * n. - _ Peter Luschny _ , May 27 2017 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , May 28 2017 •

[A158446] • 20,95,220,395,620,895,1220,1595,2020,2495,3020,3595,4220,4895,5620,6395,7220,8095,9020,9995,11020,12095,13220,14395,15620 ⋆ 25n^2 - 5. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A188050] • 0,20,100,280,600,1100,1820,2800,4080,5700,7700,10120,13000,16380,20300,24800,29920,35700,42180,49400,57400,66220,75900,86480,98000 ⋆ A016755(n) - A001845(n). • a(n) = (10 / 3) * n * (n + 1) * (2 * n + 1). •

[A240437] • 0,20,100,600,3000,15500,77500,390000,1950000,9762500,48812500,244125000,1220625000,6103437500,30517187500,152587500000,762937500000,3814695312500,19073476562500,95367421875000,476837109375000,2384185742187500,11920928710937500,59604644531250000,298023222656250000 ⋆ Number of non-palindromic n-tuples of 5 distinct elements. • a(n) = 1 / 2 * 5 ^ (n / 2) * ((sqrt(5) - 1) * (- 1) ^ n - sqrt(5) - 1) + 5 ^ n. • a(n) = 5 ^ n - 5 ^ ceiling(n / 2). •

[A187756] • 0,1,20,105,336,825,1716,3185,5440,8721,13300,19481,27600,38025,51156,67425,87296,111265,139860,173641,213200,259161,312180,372945,442176 ⋆ a(n) = n^2 * (4*n^2 - 1) / 3. • a(n) = a(- n) for all n in Z. •

[A173963] • 0,0,20,108,336,800,1620,2940,4928,7776,11700,16940,23760,32448,43316,56700,72960,92480,115668,142956,174800,211680,254100,302588,357696 ⋆ Number of nonoverlapping placements of one 1x1 square and one 2x2 square on an nxn board. • a(n) = (n ^ 2 - 4) * (n - 1) ^ 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(1)=0, a(2)=0, a(3)=20, a(4)=108, a(5)=336. [_ Harvey P. Dale _ , Aug 16 2011] •

[A086605] • 0,1,20,111,328,725,1356,2275,3536,5193,7300,9911,13080,16861,21308,26475,32416,39185,46836,55423,65000,75621,87340,100211,114288 ⋆ 9n^3-18n^2+10n. • a(0)=0, a(1)=1, a(2)=20, a(3)=111, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 05 2013 •

[A271494] • 1,20,112,1088,7936,66560,520192,4210688,33488896,268697600,2146435072,17184063488,137422176256,1099578736640,8795824586752,70369817919488,562945658454016,4503616807239680,36028728299487232,288230651029618688,2305841909702066176,18446748471756062720 ⋆ Expansion of (1+16*x)/((1+4*8*x)). • a(n) = 2 ^ (1 + 3 * n) - (- 4) ^ n. • a(n) = 4 * a(n - 1) + 32 * a(n - 2) for n>1. •

[A093566] • 0,0,0,0,1,20,120,455,1330,3276,7140,14190,26235,45760,76076,121485,187460,280840,410040,585276,818805,1125180,1521520,2027795,2667126 ⋆ n*(n-1)*(n-2)*(n-3)*(n^2-3*n-2)/48. • a(n) = binomial(binomial(n - 3, 2), 3). •

[A213223] • 1,20,120,1030,10040,100050,1000060,10000070,100000080,1000000090,10000000100,100000000110,1000000000120,10000000000130,100000000000140,1000000000000150,10000000000000160,100000000000000170 ⋆ 10^n + 10*n. • a(n) = 12 * a(n - 1) - 21 * a(n - 2) + 10 * a(n - 3). •

[A073968] • 0,0,1,20,125,650,3150,15625,78000,390625,1952500,9762500,48815625,244125000,1220703125,6103593750,30517656250,152587890625,762939062500,3814697265625,19073484375000,95367421875000,476837119140625,2384185742187500,11920928955078125 ⋆ Number of strings of length n over Z_5 with trace 1 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). •

[A085284] • 0,1,20,135,560,1750,4536,10290,21120,40095,71500,121121,196560,307580,466480,688500,992256,1400205,1939140,2640715,3542000,4686066,6122600,7908550,10108800 ⋆ C(n+3,3)n^3/4. • a(n)=n ^ 3(n + 1)(n + 2)(n + 3) / 4! •

[A144965] • 0,20,136,444,1040,2020,3480,5516,8224,11700,16040,21340,27696,35204,43960,54060,65600,78676,93384,109820,128080,148260,170456,194764,221280 ⋆ a(n)= 4*n*(4*n^2+1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 30 2012 •

[A262140] • 20,136,812,4752,27716,161560,941660,5488416,31988852,186444712,1086679436,6333631920,36915112100,215157040696,1254027132092,7309005751872,42600007379156,248291038523080,1447146223759340,8434586304032976,49160371600438532 ⋆ The first of nine consecutive positive integers the sum of the squares of which is equal to the sum of the squares of eight consecutive positive integers. • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>3. •

[A054389] • 1,20,140,620,2016,5364,12292,25228,47488,83508,138908,220748,337568,499668,719124,1010092,1388800,1873876,2486316,3249836,4190816,5338676,6725796,8387916,10364032 ⋆ Susceptibility series H_5 for 2-dimensional

Ising model (divided by 2). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) - 4 * a(n - 3) + 10 * a(n - 4) - 4 * a(n - 5) - 4 * a(n - 6) + 4 * a(n - 7) - a(n - 8) for n>8. • a(n) = (77 * n ^ 5 + 630 * n ^ 3 + 448 * n) / 60 for n>0 and even. • a(n) = (77 * n ^ 5 + 630 * n ^ 3 + 493 * n) / 60 for n odd. •

[A071816] • 1,20,141,580,1751,4332,9331,18152,32661,55252,88913,137292,204763,296492,418503,577744,782153,1040724,1363573,1762004,2248575,2837164,3543035,4382904,5375005 ★ Number of ordered solutions to x+y+z = u+v+w, 0 <= x, y, z, u, v, w < n. • a(n) = n * (11 * n ^ 4 + 5 * n ^ 2 + 4) / 20. Recurrence: a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). G.f.: x * (1 + 14 * x + 36 * x ^ 2 + 14 * x ^ 3 + x ^ 4) / (1 - x) ^ 6. - _ Vladeta Jovovic _ , Jun 09 2002 •

[A100190] • 1,20,147,760,3317,13164,49255,177200,620073,2125828,7174523,23914920,78919069,258280412,839411151,2711943520,8716961105,27894275316,88913002339,282429536600,894360198981,2824295364940,8896530399287,27960524111760,87694371077497 ★ The (4,1)-entry in the 4 X 4 matrix M^n, where M = [1,0,0,0 / 3,3,0,0 / 3,6,3,0 / 1,3,3,1]. • a(n) = 8 * a(n - 1) - 22 * a(n - 2) + 24 * a(n - 3) - 9 * a(n - 4) for n>=5 (derived from the minimal polynomial of the matrix M). • a(n) = ((11 + 3 ^ (2 + n)) * n - 18 * (3 ^ n - 1)) / 2. - _ Colin Barker _ , Feb 28 2017 •

[A108647] • 1,20,150,700,2450,7056,17640,39600,81675,157300,286286,496860,828100,1332800,2080800,3162816,4694805,6822900,9728950,13636700,18818646,25603600,34385000,45630000,59889375 ★ a(n) = (n+1)^2*(n+2)^2*(n+3)^2*(n+4)/144 • a(n) = C(n + 4,4) * C(n + 3,2)(n + 1) / 3. - _ Paul Barry _ , May 13 2006 • a(n) = 4 * C(n,4) ^ 2 / n, n >= 4. - _ Zerinvary Lajos _ , May 09 2008 •

[A164605] • 1,20,152,1056,7232,49408,337408,2304000,15732736,107429888,733577216,5009178624,34204811264,233565061120,1594881998848,10890535501824,74365228023808,507797540175872,3467458497216512,23677287656325120 ★ a(n) = ((1+4*sqrt(2))*(4+2*sqrt(2))^n + (1-4*sqrt(2))*(4-2*sqrt(2))^n)/2. • a(n) = 8 * a(n - 1) - 8 * a(n - 2) for n > 1; a(0) = 1, a(1) = 20. •

[A101091] • 1,20,155,760,2814,8592,22770,54120,117975,239668,459173,837200,1463020,2464320,4019412,6372144,9849885,14884980,22040095,32037896,45795530,64464400,89475750,122592600,165968595 ★ Fourth partial sums of fourth powers (A000583). • a(n) = n * (1 + n) * (2 + n) ^ 2 * (3 + n) * (4 + n) * (- 1 + 3 * n * (4 + n)) / 5040. • a(1)=1, a(2)=20, a(3)=155, a(4)=760, a(5)=2814, a(6)=8592, a(7)=22770, a(8)=54120, a(9)=117975, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). [_ Harvey P. Dale _ , Dec 30 2011] •

[A059601] • 1,20,160,820,3190,10252,28600,71500,163735,348920,700128,1334840,2435420,4276520,7261040,11966504,19203965,30091820,46147200,69397900,102518130,148991700,213306600,301185300 ★ Expansion of (1+10*x+5*x^2)/(1-x)^10. • a(n)= binomial(n + 7, 7) * (4 * n ^ 2 + 23 * n + 18) / 18. •

[A118676] • 0,20,161,237,341,1140,1580,2184,6837,9401,12921,40040,54984,75500,233561,320661,440237,1361484,1869140,2566080,7935501,10894337,14956401,46251680,63497040 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+79)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 158 for n > 6; a(1)=0, a(2)=20, a(3)=161, a(4)=237, a(5)=341, a(6)=1140. •

[A067534] • 1,20,161,900,4225,18196,75185,304836,1225905,4913620,19669121,78697220,314817441,1259308180,5037283345,20149198916,80596879185,322387621716,1289550617185,5158202628740,20632810709441 ★ a(n) = 4^n * sum_{i=1,n} i^4/4^i. • a(1)=1, a(2)=20, a(3)=161, a(4)=900, a(5)=4225, a(6)=18196, a(n)= 9 * a(n - 1) - 30 * a(n - 2) + 50 * a(n - 3) - 45 * a(n - 4) + 21 * a(n - 5) - 4 * a(n - 6). - _ Harvey P. Dale _ , Jul 15 2012 •

[A056114] • 1,20,165,880,3575,12012,35035,91520,218790,486200,1016158,2015520,3821090,6963880,12257850,20920064,34730575,56241900,89049675,138138000,210315105,314757300,463681725,673171200,964177500 ★ Expansion of (1+9*x)/(1-x)^11. • a(n) = (n + 1) * C(n + 9, 9). •

[A292281] • 1,20,167,867,3322,10309,27410,64770,139479,278674,523457,933725,1594008,2620411,4168756,6444020,9711165,14307456,20656363,29283143,40832198,56086305,75987814,101661910,134442035 ★ Number of magic labelings of the prism graph I X C_6 having magic sum n. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. •

[A056932] • 1,20,168,887,3490,11196,30900,75966,170379,354640,693836,1288365,2287844,3908776,6456600,10352796,16167765,24660252,36824128,53943395,77656326,110029700,153644140,211691610,288086175 ★ Antichains (or order ideals) in the poset 2*2*2*n or size of the distributive lattice J(2*2*2*n). • a(n) = 48 C(n + 8, 8) - 96 C(n + 7, 7) + 63 C(n + 6, 6) - 15 C(n + 5, 5) + C(n + 4, 4). G.f.: (1 + 11 * x + 24 * x ^ 2 + 11 * x ^ 3 + x ^ 4) / (1 - x) ^ 9. [Berman and Koehler] •

[A056128] • 1,20,174,988,4277,15288,47320,130832,330174,772616,1696396,3527160,6995534,13312768,24426552,43385360,74847175,125777340,206390730,331405620,521690715,806403000,1225732560,1834391520,2706007980 ★ A second-order recursive sequence. • a(n) = (9n + 11) * C(n + 10, 10) / 11. •

[A027791] • 20,175,840,2940,8400,20790,46200,94380,180180,325325,560560,928200,1485120,2306220,3488400,5155080,7461300,10599435,14805560,20366500,27627600,37001250,48976200,64127700,83128500 ★ a(n) = 5*(n+1)*C(n+3,6). • a(n) = C(n + 1, 4) * C(n + 3, 3) - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[A047819] • 1,20,175,980,4116,14112,41580,108900,259545,572572,1184183,2318680,4331600,7768320,13441968,22535064,36729945,58373700,90684055,138003404,206108980,302588000,437287500,622849500,875343105 ★ a(n) = Product_{i=1..n} ((i+3)*(i+4)*(i+5))/(i*(i+1)*(i+2)). • a(n) = C(n,n - 1) * C(n + 1,n - 2) * C(n + 2,n - 3) / 12, n>=3 . - _ Zerinvary Lajos _ , May 29 2007 • a(n - 3) = 1 / 24 * sum { 1 <= x _ 1, x _ 2, x _ 3 <= n } (det V(x _ 1,x _ 2,x _ 3)) ^ 2 = 1 / 24 * sum { 1 <= i,j,k <= n } ((i - j)(i - k)(j - k)) ^ 2, where V(x _ 1,x _ 2,x _ 3) is the Vandermonde matrix of order 3. - _ Peter Bala _ , Sep 21 2007 • a(n) = - a(- 6 - n) for all n in Z. - _ Michael Somos _ , Dec 26 2016 •

[A177073] • 20,182,506,992,1640,2450,3422,4556,5852,7310,8930,10712,12656,14762,17030,19460,22052,24806,27722,30800,34040,37442,41006,44732,48620 ★ (9*n+4)*(9*n+5). • a(n) = 162 * n + a(n - 1) with n>0, a(0)=20. • a(0)=20, a(1)=182, a(2)=506, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 24 2011 •

[A210429] • 0,1,20,189,1100,4615,15372,43219,106808,238581,491380,946913,1726308,3002987,5018092,8098695,12679024,19324937,28761876,41906533,59902460,84159855,116399756,158702875,213563304 ★ Number of semistandard Young tableaux over all partitions of 7 with maximal element <= n. • a(n) = n * (180 + (637 + (385 + 58 * n ^ 2) * n ^ 2) * n ^ 2) / 1260. •

[A232224] • 0,0,0,1,20,195,1430,9009,51688,278460,1434120,7141530,34648856,164663785,769491450,3546222225,16152872400,72846725160,325722299760,1445598337950,6373942543800,27942072562950,121863923024844,529043313674106,2287209524819120 ★ Number of ways of arranging n chords on a circle (handshakes between 2n people across a table) with exactly 3 simple intersections. • a(n) = [x ^ (2n)] (1 - sqrt(1 - 4 * x ^ 2)) ^ 6 * ((1 - x ^ 2) * sqrt(1 - 4 * x ^ 2) + 7 * x ^ 2 - 26 * x ^ 4) / (64 * x ^ 6 * sqrt(1 - 4 * x ^ 2) ^ 5). - _ M. F. Hasler _ , Mar 16 2015 • a(n) = (1/4) * [x^(2n)] (1 - x - 2 * x^2 - 4 * x^3 - 2 * x^4 - x^5 - x^6) / (1 - 4 * x^2)^2. - _ Michael Somos _ , Sep 30 2015 •

[A035474] • 1,20,200,1340,6800,29028,108120,355980,1047840,2793140,6830056,15502300,32993200,66410500,127335800,233975084,414071360,708767060,1177632520,1905107580,3008636112,4648808100,7041860760,10474929100,15324477280 ★ Coordination sequence for lattice D*_10 (with edges defined by l_1 norm = 1). • a(m) = sum(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1), where n=10, a(0)=1. •

[A099197] • 0,1,20,201,1360,7001,29364,104881,329024,927441,2390004,5707449,12767184,26986089,54284244,104535009,193664256,346615329,601446996,1014889769,1669752016,2684641785,4226553716,6526963345,9902174016 ★ Figurate numbers based on the 10-dimensional regular convex polytope called the 10-dimensional cross-polytope, or 10-dimensional hyperoctahedron, which is represented by the Schlaefli symbol {3, 3, 3, 3, 3, 3, 3, 3, 4}. It is the dual of the 10-dimensional hypercube. • a(n) = 10 - crosspolytope(n) = (n ^ 2) * (2 * n ^ 8 + 120 * n ^ 6 + 1806 * n ^ 4 + 7180 * n ^ 2 + 5067) / 14175. •

[A094311] • 1,20,210,1309,5720,19536,55825,139490,314019,650440,1258796,2302455,4015570,6724004,10870035,17041156,26003285,38738700,56489014,80803505,113593116,157190440,214416005,288651174,383917975 ★ n(1+n^2)((2+n^2)^2-1)/16. • a(1)=1, a(2)=20, a(3)=210, a(4)=1309, a(5)=5720, a(6)=19536, a(7)=55825, a(8)=139490, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a (n - 8) [From Harvey P. Dale, Oct 17 2011] •

[A010972] • 1,20,210,1540,8855,42504,177100,657800,2220075,6906900,20030010,54627300,141120525,347373600,818809200,1855967520,4059928950,8597496600,17672631900,35345263800,68923264410,131282408400,244662670200,446775310800,800472431850 ★ a(n) = binomial(n,19). • a(n + 18) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) * (n + 10) * (n + 11) * (n + 12) * (n + 13) * (n + 14) * (n + 15) * (n + 16) * (n + 17) * (n + 18) / 19!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 • a(n) = n / (n - 19) * a(n - 1), n > 19. - _ Vincenzo Librandi _ , Mar 26 2011 •

[A007744] • 1,20,210,1680,11550,72072,420420,2333760,12471030,64664600,327202876,1622493600,7909656300,38003792400,180324117000,846321189120,3934071152550,18132120329400,82937661506700 ★ Expansion of (1+6*x)/(1-4*x)^(7/2). • a(n)=binomial(2n + 3, n) * binomial(n + 3, 3); - Paul Barry, May 02 2005 •

[A121204] • 0,0,20,212,1768,13672,102012,745404,5374160,38400464,272709604,1928498596,13597146552,95668307256,672119557196,4717043931788,33080342678944,231867574534048,1624598900644788,11379821699044980 ★ -2n+7^n-5^n. • a(n) = 14 * a(n - 1) - 60 * a(n - 2) + 82 * a(n - 3) - 35 * a(n - 4). - _ Vincenzo Librandi _ , Feb 26 2013 •

[A140236] • 0,1,20,220,1540,7770,30856,102340,295240,762355,1798940,3939936,8104460,15803060,29426320,52636760,90889616,152112005,247574180,392991060,609896980,927341646,1383960600,2030479100,2932714200 ★ Double tetrahedral numbers (or double pyramidal numbers): a(n) = k(k+1)(k+2)/6 where k = n(n+1)(n+2)/6. • a(n) = (n * (1 + n) * (2 + n) * (3 + n) * (2 + n ^ 2) * (12 + n * (1 + n) * (2 + n))) / 1296. •

[A140354] • 1,20,220,1760,11440,64064,320320,1464320,6223360,24893440,94595072,343982080,1203937280,4074864640,13388840960,42844291072,133888409600,409541017600,1228623052800,3621204787200,10501493882880,30004268236800 ★ a(n) = binomial(n+9,9)*2^n. • a(0)=1, a(1)=20, a(2)=220, a(3)=1760, a(4)=11440, a(5)=64064, a(6)=320320, a(7)=1464320, a(8)=6223360, a(9)=24893440, a(n) = 20 * a(n - 1) - 180 * a(n - 2) + 960 * a(n - 3) - 3360 * a(n - 4) + 8064 * a(n - 5) - 13440 * a(n - 6) + 15360 * a(n - 7) - 11520 * a(n - 8) + 5120 * a(n - 9) - 1024 * a(n - 10). - _ Harvey P. Dale _ , Jul 18 2011 •

[A155673] • 1,20,220,2330,24640,261050,2771560,29487170,314358880,3357947690,35937424600,385311670610,4138428376720,44522712143930,479749833583240,5177248169415650,55949729863572160,605447028499293770 ★ 11^n+10^n-1^n • a(n)=21 * a(n - 1) - 110 * a(n - 2) - 90 with a(0)=1, a(1)=20 [From _ Vincenzo Librandi _ , Jul 21 2010] •

[A112503] • 1,20,225,1882,13070,79872,444902,2311828,11388999,53820068,246112783,1096379070,4782801180,20515294320,86808499020,363304109640,1507010836605,6206407299540,25412183425165,103563957886370 ★ Fourth column

of triangle A112500. • a(n) = 7813 / 324 + (2251 / 432) * (n + 1) + (31 / 36) * binomial(n + 2, 2) + (1 / 12) * binomial(n + 3, 3) + (- 1344 - 256 * (n + 1) - 64 * binomial(n + 2, 2)) * 2 ^ n + (6561 / 4 - (6561 / 16) * (n + 1)) * 3 ^ n + (32768 / 81) * 4 ^ n, n>=0 (from partial fractions for g.f.). •

[A007160] • 1,20,225,1925,14014,91728,556920,3197700,17587350,93486536,483367885,2442687975,12109051500,59053512000,283963030560,1348824395160,6338392712550,29503515951000,136173391604250 ★ Number of diagonal dissections of a convex (n+6)-gon into n regions. • a(n) = binomial(n + 3, 4) * binomial(2n + 4, n - 1) / n. •

[A073386] • 1,20,230,1980,14135,88264,497860,2591160,12630475,58295380,256887774,1087825180,4449607565,17654254880,68177369040,257006941664,948023601910,3428968838680,12182953719860 ★ Ninth convolution of A000129(n+1) (generalized (2,1)-Fibonacci, called Pell numbers), n>=0, with itself. • a(n) = sum((2 ^ n) * binomial(n - k + 9, 9) * binomial(n - k, k) * (1 / 4) ^ k, k=0..floor(n / 2)). • a(n) = F’’’’’’’’’(n + 10, 2) / 9!, that is, 1 / 9! times the 9th derivative of the (n + 10)th Fibonacci polynomial evaluated at x=2. - _ T. D. Noe _ , Jan 19 2006 •

[A073398] • 1,20,240,2200,16940,115104,711040,4072640,21930480,112157760,549010176,2587777920,11802273600,52287866880,225756241920,952486588416,3935984616960,15961485957120,63628396339200 ★ Ninth convolution of A002605(n) (generalized (2,2)-Fibonacci), n>=0, with itself. • a(n) = (2 ^ n) * sum(binomial(n - k + 9, 9) * binomial(n - k, k) * (1 / 2) ^ k, k=0..floor(n / 2)). •

[A040075] • 1,20,240,2240,17920,129024,860160,5406720,32440320,187432960,1049624576,5725224960,30534533120,159719096320,821412495360,4161823309824,20809116549120,102821517066240,502682972323840 ★ 5-fold convolution of A000302 (powers of 4); expansion of 1/(1-4*x)^5. • a(n) = binomial(n + 4, 4) * 4 ^ n. •

[A123954] • 0,0,0,0,1,20,244,2352,19725,150996,1084600,7438112,49268857,317763732,2007173532,12470499600,76456454725,463727364692,2787905507488,16639142746368,98709193239921,582627136604436,3424383528301252 ★ G.f.: -x^5/ ((4*x-1) *(3*x-1) *(5*x-1) *(13*x^2-8*x+1)). • a(n)= 20 * a(n - 1) - 156 * a(n - 2) + 592 * a(n - 3) - 1091 * a(n - 4) + 780 * a(n - 5). •

[A081143] • 0,0,0,1,20,250,2500,21875,175000,1312500,9375000,64453125,429687500,2792968750,17773437500,111083984375,683593750000,4150390625000,24902343750000,147857666015625,869750976562500,5073547363281250 ★ 5th binomial transform of (0,0,0,1,0,0,0,0,.....). • a(n) = 20a(n - 1) - 150a(n - 2) + 500a(n - 3) - 625a(n - 4), a(0)=a(1)=a(2)=0, a(3)=1. • a(n) = 5 ^ (n - 3)C(n,3). •

[A028032] • 1,20,255,2650,24521,210840,1725235,13631750,104995341,793395460,5908353815,43502236050,317443722961,2299938136880,16567618807995,118785894675550,848393691575381,6040178746163100 ★ Expansion of 1/((1-3x)(1-4x)(1-6x)(1-7x)). • a(n)=(7 ^ (n + 3) - 2 * 6 ^ (n + 3) + 2 * 4 ^ (n + 3) - 3 ^ (n + 3)) / 12. [_ Yahia Kahloune _ , May 30 2013] •

[A025986] • 1,20,257,2704,25389,221676,1841449,14758568,115171397,880623172,6627177921,49248518592,362296167325,2643446894108,19158543110873,138087153497176,990728497913973,7081081591668084 ★ Expansion of 1/((1-2x)(1-5x)(1-6x)(1-7x)). • a(n) = - 2 * 2 ^ n / 15 + 125 * 5 ^ n / 6 - 54 * 6 ^ n / 1 + 343 * 7 ^ n / 10. _ R. J. Mathar _ , Jun 20 2013 •

[A028027] • 1,20,257,2716,25809,230244,1975009,16524332,136058417,1108775668,8975764161,72350153148,581586939025,4666887733892,37407122372513,299621333407564,2398809490126833,19199738367402516 ★ Expansion of 1/((1-3x)(1-4x)(1-5x)(1-8x)). • a(n) = (8 ^ (n + 3) - 10 * 5 ^ (n + 3) + 15 * 4 ^ (n + 3) - 6 * 3 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , May 25 2013] •

[A025966] • 1,20,260,2800,27216,248640,2182720,18656000,156544256,1296655360,10641146880,86744985600,703688298496,5688011079680,45855653642240,368956766617600,2964331947687936,23790756829593600 ★ Expansion of 1/((1-2x)(1-4x)(1-6x)(1-8x)). • a(n)=(- 2 ^ n + 24 * 4 ^ n - 81 * 6 ^ n + 64 * 8 ^ n) / 3!. •

[A041764] • 20,261,542,803,2951,3754,14213,17967,50147,669878,26845267,349658349,726161965,1075820314,3953622907,5029443221,19041952570,24071395791,67184744152,897473069767,35966107534832,468456871022583,972879849579998,1441336720602581 ★ Numerators of continued fraction convergents to sqrt(403). • a(n) = 1339756 * a(n - 10) - a(n - 20) for n>19. - _ Bruno Berselli _ , Nov 07 2013 •

[A022111] • 1,20,263,2878,28449,264048,2350651,20332466,172311557,1438844836,11885079999,97387603014,793247778025,6432389826584,51985193621507,419076145997722,3371967484999053,27092843456412492 ★ Expansion of 1/((1-x)(1-5x)(1-6x)(1-8x)). • a(n) = 256 * 8 ^ n / 21 - 108 * 6 ^ n / 5 + 125 * 5 ^ n / 12 - 1 / 140. - _ R. J. Mathar _ , Mar 11 2011 • a(0)=1, a(1)=20, a(2)=263, a(3)=2878, a(n)=20 * a(n - 1) - 137 * a(n - 2) + 358 * a(n - 3) - 240 * a(n - 4). - _ Harvey P. Dale _ , Nov 04 2012 •

[A025943] • 1,20,263,2890,28833,271320,2457211,21670550,187473605,1598611300,13480822719,112690635330,935435043817,7720854845360,63428474542787,519059289782830,4233894901355469,34441103679651900 ★ Expansion of 1/((1-2x)(1-3x)(1-7x)(1-8x)). • a(n) = - 2 ^ (n + 2) / 15 + 4 * 8 ^ (n + 2) / 15 + 3 ^ (n + 3) / 20 - 7 ^ (n + 3) / 20. - _ R. J. Mathar _ , Jun 04 2013 •

[A025961] • 1,20,263,2902,29289,281472,2630731,24196634,220500797,1998686404,18061169919,162923877246,1468215185425,13223572329416,119060866122227,1071793518338338,9647378871105573,86832630229860108 ★ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-9x)). • a(0)=1, a(1)=20, a(2)=263, a(3)=2902, a(n)=20 * a(n - 1) - 137 * a(n - 2) + 382 * a(n - 3) - 360 * a(n - 4). [_ Harvey P. Dale _ , Dec 08 2011] • a(n) = - 4 * 2 ^ n / 21 + 32 * 4 ^ n / 5 - 125 * 5 ^ n / 12 + 729 * 9 ^ n / 140. - _ R. J. Mathar _ , Jun 20 2013 •

[A021854] • 1,20,265,2940,29601,280740,2558905,22683980,197048401,1685772660,14253277545,119401486620,992861126401,8206523123780,67497981692185,552905862106860,4513706683463601,36742894880462100 ★ Expansion of 1/((1-x)(1-4x)(1-7x)(1-8x)). • a(n) = (9 * 8 ^ (n + 3) - 14 * 7 ^ (n + 3) + 7 * 4 ^ (n + 3) - 2) / 252. [_ Yahia Kahloune _ , Jul 05 2013] •

[A025939] • 1,20,265,2960,30301,295340,2795905,25996520,238988101,2181067460,19810829545,179385327680,1620996705901,14628147660380,131888407103185,1188406175868440,10704118783463701,96387848642218100 ★ Expansion of 1/((1-2x)(1-3x)(1-6x)(1-9x)). • a(n) = - 6 ^ (n + 1) - 2 ^ (n + 1) / 7 + 3 ^ (n + 1) / 2 + 9 ^ (n + 2) / 14. - _ R. J. Mathar _ , Jun 04 2013 •

[A021824] • 1,20,267,3010,31073,304920,2901319,27075950,249555405,2281579300,20749095731,188036746170,1700122392697,15347941075760,138412864844703,1247405586235270,11236794818538149,101192043527859900 ★ Expansion of 1/((1-x)(1-4x)(1-6x)(1-9x)). • a(n) = (9 ^ (n + 3) - 4 * 6 ^ (n + 3) + 4 ^ (n + 4) - 1) / 120. [_ Yahia Kahloune _ , Jul 05 2013] •

[A019928] • 1,20,269,3040,31161,300300,2775109,24887960,218303921,1882786180,16026538749,135010883280,1127921219881,9359429537660,77233958267189,634411837477000,5191228487083041,42342127346986740 ★ Expansion of 1/((1-5x)(1-7x)(1-8x)). • a(n) = 25 * 5 ^ n / 6 - 49 * 7 ^ n / 2 + 64 * 8 ^ n / 3. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=20, a(2)=269; for n>2, a(n) = 20 * a(n - 1) - 131 * a(n - 2) + 280 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A025934] • 1,20,269,3100,33261,344580,3507709,35392940,355527821,3563328340,35673709149,356939747580,3570412342381,35709202523300,357117435046589,3571301442515020,35713650014404941,357139678477481460 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-10x)). • a(n) = (3 * 10 ^ (n + 3) - 28 * 5 ^ (n + 3) + 60 * 3 ^ (n + 3) - 35 * 2 ^ (n + 3)) / 840. - _ Yahia Kahloune _ , May 22 2013 •

[A021594] • 1,20,270,3100,32711,328440,3195340,30437000,285695421,2653625260,24459281210,224170373700,2045792060131,18609941810480,168874176353880,1529560509125200,13833895100278841,124980009723284100 ★ Expansion of 1/((1-x)(1-3x)(1-7x)(1-9x)). • a(n) = (9 ^ (n + 3) - 2 * 7 ^ (n + 3) + 2 * 3 ^ (n + 3) - 1) / 96. - _ Yahia Kahloune _ , May 23 2013 • a(0)=1, a(1)=20; for n>1, a(n) = 16 * a(n - 1) - 63 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 11 2013 • a(0)=1, a(1)=20, a(2)=270, a(3)=3100; for n>3, a(n) = 20 * a(n - 1) - 130 * a(n - 2) + 300 * a(n - 3) - 189 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 •

[A019793] • 1,20,271,3110,32641,324800,3125011,29414090,272851381,2506362980,22871235751,207773763470,1881803862121,17008495407560,153516126074491,1384313656687250,12474986630176861,112372624930994540 ★ Expansion of 1/((1-5x)(1-6x)(1-9x)). • a(n) = 25 * 5 ^ n / 4 - 12 * 6 ^ n + 27 * 9 ^ n / 4 . _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=20, a(2)=271; for n>2, a(n) = 20 * a(n - 1) - 129 * a(n - 2) + 270 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 15 * a(n - 1) - 54 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A021774] • 1,20,271,3150,34041,354480,3620611,36607010,368161981,3692428740,36979730151,370080107670,3702237477121,37029646251800,370333177834891,3703516786589130,37036098633715461,370365663082767660 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-10x)). • a(n) = - 1 / 108 + 2 ^ (2n + 5) / 9 - 5 ^ (n + 2) / 4 + 10 ^ (n + 2) / 27. [_ Bruno Berselli _ , May 08 2013] •

[A019613] • 1,20,273,3172,33809,342132,3348241,32033924,301669137,2808831124,25937190929,238042888356,2174659962385,19797924540596,179764834534737,1628947562960068,14738065844679953,133185374228264148 ★ Expansion of 1/((1-4x)(1-7x)(1-9x)). • a(n) = 16 * 4 ^ n / 15 - 49 * 7 ^ n / 6 + 81 * 9 ^ n / 10. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=20, a(2)=273; for n>2, a(n) = 20 * a(n - 1) - 127 * a(n - 2) + 252 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A021514] • 1,20,273,3208,35069,368988,3800761,38676176,390782997,3931986916,39464899409,395519441304,3960417893485,39635522209004,396543288909417,3966561311533792,39672383714545733,396764460934414452 ★ Expansion of 1/((1-x)(1-3x)(1-6x)(1-10x)). • a(n) = (10 ^ (n + 4) - 7 * 6 ^ (n + 4) + 20 * 3 ^ (n + 4) - 28) / 2520. [_ Yahia Kahloune _ , Jun 19 2013] • a(0)=1, a(1)=20; for n>1, a(n) = 16 * (n - 1) - 60 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 • a(0)=1, a(1)=20, a(2)=273, a(3)=3208; for n>3, a(n) = 20 * a(n - 1) - 127 * a(n - 2) + 288 * a(n - 3) - 180 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 •

[A021264] • 1,20,275,3250,35481,369240,3722575,36698750,355853861,3407206660,32301037275,307398758250,2838904214641,26387861071280,244192534790375,2251347094369750,20691038099509821,189650656897307100 ★ Expansion of 1/((1-x)(1-2x)(1-8x)(1-9x)). • a(0)=1, a(1)=20, a(2)=275; a(n)=(3 * 9 ^ (n + 3) - 4 * 8 ^ (n + 3) + 2 ^ (n + 5) - 3) / 168. [_ Yahia Kahloune _ , Jun 21 2013] • a(0)=1, a(1)=20, a(2)=275, a(3)=3250; for n>3, a(n) = 20 * a(n - 1) - 125 * a(n - 2) + 250 * a(n - 3) - 144 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=20; for n>1, a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A025928] • 1,20,275,3310,37761,421440,4662175,51395570,565817021,6225908260,68492850075,753453315030,8288115908281,91169797529480,1002869877293975,11031577111093690,121347382194479541 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-11x)). • a(0)=1, a(1)=20, a(2)=275, a(3)=3310, a(n)=20 * a(n - 1) - 125 * a(n - 2) + 310 * a(n - 3) - 264 * a(n - 4). - _ Harvey P. Dale _ , May 24 2012 • a(n)=(11 ^ (n + 3) - 9 * 4 ^ (n + 4) + 7 * 3 ^ (n + 5) - 7 * 2 ^ (n + 5)) / 504. - _ Yahia Kahloune _ , May 20 2013. •

[**A019483**] • 1,20,276,3280,36176,383040,3962176,40428800,409195776,4121666560,41395966976,415039672320,4156893515776,41607983022080,416314385842176,4164552265891840,41653977398706176,416590519605657600 ⋆ Expansion of 1/((1-4x)(1-6x)(1-10x)). • a(n) = 4 * 4 ^ n / 3 - 9 * 6 ^ n / 2 + 25 * 10 ^ n / 6. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=20, a(2)=276; for n>2, a(n) = 20 * a(n - 1) - 124 * a(n - 2) + 240 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 16 * a(n - 1) - 60 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[**A018056**] • 1,20,277,3296,36169,377804,3819229,37727192,366384337,3512195588,33327711781,313693195088,2933189599705,27278314742972,252541704234733,2329170324845384,21412892860517473,196318915369069556 ⋆ Expansion of 1/((1-3*x)*(1-8*x)*(1-9*x)). • a(0)=1, a(1)=20, a(2)=277; for n>2, a(n) = 20 * a(n - 1) - 123 * a(n - 2) + 216 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (5 * 9 ^ (n + 2) - 6 * 8 ^ (n + 2) + 3 ^ (n + 2)) / 30. [_ Yahia Kahloune _ , Jul 06 2013] •

[**A021234**] • 1,20,277,3324,37149,398916,4181269,43157708,440992717,4475837652,45219751941,455427151452,4576878947005,45927041513828,460378179477493,4611536145214956,46169641905360813,462076382226349044 ⋆ Expansion of 1/((1-x)(1-2x)(1-7x)(1-10x)). • a(n) = (5 * 10 ^ (n + 3) - 12 * 7 ^ (n + 3) + 27 * 2 ^ (n + 3) - 20) / 1080. [_ Yahia Kahloune _ , Jul 07 2013] • a(0)=1, a(1)=20, a(2)=277, a(3)=3324; for n>3, a(n) = 20 * a(n - 1) - 123 * a(n - 2) + 244 * a(n - 3) - 140 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=20; for n>1, a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[**A021474**] • 1,20,278,3388,39039,438648,4872316,53834696,593387597,6533322796,71896935474,791018479524,8701965018475,95725426313264,1052998752170552,11583081609022672,127414374439552473 ⋆ Expansion of 1/((1-x)(1-3x)(1-5x)(1-11x)). • a(0)=1, a(1)=20; for n>1, a(n) = 16 * a(n - 1) - 55 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 • a(0)=1, a(1)=20, a(2)=278, a(3)=3388; for n>3, a(n) = 20 * a(n - 1) - 122 * a(n - 2) + 268 * a(n - 3) - 165 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 • a(n) = (11 ^ (n + 3) - 10 * 5 ^ (n + 3) + 15 * 3 ^ (n + 3) - 6) / 480. [_ Yahia Kahloune _ , Sep 16 2013] •

[**A017999**] • 1,20,279,3370,37841,407640,4281739,44256950,452652981,4597133860,46465625999,468116448930,4705386343321,47223418005680,473421066847059,4742518890351310,47483346499724861,475240568299871100,4755255406504488919,47572502130747596090 ⋆ Expansion of 1/((1-3x)(1-7x)(1-10x)). • a(n) = (4 * 10 ^ (n + 2) - 7 ^ (n + 3) + 3 ^ (n + 3)) / 84. - _ Yahia Kahloune _ , Jun 30 2013 • a(0)=1, a(1)=20, a(2)=279; for n>2, a(n) = 20 * a(n - 1) - 121 * a(n - 2) + 210 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[**A028294**] • 1,20,281,1357,4281,10666,22825,43891,77937,130096,206681,315305,465001,666342,931561,1274671,1711585,2260236,2940697,3775301,4788761,6008290,7463721,9187627,11215441 ⋆ a(n) = n^5 - (65/6)*n^4 + (173/6)*n^3 + (148/3)*n^2 - (862/3)*n + 265. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Wesley Ivan Hurt _ , Aug 28 2015 •

[**A019040**] • 1,20,281,3460,40161,453300,5048041,55853540,616079921,6785596180,74686191801,821775473220,9040683799681,99453356876660,1094016369479561,12034328357198500,132378357688767441 ⋆ Expansion of 1/((1-4x)(1-5x)(1-11x)). • a(n) = 16 * 4 ^ n / 7 - 25 * 5 ^ n / 6 + 121 * 11 ^ n / 42. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=20, a(2)=281; for n>2 a(n) = 20 * a(n - 1) - 119 * a(n - 2) + 220 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 16 * a(n - 1) - 55 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[**A017953**] • 1,20,283,3518,41209,468608,5247271,58277666,644406997,7108612676,78315612739,862197157094,9488521761265,104399859167624,1148555174389087,12635047273900202,138991162189670413 ⋆ Expansion of 1/((1-3x)(1-6x)(1-11x)). • a(0)=1, a(1)=20, a(2)=283; for n>2, a(n) = 20 * a(n - 1) - 117 * a(n - 2) + 198 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 17 * a(n - 1) - 66 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (3 * 11 ^ (n + 2) - 8 * 6 ^ (n + 2) + 5 * 3 ^ (n + 2)) / 120. [_ Yahia Kahloune _ , Jul 06 2013] •

[**A016317**] • 1,20,284,3520,40656,450240,4851904,51315200,535521536,5534172160,56773377024,579187015680,5883496124416,59567968993280,601543751942144,6062350015528960,60998800124215296,612990400993689600 ⋆ Expansion of 1/((1-2x)(1-8x)(1-10x)). • a(n) = (75 * 10 ^ n + 2 ^ n - 8 ^ (n + 2)) / 12. • a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 2 ^ n. • a(n) = 20 * a(n - 1) - 116 * a(n - 2) + 160 * a(n - 3), n >= 3. (End) •

[**A021404**] • 1,20,285,3640,44681,540540,6505045,78138080,937976961,11257033060,135089723405,1621098253320,19453266126841,233439544261580,2801275941271365,33615316957309360,403383826200494321 ⋆ Expansion of 1/((1-x)(1-3x)(1-4x)(1-12x)). • a(0)=1, a(1)=20, a(2)=285, a(3)=3640, a(n) = 20 * a(n - 1) - 115 * a(n - 2) + 240 * a(n - 3) - 144 * a(n - 4). [_ Harvey P. Dale _ , May 06 2012] • a(0)=1, a(1)=20; for n>1, a(n) = 16 * a(n - 1) - 48 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 09 2013 •

[**A016314**] • 1,20,287,3634,43329,500136,5666179,63480878,706360277,7826457892,86486501751,954119775882,10514695335145,115797293297888,1274719738572203,14028563710395046,154360726917116733 ⋆ Expansion of 1/((1-2x)(1-7x)(1-11x)). • a(n) = 4 * 2 ^ n / 45 - 49 * 7 ^ n / 20 + 121 * 11 ^ n / 36. _ R. J. Mathar _ , Jun 23 2013 • a(n) = 20 * a(n - 1) - 113 * a(n - 2) + 154 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 • a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 2 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 •

[**A021164**] • 1,20,287,3694,45609,553776,6677779,80295938,964364717,11576444932,138937682871,1667353916982,20008755624625,240107610616088,2881304043028763,34575712094589226,414908863026422133 ⋆ Expansion of 1/((1-x)(1-2x)(1-5x)(1-12x)). • a(0)=1, a(1)=20; for n>1, a(n) = 17 * a(n - 1) - 60 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 07 2013 • a(0)=1, a(1)=20, a(2)=287, a(3)=3694; for n>3, a(n) = 20 * a(n - 1) - 113 * a(n - 2) + 214 * a(n - 3) - 120 * a(n - 4). - _ Vincenzo Librandi _ , Jul 07 2013 • a(n) = (6 * 12 ^ (n + 3) - 11 * 5 ^ (n + 4) + 77 * 2 ^ (n + 4) - 105) / 4620. [_ Yahia Kahloune _ , Jul 07 2013] •

[**A017918**] • 1,20,289,3740,46321,563300,6797569,81762860,982121041,11790305780,141507994849,1698217742780,20379222467761,244553718979460,2934659879368129,35215994824839500,422592319303230481 ⋆ Expansion of 1/((1-3x)(1-5x)(1-12x)). • a(0)=1, a(1)=20, a(2)=289; for n>2, a(n) = 20 * a(n - 1) - 111 * a(n - 2) + 180 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 17 * a(n - 1) - 60 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (2 * 12 ^ (n + 2) - 9 * 5 ^ (n + 2) + 7 * 3 ^ (n + 2)) / 126. [_ Yahia Kahloune _ , Jul 06 2013] •

[**A016261**] • 1,20,291,3730,44681,513240,5730271,62683550,675263061,7188478660,75807419051,793377882570,8251512054241,85374719599280,879483587504631,9026463398652790,92349281698986221,942254646401987100,9591402928728995011,97433737469672066210 ⋆ Expansion of 1/((1-x)*(1-9*x)*(1-10*x)). • a(n) = (8 * 10 ^ (n + 2) - 9 ^ (n + 3) + 1) / 72. - _ Bruno Berselli _ , Mar 21 2011 • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 •

[**A016309**] • 1,20,292,3824,47824,585536,7096384,85576448,1029436672,12368356352,148510974976,1782675894272,21395375902720,256764101869568,3081286768672768,36976146501533696,443717989683232768 ⋆ Expansion of 1/((1-2*x)*(1-6*x)*(1-12*x)). • a(n) = 18 * a(n - 1) - 72 * a(n - 2) + 2 ^ n; a(n)=20 * a(n - 1) - 108 * a(n - 2) + 144 * a(n - 3) for n>2; [From Vincenzo Librandi, Sep 02 2011] • a(n) = det(|ps(i + 3,j + 2)|, 1 <= i,j <= n), where ps(n,k) are Legendre - Stirling numbers of the first kind (A129467). [_ Mircea Merca _ , Apr 06 2013] •

[**A016259**] • 1,20,293,3808,46569,549708,6346381,72206936,813450257,9101344516,101341923189,1124578223184,12448896999865,137566159357244,1518254091799517,16741005720753352,184472748615956193 ⋆ Expansion of 1/((1-x)(1-8x)(1-11x)). • a(n) = (7 * 11 ^ (n + 2) - 10 * 8 ^ (n + 2) + 3) / 210. - _ Bruno Berselli _ , Mar 21 2011 • a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 •

[**A016255**] • 1,20,297,3964,50369,624036,7625689,92469068,1116354417,13443332212,161649541001,1942101373212,23321364646945,279969412942148,3360424215557433,40330629408450796,484006324653740753 ⋆ Expansion of 1/((1-x)(1-7x)(1-12x)). • a(0)=1, a(1)=20, a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Feb 10 2011 • a(n) = (6 * 12 ^ (n + 2) - 11 * 7 ^ (n + 2) + 5) / 330. - _ Yahia Kahloune _ , Jul 09 2013 •

[**A053541**] • 1,20,300,4000,50000,600000,7000000,80000000,900000000,10000000000,110000000000,1200000000000,13000000000000,140000000000000,1500000000000000,16000000000000000,170000000000000000 ⋆ a(n) = n*10^(n-1). • a(n)=20 * a(n - 1) - 100 * a(n - 2); a(0)=1; n>0. •

[**A016190**] • 1,20,301,4040,51001,620060,7352101,85656080,985263601,11225320100,126965305501,1427999420120,15990423157801,178436520564140,1985678518660501,22048354837360160,244384923399813601 ⋆ Expansion of 1/((1-9x)(1-11x)). • a(n) = (11 ^ (n + 1) - 9 ^ (n + 1)) / 2. - _ Bruno Berselli _ , Feb 09 2011 • a(n) = 11 * a(n - 1) + 9 ^ n, a(0)=1. • a(n) = 20 * a(n - 1) - 99 * a(n - 2), a(0)=1, a(1)=20. (End) •

[**A016188**] • 1,20,304,4160,54016,680960,8433664,103301120,1256390656,15210905600,183604609024,2211845242880,26610862391296,319880104509440,3842959300624384,46150695979581440,554089826731687936 ⋆ Expansion of 1/((1-8x)(1-12x)). • a(n) = 3 * 12 ^ n - 2 * 8 ^ n. - Bruno Berselli, Feb 09 2011 • a(0)=1, a(n) = 12 * a(n - 1) + 8 ^ n. - Vincenzo Librandi, Feb 09 2011 • a(0)=1, a(1)=20, a(n) = 20 * a(n - 1) - 96 * a(n - 2). - Vincenzo Librandi, Feb 09 2011 •

[**A054621**] • 0,1,20,315,2344,11165,39996,117655,299600,683289,1428580,2783891,5118840,8964085,15059084,24408495,38347936,58619825,87460020,127695979,182857160,257298381,356336860,486403655,655210224 ⋆ Number of ways to color vertices of a heptagon using <= n colors, allowing only rotations. • a(n) = (1 / 7) * Sum _{ d|7 } phi(d) * n ^ (7 / d) = (1 / 7) * (n ^ 7 + 6 * n). [corrected by _ Klaus Wagner _ , Sep 15 2015] • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8), n>7. - _ Wesley Ivan Hurt _ , Sep 15 2015 •

[**A144507**] • 0,0,0,0,0,1,20,330,5495,97405,1867446,38849790,875734035,21320230140,558453090910,15677076200786,469894617088260,14985440023696415,506831098757070010,18125347345533260190,683518670893880841921,27112243165544881804755,1128576366359460556636770 ⋆ Column 4 of triangle in A144505. • a(n) = A001516 / 6. •

[**A166984**] • 1,20,336,5440,87296,1397760,22368256,357908480,5726601216,91625881600,1466015154176,23456246661120,375299963355136,6004799480791040,96076791961092096,1537228672451215360,24595658763514413056 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) for n > 1; a(0) = 1, a(1) = 20. • a(n) = (4 * 16 ^ n - 4 ^ n) / 3. • a(n) = Sum { n>=0, a(n) x ^ (2n + 4) / (2n + 4)! } . (End) •

[**A167031**] • 1,20,337,5461,87653,1403557,22461349,359399333,5750460325,92007649189,1472123522981,23553980911525,376863712759717,6029819476856741,96477111920512933,1543633791891427237,24698140674915717029 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) + 1 for n > 1; a(0) = 1, a(1) = 20. • a(n) = (241 * 16 ^

n - 65 * 4 ^ n + 4) / 180. ● a(n) = 21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 2) . ●

[A089350] ● 0,20,360,5520,75080,950640,11506200,135061760,1550617320,17506172880,195061728440,2150617284000,23506172839560,255061728395120,2750617283950680,29506172839506240,315061728395061800,3350617283950617360,35506172839506172920 ★ Sum of all digits in all even numbers from 0 to 8(10^(k+1)-1)/9 (with (k+1) 8's). ● a(k + 1) = 4((10 ^ k)(110 * 4 + 405k - 135) - 4(18k + 29) + 162k + 216) / 81. ● a(n) = (2 * (- 20 * (- 1 + 10 ^ n) + 9 * (20 + 9 * 10 ^ n) * n)) / 81. ● a(n) = 22 * a(n - 1) - 141 * a(n - 2) + 220 * a(n - 3) - 100 * a(n - 4) for n>3. ●

[A004292] ● 1,20,360,6460,115920,2080100,37325880,669785740,12018817440,215668928180,3870021889800,69444725088220,1246135029698160,22360985809478660,401251609540917720,7200167985927040300 ★ Expansion of (1+x)^2/(1-18*x+x^2). ● a(n) = 1 / 2 * (1 - (- 1) ^ 2 ^ n + (20 + 9 * sqrt(5)) * ((9 + 4 * sqrt(5)) ^ (2 * n) - 1) / (9 + 4 * sqrt(5)) ^ (n + 1)). - _ Gerry Martens _ , May 30 2015 ●

[A000564] ● 20,371,2588,11097,35645,94457,218124,454220,872648,1571715,2684936,4388567,6909867,10536089,15624200,22611330,32025950,44499779,60780420,81744725,108412889,141963273,183747956,235309016,298395540 ★ Number of discordant permutations. ● a(n) = 81 / 80n ^ 6 - 405 / 16n ^ 5 + 4113 / 16n ^ 4 - 21267 / 16n ^ 3 + 140357 / 40n ^ 2 - 7587 / 2n, n>6. (End) ●

[A084329] ● 0,1,20,380,7200,136400,2584000,48952000,927360000,17568160000,332816000000,6304956800000,119442816000000,2262757184000000,42866287360000000,812070603520000000,15384086323200000000 ★ a(0)=0, a(1)=1, a(n)=20a(n-1)-20a(n-2). ● a(n)=(1 / 8) * sum(k=0, n, binomial(n, k) * F(6 * k)) where F(k) denotes the k - th Fibonacci number. ● a(n)= - (1 / 40) * [10 - 4 * sqrt(5)] ^ n * sqrt(5) + (1 / 40) * sqrt(5) * [10 + 4 * sqrt(5)] ^ n, with n >=0 - _ Paolo P. Lava _ , Jun 16 2008 ●

[A097832] ● 1,20,380,7201,136440,2585160,48981601,928065260,17584258340,333172843201,6312699762480,119608122643920,2266241630472001,42938982856324100,813574432639685900,15414975237297708001 ★ Partial sums of Chebyshev sequence S(n,19)= U(n,19/2)=A078368(n). ● a(n) = 20 * a(n - 1) - 20 * a(n - 2) + a(n - 3), n>=2, a(- 1)=0, a(0)=1, a(1)=20. ● a(n) = 19 * a(n - 1) - a(n - 2) + 1, n>=1, a(- 1)=0, a(0)=1. ● a(n) = (S(n + 1, 19) - S(n, 19) - 1) / 17. ●

[A170653] ● 1,20,380,7220,137180,2606420,49521980,940917620,17877434780,339671260820,6453753955580,122621325156020,2329805177964380,44266298381323220,841059669245141180,15980133715657682420 ★ Number of reduced words of length n in Coxeter group on 20 generators S_i with relations (S_i)^2 = (S_i S_j)^49 = I. ● a(0)=1, a(1)=20, a(n)=19 * a(n - 1). - _ Harvey P. Dale _ , Jun 13 2011 ●

[A075843] ● 0,1,20,399,7960,158801,3168060,63202399,1260879920,25154396001,501827040100,10011386405999,199725901079880,3984506635191601,79490406802752140,1585823629419851199,31636982181594271840 ★ Numbers k such that 99*k^2 + 1 is a square. ● a(n) = ((10 + 3 * sqrt(11)) ^ n - (10 - 3 * sqrt(11)) ^ n) / (6 * sqrt(11)). ● a(n) = 20 * a(n - 1) - a(n - 2), n>=1, a(0)=0, a(1)=1. ● a(n) = S(n - 1, 20), with S(n, x) := U(n, x / 2), Chebyshev's polynomials of the second kind. S(- 1, x) := 0. See A049310. ●

[A009964] ● 1,20,400,8000,160000,3200000,64000000,1280000000,25600000000,512000000000,10240000000000,204800000000000,4096000000000000,81920000000000000,1638400000000000000,32768000000000000000 ★ Powers of 20. ● a(n) = 20 ^ n. ● a(n) = 20 * a(n - 1) for n > 0, a(0) = 1. (End) ●

[A158601] ● 20,420,1620,3620,6420,10020,14420,19620,25620,32420,40020,48420,57620,67620,78420,90020,102420,115620,129620,144420,160020,176420,193620,211620,230420 ★ 400n^2 + 20. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A281777] ● 0,0,0,0,20,800,14260,189280,2181060,23241120,235737620,2308206560,21979728100,204477713440,1864504348980,16707856095840,147469451067140,1284607771225760,11063319237792340,94343562846289120,797685042851814180,6694943490279586080 ★ Number of distinct topologies on an n-set that have exactly 9 open sets. ● a(n) = 5 / 6 * 4! StirlingS2(n, 4) + 5 * 5! Stirling S2(n, 5) + 11 / 2 * 6! StirlingS2(n, 6) + 3 * 7! StirlingS2(n, 7) + 8! StirlingS2(n, 8). ●

[A072962] ● 1,20,1071,107104,17201225,4053135456,1318104508735,565989104282624,310299479406324369 ★ Unsigned reduced Euler characteristic for the matroid complex of cycle matroid for complete bipartite graph K_{n,n}. ● a(s, t)= sum _{ i=0..s - 2 } (- 1) ^{ i }* binomial(s - 1,i) * w(s - 1 - i, t), where s, t>1 and an e.g.f. for w(a, b) is given by exp(sum _{ i, j>0 } i ^{ j - 1 } j ^{ i - 1 } (j - 1)x ^{ i } y ^{ j }/ i!j!). ●

[A022355] ● 0,21,21,42,63,105,168,273,441,714,1155,1869,3024,4893,7917,12810,20727,33537,54264,87801,142065,229866,371931,601797,973728 ★ Fibonacci sequence beginning 0, 21. ● a(n) = 21 * Fibonacci(n) = h * Fibonacci(n + k) + Fibonacci(n + k - h) with h=8, k=2. - _ Bruno Berselli _ , Feb 20 2017 ● a(n) = - 21 * (((1 - sqrt(5)) / 2) ^ n - ((1 + sqrt(5)) / 2) ^ n) / sqrt(5). ● a(n) = a(n - 1) + a(n - 2) for n>1. ●

[A241851] ● 21,22,25,30,37,46,57,70,85,102,121,142,165,190,217,246,277,310,345,382,421,462,505,550,597 ★ a(n) = n^2 + 21. ● a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. ●

[A022391] ● 1,21,22,43,65,108,173,281,454,735,1189,1924,3113,5037,8150,13187,21337,34524,55861,90385,146246,236631,382877,619508,1002385 ★ Fibonacci sequence beginning 1, 21. ● a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=21. a(- 1):=20. ●

[A041902] ● 21,22,65,87,3719,3806,11331,15137,647085,662222,1971529,2633751,112589071,115222822,343034715,458257537,19589851269,20048108806,596806881,79734177687,3408521531735,3488255709422 ★ Numerators of continued fraction convergents to sqrt(473). ● a(n) = 174 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 11 2013 ●

[A041916] ● 21,22,219,241,10341,10582,105579,116161,4984341,5100502,50888859,55989361,2402442021,2458431382,24528324459,26986755841,115797206978 1,1184958825622,11822601500379,13007560326001 ★ Numerators of continued fraction convergents to sqrt(480). ● a(n) = 482 * a(n - 4) - a(n - 8). G.f.: - (x ^ 7 - 21 * x ^ 6 + 22 * x ^ 5 - 219 * x ^ 4 - 241 * x ^ 3 - 219 * x ^ 2 - 22 * x - 21) / ((x ^ 4 - 22 * x ^ 2 + 1) * (x ^ 4 + 22 * x ^ 2 + 1)). [_ Colin Barker _ , Jul 16 2012] ●

[A041219] ● 1,1,21,22,461,483,10121,10604,222201,232805,4878301,5111106,107100421,112211527,2351330961,2463542488,51622180721,54085723209,1133336644901,1187422368110,24881784007101,26069206375211,546265911511321,572335117886532,11992968269241961 ★ Denominators of continued fraction convergents to sqrt(120). ● a(n) = 22 * a(n - 2) - a(n - 4). G.f.: (1 + x - x ^ 2) / (1 - 22 * x ^ 2 + x ^ 4). [_ Colin Barker _ , Jul 15 2012] ● a(n) = product { k = 1..floor((n - 1) / 2) } (20 + 4 * cos ^ 2(k * Pi / n)). ●

[A041920] ● 21,22,461,483,20747,21230,445347,466577,20041581,20508158,430204741,450712899,19360146499,19810859398,415577334459,435388193857,18701881476453,19137269670310,401447274882653,420584544552963,18065998146107099,18486582690660062 ★ Numerators of continued fraction convergents to sqrt(482). ● a(n) = 966 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 12 2013 ●

[A041921] ● 1,1,21,22,945,967,20285,21252,912869,934121,19595289,20529410,881830509,902359919,18929028889,19831388808,851847358825,871678747633,18285422311485,19157101059118,822883666794441,842040767853559,17663699023865621,18505739791719180 ★ Denominators of continued fraction convergents to sqrt(482). ● a(n) = 966 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 27 2013 ●

[A041922] ● 21,22,945,967,41559,42526,1827651,1870177,80375085,82245262,3534676089,3616921351,155445372831,159062294182,6836061728475,6995124022657,300631270680069,307626394702726,13220939848194561 ★ Numerators of continued fraction convergents to sqrt(483). ● a(n) = 44 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 12 2013 ●

[A219393] ● 0,21,25,88,96,201,213,360,376,565,585,816,840,1113,1141,1456,1488,1845,1881,2280,2320,2761,2805,3288,3336 ★ Numbers k such that 23*k+1 is a square. ● a(n) = a(- n + 1) = (46 * n * (n - 1) + 19 * (- 1) ^ n * (2 * n - 1) + 3) / 8 + 2. ●

[A254368] ● 21,28,44,82,176,418,1064,2842,7856,22258,64184,187402,551936,1635298,4864904,14512762,43374416,129795538,388731224,1164882922,3492027296,10470838978,31402031144,94185121882,282513422576 ★ a(n) = 5*2^n + 3^n + 15. ● a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ Colin Barker _ , Jan 30 2015 ●

[A228142] ● 1,21,30,82,99,183,208,324,357,505,546,726,775,987,1044,1288,1353,1629,1702,2010,2091,2431,2520,2892,2989 ★ Number of blocks in a Steiner system S(2, 5, A228141(n+1)). ● a(n) = (- 3 / 4 * (- 1 + (- 1) ^ n) + (- 5 / 2 + 3 * (- 1) ^ n) * n + 5 * n ^ 2). ● a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). ●

[A034111] ● 21,31,43,57,73,91,111,133,157,183,211,241,273,307,343,381,421,463,507,553,601,651,703,757,813 ★ Decimal part of square root of a(n) starts with 5: first term of runs. ● a(n) = n ^ 2 + 9 * n + 21. - _ Charles R Greathouse IV _ , Aug 10 2010 ●

[A168004] ● 21,32,43,54,65,76,86,97,108,119,131,141,151,161,171,181,191,201,211,221,231,241,252,262,272 ★ Numbers n with property that first digit of 8*n = last digit of n. ● a(n) - a(n - 1) can be 1 : 8 * 624 = 4992 and 8 * 625 = 5000. - _ Altug Alkan _ , Jul 04 2016 ●

[A026068] ● 21,33,49,68,90,116,145,179,217,259,306,357,414,476,543,616,694,779,870,967,1071,1181,1299,1424,1556 ★ (d(n)-r(n))/5, where d = A026066 and r is the periodic sequence with fundamental period (0,3,1,0,1). ● a(n)=(n + 7) * (n ^ 2 + 35 * n + 90) / 30 - 1 / 5 * (1 + (- 1 / 2 + 3 / 10 * 5 ^ (1 / 2)) * cos(2 * n * Pi / 5) + (1 / 5 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2) + 1 / 10 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(2 * n * Pi / 5) + (- 1 / 2 - 3 / 10 * 5 ^ (1 / 2)) * cos(4 * n * Pi / 5) + (- 1 / 10 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2) + 1 / 5 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(4 * n * Pi / 5)) [From _ Richard Choulet _ , Dec 14 2008] ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + a(n - 5) - 3 * a(n - 6) + 3 * a(n - 7) - a(n - 8). G.f.: - x ^ 7 * (- 21 + 30 * x - 13 * x ^ 2 + x ^ 3 + 20 * x ^ 5 - 29 * x ^ 6 + 11 * x ^ 7) / ((x ^ 4 + x ^ 3 + x ^ 2 + x + 1) * (x - 1) ^ 4). [From _ R. J. Mathar _ , Oct 05 2009] ●

[A072708] ● 21,39,42,48,81,99,102,108,141,159,162,168,201,219,222,228,261,279,282,288,321,339,342,348,381 ★ Last digit of F(n) is 6 where F(n) is the n-th Fibonacci number. ● a(n) = (- 3 / 4 + (3 * i) / 4) * ((1 + i) * (- 1) ^ n + (5 + 2 * i) * (- i) ^ n + (2 + 5 * i) * i ^ n - (10 + 10 * i) * n) where i=sqrt(- 1) . - _ Colin Barker _ , Oct 16 2015 ●

[A104393] ● 21,41,51,55,76,86,90,106,110,120,132,142,146,162,166,176,197,201,211,216,226,230,231,246,250 ★ Sums of 3 distinct positive pentatope numbers (A000332). ● a(n) = Ptop(i) + Ptop(j) + Ptop(k) for some positive i= / =j= / =k and Ptop(n) = binomial(n + 3,4). ●

[A154576] ● 21,41,65,93,125,161,201,245,293,345,401,461,525,593,665,741,821,905,993,1085,1181,1281,1385,1493,1605 ★ 2n^2 + 14n + 5. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 22 2012 ●

[A173960] ● 21,41,69,105,149,201,261,329,405,489,581,681,789,905,1029,1161,1301,1449,1605,1769,1941,2121,2309,2505,2709 ★ Averages of four consecutive odd squares. ● a(n) = ((2 * n - 1) ^ 2 + (2 * n + 1) ^ 2 + (2 * n + 3) ^ 2 + (

2 * n + 5) ^ 2) / 4 = 4 * n ^ 2 + 8 * n + 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (21 - 22 * x + 9 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 15 2012 •

[A195034] • 0,21,41,83,123,186,246,330,410,515,615,741,861,1008,1148,1316,1476,1665,1845,2055,2255,2486,2706,2958,3198 ⋆ Vertex number of a square spiral in which the length of the first two edges are the legs of the primitive Pythagorean triple [21, 20, 29]. The edges of the spiral have length A195033. • a(n) = (2 * n * (41 * n + 83) - (2 * n + 43) * (- 1) ^ n + 43) / 16. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A053428] • 1,1,21,41,461,1281,10501,36121,246141,968561,5891381,25262601,143090221,648342241,3510146661,16476991481,86679924701,416219754321,2149818248341,10474213334761,53470578301581,262954844996801 ⋆ a(n) = a(n-1) + 20*a(n-2), n>=2; a(0)=1, a(1)=1. • a(n) = ((5 ^ (n + 1)) - (- 4) ^ (n + 1)) / 9. •

[A235497] • 21,42,63,84,105,126,147,168,189,2010,2211,2412,2613,2814,3015,3216,3417,3618,3819,4020,4221,4422,4623,4824,5025 ⋆ 2n concatenated with n. • a(n) = 2 * n * 10 ^ floor(log _ 10(n) + 1) + n. •

[A175805] • 21,42,84,168,336,672,1344,2688,5376,10752,21504,43008,86016,172032,344064,688128,1376256,2752512,5505024,11010048,22020096,44040192,88080384,176160768,352321536 ⋆ a(n) = 21*2^n. • a(n) = 2 * a(n - 1). - _ Vincenzo Librandi _ , Jul 08 2016 •

[A041870] • 21,43,64,107,171,962,2095,28197,30292,119073,149365,716533,865898,1582431,7195622,8778053,33529781,42307834,583531623,1209371080,6630387023,7839758103,14470145126,22309903229 ⋆ Numerators of continued fraction convergents to sqrt(457). • a(n) = 118179903168 * a(n - 25) + a(n - 50) for n>49. [_ Bruno Berselli _ , Nov 11 2013] •

[A135391] • 21,43,65,87,109,131,152,174,196,218,240,262,284,305,327,349,371,393,415,437,458,480,502,524,546 ⋆ Numbers n such that 9^n and 9^(n+1) have the same number of decimal digits. • a(n) / n has the limit 1 / (1 - Log[9] / Log[10]) = 21.85434... - _ Stefan Steinerberger _ , Dec 12 2007 •

[A195049] • 0,1,21,43,84,127,189,253,336,421,525,631,756,883,1029,1177,1344,1513,1701,1891,2100,2311,2541,2773,3024 ⋆ Concentric 21-gonal numbers. • a(n) = 21 * n ^ 2 / 4 + 17 * ((- 1) ^ n - 1) / 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A041872] • 21,43,107,4537,9181,22899,970939,1964777,4900493,207785483,420471459,1048728401,44467064301,89982857003,224432778307,9516159545897,19256751870101,48029663286099,2036502609886259 ⋆ Numerators of continued fraction convergents to sqrt(458). • a(n) = 214 * a(n - 3) + a(n - 6) for n >5. [_ Bruno Berselli _ , Nov 11 2013] •

[A041880] • 21,43,1827,3697,157101,317899,13508859,27335617,1161604773,2350545163,99884501619,202119548401,8588905534461,17379930617323,738545991462027,1494471913541377,63506366360199861,128507204633941099 ⋆ Numerators of continued fraction convergents to sqrt(462). • a(n) = 86 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 11 2013 •

[A120071] • 0,21,44,69,96,125,156,189,224,261,300,341,384,429,476,525,576,629,684,741,800,861,924,989,1056 ⋆ a(n) = n*(n+20). • a(n) = (n + 10) ^ 2 - 10 ^ 2 = n * (n + 20), n>=0. • a(n) = 2 * n + a(n - 1) + 19 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 •

[A180863] • 21,44,75,114,161,216,279,350,429,516,611,714,825,944,1071,1206,1349,1500,1659,1826,2001,2184,2375,2574,2781 ⋆ Wiener index of the n-sun graph. • a(n) = n(4 * n - 5). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n). - _ Eric W. Weisstein _ , Sep 07 2017 •

[A139581] • 0,21,46,75,108,145,186,231,280,333,390,451,516,585,658,735,816,901,990,1083,1180,1281,1386,1495,1608 ⋆ n(2n+19). • a(n)=2 * n ^ 2 + 19 * n. • a(n)=a(n - 1) + 4 * n + 17 (with a(0)=0) [From Vincenzo Librandi, Nov 24 2010] •

[A140681] • 0,21,48,81,120,165,216,273,336,405,480,561,648,741,840,945,1056,1173,1296,1425,1560,1701,1848,2001,2160 ⋆ a(n) = 3*n*(n+6). • a(n) = 6 * n + a(n - 1) + 15 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 •

[A166150] • 1,21,51,91,141,201,271,351,441,541,651,771,901,1041,1191,1351,1521,1701,1891,2091,2301,2521,2751,2991,3241 ⋆ a(n) = 5n^2 + 5n - 9. • a(n) = a(n - 1) + 10n (with a(1)=1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) . •

[A224334] • 21,51,93,147,213,291,381,483,597,723,861,1011,1173,1347,1533,1731,1941,2163,2397,2643,2901,3171,3453,3747,4053 ⋆ Number of idempotent 3 X 3 0..n matrices of rank 2. • a(n) = 6 * n ^ 2 + 12 * n + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A180674] • 0,21,55,110,199,343,576,953,1563,2550,4147,6731,10912,17677,28623,46334,74991,121359,196384,317777,514195,832006,1346235,2178275,3524544 ⋆ a(n) = Fibonacci(n+9) - Fibonacci(9). • a(n) = F(n + 9) - F(9) with F = A000045. • a(n) = a(n - 1) + a(n - 2) + 34 for n>1, a(0)=0, a(1)=21, and where 34 = F(9). • a(n) = (- 34 + (2 ^ (- n) * ((1 - sqrt(5)) ^ n * (- 38 + 17 * sqrt(5)) + (1 + sqrt(5)) ^ n * (38 + 17 * sqrt(5)))) / sqrt(5)). • a(n) = 2 * a(n - 1) - a(n - 3) for n>2. •

[A067727] • 21,56,105,168,245,336,441,560,693,840,1001,1176,1365,1568,1785,2016,2261,2520,2793,3080,3381,3696,4025,4368,4725 ⋆ 7*n^2 + 14*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 •

[A254144] • 21,56,196,812,3724,18236,93436,494732,2685004,14851676,83384476,473755052,2717541484,15709845116,91395715516,534498925772,3139343105164,18504595174556,109397060622556,648335998054892,3850205790608044 ⋆ a(n) = 1*6^n + 2*5^n + 3*4^n + 4*3^n + 5*2^n + 6*1^n. • a(n) = (x + 1) * (Bernoulli(n + 1, x + 1) - Bernoulli(n + 1, 1)) / (n + 1) - (Bernoulli(n + 2, x + 1) - Bernoulli(n + 2, 1)) / (n + 2) at x = 6. • a(n) = 1 / 5! * Sum _{ k = 0..n } (- 1) ^ (k + n) * (k + 7)! * Stirling2(n,k) / ((k + 1) * (k + 2)). (End) •

[A118057] • 1,21,57,109,177,261,361,477,609,757,921,1101,1297,1509,1737,1981,2241,2517,2809,3117,3441,3781,4137,4509,4897 ⋆ 8*n^2-4*n-3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (1 + 18 * x - 3 * x ^ 2) / (1 - x) ^ 3 . - _ Colin Barker _ , Jul 01 2012 • a(n) + (a(n) + 1) + ... + (a(n) + 8n + 5)=(a(n) + 8n + 6) + ... + a(n + 1) - 1; a(n + 1) - 1=a(n) + 16n + 3. • a(n) + (a(n) + 1) + ... + (a(n) + 8n + 5)=(4n - 1)(4n + 1)(4n + 3); e.g., 21 + 22 + ... + 56=693=7 * 9 * 11. • a(n) = 16 * n + a(n - 1) - 12 (with a(1)=1). - _ Vincenzo Librandi _ , Nov 13 2010 •

[A051873] • 0,1,21,60,118,195,291,406,540,693,865,1056,1266,1495,1743,2010,2296,2601,2925,3268,3630,4011,4411,4830,5268 ⋆ 21-gonal numbers: a(n) = n*(19n - 17)/2. • a(n) = 19 * n + a(n - 1) - 18 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(19 * a(n) + 172 * n + 1) = a(19 * a(n) + 172 * n) + a(19 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069133] • 1,21,61,121,201,301,421,561,721,901,1101,1321,1561,1821,2101,2401,2721,3061,3421,3801,4201,4621,5061,5521,6001 ⋆ Centered 20-gonal (or icosagonal) numbers. • a(n) = 10n ^ 2 - 10n + 1. • a(n) = 20 * n + a(n - 1) - 20 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(0)=1, a(1)=21, a(2)=61, a(n)=3a(n - 1) - 3a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 29 2011 •

[A041864] • 21,64,213,277,3814,7905,27529,62963,90492,153455,704312,4379327,5083639,39964800,45048439,85013239,130061678,2686246799,2816308477,5502555276,8318863753,63734601547,72053465300 ⋆ Numerators of continued fraction convergents to sqrt(454). • a(n) = 33832080168351370 * a(n - 34) - a(n - 68) for n>67. [_ Bruno Berselli _ , Nov 11 2013] •

[A041866] • 21,64,2709,8191,346731,1048384,44378859,134184961,5680147221,17174626624,727014465429,2198218022911,93052171427691,281354732305984,11909950928279019,36011207517143041,1524380666648286741 ⋆ Numerators of continued fraction convergents to sqrt(455). • a(n) = 128 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 11 2013 •

[A014641] • 1,21,65,133,225,341,481,645,833,1045,1281,1541,1825,2133,2465,2821,3201,3605,4033,4485,4961,5461,5985,6533,7105 ⋆ Odd octagonal numbers: (2n+1)(6n+1). • a(n) = a(n - 1) + 24 * n - 4, with n>0, a(0)=1. - _ Vincenzo Librandi _ , Dec 28 2010 •

[A168240] • 21,67,139,237,361,511,687,889,1117,1371,1651,1957,2289,2647,3031,3441,3877,4339,4827,5341,5881,6447,7039,7657,8301 ⋆ 1+7*n+13*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A195026] • 0,21,70,147,252,385,546,735,952,1197,1470,1771,2100,2457,2842,3255,3696,4165,4662,5187,5740,6321,6930,7567,8232 ⋆ a(n) = 7*n*(2*n + 1). • a(n) = 14 * n ^ 2 + 7 * n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >2. • a(n) = Sum _{ i=6n..8n } i. - _ Wesley Ivan Hurt _ , Dec 23 2015 •

[A085027] • 21,77,165,285,437,621,837,1085,1365,1677,2021,2397,2805,3245,3717,4221,4757,5325,5925,6557,7221,7917,8645,9405,10197 ⋆ a(n) = (4*n+3)*(4*n+7). • a(n) = 16 * n ^ 2 + 40 * n + 21. - _ Vincenzo Librandi _ , Aug 13 2011 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: (21 + 14 * x - 3 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Jul 11 2012 •

[A182754] • 1,21,77,1617,5929,124509,456533,9587193,35153041,738213861,2706784157,56842467297,208422380089,4376869981869,16048523266853,337018988603913,1235736291547681,25950462122501301,95151694449171437,1998185583432600177,7326680472586200649 ⋆ a(1) = 1, a(2) = 21, a(n) = 77*a(n-2) for n>=3. • a(2 * n) = 21 * a(2 * n - 1), a(2 * n + 1) = (11 / 3) * a(2 * n). • a(n) = 3 * 7 ^ (n / 2) * 11 ^ (n / 2 - 1) for n even. • a(n) = 77 ^ ((n - 1) / 2) for n odd. •

[A144314] • 0,21,78,171,300,465,666,903,1176,1485,1830,2211,2628,3081,3570,4095,4656,5253,5886,6555,7260,8001,8778,9591,10440 ⋆ a(n) = 3*n*(6*n+1). • a(n) = a(n - 1) + 36 * n - 15 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Dec 27 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A172082] • 0,1,21,78,190,375,651,1036,1548,2205,3025,4026,5226,6643,8295,10200,12376,14841,17613,20710,24150,27951,32131,36708,41700 ⋆ a(n) = n*(n+1)*(6*n-5)/2. • a(0)=0, a(1)=1, a(2)=21, a(3)=78; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [_ Harvey P. Dale _ , Jun 29 2011] • a(n) = Sum _{ i=0..n - 1 } (n - i) * (18 * i + 1), with a(0)=0. [_ Bruno Berselli _ , Feb 10 2014] •

[A068085] • 0,1,21,78,1540,30381,112575,2220778,43809480,162333171,3202360435,63173239878,234084320106,4617801526591,91095768094695,337549427259780,6658866598983886,131360034419310411 ⋆ Numbers n such that n and 10*n are both triangular numbers. • a(n) = (99 + 1442 * a(n - 3) + 57 * sqrt ((1 + 8 * a(n - 3)) * (1 + 88 * a(n - 3)))) / 2. •

[A158493] • 1,21,81,181,321,501,721,981,1281,1621,2001,2421,2881,3381,3921,4501,5121,5781,6481,7221,8001,8821,9681,10581,11521 ⋆ 20n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 21 2012 •

[A071397] • 0,21,83,186,330,516,743,1012,1321,1672,2065,2498,2973,3489,4047,4645,5285,5967,6689,7453,8258,9105,9993,10922,11892 ⋆ Rounded total surface area of a regular dodecahedron with edge length n. • a(n) = round(3 * n ^ 2 * sqrt(25 + 10 * sqrt(5))) •

[A064762] • 0,21,84,189,336,525,756,1029,1344,1701,2100,2541,3024,3549,4116,4725,5376,6069,6804,7581,8400,9261,10164,11109,12096 ⋆ a(n) = 21*n^2. • a(n) = 42 * n + a(n - 1) - 21 for n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 •

[A116972] • 1,21,85,281,873,2653,7997,24033,72145,216485,649509,1948585,5845817,17537517,52612621,157837937,473513889,1420541749,4261625333,12784876089,38354628361,115063885181,345191655645,1035574967041 ⋆ a(n) = 11*3^n - 2*n - 10. • a(0)=1, a(n)=3 * a(n - 1) + 4 * n + 14. - _ Zak Seidov

_ , Apr 02 2006 • a(0)=1, a(1)=21, a(2)=85, a(n)=5 * a(n - 1) - 7 * a(n - 2) + 3 * a(n - 3). G.f.: (1 + 16 * x - 13 * x ^ 2) / (1 - 5 * x + 7 * x ^ 2 - 3 * x ^ 3). [_ Colin Barker _ , Jan 25 2012] •

[A063651] • 1,1,21,85,747,4375,31387,202841,1382259,9167119,61643709,411595537,2758179839,18448963469,123518353059,826573277157,5532716266089,37028886137273,247839719105625,1658772577825883,11102227136885119 ★ Number of ways to tile a 7 X n rectangle with 1 X 1 and 2 X 2 tiles. • a(n) = 3a(n - 1) + 30a(n - 2) - 17a(n - 3) - 138a(n - 4) + 85a(n - 5) + 116a(n - 6) - 42a(n - 7) - 32a(n - 8). - Keith Schneider (kschneid(AT)bulldog.unca.edu), Apr 02 2006 •

[A158540] • 21,87,197,351,549,791,1077,1407,1781,2199,2661,3167,3717,4311,4949,5631,6357,7127,7941,8799,9701,10647,11637,12671,13749 ★ 22n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (- 21 - 24 * x + x ^ 2) / (x - 1) ^ 3. •

[A193218] • 1,21,95,259,549,1001,1651,2535,3689,5149,6951,9131,11725,14769,18299,22351,26961,32165,37999,44499,51701,59641,68355,77879,88249 ★ Truncated tetrahedron with faces of centered polygons. • a(n) = 6 * n ^ 3 - 9 * n ^ 2 + 5 * n - 1. •

[A076454] • 1,21,102,310,735,1491,2716,4572,7245,10945,15906,22386,30667,41055,53880,69496,88281,110637,136990,167790,203511,244651,291732,345300,405925 ★ Sum of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly one way. • a(n) = n * (n + 1) * (2 * n ^ 2 - 1) / 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n>= 6, with a(1)=1, a(2)=21, a(3)=102, a(4)=310, a(5)=735. - _ L. Edson Jeffery _ , Dec 30 2013 •

[A116689] • 0,1,21,105,325,780,1596,2926,4950,7875,11935,17391,24531,33670,45150,59340,76636,97461,122265,151525,185745,225456,271216,323610,383250 ★ Partial sums of dodecahedral numbers (A006566). • a(n) = sum(i=0..n) i * (3 * i - 1) * (3 * i - 2) / 2. • a(n) = n * (9 * n ^ 3 + 6 * n ^ 2 - 5 * n - 2) / 8. G.f.: x * (1 + 16 * x + 10 * x ^ 2) / (1 - x) ^ 5. [_ Colin Barker _ , Apr 04 2012] •

[A041854] • 21,106,339,445,784,1229,9387,10616,62467,322951,385418,3020877,3406295,6427172,9833467,35927573,189471332,7993723517,40158088917,128467990268,168626079185,297094069453,465720148638 ★ Numerators of continued fraction convergents to sqrt(449). • a(n) = 378942664 * a(n - 17) + a(n - 34) for n>33. [_ Bruno Berselli _ , Nov 10 2013] •

[A157265] • 21,112,275,510,817,1196,1647,2170,2765,3432,4171,4982,5865,6820,7847,8946,10117,11360,12675,14062,15521,17052,18655,20330,22077 ★ a(n) = 36*n^2 - 17*n + 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 27 2012 •

[A158091] • 21,114,154,348,748,1824,4402,11177,28334,73281,189501,493774,1286655,3362376,8787092,22988862,60144668,157418794 ★ The number of ways that a straight line segment of length n, marked into n equal units, can be surrounded in a plane by one layer of regular polygons of unit edge that fit together without any gaps or overlaps, such that every polygon shares either a vertex or an exact unit edge with the segment. ("Line wreaths of length n.") Ways that differ by reflection or rotation are not counted as different. • a(0) = 21, a(1) = 114, and if n >= 2 let F the Fibonacci sequence A000045 and let m = n / 2 if n is even, or m = (n + 3) / 2 if n is odd, then a(n) = 7 + 6 * F(n - 2) + 27 * F(n - 1) + 31 * F(n) + F(n - 2) ^ 2 + 18 * F(n - 1) ^ 2 + 25 * F(n) ^ 2 + 40 * F(n) * F(n - 1) + 8 * F(n - 1) * F(n - 2) + 8 * F(n) * F(n - 2) + 2 * F(m) * F(m - 1) + (3 * F(m - 1) + 7 * F(m) + F(m - 1) ^ 2 + 5 * F(m) ^ 2) / 2. • a(0) = 21, a(1) = 114, and if n >= 2 then a(n) = (9 / 5) * (F(2n + 3) + F(2n + 5)) + (1 / 10) * ((51 + 6D) * F(n + 2) + (56 + 6D) * F(n + 4)) + (1 / 2) * (F((n + 3D) / 2) + 3F((n + 4 + 3D) / 2)) + 7 - (8 / 5) * (- 1) ^ n - (2 / 5) * (- 1) ^ ((n - D) / 2). •

[A121628] • 0,21,114,333,732,1365,2286,3549,5208,7317,9930,13101,16884,21333,26502,32445,39216,46869,55458,65037,75660,87381,100254,114333,129672 ★ Nonnegative k such that 3*k + 1 is a perfect cube. • a(n) = 3 * (n - 1) * (3 * n ^ 2 - 3 * n + 1) with n>0. Corresponding cubes are 3 * a(n) + 1 = (3 * n - 2) ^ 3. •

[A074088] • 0,0,0,0,21,120,585,2508,10122,39042,145974,532704,1907451,6725004,23407287,80591148,274899288,930128646,3124838844,10432356000,34634029713,114403303008,376184538165,1231890463020,4018920819606 ★ Coefficient of q^2 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(2,3). • a(n) = 6a(n - 1) - 3a(n - 2) - 28a(n - 3) + 9a(n - 4) + 54a(n - 5) + 27a(n - 6) for n>=8. •

[A245031] • 0,1,21,120,2080,11781,203841,1154440,19974360,113123361,1957283461,11084934960,191793804840,1086210502741,18793835590881,106437544333680,1841604094101520,10429793134197921,180458407386358101,1022013289607062600 ★ Numbers m such that 3*m+1 and 8*m+1 are both squares. • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). • a(4k + 1): 40 * x * (52 + 3 * x) / ((1 - x) * (1 - 9602 * x + x ^ 2)); • a(4k + 2): (1 + 2178 * x + 21 * x ^ 2) / ((1 - x) * (1 - 9602 * x + x ^ 2)); • a(4k + 3): (21 + 2178 * x + x ^ 2) / ((1 - x) * (1 - 9602 * x + x ^ 2)); • a(4k + 4): 40 * (3 + 52 * x) / ((1 - x) * (1 - 9602 * x + x ^ 2)). •

[A200888] • 21,121,422,1121,2507,4977,9052,15393,24817,38313,57058,82433,116039,159713,215544,285889,373389,480985,611934,769825,958595,1182545,1446356,1755105,2114281 ★ Number of 0..n arrays x(0..4) of 5 elements without any interior element greater than both neighbors. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A164785] • 1,21,121,621,3121,15621,78121,390621,1953121,9765621,48828121,244140621,1220703121,6103515621,30517578121,152587890621,762939453121,3814697265621,19073486328121,95367431640621,476837158203121 ★ a(n) = 5^n-4. • a(n) = 5 * a(n - 1) + 16 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 30 2010 • a(1)=1, a(2)=21, a(n)=6 * a(n - 1) - 5 * a(n - 2). - _ Harvey P. Dale _ , Jun 07 2012 •

[A213565] • 1,21,127,467,1302,3038,6258,11754,20559,33979,53625,81445,119756,171276,239156,327012,438957,579633,754243,968583,1229074,1542794,1917510,2361710,2884635 ★ Principal diagonal of the convolution array A213564. • a(n) = (16 * n ^ 5 + 85 * n ^ 4 + 15 * n ^ 3 - 25 * n ^ 2 - n) / 60. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A041852] • 21,127,5355,32257,1360149,8193151,345472491,2081028097,87748652565,528572943487,22287812279019,134255446617601,5661016570218261,34100354867927167,1437875921023159275 ★ Numerators of continued fraction convergents to sqrt(448). • a(n) = 254 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 10 2013 •

[A228283] • 21,129,3154,44024,745178,11771298,190540884,3057290265,49208639399,791176762937,12725363193829,204647839919537,3291296999329711,52931964429099939,851279732514835940,13690693829364308175 ★ Number of nX8 binary arrays with top left value 1 and no two ones adjacent horizontally, vertically or nw-se diagonally. • a(n) = a(n - 1) + 170 * a(n - 2) + 1243 * a(n - 3) + 452 * a(n - 4) - 25328 * a(n - 5) - 47829 * a(n - 6) + 329977 * a(n - 7) + 677669 * a(n - 8) - 3899000 * a(n - 9) - 4142351 * a(n - 10) + 40598266 * a(n - 11) - 22625542 * a(n - 12) - 280040412 * a(n - 13) + 733571937 * a(n - 14) + 225285263 * a(n - 15) - 5406913431 * a(n - 16) + 15244941445 * a(n - 17) - 23143116063 * a(n - 18) + 18064627845 * a(n - 19) + 2246759550 * a(n - 20) - 21472294755 * a(n - 21) + 18258761486 * a(n - 22) + 5172378119 * a(n - 23) - 19704882159 * a(n - 24) + 6931675953 * a(n - 25) + 12628340471 * a(n - 26) - 10036097232 * a(n - 27) - 6485990080 * a(n - 28) + 8290578844 * a(n - 29) + 3493944338 * a(n - 30) - 5396581563 * a(n - 31) - 2482388885 * a(n - 32) + 2807416030 * a(n - 33) + 2023351213 * a(n - 34) - 877760575 * a(n - 35) - 1366907685 * a(n - 36) - 211758176 * a(n - 37) + 511379314 * a(n - 38) + 405881894 * a(n - 39) + 67901250 * a(n - 40) - 105839886 * a(n - 41) - 110007288 * a(n - 42) - 59224072 * a(n - 43) - 20510652 * a(n - 44) - 4214944 * a(n - 45) - 234085 * a(n - 46) + 87637 * a(n - 47) - 2782 * a(n - 48) - 10138 * a(n - 49) - 671 * a(n - 50) + 608 * a(n - 51) + 45 * a(n - 52) - 30 * a(n - 53) - a(n - 54) + a(n - 55) •

[A008384] • 1,21,131,471,1251,2751,5321,9381,15421,24001,35751,51371,71631,97371,129501,169001,216921,274381,342571,422751,516251,624471,748881,891021,1052501 ★ Crystal ball sequence for A_4 lattice. • a(n) = 1 + 5 * n * (n + 1) * (7 * n ^ 2 + 7 * n + 10) / 12. - T. D. Noe, Apr 29 2007 • a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n> 4. - _ Harvey P. Dale _ , Aug 22 2011 •

[A243201] • 1,21,133,481,1281,2821,5461,9633,15841,24661,36741,52801,73633,100101,133141,173761,223041,282133,352261,434721,530881,642181,770133,916321,1082401 ★ Odd octagonal numbers indexed by triangular numbers. • a(n) = 3 * n ^ 4 + 6 * n ^ 3 + 7 * n ^ 2 + 4 * n + 1. • a(n) = (n ^ 2 + n + 1) * (3 * n ^ 2 + 3 * n + 1). • a(n) = ((3 * n ^ 2 + 3 * n + 2) ^ 2 - 1) / 3. •

[A107731] • 1,21,141,521,1401,3101,6021,10641,17521,27301,40701,58521,81641,111021,147701,192801,247521,313141,391021,482601,589401,713021,855141,1017521,1202001 ★ Row 7 of the array in A107735. • a(n)= 1 + (n ^ 2 + n) * (n ^ 2 + n + 1) * 10 / 3. a(- 1 - n)= a(n). - _ Michael Somos _ , Mar 20 2007 •

[A041850] • 21,148,6237,43807,1846131,12966724,546448539,3838106497,161746921413,1136066556388,47876542289709,336271862584351,14171294770832451,99535335258411508,4194655375624115787 ★ Numerators of continued fraction convergents to sqrt(447). • a(n) = 296 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 10 2013 •

[A239569] • 0,1,21,151,615,1845,4571,9926,19566,35805,61765,101541,160381,244881,363195,525260,743036,1030761,1405221,1886035,2495955,3261181,4211691,5381586,6809450 ★ Number of ways to place 3 points on a triangular grid of side n so that no two of them are adjacent. • a(n) = (n - 1) * (n - 2) * (n ^ 4 + 6 * n ^ 3 - 23 * n ^ 2 - 92 * n + 264) / 48. •

[A184368] • 21,153,1107,8019,58077,420633,3046491,22064643,159806277,1157419449,8382773187,60713414163,439725443661,3184773389433,23066169329547,167059976482179,1209955382858997,8763272085493593,63469230958692531 ★ 1/3 the number of (n+1) X 2 0..2 arrays with every 2 X 2 subblock having at least two equal elements connected horizontally or vertically. • a(n) = ((3 - 3 * sqrt(2)) ^ n * (- 4 + 3 * sqrt(2)) + (3 * (1 + sqrt(2))) ^ n * (4 + 3 * sqrt(2))) / (2 * sqrt(2)). •

[A267473] • 21,160,712,2285,5921,13216,26440,48657,83845,137016,214336,323245,472577,672680,935536,1274881,1706325,2247472,2918040,3739981,4737601,5937680,7369592,9065425,11060101 ★ Number of length-5 0..n arrays with no following elements larger than the first repeated value. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A070315] • 1,21,161,813,3361,12421,42865,141549,453905,1426725,4422913,13579309,41408833,125667333,380081105,1146795693,3454279345,10392196645,31238454241,93845384301,281808780641,845996765061,2539181475121,7620027450733,22865249731921 ★ Third diagonal of triangle in A046739. • a(n) = 3 ^ n - (3n + 2) * 2 ^ (n - 1) + 2n ^ 2. - _ Ralf Stephan _ , May 09 2004 •

[A242191] • 21,161,1071,6797,42231,259421,1582791,9614717,58230711,351922781,2123580711,12799240637,77074749591,463808234141,2789504205831,16769733474557,100779708074871,605475935585501,3636808913042151,21840480209276477,131140458175102551,787328413691288861 ★ Expected value of the highest die when n six-sided dice are rolled, multiplied by 6^n. • a(n) = 1 + s

um(k=2..6, j=1..n) k * C(n,j) * (k - 1) ^ (n - j), where C represents binomial coefficients. ●

[**A266733**] ● 0,21,168,756,2520,6930,16632,36036,72072,135135,240240,408408,668304,1058148,1627920,2441880,3581424,5148297,7268184,10094700,13813800,18648630,24864840,32776380,42751800 ★ a(n) = 21*binomial(n+6,7). ● a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) / 240. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. ●

[**A105249**] ● 1,21,168,840,3150,9702,25872,61776,135135,275275,528528,965328,1689324,2848860,4651200,7379904,11415789,17261937,25573240,37191000,53183130,74890530,103980240,142506000,192976875 ★ a(n) = binomial(n+2,n)*binomial(n+25,n). ● a(0)=1, a(1)=21, a(2)=168, a(3)=840, a(4)=3150, a(5)=9702, a(6)=25872, a(7)=61776, a(8)=135135, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Oct 08 2012 ●

[**A090021**] ● 0,1,21,175,1185,7471,45801,277495,1672545,10056991,60405081,362615815,2176242705,13059083311,78359348361,470170570135,2821066729665,16926530042431,101559568723641,609358576700455,3656154951181425 ★ Number of distinct lines through the origin in the n-dimensional lattice of side length 5. ● a(n) = 6 ^ n - 3 ^ n - 2 * 2 ^ n + 2. ●

[**A254681**] ● 1,21,176,936,3750,12342,35112,89232,207207,446875,906048,1743248,3206268,5670588,9690000,16062144,25912029,40797009,62837104,94875000,140670530,205134930,294610680,417203280,583171875 ★ Fifth partial sums of fourth powers (A000583). ● a(n) = n ^ 2 * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) ^ 2 * (5 + 2 * n) / 30240. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + n ^ 4. ●

[**A244875**] ● 1,21,179,938,3612,11242,29947,70855,152720,305330,573812,1023939,1748545,2875153,4574922,7073018,10660515,15707931,22680505,32155320,44840378,61595732,83456781,111659833,147670042 ★ Number of magic labelings with magic sum n of 7th graph shown in link. ● a(n) = (315 * (255 + (- 1) ^ n) + 306144 * n + 498456 * n ^ 2 + 452312 * n ^ 3 + 250530 * n ^ 4 + 86576 * n ^ 5 + 17724 * n ^ 6 + 1688 * n ^ 7) / 80640. - _ Colin Barker _ , Jan 11 2017 ●

[**A164606**] ● 1,21,193,1573,12449,97749,765857,5996837,46948801,367541781,2877288193,22524671653,176332817249,1380408754389,10806429650657,84597347681957,662264172758401,5184486816990741,40586377233014593,317727496441303333 ★ a(n) = 10*a(n-1) - 17*a(n-2) for n > 1; a(0) = 1, a(1) = 21. ● a(n) = 10 * a(n - 1) - 17 * a(n - 2) for n > 1; a(0) = 1, a(1) = 21. ● a(n) = ((1 + 4 * sqrt(2)) * (5 + 2 * sqrt(2)) ^ n + (1 - 4 * sqrt(2)) * (5 - 2 * sqrt(2)) ^ n) / 2. ●

[**A027780**] ● 21,196,1008,3780,11550,30492,72072,156156,315315,600600,1089088,1893528,3174444,5155080,8139600,12534984,18877089,27861372,40378800,57557500,80810730,111891780,152956440,206633700 ★ a(n) = 7*(n+1)*C(n+2,7)/2. ● a(n) = C(n + 1, 6) * C(n + 2, 2). - _ Zerinvary Lajos _ , Apr 28 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 ●

[**A108679**] ● 1,21,196,1176,5292,19404,60984,169884,429429,1002001,2186184,4504864,8836464,16604784,30046752,52581816,89311761,147685461,238369516,376372920,582481900,885069900,1322357400,1945206900,2820550005 ★ a(n) = (n+1)*(n+2)^2*(n+3)^2*(n+4)^2*(n+5)^2*(n+6)/86400. ● a(n) = binomial(n + 5,5) ^ 2 - binomial(n + 5,4) * binomial(n + 5,6). - _ Gary Detlefs _ , Dec 05 2011 ●

[**A160768**] ● 21,203,896,2681,6371,13011,23878,40481,64561,98091,143276,202553,278591,374291,492786,637441,811853,1019851,1265496,1553081,1887131,2272403,2713886,3216801,3786601 ★ G.f.: (21+98*x+91*x^2+21*x^3+x^4)/(1-x)^5. ● a(n) = 29 * n ^ 4 / 3 + 233 * n ^ 3 / 6 + 214 * n ^ 2 / 3 + 373 * n / 6 + 21. - R. J. Mathar, Sep 11 2011 ●

[**A160769**] ● 21,206,917,2757,6571,13446,24711,41937,66937,101766,148721,210341,289407,388942,512211,662721,844221,1060702,1316397,1615781,1963571,2364726,2824447,3348177,3941601 ★ G.f.: (21+101*x+97*x^2+22*x^3+x^4)/(1-x)^5. ● a(n) = 121 * n ^ 4 / 12 + 40 * n ^ 3 + 869 * n ^ 2 / 12 + 125 * n / 2 + 21. - R. J. Mathar, Sep 11 2011 ●

[**A160787**] ● 21,209,938,2833,6771,13881,25544,43393,69313,105441,154166,218129,300223,403593,531636,688001,876589,1101553,1367298,1678481,2040011,2457049,2935008,3479553,4096601 ★ G.f.: (21+104*x+103*x^2+23*x^3+x^4)/(1-x)^5. ● a(n) = 21 * n ^ 4 / 2 + 247 * n ^ 3 / 6 + 147 * n ^ 2 / 2 + 377 * n / 6 + 21. - R. J. Mathar, Sep 11 2011 ●

[**A133355**] ● 1,21,210,1386,6930,28314,99099,306735,858858,2212210,5309304,11992344,25697880,52581816,103285710,195635286,358664691,638489775,1106715610,1872263250,3097744650,5021809650,7989242625,12491007165,19216934100 ★ Dimensions of certain Lie algebra (see reference for precise definition). ● a(n) = 14 * (C(n + 6,7) ^ 2 - C(n + 6,6) * C(n + 6,8)) / ((n + 6) * (n + 1)). - _ Gary Detlefs _ , Jan 06 2014 ●

[**A008421**] ● 1,21,221,1561,8361,36365,134245,433905,1256465,3317445,8097453,18474633,39753273,81270333,158819253,298199265,540279585,948062325,1616336765,2684641785,4354393801,6911195501,10753517061,16429137361,24680949041 ★ Crystal ball sequence for 10-dimensional cubic lattice. ● a(n) = (4 * n ^ 10 + 20 * n ^ 9 + 330 * n ^ 8 + 1200 * n ^ 7 + 7392 * n ^ 6 + 18060 * n ^ 5 + 50270 * n ^ 4 + 71800 * n ^ 3 + 83754 * n ^ 2 + 50670 * n + 14175) / 14175 - _ Johannes W. Meijer _ , Jul 14 2013 ●

[**A165402**] ● 1,21,221,2221,22221,222221,2222221,22222221,222222221,2222222221,22222222221,222222222221,2222222222221,22222222222221,222222222222221,2222222222222221,22222222222222221,222222222222222221 ★ a(n) = (10^n*2 - 11)/9. ● a(n) = 10 * a(n - 1) + 11, a(1) = 1. - _ Philippe Deléham _ , Feb 24 2014 ● a(n) = 11 * a(n - 1) - 10 * a(n - 2), a(1) = 1, a(2) = 21. - _ Philippe Deléham _ , Feb 24 2014 ●

[**A027812**] ● 21,224,1260,5040,16170,44352,108108,240240,495495,960960,1769768,3118752,5290740,8682240,13837320,21488544,32605881,48454560,70662900,101301200,142972830,198918720,273136500,370515600,496989675 ★ a(n) = 7*(n+1)*C(n+5,7). ● a(n) = C(n + 1, 3) * C(n + 5, 5). - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 ●

[**A171108**] ● 0,0,21,225,882,2370,5175,9891,17220,27972,43065,63525,90486,125190,168987,223335,289800,370056,465885,579177,711930,866250,1044351,1248555,1481292 ★ 3*(n-1)*(n-2)*(3*n^2-3*n-11)/2. ● a(1)=0, a(2)=0, a(3)=21, a(4)=225, a(5)=882, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a (n - 5). - _ Harvey P. Dale _ , Feb 01 2013 ●

[**A247615**] ● 1,21,231,1771,10626,53130,230230,888030,3108105,10015005,30045015,84504355,223651350,558350430,1318250890,2952624906,6296642121,12834146941,25098124271,47262174531,85990654178,151631858378,259857916278,433877085278,707369215553 ★ a(n) = Sum_{k=0..10} binomial(20,k)*binomial(n,k). ● a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). ● a(n) = 1 - 5512999 * n / 630 + 212329883 * n ^ 2 / 8400 - 134689309 * n ^ 3 / 4536 + 3453077689 * n ^ 4 / 181440 - 64212077 * n ^ 5 / 8640 + 80300707 * n ^ 6 / 43200 - 1817521 * n ^ 7 / 6048 + 1860157 * n ^ 8 / 60480 - 331721 * n ^ 9 / 181440 + 46189 * n ^ 10 / 907200. ●

[**A010973**] ● 1,21,231,1771,10626,53130,230230,888030,3108105,10015005,30045015,84672315,225792840,573166440,1391975640,3247943160,7307872110,15905368710,33578000610,68923264410,137846528820,269128937220,513791607420,960566918220,1761039350070 ★ a(n) = binomial(n,20). ● a(n + 19) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) * (n + 10) * (n + 11) * (n + 12) * (n + 13) * (n + 14) * (n + 15) * (n + 16) * (n + 17) * (n + 18) * (n + 19) / 20!. - _ Artur Jasinski _ , Dec 02 2007, _ R. J. Mathar _ , Jul 07 2009 ● a(n) = n / (n - 20) * a(n - 1), n > 20. - _ Vincenzo Librandi _ , Mar 26 2011 ●

[**A198974**] ● 1,21,241,2661,29281,322101,3543121,38974341,428717761,4715895381,51874849201,570623341221,6276856753441,69045424287861,759499667166481,8354496338831301,91899459727144321,1010894056998587541,11119834626984462961 ★ 2*11^n-1. ● a(n) = 11 * a(n - 1) + 10. ● a(n) = 12 * a(n - 1) - 11 * a(n - 2), n>1. ●

[**A177730**] ● 1,21,245,2325,20181,168021,1370965,11075925,89042261,714081621,5719635285,45785027925,366392038741,2931583636821,23454458533205,187642826282325,1501171242849621,12009484474209621,96076333921424725,768612503886583125,6148907361161794901 ★ Expansion of (6*x + 1) / ((x - 1)*(2*x - 1)*(4*x - 1)*(8*x - 1)). ● a(n) = ((2 ^ (n + 1) - 1) ^ 2 * (2 ^ (n + 2) - 1)) / 3. ● a(n) = 15 * a(n - 1) - 70 * a(n - 2) + 120 * a(n - 3) - 64 * a(n - 4) for n>3. ●

[**A199300**] ● 1,21,245,2401,21609,184877,1529437,12353145,98001617,766718533,5931980229,45478515089,346032180025,2616003280989,19668469112621,147174406808233,1096686708796833,8142067989552245,60251303122686613 ★ (2*n+1)*7^n ● a(n)=14 * a(n - 1) - 49 * a(n - 2) ● a(n) = 7 * a(n - 1) + 2 * 7 ^ n. - Vincenzo Librandi, Nov 05 2011 ●

[**A036220**] ● 1,21,252,2268,17010,112266,673596,3752892,19702683,98513415,472864392,2192371272,9865670724,43257171636,185387878440,778629089448,3211844993973,13036312034361,52145248137444,205836505805700 ★ Expansion of 1/(1-3*x)^7; 7-fold convolution of A000244 (powers of 3). ● a(n) = 3 ^ n * binomial(n + 6, 6); G.f. 1 / (1 - 3 * x) ^ 7. ●

[**A092794**] ● 1,21,265,2733,25441,223461,1895545,15736413,128882641,1046542101,8451838825,68020609293,546227922241,4380272835141,35094966838105,281025802973373,2249545355064241,18003091856638581,144058517372685385,1152637601335180653 ★ Number of connected relations. ● a(n) = 8 ^ n - 3 * 5 ^ n + 2 * 4 ^ n. ● a(n) = 17 * a(n - 1) - 92 * a(n - 2) + 160 * a(n - 3). ●

[**A000770**] ● 1,21,266,2646,22827,179487,1323652,9321312,63436373,420693273,2734926558,17505749898,110687251039,693081601779,4306078895384,26585679462804,163305339345225,998969857983405,6090236036084530,37026417000002430,224595186974125331 ★ Stirling numbers of the second kind, S(n,6). ● a(n) = det(|s(i + 6,j + 5)|, 1 <= i,j <= n - 6), where s(n,k) are Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 06 2013 ●

[**A028053**] ● 1,21,280,3030,29071,258111,2172430,17592960,138433141,1065579801,8062670980,60182175690,444345657211,3251891531091,23627323915930,170652039023220,1226510307989281,8779155519807981 ★ Expansion of 1/((1-3x)(1-5x)(1-6x)(1-7x)). ● a(n)=(3 * 7 ^ (n + 3) - 8 * 6 ^ (n + 3) + 6 * 5 ^ (n + 3) - 3 ^ (n + 3)) / 24. [_ Yahia Kahloune _ , May 27 2013]. ●

[**A028033**] ● 1,21,283,3129,31003,287217,2547091,21931833,185027755,1538650113,12663786499,103454051337,840560481307,6802315926609,54886579262707,441905197121241,3552134005816459,28518494951667105 ★ Expansion of 1/((1-3x)(1-4x)(1-6x)(1-8x)). ● a(n)=(3 * 8 ^ (n + 3) - 10 * 6 ^ (n + 3) + 15 * 4 ^ (n + 3) - 8 * 3 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , May 27 2013]. ●

[**A176711**] ● 21,285,1365,4221,10197,21021,38805,66045,105621,160797,235221,332925,458325,616221,811797,1050621,1338645,1682205,2088021,2563197,3115221,3751965,4481685,5313021,6254997 ★ a(n) = 16n^4 + 64n^3 + 104n^2 + 80n + 21. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 384 for n > 3; a(0)=21, a(1)=285, a(2)=1365, a(3)=4221. ● a(n) = (2 * n + 1) * (2 * n + 3) * (4 * n ^ 2 + 8 * n + 7). - corrected by _ Eric Rowland _ , Aug 15 2017 ● a(n) = a(- n - 2). - _ Bruno Berselli _ , Sep 05 2011 ●

[**A025987**] ● 1,21,285,3185,31941,299481,2685565,23352945,198684981,1663903241,13774041645,113050606305,921961387621,7483064823801,60518933442525,488128819261265,3929148977523861,31579173926461161 ★ Expansion of

1/((1-2x)(1-5x)(1-6x)(1-8x)). • a(n) = (2 * 8 ^ (n + 3) - 9 * 6 ^ (n + 3) + 8 * 5 ^ (n + 3) - 2 ^ (n + 3)) / 72. [_ Yahia Kahloune _ , May 25 2013] •

[A028028] • 1,21,286,3234,33187,322455,3035152,28040628,256229413,2326373049,21042916258,189930286182,1712158289479,15423616827003,138884571944404,1250325501927096,11254768340210185,101302177508279517 ★ Expansion of 1/((1-3*x)*(1-4*x)*(1-5*x)*(1-9*x)). • a(n) = (243 / 40) * 9 ^ n - (125 / 8) * 5 ^ n + (64 / 5) * 4 ^ n - (9 / 4) * 3 ^ n. - Neven Juric, Oct 22 2009 • a(0)=1, a(1)=21, a(2)=286, a(3)=3234, a(n)=21 * a(n - 1) - 155 * a(n - 2) + 483 * a(n - 3) - 540 * a(n - 4) [From Harvey P. Dale, Aug 11 2011] •

[A025971] • 1,21,287,3249,33159,317457,2913079,25951233,226266887,1941258033,16450020951,138048250977,1149556141735,9512774280849,78317007130103,642041894674881,5244884610706503,42718957418411505 ★ Expansion of 1/((1-2x)(1-4x)(1-7x)(1-8x)). • a(n) = (5 * 8 ^ (n + 2) - 7 ^ (n + 3) + 10 * 4 ^ (n + 1) - 2 ^ (n + 1)) / 15. - _ Yahia Kahloune _ , May 23 2013 • a(n) = 21 * a(n - 1) - 154 * a(n - 2) + 456 * a(n - 3) - 448 * a(n - 4), for n >= 4. - _ Giovanni Resta _ , May 23 2013 •

[A025967] • 1,21,289,3321,34705,343257,3282913,30740457,283960369,2599944633,23667405697,214622461833,1941330570193,17530479823449,158125883415841,1425244488222249,12839878208747377,115635005126816505 ★ Expansion of 1/((1-2x)(1-4x)(1-6x)(1-9x)). • a(n) = (8 * 9 ^ (n + 3) - 35 * 6 ^ (n + 3) + 42 * 4 ^ (n + 3) - 15 * 2 ^ (n + 3)) / 840. - _ Yahia Kahloune _ , May 24 2013 •

[A022452] • 1,21,290,3330,34491,334791,3109900,27997860,246301781,2129087961,18155626710,153166509990,1281087729871,10640517267531,87874475534720,722286313011720,5913514800094761,48255642147081501 ★ Expansion of 1/((1-x)*(1-5*x)*(1-7*x)*(1-8*x)). • a(n) = - 1 / 168 + 125 * 5 ^ n / 24 - 343 * 7 ^ n / 12 + 512 * 8 ^ n / 21. - _ R. J. Mathar _ , Mar 11 2011 • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + (5 ^ (n + 1) - 1) / 4, a(0)=1, a(1)=21. - _ Vincenzo Librandi _ , Mar 12 2011 •

[A086947] • 21,291,2991,29991,299991,2999991,29999991,299999991,2999999991,29999999991,299999999991,2999999999991,29999999999991,299999999999991,2999999999999991,29999999999999991,299999999999999991 ★ Numbers n such that Reverse(n+9)=3. • a(n) = 3 * (10 ^ n - 3) •

[A275359] • 0,0,21,292,1566,5664,16375,40716,90552,184576,350649,628500,1072786,1756512,2774811,4249084,6331500,9209856,13112797,18315396,25145094,33988000,45295551,59591532,77479456 ★ Maximum incarceration of numbers in an n X n X n number cubes with full incarceration volumes. • a(n) = (n ^ 3 - 3 * n ^ 2 + 27 * n - 8) / 2 * (n - 1) ^ 3 for n>0. • a(n) = (n ^ 6 - 6 * n ^ 5 + 39 * n ^ 4 - 99 * n ^ 3 + 108 * n ^ 2 - 51 * n + 8) / 2 for n>0. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[A022291] • 1,21,292,3402,36043,360843,3485854,32899944,305751325,2812114305,25683350056,233457113526,2115260975647,19123756383207,172639882457698,1556953539144948,14031940169321809,126404565100316349 ★ Expansion of 1/((1-x)(1-5x)(1-6x)(1-9x)). • a(0)=1, a(1)=21, a(2)=292, a(3)=3402; for n>3, a(n) = 21 * a(n - 1) - 149 * a(n - 2) + 399 * a(n - 3) - 270 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 • a(n) = (5 * 9 ^ (n + 3) - 32 * 6 ^ (n + 3) + 30 * 5 ^ (n + 3) - 3) / 480. [_ Yahia Kahloune _ , Aug 13 2013] •

[A025944] • 1,21,292,3414,36439,368607,3604114,34449888,324158197,3016246233,27838148416,255387389322,2332396465075,21228942680499,192722119904398,1746130572580116,15796595736313873,142739306095633005 ★ Expansion of 1/((1-2x)(1-3x)(1-7x)(1-9x)). • a(n) = 3 ^ (n + 2) / 8 - 2 ^ (n + 3) / 35 - 7 ^ (n + 3) / 40 + 3 ^ (2 * n + 5) / 28 . - _ R. J. Mathar _ , Jun 04 2013 •

[A025962] • 1,21,293,3465,37821,396081,4058293,41102985,413760941,4151788641,41590878693,416282134905,4164721639261,41656852053201,416617235689493,4166418080133225,41665418007392781,416660400463837761 ★ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-10x)). • a(n) = - 2 ^ n / 6 + 16 * 4 ^ n / 3 - 25 * 5 ^ n / 3 + 25 * 10 ^ n / 6. - _ R. J. Mathar _ , Jun 20 2013 •

[A021864] • 1,21,294,3466,37275,379407,3727648,35761572,337430709,3146261833,29083452762,267126341118,2441786303503,22239710844099,202003194298836,1830950757258904,16569016601938857,149754390830203005 ★ Expansion of 1/((1-x)(1-4x)(1-7x)(1-9x)). • a(n) = 21 * a(n - 1) - 147 * a(n - 2) + 379 * a(n - 3) - 252 * a(n - 4), with a(0)=1, a(1)=21, a(2)=294, a(3)=3466. - _ Harvey P. Dale _ , Feb 01 2013 • a(n) = (9 ^ (n + 4) - 20 * 7 ^ (n + 3) + 4 ^ (n + 5) - 5) / 720. [_ Yahia Kahloune _ , Jun 26 2013] •

[A020570] • 1,21,295,3465,36751,365001,3463615,31794105,284628751,2499039081,21606842335,184519243545,1559982264751,13079717026761,108915112739455,901732722577785,7429565635164751,60963378722560041,498496565225842975,4064108629664292825,33049477950757248751 ★ Expansion of 1/((1-6*x)*(1-7*x)*(1-8*x)). • a(n) = 18 * 6 ^ n - 49 * 7 ^ n + 32 * 8 ^ n. - _ R. J. Mathar _ , Jun 30 2013 • a(0)=1, a(1)=21, a(2)=295; for n>2, a(n) = 21 * a(n - 1) - 146 * a(n - 2) + 336 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[A025940] • 1,21,295,3525,38911,411741,4255255,43385925,438878671,4418961261,44370835015,444796211925,4454490876031,44584086067581,446075938835575,4462169900295525,44630162203602991,446352401627074701 ★ Expansion of 1/((1-2x)(1-3x)(1-6x)(1-10x)). • a(n) = - 9 * 6 ^ n / 2 + 3 ^ (n + 2) / 7 - 2 ^ (n - 2) + 125 * 10 ^ n / 28. - _ R. J. Mathar _ , Jun 04 2013 • a(n) = 21 * a(n - 1) - 146 * a(n - 2) + 396 * a(n - 3) - 360 * a(n - 4), with a(0)=1, a(1)=21, a(2)=295, a(3)=3525. - _ Harvey P. Dale _ , Jul 26 2014 •

[A021829] • 1,21,297,3577,39753,422793,4384969,44813769,454009545,4575676105,45971643081,461011315401,4617904831177,46225887853257,462540273695433,4627092539587273,46281069938293449,462871589543951049 ★ Expansion of 1/((1-x)(1-4x)(1-6x)(1-10x)). • a(n) = (5 * 10 ^ (n + 3) - 27 * 6 ^ (n + 3) + 30 * 4 ^ (n + 3) - 8) / 1080. [_ Yahia Kahloune _ , Jun 26 2013] •

[A019943] • 1,21,298,3570,38971,401751,3988468,38583300,366449941,3434404281,31873887838,293663563830,2690806228111,24553315831611,223338364450408,2026585451393160,18355202849805481,166009125098571741,1499772036736668178,13537796780062999290 ★ Expansion of 1/((1-5x)(1-7x)(1-9x)). • a(n) = 25 * 5 ^ n / 8 - 49 * 7 ^ n / 4 + 81 * 9 ^ n / 8. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=21, a(2)=298; for n>2, a(n) = 21 * a(n - 1) - 143 * a(n - 2) + 315 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A021634] • 1,21,298,3594,39763,417567,4236796,41963988,408348325,3920543913,37248255694,350941450782,3284131050487,30562445793459,283104150028192,2612274474873576,24025167335391049,220344082704460605 ★ Expansion of 1/((1-x)(1-3x)(1-8x)(1-9x)). • a(n) = (35 * 9 ^ (n + 3) - 48 * 8 ^ (n + 3) + 28 * 3 ^ (n + 3) - 15) / 1680. [_ Yahia Kahloune _ , Aug 12 2013] •

[A021604] • 1,21,300,3670,41511,449151,4730890,48987840,501640821,5098774681,51564400680,519680849610,5225067192931,52448485198611,525869552045670,5268388442396980,52751734942121841,527992303241992941 ★ Expansion of 1/((1-x)(1-3x)(1-7x)(1-10x)). • a(n)=(8 * 10 ^ (n + 3) - 3 * 7 ^ (n + 4) + 3 ^ (n + 6) - 14) / 1512. [_ Yahia Kahloune _ , Jun 26 2013] • a(0)=1, a(1)=21, a(2)=300, a(3)=3670; for n>3, a(n) = 21 * a(n - 1) - 141 * a(n - 2) + 331 * a(n - 3) - 210 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 •

[A025935] • 1,21,300,3710,43071,485751,5405170,59772720,659098341,7258131881,79879876440,878881296930,9668709132811,106360879560411,1169995084978110,12870073026808340,141571438884146481 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-11x)). • a(n) = 3 ^ (n + 3) / 16 + 11 ^ (n + 3) / 432 - 2 ^ (n + 3) / 27 - 5 ^ (n + 3) / 36. - _ R. J. Mathar _ , May 22 2013 •

[A019664] • 1,21,301,3669,40957,433125,4418317,43942773,428973853,4128937989,39306876973,370937567637,3475860284989,32382187083813,300235508341069,2772487245505461,25515330868003165,234141560259529797 ★ Expansion of 1/((1-4x)(1-8x)(1-9x)). • a(n) = 4 ^ (n + 1) / 5 + 9 ^ (n + 2) / 5 - 2 * 8 ^ (n + 1). - _ R. J. Mathar _ , Nov 11 2012 • a(0)=1, a(1)=21, a(2)=301; for n>2, a(n) = 21 * a(n - 1) - 140 * a(n - 2) + 288 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A019839] • 1,21,301,3681,41461,445641,4658221,47871201,486836581,4919066361,49504632541,496978967121,4981629662101,49888557269481,499325240101261,4995920923029441,49975372950286021,499851474762263001,4999105033876312381,49994611129771546161 ★ Expansion of 1/((1-5x)(1-6x)(1-10x)). • a(n) = 5 * 5 ^ n - 9 * 6 ^ n + 5 * 10 ^ n. - _ R. J. Mathar _ , Jun 29 2013 • a(n) = 21 * a(n - 1) - 140 * a(n - 2) + 300 * a(n - 3), with a(0)=1, a(1)=21, a(2)=301. - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 16 * a(n - 1) - 60 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A021784] • 1,21,302,3762,43923,497223,5545264,61398804,677478725,7463074905,82149266706,903924739926,9944608539607,109397965416267,1203414334895828,13237742692094328,145616100380861769 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-11x)). • a(n) = - 1 / 120 + 2 ^ (2n + 6) / 21 - 5 ^ (n + 3) / 24 + 11 ^ (n + 3) / 420. [_ Bruno Berselli _ , May 08 2013] •

[A019618] • 1,21,303,3745,42711,464961,4918663,51086385,524227671,5336085601,54018566823,544793838225,5480212349431,55028108373441,551863246323783,5529708675105265,55374624529091991,554289026917064481 ★ Expansion of 1/((1-4x)(1-7x)(1-10x)). • a(n) = 2 * 4 ^ (n + 1) / 9 - 7 ^ (n + 2) / 9 + 5 * 10 ^ (n + 1) / 9. - _ R. J. Mathar _ , Nov 11 2012 • a(0)=1, a(1)=21, a(2)=303; for n>2, a(n) = 21 * a(n - 1) - 138 * a(n - 2) + 280 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A081553] • 1,21,303,4006,50010,600015,7000021,80000028,900000036,1000000045,10000000055,100000000066 ★ Sum of n-th row of A081551. • a(n) = n * 10 ^ (n - 1) + n(n - 1) / 2. •

[A021524] • 1,21,304,3822,45031,513639,5760910,64038576,708445573,7817058249,86132670988,948329828082,10436851589347,114836710756971,1263391885146058,13898439159046260,152889601348716673 ★ Expansion of 1/((1-x)(1-3x)(1-6x)(1-11x)). • a(n) = (3 * 11 ^ (n + 3) - 16 * 6 ^ (n + 3) + 25 * 3 ^ (n + 3) - 12) / 1200. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=21; for n>1, a(n) = 17 * a(n - 1) - 66 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 • a(0)=1, a(1)=21, a(2)=304, a(3)=3822; for n>3, a(n) = 21 * a(n - 1) - 137 * a(n - 2) + 315 * a(n - 3) - 198 * af(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 •

[A021268] • 1,21,305,3825,44481,494721,5346625,56661825,592183361,6126355521,62899732545,642086748225,6525582872641,66093551865921,667637303808065,6729987319337025,67728787443552321,680719188437241921 ★ Expansion of 1/((1-x)(1-2x)(1-8x)(1-10x)). • a(n) = (7 * 10 ^ (n + 3) - 12 * 8 ^ (n + 3) + 21 * 2 ^ (n + 3) - 16) / 1008. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=21, a(2)=305, a(3)=3825; for n>3, a(n) = 21 * a(n - 1) - 136 * a(n - 2) + 276 * a(n - 3) - 160 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=21; for n>1, a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A018069] • 1,21,307,3873,45235,504633,5465323,58007361,606913219,6283868745,64556638939,659310178449,6703052628403,67910134629657,686138217844555,6917677165178337,69627131588692387,699874195511336169 ★ Expansion of 1/((1-3x)(1-8x)(1-10x)). • a(0)=1, a(1)=21, a(2)=307; for n>2, a(n) = 21 * a(n - 1) - 134 * a(n - 2) + 240 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (5 * 10 ^ (n + 2) - 7 * 8 ^ (n + 2) + 2 * 3 ^ (n + 2)) / 7

0. [_ Yahia Kahloune _ , Jul 06 2013] •

[A019488] • 1,21,307,3897,46243,529953,5961259,66380889,735097555,8115781905,89452902331,985061928201,10842178002787,119303005894977,1312567620466123,14439652232597433,158844629298359539 ★ Expansion of 1/((1-4x)(1-6x)(1-11x)). • a(n) = 8 * 4 ^ n / 7 - 18 * 6 ^ n / 5 + 121 * 11 ^ n / 35. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=21, a(2)=307; for n>2, a(n) = 21 * a(n - 1) - 134 * a(n - 2) + 264 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 17 * a(n - 1) - 66 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A025929] • 1,21,307,3969,48979,593817,7152139,85937313,1031713507,12382483113,148597656571,1783203843057,21398575559635,256783429254009,3081403255517803,36976847527073601,443722204297332163 ★ Expansion of 1/((1-2x)(1-3x)(1-4x)(1-12x)). • a(n) = 21 * a(n - 1) - 134 * a(n - 2) + 336 * a(n - 3) - 288 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 19 2011 • a(n) = 16 * a(n - 1) - 48 * a(n - 2) + 3 ^ (n + 1) - 2 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 • a(n) = 3 ^ (n + 1) - 2 ^ (n + 1) / 5 - 2 ^ (2 * n + 2) + 12 ^ (n + 1) / 5. - R. J. Mathar, Mar 19 2011 •

[A021244] • 1,21,308,3942,47271,547407,6213586,69694464,776054741,8602512633,95089014384,1049208790266,11563904125411,127361197423299,1402080935995502,15430644646390548,169791371563507281 ★ Expansion of 1/((1-x)(1-2x)(1-7x)(1-11x)). • a(n)=(11 ^ (n + 3) - 3 * 7 ^ (n + 3) + 8 * 2 ^ (n + 3) - 6) / 360. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=21, a(2)=308, a(3)=3942; for n>3, a(n) = 21 * a(n - 1) - 133 * a(n - 2) + 267 * a(n - 3) - 154 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=21; for n>1, a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A021484] • 1,21,310,4050,50371,613671,7411240,89174100,1071295141,12861600921,154369595770,1852587338550,22231809806311,266785528785771,3201445408153900,38417440232993400,461009759536223881 ★ Expansion of 1/((1-x)(1-3x)(1-5x)(1-12x)). • a(0)=1, a(1)=21; for n>2, a(n) = 17 * a(n - 1) - 60 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 • a(0)=1, a(1)=21, a(2)=310, a(3)=4050; for n>3, a(n) = 21 * a(n - 1) - 131 * a(n - 2) + 291 * a(n - 3) - 180 * a(n - 4). - _ Vincenzo Librandi _ , Jul 10 2013 •

[A157088] • 0,21,312,4365,60816,847077,11798280,164328861,2288805792,31878952245,444016525656,6184352406957,86136917171760,1199732487997701,16710117914796072,232741918319147325 ★ Consider all consecutive integer Pythagorean septuples (X, X+1, X+2, X+3, Z-2, Z-1, Z) ordered by increasing Z; sequence gives X values. • a(n) = (3 ^ (n + 1)((1 + sqrt(4 / 3)) ^ (2n + 1) + (1 - sqrt(4 / 3)) ^ (2n + 1)) - 2 * 3) / 4. •

[A016321] • 1,21,313,4065,49081,566721,6350473,69654225,751887961,8016991521,84652923433,886876310385,9231886792441,95586981129921,985282830165193,10117545471478545,103557909243290521,1057021183189581921 ★ Expansion of 1/((1-2x)(1-9x)(1-10x)). • a(n) = 2 ^ (n - 1) / 7 - 9 ^ (n + 2) / 7 + 25 * 10 ^ n / 2. • a(n) = (175 * 10 ^ n + 2 ^ n - 2 * 9 ^ (n + 2)) / 14. • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 2 ^ n. • a(n) = 21 * a(n - 1) - 128 * a(n - 2) + 180 * a(n - 3), n >= 3. (End) •

[A019041] • 1,21,313,4125,51601,630741,7630633,91892685,1104403201,13261555461,159183299353,1910426955645,22926277062001,275121159824181,3301483361724673,39617948633641005,475416129363276001 ★ Expansion of 1/((1-4x)(1-5x)(1-12x)). • a(n) = 2 * 4 ^ n - 25 * 5 ^ n / 7 + 18 * 12 ^ n / 7. - _ R. J. Mathar _ , Jun 29 2013 • a(0)=1, a(1)=21, a(2)=313; for n>2, a(n)= 21 * a(n - 1) - 128 * a(n - 2) + 240 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 17 * a(n - 1) - 60 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 •

[A021214] • 1,21,313,4137,51961,637497,7733881,93310329,1122747001,13491103353,162002078329,1944677972601,23340053875321,280104155744889,3361390924417657,40337537425951353,484055527109184121 ★ Expansion of 1/((1-x)(1-2x)(1-6x)(1-12x)). • a(n) = (2 * 12 ^ (n + 3) - 11 * 6 ^ (n + 3) + 33 * 2 ^ (n + 3) - 24) / 1320. - _ Yahia Kahloune _ , May 19 2013 • a(0)=1, a(1)=21, a(2)=313, a(3)=4137; for n>3, a(n) = 21 * a(n - 1) - 128 * a(n - 2) + 252 * a(n - 3) - 144 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=21; for n>1, a(n) = 18 * a(n - 1) - 72 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A016318] • 1,21,315,4145,51051,605241,7007155,79874865,900993051,10089880361,112420339395,1248076978785,13820472734251,152758207825881,1686204348094035,18595160325141905,204922063545486651 ★ Expansion of 1/((1-2x)(1-8x)(1-11x)). • a(n) = (11 ^ (n + 2) + 2 ^ (n + 1) - 96 * 8 ^ n) / 27. • a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 2 ^ n. • a(n) = 21 * a(n - 1) - 126 * a(n - 2) + 176 * a(n - 3), n>=3. (End) •

[A017954] • 1,21,315,4185,52731,648081,7869555,94992345,1143260811,13739265441,164992058595,1980630120105,23771914474491,285289093487601,3423625845396435,41084450500377465,493019048181297771 ★ Expansion of 1/((1-3x)(1-6x)(1-12x)). • a(0)=1, a(1)=21, a(2)=315; for n>2, a(n) = 21 * a(n - 1) - 126 * a(n - 2) + 216 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 18 * a(n - 1) - 72 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (12 ^ (n + 2) - 3 * 6 ^ (n + 2) + 2 * 3 ^ (n + 2)) / 54. [_ Yahia Kahloune _ , Jul 06 2013] •

[A016315] • 1,21,319,4305,55015,683697,8369047,101581473,1227048295,14781074385,177768357559,2135988547329,25651240368391,307950529031985,3696355860679255,44362916914251873,532401529073793703 ★ Expansion of 1/((1-2x)(1-7x)(1-12x)). • a(n) = 2 * 2 ^ n / 25 - 49 * 7 ^ n / 25 + 72 * 12 ^ n / 25. - _ R. J. Mathar _ , Jun 23 2013 • a(n) = 21 * a(n - 1) - 122 * a(n - 2) + 168 * a(n - 3). - _ Vincenzo Librandi _ , Jun 26 2013 • a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 2 ^ n. - _ Vincenzo Librandi _ , Jun 26 2013 •

[A113531] • 1,21,321,2005,7737,22461,54121,114381,219345,390277,654321,1045221,1604041,2379885,3430617,4823581,6636321,8957301,11886625,15536757,20033241,25515421,32137161,40067565,49491697 ★ a(n) = 1 + 2*n + 3*n^2 + 4*n^3 + 5*n^4 + 6*n^5. • a(n) = 1 + 2 * n + 3 * n ^ 2 + 4 * n ^ 3 + 5 * n ^ 4 + 6 * n ^ 5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), a(0)=1, a(1)=21, a(2)=321, a(3)=2005, a(4)=7737, a(5)=22461. - _ Harvey P. Dale _ , Nov 02 2011 •

[A057138] • 0,1,21,321,4321,54321,654321,7654321,87654321,987654321,987654321,10987654321,210987654321,3210987654321,43210987654321,5432109876 54321,6543210987654321,76543210987654321,876543210987654321 ★ Add (n mod 10)*10^(n-1) to the previous term, with a(0) = 0. • a(n) = floor(((q / (10 ^ 10 - 1)) + q mod 10 ^ (n mod 10)) * 10 ^ (10 * floor(n / 10))), where q = 987654321. - _ Hieronymus Fischer _ , Jan 03 2013 •

[A014925] • 1,21,321,4321,54321,654321,7654321,87654321,987654321,10987654321,120987654321,1320987654321,14320987654321,154320987654321,1654320987654321,17654320987654321,187654320987654321 ★ Number of zeros in numbers 1 to 111...1 (n+1 digits). • a(1) = 1; for n>1, a(n) = n * 10 ^ (n - 1) + a(n - 1). • a(n) = 10 ^ n * (n + 1) / 9 - 1 / 81 * 10 ^ (n + 1) + 1 / 81. • a(n) = (10 ^ n * (9 * n - 1) + 1) / 81. - _ Kenneth E. Caviness _ , Mar 30 2011 • a(n) = Sum _{ i=0..n } (i * 10 ^ (i - 1)). - _ José de Jesús Camacho Medina _ , Dec 14 2016 •

[A016260] • 1,21,325,4485,58501,739461,9173125,112474245,1368864901,16579770501,200184379525,2412029622405,29022892013701,348902996523141,4191862297147525,50342558276728965,604432385008416901 ★ Expansion of 1/((1-x)(1-8x)(1-12x)). • a(n) = (21 * 12 ^ (n + 1) - 22 * 8 ^ (n + 1) + 1) / 77. - _ Bruno Berselli _ , Mar 21 2011 • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 •

[A016195] • 0,1,21,331,4641,61051,771561,9487171,114358881,1357947691,15937424601,185311670611,2138428376721,24522712143931,279749833583241,3177248169415651,35949729863572161,405447028499293771 ★ 11^n - 10^n. • a(0)=0, a(n)=11 * a(n - 1) + 10 ^ (n - 1). [From Vincenzo Librandi, Feb 09 2011] • a(0)=0, a(1)=1, a(n)=21 * a(n - 1) - 110 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] •

[A016191] • 1,21,333,4725,63261,818181,10349613,128978325,1590786621,19476859941,237209103693,2877890303925,34817113183581,420347224031301,5067043480830573,61010412902061525,733977975013590141 ★ Expansion of 1/((1-9x)(1-12x)). • a(n - 1)=Sum(3 ^ (n - 1) * 3 ^ (n - k) * binomial(n, k),k=1..n). - _ Zerinvary Lajos _ , Sep 24 2006 • a(0)=1, a(n)=12 * a(n - 1) + 9 ^ n. [From Vincenzo Librandi, Feb 09 2011] • a(0)=1, a(1)=21, a(n)=21 * a(n - 1) - 108 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] •

[A095905] • 1,21,333,5373,86589,1395549,22491837,362497437,5842314621,94159673181,1517556760893,24458225530653,394189404655869,6353089129389789,102391746224652477,1650231797698803357,26596528397525794941 ★ Sequence generated from Golomb's proof of de Bruijn's theorem on a torus considered as a matrix. • a(1) = 1, a(2) = 21, a(n + 2) = 15 * a(n + 1) + 18 * a(n), n>2. Matrix method: Let M = the 6 X 6 matrix [1 2 1 2 1 2 / 3 4 3 4 3 4 / 1 2 1 2 1 2 / 3 4 3 4 3 4 / 1 2 1 2 1 2 / 3 4 3 4 3 4]. Then M ^ n * [1 0 0 0 0 0] = [a(n) q a(n) q a(n) q a(n) q], where q = a term in another sequence with the same recursion rule. •

[A036224] • 1,21,336,4536,54432,598752,6158592,60046272,560431872,5043886848,44019376128,374164697088,3108445175808,25311625003008,202493000024064,1594632375189504,12381851383824384,94927527275986944 ★ Expansion of (-1+1/(1-6*x)^6)/(36*x); related to A036084. • a(n) = 6 ^ (n - 1) * binomial(n + 6, 5); G.f. (- 1 + (1 - 6 * x) ^ (- 6)) / (x * 6 ^ 2). •

[A062260] • 1,21,336,5040,75600,1164240,18627840,311351040,5448643200,99891792000,1917922406400,38532804710400,809188898918400,17739910476288000,405483668029440000,9650511299100672000 ★ Third (unsigned) column sequence of triangle A062140 (generalized a=4 Laguerre). • a(n) = binomial(n,6) * (n - 4)! / 2, n >= 6. - _ Zerinvary Lajos _ , Jul 07 2009 •

[A166914] • 21,340,5456,87360,1398016,22369280,357912576,5726617600,91625947136,1466015416320,23456247709696,375299967549440,6004799497568256,96076792028200960,1537228672719650816,24595658764588154880 ★ a(n) = 20*a(n-1) - 64*a(n-2) for n > 1; a(0) = 21, a(1) = 340. • a(n) = (64 * 16 ^ n - 4 ^ n) / 3. • a(n) = 20 * a(n - 1) - 64 * a(n - 2). •

[A075921] • 1,21,343,5145,74431,1058841,14941423,210003465,2945813311,41281739961,578226834703,8097153012585,113373983463391,1587332657497881,22223335428043183,311131443554114505 ★ Second column of triangle A075502. • a(n) = - 7 ^ n + 2 * 14 ^ n. • a(0)=1, a(1)=21, a(n) = 21a(n - 1) - 98a(n - 2). - _ Harvey P. Dale _ , Apr 30 2011 •

[A006105] • 1,21,357,5797,93093,1490853,23859109,381767589,6108368805,97734250405,1563749404581,25019996065701,400319959420837,6405119440211877,102481911401303973 ★ Gaussian binomial coefficient [n,2] for q=4. • a(n) = (16 ^ n - 5 * 4 ^ n + 4) / 180. - _ Mitch Harris _ , Mar 23 2008 • a(n) = 5 * a(n - 1) - 4 * a(n - 2) + 16 ^ (n - 2), n>=4. - _ Vincenzo Librandi _ , Mar 20 2011 •

[A167032] • 1,21,358,5818,93450,1496650,23952202,383258442,6132227914,98116017994,1569857773386,25117730316106,401883708825418,6430139436277578,102882231360724810,1646115703292731210,26337851258768236362 ★ a(n) = 20*a(n-1) - 64*a(n-2) + 2 for n > 1; a(0) = 1, a(1) = 21. • a(n) = (257 * 16 ^ n - 85 * 4 ^ n + 8) / 180. • a(n) = 21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3) for n>2. •

[A051564] • 0,1,21,362,6026,101524,1763100,31813200,598482000,11752855200,240947474400,5154170774400,114942011990400,2669517204076800,64496340380102400,1619153396908185600,42188624389562112000 ★ Second unsigned

column of triangle A051523. • a(n) = n! * Sum _{ k=0..n - 1 } ((- 1) ^ k * b inomial(- 10,k) / (n - k)), for n>=1. - _ Milan Janjic _ , Dec 14 2008 • a(n) = n! * [9]h(n), where [k]h(n) denotes the k - th successive summation of the h armonic numbers from 0 to n. - _ Gary Detlefs _ Jan 04 2011 •

[A083043] • 1,21,419,8359,166761,3326861,66370459,1324082319,26415275921,526981436101,10513213446099,209737287485879,4184232536271481,83474913437943741,1665314036222603339,33222805811014123039 ★ Integers y such that 11x^2-9y^2=2 for some integer x. • a(n + 1)=10 * a(n) + sqrt(99 * a(n) ^ 2 + 22). - _ Richard Choulet _ , Sep 27 2007 •

[A097833] • 1,21,420,8380,167181,3335241,66537640,1327417560,26481813561,528308853661,10539695259660,210265596339540,4194772231531141,83685179034283281,1669508808454134480,33306490990048406320 ★ Partial sums of Chebyshev sequence S(n,20)= U(n,10)=A075843(n+1). • a(n) = 20 * a(n - 1) - a(n - 2) + 1, n>=1, a(- 1)=0, a(0)=1. • a(n) = (S(n + 1, 20) - S(n, 20) - 1) / 18. • a(n) = 21 * a(n - 1) - 21 * a(n - 2) + a(n - 3), n>=2, a(- 1)=0, a(0)= 1, a(1)=21. • a(n) = (((10 + 3 * sqrt(11)) ^ (- n) * (33 + 10 * sqrt(11) - 11 * (10 + 3 * sqrt(11)) ^ n * (1257 + 379 * sqrt(11)) + (10 + 3 * sqrt(11)) ^ (2 * n) * (262680 + 79201 * sqrt(11))))) / (198 * (1257 + 379 * sqrt(11))). - _ Colin Barker _ , Mar 03 2016 •

[A064108] • 0,1,21,421,8421,168421,3368421,67368421,1347368421,26947368421,538947368421,10778947368421,215578947368421,4311578947368421,86231578947368421,1724631578947368421,34492631578947368421 ★ a(n) = (20^n-1)/19. • a(n) = 20 * a(n - 1) + 1, with a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 • a(0)=0, a(1)=1, a(n) = 21 * a(n - 1) - 20 * a(n - 2). - _ Harvey P. Dale _ , Oct 04 2012 • a(n) = floor(20 ^ n / 19). - _ M. F. Hasler _ , Nov 04 2012 •

[A092499] • 0,1,21,440,9219,193159,4047120,84796361,1776676461,37225409320,779956919259,16341869895119,342399310878240,7174043658547921,150312517518628101,3149388824232642200,65986852791366858099 ★ Chebyshev polynomials S(n-1,21) with Diophantine property. • a(0)=0, a(1)=1, a(2)=21 and a(n - 1) * a(n + 1)=a(n) ^ 2 - 1 • a(n)=S(n - 1, 21)=U(n - 1, 21 / 2) with S(n, x)=U(n, x / 2) Chebyshev's polynomials of the 2nd kind, A049310. S(- 1, x)= 0 = U(- 1, x). • a(n)=S(2 * n - 1, sqrt(23)) / sqrt(23), n>=1. • a(n)=21 * a(n - 1) - a(n - 2), n >= 1; a(0)=0, a(1)=1. • a(n)=(ap ^ n - am ^ n) / (ap - am) with ap := (21 + sqrt(437)) / 2 and am := (21 - sqrt(437)) / 2. •

[A158603] • 21,462,1785,3990,7077,11046,15897,21630,28245,35742,44121,53382,63525,74550,86457,99246,112917,127470,142905,159222,176421,194502,213465,233310,254037 ★ 441n^2 + 21. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) . •

[A006298] • 21,483,6468,66066,570570,4390386,31039008,205633428,1293938646,7808250450,45510945480,257611421340,1422156202740,7683009544980,40729207226400,212347275857640,1090848505817070,5530195966465170,27704671055301240,137308238124957900,673903972248687180,3278143051447003740,15816495077491530240,75740811006275677080,360195962116311020700 ★ Number of genus 2 rooted maps with 1 face with n vertices. • a(n + 1) = ((5 * n + 3) * (4n *+ 2) * a(n)) / ((5 * n - 2)(n - 3)). •

[A089907] • 0,21,483,7785,107787,1377789,16777791,197777793,2277777795,25777777797,287777777799,3177777777801,34777777777803,377777777777805,4077777777777807,437777777777777809,4677777777777777811 ★ Sum of digits of numbers between 0 and (6/9)*(10^n-1). • a(n) = s(6, n - 1) where s(a, k)=a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)). • a(n) = (- 11 / 9 * (- 1 + 10 ^ n) + (2 + 3 * 1 0 ^ n) * n). G.f.: 3 * x * (40 * x ^ 2 + 7 * x + 7) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 •

[A129993] • 0,21,504,597,704,3441,3980,4601,20540,23681,27300,120197,138504,159597,701040,807741,930680,4086441,4708340,5424881,23818004,27442697,31619004,138821981,159948240 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+199)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 398 for n > 6; a(1)=0, a(2)=21, a(3)=504, a(4)=597, a(5)=704, a(6)=3441. • a(1)=0, a(2)=21, a(3)=504, a(4)=597, a(5)=704, a(6)=3441, a(7)=3980 , a(n)=a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7) From _ Harvey P. Dale _ , Jun 03 2012 •

[A100713] • 21,697,1333,1909,3901,96361,130153,163201 ★ Hyperperfect brilliant numbers. • a(n) is an element in the intersection of A007592 and A078972. a(n)=m(sigma(a(n)) - a(n) - 1) + 1 for some m>1 and a(n) is a semiprime with the same number of digits in each prime factor. •

[A250060] • 21,735,7224,40320,160545,509691,1375080,3281544,7116165,14290815,26947536,48211800,82498689,135877035,216496560,335083056,505506645,745428159,1077028680,1527827280,2131592001,2929349115,3970495704 ★ Number of length 1+6 0..n arrays with no seven consecutive terms having the maximum of any two terms equal to the minimum of the remaining five terms. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[A250061] • 21,1299,18966,142170,715155,2753061,8746524,24049476,59084865,132643335,276590226,542336574,1009470111,1796982585,3077570040,5095523016,8188763949,12815629371,19587034830,29304700770,43006157931,62017291149 ★ Number of length 2+6 0..n arrays with no seven consecutive terms having the maximum of any two terms equal to the minimum of the remaining five terms. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[A250062] • 21,2292,50028,505154,3213429,15002490,56118016,177725772,494492733,1240508808,2859421884,6142632990,12432735341,23913080862,44008420512,77925990328,133371203589,221477260860,357993503916,564783216666 ★ Number of length 3+6 0..n arrays with no seven consecutive terms having the maximum of any two terms equal to the minimum of the remaining five terms. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. •

[A250064] • 21,4030,132054,1800040,14492075,82072086,361440380,1318262304,4153110705,11640299550,29654571826,69781269480,153557285479,319076606870,630919231800,1194629311616,2177281160205,3836033915454 ★ Number of length 4+6 0..n arrays with no seven consecutive terms having the maximum of any two terms equal to the minimum of the remaining five terms. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>11. •

[A250063] • 21,7054,348066,6415638,65419155,449532868,2330996068,9790907652,34925259201,109359675810,307898807590,793597679082,1898570817663,4261710821064,9053571280840,18330419662312,35574363778221 ★ Number of length 5+6 0..n arrays with no seven consecutive terms having the maximum of any two terms equal to the minimum of the remaining five terms. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12) for n>12. •

[A270873] • 21,7668,75545,545730,3015021,13239896,48243393,151298070,420233285,1056651996,2446142121,5282430218,10751650845,20796493440,38483939921,68504620446,117836491893,196610583620,319221957945,505734798546,783636668621,1190003472168 ★ a(n) = n^9 + 8*n^8 + 43*n^7 + 159*n^6 + 452*n^5 + 997*n^4 + 1725*n^3 + 2272*n^2 + 1990*n + 21. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). •

[A250065] • 21,12284,915064,22838540,295152625,2461761504,15032948568,72725094312,293743941525,1027603529940,3197464381472,9027047995732,23478340317185,56931986760280,129941488925520,281314031706000,581349481570101 ★ Number of length 6+6 0..n arrays with no seven consecutive terms having the maximum of any two terms equal to the minimum of the remaining five terms. • a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13) for n>13. •

[A022392] • 1,22,23,45,68,113,181,294,475,769,1244,2013,3257,5270,8527,13797,22324,36121,58445,94566,153011,247577,400588,648165,1048753 ★ Fibonacci sequence beginning 1, 22. • a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=22. a(- 1):=21. •

[A041970] • 22,23,45,248,293,4350,22043,26393,48436,171701,735240,906941,2549122,3456063,6005185,9461248,100617665,110078913,210696578,320775491,852247560,1173023051,5544339764,17806042343 ★ Numerators of continued fraction convergents to sqrt(508). • a(n) = 89515213717502 * a(n - 32) - a(n - 64) for n>63. [_ Bruno Berselli _ , Nov 12 2013] •

[A041982] • 22,23,68,1519,3106,4625,206606,211231,629068,14050727,28730522,42781249,1911105478,1953886727,5818878932,129969223231,265757325394,395726548625,17677725464894,18073452013519 ★ Numerators of continued fraction convergents to sqrt(514). • a(n) = 9250 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 12 2013 •

[A042004] • 22,23,252,527,5522,6049,271678,277727,3048948,6375623,66805178,73180801,3286760422,3359941223,36886172652,77132286527,808209037922,885341324449,39763227313678,40648568638127 ★ Numerators of continued fraction convergents to sqrt(525). • a(n) = 12098 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 13 2013 •

[A042008] • 22,23,505,528,23737,24265,533302,557567,25066250,25623817,563166407,588790224,26469936263,27058726487,594703192490,621761918977,27952227627478,28573989546455,628006008103033 ★ Numerators of continued fraction convergents to sqrt(527). • a(n) = 1056 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 13 2013 •

[A042009] • 1,1,22,23,1034,1057,23231,24288,1091903,1116191,24531914,25648105,1153048534,1178696639,25905677953,27084374592,1217618160001,1244702534593,27356371386454,28601073921047,1285803623912522,1314404697833569,28888302278417471 ★ Denominators of continued fraction convergents to sqrt(527). • a(n) = 1056 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 12 2014 •

[A042010] • 22,23,1034,1057,47542,48599,2185898,2234497,100503766,102738263,4620987338,4723725601,212464913782,217188639383,9768765046634,9985953686017,449150727231382,459136680917399 ★ Numerators of continued fraction convergents to sqrt(528). • a(n) = 46 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 13 2013 •

[A129073] • 22,29,43,57,85,99,127,141,169,211,225,267,295,309,337,379,421,435,477,505,519,561,589,631,687 ★ Numbers n such that (n-8)/7 is prime. • a(n) = 7 * prime(n) + 8. - Zak Seidov, May 12 2007 •

[A026044] • 22,33,49,70,97,132,176,229,292,367,455,556,671,802,950,1115,1298,1501,1725,1970,2237,2528,2844,3185,3552 ★ a(n) = (d(n)-r(n))/2, where d = A026043 and r is the periodic sequence with fundamental period (1,1,0,0). • a (n)=(n + 5) * (2 * n ^ 2 + 11 * n + 54) / 12 - 1 / 4 - (1 / 4) * cos(Pi * n / 2) - (1 / 4) * sin(Pi * n / 2) [From _ Richard Choulet _ , Dec 13 2008] •

[A103320] • 1,22,33,444,555,6666,7777,8888,99999 ★ Condensed Golomb sequence: digits according to Golomb's sequence, same digits concatenated. • a (n)=n •

[A061561] • 22,35,84,105,180,225,360,405,744,837,1488,1581,3024,3213,6048,6237,12192,12573,24384,24765,48960,49725,97920,98685,196224 ★ Trajectory of

22 under the Reverse and Add! operation carried out in base 2. • a(0) = 22; a(1) = 35; for n > 1 and n = 2 (mod 4): a(n) = 6 * 2 ^ (2 * k) - 3 * 2 ^ k wher e k = (n + 6) / 4; n = 3 (mod 4): a(n) = 6 * 2 ^ (2 * k) + 3 * 2 ^ k - 3 where k = (n + 5) / 4; n = 0 (mod 4): a(n) = 12 * 2 ^ (2 * k) - 3 * 2 ^ k where k = (n + 4) / 4; n = 1 (mod 4): a(n) = 12 * 2 ^ (2 * k) + 9 * 2 ^ k - 3 where k = (n + 3) / 4. [From Klaus Brockhaus, Sep 05 2002] •

[A063327] • 1,22,42,64,86,106,128,150,170,192,214,234,256,278,298,320,342,362,384,406,426,448,470,490,512 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(54). • a(n) = a(n - 1) + a(n - 3) - a(n - 4) for n>6. •

[A277051] • 22,44,66,88,110,133,155,177,199,221,244,266,288,310,332,355,377,399,421,443,465,488,510,532,554 ★ a(n) = floor(n/(1-3/Pi)). • a(n) = floor(n / (1 - 3 / Pi)). •

[A248422] • 22,44,66,88,1010,1212,1414,1616,1818,2020,2222,2424,2626,2828,3030,3232,3434,3636,3838,4040,4242,4444,4646,4848,5050 ★ Even integers concatenated with themselves. • a(n) = 2 * n * 10 ^ ceil(log _ 10(2 * n)) + 2 * n . - _ Tom Edgar _ , Oct 21 2014 •

[A038153] • 22,44,67,89,112,134,157,179,202,224,247,269,291,314,336,359,381,404,426,449,471,494,516,539,561 ★ Beatty sequence for Pi^e. • a(n) = floor(n * 22.4591577...). •

[A041956] • 22,45,67,112,179,291,1052,8707,9759,28225,292009,320234,1893179,4106592,59385467,122877526,673773097,796650623,8640279327,18077209277,26717488604,231817118109,722168842931 ★ Numerators of continued fraction convergents to sqrt(501). • a(n) = 22485463805950 * a(n - 28) - a(n - 56) for n>55. [_ Bruno Berselli _ , Nov 12 2013] •

[A195149] • 0,1,22,45,88,133,198,265,352,441,550,661,792,925,1078,1233,1408,1585,1782,1981,2200,2421,2662,2905,3168 ★ Concentric 22-gonal numbers. • a(n) = (22 * n ^ 2 + 9 * (- 1) ^ n - 9) / 4; a(n) = - a(n - 1) + 11 * n ^ 2 - 11 * n + 1. - _ Vincenzo Librandi _ , Sep 27 2011 •

[A041962] • 22,45,202,449,19958,40365,181418,403201,17922262,36247725,162913162,362074049,16094171318,32550416685,146295838058,325142092801,1445254792130 2,29230237935405,131373499662922 ★ Numerators of continued fraction convergents to sqrt(504). • a(n) = 898 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 12 2013 •

[A041966] • 22,45,2002,4049,180158,364365,16212218,32788801,1458919462,2950627725,131286539362,265523706449,11814329623118,23894182952685,1063158379541258,2150210942035201,95672439829090102,193495090600215405 ★ Numerators of continued fraction convergents to sqrt(506). • a(n) = 90 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 12 2013 •

[A132763] • 0,22,46,72,100,130,162,196,232,270,310,352,396,442,490,540,592,646,702,760,820,882,946,1012,1080 ★ a(n) = n(n+21). • a(n) = n * (n + 21). • a(n) = 2 * n + a(n - 1) + 20 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 0 3 2010 • a(0)=0, a(1)=22, a(2)=46, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 25 2014 •

[A015226] • 22,50,252,372,946,1222,2360,2856,4750,5530,8372,9500,13482,15022,20336,22352,29190,31746,40300,43460,53922,57750,70312,74872,89726 ★ Even hexagonal pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 256. • a(n) = (4 * n + (- 1) ^ n + 5) * (4 * n + (- 1) ^ n + 7) * (8 * n + 2 * (- 1) ^ n + 9) / 24. •

[A277979] • 0,22,52,90,136,190,252,322,400,486,580,682,792,910,1036,1170,1312,1462,1620,1786,1960,2142,2332,2530,2736 ★ a(n) = 4*n^2 + 18*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A063302] • 1,22,56,91,126,161,196,231,266,301,336,369,406,441,476,509,546,579,616,649,686,719,756,787,826 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(29). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n> 13. •

[A131878] • 1,22,57,106,169,246,337,442,561,694,841,988,1163,1352,1555,1772,2003,2248,2507,2780,3067,3368,3683,4012,4355 ★ Row sums of triangle A131876. • a(n)=a(n - 1) + 14 * n + 7 (with a(0)=1) [From Vincenzo Librandi, Nov 23 2010] •

[A216299] • 22,61,85,142,166,169,178,199,268,316,415,451,478,541,682,775,787,862,1045,1111,1237,1387,1618,1720,1738 ★ Numbers n such that 10n+1 is composite but 10n+3, 10n+7, 10n+9 are all prime. • a(n) >> n log ^ 3 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A051874] • 0,1,22,63,124,205,306,427,568,729,910,1111,1332,1573,1834,2115,2416,2737,3078,3439,3820,4221,4642,5083,5544 ★ 22-gonal numbers: a(n) = n*(10*n-9). • a(n) = 2 * a(n - 1) - a(n - 2) + 20 with n>1, a(0)=0, a(1)=1. - _ Zerinvary Lajos _ , Feb 18 2008 • a(n) = 20 * n + a(n - 1) - 19 with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(20 * a(n) + 191 * n + 1) = a(20 * a(n) + 191 * n) + a(20 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069178] • 1,22,64,127,211,316,442,589,757,946,1156,1387,1639,1912,2206,2521,2857,3214,3592,3991,4411,4852,5314,5797,6301 ★ Centered 21-gonal numbers. • a(n) = (21n ^ 2 - 21n + 2) / 2 • a(n) = 21 * n + a(n - 1) - 21 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(n) = 1 + sum _{ i=1..n } 21 * (i - 1). - _ Wesley Ivan Hurt _ , May 25 2013 •

[A164136] • 0,22,66,132,220,330,462,616,792,990,1210,1452,1716,2002,2310,2640,2992,3366,3762,4180,4620,5082,5566,6072,6600 ★ a(n) = 11*n*(n+1). • a(n) = 22 * n + a(n - 1) with n>0, a(0)=0. - _ Vincenzo Librandi _ , Nov 30 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Sep 12 2013 •

[A080861] • 1,22,73,154,265,406,577,778,1009,1270,1561,1882,2233,2614,3025,3466,3937,4438,4969,5530,6121,6742,7393,8074,8785 ★ 15*n^2 + 6*n + 1. • a(n) = C(6,0) + C(6,1) * n + C(6,2) * n ^ 2. •

[A241521] • 22,75,119,172,216,269,313,366,410,463,507,560,604,657,701,754,798,851,895,948,992,1045,1089,1142,1186 ★ Numbers n such that n^2 == -1 (mod 97). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. • a(n) = a(n - 2) + 97 for all n>2. • a(n) = - 22 * (- 1) ^ n + 97 * floor(n / 2). •

[A143838] • 1,22,75,160,277,426,607,820,1065,1342,1651,1992,2365,2770,3207,3676,4177,4710,5275,5872,6501,7162,7855,8580,9337 ★ Ulam's spiral (SSW spoke). • a(n) = 16n ^ 2 - 27n + 12, n>0. - _ R. J. Mathar _ , Sep 04 2008 •

[A253304] • 1,22,77,1376,4785,85302,296605,5287360,18384737,327731030,1139557101,20314036512,70634155537,1259142532726,4378178086205,78046522992512,271376407189185,4837625283003030,16820959067643277,299854721023195360,1042628085786694001 ★ Numbers n such that the sum of the heptagonal numbers H(n) and H(n+1) is equal to the octagonal number O(m) for some m. • a(n) = a(n - 1) + 62 * a(n - 2) - 62 * a(n - 3) - a(n - 4) + a(n - 5). •

[A195323] • 0,22,88,198,352,550,792,1078,1408,1782,2200,2662,3168,3718,4312,4950,5632,6358,7128,7942,8800,9702,10648,11638,12672 ★ a(n) = 22*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). [_ Harvey P. Dale _ , Sep 19 2011] •

[A041944] • 22,89,3938,15841,700942,2819609,124763738,501874561,2220724442,89330852249,3952764743378,15900389825761,703569917076862,2830180058133209,125231492474938058,503756149957885441 ★ Numerators of continued fraction convergents to sqrt(495). • a(n) = 178 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 12 2013 •

[A272378] • 0,1,22,99,268,565,1026,1687,2584,3753,5230,7051,9252,11869,14938,18495,22576,27217,32454,38323,44860,52101,60082,68839,78408 ★ a(n) = n*(6*n^2 - 8*n + 3). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), for n>3. •

[A264852] • 0,1,22,100,290,665,1316,2352,3900,6105,9130,13156,18382,25025,33320,43520,55896,70737,88350,109060,133210,161161,193292,230000,271700 ★ a(n) = n*(n + 1)*(n + 2)*(9*n - 7)/12. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Nov 27 2015 •

[A156795] • 22,103,184,265,346,427,508,589,670,751,832,913,994,1075,1156,1237,1318,1399,1480,1561,1642,1723,1804,1885,1966 ★ 81*n - 59. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A089184] • 1,22,111,4444,33333,333333,3333333,13333133,133331133,3323333233,31133331133,333343333433,3333333333333,33333333333333,3333333333333333,3313333333313333,31133333333113333,333323333333323333 ★ A coding semi-palindromic sequence made by converting a zero containing limited digit set palindromic sequence to a fraction and then converting back to an continued fraction array and making the sequence up from the result. • a(n) = CodeContinuedfraction[Palindromic number[n]] •

[A260810] • 0,1,22,117,376,925,1926,3577,6112,9801,14950,21901,31032,42757,57526,75825,98176,125137,157302,195301,239800,291501,351142,419497,497376 ★ a(n) = n^2*(3*n^2 - 1)/2. • a(n) = a(- n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A290800] • 0,1,22,120,120,9724,26531,144180,144180,17438583,259560225,259560225,259560225,83307283431,180196293838,2893088585234,1713577311506 3,1168345648238 66,582095592798280,1035257718026097 4,5594815792175354 6,454909489409813551 ★ One of the two successive approximations up to 7^n for the 7-adic integer sqrt(-6). These are the numbers congruent to 1 mod 7 (except for the initial 0). • a(0) = 0 and a(1) = 1, a(n) = a(n - 1) + 3 * (a(n - 1) ^ 2 + 6) mod 7 ^ n for n > 1. •

[A215626] • 1,22,129,468,1309,3101,6539,12644,22857,39148,64141,101256,154869,230491,334967,476696,665873,914754,1237945,1652716,2179341,2841465,3666499,4686044,5936345 ★ Number of terms in 8th derivative of a function composed with itself n times. • a(n) = n * (n + 6) * (n ^ 5 + 50 * n ^ 4 + 568 * n ^ 3 + 722 * n ^ 2 - 713 * n + 92) / 5040. •

[A095694] • 1,22,130,485,1400,3416,7392,14610,26895,46750,77506,123487,190190,284480,414800,591396,826557,1134870,1533490,2042425,2684836,3487352,4480400 ★ T(n,3) diagonal of triangle in A095693. • a(n) = (n + 1) n (n - 1) (n ^ 3 + 3 n ^ 2 + 2 n - 16) / 48. - corrected by _ Eric Rowland _ , Aug 15 2017 •

[A003778] • 1,22,132,1006,4324,26996,109722,602804,2434670,12287118,49852352,237425498,969300694,4434629912,18203944458,80978858522,333840165288,1456084764388,6021921661718,25904211802080 ★ Number of Hamiltonian paths in P_5 X P_n. • a(1) = 1, • a(2) = 22, • a(3) = 132, • a(4) = 1006, • a(5) = 4324, • a(6) = 26996, •

[A238170] • 0,1,22,140,512,1397,3174,6352,11585,19683,31622,48558,71831,102978,143739,196069,262144,344365,445375,568056,715541,891223,1098758,1342070,1625363 ★ Integer part of square root of A001017: a(n) = floor(n^(9/2)). • a(n) = floor(n ^ (9 / 2)). • a(n) = floor(n ^ 4 * sqrt(n)). •

[A275799] • 1,22,140,578,1785,4612,10416,21340,40425,72010,121836,197582,308945,468328,690880,995352,1404081,1944030,2646700,3549370,4694921,6133292,7921200,10123828,12814425 ★ Number of inequivalent (modulo C_4 rotations) square n X n grids with squares coming in two colors and three squares have one of the colors. • a(n) = (n ^ 6 - 3 * n ^ 4 + 2 * n ^ 2) / 24 for n even . • a(n) = (n ^ 6 - 3 * n ^ 4 + 5 * n ^ 2 - 3) / 24 for n odd. (End) • a(n) = C (n ^ 2,3) / 4 for n even, • a(n) = (C(n ^ 2,3) + (n ^ 2 - 1) / 2) / 4 for n odd. (End) •

[A169722] • 1,22,145,715,3151,13207,54055,218695,879751,3528967,14135815,56583175,226412551,905809927,3623559175,14494875655,57980780551,231925678087,927707824135,3710841520135,14843386527751,59373587005447,237749

4429810695,949977882820615 ★ (3*2^(n-1)-1)*(18*2^(n-1)-7). ● a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Vincenzo Librandi _ , Dec 04 2012 ●

[**A262139**] ● 22,145,862,5041,29398,171361,998782,5821345,33929302,197754481,1152597598,6717831121,39154389142,228208503745,1330096633342,7752371296321,45184131144598,263352415571281,1534930362283102,8946229758127345,52142448186480982 ★ The first of eight consecutive positive integers the sum of the squares of which is equal to the sum of the squares of nine consecutive positive integers. ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>3. ● a(n) = (- 14 + 3 * (3 - 2 * sqrt(2)) ^ (1 + n) + 3 * (3 + 2 * sqrt(2)) ^ (1 + n)) / 4. - _ Colin Barker _ , Mar 05 2016 ●

[**A244868**] ● 1,22,158,654,1980,4906,10577,20588,37059,62710,100936,155882,232518,336714,475315,656216,888437,1182198,1548994,2001670,2554496,3223242,4025253,4979524,6106775 ★ Number of symmetric 5 X 5 matrices of nonnegative integers with zeros on the main diagonal and every row and column adding to n. ● a(n) = (24 + 94 * n + 165 * n ^ 2 + 155 * n ^ 3 + 75 * n ^ 4 + 15 * n ^ 5) / 24. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. ●

[**A189416**] ● 0,1,22,158,674,2159,5664,13004,26904,51401,92094,156710,255090,400359,608656,900100,1299336,1836461,2546550,3472162,4661898,6173123,8071952,10434600,13346080 ★ Number of parallelograms on an n X n grid. ● a(n) = Sum _{ a=1..n - 1 } Sum _{ b=1..n - 1 } (n - a) * (n - b) * (2 * a * b - gcd(a,b)). - _ Andrew Howroyd _ , Sep 19 2017 ●

[**A173393**] ● 22,164,1758,20776,248882,2986044,35831878,429981776,5159780442,61917364324,743008370798,8916100448376,106993205379202,1283918464549004,15407021574586518,184884258895036576 ★ 10n+12^n. ● a(n)= 14 * a(n - 1) - 25 * a(n - 2) + 12 * a(n - 3). G.f.: 2 * x * (11 - 72 * x + 6 * x ^ 2) / ((1 - 12 * x) * (x - 1) ^ 2). [From _ R. J. Mathar _ , Feb 21 2010] ●

[**A141306**] ● 22,166,1107,9222,73778,645555,5533333,49799993,442666605,4057777214,36888883762,342539634932,3161904322448,29642853022951,276666628214208,2612962599800854,24592589174596271,233629597158664575,2213333025713664398 ★ Approximate prime counts at 10^n resulting from an experimental algorithm designed to estimate with 99+% accuracy unknown values of 10^n. ● a(n) = round(log(9.14615 ^ n) * 10 ^ (n - 1) / floor(n ^ 2 / 2)) ●

[**A243143**] ● 1,22,170,816,2947,8765,22703,52823,113042,225817,426299,766905,1324282,2206478,3563770,5599258,8584775,12875840,18934040,27347390,38860741,54402707,75125825,102441321,138070912 ★ Number of inequivalent (mod D_3) ways to place 4 points on a triangular grid of side n so that they are not vertices of an equilateral triangle of any orientation. ● a(n) = (n ^ 8 + 4 * n ^ 7 - 14 * n ^ 6 - 56 * n ^ 5 + 136 * n ^ 4 - 104 * n ^ 3 + 552 * n ^ 2 - 672 * n) / 2304 + IF(MOD(n, 2) = 1) * (28 * n ^ 3 - 198 * n ^ 2 + 296 * n + 21) / 768) + IF(MOD(n - 1, 4) <= 1) * (- 1 / 8). ●

[**A129126**] ● 22,185,810,2580,6765,15525,32305,62337,113265,195910,325193,521235,810654,1228080,1817910,2636326,3753600,5256711,7252300,9869990,13266099,17627775,23177583,30178575,38939875 ★ Ninth diagonal of table A060850 counting partitions into parts of k kinds. ● a(n) = n * (n + 6) * (n + 3) * (n + 1) * (4200 + (9994 + (1571 + (74 + n) * n) * n) * n) / 40320. (End) ●

[**A200936**] ● 22,190,2878,3862,111382,117118,3864190,3897622,131738902,131933758,4477986238,4479121942,152135692822,152142312190,5168228240638,5168266821142,175568164615702,175568389479358,5964152516784190,5964153827385622,202605635754466582 ★ Successive values x of solutions Mordell's elliptic curve x^3-y^2 = d contained points {x,y} with quadratic extension sqrt(2) over rationals. ● a(n) = a(n - 1) + 40 * a(n - 2) - 40 * a(n - 3) - 206 * a(n - 4) + 206 * a(n - 5) + 40 * a(n - 6) - 40 * a(n - 7) - a(n - 8) + a(n - 9). ●

[**A110690**] ● 1,22,193,1045,4180,13566,37764,93456,210705,440440,864721,1610401,2866864,4908580,8123280,13046616,20404233,31162242,46587145,68316325,98440276,139597810,195085540,268983000,366294825 ★ Kekulé numbers for certain benzenoids. ● a(n) = (n + 1) * (n + 2) ^ 2 * (n + 3) * (n + 4)(31 * n ^ 3 + 236 * n ^ 2 + 545 * n + 420) / 20160. ●

[**A254470**] ● 1,22,198,1134,4884,17226,52338,141570,348777,795652,1701700,3444948,6651216,12321804,22011804,38073948,63985977,104782986,167620090,262495090,403165620,608300550,902911230,1320114510,1903286385 ★ Sixth partial sums of fourth powers (A000583). ● a(n) = n * (1 + n) * (2 + n) * (3 + n) ^ 2 * (4 + n) * (5 + n) * (6 + n) * (1 + 12 * n + 2 * n ^ 2) / 302400. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + n ^ 4. ●

[**A224330**] ● 1,22,213,1724,12955,93306,653177,4478968,30233079,201553910,1330255861,8707129332,56596340723,365699432434,2350924922865,15045919506416,95917736853487,609359740010478,3859278353399789,24374389600419820 ★ Number of idempotent n X n 0..5 matrices of rank n-1 ● a(n) = n * (2 * 6 ^ (n - 1) - 1) ● a(n) = 14 * a(n - 1) - 61 * a(n - 2) + 84 * a(n - 3) - 36 * a(n - 4) ●

[**A290362**] ● 0,1,22,223,1344,5727,19193,54046,133476,297633,611644,1175845,2138500,3711279,6187767,9965276,15570232,23687409,35193282,51193771,73066648,102508879,141589173,192806010,259151420 ★ Number of 8-leaf rooted trees with n levels. ● a(n) = (272 * n ^ 7 + 273 * n ^ 6 + 749 * n ^ 5 + 1365 * n ^ 4 + 1043 * n ^ 3 + 882 * n ^ 2 + 456 * n) / 7!. ●

[**A010974**] ● 1,22,253,2024,12650,65780,296010,1184040,4292145,14307150,44352165,129024480,354817320,927983760,2319959400,5567902560,12875774670,28781143380,62359143990,131282408400,269128937220,538257874440,1052049481860,2012616400080,3773655750150 ★ a(n) = binomial(n,21). ● a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7) * (n + 8) * (n + 9) * (n + 10) * (n + 11) * (n + 12) * (n + 13) * (n + 14) * (n + 15) * (n + 16) * (n + 17) * (n + 18) * (n + 19) * (n + 20) / 21!. - _ Artur Jasinski _ , Dec 02 2007 ● a(n) = n / (n - 21) * a(n - 1), n > 21. - _ Vincenzo Librandi _ , Mar 26 2011 ●

[**A172242**] ● 1,22,264,2288,16016,96096,512512,2489344,11202048,47297536,189190144,722362368,2648662016,9372188672,32133218304,107110727680,348109864960,1105760747520,3440144547840,10501493882880,31504481648640 ★ Number of 10-D hypercubes in an n-dimensional hypercube. ● a(n) = binomial(n,10) * 2 ^ (n - 10). [Corrected by _ R. J. Mathar _ , Feb 21 2010] ●

[**A128766**] ● 1,22,267,1996,10375,41406,135877,384112,966141,2212750,4693711,9340332,17610307,31703686,54839625,91604416,148382137,233880102,359762131,541403500,798782271,1157522542,1650105997,2317268976,3209603125 ★ Number of inequivalent n-colorings of the vertices of the 3D cube under full orthogonal group of the cube (of order 48). ● a(n) = (1 / 48) * (20 * n ^ 2 + 21 * n ^ 4 + 6 * n ^ 6 + n ^ 8). ● a(n)=C(n,1) + 20C(n,2) + 204C(n,3) + 1056C(n,4) + 2850C(n,5) + 4080C(n,6) + 2940C(n,7) + 840C(n,8). Each term indicates the number of ways to use n colors to color the cube vertices (octahedron faces) with exactly 1, 2, 3, 4, 5, 6, 7, or 8 colors. ●

[**A172226**] ● 0,0,22,276,1474,5248,14690,35012,74326,144544,262398,450580,739002,1166176,1780714,2642948,3826670,5420992,7532326,10286484,13830898,18336960,24002482,31054276,39750854 ★ Number of ways to place 3 nonattacking wazirs on an n X n board. ● a(n) = (n - 2) * (n ^ 5 + 2 * n ^ 4 - 11 * n ^ 3 - 10 * n ^ 2 + 42 * n - 12) / 6, n>=2. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Vincenzo Librandi _ , Apr 30 2013 ●

[**A003468**] ● 1,22,305,3410,33621,305382,2619625,21554170,171870941,1337764142,10216988145,76862115330,571247591461,4203844925302,30687029023865,222518183370890,1604626924403181,11518132293452862 ★ Number of minimal 3-covers of a labeled n-set. ● a(n) = 7 ^ n / 6 - 6 ^ n / 2 + 5 ^ n / 2 - 4 ^ n / 6. - _ Vaclav Kotesovec _ , Nov 19 2012 ●

[**A041928**] ● 22,309,331,971,4215,5186,9401,33389,76179,414284,490463,3357062,3847525,7204587,155143852,162348439,317492291,2067302185,2384794476,13991274565,30367343606,105093305383 ★ Numerators of continued fraction convergents to sqrt(487). ● a(n) = 103812147681136 * a(n - 28) - a(n - 56) for n>55. [_ Bruno Berselli _ , Nov 12 2013] ●

[**A028054**] ● 1,22,309,3542,36197,344190,3119173,27339334,233997093,1968524558,16351808837,134557949526,1099534023589,8937744119326,72366036152901,584189060834918,4705458521506085,37837251535931694 ★ Expansion of 1/((1-3x)(1-5x)(1-6x)(1-8x)). ● a(n) = (8 ^ (n + 3) - 5 * 6 ^ (n + 3) + 5 ^ (n + 4) - 3 ^ (n + 3)) / 30. - _ Yahia Kahloune _ , May 19 2013 ●

[**A028038**] ● 1,22,311,3608,37485,363594,3368947,30231916,265060169,2283904766,19419219183,163405866624,1363677239653,11304693716338,93205539717419,765024499566932,6255874320057537,50996811157171110 ★ Expansion of 1/((1-3x)(1-4x)(1-7x)(1-8x)). ● a(n)=(3 * 8 ^ (n + 3) - 5 * 7 ^ (n + 3) + 5 * 4 ^ (n + 3) - 3 ^ (n + 4)) / 60. [_ Yahia Kahloune _ , May 30 2013] ●

[**A025992**] ● 1,22,313,3666,38493,377286,3529681,31947322,282198565,2447183310,20920905369,176852694018,1481626607917,12322682753494,101879323774177,838170485025354,6867569457133749,56077266261254238 ★ Expansion of 1/((1-2x)(1-5x)(1-7x)(1-8x)). ● a(0)=1, a(1)=22, a(2)=313, a(3)=3666, a(n)= 22 * a(n - 1) - 171 * a(n - 2) + 542 * a(n - 3) - 560 * a(n - 4). - _ Harvey P. Dale _ , Jan 29 2013 ● a(n) = (5 * 8 ^ (n + 3) - 9 * 7 ^ (n + 3) + 5 ^ (n + 4) - 2 ^ (n + 3)) / 90. - _ Yahia Kahloune _ , May 07 2013 ●

[**A028034**] ● 1,22,313,3682,39109,391174,3769921,35484394,328932637,3018821806,27523981849,249859595986,2261664434485,20432811986518,184363359728497,1662082800576058,14975637634031053,134882161611414910 ★ Expansion of 1/((1-3x)(1-4x)(1-6x)(1-9x)). ● a(n)=(9 ^ (n + 3) - 5 * 6 ^ (n + 3) + 9 * 4 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 90. [_ Yahia Kahloune _ , May 30 2013] ●

[**A025988**] ● 1,22,315,3740,40121,405042,3935095,37284280,347419941,3201202862,29273641475,266321046420,2414445954961,21837387317482,197190900709455,1778695458106160,16032377546389181,144437380023772902 ★ Expansion of 1/((1-2x)(1-5x)(1-6x)(1-9x)). ● a(n) = - 2 * 2 ^ n / 21 + 125 * 5 ^ n / 12 - 18 * 6 ^ n / 1 + 243 * 9 ^ n / 28. _ R. J. Mathar _ , Jun 20 2013 ●

[**A023949**] ● 1,22,317,3782,40533,405534,3869149,35663254,320292005,2819331086,24426173421,208945416966,1768927681717,14848644708478,123763757447933,1025496480025718,8455062115190469,69418440837750510 ★ Expansion of 1/((1-x)(1-6x)(1-7x)(1-8x)). ● a(n) = (30 * 8 ^ (n + 3) - 10 * 7 ^ (n + 4) + 7 * 6 ^ (n + 4) - 2) / 420. [_ Yahia Kahloune _ , Jun 27 2013] ● a(0)=1, a(1)=22, a(2)=317, a(3)=3782; for n>3, a(n) = 22 * a(n - 1) - 167 * a(n - 2) + 482 * a(n - 3) - 336 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[**A025972**] ● 1,22,317,3806,41421,424974,4198189,40430302,382529741,3573890606,33084972141,304212832638,2783085627661,25364095795918,230491675046573,2089930913053214,18917927670786381,171021229569836910 ★ Expansion of 1/((1-2x)(1-4x)(1-7x)(1-9x)). ● a(n) = - 4 * 2 ^ n / 35 + 32 * 4 ^ n / 15 - 343 * 7 ^ n / 30 + 729 * 9 ^ n / 70. _ R. J. Mathar _ , Jun 20 2013 ●

[**A028029**] ● 1,22,317,3830,42381,447582,4608877,46813030,471994061,4740248942,47508048237,475624522230,4759030936141,47604501583102,476117036332397,4761534717751430,47617186000380621,476181122450194062 ★ Expansion of 1/((1-3x)(1-4x)(1-5x)(1-10x)). ● a(0)=1, a(1)=22, a(2)=317, a(3)=3830, a(n)=22 * a(n - 1) - 167 * a(n - 2) + 530 * a(n - 3) - 600 * a(n - 4). [_ Harvey P. Dale _ , May 08 2012] ● a(n)=(10 ^ (n + 3) - 21 * 5 ^ (n + 3) + 35 * 4 ^ (n + 3) - 15 * 3 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , May 30 2013] ●

[**A022453**] ● 1,22,320,3890,42861,444612,4433080,43016380,409466321,3843870602,35717758440,329381322270,3020187550381,27573503381992,250911867832400,2277497319225560,20632700169031041,186641825267602782 ★ Expansion of 1/((1-x)*(1-5*x)*(1-7*x)*(1-9*x)). ● a(n) = (3 * 9 ^ (n + 3) - 8 * 7 ^ (n + 3) + 6 * 5 ^ (n + 3) - 1) / 192. -_ Yahia Kahloune _ , Jun 26 2013 ● a(0)=1,

a(1)=22, a(2)=320, a(3)=3890; for n>3, a(n) = 22 * a(n - 1) - 164 * a(n - 2) + 458 * a(n - 3) - 315 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[**A025968**] ● 1,22,320,3920,44016,471072,4904320,50237440,509670656,5141007872,51677982720,518395637760,5193684791296,51995352604672,520305091051520,5205162447994880,52064302294695936,520719124195049472 ★ Expansion of 1/((1-2x)(1-4x)(1-6x)(1-10x)). ● a(n) = - 2 ^ n / 8 + 8 * 4 ^ n / 3 - 27 * 6 ^ n / 4 + 125 * 10 ^ n / 24. - _ R. J. Mathar _ , Jun 20 2013 ●

[**A025948**] ● 1,22,321,3938,44045,465894,4751017,47229226,460842789,4433881166,42195474113,398084143314,3729357886333,34737030515638,322015765266009,2973201855377402,27359296571272277,251037508511614110 ★ Expansion of 1/((1-2x)(1-3x)(1-8x)(1-9x)). ● a(n) = - 4 * 2 ^ n / 21 + 9 * 3 ^ n / 10 - 256 * 8 ^ n / 15 + 243 * 9 ^ n / 14. - _ R. J. Mathar _ , Jun 20 2013 ● a(0)=1, a(1)=22, a(2)=321, a(3)=3938, a(n)=22 * a(n - 1) - 163 * a(n - 2) + 462 * a(n - 3) - 432 * a(n - 4). - _ Harvey P. Dale _ , Oct 04 2014 ●

[**A021904**] ● 1,22,323,3992,44949,478074,4896391,48839164,477813017,4606751006,43913627979,414851195616,3890711480605,36272898564418,336508406905487,3108995652410948,28624326520414113,262765886779943910 ★ Expansion of 1/((1-x)(1-4x)(1-8x)(1-9x)). ● a(n) = (21 * 9 ^ (n + 3) - 30 * 8 ^ (n + 3) + 14 * 4 ^ (n + 3) - 5) / 840. [_ Yahia Kahloune _ , Jul 03 2013] ●

[**A022343**] ● 1,22,323,4004,45465,491106,5149327,53020528,539857109,5458923470,54963556011,551942523132,5533572185233,55422129454714,554747369555975,5550668292585416,55526041242871437,555377516005134438 ★ Expansion of 1/((1-x)*(1-5*x)*(1-6*x)*(1-10*x)). ● a(n) = (1 / 180) * (9 * 5 ^ (n + 3) + 10 ^ (n + 3) - 9 * 6 ^ (n + 3) - 1). - _ R. J. Mathar _ , Mar 11 2011 ● a(n) = 16 * a(n - 1) - 60 * a(n - 2) + (5 ^ (n + 1) - 1) / 4, n>=2. - _ Vincenzo Librandi _ , Mar 12 2011 ●

[**A025945**] ● 1,22,323,4016,45873,499386,5280511,54817972,562288925,5721711710,57909049419,583934547768,5873255438857,58969928883394,59136092461 3847,59252407395790 04,59333827978882869,593908224257636838 ★ Expansion of 1/((1-2x)(1-3x)(1-7x)(1-10x)). ● a(n) = 125 * 10 ^ n / 21 - 7 ^ (n + 3) / 60 - 2 ^ n / 5 + 3 ^ (n + 3) / 28. - _ R. J. Mathar _ , Jun 04 2013 ●

[**A020571**] ● 1,22,325,4030,45301,478702,4851925,47752510,460048501,4362445582,40876539925,379553364190,3499808594101,32098136255662,293160602826325,2668857246099070,24235419069434101,219645625266148942 ★ Expansion of 1/((1-6x)(1-7x)(1-9x)). ● a(n) = 12 * 6 ^ n - 49 * 7 ^ n / 2 + 27 * 9 ^ n / 2 . - _ R. J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=22, a(2)=325; for n>2, a(n) = 22 * a(n - 1) - 159 * a(n - 2) + 378 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 ● a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 ●

[**A021874**] ● 1,22,325,4070,46781,511742,5430405,56516790,580744461,5916830062,59935396885,604729235110,6084941584541,61113049957982,612976296281765,614268497138 7030,615173095004 79021,615806336417543502 ★ Expansion of 1/((1-x)(1-4x)(1-7x)(1-10x)). ● a(n) = (10 ^ (n + 3) - 3 * 7 ^ (n + 3) + 3 * 4 ^ (n + 3) - 1) / 162. - _ Yahia Kahloune _ , Jul 05 2013 ●

[**A025963**] ● 1,22,325,4110,48381,550062,6148165,68149870,752379661,8290355502,91266902805,1004309278830,11049302357341,121551961591342,1337120292662245,14708568942522990,161795495573813421 ★ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-11x)). ● a(n) = - 4 * 2 ^ n / 27 + 32 * 4 ^ n / 7 - 125 * 5 ^ n / 18 + 1331 * 11 ^ n / 378. - _ R. J. Mathar _ , Jun 20 2013 ●

[**A020343**] ● 1,22,327,4100,46781,503202,5201827,52278640,514595961,4986022382,47721236927,452316244380,4253691236341,39747202125562,369442770633627,3418759065309320,31519177212527921,289676122850156742 ★ Expansion of 1/((1-5x)(1-8x)(1-9x)). ● a(n) = 25 * 5 ^ n / 12 - 64 * 8 ^ n / 3 + 81 * 9 ^ n / 4. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=22, a(3)=327; for n>2, a(n) = 22 * a(n - 1) - 157 * a(n - 2) + 360 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A025941**] ● 1,22,327,4172,49553,567714,6382699,71043064,786493125,8681598926,95678810591,1053554778276,11595631317817,127591121803258,1403737417995603,154425221098914 08,169876206409453229 ★ Expansion of 1/((1-2x)(1-3x)(1-6x)(1-11x)). ● a(n) = - 2 ^ (n + 1) / 9 - 3 * 6 ^ (n + 1) / 5 + 11 ^ (n + 3) / 360 + 3 ^ (n + 2) / 8. - _ R. J. Mathar _ , Jun 04 2013 ● a(0)=1, a(1)=22, a(2)=327, a(3)=4172, a(n)=22 * a(n - 1) - 157 * a(n - 2) + 432 * a(n - 3) - 396 * a(n - 4). - _ Harvey P. Dale _ , Aug 20 2014 ●

[**A019958**] ● 1,22,329,4178,48621,537222,5744929,60136378,620564021,6341995022,64384199529,650640568578,6554239839421,65878458172822,661143103694129,6627971208280778,66395645870074821,664768758151070622 ★ Expansion of 1/((1-5x)(1-7x)(1-10x)). ● a(n) = 5 * 5 ^ n / 2 - 49 * 7 ^ n / 6 + 20 * 10 ^ n / 3. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=22, a(2)=329; for n>2, a(n) = 22 * a(n - 1) - 155 * a(n - 2) + 350 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021834**] ● 1,22,329,4226,50469,580422,6541681,72922570,808020125,8923802030,98376704361,1083438632562,11925616635349,131228622530326,1443796242996449,15883448475593882,174728077773953421 ★ Expansion of 1/((1-x)(1-4x)(1-6x)(1-11x)). ● a(n) = (3 * 11 ^ (n + 3) - 21 * 6 ^ (n + 3) + 25 * 4 ^ (n + 3) - 7) / 1050. [_ Yahia Kahloune _ , Jul 05 2013] ●

[**A019671**] ● 1,22,332,4280,50736,571872,6238912,66567040,699159296,7259766272,74744097792,764616652800,7783588704256,78935331561472,798149140201472,8051859072450560,81081536382959616,815318946277097472 ★ Expansion of 1/((1-4x)(1-8x)(1-10x)). ● a(n)= 2 * 4 ^ n / 3 - 8 ^ (n + 1) + 25 * 10 ^ n / 3 . - _ R. J. Mathar _ , Nov 11 2012 ● a(0)=1, a(1)=22, a(2)=332; for n>2, a(n) = 22 * a(n - 1) - 152 * a(n - 2) + 320 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021614**] ● 1,22,332,4322,52353,609924,6948544,78112924,8710045859663416906,106874239836,1179653481006,13004446987897,143246730136168,1577098731557408,17357778969071768,191003419177941489 ★ Expansion of 1/((1-x)(1-3x)(1-7x)(1-11x)). ● a(0)=1, a(1)=22, a(2)=332, a(3)=4322; for n>3, a(n) = 22 * a(n - 1) - 152 * a(n - 2) + 362 * a(n - 3) - 231 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 ●

[**A025936**] ● 1,22,333,4406,55133,673566,8144701,98052262,1178225565,14146756910,169801508669,2037820760118,24454863987997,293463446955454,3521586773279037,42259168371397574,507110656046025629 ★ Expansion of 1/((1-2x)(1-3x)(1-5x)(1-12x)). ● a(n)=22 * a(n - 1) - 151 * a(n - 2) + 402 * a(n - 3) - 360 * a(n - 4), n>3. [From Harvey P. Dale, May 07 2012] ● a(n) = 96 * 12 ^ n / 35 + 3 ^ (n + 1) / 2 - 2 ^ (n + 2) / 15 - 5 ^ (n + 3) / 42. - _ R. J. Mathar _ , May 22 2013 ●

[**A021284**] ● 1,22,335,4400,53481,620202,6970675,76624900,828512861,8845504382,93498427815,980374738200,10212261530641,105799242660562,1091082072825755,11208627544304300,114766536787594821 ★ Expansion of 1/((1-x)(1-2x)(1-9x)(1-10x)). ● a(n) = (7 * 10 ^ (n + 3) - 9 ^ (n + 4) + 9 * 2 ^ (n + 3) - 7) / 504. - _ Yahia Kahloune _ , Jul 08 2013 ● a(0)=1, a(1)=22, a(2)=335, a(3)=4400; for n>3, a(n) = 22 * a(n - 1) - 149 * a(n - 2) + 308 * a(n - 3) - 180 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 ● a(0)=1, a(1)=22; for n>1 a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 ●

[**A019623**] ● 1,22,335,4400,53661,628122,7178395,80862100,902846921,10025125022,110934086055,1224883116600,13505988249781,148791855626722,1638292574483315,18032294531183900,198432777621062241 ★ Expansion of 1/((1-4*x)*(1-7*x)*(1-11*x)). ● a(n) = 4 ^ (n + 2) / 21 + 11 ^ (n + 2) / 28 - 7 ^ (n + 2) / 12. - _ R. J. Mathar _ , Nov 11 2012 ● a(0)=1, a(1)=22, a(2)=335; for n>2, a(n)= 22 * a(n - 1) - 149 * a(n - 2) + 308 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021794**] ● 1,22,335,4460,56061,686802,8317435,100210120,1204613321,14466168782,173649468135,2084076423780,25010353485781,300131513309962,3601614875036435,43219563508677440,518635692871953441 ★ Expansion of 1/((1-x)(1-4x)(1-5x)(1-12x)). ● a(n) = - 1 / 132 + 2 ^ (2n + 3) / 3 - 5 ^ (n + 3) / 28 + 2 ^ (2n + 3) * 3 ^ (n + 3) / 77. [_ Bruno Berselli _ , May 08 2013] ●

[**A018090**] ● 1,22,337,4450,54301,631462,7111417,78287530,847442101,9055541902,95785566097,1004927161810,10472915657101,108541954516342,1119734731454377,11506184005511290,117841370316867301 ★ Expansion of 1/((1-3x)(1-9x)(1-10x)). ● a(0)=1, a(1)=22, a(2)=337; for n>2 a(n) = 22 * a(n - 1) - 147 * a(n - 2) + 270 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = (6 * 10 ^ (n + 2) - 7 * 9 ^ (n + 2) + 3 ^ (n + 2)) / 42. [_ Yahia Kahloune _ , Jul 06 2013] ●

[**A021274**] ● 1,22,337,4482,55533,660774,7667929,87542794,988535845,11078416206,123498755601,1371575734386,15192048468637,167950256294518,1854154604388553,20449314929530458,225371378475017109 ★ Expansion of 1/((1-x)(1-2x)(1-8x)(1-11x)). ● a(n) = (7 * 11 ^ (n + 3) - 15 * 8 ^ (n + 3) + 35 * 2 ^ (n + 3) - 27) / 1890. - _ Yahia Kahloune _ , Jul 08 2013 ● a(0)=1, a(1)=22, a(2)=337, a(3)=4482; for n>3, a(n) = 22 * a(n - 1) - 147 * a(n - 2) + 302 * a(n - 3) - 176 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 ● a(0)=1, a(1)=22; for n>1, a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 ●

[**A021534**] ● 1,22,337,4522,57253,705334,8574889,103567234,1246828045,14986093486,179978152081,2160608272186,25932522746677,311221616234278,3734847461630713,44819297962008178,537838346143305949 ★ Expansion of 1/((1-x)(1-3x)(1-6x)(1-12x)). ● a(0)=1, a(1)=22; for n>1, a(n) = 18 * a(n - 1) - 72 * a(n - 2) + (3 ^ n - 1) / 2. - _ Vincenzo Librandi _ , Jul 10 2013 ● a(0)=1, a(1)=22, a(2)=337, a(3)=4522; for n>3, a(n) = 22 * a(n - 1) - 147 * a(n - 2) + 342 * a(n - 3) - 216 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 ● a(n) = - 1 / 110 - (12 / 5) * 6 ^ n + (1 / 2) * 3 ^ n + (32 / 11) * 12 ^ n - _ Robert Israel _ , Apr 06 2014 ●

[**A018070**] ● 1,22,339,4532,56357,672210,7813303,89300464,1009144713,11315328398,126186563867,1401795991596,15529706751469,171706382611786,1895807080277631,20910172869786728,230462261504563025 ★ Expansion of 1/((1-3x)(1-8x)(1-11x)). ● a(0)=1, a(1)=22, a(2)=339; for n>2, a(n) = 22 * a(n - 1) - 145 * a(n - 2) + 264 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = (5 * 11 ^ (n + 2) - 8 ^ (n + 3) + 3 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jul 06 2013] ●

[**A019490**] ● 1,22,340,4600,58576,724192,8822080,106672000,1284971776,15449370112,185571742720,2227940915200,26741787774976,320940501164032,3851520569589760,46219655242547200,554644317650354176 ★ Expansion of 1/((1-4x)(1-6x)(1-12x)). ● a(n) = 4 ^ n - 3 * 6 ^ n + 3 * 12 ^ n. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=22, a(2)=340; for n>2, a(n) = 22 * a(n - 1) - 144 * a(n - 2) + 288 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 18 * a(n - 1) - 72 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021254**] ● 1,22,341,4646,59661,743358,9112405,110693878,1337742173,16118816558,193887174117,2329875721446,27981116089837,335931645121822,4032287505801077,48395204420052950,580796733493846653 ★ Expansion of 1/((1-x)(1-2x)(1-7x)(1-12x)). ● a(n) = (3 * 12 ^ (n + 3) - 11 * 7 ^ (n + 3) + 33 * 2 ^ (n + 3) - 25) / 1650. [_ Yahia Kahloune _ , Jul 07 2013] ● a(0)=1, a(1)=22, a(2)=341, a(3)=4646; for n>3, a(n) = 22 * a(n - 1) - 143 * a(n - 2) + 290 * a(n - 3) - 168 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 ● a(0)=1, a(1)

=22; for n>1, a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 ●

[A018055] ● 1,22,343,4696,60493,755146,9267091,112644652,1361819305,16412435710,197443515919,2372782379968,28497610413637,342140879536114,4106877441223627,49290837516564244,591548207794982689 ★ Expansion of 1/((1-3*x)*(1-7*x)*(1-12*x)). ● a(0)=1, a(1)=22, a(2)=343; for n>2, a(n) = 22 * a(n - 1) - 141 * a(n - 2) + 252 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = (4 * 12 ^ (n + 2) - 9 * 7 ^ (n + 2) + 5 * 3 ^ (n + 2)) / 180. [_ Yahia Kahloune _ , Jul 06 2013] ●

[A016322] ● 1,22,345,4730,60461,740982,8834065,103324210,1191912021,13609144142,154183593785,1736366607690,19463156373181,217362833310502,2420404185281505,26889163207923170,298163249815659941 ★ Expansion of 1/((1-2x)(1-9x)(1-11x)). ● a(n) = (7 * 11 ^ (n + 2) + 2 ^ (n + 3) - 9 ^ (n + 3)) / 126. ● a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 2 ^ n. ● a(n) = 22 * a(n - 1) - 139 * a(n - 2) + 198 * a(n - 3), n>=3. (End) ●

[A096047] ● 1,22,346,5482,87466,1398442,22370986,357919402,5726644906,91626056362,1466015853226,23456249457322,375299974539946,6004799525530282,96076792140049066,1537228673167043242,24595658766377724586 ★ a(n)=B(2n,n)/B(n) (see comment). ● a(n)=(1 / 3) * (4 * 16 ^ n + 4 ^ n - 2); a(0)=1, a(1)=22, a(2)=346 and a(n)=21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3) ●

[A016320] ● 1,22,348,4856,63728,808416,10050496,123402112,1503194880,18217295360,220039199744,2651923642368,31914709676032,383709523861504,4610378348347392,55371452676276224,664832732084240384 ★ Expansion of 1/((1-2x)(1-8x)(1-12x)). ● a(n) = (54 * 12 ^ n + 2 ^ n - 40 * 8 ^ n) / 15. ● a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 2 ^ n. ● a(n) = 22 * a(n - 1) - 136 * a(n - 2) + 192 * a(n - 3), n>=3. (End) ●

[A016265] ● 1,22,353,4994,66045,837606,10324777,124683658,1482631349,17420055950,202731726561,2341160103282,26863872247213,306613705830454,3483861875246105,39433591738818266,444880620238112037 ★ Expansion of 1/((1-x)(1-10x)(1-11x)). ● a(n) = (9 * 11 ^ (n + 2) - 10 ^ (n + 3) + 1) / 90. - _ Bruno Berselli _ , Mar 21 2011 ● a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 ● a(0)=1, a(1)=22, a(2)=353, a(n) = 22 * a(n - 1) - 131 * a(n - 2) + 110 * a(n - 3). - _ Harvey P. Dale, _ Aug 05 2011 ●

[A016263] ● 1,22,355,5080,68341,886522,11236135,140214460,1731001081,21207861022,258416964715,3136307268640,37953420452221,458300644483522,5525344125314095,66535757027375620,800513732040965761 ★ Expansion of 1/((1-x)(1-9x)(1-12x)). ● a(n) = (32 * 12 ^ (n + 1) - 33 * 9 ^ (n + 1) + 1) / 88. - _ Bruno Berselli _ , Mar 21 2011 ● a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 ●

[A081127] ● 0,1,22,363,5324,73205,966306,12400927,155897368,1929229929,23579476910,285311670611,3423740047332,40799568897373,483317970015034,5696247503748615,66835970710650416,781145407680726737 ★ 11th binomial transform of (0,1,0,0,0,0,0,.....). ● a(n) = 22 * a(n - 1) - 121 * a(n - 2); a(0)=0, a(1)=1. ● a(n) = n * 11 ^ (n - 1). ●

[A016196] ● 1,22,364,5368,74416,992992,12915904,164990848,2079890176,25958682112,321504185344,3958050224128,48496602689536,591959232274432,7203510787293184,87442129447518208,1059305553370218496 ★ Expansion of 1/((1-10x)(1-12x)). ● a(n) = 6 * 12 ^ n - 5 * 10 ^ n. - Bruno Berselli, Feb 09 2011 ● a(0)=1, a(n)=12 * a(n - 1) + 10 ^ n. [From Vincenzo Librandi, Feb 09 2011] ● a(0)=1, a(1)=22, a(n)=22 * a(n - 1) - 120 * a(n - 2). [From Vincenzo Librandi, Feb 09 2011] ●

[A167120] ● 1,22,376,6113,98197,1572709,25169573,402738085,6443909029,103102943141,1649648684965,26394385338277,422310190927781,6756963156905893,108111410918739877,1729782576332820389,27676521227857055653 ★ a(n) = 20*a(n-1) - 64*a(n-2) + 1 for n > 2; a(0) = 1, a(1) = 22, a(2) = 376. ● a(n) = (4321 * 16 ^ n - 1460 * 4 ^ n + 64) / 2880, for n > 0. ●

[A167121] ● 1,22,377,6134,98554,1578506,25262666,404228938,6467768138,103484710730,1655757053770,26492119588682,423873940332362,6781983152971594,108511730878160714,1736187695773032266,27779003139258359626 ★ a(n) = 20*a(n-1) - 64*a(n-2) + 2 for n > 2; a(0) = 1, a(1) = 22, a(2) = 377. ● a(n) = (4337 * 16 ^ n - 1540 * 4 ^ n + 128) / 2880, for n > 0. ●

[A167122] ● 1,22,378,6155,98911,1584303,25355759,405719791,6491627247,103866478319,1661865422575,26589853839087,425437689736943,6807003149037295,108912050837581551,1742592815213244143,27881485050659663599 ★ a(n) = 20*a(n-1) - 64*a(n-2) + 3 for n > 2; a(0) = 1, a(1) = 22, a(2) = 378. ● a(n) = (1451 * 16 ^ n - 540 * 4 ^ n + 64) / 960, for n > 0. ●

[A167033] ● 1,22,379,6175,99247,1589743,25443055,407117551,6513995503,104224386799,1667592023791,26681479720687,426903704891119,6830459395698415,109287350800936687,1748597614694035183,27977561842620755695 ★ a(n) = 20*a(n-1) - 64*a(n-2) + 3 for n > 1; a(0) = 1, a(1) = 22. ● a(n) = (91 * 16 ^ n - 35 * 4 ^ n + 4) / 60. ● a(n) = 21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3). ●

[A218724] ● 0,1,22,463,9724,204205,4288306,90054427,1891142968,39714002329,833994048910,17513875027111,367791375569332,7723618886955973,162195996626075434,3406115929147584115,71528434512099266416 ★ a(n) = (21^n - 1)/20. ● a(n) = floor(21 ^ n / 20). ● a(n) = 22 * a(n - 1) - 21 * a(n - 2). - _ Vincenzo Librandi _ , Nov 07 2012 ● a(n) = 21 * a(n - 1) + 1. - _ Kival Ngaokrajang _ , Jan 27 2015 ● a(n) = a(n - 1) + 21 ^ (n - 1), n >= 1, a(0) = 0. - _ Wolfdieter Lang _ , Feb 02 2015 ●

[A158629] ● 22,506,1958,4378,7766,12122,17446,23738,30998,39226,48422,58586,69718,81818,94886,108922,123926,139898,156838,174746,193622,213466,234278,256058,278806 ★ 484n^2 + 22. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A095696] ● 22,822,8547,52892,238392,863289,2660889,7245414,17879004,40719679,86762676,174750576,335401976,617395086,1095642486,1882507308,3142740258,5113062108,8127478513,12649594188,19313392560,28974165935,42771520935,62206645410,89236307160 ★ T(n,5) diagonal of triangle in A095693. ● a(n) = ((n)(n - 1)(n - 2)(n - 3)(n - 4)(n ^ 5 + 5n ^ 4 + 45n ^ 3 - 1605n ^ 2 + 9234n - 17216)) / 3840. ●

[A241889] ● 23,24,27,32,39,48,59,72,87,104,123,144,167,192,219,248,279,312,347,384,423,464,507,552,599 ★ a(n) = n^2 + 23. ● a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. ●

[A022393] ● 1,23,24,47,71,118,189,307,496,803,1299,2102,3401,5503,8904,14407,23311,37718,61029,98747,159776,258523,418299,676822,1095121 ★ Fibonacci sequence beginning 1, 23. ● a(n) = a(n - 1) + a(n - 2), n>=2, a(0)=1, a(1)=23. a(- 1):=22. ●

[A042070] ● 23,24,47,71,331,5036,5367,10403,46979,57382,161743,219125,1038243,1257368,2295611,35691533,145061743,180753276,325815019,506568295,23627956589,24134524884,47762481473,71897006357 ★ Numerators of continued fraction convergents to sqrt(559). ● a(n) = 1013136590 * a(n - 20) - a(n - 40) for n>39. [_ Bruno Berselli _ , Nov 15 2013] ●

[A042062] ● 23,24,47,165,212,801,1013,1814,84457,86271,170728,598455,769183,2906004,3675187,6581191,306409973,312991164,619401137,2171194575,2790595712,10542981711,13333577423,23876559134 ★ Numerators of continued fraction convergents to sqrt(555). ● a(n) = 3628 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 14 2013 ●

[A042080] ● 23,24,71,95,4441,4536,13513,18049,843767,861816,2567399,3429215,160311289,163740504,487792297,651532801,30458301143,31109833944,92677969031,123787802975,5786916905881,5910704708856 ★ Numerators of continued fraction convergents to sqrt(564). ● a(n) = 190 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 16 2013 ●

[A042088] ● 23,24,119,143,6697,6840,34057,40897,1915319,1956216,9740183,11696399,547774537,559470936,2785658281,3345129217,156661602263,160006731480,796688528183,956695259663,44804670472681 ★ Numerators of continued fraction convergents to sqrt(568). ● a(n) = 286 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 16 2013 ●

[A042086] ● 23,24,119,381,1643,2024,94747,96771,481831,1542264,6650887,8193151,383535833,391728984,1950451769,6243084291,26922788933,33165873224,1552552957237,1585718830461,7895428279081 ★ Numerators of continued fraction convergents to sqrt(567). ● a(n) = 4048 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 16 2013 ●

[A042092] ● 23,24,167,191,8953,9144,63817,72961,3420023,3492984,24377927,27870911,1306439833,1334310744,9312304297,10646615041,499056596183,509703211224,3557275863527,4066979074751 ★ Numerators of continued fraction convergents to sqrt(570). ● a(n) = 382 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 16 2013 ●

[A042094] ● 23,24,215,239,454,1147,1601,2748,4349,67983,208298,484579,692877,4641841,33185764,37827605,184496184,406819973,1404956103,6026644385,13458244873,315566276464,644590797801,2893929467668 ★ Numerators of continued fraction convergents to sqrt(571). ● a(n) = 362248710123261572260 * a(n - 42) - a(n - 84) for n>83. [_ Bruno Berselli _ , Nov 16 2013] ●

[A042096] ● 23,24,263,287,13465,13752,150985,164737,7728887,7893624,86665127,94558751,4436367673,4530926424,49745631913,54276558337,2546467315415,2600743873752,28553906052935,31154649926687 ★ Numerators of continued fraction convergents to sqrt(572). ● a(n) = 574 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 16 2013 ●

[A042098] ● 23,24,359,383,17977,18360,275017,293377,13770359,14063736,210662663,224726399,10548077017,10772803416,161367324841,172140128257,8079813224663,8251953352920,123607160165543 ★ Numerators of continued fraction convergents to sqrt(573). ● a(n) = 766 * a(n - 4) - a(n - 8). _ Vincenzo Librandi _ , Nov 16 2013 ●

[A041263] ● 1,1,23,24,551,575,13201,13776,316273,330049,7577351,7907400,181540151,189447551,4349386273,4538833824,104203730401,108742564225,2496540143351,2605282707576,59812759710023,62418042417599,1433009692897201,1495427735314800 ★ Denominators of continued fraction convergents to sqrt(143). ● a(n) = 24 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 14 2013 ● a(n) = product { k = 1..floor((n - 1) / 2) } (22 + 4 * cos ^ 2(k * Pi / n)). ●

[A042100] ● 23,24,551,575,27001,27576,633673,661249,31051127,31712376,728723399,760435775,35708769049,36469204824,838031275177,874500480001,41065053355223,41939553835224,963735237730151 ★ Numerators of continued fraction convergents to sqrt(574). ● a(n) = 1150 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 16 2013 ●

[A042101] ● 1,1,23,24,1127,1151,26449,27600,1296049,1323649,30416327,31739976,1490455223,1522195199,34978749601,36500944800,1714022210401,1750523155201,40225531624823,41976054780024,1971124051505927,2013100106285951,46259326389796849 ★ Denominators of continued fraction convergents to sqrt(574). ● a(n) = 1150 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 14 2014 ●

[A042102] ● 23,24,1127,1151,54073,55224,2594377,2649601,124476023,127125624,5972254727,6099380351,286543750873,292643131224,13748127787177,14040770918401,659623590033623,673664360952024 ★ Numerators of continued fraction convergents to sqrt(575). ● a(n) = 48 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 12 2013 ●

[A219259] • 0,23,27,96,104,219,231,392,408,615,635,888,912,1211,1239,1584,1616,2007,2043,2480,2520,3003,3047,3576,3624 ⋆ Numbers k such that 25*k+1 is a square. • a(n) = a(- n + 1) = (50 * n * (n - 1) + 21 * (- 1) ^ n * (2 * n - 1) + 5) / 8 + 2. •

[A155107] • 23,30,76,83,129,136,182,189,235,242,288,295,341,348,394,401,447,454,500,507,553,560,606,613,659 ⋆ Numbers n that are 23 or 30 (mod 53). • a(n) = 23 * (- 1) ^ (n + 1) + 53 * floor(n / 2). - _ M. F. Hasler _ , Jun 16 2010 • a(n) = a(n - 2) + 53 for all n>2. - _ M. F. Hasler _ , Jun 16 2010 • a(n) = a(n - 1) + a(n - 2) - a(n - 3) = 53 * n / 2 - 53 / 4 - 39 * (- 1) ^ n / 4. G.f.: x * (23 + 7 * x + 23 * x ^ 2) / ((1 + x) * (1 - x) ^ 2). [_ R. J. Mathar _ , Feb 19 2009] •

[A026051] • 23,31,40,53,68,86,109,135,167,203,244,292,345,406,473,547,630,720,820,928,1045,1173,1310,1459,1618 ⋆ a(n) = (d(n)-r(n))/5, where d = A026049 and r is the periodic sequence with fundamental period (4,1,4,0,1). • a(n)=(n + 7) * (2 * n ^ 2 + 13 * n + 102) / 30 - 1 / 5 * (2 + (- 1 / 5 * 5 ^ (1 / 2) + 1) * cos(2 * n * Pi / 5) + (2 / 5 * 2 ^ (1 / 2) * (5 - 5 ^ (1 / 2)) ^ (1 / 2)) * sin(2 * n * Pi / 5) + (1 / 5 * 5 ^ (1 / 2) + 1) * cos(4 * n * Pi / 5) + (- 2 / 5 * 2 ^ (1 / 2) * (5 + 5 ^ (1 / 2)) ^ (1 / 2)) * sin(4 * n * Pi / 5)) [From _ Richard Choulet _ , Dec 14 2008] •

[A045533] • 23,35,57,711,1113,1317,1719,1923,2329,2931,3137,3741,4143,4347,4753,5359,5961,6167,6771,7173,7379,7983,8389,8997,97101 ⋆ Concatenate the n-th and (n+1)st prime. • a(n) = prime(n) * (10 ^ floor(log10(prime(n + 1))) + 1) + prime(n + 1). - _ Conner L. Delahanty _ , May 10 2014 •

[A154114] • 23,37,41,43,59,73,79,83,109,113,127,137,151,163,197,199,223,227,229,233,239,251,263,269,283 ⋆ Primes p such that p + 9699690 is also prime, 9699690 = 2*3*5*7*11*13*17*19. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 02 2016 •

[A092622] • 23,37,53,73,127,137,157,173,229,239,251,263,271,283,293,307,313,317,331,347,359,367,379,383,397 ⋆ Primes with exactly two prime digits. • a(n) >> n ^ 1.285 •

[A153037] • 23,41,63,89,119,153,191,233,279,329,383,441,503,569,639,713,791,873,959,1049,1143,1241,1343,1449,1559 ⋆ 2n^2 + 16n + 23. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 22 2012 •

[A023264] • 23,43,83,109,193,379,389,569,643,659,853,1063,1129,1283,1423,1493,1759,1789,1889,2003,2129,2293,2459,2713,2729 ⋆ Numbers n such that n remains prime through 2 iterations of function f(x) = 8x + 9. • a(n) == 3 or 9 (mod 10). - _ John Cerkan _ , Sep 16 2016 •

[A198949] • 1,23,43,461,859,9197,17137,183479,341881,3660383,6820483,73024181,136067779,1456823237,2714535097,29063440559,54154634161,579811987943,10803781481 23,115671763183 01,215534083282 99,2307637143780 77,42998778841 7857,46037071112 43239 ⋆ y-values in the solution to 11*x^2-10 = y^2. • a(n + 4) = 20 * a(n + 2) - a(n) with a(1)=1, a(2)=23, a(3)=43, a(4)=461. • a(n) = ((- (- 1) ^ n - t) * (10 - 3 * t) ^ floor(n / 2) + (- (- 1) ^ n + t) * (10 + 3 * t) ^ floor(n / 2)) / 2 where t=sqrt(11). - _ Bruno Berselli _ , Nov 14 2011 •

[A122041] • 23,45,89,177,353,705,1409,2817,5633,11265,22529,45057,90113,180225,360449,720897,1441793,2883585,5767169,11534337,23068673,46137345,92274689,184549377,369098753 ⋆ a(n) = 2*a(n-1) - 1 for n>1, a(1)=23. • a(n)= 11 * 2 ^ n + 1, with n>=1 [From _ Paolo P. Lava _ , Oct 01 2008] • a(1)=23, a(2)=45, a(n)=3 * a(n - 1) - 2 * a(n - 2). - _ Harvey P. Dale _ , Dec 13 2012 •

[A038152] • 23,46,69,92,115,138,161,185,208,231,254,277,300,323,347,370,393,416,439,462,485,509,532,555,578 ⋆ Beatty sequence for e^Pi. • a(n) = int(n * 23.1406926327...) •

[A042044] • 23,47,70,187,257,701,32503,65707,98210,262127,360337,982801,45569183,92121167,137690350,367501867,505192217,1377886301,63887962063,129153810427,193041772490,515237355407,708279127897 ⋆ Numerators of continued fraction convergents to sqrt(546). • a(n) = 1402 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 14 2013 •

[A042042] • 23,47,70,607,677,1961,90883,183727,274610,2380607,2655217,7691041,356443103,720577247,1077020350,9336740047,10413760397,30164260841,1397969759083,2826103779007,4224073538090 ⋆ Numerators of continued fraction convergents to sqrt(545). • a(n) = 3922 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 14 2013 •

[A183010] • 1,23,47,71,95,119,143,167,191,215,239,263,287,311,335,359,383,407,431,455,479,503,527,551,575 ⋆ a(n) = 24n - 1. • a(1)=23, a(2)=47, a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 23 2011 •

[A195058] • 0,1,23,47,92,139,207,277,368,461,575,691,828,967,1127,1289,1472,1657,1863,2071,2300,2531,2783,3037,3312 ⋆ Concentric 23-gonal numbers. • a(n) = 23 * n ^ 2 / 4 + 19 * ((- 1) ^ n - 1) / 8. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). •

[A042056] • 23,47,2185,4417,205367,415151,19302313,39019777,1814212055,3667443887,170516630857,344700705601,16026749088503,32398198882607,1506343897688425,3045085994259457,141580299633623447,286205685261506351 ⋆ Numerators of continued fraction convergents to sqrt(552). • a(n) = 94 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 14 2013 •

[A132764] • 0,23,48,75,104,135,168,203,240,279,320,363,408,455,504,555,608,663,720,779,840,903,968,1035,1104 ⋆ a(n) = n(n+22). • a(n) = n * (n + 22). • a(n) = 2 * n + a(n - 1) + 21 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=23, a(2)=48, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 02 2012 •

[A140689] • 0,23,52,87,128,175,228,287,352,423,500,583,672,767,868,975,1088,1207,1332,1463,1600,1743,1892,2047,2208 ⋆ a(n) = n*(3*n + 20). • a(n) = 3 * n ^ 2 + 20 * n. • a(n) = a(n - 1) + 6 * n + 17 (with a(0)=0). - _ Vincenzo Librandi _ , Dec 15 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(0)=0, a(1)=23, a(2)=52. - _ Harvey P. Dale _ , Apr 29 2016 •

[A128473] • 23,53,83,113,143,173,203,233,263,293,323,353,383,413,443,473,503,533,563,593,623,653,683,713,743 ⋆ Numbers of the form 30*k+23 or numbers that cannot be part of a twin prime pair. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A166144] • 1,23,56,100,155,221,298,386,485,595,716,848,991,1145,1310,1486,1673,1871,2080,2300,2531,2773,3026,3290,3565 ⋆ a(n) = (11*n^2 + 11*n - 20)/2. • a(n) = a(n - 1) + 11 * n, a(1)=1, with n>1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A055821] • 1,23,60,122,217,354,543,795,1122,1537,2054,2688,3455,4372,5457,6729,8208,9915,11872,14102,16629,19478,22675,26247,30222 ⋆ T(n,n-4), array T as in A055818. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 9. •

[A051875] • 0,1,23,66,130,215,321,448,596,765,955,1166,1398,1651,1925,2220,2536,2873,3231,3610,4010,4431,4873,5336,5820 ⋆ 23-gonal numbers: a(n) = n(21n-19)/2. • a(n) = 21 * n + a(n - 1) - 20 with n > 0, a(0) = 0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(21 * a(n) + 211 * n + 1) = a(21 * a(n) + 211 * n) + a(21 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069173] • 1,23,67,133,221,331,463,617,793,991,1211,1453,1717,2003,2311,2641,2993,3367,3763,4181,4621,5083,5567,6073,6601 ⋆ Centered 22-gonal numbers. • a(n) = 11n ^ 2 - 11n + 1. • a(n) = 22 * n + a(n - 1) - 22 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A195039] • 0,23,69,138,230,345,483,644,828,1035,1265,1518,1794,2093,2415,2760,3128,3519,3933,4370,4830,5313,5819,6348,6900 ⋆ 23 times triangular numbers. • a(0)=0, a(1)=23, a(2)=69, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 28 2012 •

[A042034] • 23,70,93,535,628,5559,11746,52543,64289,181121,607652,788773,1396425,16149448,243638145,503425738,1250489621,1753915359,3004404980,4758320339,7762725319,12521045658 ⋆ Numerators of continued fraction convergents to sqrt(541). • a(n) = 2723032632938454900 * a(n - 39) + a(n - 78) for n>77. [_ Bruno Berselli _ , Nov 15 2013] •

[A042040] • 23,70,793,2449,113447,342790,3884137,11995201,555663383,1678985350,19024502233,58752492049,2721639136487,8223669901510,93182008053097,287769694060801,13330587934849943,40279533498610630 ⋆ Numerators of continued fraction convergents to sqrt(544). • a(n) = 4898 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 14 2013 •

[A248877] • 23,71,167,359,743,1511,3047,6119,12263,24551,49127,98279,196583,393191,786407,1572839,3145703,6291431,12582887,25165799,50331623,100663271,201326567,402653159,805306343 ⋆ a(1) = 23, a(2) = 71, a(n) = 3*a(n-1) - 2*a(n-2) for n>2. • a(n + 1) = a(n) + 3 * 2 ^ (n + 3) with a(1) = 23. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). - _ Colin Barker _ , Mar 05 2015 •

[A167573] • 23,83,183,323,503,723,983,1283,1623,2003,2423,2883,3383,3923,4503,5123,5783,6483,7223,8003,8823,9683,10583,11523,12503 ⋆ The third row of the ED3 array A167572. • a(n) = 20 * n ^ 2 + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ G. C. Greubel _ , Jun 16 2016 •

[A172117] • 0,1,23,86,210,415,721,1148,1716,2445,3355,4466,5798,7371,9205,11320,13736,16473,19551,22990,26810,31031,35673,40756,46300 ⋆ a(n) = n*(n+1)*(20*n-17)/6. • a(0)=0, a(1)=1, a(2)=23, a(3)=86; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). [_ Harvey P. Dale _ , May 15 2011] • a(n) = Sum _{ i=0..n - 1 } (n - i) * (20 * i + 1), with a(0)=0. [_ Bruno Berselli _ , Feb 11 2014] •

[A217529] • 23,86,284,856,2416,6496,16832,42368,104192,251392,596992,1398784,3239936,7430144,16891904,38109184,85393408,190185472,421265408,928514048,2037383168,4452253696,9693036544,21030240256,45483032576 ⋆ a(n) = 2^(n-4)*(4*n^2-16*n+23). • a(n) = 6 * a(n - 1) - 12 * a(n - 2) + 8 * a(n - 3). G.f.: - x ^ 4 * (44 * x ^ 2 - 52 * x + 23) / (2 * x - 1) ^ 3. [_ Colin Barker _ , Oct 17 2012] •

[A193018] • 23,87,119,201,312,376,455,616,760,840,1055,1136,1248,1472,1719,1959,2064,2472,2764,2976,3264,3407,3584,4032,4336 ⋆ The largest integer that cannot be written as the sum of squares of integers larger than n. • a(n) < n ^ 4 + 6n ^ 3 + 11n ^ 2 + 6n by Sylvester's theorem. [_ Charles R Greathouse IV _ , Jul 14 2011] •

[A158537] • 1,23,89,199,353,551,793,1079,1409,1783,2201,2663,3169,3719,4313,4951,5633,6359,7129,7943,8801,9703,10649,11639,12673 ⋆ 22n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A244632] • 0,23,92,207,368,575,828,1127,1472,1863,2300,2783,3312,3887,4508,5175,5888,6647,7452,8303,9200,10143,11132,12167,13248 ⋆ 23*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A158544] • 23,95,215,383,599,863,1175,1535,1943,2399,2903,3455,4055,4703,5399,6143,6935,7775,8663,9599,10583,11615,12695,13823,14999 ⋆ 24n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 14 2012 •

[A154376] • 23,96,219,392,615,888,1211,1584,2007,2480,3003,3576,4199,4872,5595,6368,7191,8064,8987,9960,10983,12056,13179,14352,15575 ⋆ a(n) = 25*n^2 - 2*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A214092] • 1,23,102,274,575,1041,1708,2612,3789,5275,7106,9318,11947,15029,18600,22696,27353,32607,38494,45050,52311,60313,69092,78684,89125 ⋆ Principal diagonal of the convolution array A213773. • a(n) = (5 * n - 15 * n ^ 2 + 12 * n ^ 3) / 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A241746] • 23,103,163,223,283,343,403,463,523,583,643 ⋆ Smallest number greater than n that CANNOT be scored using n darts on a standard dartboard.

• a(1) = 23, remaining terms: a(n) = 103 + 60(n - 2). - _ David Consiglio, Jr. _ , Jun 11 2014 •

[**A156568**] • 23,115,667,3887,22655,132043,769603,4485575,26143847,152377507,888121195,5176349663,30169976783,175843511035,1024891089427,5973503025527,34816127063735,202923259356883,1182723429077563 ★ a(n) = 6*a(n-1)-a(n-2) for n > 2; a(1)=23, a(2)=115. • a(n) = 23 * ((2 + sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (2 - sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4. •

[**A253679**] • 23,118,333,716,1315,2178,3353,4888,6831,9230,12133,15588,19643,24346,29745,35888,42823,50598,59261,68860,79443,91058,103753,117576,132575 ★ Numbers a(n) that are the starting terms in the sum of an odd number of consecutive cubes equal to a square. • a(n) = (2n + 1) ^ 3 - (3n + 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Jan 09 2015 •

[**A069756**] • 23,119,359,839,1679,3023,5039,7919,11879,17159,24023,32759,43679,57119,73439,93023,116279,143639,175559,212519,255023,303599,358799,421199,491399 ★ Frobenius number of the numerical semigroup generated by consecutive squares. • a(n) = n ^ 2 * (n + 1) ^ 2 - n ^ 2 - (n + 1) ^ 2 = n ^ 4 + 2 * n ^ 3 - n ^ 2 - 2 * n - 1. • a(n) = Numerator of ((n + 2)! - (n - 2)!) / n!, n >=2. - _ Artur Jasinski _ , Jan 09 2007 •

[**A254758**] • 1,23,137,799,4657,27143,158201,922063,5374177,31322999,182563817,1064059903,6201795601,36146713703,210678486617,1227924205999,7156866749377,41713276290263,243122790992201,1417023469662943 ★ Part of the positive proper solutions x of the Pell equation x^2 - 2*y^2 = - 7^2 based on the fundamental solution (x0, y0)= (1, 5). • a(n) = rational part of z(n), where z(n) = (1 + 5 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n, n >= 0. • a(n) = 6 * a(n - 1) - a(n - 2), n >= 1, with a(- 1) = - 17 and a(0) = 1. • a(n) = S(n, 6) + 17 * S(n - 1, 6), n >= 0, with Chebyshev's S - polynomials evaluated at x = 6 (see A049310). •

[**A042024**] • 23,139,162,301,764,4121,9006,13127,22133,145925,6734683,40554023,47288706,87842729,222974164,1202713549,2628401262,3831114811,6459516073,42588211249,1965517233527,11835691612411 ★ Numerators of continued fraction convergents to sqrt(536). • a(n) = 291850 * a(n - 10) - a(n - 20): n in [1..30]]; // _ Vincenzo Librandi _ , Nov 14 2013 •

[**A122162**] • 1,23,154,647,1876,4802,9948,19975,34903,60648,94502,151298,217504,324844,446404,633351,830298,1144229,1447250,1931272,2396352,3105246,3759604,4821250,5705001 ★ Coefficient of q-series for constant term of Tate curve. • a(n) = (5 sigma _ 3(n) + 7 sigma _ 5(n)) / 12, where sigma _ 3(n) is A001158, the sum of the cubes of the divisors of n and sigma _ 5(n) is A001160, the sum of the fifth powers of the divisors of n. •

[**A248698**] • 0,23,166,621,1676,3715,7218,12761,21016,32751,48830,70213,97956,133211,177226,231345,297008,375751,469206,579101,707260,855603,1026146,1221001,1442376 ★ Floor of sums of the non-integer fourth roots of n, as partitioned by the integer roots: floor[sum(j from n^4+1 to (n+1)^4-1, j^(1/4))]. • a(n) = floor[sum(j from n ^ 4 + 1 to (n + 1) ^ 4 - 1, j ^ (1 / 4))]. • a(n) = 3 * n + 8 * n ^ 2 + 8 * n ^ 3 + 4 * n ^ 4. •

[**A167467**] • 23,190,652,1559,3061,5308,8450,12637,18019,24746,32968,42835,54497,68104,83806,101753,122095,144982,170564,198991,230413,264980,302842,344149,389051 ★ 1+25*n^3-n*(5*n+1)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[**A108646**] • 1,23,194,985,3668,11074,28728,66438,140415,276001,511082,900263,1519882,2473940,3901024,5982300,8950653,13101051,18802210,26509637,36780128,50287798,67841720,90405250,119117115 ★ a(n) = (n+1)(n+2)^2*(n+3)(11n^2 + 58n^2 + 101n + 60)/720. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n > 7. •

[**A254870**] • 1,23,221,1355,6239,23465,75803,217373,566150,1361802,3063502,6508450,13159666,25481470,47493274,85567222,149553199,254336185,421956275,684451365,1087616985,1695917535,2598828765,3918943275,5822229660 ★ Seventh partial sums of fourth powers (A000583). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (7 + n) * (7 + 2 * n) * (7 + 42 * n + 6 * n ^ 2) / 19958400. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) + n ^ 4. •

[**A091628**] • 23,223,2223,22223,222223,2222223,22222223,222222223,2222222223,22222222223,222222222223,2222222222223,22222222222223,222222222222223,2222222222222223,22222222222222223,222222222222222223 ★ Concatenation of n 2's followed by 3. • a(n) = (10 ^ (n + 1) - 1) / 9 * 2 + 1. • a(n) = 10 * a(n - 1) - 7, with a(1)=23. - _ Vincenzo Librandi _ , Nov 16 2010 • a(n) = 11 * a(n - 1) - 10 * a(n - 2). •

[**A060189**] • 1,23,230,1682,10543,60657,331612,1756340,9116141,46702427,237231970,1198382694,6031771195,30287995733,151856096504,760614930344,3807336276505,19050241098975,95294209168414,476607030432890 ★ A column and diagonal of A060187 (k=3). • a(n) = 5 ^ (n - 1) - n * 3 ^ (n - 1) + n(n - 1) / 2. - _ Ralf Stephan _ , May 08 2004 •

[**A242279**] • 1,23,252,1666,7509,26865,79920,209096,491425,1064575,2150076,4104738,7458437,13005041,21857984,35598880,56353185,87019191,131364700,194364050,282314901,403316353,567402672,787201416,1078078209 ★ Number of inequivalent (mod D_4) ways four checkers can be placed on an n X n board. • a(n) = (n ^ 8 - 6 * n ^ 6 + 40 * n ^ 4 - 48 * n ^ 3 + 16 * n ^ 2 + IF(MOD(n, 2) = 1) * (14 * n ^ 4 - 48 * n ^ 3 + 34 * n ^ 2 - 3)) / 192. •

[**A240876**] • 1,23,265,2047,11969,56695,227305,795455,2485825,7059735,18474633,45046719,103274625,224298231,464387817,921406335,1759885185,3248227095,5812626185,10113604735,17152640321,28418229623,46082942185,73265596607,114375683009 ★ Expansion of (1 + x)^11 / (1 - x)^12. • a(n) = - a(n - 1) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12), with initial values as shown. • a(n) = (2 * n + 1) * (2 * n * (n + 1) * (n ^ 2 + n + 5) * (2 * n ^ 2 + 2 * n + 51) * (n ^ 4 + 2 * n ^ 3 + 68 * n ^ 2 + 67 * n + 537) / 155925 + 1). • a(n)= Sum _{ k = 0..min(11,n) } 2 ^ k * binomial(11,k) * binomial(n,k). See Bump et al. - _ Tom Copeland _ , Sep 05 2014 •

[**A010975**] • 1,23,276,2300,14950,80730,376740,1560780,5852925,20160075,64512240,193536720,548354040,1476337800,3796297200,9364199760,22239974430,51021117810,113380261800,244662670200,513791607420,1052049481860,2104098963720,4116715363800 ★ a(n) = binomial(n,22). • a(n) = n / (n - 22) * a(n - 1), n > 22. - _ Vincenzo Librandi _ , Mar 26 2011 •

[**A199031**] • 1,23,287,3455,41471,497663,5971967,71663615,859963391,10319560703,123834728447,1486016741375,17832200896511,213986410758143,2567836929097727,30814043149172735,369768517790072831,4437222213480873983 ★ 2*12^n-1. • a(n) = 12 * a(n - 1) + 11. • a(n) = 13 * a(n - 1) - 12 * a(n - 2). •

[**A086943**] • 23,293,2993,29993,299993,2999993,29999993,299999993,2999999993,29999999993,299999999993,2999999999993,29999999999993,299999999999993,2999999999999993,29999999999999993,299999999999999993 ★ a(n) = k where R(k+7)=3. • a(n) = 3 * 10 ^ n - 7 •

[**A000543**] • 0,1,23,333,2916,16725,70911,241913,701968,1798281,4173775,8942021,17930628,34009053,61518471,106823025,179003456,290715793,459239463,707740861,1066780100,1576090341,2286660783,3263156073,4586706576 ★ Number of inequivalent ways to color vertices of a cube using at most n colors. • a(n) = (1 / 24) * n ^ 2 * (n ^ 6 + 17 * n ^ 2 + 6). (Replace all x _ i's in the cycle index by n.) • a(n)=C(n,1) + 21C(n,2) + 267C(n,3) + 1718C(n,4) + 5250C(n,5) + 7980C(n,6) + 5880C(n,7) + 1680C(n,8). Each term indicates the number of ways to use n colors to color the cube vertices (octahedron faces) with exactly 1, 2, 3, 4, 5, 6, 7, or 8 colors. •

[**A028110**] • 1,23,335,3955,41391,401163,3691255,32746835,282966431,2398399003,20039831175,165661847715,1358507565871,11073172312043,89845493043095,726472924548595,5858783037195711,47156008120196283 ★ Expansion of 1/((1-4x)(1-5x)(1-6x)(1-8x)). • a(n)=(8 ^ (n + 3) - 6 ^ (n + 4) + 8 * 5 ^ (n + 3) - 3 * 4 ^ (n + 3)) / 24. [_ Yahia Kahloune _ , Jun 11 2013] •

[**A028059**] • 1,23,338,4054,43323,430269,4065916,37085708,329561045,2871469315,24640946694,208933723362,1754722389967,14623596707561,121104748389872,997726082646616,8184406735022889,66895347552055407 ★ Expansion of 1/((1-3x)(1-5x)(1-7x)(1-8x)). • a(n)=(8 ^ (n + 4) - 15 * 7 ^ (n + 3) + 2 * 5 ^ (n + 4) - 3 ^ (n + 4)) / 120. [_ Yahia Kahloune _ , Jun 08 2013] •

[**A028055**] • 1,23,340,4130,45031,459893,4504690,42928160,401635861,3711270563,34005047440,309788905790,2811170579491,25442007146033,229842147512590,2073840099225020,18696506927851921,168462145714550303 ★ Expansion of 1/((1-3x)(1-5x)(1-6x)(1-9x)). • a(n)=(9 ^ (n + 3) - 8 * 6 ^ (n + 3) + 9 * 5 ^ (n + 3) - 2 * 3 ^ (n + 3)) / 72. [_ Yahia Kahloune _ , Jun 07 2013] • a(0)=1, a(1)=23, a(2)=340, a(3)=4130, a(n)=23 * a(n - 1) - 189 * a(n - 2) + 657 * a(n - 3) - 810 * a(n - 4). - _ Harvey P. Dale _ , Jul 01 2015 •

[**A026324**] • 1,23,341,4147,45045,455091,4373797,40541699,365712149,3230463379,28067769093,240654781731,2041291828213,17162300683187,143239714105829,1188212150789443,9805989936743637,80575358596047315 ★ Expansion of 1/((1-2x)(1-6x)(1-7x)(1-8x)). • a(n) = - 2 ^ n / 15 + 27 * 6 ^ n - 343 * 7 ^ n / 5 + 128 * 8 ^ n / 3. _ R. J. Mathar _ , Jun 23 2013 •

[**A028039**] • 1,23,342,4198,46403,481341,4792264,46410716,440901285,4131531979,38331795866,353038275954,3233774790247,29499248911337,268261230188748,2433731253526312,22039259605258889,199303153044040815 ★ Expansion of 1/((1-3x)(1-4x)(1-7x)(1-9x)). • a(n)=(2 * 9 ^ (n + 3) - 5 * 7 ^ (n + 3) + 8 * 4 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , May 31 2013] •

[**A025993**] • 1,23,344,4258,47487,496725,4981918,48547136,463544213,4361492707,40596873252,374857310334,3440520848779,31434357529169,286207079508746,2598999610410652,23553202070626785,213115529239825311 ★ Expansion of 1/((1-2x)(1-5x)(1-7x)(1-9x)). • a(n) = - 8 * 2 ^ n / 105 + 125 * 5 ^ n / 24 - 343 * 7 ^ n / 20 + 729 * 9 ^ n / 56. _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=23, a(2)=344, a(3)=4258, a(n)=23 * a(n - 1) - 185 * a(n - 2) + 601 * a(n - 3) - 630 * a(n - 4). - _ Harvey P. Dale _ , Jul 04 2013 •

[**A028035**] • 1,23,345,4315,49121,530403,5553385,57088955,580462641,5863054483,58985130425,591995063595,5932878706561,59406619141763,594534243267465,5948154995694235,59498442385788881,595085846763024243 ★ Expansion of 1/((1-3x)(1-4x)(1-6x)(1-10x)). • a(n)=(10 ^ (n + 3) - 7 * 6 ^ (n + 3) + 14 * 4 ^ (n + 3) - 8 * 3 ^ (n + 3)) / 168. [_ Yahia Kahloune _ , May 30 2013] •

[**A025976**] • 1,23,347,4363,49683,532491,5483299,54909371,538792595,5206523179,49719923331,470377414299,4416615113587,41215417310987,382666342963043,3537819931431547,32590970730866259,299323501721262315 ★ Expansion of 1/((1-2x)(1-4x)(1-8x)(1-9x)). • a(n) = - 2 * 2 ^ n / 21 + 8 * 4 ^ n / 5 - 64 * 8 ^ n / 3 + 729 * 9 ^ n / 35. _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=23, a(2)=347, a(3)=4363, a(n)=23 * a(n - 1) - 182 * a(n - 2) + 568 * a(n - 3) - 576 * a(n - 4). - _ Harvey P. Dale _ , Sep 11 2013 •

[**A025989**] • 1,23,347,4375,50211,546063,5750347,59371895,605580371,6130227103,61765086747,620509140615,6222647943331,62333853156143,623992946413547,6243906815856535,62463186581999091,624777847926261183 ★ Expansion of 1/((1-2x)(1-5x)(1-6x)(1-10x)). • a(n) = - 2 ^ n / 12 + 25 * 5 ^ n / 3 - 27 * 6 ^ n / 2 + 25 * 10 ^ n / 4. _ R. J. Mathar _ , Jun 20 2013 •

[**A023950**] • 1,23,348,4378,49679,528381,5380306,53132816,513181317,4875626899,45752166824,425305531014,3925114125115,36023250380777,329183853207102,2998041099306172,27233460168740273,246879085434889215 ★ Expansion of 1/((1-x)(1-6x)(1-7x)(1-9x)). • a(n) = (5 * 9 ^ (n + 3) - 20 * 7 ^ (n + 3) + 16 * 6 ^ (n + 3) - 1) / 240. [_ Yahia Kahloune _ , May 25 2013] • a(0)=1, a

(1)=23, a(2)=348, a(3)=4378; for n>3, a(n) = 23 * a(n - 1) - 181 * a(n - 2) + 537 * a(n - 3) - 378 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[**A025973**] ● 1,23,349,4443,51597,568155,6054973,63196331,650620333,6637326267,67293219357,679380276939,6838972903309,68706054180059,689275354683901,6908259384473067,69191143298038125,692671313513140731 ★ Expansion of 1/((1-2x)(1-4x)(1-7x)(1-10x)). ● a(n) = (5 * 10 ^ (n + 3) - 16 * 7 ^ (n + 3) + 20 * 4 ^ (n + 3) - 9 * 2 ^ (n + 3)) / 720. - _ Yahia Kahloune _ , May 23 2013 ●

[**A022469**] ● 1,23,350,4450,51231,554433,5756260,58034900,572630861,5558653243,53279890170,505596134550,4759287370891,44506489496453,413949260130080,3832708325439400,35351885537967321,325028008388124063,2980145152236043990,27260474825925725450,248857740289031716151 ★ Expansion of 1/((1-x)*(1-5*x)*(1-8*x)*(1-9*x)). ● a(n) = (21 * 9 ^ (n + 3) - 32 * 8 ^ (n + 3) + 14 * 5 ^ (n + 3) - 3) / 672. - _ Yahia Kahloune _ , May 25 2013 ● a(0)=1, a(1)=23, a(2)=350, a(3)=4450; for n>3, a(n) = 23 * a(n - 1) - 179 * a(n - 2) + 517 * a(n - 3) - 360 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[**A028030**] ● 1,23,350,4510,53691,614373,6891160,76527020,845660981,9322579123,102653929170,1129737260730,12429895581871,136743043622273,1504245500346380,16547064858237640,182019552263480361 ★ Expansion of 1/((1-3x)(1-4x)(1-5x)(1-11x)). ● a(n) = (11 ^ (n + 3) - 28 * 5 ^ (n + 3) + 48 * 4 ^ (n + 3) - 21 * 3 ^ (n + 3)) / 336. [_ Yahia Kahloune _ , May 25 2013] ●

[**A022454**] ● 1,23,352,4530,53151,590373,6335302,66471680,687035701,7029030723,71413230252,722053798830,7276293638251,73154751811073,734297855505202,7362269063785980,73757914933860801,738526673084931423 ★ Expansion of 1/((1-x)*(1-5*x)*(1-7*x)*(1-10*x)). ● a(n) = (8 * 10 ^ (n + 3) - 30 * 7 ^ (n + 3) + 27 * 5 ^ (n + 3) - 5) / 1080. -_ Yahia Kahloune _ , May 22 2013 ● a(0)=1, a(1)=23, a(2)=352, a(3)=4530; for n>3, a(n) = 23 * a(n - 1) - 177 * a(n - 2) + 505 * a(n - 3) - 350 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[**A025949**] ● 1,23,353,4579,54393,613419,6692161,71391683,749696585,7783261915,80123162769,819556503987,8342165636377,84594465902411,855327149649377,8628331464477091,86883794517646569,873641784546629307 ★ Expansion of 1/((1-2x)(1-3x)(1-8x)(1-10x)). ● a(n) = - 2 ^ n / 6 + 27 * 3 ^ n / 35 - 128 * 8 ^ n / 15 + 125 * 10 ^ n / 14. - _ R. J. Mathar _ , Jun 20 2013 ●

[**A025969**] ● 1,23,353,4603,55449,640851,7242961,80866811,896831177,9909944259,109271790849,1203605509899,13249389022585,145801783940147,1604171188346417,17647994609290267,194140618516940073 ★ Expansion of 1/((1-2x)(1-4x)(1-6x)(1-11x)). ● a(0)=1, a(1)=23, a(2)=353, a(3)=4603, a(n)=23 * a(n - 1) - 176 * a(n - 2) + 532 * a(n - 3) - 528 * a(n - 4). - _ Harvey P. Dale _ , Jun 25 2011 ● a(n) = (8 * 11 ^ (n + 3) - 63 * 6 ^ (n + 3) + 90 * 4 ^ (n + 3) - 35 * 2 ^ (n + 3)) / 2520. - _ Yahia Kahloune _ , May 24 2013 ●

[**A020579**] ● 1,23,355,4595,53851,592403,6240235,63710915,635468251,6225852083,60146237515,574587484835,5439634923451,51116555484563,47740609291 3195,4435981769620355,41041272503703451,378327871809737843 ★ Expansion of 1/((1-6x)(1-8x)(1-9x)). ● a(n) = 6 * 6 ^ n - 32 * 8 ^ n + 27 * 9 ^ n. - _ R. J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=23, a(2)=355; for n>2, a(n) = 23 * a(n - 1) - 174 * a(n - 2) + 432 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 ● a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 ●

[**A021914**] ● 1,23,355,4635,55371,627243,6866155,73433195,772592491,8032358763,82776456555,847393109355,8630981813611,87566313375083,885715453576555,8937574526027115,90019110908986731,905338057186084203 ★ Expansion of 1/((1-x)(1-4x)(1-8x)(1-10x)). ● a(n) = (14 * 10 ^ (n + 3) - 27 * 8 ^ (n + 3) + 21 * 4 ^ (n + 3) - 8) / 1512. - _ Yahia Kahloune _ , May 24 2013 ●

[**A022412**] ● 1,23,356,4690,57015,663621,7538098,84446336,938561525,10384529155,114604142016,1262952525198,13906624731091,153059279644385,1684178151097070,18529154259093436,203840055167045073 ★ Expansion of 1/((1-x)(1-5x)(1-6x)(1-11x)). ● a(n) = 5 ^ (n + 3) / 24 + 11 ^ (n + 3) / 300 - 1 / 200 - 6 ^ (n + 3) / 25. - R. J. Mathar, Mar 11 2011 ● a(n) = 17 * a(n - 1) - 66 * a(n - 2) + (5 ^ (n + 1) - 1) / 4, n>=2. - Vincenzo Librandi, Mar 12 2011 ●

[**A025946**] ● 1,23,356,4702,57435,672441,7683502,86531384,965954429,10724321179,118659465288,1310098171746,14444989850383,159132262849037,1752116527119314,19284913291752988,212215466792375697 ★ Expansion of 1/((1-2x)(1-3x)(1-7x)(1-11x)). ● a(n)=(5 * 11 ^ (n + 3) - 18 * 7 ^ (n + 3) + 45 * 3 ^ (n + 3) - 32 * 2 ^ (n + 3)) / 1440. From _ Yahia Kahloune _ , May 22 2013. ●

[**A020572**] ● 1,23,357,4675,55781,628803,6831637,72401555,754291461,7764923683,79263766517,804302170035,8126850016741,81868359076163,822960967286997,8260021493532115,82815918789863621,829686041539878243 ★ Expansion of 1/((1-6x)(1-7x)(1-10x)). ● a(n) = 9 * 6 ^ n - 49 * 7 ^ n / 3 + 25 * 10 ^ n / 3. - _ R. J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=23, a(2)=357; for n>2, a(n) = 23 * a(n - 1) - 172 * a(n - 2) + 420 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 ● a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 ●

[**A021884**] ● 1,23,358,4758,58419,686541,7864936,88727036,991573957,110016698979,121950785034,1346833901634,14852822151415,163644677778137,1801937252261452,19834231783445352,218267009404507593 ★ Expansion of 1/((1-x)(1-4x)(1-7x)(1-11x)). ● a(n) = (9 * 11 ^ (n + 3) - 35 * 7 ^ (n + 3) + 40 * 4 ^ (n + 3) - 14) / 2520. - _ Yahia Kahloune _ , May 24 2013 ●

[**A020346**] ● 1,23,359,4747,57351,655683,7229839,77760587,821694071,8571599443,88563029919,908455411227,9267399149191,94137972490403,953097676407599,9624750893682667,96997854561570711,975982073553112563 ★ Expansion of 1/((1-5x)(1-8x)(1-10x)). ● a(n) = 5 ^ (n + 1) / 3 - 4 * 8 ^ (n + 1) / 3 + 10 ^ (n + 1). - R. J. Mathar, Mar 15 2011 ● a(0)=1, a(1)=23, a(2)=359; for n>2, a(n) = 23 * a(n - 1) - 170 * a(n - 2) + 400 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A025964**] ● 1,23,359,4843,61287,753315,9137263,110167211,1324737623,15911030707,191005360767,2292437677179,27511152416359,330143464656899,3961770291040271,47541489215721547,570499107794719095 ★ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-12x)). ● a(0)=1, a(1)=23, a(2)=359, a(3)=4843, a(n)=23 * a(n - 1) - 170 * a(n - 2) + 496 * a(n - 3) - 480 * a(n - 4). - _ Harvey P. Dale _ , Jan 28 2013 ● a(n) = (3 * 12 ^ (n + 3) - 80 * 5 ^ (n + 3) + 105 * 4 ^ (n + 3) - 28 * 2 ^ (n + 3)) / 1680. - _ Yahia Kahloune _ , May 23 2013 ●

[**A021684**] ● 1,23,360,4810,59111,690573,7801990,86089520,933531621,9989073523,105774639620,1110701801430,11583617458531,120125571974873,1239860303429250,12746044308940540,130587414625807841 ★ Expansion of 1/((1-x)(1-3x)(1-9x)(1-10x)). ● a(n) = - 1 / 144 + 10 ^ (n + 3) / 63 + 3 ^ (n + 2) / 28 - 3 * 9 ^ (n + 2) / 16. - R. J. Mathar, Mar 15 2011 ●

[**A025942**] ● 1,23,361,4907,62545,773171,9415897,113824139,1370909089,16481083619,197954225833,2376538571771,28524991618033,342339076723667,4108303998843769,49301058498065003,591621165177427777 ★ Expansion of 1/((1-2x)(1-3x)(1-6x)(1-12x)). ● a(0)=1, a(1)=23, a(2)=361, a(3)=4907, a(n)=23 * a(n - 1) - 168 * a(n - 2) + 468 * a(n - 3) - 432 * a(n - 4). - _ Harvey P. Dale _ , Oct 20 2012 ● a(n) = 16 * 12 ^ n / 5 - 3 * 6 ^ n - 2 ^ n / 5 + 3 ^ n. - _ R. J. Mathar _ , Jun 04 2013 ●

[**A020000**] ● 1,23,362,4870,60411,715533,8243572,93366380,1046230421,11644889443,129058033182,1426436938290,15738640474831,173461105001753,1910430676985192,21031277618176600,231459987587209641 ★ Expansion of 1/((1-5x)(1-7x)(1-11x)). ● a(n) = 5 ^ (n + 2) / 12 + 11 ^ (n + 2) / 24 - 7 ^ (n + 2) / 8. - R. J. Mathar, Mar 15 2011 ● a(0)=1, a(1)=23, a(2)=362; for n>2, a(n) = 23 * a(n - 1) - 167 * a(n - 2) + 385 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021664**] ● 1,23,362,4894,61251,733461,8546764,97847228,1106991941,12422320339,138608884206,1540404875802,17070111627271,188776494239057,2084583574516688,22994756444303416,253457017948866441 ★ Expansion of 1/((1-x)(1-3x)(1-8x)(1-11x)). ● a(n) = 3 ^ (n + 3) / 80 - 1 / 140 + 11 ^ (n + 3) / 240 - 8 ^ (n + 3) / 105. - R. J. Mathar, Mar 15 2011 ● a(0)=1, a(1)=23, a(2)=362, a(3)=4894, a(n)=23 * a(n - 1) - 167 * a(n - 2) + 409 * a(n - 3) - 264 * a(n - 4). - _ Harvey P. Dale _ , Feb 17 2015 ●

[**A021844**] ● 1,23,363,4963,63539,787731,9609811,116281811,1401253587,16850623699,202422366419,2430363281619,29172151056595,350112652220627,4201633221810387,50421288464357587,605065606114711763 ★ Expansion of 1/((1-x)(1-4x)(1-6x)(1-12x)). ● a(n) = 3 * 12 ^ (n + 1) / 11 - 3 * 6 ^ (n + 1) / 5 + 2 ^ (2 * n + 2) / 3 - 1 / 165. - R. J. Mathar, Mar 15 2011 ● a(0)=1, a(1)=23, a(2)=363, a(3)=4963, a(n)=23a(n - 1) - 166a(n - 2) + 432a(n - 3) - 288a(n - 4) [From Harvey P. Dale, May 11 2011] ●

[**A019672**] ● 1,23,365,4975,62661,753783,8811805,101107775,1145674421,12870591943,143722946445,1598128085775,17716831119781,195984586836503,2164626279788285,23881256748106975,263256769887630741 ★ Expansion of 1/((1-4x)(1-8x)(1-11x)). ● a(n)= 11 ^ (n + 2) / 21 - 2 * 8 ^ (n + 1) / 3 + 4 ^ (n + 1) / 7. - _ R. J. Mathar _ , Nov 11 2012 ● a(0)=1, a(1)=23, a(2)=365; for n>2, a(n) = 23 * a(n - 1) - 164 * a(n - 2) + 352 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021629**] ● 1,23,366,5062,65555,820701,10087792,122732444,1484551749,17896987459,215340503378,2588122883346,31085733296983,373226612833097,4480104054056724,53770941570620968,645319149365603657 ★ Expansion of 1/((1-x)(1-3x)(1-7x)(1-12x)). ● a(0)=1, a(1)=23, a(2)=366, a(3)=5062; for n>3, a(n) = 23 * a(n - 1) - 163 * a(n - 2) + 393 * a(n - 3) - 252 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 ●

[**A019869**] ● 1,23,367,5075,65551,817643,10013527,121451315,1465540351,17637184763,211960186087,2545454874755,30557298487951,366759842503883,4401557777453047,52821361851453395,633872505937432351 ★ Expansion of 1/((1-5*x)*(1-6*x)*(1-12*x)). ● a(n) = 25 * 5 ^ n / 7 - 6 * 6 ^ n + 24 * 12 ^ n / 7. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=23, a(2)=367; for n>2, a(n) = 23 * a(n - 1) - 162 * a(n - 2) + 360 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 18 * a(n - 1) - 72 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A021294**] ● 1,23,368,5098,65559,806541,9640606,112964816,1304876837,14914020979,169097614764,1905464222454,21368620595635,238731453906137,2659135639187642,29548298847110812,327711548662770753 ★ Expansion of 1/((1-x)(1-2x)(1-9x)(1-11x)). ● a(n) = (28 * 11 ^ (n + 3) - 45 * 9 ^ (n + 3) + 80 * 2 ^ (n + 3) - 63) / 5040. [_ Yahia Kahloune _ , Jul 08 2013] ● a(0)=1, a(1)=23, a(2)=368, a(3)=5098; for n>3, a(n) = 23 * a(n - 1) - 161 * a(n - 2) + 337 * a(n - 3) - 198 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 ● a(0)=1, a(1)=23; for n>1, a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 ●

[**A019628**] ● 1,23,369,5143,66977,841575,10367953,126315191,1529146113,18443562247,221980457777,2668373663319,32052757927009,384859080003239,4619891122628241,55449769683406327,665474773978915265 ★ Expansion of 1/((1-4*x)*(1-7*x)*(1-12*x)). ● a(n) = 2 * 4 ^ n / 3 - 7 ^ (n + 2) / 15 + 18 * 12 ^ n / 5. - _ R. J. Mathar _ , Nov 11 2012 ● a(0)=1, a(1)=23, a(2)=369; for n>2, a(n) = 23 * a(n - 1) - 160 * a(n - 2) + 336 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[**A018091**] ● 1,23,370,5150,66451,819413,9810340,115087100,1330524901,15216894803,172615989910,1945847389850,21827965327351,243920416546193,2717

439768299080,30200674142257400,334986945826585801 ⋆ Expansion of 1/((1-3x)(1-9x)(1-11x)). • a(0)=1, a(1)=23, a(2)=370; for n>2, a(n) = 23 * a(n - 1) - 159 * a(n - 2) + 297 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (3 * 11 ^ (n + 2) - 4 * 9 ^ (n + 2) + 3 ^ (n + 2)) / 48. [_ Yahia Kahloune _ , Jul 06 2013] •

[A021279] • 1,23,371,5227,68955,877371,10927867,134329979,1637524859,19854820219,239894019963,2891817662331,34806527338363,418516051199867,5028894399547259,60400347075823483,725233079160063867 ⋆ Expansion of 1/((1-x)(1-2x)(1-8x)(1-12x)). • a(n) = (21 * 12 ^ (n + 3) - 55 * 8 ^ (n + 3) + 154 * 2 ^ (n + 3) - 120) / 9240. - _ Yahia Kahloune _ , Jul 08 2013 • a(0)=1, a(1)=23, a(2)=371, a(3)=5227; for n >3, a(n) = 23 * a(n - 1) - 158 * a(n - 2) + 328 * a(n - 3) - 192 * a(n - 4). - _ Vincenzo Librandi _ , Jul 08 2013 • a(0)=1, a(1)=23; for n>1, a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 08 2013 •

[A018071] • 1,23,373,5279,69853,890519,11105221,136616783,1666241005,20209628615,244233494869,2944545727487,35444499573757,426213603230711,5121600110316517,61515496310530991,738636315663280909 ⋆ Expansion of 1/((1-3x)(1-8x)(1-12x)). • a(0)=1, a(1)=23, a(2)=373; for n>2, a(n) = 23 * a(n - 1) - 156 * a(n - 2) + 288 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (5 * 12 ^ (n + 2) - 9 * 8 ^ (n + 2) + 4 * 3 ^ (n + 2)) / 180. [_ Yahia Kahloune _ , Jul 06 2013] •

[A016325] • 1,23,377,5395,71841,915243,11317657,136994195,1631936081,19201296763,223714264137,2585856904995,29694425953921,339138685491083,3855525540397817,43660780944367795,492768590388029361 ⋆ Expansion of 1/((1-2x)(1-10x)(1-11x)). • a(n) = 11 ^ (n + 2) / 9 + 2 ^ (n - 1) / 9 - 25 * 10 ^ n / 2. • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 2 ^ n. - _ Vincenzo Librandi _ , Oct 09 2011 •

[A016324] • 1,23,379,5483,74227,966635,12282883,153544091,1897874803,23272609547,283754322787,3445398949499,41707911082579,503763046196459,6074569573223491,73159552048508507,880297079110607155 ⋆ Expansion of 1/((1-2x)(1-9x)(1-12x)). • a(n) = (168 * 12 ^ n + 2 ^ (n + 1) - 5 * 3 ^ (2 * n + 3)) / 35. • a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 2 ^ n. • a(n) = 23 * a(n - 1) - 150 * a(n - 2) + 216 * a(n - 3), n>=3. (End) •

[A014926] • 1,23,386,5710,78915,1045221,13446148,169343516,2098573445,25678050355,310989720966,3734729768298,44534298665671,527852268680705,6224099772429320,73060070483079736 ⋆ a(1)=1, a(n)=n*11^(n-1)+a(n-1). • a(n)=(1 / 100) * [1 + 11 ^ n * (10 * n - 1)], with n>=1 [From _ Paolo P. Lava _ , Jan 13 2009] • a(1)=1, a(2)=23, a(n) = 22 * a(n - 1) - 121 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 •

[A016267] • 1,23,387,5755,80171,1073163,13989067,178979915,2258870091,28217552203,349721737547,4307771961675,52804374651211,644763606925643,7848274394218827,95290403841737035,1154595957211955531 ⋆ Expansion of 1/((1-x)(1-10x)(1-12x)). • a(n) = (54 * 12 ^ (n + 1) - 55 * 10 ^ (n + 1) + 1) / 99. - _ Bruno Berselli _ , Mar 21 2011 • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 1, n >= 2. - _ Vincenzo Librandi _ , Mar 21 2011 • a(0)=1, a(1)=23, a(2)=387, a(n) = 23 * a(n - 1) - 142 * a(n - 2) + 120 * a(n - 3). - _ Harvey P. Dale _ , May 03 2012 •

[A016197] • 0,1,23,397,6095,87781,1214423,16344637,215622815,2801832661,35979939623,457696700077,5777672071535,72470493235141,904168630965623,11229773405170717,138934529031464255,1713164078241143221 ⋆ a(n) = 12^n - 11^n. • a(0)=0, a(n)=12 * a(n - 1) + 11 ^ (n - 1). - _ Vincenzo Librandi - , Feb 09 2011 • a(0)=0, a(1)=1, a(n)=23 * a(n - 1) - 132 * a(n - 2). - _ Vincenzo Librandi _ , Feb 09 2011 •

[A062273] • 1,23,456,7890,12345,678901,2345678,90123456,789012345,6789012345,67890123456,789012345678,9012345678901,23456789012345,67890123456789,1234567890123456,78901234567890123,456789012345678901 ⋆ a(n) is an n-digit number with digits in increasing order with 0 following 9 and this is maintained in the concatenation of any number of consecutive terms. • a(n) = floor(10 ^ [10 * ceiling(n / 10) + (n * [n + 1] / 2 mod 10)] * 1234567890 / 9999999999) mod 10 ^ n. • a(n) = Sum _{ i=1..n } (n * (n - 1) / 2 + i mod 10) * 10 ^ (n - i). - _ Vedran Glisic _ , Apr 08 2011 •

[A007923] • 1,23,456,7891,23456,789123,4567891,23456789,123456789,12345678 91,23456789123,456789123456,7891234567891,23456789123456,7891234567891 89123,4567891234567891,23456789123456789,123456789123456789 ⋆ Lengths increase by 1, digits cycle through positive digits. • a(n) = (10 ^ 9 + 1) a(n - 9) - 10 ^ 9 a(n - 18), n>=18. - corrected by _ Michael Somos _ , Sep 28 2002 • a(n) = Sum _{ i=1..n } ((n * (n - 1) / 2 + i - 1 mod 9) + 1) * 10 ^ (n - i). - _ Vedran Glisic _ , Apr 08 2011 • a(n) = floor(10 ^ (n * (n + 1) / 2) * 123456789 / 999999999) - 10 ^ n * floor(10 ^ (n * (n - 1) / 2) * 123456789 / 999999999). - _ Néstor Jofré _ , Jun 03 2017 •

[A014905] • 1,23,486,10210,214415,4502721,94557148,1985700116,41699702445,875693751355,18389568778466,386180944347798,8109799831303771,170305796457379205,3576421725604963320,75104856237704229736 ⋆ a(1)=1, a(n) = 21*a(n-1) + n. • a(n) = - 21 / 400 - (1 / 20) * n + (21 / 400) * 21 ^ n, with n >= 1. - _ Paolo P. Lava _ , Jan 14 2009 • a(1)=1, a(2)=23, a(3)=486, a(n) = 23 * a(n - 1) - 43 * a(n - 2) + 21 * a(n - 3). - _ Vincenzo Librandi _ , Oct 19 2012 •

[A158631] • 23,552,2139,4784,8487,13248,19067,25944,33879,42872,52923,64032,76199,89424,103707,119048,135447,152904,171419,190992,211623,233312,256059,279864,304727 ⋆ 529n^2 + 23. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A242358] • 23,567,6814,47358,239511,954226,3207212,9414828,24862239,60136329,135311658,286229762,574460495,1101240084,2028333848,3605765688,6211552455,10402472811,16984387958,27099325638,42342870823,64905898662,97761436356,144885584740,211543443215 ⋆ Number of inequivalent (mod D_4) ways five checkers can be placed on an n X n board. • a(n) = (n ^ 10 - 10 * n ^ 8 + 35 * n ^ 6 + 52 * n ^ 5 - 210 * n ^ 4 + 140 * n ^ 3 - 56 * n ^ 2 + 48 * n + IF(MOD(n, 2) = 1) * (52 * n ^ 5 - 145 * n ^ 4 + 140 * n ^ 3 - 80 * n ^ 2 + 48 * n - 15)) / 960. •

[A129991] • 0,23,620,723,840,4223,4820,5499,25200,28679,32636,147459,167736,190799,860036,978219,1112640,5013239,5702060,6485523,29219880,33234623,37800980,170306523,193706160 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+241)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 482 for n > 6; a(1)=0, a(2)=23, a(3)=620, a(4)=723, a(5)=840, a(6)=4223. •

[A023278] • 23,683,1663,2753,3203,6073,6323,7523,8243,9293,9613,15173,19913,21023,21683,25183,26633,29663,34613,34703,39293,41953,43283,45533,52813 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 3x + 4. • a(n) == 3 (mod 10). - _ John Cerkan _ , Sep 16 2016 •

[A202656] • 0,0,0,0,23,1104,16945,141696,810746,3568352,12948318,40514560,112720393,285073712,666143975,1456288512,3007576740,5913372864,11138305068,20202100224,35433809451,60316600080,99947225741,161638967424,255701773822 ⋆ Number of ways to place 5 nonattacking semi-queens on an n X n board. • a(n) = n ^ 10 / 120 - 2 * n ^ 9 / 9 + 95 * n ^ 8 / 36 - 183 * n ^ 7 / 10 + 14663 * n ^ 6 / 180 - 1201 * n ^ 5 / 5 + 16753 * n ^ 4 / 36 - 25364 * n ^ 3 / 45 + 68293 * n ^ 2 / 180 - 12781 * n / 120 + (n ^ 3 / 2 - 6 * n ^ 2 + 39 * n / 2 - 61 / 4) * floor(n / 2). •

[A193430] • 23,6911,5944066965503999 ⋆ Primes p such that p+1 is in A055462. • a(n) are the prime values of 1! * (1! * 2!) * (1! * 2! * 3!) * (1! * 2! * 3! * ... * n!) - 1 •

[A241890] • 24,25,28,33,40,49,60,73,88,105,124,145,168,193,220,249,280,313,348,385,424,465,508,553,600 ⋆ a(n) = n^2 + 24. • a(n) = a(- n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 2 * n - 1. •

[A008856] • 0,1,24,25,49,51,75,76,99,100,101,124,125,149,151,175,176,199,200,201,224,225,249,251,275 ⋆ Numbers n such that n^3 and n have same last 2 digits. • a(9n)=100n, a(9n + 1)=100n + 1, a(9n + 2)=100n + 24, a(9n + 3)=100n + 25, a(9n + 4)=100n + 49, a(9n + 5)=100n + 51, a(9n + 6)=100n + 75, a(9n + 7)=100n + 76, a(9n + 8)=100n + 99. - _ Franklin T. Adams - Watters _ , Mar 13 2006 • a(n) = a(n - 1) + a(n - 9) - a(n - 10) for n>10. •

[A042154] • 24,25,49,319,368,687,33344,34031,67375,438281,505656,943937,45814632,46758569,92573201,602197775,694770976,1296968751,62949271024,64246239775,127195510799,827419304569,954614815368,1782034119937,86492252572344 ⋆ Numerators of continued fraction convergents to sqrt(602). • a(n) = 1374 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042180] • 24,25,99,124,6051,6175,24576,30751,1500624,1531375,6094749,7626124,372148701,379774825,1511473176,1891248001,92291377224,94182625225,374839252899,469021878124,22887889402851,23356911280975 ⋆ Numerators of continued fraction convergents to sqrt(615). • a(n) = 248 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042190] • 24,25,224,249,12176,12425,111576,124001,6063624,6187625,55564624,61752249,3019672576,3081424825,27671071176,30752496001,1503790879224,1534543375225,13780137881024,15314681256249 ⋆ Numerators of continued fraction convergents to sqrt(620). • a(n) = 498 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042196] • 24,25,599,624,30551,31175,747576,778751,38127624,38906375,932974249,971880624,47583244201,48555124825,1164351115176,1212906240001,59383850635224,60596756875225,1453109258765399 ⋆ Numerators of continued fraction convergents to sqrt(623). • a(n) = 1248 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042197] • 1,1,24,25,1224,1249,29951,31200,1527551,1558751,37378824,38937575,1906382424,1945319999,46648742401,48594062400,2379163737601,2427757800001,58217593137624,60645350937625,2969194438143624,3029839789081249,72655509587012351 ⋆ Denominators of continued fraction convergents to sqrt(623). • a(n) = 1248 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 16 2014 •

[A079720] • 24,26,28,42,46,48,62,64,68,82,84,86,204,206,208,214,216,218,224,226,228,402,404,406,408 ⋆ Neve numbers: from ananym of even, like emirp is ananym of prime, non-palindromic even numbers whose reversal, R(n), is also even. • a(n) = 0 (mod 2) and R(n)= 0 (mod 2), but n does not equal R(n) •

[A217441] • 0,24,28,100,108,228,240,408,424,640,660,924,948,1260,1288,1648,1680,2088,2124,2580,2620,3124,3168,3720,3768 ⋆ Numbers k such that 26*k+1 is a square. • a(n) = a(- n + 1) = (26 * n * (n - 1) + 11 * (- 1) ^ n * (2 * n - 1) - 3) / 4 + 3 = (26 * n + 11 * (- 1) ^ n - 15) * (26 * n + 11 * (- 1) ^ n - 11) / 104. •

[A048260] • 24,30,32,36,38,40,42,44,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80 ⋆ The sum of 2 (not necessarily distinct) abundant numbers. • a(n) = n + 1456 if n > 18705. - _ Charles R Greathouse IV _ , Feb 21 2017 •

[A075422] • 24,30,36,40,54,84,100,102,112,126,132,140,156,176,198,208,220,228,234,260,272,276,294,308,340 ⋆ Primitive numbers n such that the product of factorials of all proper divisors of n does not divide n!. • a(n) appears to be asymptotic to c * n with 12 < c < 15. - _ Benoit Cloitre _ , Sep 16 2002 •

[A266984] • 1,1,24,31,384,511,6144,8191,98304,131071,1572864,2097151,25165824,33554431,402653184,536870911,6442450944,8589934591,103079215104,137438953471,1649267441664,2199023255551,26388279066624,35184372088831,422212465065984 ⋆ Decimal representation of the n-th iteration of the "Rule 81" elementary cellular automaton starting with a single ON (black) cell. • a(n) =

((- 4) ^ n + (- 1) ^ n - 1) / 2 + 4 ^ n for n>0. • a(n) = 17 * a(n - 2) - 16 * a(n - 4) for n>4. •

[A026040] • 24,40,64,98,144,204,280,374,488,624,784,970,1184,1428,1704,2014,2360,2744,3168,3634,4144,4700,5304,5958,6664 ★ a(n) = dot_product(1,2,...,n)*(n+2,n+3,...,2n). • a(n) = n(n ^ 2 - 3n + 14) / 3 (n >= 4). - _ Emeric Deutsch _ , Nov 27 2006 •

[A063323] • 1,24,46,69,92,115,138,162,184,208,230,253,276,301,322,346,368,392,414,439,460,485,506,530,552 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(50). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A028992] • 0,24,46,154,204,396,474,750,856,1216,1350,1794,1956,2484,2674,3286,3504,4200,4446,5226,5500,6364,6666,7614,7944 ★ Even 9-gonal (or enneagonal) numbers. • a(n) = (1 / 2) * (28 * (n - 1) ^ 2 + 60 * (n - 1) + 33 + (14 * (n - 1) + 15) * (- 1) ^ (n - 1)). • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>4. - _ Colin Barker _ , May 30 2015 •

[A129837] • 0,24,49,57,85,136,180,196,261,357,481,616,660,816,1105,1357,1449,1824,2380,3100,3885,4141,5049,6732,8200 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+119)^2 = y^2. • a(n) = 6 * a(n - 9) - a(n - 18) + 238 for n > 18; a(1)=0, a(2)=24, a(3)=49, a(4)=57, a(5)=85, a(6)=136, a(7)=180, a(8)=196, a(9)=261, a(10)=357, a(11)=481, a(12)=616, a(13)=660, a(14)=816, a(15)=1105, a(16)=1357, a(17)=1449, a(18)=1824. •

[A195158] • 0,1,24,49,96,145,216,289,384,481,600,721,864,1009,1176,1345,1536,1729,1944,2161,2400,2641,2904,3169,3456 ★ Concentric 24-gonal numbers. • a(n) = 6 * n ^ 2 + 5 * ((- 1) ^ n - 1) / 2. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). G.f.: x * (1 + 22 * x + x ^ 2) / ((1 - x) ^ 3 * (1 + x)). - _ Colin Barker _ , Sep 16 2012 •

[A042150] • 24,49,2376,4801,232824,470449,22814376,46099201,2235576024,4517251249,219063635976,442644523201,21466000749624,43374646022449,2103449009827176,4250272665676801,206116536962313624,416483346590304049 ★ Numerators of continued fraction convergents to sqrt(600). • a(n) = 98 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A132765] • 0,24,50,78,108,140,174,210,248,288,330,374,420,468,518,570,624,680,738,798,860,924,990,1058,1128 ★ a(n) = n(n+23). • a(n) = n * (n + 23). • a(n) = 2 * n + a(n - 1) + 22 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. •

[A101860] • 1,24,60,110,175,256,354,470,605,760,936,1134,1355,1600,1870,2166,2489,2840,3220,3630,4071,4544,5050,5590,6165 ★ (3+n)*(2+33*n+n^2)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 26 2012 •

[A182464] • 24,60,132,276,564,1140,2292,4596,9204,18420,36852,73716,147444,294900,589812,1179636,2359284,4718580,9437172,18874356,37748724,75497460,150994932,301989876,603979764 ★ a(n) = 3a(n-1) - 2a(n-2) with a(0)=24 and a(1)=60. • a(n) = a(n - 1) * 2 + 12. •

[A240524] • 24,60,140,315,693,1287,2288,3536,5168,7429,10925,16675,22475,33263,47027,65231,82861,99029,122059,153223,190747,241133,290177,347261,409457 ★ 7-sequence in partition of integers > 1 described in A240521. • a(n) = q _ n * q _ (n + 1) * q _ (n + 2), where q _ n is the n - th term of A050376 . •

[A052759] • 0,0,0,0,24,60,240,1260,8064,60480,518400,4989600,53222400,622702080,7925299200,108972864000,1609445376000,25406244864000,426824913715200,7602818775552000,143111882833920000,2838385676206080000,59157933040926720000,1292600836944248832000 ★ E.g.f.: x^3*log(1/(1-x)). • a(n) = n! / (n - 3) (n > 3). - _ Olivier Gérard _ , Jun 13 2001 •

[A090386] • 0,24,64,126,217,345,519,749,1046,1422,1890,2464,3159,3991,4977,6135,7484,9044,10836,12882,15205,17829,20779,24081,27762 ★ Fifth diagonal (m=4) of triangle A084938; a(n) = A084938(n+4,n) = (n^4 + 18*n^3 + 131*n^2 + 426*n)/24. • a(0)=0, a(1)=24, a(2)=64, a(3)=126, a(4)=217, a(n) =5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Feb 23 2014 •

[A051876] • 0,1,24,69,136,225,336,469,624,801,1000,1221,1464,1729,2016,2325,2656,3009,3384,3781,4200,4641,5104,5589,6096 ★ 24-gonal numbers: a(n) = n*(11*n-10). • a(n) = 22 * n + a(n - 1) - 21, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 06 2010 • a(22 * a(n) + 232 * n + 1) = a(22 * a(n) + 232 * n) + a(22 * n + 1). - _ Vladimir Shevelev _ , Jan 24 2014 •

[A069174] • 1,24,70,139,231,346,484,645,829,1036,1266,1519,1795,2094,2416,2761,3129,3520,3934,4371,4831,5314,5820,6349,6901 ★ Centered 23-gonal numbers. • a(n) = (23 * n ^ 2 - 23 * n + 2) / 2. • a(n) = 23 * n + a(n - 1) - 23 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 •

[A090860] • 24,72,120,264,504,1032,2040,4104,8184,16392,32760,65544,131064,262152,524280,1048584,2097144,4194312,8388600,16777224,33554424,67108872,134217720,268435464,536870904 ★ Number of ways of 4-coloring a map in which there is a central circle surrounded by an annulus divided into n-1 regions. There are n regions in all. • a(n) = 2 ^ (n + 1) - 8 * (- 1) ^ n. - Vincenzo Librandi, Oct 10 2011 •

[A064200] • 0,0,24,72,144,240,360,504,672,864,1080,1320,1584,1872,2184,2520,2880,3264,3672,4104,4560,5040,5544,6072,6624 ★ a(n) = 12*n*(n-1). • a(n) = 24 * (n - 1) + a(n - 1) for n>0, with a(0)=0. - _ Vincenzo Librandi _ , Aug 07 2010 • a(0)=0, a(1)=0, a(2)=24, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 22 2015 •

[A192833] • 24,72,180,336,600,936,1428,2016,2808,3720,4884,6192,7800,9576,11700,14016,16728,19656,23028,26640,30744,35112,40020,45216,51000 ★ Molecular topological indices of the Moebius ladders. • a(n) = - (3 / 2) * n * (- 9 + (- 1) ^ n - 4 * n - 2 * n ^ 2). •

[A042128] • 24,73,97,267,631,9732,10363,40821,377752,796325,3563052,4359377,51516199,158907974,1004964043,1163872017,2168836060,3332708077,5501544137,19837340488,45176225113,155366015827 ★ Numerators of continued fraction convergents to sqrt(589). • a(n) = 82846332134072437502 * a(n - 40) - a(n - 80) for n>79. [_ Bruno Berselli _ , Nov 17 2013] •

[A161587] • 1,24,73,148,249,376,529,708,913,1144,1401,1684,1993,2328,2689,3076,3489,3928,4393,4884,5401,5944,6513,7108,7729 ★ a(n) = 13n^2 + 10n + 1. • a(n) = a(n - 1) + 26 * n - 3 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 30 2010 •

[A042130] • 24,73,170,753,1676,5781,279164,843273,1965710,8706113,19377936,66839921,3227694144,9749922353,22727538850,100660077753,22404769435 6,772803160821,37318599413764,112728601402113 ★ Numerators of continued fraction convergents to sqrt(590). • a(n) = 11562 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 17 2013 •

[A042132] • 24,73,316,389,705,5324,6029,11353,51441,165676,8003889,24177343,104713261,128890604,233603865,1764117659,1997721524,3761839183,17045078256,54897073951,2652104627904,8011210957663,34696948458556,42708159416219,77405107874775 ★ Numerators of continued fraction convergents to sqrt(591). • a(n) = 331352 * a(n - 10) - a(n - 20) for n>19. [_ Bruno Berselli _ , Nov 17 2013] •

[A042134] • 24,73,3528,10657,515064,1555849,75195816,227143297,1097807407 2,33161365513,1602723618696,4841332221601,233986670255544,706801342988233,34160451133690728,103188154744060417,4987191878848590744 ★ Numerators of continued fraction convergents to sqrt(592). • a(n) = 146 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 17 2013 •

[A185940] • 24,74,228,698,2124,6434,19428,58538,176124,529394,1590228,4774778,14332524,43013954,129074628,387289418,1161999324,3486260114,10459304628,31378962458,94138984524,282421147874,847271832228,2541832273898,7625530376124 ★ a(n) = 1 - 2^(n+1) + 3^(n+2). • a(n + 2) = - 6 * a(n + 1) + 5 * a(n + 1) + 2. (End) • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 6 * a(n - 3). - _ G. C. Greubel _ , Feb 25 2017 •

[A033572] • 1,24,75,154,261,396,559,750,969,1216,1491,1794,2125,2484,2871,3286,3729,4200,4699,5226,5781,6364,6975,7614,8281 ★ a(n) = (2*n+1)*(7*n+1). • a(n) = a(n - 1) + 28 * n - 5 for n>0, a(0)=1. - _ Vincenzo Librandi _ , Nov 17 2010 •

[A195027] • 0,24,76,156,264,400,564,756,976,1224,1500,1804,2136,2496,2884,3300,3744,4216,4716,5244,5800,6384,6996,7636,8304 ★ 2*n*(7*n + 5). • a(0)=0 , a(1)=24, a(2)=76, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) – From _ Harvey P. Dale _ , Jul 24 2012 •

[A144459] • 1,24,77,160,273,416,589,792,1025,1288,1581,1904,2257,2640,3053,3496,3969,4472,5005,5568,6161,6784,7437,8120,8833 ★ (3*n+1)*(5*n+1). • a(0)=1, a(1)=24, a(2)=77, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 02 2015 •

[A290710] • 24,77,178,373,724,1331,2364,4127,7186,12625,22558,41153,76680,145607,280792,547867,1078006,2133461,4238634,8442221,16841500,33630907,67199188,134323703,268559034 ★ Number of irredundant sets in the n-crown graph. • a(n) = 2 ^ (n + 1) + n * (n ^ 3 - 2 * n ^ 2 + 3 * n + 2) / 4 - 1 for n > 3. - _ Andrew Howroyd _ , Aug 11 2017 • a(n) = 7 * a(n - 1) - 20 * a(n - 2) + 30 * a(n - 3) - 25 * a(n - 4) + 11 * a(n - 5) - 2 * a(n - 6) for n > 9. •

[A143839] • 1,24,79,166,285,436,619,834,1081,1360,1671,2014,2389,2796,3235,3706,4209,4744,5311,5910,6541,7204,7899,8626,9385 ★ Ulam's spiral (SSE spoke). • a(n) = 16 * n ^ 2 - 25 * n + 10 for n>1. - _ R. J. Mathar _ , Sep 04 2008 • a(1) = 1, a(2) = 24, a(3) = 79, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 26 2012 •

[A068379] • 1,24,80,168,288,440,624,840,1088,1368,1680,2024,2400,2808,3248,3720,4224,4760,5328,5928,6560,7224,7920,8648,9408 ★ Engel expansion of sinh(1/2). • a(0) = 1, a(n) = 4 * n * (4n + 2). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. G.f.: (1 + 21 * x + 11 * x ^ 2 - x ^ 3) / (1 - x) ^ 3. - _ Colin Barker _ , Apr 13 2012 •

[A167561] • 24,80,192,384,680,1104,1680,2432,3384,4560,5984,7680,9672,11984,14640,17664,21080,24912,29184,33920,39144,44880,51152,57984,65400 ★ The fourth row of the ED2 array A167560. • a(n) = 4 * n ^ 3 + 4 * n ^ 2 + 16 * n. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Jun 15 2016 •

[A045946] • 0,24,84,180,312,480,684,924,1200,1512,1860,2244,2664,3120,3612,4140,4704,5304,5940,6612,7320,8064,8844,9660,10512 ★ Star of David matchstick numbers: 6n(3n+1). • a(n)=24C(n, 1) + 36C(n, 2); binomial transform of (0, 24, 36, 0, 0, 0, ...). - _ Paul Barry _ , Mar 15 2003 • a(0)=0, a(1)=24, a(2)=84, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 23 2012 •

[A192838] • 24,84,180,360,600,972,1428,2064,2808,3780,4884,6264,7800,9660,11700,14112,16728,19764,23028,26760,30744,35244,40020,45360,51000 ★ Molecular topological indices of the prism graphs Y_n • a(n) = (3 / 2) * n * (11 + (- 1) ^ n + 2 * n * (2 + n)). •

[A280304] • 0,24,84,198,384,660,1044,1554,2208,3024,4020,5214,6624,8268,10164,12330,14784,17544,20628,24054,27840,32004,36564,41538,46944 ★ a(n) = 3*n*(n^2 + 3*n + 4). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 3. - _ Colin Barker _ , Dec 31 2016 •

[A168538] • 0,24,84,204,414,750,1254,1974,2964,4284,6000,8184,10914,14274,18354,23250,29064,35904,43884,53124,63750,75894,89694,105294,122844 ★ a(n) = (n+6)*(n+1)*(n^2 + 7*n + 16)/4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = sum _{ k=1..n } (k + 3) * (k + 2) * (k + 1), with offset 0. • a(n) = (n / 4) * (n + 5) * (n ^ 2 + 5n + 10), with offset 0. (End) •

[A228874] • 24,84,924,5544,40194,269874,1864584,12741324,87431844,599001144,4106310474,28143249834,192901471224,1322153872644,9062210132844,62113226746824,425730613530834,2918000448971874,20000274149827944,137083914357154044,939587137457703924 ★ L(n) * L(n+1) * L(n+2) * L(n+3), the product of four consecutive Lucas numbers, A000032. • a(n + 5) = 5 * a(n + 4) + 15 * a(n + 3) - 15 * a(n + 2) - 5 * a(n + 1) + a(n). •

[A256718] • 0,1,24,90,220,435,756,1204,1800,2565,3520,4686,6084,7735,9660,11880,14416,17289,20520,24130,28140,32571,37444,42780,48600 ★ a(n) = n*(n+1)*(7*n+6)/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) with n>3, a(0)=0, a(1)=1, a(2)=24, a(3)=90. • a(n) = Sum _{ i=0..n - 1 } (n - i) * (21 * i + 1) for n>0. •

[A076799] • 1,24,92,140,171,199,226,251,277,320,363,391,425,449,474,500,524,548,575,632,673,777,801,836,861 ★ Greedy powers of (e/3): sum_{n=1..inf} (e/3)^a(n) = 1. • a(n)=sum _{ k=1..n } floor(g _ k) where g _ 1=1, g _{ n + 1 } =log _ x(x ^ frac(g _ n) - x) (n>0) at x=(e / 3) and frac(y) = y - floor (y). •

[A195824] • 0,24,96,216,384,600,864,1176,1536,1944,2400,2904,3456,4056,4704,5400,6144,6936,7776,8664,9600,10584,11616,12696,13824 ★ a(n) = 24*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Wesley Ivan Hurt _ , Aug 05 2014 •

[A272871] • 0,0,24,96,240,480,840,1344,2016,2880,3960,5280,6864,8736,10920,13440,16320,19584,23256,27360,31920,36960,42504,48576,55200 ★ Imaginary part of (n + i)^4. • a(n) = 4 * (n - 1) * n * (n + 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. • a(n) = 24 * binomial(n + 1,3). •

[A042122] • 24,97,121,581,702,1283,3268,4551,12370,91141,103511,298163,699837,998000,7685837,16369674,24055511,64480696,88536207,153016903,700603819,853620722,4115086707,198377782658 ★ Numerators of continued fraction convergents to sqrt(586). • a(n) = 8230173414 * a(n - 23) + a(n - 46) for n>45. [_ Bruno Berselli _ , Nov 17 2013] •

[A042126] • 24,97,4680,18817,907896,3650401,176127144,708158977,34167758040,137379191137,6628368932616,26650854921601,1285869405169464,5170128475599457,249452036233943400,1002978273411373057 ★ Numerators of continued fraction convergents to sqrt(588). • a(n) = 194 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 17 2013 •

[A157514] • 24,98,222,396,620,894,1218,1592,2016,2490,3014,3588,4212,4886,5610,6384,7208,8082,9006,9980,11004,12078,13202,14376,15600 ★ 25n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 •

[A100152] • 1,24,100,260,535,956,1554,2360,3405,4720,6336,8284,10595,13300,16430,20016,24089,28680,33820,39540,45871,52844,60490,68840,77925 ★ Structured truncated cubic numbers. • a(n) = (1 / 6) * n * (31 * n ^ 2 - 27 * n + 2). • a(1)=1, a(2)=24, a(3)=100, a(4)=260, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jan 11 2016 •

[A213842] • 1,24,101,264,545,976,1589,2416,3489,4840,6501,8504,10881,13664,16885,20576,24769,29496,34789,40680,47201,54384,62261,70864,80225 ★ Principal diagonal of the convolution array A213841. • a(n) = (2 * n - 15 * n ^ 2 + 16 * n ^ 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A100155] • 1,24,103,272,565,1016,1659,2528,3657,5080,6831,8944,11453,14392,17795,21696,26129,31128,36727,42960,49861,57464,65803,74912,84825 ★ Structured truncated octahedral numbers. • a(n) = (1 / 3) * n * (17 * n ^ 2 - 18 * n + 4). •

[A011199] • 1,24,105,280,585,1056,1729,2640,3825,5320,7161,9384,12025,15120,18705,22816,27489,32760,38665,45240,52521,60544,69345,78960,89425 ★ (n+1)*(2*n+1)*(3*n+1). • a(n) = 6 * n ^ 3 + 11 * n ^ 2 + 6 * n + 1. - _ Reinhard Zumkeller _ , Jun 08 2015 •

[A100149] • 1,24,106,284,595,1076,1764,2696,3909,5440,7326,9604,12311,15484,19160,23376,28169,33576,39634,46380,53851,62084,71116,80984,91725 ★ Structured small rhombicubeoctahedral numbers. • a(n) = (1 / 6) * (37 * n ^ 3 - 45 * n ^ 2 + 14 * n). •

[A100150] • 1,24,107,288,605,1096,1799,2752,3993,5560,7491,9824,12597,15848,19615,23936,28849,34392,40603,47520,55181,63624,72887,83008,94025 ★ Structured snub cubic numbers. • a(n) = (1 / 6) * (38 * n ^ 3 - 48 * n ^ 2 + 16 * n). •

[A101862] • 24,108,302,671,1296,2275,3724,5778,8592,12342,17226,23465,31304,41013,52888,67252,84456,104880,128934,157059,189728,227447,270756,320230,376480 ★ a(n) = n*(n+1)*(n+7)*(122+57*n+n^2)/120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n > 6. - _ Wesley Ivan Hurt _ , Dec 06 2016 •

[A052762] • 0,0,0,0,24,120,360,840,1680,3024,5040,7920,11880,17160,24024,32760,43680,57120,73440,93024,116280,143640,175560,212520,255024 ★ Products of 4 consecutive integers: a(n) = n*(n-1)*(n-2)*(n-3). • a(n) = n * (n - 1) * (n - 2) * (n - 3) = n! / (n - 4)! (for n >= 4). • a(n) = numbperm(n, 4). - _ Zerinvary Lajos _ , Apr 26 2007 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), with a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=24. - _ Harvey P. Dale _ , May 09 2012 • a(n) = (n) _ 4 = Pochhammer(n,4), using the "falling factorial" convention; other authors write Pochhammer(x,k) for what is denoted x ^ (k) in the Wikipedia article, then a(n) = (n - 3) ^ (4). - _ M. F. Hasler _ , Oct 20 2013 •

[A235702] • 1,24,120,600,3000,15000,75000,375000,1875000,9375000,46875000,234375000,1171875000,5859375000,29296875000,146484375000,732421875000,3662109375000,18310546875000,91552734375000,457763671875000,2288818359375000,11444091796875000 ★ Fixed points of A001175 (Pisano periods). • a(n) = 24 * 5 ^ (n - 2) for n>1. a(n) = 5 * a(n - 1) for n>2. G.f.: - x * (19 * x + 1) / (5 * x - 1). - _ Colin Barker _ , Jan 16 2014 •

[A182186] • 24,128,648,3160,14984,69536,317264,1427912,6355080,28021504,122586224,532681648,2301267408,9891512000,42327269792,180410129576,766250022536,3244192404032,13696322822960,57673821115088,242287778611184,1015664308220864,4249246138360928 ★ Number b(n) of basic ideals in the Borel subalgebra of the untwisted affine Lie algebra of type B. • a(n) = (3 * n - 5) * 2 ^ (2 * n - 2) - (2 * (3 * n - 1)) * binomial(2 * n - 2, n - 1). • a(n) - 8 * a(n - 1) + 16 * a(n - 2) = (24 / (n - 1)) * binomial(2 * n - 6,n - 2) for n>3. •

[A059593] • 0,0,0,0,0,24,144,504,1344,3024,78624,809424,4809024,20787624,72696624,1961583624,28478346624,238536558624,1425925698624,6764765838624,189239120970624,3500701266525624,37764092547420624,288099608198025624 ★ Number of degree-n permutations of order exactly 5. • a(n) = a(n - 1) + (1 + a(n - 5)) * (n - 1)(n - 2)(n - 3)(n - 4) = Sum _{ j = 1 to floor[n / 5] } [n! / (j! * (n - 5j)! * (5 ^ j))]. •

[A029572] • 0,0,0,0,0,24,144,1008,8064,72576,653184,7185024,86220288,1120863744,15692092416,237124952064,3793999233024,64497986961408,1160963765305344,22058311540801536,441004037348818944,9261084784325197824,203743865255154352128,4686108900868550098944 ★ Number of permutations of an n-set containing a 5-cycle. • a(n) = n! (1 - sum(k=0...floor(n / 5), (- 1) ^ k / (k! * 5 ^ k)). • a(n) / n! is asymptotic to 1 - e ^ (- 1 / 5) = 1 - A092618. •

[A290313] • 1,24,145,545,1575,3836,8274,16290,29865,51700,85371,135499,207935,309960,450500,640356,892449,1222080,1647205,2188725,2870791,3721124,4771350,6057350,7619625 ★ Fourth diagonal sequence of the Sheffer triangle A094816 (special Charlier). • a(n) = (48 + 256 * n + 422 * n ^ 2 + 303 * n ^ 3 + 105 * n ^ 4 + 17 * n ^ 5 + n ^ 6) / 48. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 6. •

[A042118] • 24,145,6984,42049,2025336,12194065,587340456,3536236801,170326706904,1025496478225,49394157661704,297390442448449,14324135395187256,86242202813571985,4153949870446642536 ★ Numerators of continued fraction convergents to sqrt(584). • a(n) = 290 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 17 2013 •

[A092181] • 1,24,153,544,1425,3096,5929,10368,16929,26200,38841,55584,77233,104664,138825,180736,231489,292248,364249,448800,547281,661144,791913,941184,1110625 ★ Figurate numbers based on the 24-cell (4-D polytope with Schlaefli symbol {3,4,3}). • a(n) = n ^ 2 * ((3 * n ^ 2) - (4 * n) + 2). • a(n) = C(n + 3,4) + 19 C(n + 2,4) + 43 C(n + 1,4) + 9 C(n,4). • a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). G.f.: x * (1 + 19 * x + 43 * x ^ 2 + 9 * x ^ 3) / (1 - x) ^ 5. [_ R. J. Mathar _ , Jun 21 2010] •

[A001702] • 1,24,154,580,1665,4025,8624,16884,30810,53130,87450,138424,211939,315315,457520,649400,903924,1236444,1664970,2210460,2897125,3752749,4809024,6101900,7671950 ★ Generalized Stirling numbers. • a(n) = (1 / 48) * (n - 1) * n * (n + 1) * (n + 4) * (n ^ 2 + 7n + 14), n>1. •

[A288486] • 0,24,168,624,1680,3720,7224,12768,21024,32760,48840,70224,97968,133224,177240,231360,297024,375768,469224,579120,707280,855624,1026168,1221024,1442400 ★ Square rings obtained by adding four identical cuboids from A169938, a(n) = 4*n*(n+1)*(n*(n+1)+1). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A272125] • 0,1,24,171,704,2125,5256,11319,22016,39609,67000,107811,166464,248261,359464,507375,700416,948209,1261656,1653019,2136000,2725821,3439304,4294951,5313024 ★ a(n) = n^3*(2*n^2+1)/3. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A165187] • 1,24,180,800,2625,7056,16464,34560,66825,121000,207636,340704,538265,823200,1224000,1775616,2520369,3508920,4801300,6468000,8591121,11265584,14600400,18720000,23765625 ★ n^3*(n+1)^2*(n+2)/12. • a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). G.f.: - x * (1 + 17 * x + 33 * x ^ 2 + 9 * x ^ 3) / (x - 1) ^ 7. •

[A073993] • 0,0,0,24,180,1080,7056,48384,308448,1806624,10349856,60217344,356638464,2139830784,12940881408,78328332288,472093588224,2832561529344,16960580969472,101565116448768,608795590588416,3652649829734400,21926115464435712,131620960833896448 ★ Number of strings of length n over Z_6 with trace 3 and subtrace 4. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A128960] • 0,24,192,960,3840,13440,43008,129024,368640,1013760,2703360,7028736,17891328,44728320,110100480,267386880,641728512,1524105216,3586129920,8367636480,19377684480,44568674304,101871255552,231525580800 ★ a(n) = (n^3 - n)*2^n. • a(n) = 8 * a(n - 1) - 24 * a(n - 2) + 32 * a(n - 3) - 16 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[A066406] • 0,24,192,1248,7680,46464,279552,1678848,10076160,60463104,362790912,2176770048,13060669440,78364114944,470184886272,2821109710848,16926659051520,101559955881984,609359738437632,3656158436917248,21936950634086400,131621703829684224 ★ a(n) = 2^n*(3^n-3). • a(n) = 8 * a(n - 1) - 12 * a(n - 2). •

[A042114] • 24,193,9288,74497,3585144,28755649,1383856296,11099606017,534164945112,4284419166913,206186284956936,1653774698822401,79587371828432184,638352749326279873,30720519339489866088 ★ Numerators of continued fraction convergents to sqrt(582). • a(n) = 386 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 17 2013 •

[A123197] • 1,24,195,728,1935,4224,8099,14160,23103,35720,52899,75624,104975,142128,188355,245024,313599,395640,492803,606840,739599,893024,1069155,1270128,1498175 ★ (2*n+1)*(n+1)*(2*n^2+3*n-1). • a(n) - a(n - 1) = (4 *

n + 1) * (4 * n ^ 2 + 2 * n - 1). • a(0)= - 1, a(1)=24, a(2)=195, a(3)=728, a(4)=1935, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , May 29 2014 •

[A132458] • 0,0,0,1,24,200,1000,3675,10976,28224,64800,136125,266200,490776,861224,1449175,2352000,3699200,5659776,8450649,12346200,17689000,24901800,34500851,47110624 ⋆ Let df(n,k) = Product_{i=0..k-1} (n-i) be the descending factorial and let P(m,n) = df(n-1,m-1)^2*(2*n-m)/((m-1)!*m!). Sequence gives P(4,n). • a(n) = (n - 3) ^ 2 * (n - 2) ^ 3 * (n - 1) ^ 2 / 72. •

[A239574] • 0,1,24,200,1053,3932,11988,31298,73046,155880,310046,581414,1038634,1779531,2942114,4714412,7350595,11184786,16654116,24317554,34886940,49252544,68523846,94062350,127534794 ⋆ Number of non-equivalent (mod D_3) ways to place 4 indistinguishable points on a triangular grid of side n so that no two of them are adjacent. • a(n) = (n ^ 8 + 4 * n ^ 7 - 78 * n ^ 6 - 104 * n ^ 5 + 2556 * n ^ 4 - 3152 * n ^ 3 - 27280 * n ^ 2 + 89664 * n - 78336) / 2304 + IF(n == 1 mod 2) * (28 * n ^ 3 - 54 * n ^ 2 - 160 * n + 129) / 768 + IF(n == 1 mod 3) * (n ^ 2 + n - 14) / 18. •

[A047659] • 0,0,0,0,24,204,1024,3628,10320,25096,54400,107880,199400,348020,579264,926324,1431584,2148048,3141120,4490256,6291000,8656860,11721600,15641340,20597104 ⋆ Number of ways to place 3 nonattacking queens on an n X n board. • a(n) = n(n - 2) ^ 2(2n ^ 3 - 12n ^ 2 + 23n - 10) / 12 if n is even and (n - 1)(n - 3)(2n ^ 4 - 12n ^ 3 + 25n ^ 2 - 14n + 1) / 12 if n is odd (Landau, 1896). • a(n) = 5a(n - 1) - 8a(n - 2) + 14a(n - 4) - 14a(n - 5) + 8a(n - 7) - 5a(n - 8) + a(n - 9) for n >= 9. • a(0)=0, a(1)=0, a(2)=0, a(3)=0, a(4)=24, a(5)=204, a(6)=1024, a(7)=3628, a(8)=10320, a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 14 * a(n - 4) - 14 * a(n - 5) + 8 * a(n - 7) - 5 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Nov 06 2011 • a(n) = n ^ 6 / 6 - 5 * n ^ 5 / 3 + 79 * n ^ 4 / 12 - 25 * n ^ 3 / 2 + 11 * n ^ 2 - 43 * n / 12 + 1 / 8 + (- 1) ^ n * (n / 4 - 1 / 8) [Chaiken et al.]. - _ N. J. A. Sloane _ , Feb 16 2013 • a(n) = (3 * (2 * n - 1) * (- 1) ^ n + 4 * n ^ 6 - 40 * n ^ 5 + 158 * n ^ 4 - 300 * n ^ 3 + 264 * n ^ 2 - 86 * n + 3) / 24. - _ Antal Pinter _ , Oct 03 2014 •

[A133754] • 0,0,24,216,960,3000,7560,16464,32256,58320,99000,159720,247104,369096,535080,756000,1044480,1414944,1883736,2469240,3192000,4074840,5142984,6424176,7948800 ⋆ a(n) = n^5 - n^3. • a(n) = 12 * n * (2 * binomial(n + 2,4) - binomial(n + 1,3)). - _ Gary Detlefs _ , Mar 25 2012 •

[A042112] • 24,217,241,458,699,1157,1856,6725,75831,82556,323499,729554,4700823,10131200,35094423,45225623,532576276,1642954451,2175530727,3818485178,5994015905,9812501083,15806516988 ⋆ Numerators of continued fraction convergents to sqrt(581). • a(n) = 304142307950 * a(n - 24) - a(n - 48) for n> 47. [_ Bruno Berselli _ , Nov 17 2013] •

[A213560] • 1,24,236,1400,6009,20608,59952,153792,357225,765688,1535820,2913560,5270993,9153600,15339712,24914112,39357873,60656664,91429900,135083256,195987209,279684416,393128880,544960000,745814745 ⋆ Antidiagonal sums of the convolution array A213558. • a(n) = n * (1 + n) ^ 2 * (2 + n) * (16 + 18 * n + 21 * n ^ 2 + 12 * n ^ 3 + 3 * n ^ 4) / 840. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[A192491] • 24,240,864,2112,4200,7344,11760,17664,25272,34800,46464,60480,77064,96432,118800,144384,173400,206064,242592,283200,328104,377520,431664,490752,555000 ⋆ Molecular topological indices of the complete tripartite graphs K_{n,n,n} • a(n) = 12 * n ^ 2 * (3 * n - 1). •

[A167548] • 24,240,960,2688,6144,12264,22200,37320,59208,89664,130704,184560,253680,340728,448584,580344,739320,929040,1153248,1415904,1721184,2073480,2477400,2937768,3459624 ⋆ The fifth row of the ED1 array A167546 • a(n) = 9 * n ^ 4 - 6 * n ^ 3 + 63 * n ^ 2 - 66 * n + 24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ G. C. Greubel _ , Jun 15 2016 •

[A192849] • 0,0,24,240,1080,3360,8400,18144,35280,63360,106920,171600,264264,393120,567840,799680,1101600,1488384,1976760,2585520,3335640,4250400,5355504,6679200,8252400 ⋆ Molecular topological indices of the triangular graphs. • a(n) = (- 2 + n) ^ 2 * n * (- 1 + n ^ 2). •

[A253285] • 0,24,240,1200,4200,11760,28224,60480,118800,217800,377520,624624,993720,1528800,2284800,3329280,4744224,6627960,9097200,12289200,16364040,21507024,27931200,35880000,45630000 ⋆ a(n) = RF(n+1,3)*C(n+2,n-1), where RF(a,n) is the rising factorial. • a(n) = ((n + 1) * (n + 2)) ^ 2 * (n + 3) * n / 6. • a(n) = (N ^ 3 + 4 * N ^ 2 + 4 * N) / 6 with N = n ^ 2 + 3 * n. •

[A052796] • 0,0,0,0,24,240,1440,6720,26880,96768,322560,1013760,3041280,8785920,24600576,67092480,178913280,467927040,1203240960,3048210432,7620526080,18827182080,46022000640,111421685760,267412045824 ⋆ E.g.f.: x^4*exp(x) • a(n) = (n - 3) * (n - 2) * (n - 1) * n * 2 ^ (n - 4). - _ Vaclav Kotesovec _ , Nov 27 2012 •

[A052520] • 0,0,0,0,24,240,2160,20160,201600,2177280,25401600,319334400,4311014400,62270208000,958961203200,15692092416000,271996268544000,4979623993344000,96035605585920000,1946321606541312000 ⋆ Number of pairs of sequences of cardinality at least 2. • a(n) = (n - 3) * n!, n>2. • a(n) = (n + 1)! * (n - 3) / (n + 1), n>2. [_ Gary Detlefs _ , Oct 02 2011] •

[A126904] • 1,24,264,1800,8736,32952,102744,276648,663744,1451736,2944104,5607624,10131552,17499768,29077176,46711656,72852864,110689176,164304072,238853256,340763808,477956664,660093720,898850856,1208218176 ⋆ Coordination sequence for 8-dimensional cyclotomic lattice Z[zeta_24]. • a(0)=1, a(1)=24, a(2)=264, a(3)=1800, a(4)=8736, a(5)=32952, a(6)=102744, a(7)=276648, a(8)=663744, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) [From Harvey P. Dale, Apr 09 2012] •

[A000915] • 24,274,1624,6769,22449,63273,157773,357423,749463,1474473,2749747,4899622,8394022,13896582,22323822,34916946,53327946,79721796,116896626,168423871,238810495,333685495,460012995,626334345,843041745 ⋆ Stirling numbers of first kind s(n+4, n). • a(n) = binomial(n + 4, 5) * (15 * n ^ 3 + 150 * n ^ 2 + 485 * n + 502) / 48. - _ André F. Labossière _ , Sep 30 2004 •

[A014809] • 1,24,276,2048,11178,48576,177400,565248,1612875,4200352,10131156,22892544,48897678,99448320,193740408,363315200,658523925,1157743824,1980143600,3303168000,5386270686,8602175744,13477895856,20748607488,31425764410 ⋆ Expansion of Jacobi theta constant (theta_2/2)^24. • a(n) = 1 / 72 * Sum _{ a, b, x, y > 0, a * x + b * y = n + 3, x == y == 1 mod 2 and a > b } (a * b) ^ 3 * (a ^ 2 - b ^ 2) ^ 2. - _ Seiichi Manyama _ , May 05 2017 •

[A001496] • 1,24,282,2008,10147,40176,132724,381424,981541,2309384,5045326,10356424,20158151,37478624,66952936,115479776,193077449,313981688,498033282,772409528,1173759851,1750812624,2567527260,3706873040 ⋆ Number of 4 X 4 matrices with nonnegative integer entries and row and column sums equal to n. • a(n) = binomial(n + 3, 3) + 20 * binomial(n + 4, 5) + 152 * binomial(n + 5, 7) + 352 * binomial(n + 6, 9). [Equivalent to a formula given by Bell]. •

[A035475] • 1,24,288,2312,14016,68664,288096,1071912,3600768,11036504,31125408,81412680,199013440,457923960,998269920,2073758312,4126016256,7897561752,14598964768,26150436744,45523755456,77217221304,127904389728 ⋆ Coordination sequence for lattice D*_12 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=12. •

[A086941] • 24,294,2994,29994,299994,2999994,29999994,299999994,2999999994,29999999994,299999999994,2999999999994,29999999999994,299999999999994,2999999999999994,29999999999999994,299999999999999994 ⋆ a(n) = k where R(k+6)=3. • a(n) = 3 * (10 ^ n - 2) •

[A128598] • 1,24,297,3210,32510,318171,3054100,28980565,273077443,2562036673,23973009386,223949654108,2090070431683,19496003736658,181815760387221,1695523268254637,15813185728272754,147508341317700463 ⋆ Column 3 of triangle A128596; a(n) = coefficient of q^(3n+9) in the q-analog of the even double factorials (2n+6)!! for n>=0. • a(n) = [q ^ (3n + 9)] Product _{ j=1..n + 3 } (1 - q ^ (2j)) / (1 - q) for n>=0. •

[A073990] • 0,0,0,24,300,1800,9072,48384,272160,1594080,9722592,60217344,367960320,2207761920,13144674816,78328332288,468419708160,2810518248960,16894457846784,101565116448768,609985806796800,3659790885120000,21947538146863104,131620960833896448 ⋆ Number of strings of length n over Z_6 with trace 3 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A010976] • 1,24,300,2600,17550,98280,475020,2035800,7888725,28048800,92561040,286097760,834451800,2310789600,6107086800,15471286560,37711260990,88732378800,202112640600,446775310800,960566918220,2012616400080,4116715363800,8233430727600 ⋆ Binomial coefficient C(n,23). • a(n) = n / (n - 23) * a(n - 1) for n > 23. - _ Vincenzo Librandi _ , Mar 26 2011 •

[A168303] • 24,308,2236,11640,47753,163419,485121,1284987,3101175,6927921,14502059,28718989,54217878,98183330,171418854,289756194,475873962,761609034,1190854830,1823151902,2738088199,4040638965,5867589455,8395197525,11848267665 ⋆ The fifth left hand column of triangle A167552. • a(n) = (642 * n ^ 9 - 13833 * n ^ 8 + 132840 * n ^ 7 - 726642 * n ^ 6 + 2439738 * n ^ 5 - 5133177 * n ^ 4 + 6699660 * n ^ 3 - 5194188 * n ^ 2 + 2157840 * n - 362880) / 9! • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). • a(n) - 9 * a(n - 1) + 36 * a(n - 2) - 84 * a(n - 3) + 126 * a(n - 4) - 126 * a(n - 5) + 84 * a(n - 6) - 36 * a(n - 7) + 9 * a(n - 8) - a(n - 9) = 2 * 321. •

[A290939] • 0,0,24,312,1584,5376,14448,33264,68544,129888,230472,387816,624624,969696,1458912,2136288,3055104,4279104,5883768,7957656,10603824,13941312,18106704,23255760,29565120 ⋆ Number of 5-cycles in the n-triangular graph. • a(n) = 12 / 5 * binomial(n, 4) * (n ^ 2 + 7 * n - 34). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A069779] • 1,24,315,2080,8925,29016,77959,182400,384345,746200,1356531,2336544,3847285,6097560,9352575,13943296,20276529,28845720,40242475,55168820,74450061,99048664,130078455,168819840,216735625 ⋆ q-factorial numbers 4!_q. • a(n) = (n + 1) * (n ^ 2 + n + 1) * (n ^ 3 + n ^ 2 + n + 1). •

[A199301] • 1,24,320,3584,36864,360448,3407872,31457280,285212672,2550136832,22548578304,197568495616,1717986918400,14843406974976,127543348822016,1090715534753792,9288674231451648,78812993478983680,666532744850833408,5620492334958379008 ⋆ (2n+1)*8^n. • a(n) = 16 * a(n - 1) - 64 * a(n - 2). • a(n) = 8 * (a(n - 1) + 2 ^ (3 * n - 2)). - _ Vincenzo Librandi _ , Nov 05 2011 •

[A289706] • 0,0,24,324,1692,5796,15516,35388,71988,134460,234972,389304,617400,943992,1399272,2019528,2847960,3935304,5340816,7132860,9390084,12201948,15670116,19908900,25046892 ⋆ Number of 5-cycles in the n-triangular honeycomb queen graph. • a(n) = (1095 - 4770 * n + 934 * n ^ 2 + 4680 * n ^ 3 - 3170 * n ^ 4 + 540 * n ^ 5 + • a(n) = 4 * a(n - 1) - 3 * a(n - 2) - 8 * a(n - 3) + 14 * a(n - 4) - 14 * a(n - 6) + 8 * a(n - 7) + 3 * a(n - 8) - 4 * a(n - 9) + a(n - 10). •

[A036221] • 1,24,324,3240,26730,192456,1250964,7505784,42220035,22517352

0,1148384952,5637526128,26778249108,123591918960,556163635320,2447119995408,10553204980197,44695926974952,186233029062300 ⋆ Expansion of 1/(1-3*x)^8; 8-fold convolution of A000244 (powers of 3). • a(n) = 3 ^ n * binomial(n + 7, 7); G.f. 1 / (1 - 3 * x) ^ 8. •

[A292298] • 0,0,0,0,24,324,3600,38148,398112,4132596,42818208,443356212,4589665248,47509091508,491769434400,5090291998452,52689326584800,545383755284532,5645229662006688,58433377222329972,604839778633231200,6260653947359090868,64803587809297981728 ⋆ Sum of values of vertices of type D at level n of the hyperbolic Pascal pyramid. • a(n) = 18 * a(n - 1) - 99 * a(n - 2) + 226 * a(n - 3) - 224 * a(n - 4) + 92 * a(n - 5) - 12 * a(n - 6), n >= 7. •

[A045543] • 1,24,336,3584,32256,258048,1892352,12976128,84344832,524812288,3148873728,18320719872,103817412608,574988746752,3121367482368,16647293239296,87398289506304,452414675091456,2312341672689664 ⋆ 6-fold convolution of A000302 (powers of 4); expansion of 1/(1-4*x)^6. • a(n) = binomial(n + 5, 5) * 4 ^ n. •

[A004325] • 1,24,351,4060,40920,376992,3262623,26978328,215553195,1677106640,12777711870,95722852680,707285522580,5166863427600,37387265592825,268367258592576,1913212193400684,13559593014190944 ⋆ Binomial coefficient C(3n,n-7). • a(n + 1) = (3 * (3 * n + 1)) * (3 * n + 2) * (n + 1) / ((2 * (n + 4)) * (2 * n + 9) * (n - 6)) * a(n). •

[A081144] • 0,0,0,1,24,360,4320,45360,435456,3919104,33592320,277136640,2217093120,17293326336,132058128384,990435962880,7313988648960,53287631585280,383670947414016,2733655500324864,19296391766999040,135074742368993280 ⋆ Starting at 1, four-fold convolution of A000400 (powers of 6). • a(n) = 24 * a(n - 1) - 216 * a(n - 2) + 864 * a(n - 3) - 1296 * a(n - 4) for n > 3, a(0) = a(1) = a(2) = 0, a(3) = 1. • a(n) = 6 ^ (n - 3) * binomial(n, 3). •

[A028115] • 1,24,365,4500,49161,496944,4762885,43939500,394061921,3459033864,29862674205,254461580100,2145767540281,17942499698784,149003957062325,1230427665726300,10112939149988241,82793883946939704 ⋆ Expansion of 1/((1-4x)(1-5x)(1-7x)(1-8x)). • a(n)=(8 ^ (n + 3) - 2 * 7 ^ (n + 3) + 2 * 5 ^ (n + 3) - 4 ^ (n + 3)) / 12. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028074] • 1,24,367,4566,50449,516348,5012659,46832082,425124997,3774414072,32930084551,283309497198,2409910756345,20309449295796,169843460626843,1411263104458314,11663354948539693,95953443568179120 ⋆ Expansion of 1/((1-3x)(1-6x)(1-7x)(1-8x)). • a(n)=(6 * 8 ^ (n + 3) - 15 * 7 ^ (n + 3) + 10 * 6 ^ (n + 3) - 3 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028111] • 1,24,367,4578,50953,528612,5239459,50371926,474339085,4403719320,40486113031,369718215594,3360676724497,30451202305548,275320935296683,2485597397873982,22417376221672789,202042129817685696 ⋆ Expansion of 1/((1-4x)(1-5x)(1-6x)(1-9x)). • a(0)=1, a(1)=24, a(2)=367, a(3)=4578, a(n)=24 * a(n - 1) - 209 * a(n - 2) + 786 * a(n - 3) - 1080 * a(n - 4). - _ Harvey P. Dale _ , May 08 2013 • a(n)=(9 ^ (n + 3) - 10 * 6 ^ (n + 3) + 3 * 5 ^ (n + 4) - 6 * 4 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 11 2013] •

[A168304] • 24,368,2736,13712,53121,171258,480711,1210572,2793219,5996562,12117677,23257104,42696758,75408396,128723898,213203256,343741122,540958044,832928118,1257300704,1863880095,2717733590,3902905305,5526820260,7725470805 ⋆ The fifth left hand column of triangle A167565. • a(n) = (321 * n ^ 9 - 4500 * n ^ 8 + 25506 * n ^ 7 - 75096 * n ^ 6 + 121905 * n ^ 5 - 104580 * n ^ 4 + 2736 * n ^ 2 + 37164 * n ^ 3 - 3456 * n) / 9!. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). • a(n) - 9 * a(n - 1) + 36 * a(n - 2) - 84 * a(n - 3) + 126 * a(n - 4) - 126 * a(n - 5) + 84 * a(n - 6) - 36 * a(n - 7) + 9 * a(n - 8) - a(n - 9) = 321. •

[A028060] • 1,24,370,4680,53011,560784,5670820,55595760,533237221,5034115944,46976235670,434592270840,3994583040631,36537064953504,332949559310920,3025434129325920,27431505237783241,248303640811921464 ⋆ Expansion of 1/((1-3x)(1-5x)(1-7x)(1-9x)). • a(n)=(9 ^ (n + 3) - 3 * 7 ^ (n + 3) + 3 * 5 ^ (n + 3) - 3 ^ (n + 3)) / 48. [_ Yahia Kahloune _ , Jun 08 2013] • a(0)=1, a(1)=24, a(2)=370, a(3)=4680, a(n)=24 * a(n - 1) - 206 * a(n - 2) + 744 * a(n - 3) - 945 * a(n - 4). - _ Harvey P. Dale _ , Jun 07 2015 •

[A026326] • 1,24,373,4776,54853,588408,6028741,59809992,579668485,5521782552,51920105029,483393574248,4466595742597,41031327740856,375223258308037,3419303762715144,31074026594864389,281793678455877720 ⋆ Expansion of 1/((1-2x)(1-6x)(1-7x)(1-9x)). • a(n) = - 2 * 2 ^ n / 35 + 18 * 6 ^ n - 343 * 7 ^ n / 10 + 243 * 9 ^ n / 14. _ R. J. Mathar _ , Jun 23 2013 •

[A028043] • 1,24,373,4788,55321,599088,6215581,62589516,616742401,5979165192,57244372549,542670685284,5103872340841,47693804106336,443316920660077,4102438007485692,37822644890460241,347609494930910520 ⋆ Expansion of 1/((1-3x)(1-4x)(1-8x)(1-9x)). • a(n)=(2 * 9 ^ (n + 3) - 3 * 8 ^ (n + 3) + 3 * 4 ^ (n + 3) - 2 * 3 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 07 2013] •

[A028056] • 1,24,373,4800,55861,613224,6497893,67364880,688931221,6985860024,70462212613,708365604960,7106726476981,71208736700424,712951450202533,713477527363704 0,713796987711971 41,713990571075854424 ⋆ Expansion of 1/((1-3x)(1-5x)(1-6x)(1-10x)). • a(n)=(3 * 10 ^ (n + 3) - 35 * 6 ^ (n + 3) + 42 * 5 ^ (n + 3) - 10 * 3 ^ (n + 3)) / 420. [_ Yahia Kahloune _ , Jun 08 2013] •

[A025997] • 1,24,375,4850,56481,616164,6434155,65146950,644889861,6275802104,60272841135,572861926650,5399415089641,50546032304844,470534835243315,4359828735795950,40238834684119821,370153792218396384 ⋆ Expansion of 1/((1-2x)(1-5x)(1-8x)(1-9x)). • a(n) = - 4 * 2 ^ n / 63 + 125 * 5 ^ n / 36 - 256 * 8 ^ n / 9 + 729 * 9 ^ n / 28. _ R. J. Mathar _ , Jun 20 2013 •

[A028040] • 1,24,375,4870,57321,636924,6829435,71574690,738951741,7552940824,76677389295,774826006110,7804690367761,78442179476724,787189784753955,7891278029367130,79048458617193381,791434402768644624 ⋆ Expansion of 1/((1-3x)(1-4x)(1-7x)(1-10x)). • a(n)=(2 * 10 ^ (n + 3) - 7 ^ (n + 4) + 14 * 4 ^ (n + 3) - 3 ^ (n + 5)) / 252. [_ Yahia Kahloune _ , Jun 07 2013] •

[A025994] • 1,24,377,4932,58485,654192,7053313,74243004,769050029,7880095080,80144389689,810929347956,8176098535333,82230655243488,825604414181105,8279180036642988,82954005943360797,830676770037792216 ⋆ Expansion of 1/((1-2x)(1-5x)(1-7x)(1-10x)). • a(n) = - 2 ^ n / 15 + 25 * 5 ^ n / 6 - 343 * 7 ^ n / 30 + 25 * 10 ^ n / 3. _ R. J. Mathar _ , Jun 20 2013 •

[A023954] • 1,24,379,4974,58825,651228,6891463,70602378,706070629,6931922712,67078160227,641665645062,6081300568513,57197856053076,534603948966271,4970585718586626,46011858222290077,424339730032027920 ⋆ Expansion of 1/((1-x)(1-6x)(1-8x)(1-9x)). • a(n) = (35 * 9 ^ (n + 3) - 60 * 8 ^ (n + 3) + 28 * 6 ^ (n + 3) - 3) / 840. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=24, a(2)=379, a(3)=4974; for n>3, a(n) = 24 * a(n - 1) - 197 * a(n - 2) + 606 * a(n - 3) - 432 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 •

[A028036] • 1,24,379,5034,61345,713988,8103223,90690558,1007169229,11137289592,122864771107,1353656241522,14903146727353,164012446077036,1804604958697231,19853467108689126,218405030624426917 ⋆ Expansion of 1/((1-3x)(1-4x)(1-6x)(1-11x)). • a(n)=(3 * 11 ^ (n + 3) - 28 * 6 ^ (n + 3) + 60 * 4 ^ (n + 3) - 35 * 3 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , May 31 2013] •

[A025977] • 1,24,380,5040,60816,693504,7625920,81818880,862797056,8985360384,92714818560,950046289920,9683681284096,98302694129664,994754528460800,10041368129372160,101164272641703936,1017647491560505344 ⋆ Expansion of 1/((1-2x)(1-4x)(1-8x)(1-10x)). • a(0)=1, a(1)=24, a(2)=380, a(3)=5040, a(n)=24 * a(n - 1) - 196 * a(n - 2) + 624 * a(n - 3) - 640 * a(n - 4). - _ Harvey P. Dale _ , Dec 23 2012 • a(n) = - 2 ^ n / 12 + 4 * 4 ^ n / 3 - 32 * 8 ^ n / 3 + 125 * 10 ^ n / 12. _ R. J. Mathar _ , Jun 20 2013 •

[A023951] • 1,24,381,5056,60837,689640,7521277,79922832,834214293,8599137976,87862904493,892165074528,9019015091269,90887374167432,913848341454429,9173869834986544,91989788624850165,921675830164728408 ⋆ Expansion of 1/((1-x)(1-6x)(1-7x)(1-10x)). • a(n) = (5 * 10 ^ (n + 3) - 30 * 7 ^ (n + 3) + 27 * 6 ^ (n + 3) - 2) / 540. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=24, a(2)=381, a(3)=5056; for n>3, a(n) = 24 * a(n - 1) - 195 * a(n - 2) + 592 * a(n - 3) - 420 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A025990] • 1,24,381,5096,62517,731640,8337757,93583752,1041282693,11528533016,127276678893,1402901740968,15449475687829,170051606288952,1871222084030589,20587420276057544,226485741460066725,2491489138167004248,27407262770303269645 ⋆ Expansion of 1/((1-2x)(1-5x)(1-6x)(1-11x)). • a(n) = (1 / 270) * (1331 * 11 ^ n - 2916 * 6 ^ n + 1875 * 5 ^ n - 20 * 2 ^ n). - _ R. J. Mathar _ , Jun 20 2013 • a(n) = 24 * a(n - 1) - 195 * a(n - 2) + 632 * a(n - 3) - 660 * a(n - 4) for n > 3. - _ Wesley Ivan Hurt _ , Jan 05 2017 •

[A022565] • 1,24,383,5130,62481,718164,7948003,85708590,907402661,9479002104,98042032023,1007389659441,10473896592441,104411869082844,10575095 45490443,106822604391731 10,107680115000743821 ⋆ Expansion of 1/((1-x)*(1-5*x)*(1-8*x)*(1-10*x)). • a(n) = (14 * 10 ^ (n + 3) - 30 * 8 ^ (n + 3) + 21 * 5 ^ (n + 3) - 5) / 1260. - _ Yahia Kahloune _ , Jul 01 2013 • a(0)=1, a(1)=24, a(2)=383, a(3)=5130; for n>3, a(n) = 24 * a(n - 1) - 193 * a(n - 2) + 570 * a(n - 3) - 400 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A025974] • 1,24,383,5166,63993,756108,8690611,98243322,1099333565,12223792152,135381670359,1495646457318,16497281164417,181786417955556,2001865410394427,22036025351972754,242504828325007749 ⋆ Expansion of 1/((1-2x)(1-4x)(1-7x)(1-11x)). • a(n) = - 4 * 2 ^ n / 45 + 32 * 4 ^ n / 21 - 343 * 7 ^ n / 60 + 1331 * 11 ^ n / 252. _ R. J. Mathar _ , Jun 20 2013 •

[A228406] • 0,24,384,2064,7104,18984,43008,86688,160128,276408,451968,706992,1065792,1557192,2214912,3077952,4190976,5604696,7376256,9569616,12255936,15513960,19430400,24100320,29627520 ⋆ Sequences from the quartic oscillator. • a(n) = (n + 1) * (n + 2) * (n + 3) * (4 + 44 * n / 5 + 16 * n ^ 2 / 5). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Wesley Ivan Hurt _ , Oct 24 2014 •

[A087292] • 0,24,384,4056,38400,351384,3179904,28671576,258201600,2324286744,20919997824,188284231896,1694570841600,15251175838104,137260697334144,1235346620381016,11118120616550400,100063088648317464,900567807132948864,8105110292090814936 ⋆ Number of pairs of polynomials (f,g) in GF(3)[x] satisfying 1<=deg(f) <=n, 1<=deg(g) <= n and gcd(f,g) = 1. • a(n) = 6 * (3 ^ n - 1) ^ 2. •

[A081138] • 0,0,1,24,384,5120,61440,688128,7340032,75497472,754974720,7381975040,70866960384,670014898176,6253472382976,57724360458240,527765581332480,4785074604081152,43065671436730368,385057768140177408 ⋆ 8th binomial transform of (0,0,1,0,0,0,...). • a(n) = 24 * a(n - 1) - 192 * a(n - 2) + 512 * a(n - 3) for n>2, a(0)=a(1)=0, a(2)=1. • a(n) = 8 ^ (n - 2) * binomial(n, 2). •

[A020782] • 1,24,385,5160,62401,706104,7628545,79669320,810888001,8089258584,79415935105,769621605480,7379461252801,70134974713464,661651583000065,6203106293141640,57847125937972801,537010118353326744 ⋆ Expansion of 1/((1-7x)(1-8x)(1-9x)). • a(n) = 24 * a(n - 1) - 191 * a(n - 2) + 504 * a(n - 3), n>=3. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 7 ^ n, n>=2. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = 7 ^ (n + 2) / 2 - 8 ^ (n + 2) + 9 ^ (n + 2) / 2. - _ R. J. Mathar _ , Mar 15 2011 •

[A025952] • 1,24,385,5220,64741,760944,8633305,95554140,1038550381,11132642664,118050851425,1241028864660,12954973386421,134451901289184,1388638534032745,14283461073576780,146408292464020861 ⋆ Expansion of 1/((1-2x)(1-3x)(1-9x)(1-10x)). • a(n) = - 2 ^ n / 7 + 9 * 3 ^ n / 14 - 243 * 9 ^ n / 14 + 125 * 10 ^ n / 7. - _ R. J. Mathar _ , Jun 20 2013 •

[A028031] • 1,24,385,5280,67441,833064,10129825,122282160,1471249681,176

75304504,212209212865,2547054594240,30567440844721,366823482358344,4401953808801505,52823810060045520,633887559543412561 ⋆ Expansion of 1/((1-3x)(1-4x)(1-5x)(1-12x)). ● a(0)=1, a(1)=24, a(2)=385, a(3)=5280, a(n)=24 * a(n - 1) - 191 * a(n - 2) + 624 * a(n - 3) - 720 * a(n - 4). [_ Harvey P. Dale _ , Jul 15 2012] ● a(n)=(12 ^ (n + 3) - 36 * 5 ^ (n + 3) + 63 * 4 ^ (n + 3) - 28 * 3 ^ (n + 3)) / 504. [_ Yahia Kahloune _ , May 30 2013] ●

[A022455] ● 1,24,386,5256,65667,781200,9024772,102391152,1148621573,12793511016,141851544198,1568288482488,17306928957319,190768033959072,2101198710944264,23132476329120864,254592463916330505 ⋆ Expansion of 1/((1-x)*(1-5*x)*(1-7*x)*(1-11*x)). ● a(0)=1, a(1)=24, a(2)=386, a(3)=5256; for n >3, a(n) = 24 * a(n - 1) - 190 * a(n - 2) + 552 * a(n - 3) - 385 * a(n - 4). - _ Harvey P. Dale _ , Feb 25 2012 ● a(n) = 1 / 240 * (- 1 + 5 ^ (3 + n) - 5 * 7 ^ (2 + n) + 11 ^ (2 + n)). _ Harvey P. Dale _ , Feb 25 2012 ●

[A021954] ● 1,24,387,5278,65793,776412,8835919,98027226,1067371965,11457966520,121639285131,1279935023094,13371252146617,138859728185748,1434922500247623,14766153399643282,151413895297559349 ⋆ Expansion of 1/((1-x)(1-4x)(1-9x)(1-10x)). ● a(n) = (2 * 10 ^ (n + 4) - 3 * 9 ^ (n + 4) + 3 * 4 ^ (n + 4) - 5) / 1080. - _ Yahia Kahloune _ , Jul 05 2013 ●

[A025950] ● 1,24,387,5306,66969,806148,9425599,108151662,1225448037,13766224472,153719012811,1709234017218,18948174785905,209602732183596,2315012544644823,25540197959076374,281542657422715773 ⋆ Expansion of 1/((1-2x)(1-3x)(1-8x)(1-11x)). ● a(n) = - 4 * 2 ^ n / 27 + 27 * 3 ^ n / 40 - 256 * 8 ^ n / 45 + 1331 * 11 ^ n / 216. - _ R. J. Mathar _ , Jun 20 2013 ●

[A020584] ● 1,24,388,5280,65296,760704,8515648,92705280,989122816,10397865984,108092228608,1114193633280,11410283892736,116262680100864,1179983894560768,11939165879009280,120509095367213056 ⋆ Expansion of 1/((1-6x)(1-8x)(1-10x)). ● a(n) = 9 * 6 ^ n / 2 - 16 * 8 ^ n + 25 * 10 ^ n / 2. - _ R . J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=24, a(2)=388; for n>2, a(n) = 24 * a(n - 1) - 188 * a(n - 2) + 480 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 ● a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 ●

[A025970] ● 1,24,388,5376,69328,862848,10547776,127767552,1540506880,18530383872,222632510464,2673205936128,32088199647232,385116900458496,4621754370506752,55463163983560704,665570645617475584 ⋆ Expansion of 1/((1-2x)(1-4x)(1-6x)(1-12x)). ● a(n) = - 2 ^ n / 10 + 2 * 4 ^ n / 1 - 9 * 6 ^ n / 2 + 18 * 12 ^ n / 5. _ R. J. Mathar _ , Jun 20 2013 ● a(0)=1, a(1)=24, a(2)=388, a(3)=5376, a(n)=24 * a(n - 1) - 188 * a(n - 2) + 576 * a(n - 3) - 576 * a(n - 4). - _ Harvey P. Dale _ , May 24 2015 ●

[A021924] ● 1,24,389,5364,68025,821808,9633613,110741388,1256415809,14127007752,157849954197,1755978039972,19472809159753,215457395996256,2380083675784541,26261340423891516,289518110311522257 ⋆ Expansion of 1/((1-x)(1-4x)(1-8x)(1-11x)). ● a(0)=1, a(1)=24, a(2)=389, a(3)=5364, a(n)=24 * a(n - 1) - 187 * a(n - 2) + 516 * a(n - 3) - 352 * a(n - 4). - _ Harvey P. Dale _ , Dec 27 2012 ● a(n) = (14 * 11 ^ (n + 3) - 35 * 8 ^ (n + 3) + 35 * 4 ^ (n + 3) - 14) / 2940. [_ Yahia Kahloune _ , Jul 05 2013] ●

[A020494] ● 1,24,391,5394,67921,808164,9257851,103242534,1128792181,12157176504,129404822911,1364594578074,14281107062041,148528742855244,1536752582181571,15830742722056014,162476531910613501 ⋆ Expansion of 1/((1-5x)(1-9x)(1-10x)). ● a(n) = 5 * 5 ^ n / 4 - 81 * 9 ^ n / 4 + 20 * 10 ^ n. - _ R . J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=24, a(2)=391; for n>2, a(n) = 24 * a(n - 1) - 185 * a(n - 2) + 450 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[A020573] ● 1,24,391,5406,68497,824460,9612667,109824522,1238345653,13843811256,153896453503,1704525493398,18833608743769,207769555090212,2289742482517699,25217579128356834,277609074266467645 ⋆ Expansion of 1/((1-6x)(1-7x)(1-11x)). ● a(n) = 36 * 6 ^ n / 5 - 49 * 7 ^ n / 4 + 121 * 11 ^ n / 20 . - _ R. J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=24, a(2)=391; for n>2, a(n) = 24 * a(n - 1) - 185 * a(n - 2) + 462 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 ● a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 ●

[A025947] ● 1,24,391,5478,71449,898044,11063179,134771010,1631361325,19675158360,236793832639,2846370045246,34190350504129,410521580544372,4927920602312371,59146678721188986,709841565237360661 ⋆ Expansion of 1/((1-2x)(1-3x)(1-7x)(1-12x)). ● a(n) = - 7 ^ (n + 3) / 100 + 96 * 12 ^ n / 25 + 3 ^ (n + 1) / 4 - 2 ^ (n + 2) / 25; - _ R. J. Mathar _ , May 22 2013 ●

[A007752] ● 1,24,391,6240,99457,1585080,25261831,402604224,6416405761,102259887960,1629741801607,25973608937760,413948001202561,6597194410303224,105141162563649031,1675661406608081280 ⋆ Odd bisection of A007750. ● a(n)= - 4 / 7 + (11 / 14) * [8 - 3 * sqrt(7)] ^ n + (11 / 14) * [8 + 3 * sqrt(7)] ^ n + (2 / 7) * sqrt(7) * [8 + 3 * sqrt(7)] ^ n - (2 / 7) * [8 - 3 * sqrt(7)] ^ n * sqrt(7), with n>=0 - _ Paolo P. Lava _ , Jun 19 2008 ●

[A145602] ● 1,24,392,5760,81675,1145144,16032016,225059328,3173688180,44986664800,641087516256,9183622822400,132211882468575,1912322889603000,27781440618420000,405248874740582400,5933888308457316900 ⋆ a(n) is the number of walks from (0,0) to (0,3) that remain in the upper half-plane y >= 0 using 2*n +1 unit steps either up (U), down (D), left (L) or right (R). ● a(n) = 2 / (n + 1) * binomial(2 * n + 2,n + 3) * binomial(2 * n + 2,n - 1). ●

[A020447] ● 1,24,393,5480,70161,853944,10066393,116192520,1322205921,14898923864,166735197993,1856912289960,20608880226481,228161663489784,2521496249891193,27830232878409800,306882907287251841 ⋆ Expansion of 1/((1-5x)(1-8x)(1-11x)). ● a(n) = 25 * 5 ^ n / 18 - 64 * 8 ^ n / 9 + 121 * 11 ^ n / 18. - _ R. J. Mathar _ , Jun 29 2013 ● a(0)=1, a(1)=24, a(2)=393; for n>2, a(n) = 24 * a(n - 1) - 183 * a(n - 2) + 440 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[A021894] ● 1,24,393,5536,72513,914088,11282041,137597232,1666743345,20110305592,242090763369,2910464426688,34963222353697,419822302356936,5039713424985177,60489483108391504,725964257087306769 ⋆ Expansion of 1/((1-x)(1-4x)(1-7x)(1-12x)). ● a(n) = (9 * 12 ^ (n + 3) - 44 * 7 ^ (n + 3) + 55 * 4 ^ (n + 3) - 20) / 3960. [_ Yahia Kahloune _ , Jul 05 2013] ●

[A021694] ● 1,24,394,5544,71995,891408,10701748,125788848,1456313749,16673208552,189289198462,2135136588312,23963101915663,267883518461856,2985323286760936,33185997429018336,368172943255604137 ⋆ Expansion of 1/((1-x)(1-3x)(1-9x)(1-11x)). ● a(n) = - 1 / 160 + 3 ^ (n + 2) / 32 - 3 ^ (2n + 5) / 32 + 11 ^ (n + 3) / 160. [_ Bruno Berselli _ , May 07 2013] ●

[A019687] ● 1,24,397,5628,73513,914112,11008549,129690276,1504024705,17241418920,195930981181,2211723344844,24837316537177,277785786712848,3096821665511893,34435641499407732,382127489397444529,4233421296687394296,46837804552120354285 ⋆ Expansion of 1/((1-4x)(1-9x)(1-11x)). ● a(n) = 4 ^ (n + 2) / 35 + 11 ^ (n + 2) / 14 - 9 ^ (n + 2) / 10. - _ R. J. Mathar _ , Nov 11 2012 ● a(0)=1, a(1)=24, a(2)=397; for n>2, a(n) = 24 * a(n - 1) - 179 * a(n - 2) + 396 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 ● a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[A020341] ● 1,24,397,5652,74665,946992,11736613,143526444,1741517569,21034565640,253379036989,3047347017156,36615998359513,439728040092768,5279095003079125,63365680208288988,760504096286734897 ⋆ Expansion of 1/((1-5x)(1-7x)(1-12x)). ● a(n) = 5 ^ (n + 2) / 14 - 7 ^ (n + 2) / 10 + 12 ^ (n + 2) / 35. - R. J. Mathar, Mar 15 2011 ● a(0)=1, a(1)=24, a(2)=397, a(n)=24 * a(n - 1) - 179 * a(n - 2) + 420 * a(n - 3). [_ Harvey P. Dale _ , Dec 10 2011] ● a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 ●

[A021674] ● 1,24,397,5676,75529,966048,12071269,148688052,1814929057,22024557672,266258052541,3210803780028,38655303353785,464868906584496,5586469016901013,67101965327432004,805738280990712913 ⋆ Expansion of 1/((1-x)(1-3x)(1-8x)(1-12x)). ● a(n) = - 1 / 154 + 3 ^ (n + 1) / 10 - 2 ^ (3n + 7) / 35 + 2 ^ (2n + 4) * 3 ^ (n + 1) / 11. [_ Bruno Berselli _ , May 07 2013] ●

[A021314] ● 1,24,401,5796,77637,992880,12310537,149304732,1781240813,20982537576,244696801713,2830553706708,32524979660629,371663665151712,4227189205549529,47887970149917324,540656560537946685 ⋆ Expansion of 1/((1-x)(1-2x)(1-10x)(1-11x)). ● a(0)=1, a(1)=24, a(2)=401, a(3)=5796, a(n)=24 * a(n - 1) - 175 * a(n - 2) + 372 * a(n - 3) - 220 * a(n - 4). - _ Harvey P. Dale _ , May 21 2012 ● a(n) = (8 * 11 ^ (n + 3) - 10 ^ (n + 4) + 5 * 2 ^ (n + 4) - 8) / 720. - _ Yahia Kahloune _ , Jul 07 2013 ● a(0)=1, a(1)=24; for n>1, a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 09 2013 ●

[A018206] ● 1,24,403,5850,78601,1007364,12509263,151886670,1813607701,21378247704,249446413723,2886767617890,33183014997601,379298878576044,4315144805143783,48895164279003510,552132521336304301 ⋆ Expansion of 1/((1-3x)(1-10x)(1-11x)). ● a(0)=1, a(1)=24, a(2)=403; for n>2, a(n) = 24 * a(n - 1) - 173 * a(n - 2) + 330 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 ● a(n) = (7 * 11 ^ (n + 2) - 8 * 10 ^ (n + 2) + 3 ^ (n + 2)) / 56. [_ Yahia Kahloune _ , Jul 06 2013] ●

[A021304] ● 1,24,403,5886,80113,1046748,13329631,166873722,2064748525,25337358072,309091680859,3754490630358,45462401712937,549225447909396,6623795021132887,79783347069641394,960080426180248549 ⋆ Expansion of 1/((1-x)(1-2x)(1-9x)(1-12x)). ● a(n) = (28 * 12 ^ (n + 3) - 55 * 9 ^ (n + 3) + 132 * 2 ^ (n + 3) - 105) / 9240. - _ Yahia Kahloune _ , Jul 07 2013 ● a(0)=1, a(1)=24, a(2)=403, a(3)=5886; for n>3, a(n) = 24 * a(n - 1) - 173 * a(n - 2) + 366 * a(n - 3) - 216 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 ● a(0)=1, a(1)=24; for n>1, a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 09 2013 ●

[A018092] ● 1,24,405,5940,81081,1061424,13533885,169579980,2099526561,25775439624,314535422565,3821496571620,46281602898441,559192032726624,6744619579010445,81244271639092860,977710789930868721 ⋆ Expansion of 1/((1-3*x)*(1-9*x)*(1-12*x)). ● a(1)=1, a(2)=24, a(3)=405, a(n)=24 * a(n - 1) - 171 * a(n - 2) + 324 * a(n - 3) [From Harvey P. Dale, Apr 26 2011] ● a(n) = (3 2 * 4 ^ n - 27 * 3 ^ n + 1) * 3 ^ (n - 1) / 2 - Bruno Berselli, May 16 2011 ●

[A016326] ● 1,24,412,6192,86800,1166592,15249088,195489024,2470868224,30900418560,383305022464,4724660269056,57945923227648,707851078729728,8619212944752640,104680555337023488,1268666664044265472 ⋆ Expansion of 1/((1-2x)(1-10x)(1-12x)). ● a(n) = (12 ^ (n + 2) + 2 ^ n - 125 * 10 ^ n) / 20. ● a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 2 ^ n. ● a(n) = 24 * a(n - 1) - 164 * a(n - 2) + 240 * a(n - 3), n>=3. (End) ●

[A016268] ● 1,24,421,6516,94297,1308720,17653357,233276172,3035108833,39015048456,496711748533,6274383820068,78744877055209,982913508020832,12212686913191549,151147215944655804,1864311294185799025 ⋆ Expansion of 1/((1-x)(1-11x)(1-12x)). ● a(n) = (10 * 12 ^ (n + 2) - 11 ^ (n + 3) + 1) / 110 . - _ Bruno Berselli _ , Mar 21 2011 ●

[A081128] ● 0,1,24,432,6912,103680,1492992,20901888,286654464,3869835264,51597803520,681091006464,8916100448256,115909305827328,1497904875307008,19258776968232960,246512345193381888 ⋆ 12th binomial transform of (0,1,0,0,0,0,0,0,.....). ● a(n)=24 * a(n - 1) - 132 * a(n - 2); a(0)=0, a(1)=1. ● a(n)=n * 12 ^ (n - 1). ●

[A059158] ● 24,432,7008,112320,1797504,28760832,460174848,7362800640,117804816384,1884877074432,30158033215488,482528531496960,7720456504049664,123527304064991232,1976436865040252928 ⋆ A hierarchical sequence

(S(W'3{2,2}cc) - see A059126). • a(n) = (24 / 7) * (8 * 16 ^ n - 2 ^ n) (conjectured). - _ Ralf Stephan _ , May 05 2004 • a(n) = 18 * a(n - 1) - 32 * a(n - 2) for n>1. •

[A006260] • 0,24,444,4400,32120,195800,1062500,5326160,25243904,114876376,507259276,2189829808,9292526920,38917528600,161343812980,663661077072,2713224461136,11039636532120,44751359547420,180880752056880 ⋆ Second-order Eulerian numbers «n,3». • a(n) = sum((- 1) ^ (n + k + 2) * binomial(2 * n + 1,k) * stirling1(2 * n - k - 3,n - k - 3), k=0..n - 4) [From _ Johannes W. Meijer _ , Oct 16 2009]. •

[A060195] • 1,24,448,7680,126976,2064384,33292288,534773760,8573157376,137304735744,2197949513728,35175782154240,562881233944576,9006649498927104,144110790029344768,2305807824841605120 ⋆ 8^(n-1)*(2^n-1). • a(1)=1, a(2)=24, a(n)=24 * a(n - 1) - 128 * a (n - 2). - _ Harvey P. Dale _ , Oct 20 2014 •

[A292282] • 0,24,576,4320,19200,63000,169344,395136,829440,1603800,2904000,4983264,8176896,12918360,19756800,29376000,42614784,60488856,84214080,115231200,155232000,206186904,270374016,350409600,449280000 ⋆ a(n) = 2*(n-1)^3*n^2*(n+1). • a(n) = 2 * (n - 1) ^ 3 * n ^ 2 * (n + 1). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A158637] • 24,600,2328,5208,9240,14424,20760,28248,36888,46680,57624,69720,82968,97368,112920,129624,147480,166488,186648,207960,230424,254040,278808,304728,331800 ⋆ 576n^2 + 24. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A179059] • 0,0,0,24,600,5400,29400,117600,381024,1058400,2613600,5880600,12269400,24048024,44717400,79497600,135945600,224726400,360561024,563376600,859685400,1284221400,1881864600,2709885024,3840540000 ⋆ Number of non-attacking placements of 4 rooks on an n X n board. • a(n) = 4! * binomial(n, 4) ^ 2. • a(n) = (n ^ 2 * (- 6 + 11 * n - 6 * n ^ 2 + n ^ 3) ^ 2) / 24. •

[A154128] • 24,600,9000,105000,1050000,9450000,78750000,618750000,4640625000,33515625000,234609375000,1599609375000,10664062500000,69726562500000,448242187500000,2838867187500000,17742919921875000,109588623046875000 ⋆ a(n) = 5^n*(n+4)!/n!. • a(n) = 5 ^ n * (n + 4) * (n + 3) * (n + 2) * (n + 1). • a(n) = 25 * a(n - 1) - 250 * a(n - 2) + 1250 * a(n - 3) - 3125 * a(n - 4) + 3125 * a(n - 5). •

[A175604] • 24,744,7944,79944,799944,7999944,79999944,799999944,7999999944,79999999944,799999999944,7999999999944,79999999999944,799999999999944,7999999999999944,79999999999999944,799999999999999944 ⋆ a(n) = 8*(10^n-7). • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Aug 24 2014 • a(n) = 10 * a(n - 1) + 504. - _ Robert Israel _ , Aug 24 2014 •

[A281778] • 0,0,0,0,24,900,18030,276570,3680964,45065160,523292010,5859909990,63862084704,680829769620,7122705252390,73284607133010,742843170653244,7429450873589280,73416173732059170,717721593866613630,6949589106333898584,66721599431782204140 ⋆ Number of distinct topologies on an n-set that have exactly 10 open sets. • a(n) = 4! StirlingS2(n, 4) + 11 / 2 * 5! StirlingS2(n, 5) + 73 / 8 * 6! StirlingS2(n, 6) + 15 / 2 * 7! StirlingS2(n, 7) + 7 / 2 * 8! StirlingS2(n, 8) + 9! StirlingS2(n, 9). •

[A172206] • 0,0,24,926,37282,394202,2484382,10999618,38168864,110899878,281638602,643766432,1352358921,2651129458,4906381466,8648792662,14623854922,23851793294,37697787702,57953320884,86929476107,127563008202,183536011462,259410007946,360775279732 ⋆ Number of ways to place 7 nonattacking kings on a 7 X n board. • a(n) = (117649n ^ 7 - 2873997n ^ 6 + 32197753n ^ 5 - 215350695n ^ 4 + 932130286n ^ 3 - 2618213868n ^ 2 + 4424623272n - 3468569760) / 720, n>=6. For any fixed value of k > 1, a(n) = 1 / k! * (kn) ^ k - 3(k - 1)(3k - 2) / 2 / k! * (kn) ^ (k - 1) + ... •

[A217574] • 0,0,24,3024,43680,303600,1413720,5085024,15249024,39929760,94109400,203889840,412293024,787083024,1431033240,2495102400,4195023360,6831849024,10817040024,16702719120,25217757600,37310399280,54198168024,77425845024,108932342400 ⋆ (n^2)*(n^2-1)*(n^2-2)*(n^2-3). • a(n) = n ^ 2 * (n ^ 6 - 6 * n ^ 4 + 11 * n ^ 2 - 6). - _ Jon Perry _ , Nov 08 2014 • a(0)=0, a(1)=0, a(2)=24, a(3)=3024, a(4)=43680, a(5)=303600, a(6)=1413720, a(7)=5085024, a(8)=15249024, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Mar 02 2015 •

[A233148] • 0,0,0,24,9216,772680,20864640,281690640,2408469504,14923820016,72840764160,295839890280,1038542714880,3238606068984,9155710252416,23832538897440,57817164625920,131989025850720,285757100158464,590483650831416,1170770734955520 ⋆ Number of n-edge-colorings of the cubical graph. • a(n) = n * (n - 1) * (n - 2) * (n ^ 9 - 21 * n ^ 8 + 203 * n ^ 7 - 1191 * n ^ 6 + 4701 * n ^ 5 - 13031 * n ^ 4 + 25524 * n ^ 3 - 34192 * n ^ 2 + 28400 * n - 11072). •

[A022359] • 0,25,25,50,75,125,200,325,525,850,1375,2225,3600,5825,9425,15250,24675,39925,64600,104525,169125,273650,442775,716425,1159200 ⋆ Fibonacci sequence beginning 0, 25. • a(n) = Lucas(n + 5) + Lucas(n - 5), with Lucas(- i) = (- 1) ^ i * Lucas(i) for the negative indices. - _ Bruno Berselli _ , Dec 27 2016 •

[A140058] • 25,26,27,28,29,35,36,37,38,39,45,46,47,48,49,55,56,57,58,59,65,66,67,68,69 ⋆ Numbers > 24 that are congruent to {5,6,7,8,9} mod 10. • a(n) = 10 + a(n - 5) for n >= 6. • a(n) = a(n - 1) + a(n - 5) - a(n - 6) for n > 6. • a(n) = 25 + ((n - 1) mod 5) + 10 * floor((n - 1) / 5). - _ Wesley Ivan Hurt _ , Nov 03 2016 •

[A042264] • 25,26,51,77,513,590,1103,1693,85753,87446,173199,260645,1737069,1997714,3734783,5732497,290359633,296092130,586451763,882543893,5881715121,6764259014,12645974135,19410233149 ⋆ Numerators of continued fraction convergents to sqrt(658). • a(n) = 3386 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042274] • 25,26,77,103,5227,5330,15887,21217,1076737,1097954,3272645,4370599,221802595,226173194,674148983,900322177,45690257833,46590580010,138871417853,185461997863,9411971311003,9597433308866 ⋆ Numerators of continued fraction convergents to sqrt(663). • a(n) = 206 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042270] • 25,26,77,180,797,3368,54685,58053,577162,1212377,1789539,22686845,115223764,137910609,253134373,391044982,1035224337,1426269319,5314032294,6740301613,12054333907,42903303334 ⋆ Numerators of continued fraction convergents to sqrt(661). • a(n) = 5730908870845166436 * a(n - 39) + a(n - 78) for n>77. [_ Bruno Berselli _ , Nov 22 2013] •

[A042268] • 25,26,77,334,745,1079,54695,55774,166243,720746,1607735,2328481,118031785,120360266,358752317,1555369534,3469491385,5024860919,254712537335,259737398254,774187333843,3356486733626 ⋆ Numerators of continued fraction convergents to sqrt(660). • a(n) = 2158 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042266] • 25,26,77,1951,3979,5930,300479,306409,913297,23138834,47190965,70329799,3563680915,3634010714,10831702343,274426569289,559684840921,834111410210,42265255351421,43099366761631 ⋆ Numerators of continued fraction convergents to sqrt(659). • a(n) = 11860 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042284] • 25,26,155,336,4187,8710,47737,56447,2870087,2926534,17502757,37932048,472687333,983306714,5389220903,6372527617,324015601753,330388129370,1975956248603,4282300626576,53363563767515 ⋆ Numerators of continued fraction convergents to sqrt(668). • a(n) = 112894 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 18 2013 •

[A042286] • 25,26,181,388,957,3259,4216,41203,45419,86622,218663,305285,3882083,15833617,19715700,35549317,55265017,90814334,146079351,2428083950,2574163301,5002247251,7576410552,12578657803 ⋆ Numerators of continued fraction convergents to sqrt(669). • a(n) = 28452235718108270 * a(n - 38) - a(n - 76) for n>75. [_ Bruno Berselli _ , Nov 22 2013] •

[A042292] • 25,26,311,337,17161,17498,209639,227137,11566489,11793626,141296375,153090001,7795796425,7948886426,95233547111,103182433537,5254355223961,5357537657498,64187269456439 ⋆ Numerators of continued fraction convergents to sqrt(672). • a(n) = 674 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 21 2013 •

[A042294] • 25,26,441,1349,7186,15721,54349,70070,124419,816584,941003,5521599,6462602,11984201,18446803,30431004,48877807,79308811,128186618,207495429,1165663763,1373159192,9404618915,10777778107 ⋆ Numerators of continued fraction convergents to sqrt(673). • a(n) = 97626910587864 * a(n - 31) + a(n - 62) for n>61. [_ Bruno Berselli _ , Nov 22 2013] •

[A041311] • 1,1,25,26,649,675,16849,17524,437425,454949,11356201,11811150,294823801,306634951,7654062625,7960697576,198710804449,206671502025,5158826853049,5365498355074,133930787374825,139296285729899,3477041644892401,3616337930622300 ⋆ Denominators of continued fraction convergents to sqrt(168). • a(n) = 26 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 15 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (24 + 4 * cos ^ 2(k * Pi / n)). •

[A042296] • 25,26,649,675,34399,35074,876175,911249,46438625,47349874,1182835601,1230185475,62692109351,63922294826,1596827185175,1660749480001,84634301185225,86295050665226,2155715517150649 ⋆ Numerators of continued fraction convergents to sqrt(674). • a(n) = 1350 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 21 2013 •

[A042297] • 1,1,25,26,1325,1351,33749,35100,1788749,1823849,4556112547384974,2414809825,2462194799,61507485001,63969679800,3259991475001,3323961154801,83035059190225,86359020345026,4400986076441525,4487345096786551,112097268399318749 ⋆ Denominators of continued fraction convergents to sqrt(674). • a(n) = 1350 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Jan 19 2014 •

[A042298] • 25,26,1325,1351,68875,70226,3580175,3650401,186100225,189750626,9673631525,9863382151,502842739075,512706121226,26138148800375,26658054921601,1358680894880425,1385331749802026,70625268384981725,72010600134783751,3671155275124169275 ⋆ Numerators of continued fraction convergents to sqrt(675). • a(n) = 52 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 21 2013, simplified by _ Colin Barker _ , Dec 28 2013 •

[A219258] • 0,25,29,104,112,237,249,424,440,665,685,960,984,1309,1337,1712,1744,2169,2205,2680,2720,3245,3289,3864,3912 ⋆ Numbers k such that 27*k+1 is a square. • a(n) = a(- n + 1) = (54 * n * (n - 1) + 23 * (- 1) ^ n * (2 * n - 1) - 1) / 8 + 3. •

[A284045] • 1,25,30,40,45,70,95,215,220,385,425,455,560,565,710,775,975,980,1060,1130,1500,1540,1605,1755,1815 ⋆ Numbers k such that p = 6k-1 and q = 6k+1 are twin primes and (p^2 + q^2)/2 is prime. • a(n) == 0 (mod 5) for n > 1. •

[A157646] • 25,31,41,109,155,221,629,899,1285,3665,5239,7489,21361,30535,43649,124501,177971,254405,725645,1037291,1482781,4229369,6045775,8642281,24650569 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+31)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=25, a(2)=31, a(3)=41, a(4)=109, a(5)=155, a(6)=221. •

[A050694] • 25,32,125,128,135,175,243,250,256,324,375,432,512,625,735,875,1024,1250,1352,1372,1593,1675,1715,1792,2048 ⋆ Composite numbers n such that all prime factors of n are a substring of n. • a(n) << n log n. - _ Charles R Greathouse IV _ , Jul 09 2015 •

[A129074] • 25,33,49,65,97,113,145,161,193,241,257,305,337,353,385,433,481,497,545,577,593,641,673,721,785 ⋆ Numbers n such that (n-9)/8 is prime. • a(n) = 8 * prime(n) + 9. - Zak Seidov, May 12 2007 •

[A063149] • 25,35,55,65,85,95,115,125,145,155,175,185,205,215,235,245,265,275,295,305,325,335,355,365,385 ⋆ Composite numbers which in base 5 contain their largest proper factor as a substring. • a(n) = 30 * n - a(n - 1) for n>1, a(1)=25. [_ Vincenzo Librandi _ , Aug 07 2010] • a(n) = (15 / 2) * (1 - 3 * (- 1) ^ n + 2 * n). [_ Paolo P. Lava _ , Aug 31 2010] •

[A216869] • 1,25,49 ⋆ The smallest non-constant arithmetic progression of integer squares of maximal length three. • a(2) - a(1) = a(3) - a(2) = 24. •

[A104777] • 1,25,49,121,169,289,361,529,625,841,961,1225,1369,1681,1849,2209,2401,2809,3025,3481,3721,4225,4489,5041,5329 ⋆ Integer squares congruent to 1 mod 6. • a(n) = 9 * n ^ 2 - 9 * n + 5 / 2 + (- 1) ^ n * (3 * n - 3 / 2). a(n + 4) = 2 * a(n + 2) - a(n) + 72. - _ Robert Israel _ , Dec 12 2014 • a(n) == 1 (mod 24). - _ Joerg Arndt _ , Jan 03 2017 •

[A169860] • 0,25,50,76,101,127,152,177,203,228,254,279,304,330,355,381,406,431,457,482,508,533,558,584,609 ⋆ Floor of n inches converted to millimeters. • a(n) = floor(n * 25.4) = floor(n * 127 / 5). •

[A224670] • 25,50,76,123,191,300,470,741,1173,1866,2980,4775,7671,12348,19906,32125,51885,83846,135548,219191,354515,573460,927706,1500873,2428261 ⋆ Number of (n+1) X 3 0..2 matrices with each 2 X 2 subblock idempotent • a(n) = - 2 + 2 ^ (1 - n) * sqrt(5) * (- (1 - sqrt(5)) ^ (1 + n) + (1 + sqrt(5)) ^ (1 + n)) + 2 * (1 + n) + (1 + n) * (2 + n) / 2. •

[A042232] • 25,51,76,1875,1951,5777,290801,587379,878180,21663699,22541879,66747457,3359914729,6786576915,10146491644,250302376371,260448868015,771200112401,38820454488065,78412109088531 ⋆ Numerators of continued fraction convergents to sqrt(642). • a(n) = 11554 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 19 2014 •

[A042240] • 25,51,127,305,15377,31059,77495,186049,9379945,18945939,47271823,113489585,5721751073,11556991731,28835734535,69228460801,3490258774585,7049746009971,17589750794527 ⋆ Numerators of continued fraction convergents to sqrt(646). • a(n) = 610 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 19 2013 •

[A042244] • 25,51,280,1731,8935,19601,988985,1997571,10976840,67858611,350269895,768398401,38770189945,78308778291,430314081400,2660193266691,13731280414855,30122754096401,1519868985234905 ⋆ Numerators of continued fraction convergents to sqrt(648). • a(n) = 39202 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 19 2013 •

[A042248] • 25,51,2575,5201,262625,530451,26785175,54100801,2731825225,5517751251,278619387775,562756526801,28416445727825,57395647982451,2898198844850375,5853793337683201,295587865729010425,597029524795704051 ⋆ Numerators of continued fraction convergents to sqrt(650). • a(n) = 102 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 20 2013 •

[A132766] • 0,25,52,81,112,145,180,217,256,297,340,385,432,481,532,585,640,697,756,817,880,945,1012,1081,1152 ⋆ a(n) = n(n+24). • a(n) = n * (n + 24). • a(n) = 2 * n + a(n - 1) + 23 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=25, a(2)=52, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 11 2016 •

[A166873] • 1,25,61,109,169,241,325,421,529,649,781,925,1081,1249,1429,1621,1825,2041,2269,2509,2761,3025,3301,3589,3889 ⋆ a(n) = a(n-1) + 12*n for n > 1; a(1) = 1. • a(n) = 6 * n ^ 2 + 6 * n - 11. • a(n) = 2 * a(n - 1) - a(n - 2) + 12. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A159008] • 25,64,114,153,203,242,292,331,381,420,470,509,559,598,648,687,737,776,826,865,915,954,1004,1043,1093 ⋆ Positive numbers n such that n^2 == 2 (mod 89). • a(n) = a(n - 1) + a(n - 2) - a(n - 3). • a(n) = (89 + 11 * (- 1) ^ (n - 1) + 178 * (n - 1)) / 4. •

[A063308] • 1,25,70,112,154,196,238,280,322,364,406,452,490,532,574,620,658,704,742,788,826,872,910,960,994 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(35). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n> 13. •

[A182323] • 25,72,122,169,219,266,316,363,413,460,510,557,607,654,704,751,801,848,898,945,995,1042,1092,1139,1189 ⋆ a(n) = (194*n + 3*(-1)^n + 1)/4 + 24. • a(n) = - a(- n - 1) = a(n - 1) + a(n - 2) - a(n - 3). •

[A069190] • 1,25,73,145,241,361,505,673,865,1081,1321,1585,1873,2185,2521,2881,3265,3673,4105,4561,5041,5545,6073,6625,7201 ⋆ Centered 24-gonal numbers. • a(n) = 12 * n ^ 2 - 12 * n + 1. • a(n) = 24 * n + a(n - 1) - 24 (with a(1)=1). - _ Vincenzo Librandi _ , Aug 08 2010 • a(1)=1, a(2)=25, a(3)=73, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 17 2011 •

[A114553] • 0,1,1,25,73,673,3025,20329,107929,653425,3674017,21516217,123214825,714258241,4113149041,23770767625,137113121593,791700344593,4568824885825,26373938451289,152222238686089,878652055801825 ⋆ Large integer characteristic polynomial vector Markov sequence. • a(n) = 25 * a(n - 2) + 48 * a(n - 3). G.f.: x * (1 + x) / ((1 + 3 * x) * (1 - 3 * x - 16 * x ^ 2)). [_ Colin Barker _ , Sep 23 2012] •

[A098439] • 1,1,25,73,1009,4561,47881,272665,2480353,16076449,135464185,945516265,7648488145,55729490545,441280178665,3297808663993,25833412158913,196026748033345,1527879583118809,11703693337452937,91042025394288049 ⋆ Expansion of 1/sqrt(1-2x-47x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k) * binomial(n, k) * 12 ^ k } . •

[A053742] • 25,75,125,175,225,275,325,375,425,475,525,575,625,675,725,775,825,875,925,975,1025,1075,1125,1175,1225 ⋆ Sum of odd numbers in range 10n to 10n+9. • a(n) = 25 + 50 * n. • a(n) = a(n - 1) + 50. - _ Harvey P. Dale _ , Aug 11 2011 • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 25 * (1 + x) / (1 - x) ^ 2. - _ Colin Barker _ , Jun 27 2012 •

[A123296] • 0,25,75,150,250,375,525,700,900,1125,1375,1650,1950,2275,2625,3000,3400,3825,4275,4750,5250,5775,6325,6900,7500 ⋆ Number of permutations of n distinct letters (ABCD...) each of which appears 5 times and having n-2 fixed points. • a(n)=25 * n + a(n - 1) (with a(0)=0) - _ Vincenzo Librandi _ , Nov 13 2010 •

[A008852] • 0,1,25,76,100,101,125,176,200,201,225,276,300,301,325,376,400,401,425,476,500,501,525,576,600 ⋆ Numbers n such that n^2 and n have same last 2 digits. • a(4n)=100n, a(4n + 1)=100n + 1, a(4n + 2)=100n + 25, a(4n + 3)=100n + 76. - _ Franklin T. Adams - Watters _ , Mar 13 2006 •

[A016814] • 1,25,81,169,289,441,625,841,1089,1369,1681,2025,2401,2809,3249,3721,4225,4761,5329,5929,6561,7225,7921,8649,9409 ⋆ a(n) = (4n+1)^2. • a(n) = a(n - 1) + 32 * n - 8, n > 0. - _ Vincenzo Librandi _ , Dec 15 2010 • a(n + 1) = a(n) + 16 + 8 * sqrt(a(n)). • a(n + 1) = 2 * a(n) - a(n - 1) + 32 = 3 * a(n) - 3 * a(n - 1) + a(n - 2). • a(n - 1) * a(n + 1) = (a(n) - 16) ^ 2 ; a(n + 1) - a(n - 1) = 16 * sqrt(a(n)). • a(0) = 1, a(n) = a(n - 1) + 32(n - 1) - 8. - _ Alonso del Arte _ , Aug 19 2017 •

[A166080] • 1,25,85,145,221,265,365,481,545,685,841,925,1105,1405,1513,1625,1985,2245,2665,2813,2965,3281,3445,3785,3961 ⋆ Nonprimes of the form (n^2+1)/2. • a(n) = 2n ^ 2 + O(n ^ 2 / log n). - _ Charles R Greathouse IV _ , Mar 21 2014 •

[A081272] • 1,25,85,181,313,481,685,925,1201,1513,1861,2245,2665,3121,3613,4141,4705,5305,5941,6613,7321,8065,8845,9661,10513 ⋆ Downward vertical of triangular spiral in A051682. • a(n) = C(n, 0) + 24 * C(n, 1) + 36 * C(n, 2). • a(n) = 18 * n ^ 2 + 6 * n + 1. •

[A256716] • 0,1,25,94,230,455,791,1260,1884,2685,3685,4906,6370,8099,10115,12440,15096,18105,21489,25270,29470,34111,39215,44804,50900 ⋆ a(n) = n*(n+1)*(2219)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) with n>3, a(0)=0, a(1)=1, a(2)=25, a(3)=94. • a(n) = Sum _{ i=0..n - 1 } (n - i) * (22 * i + 1) for n>0. •

[A158547] • 1,25,97,217,385,601,865,1177,1537,1945,2401,2905,3457,4057,4705,5401,6145,6937,7777,8665,9601,10585,11617,12697,13825 ⋆ 24n^2+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A114254] • 1,25,101,261,537,961,1565,2381,3441,4777,6421,8405,10761,13521,16717,20381,24545,29241,34501,40357,46841,53985,61821,70381,79697 ⋆ Sum of all terms on the two principal diagonals of a 2n+1 X 2n+1 square spiral. • a(n) = 1 + 10 * n ^ 2 + (16 * n ^ 3 + 26 * n) / 3. [Corrected by _ Arie Groeneveld _ , Aug 17 2008] •

[A158551] • 25,103,233,415,649,935,1273,1663,2105,2599,3145,3743,4393,5095,5849,6655,7513,8423,9385,10399,11465,12583,13753,14975,16249 ⋆ 26n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A174371] • 1,25,121,289,529,841,1225,1681,2209,2809,3481,4225,5041,5929,6889,7921,9025,10201,11449,12769,14161,15625,17161,18769,20449 ⋆ a(n) = (6*n-1)^2. • a(n) = 36n ^ 2 - 12n + 1. - _ Omar E. Pol _ , Jul 28 2016 •

[A062938] • 1,25,121,361,841,1681,3025,5041,7921,11881,17161,24025,32761,43681,57121,73441,93025,116281,143641,175561,212521,255025,303601,358801,421201 ⋆ a(n) = n*(n+1)*(n+2)*(n+3)+1, which equals (n^2 +3*n + 1)^2. • a(n + 1) = Numerator of ((n + 2)! + (n - 2)!) / (n!) n=3,4,5,... - _ Artur Jasinski _ , Jan 09 2007 • a(n) = n * (n + 1) * (n + 2) * (n + 3) + 1 ^ 4 = 1 * (1 + n) * (1 + 2 * n) * (1 + 3 * n) + n ^ 4=(n ^ 2 + 3 * n + 1) ^ 2; •

[A190875] • 1,1,1,1,25,121,361,841,21841,184465,912241,3334321,89824681,1063799881,7325422105,36454050361,1017339566881,15314809967521,1348656987721121,848781820990945,24508030788375481,443521231499750041,4748434334677932361 ⋆ E.g.f. exp(x+x^4) • a(n)=n! * sum(j=0..n / 3, binomial(n - 3 * j ,j) / (n - 3 * j)!) •

[A274783] • 1,1,1,25,121,361,3361,24361,116425,790441,6060121,36888721,238815721,1760983225,11968188961,79763351305,570661612585,4040282139625,27901708614985,198090585115105,1420583920034161,10056659775872161,71730482491962361,517012699162717825,3713833648541268121 ⋆ Diagonal of the rational function 1/(1-(wxyz + wxy + wxz + wyz + xyz)). • a(n) = Sum _{ k = 0..floor(n / 3) } (n + k)! / (k! ^ 4 * (n - 3 * k)!) = Sum _{ k = 0..floor(n / 3) } binomial(n,3 * k) * binomial(n + k,k) * (3 * k)! / k! ^ 3 (apply Eger, Theorem 3 to the set of column vectors S = { [1,1,1,1], [1,1,0,1], [1,0,1,1], [0,1,1,1], [1,1,1,0] }). - _ Peter Bala _ , Jan 27 2018 •

[A141722] • 1,25,121,505,2041,8185,32761,131065,524281,2097145,8388601,33554425,134217721,536870905,2147483641,8589934585,34359738361,137438953465,549755813881,2199023255545,8796093022201,35184372088825,140737488355321,562949953421305 ⋆ a(n) = 8*4^n - 7. • a(n) = 4 * a(n - 1) + 21. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A073963] • 1,1,1,25,125,625,3025,15625,78625,393125,1955625,9765625,48815625,244140625,1220703125,6103515625,30517265625,152587890625,762941015625,3814705078125,19073494140625,95367431640625,476837119140625,2384185791015625,11920928955078125 ⋆ Number of strings of length n over Z_5 with trace 0 and subtrace 0. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 4, s + 4t + 1) + a(n - 1; t + 3, s + 3t + 4) + a(n - 1; t + 2, s + 2t + 4) + a(n - 1; t + 1, s + t + 1). •

[A042218] • 25,126,6325,31751,1593875,8001126,401650175,2016252001,101214250225,508087503126,25505589406525,128036034535751,6427307316194075,32264572615506126,1619655938091500375 ⋆ Numerators of continued fraction convergents to sqrt(635). • a(n) = 252 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 19 2013 •

[A156158] • 25,137,797,4645,27073,157793,919685,5360317,31242217,182092985,1061315693,6185801173,36053491345,210135146897,1224757390037,7138409

193325,41605697769913,242495777426153,1413368966787005 ★ a(n) = 6*a(n-1)-a(n-2) for n > 2; a(1) = 25, a(2) = 137. ● a(n) = ((26 + 7 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (26 - 7 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4. ●

[A100255] ● 0,1,25,144,484,1225,2601,4900,8464,13689,21025,30976,44100,61009,82369,108900,141376,180625,227529,283024,348100,423801,511225,611524,725904 ★ Squares of pentagonal numbers: a(n) = (1/4)*n^2*(3*n-1)^2. ● a(n) = 5 * a(n - 1) - 10 * (n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). (End) ●

[A168571] ● 0,25,150,775,3900,19525,97650,488275,2441400,12207025,61035150,305175775,1525878900,7629394525,38146972650,190734863275,953674316400,4768371582025,23841857910150,119209289550775,596046447753900,2980232238769525 ★ a(n) = 25*(5^n - 1)/4. ● a(n) = + 6 * a(n - 1) - 5 * a(n - 2). ●

[A007204] ● 1,25,169,625,1681,3721,7225,12769,21025,32761,48841,70225,97969,133225,177241,231361,297025,375769,469225,579121,707281,855625,1026169,1221025,1442401 ★ Crystal ball sequence for D_4 lattice. ● a(0)=1, a(1)=25, a(2)=169, a(3)=625, a(4)=1681, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Mar 03 2013 ●

[A120096] ● 1,25,169,1681,14641,133225,1194649,10764961,96845281,871725625,7845176329,70607649841,635465659921,5719200505225,51472775849209,463255068736321,4169295360346561,37523659017960025,337712928837117289,3039416366507624401,27354747277647913201 ★ a(n) = (A046717(n))^2 (starting with n=1). ● a(n) = leftmost term in M ^ n * [1,0,0,0] where M is the 4 X 4 matrix: [1, - 2,4, - 2; - 2,1, - 2,4; 4, - 2,1, - 2; - 2,4, - 2,1]. ● a(n) = 7 * a(n - 1) + 21 * a(n - 2) - 27 * a(n - 3). ● a(n) = (1 + 2 * (- 3) ^ n + 9 ^ n) / 4. - _ Colin Barker _ , Dec 23 2017 ●

[A213546] ● 1,25,170,674,1979,4795,10164,19524,34773,58333,93214,143078,212303,306047,430312,592008,799017,1060257,1385746,1786666,2275427,2865731,3572636,4412620,5403645 ★ Principal diagonal of the convolution array A213505. ● a(n) = (16 * n ^ 5 + 15 * n ^ 4 - n) / 30. ● a(n) = 6 * a(n - 1) - 10 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). ●

[A201089] ● 25,175,651,1759,3899,7581,13405,22085,34421,51331,73815,102995,140071,186369,243289,312361,395185,493495,609091,743911,899955,1079365,1284341,1517229,1780429 ★ Number of -n..n arrays of 4 elements with first and second differences also in -n..n. ● a(n) = (101 * n ^ 4 + 202 * n ^ 3 + 190 * n ^ 2 + 92 * n + 24) / 24 for n even. ● a(n) = (101 * n ^ 4 + 202 * n ^ 3 + 190 * n ^ 2 + 86 * n + 21) / 24 for n odd. ●

[A042212] ● 25,176,1081,7743,388231,2725360,16740391,119908097,6012145241,42204924784,259241693945,1856896782399,93104080813895,6535854624796964,40146165855691879,287559034523228 17,1441809789471832729 ★ Numerators of continued fraction convergents to sqrt(632). ● a(n) = 15486 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 19 2013 ●

[A243209] ● 1,25,186,881,3146,9264,23810,55058,117205,233135,438544,786541,1354696,2252202,3630684,5694984,8718963,13060515,19184110,27681103,39300096,54974216,75861038,103377456,139251749 ★ Number of inequivalent (mod D_3) ways to place 4 points on a triangular grid of side n so that they are not vertices of an equilateral triangle with sides parallel to the grid. ● a(n) = (n ^ 8 + 4 * n ^ 7 - 6 * n ^ 6 - 80 * n ^ 5 + 60 * n ^ 4 + 208 * n ^ 3 + 464 * n ^ 2 - 1152 * n) / 2304 + IF(MOD(n, 2) = 1) * (28 * n ^ 3 - 206 * n ^ 2 + 312 * n + 33) / 768 + IF(MOD(n, 3) = 1) * (n ^ 2 - 2 * n + 4) / 18 + IF(MOD(n, 6) = 1) * (- 1 / 6). ● a(n) = 3 * a(n - 1) - 6 * a(n - 3) + 6 * a(n - 5) + 8 * a(n - 6) - 12 * a(n - 7) - 9 * a(n - 8) + 13 * a(n - 9) + 6 * a(n - 10) - 6 * a(n - 11) - 13 * a(n - 12) + 9 * a(n - 13) + 12 * a(n - 14) - 8 * a(n - 15) - 6 * a(n - 16) + 6 * a(n - 18) - 3 * a(n - 20) + a(n - 21). - _ Vaclav Kotesovec _ , Jun 02 2014 ●

[A017222] ● 25,196,529,1024,1681,2500,3481,4624,5929,7396,9025,10816,12769,14884,17161,19600,22201,24964,27889,30976,34225,37636,41209,44944,48841 ★ (9*n+5)^2. ● a(0)=25, a(1)=196, a(2)=529, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) _ Harvey P. Dale _ , May 22 2012 ●

[A271535] ● 0,1,25,196,900,3025,8281,19600,41616,81225,148225,256036,422500,670761,1030225,1537600,2238016,3186225,4447881,6100900,8236900,10962721,14402025,18696976,24010000 ★ a(n) = (n*(n + 1)*(2*n + 1)/6)^2. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ●

[A288876] ● 1,25,225,1225,4900,15876,44100,108900,245025,511225,1002001,1863225,3312400,5664400,9363600,15023376,23474025,35820225,53509225,78411025,112911876,160022500,223502500,308002500,419225625 ★ a(n) = binomial(n+4, n)^2. Square of the fifth diagonal sequence of A007318 (Pascal). Fifth diagonal sequence of A008459. ● a(n) = binomial(n + 4, n) ^ 2, n >= 0. ●

[A067472] ● 25,225,2025,20164,200704,2002225,20007729,200024449,2000057284,20000182084,200000361796,2000001237796,20000000402496,200000010642496,2000000040249600,20000000215721449,200000000447251216 ★ Smallest n-digit square starting with 2. ● a(n) = ceiling(sqrt(2 * 10 ^ (n - 1))) ^ 2, n>1. - _ Rick L. Shepherd _ , Feb 14 2002 ●

[A081195] ● 1,25,226,1660,11176,71920,450976,2783680,17013376,103325440,624933376,3769523200,22696830976,136499752960,820273586176,4926741790720,29580851838976,177566715412480,1065726709989376,6395665929994240 ★ a(n) = 10*a(n-1)-24*a(n-2) for n>1, a(0)=1, a(1)=25. ● a(n) = 21 * 6 ^ n / 2 - 19 * 4 ^ n / 2. ●

[A088890] ● 0,1,25,234,1290,5115,16211,43700,104244,226005,453805,855646,1530750,2619279,4313895,6873320,10638056,16048425,23665089,34192210,48503410,67670691,92996475,126048924,168700700 ★ Polynexus numbers of order 8. ● a(n) = ((n ^ 8 - (n - 1) ^ 8) - (n ^ 2 - (n - 1) ^ 2)) / 252 = ((n ^ 8 - (n - 1) ^ 8) - (n ^ 2 - (n - 1) ^ 2)) / (2 ^ 8 - 2 ^ 2). ●

[A090022] ● 0,1,25,253,2065,15541,112825,804973,5692705,40071781,281367625,1972955293,13823978545,96820307221,677949854425,4746473419213,33228592555585,232613204977861,1628344491013225,11398619145204733 ★ Number of distinct lines through the origin in the n-dimensional lattice of side length 6. ● a(n) = 7 ^ n - 4 ^ n - 3 ^ n + 1 ●

[A017450] ● 25,256,729,1444,2401,3600,5041,6724,8649,10816,13225,15876,18769,21904,25281,28900,32761,36864,41209,45796,50625,55696,61009,66564,72361 ★ (11*n+5)^2. ● a(0)=25, a(1)=256, a(2)=729, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Dec 08 2013 ●

[A058482] ● 1,25,265,2161,16081,115465,816985,5745121,40294561,282298105,1976795305,13839692881,96884227441,678208723945,4747518463225,33232801429441,232630126566721,1628412435648985,11398891698588745,79792255837258801,558545832702224401 ★ Number of 3 X n binary matrices with no zero rows or columns. ● a(n) = 7 ^ n - 3 * 3 ^ n + 3. ● a(n) = 11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3). G.f.: - x * (21 * x ^ 2 + 14 * x + 1) / ((x - 1) * (3 * x - 1) * (7 * x - 1)). - _ Colin Barker _ , Jul 10 2013 ●

[A210430] ● 0,1,25,294,2090,10460,40677,131131,366088,912519,2075965,4381168,8683962,16321682,29310113,50595765,84373024,136476493,214859601,330171322,496443610,731902920,1059919949,1510112495,2119617096 ★ Number of semistandard Young tableaux over all partitions of 8 with maximal element <= n. ● a(n) = n ^ 2 * (n ^ 2 + 3) * (1124 + (1205 + 191 * n ^ 2) * n ^ 2) / 10080. ●

[A269448] ● 25,301,454,3850,31966,47569,393925,3261481,4852834,40177750,332640346,494942749,4097737825,33926055061,50479308814,417929081650,3460124977126,5148394557529,42624668591725,352898821613041,525085765560394,4347298267275550 ★ The first of 26 consecutive positive integers the sum of the squares of which is a square. ● a(1)=25, a(2)=301, a(3)=454, a(4)=3850, a(5)=31966, a(6)=47569, a(n)=102 * a(n - 3) - a(n - 6) + 1250. - _ Daniel Mondot _ , Aug 05 2016 ●

[A240846] ● 0,1,25,313,3769,45241,542905,6514873,78178489,938141881,11257702585,135092431033,1621109172409,19453310068921,233439720827065,2801276649924793,33615319799097529,403383837589170361,4840606051070044345,58087272612840532153 ★ a(0)=0, a(1)=1, a(n) = a(n-1)*12 + 13. ● a(n) = (2 ^ (1 + 2 * n) * 3 ^ n - 13) / 11 for n>0. ● a(n) = 13 * a(n - 1) - 12 * a(n - 2) for n>2. ●

[A077503] ● 1,25,324,4096,50176,600625,7001316,80013025,900000000,1000014129,11000024161,120000580921,1300001310976,14000004588964,150000007007601,1600000000000000,17000000233634401,180000000244436761 ★ Smallest n-digit square beginning with n. ● a(n) = { ceiling[{ n * 10 ^ d }^ (1 / 2)] }^ 2. where d = n - digit(n), digit(n) = number of digits in n. - _ Ray Chandler _ , Aug 11 2003 ●

[A010977] ● 1,25,325,2925,20475,118755,593775,2629575,10518300,38567100,131128140,417225900,1251677700,3562467300,9669554100,25140840660,62852101650,151584480450,353697121050,800472431850,1761039350070,3773655750150,7890371113950,16123801841550 ★ a(n) = binomial coefficient C(n,24). ● a(n) = n / (n - 24) * a(n - 1), n > 24. - _ Vincenzo Librandi _ , Mar 26 2011 ●

[A059255] ● 0,25,365,2030,7230,19855,45955,94220,176460,308085,508585,802010,1217450,1789515,2558815,3572440,4884440,6556305,8657445,11265670,14467670,18359495,23047035,28646500,35284900 ★ Both sum of n+1 consecutive squares and sum of the immediately following n consecutive squares. ● a(0)=0 , a(1)=25, a(2)=365, a(3)=2030, a(4)=7230, a(5)=19855, a(n)= 6a(n - 1) - 15 a(n - 2) + 20a(n - 3) - 15a(n - 4) + 6a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , May 09 2011 ● a(n) = (4 * T(n) - n) ^ 2 + (4 * T(n) - n + 1) ^ 2 + ... + (4 * T(n)) ^ 2 = (4 * T(n) + 1) ^ 2 + (4 * T(n) + 2) ^ 2 + ... + (4 * T(n) + n) ^ 2, where T = A000217. See Boardman (2000). - _ Jonathan Sondow _ , Mar 07 2013 ● a(0)=0, a(n) = 25 + 340 * C(n - 1,1) + 1325 * C(n - 1,2) + 2210 * C(n - 1,3) + 1680 * C(n - 1,4) + 480 * C(n - 1,5) for n >= 1, where C(a,b) are binomial coefficients. - _ Kieren MacMillan _ , Sep 16 2014 ●

[A036071] ● 1,25,375,4375,43750,393750,3281250,25781250,193359375,1396484375,9775390625,66650390625,444335937500,2905273437500,18676757812500,118286132812500,739288330078125,4566192626953125,27904510498046875 ★ Expansion of 1/(1-5*x)^5. ● a(n) = binomial(n + 4, 4) * 5 ^ n; G.f. 1 / (1 - 5 * x) ^ 5. ● a(0)=1, a(1)=25, a(2)=375, a(3)=4375, a(4)=43750, a(n)=25 * a(n - 1) - 250 * a(n - 2) + 1250 * a(n - 3) - 3125 * a(n - 4) + 3125 * a(n - 5). - _ Harvey P. Dale _ , Mar 20 2013 ●

[A094190] ● 0,25,376,9376,90625,109376,2890625,12890625,212890625,1787109376,18212890625,918212890625,9918212890625,40081787109376,259918212890625,3740081787109376,43740081787109376,256259918212890625,2256259918212890625 ★ Least n-digit automorphic number. ● a(n) = Min(5 ^ (2 ^ n) (mod 10 ^ n), 16 ^ (5 ^ n) (mod 10 ^ n)). - _ Robert G. Wilson v _ , Aug 27 2006 ●

[A028130] ● 1,25,395,5045,56931,592725,5834515,55132165,505157411,4519668725,39685517235,343261312485,2933027514691,24811827085525,208162421081555,1734382406904005,14367095262780771,118431759773683125 ★ Expansion of 1/((1-4x)(1-6x)(1-7x)(1-8x)). ● a(n) = 25 * a(n - 1) - 230 * a(n - 2) + 920 * a(n - 3) - 1344 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 ● a(n) = 15 * a(n - 1) - 56 * a(n - 2) - 2 * 4 ^ n + 3 * 6 ^ n, n>=2 . - Vincenzo Librandi, Mar 17 2011 ● a(n) = - 7 ^ (n + 3) / 3 - 2 * 4 ^ (n + 1) / 3 + 9 * 6 ^ (n + 1) + 8 ^ (n + 2). - R. J. Mathar, Mar 18 2011 ●

[A286719] ● 1,25,395,5075,58086,618870,6289690,61885450,595122671,5629238615,52605474285,487197745125,4481780785756,41018845739260,373968405050180,3399402534376100,30830907772159341,279134548584080805,2523817507756513375,22795663165336810375,205730405672107235426,1855561201430080 3

03250,167279711160485185598 70,150747219419372400319950,13580935166627 81192486011 ★ Column k=4 of triangle A039755, Sheffer(exp(x), (exp(2*x) - 1)/2). • a(n) = h ^{ (5) }_ n, the complete homogeneous symmetric function of degree n of the five symbols 1, 3, 5, 7, 9. • a(n) = (1 - 4 * 3 ^ (4 + n) + 6 * 5 ^ (4 + n) - 4 * 7 ^ (4 + n) + 9 ^ (4 + n)) / 384. • a(n) = 25 * a(n - 1) - 2 30 * a(n - 2) + 950 * a(n - 3) - 1689 * a(n - 4) + 945 * a(n - 5) for n>4. •

[A028116] • 1,25,398,5162,59619,640227,6549376,64780804,625573157,5936696 96909,55620675474,516146265726,4755391291015,43574880995671,3976378884 33092,3617137005125528,32823750870307593,297304128579802113,268898855 1055876630,24293750984286505810 ★ Expansion of 1 / ((1-4*x)*(1-5*x)*(1-7*x)*(1-9*x)). • a(n) = (3 * 9 ^ (n + 3) - 10 * 7 ^ (n + 3) + 3 * 5 ^ (n + 4) - 2 * 4 ^ (n + 4)) / 120. -_ Yahia Kahloune _ , Jun 11 2013 • a(n) = 25 * a(n - 1) - 227 * a(n - 2) + 887 * a(n - 3) - 1260 * a(n - 4) for n>3. - _ Colin Barker _ , Apr 17 2017 •

[A028075] • 1,25,400,5230,60991,661675,6836950,68263360,664838581,635696 1325,59947423900,559395635890,5177995501771,47632122760975,43605697110 9250,3977028159426820,36166503547714561,328145135909292625 ★ Expansion of 1/((1-3x)(1-6x)(1-7x)(1-9x)). • a(n)=(2 * 9 ^ (n + 3) - 9 * 7 ^ (n + 3) + 8 * 6 ^ (n + 3) - 3 ^ (n + 3)) / 72. [_ Yahia Kahloune _ , Jun 10 2013] •

[A042204] • 25,401,426,1253,6691,28017,62725,90742,244209,579160,198168 9,2560849,9664236,118531681,365259279,483790960,1816632159,4117055278,10 050742715,14167797993,38386338701,167713152797 ★ Numerators of continued fraction convergents to sqrt(628). • a(n) = 93397457463698 * a(n - 26) - a(n - 52) for n>51. [_ Bruno Berselli _ , Nov 19 2013] •

[A028112] • 1,25,401,5285,62601,696045,7442401,77640805,797399801,810866 5565,81939294801,824736146325,8280574247401,83010854259085,83136865713 7601,8321395551579845,83260955156605401,832895295388684605 ★ Expansion of 1/((1-4x)(1-5x)(1-6x)(1-10x)). • a(n)=(10 ^ (n + 3) - 15 * 6 ^ (n + 3) + 24 * 5 ^ (n + 3) - 10 * 4 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028064] • 1,25,402,5306,62699,691299,7275724,74105812,736913397,719676 2573,69311524646,660250818318,6234443691295,58450533199447,54479437023 1968,5053142176005224,46678603740543593,429711934071787521 ★ Expansion of 1/((1-3x)(1-5x)(1-8x)(1-9x)). • a(n)=(5 * 9 ^ (n + 3) - 8 ^ (n + 4) + 5 ^ (n + 4) - 2 * 3 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 08 2013] •

[A028061] • 1,25,404,5390,64791,731595,7939714,83955520,872430581,895928 6765,91262059824,924426748050,9327520083571,93861018423535,94272615896 4734,9456149685174980,94764094925599761,949061042927869905 ★ Expansion of 1/((1-3x)(1-5x)(1-7x)(1-10x)). • a(n)=(8 * 10 ^ (n + 3) - 5 * 7 ^ (n + 4) + 42 * 5 ^ (n + 3) - 5 * 3 ^ (n + 4)) / 840. [_ Yahia Kahloune _ , Jun 08 2013] •

[A026561] • 1,25,405,5405,64661,721725,7683685,79078285,793624821,781310 1725,75772440965,726132366765,6891899656981,64900354798525,60720680251 0245,5650395374640845,52342063252985141,483011998315708125 ★ Expansion of 1/((1-2x)(1-6x)(1-8x)(1-9x)). • a(n) = - 2 ^ n / 21 + 9 * 6 ^ n - 128 * 8 ^ n / 3 + 243 * 9 ^ n / 7. - _ R. J. Mathar _ , Jun 30 2013 •

[A026391] • 1,25,407,5489,66759,762321,8356279,89114113,932519687,962996 3057,98523692631,1001349555297,10129549127335,102127457330833,10272158 81948663,10314453257429441,103444825304722503 ★ Expansion of 1/((1-2x)(1-6x)(1-7x)(1-10x)). • a(n) = - 2 ^ n / 20 + 27 * 6 ^ n / 2 - 343 * 7 ^ n / 15 + 125 * 10 ^ n / 12. _ R. J. Mathar _ , Jun 23 2013 •

[A028044] • 1,25,407,5501,67239,773589,8559679,92246077,975897527,10187 458853,105306474351,1080536075853,11025196931815,112010922356917,11341 81907272223,114544404794267229,115444750765761303 ★ Expansion of 1/((1-3x)(1-4x)(1-8x)(1-10x)). • a(n)=(10 ^ (n + 4) - 21 * 8 ^ (n + 3) + 35 * 4 ^ (n + 3) - 8 * 3 ^ (n + 4)) / 840. [_ Yahia Kahloune _ , Jun 07 2013] •

[A028057] • 1,25,408,5558,68999,813603,9315286,104854096,1168677477,1295 2000061,143075613044,1577575222314,17376397872835,191281848531799,2104 964417048082,23159869359140612,254790508985373473 ★ Expansion of 1/((1-3x)(1-5x)(1-6x)(1-11x)). • a(n)=(11 ^ (n + 3) - 16 * 6 ^ (n + 3) + 20 * 5 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 240. [_ Yahia Kahloune _ , Jun 08 2013] •

[A260953] • 1,1,25,409,5041,6553,104857,1677721,20648881,26843545,429496 729,6871947673,84577817521,109951162777,1759218604441,28147497671065,3 46430740566961,450359962737049,72057594037927936,1152921504606846697,1 418980313362273201,1844674407370955161 ★ List of numbers of the forms (2^(4m+3)-3)/5 and (2^(12m+4)-3)/13 arranged in increasing order. • a(n) = 4097 * a(n - 4) - 4096 * a(n - 8) for n>8. [_ Bruno Berselli _ , Aug 07 2015] •

[A025998] • 1,25,409,5565,68481,792645,8815129,95390845,1012475761,1059 6550965,109756131849,1127967674925,11523334499041,117184641488485,1187 466959384569,11999684812451805,120997224186474321 ★ Expansion of 1/((1-2x)(1-5x)(1-8x)(1-10x)). • a(n) = - 2 ^ n / 18 + 25 * 5 ^ n / 9 - 128 * 8 ^ n / 9 + 25 * 10 ^ n / 2. _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=25, a(2)=409, a(3)=5565, a(n)=25 * a(n - 1) - 216 * a(n - 2) + 740 * a(n - 3) - 800 * a(n - 4). - _ Harvey P. Dale _ , Aug 25 2014 •

[A024437] • 1,25,410,5570,67971,774075,8402620,88071940,898959941,898821 8525,88404153630,858025759110,8237487011911,78372461725375,74002404472 5440,6943130337867080,64790256275839881,601800374629166625 ★ Expansion of 1/((1-x)(1-7x)(1-8x)(1-9x)). • a(n) = (21 * 9 ^ (n + 3) - 6 * 8 ^ (n + 4) + 4 * 7 ^ (n + 4) - 1) / 336. - _ Yahia Kahloune _ , Jun 28 2013 • a(n) = 25 * a(n - 1) - 215 * a(n - 2) + 695 * a(n - 3) - 504 * a(n - 4). - _ Matthew House _ , Jan 16 2017 •

[A028041] • 1,25,410,5630,70551,839775,9697720,109955260,1232712701,1372 3263125,152103875430,1681194742890,18549572478451,204440573062075,2251 614293669540,24787137412192520,272794189857639801 ★ Expansion of 1/((1-3x)(1-4x)(1-7x)(1-11x)). • a(n)=(3 * 11 ^ (n + 3) - 2 * 7 ^ (n + 4) + 2 * 4 ^ (n + 5) - 7 * 3 ^ (n + 4)) / 672. [_ Yahia Kahloune _ , Jun 07 2013] •

[A025995] • 1,25,412,5694,71799,859131,9961834,113290048,1272810517,1419 0510477,157439054136,1741315046562,19221270567955,211903646137663,2334 237969260518,25699753556697636,282859494700604913 ★ Expansion of 1/((1-2x)(1-5x)(1-7x)(1-11x)). • a(n) = - 8 * 2 ^ n / 135 + 125 * 5 ^ n / 36 - 343 * 7 ^ n / 40 + 1331 * 11 ^ n / 216. _ R. J. Mathar _ , Jun 20 2013 •

[A023955] • 1,25,413,5693,70989,831693,9347341,102052621,1091175437,1148 9041421,119581270029,1233774903309,12644058796045,128906738896909,1308 890633457677,13248056512466957,133757151879680013 ★ Expansion of 1/((1-x)(1-6x)(1-8x)(1-10x)). • a(n) = (35 * 10 ^ (n + 3) - 90 * 8 ^ (n + 3) + 63 * 6 ^ (n + 3) - 8) / 2520. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=25, a(2)=413, a(3)=5693; for n>3, a(n) = 25 * a(n - 1) - 212 * a(n - 2) + 668 * a(n - 3) - 480 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 •

[A025980] • 1,25,413,5717,71949,854517,9768541,108728389,1186801517,1276 4197589,135709713789,1429715165541,14950747454605,155389970948341,1606 842713958557,16544916327312773,169737574552541613 ★ Expansion of 1/((1-2x)(1-4x)(1-9x)(1-10x)). • a(n) = - 2 ^ n / 14 + 16 * 4 ^ n / 15 - 729 * 9 ^ n / 35 + 125 * 10 ^ n / 6. _ R. J. Mathar _ , Jun 20 2013 •

[A025978] • 1,25,415,5805,74271,902325,10616455,122340685,1390355791,156 51303525,175025553495,1948179192765,21613189505311,239210965847125,264 3048211482535,2916735317107204 5,321591476229774831 ★ Expansion of 1/((1-2x)(1-4x)(1-8x)(1-11x)). • a(n) = - 2 * 2 ^ n / 27 + 8 * 4 ^ n / 7 - 64 * 8 ^ n / 9 + 1331 * 11 ^ n / 189. _ R. J. Mathar _ , Jun 20 2013 •

[A028037] • 1,25,415,5845,76111,952525,11679655,141710965,1710104671,205 79684125,247310795095,2969873300485,35651407676431,427894724193325,513 5204742169735,61625269469056405,739520126057523391 ★ Expansion of 1/((1-3x)(1-4x)(1-6x)(1-12x)). • a(n) = (12 ^ (n + 3) - 12 * 6 ^ (n + 3) + 27 * 4 ^ (n + 3) - 16 * 3 ^ (n + 3)) / 432 = - 3 ^ n + 4 ^ (n + 1) + 3 ^ n * 4 ^ (n + 1) - 6 ^ (n + 1). [_ Yahia Kahloune _ , May 31 2013] • a(0)=1, a(1)=25, a(2)=415, a(3)=5845, a(n)=25 * a(n - 1) - 210 * a(n - 2) + 720 * a(n - 3) - 864 * a(n - 4). - _ Harvey P. Dale _ , May 23 2014 •

[A022845] • 1,25,416,5810,73731,881895,10139746,113382280,1242174461,133 99350965,142804173876,1507398751950,15788505813991,164317248669235,170 1069830850806,17531812552906820,180008344463520321 ★ Expansion of 1/((1-x)(1-5x)(1-9x)(1-10x)). • a(n) = (32 * 10 ^ (n + 3) - 45 * 9 ^ (n + 3) + 18 * 5 ^ (n + 3) - 5) / 1440. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=25, a(2)=416, a(3)=5810; for n>3, a(n) = 25 * a(n - 1) - 209 * a(n - 2) + 635 * a(n - 3) - 450 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A023952] • 1,25,416,5822,74319,898779,10511446,120335968,1358681621,152 02492877,169098946380,1873624439778,20707233183547,228476788273759,251 8219270791458,27735798399148292,305344872665615937 ★ Expansion of 1/((1-x)(1-6x)(1-7x)(1-11x)). • a(0)=1, a(1)=25, a(2)=416, a(3)=5822, a(n)=25 * a(n - 1) - 209 * a(n - 2) + 647 * a(n - 3) - 462 * a(n - 4) [_ Harvey P. Dale _ , Mar 24 2012] • a(n) = (3 * 11 ^ (n + 3) - 25 * 7 ^ (n + 3) + 24 * 6 ^ (n + 3) - 2) / 600. [_ Yahia Kahloune _ , Jun 29 2013] •

[A025991] • 1,25,417,5909,77369,972381,11958289,145367893,1756276137,211 49737037,254259660161,3053974195077,36665246878105,440090336260093,528 1738449973233,63384838751399861,760642183440232073 ★ Expansion of 1/((1-2x)(1-5x)(1-6x)(1-12x)). • a(0)=1, a(1)=25, a(2)=417, a(3)=5909, a(n)=25 * a(n - 1) - 208 * a(n - 2) + 684 * a(n - 3) - 720 * a(n - 4). - _ Harvey P. Dale _ , May 20 2013 • a(n) = - 2 ^ n / 15 + 125 * 5 ^ n / 21 - 9 * 6 ^ n / 1 + 14 4 * 12 ^ n / 35. _ R. J. Mathar _ , Jun 20 2013 •

[A020838] • 1,25,419,5885,74811,892605,10199659,113009005,1223954171,130 30808285,136920690699,1424085096525,14693717768731,150657001125565,153 7006821834539,15618310264486445,158202271944562491 ★ Expansion of 1/((1-7x)(1-8x)(1-10x)). • a(n) = 25 * a(n - 1) - 206 * a(n - 2) + 560 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 15 2011 • a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 7 ^ n, n>=2. - Vincenzo Librandi, Mar 15 2011 • a(n) = 7 ^ (n + 2) / 3 + 5 * 10 ^ (n + 1) / 3 - 4 * 8 ^ (n + 1). - R. J. Mathar, Mar 15 2011 •

[A025975] • 1,25,419,5981,78939,999453,12366859,151048909,1831243931,221 06050109,266192557995,3200758779309,38454275485627,461767630974493,554 3426384577227,66536622452560781,798548018884036827 ★ Expansion of 1/((1-2x)(1-4x)(1-7x)(1-12x)). • a(n) = - 2 * 2 ^ n / 25 + 4 * 4 ^ n / 3 - 343 * 7 ^ n / 75 + 108 * 12 ^ n / 25. _ R. J. Mathar _ , Jun 20 2013 •

[A025953] • 1,25,420,5990,78431,976275,11762890,138612880,1607750661,184 32396125,209480782160,2364808954170,26557583235691,297035583017575,331 1510934334230,36823696010925860,408634337848437521 ★ Expansion of 1/((1-2x)(1-3x)(1-9x)(1-11x)). • a(n) = - 8 * 2 ^ n / 63 + 9 * 3 ^ n / 16 - 243 * 9 ^ n / 28 + 1331 * 11 ^ n / 144. - _ R. J. Mathar _ , Jun 20 2013 •

[A020595] • 1,25,421,5965,76741,929005,10791061,121699645,1342777381,145 69879885,156038219701,1653799781725,17380932862021,181408804717165,188 2561696208341,19442349988398205,199976918230722661 ★ Expansion of 1/((1-6x)(1-9x)(1-10x)). • a(0)=1, a(1)=25, a(2)=421; For n>2, a(n) = 25 * a(n - 1) - 204 * a(n - 2) + 540 * a(n - 3). - _ Harvey P. Dale _ , Oct 13 2012 • a(n) = (3 * 10 ^ (n + 2) - 4 * 9 ^ (n + 2) + 6 ^ (n + 2)) / 12. [_ Yahia Kahloune _ , Jun 30 2013] • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[A021964] • 1,25,422,6050,79563,993675,12002224,141692500,1645717205,188 87136125,214818117306,2426541462150,27263857999327,305049644712175,340 1871310224068,37837512809631800,419965002207076329 ★ Expansion of 1/((1-x)(1-4x)(1-9x)(1-11x)). • a(n) = (12 * 11 ^ (n + 3) - 21 * 9 ^ (n + 3) + 4 ^ (n + 5) - 7) / 1680. - _ Yahia Kahloune _ , Jun 26 2013 • a(0)=1, a(1)=25, a(2)=422, a(3)=6050; for n>3, a(n) = 25 * a(n - 1) - 203 * a(n - 2) + 575 * a(n - 3) - 396 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 • a(0)=1, a(1)=

25; for n>1, a(n) = 20 * a(n - 1) - 99 * a(n - 2) + (4 ^ n - 1) / 3. - _ Vincenzo Librandi _ , Jul 11 2013 •

[**A022456**] • 1,25,422,6074,80739,1027731,12764344,156290788,1897808357,22932373997,276311410986,3323658428142,39939656787655,479667696880423,5758762699959548,69124442908248536,829628539194983433 ★ Expansion of 1/((1-x)*(1-5*x)*(1-7*x)*(1-12*x)). • a(n) = (2 * 12 ^ (n + 4) - 22 * 7 ^ (n + 4) + 33 * 5 ^ (n + 4) - 35) / 9240. - _ Yahia Kahloune _ , Jun 27 2013 • a(0)=1, a(1)=25, a(2)=422, a(3)=6074; for n > 3, a(n) = 25 * a(n - 1) - 203 * a(n - 2) + 599 * a(n - 3) - 420 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[**A020593**] • 1,25,423,6053,79079,977613,11662351,135834661,1556251287,17625401981,197992990559,2211194243349,24591484236775,272666167778029,3016684939110447,33322861263616517,367668910476901943,4053314434523228157,44658211693913532415 ★ Expansion of 1/((1-6x)(1-8x)(1-11x)). • a(n) = 18 * 6 ^ n / 5 - 32 * 8 ^ n / 3 + 121 * 11 ^ n / 15. - _ R. J. Mathar _ , Jun 30 2013 • a(0)=1, a(1)=25, a(2)=423; for n>2, a(n) = 25 * a(n - 1) - 202 * a(n - 2) + 528 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 • a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[**A025951**] • 1,25,423,6125,82103,1054725,13214671,163046125,1992333255,24194295125,292622085119,3529789897725,42504079369207,511221761969125,6144043634254767,73803583579040525,886243482821361959 ★ Expansion of 1/((1-2x)(1-3x)(1-8x)(1-12x)). • a(n) = - 2 * 2 ^ n / 15 + 3 * 3 ^ n / 5 - 64 * 8 ^ n / 15 + 24 * 12 ^ n / 5. - _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=25, a(2)=423, a(3)=6125, a(n)=25 * a(n - 1) - 202 * a(n - 2) + 600 * a(n - 3) - 576 * a(n - 4). - _ Harvey P. Dale _ , Mar 08 2014 •

[**A021944**] • 1,25,425,6185,83241,1072425,13462825,166325545,2034167081,24716438825,299050134825,3608230161705,43455812660521,522726247165225,6282767285808425,75473627419962665,906326894688267561 ★ Expansion of 1/((1-x)(1-4x)(1-8x)(1-12x)). • a(n) = (21 * 12 ^ (n + 3) - 66 * 8 ^ (n + 3) + 77 * 4 ^ (n + 3) - 32) / 7392. [_ Yahia Kahloune _ , Jun 26 2013] •

[**A020499**] • 1,25,426,6170,81851,1029315,12498676,148149460,1726010901,19855374605,226242178526,2559210312750,28786474721551,322368894171895,3597522989519976,40035969784960040,444564772324613801 ★ Expansion of 1/((1-5x)(1-9x)(1-11x)). • a(n) = 25 * 5 ^ n / 24 - 81 * 9 ^ n / 8 + 121 * 11 ^ n / 12. - _ R. J. Mathar _ , Jun 30 2013 • a(0)=1, a(1)=25, a(2)=426; for n>2, a(n) = 25 * a(n - 1) - 199 * a(n - 2) + 495 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[**A020577**] • 1,25,427,6229,83779,1076341,13459699,165601573,2017494787,24431946517,294797887891,3549239159557,42674698231075,512696237681653,6156632228705203,73909998565124581,887135686636037443 ★ Expansion of 1/((1-6x)(1-7x)(1-12x)). • a(n) = 6 * 6 ^ n - 49 * 7 ^ n / 5 + 24 * 12 ^ n / 5. - _ R. J. Mathar _ , Jun 30 2013 • a(0)=1, a(1)=25, a(2)=427; for n>2, a(n) = 25 * a(n - 1) - 198 * a(n - 2) + 504 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 • a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[**A021714**] • 1,25,428,6278,84879,1092243,13601506,165488176,1979095877,23357343581,272803757304,3159571375194,36342586372795,415641464948839,4730786270092622,53625950549096132,605758471885400433 ★ Expansion of 1/((1-x)(1-3x)(1-10x)(1-11x)). • a(n) = - 1 / 180 + 3 ^ (n + 3) / 112 - 10 ^ (n + 3) / 63 + 11 ^ (n + 3) / 80. [_ Bruno Berselli _ , May 07 2013] •

[**A056090**] • 25,429,3364,17602,71385,242347,720792,1934076,4777337,11021713,24008532,49790614,98954626,189457350,350941064,631167840,1105440045,1890167329,3162113836,5185330818,8348369731,13215102985,20593381200,31626858540,47916657405 ★ Number of 4-element ordered antichain covers of an unlabeled n-element set. • a(n) = C(n + 14, 14) - 12 * C(n + 10, 10) + 24 * C(n + 8, 8) + 4 * C(n + 7, 7) - 18 * C(n + 6, 6) + 6 * C(n + 5, 5) - 36 * C(n + 4, 4) + 36 * C(n + 3, 3) + 11 * C(n + 2, 2) - 22 * C(n + 1, 1) + 6 * C(n, 0). • a(n) = (- 104270181120 n + 236073062016 n ^ 2 - 169534943760 n ^ 3 + 28403538800 n ^ 4 + 12862329480 n ^ 5 - 2983956976 n ^ 6 - 613678065 n ^ 7 + 39763295 n ^ 8 + 21456435 n ^ 9 + 2461459 n ^ 10 + 143325 n ^ 11 + 5005 n ^ 12 + 105 n ^ 13 + n ^ 14) / (14)!. - _ G. C. Greubel _ , Oct 06 2017 •

[**A020448**] • 1,25,429,6305,85541,1108665,13976989,173186065,2122320981,25822510505,312717161549,3775431050625,45488017644421,547320192731545,6579560264282109,79048497300991985,949332313236647861 ★ Expansion of 1/((1-5x)(1-8x)(1-12x)). • a(n) = 25 * 5 ^ n / 21 - 16 * 8 ^ n / 3 + 36 * 12 ^ n / 7. - _ R. J. Mathar _ , Jun 30 2013 • a(0)=1, a(1)=25, a(2)=429; for n>2, a(n) = 25 * a(n - 1) - 196 * a(n - 2) + 480 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[**A019742**] • 1,25,431,6365,86511,1117605,13957591,170189245,2038704671,24092243285,281680643751,3265150951725,37583315950831,430083097386565,4897580558961911,55540052099419805,627607236896972991 ★ Expansion of 1/((1-4x)(1-10x)(1-11x)). • a(n) = 2 * 4 ^ (n + 1) / 21 + 11 ^ (n + 2) / 7 - 5 * 10 ^ (n + 1) / 3. - _ R. J. Mathar _ , Nov 11 2012 • a(0)=1, a(1)=25, a(2)=431; for n>2, a(n) = 25 * a(n - 1) - 194 * a(n - 2) + 440 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[**A019722**] • 1,25,433,6457,89089,1174537,15047761,189169369,2347464097,28866716329,352675969009,4288594179961,51971489903425,628233183645001,7579976215410577,91330317763703833,1099299246068405473 ★ Expansion of 1/((1-4x)(1-9x)(1-12x)). • a(n) = 2 * 4 ^ n / 5 - 3 ^ (2n + 3) / 5 + 12 ^ n * 6. - _ R. J. Mathar _ , Nov 11 2012 • a(0)=1, a(1)=25, a(2)=433; for n>2, a(n) = 25 * a(n - 1) - 192 * a(n - 2) + 432 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[**A021324**] • 1,25,437,6629,93429,1260021,16509109,211998133,2682866357,33583284917,416888307381,5141548576437,63087471804085,770938550533813,9390151495286453,114070706832309941,1382737370876575413 ★ Expansion of 1/((1-x)(1-2x)(1-10x)(1-12x)). • a(n) = (36 * 12 ^ (n + 3) - 55 * 10 ^ (n + 3) + 99 * 2 ^ (n + 3) - 80) / 7920. [_ Yahia Kahloune _ , Jul 07 2013] • a(0)=1, a(1)=25; for n>1, a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 09 2013 • a(0)=1, a(1)=25, a(2)=437, a(3)=6629; for n>3, a(n) = 25 * a(n - 1) - 188 * a(n - 2) + 404 * a(n - 3) - 240 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 •

[**A018207**] • 1,25,439,6685,94471,1276405,16745119,215226205,2725568791,34135388485,423910350799,5229781276525,64185946519111,784517071831765,9557062002788479,116113315455883645,1407645499737869431 ★ Expansion of 1/((1-3x)(1-10x)(1-12x)). • a(0)=1, a(1)=25, a(2)=439; for n>2. a(n) = 25 * a(n - 1) - 186 * a(n - 2) + 360 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (7 * 12 ^ (n + 2) - 9 * 10 ^ (n + 2) + 2 * 3 ^ (n + 2)) / 126. [_ Yahia Kahloune _ , Jul 06 2013] •

[**A016633**] • 1,25,447,6989,101759,1417941,19180519,253983853,3309800367,42599540357,542895780791,6863463633117,86197420501375,1076563471968373,13382900349107463,165700329729679181 ★ Expansion of 1/((1-2x)(1-11x)(1-12x)). • a(n) = (648 * 12 ^ n + 2 ^ (n + 1) - 5 * 11 ^ (n + 2)) / 45. • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 2 ^ n. • a(n) = 25 * a(n - 1) - 178 * a(n - 2) + 264 * a(n - 3), n >= 3. (End) •

[**A056069**] • 25,454,3818,21420,92805,335152,1055944,2990020,7767357,18789070,42797602,92588216,191542842,381000192,731941256,1363109096,2468549141,4358716470,7520830306,12706161124,21054530855,34269633840,54863015040,86489873580,134406530985 ★ Number of 4-element ordered antichains on an unlabeled n-element set; T_1-hypergraphs with 4 labeled nodes and n hyperedges. • a(n) = C(n + 15, 15) - 12 * C(n + 11, 11) + 24 * C(n + 9, 9) + 4 * C(n + 8, 8) - 18 * C(n + 7, 7) + 6 * C(n + 6, 6) - 36 * C(n + 5, 5) + 36 * C(n + 4, 4) + 11 * C(n + 3, 3) - 22 * C(n + 2, 2) + 6 * C(n + 1, 1). •

[**A014927**] • 1,25,457,7369,111049,1604041,22505929,309160393,4178995657,55776799177,736867805641,9652968253897,125562274081225,1623467149388233,20882244117621193,267394589311003081 ★ a(1)=1, a(n)=n*12^(n-1)+a(n-1). • a(n)=(1 / 121) * [1 + 12 ^ n * (11 * n - 1)], with n>=1 [From _ Paolo P. Lava _ , Jan 13 2009] • a(1)=1, a(2)=25, a(n) = 24 * a(n - 1) - 144 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 •

[**A059946**] • 0,0,0,25,472,6185,70700,759045,7894992,80736625,817897300,8241325565,82783813112,830046591465,8313655213500,83215436364085,832662645756832,8329096006484705,83307920631515300,833180902353754605,8332418928963358152,83327847634888960345 ★ Number of 5-block bicoverings of an n-set. • a(n)=(1 / 5!) * (10 ^ n - 5 * 6 ^ n - 10 * 4 ^ n + 20 * 3 ^ n + 30 * 2 ^ n - 60). E.g.f. for m - block bicoverings of an n - set is exp(- x - 1 / 2 * x ^ 2 * (exp(y) - 1)) * Sum _{ i=0..inf } x ^ i / i! * exp(binomial(i, 2) * y). •

[**A286439**] • 0,1,25,747,7459,42983,176373,575775,1595487,3908979,8701313,17936083,34713675,63739327,111921149,189119943,309074343,490526475,758575017,1146284219,1696579123,2464458903,3519561925,4949117807,6861323439 ★ Number of ways to tile an n X n X n triangular area with four 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-16) of 1 X 1 X 1 tiles. • a(n) = (n ^ 8 - 12 * n ^ 7 + 6 * n ^ 6 + 432 * n ^ 5 - 1279 * n ^ 4 - 4692 * n ^ 3 + 20592 * n ^ 2 + 13320 * n - 91800) / 24, for n>=5. •

[**A219091**] • 0,25,1525,22518,168151,837339,3186448,10011291,27249052,66342043,147745544,305902286,596046447,1103240376,1954087550,3331605615,5493783665,8796388244,13720622866,20906286173,31191114176,45657032334 ★ Floor((n + 1/2)^8]). • a(n) = [(n + 1 / 2) ^ 8]. •

[**A172261**] • 0,0,25,1847,162531,2501726,21243084,119138166,502726650,1724809105,5059647669,13132889249,30905051345,67124176002,136380034610,261909043488,479315827404,841394145399,1424246670499,2334919892115 ★ Number of ways to place 8 nonattacking kings on an 8 X n board. • a(n) = (10485 76n ^ 8 - 30277632n ^ 7 + 406210560n ^ 6 - 3319585920n ^ 5 + 18136811049n ^ 4 - 68048382318n ^ 3 + 171628664735n ^ 2 - 266425935930n + 194935658400) / 2520, n>=7. •

[**A051112**] • 0,0,0,0,25,2020,82115,2401910,58089465,1245331920,24625121455,460316430970,8266174350005,144171200793620,2461016066613195,41343340015862430,686274244801356145,11289648429330100120 ★ Number of monotone Boolean functions of n variables with 4 mincuts. Also Sperner systems with 4 blocks. • a(n)=82 * a(n - 1) - 2970 * a(n - 2) + 62700 * a(n - 3) - 856713 * a(n - 4) + 7947786 * a(n - 5) - 51019100 * a(n - 6) + 226259000 * a(n - 7) - 678011136 * a(n - 8) + 1304341632 * a(n - 9) - 1445575680 * a(n - 10) + 696729600 * a(n - 11) •

[**A042366**] • 26,27,53,80,373,453,826,1279,67334,68613,135947,204560,954187,1158747,2112934,3271681,172240346,175512027,347752373,523264400,2440809973,2964074373,5404884346,8368958719 ★ Numerators of continued fraction convergents to sqrt(710). • a(n) = 2558 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 22 2013 •

[**A042368**] • 26,27,53,80,4213,4293,8506,12799,674054,686853,1360907,2047760,107844427,109892187,217736614,327628801,17254434266,17582063067,34836497333,52418560400,2760601638133,2813020198533 ★ Numerators of continued fraction convergents to sqrt(711). • a(n) = 160 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 22 2013 •

[**A042360**] • 26,27,53,133,452,1037,1489,2526,132841,135367,268208,671783,2283557,5238897,7522454,12761351,671112706,683874057,1354986763,3393847583,11536529512,26466906607,38003436119,64470342726 ★ Numerators of con-

tinued fraction convergents to sqrt(707). • a(n) = 5052 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 22 2013 •

[A042358] • 26,27,53,186,4889,14853,19742,34595,1818682,1853277,3671959,12869154,338269963,1027679043,1365949006,2393628049,125834607554,128228235603,254062843157,890416765074,23404898735081 ★ Numerators of continued fraction convergents to sqrt(706). • a(n) = 69190 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 22 2013 •

[A042370] • 26,27,80,507,1094,1601,84346,85947,256240,1623387,3503014,5126401,270075866,275202267,820480400,5198084667,11216649734,16414734401,864782838586,881197572987,2627177984560,16644265480347 ★ Numerators of continued fraction convergents to sqrt(712). • a(n) = 3202 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 22 2013 •

[A042378] • 26,27,107,776,1659,2435,4094,26999,274084,301083,575167,2601751,5778669,8380420,106343709,114724129,335791967,1457891997,1793683964,3251575961,34309443574,209108237405 ★ Numerators of continued fraction convergents to sqrt(716). • a(n) = 70231439376398 * a(n - 28) - a(n - 56) for n>55. [_ Bruno Berselli _ , Nov 22 2013] •

[A042392] • 26,27,215,242,12799,13041,104086,117127,6194690,6311817,50377409,56689226,2998217161,3054906387,24382561870,27437468257,1451130911234,1478568379491,11801109567671,13279677947162 ★ Numerators of continued fraction convergents to sqrt(723). • a(n) = 484 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 23 2013 •

[A042396] • 26,27,350,727,9074,9801,518726,528527,6861050,14250627,177868574,192119201,10168067026,10360186227,134490301750,279340789727,3486579778474,3765920568201,199314449324926 ★ Numerators of continued fraction convergents to sqrt(725). • a(n) = 19602 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 23 2013 •

[A042398] • 26,27,458,485,25678,26163,444286,470449,24907634,25378083,430956962,456335045,24160379302,24616714347,418027808854,442644523201,23435543015306,23878187538507,405486543631418 ★ Numerators of continued fraction convergents to sqrt(726). • a(n) = 970 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 23 2013 •

[A042400] • 26,27,701,728,38557,39285,1020682,1059967,56138966,57198933,1486112291,1543311224,81738295939,83281607163,2163778475014,2247060082177,119010902748218,121257962830395,3150459973508093 ★ Numerators of continued fraction convergents to sqrt(727). • a(n) = 1456 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 23 2013 •

[A042402] • 26,27,1430,1457,77194,78651,4167046,4245697,224943290,229188987,12142770614,12371959601,655484669866,667856629467,35384029402150,36051886031617,1910082103046234,1946133989077851 ★ Numerators of continued fraction convergents to sqrt(728). • a(n) = 54 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 23 2013 •

[A056081] • 1,26,28,53,55,80,82,107,109,134,136,161,163,188,190,215,217,242,244,269,271,296,298,323,325 ★ Numbers that are congruent to {1,26} mod 27. • a(n) = 27 * (n - 1) - a(n - 1) with n>1, a(1)=1. [_ Vincenzo Librandi _ , Aug 07 2010] •

[A069962] • 1,26,29,109,250,689,1769,4666,12181,31925,83546,218761,572689,1499354,3925325,10276669,26904634,70437281,184407161,482784250,1263945541,3309052421,8663211674,22680582649,59378536225 ★ Define C(n) by the recursion C(0)=5*I where I^2=-1, C(n+1)=1/(1+C(n)); then a(n)=5*(-1)^n/Im(C(n)) where Im(z) denotes the imaginary part of the complex number z. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). G.f.: - (x - 1) * (25 * x + 1) / ((x + 1) * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Jun 14 2013 • a(n) = (2 ^ (- 1 - n) * (- 3 * (- 1) ^ n * 2 ^ (5 + n) - (3 - sqrt(5)) ^ n * (- 53 + sqrt(5)) + (3 + sqrt(5)) ^ n * (53 + sqrt(5)))) / 5. - _ Colin Barker _ , Oct 01 2016 •

[A217775] • 26,44,68,98,134,176,224,278,338,404,476,554,638,728,824,926,1034,1148,1268,1394,1526,1664,1808,1958,2114 ★ n(n+1) + (n+2)(n+3) + (n+4)(n+5) • a(n) = 3 * n ^ 2 + 15 * n + 26. - _ Bruno Berselli _ , Mar 29 2013 •

[A261932] • 26,48,68,126,468,866,1226,2268,8406,15548,22008,40706,150848,279006,394926,730448,2706866,5006568,7086668,13107366,48572748,89839226,127165106,235202148,871602606 ★ The first of two consecutive positive integers the sum of the squares of which is equal to the sum of the squares of ten consecutive positive integers. • a(n) = a(n - 1) + 18 * a(n - 4) - 18 * a(n - 5) - a(n - 8) + a(n - 9) for n>8. - _ Vincenzo Librandi _ , Sep 07 2015 •

[A158060] • 26,51,76,101,126,151,176,201,226,251,276,301,326,351,376,401,426,451,476,501,526,551,576,601,626 ★ 25n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A169861] • 0,26,51,77,102,127,153,178,204,229,254,280,305,331,356,381,407,432,458,483,534,559,585,610,635 ★ Ceiling of n inches converted to millimeters. • a(n) = ceiling(n * 25.4) = ceiling(n * 127 / 5). •

[A122999] • 1,1,26,51,701,1976,19501,68901,556426,2278951,16189601,73163376,477903401,2306987801,14254572826,71929267851,428293588501,2226525284776,12933864997301,68596997116701,391943622049226 ★ G.f.: 1/(1 - x - 25*x^2). • a(0)=1, a(1)=1, a(n) = a(n - 1) + 25 * a(n - 2) for n>1. - _ Philippe Deléham _ , Sep 19 2009 • a(n) = (1 / 2 + sqrt(101) / 202) * (1 / 2 + sqrt(101) / 2) ^ (n - 1) + (1 / 2 - sqrt(101) / 202) * (1 / 2 - sqrt(101) / 2) ^ (n - 1). - _ Antonio Alberto Olivares _ , Jun 06 2011 •

[A252994] • 0,26,52,78,104,130,156,182,208,234,260,286,312,338,364,390,416,442,468,494,520,546,572,598,624 ★ Multiples of 26. • a(n) = 26 * n. •

[A042350] • 26,53,2782,5617,294866,595349,31253014,63101377,3312524618,6688150613,351096356494,708880863601,37212901263746,75134683391093,3944216437600582,7963567558592257,418049729484397946,844063026527388149 ★ Numerators of continued fraction convergents to sqrt(702). • a(n) = 106 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 22 2013 •

[A132767] • 0,26,54,84,116,150,186,224,264,306,350,396,444,494,546,600,656,714,774,836,900,966,1034,1104,1176 ★ a(n) = n*(n + 25). • a(n) = 2 * n + a(n - 1) + 24 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(n) = n ^ 2 + 25 * n. - _ Omar E. Pol _ , Nov 04 2016 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. •

[A184839] • 26,56,85,115,144,174,204,232,262,291,321,351,380,410,438,468,497,526,556,585,615,645,673,703,732 ★ a(n) = n + floor(n*t) + floor(n*t^2) + floor(n*t^3) + floor(n*t^4), where t is the pentanacci constant. • a(n) = n + floor(n * q / p) + floor(n * r / p) + floor(n * s / p) + floor(n * u / p), where p=t, q=t ^ 2, r=t ^ 3, s=t ^ 4, u=t ^ 5, and t is the pentanacci constant. •

[A267294] • 1,1,26,59,476,751,7024,16319,115136,195327,1776384,4177919,29474816,50003967,454754304,1069547519,7545552896,12801015807,116417101824,273804165119,1931661541376,3277060046847,29802778066944,70093866270719,494505354592256 ★ Decimal representation of the n-th iteration of the "Rule 121" elementary cellular automaton starting with a single ON (black) cell. • a(n) = a(n - 2) + 256 * a(n - 4) - 256 * a(n - 6) for n>12. •

[A162316] • 1,26,61,106,161,226,301,386,481,586,701,826,961,1106,1261,1426,1601,1786,1981,2186,2401,2626,2861,3106,3361 ★ a(n) = 5n^2 + 20n + 1. • a(n) = a(n - 1) + 10 * n + 15 (with a(0)=1). - _ Vincenzo Librandi _ , Dec 02 2010 •

[A173085] • 26,62,86,118,134,566,706,982,1198,1322,1346,1678,1706,1822,2386,2402,2498,2654,2966,3086,3142,3158,3326,3662,4222 ★ Numbers n such that n, n^2 - 5, and n^2 + 5 are semiprime. • a(n) >> n log n. - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A063304] • 1,26,65,105,145,185,225,265,305,345,385,423,465,505,545,583,625,663,705,743,785,823,865,901,945 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(31). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A262221] • 1,26,76,151,251,376,526,701,901,1126,1376,1651,1951,2276,2626,3001,3401,3826,4276,4751,5251,5776,6326,6901,7501 ★ a(n) = 25*n*(n + 1)/2 + 1. • a(n) = a(- n - 1) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A139698] • 1,26,76,176,376,776,1576,3176,6376,12776,25576,51176,102376,204776,409576,819176,1638376,3276776,6553576,13107176,26214376,52428776,104857576,209715176,419430376 ★ Binomial transform of [1, 25, 25, 25, ...]. • a(n) = 25 * 2 ^ (n - 1) - 24. - _ Emeric Deutsch _ , May 03 2008 • a(n) = 2 * a(n - 1) + 24 (with a(1)=1). - _ Vincenzo Librandi _ , Nov 24 2010 • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: x * (23 * x + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Mar 11 2014 •

[A083578] • 1,1,26,76,776,3376,25376,131776,872576,4907776,30757376,179301376,1096779776,6496792576,39316299776,234555621376,1412702437376,8454739787776,50814338072576,304542431051776,1828628975845376 ★ (6^n+(-4)^n)/2. • a(n)=(6 ^ n + (- 4) ^ n) / 2. •

[A173307] • 0,26,78,156,260,390,546,728,936,1170,1430,1716,2028,2366,2730,3120,3536,3978,4446,4940,5460,6006,6578,7176,7800 ★ a(n) = 13*n*(n+1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Sep 28 2013 •

[A042326] • 26,79,105,289,394,1471,76886,232129,309015,850159,1159174,4327681,226198586,682923439,909122025,2501167489,3410289514,12732036031,6654761631 26,2009160525409,2674636688535,7358433902479 ★ Numerators of continued fraction convergents to sqrt(690). • a(n) = 2942 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 21 2013 •

[A048509] • 1,26,87,233,577,1377,3217,7409,16881,38129,85489,190449,421873,929777,2039793,4456433,9699313,21037041,45481969,98041841,210763761,451936241,966787057,2063597553,4395630577 ★ a(n) = T(4,n), array T given by A048505. • a(n) = (n ^ 2 + 17 * n + 64) * 2 ^ (n - 2) - 15. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Mar 04 2015 •

[A010014] • 1,26,98,218,386,602,866,1178,1538,1946,2402,2906,3458,4058,4706,5402,6146,6938,7778,8666,9602,10586,11618,12698,13826 ★ a(0) = 1, a(n) = 24*n^2 + 2 for n>0. • a(n) = (2 * n + 1) ^ 3 - (2 * n - 1) ^ 3 (with different offset). - Xavier Acloque, Oct 20 2003 • a(n) = (2n - 1) ^ 2 + (2n + 1) ^ 2 + (4n) ^ 2 for n>0. - _ Bruno Berselli _ , Feb 06 2012 •

[A095796] • 1,26,98,238,467,806,1276,1898,2693,3682,4886,6326,8023,9998,12272,14866,17801,21098,24778,28862,33371,38326,43748,49658,56077 ★ 1 + (26*n+17+7*n^2)*n/2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A256645] • 0,1,26,98,240,475,826,1316,1968,2805,3850,5126,6656,8463,10570,13000,15776,18921,22458,26410,30800,35651,40986,46828,53200 ★ 25-gonal pyramidal numbers: a(n) = n*(n+1)*(23*n-20)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Colin Barker _ , Apr 07 2015 •

[A144129] • 0,1,26,99,244,485,846,1351,2024,2889,3970,5291,6876,8749,10934,13455,16336,19601,23274,27379,31940,36981,42526,48599,55224 ★ ChebyshevT(3, n). • a(n) = 4 * n ^ 3 - 3 * n. - _ Klaus Brockhaus _ , Jan 11 2009 • a(n) = cosh(3 * arccosh(n)) = cos(3 * arccos(n)). - _ Artur Jasinski _ , Feb 14 2010 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 30 2012 •

[A026915] • 1,26,100,272,640,1400,2944,6056,12304,24824,49888,100040,200368,401048,802432,1605224,3210832,6422072,12844576,25689608,51379696,102759896,205520320,411041192,822082960 ★ a(n) = T(n,0) + T(n,1) + ... + T(n,n), T given by A026907. • a(n) = 49 * 2 ^ n - 24 * n - 48. • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 2 * a(n - 3) for n>2. G.f.: (1 + 22 * x + x ^ 2) / ((1 - x) ^ 2 * (1 - 2 * x)). - _ Colin Barker _ , Feb 18 2016 •

[A136293] • 26,102,178,254,330,406,482,558,634,710,786,862,938,1014,1090,1166,1242,1318,1394,1470,1546,1622,1698,1774,1850 ★ Linear bound on the genera

of Heegaard splittings of closed, orientable 3-manifolds that admit a generalized triangulation with n generalized tetrahedra. • a(n) = 76 * n + 26. • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 2 * (25 * x + 13) / (x - 1) ^ 2. [_ Colin Barker _ , Nov 09 2012] •

[A173089] • 26,102,228,404,630,906,1232,1608,2034,2510,3036,3612,4238,4914,5640,6416,7242,8118,9044,10020,11046,12122,13248,14424,15650 ⋆ 25*n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 04 2012 •

[A244633] • 0,26,104,234,416,650,936,1274,1664,2106,2600,3146,3744,4394,5096,5850,6656,7514,8424,9386,10400,11466,12584,13754,14976 ⋆ 26*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 2. •

[A042324] • 26,105,5486,22049,1152034,4630185,241921654,972316801,50802395306,204181898025,10668261092606,42877226268449,2240284027051954,9004013334476265,470448977419817734,1890799923013747201 ⋆ Numerators of continued fraction convergents to sqrt(689). • a(n) = 210 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 21 2013 •

[A024381] • 1,26,107,276,565,1006,1631,2472,3561,4930,6611,8636,11037,13846,17095,20816,25041,29802,35131,41060,47621,54846,62767,71416,80825 ⋆ a(n) = sum of squares of first n positive integers congruent to 1 mod 4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). _ Vincenzo Librandi _ , Jun 19 2012 •

[A100161] • 1,26,115,308,645,1166,1911,2920,4233,5890,7931,10396,13325,16758,20735,25296,30481,36330,42883,50180,58261,67166,76935,87608,99225 ⋆ Structured disdyakis dodecahedral numbers (vertex structure 9). • a(n) = (1 / 6) * (40 * n ^ 3 - 48 * n ^ 2 + 14 * n). •

[A100162] • 1,26,117,316,665,1206,1981,3032,4401,6130,8261,10836,13897,17486,21645,26416,31841,37962,44821,52460,60921,70246,80477,91656,103825 ⋆ Structured disdyakis dodecahedral numbers (vertex structure 7). • a(n) = (1 / 6) * (42 * n ^ 3 - 54 * n ^ 2 + 18 * n). •

[A100163] • 1,26,119,324,685,1246,2051,3144,4569,6370,8591,11276,14469,18214,22555,27536,33201,39594,46759,54740,63581,73326,84019,95704,108425 ⋆ Structured disdyakis dodecahedral numbers (vertex structure 5). • a(n) = (1 / 6) * (44 * n ^ 3 - 60 * n ^ 2 + 22 * n). •

[A287992] • 1,26,129,444,1285,3366,8281,19544,44829,100770,223201,488916,1061749,2289854,4910505,10480176,22275661,47178234,99605809,209704940,440390181,922733526,1929364729,4026514824,8388588925 ⋆ Number of (undirected) paths in the prism graph Y_n. • a(n) = (5 * 2 ^ (n + 1) - 5 * n - n ^ 2 - 13) * n. • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 44 * a(n - 3) - 41 * a(n - 4) + 20 * a(n - 5) - 4 * a(n - 6) for n>6. (End) •

[A042314] • 26,157,183,340,4263,4603,8866,57799,3014414,18144283,21158697,39302980,492794457,532097437,1024891894,6681448801,348460229546,2097442826077,2445903055623,4543345881700,56966053636023 ⋆ Numerators of continued fraction convergents to sqrt(684). • a(n) = 115598 * a(n - 8) - a(n - 16), - _ Vincenzo Librandi _ , Nov 21 2013 •

[A200874] • 26,163,602,1673,3886,7973,14932,26073,43066,67991,103390,152321,218414,305929,419816,565777,750330,980875,1265762,1614361,2037134,2545709,3152956,3873065,4721626 ⋆ Number of 0..n arrays x(0..5) of 6 elements without any interior element greater than both neighbors or less than both neighbors. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[A027001] • 1,26,174,743,2552,7784,22193,60882,163430,433495,1142496,3001056,7869649,20619098,54001422,141401879,370224248,969294632,2537687585,6643800690,17393752166,45537499111,119218794624,312118940928,817138091617 ⋆ a(n) = T(2*n, n+2), T given by A026998. • a(n) = (2 ^ (- 1 - n) * (- 11 * 2 ^ (1 + n) + (11 - 5 * sqrt(5)) * (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n * (11 + 5 * sqrt(5))) - 12 * n - 2 * n ^ 2 - 4 * n ^ 3). •

[A181342] • 1,26,186,726,2031,4626,9176,16486,27501,43306,65126,94326,132411,181026,241956,317126,408601,518586,649426,803606,983751,1192626,1433136,1708326,2021381 ⋆ (35*n^4-105*n^3+160*n^2-120*n+36)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 140 for n > 4; a(1)=1, a(2)=26, a(3)=186, a(4)=726. •

[A056026] • 1,26,199,224,226,251,424,449,451,476,649,674,676,701,874,899,901,926,1099,1124,1126,1151,1324,1349,1351 ⋆ Numbers k such that k^14 == 1 (mod 15^2). • a(1)=1, a(2)=26, a(3)=199, a(4)=224, a(5)=226, a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ Harvey P. Dale _ , Nov 11 2011 • a(n) = (- 225 - 125 * (- 1) ^ n + (171 - 171 * i) * (- i) ^ n + (171 + 171 * i) * i ^ n + 450 * n) / 8 where i=sqrt(- 1). - _ Colin Barker _ , Oct 16 2015 •

[A100242] • 0,1,26,207,904,2825,7146,15631,30752,55809,95050,153791,238536,357097,518714,734175,1015936,1378241,1837242,2411119,3120200,3987081,5036746,6296687,7797024 ⋆ n^5-n^2*(n^2-1)/2. • a(0)=0, a(1)=1, a(2)=26, a(3)=207, a(4)=904, a(5)=2825, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) [From Harvey P. Dale, Aug 15 2011] •

[A098994] • 0,0,0,1,26,229,1246,5086,17084,49768,129958,311051,693290,1455909,2906436,5554172,10217000,18173272,31373636,52731365,86514106,138865053,218487442,337533050,512743140 ⋆ Number of permutations of [n] with exactly 3 descents which avoid the pattern 1324. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12) for n>12. - _ Colin Barker _ , Oct 26 2017 •

[A172124] • 0,0,26,232,1124,3896,10894,26192,56296,110960,204130,355000,589196,940072,1450134,2172576,3172944,4530912,6342186,8720520,11799860,15736600,20711966,26934512,34642744 ⋆ Number of ways to place 3 nonattacking bishops on an n X n board. • a(n) = (2 * (n - 2) * n * (2 * n ^ 4 - 4 * n ^ 3 + 7 * n ^ 2 - 6 * n + 4) - 3 * (- 1) ^ n + 3) / 24. [_ Bruno Berselli _ , May 26 2013] •

[A020537] • 1,26,244,2024,16336,130976,1048384,8388224,67108096,536869376,4294964224,34359732224,274877894656,2199023230976,17592185995264,140737488257024,1125899906646016,9007199254347776,72057594037141504,576460752301850624,4611686018424242176 ⋆ a(n) = 4*8^n - 3*2^n. • a(n) = 10 * a(n - 1) - 16 * a(n - 2). - _ Colin Barker _ , May 03 2015 •

[A088889] • 0,1,26,245,1353,5368,17017,45878,109446,237291,476476,898403,1607255,2750202,4529539,7216924,11169884,16850757,24848238,35901697,50928437,71054060,97646109,132351154,177135490 ⋆ Polynexus numbers of order 8. • a(n) = ((n ^ 8 - (n - 1) ^ 8) - (n ^ 4 - (n - 1) ^ 4)) / 240 = ((n ^ 8 - (n - 1) ^ 8) - (n ^ 4 - (n - 1) ^ 4)) / (2 ^ 8 - 2 ^ 4). •

[A060105] • 1,26,246,1442,6292,22374,68354,185614,458601,1048476,2246244,4553484,8801104,16319252,29174652,50495236,84906041,139104966,222612170,348732670,535778100,808600650,1200499950,1755572130,2531579505 ⋆ Sixth column (m=5) of triangle A060102. • a(n)=(n + 4) * (8 * n ^ 2 + 64 * n + 45) * binomial(n + 7, 7) / (4 * 45). •

[A086023] • 1,26,251,1476,6376,22252,66352,175252,420277,931502,1933503,3796728,7109128,12773528,22137128,37160504,60634529,96454754,149963979,228375004,341286880,501309380,724811880,1032814380,1452040005 ⋆ a(n) = Sum_{i=1..n} C(i+3,4)^2. • a(n) = (C(n + 4,5) / 126) * (126 + 420 * C(n - 1,1) + 540 * C(n - 1,2) + 315 * C(n - 1,3) + 70 * C(n - 1,4)). • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (35 * n ^ 4 + 280 * n ^ 3 + 685 * n ^ 2 + 500 * n + 12) / 181440. - _ Bruno Berselli _ , Sep 05 2013 •

[A109467] • 1,26,256,2472,25056,250016,2499456,25002112,249995776,2500000256,25000032256,249999869952,2500000260096,25000000004096,249999997894656,2500000008404992,24999999983190016,250000000000065536,2500000000134086656,24999999999463391232 ⋆ 4 X 4 analog of A094943. • a(n + 4)=4 * a(n + 3) + 44 * a(n + 2) + 144 * a(n + 1) + 160 * a(n), a(0) = 1, a(1) = 26, a(2) = 256, a(3) = 2472. •

[A187695] • 0,0,0,0,1,26,264,1846,10616,54354,258388,1168862,5109696,21805162,91460972,378874998,1555269016,6341845250,25732834116,104034429454,419461348976,1687846763418,6781455643420,27216164395430,109135969307976 ⋆ G.f.: x^4*(1+x)*(1+12*x-31*x^2+12*x^2)/((1-x)^2*(1-2*x)^2*(1-3*x)*(1-4*x)). • a(n) = 27 * 2 ^ (n - 4) * n + 33 * 2 ^ (n - 4) - 2 * n + 2 - 26 * 3 ^ (n - 2) + 25 * 4 ^ (n - 3), n>1. - _ R. J. Mathar _ , Mar 17 2011 •

[A224331] • 1,26,291,2740,24005,201678,1647079,13176680,103766409,807072130,6214455467,47455841820,359873467213,2712892291382,20346692185455,151921968318160,1129919639366417,8374698503539434,61879716720597043 ⋆ Number of idempotent n X n 0..6 matrices of rank n-1 • a(n) = n * (2 * 7 ^ (n - 1) - 1) • a(n) = 16 * a(n - 1) - 78 * a(n - 2) + 112 * a(n - 3) - 49 * a(n - 4) •

[A000498] • 1,26,302,2416,15619,88234,455192,2203488,10187685,45533450,198410786,848090912,3572085255,14875399450,61403313100,251732291184,1026509354985,4168403181210,16871482830550,68111623139600 ⋆ Eulerian numbers (Euler's triangle: column k=4 of A008292, column k=3 of A173018) • a(n) = (6 * 4 ^ n - 6 * (n + 1) * 3 ^ n + 3 * (n) * (n + 1) * 2 ^ n - (n - 1) * (n) * (n + 1)) / 6. (End) •

[A085743] • 0,0,26,333,1944,7550,22770,57771,129248,262764,495450,879065,1483416,2400138,3746834,5671575,8357760,12029336,16956378,23461029,31923800,42790230,56577906,73883843,95392224 ⋆ T(n^3)-T(n^2), where T() are the triangular numbers (A000217). • a(n) = (n - 1) * n ^ 2 * (n ^ 3 + n ^ 2 + 1) / 2. •

[A053494] • 1,26,348,2698,14751,62781,222190,681460,1865715,4655535,10756921,23290026,47700173,93104473,174248451,314246511,548380980,929209095,1533389605,2470568045,3894914166,6019752376,9136114923,13635769173,20039850376 ⋆ Number of symmetric 5 X 5 matrices of nonnegative integers with every row and column adding to n. • a(n) = (189 * (59981 + 5555 * (- 1) ^ n) + 18 * (2345165 + 65331 * (- 1) ^ n) * n + (76615494 + 689850 * (- 1) ^ n) * n ^ 2 + 40 * (2138179 + 6237 * (- 1) ^ n) * n ^ 3 + (63277966 + 47250 * (- 1) ^ n) * n ^ 4 + 1260 * (25421 + 3 * (- 1) ^ n) * n ^ 5 + 11171664 * n ^ 6 + 2644080 * n ^ 7 + 405954 * n ^ 8 + 36500 * n ^ 9 + 1460 * n ^ 10) / 12386304. - _ Colin Barker _ , Jan 14 2017 •

[A010978] • 1,26,351,3276,23751,142506,736281,3365856,13884156,52451256,183579396,600805296,1852482996,5414950296,15084504396,40225345056,103077446706,254661927156,608359048206,1408831480056,3169870830126,6943526580276,14833897694226,30957699535776 ⋆ a(n) = binomial(n,25). • a(n) = C(n,25), n >= 25. •

[A020924] • 1,26,390,4420,41990,352716,2704156,19315400,130378950,840219900,5209363380,31256180280,182327718300,1037865473400,5782393351800,31610416989840,169905991320390,899502306990300 ⋆ Expansion of 1/(1-4*x)^(13/2). • a(n) = (2 * n + 11) * (2 * n + 9) * (2 * n + 7) * (2 * n + 5) * (2 * n + 3) * (2 * n + 1) * Binomial(2 * n, n) / 10395. - _ Vincenzo Librandi _ , Jul 05 2013 •

[A229025] • 1,26,417,5334,59829,616602,5996089,55931678,505925277,4470884418,38804443041,332070466182,2809908472645,23562316644074,196128590350473,1622684846427246,13358308842842733,109510501632625170,894623468678425585,7286920685445869270 ⋆ Expansion of 1/((1-2x)(1-4x)(1-5x)(1-7x)(1-8x)). • a(n) = (5 * 8 ^ (n + 4) - 12 * 7 ^ (n + 4) + 20 * 5 ^ (n + 4) - 15 * 4 ^ (n + 4) + 2 * 2 ^ (n + 4)) / 360. • a(n) = (K * v ^ (n + 4) - L * u ^ (n + 4) + M * t ^ (n + 4) - N * s ^ (n + 4) + P * r ^ (n + 4)) / (K * L * M * N * P) ^ (1 / 3) where K,L,M,N,P have the following values: •

[A028165] • 1,26,425,5590,64701,688506,6906145,66324830,616252901,5580303586,49508360265,432061044870,3720287489101,31681154472266,267320885100785,2238337148081710,18621251375573301,154069635600426546 ⋆ Expansion

of 1/((1-5x)(1-6x)(1-7x)(1-8x)). • a(n) = 26 * a(n - 1) - 251 * a(n - 2) + 1066 * a(n - 3) - 1680 * a(n - 4), n >= 4. - _ Vincenzo Librandi _ , Mar 19 2011 • a(n) = 15 * a(n - 1) - 56 * a(n - 2) + 6 ^ (n + 1) - 5 ^ (n + 1), a(0)=1, a(1)= 26. - _ Vincenzo Librandi _ , Mar 19 2011 • a(n) = - 125 * 5 ^ n / 6 + 108 * 6 ^ n - 343 * 7 ^ n / 2 + 256 * 8 ^ n / 3. - _ R. J. Mathar _ , Jun 23 2013 •

[A028131] • 1,26,429,5746,68285,751842,7859293,79189682,776807229,7469674498,70755237917,662574315858,6150105857533,56698559685794,51995484159501,4748676612377074,43230125518942397,392566127341918530 ★ Expansion of 1/((1-4x)(1-6x)(1-7x)(1-9x)). • a(n)=(9 ^ (n + 3) - 5 * 7 ^ (n + 3) + 5 * 6 ^ (n + 3) - 4 ^ (n + 3)) / 30. [_ Yahia Kahloune _ , Jun 02 2013] •

[A028120] • 1,26,431,5824,70077,783510,8335867,85622108,857084393,8414359954,81378676743,777830951352,7365015041749,69207262292558,646271819803859,6003846344524756,55534562590626945,511814373212664522 ★ Expansion of 1/((1-4x)(1-5x)(1-8x)(1-9x)). • a(n) = 26 * a(n - 1) - 245 * a(n - 2) + 988 * a(n - 3) - 1440 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 17 2011 • a(n) = - 2 * 8 ^ (n + 2) / 3 + 9 ^ (n + 3) / 20 - 4 ^ (n + 2) / 5 + 5 ^ (n + 3) / 12. - R. J. Mathar, Mar 18 2011 •

[A028079] • 1,26,433,5894,71533,807002,8661241,89694638,904552165,8939508578,86964763249,835481774582,7946080247197,74954796226154,70227048159 1657,6542793214395326,60669652146889429,560336828250406130 ★ Expansion of 1/((1-3x)(1-6x)(1-8x)(1-9x)). • a(n)=(5 * 9 ^ (n + 3) - 9 * 8 ^ (n + 3) + 5 * 6 ^ (n + 3) - 3 ^ (n + 3)) / 90. [_ Yahia Kahloune _ , Jun 02 2013] •

[A028117] • 1,26,433,5910,72261,826266,9049993,96336350,1005909421,10365632706,105846730353,1074027489990,10850349799381,109279857370346,1098262533175513,11021021340982830,110479731234006141 ★ Expansion of 1/((1-4x)(1-5x)(1-7x)(1-10x)). • a(n)=(10 ^ (n + 3) - 5 * 7 ^ (n + 3) + 9 * 5 ^ (n + 3) - 5 * 4 ^ (n + 3)) / 90. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028076] • 1,26,435,5980,73721,849966,9381535,100546160,1055929941,10932713506,112061907035,1140487891140,11548313690161,116513300146646,1172500867726935,11777524096712920,118148491080002381,1184131514779885386,11860044495183801235 ★ Expansion of 1/((1-3x)(1-6x)(1-7x)(1-10x)). • a(n) = (10 ^ (n + 3) - 7 ^ (n + 4) + 7 * 6 ^ (n + 3) - 3 ^ (n + 3)) / 84. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028005] • 1,26,437,6034,74469,855042,9338629,98346578,1007581157,10104420898,99624776901,968871159282,9317203571365,88769381856194,839190346712453,7881486986566546,73610099911105893,684230318175538530 ★ Expansion of 1/((1-2x)(1-7x)(1-8x)(1-9x)). • a(n)=(15 * 9 ^ (n + 3) - 35 * 8 ^ (n + 3) + 3 * 7 ^ (n + 4) - 2 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , Jun 05 2013] •

[A028065] • 1,26,437,6058,75525,882258,9876613,107390426,1143865349,12003195490,124572616389,1282173260394,13113918930373,133479729281522,1353536864252165,13685361486439162,138053939020888197 ★ Expansion of 1/((1-3x)(1-5x)(1-8x)(1-10x)). • a(n)=(3 * 10 ^ (n + 3) - 7 * 8 ^ (n + 3) + 7 * 5 ^ (n + 3) - 3 ^ (n + 4)) / 210. [_ Yahia Kahloune _ , Jun 08 2013] • a(0)=1, a(1)=26, a(2)=437, a(3)=6058, a(n)=26 * a(n - 1) - 239 * a(n - 2) + 910 * a(n - 3) - 1200 * a(n - 4). - _ Harvey P. Dale _ , Nov 03 2015 •

[A028113] • 1,26,437,6082,76653,913218,10527349,119017634,1330185725,14766710530,163286454981,1801494203106,19849649018317,218551250986562,2405323875398933,26466271609592098,291175987346320029 ★ Expansion of 1/((1-4x)(1-5x)(1-6x)(1-11x)). • a(n)=(11 ^ (n + 3) - 21 * 6 ^ (n + 3) + 7 * 5 ^ (n + 4) - 15 * 4 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , Jun 11 2013] •

[A026562] • 1,26,440,6160,77616,915936,10347520,113400320,1215923456,12829712896,133751654400,1381696942080,14173677776896,144610035654656,1469203965870080,14877573810749440,150264242988711936 ★ Expansion of 1/((1-2x)(1-6x)(1-8x)(1-10x)). • a(n) = - 2 ^ n / 24 + 27 * 6 ^ n / 4 - 64 * 8 ^ n / 3 + 125 * 10 ^ n / 8. _ R. J. Mathar _ , Jun 23 2013 •

[A028062] • 1,26,440,6190,78981,952476,11101000,126669380,1426238561,15923605126,176828848560,1956923483970,21609410926741,238289337781976,2625298690331120,28907173689169960,318181508654719521 ★ Expansion of 1/((1-3x)(1-5x)(1-7x)(1-11x)). • a(n)=(11 ^ (n + 3) - 6 * 7 ^ (n + 3) + 8 * 5 ^ (n + 3) - 3 ^ (n + 4)) / 192. [_ Yahia Kahloune _ , Jun 08 2013] •

[A028047] • 1,26,441,6214,79157,948090,10903777,121902638,1335052653,14395752514,153368576153,1618401466422,16946521522789,176328040607498,1825046893884369,18806371581048766,193066856641062365 ★ Expansion of 1/((1-3x)(1-4x)(1-9x)(1-10x)). • a(n)=(5 * 10 ^ (n + 3) - 7 * 9 ^ (n + 3) + 7 * 4 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , Jun 07 2013] •

[A026024] • 1,26,443,6280,80481,969126,11196103,125634740,1380061661,14917299826,159239422563,1683073423200,17647253908441,183823250672126,1904399083525823,19639540889107660,201755613688828821 ★ Expansion of 1/((1-2x)(1-5x)(1-9x)(1-10x)). • a(0)=1, a(1)=26, a(2)=443, a(3)=6280, a(n)=26 * a(n - 1) - 233 * a(n - 2) + 820 * a(n - 3) - 900 * a(n - 4) [From Harvey P. Dale, Jul 12 2011] • a(n) = - 2 ^ n / 21 + 25 * 5 ^ n / 12 - 729 * 9 ^ n / 28 + 25 * 10 ^ n / 1. _ R. J. Mathar _ , Jun 20 2013 •

[A026542] • 1,26,443,6292,81081,986622,11585911,132996344,1504338341,16852487938,187601429379,2079728352156,22993065448081,253755685986374,2797253854490447,30812086837337728,339233247941143101 ★ Expansion of 1/((1-2x)(1-6x)(1-7x)(1-11x)). • a(n) = - 2 * 2 ^ n / 45 + 54 * 6 ^ n / 5 - 343 * 7 ^ n / 20 + 1331 * 11 ^ n / 180. _ R. J. Mathar _ , Jun 23 2013 •

[A028045] • 1,26,443,6304,81573,998502,11807311,136529708,1555263545,17536382578,196332094179,2187124368312,24278204224717,268819199510654,2971083878320247,32794508383067716,361640295036833889,398524893632194113 0,4389538410059114471 5 ★ Expansion of 1/((1-3x)(1-4x)(1-8x)(1-11x)). • a(0) =1, a(1)=26, a(2)=443, a(3)=6304, a(n)=26 * a(n - 1) - 233 * a(n - 2) + 844 * a(n - 3) - 1056 * a(n - 4). - _ Harvey P. Dale _ , Jun 11 2012 • a(n) = (5 * 11 ^ (n + 3) - 14 * 8 ^ (n + 3) + 30 * 4 ^ (n + 3) - 21 * 3 ^ (n + 3)) / 840. - _ Yahia Kahloune _ , Jun 07 2013 •

[A288714] • 26,444,3654,22888,124850,628860,3014438,13987152,63462906,283337380,1249770830,5460869112,23680912034,102049764684,437447065590,1866647382688,7933717075274,33602668068852,141880252869278,597395676419400,2509073159290866,10514236156062364 ★ Number of (undirected) paths on the 2n-crossed prism graph. • a(n) = n * (163 * 4 ^ n - 9 * 2 ^ (n + 3) * n - 87 * 2 ^ (n + 1) - 4) / 6. • a(n) = 16 * a(n - 1) - 105 * a(n - 2) + 366 * a(n - 3) - 732 * a(n - 4) + 840 * a(n - 5) - 512 * a(n - 6) + 128 * a(n - 7) for n>7. •

[A024438] • 1,26,445,6330,81141,973746,11173405,124182410,1348136581,14378944866,151299635565,1575384732090,16269102500821,166926103626386,1703932925460925,17322243189947370,175524515134509861 ★ Expansion of 1/((1-x)(1-7x)(1-8x)(1-10x)). • a(n) = (7 * 10 ^ (n + 3) - 27 * 8 ^ (n + 3) + 21 * 7 ^ (n + 3) - 1) / 378. [_ Yahia Kahloune _ , Jun 28 2013] •

[A025999] • 1,26,445,6370,82901,1019746,12105885,140404290,1603014501,18104952866,202945103725,2262802497410,25134485221301,278430633932386,3078357517755965,33986947913921730,374856803115095301 ★ Expansion of 1/((1-2x)(1-5x)(1-8x)(1-11x)). • a(n) = - 4 * 2 ^ n / 81 + 125 * 5 ^ n / 54 - 256 * 8 ^ n / 27 + 1331 * 11 ^ n / 162. _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=26, a(2)=445, a(3)=6370, a(n)=26 * a(n - 1) - 231 * a(n - 2) + 806 * a(n - 3) - 880 * a(n - 4). - _ Harvey P. Dale _ , May 24 2014 •

[A028058] • 1,26,445,6410,84781,1071986,13229485,161139770,1948959661,23484063746,282412377325,3392692006730,40735374508141,488965966028306,5868455675537965,70426728878067290,845152692571634221 ★ Expansion of 1/((1-3x)(1-5x)(1-6x)(1-12x)). • a(0)=1, a(1)=26, a(2)=445, a(3)=6410, a(n)=26 * a(n - 1) - 231 * a(n - 2) + 846 * a(n - 3) - 1080 * a(n - 4). - _ Harvey P. Dale _ , Dec 06 2012 • a(n)=(2 * 12 ^ (n + 3) - 42 * 6 ^ (n + 3) + 54 * 5 ^ (n + 3) - 14 * 3 ^ (n + 3)) / 756. [_ Yahia Kahloune _ , Jun 08 2013] •

[A024170] • 1,26,447,6412,83153,1012158,11803219,133502864,1476280245,16046160130,172084379831,1825884161556,19206817023577,200615621740742,2083177317949083,21525527306347288,221502445537069949 ★ Expansion of 1/((1-x)(1-6x)(1-9x)(1-10x)). • a(n) = (120 * 10 ^ (n + 3) - 180 * 9 ^ (n + 3) + 72 * 6 ^ (n + 3) - 12) / 4320. [_ Yahia Kahloune _ , Jun 28 2013] • a(0)=1, a(1)=26, a(2)=447, a(3)=6412; for n>3, a(n) = 26 * a(n - 1) - 229 * a(n - 2) + 744 * a(n - 3) - 540 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 •

[A028042] • 1,26,447,6484,86429,1100862,13670539,167326808,2031126537,24536941858,295591283351,3555147513372,42718200467125,513013681404614,6158932166842083,73926566183932576,887254472530712993 ★ Expansion of 1/((1-3x)(1-4x)(1-7x)(1-12x)). • a(n)=(12 ^ (n + 3) - 6 * 7 ^ (n + 3) + 15 * 4 ^ (n + 3) - 10 * 3 ^ (n + 3)) / 360. [_ Yahia Kahloune _ , Jun 07 2013] •

[A023956] • 1,26,449,6502,85581,1063194,12725545,148560206,1704811493,19330213474,217323204033,2428517447382,27020001684157,299686169462186,3316371108572633,36639232372189150,404308142849091093 ★ Expansion of 1/((1-x)(1-6x)(1-8x)(1-11x)). • a(n) = (7 * 11 ^ (n + 3) - 25 * 8 ^ (n + 3) + 21 * 6 ^ (n + 3) - 3) / 1050. [_ Yahia Kahloune _ , Jun 29 2013] •

[A025981] • 1,26,449,6526,86565,1087242,13183033,156056342,1816137389,20873693698,237678368577,2687080081998,30211476701173,338208740115194,3773239145742281,41982119790892294,466091728979229117 ★ Expansion of 1/((1-2x)(1-4x)(1-9x)(1-11x)). • a(0)=1, a(1)=26, a(2)=449, a(3)=6526, a(n)=26 * a(n - 1) - 227 * a(n - 2) + 754 * a(n - 3) - 792 * a(n - 4) – From _ Harvey P. Dale _ , Aug 11 2012 • a(n) = - 4 * 2 ^ n / 63 + 32 * 4 ^ n / 35 - 729 * 9 ^ n / 70 + 1331 * 11 ^ n / 126. _ R. J. Mathar _ , Jun 20 2013 •

[A025996] • 1,26,449,6550,87765,1122522,13981657,171489758,2084497085,25203559810,303786156609,3654919330374,43925837020261,527579714133290,6334254431345705,76034189070980398,912572474428695693 ★ Expansion of 1/((1-2x)(1-5x)(1-7x)(1-12x)). • a(n) = - 4 * 2 ^ n / 75 + 125 * 5 ^ n / 42 - 343 * 7 ^ n / 50 + 864 * 12 ^ n / 175. _ R. J. Mathar _ , Jun 20 2013 •

[A023540] • 1,26,452,6622,88473,1117788,13616464,161765924,1887776825,21743151430,247985329956,2807195642706,31593670364257,353962564536152,3951485554056128,43987455339016168,488552227663629969 ★ Expansion of 1/((1-x)(1-5x)(1-9x)(1-11x)). • a(n) = (8 * 11 ^ (n + 3) - 15 * 9 ^ (n + 3) + 10 * 5 ^ (n + 3) - 3) / 960. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=26, a(2)=452, a(3)=6622; for n>3, a(n) = 26 * a(n - 1) - 224 * a(n - 2) + 694 * a(n - 3) - 495 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A025979] • 1,26,452,6664,90384,1169952,14730304,182323328,2232488192,27147248128,328628192256,3966436411392,47780455321600,574831345147904,6909703728939008,83010267592032256,996873802452369408 ★ Expansion of 1/((1-2x)(1-4x)(1-8x)(1-12x)). • a(n) = - 2 ^ n / 15 + 4 ^ n / 1 - 16 * 8 ^ n / 3 + 2 7 * 12 ^ n / 5. _ R. J. Mathar _ , Jun 20 2013 •

[A020970] • 1,26,453,6610,87221,1079106,12770773,146348690,1637020341,17972357986,194425446293,2078548587570,22007974284661,231179027537666,2412362060669013,25033514235831250,258557417951152181 ★ Expansion of 1/((1-7x)(1-9x)(1-10x)). • a(n) = 26 * a(n - 1) - 223 * a(n - 2) + 630 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 15 2011 • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 7 ^ n, a(0)=1, a(1)=26. - Vincenzo Librandi, Mar 15 2011 • a(n) = (7 ^ (n + 2) - 3 * 9 ^ (n + 2) + 2 * 10 ^ (n + 2)) / 6 - Bruno Berselli, Mar 15 2011 •

[A023953] • 1,26,453,6682,90461,1166802,14626501,180228074,2197722861,26629669378,321427557269,3870666716826,46545364947901,559241602629554,6715873831334757,80625872396459338,967761559032496781 ★ Expansion of 1/((1-x)(1-6x)(1-7x)(1-12x)). • a(n) = (12 ^ (n + 3) - 11 * 7 ^ (n + 3) + 11 * 6 ^ (n + 3) - 1) / 330. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=26, a(2)=453, a(3)=6682; for n>3, a(n) = 26 * a(n - 1) - 223 * a(n - 2) + 702 * a(n - 3) - 504 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 •

[A020968] • 1,26,455,6700,89661,1130766,13712035,161844800,1874156921,21406992706,242089527615,2717862993300,30349359729781,337562780465846,3743627395703195,41428143398876200,457728746687336241 ★ Expansion of 1/((1-7*x)*(1-8*x)*(1-11*x)). • a(n) = 26 * a(n - 1) - 221 * a(n - 2) + 616 * a(n - 3) for n>=3. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 7 ^ n for n>1, a(0)=1, a(1)=26. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = (3 * 7 ^ (n + 2) - 4 * 8 ^ (n + 2) + 11 ^ (n + 2)) / 12. - _ Bruno Berselli _ , Mar 15 2011 •

[A025955] • 1,26,455,6760,92121,1191606,14892475,181671620,2176950941,25732149586,300910712895,3488589043680,40160193084961,459619264745966,5234383334635715,59363930948274940,670860383232854181 ★ Expansion of 1/((1-2x)(1-3x)(1-10x)(1-11x)). • a(n) = - 2 ^ n / 9 + 27 * 3 ^ n / 56 - 125 * 10 ^ n / 7 + 1331 * 11 ^ n / 72. - _ R. J. Mathar _ , Jun 20 2013 • a(0)=1, a(1)=26, a(2)=455, a(3)=6760, a(n)=26 * a(n - 1) - 221 * a(n - 2) + 676 * a(n - 3) - 660 * a(n - 4). - _ Harvey P. Dale _ , Aug 25 2014 •

[A022725] • 1,26,455,6760,92301,1200966,15177955,188364020,2310685001,28133195506,340850357055,4116281407680,49604299052101,596924491783646,7176484756065755,86224982057057740,1035557295293705601 ★ Expansion of 1/((1-x)(1-5x)(1-8x)(1-12x)). • a(n) = (3 * 12 ^ (n + 3) - 11 * 8 ^ (n + 3) + 11 * 5 ^ (n + 3) - 3) / 924. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=26, a(2)=455, a(3)=6760; for n>3, a(n) = 26 * a(n - 1) - 221 * a(n - 2) + 676 * a(n - 3) - 480 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A020606] • 1,26,457,6782,91693,1170218,14373409,171896534,2016642805,23325176930,266916367081,3029497622606,34167408893437,383440973924762,4286324362209073,47766301010614598,530982729463501189 ★ Expansion of 1/((1-6x)(1-9x)(1-11x)). • a(0)=1, a(1)=26, a(2)=457, a(n)=26 * a(n - 1) - 219 * a(n - 2) + 594 * a(n - 3). [_ Harvey P. Dale _ , Oct 26 2011] • a(n) = (3 * 11 ^ (n + 2) - 5 * 9 ^ (n + 2) + 2 * 6 ^ (n + 2)) / 30. [_ Yahia Kahloune _ , Jun 30 2013] • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[A021984] • 1,26,457,6822,93333,1210938,15168529,185357774,2224062445,26316305730,307996949481,3573147901206,41156463852037,471239561238602,5368820120200513,60908872219620318,688516109116593309 ★ Expansion of 1/((1-x)(1-4x)(1-10x)(1-11x)). • a(n)=(27 * 11 ^ (n + 3) - 35 * 10 ^ (n + 3) + 15 * 4 ^ (n + 3) - 7) / 1890. [_ Yahia Kahloune _ , Jun 29 2013] • a(0)=1, a(1)=26, a(2)=457, a(3)=6822; for n>3, a(n) = 26 * a(n - 1) - 219 * a(n - 2) + 634 * a(n - 3) - 440 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A025954] • 1,26,457,6854,94789,1251002,16035889,201651758,2502830077,30781099778,376097622121,4573691815862,55428986530165,670050005786954,8084719590584353,97413710820261566,1172538211571391853 ★ Expansion of 1/((1-2x)(1-3x)(1-9x)(1-12x)). • a(n) = 26 * a(n - 1) - 219 * a(n - 2) + 666 * a(n - 3) - 648 * a(n - 4) with a(0)=1, a(1)=26, a(2)=457, a(3)=6854. [_ Harvey P. Dale _ , Jan 19 2012] • a(n) = - 4 * 2 ^ n / 35 + 3 ^ n / 2 - 81 * 9 ^ n / 14 + 32 * 12 ^ n / 5. - _ R. J. Mathar _ , Jun 20 2013 •

[A021974] • 1,26,459,6916,96005,1270542,16318303,205487672,2552951769,31419668098,384095637107,4672689817068,56644179720493,684877363365494,8264853578776071,99595171342479904,1198894417410885377 ★ Expansion of 1/((1-x)(1-4x)(1-9x)(1-12x)). • a(n) = (5 * 12 ^ (n + 3) - 11 * 9 ^ (n + 3) + 11 * 4 ^ (n + 3) - 5) / 1320. [_ Yahia Kahloune _ , Jul 05 2013] • a(0)=1, a(1)=26, a(2)=459, a(3)=6916; for n>3, a(n) = 26 * a(n - 1) - 217 * a(n - 2) + 624 * a(n - 3) - 432 * a(n - 4). - _ Vincenzo Librandi _ , Jul 11 2013 •

[A020594] • 1,26,460,6920,95536,1254176,15958720,199053440,2450711296,29915173376,363095649280,4390419138560,52953377222656,637600367845376,7668561507696640,92162065025761280,1107062216886255616 ★ Expansion of 1/((1-6x)(1-8x)(1-12x)). • a(n) = (2 * 12 ^ (n + 2) - 6 * 8 ^ (n + 2) + 4 * 6 ^ (n + 2)) / 48. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=26, a(2)=460; for n>2, a(n) = 26 * a(n - 1) - 216 * a(n - 2) + 576 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 6 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[A020567] • 1,26,461,6946,95781,1250466,15739501,193056386,2323229621,27553572706,323079534141,3753826047426,43291842381061,496209045488546,5658293396858381,64241196847864066,726653012738614101 ★ Expansion of 1/((1-5x)(1-10x)(1-11x)). • a(n) = 5 * 5 ^ n / 6 - 20 * 10 ^ n + 121 * 11 ^ n / 6. - _ R. J. Mathar _ , Jun 30 2013 • a(0)=1, a(1)=26, a(2)=461; for n>2, a(n) = 26 * a(n - 1) - 215 * a(n - 2) + 550 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 •

[A021724] • 1,26,465,7150,101621,1378026,18123145,233349350,2958918141,37094306626,461004657425,5690785933950,69876732453061,854393804284826,10411455807073305,126524771262956950,1534170271000826381 ★ Expansion of 1/((1-x)(1-3x)(1-10x)(1-12x)). • a(n)= - 1 / 198 + 3 ^ (n + 1) / 14 - 2 ^ (n + 2) * 5 ^ (n + 3) / 63 + 2 ^ (2n + 5) * 3 ^ (n + 1) / 11. [_ Bruno Berselli _ , May 07 2013] •

[A019747] • 1,26,468,7240,103376,1406496,18541888,239158400,3036523776,38104777216,473923294208,5853743400960,71911576293376,879605537447936,10721932937084928,130329861195857920,1580624998153650176 ★ Expansion of 1/((1-4x)(1-10x)(1-12x)). • a(n)= - 25 * 10 ^ n / 3 + 9 * 12 ^ n + 4 ^ n / 3. - _ R. J. Mathar _ , Nov 11 2012 • a(0)=1, a(1)=26, a(2)=468; for n>2, a(n) = 26 * a(n - 1) - 208 * a(n - 2) + 480 * a(n - 3). - _ Vincenzo Librandi _ , Jul 03 2013 • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 4 ^ n. - _ Vincenzo Librandi _ , Jul 03 2013 •

[A021334] • 1,26,473,7462,109221,1527162,20707681,274691534,3584491901,46184032258,589079813049,7452543446166,93649963947541,1170213435915914,14553113785023377,180253443514702558 ★ Expansion of 1/((1-x)(1-2x)(1-11x)(1-12x)). • a(n) = (9 * 12 ^ (n + 3) - 11 ^ (n + 4) + 11 * 2 ^ (n + 3) - 9) / 990. [_ Yahia Kahloune _ , Jul 07 2013] • a(0)=1, a(1)=26; for n>1, a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 2 ^ n - 1. - _ Vincenzo Librandi _ , Jul 09 2013 • a(0)=1, a(1)=26, a(2)=473, a(3)=7462; for n>3, a(n) = 26 * a(n - 1) - 203 * a(n - 2) + 442 * a(n - 3) - 264 * a(n - 4). - _ Vincenzo Librandi _ , Jul 09 2013 •

[A018208] • 1,26,475,7520,110341,1545446,20980975,278565740,3637529881,46892529266,598374287875,7572794935160,95188878040621,1189735265087486,14798979200433175,183331466632763780 ★ Expansion of 1/((1-3x)(1-11x)(1-12x)). • a(0)=1, a(1)=26, a(2)=475; for n>2, a(n) = 26 * a(n - 1) - 201 * a(n - 2) + 396 * a(n - 3). - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 3 ^ n. - _ Vincenzo Librandi _ , Jul 02 2013 • a(n) = (8 * 12 ^ (n + 2) - 9 * 11 ^ (n + 2) + 3 ^ (n + 2)) / 72. [_ Yahia Kahloune _ , Jul 07 2013] •

[A106793] • 1,26,650,15600,358800,7893600,165765600,3315312000,62990928000,1133836704000,19275223968000,308403583488000,4626053752320000,64764752532480000,841941782922240000,10103301395066880000 ★ Number of words (over an alphabet of size 26) of length n with all different letters. • a(n) = 26! / (26 - n)! •

[A158643] • 26,702,2730,6110,10842,16926,24362,33150,43290,54782,67626,81822,97370,114270,132522,152126,173082,195390,219050,244062,270426,298142,327210,357630,389402 ★ 676n^2 + 26. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A042462] • 27,28,55,248,303,551,30057,30608,60665,273268,333933,607201,33122787,33729988,66852775,301141088,367993863,669134951,36501281217,37170416168,73671697385,331857205708,405528903093 ★ Numerators of continued fraction convergents to sqrt(759). • a(n) = 1102 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 25 2013 •

[A042482] • 27,28,83,111,305,416,721,12673,13394,146613,893072,1039685,6091497,19314176,64034025,147382226,211416251,358798477,570214728,929013205,1499227933,2428241138,6355710209,21495371765 ★ Numerators of continued fraction convergents to sqrt(769). • a(n) = 32734748155099080 * a(n - 37) + a(n - 74) for n>73. [_ Bruno Berselli _ , Nov 26 2013] •

[A042484] • 27,28,83,111,6077,6188,18453,24641,1349067,1373708,4096483,5470191,299486797,304956988,909400773,1214357761,66484719867,67699077628,201882875123,269581952751,14759308323677,15028890276428 ★ Numerators of continued fraction convergents to sqrt(770). • a(n) = 222 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 26 2013 •

[A042488] • 27,28,111,139,250,389,2195,2584,4779,36037,76853,112890,189743,3338521,3528264,45677689,49205953,882178890,931384843,1813563733,4558512309,33723149896,38281662205,72004812101 ★ Numerators of continued fraction convergents to sqrt(772). • a(n) = 12448646853698 * a(n - 30) - a(n - 60) for n>59. [_ Bruno Berselli _ , Nov 26 2013] •

[A042486] • 27,28,111,361,833,3693,4526,8219,12745,20964,54673,1497135,3048943,4546078,7595021,12141099,19736120,91085579,201907278,696807413,2292329517,2989136930,163705723737,166694860667 ★ Numerators of continued fraction convergents to sqrt(771). • a(n) = 5978273860 * a(n - 22) - a(n - 44) for n>43. [_ Bruno Berselli _ , Nov 26 2013] •

[A042496] • 27,28,167,195,10697,10892,65157,76049,4171803,4247852,25411063,29658915,1626992473,1656651388,9910249413,11566900801,634522892667,646089793468,3864971860007,4511061653475,247462301147657,2519733628011132,1507329115153317 ★ Numerators of continued fraction convergents to sqrt(776). • a(n) = 390 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 26 2013 •

[A042498] • 27,28,195,223,12237,12460,86997,99457,5457675,5557132,38800467,44357599,2434110813,2478468412,17304921285,19783389697,1085607964923,1105391354620,7717956092643,8823347447263 ★ Numerators of continued fraction convergents to sqrt(777). • a(n) = 446 * a(n - 4) - a(n - 8). G.f.: - (x ^ 7 - 27 * x ^ 6 + 28 * x ^ 5 - 195 * x ^ 4 - 223 * x ^ 3 - 195 * x ^ 2 - 28 * x - 27) / (x ^ 8 - 446 * x ^ 4 + 1). [_ Colin Barker _ , Jul 16 2012] •

[A042504] • 27,28,363,391,21477,21868,283893,305761,16794987,17100748,222003963,239104711,13133658357,13372763068,173606815173,186979578241,10270504040187,10457483618428,135760307461323 ★ Numerators of continued fraction convergents to sqrt(780). • a(n) = 782 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 26 2013 •

[A041363] • 1,1,27,28,755,783,21113,21896,590409,612305,16510339,17122644,461699083,478821727,12911063985,13389885712,361048092497,374437978209,10096435525931,10470873504140,282339146633571,292810020137711,7895399670214057,8188209690351768 ★ Denominators of continued fraction convergents to sqrt(195). • a(n) = 28 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 16 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (26 + 4 * cos ^ 2(k * Pi / n)). •

[A042508] • 27,28,755,783,43037,43820,1182357,1226177,67395915,68622092,1851570307,1920192399,105541959853,107462152252,2899557918405,3007020070657,165278641733883,168285661804540,4540705848651923 ★ Numerators of continued fraction convergents to sqrt(782). • a(n) = 1566 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 26 2013 •

[A042509] • 1,1,27,28,1539,1567,42281,43848,2410073,2453921,66212019,68665940,3774172779,3842838719,103687979473,107530818192,5910352161841,6017882980033,162375309642699,168393192622732,9255607711270227,9424000903892959,254279631212487161 ★ Denominators of continued fraction convergents to sqrt(782). • a(0)=1, a(1)=1, a(2)=27, a(3)=28, a(4)=1539, a(5)=1567, a(6)=42281, a(7)=43848, a(n)=1566 * a(n - 4) - a(n - 8). - _ Harvey P. Dale _ , Jun 20 2015 •

[**A042510**] • 27,28,1539,1567,86157,87724,4823253,4910977,270016011,274926988,15116073363,15391000351,846230092317,861621092668,47373769096389,48235390189057,2652084839305467,2700320229494524 ⋆ Numerators of continued fraction convergents to sqrt(783). • a(n) = 56 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 26 2013 •

[**A214832**] • 27,29,30,32,34,36,38,41,43,46,48,51,55,58,61,65,69,73,77,82,87,92,97,103,110 ⋆ Integer part of A440 piano key frequencies. • a(n) = floor[2 ^ ((n - 49) / 12) * 440] (Hz) for 1 <= n <= 88. •

[**A160119**] • 0,1,27,35,235,243,443,499,1899,1907,2107,2163,3563,3619,5019,5411,15211,15219,15419,15475,16875,16931,18331,18723,28523 ⋆ A three-dimensional version of the cellular automaton A160118, using cubes. • a(2n - 1) = 3 ^ d + (2 ^ d) * Sum _{ k=1..n - 1 } (2 ^ d - 1) ^ (wt(k) - 1) + (2 ^ d) * (3 ^ d - 2) * Sum _{ k=1..n - 2 } (2 ^ d - 1) ^ (wt(k) - 1), n >= 2. • a(2n) = 3 ^ d + (2 ^ d) * Sum _{ k=1..n - 1 } (2 ^ d - 1) ^ (wt(k) - 1) + (2 ^ d) * (3 ^ d - 2) * Sum _{ k=1..n - 1 } (2 ^ d - 1) ^ (wt(k) - 1), n >= 1. (End) •

[**A160379**] • 0,1,27,35,235,261,881,937,2241,2339,4591,4743,8207,8425,13365,13661,20341,20727,29411,29899,40851,41453,54937,55665,71945 ⋆ Number of ON cells at n-th stage of three-dimensional version of the cellular automaton A160117 using cubes. • a(2n) = 46n ^ 3 - 57n ^ 2 + 57n - 19 for n>=1, a(2n + 1) = 46n ^ 3 - 51n ^ 2 + 57n - 17 for n>=1. [From _ Nathaniel Johnston on _ , Nov 06 2010] •

[**A097228**] • 27,38,127,138,289,298,1127,1138,1289,1298,11127,11138,11289,11298,111127,111138,111289,111298,1111127,1111138,1111289,1111298,11111127,11111138,11111289 ⋆ Numbers n such that the product of digits of n equals the concatenation of pi(d)'s where d runs through the digits of n. • a(n) = 11 * a(n - 4) - 10 * a(n - 8) for n > 10. •

[**A241407**] • 27,46,100,119,173,192,246,265,319,338,392,411,465,484,538,557,611,630,684,703,757,776,830,849,903 ⋆ Numbers n such that n^2 == -1 (mod 73). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. • a(n) = a(n - 2) + 73 for all n>2. • a(n) = - 27 * (- 1) ^ n + 73 * floor(n / 2). •

[**A109067**] • 27,50,52,63,66,70,75,78,92,116,124,130,147,170,186,188,195,207,222,236,238,255,266,268,275 ⋆ 3-almost primes of the form semiprime + 1. • a(n) is in this sequence iff a(n) is in A014612 and a(n) - 1 is in A001358. •

[**A154591**] • 27,51,79,111,147,187,231,279,331,387,447,511,579,651,727,807,891,979,1071,1167,1267,1371,1479,1591,1707 ⋆ 2n^2 + 18n + 7. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 22 2012 •

[**A160845**] • 0,1,27,52,93,140,207,274,361,454,563,676,809,944,1099,1258,1433,1614,1815,2016,2237,2464,2707,2954,3221 ⋆ Number of lines through at least 2 points of a 5 X n grid of points. • a(n) = (1 / 2) * (f(m,n,1) - f(m,n,2)) where f(m,n,k) = Sum((n - |kx|) * (m - |ky|)); - n < kx < n, - m < ky < m, (x,y) =1, m=5. • a(n) = a(n - 1) + a(n - 3) - a(n - 5) - a(n - 7) + a(n - 8) for n > 7. •

[**A042448**] • 27,55,137,192,521,713,1947,4607,250725,506057,1262839,1768896,4800631,6569527,17939685,42448897,2310180123,4662809143,11635798409,16298607552,44233013513,60531621065,165296255643 ⋆ Numerators of continued fraction convergents to sqrt(752). • a(n) = 9214 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 25 2013 •

[**A042454**] • 27,55,577,1209,65863,132935,1395213,2923361,159256707,321436775,3373624457,7068685689,385082651663,777233989015,8157422541813,17092079072641,931129692464427,1879351464001495 ⋆ Numerators of continued fraction convergents to sqrt(755). • a(n) = 2418 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 25 2013 •

[**A042456**] • 27,55,2997,6049,329643,665335,36257733,73180801,3988020987,8049222775,438646050837,885341324449,48247077571083,97379496466615,5306739886768293,10710859270003201,583693140466941147 ⋆ Numerators of continued fraction convergents to sqrt(756). • a(n) = 110 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 25 2013 •

[**A132768**] • 0,27,56,87,120,155,192,231,272,315,360,407,456,507,560,615,672,731,792,855,920,987,1056,1127,1200 ⋆ a(n) = n(n+26). • a(n) = n * (n + 26). • a(n) = 2 * n + a(n - 1) + 25 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[**A180574**] • 27,60,105,174,259,376,513,690,891,1140,1417,1750,2115,2544,3009,3546,4123,4780,5481,6270,7107,8040,9025,10114,11259 ⋆ Wiener index of the n-sunlet graph. • a(n) = n(n ^ 2 + 4n - 2) / 2 if n is even; a(n) = n(n ^ 2 + 4 n - 3) / 2 if n is odd. • a(n) = n * (- 5 + (- 1) ^ n + 8 * n + 2 * n ^ 2) / 4. - _ Colin Barker _ , Oct 31 2012 • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6). - _ Eric W. Weisstein _ , Sep 07 2017 •

[**A195028**] • 0,27,82,165,276,415,582,777,1000,1251,1530,1837,2172,2535,2926,3345,3792,4267,4770,5301,5860,6447,7062,7705,8376 ⋆ n*(14*n + 13). • a(n) = 14 * n ^ 2 + 13 * n. •

[**A042438**] • 27,82,4455,13447,730593,2205226,119812797,361643617,19648568115,59307347962,3222245358063,9726043422151,528428590154217,1595011813884802,86659066539933525,261572211433685377 ⋆ Numerators of continued fraction convergents to sqrt(747). • a(n) = 164 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 24 2013 •

[**A161340**] • 0,1,27,83,343,399,791,1183,3375,3431,3823,4215,6959,7351,10095,12839,29791,29847,30239,30631,33375,33767,36511,39255,58463 ⋆ Number of "ON" cells at n-th stage of three-dimensional version of the cellular automaton A160414 using cubes. • a(n) = (2n - 1) ^ 3 if n is a power of 2 •

[**A028993**] • 1,27,85,175,297,451,637,855,1105,1387,1701,2047,2425,2835,3277,3751,4257,4795,5365,5967,6601,7267,7965,8695,9457 ⋆ Odd 10-gonal (or decagonal) numbers. • a(n) = (2n + 1) * (8n + 1). - _ N. J. A. Sloane _ •

[**A228600**] • 27,92,125,282,343,632,729,1190,1331,2004,2197,3122,3375,4592,4913,6462,6859,8780,9261,11594,12167,14952,15625,18902,19683 ⋆ The Szeged index of the n-sunlet graph (n>=3). • a(n) = 4 * n * (floor(n / 2)) ^ 2 + 2 * n ^ 2 - n. • a(n) = n ^ 3 if n is odd; a(n) = n ^ 3 + 2 * n ^ 2 - n if n is even. •

[**A154377**] • 27,104,231,408,635,912,1239,1616,2043,2520,3047,3624,4251,4928,5655,6432,7259,8136,9063,10040,11067,12144,13271,14448,15675 ⋆ a(n) = 25*n^2 + 2*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158549**] • 1,27,105,235,417,651,937,1275,1665,2107,2601,3147,3745,4395,5097,5851,6657,7515,8425,9387,10401,11467,12585,13755,14977 ⋆ 26n^2+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A244634**] • 0,27,108,243,432,675,972,1323,1728,2187,2700,3267,3888,4563,5292,6075,6912,7803,8748,9747,10800,11907,13068,14283,15552 ⋆ 27*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[**A134171**] • 0,0,0,27,108,270,540,945,1512,2268,3240,4455,5940,7722,9828,12285,15120,18360,22032,26163,30780,35910,41580,47817,54648 ⋆ a(n) = (9/2)*(n-1)*(n-2)*(n-3). • a(n) = C(n + 2,3) * 3 ^ 3, n>= - 2. - _ Zerinvary Lajos _ , Aug 06 2008 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n >4. •

[**A042424**] • 27,109,136,1741,1877,9249,501323,2014541,2515864,32204909,34720773,171088001,9273472827,37264979309,46538452136,595726404941,642264857077,3164785833249,171540699852523 ⋆ Numerators of continued fraction convergents to sqrt(740). • a(n) = 18498 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 24 2013 •

[**A193391**] • 27,109,271,529,899,1397,2039,2841,3819,4989,6367,7969,9811,11909,14279,16937,19899,23181,26799,30769,35107,39829,44951,50489,56459 ⋆ Wiener index of a benzenoid consisting of a spiral chain of n hexagons (s=1; see the Gutman et al. reference). • a(n) = (27 - 26 * n + 72 * n ^ 2 + 8 * n ^ 3) / 3. •

[**A193399**] • 27,109,271,545,931,1493,2199,3145,4267,5693,7327,9329,11571,14245,17191,20633,24379,28685,33327,38593,44227,50549,57271,64745,72651 ⋆ Wiener index of a benzenoid consisting of a chain of n hexagons characterized by the encoding s = 1133 (see the Gutman et al. reference, Sec. 5). • a(n) = 4 * n ^ 3 + 16 * n ^ 2 + 8 * n + 2 * (- 1) ^ n * (n - 2) - 3. •

[**A193393**] • 27,109,271,545,963,1557,2359,3401,4715,6333,8287,10609,13331,16485,20103,24217,28859,34061,39855,46273,53347,61109,69591,78825,88843 ⋆ Wiener index of a benzenoid consisting of a zig-zag chain of n hexagons (s=13; see the Gutman et al. reference). • a(n) = (16 * n ^ 3 + 24 * n ^ 2 + 62 * n - 21) / 3. •

[**A143938**] • 27,109,279,569,1011,1637,2479,3569,4939,6621,8647,11049,13859,17109,20831,25057,29819,35149,41079,47641,54867,62789,71439,80849,91051 ⋆ The Wiener index of a benzenoid consisting of a linear chain of n hexagons. • a(n) = (1 / 3) * (16 * n ^ 3 + 36 * n ^ 2 + 26 * n + 3). •

[**A158554**] • 27,111,251,447,699,1007,1371,1791,2267,2799,3387,4031,4731,5487,6299,7167,8091,9071,10107,11199,12347,13551,14811,16127,17499 ⋆ 28*n^2-1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A267812**] • 1,1,27,119,495,2015,8127,32639,130815,523775,2096127,8386559,33550335,134209535,536854527,2147450879,8589869055,34359607295,137438691327,549755289599,2199022206975,8796090925055,35184367894527,140737479966719,562949936644095 ⋆ Decimal representation of the n-th iteration of the "Rule 217" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3) for n>4. •

[**A029699**] • 0,1,27,120,340,765,1491,2632,4320,6705,9955,14256,19812,26845,35595,46320,59296,74817,93195,114760,139860,168861,202147,240120,283200 ⋆ Number of words of length 4 in the n(n-1)/2 transpositions of S[n] equivalent to the identity. • a(n) = n * (n - 1) * (3 * n ^ 2 + n - 12) / 4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. - _ Colin Barker _ , May 28 2015 •

[**A061434**] • 1,27,125,1000,10648,103823,1000000,10077696,100544625,1000000000,10007873875,100026577288,1000000000000,10000909453625,100000721719296,1000000000000000,10000073940248384,100000075387171679 ⋆ a(n) = smallest n-digit cube. • a(n)=ceil(10 ^ ((n - 1) / 3)) ^ 3 - Antonio G. Astudillo (afg _ astudillo(AT)lycos.com), Mar 30 2003 •

[**A026917**] • 1,27,127,399,1039,2439,5383,11439,23743,48567,98455,198495,398863,799911,1602343,3207567,6418399,12840471,25685047,51374655,102754351,205514247,411034567,822075759,1644158719 ⋆ a(n) = Sum{T(i,j)}, 0<=j<=i, 0<=i<=n, T given by A026907. • a(n) = 98 * 2 ^ n - 12 * n ^ 2 - 60 * n - 97. • a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 7 * a(n - 3) - 2 * a(n - 4) for n>3. •

[**A267935**] • 1,1,27,127,511,2047,8191,32767,131071,524287,2097151,8388607,33554431,134217727,536870911,2147483647,8589934591,34359738367,137438953471,549755813887,2199023255551,8796093022207,35184372088831,140737488355327,562949953421311 ⋆ Decimal representation of the n-th iteration of the "Rule 249" elementary cellular automaton starting with a single ON (black) cell. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) for n>4. • a(n) = 2 ^ (2 * n + 1) - 1 for n>2. - _ Colin Barker _ , Nov 26 2016 •

[**A180578**] • 27,144,351,648,1035,1512,2079,2736,3483,4320,5247,6264,7371,8568,9855,11232,12699,14256,15903,17640,19467,21384,23391,25488,27675 ⋆ The Wiener index of the Dutch windmill graph D(6,n) (n>=1). • a(n) = 9n(5n - 2). •

[**A192328**] • 27,147,507,867,1587,2187,3267,4107,5547,6627,8427,9747,11907,13467,15987,17787,20667,22707,25947,28227,31827,34347,38307,41067,45387 ⋆ Numbers of the form 20*k+7 which are three times a square. • a(n) = 3 * ((10 * n + (- 1) ^ n + 5) / 2) ^ 2. • a(n) = a(- n - 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[**A129028**] • 0,27,150,483,1188,2475,4602,7875,12648,19323,28350,40227,55500,74763,98658,127875,163152,205275,255078,313443,381300,459627,549450,651843,767928 ⋆ A129027(n)/4. • a(n) = (n * (5 + 13 * n + 7 * n ^ 2 + 2 * n ^

3)). G.f.: - 3 * x * (x ^ 3 + x ^ 2 + 5 * x + 9) / (x - 1) ^ 5. - _ Colin Barker _ , Jul 27 2013 •

[**A042420**] • 27,163,8829,53137,2878227,17322499,938293173,5647081537,305880696171,1840931258563,99716168658573,600137943210001,3250716510199 8627,195643128555201763,1059723610708289 3829 ⋆ Numerators of continued fraction convergents to sqrt(738). • a(n) = 326 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 24 2013 •

[**A213285**] • 0,1,27,165,712,2535,8151,23527,60600,140517,297595,584001,1075152,1875835,3127047,5013555,7772176,11700777,17167995,24623677,34610040,47773551,64877527,86815455,114625032 ⋆ Number of 6-length words w over n-ary alphabet such that for every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (- 332 + 757 * n - 632 * n ^ 2 + 255 * n ^ 3 - 48 * n ^ 4 + 4 * n ^ 5) / 4. •

[**A224454**] • 27,180,567,1296,2475,4212,6615,9792,13851,18900,25047,32400,41067,51156,62775,76032,91035,107892,126711,147600,170667,196020,223767,254016,286875 ⋆ The Wiener index of the linear phenylene with n hexagons. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Dec 08 2016 •

[**A000499**] • 0,1,27,184,875,2700,7546,17600,35721,72750,126445,223776,353717,595448,843750,1349120,1827636,2808837,3600975,5306000,6667920,9599172,11509982,16416000,19015625 ⋆ a(n) = Sum_{k=1..n-1} k^3*sigma(k)*sigma(n-k). • a(n) = Sum _{ k=1..n - 1 } k ^ 3 * sigma(k) * sigma(n - k). - _ Michel Marcus _ , Feb 02 2014 •

[**A042416**] • 27,190,217,624,841,2306,3147,24335,1317237,9244994,10562231,30369456,40931687,112232830,153164517,1184384449,64109924763,4499538577 90,514063782553,1478081422896,1992145205449 ⋆ Numerators of continued fraction convergents to sqrt(736). • a(n) = 48670 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Nov 23 2013 •

[**A216108**] • 27,198,585,1260,2295,3762,5733,8280,11475,15390,20097,25668,32175,39690,48285,58032,69003,81270,94905,109980,126567,144738,164565,186120,209475 ⋆ The Wiener index of the ortho-polyphenyl chain with n hexagons (see the Dou et al. and the Deng references). • a(n) = 12n ^ 3 + 36n ^ 2 - 21 n. •

[**A216110**] • 27,198,621,1404,2655,4482,6993,10296,14499,19710,26037,33588,42471,52794,64665,78192,93483,110646,129789,151020,174447,200178,228321,258984,292275 ⋆ The Wiener index of the meta-polyphenyl chain with n hexagons (see the Dou et al. and the Deng references). • a(n) = 18n ^ 3 + 18 n ^ 2 - 9n. •

[**A216112**] • 27,198,657,1548,3015,5202,8253,12312,17523,24030,31977,41508,52767,65898,81045,98352,117963,140022,164673,192060,222327,255618,292077,331848,375075 ⋆ The Wiener index of the para-polyphenyl chain with n hexagons (see the Dou et al. and the Deng references). • a(n) = 3n(1 + 8n ^ 2). •

[**A033544**] • 0,27,210,822,2328,5433,11130,20748,36000,59031,92466,139458,203736,289653,402234,547224,731136,961299,1245906,1594062,2015832,2522289,3125562,3838884,4676640 ⋆ Wiener number of n-hexagonal triangle. • a(n) = (1 / 10) * n * (n + 1) * (4 * n ^ 3 + 36 * n ^ 2 + 79 * n + 16). •

[**A059827**] • 1,27,216,1000,3375,9261,21952,46656,91125,166375,287496,474552,753571,1157625,1728000,2515456,3581577,5000211,6859000,9261000,12326391,16194277,21024576,27000000,34328125 ⋆ Cubes of triangular numbers: (n*(n+1)/2)^3. • a(n) = Sum _{ j=1..n } Sum _{ i=1..n } i * j ^ 3. - _ Alexander Adamchuk _ , Jun 25 2006 •

[**A272342**] • 27,216,1728,13824,110592,884736,7077888,56623104,452984832,3623878656,28991029248,231928233984,1855425871872,14843406974976,118747255799808,949978046398464,7599824371187712,60798594969501696 ⋆ a(n) = 27*8^n. • a(n) = 27 * 8 ^ n = 2 ^ 3n + 2 ^ (3n + 1) + 2 ^ (3n + 3) + 2 ^ (3n + 4). • a(n) = 8 * a(n - 1), n>0; a(0)=27. •

[**A030509**] • 27,244,1225,4506,13559,35346,82664,177494,355621,672796,1212758,2097452,3499818,5659535,8902155,13662083,20509867,30184333,43630080,62040927,86909874,120086243,163840610,220938240,294721720 ⋆ Graham-Sloane-type lower bound on the size of a ternary (n,3,9) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[**A059603**] • 1,27,273,1715,8007,30381,98735,284349,742950,1791426,4037670,8591154,17392258,33711510,62886162,113381398,198287439,337392405,560004575,908737245,1444515345,2253115995,3453615945,5209188075,7740767580 ⋆ Expansion of (1+15*x+15*x^2+x^3)/(1-x)^12. • a(n)= binomial(n + 8, 8) * (2 * n + 9) * (8 * n ^ 2 + 72 * n + 55) / (11 * 5 * 9). •

[**A115246**] • 0,0,27,288,2250,15795,105987,696864,4540968,29490750,191420427,1243565235,8091223647,52739879283,344402073027,2253045672480,14764068268068,96899123172708,636877933530303,4191430966219038,27617820628739718,182176855684869243 ⋆ Number of different ways to select n elements from three sets of n elements such that there is at least one element from each set. • a(n) = binomial(3n, n) - 3 * binomial(2n, n) + 3. •

[**A086574**] • 0,27,297,2997,29997,299997,2999997,29999997,299999997,2999999997,29999999997,299999999997,2999999999997,29999999999997,299999999999997,2999999999999997,29999999999999997,299999999999999997 ⋆ 3*(10^n-1). • a(0)=0, a(1)=27, a(n)=11 * a(n - 1) - 10 * a(n - 2). - _ Harvey P. Dale _ , Nov 28 2015 •

[**A048396**] • 0,27,315,1638,5670,15345,35217,71820,134028,233415,384615,605682,918450,1348893,1927485,2689560,3675672,4931955,6510483,8469630,10874430,13796937,17316585,21520548,26504100 ⋆ Sums of consecutive noncubes. • a(n) = (6n ^ 5 + 15n ^ 4 + 18n ^ 3 + 12n ^ 2 + 3n) / 2. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Wesley Ivan Hurt _ , Apr 10 2015 •

[**A128831**] • 1,27,343,3375,29791,250047,2048383,16581375,133432831,1070599167,8577357823,68669157375,549554511871,4397241253887,35181150961663,281462092005375,2251748274470911,18014192351838207,144114363443707903 ⋆ Number of n-tuples where each entry is chosen from the subsets of {1,2,3} such that the intersection of all n entries is empty. • a(n)=(2 ^ n - 1) ^ 3 •

[**A030648**] • 1,27,351,3003,19305,100386,442442,1706562,5895396,18559580,53965548,146477916,374332452,907036326,2096092350,4642456390,9895762305,20373628275,40639459575,78751105875,148599912825,273612537900,492502568220,868056366060,1500344336400 ⋆ Dimensions of multiples of minimal representation of complex Lie algebra E6. • a(n) = (1 / 517440) * binomial(n + 11, 3) * binomial(n + 3, 3) * binomial(n + 8, 5) ^ 2. •

[**A110207**] • 1,27,368,6615,88536,1449198,20078192,320944275,4584724120,72867715074,1064153845776,16896536592390,250629464211504,3980364331323996,59709362473177824,948742244639103915,14352114907032903000 ⋆ a(n) = sum of cubes of numbers < 2^n having exactly [n/2]+1 ones in their binary expansion. • a(n) = (8 ^ n - 1) / 7 * C(n - 3, [n / 2]) + ((2 ^ n - 1) * (4 ^ n - 1) - (8 ^ n - 1) / 7) * C(n - 3, [n / 2] - 1) + (2 ^ n - 1) ^ 3 * C(n - 3, [n / 2] - 2). •

[**A00535**] • 0,27,378,4536,48600,489780,4738104,44535456,409752432,3708359550,33125746500,292779558720,2565087894720,22307854940280,192788833482000,1657111548654720,14176605442521312,120779466450505758,1025230099571720676,8674221270307971600 ⋆ Card matching: coefficients B[n,2] of t^2 in the reduced hit polynomial A[n,n,n](t). • a(n) = 3 * binomial(n, 2) * sum(binomial(n, k + 2) * binomial(n, k) * binomial(n - 2, k), k=0..n - 2) + 3n ^ 2 * sum(binomial(n, k + 1) * binomial(n - 1, k + 1) * binomial(n - 1, k), k=0..n - 2). • a(n) = 3(n - 1)n ^ 3 3F2(1 - n, 1 - n, 2 - n; 2, 2; - 1) + (3 / 4)(n - 1) ^ 2 n ^ 2 3F2(2 - n, 2 - n, - n; 1, 3; - 1), where 3F2 is the hypergeometric function 3F2. - _ Jean - François Alcover _ , Feb 09 2016 •

[**A033280**] • 1,27,385,4004,34398,259896,1790712,11511720,70114902,409003595,2303105805,12593413560,67173369900,350777861280,1798432526880,9073909567440,45140379405030,221768094898350,1077403874372826,5182007298602904,24699073588138180,116759256962107760 ⋆ Number of diagonal dissections of a convex (n+8)-gon into n+1 regions. • a(n) = binomial(n + 5, 5) * binomial(2n + 7, n) / (n + 1). •

[**A036222**] • 1,27,405,4455,40095,312741,2189187,14073345,84440070,478493730,2583866142,13389124554,66945622770,324428787270,1529449997130,7035469986798,31659614940591,139674771796725,605257344452475 ⋆ Expansion of 1/(1-3*x)^9; 9-fold convolution of A000244 (powers of 3). • a(n) = 3 ^ n * binomial(n + 8, 8); • a(0)=1, a(1)=27, a(2)=405, a(3)=4455, a(4)=40095, a(5)=312741, a(6)=2189187, a(7)=14073345, a(8)=84440070, a(n) = 27 * a(n - 1) - 324 * a(n - 2) + 2268 * a(n - 3) - 10206 * a(n - 4) + 30618 * a(n - 5) - 61236 * a(n - 6) + 78732 * a(n - 7) - 59049 * a(n - 8) + 19683 * a(n - 9). - _ Harvey P. Dale _ , Jan 07 2016 •

[**A155988**] • 1,27,405,5103,59049,649539,6908733,71744535,731794257,7360989291,73222472421,721764371007,7060738412025,68630377364883,663426981193869,6382625094934119,61149666232110753,583701359488329915 ⋆ (2*n+1)*9^n • a(0)=1, a(1)=27, a(n)=18 * a(n - 1) - 81 * a(n - 2) for n>=2. •

[**A028166**] • 1,27,460,6330,76951,863457,9169210,93598560,928041301,9002652087,85889800360,809002365990,7544820424051,69822238375917,642271794705910,5880216219628620,53636500167577201,487828126104034947 ⋆ Expansion of 1/((1-5x)(1-6x)(1-7x)(1-9x)). • a(n) = 27 * a(n - 1) - 269 * a(n - 2) + 1173 * a(n - 3) - 1890 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 19 2011 • a(n) = 16 * a(n - 1) - 63 * a(n - 2) + 6 ^ (n + 1) - 5 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 • a(n) = - 7 ^ (n + 3) / 4 + 2 * 6 ^ (n + 2) + 3 * 9 ^ (n + 2) / 8 - 5 ^ (n + 3) / 8. - R. J. Mathar, Mar 19 2011 •

[**A028135**] • 1,27,463,6447,79639,910959,9884071,103247199,1048457047,10419680271,101824958599,981887319231,9367184200375,88585292286063,8317472620574 47,7762970817850143,72093155775104023,666700494910153935 ⋆ Expansion of 1/((1-4x)(1-6x)(1-8x)(1-9x)). • a(n)=(6 * 9 ^ (n + 2) - 10 * 8 ^ (n + 2) + 5 * 6 ^ (n + 2) - 4 ^ (n + 2)) / 10. [_ Yahia Kahloune _ , Jun 02 2013] •

[**A028132**] • 1,27,465,6535,81921,956487,10657585,115031895,1214419041,12622599847,129754165905,1323318833655,13420125351361,135548860481607,1365156409213425,13720647130385815,137698507311406881 ⋆ Expansion of 1/((1-4x)(1-6x)(1-7x)(1-10x)). • a(n)=(10 ^ (n + 3) - 8 * 7 ^ (n + 3) + 9 * 6 ^ (n + 3) - 2 * 4 ^ (n + 3)) / 72. [_ Yahia Kahloune _ , Jun 02 2013] •

[**A028089**] • 1,27,466,6558,82075,952329,10485532,111125916,1144265749,11522055831,113982102598,1111567913274,10714164992623,102277469691333,968483992074064,9108558269363832,85172800746064297 ⋆ Expansion of 1/((1-3x)(1-7x)(1-8x)(1-9x)). • a(n)=(10 * 9 ^ (n + 3) - 24 * 8 ^ (n + 3) + 15 * 7 ^ (n + 3) - 3 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , May 31 2013] •

[**A028121**] • 1,27,467,6615,83811,990927,11193547,122534775,1311833171,13818932127,143838758427,1483810444935,15202640928931,154948536206127,1572891821232107,15916318178611095,160663127276015091 ⋆ Expansion of 1/((1-4x)(1-5x)(1-8x)(1-10x)). • a(n) = 27 * a(n - 1) - 262 * a(n - 2) + 1080 * a(n - 3) - 1600 * a(n - 4), n>=4. - _ Vincenzo Librandi _ , Mar 17 2011 • a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. - _ Vincenzo Librandi _ , Mar 17 2011 • a(n) = 5 * 10 ^ (n + 1) / 3 + 5 ^ (n + 2) / 3 - 8 ^ (n + 2) / 3 - 2 * 4 ^ (n + 1) / 3. - _ R. J. Mathar _ , Mar 17 2011 •

[**A028080**] • 1,27,469,6687,85357,1016775,11565973,127403199,1371332413,14511863223,151627818277,1569077088111,16117515157069,164615225572071,1673829571276981,16960654592840223,171391059145733725 ⋆ Expansion of 1/((1-

3x)(1-6x)(1-8x)(1-10x)). • a(n)=(15 * 10 ^ (n + 3) - 42 * 8 ^ (n + 3) + 35 * 6 ^ (n + 3) - 8 * 3 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , May 31 2013] •

[A028118] • 1,27,470,6750,87411,1065177,12504280,143383500,1619764421,18123947127,201553821690,2232652225050,24669249375031,272138102501877,2998983086992700,33027209966147400,363568827451799241 ★ Expansion of 1/((1-4x)(1-5x)(1-7x)(1-11x)). • a(0)=1, a(1)=27, a(2)=470, a(3)=6750, a(n)=27 * a(n - 1) - 259 * a(n - 2) + 1053 * a(n - 3) - 1540 * a(n - 4). - _ Harvey P. Dale _ , Oct 20 2012 • a(n)=(11 ^ (n + 3) - 7 ^ (n + 4) + 14 * 5 ^ (n + 3) - 8 * 4 ^ (n + 3)) / 168. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028068] • 1,27,472,6810,88351,1073217,12477502,140675040,1550817301,16809628407,179833708132,1904095702470,19993394169451,208508925363597,2162279358272362,22317580796873100,229429274301232801 ★ Expansion of 1/((1-3x)(1-5x)(1-9x)(1-10x)). • a(n)=(24 * 10 ^ (n + 3) - 35 * 9 ^ (n + 3) + 21 * 5 ^ (n + 3) - 10 * 3 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028077] • 1,27,472,6822,88963,1091349,12886714,148484664,1683799645,18895210191,210582084076,2336271745626,25842423980647,285296827032153,3145632963614158,34654478019199308,381572508324065569 ★ Expansion of 1/((1-3x)(1-6x)(1-7x)(1-11x)). • a(n)=(3 * 11 ^ (n + 3) - 30 * 7 ^ (n + 3) + 32 * 6 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 480. [_ Yahia Kahloune _ , Jun 10 2013] • a(0)=1, a(1)=27, a(2)=472, a(3)=6822, a(n)=27 * a(n - 1) - 257 * a(n - 2) + 1017 * a(n - 3) - 1386 * a(n - 4). - _ Harvey P. Dale _ , May 22 2014 •

[A028006] • 1,27,473,6831,88473,1069551,12338761,137686527,1499327225,16029462735,168979616169,1762044328863,18217806426457,187092613978479,1911192049791497,19440694364069439,197083660672701369 ★ Expansion of 1/((1-2x)(1-7x)(1-8x)(1-10x)). • a(n)=(5 * 10 ^ (n + 3) - 20 * 8 ^ (n + 3) + 16 * 7 ^ (n + 3) - 2 ^ (n + 3)) / 240. [_ Yahia Kahloune _ , Jun 05 2013] •

[A028066] • 1,27,474,6902,90867,1126545,13446028,156530604,1791797733,20274317063,227558149182,2539586737506,28227640438999,312844584806781,3460030004311536,38210322891344408,421513875961285065 ★ Expansion of 1/((1-3x)(1-5x)(1-8x)(1-11x)). • a(n)=(5 * 11 ^ (n + 3) - 2 * 8 ^ (n + 4) + 4 * 5 ^ (n + 4) - 3 ^ (n + 5)) / 720. [_ Yahia Kahloune _ , Jun 08 2013] •

[A026795] • 1,27,475,6915,90571,1110147,13011355,147722355,1638222091,17846324067,191730867835,2037261517395,21455455896811,224319716510787,2331201129229915,24104752246858035,248186422724438731 ★ Expansion of 1/((1-2x)(1-6x)(1-9x)(1-10x)). • a(n) = - 2 ^ n / 28 + 9 * 6 ^ n / 2 - 243 * 9 ^ n / 7 + 125 * 10 ^ n / 4. _ R. J. Mathar _ , Jun 23 2013 •

[A028114] • 1,27,475,6975,93451,1191447,14779315,180568575,2187814651,26388443367,317513959555,3815510712975,45819341339851,550037207863287,6601706608906195,79228188287078175,950785259085745051 ★ Expansion of 1/((1-4x)(1-5x)(1-6x)(1-12x)). • a(n)=(12 ^ (n + 3) - 28 * 6 ^ (n + 3) + 48 * 5 ^ (n + 3) - 21 * 4 ^ (n + 3)) / 336. [_ Yahia Kahloune _ , Jun 11 2013] •

[A026727] • 1,27,477,7007,93093,1163799,13989949,163814559,1883880405,21393162791,240779316141,2692752875631,29976989988037,332620147754103,3681925234618653,40686711732853823,449042333942609589 ★ Expansion of 1/((1-2x)(1-6x)(1-8x)(1-11x)). • a(n) = - 2 ^ n / 27 + 27 * 6 ^ n / 5 - 128 * 8 ^ n / 9 + 1331 * 11 ^ n / 135. _ R. J. Mathar _ , Jun 23 2013 •

[A028048] • 1,27,478,7062,94699,1198209,14603176,173499804,2024524117,23314991271,265875954994,3009351209826,33865370166655,379381897212813,4234967357150332,47140543570858728,523549120110020713 ★ Expansion of 1/((1-3x)(1-4x)(1-9x)(1-11x)). • a(n)=(15 * 11 ^ (n + 3) - 28 * 9 ^ (n + 3) + 48 * 4 ^ (n + 3) - 35 * 3 ^ (n + 3)) / 1680. [_ Yahia Kahloune _ , Jun 07 2013] •

[A028063] • 1,27,478,7086,95923,1234761,15440896,189849132,2311064965,27967760535,337282318594,4059193972938,48793580278327,586108780927749,7037421345862372,84477944245876104,1013937929024363209 ★ Expansion of 1/((1-3x)(1-5x)(1-7x)(1-12x)). • a(0)=1, a(1)=27, a(2)=478, a(3)=7086, a(n)=27 * a(n - 1) - 251 * a(n - 2) + 957 * a(n - 3) - 1260 * a(n - 4) [From Harvey P. Dale, Aug 31 2011] • a(n)=(8 * 12 ^ (n + 3) - 9 * 7 ^ (n + 4) + 18 * 5 ^ (n + 4) - 35 * 3 ^ (n + 3)) / 2520. [_ Yahia Kahloune _ , Jun 08 2013] •

[A024441] • 1,27,480,7090,94311,1173417,13944190,160292880,1797313221,19769671207,214195117500,2292743705070,24300717989731,255479745527397,2667841806196410,27701356042027660,286258773993179841 ★ Expansion of 1/((1-x)(1-7x)(1-9x)(1-10x)). • a(n) = (16 * 10 ^ (n + 3) - 27 * 9 ^ (n + 3) + 12 * 7 ^ (n + 3) - 1) / 432. [_ Yahia Kahloune _ , Jun 28 2013] •

[A026028] • 1,27,480,7130,96111,1221537,14941750,178032960,2082076821,24019528247,274281235020,3107772782790,35002020287131,392372934746157,4382268859012290,48800507502984620,542165787330583041 ★ Expansion of 1/((1-2x)(1-5x)(1-9x)(1-11x)). • a(n) = - 8 * 2 ^ n / 189 + 125 * 5 ^ n / 72 - 729 * 9 ^ n / 56 + 1331 * 11 ^ n / 108. _ R. J. Mathar _ , Jun 22 2013 •

[A026543] • 1,27,481,7191,98161,1272663,16005025,197611623,2412718033,29257382583,353312653057,4255864465671,51186427162417,615069092006487,7386770412718177,88683539390560935,1064502765417159313 ★ Expansion of 1/((1-2x)(1-6x)(1-7x)(1-12x)). • a(n) = - 2 ^ n / 25 + 9 * 6 ^ n - 343 * 7 ^ n / 25 + 144 * 12 ^ n / 25. _ R. J. Mathar _ , Jun 23 2013 •

[A024439] • 1,27,482,7182,96843,1227609,14939644,176784444,2050941365,23457934071,265547461686,2983410454986,33332770184767,370895550650613,4114522946353808,45542666345230008,503271413032566249 ★ Expansion of 1/((1-x)(1-7x)(1-8x)(1-11x)). • a(n) = (7 * 11 ^ (n + 3) - 40 * 8 ^ (n + 3) + 35 * 7 ^ (n + 3) - 2) / 840. [_ Yahia Kahloune _ , Jun 28 2013] •

[A026006] • 1,27,483,7271,100083,1308831,16594651,206375367,2535071715,30892653935,374502469419,4524435989463,54536889623347,656393971978239,7892348208238587,94833193717469159,1138998700671586179 ★ Expansion of 1/((1-2x)(1-5x)(1-8x)(1-12x)). • a(n) = - 2 * 2 ^ n / 45 + 125 * 5 ^ n / 63 - 64 * 8 ^ n / 9 + 216 * 12 ^ n / 35. _ R. J. Mathar _ , Jun 20 2013 •

[A024346] • 1,27,484,7266,98959,1269177,15642586,187539120,2204181925,25529358855,292445725936,3321943348542,37489352241979,420930326166741,4707254688375814,52473555698990412,583456285162491601 ★ Expansion of 1/((1-x)(1-6x)(1-9x)(1-11x)). • a(0)=1, a(1)=27, a(2)=484, a(3)=7266; for n>3 a(n) = 27 * a(n - 1) - 245 * a(n - 2) + 813 * a(n - 3) - 594 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 • a(n) = (12 * 11 ^ (n + 3) - 25 * 9 ^ (n + 3) + 16 * 6 ^ (n + 3) - 3) / 1200. [_ Yahia Kahloune _ , Aug 13 2013] •

[A025983] • 1,27,485,7335,101181,1319967,16597525,203384295,2445473261,28983189807,339647023365,3944444998455,45472205947741,521027509282047,5939635577526005,67419323254471815,762445883405916621 ★ Expansion of 1/((1-2x)(1-4x)(1-10x)(1-11x)). • a(n) = - 2 ^ n / 18 + 16 * 4 ^ n / 21 - 125 * 10 ^ n / 6 + 1331 * 11 ^ n / 63. _ R. J. Mathar _ , Jun 20 2013 •

[A081139] • 0,0,1,27,486,7290,98415,1240029,14880348,172186884,1937102445,21308126895,230127770466,2447722649502,25701087819771,266895911974545,2745215094595320,28001193964872264,283512088894331673 ★ 9th binomial transform of (0,0,1,0,0,0,...). • a(n) = 27a(n - 1) - 243a(n - 2) + 729a(n - 3), a(0)=a(1)=0, a(2)=1. • a(n) = 9 ^ (n - 2) * binomial(n, 2). •

[A020976] • 1,27,487,7335,99631,1265607,15341887,179688375,2050086511,22913907687,251930201887,2733012078615,29322230800591,311701053949767,3287717299503487,34448718207176055,358912563957741871 ★ Expansion of 1/((1-8*x)*(1-9*x)*(1-10*x)). • a(0) = 1, a(1) = 27, a(2) = 487, a(n) = 27 * a(n - 1) - 242 * a(n - 2) + 720 * a(n - 3). • a(n) = 2 ^ (2 + 3 * (n + 1)) + 2 ^ (n + 1) * 5 ^ (2 + n) - 9 ^ (2 + n). (End) •

[A024114] • 1,27,487,7407,102943,1357119,17315839,216369279,2667080575,32582253951,395677903231,4786097041791,57739474264447,695339842109823,8363901349806463,100525966375567743,1207588183261823359 ★ Expansion of 1/((1-x)(1-6x)(1-8x)(1-12x)). • a(n) = (35 * 12 ^ (n + 3) - 165 * 8 ^ (n + 3) + 154 * 6 ^ (n + 3) - 24) / 9240. [_ Yahia Kahloune _ , Jun 27 2013] • a(0)=1, a(1)=27, a(2)=487, a(3)=7407; for n>3, a(n) = 27 * a(n - 1) - 242 * a(n - 2) + 792 * a(n - 3) - 576 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 •

[A025982] • 1,27,487,7431,103951,1382439,17812639,224794647,2797053391,34460823111,421597615231,5131789410423,62235068724271,752703321093543,9085382857597663,109501083478899159,1318301413026203791 ★ Expansion of 1/((1-2x)(1-4x)(1-9x)(1-12x)). • a(0)=1, a(1)=27, a(2)=487, a(3)=7431, a(n)=27 * a(n - 1) - 242 * a(n - 2) + 816 * a(n - 3) - 864 * a(n - 4) – From _ Harvey P. Dale _ , Jul 21 2012 • a(n) = - 2 * 2 ^ n / 35 + 4 * 4 ^ n / 5 - 243 * 9 ^ n / 35 + 36 * 12 ^ n / 5. _ R. J. Mathar _ , Jun 20 2013 •

[A023946] • 1,27,488,7434,103215,1353681,17093182,210149568,2533379189,30086951895,353166486036,4106992533462,47398834914523,543607880403069,6201901277261450,70443098125125516,797096110863739617 ★ Expansion of 1/((1-x)(1-5x)(1-10x)(1-11x)). • a(n) = (6 * 11 ^ (n + 3) - 8 * 10 ^ (n + 3) + 3 * 5 ^ (n + 3) - 1) / 360. [_ Yahia Kahloune _ , Jun 27 2013] • a(0)=1, a(1)=27, a(2)=488, a(3)=7434; for n>3, a(n) = 27 * a(n - 1) - 241 * a(n - 2) + 765 * a(n - 3) - 550 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 •

[A020971] • 1,27,490,7470,103291,1343097,16753780,202932540,2405791381,28065859767,323426323870,3691983687210,41834308968271,471276683342037,5284615302054760,59040661951743480,657669557062017961 ★ Expansion of 1/((1-7x)(1-9x)(1-11x)). • a(n) = 27 * a(n - 1) - 239 * a(n - 2) + 693 * a(n - 3), n>=3. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 7 ^ n, a(0)=1, a(1)=27. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = (7 ^ (n + 2) - 2 * 9 ^ (n + 2) + 11 ^ (n + 2)) / 8. - _ Bruno Berselli _ , Mar 15 2011 •

[A023772] • 1,27,490,7530,105991,1416477,18318520,231807060,2890036381,35658042927,436707179350,5319843165390,64552636279171,781063825879377,9430663254710980,113689073300930520,1368959098545618361 ★ Expansion of 1/((1-x)(1-5x)(1-9x)(1-12x)). • a(n) = 27 * a(n - 1) - 239 * a(n - 2) + 753 * a(n - 3) - 540 * a(n - 4), with a(0)=1, a(1)=27, a(2)=490, a(3)=7530. [_ Harvey P. Dale _ , Mar 07 2012] • a(n) = (32 * 12 ^ (n + 3) - 77 * 9 ^ (n + 3) + 66 * 5 ^ (n + 3) - 21) / 7392. [_ Yahia Kahloune _ , Jun 27 2013] •

[A020726] • 1,27,493,7599,106645,1411431,17955757,222093423,2690508229,32080473975,377794514461,4405195463487,50953884924853,585473143132359,6690087028209805,76090252032830991,861988540696279717 ★ Expansion of 1/((1-6x)(1-10x)(1-11x)). • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 6 ^ n for n >1, a(0)=1, a(1)=27. - _ Vincenzo Librandi _ , Mar 11 2011 • a(n) = (4 * 11 ^ (n + 2) - 5 * 10 ^ (n + 2) + 6 ^ (n + 2)) / 20. [_ Yahia Kahloune _ , Jun 30 2013] • a(0)=1, a(1)=27, a(2)=493, a(n)=27 * a(n - 1) - 236 * a(n - 2) + 660 * a(n - 3). - _ Harvey P. Dale _ , Oct 01 2014 •

[A020969] • 1,27,493,7611,107293,1432011,18457741,232505307,2883927805,35398400235,431393410669,5231599117563,63232056214237,762504498009099,9180490786688077,110414131486397979,1326988747136473789 ★ Expansion of 1/((1-7*x)*(1-8*x)*(1-12*x)). • a(n) = 27 * a(n - 1) - 236 * a(n - 2) + 672 * a(n - 3), n>=3. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 7 ^ n for n>1, a(0)=1, a(1)=27. - _ Vincenzo Librandi _ , Mar 15 2011 • a(n) = (7 ^ (n + 2) - 10 * 8 ^ (n + 1) + 3 * 12 ^ (n + 1)) / 5. - _ Bruno Berselli _ , Mar 15 2011 •

[A025956] • 1,27,493,7671,109813,1496031,19737181,254700567,3234969925,40605328335,505121007469,6240023291463,76665993102037,937849058035839,11432760118860157,138978835693603959,1685603171125077349 ★ Expansion of 1/((1-2x)(1-3x)(1-10x)(1-12x)). • a(n) = - 2 ^ n / 10 + 3 * 3 ^ n / 7 - 125 * 10 ^ n / 14 + 48 * 12 ^ n / 5. - _ R. J. Mathar _ , Jun 20 2013 •

[A020724] • 1,27,495,7695,109431,1474767,19198215,244167615,3055792311,37811613807,464078786535,5662363023135,68791291322391,833094971965647,10065613312624455,121404092777808255,1462402531680439671 ★ G.f.: 1/((1-6x)(1-9x)(1-12x)). • a(n) = (12 ^ (n + 2) - 2 * 9 ^ (n + 2) + 6 ^ (n + 2)) / 1

8. [_ Yahia Kahloune _ , Jun 30 2013] ●

[A021994] ● 1,27,495,7735,111111,1517607,20059495,259217895,3295741671,41400518887,515323813095,6369067214055,78280643507431,957886180955367,11679819118040295,142009680313898215,1722634678467548391 ★ G.f.: 1/((1-x)(1-4x)(1-10x)(1-12x)). ● a(n) = (27 * 12 ^ (n + 3) - 44 * 10 ^ (n + 3) + 33 * 4 ^ (n + 3) - 16) / 4752. [_ Yahia Kahloune _ , Jun 27 2013] ● a(0)=1, a(1)=27, a(2)=495, a(3)=7735; for n>3, a(n) = 27 * a(n - 1) - 234 * a(n - 2) + 688 * a(n - 3) - 480 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[A020568] ● 1,27,499,7863,113731,1561647,20724139,268611543,3422947891,43073421567,536871293179,6642406690023,81708636139651,1000502412972687,12206022852156619,148472243708301303 ★ G.f.: 1/((1-5x)(1-10x)(1-12x)). ● a(0)=1, a(1)=27, a(2)=499, a(n)=27 * a(n - 1) - 230 * a(n - 2) + 600 * a(n - 3) From _ Harvey P. Dale _ , May 22 2012 ● a(n) = 5 * 5 ^ n / 7 - 10 * 10 ^ n + 72 * 12 ^ n / 7. - _ R. J. Mathar _ , Jun 30 2013 ●

[A021734] ● 1,27,502,8022,118363,1663809,22644784,301210524,3938740405,50831269671,649205557546,8222000492706,103410878533327,1293146143620813,16092125344053988,199423591976817768 ★ G.f.: 1/((1-x)(1-3x)(1-11x)(1-12x)). ● a(n)=(80 * 12 ^ (n + 3) - 9 * 11 ^ (n + 4) + 55 * 3 ^ (n + 3) - 36) / 7920. [_ Yahia Kahloune _ , Jun 27 2013] ●

[A014928] ● 1,27,534,9322,152127,2379885,36167548,538155684,7879732173,113924725903,1630368136242,23136292864686,326011399456939,4566262891748481,63626908677237816,882601196902689928 ★ a(1)=1, a(n)=n*13^(n-1)+a(n-1). ● a(n)=(1 / 144) * (1 + 13 ^ n * (12 * n - 1)). [_ Paolo P. Lava _ , Jan 13 2009] ● a(1)=1, a(2)=27, a(n) = 26 * a(n - 1) - 169 * a(n - 2) + 1. - _ Vincenzo Librandi _ , Oct 23 2012 ● a(1)=1, a(2)=27, a(3)=534, a(n)=27 * a(n - 1) - 195 * a(n - 2) + 169 * a(n - 3). - _ Harvey P. Dale _ , Jan 20 2015 ●

[A076008] ● 1,27,567,10935,203391,3720087,67493007,1219657095,21996874431,396331160247,7137447668847,128505439098855,2313380333315871,41643387865514007,749603858371707087,13493075341822822215 ★ Second column of triangle A075504. ● a(n) = - 9 ^ n + 2 * 18 ^ n. ● a(0)=1, a(1)=27, a(n) = 27 * a(n - 1) - 162 * a(n - 2). - _ Harvey P. Dale _ , Dec 01 2015 ●

[A212670] ● 27,615,3843,14351,40363,94711,195859,368927,646715,1070727,1692195,2573103,3787211,5421079,7575091,10364479,13920347,18390695,23941443,30757455,39043563,49025591,60951379,75091807,91741819 ★ a(n) = 1/15*(128*n^5 + 320*n^4 + 80*n^3 - 200*n^2 + 92*n - 15). ● a(n) = 2 / (2 * n + 1) * Sum _{ i=1..n } tan ^ 7(Pi * i / (2 * n + 1)) * sin(2 * Pi * i / (2 * n + 1)). ●

[A158645] ● 27,756,2943,6588,11691,18252,26271,35748,46683,59076,72927,88236,105003,123228,142911,164052,186651,210708,236223,263196,291627,321516,352863,385668,419931 ★ 729n^2 + 27. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A129999] ● 0,27,888,1011,1148,6027,6740,7535,35948,40103,44736,210335,234552,261555,1226736,1367883,1525268,7150755,7973420,8890727,41678468,46473311,51819768,242920727,270867120 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+337)^2 = y^2. ● a(n)=6 * a(n - 3) - a(n - 6) + 674 for n > 6; a(1)=0, a(2)=27, a(3)=888, a(4)=1011, a(5)=1148, a(6)=6027. ● a(0)=0, a(1)=27, a(2)=888, a(3)=1011, a(4)=1148, a(5)=6027, a(6)=6740, a(n)=a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Feb 26 2015 ●

[A239571] ● 0,0,27,999,11565,74811,342042,1239525,3799488,10259640,25076952,56552364,119324403,238062357,452774595,826245798,1454229216,2479147536,4108199481,6636929805,10479498849,16207085223,24596072424,36687908235,53862785520 ★ Number of ways to place 5 points on a triangular grid of side n so that no two of them are adjacent. ● a(n) = (n - 3) * (n - 4) * (n ^ 8 + 12 * n ^ 7 - 58 * n ^ 6 - 860 * n ^ 5 + 2141 * n ^ 4 + 23728 * n ^ 3 - 61316 * n ^ 2 - 244928 * n + 770880) / 3840. ●

[A143366] ● 27,1002,7809,33204,101751,253758,549213,1071720,1932435,3274002,5274489,8151324,12165231,17624166,24887253,34368720,46541835,61942842,81174897,104912004,133902951,168975246,211039053,261091128,320218755 ★ Wiener index of the hexagon crown (beehive model) with n hexagons on each side of the outside ring. ● a(n)=n(164n ^ 4 - 30n ^ 2 + 1) / 5. ●

[A017427] ● 27,2744,15625,46656,103823,195112,328509,512000,753571,1061208,1442897,1906624,2460375,3112136,3869893,4741632,5735339,6859000,8120601,9528128,11089567,12812904,14706125 ★ (11n+3)^3. ● a(0)=27, a(1)=2744, a(2)=15625, a(3)=46656, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Apr 01 2012] ●

[A227492] ● 27,2871,39663,326367,2123199,12126591,63900927,319163391,1535375871,7186396671,32947236351,148643831295,662099705343,2918722534911,12756670414335,55354839662079,238734196604415,1024200814362111,4373869249953279 ★ The Wiener index of the nanostar dendrimer D_n. ● a(n) = -513 + 2 ^ n * (2016 * n + 9468) + 4 ^ n * (4032 * n - 8928). ●

[A069076] ● 27,3375,42875,250047,970299,2924207,7414875,16581375,33698267,63521199,112678587,190109375,307546875,480048687,726572699,1070599167,1540798875,2171747375,3004685307,4088324799,5479701947,7245075375 ★ (4n^2-1)^3. ● a(1)=27, a(2)=3375, a(3)=42875, a(4)=250047, a(5)=970299, a(6)=2924207, a(7)=7414875, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, Jan 20 2012] ●

[A022398] ● 1,28,29,57,86,143,229,372,601,973,1574,2547,4121,6668,10789,17457,28246,45703,73949,119652,193601,313253,506854,820107,1326961 ★ Fibonacci sequence beginning 1, 28. ● a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 55 + sqrt(5)) + (1 + sqrt(5)) ^ n * (55 + sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Mar 02 2018 ●

[A042576] ● 28,29,57,143,200,343,19408,19751,39159,98069,137228,235297,13313860,13549157,26863017,67275191,94138208,161413399,9133288552,9294701951,18427990503,46150682957,64578673460 ★ Numerators of continued fraction convergents to sqrt(817). ● a(n) = 686 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 28 2013 ●

[A042568] ● 28,29,57,1055,1112,2167,122464,124631,247095,4572341,4819436,9391777,530758948,540150725,1070909673,19816524839,20887434512,40703959351,2300309158168,2341013117519,4641322275687 ★ Numerators of continued fraction convergents to sqrt(813). ● a(n) = 4334 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 28 2013 ●

[A042598] ● 28,29,115,259,892,1151,65348,66499,264845,596189,2053412,2649601,150431068,153080669,609673075,1372426819,4726953532,6099380351,346292253188,352391633539,1403467153805,3159325941149 ★ Numerators of continued fraction convergents to sqrt(828). ● a(n) = 2302 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Nov 29 2013 ●

[A042612] ● 28,29,260,289,549,838,4739,5577,21470,69987,91457,161444,414345,2233169,4880683,7113852,11994535,43097457,141286906,184384363,1063208721,1247593084,2310801805,3558394889 ★ Numerators of continued fraction convergents to sqrt(835). ● a(n) = 68672711612 * a(n - 26) - a(n - 52) for n>51. [_ Bruno Berselli _ , Nov 30 2013] ●

[A042622] ● 28,29,1652,1681,95788,97469,5554052,5651521,322039228,327690749,18672721172,19000411921,1082695788748,1101696200669,62777683026212,63879379226881,3640022919731548,3703902298958429 ★ Numerators of continued fraction convergents to sqrt(840). ● a(n) = 58 * a(n - 2) - a(n - 4), - _ Vincenzo Librandi _ , Nov 29 2013 ●

[A260637] ● 28,35,56,91,140,203,280,371,476,595,728,875,1036,1211,1400,1603,1820,2051,2296,2555,2828,3115,3416,3731,4060 ★ Sums of seven consecutive squares: a(n) = n^2 + (n+1)^2 + (n+2)^2 + (n+3)^2 + (n+4)^2 + (n+5)^2 + (n+6)^2. ● a(n) = 7 * n ^ 2 + 42 * n + 91 = 7 * (n ^ 2 + 6 * n + 13) = 7 * ((n + 3) ^ 2 + 4). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 7 * (2 * n + 7). ●

[A034964] ● 28,39,53,67,83,101,119,139,161,181,199,221,243,263,287,311,331,351,373,395,421,449,473,497,517 ★ Sums of five consecutive primes. ● a(n) = Sum _{ i=n..n + 4 } prime(i). - _ Wesley Ivan Hurt _ , Sep 14 2014 ●

[A216303] ● 28,52,115,172,193,211,214,259,280,337,358,382,385,424,427,442,448,502,613,655,676,679,733,901,928 ★ Numbers n such that 10n+1 and 10n+3 are prime but 10n+7 and 10n+9 are composite. ● a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 ●

[A056028] ● 1,28,54,62,68,69,99,116,127,234,245,262,292,293,299,307,333,360,362,389,415,423,429,430,460 ★ Numbers k such that k^18 == 1 (mod 19^2). ● a(n) = a(n - 1) + a(n - 18) - a(n - 19). - _ Matthew House _ , Feb 12 2017 ●

[A274642] ● 28,55,60,79,92,95,112,240,368,448,960,1472,1792,3840,5888,7168,15360,23552,28672,61440,94208,114688,245760,376832,458752 ★ Numbers of the form 4^k*(8*j+7) that have exactly three partitions into four positive squares. ● a(n) = 4 * a(n - 3) for n>9. ●

[A079731] ● 28,55,110,220,440,880,1760,3520 ★ Fundamental piano frequencies in Hertz rounded to nearest integer. ● a(n)=round(27.5 * 2 ^ n), n=0...7. ●

[A135628] ● 0,28,56,84,112,140,168,196,224,252,280,308,336,364,392,420,448,476,504,532,560,588,616,644,672 ★ Multiples of 28. ● a(n) = 28 * n. ● a(n) = 2 * a(n - 1) - a(n - 2). (End) ●

[A042564] ● 28,57,598,655,5838,6493,12331,31155,43486,74641,118127,429022,2692259,48889684,51581943,255217456,306799399,868816254,1175615653,32610438885,33786054538,100182547961,133968602499 ★ Numerators of continued fraction convergents to sqrt(811). ● a(n) = 2764144327157232820 * a(n - 38) - a(n - 76) for n>75. [_ Bruno Berselli _ , Nov 26 2013] ●

[A042566] ● 28,57,3220,6497,367052,740601,41840708,84422017,4769473660,9623369337,543678156532,1096979682401,61974540370988,125046060424377,7064553924136100,14254153908696577,805297172811144412 ★ Numerators of continued fraction convergents to sqrt(812). ● a(n) = 114 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 28 2013 ●

[A132769] ● 0,28,58,90,124,160,198,238,280,324,370,418,468,520,574,630,688,748,810,874,940,1008,1078,1150,1224 ★ a(n) = n*(n + 27). ● a(n) = 2 * n + a(n - 1) + 26 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 ● a(0)=0, a(1)=28, a(2)=58, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 14 2012 ●

[A182465] ● 28,70,154,322,658,1330,2674,5362,10738,21490,42994,86002,172018,344050,688114,1376242,2752498,5505010,11010034,22020082,44040178,88080370,176160754,352321522,704643058 ★ a(n) = 3a(n-1) - 2a(n-2) with a(0)=28 and a(1)=70. ● a(n) = a(n - 1) * 2 + 14. ●

[A277987] ● 28,72,172,272,372,472,572,672,772,872,972,1072,1172,1272,1372,1472,1572,1672,1772,1872,1972,2072,2172,2272,2372 ★ a(n) = 100*n - 28. ● a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Nov 13 2016 ●

[A161935] ● 0,1,28,81,160,265,396,553,736,945,1180,1441,1728,2041,2380,2745,3136,3553,3996,4465,4960,5481,6028,6601,7200 ★ The 28-gonal numbers: a(0)=0, a(1)=1; for n>1, a(n) = n*(13n-12). ● a(n + 1) = a(n) + 26 * n + 1. - _ Vincenzo Librandi _ , Nov 30 2010 ●

[A254145] ● 28,84,336,1596,8400,47244,278256,1695036,10592400,67518444,437200176,2867080476,18997064400,126948964044,854359702896,5783851121916,39350309552400,268842017200044,1843254419626416,12675940450459356 ★ a(n) = 1*7^n + 2*6^n + 3*5^n + 4*4^n + 5*3^n + 6*2^n + 7*1^n. ● a(n) = (x + 1) * (Bernoulli(n + 1, x + 1) - Bernoulli(n + 1, 1)) / (n + 1) - (Bernoulli(n + 2, x + 1) - Bernoulli(n + 2, 1)) / (n + 2) at x = 7. ● a(n) = 1 / 6! * Sum _{ k = 0..n } (- 1) ^ (k + n) * (k + 8)! * Stirling2(n,k) / ((k + 1) * (k + 2)). (End) ●

[A042540] • 28,85,113,424,23857,71995,95852,359551,20230708,61051675,81282383,304898824,17155616527,51771748405,68927364932,258553843201,14547942584188,43902381595765,58450324179953 ★ Numerators of continued fraction convergents to sqrt(799). • a(n) = 848 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 27 2013 •

[A272399] • 1,28,91,190,325,496,703,946,1225,1540,1891,2278,2701,3160,3655,4186,4753,5356,5995,6670,7381,8128,8911,9730,10585 ★ The intersection of hexagonal numbers (A000384) and centered 9-gonal numbers (A060544). • a(n) = 10 - 27 * n + 18 * n ^ 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A263200] • 28,104,388,1448,5404,20168,75268,280904,1048348,3912488,14601604,54493928,203374108,759002504,2832635908,10571541128,39453528604,147242573288,549516764548,2050824484904,7653781175068,28564300215368,106603419686404,397849378530248 ★ Number of perfect matchings on a Möbius strip of width 3 and length 2n. • a(n) = Product _{ k=1..n } (10 + 2 * cos(Pi * (4 * k - 1) / n) - 12 * cos(1 / 2 * Pi * (4 * k - 1) / n)). • a(n) = 2 * ((2 - sqrt(3)) ^ n + (2 + sqrt(3)) ^ n). • a(n) = 4 * a(n - 1) - a(n - 2). •

[A064763] • 0,28,112,252,448,700,1008,1372,1792,2268,2800,3388,4032,4732,5488,6300,7168,8092,9072,10108,11200,12348,13552,14812,16128 ★ a(n) = 28*n^2. • a(n) = 56 * n + a(n - 1) - 28 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 07 2010 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Mar 30 2015 •

[A042538] • 28,113,6356,25537,1436428,5771249,324626372,1304276737,73364123644,294760771313,16579967317172,66614630040001,3746999249557228,15054611628268913,846805250432616356 ★ Numerators of continued fraction convergents to sqrt(798). • a(n) = 226 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 27 2013 •

[A220755] • 0,1,28,117,2760,11481,270468,1125037,26503120,110242161,2597035308,10802606757,254482957080,1058545220041,24936732758548,103726628957277,2443545327380640,10164151092593121,239442505350544188,995983080445168597,23462921979025949800 ★ Numbers n such that n^2 + n(n+1)/2 is an oblong number (A002378). • a(n) = ((- (- 1) ^ n + sqrt(6)) * (5 + 2 * sqrt(6)) ^ (n - 1) - ((- 1) ^ n + sqrt(6)) * (5 - 2 * sqrt(6)) ^ (n - 1) - 2) / 12. - _ Bruno Berselli _ , Apr 14 2013 • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). •

[A101095] • 1,28,121,240,360,480,600,720,840,960,1080,1200,1320,1440,1560,1680,1800,1920,2040,2160,2280,2400,2520,2640,2760 ★ Fourth difference of fifth powers (A000584). • a(k + 1) = Sum _{ j=0..k + 1 } (- 1) ^ j * binomial(n + 1 - z, j) * (k - j + 1) ^ n; n = 5, z = 2. • a(n) = 2 * a(n - 1) - a(n - 2), n>5 . G.f.: x * (1 + 26 * x + 66 * x ^ 2 + 26 * x ^ 3 + x ^ 4) / (1 - x) ^ 2. - _ Colin Barker _ , Mar 01 2012 •

[A045823] • 1,28,126,344,757,1332,2198,3528,4914,6860,9632,12168,15751,20440,24390,29792,37296,43344,50654,61544,68922,79508,95382,103824,117993 ★ a(n) = sigma_3(2n+1). • a(n) = b(2 * n + 1) where b(n) is multiplicative and b(2 ^ e) = 0 ^ e, b(p ^ e) = ((p ^ 3) ^ (e + 1) - 1) / (p ^ 3 - 1) if p>2. - _ Michael Somos _ , Nov 29 2007 •

[A192796] • 0,28,132,360,760,1380,2268,3472,5040,7020,9460,12408,15912,20020,24780,30240,36448,43452,51300,60040,69720,80388,92092,104880,118800 ★ Molecular topological indices of the crown graphs • a(n) = 2 * (n - 1) * n * (4 * n - 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 04 2012 •

[A042532] • 28,141,1297,6626,372353,1868391,17187872,87807751,4934421928,24759917391,227773678447,1163628309626,65390959017503,32811842339714,1018456769591772,15420402271356001,866560983965527828 ★ Numerators of continued fraction convergents to sqrt(795). • a(n) = 13252 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 27 2013 •

[A271636] • 0,28,152,468,1072,2060,3528,5572,8288,11772,16120,21428,27792,35308,44072,54180,65728,78812,93528,109972,128240,148428,170632,194948,221472 ★ a(n) = 4*n*(4*n^2 + 3). • a(n) = - a(- n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A002593] • 0,1,28,153,496,1225,2556,4753,8128,13041,19900,29161,41328,56953,76636,101025,130816,166753,209628,260281,319600,388521,468028,559153,662976 ★ a(n) = n^2*(2*n^2 - 1); also Sum_{k=0..n-1} (2k+1)^3. • a(n) = n ^ 2 * (2n ^ 2 - 1). - _ Vladimir Pletser _ , Jan 10 2015 •

[A172220] • 1,28,157,1248,4650,15162,37988,86958,181423,351708,648441,1127392,1874194,2988466,4602096,6870240,9983347,14163972,19672403,26812260,35929480,47418482,61723238,79341720,100828175 ★ Number of ways to place 5 nonattacking nightriders on a 5 X n board. • a(n) = (625n ^ 5 - 15250n ^ 4 + 197915n ^ 3 - 1588634n ^ 2 + 7645896n - 17283552) / 24, n>=32. •

[A085377] • 0,28,164,486,1072,2000,3348,5194,7616,10692,14500,19118,24624,31096,38612,47250,57088,68204,80676,94582,110000,127008,145684,166106,188352 ★ a(n) = 15n^2 + 13n^3. • a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). G.f.: 2 * x * (14 + 26 * x - x ^ 2) / (1 - x) ^ 4. [From _ R. J. Mathar _ , Apr 20 2009] •

[A042528] • 28,169,704,4393,246712,1484665,6185372,38596897,2167611604,13044266521,54344677688,339112332649,19044635306032,114606924168841,477472331981396,2979440916057217,16732616363185548,100693642270317050 5 ★ Numerators of continued fraction convergents to sqrt(793). • a(n) = 8786 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 26 2013 •

[A263944] • 28,189,959,4648,22323,107009,512764,2456853,11771543,56400904,270233019,1294764233,6203588188,29723176749,142412295599,682338301288,3269279210883,15664057753169,75051009555004,359590990021893,1722903940554503,8254928712750664 ★ Positive integers n such that (n+28)^3 - n^3 is a square. • a(n) = 6 * a(n - 1) - 6 * a(n - 2) + a(n - 3) for n>3. • a(n) = 7 * (- 2 + (2 ^ (- 1 - n) * ((5 - sqrt(21)) ^ n * (- 7 + sqrt(21)) + (5 + sqrt(21)) ^ n * (7 + sqrt(21)))) / sqrt(21)). - _ Colin Barker _ , Mar 05 2016 •

[A079903] • 1,28,190,703,1891,4186,8128,14365,23653,36856,54946,79003,110215,149878,199396,260281,334153,422740,527878,651511,795691,962578,1154440,1373653,1622701 ★ a(n) = (9n^4 - 18n^3 + 18n^2 - 9n + 2)/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), a(0) = 1, a(1) = 28, a(2) = 190, a(3) = 703, a(4) = 1891. (End) • a(n) = (3 * n ^ 2 - 3 * n + 1) * (3 * n ^ 2 - 3 * n + 2) / 2. - _ Bruno Berselli _ , Jan 28 2017 •

[A042526] • 28,197,11060,77617,4357612,30580901,1716888068,12048797377,676449541180,4747195585637,266519402336852,1870383011943601,105007968071178508,736926159510193157,41372872900641995300 ★ Numerators of continued fraction convergents to sqrt(792). • a(n) = 394 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Nov 26 2013 •

[A155466] • 28,207,1248,7315,42676,248775,1450008,8451307,49257868,287095935,1673317776,9752810755,56843546788,331308470007,1931007273288,11254735169755,65597403745276,382329687301935,2228380720066368 ★ a(n) = 7*a(n-1)-7*a(n-2)+a(n-3) for n > 2; a(0) = 28, a(1) = 207, a(2) = 1248. • a(n) = 6 * a(n - 1) - a(n - 2) + 34 for n > 1; a(0) = 28, a(1) = 207. • a(n) = ((73 + 53 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (73 - 53 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n - 34) / 4. •

[A133071] • 0,1,28,225,976,3025,7596,16513,32320,58401,99100,159841,247248,369265,535276,756225,1044736,1415233,1884060,2469601,3192400,4075281,5143468,6424705,7949376 ★ a(n) = n^5 - n^3 + n^2. • a(n) = n ^ 5 - n ^ 3 + n ^ 2. •

[A135497] • 0,0,28,234,1008,3100,7740,16758,32704,58968,99900,160930,248688,371124,537628,759150,1048320,1419568,1889244,2475738,3199600,4083660,5153148,6435814,7962048 ★ a(n) = n^5 - n^2. • a(n) = floor(n ^ 8 / (n ^ 3 + 1)). - _ Gary Detlefs _ , Feb 11 2010 •

[A112797] • 28,244,325,385,730,1025,1729,2188,5185,6562,7777,16385,26245,36865,46657,49153,55297,82945,93313,221185,354295,419905,531442,559873,589825 ★ Pierpont 3-almost primes. 3-almost primes of form (2^K)*(3^L)+1. • a(n) is in this sequence iff there exist nonnegative integers K and L such that Omega((2 ^ K) * (3 ^ L) + 1) = 3. •

[A085438] • 1,28,244,1244,4619,13880,35832,82488,173613,339988,627484,1102036,1855607,3013232,4741232,7256688,10838265,15838476,22697476,31958476,44284867,60479144,81503720,108503720,142831845 ★ a(n) = Sum_{i=1..n} C(i+1,2)^3. • a(n) = (90 * n ^ 7 + 630 * n ^ 6 + 1638 * n ^ 5 + 1890 * n ^ 4 + 840 * n ^ 3 - 48 * n) / 7!. • a(n) = (C(n + 2, 3) / 35) * (35 + 210 * C(n - 1, 1) + 399 * C(n - 1, 2) + 315 * C(n - 1, 3) + 90 * C(n - 1, 4)). •

[A042522] • 28,253,534,787,4469,5256,9725,34431,147449,181880,874969,1056849,5102365,16363944,21466309,37830253,210617574,248447827,707513228,6616066879,371207258452,3347481392947,7066170044346 ★ Numerators of continued fraction convergents to sqrt(790). • a(n) = 13232133758 * a(n - 20) - a(n - 40) for n>39. [_ Bruno Berselli _ , Nov 26 2013] •

[A172214] • 1,28,259,1968,9386,30842,82738,192336,400277,763984,1360797,2291056,3681226,5687022,8496534,12333352,17459691,24179516,32841667,43842984,57631432,74709226,95635956,121031712,151580209 ★ Number of ways to place 5 nonattacking knights on a 5 X n board. • a(n) = (625n ^ 5 - 8250n ^ 4 + 57235n ^ 3 - 242778n ^ 2 + 608440n - 705984) / 24, n>=8. •

[A065693] • 1,1,1,28,271,1567,6616,21925,60481,164836,627751,3355183,18052336,84393037,338279761,1198269100,4009627711,14134316671,57201128776,256878349813,1159252365601,4930744442932,19479046111831 ★ Braided power sequence: A065692 is b(n+1)=3b(n)+2d(n)-c(n), this is c(n+1)=3c(n)+2b(n)-d(n) and A065694 is d(n+1)=3d(n)+2c(n)-b(n), starting with b(0)=0, c(0)=1 and d(0)=2. • a(n) = 9 * a(n - 1) - 33 * a(n - 2) + 52 * a(n - 3) for n>2. •

[A027781] • 28,288,1620,6600,21780,61776,156156,360360,772200,1555840,2975544,5441904,9573720,16279200,26860680,43147632,67663332,103831200,156227500,230887800,335675340,480720240,678939300 ★ 4*(n+1)*C(n+2,8). • a(n) = C(n + 1, 7) * C(n + 2, 2). - _ Zerinvary Lajos _ , May 13 2005 • a(6)=28, a(7)=288, a(8)=1620, a(9)=6600, a(10)=21780, a(11)=61776, a(12)=156156, a(13)=360360, a(14)=772200, a(15)=1555840, a(n)= 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , May 20 2012 •

[A156711] • 28,299,858,1705,2840,4263,5974,7973,10260,12835,15698,18849,22288,26015,30030,34333,38924,43803,48970,54425,60168,66199,72518,79125,86020 ★ 144n^2 - 161n + 45. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A196513] • 0,28,308,1218,3298,7250,13938,24388,39788,61488,91000,129998,180318,243958,323078,420000,537208,677348,843228,1037818,1264250,1525818,1825978,2168348,2556708 ★ 1*4*7 + 4*7*10 + 7*10*13 + ... (n terms). • a(n) = ((3 * n - 2) * (3 * n + 1) * (3 * n + 4) * (3 * n + 7) + 56) / 12 = n * (3 * n + 5) * (9 * n ^ 2 + 15 * n - 10) / 4 = sum _{ i=1..n } (3 * i - 2) * (3 * i + 1) * (3 * i + 4). •

[A042520] • 28,309,1264,1573,2837,7247,24578,31825,438303,1346734,1785037,4916808,90287581,185491970,275779551,1012830623,13442577650,14455408273,56808802469,128073013211,184881815680 ★ Numerators of continued fraction convergents to sqrt(789). • a(n) = 32233334545150 * a(n - 24) - a(n - 48) for n>47. [_ Bruno Berselli _ , Nov 26 2013] •

[A241038] • 0,1,28,325,3160,29161,264628,2388205,21513520,193680721,1743303628,15690264085,141213971080,1270930522681,11438389053028,102945544523965,926510029855840,8338590656123041,75047317067368828 ★ A000217(A058481(n) • a(n) = (1 / 2) * 3 ^ (2 * n) - (3 / 2) * 3 ^ n + 1. • a(n) = 13 * a(n - 1) - 39 * a(n - 2) + 27 * a(n - 3). G.f.: - x * (15 * x + 1) / ((x - 1) * (3 * x - 1) * (9 * x - 1)). - _ Colin Barker _ , Apr 15 2014 •

[**A027820**] • 28,336,2100,9240,32340,96096,252252,600600,1321320,2722720,5309304,9876048,17635800,30387840,50736840,82372752,130423524,201894000,306205900,455855400,667206540,961440480,1365682500 ⋆ a(n) = 28*(n+1)*C(n+6,6) • a(n) = C(n + 1, 3) * C(n + 6, 6). - _ Zerinvary Lajos _ , Jun 08 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[**A134288**] • 1,28,336,2520,13860,60984,226512,736164,2147145,5725720,14158144,32821152,71954064,150233760,300467520,578399976,1075994073,1941008916,3405278800,5824819000,9735768900,15931258200,25565576400,40293571500,62455035825 ⋆ a(n) = binomial(n+7,7)*binomial(n+7,6)/(n+7). • a(n) = binomial(n + 6,6) ^ 2 - binomial(n + 6,5) * binomial(n + 6,7). - _ Gary Detlefs _ , Dec 05 2011 •

[**A085744**] • 0,0,28,351,2016,7750,23220,58653,130816,265356,499500,885115,1492128,2412306,3763396,5693625,8386560,12066328,17003196,23519511,31996000,42878430,56684628,74011861,95544576 ⋆ A000217(n^3)-n^3. • a(n) = n ^ 3 * (n ^ 3 - 1) / 2. - Vincenzo Librandi, Sep 14 2011 •

[**A130608**] • 0,28,385,501,645,2668,3340,4176,15957,19873,24745,93408,116232,144628,544825,677853,843357,3175876,3951220,4915848,18510765,23029801,28652065,107889048,134227920 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+167)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 334 for n > 6; a(1)=0, a(2)=28, a(3)=385, a(4)=501, a(5)=645, a(6)=2668. •

[**A177108**] • 28,388,3988,39988,399988,3999988,39999988,399999988,3999999988,39999999988,399999999988,3999999999988,39999999999988,399999999999988,3999999999999988,39999999999999988,399999999999999988 ⋆ a(n) = 4*(10^n-3). • a(n) = a(n - 1) + 36 * 10 ^ (n - 1) = 10 * a(n - 1) + 108 = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 15 2012 •

[**A035476**] • 1,28,392,3668,25872,147084,703640,2936004,10975776,37424380,117743528,344562484,943845168,2433633132,5936978616,13769398692,30495241280,64756472284,132333870536,261119764500,498982041936 ⋆ Coordination sequence for lattice D*_14 (with edges defined by l_1 norm = 1). • a(m) = sum(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1), where n=14, a(0)=1. •

[**A010980**] • 1,28,406,4060,31465,201376,1107568,5379616,23535820,94143280,348330136,1203322288,3910797436,12033222880,35240152720,98672427616,265182149218,686353797976,1715884494940,4154246671960,9762479679106,22314239266528,49699896548176 ⋆ a(n) = binomial(n,27). • a(n) = C(n,27), n >= 27. •

[**A024213**] • 28,418,2485,9605,28700,72128,159978,322770,604560,1066450,1790503,2884063,4484480,6764240,9936500,14261028,20050548,27677490,37581145,50275225,66355828,86509808,111523550,142292150,179829000 ⋆ a(n) = 3rd elementary symmetric function of first n+2 positive integers congruent to 1 mod 3. • a(n) = n * (n + 1) * (n + 2) * (3n + 5) * (9n ^ 2 + 21 * n - 2) / 48. •

[**A054337**] • 1,28,448,5376,53760,473088,3784704,28114944,196804608,1312030720,8396996608,51908706304,311452237824,1820797698048,10404558274560,58265526337536,320460394856448,1734256254517248,9249366690758656 ⋆ 7-fold convolution of A000302 (powers of 4). • a(n) = binomial(n + 6, 6) * 4 ^ n. •

[**A000771**] • 1,28,462,5880,63987,627396,5715424,49329280,408741333,3281882604,25708104786,197462483400,1492924634839,11143554045652,82310957214948,602762379967440,4382641999117305,31677463851804540,227832482998716310,1631853797991016600 ⋆ Stirling numbers of second kind, S(n,7). • a(n) = 1 / 720 * (7 ^ (n - 1) - 6 ^ n + 3 * 5 ^ n - 5 * 4 ^ n + 5 * 3 ^ n - 3 * 2 ^ n + 1). - _ Vaclav Kotesovec _ , Nov 19 2012 • a(n) = det(|s(i + 7,j + 6)|, 1 <= i,j <= n - 7), where s(n,k) are Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 06 2013 •

[**A263949**] • 28,476,1106,8218,18256,131600,291578,2097970,4647580,33436508,74070290,532886746,1180477648,8492752016,18813572666,135351146098,299836685596,2157125586140,4778573397458,34378658232730,76157337674320,547901406138128,1213738829392250 ⋆ Positive integers n such that (n+84)^3 - n^3 is a square. • a(n) = a(n - 1) + 16 * a(n - 2) - 16 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[**A140107**] • 1,28,490,6860,84035,941192,9882516,98825160,951192165,8877793540,80787921214,719746934452,6297785676455,54257845827920,461191689537320,3874010192113488,32202709721943369,265198785945415980 ⋆ Binomial(n+3,3)*7^n. • a(n) = 28 * a(n - 1) - 294 * a(n - 2) + 1372 * a(n - 3) - 2401 * a(n - 4). G.f.: 1 / (7 * x - 1) ^ 4. - R. J. Mathar, Jun 03 2009 •

[**A028170**] • 1,28,495,7070,89201,1038408,11432275,120872290,1239829701,12425000588,122271240455,1185943687110,11369353359001,107963322279568,1017222704311035,9522095291175530,88651748959581101 ⋆ Expansion of 1/((1-5x)(1-6x)(1-8x)(1-9x)). • a(n) = 28 * a(n - 1) - 289 * a(n - 2) + 1302 * a(n - 3) - 2160 * a(n - 4). - Vincenzo Librandi, Feb 23 2012 • a(n)=(9 ^ (n + 3) - 2 * 8 ^ (n + 3) + 2 * 6 ^ (n + 3) - 5 ^ (n + 3)) / 12. [_ Yahia Kahloune _ , Jun 03 2013] •

[**A079598**] • 1,28,496,8128,130816,2096128,33550336,536854528,8589869056,137438691328,2199022206976,35184367894528,562949936644096,9007199187632128,144115187807420416,2305843008139952128 ⋆ 2^(4n+1)-2^(2n). • a(n + 1) = 16 * a(n) + 12 * 2 ^ (2n). • a(n) = Sum _{ k=1..2 ^ n } (2 * k - 1) ^ 3. - _ Franz Vrabec _ , Jun 24 2006 •

[**A028145**] • 1,28,497,7148,90993,1070076,11908849,127304716,1320106865,13369686044,132894679281,1301200322604,12584262543217,120472024886332,1143539682545393,10777265023323212,100956186031265649 ⋆ Expansion of 1/((1-4x)(1-7x)(1-8x)(1-9x)). • a(n) = 28 * a(n - 1) - 287 * a(n - 2) + 1268 * a(n - 3) - 2016 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + (7 ^ (n + 1) - 4 ^ (n + 1) / 3), n>=2. - Vincenzo Librandi, Mar 17 2011 • a(n) = - 2 * 8 ^ (n + 2) - 4 ^ (n + 2) / 15 + 7 ^ (n + 3) / 63 + 9 ^ (n + 3) / 10. - R. J. Mathar, Mar 18 2011 •

[**A028167**] • 1,28,497,7160,91581,1086708,12265177,133727440,1422928661,14879566988,153661601457,1572610177320,15989900903341,161817863592868,1632050285251337,16420272919788800,164917283388807621 ⋆ Expansion of 1/((1-5x)(1-6x)(1-7x)(1-10x)). • a(n) = 28 * a(n - 1) - 287 * a(n - 2) + 1280 * a(n - 3) - 2100 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 19 2011 • a(n) = 17 * a(n - 1) - 70 * a(n - 2) + 6 ^ (n + 1) - 5 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 • a(n) = 9 * 6 ^ (n + 1) - 5 ^ (n + 2) / 2 - 7 ^ (n + 3) / 6 + 5 * 10 ^ (n + 1) / 3. - R. J. Mathar, Mar 19 2011 •

[**A028136**] • 1,28,500,7280,94416,1138368,13069120,144981760,1569049856,16674065408,174788490240,1813347594240,18663674269696,190917377179648,1943653403279360,19713779492126720,199364213335719936 ⋆ Expansion of 1/((1-4x)(1-6x)(1-8x)(1-10x)). • a(n)=(10 ^ (n + 3) - 3 * 8 ^ (n + 3) + 3 * 6 ^ (n + 3) - 4 ^ (n + 3))48. [_ Yahia Kahloune _ , Jun 02 2013] •

[**A028090**] • 1,28,503,7394,96993,1183584,13750411,154260238,1686734885,18091012940,191193729519,1997666285082,20686716623977,212717150997496,2175158274827027,22143785088967526,224633627211465069 ⋆ Expansion of 1/((1-3x)(1-7x)(1-8x)(1-10x)). • a(n)=(10 ^ (n + 4) - 42 * 8 ^ (n + 3) + 5 * 7 ^ (n + 4) - 3 ^ (n + 4)) / 420. [_ Yahia Kahloune _ , May 31 2013] •

[**A028124**] • 1,28,503,7406,97545,1198344,14051227,159447442,1766581949,19223504300,206298840111,2189789938518,23040266816113,240689810119696,2499511822660355,25828790012697434,265791691961403237 ⋆ Expansion of 1/((1-4x)(1-5x)(1-9x)(1-10x)). • a(n) = 28 * a(n - 1) - 281 * a(n - 2) + 1190 * a(n - 3) - 1800 * a(n - 4), n>=4 - Vincenzo Librandi, Mar 17 2011 • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. Vincenzo Librandi, Mar 17 2011 a(n) = 10 ^ (n + 2) / 3 + 5 ^ (n + 2) / 4 - 9 ^ (n + 3) / 20 - 2 * 4 ^ (n + 2) / 15. - R. J. Mathar, Mar 17 2011 •

[**A028133**] • 1,28,503,7418,98169,1217136,14481211,167749366,1909343117,21481183724,239821188399,2663810246994,29488849731745,325724954017192,3592642298586467,39588148322702702,435961667557278453 ⋆ Expansion of 1/((1-4x)(1-6x)(1-7x)(1-11x)). • a(n)=(3 * 11 ^ (n + 3) - 5 * 7 ^ (n + 4) + 7 * 6 ^ (n + 4) - 10 * 4 ^ (n + 3)) / 420. [_ Yahia Kahloune _ , Jun 02 2013] •

[**A028083**] • 1,28,505,7480,99181,1226548,14470705,165111760,1838112661,20084217868,216290873305,2302672401640,24288950066941,254275654917988,2645388660962305,27378515971285120,282112466144578021 ⋆ Expansion of 1/((1-3x)(1-6x)(1-9x)(1-10x)). • a(0)=1, a(1)=28, a(2)=505, a(3)=7480, a(n)=28 * a(n - 1) - 279 * a(n - 2) + 1152 * a(n - 3) - 1620 * a(n - 4) From _ Harvey P. Dale _ , Jul 04 2012 • a(n)=(9 * 10 ^ (n + 3) - 14 * 9 ^ (n + 3) + 7 * 6 ^ (n + 3) - 2 * 3 ^ (n + 3)) / 252. [_ Yahia Kahloune _ , Jun 02 2013] •

[**A028122**] • 1,28,505,7500,100161,1254588,15084745,176531500,2028331921,23012251548,258784204185,2892049106700,32177076653281,356869970102908,3948976130302825,43626137399621100,481387456885736241 ⋆ Expansion of 1/((1-4x)(1-5x)(1-8x)(1-11x)). • a(n) = 28 * a(n - 1) - 279 * a(n - 2) + 1172 * a(n - 3) - 1760 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011. • a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 17 2011 • a(n) = - 4 ^ (n + 2) / 7 - 2 * 8 ^ (n + 2) / 9 + 11 ^ (n + 3) / 126 + 5 ^ (n + 3) / 18. - R. J. Mathar, Mar 18 2011 •

[**A028081**] • 1,28,507,7574,101801,1283016,15511399,182368858,2103357861,23935475564,269799417251,3020592495102,33653261722081,373625952944272,4137562797943263,45735549657446306,504875559449240861 ⋆ Expansion of 1/((1-3x)(1-6x)(1-8x)(1-11x)). • a(0)=1, a(1)=28, a(2)=507, a(3)=7574, a(n)=28 * a(n - 1) - 277 * a(n - 2) + 1134 * a(n - 3) - 1584 * a(n - 4). - _ Harvey P. Dale _ , Jan 04 2013 • a(n)=(11 ^ (n + 3) - 4 * 8 ^ (n + 3) + 4 * 6 ^ (n + 3) - 3 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , May 31 2013] •

[**A028009**] • 1,28,509,7628,102477,1284060,15338893,177026476,1991073293,21954504572,238334455437,2555217498444,27118409281549,285415846100764,2983193752870541,30999901741572332,320557221434296845,3300921733229659836,33869642781313790605 ⋆ Expansion of 1/((1-2x)(1-7x)(1-9x)(1-10x)). • a(n) = (35 * 10 ^ (n + 3) - 60 * 9 ^ (n + 3) + 4 * 7 ^ (n + 4) - 3 * 2 ^ (n + 3)) / 840. - _ Yahia Kahloune _ , Jun 06 2013 •

[**A028119**] • 1,28,509,7688,105417,1368660,17211253,212371456,2591003393,31398579212,378973353837,4563240432504,54868960089529,659203880450884,7915910524882661,95029322307819632,1140621385518013425 ⋆ Expansion of 1/((1-4x)(1-5x)(1-7x)(1-12x)). • a(n) = 28 * a(n - 1) - 275 * a(n - 2) + 1136 * a(n - 3) - 1680 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 16 2011 • a(n) = 19 * a(n - 1) - 84 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 16 2011 • a(n) = 5 ^ (n + 3) / 14 - 7 ^ (n + 3) / 30 - 2 * 4 ^ (n + 1) / 3 + 18 * 12 ^ (n + 1) / 35. - R. J. Mathar, Mar 18 2011 •

[**A028069**] • 1,28,510,7700,104951,1344168,16531180,197743000,2319239901,26813094308,306681461450,3479254697100,39224238812851,440041610610448,4917647821351320,54788913249014000,608931512071655801 ⋆ Expansion of 1/((1-3x)(1-5x)(1-9x)(1-11x)). • a(n)=(11 ^ (n + 3) - 2 * 9 ^ (n + 3) + 2 * 5 ^ (n + 3) - 3 ^ (n + 3)) / 96. [_ Yahia Kahloune _ , Jun 10 2013] •

[**A028007**] • 1,28,511,7722,105105,1340976,16393987,194632774,2264322469,25933837644,293957202903,3309577349106,36960914527993,411484609521832,4566596614746859,50561336628369918,558851419944076077 ⋆ Expansion of 1/((1-2x)(1-7x)(1-8x)(1-11x)). • a(n)=(5 * 11 ^ (n + 3) - 30 * 8 ^ (n + 3) + 27 * 7 ^ (n + 3) - 2 ^ (n + 4)) / 540. [_ Yahia Kahloune _ , Jun 06 2013] •

[**A028000**] • 1,28,513,7808,107309,1384836,17143081,206182696,2429008197,28183193324,323282753729,3676063130064,41519535153565,466480044231892,5219284450672857,58204869911960312,647392469287421813 ⋆ Expansion of 1/((1-2x)(1-6x)(1-9x)(1-11x)). • a(n) = (14 * 11 ^ (n + 3) - 30 * 9 ^ (n + 3)

+ 21 * 6 ^ (n + 3) - 5 * 2 ^ (n + 3)) / 1260 . [_ Yahia Kahloune _ , Jun 05 2013] ● a(n) = 28 * a(n - 1) - 271 * a(n - 2) + 1032 * a(n - 3) - 1188 * a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jun 03 2014 ●

[A028067] ● 1,28,513,7844,109073,1435884,18284641,228039988,2806440945,34241833340,415442661569,5021759035332,60553294750417,728980076982796,8766500495230497,105347998786683476,1265376309596698289 ★ Expansion of 1/((1-3x)(1-5x)(1-8x)(1-12x)). ● a(n)=(5 * 12 ^ (n + 3) - 21 * 8 ^ (n + 3) + 30 * 5 ^ (n + 3) - 14 * 3 ^ (n + 3)) / 1260. [_ Yahia Kahloune _ , Jun 08 2013] ●

[A024771] ● 1,28,515,7850,107481,1373088,16714975,196403350,2246489861,25160397548,277090599435,3010102678050,32332333478641,344033387428408,3631750686931895,38080468894107950,396993032851849821 ★ Expansion of 1/((1-x)(1-8x)(1-9x)(1-10x)). ● a(n) = (28 * 10 ^ (n + 3) - 63 * 9 ^ (n + 3) + 36 * 8 ^ (n + 3) - 1) / 504. [_ Yahia Kahloune _ , Aug 13 2013] ●

[A028050] ● 1,28,515,7910,110241,1448328,18302575,225096970,2713995581,32234230028,378383333835,4400300953230,50784218810521,5824357538181828,66448878204162 95,754747155606686 90,854031383578979061 ★ Expansion of 1/((1-3x)(1-4x)(1-10x)(1-11x)). ● a(n)=(3 * 11 ^ (n + 3) - 4 * 10 ^ (n + 3) + 4 ^ (n + 4) - 3 ^ (n + 4)) / 168. [_ Yahia Kahloune _ , May 27 2013]. ●

[A026738] ● 1,28,516,7952,111440,1477056,18912832,236879104,2924469504,35764112384,434623874048,5259666886656,63472710995968,764545789837312,9197653087371264,110557371200503808,1328176959287263232 ★ Expansion of 1/((1-2x)(1-6x)(1-8x)(1-12x)). ● a(n) = - 2 ^ n / 30 + 9 * 6 ^ n / 2 - 32 * 8 ^ n / 3 + 36 * 12 ^ n / 5. - _ R. J. Mathar _ , Jun 23 2013 ● a(0) = 1, a(1)=28, a(2)=516, a(3)=7952, a(n)=28 * a(n - 1) - 268 * a(n - 2) + 1008 * a(n - 3) - 1152 * a(n - 4). - _ Harvey P. Dale _ , Jul 25 2013 ●

[A026149] ● 1,28,517,7980,111741,1473948,18687397,230431180,2784091981,33121756668,389323047477,4532472142380,52356786665821,600922618820188,6860138634498757,77961474116861580,882575960972337261 ★ Expansion of 1/((1-2x)(1-5x)(1-10x)(1-11x)). ● a(n) = - 2 ^ n / 27 + 25 * 5 ^ n / 18 - 25 * 10 ^ n + 1331 * 11 ^ n / 54. _ R. J. Mathar _ , Jun 23 2013 ●

[A028049] ● 1,28,517,8008,113113,1513876,19589389,247937536,3091276705,38140546444,467097608341,5689887004984,69041150918377,835356636400132,10086046124610973,121588456137536752,1464064614481015729 ★ Expansion of 1/((1-3x)(1-4x)(1-9x)(1-12x)). ● a(0)=1, a(1)=28, a(2)=517, a(3)=8008, a(n)=28 * a(n - 1) - 267 * a(n - 2) + 1008 * a(n - 3) - 1296 * a(n - 4) [From Harvey P. Dale, Sep 23 2011] ● a(n)=(5 * 12 ^ (n + 3) - 12 * 9 ^ (n + 3) + 27 * 4 ^ (n + 3) - 20 * 3 ^ (n + 3)) / 1080. [_ Yahia Kahloune _ , Jun 07 2013] ●

[A283244] ● 1,28,518,7439,90517,972398,9472190,85145743,715281840,5668682493,42691867112,307312234334,2124355701646,14157081285263,91250293831492,570441761053192,3466874635995098,20526329624103412,118608374492197651,669949478060261642 ★ Expansion of exp(Sum_{n>=1} sigma_3(3*n)*x^n/n) in powers of x. ● a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 3(3 * k) * a(n - k). - _ Seiichi Manyama _ , Mar 04 2017 ●

[A024442] ● 1,28,518,7988,111279,1454376,18208156,221140696,2626932077,30692791844,354119115714,4046102802924,45880411771195,517157095113232,5801772397167992,64842434348911472,722511991410929433 ★ Expansion of 1/((1-x)(1-7x)(1-9x)(1-11x)). ● a(n)=(6 * 11 ^ (n + 3) - 15 * 9 ^ (n + 3) + 10 * 7 ^ (n + 3) - 1) / 480. [_ Yahia Kahloune _ , Jun 27 2013] ●

[A026108] ● 1,28,519,8078,114617,1539720,19981483,253451506,3165132333,39098271212,479245678847,5841627343734,70916047801249,858343285202704,10366285999237011,124990982044693562,1505251989334074965 ★ Expansion of 1/((1-2x)(1-5x)(1-9x)(1-12x)). ● a(0)=1, a(1)=28, a(2)=519, a(3)=8078, a(n)=28 * a(n - 1) - 265 * a(n - 2) + 966 * a(n - 3) - 1080 * a(n - 4). - _ Harvey P. Dale _ , Feb 20 2013 ● a(n) = - 4 * 2 ^ n / 105 + 125 * 5 ^ n / 84 - 243 * 9 ^ n / 28 + 288 * 12 ^ n / 35. _ R. J. Mathar _ , Jun 23 2013 ●

[A024434] ● 1,28,521,8120,114765,1526196,19481953,241575376,2932083605,35012557580,412807072041,4818002535528,55771887460381,641245030592740,7331332058802545,83421584091633536,945410124787913253 ★ Expansion of 1/((1-x)(1-6x)(1-10x)(1-11x)). ● a(n)=(18 * 11 ^ (n + 3) - 25 * 10 ^ (n + 3) + 9 * 6 ^ (n + 3) - 2) / 900. [_ Yahia Kahloune _ , Jun 27 2013] ● a(0)=1, a(1)=28, a(2)=521, a(3)=8120; for n>3, a(n) = 28 * a(n - 1) - 263 * a(n - 2) + 896 * a(n - 3) - 660 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 ●

[A024440] ● 1,28,521,8132,115425,1547436,20005177,252510484,3136438289,38534838524,469928249193,5701527366756,68933583580993,831438081590092,10011928868278169,120426060354676148,1447414807491149937 ★ Expansion of 1/((1-x)(1-7x)(1-8x)(1-12x)). ● a(0)=1, a(1)=28, a(2)=521, a(3)=8132; for n>3, a(n) = 28 * a(n - 1) - 263 * a(n - 2) + 908 * a(n - 3) - 672 * a(n - 4) [_ Harvey P. Dale _ , Oct 15 2011] ● a(n) = (21 * 12 ^ (n + 3) - 165 * 8 ^ (n + 3) + 154 * 7 ^ (n + 3) - 10) / 4620. [_ Yahia Kahloune _ , Jun 30 2013] ●

[A024347] ● 1,28,523,8218,117649,1592416,20790631,264958246,3320750557,41132364364,505211150899,6167574174034,74958865496425,908053837462072,10973667150086527,132377759927894782,1594780291608334453 ★ Expansion of 1/((1-x)(1-6x)(1-9x)(1-12x)). ● a(n) = (20 * 12 ^ (n + 3) - 55 * 9 ^ (n + 3) + 44 * 6 ^ (n + 3) - 9) / 3960. [_ Yahia Kahloune _ , Jun 28 2013] ● a(0)=1, a(1)=28, a(2)=523, a(3)=8218; for n> 3, a(n) = 28 * a(n - 1) - 261 * a(n - 2) + 882 * a(n - 3) - 648 * a(n - 4). - _ Vincenzo Librandi _ , Jul 16 2013 ●

[A025984] ● 1,28,524,8288,119952,1646400,21834688,282827776,3602179328,45309135872,564541565952,6982826532864,85877229359104,1051359996166144,12824652929417216,155979167054692352 ★ Expansion of 1/((1-2x)(1-4x)(1-10x)(1-12x)). ● a(n) = - 2 ^ n / 20 + 2 * 4 ^ n / 3 - 125 * 10 ^ n / 12 + 54 * 12 ^ n / 5. _ R. J. Mathar _ , Jun 20 2013 ●

[A020973] ● 1,28,527,8330,119361,1607088,20736787,259516390,3174562421,38159361548,452427201447,5305418786850,61660643651881,711374339146408,8156868543440507,93047809667655710,1056781696172883741 ★ Expansion of 1/((1-7x)(1-10x)(1-11x)). ● a(n) = 28 * a(n - 1) - 257 * a(n - 2) + 770 * a(n - 3) for n>=3. - Vincenzo Librandi, Mar 15 2011 ● a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 7 ^ n for n>1, a(0)=1, a(1)=28. - Vincenzo Librandi, Mar 15 2011 ● a(n) = (3 * 11 ^ (n + 2) - 4 * 10 ^ (n + 2) + 7 ^ (n + 2)) / 12. [_ Yahia Kahloune _ , Jun 30 2013] ●

[A023947] ● 1,28,527,8390,122121,1683768,22407907,291019450,3713967341,46787388908,583658682087,7226065372110,88934701511761,1089437114484448,13295459966641067,161767703674942370 ★ Expansion of 1/((1-x)(1-5x)(1-10x)(1-12x)). ● a(n) = (90 * 12 ^ (n + 3) - 154 * 10 ^ (n + 3) + 99 * 5 ^ (n + 3) - 35) / 13860. [_ Yahia Kahloune _ , Jun 27 2013] ● a(0)=1, a(1)=28, a(2)=527, a(3)=8390; for n>3, a(n) = 28 * a(n - 1) - 257 * a(n - 2) + 830 * a(n - 3) - 600 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[A020972] ● 1,28,529,8428,122257,1673980,22067473,283450636,3574941073,44501447452,548719235857,6718924954924,81849587868049,993294339107644,12020103854584081,145151139884150092,1750035954202640785 ★ Expansion of 1/((1-7x)(1-9x)(1-12x)). ● a(n) = 28 * a(n - 1) - 255 * a(n - 2) + 756 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 15 2011 ● a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 7 ^ n, a(0)=1, a(1)=28. - Vincenzo Librandi, Mar 15 2011 ● a(n) = (2 * 12 ^ (n + 2) - 5 * 9 ^ (n + 2) + 3 * 7 ^ (n + 2)) / 30. [_ Yahia Kahloune _ , Jun 30 2013] ●

[A025957] ● 1,28,531,8582,127505,1800456,24581887,327729514,4292988909,55478507084,709331302043,8991457539246,113171793119113,1416078851325712,17631136903084599,218593740438932978 ★ Expansion of 1/((1-2x)(1-3x)(1-11x)(1-12x)). ● a(n) = - 4 * 2 ^ n / 45 + 3 * 3 ^ n / 8 - 1331 * 11 ^ n / 72 + 96 * 12 ^ n / 5. - _ R. J. Mathar _ , Jun 20 2013 ●

[A020758] ● 1,28,532,8560,125776,1747648,23401792,305401600,3912299776,49432480768,618099069952,7666644643840,94496470552576,1158938055589888,14157139120832512,172384964172513280 ★ Expansion of 1/((1-6x)(1-10x)(1-12x)). ● a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 6 ^ n for n>1, a(0)=1, a(1)=28. - _ Vincenzo Librandi _ , Mar 11 2011 ● a(n) = (2 * 12 ^ (n + 2) - 3 * 10 ^ (n + 2) + 6 ^ (n + 2)) / 24. [_ Yahia Kahloune _ , Jun 30 2013] ●

[A022000] ● 1,28,533,8648,128889,1824276,24950461,333078016,4367420897,56484732044,722650676709,9164986526904,115404823162825,1444532800672132,17990818115880077,223110488408176112 ★ Expansion of 1/((1-x)(1-4x)(1-11x)(1-12x)). ● a(n) = (105 * 12 ^ (n + 3) - 132 * 11 ^ (n + 3) + 55 * 4 ^ (n + 3) - 28) / 9240. [_ Yahia Kahloune _ , Jun 28 2013] ● a(0)=1, a(1)=28, a(2)=533, a(3)=8648; for n>3, a(n) = 28 * a(n - 1) - 251 * a(n - 2) + 752 * a(n - 3) - 528 * a(n - 4). - _ Vincenzo Librandi _ , Jul 12 2013 ●

[A020569] ● 1,28,537,8780,131681,1872828,25708777,344166700,4522666161,58593270428,750663052217,9530987332620,120125429898241,1504795780456828,18753752307454857,232703290568738540 ★ Expansion of 1/((1-5x)(1-11x)(1-12x)). ● a(n) = 25 * 5 ^ n / 42 - 121 * 11 ^ n / 6 + 144 * 12 ^ n / 7. - _ R. J. Mathar _ , Jun 30 2013 ● a(0)=1, a(1)=28, a(2)=537; for n>2, a(n) = 28 * a(n - 1) - 247 * a(n - 2) + 660 * a(n - 3). - _ Vincenzo Librandi _ , Jul 04 2013 ● a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 5 ^ n. - _ Vincenzo Librandi _ , Jul 04 2013 ●

[A001234] ● 1,28,546,9450,157773,2637558,44990231,790943153,14409322928,272803210680,5374523477960,110228466184200,2353125040549984,52260903362512720,1206647803780373360,28939583397335447760 ★ Unsigned Stirling numbers of the first kind s(n,7). ● a(n) = det(S(i + 7,j + 6)|, 1 <= i,j <= n - 7), where S(n,k) are Stirling numbers of the second kind. - _ Mircea Merca _ , Apr 06 2013 ●

[A062142] ● 1,28,560,10080,176400,3104640,55883520,1037836800,19978358400,399567168000,8310997094400,179819755315200,4045944494592000,94612855873536000,2297740785500160000,57903067794604032000 ★ Fourth (unsigned) column sequence of coefficient triangle A062137 of generalized Laguerre polynomials n!*L(n,3,x). ● a(n) = (n + 3)! * binomial(n + 6, 6) / 3!; e.g.f.: (1 + 18 * x + 45 * x ^ 2 + 20 * x ^ 3) / (1 - x) ^ 10. ●

[A053110] ● 1,28,588,10290,158466,2218524,28840812,353299947,4121832715,46164526408,499416240232,5243870522436,53648829191076,536488291910760,5257585260725448,50604258134482437,479252091744216021 ★ Expansion of (-1+1/(1-7*x)^7)/(49*x); related to A036226. ● a(n) = 7 ^ (n - 1) * binomial (n + 7, 6); G.f. (- 1 + (1 - 7 * x) ^ (- 7)) / (x * 7 ^ 2). ●

[A089908] ● 0,28,609,9555,130501,1654947,20049393,235493839,2704938285,30549382731,340493827177,3754938271623,41049382716069,445493827160515,4804938271604961,51549382716049407,550493827160493853 ★ Sum of digits of numbers between 0 and (7/9)*(10^n-1). ● a(n) = s(7, n - 1) where s(a, k)=a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)). ● a(n) = (7 * (- 22 * (- 1 + 10 ^ n) + 9 * (4 + 9 * 10 ^ n) * n)) / 162. G.f.: 7 * x * (15 * x ^ 2 - x + 4) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 ●

[A113532] ● 1,28,769,7108,36409,131836,380713,937924,2054353,4110364,7654321,13446148,22505929,36167548,56137369,84557956,124076833,177920284,249972193,344857924,468033241,625878268,825796489,1076318788 ★ a(n) = 1 + 2*n + 3*n^2 + 4*n^3 + 5*n^4 + 6*n^5 + 7*n^6. ● a(n) = 1 + 2 * n + 3 * n ^ 2 + 4 * n ^ 3 + 5 * n ^ 4 + 6 * n ^ 5 + 7 * n ^ 6. ●

[A158659] ● 28,812,3164,7084,12572,19628,28252,38444,50204,63532,78428,94892,112924,132524,153692,176428,200732,226604,254044,283052,313628,345772,379484,414764,451612 ★ 784n^2 + 28. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A190397] ● 0,0,28,1668,29092,252584,1441634,6222996,22004086,66972760,181332416,446905476,1019470032,2179712872,4410518630,8510498516,15756224370,28128603736,48622240660,81660504068,133643402268,213660267432 ★

Number of ways to place 5 nonattacking grasshoppers on a chessboard of size n x n. • a(n) = 1 / 120 * (n ^ 10 - 10 * n ^ 8 - 200 * n ^ 7 + 1175 * n ^ 6 - 1136 * n ^ 5 - 740 * n ^ 4 - 30520 * n ^ 3 + 159624 * n ^ 2 - 289024 * n + 179175 - 135 * (- 1) ^ n), n>3. •

[A180067] • 0,0,0,0,0,28,81095,42752576,2436444603,53633024900,666519047964,5655962632720,36502953719310,191587564345044,854990702601025,3346890268570368,11756179090049177,37692541754516628,111774885566128630,309788198526691600 ★ Number of ways to place 9 nonattacking kings on an n X n toroidal board. • a(n) = 1 / 362880 * n ^ 2 * (n ^ 16 - 324 * n ^ 14 + 46914 * n ^ 12 - 3975048 * n ^ 10 + 216203169 * n ^ 8 - 7756575876 * n ^ 6 + 179987135516 * n ^ 4 - 2481599151792 * n ^ 2 + 15651056776320), n>=10. •

[A022363] • 0,29,29,58,87,145,232,377,609,986,1595,2581,4176,6757,10933,17690,28623,46313,74936,121249,196185,317434,513619,831053,1344672 ★ Fibonacci sequence beginning 0, 29. • a(n) = Fibonacci(n + 7) - Fibonacci(n - 7), where Fibonacci(- 7.. - 1) = 13, - 8, 5, - 3, 2, - 1, 1. - _ Bruno Berselli _ , May 22 2015 •

[A042700] • 29,30,59,89,5221,5310,10531,15841,929309,945150,1874459,2819609,165411781,168231390,333643171,501874561,29442367709,29944242270,59386609979,89330852249,5240576040421,5329906892670 ★ Numerators of continued fraction convergents to sqrt(880). • a(n) = 178 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042708] • 29,30,89,119,327,446,1219,1665,97789,99454,296697,396151,1088999,1485150,4059299,5544449,325637341,331181790,988000921,1319182711,3626366343,4945549054,13517464451,18463013505,1084372247741 ★ Numerators of continued fraction convergents to sqrt(884). • a(n) = 3330 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042710] • 29,30,89,119,6991,7110,21211,28321,1663829,1692150,5048129,6740279,395984311,402724590,1201433491,1604158081,94242602189,95846760270,285936122729,381782882999,22429343336671,22811126219670 ★ Numerators of continued fraction convergents to sqrt(885). • a(n) = 238 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042704] • 29,30,89,297,1871,5910,13691,19601,1150549,1170150,3490849,11642697,73347031,231683790,536714611,768398401,45103821869,45872220270,136848262409,456417007497,2875350307391,9082467929670 ★ Numerators of continued fraction convergents to sqrt(882). • a(n) = 39202 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042716] • 29,30,119,149,8761,8910,35491,44401,2610749,2655150,10576199,13231349,777994441,791225790,3151671811,3942897601,231839732669,235782630270,939187623479,1174970253749,69087462340921 ★ Numerators of continued fraction convergents to sqrt(888). • a(n) = 298 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042720] • 29,30,149,179,10531,10710,53371,64081,3770069,3834150,19106669,22940819,1349674171,1372614990,6840134131,8212749121,483179583149,491392332270,2448748912229,2940141244499 ★ Numerators of continued fraction convergents to sqrt(890). • a(n) = 358 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042718] • 29,30,149,328,1133,1461,2594,29995,62584,92579,340321,6558678,6898999,13457677,20356676,33814353,223242794,257057147,1508528529,1765585676,6805285557,56207870132,175428895953 ★ Numerators of continued fraction convergents to sqrt(889). • a(n) = 26463494435607314430 * a(n - 42) - a(n - 84) for n>83. [_ Bruno Berselli _ , Dec 03 2013] •

[A042722] • 29,30,179,209,388,597,3373,3970,233633,237603,1421648,1659251,3080899,4740150,26781649,31521799,1855045991,1886567790,11287884941,13174452731,24462337672,37636790403,212646289687 ★ Numerators of continued fraction convergents to sqrt(891). • a(n) = 7940 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042724] • 29,30,209,448,6481,13410,86941,100351,5907299,6007650,41953199,89914048,1300749871,2691413790,17449232611,20140646401,1185606723869,1205747370270,8420090945489,18045929261248 ★ Numerators of continued fraction convergents to sqrt(892). • a(n) = 200702 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 02 2013 •

[A042728] • 29,30,269,299,17611,17910,160891,178801,10531349,10710150,96212549,106922699,6297729091,6404651790,57534943411,63939595201,3766031465069,3829971060270,34405799947229,38235771007499 ★ Numerators of continued fraction convergents to sqrt(894). • a(n) = 598 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 03 2013 •

[A042730] • 29,30,329,359,21151,21510,236251,257761,15186389,15444150,169627889,185072039,10903806151,11088878190,121792588051,132881466241,7828917630029,7961799096270,87446908592729,95408707688999,5621151954554671,5716560662243670,62786758576991371 ★ Numerators of continued fraction convergents to sqrt(895). • a(n) = 718 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 03 2013 •

[A042732] • 29,30,419,449,26461,26910,376291,403201,23761949,24165150,337908899,362074049,21338203741,21700277790,303441815011,325142092801,19161683197469,19486825290270,272490411970979,291977237261249,17207170173123421,17499147410384670,244696086508124131 ★ Numerators of continued fraction convergents to sqrt(896). • a(n) = 898 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 03 2013 •

[A042734] • 29,30,569,599,35311,35910,681691,717601,42302549,43020150,816665249,859685399,50678418391,51538103790,978364286611,1029902390401,60712702929869,61742605320270,1172079598694729,1233822204014999,72733767431564671,73967589635579670 ★ Numerators of continued fraction convergents to sqrt(897). • a(n) = 1198 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 03 2013 •

[A041419] • 1,1,29,30,869,899,26041,26940,780361,807301,23384789,24192090,700763309,724955399,20999514481,21724469880,629284671121,651009141001,18857540619149,19508549760150,565096933903349,584605483663499,16934050476481321,17518655960144820 ★ Denominators of continued fraction convergents to sqrt(224). • a(n) = 30 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 17 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (28 + 4 * cos ^ 2(k * Pi / n)). •

[A042736] • 29,30,869,899,53011,53910,1562491,1616401,95313749,96930150,2809357949,2906288099,171374067691,174280355790,5051224029811,5225504385601,308130478394669,313355982780270,9082097996242229,9395453979022499,554018428779547171 ★ Numerators of continued fraction convergents to sqrt(898). • a(n) = 1798 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 03 2013, simplified by _ Colin Barker _ , Dec 27 2013 •

[A042738] • 29,30,1769,1799,106111,107910,6364891,6472801,381787349,388260150,22900876049,23289136199,1373670775591,1396959911790,82397345659411,83794305571201,4942467068789069,5026261374360270,296465626781684729,301491888156044999,17782995139832294671 ★ Numerators of continued fraction convergents to sqrt(899). • a(n) = 60 * a(n - 2) - a(n - 4), - _ Vincenzo Librandi _ , Dec 03 2013 •

[A157681] • 29,31,60,91,151,242,393,635,1028,1663,2691,4354,7045,11399,18444,29843,48287,78130,126417,204547,330964,535511,866475,1401986,2268461 ★ Fibonacci sequence beginning 29, 31. • a(n) = a(n - 1) + a(n - 2), a(0)=29, a(1)=31. • a(n) = (29 / 2) *{ [(1 / 2) + (1 / 2) * sqrt(5)] ^ n + [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } + (33 / 10) * sqrt(5) *{ [(1 / 2) + (1 / 2) * sqrt(5)] ^ n - [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } + [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } , with n>= 0. - _ Paolo P. Lava _ , Mar 18 2009 •

[A261521] • 29,32,37,44,53,64,77,92,109,128,149,172,197,224,253,284,317,352,389,428,469,512,557,604,653 ★ a(n) = n^2 + 2*n + 29. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Oct 03 2015 •

[A057539] • 1,29,41,71,139,169,181,209,211,239,251,281,349,379,391,419,421,449,461,491,559,589,601,629,631 ★ Birthday set of order 7, i.e., numbers congruent to +/- 1 modulo 2, 3, 4, 5, 6 and 7. • a(n) = a(n - 8) + 210 = a(n - 1) + a(n - 8) - a(n - 9). - _ Charles R Greathouse IV _ , Oct 20 2014 • a(n) = 105 n / 4 + O(1). - _ Charles R Greathouse IV _ , Oct 20 2014 •

[A157257] • 29,41,85,89,205,481,505,1189,2801,2941,6929,16325,17141,40385,95149,99905,235381,554569,582289,1371901,3232265,3393829,7996025,18839021,19780685 ★ Positive numbers y such that y^2 is of the form x^2+(x+41)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=29, a(2)=41, a(3)=85, a(4)=89, a(5)=205, a(6)=481. •

[A214405] • 1,29,41,85,113,173,217,293,353,445,521,629,721,845,953,1093,1217,1373,1513,1685,1841,2029,2201,2405,2593 ★ Numbers of the form (4k+3)^2-8 or (4k+5)^2+4. • a(n) = 2 * a(n - 1) - 2 * a(n - 3) + a(n - 4). • a(n) = 4 * n * (n + 3) - 6 * (- 1) ^ n + 7. •

[A195819] • 0,29,58,87,116,145,174,203,232,261,290,319,348,377,406,435,464,493,522,551,580,609,638,667,696 ★ Multiples of 29. • a(n) = 29 * n. •

[A042664] • 29,59,88,323,411,734,7017,28802,64621,158044,380709,538753,3074474,3613227,17527382,38667991,752219211,6056421679,12865062569,18921484248,542666621513,561588105761,1665842833035 ★ Numerators of continued fraction convergents to sqrt(862). • a(n) = 716045132294624251006 * a(n - 40) - a(n - 80) for n>79. [_ Bruno Berselli _ , Dec 01 2013] •

[A042672] • 29,59,147,206,5915,6121,18157,42435,2479387,5001209,12481805,17483014,502006197,519489211,1540984619,3601458449,210425574661,424452607771,1059330790203,1483783397974,42605265933475,44089049331449,130783364596373,305655778524195 ★ Numerators of continued fraction convergents to sqrt(866). • a(n) = 84870 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 01 2013 •

[A042674] • 29,59,265,7744,31241,70226,4104349,8278924,37220045,1087660229,4387860961,9863382151,576464025719,1162791433589,5227629760075,15276054054475764,616283847663131,1385331749802026,80965525336180639 ★ Numerators of continued fraction convergents to sqrt(867). • a(n) = 140452 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 01 2013 •

[A042680] • 29,59,3451,6961,407189,821339,48044851,96911041,5668885229,11434681499,668880412171,1349195505841,78922219750949,159193635007739,9312153050199811,18783499735407361,1098755137703826749 ★ Numerators of continued fraction convergents to sqrt(870). • a(n) = 118 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 01 2013 •

[A132770] • 0,29,60,93,128,165,204,245,288,333,380,429,480,533,588,645,704,765,828,893,960,1029,1100,1173,1248 ★ a(n) = n*(n + 28). • a(n) = 2 * n + a(n - 1) + 27 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[A161617] • 1,29,73,133,209,301,409,533,673,829,1001,1189,1393,1613,1849,2101,2369,2653,2953,3269,3601,3949,4313,4693,5089 ★ 8*n^2+20*n+1. • a(n) = a(n - 1) + 16 * n + 12 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 30 2010 •

[A195314] • 1,29,85,169,281,421,589,785,1009,1261,1541,1849,2185,2549,2941,3361,3809,4285,4789,5321,5881,6469,7085,7729,8401 ★ Centered 28-gonal numbers. • a(n) = 14 * n ^ 2 - 14 * n + 1. • a(1)=1, a(2)=29, a(3)=85, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Oct 01 2011] •

[A042656] • 29,88,205,703,40979,123640,288259,988417,57616445,173837752,405291949,1389713599,81008680691,244415755672,569840192035,1953936331777,113898147435101,343648378637080,801194904709261 ★ Numerators of continued fraction convergents to sqrt(858). • a(n) = 1406 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 30 2013 •

[A042658] • 29,88,381,1993,2374,4367,6741,17849,42439,145166,332771,6467815,58543106,65010921,188564948,253575869,442140817,2022139137,246427995

4,9414978999,106029048943,221473076885 ⋆ Numerators of continued fraction convergents to sqrt(859). • a(n) = 4117689543959286120248020 * a(n - 46) - a(n - 92) for n>91. [_ Bruno Berselli _ , Dec 01 2013] •

[A042660] • 29,88,1261,3871,225779,681208,9762691,29969281,1747980989,5273912248,75582752461,232022169631,13532868591059,40830627942808,585161659790371,1796315607313921,104771466883997789,316110716259307288 ⋆ Numerators of continued fraction convergents to sqrt(860). • a(n) = 7742 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 30 2013 •

[A010017] • 1,29,110,245,434,677,974,1325,1730,2189,2702,3269,3890,4565,5294,6077,6914,7805,8750,9749,10802,11909,13070,14285,15554 ⋆ a(0) = 1, a(n) = 27*n^2 + 2 for n>0. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), n>=4, a(1)=29, a(2)=110, a(3)=245. - _ G. C. Greubel _ , Aug 02 2015 •

[A158556] • 1,29,113,253,449,701,1009,1373,1793,2269,2801,3389,4033,4733,5489,6301,7169,8093,9073,10109,11201,12349,13553,14813,16129 ⋆ 28n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A244635] • 0,29,116,261,464,725,1044,1421,1856,2349,2900,3509,4176,4901,5684,6525,7424,8381,9396,10469,11600,12789,14036,15341,16704 ⋆ 29*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A042650] • 29,117,731,3041,177109,711477,4445971,18495361,1077176909,4327202997,27040394891,112488782561,6551389783429,26318047916277,164459677281091,6841567570406 41,39845551585638269,160066363099593717 ⋆ Numerators of continued fraction convergents to sqrt(855). • a(n) = 6082 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 30 2013 •

[A158560] • 29,119,269,479,749,1079,1469,1919,2429,2999,3629,4319,5069,5879,6749,7679,8669,9719,10829,11999,13229,14519,15869,17279,18749 ⋆ a(n) = 30n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A145980] • 29,139,323,581,913,1319,1799,2353,2981,3683,4459,5309,6233,7231,8303,9449,10669,11963,13331,14773,16289,17879,19543,21281,23093 ⋆ a(n) = 29 + 73*n + 37*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A101096] • 1,29,150,390,750,1230,1830,2550,3390,4350,5430,6630,7950,9390,10950,12630,14430,16350,18390,20550,22830,25230,27750,30390,33150 ⋆ Third differences of fifth powers (A000584). • a(k + 1) = MagicNKZ(5,k,3) where MagicNKZ(n,k,z) = Sum _{ j=0..k + 1 } (- 1) ^ j * binomial(n + 1 - z,j) * (k - j + 1) ^ n. (Cf. A101095.) • a(k + 1) = 30 * (1 - 2 * k + 2 * k ^ 2); k>2. •

[A042640] • 29,175,379,2449,142421,856975,1856371,11995201,697578029,4197463375,9092504779,58752492049,3416737043621,20559174753775,4453508655 1171,287769694060801,16735177342077629,100698833746526575 ⋆ Numerators of continued fraction convergents to sqrt(850). • a(n) = 4898 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Nov 30 2013 •

[A110692] • 1,29,275,1498,5846,18250,48546,114480,245751,489247,915629,1627418,2768740,4536884,7195828,11091888,16671645,24502305,35294647,49928714,69482402,95263102,128842550,172095040,227239155 ⋆ Kekulé numbers for certain benzenoids. • a(n) = (n + 1) * (n + 2) * (n + 3) * (155 * n ^ 4 + 911 * n ^ 3 + 2062 * n ^ 2 + 2122 * n + 840) / 7!. •

[A244873] • 1,29,289,1640,6604,21122,57271,137155,298184,599954,1132942,2029229,3475465,5728289,9132418,14141618,21342771,31483251,45501823,64563278,90097018,123839804,167882881,224723693,297322402 ⋆ Number of magic labelings of the prism graph I X C_7 with magic sum n. • a(n) = 61 * n ^ 7 / 1440 + 427 * n ^ 6 / 960 + 1463 * n ^ 5 / 720 + 2009 * n ^ 4 / 384 + 11809 * n ^ 3 / 1440 + 1253 * n ^ 2 / 160 + 169 * n / 40 + (- 1) ^ n / 256 + 255 / 256. [_ Bruno Berselli _ , Jul 08 2014] •

[A042632] • 29,320,349,669,1018,1687,2705,4392,11489,15881,27370,43251,70621,113872,184493,2143295,124495603,1371594928,1496090531,2867685459,4363775990,7231461449,11595237439,18826698888 ⋆ Numerators of continued fraction convergents to sqrt(846). • a(n) = 4286590 * a(n - 16) - a(n - 32) for n>31. [_ Bruno Berselli _ , Nov 30 2013] •

[A107966] • 1,29,320,2100,9898,37044,116928,323730,807675,1851421,3955952,7966322,15249780,27941200,49273344,84012300,139021461,223980645,352290400,542195192,818163038,1212563220,1767688000,2538168750,3593841615 ⋆ a(n) = (n+1)(n+2)^3*(n+3)^2*(n+4)(5n^2 + 23n + 30)/8640. • a(0)=1, a(1)=29, a(2)=320, a(3)=2100, a(4)=9898, a(5)=37044, a(6)=116928, a(7)=323730, a(8)=807675, a(9)=1851421, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Apr 18 2016 •

[A156640] • 29,338,985,1970,3293,4954,6953,9290,11965,14978,18329,22018,26045,30410,35113,40154,45533,51250,57305,63698,70429,77498,84905,92650,100733 ⋆ 169n^2 + 140n + 29. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A261540] • 0,29,478,4287,24476,101785,337434,946043,2333752,5206581,10714070,20633239,37597908,65378417,109216786,176222355,275832944,420346573,625528782,911300591,1302512140,1829807049,2530582538,3450050347,4642403496 ⋆ a(n) = n^7 + 7*n^5 + 14*n^3 + 7*n. • a(n) = - a(- n) = ((n + sqrt(n ^ 2 + 4)) / 2) ^ 7 - 1 / ((n + sqrt(n ^ 2 + 4)) / 2) ^ 7. •

[A028180] • 1,29,530,7810,101451,1213359,13695340,148146020,1551618101,15847349089,158652680550,1562885008230,15193886293951,146104406183219,1392173613916160,13163974362722440,123666997751585001 ⋆ Expansion of 1/((1-5x)(1-7x)(1-8x)(1-9x)). • a(n)=(3 * 9 ^ (n + 3) - 8 ^ (n + 4) + 6 * 7 ^ (n + 3) - 5 ^ (n + 3)) / 24. [_ Yahia Kahloune _ , May 31 2013] •

[A028171] • 1,29,533,7945,105021,1285809,14944693,167428745,1826266541,19529198689,205738222053,2142884743545,22124707610461,226886218153169,2314414985326613,23511240805642345,238065299395424781 ⋆ Expansion of 1/((1-5x)(1-6x)(1-8x)(1-10x)). • a(n)=(3 * 10 ^ (n + 3) - 10 * 8 ^ (n + 3) + 15 * 6 ^ (n + 3) - 8 * 5 ^ (n + 3)) / 12 = (- 2 ^ (3 * n + 7) + 2 ^ n * 3 ^ (n + 4) - 5 ^ (n + 2) + 3 * 2 ^ n * 5 ^ (n + 2)) / 3. [_ Yahia Kahloune _ , May 31 2013] •

[A028146] • 1,29,535,8025,106911,1320249,15480655,174931625,1920680671,20725530969,219822814575,2303376354825,23907223188031,246285893877689,2522150397345295,25706911853867625,261029919360032991 ⋆ Expansion of 1/((1-4x)(1-7x)(1-8x)(1-10x)). • a(n)=(2 * 10 ^ (n + 3) - 9 * 8 ^ (n + 3) + 8 * 7 ^ (n + 3) - 4 ^ (n + 3)) / 72. [_ Yahia Kahloune _ , May 31 2013] •

[A028168] • 1,29,536,8086,108927,1369095,16458142,192115232,2198921813,24838420321,278088555108,3094968268938,34308450088459,379311805532507,4186301510180234,46149086679258004,508354507662757665 ⋆ Expansion of 1/((1-5x)(1-6x)(1-7x)(1-11x)). • a(n) = 29 * a(n - 1) - 305 * a(n - 2) + 1387 * a(n - 3) - 2310 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 19 2011 • a(n) = 18 * a(n - 1) - 77 * a(n - 2) + 6 ^ (n + 1) - 5 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 19 2011 • a(n) = 6 ^ (n + 3) / 5 - 7 ^ (n + 3) / 8 - 5 ^ (n + 3) / 12 + 11 ^ (n + 3) / 120. - R. J. Mathar, Mar 19 2011 •

[A028139] • 1,29,537,8113,109193,1365777,16254169,186716321,2089642665,22928450545,247752021881,2644807869249,27960164339017,293249462073233,3055559544501273,31664588166403297,326635270896335849 ⋆ Expansion of 1/((1-4x)(1-6x)(1-9x)(1-10x)). • a(n)=(5 * 10 ^ (n + 3) - 8 * 9 ^ (n + 3) + 5 * 6 ^ (n + 3) - 2 * 4 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 02 2013] •

[A028137] • 1,29,539,8209,111915,1425273,17363443,205288433,2377405019,27135022057,306533078787,3437326558497,38340790470763,426029329661081,4720802257754771,52206070294635601,576493191655444347 ⋆ Expansion of 1/((1-4x)(1-6x)(1-8x)(1-11x)). • a(n)=(8 * 11 ^ (n + 3) - 35 * 8 ^ (n + 3) + 42 * 6 ^ (n + 3) - 15 * 4 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , May 27 2013]. •

[A028093] • 1,29,540,8230,111911,1414839,17015290,197394560,2229204021,24659970049,268405356440,2883764656890,30659268255331,323156832303659,3381832557579990,35179011908571220,364094453676865841 ⋆ Expansion of 1/((1-3x)(1-7x)(1-9x)(1-10x)). • a(0)=1, a(1)=29, a(2)=540, a(3)=8230, a(n)=29 * a(n - 1) - 301 * a(n - 2) + 1299 * a(n - 3) - 1890 * a(n - 4). [_ Harvey P. Dale _ , Sep 02 2011] • a(n)=(8 * 10 ^ (n + 3) - 14 * 9 ^ (n + 3) + 7 ^ (n + 4) - 3 ^ (n + 3)) / 168. [_ Yahia Kahloune _ , May 30 2013] •

[A028091] • 1,29,542,8326,114639,1474683,18136084,216253052,2522916077,28975740937,329016750426,3704913244578,41464099463515,461955078856391,5129492632272368,56816621295693304,628178610574416153 ⋆ Expansion of 1/((1-3x)(1-7x)(1-8x)(1-11x)). • a(0)=1, a(1)=29, a(2)=542, a(3)=8326, a(n)=29 * a(n - 1) - 299 * a(n - 2) + 1279 * a(n - 3) - 1848 * a(n - 4). [_ Harvey P. Dale _ , Jul 27 2011] • a(n)=(5 * 11 ^ (n + 3) - 32 * 8 ^ (n + 3) + 30 * 7 ^ (n + 3) - 3 ^ (n + 4)) / 480. [_ Yahia Kahloune _ , May 27 2013]. •

[A028125] • 1,29,542,8338,115203,1490127,18459184,221986196,2613955685,30311197345,347486967906,3949158184374,44583107459047,5007013240083,5600328285552308,62437282927169272,694313904033290889 ⋆ Expansion of 1/((1-4x)(1-5x)(1-9x)(1-11x)). • a(n) = 29 * a(n - 1) - 299 * a(n - 2) + 1291 * a(n - 3) - 1980 * a(n - 4), n>=4. Vincenzo Librandi, Mar 17 2011: • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. Vincenzo Librandi, Mar 17 2011 • a(n) = - 4 ^ (n + 3) / 35 + 5 ^ (n + 3) / 24 - 9 ^ (n + 3) / 40 + 11 ^ (n + 3) / 84. - R. J. Mathar, Mar 17 2011 •

[A028134] • 1,29,543,8401,117383,1545873,19643191,244174337,2994192135,36408715057,440432748119,5310970152033,63918578839207,768370553038481,9230114440859127,110830456328561089,1330457511950281799 ⋆ Expansion of 1/((1-4x)(1-6x)(1-7x)(1-12x)). • a(n)=(12 ^ (n + 3) - 16 * 7 ^ (n + 3) + 20 * 6 ^ (n + 3) - 5 * 4 ^ (n + 3)) / 240. [_ Yahia Kahloune _ , May 30 2013] •

[A028084] • 1,29,544,8414,116935,1521023,18936478,228705968,2702760709,31433459057,361216744252,4113147855362,46506852459523,522961531303331,5855208956119066,65331927878971796,726978513100416577 ⋆ Expansion of 1/((1-3x)(1-6x)(1-9x)(1-11x)). • a(n)=(9 * 11 ^ (n + 3) - 20 * 9 ^ (n + 3) + 16 * 6 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 720. [_ Yahia Kahloune _ , May 27 2013]. • a(0)=1, a(1)=29, a(2)=544, a(3)=8414, a(n)=29 * a(n - 1) - 297 * a(n - 2) + 1251 * a(n - 3) - 1782 * a(n - 4). - _ Harvey P. Dale _ , Jun 16 2015 •

[A028015] • 1,29,545,8425,116481,1498569,18339025,216366425,2482819361,27879546409,307689294705,3348390668025,36019012136641,383739078223049,4055195455949585,42559109119075225,444030782195892321 ⋆ Expansion of 1/((1-2x)(1-8x)(1-9x)(1-10x)). • a(n) = (21 * 10 ^ (n + 3) - 48 * 9 ^ (n + 3) + 28 * 8 ^ (n + 3) - 2 ^ (n + 3)) / 336. [_ Yahia Kahloune _ , Jun 06 2013] •

[A028123] • 1,29,545,8485,119481,1586589,20323345,254479445,3140238761,38383465549,466251023745,5640435145605,68049758226841,819519225638909,9857637166837745,118479045968342965,1423248497110019721 ⋆ Expansion of 1/((1-4x)(1-5x)(1-8x)(1-12x)). • a(n) = 29 * a(n - 1) - 296 * a(n - 2) + 1264 * a(n - 3) - 1920 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. Vincenzo Librandi, Mar 17 2011 • a(n) = 5 ^ (n + 3) / 21 - 2 * 4 ^ n - 4 * 8 ^ (n + 1) / 3 + 54 * 12 ^ n / 7. - R. J. Mathar, Mar 18 2011 •

[A028082] • 1,29,547,8561,121219,1617833,20812219,261490097,3235181587,39620718137,481957803691,5836292549633,70462254871555,848987132460041,10215522905076763,122808633740991569,1475488118109230323 ⋆ Expansion of 1/((1-3x)(1-6x)(1-8x)(1-12x)). • a(n)=(5 * 12 ^ (n + 3) - 27 * 8 ^ (n + 3) + 30 * 6 ^ (n + 3) - 8 * 3 ^ (n + 3)) / 1080. [_ Yahia Kahloune _ , May 27 2013]. •

[A028010] • 1,29,548,8566,120423,1583943,19921666,242775872,2891343125,33848546017,391123415904,4474230519018,50782770006307,572842223354651,6430299748764062,71901261449271604,801472079960561169 ⋆ Expansion of 1/((1-2x)(1-7x)(1-9x)(1-11x)). • a(n)=(35 * 11 ^ (n + 3) - 10 * 9 ^ (n + 4) + 9 * 7 ^ (n + 4) - 2 ^ (n + 6)) / 2520. [_ Yahia Kahloune _ , Jun 06 2013] •

[A028071] ● 1,29,548,8590,121551,1615119,20584858,254810960,3087662501,36816560209,433529214768,5054413691730,58455083456251,671574295857299,7673016284430278,87260245701154900,988433749842078801 ★ Expansion of 1/((1-3x)(1-5x)(1-10x)(1-11x)). ● a(0)=1, a(1)=29, a(2)=548, a(3)=8590, a(n)=29 * a(n - 1) - 293 * a(n - 2) + 1195 * a(n - 3) - 1650 * a(n - 4). - _ Harvey P. Dale _ , Apr 06 2013 ● a(n)=(35 * 11 ^ (n + 3) - 48 * 10 ^ (n + 3) + 28 * 5 ^ (n + 3) - 15 * 3 ^ (n + 3)) / 1680. [_ Yahia Kahloune _ , Jun 10 2013] ●

[A028070] ● 1,29,550,8690,124531,1684079,21954280,279351380,3496283461,43256856929,530819707210,6475595107670,78659578436791,952489924910579,11507069203563340,138779617656909560,1671608878215416521 ★ Expansion of 1/((1-3x)(1-5x)(1-9x)(1-12x)). ● a(n)=(8 * 12 ^ (n + 3) - 21 * 9 ^ (n + 3) + 27 * 5 ^ (n + 3) - 14 * 3 ^ (n + 3)) / 1512. [_ Yahia Kahloune _ , May 27 2013]. ●

[A028002] ● 1,29,551,8701,124047,1659525,21274807,264643037,3219794303,38520062581,454834639623,5314864742733,61583614410319,708640371952997,8107367772115799,92304987577062589,1046598515850404895 ★ Expansion of 1/((1-2x)(1-6x)(1-10x)(1-11x)). ● a(n)=(32 * 11 ^ (n + 3) - 45 * 10 ^ (n + 3) + 18 * 6 ^ (n + 3) - 5 * 2 ^ (n + 3)) / 1440. [_ Yahia Kahloune _ , May 27 2013 ~]. ●

[A028008] ● 1,29,551,8713,124719,1681449,21820639,276146585,3436220975,42270842185,515935095039,6263469307641,75758994829519,914022487668137,11008535762024351,132431203010446681,1591851153157367151 ★ Expansion of 1/((1-2x)(1-7x)(1-8x)(1-12x)). ● a(n)=(3 * 12 ^ (n + 3) - 25 * 8 ^ (n + 3) + 24 * 7 ^ (n + 3) - 2 ^ (n + 4)) / 600. [_ Yahia Kahloune _ , Jun 06 2013] ●

[A042628] ● 29,552,1133,1685,9558,11243,43287,54530,97817,152347,250164,402511,1055186,6733627,7788813,61255318,130299449,452153665,1034606779,2521367223,28769646232,117599952151,146369598383 ★ Numerators of continued fraction convergents to sqrt(844). ● a(n) = 309924629320335257289998 * a(n - 48) - a(n - 96) for n>95. [_ Bruno Berselli _ , Nov 30 2013] ●

[A028001] ● 1,29,553,8801,127033,1728833,22655881,289479377,3634751065,45081115937,554241018409,6770845059953,82332981442297,997760934850241,12061135182324937,145526363142458129,1753455257965355929 ★ Expansion of 1/((1-2x)(1-6x)(1-9x)(1-12x)). ● a(n)=(14 * 12 ^ (n + 3) - 40 * 9 ^ (n + 3) + 35 * 6 ^ (n + 3) - 9 * 2 ^ (n + 3)) / 2520. [_ Yahia Kahloune _ , May 27 2013]. ●

[A024772] ● 1,29,554,8794,125715,1681143,21476668,265496948,3202922789,37927649617,442690769742,5108795150862,58428053357623,6634186395758 51,7489021847982176,84142202352592936,941752569789292617 ★ Expansion of 1/((1-x)(1-8x)(1-9x)(1-11x)). ● a(n) = (28 * 11 ^ (n + 3) - 105 * 9 ^ (n + 3) + 80 * 8 ^ (n + 3) - 3) / 1680. [_ Yahia Kahloune _ , Jun 28 2013] ●

[A028051] ● 1,29,555,8905,130091,1796769,23932195,310954985,3969388731,50012943409,623962124435,7725629774265,95088465616171,1164870934296449,14216545739974275,172979498415780745 ★ Expansion of 1/((1-3x)(1-4x)(1-10x)(1-12x)). ● a(0)=1, a(1)=29, a(2)=555, a(3)=8905, a(n)=29 * a(n - 1) - 286 * a(n - 2) + 1104 * a(n - 3) - 1440 * a(n - 4). [_ Harvey P. Dale _ , Dec 31 2011] ● a(n)=(7 * 12 ^ (n + 3) - 12 * 10 ^ (n + 3) + 21 * 4 ^ (n + 3) - 16 * 3 ^ (n + 3)) / 1008. [_ Yahia Kahloune _ , May 27 2013] ●

[A024444] ● 1,29,556,8886,128247,1735335,22472122,281988512,3456550933,41615912481,494043113928,5799461900778,67460105552659,778834444699067,8935702988139574,101983512655795284,1158765208828679025 ★ Expansion of 1/((1-x)(1-7x)(1-10x)(1-11x)). ● a(n) = (27 * 11 ^ (n + 3) - 40 * 10 ^ (n + 3) + 15 * 7 ^ (n + 3) - 2) / 1080. [_ Yahia Kahloune _ , Jun 28 2013] ●

[A026241] ● 1,29,557,8977,131685,1825017,24374173,317359889,4057667669,51188756905,639248806989,7920904304001,97550444747653,1195603302467993,14597229457092605,177666702622486513 ★ Expansion of 1/((1-2x)(1-5x)(1-10x)(1-12x)). ● a(n) = - 2 ^ n / 30 + 25 * 5 ^ n / 21 - 25 * 10 ^ n / 2 + 432 * 12 ^ n / 35. _ R. J. Mathar _ , Jun 23 2013 ●

[A024443] ● 1,29,558,8986,131243,1805223,23872696,307323332,3882264405,48383711857,597102947714,7316027902638,89165615770687,1082459954878331,13102563809462412,158253703693612504 ★ Expansion of 1/((1-x)(1-7x)(1-9x)(1-12x)). ● a(n) = (16 * 12 ^ (n + 3) - 55 * 9 ^ (n + 3) + 44 * 7 ^ (n + 3) - 5) / 2640. [_ Yahia Kahloune _ , Jun 28 2013] ●

[A024435] ● 1,29,561,9121,134897,1882545,25284337,330685937,4242985713,53675466481,671774536433,8338419180273,102834889732849,1261772945323277,15418912066155249,187803876238668529 ★ Expansion of 1/((1-x)(1-6x)(1-10x)(1-12x)). ● a(n) = (30 * 12 ^ (n + 3) - 55 * 10 ^ (n + 3) + 33 * 6 ^ (n + 3) - 8) / 3960. [_ Yahia Kahloune _ , Jun 28 2013] ● a(0)=1, a(1)=29, a(2)=561, a(3)=9121, a(n)=29 * a(n - 1) - 280 * a(n - 2) + 972 * a(n - 3) - 720 * a(n - 4). - _ Harvey P. Dale _ , Apr 20 2015 ●

[A020979] ● 1,29,563,9145,134211,1845249,24249163,308352185,3824765171,46535545969,557596038363,6599196683625,77316285612931,898280118486689,10363489117309163,118857642802045465,1356308170915657491 ★ Expansion of 1/((1-8*x)*(1-10*x)*(1-11*x)). ● a(0)=1, a(1)=29, a(2)=563; for n>2, a(n) = 29 * a(n - 1) - 278 * a(n - 2) + 880 * a(n - 3). - _ Harvey P. Dale _ , Dec 19 2012 ● a(n) = (2 * 11 ^ (n + 2) - 3 * 10 ^ (n + 2) + 8 ^ (n + 2)) / 6. - _ Yahia Kahloune _ , Jun 30 2013 ● a(0)=1, a(1)=29; for n>1, a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 8 ^ (n - 1). - _ Vincenzo Librandi _ , Jul 08 2013 ●

[A025985] ● 1,29,563,9241,138723,1972833,27071851,362271257,4758885395,61635081937,789436108539,10021208067273,126282252770467,1581692483050241,19709670281308427,244539010854912889 ★ Expansion of 1/((1-2x)(1-4x)(1-11x)(1-12x)). ● a(n) = - 2 * 2 ^ n / 45 + 4 * 4 ^ n / 7 - 1331 * 11 ^ n / 63 + 108 * 12 ^ n / 5. _ R. J. Mathar _ , Jun 20 2013 ● a(0)=1, a(1)=29, a(2)=563, a(3)=9241, a(n)=29 * a(n - 1) - 278 * a(n - 2) + 976 * a(n - 3) - 1056 * a(n - 4). - _ Harvey P. Dale _ , Nov 25 2013 ●

[A020978] ● 1,29,565,9245,137221,1915949,25677205,334395965,4265954341,53604494669,666045061045,8206250792285,100467119521861,1224084180206189,14859716922480085,179888148281902205 ★ Expansion of 1/((1-8*x)*(1-9*x)*(1-12*x)). ● a(n) = (12 ^ (n + 2) - 4 * 9 ^ (n + 2) + 3 * 8 ^ (n + 2)) / 12. - _ Yahia Kahloune _ , Jun 30 2013 ● a(0)=1, a(1)=29, a(2)=565; for n>2, a(n) = 29 * a(n - 1) - 276 * a(n - 2) + 864 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2013 ● a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 8 ^ n. - _ Vincenzo Librandi _ , Jul 05 2013 ●

[A023948] ● 1,29,566,9346,141027,2013855,27722632,371889332,4894555493,63487825921,814150878138,10345138210758,130470568108999,1635266348565827,20389018656020684,253092309224759224 ★ Expansion of 1/((1-x)(1-5x)(1-11x)(1-12x)). ● a(0)=1, a(1)=29, a(2)=566, a(3)=9346; for n>3, a(n) = 29 * a(n - 1) - 275 * a(n - 2) + 907 * a(n - 3) - 660 * a(n - 4). [_ Harvey P. Dale _ , Jun 20 2011] ● a(n) = (5 * 2 ^ (2 * n + 7) * 3 ^ (n + 3) + 11 * 5 ^ (n + 3) - 14 * 11 ^ (n + 3) - 21) / 9240. [_ Harvey P. Dale _ , Jun 20 2011] ●

[A020974] ● 1,29,567,9337,139775,1971417,26715823,352001609,4543901439,57765992185,725866130639,9039113138601,111770394659743,1374351994892633,16823974751541615,205209952708309513 ★ Expansion of 1/((1-7x)(1-10x)(1-12x)). ● a(n) = 29 * a(n - 1) - 274 * a(n - 2) + 840 * a(n - 3) for n>=3. - Vincenzo Librandi, Mar 15 2011 ● a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 7 ^ n for n>1 a(0)=1, a(1)=29. - Vincenzo Librandi, Mar 15 2011 ● a(n) = (3 * 12 ^ n + 2) - 5 * 10 ^ (n + 2) + 2 * 7 ^ (n + 2)) / 30. [_ Yahia Kahloune _ , Jun 30 2013] ●

[A020766] ● 1,29,571,9521,144907,2083865,28847827,388709777,5134091323,66784487561,858403625443,10928093824193,138039056180299,1732402968047417,21624191213455219,268679676312195569 ★ Expansion of 1/((1-6x)(1-11x)(1-12x)). ● a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 6 ^ n. a(0)=1, a(1)=29. - Vincenzo Librandi, Mar 11 2011 ● a(n) = 6 * 6 ^ n / 5 - 121 * 11 ^ n / 5 + 24 * 12 ^ n. - _ R. J. Mathar _ , Jul 01 2013 ● a(0)=1, a(1)=29, a(2)=571, a(n)= 29 * a(n - 1) - 270 * a(n - 2) + 792 * a(n - 3). - _ Harvey P. Dale _ , Jun 13 2015 ●

[A201245] ● 0,0,29,661,6285,35378,143787,468529,1301351,3202970,7170593,14872997,28969129,53527866,94568255,160741233,264175507,421511954,655152581,994751765,1478979173,2157585442,3093803379,4367119121,6076449375 ★ Number of ways to place 4 non-attacking ferses on an n X n board. ● a(n) = (n ^ 8 - 30n ^ 6 + 48n ^ 5 + 299n ^ 4 - 912n ^ 3 - 462n ^ 2 + 4368n - 4200) / 24, n>=3. ●

[A158665] ● 29,870,3393,7598,13485,21054,30305,41238,53853,68150,84129,101790,121133,142158,164865,189254,215325,243078,272513,303630,336429,370910,407073,444918,484445 ★ 841n^2 + 29. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A267747] ● 0,1,30,31,60,61,90,91,120,121,150,151,180,181,210,211,240,241,270,271,300,301,330,331,360 ★ Numbers n such that n (mod 2) = n (mod 3) = n (mod 5). ● a(n) = 15 * n - 7 * (- 1) ^ n - 22. ●

[A042808] ● 30,31,61,153,214,581,795,1376,83355,84731,168086,420903,588989,1598881,2187870,3786751,229392930,233179681,462572611,1158324903,1620897514,4400119931,6021017445,10421137376,631289260005 ★ Numerators of continued fraction convergents to sqrt(935). ● a(n) = 2752 * a(n - 8) - a(n - 16) - _ Vincenzo Librandi _ , Dec 05 2013 ●

[A042810] ● 30,31,61,153,979,2111,3090,5201,315150,320351,635501,1591353,10183619,21958591,32142210,54100801,3278190270,3332291071,6610481341,16553253753,105930003859,228413261471,334343265330,562756526801,34099734873390 ★ Numerators of continued fraction convergents to sqrt(936). ● a(n) = 10402 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 05 2013 ●

[A042822] ● 30,31,92,399,8072,32687,73446,106133,6441426,6547559,19536544,84693735,1713411244,6938338711,15590088666,22528427377,136729573128 6,1389824158663,4146944048612,17977600353111,363698951110832,1472773404796439,3309245760703710,4782019165500149 ★ Numerators of continued fraction convergents to sqrt(942). ● a(n) = 212266 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 05 2013 ●

[A042842] ● 30,31,185,216,1481,1697,9966,11663,709746,721409,4316791,5038200,34545991,39584191,232466946,272051137,16555535166,16827586303,100693466681,117521052984,805819784585,923340837569,5422523972430,6345864809999,386174412572370 ★ Numerators of continued fraction convergents to sqrt(952). ● a(n) = 23326 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 07 2013 ●

[A042846] ● 30,31,247,278,1637,5189,12015,77279,166573,576998,3051563,3628561,28451490,32080051,1953254550,1985334601,15850596757,17835931358,105030253547,332926691999,770883637545,4958228517269 ★ Numerators of continued fraction convergents to sqrt(954). ● a(n) = 64160102 * a(n - 14) - a(n - 28) for n>27. - _ Vincenzo Librandi _ , Feb 01 2014 ●

[A042852] ● 30,31,464,959,13890,14849,904830,919679,13780336,28480351,412505250,440985601,26871641310,27312626911,409248418064,845809463039,12250580900610,13096390363649,798034002719550,811130393083199,12153859505884336,25118849404851871 ★ Numerators of continued fraction convergents to sqrt(957). ● a(n) = 29698 * a(n - 6) - a(n - 12), - _ Vincenzo Librandi _ , Dec 07 2013 ●

[A268337] ● 0,1,30,31,756,3250,3276,3280,81255,81256,81280,81900,81901,82000,59078250,59078251,59078280,59078281,31789468750,31789468776,31789469505,31789469506,31789471900,31789471905,31789471906 ★ Numbers which have only digits 0 and 1 in bases 3 and 5. ● a(n) >> n ^ k with k = log 5 / log 2 = 2.321928.... - _ Charles R Greathouse IV _ , Feb 02 2016 ●

[A042856] ● 30,31,929,960,58529,59489,1783710,1843199,112375650,1142188 49,3424722271,3538941120,215761189471,219300130591,6575464976610,67947

65107201,414261371408670,421056136515871,12624889330368929,13045945466884800,795381617343456929,808427562810341729 ⋆ Numerators of continued fraction convergents to sqrt(959). • a(n) = 1920 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 07 2013 •

[**A042857**] • 1,1,30,31,1890,1921,57599,59520,3628799,3688319,110590050,114278369,6967292190,7081570559,212332838401,219414408960,13377197376001,13596611784961,407678939139870,421275550924831,25684211994629730,261054875455545 61,782743350815711999 ⋆ Denominators of continued fraction convergents to sqrt(959). • a(n) = 1920 * a(n - 4) - a(n - 8) for n>7. - _ Vincenzo Librandi _ , Dec 25 2013 •

[**A042858**] • 30,31,1890,1921,117150,119071,7261410,7380481,450090270,457470751,27898335330,28355806081,1729246700190,1757602506271,107185397076450,108942999582721,6643765372039710,6752708371622431,411806267669385570,418558976041008001,25525344830129865630 ⋆ Numerators of continued fraction convergents to sqrt(960). • a(n) = 62 * a(n - 2) - a(n - 4). - _ Vincenzo Librandi _ , Dec 08 2013 •

[**A090692**] • 30,42,146,346,942,2430,6398,16714,43794,114618,300110,785662,2056926,5385066,14098322,36909850,96631278,252983934,662320574,1733997738,4539612690,11884860282,31114968206,81460044286,213265164702 ⋆ Expansion of 2*(x^2-9*x+15) / ((1+x)*(1-3*x+x^2)). • a(0)=30, a(1)=42, a(2)=146, a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Aug 21 2014 • a(n) = (2 ^ (1 - n) * (25 * (- 2) ^ n + (25 - 11 * sqrt(5)) * (3 - sqrt(5)) ^ n + (3 + sqrt(5)) ^ n * (25 + 11 * sqrt(5)))) / 5. - _ Colin Barker _ , Oct 01 2016 •

[**A271998**] • 30,48,80,112,162,212,284,356,454,552,680,808,970,1132,1332,1532,1774,2016,2304,2592,2930,3268,3660,4052,4502 ⋆ Volatile sequence: a(n) = A018227(n)-6. • a(n) = 2 * a(n - 1) + a(n - 2) - 4 * a(n - 3) + a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>8. • a(n) = (n ^ 3 + 9 * n ^ 2 + 26 * n - 24) / 6 for n even. • a(n) = (n ^ 3 + 9 * n ^ 2 + 29 * n - 15) / 6 for n odd. (End) •

[**A027578**] • 30,55,90,135,190,255,330,415,510,615,730,855,990,1135,1290,1455,1630,1815,2010,2215,2430,2655,2890,3135,3390 ⋆ Sums of five consecutive squares: a(n) = n^2 + (n+1)^2 + (n+2)^2 + (n+3)^2 + (n+4)^2. • a(n) = n ^ 2 + (n + 1) ^ 2 + (n + 2) ^ 2 + (n + 3) ^ 2 + (n + 4) ^ 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. (End) • a(n) = 5 * (n + 2) ^ 2 + 10. a(n) is never square. - _ Bruno Berselli _ , Jul 29 2015 •

[**A248572**] • 1,30,59,88,117,146,175,204,233,262,291,320,349,378,407,436,465,494,523,552,581,610,639,668,697 ⋆ 29*n + 1. • a(n) = 29n + 1. •

[**A248739**] • 0,30,59,88,117,146,175,204,233,262,291,320,349,378,407,436,465,494,523,552,581,610,639,668,697 ⋆ 29*n + ceiling(n/29). • a(n) = 29 * n + ceiling(n / 29). •

[**A271744**] • 30,59,139,365,1039,3149,10039,33365,114799,406589,1475239,5460965,20550559,78375629,302129239,1174610165,4597146319,18085554269,71434828039,283020552965,1123932750079,4471296246509,17811907987639,71027855481365,283452201569839 ⋆ Number of set partitions of [n] such that 5 is the largest element of the last block. • a(n) = 8 + 13 * 2 ^ (n - 5) + 7 * 3 ^ (n - 5) + 4 ^ (n - 5) for n>5. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4) for n>9. •

[**A121960**] • 1,30,59,237,698,2346,7452,24308,78328,253992,820976,2658384,8599520,27834528,90062784,291471680,943177600,3052274304,9877192448,31963612416,103435730432,334726433280,1083194735616,3505297298432 ⋆ G.f. x*(1+30*x+49*x^2-71*x^3-116*x^4)/((2*x+1) * (4*x^2+2*x-1) * (2*x^2-1)). • a(n) = 10 * a(n - 2) + 8 * a(n - 3) - 16 * a(n - 4) - 16 * a(n - 5). •

[**A042784**] • 30,61,91,152,243,638,38523,77684,116207,193891,310098,814087,49155318,99124723,148280041,247404764,395684805,1038774374,6272214724 5,126483068864,189205216109,315688284973,504893501082,1325475287137,80033410729302 ⋆ Numerators of continued fraction convergents to sqrt(923). • a(n) = 1276 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 04 2013 •

[**A132771**] • 0,30,62,96,132,170,210,252,296,342,390,440,492,546,602,660,720,782,846,912,980,1050,1122,1196,1272 ⋆ a(n) = n*(n + 29). • a(n) = 2 * n + a(n - 1) + 28 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 •

[**A218327**] • 30,70,364,540,1386,1794,3480,4216,7030,8190,12420,14100,20034,22330,30256,33264,43470,47286,60060,64780,80410,86130,104904,111720,133926 ⋆ Even octagonal pyramidal numbers (A002414) • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7) • a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 384 • a(n) = (4 * n - (- 1) ^ n + 1) * (4 * n - (- 1) ^ n + 3) * (4 * n - (- 1) ^ n) / 8 •

[**A155461**] • 30,83,138,195,254,315,378,443,510,579,650,723,798,875,954,1035,1118,1203,1290,1379,1470,1563,1658,1755,1854 ⋆ n^2 + 52n + 30. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 26 2012 •

[**A277980**] • 0,30,84,162,264,390,540,714,912,1134,1380,1650,1944,2262,2604,2970,3360,3774,4212,4674,5160,5670,6204,6762,7344 ⋆ a(n) = 12*n^2 + 18*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A130862**] • 0,30,85,171,294,460,675,945,1276,1674,2145,2695,3330,4056,4879,5805,6840,7990,9261,10659,12190,13860,15675,17641,19764 ⋆ a(n) = (n-1)*(n+2)(2*n+1)/2 • a(n) = (5 / 2) * (n + 2) * (n + 3) * Sum[Sum[Sum[k ^ 2 - 1, { k, 1, m }], { m, 1, j }], { j, 1, n }] / Sum[Sum[Sum[k, { k, 1, m }], { m, 1, j }], { j, 1, n }]=(1 / 2)(- 1 + n))((2 + n)(11 + 2 n) • a(0)=0, a(1)=30, a(2)=85, a(3)=171, a(n)=4a(n - 1) - 6a(n - 2) + 4a(n - 3) - a(n - 4) [From Harvey P. Dale, May 01 2011] •

[**A165133**] • 30,93,315,1143,4335,16863,66495,264063,1052415,4201983,16792575,67139583,268496895,1073864703,4295213055,17180360703,68720459775,274879873023,1099515559935,4398054375423,17592201773055,70368775634943,281475039625215 ⋆ a(n) = (2^(n+4)-1)*(2^n+1). • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: 3 * (10 - 39 * x + 28 * x ^ 2) / ((1 - x) * (2 * x - 1) * (4 * x - 1)). •

[**A096382**] • 30,96,210,384,630,960,1386,1920,2574,3360,4290,5376,6630,8064,9690,11520,13566,15840,18354,21120,24150,27456,31050,34944,39150 ⋆ Consider general Pythagorean triangle with sides a=u^2-v^2, b=2uv, c=u^2+v^2. The sequence is the area of the triangles when u=2,v=3,4,5... • a(n)=(n - 2) * (n * 2) * (n + 2), n>=3 . - _ Zerinvary Lajos _ , Mar 05 2007 • a(2)=30, a(3)=96, a(4)=210, a(5)=384, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, May 06 2012] •

[**A130863**] • 0,30,100,231,448,780,1260,1925,2816,3978,5460,7315,9600,12376,15708,19665,24320,29750,36036,43263,51520,60900,71500,83421,96768 ⋆ Ratio of quadruple Sum of k^2-1 to quadruple sum of k made into an integer sequence: (1/6)*(-1 + n)(2 + n)(3 + n)(7 + n). • a(n) =1 / 2) * (n + 2) * (n + 3) * (n + 4) * Sum[Sum[Sum[Sum[k ^ 2 - 1, { k, 1, m }], { m, 1, j }], { j, 1, l }], { l, 1, n }] / Sum[Sum[Sum[Sum[k, { k, 1, m }], { m, 1, j }], { j, 1, l }], { l, 1, n }]=(1 / 6) * (- 1 + n)(2 + n)(3 + n)(7 + n) •

[**A158445**] • 30,105,230,405,630,905,1230,1605,2030,2505,3030,3605,4230,4905,5630,6405,7230,8105,9030,10005,11030,12105,13230,14405,15630 ⋆ 25n^2 + 5. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A244636**] • 0,30,120,270,480,750,1080,1470,1920,2430,3000,3630,4320,5070,5880,6750,7680,8670,9720,10830,12000,13230,14520,15870,17280 ⋆ 30*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[**A277451**] • 1,30,120,480,1920,7680,30720,122880,491520,1966080,7864320,31457280,125829120,503316480,2013265920,8053063680,32212254720,128849018880,515396075520,2061584302080,8246337208320,32985348833280,131941395333120,527765581332480 ⋆ Number of edges in geodesic dome generated from icosahedron by recursively dividing each triangle in 4. • a(n) = 1 if n=0, else 30 * 4 ^ (n - 1). • a(n) = 4 * a(n - 1) for n>1. •

[**A291582**] • 30,132,306,552,870,1260,1722,2256,2862,3540,4290,5112,6006,6972,8010,9120,10302,11556,12882,14280,15750,17292,18906,20592,22350 ⋆ Maximum number of 6 sphinx tile shapes in a sphinx tiled hexagon of order n. • a(n) = 6 * n * (6 * n - 1). - Walter Trump •

[**A079588**] • 1,30,135,364,765,1386,2275,3480,5049,7030,9471,12420,15925,20034,24795,30256,36465,43470,51319,60060,69741,80410,92115,104904,118825 ⋆ a(n) = (n+1)*(2*n+1)*(4*n+1). • a(n) = 8 * n ^ 3 + 14 * n ^ 2 + 7 * n + 1. - _ Reinhard Zumkeller _ , Jun 08 2015 •

[**A158462**] • 30,138,318,570,894,1290,1758,2298,2910,3594,4350,5178,6078,7050,8094,9210,10398,11658,12990,14394,15870,17418,19038,20730,22494 ⋆ 36n^2 - 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 12 2012 •

[**A068236**] • 30,180,570,1320,2550,4380,6930,10320,14670,20100,26730,34680,44070,55020,67650,82080,98430,116820,137370,160200,185430,213180,243570,276720,312750 ⋆ First differences of (n+1)^5-n^5. • a(n) = (n + 2) ^ 5 - 2 * (n + 1) ^ 5 + n ^ 5. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Dec 13 2014 •

[**A054559**] • 30,180,630,1680,3780,7560,13860,23760,38610,60060,90090,131040,185640,257040,348840,465120,610470,790020,1009470,1275120,1593900,1973400,2421900,2948400,3562650 ⋆ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 5 2-simplexes and 8 1-simplexes. • a(n) = 30 * C(n, 5) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) / 4. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Vincenzo Librandi _ , Apr 29 2012 •

[**A281999**] • 1,30,181,600,1501,3150,5881,10080,16201,24750,36301,51480,70981,95550,126001,163200,208081,261630,324901,399000,485101,584430,698281,828000,975001 ⋆ Half of the right Trapezoidal Gnomon's (of the derivate of Y=X^5) height. • a(n) = (5 * (n ^ 2 - 1) * n ^ 2 - (- 1) ^ n + 1) / 2. • a(n) = (n ^ 5 - (n - 1) ^ 5) - a(n - 1). • a(n) = 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6) for n>6. - _ Colin Barker _ , Feb 27 2017 •

[**A265037**] • 1,30,185,886,3855,16064,65569,264930,1065059,4270948,17105253,68463974,273941863,1095939432,4384101737,17537095018,70149756267,280601777516,1122412615021,4489661470062,17958667900271,71834715641200,287338950645105,1149355978741106 ⋆ G.f.: (1 + 22*x - 34*x^2 + 14*x^3)/((1 - x)^2*(1 - 6*x + 8*x^2)). • a(n) = 8 * a(n - 1) - 21 * a(n - 2) + 22 * a(n - 3) - 8 * a(n - 4). • a(n) = (1 / 12) * (68 + 49 * 2 ^ (2 * n + 2) - 63 * 2 ^ (2 + n) + 12 * n). •

[**A215627**] • 1,30,210,867,2690,6956,15833,32775,63024,114235,197241,326976,523575,813671,1231910,1822706,2642259,3760860,5265508,7262865,9882576,13280982,17645255,23197985,30202250 ⋆ Number of terms in 9th derivative of a function composed with itself n times. • a(n) = n * (n + 1) * (n ^ 6 + 75 * n ^ 5 + 1703 * n ^ 4 + 13697 * n ^ 3 + 29472 * n ^ 2 - 30788 * n + 6000) / 40320. •

[**A178672**] • 0,30,210,1290,7770,46650,279930,1679610,10077690,60466170,362797050,2176782330,13060694010,78364164090,470184984570,2821109907450,16926659444270,101559956668410,609359740010490,3656158440062970,21936950640377850,131621703842267130 ⋆ 6^n-6. • a(n)=6 * a(n - 1) + 30, n>1. • a(n) = 7 * a(n - 1) - 6 * a(n - 2). - _ Vincenzo Librandi _ , Jan 25 2013 •

[**A259455**] • 1,30,270,1400,5250,15876,41160,95040,200475,393250,726726,1277640,2153060,3498600,5508000,8434176,12601845,18421830,26407150,37191000,51546726,70409900,94902600,126360000,166359375 ⋆ n Sum_n Sum_n Sum_n. • a(n) = n ^ 3 * (n + 3) * (n + 2) * (n + 1) ^ 2 / 48. • a(n) = n * Stirling2(n + 3,n). (End) •

[**A113754**] • 1,30,285,1496,5525,16206,40425,89440,180441,338350,597861,1005720,1623245,2529086,3822225,5625216,8087665,11389950,15747181,21413400,28686021,37910510,49485305,63866976,81575625 ⋆ Number of possible

squares on an n^2 X n^2 grid. • a(n) = n ^ 2 * (n ^ 2 + 1) * (2 * n ^ 2 + 1) / 6. • a(n) = Sum _{ k=1..n ^ 2 } k ^ 2. - _ L. Edson Jeffery _ , Sep 05 2013 •

[A129029] • 0,30,288,1134,3120,6990,13680,24318,40224,62910,94080,135630,189648,258414,344400,450270,578880,733278,916704,1132590,1384560,1676430,2012208,2396094,2832480 ★ a(n) = 8*n^4+44*n^3+106*n^2+100*n+30. • a(n) = 2 * (n + 1) * (4 * n ^ 3 + 18 * n ^ 2 + 35 * n + 15). •

[A134287] • 1,30,315,1960,8820,31752,97020,261360,637065,1431430,3006003,5962320,11262160,20391840,35581680,60093504,98590905,157608990,246142435,376372920,564559380,832117000,1206913500,1724814000,2431508625 ★ Fifth column of triangle A103371 (without leading zeros). • a(n) = 5 * C(n + 5,5) ^ 2 / (n + 5), n >= 0. - _ Zerinvary Lajos _ , May 09 2008 • a(n) = (C(n + 6,6) * C(n + 5,4) + 5 * C(n + 5,6) * C(n + 5,4)) / (n + 5). - _ Gary Detlefs _ , Jan 06 2014 •

[A227689] • 1,30,329,3319,33216,332190,3321925 ★ Least integer a(n) for which 2^a(n) - 1 has at least 10^n digits. • a(n) = ceil0(log2(10 ^ (10 ^ n - 1) + 1)), where log2 is the logarithm in base 2 and ceil0(x) is the first strictly positive integer greater or equal to x. •

[A006859] • 1,30,330,2145,10010,37128,116280,319770,793155,1808950,3848130,7719075,14725620,26898080,47303520,80454132,132835365,213578430,335304970,515175045,776173134,1148670600,1672307000,2398236750,3391791975 ★ From paths in the plane. • a(n) = (n + 1) * (n + 2) ^ 2 * (n + 3) ^ 2 * (n + 4) * (2 * n + 3) * (2 * n + 5) * (2 * n + 7) / 15120. - _ Peter Bala _ , Oct 11 2011 •

[A214085] • 0,1,30,342,1960,7575,22806,57820,129312,262845,495550,879186,1483560,2400307,3747030,5671800,8358016,12029625,16956702,23461390,31924200,42790671,56578390,73884372,95392800 ★ n^2 * (n^4 - n^2 + n + 1) / 2. • a(0)=0, a(1)=1, a(2)=30, a(3)=342, a(4)=1960, a(5)=7575, a(6)=22806, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 12 2012 •

[A107916] • 1,30,350,2450,12348,49392,166320,490050,1297725,3149146,7105098,15071420,30321200,58262400,107535744,191548044,330569505,554550150,906840550,1449035742,2267198780,3479762000,5247450000,7785618750,11379460365 ★ a(n) = binomial(n+3,2)*binomial(n+4,3)*binomial(n+5,5)/12. • a(n) = (1 / 17280)(n + 1)(n + 2) ^ 3 * (n + 3) ^ 3 * (n + 4) ^ 2 * (n + 5). •

[A086864] • 0,0,0,1,30,360,2970,19845,115668,612360,3018060,14073345,62788770,270208224,1128426390,4594307445,18302828040,71553216240,275154640632,1042806816225,3901324324230,14427539010360,52801538445810,191427950399301,688082033693340 ★ a(n) = ((n-1)*(n-2)*(n-3)*(3*n-10)*3^(n-5))/4. • a(1)=0, a(2)=0, a(3)=0, a(4)=1, a(5)=30, a(n)=15 * a(n - 1) - 90 * a(n - 2) + 270 * a(n - 3) - 405 * a(n - 4) + 243 * a(n - 5). - _ Harvey P. Dale _ , May 15 2015 •

[A224332] • 1,30,381,4092,40955,393210,3670009,33554424,301989879,2684354550,23622320117,206158430196,1786706395123,15393162788850,131941395333105,1125899906842608,9570149208162287,81064793292668910,684547143360315373 ★ Number of idempotent n X n 0..7 matrices of rank n-1 • a(n) = n * (2 * 8 ^ (n - 1) - 1) • a(n) = 18 * a(n - 1) - 97 * a(n - 2) + 144 * a(n - 3) - 64 * a(n - 4) •

[A290363] • 0,1,30,424,3357,17836,71769,236093,667335,1676364,3832477,8113347,16112746,30319341,54481246,94072398,156878210,253719339,399333792,613438978,921996699,1358705458,1966745847,2800806163,3929416785 ★ Number of 9-leaf rooted trees with n levels. • a(n) = (1385 * n ^ 8 + 1124 * n ^ 7 + 4018 * n ^ 6 + 6776 * n ^ 5 + 7945 * n ^ 4 + 9716 * n ^ 3 + 6812 * n ^ 2 + 2544 * n) / 8!. •

[A161740] • 0,30,425,3008,14572,55060,174130,481360,1197196,2733874,5817955,11668800,22250280,40616264,71373956,121292960,200092040,321439910,504211037,774042368,1165242100,1723107100,2506711350,3592233840 ★ Fourth right hand column of the RSEG2 triangle A161739 • a(n) = (n + 4) * (n + 3) * (n + 2) * (n + 1) * (n) * (n - 1) * (35 * n ^ 3 + 189 * n ^ 2 + 325 * n + 204) / 45360 •

[A210431] • 0,1,30,434,3740,22220,100562,370909,1168008,3245311,8148590,18821968,40542228,82300842,158779362,293092635,520505744,893364637,1487517086,2410539918,3812130380,5897064040,8941168786,13310814265,19486468504 ★ Number of semistandard Young tableaux over all partitions of 9 with maximal element <= n. • a(n) = n * (10080 + (40484 + (31395 + (8106 + 655 * n ^ 2) * n ^ 2) * n ^ 2) * n ^ 2) / 90720. •

[A036223] • 1,30,495,5940,57915,486486,3648645,25019280,159497910,9569874605,4548282522,29753610120,156206453130,793048146660,3908594437110,18761253298128,87943374834975,403504896301650,1815772033357425 ★ Expansion of 1/(1-3*x)^10; 10-fold convolution of A000244 (powers of 3). • a(n) = 3 ^ n * binomial(n + 9, 9); G.f. 1 / (1 - 3 * x) ^ 10. •

[A090957] • 1,30,495,7280,101745,1381380,18407025,242082720,3153092085,40763504210,523886186670,6700599687600,85360889543475,1083790852008480,13721016740550360,173280964190422080,2183615911571190525 ★ a(n) = 1/Integral_{x=0..1} (x^4-x^5)^n. • a(n) = 1 / B(4n + 1,n + 1) = (5n + 1)! / [n!(4n)!], where B(p,q) is Euler's beta function. - _ Emeric Deutsch _ , Jul 03 2009 •

[A060560] • 0,1,30,498,4435,25395,107331,365260,1058058,2707245,6278140,13442286,26942565,51084943,92383305,160386360,268718116,436365945,689252778,1062132490,1600850055,2365010571,3431103775,4896133188,6881801550 ★ Number of ways to color vertices of an octagon using <= n colors, allowing rotations and reflections. • a(n) = n * (n + 1) * (n ^ 6 - n ^ 5 + n ^ 4 + 3 * n ^ 3 + 2 * n ^ 2 - 2 * n + 4) / 16. •

[A020926] • 1,30,510,6460,67830,624036,5200300,40116600,290845350,2003601300,13223768580,84151254600,518932736700,3113596420200,18236770326000,104557533120240,588136123801350,3252046802195700 ★ Expansion of 1/(1-4*x)^(15/2). • a(n) = ((2 * n + 13) * (2 * n + 11) * (2 * n + 9) * (2 * n + 7) * (2 * n + 5) * (2 * n + 3) * (2 * n + 1) / 135135) * Binomial(2 * n, n). - _ Vincenzo Librandi _ , Jul 05 2013 •

[A050982] • 1,30,525,7000,78750,787500,7218750,61875000,502734375,3910156250,29326171875,213281250000,1510742187500,10458984375000,70971679687500,473144531250000,3105010986328125,20091247558593750,128360748291015625,810699462890625000 ★ 5-idempotent numbers. • a(n) = C(n, 5) * 5 ^ (n - 5). •

[A037961] • 0,1,30,540,8400,126000,1905120,29635200,479001600,8083152000,142702560000,2637143308800,50999300352000,1031319184896000,21785854970880000,480178027929600000,11029155770400768000 ★ a(n) = (n+3)!*n^2*(n+1)/48. • a(n) = Sum _{ k = 0..n } (- 1) ^ (n - k) * binomial(n,k) * k ^ (n + 3). - _ Peter Bala _ , Mar 28 2017 •

[A143399] • 0,0,0,0,1,30,545,7770,95781,1071630,11192665,111095490,1060634861,9822843030,88799732385,787259974410,6869327386741,59158464019230,503954741177705,4254156112792530,35637875826743421,296621138907400230,2455329298857576625 ★ Expansion of x^k/Product_{t=k..2k} (1-tx) for k=4. • a(n) = 30a(n - 1) - 355a(n - 2) + 2070a(n - 3) - 5944a(n - 4) + 6720a(n - 5). •

[A075510] • 1,30,560,8400,111216,1360800,15790720,176563200,1922176256,20518417920,215825326080,2244998246400,23153670762496,237224718704640,2418102840688640,24549985173504000,248464183682727936 ★ Fifth column of triangle A075497. • a(n) = (2 ^ n - 64 * 4 ^ n + 486 * 6 ^ n - 1024 * 8 ^ n + 625 * 10 ^ n) / 4!. •

[A028200] • 1,30,565,8550,113701,1388310,15958405,175419750,1863406501,19269697590,195034120645,1939826329350,19018419228901,184245490086870,1767124523521285,16805853434269350,158682246543588901,1489103597614860150,13900428943759584325 ★ Expansion of 1/((1-6x)(1-7x)(1-8x)(1-9x)). • a(n) = 17 * a(n - 1) - 72 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), a(0)=1, a(1)=30. - _ Vincenzo Librandi _ , Mar 11 2011 • a(n) = (9 ^ (n + 3) - 3 * 8 ^ (n + 3) + 3 * 7 ^ (n + 3) - 6 ^ (n + 3)) / 6. [_ Yahia Kahloune _ , Jun 12 2013] • a(n) = 30 * a(n - 1) - 335 * a(n - 2) + 1650 * a(n - 3) - 3024 * a(n - 4). - _ Matthew House _ , Feb 11 2017 •

[A028181] • 1,30,569,8730,118461,1484910,17624209,201130050,2229604421,24178830390,257814842649,2713159309770,28259514317581,291954572713470,2996779685401889,30602208691495890,311213315402041941 ★ Expansion of 1/((1-5x)(1-7x)(1-8x)(1-10x)). • a(n) = (10 ^ (n + 3) - 5 * 8 ^ (n + 3) + 5 * 7 ^ (n + 3) - 5 ^ (n + 3)) / 30. [_ Yahia Kahloune _ , Jun 04 2013] • a(0)=1, a(1)=30, a(2)=569, a(3)=8730, a(n)=30 * a(n - 1) - 331 * a(n - 2) + 1590 * a(n - 3) - 2800 * a(n - 4). - _ Harvey P. Dale _ , Aug 18 2013 •

[A177097] • 30,570,5970,59970,599970,5999970,59999970,599999970,5999999970,59999999970,599999999970,5999999999970,59999999999970,599999999999970,5999999999999970,59999999999999970,599999999999999970 ★ 6*(10^n-5) • a(1)=30, a(2)=570, a(n)=11 * a(n - 1) - 10 * a(n - 2) [From Harvey P. Dale , Oct 10 2011] •

[A028174] • 1,30,571,8820,120841,1533210,18457111,213985200,2412703382,16633396790,289205203651,3099825799980,32880061861921,345809114026770,3611607266342191,37500386320109160,387478849831268461 ★ Expansion of 1/((1-5x)(1-6x)(1-9x)(1-10x)). • a(n)=(2 * 10 ^ (n + 2) - 3 * 9 ^ (n + 2) + 2 * 6 ^ (n + 2) - 5 ^ (n + 2)) / 4. [_ Yahia Kahloune _ , Jun 03 2013] • a(0)=1, a(1)=30, a(2)=571, a(3)=8820, a(n)=30 * a(n - 1) - 329 * a(n - 2) + 1560 * a(n - 3) - 2700 * a(n - 4). - _ Harvey P. Dale _ , Nov 07 2013 •

[A028149] • 1,30,573,8902,122829,1570422,19052461,222558534,2527254477,28081375894,306750949869,3305552387046,35230183832845,372099762869046,3900761112145197,40636558684412038,421103652688800333 ★ Expansion of 1/((1-4x)(1-7x)(1-9x)(1-10x)). • a(n)=(5 * 10 ^ (n + 3) - 9 ^ (n + 4) + 5 * 7 ^ (n + 3) - 4 ^ (n + 3)) / 90. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028172] • 1,30,573,8918,123669,1595958,19642141,234045366,2726478117,31257792566,354281953389,3982604010294,44504504288245,495188689219254,5492628385206717,60786003189650102,671598926425152453 ★ Expansion of 1/((1-5x)(1-6x)(1-8x)(1-11x)). • a(n)=(11 ^ (n + 3) - 5 * 8 ^ (n + 3) + 9 * 6 ^ (n + 3) - 5 ^ (n + 4)) / 90. [_ Yahia Kahloune _ , Jun 03 2013] •

[A028147] • 1,30,575,9000,125661,1633410,20245675,242827500,2845466921,32788860390,373244969175,4210842870000,47192731209781,526333705304970,5848962216923075,64823992266568500,717024715753610241 ★ Expansion of 1/((1-4x)(1-7x)(1-8x)(1-11x)). • a(n)=(11 ^ (n + 3) - 7 * 8 ^ (n + 3) + 7 ^ (n + 4) - 4 ^ (n + 3)) / 84. [_ Yahia Kahloune _ , Jun 04 2013] • a(0)=1, a(1)=30, a(2)=575, a(3)=9000, a(n)=30 * a(n - 1) - 325 * a(n - 2) + 1500 * a(n - 3) - 2464 * a(n - 4). - _ Harvey P. Dale _ , Aug 11 2014 •

[A028099] • 1,30,577,9066,126829,1646094,20280169,240528882,2771673157,31228927158,345616983361,3769863028698,40631819886685,433596513609822,4588506840332953,48214238728174914,503555280142266613 ★ Expansion of 1/((1-3x)(1-8x)(1-9x)(1-10x)). • a(n)=(15 * 10 ^ (n + 3) - 35 * 9 ^ (n + 3) + 21 * 8 ^ (n + 3) - 3 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028140] • 1,30,577,9090,128053,1682430,21103129,256309050,3041879005,35492692950,408887138881,4665046178130,52827593605957,594751348348590,6665329755603433,74427620033028330,828693205955614509 ★ Expansion of 1/((1-4x)(1-6x)(1-9x)(1-11x)). • a(0)=1, a(1)=30, a(2)=577, a(3)=9090, a(n)=30 * a(n - 1) - 323 * a(n - 2) + 1470 * a(n - 3) - 2376 * a(n - 4). - _ Harvey P. Dale _ , Oct 22 2012 • a(n)=(3 * 11 ^ (n + 3) - 7 * 9 ^ (n + 3) + 7 * 6 ^ (n + 3) - 3 * 4 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , Jun 03 2013] •

[A028169] • 1,30,577,9114,129349,1723086,22075129,275977218,3397380877,41418850902,501892142401,6058699871562,72968197588885,877537225626078,10544318356835593,126631590349302546,1520293638382550173 ⋆ Expansion of 1/((1-5x)(1-6x)(1-7x)(1-12x)). • a(n)=(12 ^ (n + 3) - 3 * 7 ^ (n + 4) + 35 * 6 ^ (n + 3) - 3 * 5 ^ (n + 4)) / 210. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028094] • 1,30,580,9210,130921,1735860,21961360,268816620,3212241241,37702583490,436534074340,5001585910230,56839066698961,641793883438920,7209996952371520,80670652808858040,899681515488592081 ⋆ Expansion of 1/((1-3x)(1-7x)(1-9x)(1-11x)). • a(n)=(3 * 11 ^ (n + 3) - 8 * 9 ^ (n + 3) + 6 * 7 ^ (n + 3) - 3 ^ (n + 3)) / 192. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028138] • 1,30,580,9240,132496,1784160,23095360,291434880,3616450816,44380976640,540619555840,6552897361920,79164966670336,954260234526720,11485602445803520,138104474808975360,1659480116122157056 ⋆ Expansion of 1/((1-4x)(1-6x)(1-8x)(1-12x)). • a(n)=9 * 12 ^ n - 2 * 8 ^ (n + 1) + 9 * 6 ^ n - 4 ^ n. [_ Yahia Kahloune _ , Jun 02 2013] •

[A028127] • 1,30,581,9270,132861,1781910,22867141,284524950,3461329421,41398890390,488675095701,5708526430230,66125948101981,760712837896470,8701144748444261,99045775841641110,1122836116105178541 ⋆ Expansion of 1/((1-4x)(1-5x)(1-10x)(1-11x)). • a(n) = 30 * a(n - 1) - 319 * a(n - 2) + 1410 * a(n - 3) - 2200 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n >=2 . - Vincenzo Librandi, Mar 17 2011 • a(n) = - 2 * 4 ^ (n + 2) / 21 - 10 ^ (n + 2) / 3 + 5 ^ (n + 2) / 6 + 11 ^ (n + 3) / 42. - R. J. Mathar, Mar 18 2011 •

[A028086] • 1,30,583,9348,134689,1815498,23402251,292300176,3567408757,42782700246,506142615199,5923623309084,68724754852105,791647407688674,9065029251275827,103285339786658472,1171844560056255133 ⋆ Expansion of 1/((1-3x)(1-6x)(1-10x)(1-11x)). • a(n)=(21 * 11 ^ (n + 3) - 3 * 10 ^ (n + 4) + 14 * 6 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , May 31 2013] • a(0)=1, a(1)=30, a(2)=583, a(3)=9348, a(n)=30 * a(n - 1) - 317 * a(n - 2) + 1368 * a(n - 3) - 1980 * a(n - 4). - _ Harvey P. Dale _ , Jun 18 2014 •

[A028092] • 1,30,583,9360,135373,1838130,23972131,304421700,3797192905,46789978950,571763347519,6946889160120,84072723694597,1014722669092890,12224658793966747,147088107868298220 ⋆ Expansion of 1/((1-3x)(1-7x)(1-8x)(1-12x)). • a(n)=(12 ^ (n + 3) - 9 * 8 ^ (n + 3) + 9 * 7 ^ (n + 3) - 3 ^ (n + 3)) / 180. [_ Yahia Kahloune _ , May 31 2013] •

[A028126] • 1,30,583,9372,135949,1854282,24319171,310765224,3901290217,48373167414,594541806079,7261303210356,88278005955205,1069623213421026,12928092282515707,155970779176282368 ⋆ Expansion of 1/((1-4x)(1-5x)(1-9x)(1-12x)). • a(n) = 30 * a(n - 1) - 317 * a(n - 2) + 1392 * a(n - 3) - 2160 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 • a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n >= 2. - Vincenzo Librandi, Mar 17 2011 • a(n) = - 2 * 4 ^ (n + 1) / 5 - 3 * 9 ^ (n + 2) / 20 + 6 * 12 ^ (n + 1) / 7 + 5 ^ (n + 3) / 28. - R. J. Mathar, Mar 18 2011 •

[A028016] • 1,30,585,9410,135741,1826910,23449345,290918970,3519263781,41763254390,488289628905,5642683638930,64604625484621,734199837187470,8294002882781265,93241186270173290,1044092739977046261 ⋆ Expansion of 1/((1-2x)(1-8x)(1-9x)(1-11x)). • a(n)=(7 * 11 ^ (n + 3) - 3 * 9 ^ (n + 4) + 21 * 8 ^ (n + 3) - 2 ^ (n + 3)) / 378. [_ Yahia Kahloune _ , Jun 06 2013] •

[A028085] • 1,30,585,9450,137781,1888110,24862545,318755250,4012058061,49847787990,613622150505,7503229474650,91300979746341,1106997911204670,13386607046238465,161563913916523650 ⋆ Expansion of 1/((1-3x)(1-6x)(1-9x)(1-12x)). • a(n) = (12 ^ (n + 3) - 3 * 9 ^ (n + 3) + 3 * 6 ^ (n + 3) - 3 ^ (n + 3)) / 162. - _ Yahia Kahloune _ , Jun 10 2013 • a(0)=1, a(1)=30, a(2)=585, a(3)=9450, a(n) = 30 * a(n - 1) - 315 * a(n - 2) + 1350 * a(n - 3) - 1944 * a(n - 4). - _ Harvey P. Dale _ , Feb 06 2015 •

[A028012] • 1,30,587,9504,138369,1883826,24504439,308525268,3791612957,45742587462,543912376371,6393243539592,74447130731065,860268600608538,9877405744657583,112802621156970876,1282386938486825493 ⋆ Expansion of 1/((1-2x)(1-7x)(1-10x)(1-11x)). • a(n)=(10 * 11 ^ (n + 3) - 15 * 10 ^ (n + 3) + 6 * 7 ^ (n + 3) - 2 ^ (n + 3)) / 360. [_ Yahia Kahloune _ , Jun 06 2013] •

[A028072] • 1,30,589,9630,142621,1989510,26692669,348689550,4469016541,56480471190,706312706749,8761344810270,107992670570461,1324484024684070,16179464126208829,197010636086927790 ⋆ Expansion of 1/((1-3x)(1-5x)(1-10x)(1-12x)). • a(n)=(5 * 12 ^ (n + 3) - 9 * 10 ^ (n + 3) + 9 * 5 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 630. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028003] • 1,30,592,9744,145264,2038176,27478144,360357888,4633015552,58698511872,735496093696,9137636831232,112771744215040,1384481544019968,16926102208872448,206237168590258176 ⋆ Expansion of 1/((1-2x)(1-6x)(1-10x)(1-12x)). • a(n)=(8 * 12 ^ (n + 3) - 15 * 10 ^ (n + 3) + 10 * 6 ^ (n + 3) - 3 * 2 ^ (n + 3)) / 960. [_ Yahia Kahloune _ , Jun 05 2013] •

[A024999] • 1,30,593,9738,143949,1989198,26238361,334590546,4159355717,50694901686,608290940049,7207487623674,84523773236605,982803891723294,11346293009032457,130203935811077922,1486512106726735413 ⋆ Expansion of 1/((1-x)(1-8x)(1-10x)(1-11x)). • a(0)=1, a(1)=30, a(2)=593, a(3)=9738, a(n)=30 * a(n - 1) - 307 * a(n - 2) + 1158 * a(n - 3) - 880 * a(n - 4). - _ Harvey P. Dale _ , Aug 19 2012 • a(n) = (21 * 11 ^ (n + 3) - 35 * 10 ^ (n + 3) + 15 * 8 ^ (n + 3) - 1) / 630. [_ Yahia Kahloune _ , Jul 01 2013] •

[A024778] • 1,30,595,9840,147061,2063010,27740215,362136180,4628090521,58232585190,724277646235,8930528438520,109397647960381,1333481828166570,16193198750646655,196081347032548860 ⋆ Expansion of 1/((1-x)(1-8x)(1-9x)(1-12x)). • a(n) = (14 * 12 ^ (n + 3) - 77 * 9 ^ (n + 3) + 66 * 8 ^ (n + 3) - 3) / 1848. [_ Yahia Kahloune _ , Jul 01 2013] • a(0)=1, a(1)=30, a(2)=595, a(3)=9840, a(n)=30 * a(n - 1) - 305 * a(n - 2) + 1140 * a(n - 3) - 864 * a(n - 4). - _ Harvey P. Dale _ , May 10 2015 •

[A028052] • 1,30,595,9900,149941,2145210,29561815,396813000,5224781881,67791656790,869540915035,11050958595300,139392712421821,1747306114774770,21788203659532255,270484281270892800 ⋆ Expansion of 1/((1-3x)(1-4x)(1-11x)(1-12x)). • a(n)=(7 * 12 ^ (n + 3) - 9 * 11 ^ (n + 3) + 9 * 4 ^ (n + 3) - 7 * 3 ^ (n + 3)) / 504. [_ Yahia Kahloune _ , Jun 07 2013] •

[A026308] • 1,30,597,9974,151629,2176086,30060949,404288598,5331243357,69255757142,889174566501,11309336465622,142744102829485,1790283986115798,22334320279686453,277371931128111446 ⋆ Expansion of 1/((1-2x)(1-5x)(1-11x)(1-12x)). • a(n) = - 4 * 2 ^ n / 135 + 125 * 5 ^ n / 126 - 1331 * 11 ^ n / 54 + 864 * 12 ^ n / 35. _ R. J. Mathar _ , Jun 23 2013 •

[A081140] • 0,0,1,30,600,10000,150000,2100000,28000000,360000000,4500000000,55000000000,660000000000,7800000000000,91000000000000,1050000000000000,12000000000000000,136000000000000000,1530000000000000000 ⋆ 10th binomial transform of (0,0,1,0,0,0,...). • a(n) = 30a(n - 1) - 300a(n - 2) + 1000a(n - 3), a(0)=a(1)=0, a(2)=1. • a(n) = 10 ^ (n - 2) * binomial(n, 2). •

[A020982] • 1,30,601,10050,151501,2135070,28702801,372684090,4712104501,58346365110,710428956601,8532288986130,101313313019101,1191569650755150,13901375026212001,161062105099480170 ⋆ Expansion of 1/((1-9*x)*(1-10*x)*(1-11*x)). • a(n) = 30 * a(n - 1) - 299 * a(n - 2) + 990 * a(n - 3), n>=3. - _ Vincenzo Librandi _ , Mar 18 2011 • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 9 ^ n, n>=2. - _ Vincenzo Librandi _ , Mar 18 2011 • a(n) = 11 ^ (n + 2) / 2 + 9 ^ (n + 2) / 2 - 10 ^ (n + 2). - _ R. J. Mathar _ , Mar 20 2011 •

[A024436] • 1,30,601,10122,155029,2238894,31086721,419796498,5553887821,72338375382,930742000825,11858835825018,149897892005317,1882300860052734,23506492073507953,292186168385703522 ⋆ Expansion of 1/((1-x)(1-6x)(1-11x)(1-12x)). • a(n) = (25 * 12 ^ (n + 3) - 33 * 11 ^ (n + 3) + 11 * 6 ^ (n + 3) - 3) / 1650. [_ Yahia Kahloune _ , Jun 28 2013] • a(0)=1, a(1)=30, a(2)=601, a(3)=10122, a(n)=30 * a(n - 1) - 299 * a(n - 2) + 1062 * a(n - 3) - 792 * a(n - 4). - _ Harvey P. Dale _ , Nov 20 2013 •

[A020980] • 1,30,604,10200,156016,2241120,30844864,411749760,5373888256,68949788160,873102490624,10942870149120,136039563882496,1680275743334400,20645716733968384,252607863319265280 ⋆ Expansion of 1/((1-8*x)*(1-10*x)*(1-12*x)). • a(n) = (12 ^ (n + 2) - 2 * 10 ^ (n + 2) + 8 ^ (n + 2)) / 8. - _ Yahia Kahloune _ , Jun 30 2013 • a(0)=1, a(1)=30, a(2)=604; for n>2, a(n) = 30 * a(n - 1) - 296 * a(n - 2) + 960 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2013 • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 8 ^ n. - _ Vincenzo Librandi _ , Jul 05 2013 •

[A051303] • 0,0,0,1,30,605,9030,110901,1200150,11932285,111885510,1006471301,8786447670,75039565965,630534185190,5234341175701,43059373189590,351805681631645,2859550165976070,23152657123816101,186907026783617910,1505512392025329325 ⋆ Number of 3-element proper antichains of an n-element set. • a(n) = (8 ^ n - 9 * 6 ^ n + 15 * 5 ^ n - 4 * 4 ^ n - 9 * 3 ^ n + 8 * 2 ^ n - 2) / 3!. • a(n) = 29 * a(n - 1) - 343 * a(n - 2) + 2135 * a(n - 3) - 7504 * a(n - 4) + 14756 * a(n - 5) - 14832 * a(n - 6) + 5760 * a(n - 7) for n > 6. - _ Wesley Ivan Hurt _ , Oct 06 2017 •

[A277877] • 0,30,608,8740,109296,1269450,14096320,151927776,1603346160,16659866938,171064877280 ⋆ Number of A'Campo forests of degree n>1 and co-dimension 2. • a(n) is obtained by using the generating function N _{ 1 } =1 + yN _{ 2 }^ 4 and (1 - N _{ 2 } + 2yN _{ 2 }^ 4 - yN _{ 2 }^{ 5 } + x yN _{ 2 }^{ 6 } + y ^{ 2 } N _{ 2 }^{ 8 })(1 + yN _{ 2 }^{ 4 }- xyN _{ 2 }^{ 5 }) + x ^ 3y ^{ 2 } N _{ 2 }^{ 9 } =0, where N _{ 1 } (x,y)= \ sum _{ n } N _{ 1 } '(2,n)x ^{ 2 } y ^{ n } and N _{ 1 } '(2,n) is the number of A'Campo forests with co - dimension 2; N _{ 2 } (x,y)= \ sum _{ n } N _{ 2 } '(2,n)x ^{ 2 } y ^{ n } where N _{ 2 } '(2,n) is the number of partial configurations. •

[A124099] • 1,30,619,10920,177061,2726130,40547359,588485820,8387148121,117876868230,1638536364499,22574666496720,308755233696781,4197234089634330,56765041887676039,764357559726523620 ⋆ Sum_(x^i*y^j*z^k) with i + j + k = m and (x, y, z) = the primitive pythagorean triple (5, 12, 13). • a(m) = (x ^ (m + 2) * (z - y) + y ^ (m + 2) * (x - z) + z ^ (m + 2) * (y - x)) / ((x - y) * (y - z) * (z - x)). • a(n) = 30 * a(n - 1) - 281 * a(n - 2) + 780 * a(n - 3) for n > 2. •

[A176646] • 0,30,780,4980,18840,53490,126420,262920,497520,875430,1453980,2304060,3511560,5178810,7426020,10392720,14239200,19147950,25325100,33001860,42435960,53913090,67748340,84287640,103909200 ⋆ 12*n^5 + 25*n^4 + 5*n^3 - 10*n^2 - 2*n. • a(n)= n * (n + 1) * (12 * n ^ 3 + 13 * n ^ 2 - 8 * n - 2). •

[A158672] • 30,930,3630,8130,14430,22530,32430,44130,57630,72930,90030,108930,129630,152130,176430,202530,230430,260130,291630,324930,360030,396930,435630,476130,518430 ⋆ 900*n^2 + 30. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A056093] • 30,2176,54036,709956,6290051,42606671,237197942,1135834242,4823607212,18563958502,65783057592,217240417628,674884181813,1987124979703,5579019610088,15010371955248,38862554420034,97163223921924,235290234202584,553296290481584 ⋆ Number of 5-element ordered antichain covers of an unlabeled n-element set. • a(n)=C(n + 30, 30) - 20 * C(n + 22, 22) + 60 * C(n + 18, 18) + 20 * C(n + 16, 16) + 10 * C(n + 15, 15) - 110 * C(n + 14, 14) - 120 * C(n + 13, 13) + 150 * C(n + 12, 12) + 120 * C(n + 11, 11) - 240 * C(n + 10, 10) + 20 * C(n + 9, 9) + 240 * C(n + 8, 8) + 40 * C(n + 7, 7) - 205 * C(n + 6, 6) + 60 * C(n + 5, 5) - 210 * C(n + 4, 4) + 210 * C(n + 3, 3) + 50 * C(n + 2, 2) - 100 * C(n + 1, 1) + 24 * C(n, 0). •

[A056070] • 30,2206,56242,766198,7056249,49662920,286860862,1422695104,6246302316,24810260818,90593318410,307833736038 ⋆ Number of 5-element ordered antichains on an unlabeled n-element set; T_1-hypergraphs with 5

labeled nodes and n hyperedges. • a(n)=C(n + 31, 31) - 20 * C(n + 23, 23) + 60 * C(n + 19, 19) + 20 * C(n + 17, 17) + 10 * C(n + 16, 16) - 110 * C(n + 15, 15) - 120 * C(n + 14, 14) + 150 * C(n + 13, 13) + 120 * C(n + 12, 12) - 240 * C(n + 11, 11) + 20 * C(n + 10, 10) + 240 * C(n + 9, 9) + 40 * C(n + 8, 8) - 205 * C(n + 7, 7) + 60 * C(n + 6, 6) - 210 * C(n + 5, 5) + 210 * C(n + 4, 4) + 50 * C(n + 3, 3) - 100 * C(n + 2, 2) + 24 * C(n + 1, 1). •

[A054647] • 30,2310,42840,391545,2375100,10980585,41761720,136963255,399689290,1060984925,2603641040,5979294230,12973080120,26794003110,530008116 00,100914240770,185718969590,331524753560,575738427880,975199600375,1614655942900,2618302433175 ⋆ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 4 2-simplexes and 12 1-simplexes. • a(n) = 30 * C(n, 6) + 2100 * C(n, 7) + 25200 * C(n, 8) + 86625 * C(n, 9) + 116550 * C(n, 10) + 69300 * C(n, 11) + 15400 * C(n, 12) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) * (n ^ 6 + 3 * n ^ 5 - 86 * n ^ 4 - 240 * n ^ 3 + 2704 * n ^ 2 + 5232 * n - 34128) / 31104. •

[A059049] • 0,0,0,0,30,8220,738842,25256626,464670831,5570534392,48655319306,332222541564,1859009659336,8811850222304,36244568422086,131710639199900,428697293437675,1263065928235140,3396450715952370 ⋆ Number of 6-element ordered T_0-antichains on an unlabeled n-set; T_1-hypergraphs on 6 labeled nodes with n (not necessary empty) distinct hyperedges (n=0,1,...,64). • a(n)=C(64, n) - 30 * C(48, n) + 120 * C(40, n) + 60 * C(36, n) + 60 * C(34, n) - 12 * C(33, n) - 345 * C(32, n) - 720 * C(30, n) + 810 * C(28, n) + 120 * C(27, n) + 480 * C(26, n) + 360 * C(25, n) - 480 * C(24, n) - 720 * C(23, n) - 240 * C(22, n) - 540 * C(21, n) + 1380 * C(20, n) + 750 * C(19, n) + 60 * C(18, n) - 210 * C(17, n) - 1535 * C(16,) - 1820 * C(15, n) + 2250 * C(14, n) + 1800 * C(13, n) - 2820 * C(12, n) + 300 * C(11, n) + 2040 * C(10, n) + 340 * C(9, n) - 1815 * C(8, n) + 510 * C(7, n) - 1350 * C(6, n) + 1350 * C(5, n) + 274 * C(4, n) - 548 * C(3, n) + 120 * C(2, n). •

[A056071] • 30,8340,780242,29813578,657271645,10037038800,117733967666,1130702091428,9273992351046,66900184307860,433616524985590,2566055594813118 ⋆ Number of 6-element ordered antichains on an unlabeled n-element set; T_1-hypergraphs with 6 labeled nodes and n hyperedges. • a(n)=C(n + 63, 63) - 30 * C(n + 47, 47) + 120 * C(n + 39, 39) + 60 * C(n + 35, 35) + 60 * C(n + 33, 33) - 12 * C(n + 32, 32) - 345 * C(n + 31, 31) - 720 * C(n + 29, 29) + 810 * C(n + 27, 27) + 120 * C(n + 26, 26) + 480 * C(n + 25, 25) + 360 * C(n + 24, 24) - 480 * C(n + 23, 23) - 720 * C(n + 22, 22) - 240 * C(n + 21, 21) - 540 * C(n + 20, 20) + 1380 * C(n + 19, 19) + 750 * C(n + 18, 18) + 60 * C(n + 17, 17) - 210 * C(n + 16, 16) - 1535 * C(n + 15, 15) - 1820 * C(n + 14, 14) + 2250 * C(n + 13, 13) + 1800 * C(n + 12, 12) - 2820 * C(n + 11, 11) + 300 * C(n + 10, 10) + 2040 * C(n + 9, 9) + 340 * C(n + 8, 8) - 1815 * C(n + 7, 7) + 510 * C(n + 6, 6) - 1350 * C(n + 5, 5) + 1350 * C(n + 4, 4) + 274 * C(n + 3, 3) - 548 * C(n + 2, 2) + 120 * C(n + 1, 1). •

[A022401] • 1,31,32,63,95,158,253,411,664,1075,1739,2814,4553,7367,11920,19287,31207,50494,81701,132195,213896,346091,559987,906078,1466065 ⋆ Fibonacci sequence beginning 1, 31. • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 61 + sqrt(5)) + (1 + sqrt(5)) ^ n * (61 + sqrt(5)))) / sqrt(5). - _ Colin Barker _ , Mar 02 2018 •

[A042924] • 31,32,63,536,599,1135,70969,72104,143073,1216688,1359761,2576449,161099599,163676048,324775647,2761881224,3086656871,5848538095,365696018761,371544556856,737240575617,6269469161792,7006709737409,13276178899201,830129801487871 ⋆ Numerators of continued fraction convergents to sqrt(994). • a(n) = 2270 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 09 2013 •

[A041479] • 1,1,31,32,991,1023,31681,32704,1012801,1045505,32377951,33423456,1035081631,1068505087,33090234241,34158739328,1057852414081,1092011153409,33818187016351,34910198169760 ⋆ Denominators of continued fraction convergents to sqrt(255). • a(n) = 32 * a(n - 2) - a(n - 4). G.f.: - (x ^ 2 - x - 1) / (x ^ 4 - 32 * x ^ 2 + 1). [_ Colin Barker _ , Jul 16 2012] • a(n) = product { k = 1..floor((n - 1) / 2) } (30 + 4 * cos ^ 2(k * Pi / n)). •

[A245650] • 31,41,59,67,101,107,139,179,193,199,211,229,239,269,271,281,293,307,313,353,353,353,379,397,409 ⋆ Primes in the sequence 12*n - prime(n), (A245071). • a(n) is the n - th prime member of the sequence 12 * i - prime(i) . a(n) = prime(n) if (12 * i - prime(i)) = prime(n). •

[A060834] • 31,43,67,103,151,211,283,367,463,571,691,823,967,1123,1291,1471,1663,1867,2083,2311,2551,2803,3067,3343,3631 ⋆ 6n^2 + 6n + 31. • a(0)=31, a(1)=43, a(2)=67, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Aug 09 2011] •

[A128470] • 1,31,61,91,121,151,181,211,241,271,301,331,361,391,421,451,481,511,541,571,601,631,661,691,721 ⋆ a(n) = 30*n + 1. • a(n) = 30 * n + 1 (see the name). • a(n) = 2 * a(n - 1) - a(n - 2) for n > 1. - _ Vincenzo Librandi _ , Dec 30 2014 •

[A195744] • 31,61,121,241,481,961,1921,3841,7681,15361,30721,61441,122881,245761,491521,983041,1966081,3932161,7864321,15728641,31457281,62914561,125829121,251658241,503316481 ⋆ a(n) = 15*2^(n+1) + 1. • a(n) = 2 * a(n - 1) - 1. •

[A053430] • 1,1,31,61,991,2821,32551,117181,1093711,4609141,37420471,175694701,1298308831,6569149861,45518414791,242592910621,1608145354351,8885932672981,57130293303511,323708273492941,2037617072598271 ⋆ a(n) = (6^(n+1) - (-5)^(n+1))/11. • a(0)=1, a(1)=1, a(n) = a(n - 1) + 30 * a(n - 2). - _ Harvey P. Dale _ , May 09 2012 •

[A135631] • 0,31,62,93,124,155,186,217,248,279,310,341,372,403,434,465,496,527,558,589,620,651,682,713,744 ⋆ Multiples of 31. • a(n) = 31 * n. • a(n) = 2 * a(n - 1) - a(n - 2). (End) •

[A042902] • 31,63,94,533,16617,83618,100235,284088,17713691,35711470,53425161,302837275,9441380686,47509740705,56951121391,161411983487,10064494097585,20290400178657,30354894276242,172064871559867,5364365912632119,26993894434720462,32358260347352581 ⋆ Numerators of continued fraction convergents to sqrt(983). • a(n) = 568176 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 09 2013 •

[A042900] • 31,63,94,2883,2977,8837,550871,1110579,1661450,50954079,52615529,156185137,9736094023,19628373183,29364467206,900562389363,929926856569,2760416102501,172075725211631,346911866525763,5189875917373941591653961864758 3,16435527210384977 ⋆ Numerators of continued fraction convergents to sqrt(982). • a(n) = 17674 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 09 2013 •

[A042910] • 31,63,157,377,23531,47439,118409,284257,17742343,35768943,89280229,214329401,13377703091,26969735583,67317174257,161604084097,100867708827 1,20335144860639,50757060109549,121849265079737,76054114950532 43,15332672255186223,38270756005425689 ⋆ Numerators of continued fraction convergents to sqrt(987). • a(n) = 754 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 09 2013 •

[A042908] • 31,63,157,9797,19751,49299,3076289,6201877,15480043,965964543,1947409129,4860782801,303315942791,611492668383,1526301279557,95242172000917,192010645281391,479263462563699,29906345324230729,60291954111025157,150490253546281043 ⋆ Numerators of continued fraction convergents to sqrt(986). • a(n) = 314 * a(n - 3) + a(n - 6). - _ Vincenzo Librandi _ , Dec 09 2013, simplified by _ Colin Barker _ , Dec 26 2013 •

[A042916] • 31,63,409,881,55031,110943,720689,1552321,96964591,195481503,1269853609,2735188721,170851554311,344438297343,2237481338369,4819400974081,301040341731391,606900084436863,3942440848352569,8491781781142001,530432911279156631 ⋆ Numerators of continued fraction convergents to sqrt(990). • a(n) = 1762 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 09 2013 •

[A132772] • 0,31,64,99,136,175,216,259,304,351,400,451,504,559,616,675,736,799,864,931,1000,1071,1144,1219,1296 ⋆ a(n) = n*(n + 30). • a(n) = 2 * n + a(n - 1) + 29 (with a(0)=0). - _ Vincenzo Librandi _ , Aug 03 2010 • a(0)=0, a(1)=31, a(2)=64, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 06 2015 •

[A139700] • 1,31,91,211,451,931,1891,3811,7651,15331,30691,61411,122851,245731,491491,983011,1966051,3932131,7864291,15728611,31457251,62914531,125829091,251658211,503316451 ⋆ Binomial transform of [1, 30, 30, 30,...]. • a(n) = 30 * 2 ^ (n - 1) - 29. - _ Emeric Deutsch _ , May 07 2008 • a(n) = 2 * a(n - 1) + 29 (with a(1)=1). [From Vincenzo Librandi, Nov 24 2010] • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: x * (28 * x + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Mar 11 2014 •

[A098440] • 1,1,31,91,1531,7051,88201,520381,5529091,37734931,365291101,2721338401,24972058981,196231466341,1746558487831,14182492489651,124085095556851,1028416533153331,8913996083549341,74841905963166481,645571197111115201 ⋆ Expansion of 1/sqrt(1-2x-59x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k) * binomial(n, k) * 15 ^ k } . •

[A042890] • 31,94,125,1094,5595,6689,12284,43541,317071,360612,677683,5104393,15990862,21095255,37086117,206525840,1689292837,1895818677,737674868,459254248493,1385139494347,1844393742840 ⋆ Numerators of continued fraction convergents to sqrt(977). • a(n) = 14753497736 * a(n - 19) - a(n - 38) for n>37. [_ Bruno Berselli _ , Dec 08 2013] •

[A042896] • 31,94,313,407,720,1847,2567,4414,15809,51841,3229951,9741694,32455033,42196727,74651760,191500247,266152007,457652254,1639108769,5374978561,334887779551,1010038317214,3365002731193,4375041048407,7740043779600 ⋆ Numerators of continued fraction convergents to sqrt(980). • a(n) = 103682 * a(n - 10) - a(n - 20). - _ Vincenzo Librandi _ , Dec 08 2013 •

[A081275] • 1,31,97,199,337,511,721,967,1249,1567,1921,2311,2737,3199,3697,4231,4801,5407,6049,6727,7441,8191,8977,9799,10657 ⋆ Shallow diagonal of triangular spiral in A051682. • a(n) = C(n, 0) + 30 * C(n, 1) + 36 * C(n, 2). • a(n) = 18 * n ^ 2 + 12 * n + 1. • a(0)=1, a(1)=31, a(2)=97, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jun 30 2011 •

[A289134] • 1,31,103,217,373,571,811,1093,1417,1783,2191,2641,3133,3667,4243,4861,5521,6223,6967,7753,8581,9451,10363,11317,12313 ⋆ a(n) = 21*n^2 - 33*n + 13. • a(n) = 21 * n ^ 2 - 33 * n + 13. - _ Omar E. Pol _ , Jun 25 2017 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. - _ Colin Barker _ , Jul 29 2017 •

[A206526] • 31,106,168,243,305,380,442,517,579,654,716,791,853,928,990,1065,1127,1202,1264,1339,1401,1476,1538,1613,1675 ⋆ a(n) = 137*(n-1) - a(n-1) with n>1, a(1)=31. • a(n) = (- 137 + 13 * (- 1) ^ n + 274 * n) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A063397] • 1,31,111,343,979,2655,6943,17663,43967,107519,259071,616447,1451007,3383295,7823359,17956863,40943615,92798975,209190911,469237759,1047789567,2329935871,5161091071,11391729663,25060966399 ⋆ T(4,n) with T(n,m) as in A063394. • a(n) = (6 * (- 4 + 27 * 2 ^ n) + 191 * 2 ^ n * n + 15 * 2 ^ (1 + n) * n ^ 2 + 2 ^ n * n ^ 3) / 24 for n>0. - _ Colin Barker _ , May 27 2015 •

[A158558] • 1,31,121,271,481,751,1081,1471,1921,2431,3001,3631,4321,5071,5881,6751,7681,8671,9721,10831,12001,13231,14521,15871,17281 ⋆ a(n) = 30n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A042884] • 31,125,156,593,749,1342,2091,24343,26434,156513,495973,4124297,4620270,8744567,13364837,22109404,676646957,698756361,1375403318,2074159679,3449562997,29670663655,92461553962 ⋆ Numerators of continued fraction convergents to sqrt(974). • a(n) = 977651490470430 * a(n - 32) - a(n - 64) for n>63. [_ Bruno Berselli _ , Dec 08 2013] •

[A042886] • 31,125,281,1249,77719,312125,701969,3120001,194142031,779688125,1753518281,7793761249,484966715719,1947660624125,4380287963969,19468812480001,1211446661724031,4865255459376125,10941957580476281,48633085781281249 ★ Numerators of continued fraction convergents to sqrt(975). • a(n) = 2498 * a(n - 4) - a(n - 8). - _ Vincenzo Librandi _ , Dec 08 2013 •

[A042888] • 31,125,781,906,2593,8685,11278,53797,118872,410413,939698,4169205,5108903,19495914,44100731,63596645,425680601,1766319049,1099374616 39,441516165605,2759034455269,3200550620874 ★ Numerators of continued fraction convergents to sqrt(976). • a(n) = 3532638098 * a(n - 18) - a(n - 36) for n>35. [_ Bruno Berselli _ , Dec 08 2013] •

[A158563] • 31,127,287,511,799,1151,1567,2047,2591,3199,3871,4607,5407,6271,7199,8191,9247,10367,11551,12799,14111,15487,16927,18431,19999 ★ 32n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A165568] • 1,1,31,137,391,889,1751,3121,5167,8081,12079,17401,24311,33097,44071,57569,73951,93601,116927,144361,176359,213401,255991,304657,359951 ★ -1 -2*n +n^2 +2*n^3 +n^4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) . • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 24. •

[A226890] • 1,1,1,1,31,151,451,1051,33601,663601,5187001,25905001,254322751,10408719751,128046088171,920598820051,29249420054401,723848667813601,12441294278905201,138598703861148241,440663973152182755 1,93453608310743628151,1932981245635597160851,27744052310106087405451 ★ E.g.f.: exp(Sum_{n>=1} sigma(n,n) * x^(n^2) / n^n). • a(n) == 1 (mod 30) (conjecture - valid up to n=4000; if true for n>=0, why?). •

[A042880] • 31,156,187,343,530,4053,24848,28901,111551,140452,2077879,2218331,8732872,10951203,74440090,532031833,606471923,1138503756,1744975679,9863382151,613274669041,3076236727356 ★ Numerators of continued fraction convergents to sqrt(972). • a(n) = 19726764302 * a(n - 20) - a(n - 40) for n>39. [_ Bruno Berselli _ , Dec 08 2013] •

[A042882] • 31,156,811,1778,15035,31848,174275,903223,56174101,281773728,1465042741,3211859210,27159916421,57531692052,314818376681,1631623575457,101475480055015,509009023850532,2646520599307675,5802050222465882,49062922379034731,103927894980535344 ★ Numerators of continued fraction convergents to sqrt(973). • a(n) = 1806446 * a(n - 8) - a(n - 16). - _ Vincenzo Librandi _ , Dec 08 2013 •

[A157373] • 31,158,383,706,1127,1646,2263,2978,3791,4702,5711,6818,8023,9326,10727,12226,13823,15518,17311,19202,21191,23278,25463,27746,30127 ★ a(n) = 49*n^2 - 20*n + 2. • a(n) = 49 * n ^ 2 - 20 * n + 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), with a(1)=31, a(2)=158, a(3)=383. - _ Harvey P. Dale _ , Jun 20 2011 •

[A107953] • 31,175,703,2415,7551,22143,61951,167167,438271,1122303,2818047,6959103,16941055,40730623,96862207,228130815,532676607,1234173951,2839543807,6491734015,14755561471,33361494015,75061264383,168124481535,375004332031 ★ Number of chains in the power set lattice of an (n+3)-element set X_(n+3) of specification n^1 2^1 1, that is, n identical objects of one kind, 2 identical objects of another kind and one other kind. It is the same as the number of fuzzy subsets X_(n+3). • a(n) = 2 ^ (n + 1) * (((n ^ 2) / 2)(n + 13) + 21n + 16) - 1. • a(0)=31, a(1)=175, a(2)=703, a(3)=2415, a(4)=7551, a(n)=9 * a(n - 1) - 32 * a(n - 2) + 56 * a(n - 3) - 48 * a(n - 4) + 16 * a(n - 5) . - _ Harvey P. Dale _ , Feb 10 2015 •

[A272130] • 1,31,177,535,1201,2271,3841,6007,8865,12511,17041,22551,29137,36895,45921,56311,68161,81567,96625,113431,132081,152671,175297,200055,227041 ★ a(n) = 16*n^3 + 10*n^2 + 4*n + 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[A042878] • 31,187,779,966,1745,2711,7167,38546,122805,284156,3532677,109797143,1321098393,2751993929,9577080180,50637394829,110851869838,161489264667,272341134505,433830399172,2007662731193 ★ Numerators of continued fraction convergents to sqrt(971). • a(n) = 24959613572660 * a(n - 22) - a(n - 44) for n>43. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A165130] • 0,31,189,889,3825,15841,64449,259969,1044225,4185601,16759809,67074049,268365825,1073602561,4294688769,17179312129,68718362625,274875678721,1099507171329,4398037598209,17592168218625,70368708526081,281474905407489 ★ a(n) = (2^(n+4)-1)*(2^n-1). • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: x * (31 - 28 * x) / ((1 - x) * (2 * x - 1) * (4 * x - 1)). - R. J. Mathar, Sep 20 2009 •

[A274501] • 0,1,31,196,756,2226,5502,12012,23892,44187,77077,128128,204568,315588,472668,689928,984504,1376949,1891659,2557324,3407404,4480630,5821530,7480980,9516780 ★ a(n) = 25*binomial(n-1,6) + binomial(n-1,5). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). • a(n) = (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) * (25 * n - 144) / 720. - _ Wesley Ivan Hurt _ , Jun 25 2016 •

[A152730] • 0,0,1,31,211,782,2132,4862,9813,18093,31143,50764,79144,118924,173225,245675,340475,462426,616956,810186,1048957,1340857,1694287,2118488,2623568 ★ a(n)+a(n+1)+a(n+2)=n^5. • a(n)=(1 / 3) * [n ^ 5 - 5 * n ^ 4 + (10 / 3) * n ^ 3 + 10 * n ^ 2 - 5 * n - (13 / 3)] + (13 / 54 * I) * sqrt(3) *{ [- (1 / 2) - (1 / 2) * I * sqrt(3)] ^ n - [- (1 / 2) + (1 / 2) * I * sqrt(3)] ^ n }+ (13 / 18) *{ [- (1 / 2) - (1 / 2) * I * sqrt(3)] ^ n + [- (1 / 2) + (1 / 2) * I * sqrt(3)] ^ n } with n>=0. - _ Paolo P. Lava _ , Dec 23 2008 •

[A164784] • 1,31,211,1291,7771,46651,279931,1679611,10077691,60466171,362797051,2176782331,13060694011,78364164091,470184984571,2821109907451,16926659444731,101559956668411,609359740010491,3656158440062971 ★ a(n) = 6^n-5. • a(n) = 6 * a(n - 1) + 25 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Oct 29 2009 •

[A062393] • 0,1,31,212,812,2313,5463,11344,21424,37625,62375,98676,150156,221137,316687,442688,605888,813969,1075599,1400500,1799500,2284601,2869031,3567312,4395312 ★ a(n) = n^5 - (n-1)^5 + (n-2)^5 - ... +(-1)^n*0^5. • a(n) = (2 * n ^ 5 + 5 * n ^ 4 - 5 * n ^ 2 + 1 - (- 1) ^ n) / 4 = n ^ 5 - a(n - 1). • a(0)=0, a(1)=1, a(2)=31, a(3)=212, a(4)=812, a(5)=2313, a(6)=5463, a(n) = 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - a(n - 7). - _ Harvey P. Dale _ , Feb 01 2013 •

[A075932] • 31,227,805,1354,6182,10315,18731,35149,67943,393255,655433,1181959,6291497,10485837,18874658,35653635,69337155,136446255,270666054,1610612779,2684354638,4831838504,9126807585,17716871269,34896740609 ★ Basis for code in A075931. • a(n) = b(2 ^ n), where b is A075931, the binary lex icode, d=5. •

[A082544] • 1,31,241,991,3091,7501,16531,31711,57781,96601,157651,240031,362491,519961,739201,1012441,1383721,1822711,2409241,3091441,3966301,4974751,6257461,7680781,9481681 ★ Number of ordered quintuples (a,b,c,d,e) with gcd(a,b,c,d,e)=1 (1<= {a,b,c,d,e} <= n). • a(n)=sum(k=1, n, mu(k) * floor(n / k) ^ 5); a(n) is asymptotic to c * n ^ 5 with c=0.9643.... •

[A059378] • 1,31,242,992,3124,7502,16806,31744,58806,96844,161050,240064,371292,520986,756008,1015808,1419856,1822986,2476098,3099008,4067052,4992550,6436342,7682048,9762500 ★ Jordan function J_5(n). • a(n) = sum(d|n , d ^ 5 * mu(n / d)). - _ Benoit Cloitre _ , Apr 05 2002 • a(n) = n ^ 5 * Product _{ distinct primes p dividing n } (1 - 1 / p ^ 5). - _ Tom Edgar _ , Jan 09 2015 •

[A258807] • 0,31,242,1023,3124,7775,16806,32767,59048,99999,161050,248831,371292,537823,759374,1048575,1419856,1889567,2476098,3199999,4084100,5153631,6436342,7962623,9765624 ★ a(n) = n^5 - 1. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A042872] • 31,249,280,1929,2209,19601,1217471,9759369,10976840,75620409,86597249,768398401,47727298111,382586783289,430314081400,2964471271689,3394785353089,30122754096401,1871005539329951,14998167068736009,16869172608065960,116213202717131769 ★ Numerators of continued fraction convergents to sqrt(968). • a(n) = 39202 * a(n - 6) - a(n - 12). - _ Vincenzo Librandi _ , Dec 08 2013 •

[A008386] • 1,31,271,1281,4251,11253,25493,51563,95693,166003,272755,428605,648855,951705,1358505,1894007,2586617,3468647,4576567,5951257,7638259,9688029,12156189,15103779,18597509 ★ Crystal ball sequence for A_5 lattice. • a(n) = (2 * n + 1) * (63 * n ^ 4 + 126 * n ^ 3 + 217 * n ^ 2 + 154 * n + 60) / 60. - _ T. D. Noe _ , Apr 29 2007 •

[A156094] • 1,1,31,281,2101,14851,102961,708761,4865911,33372361,228792301,1568309051,10749725281,73680695281,505017569551,3461448647801,23725139605861,162614572159411,1114576979567761,7639424583421961,52361395886149351 ★ 5 F(2n) (F(2n) - 1) + 1 where F(n) denotes the n-th Fibonacci number. • a(n)=((2 * sqrt(5)) / 2) * (((3 - sqrt(5)) / 2) ^ n - ((3 + sqrt(5)) / 2) ^ n) + ((7 + 3 * sqrt(5)) / 2) ^ n + ((7 - 3 * sqrt(5)) / 2) ^ n - 1. - _ Tim Monahan _ , Aug 15 2011 •

[A001298] • 0,1,31,301,1701,6951,22827,63987,159027,359502,752752,1479478,2757118,4910178,8408778,13916778,22350954,34952799,53374629,79781779,116972779,168519505,238929405,333832005,460192005 ★ Stirling numbers of the second kind S(n+4, n). • a(n) = Stirling2(n + 4, n) = Sum _{ L=1..n } (Sum _{ k=1..L } (Sum _{ j=1..k } (Sum _{ i=1..j } i * j * k * L))) = (n + 4) * (n + 3) * (n + 2) * (n + 1) * n * (15 * n ^ 3 + 30 * n ^ 2 + 5 * n - 2) / 5760 = (15 * n ^ 3 + 30 * n ^ 2 + 5 * n - 2) * binomial(n + 4, 5) / 48. - _ Vladeta Jovovic _ , Jan 31 2005 •

[A137318] • 1,31,313,1313,13131,313131,3131313,13131313,131313131,3131313131,31313131313,131313131313,1313131313131,31313131313131,3131313131313131,313131313131313131 ★ Concatenation of segments of the digit sequence 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3.... • a(n + 1)=(1 / 4) *{ (n mod 4) + [(n + 1) mod 4] + [(n + 2) mod 4] - [(n + 3) mod 4] }* (10 ^ n) * [1 + (- 1) ^ (n + 1)] + a(n) * 10 ^ [1 / 2 + 1 / 2 * (- 1) ^ n] + (1 / 4) *{ (n mod 4) + [(n + 1) mod 4] - [(n + 2) mod 4] + [(n + 3) mod 4] }* [1 + (- 1) ^ n], with a(0)=1 and n>=1 - _ Paolo P. Lava _ , Apr 15 2008 •

[A033175] • 1,31,331,3331,33331,333331,3333331,33333331,333333331,3333333331,33333333331,333333333331,3333333333331,33333333333331,333333333333331,3333333333333331,33333333333333331,333333333333333331 ★ n 3's followed by 1. • a(n) = (10 ^ (n + 1) - 7) / 3. • a(n) = 10 * a(n - 1) + 21 (with a(0)=1). - _ Vincenzo Librandi _ , Nov 17 2010 •

[A091348] • 0,1,31,391,3451,25231,164731,999391,5767051,32122831,174397531,929043391,4879252651,25349936431,130617150331,668714319391,3406562690251,17286209766031,87448932863131,441329102667391 ★ a(n)=24*5^n - 60*4^n + 50*3^n - 15*2^n + 1. • a(n)=Sum(i!i ^ 4 Stirling2(n, i)(- 1) ^ (n - i), i=1, .., n) •

[A028201] • 1,31,605,9515,131901,1684011,20303725,234831355,2632942301,28828462091,309891463245,3283433875995,34394321024701,357022972673771,3679144385477165,37693176577349435,384361331408659101 ★ Expansion of 1/((1-6x)(1-7x)(1-8x)(1-10x)). • a(n) = 18 * a(n - 1) - 80 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), a(0)=1, a(1)=31. - Vincenzo Librandi, Mar 11 2011 • a(n) =(10 ^ (n + 3) - 6 * 8 ^ (n + 3) + 8 * 7 ^ (n + 3) - 3 * 6 ^ (n + 3)) / 24. [_ Yahia Kahloune _ , Jun 04 2013] •

[A028184] • 1,31,608,9650,135471,1756461,21553078,254114080,2907590741,32510311691,356977004748,3863433611310,41325142341211,437804739243721,4601385756887618,48040443020269340,498759633052498881 ★ Expansion of 1/((1-5x)(1-7x)(1-9x)(1-10x)). • a(n)=(8 * 10 ^ (n + 3) - 15 * 9 ^ (n + 3) + 10 * 7 ^ (n + 3) - 3 * 5 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 04 2013

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[A028182] • 1,31,610,9750,138411,1822821,22826140,275975500,3254034421,37677164811,430475351670,4870239751650,54700558488031,6110655729060 01,6798955260233200,75422919700042200,834843345187547241 ★ Expansion of 1/((1-5x)(1-7x)(1-8x)(1-11x)). • a(n)=(11 ^ (n + 3) - 8 ^ (n + 4) + 9 * 7 ^ (n + 3) - 2 * 5 ^ (n + 3)) / 72. [_ Yahia Kahloune _ , Jun 04 2013] •

[A028155] • 1,31,611,9779,138747,1820595,22624267,270185443,3130828283,35437220819,393679085163,4307728419267,46553144477659,4979136318604 03,5279371826945099,55566205514956451,581177386017567675 ★ Expansion of 1/((1-4x)(1-8x)(1-9x)(1-10x)). • a(n)=(10 ^ (n + 4) - 24 * 9 ^ (n + 3) + 15 * 8 ^ (n + 3) - 4 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 04 2013] •

[A028175] • 1,31,612,9842,140903,1874733,23747074,290631904,3469802325,40674188555,470287309856,5380934171886,6107207975286 7,68880137268990 97,773033122565455 8,864179571388887388,9630725157938129 ★ Expansion of 1/((1-5x)(1-6x)(1-9x)(1-11x)). • a(n)=(2 * 11 ^ (n + 3) - 5 * 9 ^ (n + 3) + 8 * 6 ^ (n + 3) - 5 ^ (n + 4)) / 120. [_ Yahia Kahloune _ , Jun 03 2013] •

[A028150] • 1,31,614,9926,142995,1915077,24414088,300588892,3608146949,42498447563,493420114122,5665664143698,64496965543063,729264545514289,8201673484111916,91847355888191144,1025058980614782537 ★ Expansion of 1/((1-4x)(1-7x)(1-9x)(1-11x)). • a(n) = (15 * 11 ^ (n + 3) - 42 * 9 ^ (n + 3) + 5 * 7 ^ (n + 4) - 2 * 4 ^ (n + 4)) / 840. [_ Yahia Kahloune _ , May 29 2013] •

[A028173] • 1,31,615,9995,145511,1981731,25867375,328390315,4092662871,50378487731,614988087935,7465359578235,90280175113831,1089001243414531,13113567724769295,157729903649607755 ★ Expansion of 1/((1-5x)(1-6x)(1-8x)(1-12x)). • a(n)=(12 ^ (n + 3) - 7 * 8 ^ (n + 3) + 14 * 6 ^ (n + 3) - 8 * 5 ^ (n + 3)) / 168. [_ Yahia Kahloune _ , Jun 03 2013] •

[A028142] • 1,31,617,10067,146913,1999083,25952089,325901779,3994115345,48056935355,570022255881,6685284487011,77695022872897,896253234623947,1027509996670559 3,117190651899653363,1330751148294893169 ★ Expansion of 1/((1-4x)(1-6x)(1-10x)(1-11x)). • a(n)=(24 * 11 ^ (n + 3) - 35 * 10 ^ (n + 3) + 21 * 6 ^ (n + 3) - 10 * 4 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , Jun 02 2013] •

[A028148] • 1,31,617,10079,147609,2022447,26547529,338695423,4238709497,52353238223,640806363561,7794824571807,94411354501465,1140149916014959,13741090450747913,165378493289389631 ★ Expansion of 1/((1-4x)(1-7x)(1-8x)(1-12x)). • a(0)=1, a(1)=31, a(2)=617, a(3)=10079, a(n)=31 * a(n - 1) - 344 * a(n - 2) + 1616 * a(n - 3) - 2688 * a(n - 4) [_ Harvey P. Dale _ , Nov 20 2011] • a(n)=(3 * 12 ^ (n + 3) - 30 * 8 ^ (n + 3) + 32 * 7 ^ (n + 3) - 5 * 4 ^ (n + 3)) / 480. [_ Yahia Kahloune _ , May 29 2013]. •

[A028100] • 1,31,618,10094,147203,1997037,25786636,321380188,3901566405,46429426043,544051398254,6298258575882,72214033934407,821632688021449,9290501272470672,104524684322022776,1171184420402768009 ★ Expansion of 1/((1-3x)(1-8x)(1-9x)(1-11x)). • a(n)=(5 * 11 ^ (n + 3) - 20 * 9 ^ (n + 3) + 2 * 8 ^ (n + 4) - 3 ^ (n + 3)) / 240. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028141] • 1,31,619,10171,150115,2075227,27499123,354164107,4472448739,55701408763,686884421587,8409900709483,102430894160323,1242818548606939,15036887507052211,181551642806017099 ★ Expansion of 1/((1-4x)(1-6x)(1-9x)(1-12x)). • a(n)=(5 * 12 ^ (n + 3) - 16 * 9 ^ (n + 3) + 20 * 6 ^ (n + 3) - 9 * 4 ^ (n + 3)) / 720. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028096] • 1,31,620,10190,149931,2056881,26907430,340238680,4195278461,50745196931,604662792240,7119407163570,83018865142591,960430934574181,11038161347163050,126162293709144860,1435268577300318321 ★ Expansion of 1/((1-3x)(1-7x)(1-10x)(1-11x)). • a(n)=(21 * 11 ^ (n + 3) - 32 * 10 ^ (n + 3) + 2 * 7 ^ (n + 4) - 3 ^ (n + 4)) / 672. [_ Yahia Kahloune _ , May 29 2013]. •

[A042864] • 31,621,652,1925,12202,14127,26329,93114,119443,212557,332000,544557,6322127,6866684,33788863,108233273,142022136,2096543177,2238565313,8812239116,37487521777,46299760893 ★ Numerators of continued fraction convergents to sqrt(964). • a(n) = 20170287114002498 * a(n - 34) - a(n - 68) for n>67. - _ Vincenzo Librandi _ , Feb 01 2014 •

[A028095] • 1,31,622,10294,153139,2133397,28467664,368853628,4681501957,58545953323,724357095826,8891996242402,108525576595255,1318871068893409,15976717061264308,193081291067943016 ★ Expansion of 1/((1-3x)(1-7x)(1-9x)(1-12x)). • a(n)=(8 * 12 ^ (n + 3) - 30 * 9 ^ (n + 3) + 27 * 7 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 1080. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028128] • 1,31,623,10355,155151,2182251,29453143,386424115,4968644351,62947998971,788663289063,9797059846275,120896875524751,1484089915071691,18142382512443383,221041773758074835 ★ Expansion of 1/((1-4x)(1-5x)(1-10x)(1-12x)). • a(n) = 31 * a(n - 1) - 338 * a(n - 2) + 1520 * a(n - 3) - 2400 * a(n - 4), n>=4. Vincenzo Librandi, Mar 17 2011 • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. - Vincenzo Librandi , Mar 17 2011 • a(n) = 9 * 12 ^ (n + 1) / 7 - 5 * 10 ^ (n + 1) / 3 - 2 ^ (2n + 2) / 3 + 5 ^ (n + 2) / 7. - R. J. Mathar, Mar 18 2011 •

[A028018] • 1,31,625,10395,155001,2155251,28559665,365471515,4555708201,55646962371,668889963105,7936976609835,93190238832601,1084660596151891,1253281030961294 5,1439323642127135 5 ★ Expansion of 1/((1-2x)(1-8x)(1-10x)(1-11x)). • a(n)=(16 * 11 ^ (n + 3) - 27 * 10 ^ (n + 3) + 12 * 8 ^ (n + 3) - 2 ^ (n + 3)) / 432. [_ Yahia Kahloune _ , Jun 06 2013] •

[A028087] • 1,31,625,10435,157081,2218891,30058465,395576995,5099030761,64729573051,812287789105,10103508011155,124806994586041,1533359039348011,18757216238876545,228656612889142915 ★ Expansion of 1/((1-3x)(1-6x)(1-10x)(1-12x)). • a(n)=(14 * 12 ^ (n + 3) - 27 * 10 ^ (n + 3) + 21 * 6 ^ (n + 3) - 8 * 3 ^ (n + 3)) / 1512. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028017] • 1,31,627,10499,158219,2232387,30141979,394679923,5055314187,63715123043,793475307131,9793201406547,120053522334955,1464191224876099,17788099372232283,215464347026366771 ★ Expansion of 1/((1-2x)(1-8x)(1-9x)(1-12x)). • a(n)=(7 * 12 ^ (n + 3) - 40 * 9 ^ (n + 3) + 35 * 8 ^ (n + 3) - 2 ^ (n + 4)) / 840. [_ Yahia Kahloune _ , May 29 2013]. •

[A028013] • 1,31,629,10595,160965,2293347,31302517,414606643,5373114725,68512221635,862890573909,10764894286419,133300183232581,1640952363157795,20105879474257205,245421711656823923 ★ Expansion of 1/((1-2x)(1-7x)(1-10x)(1-12x)). • a(0)=1, a(1)=31, a(2)=629, a(3)=10595, a(n)=31 * a(n - 1) - 332 * a(n - 2) + 1388 * a(n - 3) - 1680 * a(n - 4) [From Harvey P. Dale, Nov 02 2011] • a(n)=(12 ^ (n + 4) - 25 * 10 ^ (n + 3) + 16 * 7 ^ (n + 3) - 3 * 2 ^ (n + 3)) / 1200. [_ Yahia Kahloune _ , Jun 06 2013] •

[A028073] • 1,31,630,10670,163691,2363901,32800480,442568140,5850370581,76144382171,979096198730,12468275928810,157530257684671,19773865535 10841,246859119679873 80,306761026472700680 ★ Expansion of 1/((1-3x)(1-5x)(1-11x)(1-12x)). • a(n)=(16 * 12 ^ (n + 3) - 21 * 11 ^ (n + 3) + 12 * 5 ^ (n + 3) - 7 * 3 ^ (n + 3)) / 1008. [_ Yahia Kahloune _ , Jun 10 2013] •

[A025009] • 1,31,632,10682,162183,2297253,31000054,403684144,5115788645,63462153755,773891110356,9306180096486,110619493115587,1302189143870737,15203564170082738,176265669269562908 ★ Expansion of 1/((1-x)(1-9x)(1-10x)(1-11x)). • a(n) = (36 * 11 ^ (n + 3) - 80 * 10 ^ (n + 3) + 45 * 9 ^ (n + 3) - 1) / 720. [_ Yahia Kahloune _ , Jul 02 2013] •

[A028004] • 1,31,633,10787,166481,2416827,33681481,456072739,6046236801,78876961163,1016157547769,12960408919731,163959874019761,2060322716086939,25744836645629097,320169349603453763 ★ Expansion of 1/((1-2x)(1-6x)(1-11x)(1-12x)). • a(n)=(6 * 12 ^ (n + 3) - 8 * 11 ^ (n + 3) + 3 * 6 ^ (n + 3) - 2 ^ (n + 3)) / 360. [_ Yahia Kahloune _ , Jun 05 2013] •

[A025007] • 1,31,635,10835,166851,2407971,33252835,445002595,5818890851,74768679011,947871169635,11890741318755,147930305201251,1828206048535651,22473922782504035,275081786101769315 ★ Expansion of 1/((1-x)(1-8x)(1-10x)(1-12x)). • a(n) = (63 * 12 ^ (n + 3) - 154 * 10 ^ (n + 3) + 99 * 8 ^ (n + 3) - 8) / 5544. [_ Yahia Kahloune _ , Jul 02 2013] •

[A020981] • 1,31,645,11255,177821,2636991,37440565,515147335,6923011341,91364030351,1188608942885,15286543614615,194762842152061,2462271368182111,30927944350627605,386358083836485095 ★ Expansion of 1/((1-8*x)*(1-11*x)*(1-12*x)). • a(n) = 16 * 8 ^ n / 3 - 121 * 11 ^ n / 3 + 36 * 12 ^ n. - _ R. J. Mathar _ , Jul 01 2013 • a(0)=1, a(1)=31, a(2)=645; for n>2, a(n) = 31 * a(n - 1) - 316 * a(n - 2) + 1056 * a(n - 3). - _ Vincenzo Librandi _ , Jul 05 2013 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 8 ^ n. - _ Vincenzo Librandi _ , Jul 05 2013 •

[A000565] • 31,696,5823,29380,108933,327840,848380,1958004,4130895,8107024,14990889,26372124,44470165,72305160,113897310,174496828,260846703,381480456,547057075,770735316,1068589557,1460069392,1968505152,2621661540 ★ Number of discordant permutations. • a(n) = 243 / 560n ^ 7 - 243 / 16n ^ 6 + 3591 / 16n ^ 5 - 28737 / 16n ^ 4 + 82257 / 10n ^ 3 - 81931 / 4n ^ 2 + 151931 / 7n, for n>6. (End) •

[A014930] • 1,31,706,14206,267331,4823581,84557956,1451432956,24517448581,408951042331,6752105339206,110549175651706,1797251568229831,29043982525261081,466937872906120456,7473240118999870456 ★ a(1)=1, a(n)=n*15^(n-1)+a(n-1). • a(n)=(1 / 196) * [1 + 15 ^ n * (14 * n - 1)], with n>=1 [From _ Paolo P. Lava _ , Jan 13 2009] •

[A061252] • 0,1,31,721,14911,289201,5386591,97576081,1732076671,30276117361,522861237151,8942430185041,151728638820031,2557404559011121,42864668012537311,715027614225987601,11878335717996660991 ★ a(n) = 16^n - 15^n. • a(0)=0, a(n) = 15 * a(n - 1) + 16 ^ (n - 1). - _ Vincenzo Librandi _ , Feb 09 2011 • a(0)=0, a(1)=1, a(n) = 31 * a(n - 1) - 240 * a(n - 2). - _ Vincenzo Librandi _ , Feb 09 2011 •

[A051587] • 0,1,31,781,17887,380821,7635991,145858861,2680379887,47772681541,831224886151,14192847754141,238791235611487,3971678627940661,65470546978625911,1071778956904132621,17451563620410100687 ★ Number of 4 X n binary matrices such that any 2 rows have a common 1. • a(n) = 16 ^ n - 6 * 12 ^ n + 12 * 10 ^ n - 9 ^ n - 16 * 8 ^ n + 15 * 7 ^ n - 6 * 6 ^ n + 5 ^ n. •

[A158675] • 31,992,3875,8680,15407,24056,34627,47120,61535,77872,96131,116312,138415,162440,188387,216256,246047,277760,311395,346952,384431,423832,465155,508400,553567 ★ 961n^2 + 31. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A130004] • 0,31,1204,1347,1504,8151,8980,9891,48600,53431,58740,284347,312504,343447,1658380,1822491,2002840,9666831,10623340,11674491,56343504,61918447,68045004,328395091,360888240 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+449)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 898 for n > 6; a(1)=0, a(2)=31, a(3)=1204, a(4)=1347, a(5)=1504, a(6)=8151. •

[A115421] • 32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56 ★ Numbers having a 1 in position 5 of their binary expansion. • a(n + 32) = a(n) + 64. •

[A151983] • 0,1,32,33,64,65,96,97,128,129,160,161,192,193,224,225,256,257,288,289,320,321,352,353,384 ★ Numbers congruent to {0, 1} mod 32. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>3. • a(n) = (32 * n - 15 * (- 1) ^ n - 47) / 2. •

[A067010] • 32,33,682,779,15292,17435,342562,390581,7673992,8749697,171910882,196008563,3851105332,4390935659,86271515242,98364661565,1932633283312,2203540975361,43294375870042,49363183412027,969869968690732,1105821903842843,21726788694026482 ★ a(2n) and a(2n+1) are side lengths of a Beentjes sequence of perfect squared rectangles, starting with a 32 X 33

rectangle. • a(2n) = 11 * a(2n - 2) + 10 * a(2n - 1), a(2n + 1) = 13 * a(2n - 2) + 11 * a(2n - 1), a(0) = 32, a(1) = 33. • a(n) = 22 * a(n - 2) + 9 * a(n - 4) for n>3. - _ Colin Barker _ , May 26 2015 •

[A029925] • 32,34,36,37,39,41,43,45,46,48,50,52,54,55,57,59,61,63,64,66,68,70,72,73,75 ⋆ Convert n from degrees Celsius to Fahrenheit. • a(n) = floor((18 * n + 325) / 10). - _ Reinhard Zumkeller _ , May 03 2010 •

[A159007] • 32,41,105,114,178,187,251,260,324,333,397,406,470,479,543,552,616,625,689,698,762,771,835,844,908 ⋆ Numbers n such that n == 32 or 41 mod 73. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) with a(1)=32, a(2)=41, a(3)=105. • a(n) = (73 + 55 * (- 1) ^ (n - 1) + 146 * (n - 1)) / 4. •

[A046304] • 32,48,64,72,80,96,108,112,120,128,144,160,162,168,176,180,192,200,208,216,224,240,243,252,256 ⋆ Divisible by at least 5 primes (counted with multiplicity). • a(n) = n + O(n (log log n) ^ 3 / log n). - _ Charles R Greathouse IV _ , Apr 07 2017 •

[A099048] • 32,50,68,86,104,122,140,158,176,194,212,230,248,266,284,302,320,338,356,374,392,410,428,446,464 ⋆ Number of 5 X n 0-1 matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (01;0), (10;0) and (11;0). • a(n) = 18 * n + 14. •

[A176542] • 32,50,98,128,200,242,338,392,512,578,722,800,968,1058,1250,1352,1568,1682,1922,2048,2312,2450,2738,2888,3200 ⋆ Numbers n such that there are only a finite nonzero number of sets of n consecutive triangular numbers that sum to a square. • a(n) = (9 * n ^ 2 + 24 * n + 16) / 2 for n even. • a(n) = (9 * n ^ 2 + 30 * n + 25) / 2 for n odd. • a(n) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5) for n>5. •

[A206371] • 32,63,125,249,497,993,1985,3969,7937,15873,31745,63489,126977,253953,507905,1015809,2031617,4063233,8126465,16252929,32505857,65011713,130023425,260046849,520093697 ⋆ 31*2^n + 1. • a(n) = 31 * 2 ^ n + 1. •

[A122616] • 32,64,96,128,160,192,224,243,256,275,288,307,320,339,352,371,384,403,416,435,448,467,480,486,499 ⋆ Sums of 5th powers of primes. • a(n) = a * 32 + b * 243 + c * 3125 + d * 16807 + e * 161051 + ... where a,b,c,d,e,... are nonnegative integers. Sumset of A050997 Fifth powers of primes. •

[A132773] • 0,32,66,102,140,180,222,266,312,360,410,462,516,572,630,690,752,816,882,950,1020,1092,1166,1242,1320 ⋆ a(n) = n*(n + 31). • a(n) = 2 * n + a(n - 1) + 30, with n>0, a(0)=0. - _ Vincenzo Librandi _ , Aug 03 2010 •

[A153981] • 32,68,176,464,1220,3200,8384,21956,57488,150512,394052,1031648,2700896,7071044,18512240,48465680,126884804,332188736,869681408,2276855492,5960885072,15605799728,40856514116,106963742624,280034713760 ⋆ a(n) = 36*Fibonacci(2*n+1) - 4. • a(n) = 3 * a(n - 1) - a(n - 2) + 4. • a(n) = 4 * a(n - 1) - 4 * a(n - 2) + a(n - 3). • a(n) = 3 * a(n - 1) - 3 * a(n - 3) + a(n - 4). • a(n) = - 4 + 18 * (((3 + sqrt(5)) / 2) ^ n + ((3 - sqrt(5)) / 2) ^ n) + (18 / 5) * sqrt(5) * (((3 + sqrt(5)) / 2) ^ n - ((3 - sqrt(5)) / 2) ^ n), with n>=0. - _ Paolo P. Lava _ , Jan 20 2009 •

[A182466] • 32,80,176,368,752,1520,3056,6128,12272,24560,49136,98288,196592,393200,786416,1572848,3145712,6291440,12582896,25165808,50331632,100663280,201326576,402653168,805306352 ⋆ a(n) = 3a(n-1) - 2a(n-2) with a(0)=32 and a(1)=80. • a(n) = a(n - 1) * 2 + 16. • a(n) = 8 * (3 * 2 ^ n - 2). - _ Harvey P. Dale _ , Aug 23 2012 •

[A281237] • 32,96,544,3168,18464,107616,627232,3655776,21307424,124188768,723825184,4218762336,24588748832,143313730656,835293635104,4868448079968,28375394844704,165383920988256,963928131084832,5618184865520736,32745181062039584,190852901506716768 ⋆ Solutions x to the negative Pell equation y^2 = 72*x^2 - 73728 with x,y >= 0. • a(n) = - 8 * sqrt(2) * ((4 - 3 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n - (3 - 2 * sqrt(2)) ^ n * (4 + 3 * sqrt(2))). • a(n) = 6 * a(n - 1) - a(n - 2) for n>2. •

[A287925] • 32,97,641,2417,14657,28577,83537,130337,279857,707297,923537,1874177,2825777,3418817,4879697,7890497,12117377,13845857,20151137,25411697,28398257,38950097,47458337,62742257,88529297 ⋆ a(n) = prime(1)^4 + prime(n)^4 • a(n) = 2 ^ 4 + prime(n) ^ 4. •

[A197904] • 32,98,412,1387,3803,8918,18594,35410,62786,105102,167817,257593,382409,551685,776401,1069217,1444593,1918909,2510585,3240201,4130617,5207093,6497409,8031985,9844001 ⋆ a(n) = ceiling((n+1/n)^5). • a(n) = n ^ 5 + 5n ^ 3 + 10n for n > 10. [_ Charles R Greathouse IV _ , Nov 21 2011] •

[A172517] • 0,0,0,32,100,288,588,1152,1944,3200,4840,7200,10140,14112,18900,25088,32368,41472,51984,64800,79380,96800,116380,139392,165000 ⋆ Number of ways to place 2 nonattacking queens on an n X n toroidal board. • a(n) = n ^ 2 * (n - 2) ^ 2 / 2 if n is even and a(n) = n ^ 2 * (n - 1)(n - 3) / 2 if n is odd. •

[A194645] • 32,100,344,1220,4392,15988,58776,218052,815816,3076180,11682296,44653028,171670440,663421684,2575592664,10039703172,39273896840,154109956756,606353229752,2391296071460,9449664931176,37407140524084,148300497571992,588693691298244 ⋆ Number of ways to place 3n nonattacking kings on a 6 X 2n cylindrical chessboard. • a(n) = 2 * 4 ^ n + 2 * 3 ^ n + 4 * (2 + sqrt(2)) ^ n + 4 * (2 - sqrt(2)) ^ n + 2. •

[A247155] • 32,125,280,497,776,1117,1520,1985,2512,3101,3752,4465,5240,6077,6976,7937,8960,10045,11192,12401,13672,15005,16400,17857,19376 ⋆ 31n^2 + 1 • a(1)=32, a(2)=125, a(3)=280, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 28 2016 •

[A137740] • 1,32,138,348,700,1246,2050,3188,4749,6836,9567,13076,17514,23050,29872,38188,48227,60240,74501,91308,110984,133878,160366,190852,225769 ⋆ Number of different strings of length n+5 obtained from "123...n" by iteratively duplicating any substring. • a(n) = (n + 4)(n ^ 2 + 3n - 8)(n ^ 2 + 23n + 150) / 5! + 4 for n>4. •

[A100164] • 1,32,143,384,805,1456,2387,3648,5289,7360,9911,12992,16653,20944,25915,31616,38097,45408,53599,62720,72821,83952,96163,109504,124025 ⋆ Structured rhombic triacontahedral numbers (vertex structure 11). • a(n) = (1 / 6) * (50 * n ^ 3 - 60 * n ^ 2 + 16 * n) = (1 / 3) * n * (5 * n - 2) * (5 * n - 4). • a(n) = (5 * (n - 1) + 1) * (5 * (n - 1) + 3) * (5 * (n - 1) + 5) / 15 •

[A100165] • 1,32,147,400,845,1536,2527,3872,5625,7840,10571,13872,17797,22400,27735,33856,40817,48672,57475,67280,78141,90112,103247,117600,133225 ⋆ Structured rhombic triacontahedral numbers (vertex structure 7). • a(n) = (1 / 6) * (54 * n ^ 3 - 72 * n ^ 2 + 24 * n) = n * (3 * n - 2) ^ 2 . • a(n) = (3 * (n - 1) + 1) ^ 2 * (3 * (n - 1) + 3) / 3. •

[A100173] • 1,32,148,404,855,1556,2562,3928,5709,7960,10736,14092,18083,22764,28190,34416,41497,49488,58444,68420,79471,91652,105018,119624,135525 ⋆ Structured pentakis dodecahedral numbers (vertex structure 6). • a(n)=(1 / 6) * (55 * n ^ 3 - 75 * n ^ 2 + 26 * n). •

[A100172] • 1,32,150,412,875,1596,2632,4040,5877,8200,11066,14532,18655,23492,29100,35536,42857,51120,60382,70700,82131,94732,108560,123672,140125 ⋆ Structured triakis icosahedral numbers (vertex structure 4). • a(n)=(1 / 6) * (57 * n ^ 3 - 81 * n ^ 2 + 30 * n). •

[A035286] • 0,0,32,156,456,1040,2040,3612,5936,9216,13680,19580,27192,36816,48776,63420,81120,102272,127296,156636,190760,230160,275352,326876,385296 ⋆ Number of ways to place a non-attacking white and black king on n X n chessboard. • a(n) = n ^ 4 - 9 n ^ 2 + 12 n - 4. •

[A200840] • 32,191,676,1817,4108,8239,15128,25953,42184,65615,98396,143065,202580,280351,380272,506753,664752,859807,1098068,1386329,1732060,2143439,2629384,3199585,3864536 ⋆ Number of 0..n arrays x(0..4) of 5 elements without any two consecutive increases or two consecutive decreases. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A019560] • 1,32,192,608,1408,2720,4672,7392,11008,15648,21440,28512,36992,47008,58688,72160,87552,104992,124608,146528,170880,197792,227392,259808,295168 ⋆ Coordination sequence for C_4 lattice. • a(n) = (32 / 3) * n * (1 + 2 * n ^ 2) for n>0. •

[A130811] • 32,192,672,1792,4032,8064,14784,25344,41184,64064,96096,139776,198016,274176,372096,496128,651168,842688,1076768,1360128,1700160,2104960,2583360,3144960,3800160 ⋆ If X_1,...,X_n is a partition of a 2n-set X into 2-blocks then a(n) is equal to the number of 5-subsets of X containing none of X_i, (i=1,...n). • a(n) = binomial(2 * n,5) + (2 * n - 4) * binomial(n,2) - n * binomial(2 * n - 2,3). • a(n) = C(n,n - 5) * 2 ^ 5, for n>=5. - _ Zerinvary Lajos _ , Dec 07 2007 •

[A200787] • 32,216,840,2425,5796,12152,23136,40905,68200,108416,165672,244881,351820,493200,676736,911217,1206576,1573960,2025800,2575881,3239412,4033096,4975200,6085625,7385976 ⋆ Number of 0..n arrays x(0..4) of 5 elements without any two consecutive increases. • a(n) = (1 + n) ^ 2 * (12 + 44 * n + 33 * n ^ 2 + 7 * n ^ 3) / 12 . • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A070053] • 32,223,1194,5535,23225,90398,331561,1158554,3887592,12603092,39659340,121593628,364327996,1069496444,3082349564,8737174524,24395286524,67182399484,182689947644,491040063484,1305703776252,3437454229500,8965943918588,23184233594876,59466277191676 ⋆ Number of Bottleneck-Monge matrices with 5 rows. • a(N) = a(5, N), where a(P, N) is defined recursively in A070050. •

[A022146] • 1,32,224,768,1856,3680,6432,10304,15488,22176,30560,40832,53184,67808,84896,104640,127232,152864,181728,214016,249920,289632,333344,381248,433536 ⋆ Coordination sequence for root lattice B_4. • a(0) = 1, a(n) = 32 * n ^ 3 - 16 * n ^ 2 + 16 * n. - _ Ralf Stephan _ , Sep 03 2003 •

[A000584] • 0,1,32,243,1024,3125,7776,16807,32768,59049,100000,161051,248832,371293,537824,759375,1048576,1419857,1889568,2476099,3200000,4084101,5153632,6436343,7962624 ⋆ Fifth powers: a(n) = n^5. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + 120. - _ Ant King _ , Sep 23 2013 • a(n) = n + Sum _{ j=0..n - 1 }{ k=1..4 } binomial(5,k) * j ^ (5 - k). - _ Patrick J. McNab _ , Mar 28 2016 •

[A056572] • 0,1,1,32,243,3125,32768,371293,4084101,45435424,503284375,5584059449,61917364224,686719856393,7615646045657,84459630100000,936668172433707,10387823949447757,115202670521319424,1277617458486664901 ⋆ Fifth power of Fibonacci numbers A000045. • a(n) = (10 * F(n) + 5 * (- 1) ^ (n + 1) * F(3 * n) + F(5 * n)) / 25, n >= 0. See the general comment on A111418 regarding the Ozeki reference; here the row 10, 5, 1 of that triangle applies. - _ Wolfdieter Lang _ , Aug 25 2012 • a(n) = (F(n) ^ 2 * (F(3 * n) - (- 1) ^ n * 3 * F(n))) / 5. - _ Gary Detlefs _ , Jan 07 2013 •

[A231304] • 0,1,32,244,1056,3369,8832,20176,41600,79225,141600,240276,390432,611569,928256,1370944,1976832,2790801,3866400,5266900,7066400,9351001,12220032,15787344,20182656 ⋆ Recurrence a(n) = a(n-2) + n^M for M=5, starting with a(0)=0, a(1)=1. • a(n) = Sum _{ k=0..floor(n / 2) } (n - 2k) ^ 5. • a(0)=0, a(1)=1, a(2)=32, a(3)=244, a(4)=1056, a(5)=3369, a(6)=8832, a(7)=20176, a(n) = 6 * a(n - 1) - 14 * a(n - 2) + 14 * a(n - 3) - 14 * a(n - 5) + 14 * a(n - 6) - 6 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , Jul 22 2014 • a(n) = 1 / 24 * (2 * n ^ 6 + 12 * n ^ 5 + 20 * n ^ 4 - 16 * n ^ 2 - 3 * (- 1) ^ n + 3). •

[A195592] • 32,256,1220,4460,13932,39316,103508,259372,626780,1473764,3392964,7682812,17166476,37942900,83115188,180699980,390351420,838619524,1793087780,3817890076,8099228012,17125372436,36104600340,75916936300,159249370652 ⋆ Number of ways to place 4n nonattacking kings on a vertical cylinder 8 X 2n. • a(n) = (221 * n - 779) * 2 ^ n + 44 * n ^ 2 + 324 * n + 780. •

[**A122103**] • 32,275,3400,20207,181258,552551,1972408,4448507,10884850,31395999,60025150,129369107,245225308,392233751,621578758,1039774251,1754698550,2599294851,3949419958,5753649309,7826720902,10903777301,14842817944 ⋆ Sum of the fifth powers of the first n primes. • a(n) = sum(k = 1 .. n, prime(k) ^ 5). •

[**A267324**] • 0,0,0,0,0,32,288,2448,22080,216000,2298240,26530560,330946560,4441651200,63866880000,980037273600,15990989414400,276529539686400,5052853757952000,97290972979200000,1969085601939456000,41794695550992384000,928395406320205824000 ⋆ Number of elements of S_n with strategic pile of size 4. • a(n) = (n - 4)! * (6 * binomial(n - 5,3) + 16 * binomial(n - 5,2) + 16 * binomial(n - 5,1)) for n>5. - _ Marisa Gaetz _ , Jan 18 2017 •

[**A060158**] • 0,0,0,0,0,32,300,1852,9576,45096,201060,866324,3650592,15154240,62260380,253939116,1030367448,4165106264,16790875860,67553807428,271383782544,1089035545968,4366631897100,17497971562460,70086163646280 ⋆ Number of permutations of [n] with 4 sequences. • a(n) = 2n - 7 + (6 - n)2 ^ (n - 1) - 3 ^ n + 4 ^ (n - 1). •

[**A244867**] • 1,32,320,1784,7040,22104,58980,139320,299343,596200,1115972,1983488,3374150,5527952,8765880,13508880,20299581,29826960,42954136,60749480,84521228,115855784,156659900,209206920,276187275 ⋆ Let G denote the 9-node, 16-edge graph formed from an octagon with main diagonals drawn and a node at the center; a(n) = number of magic labelings of G with magic sum 2n. • a(n) = (5040 + 22164 * n + 43092 * n ^ 2 + 46963 * n ^ 3 + 30240 * n ^ 4 + 11326 * n ^ 5 + 2268 * n ^ 6 + 187 * n ^ 7) / 5040. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. •

[**A095152**] • 1,32,321,2560,18881,135072,954241,6705920,47020161,329377312,2306349761,16146574080,113032395841,791245902752,5538778714881,38771623191040,271401878897921,1899814701967392,13298707562817601,93090966886860800,651636810049438401 ⋆ Number of 3-block covers of a labeled n-set. • a(n) = (1 / 3!) * (11 - 6 * 3 ^ n + 7 ^ n). • a(n) = 11 * a(n - 1) - 31 * a(n - 2) + 21 * a(n - 3). G.f.: - x ^ 2 * (21 * x + 1) / ((x - 1) * (3 * x - 1) * (7 * x - 1)). - _ Colin Barker _ , Jul 12 2013 • a(n) = sum(i=0..n, (- 1) ^ i * C(n,i) * C(2 ^ (n - i) - 1,3)). - _ Geoffrey Critzer _ , Aug 24 2014 •

[**A145402**] • 1,32,336,3610,26996,229348,1620034,12071462,82550864,572479244,3808019582,25304433030,164452629818,1062773834046,6777328517896,42944798886570,269706791277978,1683956271732804,10445800698724066 ⋆ Number of Hamiltonian paths in P_6 X P_n. • a(1) = 1, • a(2) = 32, • a(3) = 336, • a(4) = 3610, • a(5) = 26996, • a(6) = 229348, •

[**A158074**] • 0,0,0,0,32,352,3072,30848,295456,2896832,28120096,273895232,2664515712,25931157504,252338724352,2455552258304,23895692937216,232533011307776,2262837745837568,22020130538878208,214282979451801088 ⋆ Number of (directed) Hamiltonian cycles on a 3 X (2n) knight's tour graph. • a(n) = 6 * a(n - 1) + 64 * a(n - 2) - 200 * a(n - 3) - 1000 * a(n - 4) + 3016 * a(n - 5) + 3488 * a(n - 6) - 24256 * a(n - 7) + 23776 * a(n - 8) + 104168 * a(n - 9) - 203408 * a(n - 10) - 184704 * a(n - 11) + 443392 * a(n - 12) + 14336 * a(n - 13) - 151296 * a(n - 14) + 145920 * a(n - 15) - 263424 * a(n - 16) + 317440 * a(n - 17) + 36864 * a(n - 18) - 966656 * a(n - 19) + 573440 * a(n - 20) + 131072 * a(n - 21), for n>=23. (See A070030) - _ Seiichi Manyama _ , Dec 16 2016 •

[**A191901**] • 0,32,364,2048,7812,23328,58824,131072,265720,500000,885780,1492992,2413404,3764768,5695312,8388608,12068784,17006112,23522940,32000000,42883060,56689952,74017944,95551488,122070312 ⋆ Number of compositions of odd natural numbers into 6 parts <= n. • a(n) = ((n + 1) ^ 6 - (1 + (- 1) ^ n) / 2) / 2. • a(0)=0, a(1)=32, a(2)=364, a(3)=2048, a(4)=7812, a(5)=23328, a(6)=58824, a(7)=131072, a(n)=6 * a(n - 1) - 14 * a(n - 2) + 14 * a(n - 3) - 14 * a(n - 5) + 14 * a(n - 6) - 6 * a(n - 7) + a(n - 8). - _ Harvey P. Dale _ , Apr 12 2015 •

[**A191489**] • 1,32,365,2048,7813,23328,58825,131072,265721,500000,885781,1492992,2413405,3764768,5695313,8388608,12068785,17006112,23522941,32000000,42883061,56689952,74017945,95551488,122070313 ⋆ Number of compositions of even natural numbers into 6 parts <=n • a(n)=((n + 1) ^ 6 + (1 + (- 1) ^ n) / 2) / 2. •

[**A086942**] • 32,392,3992,39992,399992,3999992,39999992,399999992,3999999992,39999999992,399999999992,3999999999992,39999999999992,399999999999992,3999999999999992,39999999999999992,399999999999999992 ⋆ a(n) = k where R(k+8)=4. • a(n) = 4 * (10 ^ n - 8) •

[**A068548**] • 1,32,400,3584,26880,180224,1118208,6553600,36765696,199229440,1049624576,5402263552,27262976000,135291469824,661693399040,3195455668224,15260018802688,72155450572800,338168545017856 ⋆ Coefficients of (-x^(2n-6)) in Chebyshev polynomial of degree 2n. • a(n) = n(2n ^ 2 + 3n - 2) / 12 * 4 ^ n. - _ Ralf Stephan _ , May 08 2004 •

[**A145403**] • 1,32,414,5382,79384,1262816,20562673,336067810,5493330332,89803472792,1468381290905,24012936982592,392716580997352,6422777815120738,105043595925333255,1717976646746942760 ⋆ Number of nonintersecting rook paths joining opposite corners of 6 X n board. • a(1) = 1, • a(2) = 32, • a(3) = 414, • a(4) = 5382, • a(5) = 79384, • a(6) = 1262816, •

[**A125116**] • 1,32,417,3072,15585,60960,197057,550912,1374273,3127840,6602849,13089792,24605217,44188704,76283265,127213568,205777537,323968032,497842465,748559360,1103602017,1598210592,2277045057,3196102656 ⋆ Number of 8 X 8 pandiagonal Franklin squares with magic sum 4n. • a(n) = s ^ 8 / 2293760 + s ^ 7 / 71680 + s ^ 6 / 3840 + s ^ 5 / 320 + s ^ 4 / 40 + 2s ^ 3 / 15 + 197s ^ 2 / 420 + 106s / 105 + 1 where s=4n [Ahmed]. •

[**A145217**] • 1,32,418,3104,16003,64064,213060,614976,1587333,3742816,8190182,16832608,32795399,61021312,109078664,188234880,314856201,512202912,812698666,1260762272,1916300683,2858972864,4193345740,6055075520 ⋆ a(n) is the self-convolution series of the sum of 4th powers of the first n natural numbers. • a(n) = C(n + 2,3) * (n * (n + 2) * (n ^ 4 + 4 * n ^ 3 + 8 * n ^ 2 + 8 * n + 6) + 24) / 105. •

[**A283811**] • 1,32,454,4718,41506,329462,2441314,17234438,117437746,779305142,5067707074,32440729958,205120773586,1284333040022,7978977787234,49258610238278,302555048903026,1850666770922102,11281963755617794,68586728901231398,416015651355490066 ⋆ Poly-Bernoulli numbers B_n^(k) with k = -5. • a(n) = 120 * 6 ^ n - 240 * 5 ^ n + 150 * 4 ^ n - 30 * 3 ^ n + 2 ^ n. •

[**A035477**] • 1,32,512,5472,44032,285088,1549824,7288544,30382080,114509600,396241408,1273082976,3829072896,10848180384,29093973504,74178420192,180482027520,420523089440,941348409856,2030565262176,4232440732672,8546273961888,16756632155648 ⋆ Coordination sequence for lattice D*_16 (with edges defined by l_1 norm = 1). • a(m) = Sum _{ k=0..n } (2 ^ k * binomial(n, k) * binomial(m - 1, k - 1)) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1), with n=16. •

[**A130609**] • 0,32,533,669,833,3672,4460,5412,21945,26537,32085,128444,155208,187544,749165,905157,1093625,4366992,5276180,6374652,25453233,30752369,37154733,148352852,179238480 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+223)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 446 for n > 6; a(1)=0, a(2)=32, a(3)=533, a(4)=669, a(5)=833, a(6)=3672. •

[**A054338**] • 1,32,576,7680,84480,811008,7028736,56229888,421724160,2998927360,20392706048,133479530496,845370359808,5202279137280,31213674823680,183120225632256,1052941297385472,5946021444059136,33033452466995200 ⋆ 8-fold convolution of A000302 (powers of 4). • a(n) = binomial(n + 7, 7) * 4 ^ n. •

[**A028204**] • 1,32,645,10480,150101,1979712,24649045,294242960,3402478101,38387226592,424748805845,4627041422640,49770222820501,529800364460672,5591164247433045,58580499720429520,610040416273729301 ⋆ Expansion of 1/((1-6x)(1-7x)(1-9x)(1-10x)). • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = 7 ^ (n + 3) / 6 - 3 ^ (2 * n + 5) / 2 - 3 * 6 ^ (n + 1) + 25 * 10 ^ (n + 1) / 3. - R. J. Mathar, Mar 14 2011 •

[**A028190**] • 1,32,647,10570,152481,2028012,25481947,307098110,3585577061,40841792992,456139166847,5013707912850,54390770364841,583654905773972,6205991828373347,65478677349042790,686305950702955821 ⋆ Expansion of 1/((1-5x)(1-8x)(1-9x)(1-10x)). • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + (8 ^ (n + 1) - 5 ^ (n + 1)) / 3, a(0)=1, a(1)=32. - Vincenzo Librandi, Mar 12 2011 • a(0)=1, a(1)=32, a(2)=647, a(3)=10570, a(n)=32 * a(n - 1) - 377 * a(n - 2) + 1930 * a(n - 3) - 3600 * a(n - 4). - _ Harvey P. Dale _ , Apr 28 2013 • a(n)= (6 * 10 ^ (n + 3) - 15 * 9 ^ (n + 3) + 10 * 8 ^ (n + 3) - 5 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 05 2013] •

[**A028202**] • 1,32,647,10582,153153,2049684,26010139,317905634,3781590725,44096537056,506668749951,5757875493006,64896612687817,726942456592748,8105282135259683,90059836210434298,998087763949942029 ⋆ Expansion of 1/((1-6x)(1-7x)(1-8x)(1-11x)). • a(n) = 19 * a(n - 1) - 88 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 3 * 6 ^ (n + 2) / 5 + 11 ^ (n + 3) / 60 - 4 * 8 ^ (n + 2) / 3 + 7 ^ (n + 3) / 4. - R. J. Mathar, Mar 18 2011 •

[**A028185**] • 1,32,650,10720,156891,2127552,27391540,339890240,4105242581,48592072672,566386687230,6523917123360,74453894585071,843546156267392,9502346083391720,106552392368702080,1190431518905528361 ⋆ Expansion of 1/((1-5x)(1-7x)(1-9x)(1-11x)). • a(n)=(11 ^ (n + 3) - 3 * 9 ^ (n + 3) + 3 * 7 ^ (n + 3) - 5 ^ (n + 3)) / 48. [_ Yahia Kahloune _ , Jun 05 2013] •

[**A028156**] • 1,32,653,10852,160329,2196744,28582501,358350284,4370826977,52208034736,613595259069,7120485417396,81801199876345,932195385723608,10554384751300757,118870719509813788,1333093245475954833 ⋆ Expansion of 1/((1-4x)(1-8x)(1-9x)(1-11x)). • a(n)=(10 * 11 ^ (n + 3) - 42 * 9 ^ (n + 3) + 35 * 8 ^ (n + 3) - 3 * 4 ^ (n + 3)) / 420. [_ Yahia Kahloune _ , Jun 11 2013] •

[**A028177**] • 1,32,653,10864,160965,2216256,29037037,367278608,4526901269,54714980320,651369416061,7662042543792,89264097643813,1031793631351424,11849055184966925,135335527957665616 ⋆ Expansion of 1/((1-5x)(1-6x)(1-10x)(1-11x)). • a(n)=(2 * 11 ^ (n + 3) - 3 * 10 ^ (n + 3) + 3 * 6 ^ (n + 3) - 2 * 5 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 04 2013] • a(0)=1, a(1)=32, a(2)=653, a(3)=10864, a(n)=32 * a(n - 1) - 371 * a(n - 2) + 1840 * a(n - 3) - 3300 * a(n - 4). - _ Harvey P. Dale _ , Oct 23 2015 •

[**A028183**] • 1,32,653,10876,161673,2240376,29659621,380803412,4787944865,59338124560,728084033469,8872019284908,107592152638777,1300465261202984,15682817092702997,188828216949912964 ⋆ Expansion of 1/((1-5x)(1-7x)(1-8x)(1-12x)). • a(n)=(3 * 12 ^ (n + 3) - 35 * 8 ^ (n + 3) + 6 * 7 ^ (n + 4) - 2 * 5 ^ (n + 4)) / 420.[_ Yahia Kahloune _ , Jun 04 2013] •

[**A028176**] • 1,32,655,10970,164281,2296172,30679075,397562990,5043607261,63029650112,779227037095,9558498208610,116583782365441,1416013883792852,17145682731588715,207132506435751830 ⋆ Expansion of 1/((1-5x)(1-6x)(1-9x)(1-12x)). • a(n)=(2 * 12 ^ (n + 3) - 7 * 9 ^ (n + 3) + 14 * 6 ^ (n + 3) - 9 * 5 ^ (n + 3)) / 252. [_ Yahia Kahloune _ , Jun 03 2013] •

[**A028143**] • 1,32,660,11200,170576,2429952,33121600,437888000,5663851776,72087887872,906450621440,11292447129600,139666259070976,1717603091873792,21027551488327680,256495170125824000 ⋆ Expansion of 1/((1-4x)(1-6x)(1-10x)(1-12x)). • a(n)=(12 ^ (n + 3) - 2 * 10 ^ (n + 3) + 2 * 6 ^ (n + 3) - 4 ^ (n + 3)) / 96. [_ Yahia Kahloune _ , Jun 11 2013] • a(0)=1, a(1)=32, a(2)=660, a(3)=11200, a(n)=32 * a(n - 1) - 364 * a(n - 2) + 1728 * a(n - 3) -

2880 * a(n - 4). - _ Harvey P. Dale _ , Aug 15 2013 •

[**A028101**] • 1,32,661,11228,170905,2428664,32963197,433285556,5565811009,70301927696,876950844133,10837103324684,132978429495913,16230194686 93928,197287753285618 69,239074474267587812 ⋆ Expansion of 1/((1-3x)(1-8x)(1-9x)(1-12x)). • a(n)=(5 * 12 ^ (n + 3) - 30 * 9 ^ (n + 3) + 27 * 8 ^ (n + 3) - 2 * 3 ^ (n + 3)) / 540. [_ Yahia Kahloune _ , Jun 10 2013] •

[**A028097**] • 1,32,663,11326,173753,2492676,34193851,454583162,5907650925,75488944960,952332965519,11896112035158,147458730765217,18167281871 88284,222741593131064 67,272032430647628914 ⋆ Expansion of 1/((1-3x)(1-7x)(1-10x)(1-12x)). • a(n)=(7 * 12 ^ (n + 4) - 18 * 10 ^ (n + 4) + 18 * 7 ^ (n + 4) - 10 * 3 ^ (n + 4)) / 7560. [_ Yahia Kahloune _ , Jun 10 2013] •

[**A028021**] • 1,32,665,11380,174261,2483592,33669985,440024060,5592152621,69530670352,849490297305,10231269580740,121775852180581,14351213551 16312,167716177364446 25,194605340572369420 ⋆ Expansion of 1/((1-2x)(1-9x)(1-10x)(1-11x)). • a(n)=(28 * 11 ^ (n + 3) - 63 * 10 ^ (n + 3) + 36 * 9 ^ (n + 3) - 2 ^ (n + 3)) / 504. [_ Yahia Kahloune _ , May 30 2013] •

[**A028129**] • 1,32,665,11440,177441,2582592,36039145,488323280,6475959281,84497107552,1088651482425,13885593262320,175667802947521,2207466992 246912,27583620276442505,343037771674508560 ⋆ Expansion of 1/((1-4x)(1-5x)(1-11x)(1-12x)). • a(n) = 32 * a(n - 1) - 359 * a(n - 2) + 1648 * a(n - 3) - 2640 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 17 2011 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 5 ^ (n + 1) - 4 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 17 2011 • a(n) = 18 * 12 ^ (n + 1) / 7 - 11 ^ (n + 3) / 42 - 2 * 4 ^ (n + 1) / 7 + 5 ^ (n + 3) / 42. - R. J. Mathar, Mar 18 2011 •

[**A028088**] • 1,32,667,11522,179473,2622284,36714679,498853814,6630652765,86676445856,1118432963011,14283392713226,180889234319977,2275070671 007348,28449403226477263,354027885991627358 ⋆ Expansion of 1/((1-3x)(1-6x)(1-11x)(1-12x)). • a(n)=(20 * 12 ^ (n + 3) - 27 * 11 ^ (n + 3) + 12 * 6 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 1080. [_ Yahia Kahloune _ , May 30 2013] •

[**A028019**] • 1,32,668,11536,179088,2599296,36043456,483836672,6341561600,81632911360,1036368313344,13015606775808,162070777434112,2004417298 202624,24654551330373632,301916965980012544 ⋆ Expansion of 1/((1-2x)(1-8x)(1-10x)(1-12x)). • a(n) = (6 * 12 ^ (n + 3) - 15 * 10 ^ (n + 3) + 10 * 8 ^ (n + 3) - 2 ^ (n + 3)) / 480. - _ Yahia Kahloune _ , May 23 2013 •

[**A028014**] • 1,32,671,11686,183561,2702868,38100595,520688018,6954616493,91281855808,1181868771447,15136545033246,192153235734097,2421636122 107052,30334353203856827,378040802156676970 ⋆ Expansion of 1/((1-2x)(1-7x)(1-11x)(1-12x)). • a(n)=(18 * 12 ^ (n + 3) - 25 * 11 ^ (n + 3) + 9 * 7 ^ (n + 3) - 2 ^ (n + 4)) / 900. [_ Yahia Kahloune _ , May 31 2013] •

[**A025031**] • 1,32,675,11830,186641,2752932,38765455,527869010,7009691181,91304772832,1171464693035,14850954198990,186462962442121,2322930268 904732,28754646814361415,354082225170989770 ⋆ Expansion of 1/((1-x)(1-9x)(1-10x)(1-12x)). • a(0)=1, a(1)=32, a(2)=675, a(3)=11830, a(n)=32 * a(n - 1) - 349 * a(n - 2) + 1398 * a(n - 3) - 1080 * a(n - 4) [From Harvey P. Dale, Jul 26 2011] • a(n) = (12 ^ (n + 4) - 44 * 10 ^ (n + 3) + 33 * 9 ^ (n + 3) - 1) / 792. [_ Yahia Kahloune _ , Jul 02 2013] •

[**A025008**] • 1,32,677,11932,189753,2826744,40267309,555414644,7478425985,98842456336,1287451399221,16573995013836,211336837165897,2673608205 348008,33601552555975613,419959636392460708 ⋆ Expansion of 1/((1-x)(1-8x)(1-11x)(1-12x)). • a(n) = (105 * 12 ^ (n + 3) - 154 * 11 ^ (n + 3) + 55 * 8 ^ (n + 3) - 6) / 4620. [_ Yahia Kahloune _ , Jul 02 2013] •

[**A223566**] • 32,1024,21952,379456,6071296,97140736,1554251776,24868028416,397888454656,6366215274496,101859444391936,1629751110270976,26076017 764335616,417216284229369856,6675460547669917696 ⋆ Number of nX5 0..1 arrays with antidiagonals unimodal • a(n) = product { (1 + (i * (i + 1) / 2)) ^ 2 , i=1..(min(n,5) - 1) } * (1 + (min(n,5) * (min(n,5) + 1) / 2)) ^ (max(n,5) - min(n,5) + 1) • a(n) = 16 * a(n - 1) for n>4 •

[**A158685**] • 32,1056,4128,9248,16416,25632,36896,50208,65568,82976,102432,123936,147488,173088,200736,230432,262176,295968,331808,369696,409632,451616,495648,541728,589856 ⋆ 32*(32*n^2+1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A265021**] • 0,32,1056,8832,41600,141600,390432,928256,1976832,3866400,7066400,12220032,20182656,32064032,49274400,73574400,107128832,152564256,213030432,292265600,394665600,525356832,690273056,896236032,1151040000 ⋆ Sum of fifth powers of the first n even numbers. • a(n) = 32 * Sum _{ i=0..n } i ^ 5 = (8 / 3) * n ^ 2 * (n + 1) ^ 2 * (2 * n ^ 2 + 2 * n - 1). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Vincenzo Librandi _ , Dec 01 2015 •

[**A194652**] • 0,0,0,32,1205,13260,74494,291708,908973,2416410,5711530,12327414,24743693,46797968,84216990,145288600,241697109,389546478,610597338,933745570,1396771845,2048393204,2950649438,4181658708,5838778525 ⋆ Number of ways to place 4 nonattacking kings on an n X n cylindrical chessboard. • a(n) = 1 / 24 * n * (n ^ 7 - 54 * n ^ 5 + 36 * n ^ 4 + 1019 * n ^ 3 - 1236 * n ^ 2 - 6690 * n + 10884), n>=5. •

[**A016793**] • 32,3125,32768,161051,537824,1419857,3200000,6436343,11881376,20511149,33554432,52521875,79235168,115856201,164916224,229345007,312500000,418195493,550731776,714924299,916132832 ⋆ (3*n+2)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). (End) •

[**A240446**] • 32,6726,166702,1895938,13790212,74380406,322961410,1188292304,3835115230,11126671552,29549197210,72828900336 ⋆ Numbers of ways to place six indistinguishable points on an n X n square grid so that no four of them are vertices of a square of any orientation. • a(n) = (n ^ 12 - 15 * n ^ 10 + 55 * n ^ 8 + 75 * n ^ 6) / 720 + O(n ^ 4). •

[**A016829**] • 32,7776,100000,537824,1889568,5153632,11881376,24300000,45435424,79235168,130691232,205962976,312500000,459165024,656356768,916132832,1252332576,1680700000,2219006624,2887174368 ⋆ (4n+2)^5. • a(0)=32, a(1)=7776, a(2)=100000, a(3)=537824, a(4)=1889568, a(5)=5153632, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) [From Harvey P. Dale, Aug 31 2011] •

[**A187240**] • 0,0,0,0,32,12944,867328,22522960,328097824,3209594096,23460698496,137045115696,670158151296,2835083100640,10634260782464,36033282628832,111923478184128,322412415716896,869530617762304,2212626780591008,5346773160475488,12336574243905648,27303885052866048 ⋆ Number of ways to place 8 nonattacking bishops on an n X n board. • a(n) = n ^ 16 / 40320 - n ^ 15 / 1080 + 7n ^ 14 / 432 - 1153n ^ 13 / 6480 + 53951n ^ 12 / 38880 - 187277n ^ 11 / 22680 + 106928053n ^ 10 / 2721600 - 13957093n ^ 9 / 90720 + 182160427n ^ 8 / 362880 - 8821499n ^ 7 / 6480 + 1176831457n ^ 6 / 388800 - 490477369n ^ 5 / 90720 + 8235592409n ^ 4 / 1088640 - 726205757n ^ 3 / 90720 + 1815275047n ^ 2 / 302400 - 7953419n / 2880 + 8491 / 16 + (- n ^ 10 / 960 + 5n ^ 9 / 144 - 307n ^ 8 / 576 + 1793n ^ 7 / 360 - 90571n ^ 6 / 2880 + 201911n ^ 5 / 1440 - 513865n ^ 4 / 1152 + 477841n ^ 3 / 480 - 4271471n ^ 2 / 2880 + 1269721n / 960 - 8491 / 16) * (- 1) ^ n. •

[**A016937**] • 32,32768,537824,3200000,11881376,33554432,79235168,164916224,312500000,550731776,916132832,1453933568,2219006624,3276800000,4704270176,6590815232,9039207968,12166529024,16105100000 ⋆ (6n+2)^5. • a(0)=32, a(1)=32768, a(2)=537824, a(3)=3200000, a(4)=11881376, a(5)=33554432, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Dec 13 2012 •

[**A017297**] • 32,248832,5153632,33554432,130691232,380204032,916132832,1934917632,3707398432,6590815232,11040808032,17623416832,27027081632,40074642432,57735339232,81136812032,111577100832 ⋆ (10*n+2)^5. • a(0)=32, a(1)=248832, a(2)=5153632, a(3)=33554432, a(4)=130691232, a(5)=380204032, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , May 24 2015 •

[**A140143**] • 1,33,34,1058,1059,8835,8836,41604,41605,141605,141606,390438,390439,928263,928264,1976840,1976841,3866409,3866410,7066410,7066411,12220043,12220044,20182668,20182669 ⋆ a(1)=1, a(n)=a(n-1)+n^0 if n odd, a(n)=a(n-1)+ n^5 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }+{ [1 + (- 1) ^ n] / 2 }* n ^ 5, with a(1)=1 a(n)=(1 / 8) - (1 / 8) * (- 1) ^ n - (5 / 8) * (- 1) ^ n * n ^ 2 - (1 / 24) * n ^ 2 + (1 / 2) * n + (1 / 12) * n ^ 6 + (1 / 4) * (- 1) ^ n * n ^ 5 + (1 / 4) * n ^ 5 + (5 / 8) * (- 1) ^ n * n ^ 4 + (5 / 24) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 • a(n)=a(n - 1) + 6a(n - 2) - 6a(n - 3) - 15a(n - 4) + 15a(n - 5) + 20a(n - 6) - 20a(n - 7) - 15a(n - 8) + 15a(n - 9) + 6a(n - 10) - 6a(n - 11) - a(n - 12) + a(n - 13). G.f.: x * (- 1 - 32 * x + 5 * x ^ 2 - 832 * x ^ 3 - 10 * x ^ 4 - 2112 * x ^ 5 + 10 * x ^ 6 - 832 * x ^ 7 - 5 * x ^ 8 - 32 * x ^ 9 + x ^ 10) / ((1 + x) ^ 6 * (x - 1) ^ 7). [From _ R. J. Mathar _ , Feb 22 2009] •

[**A041543**] • 1,1,33,34,1121,1155,38081,39236,1293633,1332869,43945441,45278310,1492851361,1538129671,50713000833,52251130504,1722749176961,1775000307465,58522759015841,60297759323306,1988051057361633,2048348816684939,67535213191279681 ⋆ Denominators of continued fraction convergents to sqrt(288). • a(n) = 34 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 20 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (32 + 4 * cos ^ 2(k * Pi / n)). •

[**A140147**] • 1,33,36,1060,1065,8841,8848,41616,41625,141625,141636,390468,390481,928305,928320,1976896,1976913,3866481,3866500,7066500,7066521,12220153,12220176,20182800,20182825 ⋆ a(1)=1, a(n)=a(n-1)+n^1 if n odd, a(n)=a(n-1)+ n^5 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n +{ [1 + (- 1) ^ n] / 2 }* n ^ 5, with a(1)=1 a(n)= - (1 / 4) * (- 1) ^ n * n - (5 / 8) * (- 1) ^ n * n ^ 2 + (5 / 24) * n ^ 2 + (1 / 4) * n + (1 / 12) * n ^ 6 + (1 / 4) * (- 1) ^ n * n ^ 5 + (1 / 4) * n ^ 5 + (5 / 8) * (- 1) ^ n * n ^ 4 + (5 / 24) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[**A140151**] • 1,33,42,1066,1091,8867,8916,41684,41765,141765,141886,390718,390887,928711,928936,1977512,1977801,3867369,3867730,7067730,7068171,12221803,12222332,20184956,20185581 ⋆ a(1)=1, a(n)=a(n-1)+n^2 if n odd, a(n)=a(n-1)+ n^5 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 2 +{ [1 + (- 1) ^ n] / 2 }* n ^ 5, with a(1)=1 a(n)= (- 1 / 8) - (1 / 4) * (- 1) ^ n * n + (1 / 8) * (- 1) ^ n + (1 / 6) * n ^ 3 - (7 / 8) * (- 1) ^ n * n ^ 2 + (5 / 24) * n ^ 2 + (1 / 12) * n + (1 / 12) * n ^ 6 + (1 / 4) * (- 1) ^ n * n ^ 5 + (1 / 4) * n ^ 5 + (5 / 8) * (- 1) ^ n * n ^ 4 + (5 / 24) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[**A140156**] • 1,33,60,1084,1209,8985,9328,42096,42825,142825,144156,392988,395185,933009,936384,1984960,1989873,3879441,3886300,7086300,7095561,12249193,12261360,20223984,20239609 ⋆ a(1)=1, a(n)=a(n-1)+n^3 if n odd, a(n)=a(n-1)+ n^5 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 3 +{ [1 + (- 1) ^ n] / 2 }* n ^ 5, with a(1)=1 a(n)= (- 3 / 16) + (3 / 16) * (- 1) ^ n - (1 / 4) * (- 1) ^ n * n ^ 3 + (1 / 4) * n ^ 3 - (- 1) ^ n * n ^ 2 + (1 / 12) * n ^ 2 + (1 / 12) * n ^ 6 + (1 / 4) * (- 1) ^ n * n ^ 5 + (1 / 4) * n ^ 5 + (5 / 8) * (- 1) ^ n * n ^ 4 + (1 / 3) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[**A154600**] • 33,61,93,129,169,213,261,313,369,429,493,561,633,709,789,873,961,1053,1149,1249,1353,1461,1573,1689,1809 ⋆ 2n^2 + 22n + 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 26 2012 •

[**A067705**] • 33,88,165,264,385,528,693,880,1089,1320,1573,1848,2145,2464,2805,3168,3553,3960,4389,4840,5313,5808,6325,6864,7425 ⋆ 11*n^2 + 22*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[A098923] • 0,1,33,96,190,315,471,658,876,1125,1405,1716,2058,2431,2835,3270,3736,4233,4761,5320,5910,6531,7183,7866,8580 ★ 33-gonal numbers: n(31n-29)/2. • a(n) = n(31n - 29) / 2. • a(n) = 31 * n + a(n - 1) - 30 (with a(0)=0). - _ Vincenzo Librandi _ , Nov 16 2010 •

[A195315] • 1,33,97,193,321,481,673,897,1153,1441,1761,2113,2497,2913,3361,3841,4353,4897,5473,6081,6721,7393,8097,8833,9601 ★ Centered 32-gonal numbers. • a(n) = 16 * n ^ 2 - 16 * n + 1. •

[A098441] • 1,1,33,97,1729,8001,105441,627873,6989697,48363649,488206753,3701949153,35289342529,283146701761,2610495177057,21695983405857,196218339243777,1667338615773441,14917038493453089,128562758660255073 ★ Expansion of 1/sqrt(1-2*x-63*x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k) * binomial(n, k) * 16 ^ k } . • a(n) = 4 ^ n * GegenbauerC(n, - n, - 1 / 8). - _ Peter Luschny _ , May 08 2016 • a(n) = hypergeometric2F1((1 - n) / 2, - n / 2, 1, 64). - _ G. C. Greubel _ , Feb 21 2017 •

[A140161] • 1,33,114,1138,1763,9539,11940,44708,51269,151269,165910,414742,443303,981127,1031752,2080328,2163849,4053417,4183738,7383738,7578219,12731851,13011692,20974316,21364941 ★ a(1)=1, a(n)=a(n-1)+n^4 if n odd, a(n)=a(n-1)+ n^5 if n is even. • a(n)=a(n - 1) +{ [1 - (- 1) ^ n] / 2 }* n ^ 4 +{ [1 + (- 1) ^ n] / 2 }* n ^ 5, with a(1)=1 a(n)= (- 1 / 8) + (1 / 4) * (- 1) ^ n * n + (1 / 8) * (- 1) ^ n - (1 / 2) * (- 1) ^ n * n ^ 3 + (1 / 6) * n ^ 3 - (5 / 8) * (- 1) ^ n * n ^ 2 - (1 / 24) * n ^ 2 - (1 / 60) * n + (1 / 12) * n ^ 6 + (1 / 4) * (- 1) ^ n * n ^ 5 + (7 / 20) * n ^ 5 + (3 / 8) * (- 1) ^ n * n ^ 4 + (11 / 24) * n ^ 4, with n>=1 - _ Paolo P. Lava _ , Jun 06 2008 •

[A158575] • 1,33,129,289,513,801,1153,1569,2049,2593,3201,3873,4609,5409,6273,7201,8193,9249,10369,11553,12801,14113,15489,16929,18433 ★ a(n) = 32*n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A036546] • 1,33,129,417,1281,3873,11649,34977,104961,314913,944769,2834337,8503041,25509153,76527489,229582497,688747521,2066242593,6198727809,18596183457,55788550401,167365651233,502096953729,1506290861217 ★ a(n) = T(5,n), array T given by A048471. • a(n) = 16 * 3 ^ n - 15. - _ Ralf Stephan _ , Feb 17 2004 • a(n) = 3 * a(n - 1) + 30. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[A158588] • 33,135,305,543,849,1223,1665,2175,2753,3399,4113,4895,5745,6663,7649,8703,9825,11015,12273,13599,14993,16455,17985,19583,21249 ★ 34n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A005904] • 1,33,155,427,909,1661,2743,4215,6137,8569,11571,15203,19525,24597,30479,37231,44913,53585,63307,74139,86141,99373,113895,129767,147049 ★ Centered dodecahedral numbers. • a(n) = (2 * n + 1) * (5 * n ^ 2 + 5 * n + 1). •

[A155883] • 1,33,173,505,1113,2081,3493,5433,7985,11233,15261,20153,25993,32865,40853,50041,60513,72353,85645,100473,116921,135073,155013,176825,200593 ★ The sequence gives the three-dimensional forms of the centered hexagonal numbers. Two examples: its third term 173 is built 19 + 37 + 61 + 37 + 19 and its fourth term 505 is built 37 + 61 + 91 + 127 + 91 + 61 + 37. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 30 2012 •

[A046142] • 1,33,185,553,1233,2321,3913,6105,8993,12673,17241,22793,29425,37233,46313,56761,68673,82145,97273,114153,132881,153553,176265,201113,228193 ★ Haüy rhombic dodecahedral numbers. • a(n) = (2 * n - 1) * (8 * n ^ 2 - 14 * n + 7). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. - _ Wesley Ivan Hurt _ , Mar 02 2016 •

[A294300] • 0,0,33,244,1300,4182,12201,27984,61776,117700,220825,374100,630708,985194,1539825,2266432,3347776,4708584,6657201,9033300,12333300,16256350,21571033,27758544,35970000 ★ Sum of the fifth powers of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor(n / 2) - ((n + 1) mod 2) } i ^ 5 + (n - i) ^ 5. • a(n) = (1 / 192) * (n ^ 2 * (- 16 + 80 * n ^ 2 - 3 * (33 + (- 1) ^ n) * n ^ 3 + 32 * n ^ 4)). • a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - 15 * a(n - 4) + 15 * a(n - 5) + 20 * a(n - 6) - 20 * a(n - 7) - 15 * a(n - 8) + 15 * a(n - 9) + 6 * a(n - 10) - 6 * a(n - 11) - a(n - 12) + a(n - 13) for n>13. •

[A271208] • 1,1,33,245,1027,3129,7781,16813,32775,59057,100009,161061,248843,371305,537837,759389,1048591,1419873,1889585,2476117,3200019,4084121,5153653,6436365,7962647 ★ a(n) = n^5 + n - 1. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a (n - 6), n > 5. (End) •

[A008515] • 1,33,275,1267,4149,10901,24583,49575,91817,159049,261051,409883,620125,909117,1297199,1807951,2468433,3309425,4365667,5676099,7284101,9237733,11589975,14398967,17728249 ★ 5-dimensional centered cube numbers. • a(n) = n ^ 5 + (n + 1) ^ 5 = 2 * n ^ 5 + 5 * n ^ 4 + 10 * n ^ 3 + 10 * n ^ 2 + 5 * n + 1. • a(n) = - a(- n - 1) = + 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). (End) •

[A179995] • 1,33,276,1299,4392,11925,27708,57351,108624,191817,320100,509883,781176,1157949,1668492,2345775,3227808,4358001,5785524,7565667,9760200,12437733,15674076,19552599,24164592 ★ Generating function A(5,t)(1+t+t^2)/(1-t)^6, where A(5,t) is an Eulerian polynomial. • a(n) = n * (3 * n ^ 4 + 20 * n ^ 2 + 10) for n>0, a(0)=1. (End) • a(0)=1, a(1)=33, a(2)=276, a(3)=1299, a(4)=4392, a(5)=11925, a(6)=27708; for n>6, a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Apr 10 2015 •

[A000539] • 0,1,33,276,1300,4425,12201,29008,61776,120825,220825,381876,630708,1002001,1539825,2299200,3347776,4767633,6657201,9133300,12333300,16417401,21571033,28007376,35970000 ★ Sum of 5th powers: 0^5 + 1^5 + 2^5 + ... + n^5. • a(n) = n ^ 2 * (n + 1) ^ 2 * (2 * n ^ 2 + 2 * n - 1) / 12. • a(n) = sqrt(Sum _{ j=1..n } Sum _{ i=1..n } (i * j) ^ 5). - _ Alexander Adamchuk _ , Oct 26 2004 • a(n) = Sum _{ i = 1..n } J _ 5(i) * floor(n / i), where J _ 5 is A059378. - _ Enrique Pérez Herrero _ , Feb 26 2012 • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + 120. - _ Ant King _ , Sep 23 2013 • a(n) = 120 * C(n + 3,6) + 30 * C(n + 2,4) + C(n + 1,2) (Knuth). - _ Gary Detlefs _ , Jan 02 2014 • a(n) = - Sum _{ j=1..5 } j * s(n + 1,n + 1 - j) * S(n + 5 - j,n)), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 •

[A023874] • 1,1,33,276,1828,12729,88903,582846,3690325,22864592,138658796,822374485,4781447342,27314310586,153519181630,849786024496,4637270263913,24970548655999,132788838463944,697863705334941,3626864249759775,18650694625385462,94948991121030892 ★ Expansion of Product_{k>=1} (1 - x^k)^(-k^5). • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 6(k) * a(n - k). - _ Seiichi Manyama _ , Mar 05 2017 •

[A257450] • 1,33,277,1335,4771,14193,37417,90795,207871,456693,974437,2036655,4195771,8558073,17337697,34964595,70300471,141070653,282727837,566179575,1133243251,2267556033,4536394777,9074315835,18150434671 ★ a(n) = 541*(2^n - 1) - 5*n^4 - 30*n^3 - 130*n^2 - 375*n. • a(n) = 7 * a(n - 1) - 20 * a(n - 2) + 30 * a(n - 3) - 25 * a(n - 4) + 11 * a(n - 5) - 2 * a(n - 6) for n>6. •

[A209359] • 0,1,33,357,2405,12405,53877,207541,731829,2411445,7531445,22523829,64991157,181977013,496680885,1326120885,3473604533,8947236789,22706651061,56869519285,140755599285,344683708341,835954147253,2009692372917,4792831180725 ★ a(n) = 2^n * (n^4 - 4*n^3 + 18*n^2 - 52*n + 75) - 75. • a(n) = (1 / 2) * Sum _{ k=0..n } Sum _{ i=0..n } k ^ 4 * C(k,i). - _ Wesley Ivan Hurt _ , Sep 21 2017 •

[A085742] • 0,0,33,372,2070,7860,23415,58968,131292,266040,500445,886380,1493778,2414412,3766035,5696880,8390520,12071088,17008857,23526180,32003790,42887460,56695023,74023752,95558100 ★ T(n^3)-T(n), where T() are the triangular numbers (A000217). • a(n) = (n - 1) * n * (n + 1) * (n ^ 3 + n + 1) / 2. •

[A244502] • 33,378,2190,9110,30300,85563,213293,482085,1006950,1971185,3655053,6472533,11017505,18120840,28919970,44942618,68206473,101336700,147703280,211580280,298329258,414609113,568614795,770347395,1031918240 ★ Number of ways to place 4 points on an n X n X n triangular grid so that no pair of them has distance sqrt(3). • a(n) = 1 / 384 * n ^ 8 + 1 / 96 * n ^ 7 - 13 / 64 * n ^ 6 + 5 / 48 * n ^ 5 + 875 / 128 * n ^ 4 - 2543 / 96 * n ^ 3 - 4141 / 96 * n ^ 2 + 3759 / 8 * n - 837, for n >= 5. •

[A058796] • 33,492,2055,5898,13797,28248,52587,91110,149193,233412,351663,513282,729165,1011888,1375827,1837278,2414577,3128220,4000983,5058042,6327093,7838472,9625275,11723478,14172057 ★ Row 5 of A007754. • a(n) = 33 + 173 * n + 189 * n ^ 2 + 81 * n ^ 3 + 15 * n ^ 4 + n ^ 5. G.f.: 3 * (6 * x ^ 5 - 37 * x ^ 4 + 96 * x ^ 3 - 134 * x ^ 2 + 98 * x + 11) / (x - 1) ^ 6. [_ Colin Barker _ , Jan 16 2013] •

[A076684] • 1,33,609,10945,196417,3524577,63245985,1134903169,20365011073,365435296161,6557470319841,117669030460993,2111485077978049,37889062373143905,679891637638612257,12200160415121876737 ★ Odd terms in A027941. • a(n)=F(6n + 3) - 1 where F(k) denotes the k - th Fibonacci number •

[A028210] • 1,33,685,11445,168301,2275413,28994365,353654565,4172013901,47945991093,539606148445,5970648969285,65146124616301,702577801647573,7503184109388925,79467822863509605,835719501138799501 ★ Expansion of 1/((1-6x)(1-8x)(1-9x)(1-10x)). • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 4 * 8 ^ n - 3 * 6 ^ n, n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 9 * 6 ^ n + 125 * 10 ^ n + 2 * 8 ^ (n + 2) - 3 * 9 ^ (n + 2). - R. J. Mathar, Mar 18 2011 •

[A028205] • 1,33,688,11598,172879,2380371,31036006,389148576,4740682837,56509956789,662486064604,7666900074834,87835709417275,998290939845687,11274360941128882,126686827598516772,1417790522653118593 ★ Expansion of 1/((1-6x)(1-7x)(1-9x)(1-11x)). • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 3 * 9 ^ (n + 2) / 4 + 11 ^ (n + 3) / 40 + 7 ^ (n + 3) / 8 - 2 * 6 ^ (n + 2) / 5. - R. J. Mathar, Mar 18 2011 •

[A028191] • 1,33,690,11690,175371,2432283,31956940,403804980,4956450741,59506980533,702298022790,8177594495070,94207230682111,1076026739628783,1220573690655024 0,13768186503736196 0 ★ Expansion of 1/((1-5x)(1-8x)(1-9x)(1-11x)). • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + (8 ^ (n + 1) - 5 ^ (n + 1)) / 3, n >= 2. - _ Vincenzo Librandi _ , Mar 12 2011 • a(n) = (8 ^ (n + 4) - 9 ^ (n + 4) + 2 * 11 ^ (n + 3) - 5 ^ (n + 3)) / 72. - _ Bruno Berselli _ , Mar 12 2010 • a(0)=1, a(1)=33, a(2)=690, a(3)=11690, a(n) = 33 * a(n - 1) - 399 * a(n - 2) + 2087 * a(n - 3) - 3960 * a(n - 4). - _ Harvey P. Dale _ , May 15 2011 •

[A028203] • 1,33,691,11757,177835,2499021,33451867,433216509,5483226857,68297761389,841179979003,10278678991581,124904130163723,1511929278991437,18252066460636699,219926530250218173 ★ Expansion of 1/((1-6x)(1-7x)(1-8x)(1-12x)). • a(n) = 20 * a(n - 1) - 96 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 8 ^ (n + 2) - 3 * 6 ^ (n + 1) + 6 * 12 ^ (n + 1) / 5 + 7 ^ (n + 3) / 5. - R. J. Mathar, Mar 14 2011 •

[A028186] • 1,33,694,11898,181747,2582715,34981048,458355876,5866720453,73835049717,917894484442,11308397377134,138391574753719,1685252212876239,20446364918965276,247382964478976472 ★ Expansion of 1/((1-5x)(1-7x)(1-9x)(1-12x)). • a(n)=(8 * 12 ^ (n + 3) - 35 * 9 ^ (n + 3) + 6 * 7 ^ (n + 4) - 3 * 5 ^ (n + 4)) / 840. [_ Yahia Kahloune _ , Jun 04 2013] •

[A028158] • 1,33,695,11925,181911,2572893,34540735,446515125,5610825671,68978848653,833511432975,9933242415525,117049255275031,1366477139586813,15829397675656415,182175233504671125 ★ Expansion of 1/((1-4x)(1-

8x)(1-10x)(1-11x)). • a(n)=(8 * 11 ^ (n + 3) - 14 * 10 ^ (n + 3) + 7 * 8 ^ (n + 3) - 4 ^ (n + 3)) / 168. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028157] • 1,33,697,12033,185353,2657361,36306649,479622561,6184444585,78342273009,979414153081,12123907404609,148962749140297,1819935176767377,22139457629549593,268445978800100577 ★ Expansion of 1/((1-4x)(1-8x)(1-9x)(1-12x)). • a(0)=1, a(1)=33, a(2)=697, a(3)=12033, a(n)=33 * a(n - 1) - 392 * a(n - 2) + 1968 * a(n - 3) - 3456 * a(n - 4) [From Harvey P. Dale, Mar 01 2012] • a(n)=(5 * 12 ^ (n + 3) - 32 * 9 ^ (n + 3) + 30 * 8 ^ (n + 3) - 3 * 4 ^ (n + 3)) / 480. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028153] • 1,33,699,12133,188307,2724645,37614403,502459221,6553738323,83980945477,1061789912547,13286272788789,164915485814899,2034013938152229,24960030504150531,305050074724911637 ★ Expansion of 1/((1-4x)(1-7x)(1-10x)(1-12x)). • a(n)=(9 * 12 ^ (n + 3) - 2 * 10 ^ (n + 4) + 16 * 7 ^ (n + 3) - 5 * 4 ^ (n + 3)) / 720. - _ Yahia Kahloune _ , Jun 11 2013 •

[A028105] • 1,33,700,12150,187951,2698923,36799570,483082800,6161352901,76830423813,940920228040,11355049670250,135378462029851,1597705036844703,18694490136746110,217145575509718500 ★ Expansion of 1/((1-3x)(1-9x)(1-10x)(1-11x)). • a(n) = (21 * 11 ^ (n + 3) - 48 * 10 ^ (n + 3) + 28 * 9 ^ (n + 3) - 3 ^ (n + 3)) / 336. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028103] • 1,33,703,12309,192943,2819949,39304711,529663893,6962879935,89838427965,1142617774519,14370723472677,179151734300527,2217730946235981,27298909572676327,334504592037294261 ★ Expansion of 1/((1-3x)(1-8x)(1-10x)(1-12x)). • a(n)=(35 * 12 ^ (n + 3) - 9 * 10 ^ (n + 4) + 63 * 8 ^ (n + 3) - 8 * 3 ^ (n + 3)) / 2520. [_ Yahia Kahloune _ , Jun 11 2013] •

[A028144] • 1,33,703,12333,194239,2860821,40291111,549874221,7333588207,96118840389,1242878986999,15899609772189,201637495269055,2538952949123637,31780003009949767,395799688351994637 ★ Expansion of 1/((1-4x)(1-6x)(1-11x)(1-12x)). • a(n)=(35 * 12 ^ (n + 3) - 48 * 11 ^ (n + 3) + 28 * 6 ^ (n + 3) - 15 * 4 ^ (n + 3)) / 1680. [_ Yahia Kahloune _ , Jun 03 2013] •

[A028098] • 1,33,706,12462,197575,2928471,41480272,568927644,7620023389,100232692989,1300003138798,16672816906746,211898596387843,2673025439802387,33510157279049884,417902567586112968 ★ Expansion of 1/((1-3x)(1-7x)(1-11x)(1-12x)). • a(n)=(32 * 12 ^ (n + 3) - 45 * 11 ^ (n + 3) + 18 * 7 ^ (n + 3) - 5 * 3 ^ (n + 3)) / 1440. [_ Yahia Kahloune _ , Jun 10 2013] •

[A028022] • 1,33,709,12573,199957,2966205,41944933,572993421,7627809013,99550699677,1279261319557,16238012145069,204088032533269,2544643371529149,31521003288514981,388369584933658317 ★ Expansion of 1/((1-2x)(1-9x)(1-10x)(1-12x)). • a(n) = (28 * 12 ^ (n + 3) - 105 * 10 ^ (n + 3) + 80 * 9 ^ (n + 3) - 3 * 2 ^ (n + 3)) / 1680. [_ Yahia Kahloune _ , May 22 2013] •

[A028020] • 1,33,711,12677,203175,3043341,43527247,602201829,8127414999,107618860349,1403846663583,18094236941781,230951316035623,2924174000253357,36776292351134319,459910668538753733 ★ Expansion of 1/((1-2x)(1-8x)(1-11x)(1-12x)). • a(n)=(27 * 12 ^ (n + 3) - 40 * 11 ^ (n + 3) + 15 * 8 ^ (n + 3) - 2 ^ (n + 4)) / 1080. [_ Yahia Kahloune _ , May 29 2013] •

[A025130] • 1,33,718,12978,211099,3208611,46530856,652053876,8903593717,119147391909,1569038275714,20395728301494,262306431768655,3343671393938727,42305729458640092,531898781072416632 ★ Expansion of 1/((1-x)(1-9x)(1-11x)(1-12x)). • a(n)=(80 * 12 ^ (n + 3) - 132 * 11 ^ (n + 3) + 55 * 9 ^ (n + 3) - 3) / 2640. [_ Yahia Kahloune _ , May 29 2013]. •

[A081141] • 0,0,1,33,726,13310,219615,3382071,49603708,701538156,9646149645,129687123005,1711870023666,22254310307658,285596982281611,3624884775112755,45569980029988920,568105751040528536 ★ 11th binomial transform of (0,0,1,0,0,0,.....). • a(n)=33a(n - 1) - 363a(n - 2) + 1331a(n - 3), a(0)=a(1)=0, a(2)=1. a(n)=11 ^ (n - 2)C(n, 2). G.f. x ^ 2 / (1 - 11x) ^ 3. •

[A021021] • 1,33,727,13365,221431,3428733,50631967,721942485,10021257511,136192514733,1819621847407,23973890545605,312209398691191,4026262617877533,51492399583946047,653585524870924725 ★ Expansion of 1/((1-10x)(1-11x)(1-12x)). • a(n) = 33 * a(n - 1) - 362 * a(n - 2) + 1320 * a(n - 3), n>=3. - Vincenzo Librandi, Mar 18 2011 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 10 ^ n, n>=2. - Vincenzo Librandi, Mar 18 2011 • a(n) = 6 * 12 ^ (n + 1) - 11 ^ (n + 2) + 5 * 10 ^ (n + 1). - R. J. Mathar, Mar 18 2011 •

[A014931] • 1,33,801,17185,344865,6636321,124076833,2271560481,40926266145,728121033505,12822748939041,223929891472033,3883103678710561,66933498461897505,1147797409030816545,19594541482740368161 ★ a(1)=1, a(n)=n*16^(n-1)+a(n-1). • a(n) = (1 + 16 ^ n * (15 * n - 1)) / 225 [From _ Paolo P. Lava _ , Jan 13 2009] •

[A158688] • 33,1122,4389,9834,17457,27258,39237,53394,69729,88242,108933,131802,156849,184074,213477,245058,278817,314754,352869,393162,435633,480282,527109,576114,627297 ★ 1089n^2 + 33. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A281239] • 34,38,66,102,162,358,578,934,2082,3366,5442,12134,19618,31718,70722,114342,184866,412198,666434,1077478,2402466,3884262,6280002,14002598,22639138 ★ Solutions x to the negative Pell equation y^2 = 72*x^2 - 83232 with x,y >= 0. • a(n) = 6 * a(n - 3) - a(n - 6) for n>6. •

[A074757] • 34,46,62,74,86,94,142,188,202,214,218,231,243,244,262,278,302,356,375,394,422,423,428,436,446 ★ Numbers n such that tau(n) = (tau(n+1)+tau(n-1))/2. • a(n) seems to be asymptotic to c * n with c around 23 •

[A241520] • 34,55,123,144,212,233,301,322,390,411,479,500,568,589,657,678,746,767,835,856,924,945,1013,1034,1102 ★ Numbers n such that n^2 == -1 (mod 89). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. • a(n) = a(n - 2) + 89 for all n>2. • a(n) = - 34 * (- 1) ^ n + 89 * floor(n / 2). •

[A280931] • 34,62,96,158,254,412,666,1078,1744,2822,4566,7388,11954,19342,31296,50638,81934,132572,214506,347078,561584,908662,1470246,2378908,3849154 ★ a(n) = 2*F(n-1) + 9*F(n-4) + 9*F(n-7) where n >= 7 and F = A000045. • a(n) = a(n - 1) + a(n - 2). •

[A277113] • 34,68,102,137,171,205,239,274,308,342,376,411,445,479,513,548,582,616,650,685,719,753,787,822,856 ★ a(n) = floor(n/(1-Pi/(sqrt(5)+1))). • a(n) = floor(n / (1 - Pi / (sqrt(5) + 1))). •

[A063331] • 1,34,70,105,140,175,210,243,280,313,350,385,420,451,490,523,560,593,630,661,700,731,770,803,840 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(58). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A079863] • 34,70,144,296,608,1248,2560,5248,10752,22016,45056,92160,188416,385024,786432,1605632,3276800,6684672,13631488,27787264,56623104,115343360,234881024,478150656,973078528 ★ a(n) is the number of occurrences of 11s in the palindromic compositions of m=2*n-1 = the number of occurrences of 12s in the palindromic compositions of m=2*n. • a(n) = (n + 22) * 2 ^ (n - 12). • a(n) = 4 * a(n - 1) - 4 * a(n - 2) for n>13. •

[A213025] • 34,86,94,122,142,185,194,202,214,218,262,289,302,314,321,358,371,394,407,413,415,422,446,471,489 ★ Balanced semiprimes (of order one): semiprimes which are the average of the previous semiprime and the following semiprime. • a(n) = 1 / 3 * (sp(i) + sp(i + 1) + sp(i + 2), for some i(n). •

[A165222] • 34,99,325,1161,4369,16929,66625,264321,1052929,4203009,16794625,67143681,268505089,1073881089,4295245825,17180426241,68720590849,274880135169,1099516084225,4398055424001,17592203870209,70368779829249 ★ a(n) = (2^(n+4)+1)*(2^n+1). • a(n) = 7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). G.f.: (34 - 139 * x + 108 * x ^ 2) / ((1 - x) * (2 * x - 1) * (4 * x - 1)). - R. J. Mathar, Sep 20 2009 •

[A173308] • 0,34,102,204,340,510,714,952,1224,1530,1870,2244,2652,3094,3570,4080,4624,5202,5814,6460,7140,7854,8602,9384,10200 ★ 17*n*(n+1). • a(0)=0, a(1)=34, a(2)=102, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: 34 * x / (1 - x) ^ 3. - _ Colin Barker _ , Jan 25 2012 •

[A216308] • 34,127,202,223,226,265,352,355,412,433,454,463,496,619,694,730,838,853,859,967,976,1000,1003,1042,1093 ★ Values of n such that 10*n+7 and 10*n+9 are the only primes between 10*n and 10*n+9. • a(n) >> n log ^ 2 n . - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A010021] • 1,34,130,290,514,802,1154,1570,2050,2594,3202,3874,4610,5410,6274,7202,8194,9250,10370,11554,12802,14114,15490,16930,18434 ★ a(0) = 1, a(n) = 32*n^2 + 2 for n>0. • a(n) = (4n + 1) ^ 2 + (4n - 1) ^ 2 for n>0. [_ Bruno Berselli _ , Jun 24 2014] •

[A158062] • 34,140,318,568,890,1284,1750,2288,2898,3580,4334,5160,6058,7028,8070,9184,10370,11628,12958,14360,15834,17380,18998,20688,22450 ★ 36n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 11 2012 •

[A153465] • 34,142,574,2302,9214,36862,147454,589822,2359294,9437182,37748734,150994942,603979774,2415919102,9663676414,38654705662,154618822654,618475290622,2473901162494,9895604649982,39582418599934,158329674399742,633318697598974,2533274790395902 ★ 9*4^n - 2. • a(n) = 5 * a(n - 1) - 4 * a(n - 2). •

[A192398] • 1,34,153,436,985,1926,3409,5608,8721,12970,18601,25884,35113,46606,60705,77776,98209,122418,150841,183940,222201,266134,316273,373176,437425 ★ a(n) = n^4 + 3*n^3 - 3*n. • a(n) = binomial transform of [1, 33, 86, 78, 24, 0, 0, 0,...]. • a(n) = lower right term in the 2 X 2 matrix M ^ 4, M = {{ 1,n - 1 }{ 1,n }} . • a(n) = ((n - 1) + a) * ((n - 1) + b) * ((n - 1) + c) * ((n - 1) + d), where a, b, c, d, = { k=1,2,3,4 } 4 * cos ^ 2 (2 * Pi * k) / 9. •

[A028470] • 1,34,153,2245,14824,167089,1292697,12988816,108435745,1031151241,8940739824,82741005829,731164253833,6675498237130,59554200469113,540061286536921,4841110033666048,43752732573098281,393139145126822985,3547073578562247994,31910388243436817641 ★ Number of perfect matchings in graph P_{8} X P_{n}. • a(1) = 1, • a(2) = 34, • a(3) = 153, • a(4) = 2245, • a(5) = 14824, • a(6) = 167089, •

[A191593] • 1,34,169,478,1033,1906,3169,4894,7153,10018,13561,17854,22969,28978,35953,43966,53089,63394,74953,87838,102121,117874,135169,154078,174673 ★ Number of partitions of 12*n into parts <5 • a(n)=12 * n ^ 3 + 15 * n ^ 2 + 6 * n + 1. •

[A063652] • 1,1,34,171,2115,16334,159651,1382259,12727570,113555791,1029574631,9258357134,83605623809,753361554685,6795928721858,61270295494859,552555688390363,4982395765808506,44929655655496287,405145692220245539 ★ Number of ways to tile an 8 X n rectangle with 1 X 1 and 2 X 2 tiles. • a(n) = 6a(n - 1) + 50a(n - 2) - 171a(n - 3) - 514a(n - 4) + 1800a(n - 5) + 845a(n - 6) - 5430a(n - 7) + 704a(n - 8) + 6175a(n - 9) - 1762a(n - 10) - 2810a(n - 11) + 870a(n - 12) + 392a(n - 13) - 120a(n - 14). - Keith Schneider (kschneid(AT)bulldog.unca.edu), Apr 02 2006 •

[A269237] • 1,34,189,616,1525,3186,5929,10144,16281,24850,36421,51624,71149,95746,126225,163456,208369,261954,325261,399400,485541,584914,698809,828576,975625 ★ a(n) = (n + 1)^2*(5*n^2 + 10*n + 2)/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A081219] • 1,34,259,1092,3333,8294,17927,34952,62985,106666,171787,265420,396045,573678,809999,1118480,1514513,2015538,2641171,3413332,4356373,5497206,6865431,8493464,10416665 ★ One sixtieth the product of primitive Pythagorean triangles' sides whose odd values differ by 2. • a(n) = n * (16 * n ^ 4 - 1) / 15. •

[A101092] • 1,34,310,1610,6035,18236,47244,109020,229845,450670,832546,1463254,2465255,4005080,6304280,9652056,14419689,21076890,30210190,42543490,58960891,80531924,108539300,144509300,190244925 ★ Second partial sums of fifth powers (A000584). • a(n) = (n * (1 + n) * (2 + n) * (- 1 + n * (2 + n)) * (1 + 2 * n * (2 + n))) / 84. • a(n) = Sum _{ i=1..n } i * (n + 1 - i) ^ 5

, by the definition. - _ Bruno Berselli _ , Jan 31 2014 • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 5. - _ Luciano Ancora _ , Jan 08 2015 •

[A244881] • 1,34,353,2037,8272,26585,72302,173502,377739,760804,1437799,2576795,4415346,7280131,11609996,17982668,27145413,40049910,57891613,82153873,114657092,157613181,213685594,286055210,378492335 ⋆ Expansion of (1 + 26*x + 109*x^2 + 109*x^3 + 26*x^4 + x^5) / (1 - x)^8. • a(n) = (2520 + 11526 * n + 22617 * n ^ 2 + 24724 * n ^ 3 + 16275 * n ^ 4 + 6454 * n ^ 5 + 1428 * n ^ 6 + 136 * n ^ 7) / 2520. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. •

[A168122] • 0,1,34,369,2056,7825,23346,58849,131104,265761,500050,885841,1493064,2413489,3764866,5695425,8388736,12068929,17006274,23523121,32000200,42883281,56690194,74018209,95551776 ⋆ n^2*(n^4+1)/2. • a(0)=0, a(1)=1, a(2)=34, a(3)=369, a(4)=2056, a(5)=7825, a(6)=23346; for n>6, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Apr 21 2014 •

[A244495] • 1,34,451,3380,17531,70466,235014,679722,1757085,4147792,9084361,18683314,36421463,67798940,121239308,209285436,350158809,569759574,904194895,1402934104,2132700691,3182223374,4667981330,6741092150,9595505205 ⋆ Number of 3 X 3 matrices of nonnegative integer entries with all row and column sums <= n. • a(k) = 1 + (25 / 6) * k + (3337 / 420) * k ^ 2 + (13777 / 1512) * k ^ 3 + (3289 / 480) * k ^ 4 + (9983 / 2880) * k ^ 5 + (281 / 240) * k ^ 6 + (73 / 288) * k ^ 7 + (107 / 3360) * k ^ 8 + (107 / 60480) * k ^ 9. - _ Robert Israel _ , Jul 06 2014 •

[A277226] • 1,34,464,3182,14769,53044,158976,416140,980625,2124310,4295376,8199674,14907809,25992232,43700224,71167704,112680801,173990730,262690000,388656070,564571601,806527964,1134722304,1574255332,2156041329 ⋆ Number of inequivalent (modulo C_4 rotations) square n X n grids with squares coming in two colors and four squares have one of the colors. • a(n) = (n ^ 8 - 6 * n ^ 6 + 14 * n ^ 4) / 96 for n even. • a(n) = (n ^ 8 - 6 * n ^ 6 + 14 * n ^ 4 - 6 * n ^ 2 - 3) / 96 for n odd. (End) • a(n) = (C(n ^ 2,4) + C(n ^ 2 / 2,2) + n ^ 2 / 2) / 4 for n even, • a(n) = (C(n ^ 2,4) + C((n ^ 2 - 1) / 2,2) + (n ^ 2 - 1) / 2) / 4 for n odd. (End) •

[A035712] • 1,34,578,6562,56066,385186,2220098,11058466,48663554,192441122,693230658,2300164770,7094825730,20501991330,55871829570,144411206178,355761664002,838944980514,1900906442306,4152257037218,8769652761346,17955289409186,35721495233602 ⋆ Coordination sequence for 17-dimensional cubic lattice. • a(n) = (2 * (638512875 + 4851868680 * n ^ 2 + 4215249348 * n ^ 4 + 1045091320 * n ^ 6 + 99734206 * n ^ 8 + 4181320 * n ^ 10 + 80444 * n ^ 12 + 680 * n ^ 14 + 2 * n ^ 16)) / 638512875 for n>0. - _ Colin Barker _ , Apr 20 2017 •

[A020928] • 1,34,646,9044,104006,1040060,9360540,77558760,601080390,4407922860,30855460020,207573094680,1349225115420,8510496881880,52278766560120,313672599360720,1842826521244230,10623352887172620 ⋆ Expansion of 1/(1-4*x)^(17/2). • a(n) = ((2 * n + 15) * (2 * n + 13) * (2 * n + 11) * (2 * n + 9) * (2 * n + 7) * (2 * n + 5) * (2 * n + 3) * (2 * n + 1) / 2027025) * Binomial(2 * n, n). - _ Vincenzo Librandi _ , Jul 05 2013 •

[A016109] • 1,34,725,12410,186501,2571114,33339685,413066170,4941549701,57504755594,654463491045,7314256515930,80522026412101,875355238834474,9415203971344805,100355146006589690 ⋆ Expansion of 1/((1-7x)(1-8x)(1-9x)(1-10x)). • a(n) = 19 * a(n - 1) - 90 * a(n - 2) + 8 ^ (n + 1) - 7 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = (10 ^ (n + 3) - 3 * 9 ^ (n + 3) + 3 * 8 ^ (n + 3) - 7 ^ (n + 3)) / 6. - Bruno Berselli, Mar 12 2011 • a(0)=1, a(1)=34, a(2)=725, a(3)=12410, a(n)=34 * a(n - 1) - 431 * a(n - 2) + 2414 * a(n - 3) - 5040 * a(n - 4) [From Harvey P. Dale, Jan 26 2012] •

[A028211] • 1,34,729,12614,192605,2711058,36061873,460391518,5699774949,68923376522,818303379257,9575924656662,110774806146733,1269639423098626,14443439746998081,163313818986599246 ⋆ Expansion of 1/((1-6x)(1-8x)(1-9x)(1-11x)). • a(n) = 20 * a(n - 1) - 99 * a(n - 2) + 2 ^ n * (4 ^ (n + 1) - 3 ^ (n + 1)), n>=2. - Vincenzo Librandi, Mar 14 2011 • a(n) = 2 ^ (3 * n + 8) / 3 + 11 ^ (n + 3) / 30 - 6 ^ (n + 2) / 5 - 3 ^ (2 * n + 5) / 2. - R. J. Mathar, Mar 14 2011 •

[A028207] • 1,34,731,12716,195657,2781030,37422967,484054192,6078887573,74632686986,900223323363,10706758727028,125901196014049,1466781515230702,16957557634824719,194793155476604024 ⋆ Expansion of 1/((1-6x)(1-7x)(1-10x)(1-11x)). • a(n) = (- 54 / 5) * 6 ^ n + (343 / 12) * 7 ^ n - (250 / 3) * 10 ^ n + (1331 / 20) * 11 ^ n. - _ N. J. A. Sloane _ , Mar 14 2011 • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), a(0)=1, a(1)=34. - Vincenzo Librandi, Mar 13 2011 •

[A028193] • 1,34,733,12810,198261,2836554,38431933,500511850,6327324421,78172168074,948456878733,11341481077290,134023690999381,1568398573483594,18205481984727133,209885052725681130 ⋆ Expansion of 1/((1-5x)(1-8x)(1-10x)(1-11x)). • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + (8 ^ (n + 1) - 5 ^ (n + 1)) / 3, n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = (8 ^ (n + 3) + 11 ^ (n + 3) - 18 * 10 ^ (n + 2) - 5 ^ (n + 2)) / 18. - Bruno Berselli, Mar 12 2011 •

[A028206] • 1,34,733,12826,199213,2869258,39283021,519148762,6689833645,84640449322,1056561931789,13058296545658,160199367141997,1954490541959626,23747047106341837,287633422522201114 ⋆ Expansion of 1/((1-6x)(1-7x)(1-9x)(1-12x)). • a(n) = 21 * a(n - 1) - 108 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = 7 ^ (n + 3) / 10 - 9 ^ (n + 2) / 2 - 2 * 6 ^ (n + 1) + 8 * 12 ^ (n + 1) / 5. - R. J. Mathar, Mar 18 2011 •

[A028192] • 1,34,735,12920,201821,2925054,40302475,535908340,6945496041,88331974874,1107704935415,13744775469360,169190996868661,2070039164549494,25209912745227555,305937712008039980 ⋆ Expansion of 1/((1-5x)(1-8x)(1-9x)(1-12x)). • a(n) = 21 * a(n - 1) - 108 * a(n - 2) + (8 ^ (n + 1) - 5 ^ (n + 1)) / 3, n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = (7 * 8 ^ (n + 3) - 7 * 9 ^ (n + 3) + 12 ^ (n + 3) - 5 ^ (n + 3)) / 84. - Bruno Berselli, Mar 12 2011 •

[A028161] • 1,34,737,12998,203493,2949042,40498969,534679966,6850824365,85749662570,1053427606881,12745999413654,152297310673717,1800758893450018,21104410600012073,245479747499528462 ⋆ Expansion of 1/((1-4*x)*(1-9*x)*(1-10*x)*(1-11*x)). • a(n) = (7 * 3 ^ (5 + 2 * n) - 4 ^ (2 + n) - 7 * 2 ^ (2 + n) * 5 ^ (3 + n) + 15 * 11 ^ (2 + n)) / 210. - _ Harvey P. Dale _ , Jun 18 2011 • a(n) = 34 * a(n - 1) - 419 * a(n - 2) + 2186 * a(n - 3) - 3960 * a(n - 4), n>=4. - _ Vincenzo Librandi _ , Mar 16 2011 • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + (9 ^ (n + 1) - 4 ^ (n + 1)) / 5), a(0)=1, a(1)=34. - _ Vincenzo Librandi _ , Mar 16 2011 •

[A028188] • 1,34,737,13022,204885,2995842,41695033,560476774,7346285309,94497418730,1198353224289,15030879260046,186924790959973,2308975949692498,28368854500004105,347054225208330038 ⋆ Expansion of 1/((1-5x)(1-7x)(1-10x)(1-12x)). • a(n)=(3 * 12 ^ (n + 3) - 7 * 10 ^ (n + 3) + 7 ^ (n + 4) - 3 * 5 ^ (n + 3)) / 210. [_ Yahia Kahloune _ , May 29 2013]. •

[A028159] • 1,34,740,13160,208656,3075744,43147840,584341120,7711252736,99794799104,1272281687040,16031996897280,200167551471616,2480945949220864,30569500530851840,374885865442672640 ⋆ Expansion of 1/((1-4x)(1-8x)(1-10x)(1-12x)). • a(0)=1, a(1)=34, a(2)=740, a(3)=13160, a(n)=34 * a(n - 1) - 416 * a(n - 2) + 2144 * a(n - 3) - 3840 * a(n - 4) [From Harvey P. Dale, Oct 21 2011] • a(n)=(3 * 12 ^ (n + 3) - 8 * 10 ^ (n + 3) + 6 * 8 ^ (n + 3) - 4 ^ (n + 3)) / 192. [_ Yahia Kahloune _ , May 27 2013]. •

[A028179] • 1,34,741,13226,211037,3139050,44543077,611425162,8191217133,107740573226,1397106491573,17913626282058,227607187590589,2870438906000362,35976385743457029,448561605029480714 ⋆ Expansion of 1/((1-5x)(1-6x)(1-11x)(1-12x)). • a(n)=(5 * 12 ^ (n + 3) - 7 * 11 ^ (n + 3) + 7 * 6 ^ (n + 3) - 5 ^ (n + 4)) / 210. [_ Yahia Kahloune _ , May 29 2013] •

[A028154] • 1,34,743,13316,213453,3189558,45453091,626299192,8418437225,111046371722,1443490546719,18546769677228,236067224376517,2981598548144926,37417475152222427,467041996357853024 ⋆ Expansion of 1/((1-4x)(1-7x)(1-11x)(1-12x)). • a(n)=(21 * 12 ^ (n + 3) - 30 * 11 ^ (n + 3) + 2 * 7 ^ (n + 4) - 5 * 4 ^ (n + 3)) / 840. [_ Yahia Kahloune _ , May 29 2013] •

[A028106] • 1,34,745,13390,214981,3211234,45646225,626042230,8359948861,109374928234,1408284704905,17904343620670,225325039105141,2812442423778034,34869043816790785,429934709807000710 ⋆ Expansion of 1/((1-3x)(1-9x)(1-10x)(1-12x)). • a(n) = (7 * 12 ^ (n + 3) - 27 * 10 ^ (n + 3) + 21 * 9 ^ (n + 3) - 3 ^ (n + 3)) / 378. - _ Yahia Kahloune _ , May 29 2013 •

[A028104] • 1,34,747,13496,218309,3291918,47316319,657096292,8894300217,118046931002,1542749735891,19914792822288,254507220618925,3225793030038886,40605323440744263,508174054158717884 ⋆ Expansion of 1/((1-3x)(1-8x)(1-11x)(1-12x)). • a(n)=(10 * 12 ^ (n + 3) - 15 * 11 ^ (n + 3) + 6 * 8 ^ (n + 3) - 3 ^ (n + 3)) / 360. [_ Yahia Kahloune _ , May 29 2013] •

[A028023] • 1,34,753,13766,225653,3448818,50219881,705962782,9663465405,129570729002,1709032341809,22244754709398,286400212885957,3654165387941986,46270388840585337,582133829294947214 ⋆ Expansion of 1/((1-2x)(1-9x)(1-11x)(1-12x)). • a(n)=(21 * 12 ^ (n + 3) - 35 * 11 ^ (n + 3) + 15 * 9 ^ (n + 3) - 2 ^ (n + 3)) / 630. [_ Yahia Kahloune _ , May 29 2013] •

[A025190] • 1,34,761,14126,235557,3664290,54296257,776238742,10797496253,146990010986,1966611858393,25940502403998,338149901095189,4364412518972722,55856812102918769,709715336973843494 ⋆ Expansion of 1/((1-x)(1-10x)(1-11x)(1-12x)). • a(n)=(45 * 12 ^ (n + 3) - 99 * 11 ^ (n + 3) + 55 * 10 ^ (n + 3) - 1)) / 990. [_ Yahia Kahloune _ , May 29 2013] • a(0)=1, a(1)=34, a(2)=761, a(3)=14126, a(n)=34 * a(n - 1) - 395 * a(n - 2) + 1682 * a(n - 3) - 1320 * a(n - 4). - _ Harvey P. Dale _ , May 22 2015 •

[A063843] • 0,1,34,792,10688,90005,533358,2437848,9156288,29522961,84293770,217993600,519341472,1154658869,2420188694,4821091920,9187076352,16837177281,29809183410,51172613512,85448030080,139159855989,221554769150,345523218536,528767663040 ⋆ Number of n-multigraphs on 5 nodes. • a(n) = (1 / 120) * (24 * n ^ 2 + 50 * n ^ 3 + 20 * n ^ 4 + 15 * n ^ 6 + 10 * n ^ 7 + n ^ 10). • a(n + 1) = (1 / 5!) * (n ^ 10 + 10 * n ^ 9 + 45 * n ^ 8 + 130 * n ^ 7 + 295 * n ^ 6 + 552 * n ^ 5 + 805 * n ^ 4 + 900 * n ^ 3 + 774 * n ^ 2 + 448 * n + 120). • a(0)=0, a(1)=1, a(2)=34, a(3)=792, a(4)=10688, a(5)=90005, a(6)=533358, a(7)=2437848, a(8)=9156288, a(9)=29522961, a(10)=84293770, a(n)= 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Oct 20 2012 •

[A158731] • 34,1190,4658,10438,18530,28934,41650,56678,74018,93670,115634,139910,166498,195398,226610,260134,295970,334118,374578,417350,462434,509830,559538,611558,665890 ⋆ 1156n^2 + 34. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A270874] • 34,26259,294888,2528263,16531326,84603579,353479684,1252968303,3885899418,10799026531,27392790624,64342966359,141552806518,294334006923,582732259836,1105171977919,2017898582034,3562049183283,6100587181528,10167796877991,16534554287214 ⋆ a(n) = n^10 + 9*n^9 + 53*n^8 + 218*n^7 + 695*n^6 + 1754*n^5 + 3572*n^4 + 5854*n^3 + 7510*n^2 + 6559*n + 34. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). •

[A041611] • 1,1,35,36,1259,1295,45289,46584,1629145,1675729,58603931,6027

9660,2108112371,2168392031,75833441425,78001833456,2727895778929,2805897612385,98128414600019,100934312212404,3529895029821755,36308293420341 59,126978092658983161 ★ Denominators of continued fraction convergents to sqrt(323). ● a(n) = 36 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 21 2013 ● a(n) = product { k = 1..floor((n - 1) / 2) } (34 + 4 * cos ^ 2(k * Pi / n)). ●

[A254366] ● 35,56,112,272,760,2336,7672,26432,94360,346016,1295032,4923392,18943960,73568096,287731192,1131465152,4467809560,17697740576,70271780152,279532195712,1113469251160,4439908895456,17717752225912,70745400779072,282604862628760 ★ a(n) = 4^n + 10*2^n + 4*3^n + 20. ● a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). - _ Colin Barker _ , Jan 30 2015 ●

[A026064] ● 35,59,90,127,172,225,287,357,437,527,628,739,862,997,1145,1305,1479,1667,1870,2087,2320,2569,2835,3117,3417 ★ a(n) = (d(n)-r(n))/2, where d = A026063 and r is the periodic sequence with fundamental period (1,1,0,1). ● a(n)=(n + 6) * (n ^ 2 + 30 * n + 71) / 12 - 0.375 + 0.125 * (- 1) ^ n - 0.25 * cos(n * Pi / 2) [From _ Richard Choulet _ , Dec 13 2008] ●

[A229357] ● 35,66,180,660,2904,14196,73920,400620,2229624,12637956,72573360,420738780,2456635944,14422057716,85023813600,502907704140,2982460443864,17724476245476,105513644666640,628987635392700,3753738850485384,22422625749793236,134041199563164480 ★ Total sum of n-th powers of parts in all partitions of 6. ● a(n) = 19 + 8 * 2 ^ n + 4 * 3 ^ n + 2 * 4 ^ n + 5 ^ n + 6 ^ n. ●

[A254364] ● 35,70,182,574,2054,7990,32942,141694,629174,2862790,13275902,62494414,297701894,1431677590,6937683662,33825224734,165731728214,815255212390,4023182840222,19905098860654,98686897716134,490094080827190,2437150677449582 ★ a(n) = 3*4^n + 10*2^n + 6*3^n + 5^n + 15. ● a(n) = 15 * a(n - 1) - 85 * a(n - 2) + 225 * a(n - 3) - 274 * a(n - 4) + 120 * a(n - 5). - _ Colin Barker _ , Jan 30 2015 ●

[A201632] ● 35,83,1203,2835,40883,96323,1388835,3272163,47179523,111157235,1602714963,3776073843,54445129235,128275353443,1849531679043,4357585943235,62829631958243,148029646716563,2134357954901235,5028650402419923 ★ If the sum of the squares of 4 consecutive numbers is a triangular number t(u), then a(n) is its index u. ● a(n + 4) = 34 * a(n + 2) - a(n) + 16. ● a(n + 5) = a(n + 4) + 34 * a(n + 3) - 34 * a(n + 2) - a(n + 1) + a(n). ● a(n + 1) = (k1 * e1 + k2 * e2 ^ n + k3 * e3 ^ n + k4 * e4 ^ n + k5 * e5 ^ n) / 4 for k1= -2; k2=50 + 35r; k3=21 + 15r; k4=50 - 35r; k5=21 - 15r, where r = sqrt(2). ●

[A156126] ● 1,35,84,165,286,455,680,969,1330,1771,2300,2925,3654,4495,5456,6545,7770,9139,10660,12341,14190,16215,18424,20825,23426 ★ Sequence related to Hankel transform of super-ballot numbers. ● a(n) = (2 * n + 5) * (2 * n + 3) * (n + 2) / 3, n>0. - R. J. Mathar, Oct 13 2011 ●

[A182755] ● 1,35,90,3150,8100,283500,729000,25515000,65610000,2296350000,5904900000,206671500000,531441000000,18600435000000,47829690000000,1674039150000000,4304672100000000,150663523500000000,387420489000000000,13559717115000000000,34867844010000000000 ★ Expansion of (1+35*x)/(1-90*x^2). ● a(2n) = 35 * a(2n - 1), a(2n + 1) = 18 / 7 * a(2n). ● a(2n) = 35 * 90 ^ (n - 1), a(2n + 1) = 90 ^ n. ●

[A220481] ● 1,35,130,273,595,1001,1885,2925,4886,7410,11466,16660,24955,35191,50505,70252,98085,133455,182819,244790,329121,435420,576030,752609,984165 ★ a(n) = 12spt(n) + (24n - 1)p(n), with a(0) = -1. ● a(n) = 12spt(n) + Tr(n) = 12(3spt(n) + N _ 2(n)) - p(n), n >= 1. ●

[A171473] ● 35,135,527,2079,8255,32895,131327,524799,2098175,8390655,33558527,134225919,536887295,2147516415,8590000127,34359869439,137439215615,549756338175,2199024304127,8796095119359,35184376283135 ★ a(n) = 6*a(n-1)-8*a(n-2)-3 for n > 1; a(0) = 35, a(1) = 135. ● a(n) = 32 * 4 ^ n + 4 * 2 ^ n - 1. ●

[A158586] ● 1,35,137,307,545,851,1225,1667,2177,2755,3401,4115,4897,5747,6665,7651,8705,9827,11017,12275,13601,14995,16457,17987,19585 ★ 34n^2 + 1. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A157286] ● 35,142,321,572,895,1290,1757,2296,2907,3590,4345,5172,6071,7042,8085,9200,10387,11646,12977,14380,15855,17402,19021,20712,22475 ★ 36n^2 - n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A005339] ● 35,154,424,930,1775,3080,4985,7650,11256,16006,22126,29866,39501,51332,65687,82922,103422,127602,155908,188818,226843,270528,320453,377234,441524 ★ Number of ways in which n identical balls can be distributed among 6 boxes in a row such that each pair of adjacent boxes contains at least 4 balls. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), a(12)=35, a(13)=154, a(14)=424, a(15)=930, a(16)=1775, a(17)=3080, a(18)=4985. - _ Harvey P. Dale _ , Aug 12 2011 ●

[A015219] ● 1,35,165,455,969,1771,2925,4495,6545,9139,12341,16215,20825,26235,32509,39711,47905,57155,67525,79079,91881,105995,121485,138415,156849 ★ Odd tetrahedral numbers: a(n) = (4*n+1)*(4*n+2)*(4*n+3)/6. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). ● a(n) = 64 + 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) ●

[A194716] ● 0,1,35,181,523,1145,2131,3565,5531,8113,11395,15461,20395,26281,33203,41245,50491,61025,72931,86293,101195,117721,135955,155981,177883 ★ Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting four doublets into the initially empty word. ● a(0) = 0, a(n) = 1 + (6 + (14 + 14 * (n - 1)) * (n - 1)) * (n - 1) for n>0. ●

[A104474] ● 35,224,840,2400,5775,12320,24024,43680,75075,123200,194480,297024,440895,638400,904400,1256640,1716099,2307360,3059000,4004000,5180175,6630624,8404200,10556000,13147875 ★ a(n) = binomial(n+3,3)*binomial(n+7,3) ● a(n) = (1 / 36) * (n + 1) * (n + 2) * (n + 3) * (n + 5) * (n + 6) * (n + 7). ●

[A171471] ● 35,225,837,3213,12573,49725,197757,788733,3150333,12592125,50350077,201363453,805380093,3221372925,12885196797,51540197373,206159609853,824636080125,3298539601917,13194148970493,52776577007613 ★ a(n) = 6*a(n-1)-8*a(n-2)-9 for n > 2; a(0) = 35, a(1) = 225, a(2) = 837. ● a(n) = 48 * 4 ^ n + 18 * 2 ^ n - 3 for n > 0. ●

[A068722] ● 1,35,247,925,2501,5551,10795,19097,31465,49051,73151,105205,146797,199655,265651,346801,445265,563347,703495,868301,1060501,1282975,1538747,1830985,2163001 ★ Number of solenoidal flows (flow in = flow out) in a 3 X 3 square array with integer velocities -n .. n. ● a(n) = (1 + 2 * n + 2 * n ^ 2) * (1 + 3 * n + 3 * n ^ 2). ●

[A055658] ● 0,0,1,35,286,1330,4495,12341,29260,62196,121485,221815,383306,632710,1004731,1543465,2303960,3353896,4775385,6666891,9145270,12347930,16435111,21592285,28032676 ★ Number of (3,n)-partitions of a chain of length n^2. ● a(n)=(1 / 6) * (n - 1) * (n - 2) * (n ^ 2 - 3 * n + 3) * (n ^ 2 - 3 * n + 1). ●

[A027792] ● 35,336,1764,6720,20790,55440,132132,288288,585585,1121120,2042040,3564288,5996172,9767520,15465240,23876160,36038079,53300016,77392700,110510400,155405250,215495280,294987420,399016800,533803725 ★ a(n) = 7*(n+1)*C(n+3,7). ● a(n) = C(n + 1, 5) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 ●

[A163935] ● 35,340,1750,6440,19110,48720,110880,231000,448305,820820,1431430,2395120,3867500,6054720,9224880,13721040,19975935,28528500,40042310,55326040,75356050,101301200,134550000,176740200,229790925 ★ Third right hand column of triangle A163934 ● a(n) = (n - 2) * (n - 1) * (n) * stirling1(n + 2,n) / 3!. ●

[A101099] ● 1,35,345,1955,7990,26226,73470,182490,412335,863005,1695551,3158805,5624060,9629140,15933420,25585476,40005165,61082055,91292245,133835735,192796626,273328550,381867850,526377150,716622075 ★ Third partial sums of fifth powers (A000584). ● a(n) = n * (1 + n) * (2 + n) * (3 + n) * (- 1 + n * (2 + n)) * (2 + n * (4 + n)) / 336. ● a(1)=1, a(2)=35, a(3)=345, a(4)=1955, a(5)=7990, a(6)=26226, a(7)=73470, a(8)=182490, a(9)=412335, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Feb 20 2015 ●

[A027803] ● 35,350,1890,7350,23100,62370,150150,330330,675675,1301300,2382380,4176900,7054320,11531100,18314100,28352940,42902475,63596610,92534750,132382250,186486300,259008750,355077450,480957750,644245875 ★ a(n) = 35*(n+1)*binomial(n+4, 7)/4. ● a(n) = C(n + 1, 4) * C(n + 4, 4). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 ●

[A133458] ● 1,35,393,2128,8135,24017,60691,134512,273127,512365,908755,1528688,2473325,3852919,5832765,8582336,12354469,17395119,24072133,32726960,43874139,57971221,75715487,97702640,124853275 ★ The size of the largest antichain in the 7-dimensional hypercubic lattice of size n; also the coefficient of x^floor(7*(n-1)/2) in (1 + x + ... + x^(n-1))^7. ● a(n)= 2 * a(n - 1) + 4 * a(n - 2) - 10 * a(n - 3) - 5 * a(n - 4) + 20 * a(n - 5) - 20 * a(n - 7) + 5 * a(n - 8) + 10 * a(n - 9) - 4 * a(n - 10) - 2 * a(n - 11) + a(n - 12). ● a(n) = - 25 * (- 1) ^ n / 512 + 2261 * n ^ 2 / 23040 + 25 / 512 + 5887 * n ^ 6 / 11520 - 77 * (- 1) ^ n * n ^ 4 / 1536 + 847 * n ^ 4 / 4608 - 91 * (- 1) ^ n * n ^ 2 / 1536. (End) ●

[A075664] ● 1,35,405,2584,11375,38961,111475,278720,627669,1300375,2516921,4604040,8030035,13446629,21738375,34080256,52004105,77474475,112974589,161603000,227181591,314375545,428825915,577295424,767828125 ★ Sum of next n cubes. ● a(1)=1; a(n)=sum(i ^ s, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). ● a(n) = (n ^ 7 + 4n ^ 5 + 3n ^ 3) / 8. - _ Charles R Greathouse IV _ , Sep 17 2009 ●

[A107915] ● 1,35,490,4116,24696,116424,457380,1557270,4723719,13026013,33157124,78835120,176729280,376375104,766192176,1498581756,2828205765,5168991135,9177226366,15870391460,26794167400,44253495000,71627692500,113794603650,177694650315 ★ a(n) = binomial(n+4,4)*binomial(n+5,4)*binomial(n+6,4)/ ● a(n) = C(n,n - 2) * C(n + 1,n - 3) * C(n + 2,n - 4) / (5 * 3!), n>=4. - _ Zerinvary Lajos _ , May 29 2007 ● a(n - 3) = 1 / 144 * sum { 1 <= x _ 1, x _ 2, x _ 3 <= n } x _ 1 * x _ 2 * x _ 3 * (det V(x _ 1,x _ 2,x _ 3)) ^ 2 = 1 / 144 * sum { 1 <= i,j,k <= n } i * j * k * ((i - j)(i - k)(j - k)) ^ 2, where V(x _ 1,x _ 2,x _ 3) is the Vandermonde matrix of order 3. - _ Peter Bala _ , Sep 21 2007 ●

[A033281] ● 1,35,616,7644,76440,659736,5116320,36581688,245402157,1563837275,9553624080,56338955400,322432175520,1798432526880,9809631964800,52470868368240,275857874141850,1428186531145374 ★ Number of diagonal dissections of a convex (n+9)-gon into n+1 regions. ● a(n)=binomial(n + 6, 6) * binomial(2n + 8, n) / (n + 1). ●

[A175774] ● 35,665,6965,69965,699965,6999965,69999965,699999965,6999999965,69999999965,699999999965,6999999999965,69999999999965,699999999999965,6999999999999965,69999999999999965,699999999999999965 ★ 7*(10^n-5) ● a(n) = 10 * a(n - 1) + 315. - _ Vincenzo Librandi _ , Jul 12 2012 ●

[A112504] ● 1,35,665,9107,100751,957197,8110087,62854845,453710670,3091406010,20086835910,125465290530,758173316850,4455503465430,25571494599330,143839855533270,795332428661055,4333564250230845,23317657891319095 ★ Fifth column of triangle A112500. ● a(n) computable from partial fraction decomposition of g.f. Cf. A112503. ●

[A145603] ● 1,35,720,12375,196625,3006003,45048640,668144880,9859090500,145173803500,2136958387520,31479019635375,464342770607625,6861343701121875,101583106970400000,1507019252941540800 ★ a(n) is the number of walks from (0,0) to (0,4) that remain in the upper half-plane y >= 0 using 2*n +2 unit steps either up (U), down (D), left (L) or right (R). ● a(n) = 5 / (2 *

n + 3) * binomial(2 * n + 3,n + 4) * binomial(2 * n + 3,n - 1). •

[A240928] • 35,750,6174,31025,114961,346193,896876,2072694,4379055,8606312,15936426,28073487,47400509,77164915,121695128,186650684,279308283,408886194,586909430,827618109,1148421417,1570399589,2118856324,2823924050,3721224455 ★ Number of 8-digit positive integers in base n where the sum of the first k digits equals the sum of the last k digits. • a(n) = n * (n - 1) * (1208 * n ^ 5 + 151 * n ^ 4 + 291 * n ^ 3 + 116 * n ^ 2 + 88 * n + 60) / 2520 •

[A028220] • 1,35,770,13630,212331,3041745,41087740,531634460,6658867061,81336796255,974120693910,11484949238490,133713902876191,1540987906351565,17612518552867280,199940810374681720 ★ Expansion of 1/((1-7x)(1-8x)(1-9x)(1-11x)). • a(n)=(11 ^ (n + 3) - 6 * 9 ^ (n + 3) + 8 ^ (n + 4) - 3 * 7 ^ (n + 3)) / 24. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028213] • 1,35,773,13783,216909,3146703,43129381,567128471,7227535997,89900761951,1097000610069,13181200344039,156403487677165,1836701044549679,21383695384607237,247159815109688887 ★ Expansion of 1/((1-6x)(1-8x)(1-10x)(1-11x)). • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 2 ^ n * (4 ^ (n + 1) - 3 ^ (n + 1)), n>=2. - Vincenzo Librandi, Mar 14 2011 • a(n) = 35 * a(n - 1) - 452 * a(n - 2) + 2548 * a(n - 3) - 5280 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 14 2011 • a(n) = 11 ^ (n + 3) / 15 + 2 * 8 ^ (n + 2) / 3 - 125 * 10 ^ n - 27 * 6 ^ n / 5. - R. J. Mathar, Mar 15 2011 •

[A028212] • 1,35,775,13895,220591,3239495,45114175,605081015,7896440431,100983137255,1271943884575,15837914099735,195494604120271,2397051804927815,29242027752046975,355340314794184055 ★ Expansion of 1/((1-6x)(1-8x)(1-9x)(1-12x)). • a(n) = 8 ^ (n + 2) - 9 ^ (n + 2) + 2 * 12 ^ (n + 1) - 6 ^ (n + 1). - R. J. Mathar, Mar 14 2011 • a(n) = 35 * a(n - 1) - 450 * a(n - 2) + 2520 * a(n - 3) - 5184 * a(n - 4), a(0)=1, a(1)=35, a(2)=775, a(3)=13895. - Vincenzo Librandi, Mar 14 2011 •

[A028208] • 1,35,777,13999,223769,3314031,46600009,631601663,8333511417,107767060687,1372468494761,17273924107167,215413939302745,2666835630709103,32824988535796233,402159883923086911 ★ Expansion of 1/((1-6x)(1-7x)(1-10x)(1-12x)). • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = 12 ^ (n + 2) / 5 - 9 * 6 ^ n + 7 ^ (n + 3) / 15 - 125 * 10 ^ n / 3. - R. J. Mathar, Mar 18 2011 •

[A028194] • 1,35,779,14095,226491,3373575,47712739,650313455,8625455531,112077065815,1433487819699,18110309247615,226591110120571,2813231293937255,34711873203654659,426167229337538575 ★ Expansion of 1/((1-5x)(1-8x)(1-10x)(1-12x)). • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + (8 ^ (n + 1) - 5 ^ (n + 1)) / 3, n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = (54 * 12 ^ (n + 1) - 105 * 10 ^ (n + 1) + 7 * 8 ^ (n + 2) - 5 ^ (n + 2)) / 21. - Bruno Berselli, Mar 12 2011 •

[A028189] • 1,35,782,14254,231459,3493041,50160064,695287148,9389676197,124321003807,1620910078866,20877357884682,266266935091015,3368664326093933,42334402590112388,529044108699525256 ★ Expansion of 1/((1-5x)(1-7x)(1-11x)(1-12x)). • a(n) = (2 * 12 ^ (n + 4) - 35 * 11 ^ (n + 3) + 3 * 7 ^ (n + 4) - 2 * 5 ^ (n + 4)) / 840. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028162] • 1,35,783,14287,231959,3494127,49989031,689059679,9238060887,121247325199,1565149220999,19940086389951,251372353802935,3141956721674351,38999543432154087,481325752085244703 ★ Expansion of 1/((1-4x)(1-9x)(1-10x)(1-12x)). • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + (9 ^ (n + 1) - 4 ^ (n + 1)) / 5), n>=2. - Vincenzo Librandi, Mar 16 2011 • a(n) = 3 * 12 ^ (n + 1) - 25 * 10 ^ (n + 1) / 3 + 3 * 9 ^ (n + 2) / 5 - 2 ^ (2 * n + 2) / 15. - R. J. Mathar, Mar 18 2011 •

[A028160] • 1,35,785,14395,235401,3578595,51754945,722167115,9811679801,130610749555,1711051941105,22130751379035,283285847668201,3595414758854915,45309603386047265,567596497380674155 ★ Expansion of 1/((1-4x)(1-8x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 2 ^ (3n + 1) - 4 ^ n, n>=2. - Vincenzo Librandi, Mar 16 2011 • a(n) = - 11 ^ (n + 3) / 21 + 4 * 8 ^ (n + 1) / 3 + 54 * 12 ^ n - 2 * 4 ^ n / 7. - R. J. Mathar, Mar 17 2011 •

[A028107] • 1,35,790,14630,242011,3723545,54492880,769001660,10558544821,141919432655,1875649181770,24453637571090,315271616180431,4027179810711365,51043597496835460,642723844104282920 ★ Expansion of 1/((1-3x)(1-9x)(1-11x)(1-12x)). • a(n) = (16 * 12 ^ (n + 3) - 27 * 11 ^ (n + 3) + 12 * 9 ^ (n + 3) - 3 ^ (n + 3)) / 432 = (1 / 16) * (- 3 ^ n + 3 ^ n * 4 ^ (n + 5) + 4 * 9 ^ (n + 2) - 11 ^ (n + 3)). [_ Yahia Kahloune _ , May 31 2013] • a(0)=1, a(1)=35, a(2)=790, a(3)=14630; for n>3, a(n) = 35 * a(n - 1) - 435 * a(n - 2) + 2205 * a(n - 3) - 3564 * a(n - 4). - _ Vincenzo Librandi _ , Jul 17 2013 •

[A028024] • 1,35,797,14959,251349,3931431,58494829,838932143,11699121797,159590758327,2138803364061,28251497273727,368712393238645,4763687404354823,61019774392655693,775898073656236111 ★ Expansion of 1/((1-2x)(1-10x)(1-11x)(1-12x)). • a(n)=(36 * 12 ^ (n + 3) - 80 * 11 ^ (n + 3) + 45 * 10 ^ (n + 3) - 2 ^ (n + 3)) / 720. [_ Yahia Kahloune _ , May 30 2013]. •

[A080250] • 1,35,871,19215,402591,8236095,166570111,3349906175,67183250431,1345516627455,26928850135551,538762184167935,10777095520297471,215560428864815615,4311393762242888191,86229727095755178495 ★ Expansion of 1/((1-x)(1-4x)(1-10x)(1-20x)). • a(n) = (1350 * 20 ^ n - 950 * 10 ^ n + 114 * 4 ^ n - 1) / 513. • a(0)=1, a(1)=35, a(2)=871, a(3)=19215, a(n) = 35 * a(n - 1) - 354 * a(n - 2) + 1120 * a(n - 3) - 800 * a(n - 4). - _ Harvey P. Dale _ , Apr 25 2011 •

[A158733] • 35,1260,4935,11060,19635,30660,44135,60060,78435,99260,122535,148260,176435,207060,240135,275660,313635,354060,396935,442260,490035,540260,592935,648060,705635 ★ 1225n^2 + 35. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A135923] • 0,35,1430,13941,75205,289800,897165,2379300,5620846,12135825,24377000,46145495,83119995,143526526,238971495,385462350,604641900,925264015,1384940106,2032187465,2928812225,4152661380,5800779985,7993011336,10876079610 ★ (n^8 - 60*n^6 + 90*n^5 + 1160*n^4 - 3204*n^3 - 5349*n^2 + 26586*n - 23760)/24. • a(n) = (n - 3) * (n + 6) * (n ^ 6 - 3 * n ^ 5 - 33 * n ^ 4 + 135 * n ^ 3 + 161 * n ^ 2 - 1257 * n + 1320) / 24 . • a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9), n>=12 [_ Harvey P. Dale _ , Oct 20 2011] •

[A130005] • 0,35,1568,1731,1908,10595,11540,12567,63156,68663,74648,369495,401592,436475,2154968,2342043,2545356,12561467,13651820,14836815,73214988,79570031,86476688,426729615,463769520 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+577)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1154 for n > 6; a(1)=0, a(2)=35, a(3)=1568, a(4)=1731, a(5)=1908, a(6)=10595. •

[A129288] • 0,36,39,123,319,336,820,1960,2059,4879,11523,12100,28536,67260,70623,166419,392119,411720,970060,2285536,2399779,5654023,13321179,13987036,32954160 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2 + (x + 41)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 82 for n > 6; a(1)=0, a(2)=36, a(3)=39, a(4)=123, a(5)=319, a(6)=336. •

[A082295] • 36,64,72,100,108,128,144,180,192,196,200,216,225,252,256,288,300,320,324,360,384,392,396,400,432 ★ Numbers having more than two square divisors > 1. • a(n) < 17n for n > 25. - _ Charles R Greathouse IV _ , Oct 16 2015 •

[A044102] • 0,36,72,108,144,180,216,252,288,324,360,396,432,468,504,540,576,612,648,684,720,756,792,828,864 ★ Multiples of 36. • a(n) = 36 * n. - _ Vincenzo Librandi _ , Jan 26 2011 •

[A153642] • 36,72,116,168,228,296,372,456,548,648,756,872,996,1128,1268,1416,1572,1736,1908,2088,2276,2472,2676,2888,3108 ★ a(n) = 4*n^2 + 24*n + 8. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A286430] • 0,0,0,0,36,78,136,210,300,406,528,666,820,990,1176,1378,1596,1830,2080,2346,2628,2926,3240,3570,3916 ★ Least volume of water to surround the largest possible island in a number square. • a(n) = 28 - 30 * n + 8 * n ^ 2 for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A226264] • 36,84,180,372,756,1524,3060,6132,12276,24564,49140,98292,196596,393204,786420,1572852,3145716,6291444,12582900,25165812,50331636,100663284,201326580,402653172,805306356 ★ Number of additive Z_2 Z_8 codes of a certain type (see Siap-Aydogdu for precise definition). • a(n) = 12 * (2 ^ (1 + n) - 1) for n>0. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. •

[A182467] • 36,90,198,414,846,1710,3438,6894,13806,27630,55278,110574,221166,442350,884718,1769454,3538926,7077870,14155758,28311534,56623086,113246190,226492398,452984814,905969646 ★ a(n) = 3a(n-1) - 2a(n-2) with a(0)=36 and a(1)=90. • a(n) = a(n - 1) * 2 + 18 •

[A027603] • 36,100,224,432,748,1196,1800,2584,3572,4788,6256,8000,10044,12412,15128,18216,21700,25604,29952,34768,40076,45900,52264,59192,66708 ★ a(n) = n^3 + (n+1)^3 + (n+2)^3 + (n+3)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>=4. •

[A254146] • 36,120,540,2892,17172,109020,725220,4992492,35277012,254402940,1864757700,13850340492,103996064052,787943896860,6015370201380,46217575406892,357036252710292,2770979252910780,21591510288112260,168818732978719692,1323861500735007732 ★ a(n) = 1*8^n + 2*7^n + 3*6^n + 4*5^n + 5*4^n + 6*3^n + 7*2^n + 8*1^n. • a(n) = (x + 1) * (Bernoulli(n + 1, x + 1) - Bernoulli(n + 1, 1)) / (n + 1) - (Bernoulli(n + 2, x + 1) - Bernoulli(n + 2, 1)) / (n + 2) at x = 8. • a(n) = 1 / 7! * Sum _{ k = 0..n } (- 1) ^ (k + n) * (k + 9)! * Stirling2(n,k) / ((k + 1) * (k + 2)). (End) •

[A016862] • 1,36,121,256,441,676,961,1296,1681,2116,2601,3136,3721,4356,5041,5776,6561,7396,8281,9216,10201,11236,12321,13456,14641 ★ (5n+1)^2. • a(0)=1, a(1)=36, a(2)=121, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) From _ Harvey P. Dale _ , Jul 11 2012 •

[A067865] • 36,136,236,336,436,536,636,736,836,936,1036,1136,1236,1336,1436,1536,1636,1736,1836,1936,2036,2136,2236,2336,2436 ★ Numbers n such that n and 2^n end with the same two digits. • a(n) = 36 + 100(n - 1). • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 4 * x * (9 + 16 * x) / (1 - x) ^ 2. [_ Colin Barker _ , Dec 01 2012] •

[A016910] • 0,36,144,324,576,900,1296,1764,2304,2916,3600,4356,5184,6084,7056,8100,9216,10404,11664,12996,14400,15876,17424,19044,20736 ★ a(n) = (6n)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A275496] • 0,1,36,153,528,1225,2628,4753,8256,13041,20100,29161,41616,56953,77028,101025,131328,166753,210276,260281,320400,388521,468996,559153,664128 ★ a(n) = n^2*(2*n^2 + (-1)^n). • a(n) = n ^ 4 + Sum _{ k=0..(n ^ 2 - (n mod 2)) } 2k. • a(n) = n ^ 2 * (2 * n ^ 2 + (- 1) ^ n). • a(n) = 2 * n ^ 4 + n ^ 2 for n even. • a(n) = 2 * n ^ 4 - n ^ 2 for n odd. •

[A017054] • 36,169,400,729,1156,1681,2304,3025,3844,4761,5776,6889,8100,9409,10816,12321,13924,15625,17424,19321,21316,23409,25600,27889,30276 ★ (7*n+6)^2. • a(0)=36, a(1)=169, a(2)=400, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 28 2016 •

[A074363] • 0,0,0,0,36,246,1293,6057,26592,111934,457353,1827529,7176636,27789976,106371588,403204880,1515647250,5656172420,20974163475,77339044883,283743384228,1036296662574,3769287797151,13658724680991,49325767966842 ★ Coefficient of q^3 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(3,1). • a(n) = 12 * a(n - 1) - 50 * a(n - 2) + 72 * a(n - 3) + 21 * a(n - 4) - 72 * a(n - 5) - 50 * a(n - 6) - 12 * a(n - 7) - a(n - 8) for n>9. •

[A247840] • 0,36,252,1548,9324,55980,335916,2015532,12093228,72559404,435356460,2612138796,15672832812,94036996908,564221981484,3385331888940,20311991333676,121871948002092,731231688012588,4387390128075564,2632434

0768453420 ⋆ Sum(6^k, k=2..n). • a(n) = a(n - 1) + 6 ^ n = (6 ^ (n + 1) - 3 6) / 5 = 7 * a(n - 1) - 6 * a(n - 2). •

[A133072] • 0,1,36,261,1072,3225,7956,17101,33216,59697,100900,162261,250416,373321,540372,762525,1052416,1424481,1895076,2482597,3207600,4092921,5163796,6447981,7975872 ⋆ a(n) = n^5 + n^3 - n^2. • a(n) = n ^ 5 + n ^ 3 - n ^ 2. •

[A288963] • 0,0,36,288,1320,4464,12348,29568,63504,125280,230868,402336,669240,1070160,1654380,2483712,3634464,5199552,7290756,10041120,13607496,18173232,23951004,31185792,40158000 ⋆ Number of 5-cycles in the n X n rook graph. • a(n) = 6 * n * binomial(n,3) * (n ^ 2 - 2 * n + 7) / 5. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A185096] • 0,36,300,1176,3240,7260,14196,25200,41616,64980,97020,139656,195000,265356,353220,461280,592416,749700,936396,1155960,1412040,1708476,2049300,2438736,2881200 ⋆ Let T(n) = n(n+1)/2 be the n-th triangular number (A000217); a(n) = T(8T(n)). • a(n) = 2 * n * (n + 1) * (2 * n + 1) ^ 2. •

[A073972] • 0,0,0,36,300,1440,7056,42336,272160,1700352,10349856,62099136,367960320,2173796352,12940881408,77716392192,468419708160,2821539889152,16960580969472,101763485816832,609985806796800,3656220357427200,21926115464435712,131556692786614272 ⋆ Number of strings of length n over Z_6 with trace 0 and subtrace 1. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 5, s + 5 t + 1) + a(n - 1; t + 4, s + 4t + 4) + a(n - 1; t + 3, s + 3t + 3) + a(n - 1; t + 2, s + 2t + 2) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A237128] • 36,324,396,684,756,1044,1116,1404,1476,1764,1836,2124,2196,2484,2556,2844,2916,3204,3276,3564,3636,3924,3996,4284,4356 ⋆ Angles n expressed in degrees such that 2*cos(n) = phi where phi is the golden ratio (A001622). • a(n) = 18 * (- 5 + 3 * (- 1) ^ n + 10 * n). a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: 36 * x * (x ^ 2 + 8 * x + 1) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Feb 04 2014 •

[A017594] • 36,324,900,1764,2916,4356,6084,8100,10404,12996,15876,19044,22500,26244,30276,34596,39204,44100,49284,54756,60516,66564,72900,79524,86436 ⋆ (12n+6)^2. • a(n) = a(n - 1) + 288 * n, n>=1. - Vincenzo Librandi, Mar 19 2011 • a(0)=36, a(1)=324, a(2)=900, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) From _ Harvey P. Dale _ , Jun 04 2012 •

[A067473] • 36,324,3025,30276,300304,3003289,30008484,300017041,3000081529,30000318436,300000484729,3000000666601,30000004655076,300000032019081,3000000027329536,30000000084216561,300000000542063364 ⋆ Smallest n-digit square starting with 3. • a(n) = ceiling(sqrt(3 * 10 ^ (n - 1))) ^ 2, n>1. - _ Rick L. Shepherd _ , Feb 14 2002 •

[A071232] • 0,1,36,378,2080,7875,23436,58996,131328,266085,500500,886466,1493856,2414503,3766140,5697000,8390656,12071241,17009028,23526370,32004000,42887691,56695276,74024028,95558400 ⋆ (n^6 + n^3)/2. • a(0)=0, a(1)=1, a(2)=36, a(3)=378, a(4)=2080, a(5)=7875, a(6)=23436, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). [_ Harvey P. Dale _ , Nov 06 2011] •

[A254644] • 1,36,381,2336,10326,36552,110022,292512,704847,1567852,3263403,6422208,12046268,21675408,37608828,63194304,103199469,164281524,255573679,389409504,582206130,855534680,1237402530 ⋆ Fourth partial sums of fifth powers (A000584). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (- 24 + 20 * n + 85 * n ^ 2 + 40 * n ^ 3 + 5 * n ^ 4) / 15120. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + n ^ 5. •

[A083811] • 36,396,3996,39996,399996,3999996,39999996,399999996,3999999996,39999999996,399999999996,3999999999996 ⋆ Numbers n such that 2n+1 is the digit reversal of n+1. • a(n) = 4 * (10 ^ n - 1). •

[A086575] • 0,36,396,3996,39996,399996,3999996,39999996,399999996,3999999996,39999999996,399999999996,3999999999996,39999999999996,399999999999996,3999999999999996,39999999999999996,399999999999999996 ⋆ a(n) = k where R(k+4)=4. • a(n) = 4 * (10 ^ n - 1) • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[A027782] • 36,405,2475,10890,38610,117117,315315,772200,1750320,3719430,7482618,14360580,26453700,47006190,80901810,135326664,220641300,351511875,548358525,839188350,1261890630,1867083075,2721610125,3912807600,5553662400 ⋆ a(n) = 9*(n+1)*binomial(n+2,9)/2. • a(n) = Binomial(n + 1, 8) * binomial(n + 2, 2). - _ Zerinvary Lajos _ , Apr 28 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[A181685] • 0,36,432,1296,15552,139968,559872,5038848,40310784,181398528,1451188224,10883911680,52242776064,391820820480,2821109907456,14105549537280,101559956668416,710919696678912,3656158440062976,2559310908044 0832,1754956051230228 48,921351926895869952 ⋆ Expansion of 36*x^2*(1+6*x-36*x^2) / ((1-6*x)^2 *(1+6*x+36*x^2)). • a(n) = (n - 1 - 2 * floor((n - 1) / 3)) * 6 ^ n. •

[A178690] • 0,0,0,36,432,3660,27000,185556,1223712,7862940,49653000,309776676,1915868592,11772890220,71992229400,438593697396,2664227115072,16146540253500,97676540188200,590011376299716,3559691497843152,21455715437760780,129219925869401400 ⋆ Expansion of (exp(3*x)-1)*(exp(2*x)-1)*(exp(x)-1). • a(n) = 18 * a(n - 1) - 121 * a(n - 2) + 372 * a(n - 3) - 508 * a(n - 4) + 240 * a(n - 5). - _ Vaclav Kotesovec _ , Dec 01 2014 •

[A244498] • 1,36,446,3172,15891,62408,204828,585672,1501269,3521452,7674810,15723500,30556903,56739216,101252408,174482832,291507177,473741364,751024438,1164218484,1768415099,2636848984,3865629780,5579414360,7938153405 ⋆ Number of magic labelings of the nodes of the 4 X 4 grid graph with magic sum n. • a(n) = (7560 + 34164 * n + 67044 * n ^ 2 + 75190 * n ^ 3 + 53382 * n ^ 4 + 25095 * n ^ 5 + 7896 * n ^ 6 + 1620 * n ^ 7 + 198 * n ^ 8 + 11 * n ^ 9)) / 7560. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>9. •

[A110693] • 1,36,448,3175,15786,61446,199872,566676,1441275,3356782,7268976,14805583,28621684,52892100,93977088,161303616,268510869,434915472,687359200,1062509679,1609692766,2394343930,3502175040,5044162500 ⋆ Kekulé numbers for certain benzenoids. • a(n) = 2 * (n + 1) * (n + 2) ^ 3 * (n + 3) * (n + 4) * (25 * n ^ 3 + 142 * n ^ 2 + 295 * n + 210) / 8!. •

[A128986] • 0,36,486,3888,24300,131220,642978,2939328,12754584,53144100,214347870,841802544,3233287044,12187005012,45199057050,165299408640,597144113712,2133912053412,7552375012566,26499561447600,92260315250460 ⋆ a(n) = (n^3 - n^2)*3^n. • a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 108 * a(n - 3) - 81 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 •

[A099764] • 0,36,576,3600,14400,44100,112896,254016,518400,980100,1742400,2944656,4769856,7452900,11289600,16646400,23970816,33802596,46785600,63680400,85377600,112911876,147476736,190440000,243360000 ⋆ a(n) = n^2 * (n+1)^2 * (n+2)^2 = 36*A001249(n-1). • a(n) = (Sum _{ k=0..n } (2 * k + 1)) ^ 3 - Sum _{ k=0..n } (2 * k + 1) ^ 3. - _ Philippe Deléham _ , Mar 10 2014 •

[A129839] • 0,0,0,1,36,625,8100,90601,933156,9150625,87048900,812307001,7486748676,68447640625,622473660900,5641104760201,51003678922596,460438253730625,4152386009780100,37422167780506201,337103845136750916,3035761307578140625,27332814735512302500 ⋆ Stirling_2(n,3)^2. • a(n) = (3 ^ n - 3 * 2 ^ n + 3) ^ 2 / 36 for n>0. - _ Charles R Greathouse IV _ , Jan 03 2013 •

[A210432] • 0,1,36,630,6512,45628,239316,1007083,3570240,11042199,30569012,77221232,180646896,395884866,820217412,1618520277,3060257024,5572071725,9810869508,16763347626,27879160048,45246275592,71818632820,111707913791,170553162816 ⋆ Number of semistandard Young tableaux over all partitions of 10 with maximal element <= n. • a(n) = n ^ 2 * (126432 + (206020 + (101031 + (18930 + 1187 * n ^ 2) * n ^ 2) * n ^ 2) * n ^ 2) / 453600. •

[A287990] • 1,36,630,7176,60165,398412,2184078,10255320,42321942,156590980,527649912,1639560888,4745867595,12904341336,33190117110,81222775680,190066236318,427113304920,925107172122,1937505253320,3934709716500,7767340567380,14937197788890 ⋆ Expansion of Jacobi theta constant (theta_2/2)^36. • a(n) = 1 / 141557760 * Sum _{ a, b, c, x, y, z > 0, a * x + b * y + c * z = 2 * n + 9, a == b == c == x == y == z == 1 mod 2 and a > b > c } a * b * c * ((a ^ 2 - b ^ 2) * (a ^ 2 - c ^ 2) * (b ^ 2 - c ^ 2)) ^ 2. •

[A035478] • 1,36,648,7788,70416,511668,3116952,16395516,76117536,317484356,1207612584,4241116044,13890124080,42757028820,124465217976,344307603996,908746910784,2296252865124,5571657926344,13017260865708,29356976611152,64056799324404,135523702100952 ⋆ Coordination sequence for lattice D*_18 (with edges defined by l_1 norm = 1). • a(m) = 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1) + Sum _{ k=0..n } (2 ^ k * binomial(n, k) * binomial(m - 1, k - 1)), with n=18. •

[A054339] • 1,36,720,10560,126720,1317888,12300288,105431040,843448320,6372720640,45883588608,317013884928,2113425899520,13655982735360,85837605765120,526470648692736,3158823892156416,18581317012684800,107358720517734400 ⋆ 9-fold convolution of A000302 (powers of 4). • a(n) = binomial(n + 8, 8) * 4 ^ n. • a(0)=1, a(1)=36, a(2)=720, a(3)=10560, a(4)=126720, a(5)=1317888, a(6)=12300288, a(7)=105431040, a(8)=843448320, a(n)=36 * a(n - 1) - 576 * a(n - 2) + 5376 * a(n - 3) - 32256 * a(n - 4) + 129024 * a(n - 5) - 344064 * a(n - 6) + 589824 * a(n - 7) - 589824 * a(n - 8) + 262144 * a(n - 9). - _ Harvey P. Dale _ , Aug 30 2013 •

[A058001] • 1,36,738,8240,57675,289716,1144836,3780288,10865205,27969700,65834406,143887536,295467263,575308020,1069960200,1911933696,3298486761,5516122788,8972008810,14233690800,22078652211,33555443636,50058302988,73417387200,106006948125 ⋆ Number of 3 X 3 matrices with entries mod n, up to row and column permutation. • a(n) = (1 / 3! ^ 2) * (n ^ 9 + 6 * n ^ 6 + 9 * n ^ 5 + 8 * n ^ 3 + 12 * n ^ 2). •

[A089909] • 0,36,748,11460,154572,1945684,23456796,274567908,3145679020,35456790132,394567901244,4345679012356,47456790123468,514567901234580,5545679012345692,59456790123456804,634567901234567916 ⋆ Sum of digits of numbers between 0 and (8/9)*(10^n-1). • a(n) = s(8, n - 1) where s(a, k)= a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)). • a(n) = (4 * (- 11 * (- 1 + 10 ^ n) + 9 * (2 + 9 * 10 ^ n) * n)) / 81. G.f.: 4 * x * (20 * x ^ 2 - 11 * x + 9) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 •

[A049434] • 1,36,750,11880,159027,1899612,20912320,216627840,2141764053,20415995028,189036065010,1707951003480,15170932662679,132511015347084,1142399079991620,9741955019900400,82318282158320505,690223721118368580,5749622251945664950 ⋆ Stirling numbers of second kind: 8th column of Stirling2 triangle A008277. • a(n) = det(|s(i + 8,j + 7)|, 1 <= i,j <= n - 8), where s(n,k) are Stirling numbers of the first kind. - _ Mircea Merca _ , Apr 06 2013 •

[A036084] • 1,36,756,12096,163296,1959552,21555072,221709312,2161665792,20175547392,181579926528,1584697540608,13469929095168,111904026329088,911218500108288,7289748000866304,57406765506822144,445746649817677824 ⋆ Expansion of 1/(1-6*x)^6. • a(n) = 6 ^ n * binomial(n + 5, 5). G.f.: 1 / (1 - 6 * x) ^ 6. •

[A014772] • 36,784,4356,14400,36100,76176,142884,246016,396900,608400,894916,1272384,1758276,2371600,3132900,4064256,5189284,6533136,8122500,9985600,12152196,14653584,17522596,20793600,24502500 ⋆ Squares of even hexagonal numbers. • a(1)=36, a(2)=784, a(3)=4356, a(4)=14400, a(5)=36100, a(n

)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, May 11 2012] •

[A173187] • 1,36,810,14580,229635,3306744,44641044,573956280,7102708965,85232507580,997220338686,11422705697676,128505439098855,1423444863864240,15556218869373480,168007163789233584 ★ a(n) = binomial(n + 3, 3)*9^n. • a(n) = 36 * a(n - 1) - 486 * a(n - 2) + 2916 * a(n - 3) - 6561 * a(n - 4), with a(0)=1, a(1)=36, a(2)=810, a(3)=14580. •

[A028222] • 1,36,815,14850,238161,3512376,48835795,650202750,8376184421,105168836916,1293777896775,15655641961050,186905779340281,2206620573868656,25809833134389755,299526474742773750 ★ Expansion of 1/((1-7x)(1-8x)(1-10x)(1-11x)). • a(n)=(11 ^ (n + 3) - 2 * 10 ^ (n + 3) + 2 * 8 ^ (n + 3) - 7 ^ (n + 3)) / 12. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028216] • 1,36,817,14952,241213,3582348,50196889,673865424,8755297045,110878147380,1375697840881,16786476031416,202032169207597,2403762666000732,28323951022216393,331005811232778528 ★ Expansion of 1/((1-6x)(1-9x)(1-10x)(1-11x)). • a(n) = 21 * a(n - 1) - 110 * a(n - 2) + 3 * 9 ^ n - 2 * 6 ^ n, n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 25 * 10 ^ (n + 1) + 11 ^ (n + 3) / 10 - 3 * 6 ^ (n + 1) / 5 + 3 * 9 ^ (n + 2) / 2. - R. J. Mathar, Mar 18 2011 • a(0)=1, a(1)=36, a(2)=817, a(3)=14952, a(n)=36 * a(n - 1) - 479 * a(n - 2) + 2784 * a(n - 3) - 5940 * a(n - 4). - _ Harvey P. Dale _ , Jan 16 2013 •

[A028221] • 1,36,817,14964,241969,3609732,50945329,691013268,9103047217,117325825188,1487325837361,18617531653812,230789841098545,2839613067896004,34737008397752113,423047207066166996 ★ Expansion of 1/((1-7x)(1-8x)(1-9x)(1-12x)). • a(n)=(12 ^ (n + 3) - 10 * 9 ^ (n + 3) + 15 * 8 ^ (n + 3) - 6 * 7 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 12 2013] • a(0)=1, a(1)=36, a(2)=817, a(3)=14964, a(n)=36 * a(n - 1) - 479 * a(n - 2) + 2796 * a(n - 3) - 6048 * a(n - 4). - _ Harvey P. Dale _ , Apr 28 2015 •

[A000597] • 36,820,7645,44473,191620,669188,1999370,5293970,12728936,28285400,58856655,115842675,217378200,391367064,679524340,1142659012,1867463260,2975110060,4631998657,7063027565,10567817084,15540347900,22492529150,32082258390,45146587200 ★ Central factorial numbers. • a(n) = s(n,n - 3) ^ 2 - 2 * s(n,n - 4) * s(n,n - 2) + 2 * s(n,n - 5) * s(n,n - 1) + 2 * s(n,n - 6), where s(n,k) are Stirling numbers of the first kind, A048994. - _ Mircea Merca _ , Apr 03 2012 •

[A028197] • 1,36,823,15270,251161,3822096,55123003,764718570,10305415021,135822156756,1759270703983,22475843025870,283991223372481,3556423423325016,44213833662081763,546396746667037170 ★ Expansion of 1/((1-5x)(1-9x)(1-10x)(1-12x)). • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + (9 ^ (n + 1) - 5 ^ (n + 1)) / 4, n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = - 5 ^ (n + 2) / 28 - 10 ^ (n + 2) + 2 * 12 ^ (n + 2) / 7 + 3 * 9 ^ (n + 2) / 4. - R. J. Mathar, Mar 18 2011 •

[A028209] • 1,36,823,15282,251881,3847032,55777051,779149134,10588135261,140901434388,1844713666159,23841089487306,304926682591441,3866889746187504,48692419436767747,609526612369569798 ★ Expansion of 1/((1-6x)(1-7x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 7 ^ (n + 1) - 6 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 6 ^ (n + 2) / 5 - 11 ^ (n + 3) / 20 + 2 * 12 ^ (n + 2) / 5 + 7 ^ (n + 3) / 20. - R. J. Mathar, Mar 18 2011 • a(0)=1, a(1)=36, a(2)=823, a(3)=15282, a(n)=36 * a(n - 1) - 473 * a(n - 2) + 2682 * a(n - 3) - 5544 * a(n - 4). - _ Harvey P. Dale _ , Apr 09 2015 •

[A028195] • 1,36,825,15380,254721,3910596,56993545,800115060,10923586641,145981963556,1918518760665,24879137417940,319158529241761,4058064014390916,51218264422582185,642449405949396020 ★ Expansion of 1/((1-5x)(1-8x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + (8 ^ (n + 1) - 5 ^ (n + 1)) / 3, n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = (28 * 8 ^ (n + 2) + 54 * 12 ^ (n + 2) - 7 * 11 ^ (n + 3) - 5 ^ (n + 3)) / 126. - Bruno Berselli, Mar 12 2011 •

[A028163] • 1,36,829,15576,260425,4039212,59479093,843439392,11625297409,156744987828,2076870835117,27134173366248,350447396932153,4483154549898684,56894676264296101,717171756670960944 ★ Expansion of 1/((1-4x)(1-9x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + (9 ^ (n + 1) - 4 ^ (n + 1)) / 5), n>=2. - Vincenzo Librandi, Mar 16 2011 • a(n) = - 11 ^ (n + 3) / 14 - 2 * 4 ^ (n + 1) / 35 + 6 * 12 ^ (n + 1) + 3 * 9 ^ (n + 2) / 10. - R. J. Mathar, Mar 17 2011 •

[A054622] • 0,1,36,834,8230,48915,210126,720916,2097684,5381685,12501280,26796726,53750346,101969959,184478490,320367720,536879176,871980201,1377508284,2122961770,3200020110,4727881851,6859513606,9788908284,13759455900 ★ Number of ways to color vertices of an octagon using <= n colors, allowing only rotations. • a(n) = Sum _{ d|8 } phi(d) * n ^ (8 / d) / 8 = n * (n + 1) * (n ^ 6 - n ^ 5 + n ^ 4 - n ^ 3 + 2 * n ^ 2 - 2 * n + 4) / 8. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). _ Vincenzo Librandi _ , Apr 29 2012 •

[A028108] • 1,36,835,15870,269041,4235856,63339535,911961090,12757140781,174463937076,2343013658635,31002931521510,405218193255721,5241917197644696,67218151176880135,855512978401565130 ★ Expansion of 1/((1-3x)(1-10x)(1-11x)(1-12x)). • a(0)=1, a(1)=36, a(2)=835, a(3)=15870, a(n)=36 * a(n - 1) - 461 * a(n - 2) + 2406 * a(n - 3) - 3960 * a(n - 4). - _ Harvey P. Dale _ , Mar 15 2013 • a(n)=(28 * 12 ^ (n + 3) - 63 * 11 ^ (n + 3) + 36 * 10 ^ (n + 3) - 3 ^ (n + 3)) / 504. [_ Yahia Kahloune _ , Jun 11 2013] •

[A004360] • 1,36,861,17296,316251,5461512,90858768,1473109704,23446881315,368136785016,5720645481903,88188515933856,1350990969850340,20592957740312160,312629484400483356,4730523156632595024 ★ Binomial coefficient C(6n,n-5). • a(n + 1) = a(n) * 72 * (6 * n + 1) * (3 * n + 1) * (2 * n + 1) * (3 * n + 2) * (6 * n + 5) * (n + 1) / (5 * (5 * n + 6) * (5 * n + 7) * (5 * n + 8) * (5 * n + 9) * (n + 2) * (n - 4)). - _ Robert Israel _ , Feb 04 2018 •

[A081142] • 0,0,1,36,864,17280,311040,5225472,83607552,1289945088,19349176320,283787919360,4086546038784,57954652913664,811365140791296,11234286564802560,154070215745863680,2095354934143746048 ★ 12th binomial transform of (0,0,1,0,0,0,.....). • a(n)=36a(n - 1) - 432a(n - 2) + 1728a(n - 3), a(0)=a(1)=0, a(2)=1. a(n)=12 ^ (n - 2)C(n, 2). G.f. x ^ 2 / (1 - 12x) ^ 3. • a(n)=2 ^ (2 * x - 7) * 3 ^ (x - 3) * (x - 2) * (x - 1). - _ Harvey P. Dale _ , Jul 25 2013 •

[A075916] • 1,36,900,19440,390096,7511616,141134400,2611802880,47870735616,871982724096,15819463296000,286235993272320,5170077903015936,93275375604350976,1681524519443251200,30298254922942709760 ★ Third column of triangle A075501. • a(n) = (6 ^ n - 8 * 12 ^ n + 9 * 18 ^ n) / 2. •

[A053111] • 1,36,960,21120,405504,7028736,112459776,1686896640,23991418880,326283296768,4271344975872,54103703027712,665891729571840,7990700754862080,93757555523715072,1078211888522723328 ★ Expansion of (-1+1/(1-8*x)^8)/(64*x); related to A053107. • a(n) = 8 ^ (n - 1) * binomial(n + 8, 7) ; G.f. (- 1 + (1 - 8 * x) ^ (- 8)) / (x * 8 ^ 2). •

[A158739] • 36,1332,5220,11700,20772,32436,46692,63540,82980,105012,129636,156852,186660,219060,254052,291636,331812,374580,419940,467892,518436,571572,627300,685620,746532 ★ 1296*n^2 + 36. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A113618] • 1,36,1793,24604,167481,756836,2620201,7526268,18831569,42374116,87654321,169343516,309160393,538155684,899445401,1451432956,2271560481,3460629668,5147732449,7495831836,10708033241,15034586596,20780659593 ★ a(n) = 1 + 2*n + 3*n^2 + 4*n^3 + 5*n^4 + 6*n^5 + 7*n^6 + 8*n^7. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8), with a(0)=1, a(1)=36, a(2)=1793, a(3)=24604, a(4)=167481, a(5)=756836, a(6)=2620201, a(7)=7526268. - _ Harvey P. Dale _ , Jul 16 2014 •

[A291911] • 0,0,36,3456,77040,800640,5265540,25514496,99320256,327836160,951285060,2488844160,5980596336,13384215936,28197301860,56398325760,107825391360,198142765056,351580800996,604675808640,1011282960240,1649187872640,2628701385156 ★ Number of 5-cycles in the n X n rook complement graph. • a(n) = (n - 2) ^ 2 * (n - 1) ^ 2 * n ^ 2 * (4 + 2 * n + 3 * n ^ 2 - 4 * n ^ 3 + n ^ 4) / 10. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * (n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). •

[A120349] • 36,3600,8100,10000,22500,26244,32400,90000,142884,202500,396900,518400,656100,810000,980100,1285956,1368900,1587600,1679616,2286144,2340900,2624400,2924100 ★ Refactorable numbers such that the number of odd divisors r is odd, the number of even divisors s is even and both r and s are divisors of n. • a(n) = n - th number such that n is even, r = number of odd divisors of n, s = number of even divisors of n, t = r + s = number of divisors of n, are all divisors of n and r is odd, s is even. •

[A041683] • 1,1,37,38,1405,1443,53353,54796,2026009,2080805,76934989,79015794,2921503573,3000519367,110940200785,113940720152,4212806126257,4326746846409,159975692596981,164302439443390,6074863512559021,6239165952002411 ★ Denominators of continued fraction convergents to sqrt(360). • a(n) = 38 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 22 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (36 + 4 * cos ^ 2(k * Pi / n)). •

[A069963] • 1,37,40,153,349,964,2473,6525,17032,44641,116821,305892,800785,2096533,5488744,14369769,37620493,98491780,257854777,675072621,1767363016,4627016497,12113686405,31714042788,83028441889 ★ Define C(n) by the recursion C(0)=6*I where I^2=-1, C(n+1)=1/(1+C(n)); then a(n)=6*(-1)^n/Im(C(n)) where Im(z) denotes the imaginary part of the complex number z. • a(n) = 2 * a(n - 1) + 2 * a(n - 2) - a(n - 3). G.f.: - (x - 1) * (36 * x + 1) / ((x + 1) * (x ^ 2 - 3 * x + 1)). - _ Colin Barker _ , Jun 14 2013 • a(n) = (2 ^ (- 1 - n) * (- 35 * (- 1) ^ n * 2 ^ (2 + n) - (3 - sqrt(5)) ^ n * (- 75 + sqrt(5)) + (3 + sqrt(5)) ^ n * (75 + sqrt(5)))) / 5. - _ Colin Barker _ , Sep 28 2016 •

[A159750] • 37,47,65,157,235,353,905,1363,2053,5273,7943,11965,30733,46295,69737,179125,269827,406457,1044017,1572667,2369005,6084977,9166175,13807573,35465845 ★ Positive numbers y such that y^2 is of the form x^2+(x+47)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=37, a(2)=47, a(3)=65, a(4)=157, a(5)=235, a(6)=353. •

[A129072] • 37,49,73,97,145,169,217,241,289,361,385,457,505,529,577,649,721,745,817,865,889,961,1009,1081,1177 ★ Numbers n such that (n-13)/12 is prime. • a(n) = 12 * prime(n) + 13. - Zak Seidov, May 12 2007 •

[A158065] • 37,73,109,145,181,217,253,289,325,361,397,433,469,505,541,577,613,649,685,721,757,793,829,865,901 ★ a(n) = 36n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 11 2012 •

[A085959] • 0,37,74,111,148,185,222,259,296,333,370,407,444,481,518,555,592,629,666,703,740,777,814,851,888 ★ Multiples of 37. • a(n) = a(n - 1) + 37; a(0)=0. •

[A216287] • 37,78,113,124,133,134,139,154,167,180,218,234,248,276,288,291,310,314,323,331,347,374,418,430,436 ★ Decades whose prime pattern repeat in the next decade. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A216329] • 37,78,124,139,154,180,234,276,288,291,310,331,436,444,499,532,558,609,616,624,648,696,706,717,750 ★ Decades whose prime pattern repeat into the next decade, with at least one prime. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 06 2012 •

[A172193] • 1,37,83,139,205,281,367,463,569,685,811,947,1093,1249,1415,1591,1777,1973,2179,2395,2621,2857,3103,3359,3625 ★ 5*n^2+31*n+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Apr 07 2013 •
[A063325] • 1,37,86,135,182,231,278,331,374,427,470,525,566,623,662,721,758,817,854,917,950,1013,1046,1111,1142 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(52). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •
[A145480] • 37,97,109,157,181,241,277,349,409,421,577,661,709,757,829,877,937,1009,1117,1201,1249,1381,1429,1609,1621 ★ Primes p such that (p+37)/2 is prime. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Jan 23 2017 •
[A195316] • 1,37,109,217,361,541,757,1009,1297,1621,1981,2377,2809,3277,3781,4321,4897,5509,6157,6841,7561,8317,9109,9937,10801 ★ Centered 36-gonal numbers. • a(n) = 18 * n ^ 2 - 18 * n + 1. •
[A048510] • 1,37,122,320,776,1816,4168,9448,21224,47336,104936,231400,507880,1109992,2416616,5242856,11337704,24444904,52559848,112721896,241172456,514850792,1096810472,2332033000,4949278696 ★ a(n) = T(5,n), array T given by A048505. • a(n) = (n ^ 2 + 21 * n + 100) * 2 ^ (n - 2) - 24. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Mar 04 2015 •
[A158591] • 1,37,145,325,577,901,1297,1765,2305,2917,3601,4357,5185,6085,7057,8101,9217,10405,11665,12997,14401,15877,17425,19045,20737 ★ 36n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •
[A157324] • 37,146,327,580,905,1302,1771,2312,2925,3610,4367,5196,6097,7070,8115,9232,10421,11682,13015,14420,15897,17446,19067,20760,22525 ★ 36n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 •
[A158596] • 37,151,341,607,949,1367,1861,2431,3077,3799,4597,5471,6421,7447,8549,9727,10981,12311,13717,15199,16757,18391,20101,21887,23749 ★ 38n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •
[A172080] • 0,1,37,190,590,1415,2891,5292,8940,14205,21505,31306,44122,60515,81095,106520,137496,174777,219165,271510,332710,403711,485507,579140,685700 ★ (12*n^4+10*n^3-9*n^2-7*n)/6. • a(n) = n * (n + 1) * (12 * n ^ 2 - 2 * n - 7) / 6. •
[A156569] • 37,205,1193,6953,40525,236197,1376657,8023745,46765813,272571133,1588660985,9259394777,53967707677,314546851285,1833313400033,10685333548913,62278687893445,362986793811757,2115642074977097 ★ a(n) = 6*a(n-1)-a(n-2) for n > 2; a(1)=37, a(2)=205. • a(n) = ((34 + 7 * sqrt(2)) * (3 - 2 * sqrt(2)) ^ n + (34 - 7 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n) / 4. •
[A165381] • 37,285,1012,2467,4708,7748,11588,16228,21668,27908,34948,42788,51428,60868,71108,82148,93988,106628,120068,134308,149348,165188,181828,199268,217508 ★ Number of slanted n X 4 (i=1..n) X (j=i..4+i-1) 1..4 arrays with all 1s connected, all 2s connected, all 3s connected, all 4s connected, 1 in the upper left corner, 2 in the upper right corner, 3 in the lower left corner, 4 in the lower right corner, and with no element having more than 3 neighbors with the same value. • a(n) = 4 * (817 - 540 * n + 100 * n ^ 2) for n>5. •
[A200889] • 37,292,1268,3985,10213,22736,45648,84681,147565,244420,388180,595049,884989,1282240,1815872,2520369,3436245,4610692,6098260,7961569,10272053,13110736,16569040,20749625,25767261 ★ Number of 0..n arrays x(0..5) of 6 elements without any interior element greater than both neighbors. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •
[A083818] • 1,37,397,3997,39997,399997,3999997,39999997,399999997,3999999997,39999999997,399999999997,3999999999997,39999999999997,399999999999997,3999999999999997,39999999999999997,399999999999999997,3999999999999999997,39999999999999999997 ★ Numbers n such that 2n-1 is the digit reversal of n. • a(n) = 4 * 10 ^ (n - 1) - 3. •
[A090023] • 0,1,37,415,3745,31471,257257,2078455,16704865,133935391,1072633177,8585561095,68702163985,549687102511,4397773276297,35183283965335,281470638631105,2251782504544831,18014329402322617,144114912035163175 ★ Number of distinct lines through the origin in the n-dimensional lattice of side length 7. • a(n) = 8 ^ n - 4 ^ n - 3 ^ n - 2 ^ n + 2. •
[A254682] • 1,37,418,2754,13080,49632,159654,452166,1157013,2724865,5988268,12410476,24456744,46132152,83740980,146935284,250134753,414416277,669990046,1059399550,1641605680,2497140360,3734542890,5498322570 ★ Fifth partial sums of fifth powers (A000584). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (- 2 + 5 * n + n ^ 2) * (9 + 10 * n + 2 * n ^ 2) / 60480. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + n ^ 5. •
[A218376] • 0,1,37,428,3164,18945,102501,529312,2679328,13455689,67378445,337053276,1685515212,8427947353,42140274589,210702132320,1053511710176,5267559970737,26337801743253,131689011192364,658445059161820 ★ a(n) = 5^n*sum_{i=1..n} i^5/5^i. • a(n) = 1 / 512 * (3535 * 5 ^ n - (128 * n ^ 5 + 800 * n ^ 4 + 2400 * n ^ 3 + 4600 * n ^ 2 + 5700 * n + 3535)). •
[A166132] • 1,37,469,4789,45397,417781,3796885,34319413,309464533,2787540085,25097297941,225913430197,2033371866709,18300950780149,164710972940437,1482408420140341,13341714435968725,120075584542541173 ★ a(n) = 1 + (4*9^n - 9*4^n) / 5. • a(n) = 14 * a(n - 1) - 49 * a(n - 2) + 36 * a(n - 3). •
[A086025] • 1,37,478,3614,19490,82994,296438,923702,2580071,6588075,15606084,34685508,72976852,146387476,281597860,521971876,936053677,1629533233,2761788434,4568378450,7391175350,11718183750,18235516650,27894475050,41997225075 ★ a(n) = Sum_{i=1..n} C(i+4,5)^2. • a(n) = n * (2 * n + 5) * (n + 5) * (n + 4) * (n + 3) * (n + 2) * (n + 1) * (63 * n ^ 4 + 630 * n ^ 3 + 1855 * n ^ 2 + 1400 * n + 12) / 19958400. (End) •
[A156923] • 1,37,646,8030,82610,756218,6411720,51586344,400011435,3020658295,22373863774,163379472214,1180488191108,8462445970580,60305767988960,427848087263712,3025286818472661 ★ Fourth right hand column (n-m=3) of the A156920 triangle • a(n) = 30 * a(n - 1) - 385 * a(n - 2) + 2776 * a(n - 3) - 12418 * a(n - 4) + 35908 * a(n - 5) - 67818 * a(n - 6) + 82552 * a(n - 7) - 62109 * a(n - 8) + 26190 * a(n - 9) - 4725 * a(n - 10) • a(n) = (- 8 * n ^ 3 + 972 * n ^ 2 * 3 ^ n - 84 * n ^ 2 + 7776 * n * 3 ^ n - 11250 * n * 5 ^ n - 286 * n + 15309 * 3 ^ n - 50625 * 5 ^ n + 36015 * 7 ^ n - 315) / 384 •
[A028225] • 1,37,860,16070,263991,3983007,56583850,768771040,10093501781,129000877577,1613435099640,19826334683610,240097655804371,2872253241385747,34007147715912230,399112139110865780 ★ Expansion of 1/((1-7x)(1-9x)(1-10x)(1-11x)). • a(n)=(3 * 11 ^ (n + 3) - 8 * 10 ^ (n + 3) + 6 * 9 ^ (n + 3) - 7 ^ (n + 3)) / 24. [_ Yahia Kahloune _ , Jun 05 2013] •
[A028223] • 1,37,863,16241,269703,4129041,59748151,829986817,11183795975,147236359985,1903757010519,24269169222753,305923748441767,3821741982426769,47397910610955767,584393237595955649 ★ Expansion of 1/((1-7x)(1-8x)(1-10x)(1-12x)). • a(n)=(3 * 12 ^ (n + 3) - 10 ^ (n + 4) + 15 * 8 ^ (n + 3) - 8 * 7 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 12 2013] • a(0)=1, a(1)=37, a(2)=863, a(3)=16241, a(n)=37 * a(n - 1) - 506 * a(n - 2) + 3032 * a(n - 3) - 6720 * a(n - 4). - _ Harvey P. Dale _ , Apr 08 2014 •
[A028215] • 1,37,867,16457,276563,4296369,63218779,894460009,12289771395,165102658721,2179224895211,28361892985881,364934200067347,4651876568586193,58839203762144763,739393306409353673 ★ Expansion of 1/((1-6x)(1-8x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 2 ^ n * (4 ^ (n + 1) - 3 ^ (n + 1)), n>=2. - Vincenzo Librandi, Mar 14 2011 • a(n) = 6 * 12 ^ (n + 1) + 8 ^ (n + 2) / 3 - 11 ^ (n + 3) / 15 - 3 * 6 ^ (n + 1) / 5. - R. J. Mathar, Mar 14 2011 •
[A028198] • 1,37,870,16610,281171,4403367,65339080,932218420,12912631941,174806957897,2323925673290,30446318392230,394142295428311,5052076439311627,64222440261259500,810705252920074040 ★ Expansion of 1/((1-5x)(1-9x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + (9 ^ (n + 1) - 5 ^ (n + 1)) / 4, n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = 4 * 12 ^ (n + 2) / 7 - 5 ^ (n + 3) / 168 - 11 ^ (n + 3) / 12 + 3 * 9 ^ (n + 2) / 8. - R. J. Mathar, Mar 18 2011 •
[A028164] • 1,37,875,16865,288891,4584297,68969155,997819105,14012533931,192242650457,2588592449235,34328260342545,449522440061371,5824352378123017,74789809096438115,953017761256677185 ★ Expansion of 1/((1-4x)(1-10x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + (10 ^ (n + 1) - 4 ^ (n + 1)) / 6), n>=2. - Vincenzo Librandi, Mar 16 2011 • a(n) = 37 * a(n - 1) - 494 * a(n - 2) + 2768 * a(n - 3) - 5280 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 16 2011 • a(n) = - 2 ^ (2 * n + 2) / 21 - 11 ^ (n + 3) / 7 + 25 * 10 ^ (n + 1) / 3 + 9 * 12 ^ (n + 1). - R. J. Mathar, Mar 18 2011 •
[A006062] • 1,37,1261,42841,1455337,49438621,1679457781,57052125937,1938092824081,65838103892821,2236557439531837,75977114840189641 ★ Star-hex numbers. • a(n) = 34 * a(n - 1) - a(n - 2) + 4. •
[A158741] • 37,1406,5513,12358,21941,34262,49321,67118,87653,110926,136937,165686,197173,231398,268361,308062,350501,395678,443593,494246,547637,603766,662633,724238,788581 ★ 1369n^2 + 37. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •
[A130013] • 0,37,1768,1941,2128,11937,12940,14025,71148,76993,83316,416245,450312,487165,2427616,2626173,2840968,14150745,15308020,16559937,82478148,89223241,96519948,480719437,520032720 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+647)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1294 for n > 6; a(1)=0, a(2)=37, a(3)=1768, a(4)=1941, a(5)=2128, a(6)=11937. •
[A026047] • 38,52,72,97,130,170,220,279,350,432,528,637,762,902,1060,1235,1430,1644,1880,2137,2418,2722,3052,3407,3790 ★ a(n) = (d(n)-r(n))/2, where d = A026046 and r is the periodic sequence with fundamental period (0,1,0,1). • a(n)=(n + 6) * (n ^ 2 + 6 * n + 38) / 6 - 0.5 * sin(n * Pi / 2) ^ 2 [From _ Richard Choulet _ , Dec 13 2008] •
[A177044] • 38,65,141,168,244,271,347,374,450,477,553,580,656,683,759,786,862,889,965,992,1068,1095,1171,1198,1274 ★ a(n) = 103*(n-1)-a(n-1) with n>1, a(1)=38. • a(n) = (103 + 49 * (- 1) ^ (n - 1) + 206 * (n - 1)) / 4. •
[A160846] • 0,1,38,75,136,207,306,405,534,673,836,1003,1200,1401,1632,1869,2128,2397,2696,2995,3324,3661,4022,4389,4786 ★ Number of lines through at least 2 points of a 6 X n grid of points. • a(n) = (1 / 2) * (f(m,n,1) - f(m,n,2)) where f(m,n,k) = Sum((n - |kx|) * (m - |ky|)); - n < kx < n, - m < ky < m, (x,y)=1, m=6. •
[A219999] • 38,79,114,125,134,135,140,155,168,181,219,235,249,277,289,292,311,315,324,332,348,375,419,431,437 ★ Decades whose prime pattern is the same as prime pattern in the previous decade. • a(n) >> n log ^ 2 n. •
[A219997] • 38,79,125,140,155,181,235,277,289,292,311,332,437,445,500,533,559,610,617,625,649,697,707,718,751 ★ Decades whose prime pattern is same as the prime pattern in the previous decade, with at least one prime. • a(n) >> n log ^ 2 n. •
[A218331] • 38,90,476,708,1826,2366,4600,5576,9310,10850,16468,18700,26586,29638,40176,44176,57750,62826,79820,86100,106898,114510,139496,148568,178126 ★ Even, nonzero decagonal pyramidal numbers. • a(n) = a(n - 1) + 3 * a(n - 2) - 3 * a(n - 3) - 3 * a(n - 4) + 3 * a(n - 5) + a(n - 6) - a(n - 7). • a(n) = 3 * a(n - 2) - 3 * a(n - 4) + a(n - 6) + 512. • a(n) = (16 * n - 4 * (- 1) ^ n - 1) * (4 * n - (- 1) ^ n + 3) * (4 * n - (- 1) ^ n + 1) / 24. •
[A186439] • 38,100,200,300,400,462,500,538,600,700,800,900,962,1000,1038,1100,1200,1300,1400,1462,1500,1538,1600,1700,1800 ★ Numbers whose squares

end in three identical digits. • a(n) = a(n - 7) + 500 for n > 7. - _ Zak Seidov _ and _ Bruno Berselli _ , Feb 23 2011 •

[A173309] • 0,38,114,228,380,570,798,1064,1368,1710,2090,2508,2964,3458,3990,4560,5168,5814,6498,7220,7980,8778,9614,10488,11400 ⋆ 19*n*(n+1). • a(0)=0, a(1)=38, a(2)=114, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 12 2012 • a(0)=0, a(n)=a(n - 1) + 38 * n. - _ Vincenzo Librandi _ , Oct 13 2012 •

[A158064] • 38,148,330,584,910,1308,1778,2320,2934,3620,4378,5208,6110,7084,8130,9248,10438,11700,13034,14440,15918,17468,19090,20784,22550 ⋆ 36n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 11 2012 •

[A100167] • 1,38,171,460,965,1746,2863,4376,6345,8830,11891,15588,19981,25130,31095,37936,45713,54486,64315,75260,87381,100738,115391,131400,148825 ⋆ Structured pentagonal icositetrahedral numbers (vertex structure 13). • a(n)=(1 / 6) * (60 * n ^ 3 - 72 * n ^ 2 + 18 * n). •

[A100168] • 1,38,174,472,995,1806,2968,4544,6597,9190,12386,16248,20839,26222,32460,39616,47753,56934,67222,78680,91371,105358,120704,137472,155725 ⋆ Structured pentagonal icositetrahedral numbers (vertex structure 10). • a(1)=1, a(2)=38, a(3)=174, a(4)=472, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Dec 18 2011] •

[A020870] • 38,205,1092,5719,29486,150049,755432,3769771,18673250,91917621,450025692,2193031871,10643233110,51467250249,248079277008,1192335047635,5715823515722,27336235315037,130457855039172,621374856379623,2954332179898174,14023263123496049 ⋆ Number of strong single-component edge-subgraphs in Moebius ladder M_n. • a(n) = n - 1 + [n(17 - sqrt(17)) / 34 + 1][(5 + sqrt(17)) / 2] ^ n + [n(17 + sqrt(17)) / 34 + 1][(5 - sqrt(17)) / 2] ^ n: G.f.: x ^ 2(38 - 251x + 532x ^ 2 - 479x ^ 3 + 192x ^ 4 - 28x ^ 5) / [(1 - x) ^ 2 * (1 - 5x + 2x ^ 2) ^ 2]. - _ Emeric Deutsch _ , Dec 21 2004 •

[A201244] • 0,0,38,340,1630,5552,15210,35828,75530,146240,264702,453620,742918,1171120,1786850,2650452,3835730,5431808,7545110,10301460,13848302,18357040,24025498,31080500,39780570 ⋆ Number of ways to place 3 non-attacking ferses on an n X n board. • a(n) = (n - 2) * (n ^ 5 + 2n ^ 4 - 11n ^ 3 + 2n ^ 2 + 54n - 60) / 6, n>=2. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Vincenzo Librandi _ , Apr 30 2013 •

[A267474] • 38,418,2490,10119,31880,83972,193852,404589,779938,1410134,2418406,3968211,6271188,9595832,14276888,20725465,29439870,41017162,56165426,75716767,100641024,132060204,171263636,219723845,279113146 ⋆ Number of length-6 0..n arrays with no following elements larger than the first repeated value. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. •

[A254471] • 1,38,456,3210,16290,65922,225576,677742,1834755,4559620,10547888,22958364,47415108,93547260,177288240,324223524,574358277,988774554,1658764600,2718164150,4359769830,6856910190,10591453080,16089775650,24068499975 ⋆ Sixth partial sums of fifth powers (A000584). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (- 29 + 54 * n + 81 * n ^ 2 + 24 * n ^ 3 + 2 * n ^ 4) / 665280. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + n ^ 5. •

[A039685] • 38,462,538,962,1038,1462,1538,1962,2038,2462,2538,2962,3038,3462,3538,3962,4038,4462,4538,4962,5038,5462,5538,5962,6038 ⋆ Numbers n such that n^2 ends in 444. • a(2n + 1) = 500n + 38 and a(2n + 2) = 500n - 38. • a(n) = 250 * n + 87 * (- 1) ^ n - 125. • a(n) - a(n - 1) - a(n - 2) + a(n - 3)= 0 for n>3. (End) •

[A088891] • 0,1,38,481,3355,16120,60071,186238,502386,1215435,2694340,5559191,10803013,19953466,35282365,60071660,98945236,158276613,246683346,375619645,560079455,819422956,1178340163 ⋆ Polynexus numbers of order 9. • a(n) = ((n ^ 9 - (n - 1) ^ 9) - (n ^ 3 - (n - 1) ^ 3)) / 504 = ((n ^ 9 - (n - 1) ^ 9) - (n ^ 3 - (n - 1) ^ 3)) / (2 ^ 9 - 2 ^ 3). • a(1)=1, a(2)=38, a(3)=481, a(4)=3355, a(5)=16120, a(6)=60071, a(7)=186238, a(8)=502386, a(9)=1215435, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - Harvey P. Dale, Jan 18 2012 •

[A020930] • 1,38,798,12236,152950,1651860,15967980,141430680,1166803110,9075135300,67156001220,476197099560,3254013513660,21526550936520,138384970306200,867212480585520,5311676443586310,31870058661517860 ⋆ Expansion of 1/(1-4*x)^(19/2). • a(n) = ((2 * n + 17) * (2 * n + 15) * (2 * n + 13) * (2 * n + 11) * (2 * n + 9) * (2 * n + 7) * (2 * n + 5) * (2 * n + 3) * (2 * n + 1) / 34459425) * Binomial(2 * n, n). - _ Vincenzo Librandi _ , Jul 05 2013 •

[A028226] • 1,38,909,17518,297437,4648350,68550973,968960366,13264544733,177146894782,2320188183677,29920806791694,381057655784989,4803870896957534,60058812824159421,745739268125744302 ⋆ Expansion of 1/((1-7x)(1-9x)(1-10x)(1-12x)). • a(n)=(12 ^ (n + 3) - 5 * 10 ^ (n + 3) + 5 * 9 ^ (n + 3) - 7 ^ (n + 3)) / 30. [_ Yahia Kahloune _ , Jun 05 2013] •

[A028224] • 1,38,911,17632,301245,4745706,70660507,1009770884,13991407529,189303883054,2513736124263,32882696484456,424941717543253,5436863390984882,69895988087521779,869260000449137548 ⋆ Expansion of 1/((1-7x)(1-8x)(1-11x)(1-12x)). • a(n)=(3 * 12 ^ (n + 3) - 5 * 11 ^ (n + 3) + 5 * 8 ^ (n + 3) - 3 * 7 ^ (n + 3)) / 60. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028218] • 1,38,913,17738,304549,4824806,72271081,1039149506,14486436877,197162419454,2632865400529,34623882428954,449653998040885,5779288950415382,73637791767193657,931419802216938482 ⋆ Expansion of 1/((1-6x)(1-9x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 3 ^ n * (3 ^ (n + 1) - 2 ^ (n + 1)), a(0)=1, a(1)=38. - Vincenzo Librandi, Mar 14 2011 • a(n) = 38 * a(n - 1) - 531 * a(n - 2) + 3222 * a(n - 3) - 7128 * a(n - 4), a(0)=1, a(1)=38, a(2)=913, a(3)=17738. - Vincenzo Librandi, Mar 14 2011 • a(n)=(5 * 12 ^ (n + 3) - 9 * 11 ^ (n + 3) + 5 * 9 ^ (n + 3) - 6 ^ (n + 3)) / 90. [_ Yahia Kahloune _ , Jun 12 2013] •

[A028199] • 1,38,917,17950,311181,4984638,75555157,1099718270,15519848861,213791759038,2888580642597,38416793758590,504293367484141,6547729455298238,84231046860437237,1075013759173110910 ⋆ Expansion of 1/((1-5x)(1-10x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 5 ^ n * (2 ^ (n + 1) - 1), n>=2. - Vincenzo Librandi, Mar 12 2011 • a(n) = 10 ^ (n + 2) - 5 ^ (n + 2) / 42 - 11 ^ (n + 3) / 6 + 6 * 12 ^ (n + 2) / 7. - R. J. Mathar, Mar 18 2011 •

[A158766] • 38,1482,5814,13034,23142,36138,52022,70794,92454,117002,144438,174762,207974,244074,283062,324938,369702,417354,467894,521322,577638,636842,698934,763914,831782 ⋆ 1444n^2 + 38. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A041759] • 1,1,39,40,1559,1599,62321,63920,2491281,2555201,99588919,102144120,3981065479,4083209599,159143030241,163226239840,6361740144161,6524966384001,254310462736199,260835429120200,10166056769303799,10426892198423999 ⋆ Denominators of continued fraction convergents to sqrt(399). • a(n) = 40 * a(n - 2) - a(n - 4) for n>3, - _ Vincenzo Librandi _ , Dec 24 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (38 + 4 * cos ^ 2(k * Pi / n)). •

[A243577] • 39,71,87,119,191,255,287,351,471,567,615,711,879,1007,1071,1191,1415,1575,1655,1815,2079,2271,2367,2559,2871 ⋆ Integers of the form 8k+7 that can be written as a sum of four distinct 'almost consecutive' squares. • a(n) = - 3 * (- 7 + (- i) ^ n + i ^ n) - (1 - i) * ((- 6 - 6 * i) + (- i) ^ n + i * i ^ n) * n + 4 * n ^ 2 where i=sqrt(- 1). - _ Colin Barker _ , Jun 09 2014 •

[A063335] • 1,39,80,120,160,200,240,278,320,358,400,440,480,516,560,598,640,678,720,756,800,836,880,918,960 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(62). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A242181] • 39,89,139,189,239,289,339,389,439,489,539,589,639,689,739,789,839,889,939,989,1039,1089,1139,1189,1239 ⋆ Numbers with four X's in Roman numerals. • a(n) = 50n - 11. - _ Charles R Greathouse IV _ , May 06 2014 •

[A063318] • 1,39,92,143,194,249,300,351,406,457,508,561,614,665,720,769,822,875,928,977,1034,1083,1136,1187,1242 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(45). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A033576] • 1,39,125,259,441,671,949,1275,1649,2071,2541,3059,3625,4239,4901,5611,6369,7175,8029,8931,9881,10879,11925,13019,14161 ⋆ (2*n+1)*(12*n+1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: (1 + 36 * x + 11 * x ^ 2) / (1 - x) ^ 3. [_ Colin Barker _ , Jun 10 2012 •

[A158593] • 1,39,153,343,609,951,1369,1863,2433,3079,3801,4599,5473,6423,7449,8551,9729,10983,12313,13719,15201,16759,18393,20103,21889 ⋆ 38n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158598] • 39,159,359,639,999,1439,1959,2559,3239,3999,4839,5759,6759,7839,8999,10239,11559,12959,14439,15999,17639,19359,21159,23039,24999 ⋆ 40n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A193228] • 1,39,185,511,1089,1991,3289,5055,7361,10279,13881,18239,23425,29511,36569,44671,53889,64295,75961,88959,103361,119239,136665,155711,176449 ⋆ Truncated octahedron with faces of centered polygons. • a(n) = 12 * n ^ 3 - 18 * n ^ 2 + 8 * n - 1. • a(0)=1, a(1)=39, a(2)=185, a(3)=511, a(n)= 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Aug 27 2011] •

[A243578] • 39,191,471,879,1415,2079,2871,3791,4839,6015,7319,8751,10311,11999,13815,15759,17831,20031,22359,24815,27399,30111,32951,35919,39015 ⋆ Integers n of the form 8k+7 that are sum of distinct squares of the form m, m+1, m+2, m+4, where m == 1 (mod 4). • a(n) = 64 * n ^ 2 - 40 * n + 15. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A290071] • 0,39,196,664,1809,4250,8954,17346,31434,53949,88500,139744,213571,317304,459914,652250,907284,1240371,1669524,2215704,2903125,3759574,4816746,6110594,7681694 ⋆ a(n) = (1/48)*n*(n+5)^2*(1*n^3 + 7*n^2 + 16*n + 28). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 6. •

[A254871] • 1,39,495,3705,19995,85917,311493,989235,2823990,7383610,17931498,40889862,88304970,181852230,359140470,683363994,1257722271,2246496825,3905261425,6623425575,10983195405,17840105595,28431558675,44521334325,68589834300 ⋆ Seventh partial sums of fifth powers (A000584). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (7 + n) * (- 21 + 49 * n + 56 * n ^ 2 + 14 * n ^ 3 + n ^ 4) / 3991680. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) + n ^ 5. •

[A200409] • 1,39,571,911,13299,194141,309739,4521621,66007369,105310349,1537337841,22442311319,35805208921,522690344319,7630319841091,12173665722791,177713179730619,2594286303659621,4139010540540019,60421958418066141,882049712924430049 ⋆ The y-values in the solution to 19*x^2 - 18 = y^2. • a(n)=340 * a(n - 3) - a(n - 6), a(1)=1, a(2)=39, a(3)=571, a(4)=911, a(5)=13299,a(6)=194141. •

[A016091] • 1,39,955,18795,325171,5167659,77353795,1107933915,15345293491,207057429579,2736619356835,35572444360635,456191563128211,5785999811488299,72719715037363075,907085298655532955 ⋆ Expansion of 1/((1-8x)(1-9x)(1-10x)(1-12x)). • a(n) = 39 * a(n - 1) - 566 * a(n - 2) + 3624 * a(n - 3) - 8640 * a(n - 4), n>=4. - _ Vincenzo Librandi _ , Mar 17 2011 • a(n) = 22 * a(n - 1) - 120 * a(n - 2) + 9 ^ (n + 1) - 8 ^ (n + 1), n>=2. - _ Vincenzo Libr

andi _ , Mar 17 2011 • a(n) = - 8 ^ (n + 2) + 3 * 9 ^ (n + 2) - 25 * 10 ^ (n + 1) + 6 * 12 ^ (n + 1). - _ R. J. Mathar _ , Mar 18 2011 •

[A028227] • 1,39,958,18966,330883,5313693,80518096,1169149692,16435587685,225292911987,3026941267714,40015278899778,522017655765607,6735488552529321,86110477932406612,1092366397140622824 ★ Expansion of 1/((1-7x)(1-9x)(1-11x)(1-12x)). • a(n)=(8 * 12 ^ (n + 3) - 15 * 11 ^ (n + 3) + 10 * 9 ^ (n + 3) - 3 * 7 ^ (n + 3)) / 120. [_ Yahia Kahloune _ , Jun 05 2013] •

[A028219] • 1,39,961,19131,336217,5446035,83308177,1221791547,17352006793,240304555491,3261449180353,43542585627723,573464912457529,7467052092622707,96294712139682289,1231626797709018459 ★ Expansion of 1/((1-6x)(1-10x)(1-11x)(1-12x)). • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 2 ^ (n - 1) * (5 ^ (n + 1) - 3 ^ (n + 1)), n>=2. - Vincenzo Librandi, Mar 13 2011 • a(n) = - 11 ^ (n + 3) / 5 + 12 ^ (n + 2) + 125 * 10 ^ n - 9 * 6 ^ n / 5. - R. J. Mathar, Mar 15 2011 •

[A240442] • 0,39,1194,11259,64776,275805,957516,2859768,7606821,18444537,41458599,87464157,174846963,333687378,611613150,1081890447 ★ Number of ways to place 5 points on a triangular grid of side n so that no three of these points are vertices of an equilateral triangle of any orientation. • a(n) = (n ^ 10 + 5 * n ^ 9 - 30 * n ^ 8 - 150 * n ^ 7) / 3840 + O(n ^ 6). •

[A158768] • 39,1560,6123,13728,24375,38064,54795,74568,97383,123240,152139,184080,219063,257088,298155,342264,389415,439608,492843,549120,608439,670800,736203,804648,876135 ★ 1521n^2 + 39. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A082763] • 40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64 ★ Roman numeral contains an asymmetric symbol (L). • a(n + 50) = a(n) + 100 for n >= 1 [a(n + L) = a(n) + C for n >= I], a(1) = 40 [a(I) = XL], a(n + 1) = a(n) + 1 for 1 <= n <= 49 [a(n + I) = a(n) + I for I <= n <= XLIX]; so a(n) = floor((n - 1) / 50) * 100 + 40 + ((n - 1)(mod 50)) for n >= 1 [a(n) = floor((n - I) / L) * C + XL + ((n - I)(mod L)) for n >= I]. •

[A216305] • 40,49,70,76,91,157,253,274,301,304,322,349,370,388,475,505,517,622,652,715,769,817,868,931,994 ★ Values of k such that 10*k+1 and 10*k+9 alone are prime between 10*k and 10*k+9. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 07 2012 •

[A063310] • 1,40,96,153,210,267,324,381,438,495,552,607,666,723,780,835,894,949,1008,1063,1122,1177,1236,1289,1350 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(37). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A192791] • 40,112,240,448,760,1200,1792,2560,3528,4720,6160,7872,9880,12208,14880,17920,21352,25200,29488,34240,39480,45232,51520,58368,65800 ★ Molecular topological indices of the antiprism graphs • a(n) = 4 * n * (n ^ 2 + n + 8). • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4). •

[A261191] • 0,1,40,117,232,385,576,805,1072,1377,1720,2101,2520,2977,3472,4005,4576,5185,5832,6517,7240,8001,8800,9637,10512 ★ 40-gonal numbers: a(n) = 38*n*(n-1)/2 + n. • a(n) = n * (19 * n - 18). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3), for n > 2. - _ Colin Barker _ , Aug 11 2015 •

[A211155] • 40,168,1056,2080,6120,9576,20608,28800,52200,68200,110880,138528,208936,252840,360960,426496,583848,677160,896800,1024800,1321320,1491688,1881216,2102400,2602600 ★ Number of 2 X 2 matrices having all terms in {-n,...,0,..,n} and odd determinant. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. •

[A068790] • 0,0,0,0,40,240,1120,4608,17280,65280,253440,1013760,4126720,16773120,67624960,270532608,1077903360,4294901760,17146183680,68584734720,274608947200,1099510579200,4400191897600,17600775979008,70385915658240 ★ Number of strings over Z_4 of length n with trace 2 and subtrace 2. • a(n; t, s) = a(n - 1; t, s) + a(n - 1; t + 3, s + 3t + 1) + a(n - 1; t + 2, s + 2t) + a(n - 1; t + 1, s + t + 1) where t is the trace and s is the subtrace. •

[A008355] • 1,40,370,1640,4930,11752,24050,44200,75010,119720,182002,265960,376130,517480,695410,915752,1184770,1509160,1896050,2353000,2888002,3509480,4226290,5047720,5983490 ★ Coordination sequence for D_5 lattice. • a(n) = 2 * (9 * n ^ 2 + 1) * (n ^ 2 + 1) (see MAPLE line). •

[A035609] • 1,40,800,10680,107200,864008,5831520,33940120,174074240,800061160,3340552608,12819218040,45663942720,152270990280,478683156960,1426865410392,4052167914240,11006991835560,28691971995680,71976895917880 ★ Coordination sequence for lattice D*_20 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=20. •

[A054340] • 1,40,880,14080,183040,2050048,20500480,187432960,1593180160,12745441280,96865353728,704475299840,4931327098880,33381291130880,219362770288640,1403921729847296,8774510811545600,53679360258867200 ★ 10-fold convolution of A000302 (powers of 4). • a(n) = binomial(n + 9, 9) * 4 ^ n. •

[A140220] • 1,40,900,15000,206250,2475000,26812500,268125000,2513671875,22343750000,189921875000,1553906250000,12301757812500,94628906250000,709716796875000,5204589843750000,37407989501953125,264056396484375000 ★ a(n) = binomial(n+7, 7)*5^n. • a(n) = 40 * a(n - 1) - 700 * a(n - 2) + 7000 * a(n - 3) - 43750 * a(n - 4) + 175000 * a(n - 5) - 437500 * a(n - 6) + 625000 * a(n - 7) - 390625 * a(n - 8) for n > 7. •

[A130610] • 0,40,901,1077,1281,6160,7180,8364,36777,42721,49621,215220,249864,290080,1255261,1457181,1691577,7317064,8493940,9860100,42647841,49507177,57469741,248570700,288549840 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+359)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 718 for n > 6; a(1)=0, a(2)=40, a(3)=901, a(4)=1077, a(5)=1281, a(6)=6160. •

[A016092] • 1,40,1005,20300,360521,5881680,90375685,1328528500,18879767841,261281940920,3540146411165,47147861315100,619093593987961,8034113714073760,103234967777291445,1315472793832108100 ★ Expansion of 1/((1-8x)(1-9x)(1-11x)(1-12x)). • a(n) = 40 * a(n - 1) - 595 * a(n - 2) + 3900 * a(n - 3) - 9504 * a(n - 4), n>=4. - _ Vincenzo Librandi _ , Mar 17 2011 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 9 ^ (n + 1) - 8 ^ (n + 1), n>=2 . - _ Vincenzo Librandi _ , Mar 17 2011 • a(n) = 12 ^ (n + 2) - 2 * 8 ^ (n + 2) / 3 - 11 ^ (n + 3) / 6 + 3 * 9 ^ (n + 2) / 2. - _ R. J. Mathar _ , Mar 18 2011 •

[A028228] • 1,40,1007,20414,364329,5979036,92485219,1369339018,19606630637,273438929192,3733694351751,50109751007862,662977655746225,8667106208101108,112162143040653803,1438993526155501346 ★ Expansion of 1/((1-7x)(1-10x)(1-11x)(1-12x)). • a(n) = 40 * a(n - 1) - 593 * a(n - 2) + 3854 * a(n - 3) - 9240 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 18 2011 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + (10 ^ (n + 1) - 7 ^ (n + 1)) / 3, n>=2. - Vincenzo Librandi, Mar 18 2011 • a(n) = 6 * 12 ^ (n + 2) / 5 - 11 ^ (n + 3) / 4 + 5 * 10 ^ (n + 2) / 3 - 7 ^ (n + 3) / 60 . - R. J. Mathar, Mar 20 2011 •

[A075907] • 1,40,1040,22400,435456,7956480,139694080,2387968000,40075329536,663887544320,10896534405120,177653730508800,2882307270639616,46596186764738560,751299029274460160,12089975328525516800 ★ Fourth column of triangle A075499. • a(n) = (- 4 ^ n + 24 * 8 ^ n - 81 * 12 ^ n + 64 * 16 ^ n) / 3!. • a(0)=1, a(1)=40, a(2)=1040, a(3)=22400, a(n) = 40 * a(n - 1) - 560 * a(n - 2) + 3200 * a(n - 3) - 6144 * a(n - 4). - _ Harvey P. Dale _ , Jun 04 2013 •

[A124100] • 1,40,1089,25160,531521,10625640,204744769,3844391560,70827391041,1286290883240,23101397290049,411249127989960,7269184506192961,127745926316548840,2234231991096868929,38920247688751940360 ★ Sum_(x^i*y^j*z^k) with i + j + k = m and (x, y, z) = the primitive pythagorean triple (8, 15, 17). • a(m) = (x ^ (m + 2) * (z - y) + y ^ (m + 2) * (x - z) + z ^ (m + 2) * (y - x)) / ((x - y) * (y - z) * (z - x)). • a(n) = 40 * a(n - 1) - 511 * a(n - 2) + 2040 * a(n - 3) for n > 2. • a(n) = 2 ^ (3 * n + 6) / 63 - 15 ^ (n + 2) / 14 + 17 ^ (n + 2) / 18. - _ Vaclav Kotesovec _ , Sep 25 2016 •

[A041839] • 1,1,41,42,1721,1763,72241,74004,3032401,3106405,127288601,130395006,5343088841,5473483847,224282442721,229755926568,9414519505441,9644275432009,395185536785801,404829812217810,16588378025498201,16993207837716011 ★ Denominators of continued fraction convergents to sqrt(440). • a(n) = 42 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 25 2013 • a(n) = product { k = 1..floor((n - 1) / 2) } (40 + 4 * cos ^ 2(k * Pi / n)). •

[A202018] • 41,43,47,53,61,71,83,97,113,131,151,173,197,223,251,281,313,347,383,421,461,503,547,593,641 ★ a(n) = n^2 + n + 41. • a(a(n) + n) = a(n) * a(n + 1). - _ Vladimir Shevelev _ , Jul 16 2012 (This identity holds for all sequences of the form n ^ 2 + n + c, _ Joerg Arndt _ , Jul 17 2012). • a(0) = 41 and for n > 0, a(n) = a(n - 1) + 2 * n. - _ Jean - Christophe Hervé _ , Sep 27 2014 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Sep 28 2014 • a(n) = 2 * a(n - 1) - a(n - 2) + 2. - _ Vincenzo Librandi _ , Mar 04 2016 •

[A259552] • 41,43,53,83,151,281,503,853,1373,2111,3121,4463,6203,8413,11171,14561,18673,23603,29453,36331,44351,53633,64303,76493,90341 ★ a(n) = (1/4)*n^4 - (1/2)*n^3 + (3/4)*n^2 - (1/2)*n + 41. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), n>5. - _ Wesley Ivan Hurt _ , Jul 09 2015 •

[A157194] • 41,43,84,127,211,338,549,887,1436,2323,3759,6082,9841,15923,25764,41687,67451,109138,176589,285727,462316,748043,1210359,1958402,3168761 ★ Fibonacci sequence beginning 41, 43. • a(n) = a(n - 1) + a(n - 2), a(0)= 41, a(1)=43. • a(n) = (41 / 2) *{ [(1 / 2) + (1 / 2) * sqrt(5)] ^ n + [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } + (9 / 2) * sqrt(5) *{ [(1 / 2) + (1 / 2) * sqrt(5)] ^ n - [(1 / 2) - (1 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Mar 02 2009 •

[A113338] • 41,59,419,473,1193,1283,2363,2489,3929,4091,5891,6089,8249,8483,11003,11273,14153,14459,17699,18041,21641,22019,25979,26393,30713 ★ Positive integers of the form (18*m^2+1)/11. • a(n) = a(- n + 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). • a(n) = (198 * n * (n - 1) - 81 * (2 * n - 1) * (- 1) ^ n + 83) / 4. (End) •

[A224671] • 41,76,108,170,257,398,617,967,1525,2421,3862,6185,9934,15990,25778,41604,67199,108600,175575,283929,459235,742871,1201788,1944315,3145732 ★ Number of (n+1) X 4 0..2 matrices with each 2 X 2 subblock idempotent. • a(n) = 5 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 19 + 29 * sqrt(5)) + (1 + sqrt(5)) ^ n * (19 + 29 * sqrt(5)))) / sqrt(5) + 4 * (1 + n) + (1 + n) * (2 + n) / 2 for n>1. •

[A195317] • 1,41,121,241,401,601,841,1121,1441,1801,2201,2641,3121,3641,4201,4801,5441,6121,6841,7601,8401,9241,10121,11041,12001 ★ Centered 40-gonal numbers. • a(n) = 20 * n ^ 2 - 20 * n + 1. •

[A205797] • 1,1,41,126,1526,5185,46920,176865,1254608,4986548,30563031,123868761,683127011,2793828323,14223836013,58127497582,278433541834,1130954381904,5159127957638,20767403083249,91032595281699,362455763000997,1536849042738162 ★ G.f.: A(x) = exp(Sum_{n>=1} sigma(n)^4 * x^n/n). • a(n) = (1 / n) * Sum _{ k=1..n } sigma(k) ^ 4 * a(n - k) for n>0, with a(0) = 1. •

[A158602] • 1,41,161,361,641,1001,1441,1961,2561,3241,4001,4841,5761,6761,7841,9001,10241,11561,12961,14441,16001,17641,19361,21161,23041 ★ 40n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158626] • 41,167,377,671,1049,1511,2057,2687,3401,4199,5081,6047,7097,8231,9449,10751,12137,13607,15161,16799,18521,20327,22217,24191,26249 ★ a(n) = 42*n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A088319] • 41,205,389,689,1565,1625,1781,3865,4105,4549,5989,7421,9161,96

85,10225,10685,13025,17509,17965,18329,21349,21701,25801,33161,33169 ⋆ Ordered hypotenuses of primitive Pythagorean triangles having legs that add up to a square. • a(n)=e ^ 2 + f ^ 2, where e>f, e=j ^ 2 - jk + k ^ 2 / 2 and f=j k for coprime pairs (j, k) with k even. •

[A172085] • 0,1,41,212,660,1585,3241,5936,10032,15945,24145,35156,49556,67977,91105,119680,154496,196401,246297,305140,373940,453761,545721,650992,770800 ⋆ (27n^4 + 22n^3 - 21n^2 - 16n)/12. • a(n) = n * (n + 1) * (27 * n ^ 2 - 5 * n - 16) / 12. •

[A020866] • 41,265,1697,10897,69941,448945,2881697,18497137,118730021,762108145,4891844657,31399932337,201550911701,1293721577905,8304182337857,53303156937457,342144045482501,2196165379031665,14096818096762577,90485116626705457,580808823292457141 ⋆ Number of strong edge-subgraphs in Moebius ladder M_n. • a(n) = Lucas(2n) + [x ^ n] x(4 + 2x + 3x ^ 2 - 4x ^ 3 + x ^ 4) / ((1 + x)(1 - 3x + x ^ 2)(1 - 6x - 3x ^ 2 + 2x ^ 3)); a(n) ~ (6.4188) ^ n + (- 0.8056) ^ n + (0.3867) ^ n - (- 1) ^ n (Th. 3.2.). - C. Ronaldo (aga _ new _ ac(AT)hotmail.com), Jan 17 2005 • a(n) = 5 * a(n - 1) + 9 * a(n - 2) + a(n - 3) - 2 * a(n - 4). •

[A175110] • 1,41,313,1201,3281,7321,14281,25313,41761,65161,97241,139921,195313,265721,353641,461761,592961,750313,937081,1156721,1412881,1709401,2050313,2439841,2882401 ⋆ a(n) = ((2*n+1)^4+1)/2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A282867] • 41,313,3593,4481,32633,42961,66361,67073,165233,198593,237161,266921,378953,462073,465041,487073,559001,594161,750353,757633,815401,1157033,1414081,1416161,1687393 ⋆ Primes of the form x^2 + y^2 with x > y such that x^2 - y^2 is a square and x^4 + y^4 is a prime. • a(n) == 1 (mod 8). • a(n) == 1 or 33 (mod 40). •

[A267325] • 1,41,421,3562,37309,504880,1688724,20969807,856967187,5376948073,17667973799,73247846210,7038850387534,32764157273501,384623091229702,4924836055850737,21264412149709993,583141322266592750,5592755799950501152,78206057147010955997 ⋆ Next n digits of sqrt(2). • a(n) = floor(sqrt(2) * 10 ^ (n * (n + 1) / 2 - 1)) mod (10 ^ n). •

[A173768] • 1,41,441,4441,44441,444441,4444441,44444441,444444441,4444444441,44444444441,444444444441,4444444444441,44444444444441,4444444444444441,44444444444444441,444444444444444441 ⋆ (4*10^n-31)/9. • a(n)=10 * a(n - 1) + 31, n>1. •

[A211154] • 41,457,1345,4481,8521,18985,30017,54721,78121,126281,168961,252097,322505,454441,562561,759425,916777,1197001,1416641,1800961,2097481,2608937,2998465,3662401,4162601 ⋆ Number of 2 X 2 matrices having all terms in {-n,...,0,..,n} and even determinant. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9) for n > 9. •

[A086949] • 41,491,4991,49991,499991,4999991,49999991,499999991,4999999991,49999999991,499999999991,4999999999991,49999999999991,49999999999991,4999999999999991,49999999999999991,499999999999999991 ⋆ a(n) = k where R(k+9)=5. • a(n) = 5 * 10 ^ n - 9 •

[A143010] • 1,41,661,5741,33001,142001,494341,1465661,3833941,9073501,19789001,40328641,77620661,142282141,250054001,423621001,694880441,1107728161,1721435341,2614694501,3890418001,5681377241,8156775661,11529853541 ⋆ Crystal ball sequence for the A4 x A4 lattice. • a(n) = (35 * n ^ 8 + 140 * n ^ 7 + 630 * n ^ 6 + 1400 * n ^ 5 + 2595 * n ^ 4 + 3020 * n ^ 3 + 2500 * n ^ 2 + 1200 * n + 288) / 288 = 5 * n * (n + 1) * (n ^ 2 + n + 2) * (7 * n ^ 4 + 14 * n ^ 3 + 77 * n ^ 2 + 70 * n + 120) / 288 + 1. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>8. - _ Vincenzo Librandi _ , Dec 16 2015 •

[A016093] • 1,41,1055,21805,395871,6595701,103397575,1549123085,22414242191,315506452261,4343673465495,58723278269565,781995624847711,10282227616659221,133750220517219815,1723860289008683245 ⋆ Expansion of 1/((1-8x)(1-10x)(1-11x)(1-12x)). • a(n) = - 8 ^ (2 + n) / 3 - 11 ^ (n + 3) / 3 + 25 * 10 ^ (n + 1) + 18 * 12 ^ (n + 1). - _ R. J. Mathar _ , Mar 14 2011 • a(n) = 41 * a(n - 1) - 626 * a(n - 2) + 4216 * a(n - 3) - 10560 * a(n - 4), n>=4. - _ Vincenzo Librandi _ , Mar 18 2011 • a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 5 * 10 ^ n - 4 * 8 ^ n, n>=2. - _ Vincenzo Librandi _ , Mar 18 2011 •

[A076462] • 41,1471,12938,62870,218555,611821,1471316,3161388,6227565,11448635,19895326,32995586,52606463,81092585,121411240,177204056,252895281,353796663,486218930,657589870,876579011,1153228901,1499092988,1927380100,2453105525 ⋆ Sum of squares of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly three ways. • a(n) = n * (n + 1) * (55 * n ^ 4 + 74 * n ^ 3 + 6 * n ^ 2 - 13 * n + 1) / 6. •

[A180667] • 41,1613,9080,29462,72479,150551,278798,475040,759797,1156289,1690436,2390858,3288875,4418507,5816474,7522196,9577793,12028085,14920592,18305534,22235831,26767103,31957670 ⋆ The maximum number of points obtainable in a game of Entanglement on a board of radius n. • a(n) = (225 / 2) * n ^ 4 + 45 * n ^ 3 - 135 * n ^ 2 - (51 / 2) * n + 44. • a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A133897] • 42,43,44,45,46,47,48,91,92,93,94,95,96,97,140,141,142,143,144,145,146,189,190,191,192 ⋆ Numbers m such that binomial(m+7,m) mod 7 = 0. • a(n)=7n + 42 - 6 * (n mod 7). •

[A153644] • 42,82,130,186,250,322,402,490,586,690,802,922,1050,1186,1330,1482,1642,1810,1986,2170,2362,2562,2770,2986,3210 ⋆ a(n) = 4*n^2 + 28*n + 10. • a(1)=42, a(2)=82, a(3)=130, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A067296] • 42,90,255,785,2529,8398,28511,98462,344720,1220532,4362438,15718149,57028063,208164950,763915215,2816707650,10429892340,3876813438 0,144600329250,541036998090,2030157909234,7637910332556 ⋆ Fifth column of triangle A028364. • a(n)= ((193n ^ 4 + 1727 * n ^ 3 + 5303 * n ^ 2 + 6457 * n + 2520) / (8 * (2 * n + 1) * (2 * n + 3) * (2 * n + 5) * (2 * n + 7))) * C(n + 4). •

[A063329] • 1,42,94,144,198,248,302,350,406,454,510,556,614,660,718,762,822,866,926,968,1030,1072,1134,1174,1238 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(56). • a(n) = a(n - 2) + a(n - 4) - a(n - 6) for n>8. •

[A158479] • 42,150,330,582,906,1302,1770,2310,2922,3606,4362,5190,6090,7062,8106,9222,10410,11670,13002,14406,15882,17430,19050,20742,22506 ⋆ 36n^2 + 6. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158484] • 42,189,434,777,1218,1757,2394,3129,3962,4893,5922,7049,8274,9597,11018,12537,14154,15869,17682,19593,21602,23709,25914,28217,30618 ⋆ 49n^2 - 7. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A193392] • 42,215,636,1401,2622,4427,6960,10381,14866,20607,27812,36705,47526,60531,75992,94197,115450,140071,168396,200777,237582,279195,326016,378461,436962 ⋆ Hyper-Wiener index of a benzenoid consisting of a spiral chain of n hexagons (s=1; see the Gutman et al. reference). • a(n) = (2 * n ^ 4 + 28 * n ^ 3 + 154 * n ^ 2 - 169 * n + 111) / 3. •

[A193400] • 42,215,636,1513,2862,5211,8352,13229,19314,28063,38532,52785,69366,91043,115752,147061,182202,225639,273804,332153,396222,472555,555696,653373,759042 ⋆ Hyper-Wiener index of a benzenoid consisting of a chain of n hexagons characterized by the encoding s = 1133 (see the Gutman et al. reference, Sec. 5). • a(n) = (6 * n ^ 4 + 40 * n ^ 3 + 114 * n ^ 2 + 16 * n - 45 + (- 1) ^ n * (6 * n ^ 2 + 20 * n - 63)) / 4. •

[A193394] • 42,215,636,1513,3118,5787,9920,15981,24498,36063,51332,71025,95926,126883,164808,210677,265530,330471,406668,495353,597822,715435,849616,1001853,1173698 ⋆ Hyper-Wiener index of a benzenoid consisting of a zig-zag chain of n hexagons (s=13; see the Gutman et al. reference). • a(n) = (8 * n ^ 4 + 24 * n ^ 3 + 28 * n ^ 2 + 147 * n - 81) / 3. •

[A193390] • 42,215,680,1661,3446,6387,10900,17465,26626,38991,55232,76085,102350,134891,174636,222577,279770,347335,426456,518381,624422,745955,884420,1041321,1218226 ⋆ The hyper-Wiener index of a benzenoid consisting of a straight-line chain of n hexagons (s=2; see the Gutman et al. reference). • a(n) = (8 * n ^ 4 + 32 * n ^ 3 + 46 * n ^ 2 + 37 * n + 3) / 3. •

[A234043] • 1,42,273,969,2530,5481,10472,18278,29799,46060,68211,97527,135408,183379,243090,316316,404957,511038,636709,784245,956046,1154637,1382668,1642914,1938275 ⋆ a(n) = C(5*(n+1),4)/5, with n >= 0. • a(n) = (n + 1) * (5 * n + 2) * (5 * n + 3) * (5 * n + 4) / 24. •

[A095266] • 1,42,303,1144,3105,6906,13447,23808,39249,61210,91311,131352,183313,249354,331815,433216,556257,703818,878959,1084920,1325121,1603162,1922823,2288064,2703025 ⋆ A sequence generated from the Narayana triangle considered as a matrix, or from Pascal's triangle. • a(n) = (n * (- 8 + 25 * n - 30 * n ^ 2 + 15 * n ^ 3)) / 2. G.f.: - x * (39 * x ^ 3 + 103 * x ^ 2 + 37 * x + 1) / (x - 1) ^ 5. [_ Colin Barker _ , Oct 21 2012] •

[A033277] • 0,42,330,1485,5005,14014,34398,76440,157080,302940,554268,969969,1633905,2662660,4214980,6503112,9806280,14486550,21007350,29954925,42063021,58241106,79606450,107520400,143629200 ⋆ Number of diagonal dissections of an n-gon into 5 regions. • a(n) = binomial(n + 3, 4) * binomial(n - 3, 4) / 5. •

[A200875] • 42,343,1528,4917,12890,29325,60112,113745,201994,340659,550408,857701,1295802,1905881,2738208,3853441,5324010,7235599,9688728,12800437,16706074,21561189,27543536,34855185,43724746 ⋆ Number of 0..n arrays x(0..6) of 7 elements without any interior element greater than both neighbors or less than both neighbors. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n >8. •

[A215628] • 1,42,345,1597,5436,15217,37148,81901,166819,318857,578413,1004224,1679522,2719666,4281488,6574614,9875045,14541308,21033513,29935679,41981720,58085511,79375484,107234235,143343655 ⋆ Number of terms in 10th derivative of a function composed with itself n times. • a(n) = n * (n + 1) * (n ^ 7 + 98 * n ^ 6 + 3148 * n ^ 5 + 40826 * n ^ 4 + 203887 * n ^ 3 + 209204 * n ^ 2 - 412380 * n + 136656) / 362880. •

[A064302] • 1,42,381,1606,4641,10746,21517,38886,65121,102826,154941,224742,315841,432186,578061,758086,977217,1240746,1554301,1923846,2355681,2856442,3433101,4092966,4843681 ⋆ Sixth diagonal of triangle A064094. • a(n)= 1 + 4 * n + 9 * n ^ 2 + 14 * n ^ 3 + 14 * n ^ 4. Fifth row polynomial (n=4) of Catalan triangle A009766. •

[A224455] • 42,396,1656,4740,10890,21672,38976,65016,102330,153780,222552,312156,426426,569520,745920,960432,1218186,1524636,1885560,2307060,2795562,3357816,4000896,4732200,5559450 ⋆ The hyper-Wiener index of the linear phenylene with n hexagons. • a(n) = (3 / 2) * n * (n + 1) * (9 * n ^ 2 + 3 * n + 2). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ G. C. Greubel _ , Dec 08 2016 •

[A248094] • 0,42,444,2187,7443,20247,47313,98994,190386,342576,584034,952149,1494909,2272725,3360399,4849236,6849300,9491814,12931704,17350287,22958103,29997891,38747709,49524198,62685990 ⋆ The hyper-Wiener index of the hexagonal triangle T_n, defined in the He et al. reference. • a(n) = n * (66 + 407n + 670n ^ 2 + 425n ^ 3 + 104n ^ 4 + 8n ^ 5) / 40 (see Corollary 3, 10 in the He et al. reference). • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 6. - _ Wesley Ivan Hurt _ , Aug 16 2016 •

[A008387] • 1,42,462,2562,9492,27174,65226,137886,264936,472626,794598,1272810,1958460,2912910,4208610,5930022,8174544,11053434,14692734,192341

94,24836196,31674678,39944058,49858158,61651128 ★ Coordination sequence for A_6 lattice. ● a(n) = S(n,6) = 7 * n * (11 * n + 35 * n + 14) / 10, with S(n,d) = sum _{ k=0..d } binomial(d,k) ^ 2 * binomial(n - k + d - 1,d - 1). ●

[A216109] ● 42,477,1701,4254,8820,16227,27447,43596,65934,95865,134937,184842,247416,324639,418635,531672,666162,824661,1009869,1224630,1471932,1754907,2076831,2441124,2851350 ★ The hyper-Wiener index of the ortho-polyphenyl chain with n hexagons (see the Dou et al. and the Deng references). ● a(n) = 3 * (28 + 123 * n + 127 * n ^ 2 + 36 * n ^ 3 + 4 * n ^ 4) / 2 = 3 * (n + 1)(4 * n ^ 3 + 32 * n ^ 2 + 95 * n + 28) / 2. ●

[A216111] ● 42,477,1953,5442,12240,23967,42567,70308,109782,163905,235917,329382,448188,596547,778995,1000392,1265922,1581093,1951737,2384010,2884392,3459687,4117023,4863852,5707950 ★ The hyper-Wiener index of the meta-polyphenyl chain with n hexagons (see the Dou et al. and the Deng references). ● a(n) = 3 * n * (- 13 + 14 * n + 18 * n ^ 2 + 9 * n ^ 3) / 2. ●

[A216113] ● 42,477,2241,6846,16380,33507,61467,104076,165726,251385,366597,517482,710736,953631,1254015,1620312,2061522,2587221,3207561,3933270,4775652,5746587,6858531,8124516,9558150 ★ The hyper-Wiener index of the meta-polyphenyl chain with n hexagons (see the Dou et al. and the Deng references). ● a(n) = 3n(16n ^ 3 + 8n ^ 2 - 5n + 9) / 2. ●

[A086944] ● 42,492,4992,49992,499992,4999992,49999992,499999992,4999999992,49999999992,499999999992,4999999999992,49999999999992,499999999999992,4999999999999992,49999999999999992,499999999999999992 ★ a(n) = k where R(k+8)=5. ● a(n) = 5 * 10 ^ n - 8 ●

[A279888] ● 0,1,42,569,4250,22006,88004,293369,845358,2186376,5145646,11282966,23143198,45179324,83905292,150271993,258816840,433786483,704268402,1119633944,1733618768,2640037170,3931060364,5777392406,8325691750 ★ a(n) = Sum_{k=1..n-1} sigma_3(k)*sigma_5(n-k). ● a(n) = (11 * sigma _ 9(n) - 21 * sigma _ 5(n) + 10 * sigma _ 3(n)) / 5040. ●

[A091962] ● 0,1,42,594,4719,26026,111384,395352,1215126,3331251,8321170,19240650,41683005,85408596,166768096,312203232,563178924,982981701,1665911754,2749500754,4430505387,6985558206,10797503640,16388608600,24462014850 ★ From enumerating paths in the plane. ● a(n) = binomial(2n + 6, 7) * (2n + 3) * (n + 1) * (n + 2) / 240. ● a(n) = det(A * Transpose(A)) / 36, where A is the 2 X (n + 1) matrix whose (i,j) - th element is j ^ (2 * i - 1). - _ Leroy Ratajczak _ , Oct 01 2017 ●

[A007746] ● 42,640,5894,42840,271240,1569984,8536890,44346456,222516030,1086685600,5193298110,24384586200,112831907760,515709552000,2332549535400,10455495457248,46500885666900,205401168733824,901819865269180,3938266773556720,17116175702216624 ★ Number of ways for n-3 nonintersecting loops to cross a line 2n times. ● a(n) = 4 * (2 * n)! * (n ^ 4 + 20 * n ^ 3 + 107 * n ^ 2 - 107 * n + 15) / (3 * (n - 4)! * (n + 6)!). ●

[A290364] ● 0,1,42,817,8429,55627,268272,1030101,3331117,9425128,23970089,55880968,121188860,247272012,478904297,886654486,1578265414,2713745819,4525019252,7341094011,11619845543,17987638185,27288156478,40641967587,59518495595 ★ Number of 10-leaf rooted trees with n levels. ● a(n) = (7936 * n ^ 9 + 4635 * n ^ 8 + 24756 * n ^ 7 + 43974 * n ^ 6 + 65352 * n ^ 5 + 60795 * n ^ 4 + 81524 * n ^ 3 + 72036 * n ^ 2 + 1872 * n) / 9!. ●

[A090969] ● 1,42,858,15504,265650,4417686,72068304,1160068104,18490100706,292486494300,4599035681526,71963547329856,1121519754006288,17419158268943970,269767427275060200,4167406330765934256 ★ a(n) = 1/Integral_{x=0..1} (x^5 - x^6)^n. ● a(n) = 1 / B(5n + 1,n + 1) = (6n + 1)! / [n!(5n)!], where B(p,q) is Euler's beta function (basically identical with _ R. J. Mathar _ 's comment). - _ Emeric Deutsch _ , Jun 29 2009 ●

[A020932] ● 1,42,966,16100,217350,2521260,26053020,245642760,2149374150,17672631900,137846528820,1027583214840,7364346373020,50983936428600,342320716020600,2236495344667920,14257657822257990,88900689950549820 ★ Expansion of 1/(1-4*x)^(21/2). ● a(n) = ((2 * n + 19) * (2 * n + 17) * (2 * n + 15) * (2 * n + 13) * (2 * n + 11) * (2 * n + 9) * (2 * n + 7) * (2 * n + 5) * (2 * n + 3) * (2 * n + 1) / 654729075) * Binomial(2 * n, n). - _ Vincenzo Librandi _ , Jul 05 2013 ●

[A221050] ● 42,1008,10276,75180,462140,2558556,13231260,65284380,311431708,1448846364,6612207644,29725724700,132031520796,580686331932,2533085184028,10973912563740,47262391730204,202517499871260,863943782826012,3671274602627100,15547105441480732 ★ The Wiener index of the nanostar dendrimer D_1[n], defined pictorially in the Eslahchi et al. reference. ● a(n) = 28 + 2 ^ n * (448 * n + 1554) + 4 ^ n * (784 * n - 1540). Theorem 5 of the Eslahchi et al. paper contains a less explicit formula for the Wiener index. ●

[A050988] ● 1,42,1008,18144,272160,3592512,43110144,480370176,5043886848,50438868480,484213137408,4489976365056,40409787285504,354362750042112,3037395000360960,25514118003032064 ★ 6-idempotent numbers. ● a(n) = binomial(n,6) * 6 ^ (n - 6). ●

[A140404] ● 1,42,1029,19208,302526,4235364,54353838,652246056,7419298887,80787921214,848273172747,8636963213424,85649885199788,830145041167176,7886377891088172,73606193650156272,676256904160810749 ★ Binomial(n+5,5)*(3n / 3) * n ^ 2 - (433 / 15) * n - 29. ● a(0)=1, a(1)=42, a(2)=1029, a(3)=19208, a(4)=302526, a(5)=4235364, a(n) =42 * a(n - 1) - 735 * a(n - 2) + 6860 * a(n - 3) - 36015 * a(n - 4) + 100842 * a(n - 5) - 117649 * a(n - 6). - Harvey P. Dale, Sep 08 2011 ●

[A016094] ● 1,42,1105,23310,431221,7309722,116419465,1769717670,25948716541,369730963602,5147200519825,70298695224030,944897655707461,12530341519244682,164265473257148185,2132247784185258390 ★ Expansion of 1/((1-9x)(1-10x)(1-11x)(1-12x)). ● a(n) = 42 * a(n - 1) - 659 * a(n - 2) + 4578 * a(n - 3) - 11880 * a(n - 4), n>=4. - Vincenzo Librandi, Mar 18 2011 ● a(n) = 23 * a(n - 1) - 132 * a(n - 2) + 10 ^ (n + 1) - 9 ^ (n + 1), n>=2. - Vincenzo Librandi, Mar 18 2011 ● a(n) = 5 * 10 ^ (n + 2) + 2 * 12 ^ (n + 2) - 11 ^ (n + 3) / 2 - 3 * 9 ^ (n + 2) / 2. - R. J. Mathar, Mar 19 2011 ●

[A215545] ● 0,42,1638,10659,40480,115101,272272,566618,1072764,1888460,3137706,4973877,7582848,11186119,16043940,22458436,30776732,41394078,54756974,71366295,91780416,116618337,146562808,182363454,224839900 ★ Number of standard Young tableaux of shape [5n,5]. ● a(n) = (5 * n - 4) * (5 * n + 2) * (5 * n + 3) * (5 * n + 4) * (n + 1) / 24 for n>0, a(0) = 0. ●

[A120815] ● 42,1664,33338,468200,5253864,50442128,431645370,3380738400,24682378500,170201240352,1119398566704,7074531999584,43215257135312,256343213520000,1482127305153560,8378542979807616,46428426576857886 ★ Number of permutations of length n with exactly 7 occurrences of the pattern 2-13. ● a(n) = ((n + 5)(40320 + 67824n - 20180n ^ 2 - 7556n ^ 3 - 5n ^ 4 + 211n ^ 5 + 25n ^ 6 + n ^ 7) / (5040(n + 8)(n + 9))Binomial[2n, n - 7]; generating function = x ^ 7 C ^ 15(32 + 16516C - 92666C ^ 2 + 215944C ^ 3 - 281094C ^ 4 + 225628C ^ 5 - 110922C ^ 6 + 25360C ^ 7 + 7066C ^ 8 - 9364C ^ 9 + 4622C ^ 10 - 1440C ^ 11 + 294C ^ 12 - 36C ^ 13 + 2C ^ 14) / (2 - C) ^ 13, where C=(1 - Sqrt[1 - 4x]) / (2x) is the Catalan function. ●

[A214580] ● 42,2697,29805,163914,616008,1819539,4550763,10075380,20321478,38078781,67224201,112973694,182160420,283539207,428117319,629511528,904331490,1272589425,1758136101,2389123122,3198491520,4224486651,5511199395,7109133660,9075800190 ★ The hyper-Wiener index of the circumcoronene H(n) (see definition in the Klavzar papers). ● a(n) = (1 / 10)n + (17 / 15)n ^ 2 - 3n ^ 3 - (55 / 6)n ^ 4 + (82 / 5)n ^ 5 + (548 / 15)n ^ 6. ●

[A227493] ● 42,14652,376080,4717944,42247752,311654376,2030475048,12146472360,68316332712,366865702056,1900861968552,9573539690664,47121333848232,227582442154152,1081872982370472,5074283412646056,23526766452271272,107995434142918824,491414463894251688,2218905516729428136 ★ The hyper-Wiener index of the nanostar dendrimer D_n. ● a(n) = - 5976 + 2 ^ n * (7056 * n ^ 2 - 33264 * n - 213990) + 4 ^ n * (28244 * n ^ 2 - 122976 * n + 220008). ●

[A041923] ● 1,1,43,44,1891,1935,83161,85096,3657193,3742289,160833331,164575620,7073009371,7237584991,311051578993,318289163984,13679196466321,13997485630305,601573592939131,615571078569436,26455558892855443,2707112997142487 9 ★ Denominators of continued fraction convergents to sqrt(483). ● a(n) = 44 * a(n - 2) - a(n - 4) for n>3, - _ Vincenzo Librandi _ , Dec 27 2013 ● a(n) = product { k = 1..floor((n - 1) / 2) } (42 + 4 * cos ^ 2(k * Pi / n)). ●

[A065874] ● 1,1,43,85,1891,5461,84883,314245,3879331,17077621,180009523,897269605,8457669571,46142992981,401365114963,2339370820165,19196705648611,117450280095541,923711917337203,5856623681349925,44652524209512451 ★ (7^(n+1) - (-6)^(n+1))/13. ● a(n)=a(n - 1) + 42a(n - 2); a(0)=a(1)=1. ●

[A023293] ● 43,103,199,1039,1303,2311,2857,3673,4513,4663,5743,5953,8431,9721,12391,14143,14533,17599,18457,19507,21211,23719,24169,25621,28663 ★ Numbers n such that n remains prime through 3 iterations of function f(x) = 8x + 5. ● a(n) == 1 (mod 6). - _ John Cerkan _ , Sep 23 2016 ●

[A158604] ● 1,43,169,379,673,1051,1513,2059,2689,3403,4201,5083,6049,7099,8233,9451,10753,12139,13609,15163,16801,18523,20329,22219,24193 ★ 42n^2 + 1. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A158628] ● 43,175,395,703,1099,1583,2155,2815,3563,4399,5323,6335,7435,8623,9899,11263,12715,14255,15883,17599,19403,21295,23275,25343,27499 ★ 44n^2-1. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A213554] ● 1,43,334,1406,4271,10577,22764,44220,79437,134167,215578,332410,495131,716093,1009688,1392504,1883481,2504067,3278374,4233334,5398855,6807977,8497028,10505780,12877605 ★ Principal diagonal of the convolution array A213553. ● a(n) = (39 * n ^ 5 + 15 * n ^ 4 - 25 * n ^ 3 + n) / 30. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). ●

[A164783] ● 1,43,337,2395,16801,117643,823537,5764795,40353601,282475243,1977326737,13841287195,96889010401,678223072843,4747561509937,33232930569595,232630513987201,1628413597910443,11398895185373137 ★ 7^n-6. ● a(n) = 7 * a(n - 1) + 36 with n>1, a(1)=1. - _ Vincenzo Librandi _ , Nov 30 2010 ● a(n) = 8 * a(n - 1) - 7 * a(n - 2) for n>2, a(1)=1, a(2)=43. - _ Vincenzo Librandi _ , Feb 06 2013 ●

[A272124] ● 1,43,369,1507,4273,9771,19393,34819,58017,91243,137041,198243,277969,379627,506913,663811,854593,1083819,1356337,1677283,2052081,2486443,2986369,3558147,4208353 ★ a(n) = 12*n^4 + 16*n^3 + 10*n^2 + 4*n + 1. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. ●

[A027002] ● 1,43,431,2482,10636,38138,122069,362853,1027843,2822668,7601784,20228876,53447609,140633575,369179479,967898846,2535852052,6641420806,17390705661,45533644161,119213967867,312112955384,817130734512,2139286435768,5600737350897 ★ a(n) = T(2*n, n+3), T given by A026998. ● a(n) = ((29 - 13 * sqrt(5)) / 2) * ((3 - sqrt(5)) / 2) ^ n + ((29 + 13 * sqrt(5)) / 2) * ((3 + sqrt(5)) / 2) ^ n - (4 / 5) * n ^ 5 + (4 / 3) * n ^ 4 - (25 / 3) * n ^ 3 - (31 / 3) * n ^ 2 - (433 / 15) * n - 29. ●

[A008388] ● 1,43,505,3067,12559,39733,104959,242845,507781,980407,1775005,3047815,5006275,7919185,12127795,18057817,26232361,37285795,51978529,71212723,96048919,127723597,167667655 ★ Crystal ball sequence for A_6 lattice. ● a(n) = 1 + 7 * n * (n + 1) * (n ^ 2 + n + 3) * (11 * n ^ 2 + 11 * n + 14) / 60. - _ T. D. Noe _ , Apr 29 2007 ●

[A060888] ● 1,1,43,547,3277,13021,39991,102943,233017,478297,909091,1623931,2756293,4482037,7027567,10678711,15790321,22796593,32222107,44693587,60952381,81867661,108450343,141867727,183458857 ★ a(n) = n^6 - n^5 + n^4 - n^3 + n^2 - n + 1. ● a(0)=1, a(1)=1, a(2)=43, a(3)=547, a(4)=3277, a(5)=13021, a(6)=39991, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35

* a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jul 21 2012 •

[A130014] • 0,43,2440,2643,2860,16443,17620,18879,97980,104839,112176,573199,613176,655939,3342976,3575979,3825220,19486419,20844460,22297143,113577300,121492543,129959400,661979143,708112560 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+881)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1762 for n > 6; a(1)=0, a(2)=43, a(3)=2440, a(4)=2643, a(5)=2860, a(6)=16443. •

[A178755] • 44,46,49,64,66,69,94,96,99,104,155,215,221,222,225,226,251,255,262,265,333,334,335,338,339 ⋆ Integers that become semiprime when any single digit is removed. • a(10) = 104 because deleting the "1" gives "04" which by OEIS protocol becomes the semiprime 4=2 * 2; deleting the "0" gives the semiprime 14=2 * 7; and deleting the "4" gives the semiprime 10=2 * 5. •

[A156812] • 44,70,546,1472,2848,4674,6950,9676,12852,16478,20554,25080,30056,35482,41358,47684,54460,61686,69362,77488,86064,95090,104566,114492,124868 ⋆ 225n^2 - 199n + 44. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 08 2012 •

[A129289] • 0,44,95,219,455,744,1460,2832,4515,8687,16683,26492,50808,97412,154583,296307,567935,901152,1727180,3310344,5252475,10066919,19294275,30613844,58674480 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+73)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 146 for n > 6; a(1)=0, a(2)=44, a(3)=95, a(4)=219, a(5)=455, a(6)=744. •

[A264446] • 0,44,119,234,399,625,924,1309,1794,2394,3125,4004,5049,6279,7714,9375,11284,13464,15939,18734,21875,25389,29304,33649,38454 ⋆ a(n) = n*(n + 5)*(n + 10)*(n + 15)/24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Vincenzo Librandi _ , Nov 16 2015 •

[A183634] • 44,136,452,1576,5684,21016,79172,302536,1168724,4552696,17848292,70313896,278034164,1102505176,4381191812,17438411656,69494842004,277203478456,1106487293732,4418971411816,17654956552244,70557047312536 ⋆ Number of (n+1) X 2 0..3 arrays with every 2 x 2 subblock summing to 6. • a(n) = 2 + 2 ^ (2 + n) + 2 * 3 ^ (1 + n) + 4 ^ (1 + n). •

[A026908] • 1,44,198,758,2824,10530,39516,149274,567120,2164898,8297206,31907214,123053938,475753142,1843357752,7155936162,27826486272,108369397602,422614721742,1650118887102,6450143419962,25238550057222 ⋆ T(2n,n), T given by A026907. • a(n) = 4 ^ n * GAMMA(n + 1 / 2) * (38 + 99 * n + 49 * n ^ 2) * Pi ^ (- 1 / 2) / GAMMA(n + 3) - 18 - based on guessed recurrence - Mark van Hoeij, Oct 30 2011. •

[A060836] • 0,0,0,0,44,264,924,2464,5544,11088,20328,34848,56628,88088,132132,192192,272272,376992,511632,682176,895356,1158696,1480556,1870176,2337720 ⋆ Number of permutations of n letters where exactly 5 change position. • a(n) = 44 * C(n, 5). a(n) = a(n - 1) * n / (n - 5). •

[A094794] • 44,309,1214,3539,8544,18089,34754,61959,104084,166589,256134,380699,549704,774129,1066634,1441679,1915644,2506949,3236174,4126179,5202224,6492089,8026194,9837719,11962724 ⋆ a(n)=(1/n!)*A001689(n). • a(n) =n ^ 5 + 10 * n ^ 4 + 45 * n ^ 3 + 100 * n ^ 2 + 109 * n + 44. • a(0)=44, a(1)=309, a(2)=1214, a(3)=3539, a(4)=8544, a(5)=18089, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Jul 25 2012 •

[A120812] • 1,44,700,7460,63648,470934,3155691,19660630,115855025,653392740,3556757490,18805317960,97034823600,490465092600,2435567286708,11910569958216,57470522059594,274051266477560,1293219035408080 ⋆ Number of permutations of length n with exactly 4 occurrences of the pattern 2-13. • a(n) = (- 36 - 100 m - 13 m ^ 2 + 4 m ^ 3 + m ^ 4) / (24(m + 6))Binomial[2m, m - 5]; generating function = x ^ 5 C ^ 11 (5 - 118C + 259C ^ 2 - 240C ^ 3 + 142C ^ 4 - 62C ^ 5 + 17C ^ 6 - 2 C ^ 7) / (2 - C) ^ 7, where C=(1 - Sqrt[1 - 4 x]) / (2x) is the Catalan function. •

[A035611] • 1,44,968,14212,156816,1388508,10286936,65652532,368804128,1854105484,8453107432,35333619428,136677756336,493244610364,1672424817272,5360494538388,16327295550016,47469373288172,132235461020168,354093052356164 ⋆ Coordination sequence for lattice D*_22 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=22. •

[A130645] • 0,44,1121,1317,1541,7644,8780,10080,45621,52241,59817,266960,305544,349700,1557017,1781901,2039261,9076020,10386740,11886744,52899981,60539417,69282081,308324744,352850640 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+439)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 878 for n > 6; a(1)=0, a(2)=44, a(3)=1121, a(4)=1317, a(5)=1541, a(6)=7644. •

[A042011] • 1,1,45,46,2069,2115,95129,97244,4373865,4471109,201102661,205573770,9246348541,9451922311,425130930225,434582852536,19546776441809,19981359294345,898726585392989,918707944687334,41321876151635685,42240584096323019,1899907576389848521 ⋆ Denominators of continued fraction convergents to sqrt(528). • a(n) = 46 * a(n - 2) - a(n - 4) for n>3, - _ Vincenzo Librandi _ , Jan 12 2014 • a(n) = product { k = 1..floor((n - 1) / 2) } (44 + 4 * cos ^ 2(k * Pi / n)). •

[A291787] • 45,48,56,60,80,88,92,94,95,96,112,120,160,176,184,188,190,216,252,324,378,486,567,594,738 ⋆ Trajectory of 45 under repeated application of the map k -> A291784(k). • a(n) = 2 * a(n - 7) for n >= 35, which proves this is unbounded. [Guy, Wall] •

[A026043] • 45,67,98,140,195,265,352,458,585,735,910,1112,1343,1605,1900,2230,2597,3003,3450,3940,4475,5057,5688,6370,7105 ⋆ a(n) = dot_product(1,2,...,n)*(n,n-1,...2,1)*(5,6,2,3,4) • a(n) = n(2n ^ 2 - 9n + 49) / 6 (n >= 5). - _ Emeric Deutsch _ , Nov 29 2006 •

[A026060] • 45,80,126,184,255,340,440,556,689,840,1010,1200,1411,1644,1900,2180,2485,2816,3174,3560,3975,4420,4896,5404,5945 ⋆ dot_product(n,n-1,...2,1)*(5,6, • a(n) = n(n ^ 2 + 15n - 46) / 6. - _ Ralf Stephan _ , Apr 30 2004 • a(5)=45, a(6)=80, a(7)=126, a(8)=184, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Nov 05 2011] •

[A063343] • 1,45,84,126,168,210,252,298,336,382,420,462,504,554,588,634,672,718,756,806,840,890,924,970,1008 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(70). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A277131] • 45,127,279,521,873,1355,1987,2789,3781,4983,6415,8097,10049,12291,14843,17725,20957,24559,28551,32953,37785,43067,48819,55061,61813 ⋆ Magic numbers of anti-Mackay icosahedra. • a(n) = 10 / 3 * n ^ 3 + 25 * n ^ 2 + 161 / 3 * n + 45 with offset 0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>5. • a(n) = 11 - (19 * n) / 3 + 5 * n ^ 2 + (10 * n ^ 3) / 3. •

[A098924] • 1,45,132,262,435,651,910,1212,1557,1945,2376,2850,3367,3927,4530,5176,5865,6597,7372,8190,9051,9955,10902,11892,12925 ⋆ 45-gonal numbers: n*(43*n-41)/2. • a(n) = n * (43 * n - 41) / 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 •

[A195318] • 1,45,133,265,441,661,925,1233,1585,1981,2421,2905,3433,4005,4621,5281,5985,6733,7525,8361,9241,10165,11133,12145,13201 ⋆ Centered 44-gonal numbers. • a(n) = 22 * n ^ 2 - 22 * n + 1. •

[A053743] • 45,145,245,345,445,545,645,745,845,945,1045,1145,1245,1345,1445,1545,1645,1745,1845,1945,2045,2145,2245,2345,2445 ⋆ Sum of numbers in range 10n to 10n+9. • a(n) = 100 * n + 45. • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 5 * (9 + 11 * x) / (1 - x) ^ 2. [_ Colin Barker _ , Jun 26 2012] •

[A254147] • 45,165,825,4917,32505,229845,1703625,13072917,103008345,828707925,6779099625,56214660117,471424600185,3990804658005,34053171548425,292542431786517,2527742384720025,21950298188288085,191434401453597225,1675813243179972117 ⋆ a(n) = 1*9^n + 2*8^n + 3*7^n + 4*6^n + 5*5^n + 6*4^n + 7*3^n + 8*2^n + 9*1^n. • a(n) = (x + 1) * (Bernoulli(n + 1, x + 1) - Bernoulli(n + 1, 1)) / (n + 1) - (Bernoulli(n + 2, x + 1) - Bernoulli(n + 2, 1)) / (n + 2) at x = 9. • a(n) = (1 / 8!) * Sum _{ k = 0..n } (- 1) ^ (k + n) * (k + 10)! * Stirling2(n,k) / ((k + 1) * (k + 2)). (End) •

[A158630] • 1,45,177,397,705,1101,1585,2157,2817,3565,4401,5325,6337,7437,8625,9901,11265,12717,14257,15885,17601,19405,21297,23277,25345 ⋆ 44n^2+1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158634] • 45,183,413,735,1149,1655,2253,2943,3725,4599,5565,6623,7773,9015,10349,11775,13293,14903,16605,18399,20285,22263,24333,26495,28749 ⋆ 46n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A280059] • 1,45,225,637,1377,2541,4225,6525,9537,13357,18081,23805,30625,38637,47937,58621,70785,84525,99937,117117,136161,157165,180225,205437,232897 ⋆ Number of 2 X 2 matrices having all elements in {-n,..,0,..,n} with determinant = permanent. • a(n) = 16 * (n + 1) ^ 3 - 28 * (n + 1) ^ 2 + 16 * (n + 1) - 3 for n>0. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). (End) •

[A272850] • 1,45,325,1225,3321,7381,14365,25425,41905,65341,97461,140185,195625,266085,354061,462241,593505,750925,937765,1157481,1413721,1710325,2051325,2440945,2883601 ⋆ a(n) = (n^2 + (n+1)^2)*(n^2 + (n+1)^2 + 2*n*(n+1)). • a(n) = (2 * n ^ 2 + 2 * n + 1) * (4 * n ^ 2 + 4 * n + 1). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. •

[A156719] • 45,350,943,1824,2993,4450,6195,8228,10549,13158,16055,19240,22713,26474,30523,34860,39485,44398,49599,55088,60865,66930,73283,79924,86853 ⋆ 144n^2 - 127n + 28. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A086576] • 0,45,495,4995,49995,499995,4999995,49999995,499999995,4999999995,49999999995,499999999995,4999999999995,49999999999995,499999999999995,4999999999999995,49999999999999995 ⋆ a(n) = k where R(k+5)=5. • a(n) = 5 * (10 ^ n - 1). • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[A093529] • 45,525,2205,31185,99099,585585,1640925,35334585,92147055,468495027,1166167275,11408158125,27484885575,130734984825,307452619485,11455089532425,26442675480375,121132637200575,275520749478975 ⋆ Pi*denominators of odd raw moments in the distribution of line lengths for lines picked at random in the unit disk. • a(k) = Pi * Denominator[(2 * Gamma[3 + n]) / ((2 + n) * Gamma[2 + n / 2] * Gamma[3 + n / 2])] for n = 2k - 1. •

[A283116] • 0,0,0,0,0,0,1,45,533,3546,16917,64345,207327,587922,1505924,3549610,7806420,16188690,31919658,60238044,109392480,192015912,326985561,541900545,876326275 ⋆ Number of nonequivalent ways (mod D_3) to place 5 points on an n X n X n triangular grid so that no two of them are on the same row, column or diagonal. • a(n) = (n ^ 10 - 35 * n ^ 9 + 530 * n ^ 8 - 4526 * n ^ 7 + 23693 * n ^ 6 - 76544 * n ^ 5 + 141360 * n ^ 4 - 104944 * n ^ 3 - 67984 * n ^ 2 + 124224 * n) / 23040 + IF(MOD(n, 2) = 1, - 45 * n ^ 4 + 1350 * n ^ 3 - 13770 * n ^ 2 + 57915 * n - 81225) / 23040 + IF(MOD(n, 3) = 2, - 2) / 9. •

[A027783] • 45,550,3630,17160,65065,210210,600600,1555840,3719430,8314021755182 0,35271600,67897830,125847260,225544440,392251200,663966875,1096717050,1771619850,2804201400,4356527175,6652824750,9999397200,14809766400,21636143100 ⋆ a(n) = 5*(n+1)*binomial(n+2,10). • a(n) = C(n + 1, 9) * C(n + 2, 2). - _ Zerinvary Lajos _ , May 13 2005, corrected _ R. J. Mathar _ , Mar 15 2016 •

[A160837] • 2,3,4,45,556,3457,14317,45565,120772,280001,586225,1132813,2052084,3524929,5791501,9162973,14034364,20898433,30360641,43155181,60162076,82425345,111172237,147833533,194064916,251769409,323120881 ⋆ G.f.:

(1+38*x+262*x^2+475*x^3+254*x^4+37*x^5+x^6)/(1-x)^7. • a(n) = 1 + 24 / 5 * n + 38 / 3 * n ^ 3 + 207 / 20 * n ^ 2 + 61 / 6 * n ^ 4 + 68 / 15 * n ^ 5 + 89 / 60 * n ^ 6 = 1 + n * (n + 1) * (89 * n ^ 4 + 183 * n ^ 3 + 427 * n ^ 2 + 333 * n + 288) / 60. - R. J. Mathar, Dec 16 2009 •

[A160838] • 1,45,557,3473,14417,45965,121997,283137,593281,1147213,2079309,3573329,5873297,9295469,14241389,21212033,30823041,43821037,61101037,83724945,112941137,150205133,197201357,255865985,328410881 ⋆ G.f.: (1+38*x+263*x^2+484*x^3+263*x^4+38*x^5+x^6)/(1-x)^7. • a(n) = 68 * n ^ 6 / 45 + 68 * n ^ 5 / 15 + 91 * n ^ 4 / 9 + 38 * n ^ 3 / 3 + 467 * n ^ 2 / 45 + 24 * n / 5 + 1. - R. J. Mathar, Sep 11 2011 • a(0)=1, a(1)=45, a(2)=557, a(3)=3473, a(4)=14417, a(5)=45965, a(6)=121997, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, Sep 17 2011] •

[A090024] • 0,1,45,571,5841,55651,515025,4702531,42649281,385447171,3476958705,31332052291,282184860321,2540643522691,22870684139985,205860600134851,1852867557848961,16676418630942211,150090820212050865 ⋆ Number of distinct lines through the origin in the n-dimensional lattice of side length 8. • a(n) = 9 ^ n - 5 ^ n - 3 ^ n - 2 ^ n + 2. •

[A110691] • 1,45,632,4825,25227,101822,340416,986094,2551725,6028099,13209768,27179087,53000311,98685900,176508416,304743564,509943033,829849833,1317083800,2043740853,3107066435,4636381354,6801456960,9822556250 ⋆ Kekulé numbers for certain benzenoids. • a(n) = (n + 1) * (n + 2) ^ 3 * (n + 3) * (13 * n ^ 4 + 104 * n ^ 3 + 311 * n ^ 2 + 412 * n + 210) / 7!. •

[A024379] • 45,812,5130,20460,62335,158760,355572,722760,1361745,2413620,4068350,6574932,10252515,15502480,22821480,32815440,46214517,63889020,86866290,116348540,153731655,200624952,258871900,330571800,418102425 ⋆ a(n) = 3rd elementary symmetric function of the first n+2 positive integers congruent to 1 mod 4. • a(n) = n * (2 * n + 3) * (n + 2) * (n + 1) * (4 * n ^ 2 + 8 * n - 3) / 6. •

[A034967] • 0,45,900,13500,180000,2250000,27000000,315000000,3600000000,40500000000,450000000000,4950000000000,54000000000000,585000000000000,6300000000000000,67500000000000000,720000000000000000 ⋆ Sum of digits of numbers between 0 and (10^n)-1. • a(n) = 45 * n * 10 ^ (n - 1) • a(0)=0, a(1)=45, a(n)=20 * a(n - 1) - 100 * a(n - 2) [From Harvey P. Dale, Oct 09 2011] •

[A140346] • 1,45,1125,20625,309375,4021875,46921875,502734375,5027343750,47480468750,427324218750,3690527343750,30754394531250,248400878906250,1951721191406250,14963195800781250,112223968505859375 ⋆ a(n) = binomial(n+8, 8)*5^n. • a(n) = 45 * a(n - 1) - 900 * a(n - 2) + 10500 * a(n - 3) - 78750 * a(n - 4) + 393750 * a(n - 5) - 1312500 * a(n - 6) + 2812500 * a(n - 7) - 3515625 * a(n - 8) + 1953125 * a(n - 9) for n > 8. •

[A053112] • 1,45,1485,40095,938223,19702683,379980315,6839645670,116273976390,1883638417518,29282015399598,439230230993970,6385731819835410,90312492880529370,1246312401751305306,16825217423642621631 ⋆ Expansion of (-1+1/(1-9*x)^9)/(81*x); related to A053108. • a(0)=1, a(1)=45, a(2)=1485, a(3)=40095, a(4)=938223, a(5)=19702683, a(6)=379980315, a(7)=6839645670, a(8)=116273976390, a(n)=81 * a(n - 1) - 2916 * a(n - 2) + 61236 * a(n - 3) - 826686 * a(n - 4) + 7440174 * a(n - 5) - 44641044 * a(n - 6) + 172186884 * a(n - 7) - 387420489 * a(n - 8) + 387420489 * a(n - 9). - _ Harvey P. Dale _ , Apr 27 2013 •

[A279439] • 0,0,45,2304,34020,270720,1475145,6209280,21654864,65422080,176467005,434206080,990140580,2117816064,4288771305,8284308480,15355471680,27446584320,47501098029,79872376320,130866406020,209448328320,328150139625,504222960384,761083938000 ⋆ Number of ways to place 5 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 10 - 30 * n ^ 8 + 90 * n ^ 7 - 27 * n ^ 6 - 270 * n ^ 5 + 500 * n ^ 4 - 360 * n ^ 3 + 96 * n ^ 2) / 120. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) +* a(n - 11). •

[A130017] • 0,45,2688,2901,3128,18105,19340,20657,107876,115073,122748,631085,673032,717765,3680568,3925053,4185776,21454257,22879220,24398825,125046908,133352201,142209108,728829125,777235920 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+967)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1934 for n > 6; a(1)=0, a(2)=45, a(3)=2688, a(4)=2901, a(5)=3128, a(6)=18105. • a(1)=0, a(2)=45, a(3)=2688, a(4)=2901, a(5)=3128, a(6)=18105, a(7)=19340, a(n)=a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Nov 03 2013 •

[A213880] • 45,3960,279720,16798320,839991600,33599966400,1007999899200,20159999798400,201599999798400 ⋆ a(n) = sum of n-digit numbers with distinct nonzero digits. • a(n) = 5 * (10 ^ n - 1) * 8! / (9 - n)!. •

[A113630] • 1,45,4097,83653,757305,4272461,17736745,59409477,169826513,429794605,987654321,2098573445,4178995657,7879732173,14181546905,24517448581,40926266145,66242446637,104327377633,160347899205,241108033241 ⋆ 1 + 2*n + 3*n^2 + 4*n^3 + 5*n^4 + 6*n^5 + 7*n^6 + 8*n^7 + 9*n^8. • a(n) = 1 + 2 * n + 3 * n ^ 2 + 4 * n ^ 3 + 5 * n ^ 4 + 6 * n ^ 5 + 7 * n ^ 6 + 8 * n ^ 7 + 9 * n ^ 8. •

[A282465] • 1,46,47,93,140,233,373,606,979,1585,2564,4149,6713,10862,17575,28437,46012,74449,120461,194910,315371,510281,825652,1335933,2161585 ⋆ a(n) = 11*Fibonacci(n+3) + Fibonacci(n-8) with n>=0. • a(n) = a(n - 1) + a(n - 2). • a(n) = a(i) * Fibonacci(n - i + 1) + a(i - 1) * Fibonacci(n - i). Examples: • a(n) = 44 * Fibonacci(n) + Fibonacci(n + 2), • a(n) = 45 * Fibonacci(n) + Fibonacci(n + 1), • a(n) = 46 * Fibonacci(n) + Fibonacci(n - 1), • a(n) = 47 * Fibonacci(n) - Fibonacci(n - 2). •

[A264445] • 0,46,104,175,260,360,476,609,760,930,1120,1331,1564,1820,2100,2405,2736,3094,3480,3895,4340,4816,5324,5865,6440 ⋆ a(n) = n*(n + 11)*(n + 22)/6. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Nov 16 2015 •

[A204769] • 46,105,197,256,348,407,499,558,650,709,801,860,952,1011,1103,1162,1254,1313,1405,1464,1556,1615,1707,1766,1858 ⋆ a(n) = 151*(n-1) - a(n-1) with n>1, a(1)=46. • a(n) = (- 151 - 33 * (- 1) ^ n + 302 * n) / 4. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A122513] • 0,1,46,135,4540,13261,444906,1299475,43596280,127335321,4271990566,12477562015,418611479220,1222673742181,41019652973026,119809549171755,4019507379877360,11740113145089841,393870703575008286,1150411278669632695,38595309442970934700 ⋆ Numbers n such that 1+2n+3n^2 is a triangular number. • a(n) = a(n - 1) + 98 * a(n - 2) - 98 * a(n - 3) - a(n - 4) + a(n - 5). - _ Colin Barker _ , Dec 15 2014 • a(n) = (- (5 / 8) * sqrt(6) - 3 / 2) * (5 - 2 * sqrt(6)) ^ n + (- 3 / 2 + (5 / 8) * sqrt(6)) * (5 + 2 * sqrt(6)) ^ n - 1 / 3 + (- (1 / 3) * sqrt(6) - 5 / 6) * (- 5 + 2 * sqrt(6)) ^ n + ((1 / 3) * sqrt(6) - 5 / 6) * (- 5 - 2 * sqrt(6)) ^ n. - _ Robert Israel _ , Dec 15 2014 •

[A192850] • 46,184,414,832,1390,2232,3262,4672,6318,8440,10846,13824,17134,21112,25470,30592,36142,42552,49438,57280,65646,75064,85054,96192,107950 ⋆ Molecular topological indices of the web graphs • a(n) = n * (6 * n ^ 2 + 22 * n + 3 * ((- 1) ^ n + 7)). •

[A156841] • 46,263,1538,3871,7262,11711,17218,23783,31406,40087,49826,60623,72478,85391,99362,114391,130478,147623,165826,185087,205406,226783,249218,272711,297262 ⋆ 529n^2 - 312n + 46. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A213286] • 0,1,46,367,1805,7280,25781,83916,250062,676155,1662160,3748261,7839811,15370082,28505855,50400890,85502316,139914981,221828802,342014155,514390345,756672196,1091099801,1545256472,2152979930 ⋆ Number of 7-length words w over n-ary alphabet such that for every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (11954 - 29577 * n + 27640 * n ^ 2 - 12831 * n ^ 3 + 3234 * n ^ 4 - 420 * n ^ 5 + 24 * n ^ 6) / 24. •

[A113922] • 1,46,769,5632,18688,44032,85760,147968,234752,350208,498432,683520,909568,1180672,1500928,1874432,2305280,2797568,3355392,3982848,4684032,5463040,6323968,7270912,8307968 ⋆ G.f.: (1+14*x+x^2)^3/((1-x))^4. • a(n)=256(n - 1)(8n ^ 2 - 16n + 9) / 3 for n>=3. - _ Emeric Deutsch _ , Apr 02 2006 •

[A156842] • 46,887,2786,5743,9758,14831,20962,28151,36398,45703,56066,67487,79966,93503,108098,123751,140462,158231,177058,196943,217886,239887,262946,287063,312238 ⋆ 529n^2 - 746n + 263. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A078427] • 46,901,13501,180001,2250001,27000001,315000001,3600000001,40500000001,450000000001,4950000000001,54000000000001,585000000000001,6300000000000001,67500000000000001,720000000000000001,7650000000000000001,81000000000000000001 ⋆ Sum of all the decimal digits of numbers from 1 to 10^n. • a(n) = (45 * n) * 10 ^ (n - 1) + 1. • a(n) = 21 * a(n - 1) - 120 * a(n - 2) + 100 * a(n - 3). - _ Colin Barker _ , May 23 2014 •

[A060561] • 0,1,46,1219,15084,110085,563786,2250311,7472984,21552969,55605670,131077771,286779076,589324749,1148105154,2136122255,3818273456,6588925841,11020906014,17928333139,28446045340,44128712341,67073090106 ⋆ Number of ways to color vertices of a 9-gon using <= n colors, allowing rotations and reflections. • a(0)=0, a(1)=1, a(2)=46, a(3)=1219, a(4)=15084, a(5)=110085, a(6)=563786, a(7)=2250311, a(8)=7472984, a(9)=21552969, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) [From Harvey P. Dale, Nov 23 2011] •

[A243648] • 0,0,0,0,0,46,4431,73098,587149,3125278,12712329,42731866,124522115,324628878,773900299,1714106922,3569586561,7053577342,13321444117,24185953530,42413141575,72121174766,119308962279,192546161866,303861667221 ⋆ Number of ways five L-tiles can be placed on an n X n square. • a(n) = (n ^ 10 - 10 * n ^ 9 - 25 * n ^ 8 + 520 * n ^ 7 - 435 * n ^ 6 - 9982 * n ^ 5 + 19925 * n ^ 4 + 82740 * n ^ 3 - 215906 * n ^ 2 - 244868 * n + 728760) / 120 for n>=5, a(n) = 0 for n<5. •

[A042103] • 1,1,47,48,2255,2303,108193,110496,5191009,5301505,249060239,254361744,11949700463,12204062207,573336561985,585540624192,27508205274817,28093745899009,1319820516629231,1347914262528240,63323876592928271,64671790855456511 ⋆ Denominators of continued fraction convergents to sqrt(575). • a(n) = 48 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 14 2014 • a(n) = product { k = 1..floor((n - 1) / 2) } (46 + 4 * cos ^ 2(k * Pi / n)). •

[A126980] • 47,61,75,89,103,117,131,145,159,173,187,201,215,229,243,257,271,285,299,313,327,341,355,369,383 ⋆ a(n) = 14*n + 47. • a(n) = 2 * a(n - 1) - a(n - 2) for n > 1. •

[A044234] • 47,111,175,239,303,367,376,431,495,559,623,687,751,815,879,888,943,1007,1071,1135,1199,1263,1327,1391,1400 ⋆ Numbers n such that string 5,7 occurs in the base 8 representation of n but not of n-1. • a(n) = 512 * (n - 7) / 9 + 376 when n == 7 mod 9; otherwise a(n) = 64 * (n - floor((n + 1) / 9) - 1) + 47. - _ Bob Selcoe _ , Apr 01 2016 • a(n) = a(n - 1) + a(n - 9) - a(n - 10). - _ G. C. Greubel _ , Apr 01 2016 •

[A114646] • 1,47,117,187,257,327,397,467,537,607,677,747,817,887,957,1027,1097,1167,1237,1307,1377,1447,1517,1587,1657 ⋆ Let M(n) be the n X n matrix m(i,j)=min(i,j) for 1<=i,j<=n then a(n) is the trace of M(n)^(-4). • a(1)=1 then a(n)=70n - 93. •

[A095311] • 1,47,138,274,455,681,952,1268,1629,2035,2486,2982,3523,4109,4740,5416,6137,6903,7714,8570,9471,10417,11408,12444,13525 ⋆ 47-gonal num-

bers. • a(n + 3) = 3 * a(n + 2) - 3 * a(n + 1) - a(n); a(1) = 1, a(2) = 47, a(3) = 138. • a(n) = (n * (45 * n - 43)) / 2. •

[A055822] • 1,47,144,328,640,1131,1863,2910,4359,6311,8882,12204,16426,21715,28257,36258,45945,57567,71396,87728,106884,129211,155083,184902,219099 ⋆ T(n,n-5), array T as in A055818. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n > 11. •

[A158632] • 1,47,185,415,737,1151,1657,2255,2945,3727,4601,5567,6625,7775,9017,10351,11777,13295,14905,16607,18401,20287,22265,24335,26497 ⋆ 46n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A065532] • 1,47,191,431,767,1199,1727,2351,3071,3887,4799,5807,6911,8111,9407,10799,12287,13871,15551,17327,19199,21167,23231,25391,27647 ⋆ a(n) = 48*n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 08 2012 •

[A157362] • 47,192,435,776,1215,1752,2387,3120,3951,4880,5907,7032,8255,9576,10995,12512,14127,15840,17651,19560,21567,23672,25875,28176,30575 ⋆ a(n) = 49*n^2 - 2*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A102090] • 47,228,1511,9213,57536,356863,2217871,13775700,85579087,531616825,3302453192,20515048427,127440964999,791672146068,4917923140383,30550483740725,189781751728736,1178937572877255,7323643025265351 ⋆ Number of matchings in the C_n X P_3 graph (C_n is the cycle graph on n vertices and P_3 is the path graph on 3 vertices). • a(n)=3a(n - 1) + 19a(n - 2) + 10a(n - 3) - 24a(n - 4) - 10a(n - 5) + 11a(n - 6) + a(n - 7) - a(n - 8) with a(2)=47, a(3)=228, a(4)=1511, a(5)=9213, a(6)=57536, a(7)=356863, a(8)=2217871 and a(9)=13775700. G.f.= - z ^ 2 * (- 47 - 87z + 66z ^ 2 + 122z ^ 3 - 36z ^ 4 - 40z ^ 5 + 5z ^ 6 + 3z ^ 7) / [(z ^ 2 - 1 - z)(z + 1)(z ^ 5 - z ^ 4 - 9z ^ 3 + 9z ^ 2 + 5z - 1)]. •

[A069760] • 47,287,959,2399,5039,9407,16127,25919,39599,58079,82367,113567,152879,201599,261119,332927,418607,519839,638399,776159,935087,1117247,1324799,1559999,1825199 ⋆ Frobenius number of the numerical semigroup generated by consecutive centered square numbers. • a(n) = 4n ^ 4 + 16n ^ 3 + 20n ^ 2 + 8n - 1 • a(1)=47,a(2)=287,a(3)=959,a(4)=2399,a(5)=5039,a(n)= 5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5). [From Harvey P. Dale, Apr 25 2011] •

[A217119] • 47,428,1721,6473,14033,35201,58961,58967,465743,530701,530710,1733741,4250788,4723108,4776398,25051529,37327196,42450640,42986860,42987589,42996409,225463817,382055767,382571822,386888308 ⋆ Greatest number (in decimal representation) with n nonprime substrings in base-9 representation (substrings with leading zeros are considered to be nonprime). • a(n) <= 9 ^ (n + 2). • a(n) <= 9 ^ min(n + 2, 6 * floor((n + 7) / 8)). • a(n) <= 9 ^ ((3 / 4) * (n + 3)). • a(n + m + 1) >= 9 * a(n), where m := floor(log _ 9(a(n))) + 1. •

[A244880] • 1,47,650,4726,23219,87677,274132,743724,1806597,4016683,8306078,16168802,29904823,52936313,90209192,148694104,238002057,371131047,565361074,843316046,1234212155,1775313397,2513615996,3507784580,4830364045 ⋆ Number of magic labelings of the cycle-of-loops graph LOOP X C_8 having magic sum n, where LOOP is the 1-vertex, 1-loop-edge graph. • a(n) = (630 + 3051 * n + 6570 * n ^ 2 + 8211 * n ^ 3 + 6503 * n ^ 4 + 3339 * n ^ 5 + 1085 * n ^ 6 + 204 * n ^ 7 + 17 * n ^ 8) / 630. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>8. •

[A194952] • 48,126,390,1014,2982,8094,23646,66726,196086,568302,1682382,4954998,14750310,43833150,130942398,390959430,1170256854,3502513038,10495480494,31450265622,94296270918,282731526366 ⋆ Number of Hamilton cycles in C_3 X C_n. • a(n) = 3 ^ n + 3 / 4 * n * 2 ^ n + (2 ^ n - (- 2) ^ n) / 2 + (- 1) ^ n - 4, n>=3. • a(3)=48, a(4)=126, a(5)=390, a(6)=1014, a(7)=2982, a(8)=8094 and a(n) = 5 * a(n - 1) - a(n - 2) - 25 * a(n - 3) + 26 * a(n - 4) + 20 * a(n - 5) - 24 * a(n - 6), n>=9. •

[A114444] • 0,48,128,240,384,560,768,1008,1280,1584,1920,2288,2688,3120,3584,4080,4608,5168,5760,6384,7040,7728,8448,9200,9984 ⋆ a(n) = 16*n*(n+2). • a(n) = 16 * (2 * n + 1) + a(n - 1) (with a(0)=0). - _ Vincenzo Librandi _ , Nov 13 2010 •

[A129428] • 1,48,142,283,471,706,988,1317,1693,2116,2586,3103,3667,4278,4936,5641,6393,7192,8038,8931,9871,10858,11892,12973,14101 ⋆ Centered 47-gonal numbers. • a(n) = 1 + (47 / 2) * n + (47 / 2) * n ^ 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: - (x ^ 2 + 45 * x + 1) / (x - 1) ^ 3. - _ Colin Barker _ , Jul 27 2013 •

[A131683] • 48,175,1680,25410,294000,2295513,12991440,57550100,211281840,669529875,1885734928,4823347830,11387316720,25126129245,52326450000,103659864168,196585724720,358766207415,632810010000,1082730294250,1802581066608,2927824829985,4650083620560 ⋆ a(n) = 4*(n^1 + 1!)*(n^2 + 2!)*(n^3 + 3!)*(n^4 + 4!)/4!. • a(0)=48, a(1)=175, a(2)=1680, a(3)=25410, a(4)=294000, a(5)=2295513, a(6)=12991440, a(7)=57550100, a(8)=211281840, a(9)=669529875, a(10)=1885734928, a(n)=11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Mar 23 2015 •

[A005911] • 1,48,186,416,738,1152,1658,2256,2946,3728,4602,5568,6626,7776,9018,10352,11778,13296,14906,16608,18402,20288,22266,24336,26498 ⋆ Number of points on surface of truncated cube: 46n^2 + 2. • a(0)=1, a(1)=48, a(2)=186, a(3)=416, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Aug 19 2014 •

[A130566] • 1,48,186,460,915,1596,2548,3816,5445,7480,9966,12948,16471,20580,25320,30736,36873,43776,51490,60060,69531,79948,91356,103800,117325 ⋆ Pyramidal 47-gonal numbers. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 29 2012 •

[A157923] • 48,194,438,780,1220,1758,2394,3128,3960,4890,5918,7044,8268,9590,11010,12528,14144,15858,17670,19580,21588,23694,25898,28200,30600 ⋆ 49n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 05 2012 •

[A100146] • 1,48,221,600,1265,2296,3773,5776,8385,11680,15741,20648,26481,33320,41245,50336,60673,72336,85405,99960,116081,133848,153341,174640,197825 ⋆ Structured great rhombicubeoctahedral numbers. • a(n) = (1 / 6) * (80 * n ^ 3 - 102 * n ^ 2 + 28 * n) • a(n) = ((n - 1) + 1) * (5 * (n - 1) + 3) * (8 * (n - 1) + 1) / 3; g.f.: x * (1 + 44 * x + 35 * x ^ 2) / (1 - x) ^ 4. [Jaume Oliver Lafont, Sep 08 2009] •

[A157913] • 48,240,560,1008,1584,2288,3120,4080,5168,6384,7728,9200,10800,12528,14384,16368,18480,20720,23088,25584,28208,30960,33840,36848,39984 ⋆ 64*n^2 - 16. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 09 2012 •

[A181773] • 0,48,240,672,1440,2640,4368,6720,9792,13680,18480,24288,31200,39312,48720,59520,71808,85680,101232,118560,137760,158928,182160,207552,235200 ⋆ Molecular topological indices of the cocktail party graphs. • a(n) = 8 * (n - 1) * n * (2n - 1). •

[A115056] • 0,0,0,48,264,840,2040,4200,7728,13104,20880,31680,46200,65208,89544,120120,157920,204000,259488,325584,403560,494760,600600,722568,862224 ⋆ a(n) = n*(n^2-1)*(3*n+2). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A281234] • 0,48,288,1680,9792,57072,332640,1938768,11299968,65861040,383866272,2237336592,13040153280,76003583088,442981345248,2581884488400,15048325585152,87708069022512,511200088549920,2979492462277008,17365754685112128,101215035648395760 ⋆ Solutions y to the negative Pell equation y^2 = 72*x^2 - 288 with x,y >= 0. • a(n) = 6 * a(n - 1) - a(n - 2) for n>2. • a(n) = 6 * sqrt(2) * (- (3 - 2 * sqrt(2)) ^ n * (3 + 2 * sqrt(2)) + (3 - 2 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n). •

[A019558] • 1,48,384,1392,3456,6960,12288,19824,29952,43056,59520,79728,104064,132912,166656,205680,250368,301104,358272,422256,493440,572208,658944,754032,857856 ⋆ Coordination sequence for F_4 lattice. • a(n) = 16 * n * (2 - 3 * n + 4 * n ^ 2), n >= 1; •

[A192828] • 48,440,2008,6468,16736,37248,74280,136268,234128,381576,595448,896020,1307328,1857488,2579016,3509148,4690160,6169688,8001048,10243556,12962848,16231200,20127848,24739308,30159696 ⋆ Molecular topological indices of the n X n grid graphs • a(n) = 2(2 + n) * (6 - 24 * n + 25 * n ^ 2 - 13 * n ^ 3 + 4 * n ^ 4) / 3. •

[A229505] • 0,48,480,4032,31104,228096,1617408,11197440,76142592,510603264,3386105856,22251552768,145118822400,940369969152,6060162023424,38868625391616,248257671856128,1579821548175360,10020582391283712 ⋆ Number of defective 3-colorings of an n X 3 0..2 array connected diagonally and antidiagonally with exactly one mistake, and colors introduced in row-major 0..2 order. • a(n) = 2 ^ (2 + n) * 3 ^ (n - 2) * (2 * n - 1) for n>1. •

[A168351] • 0,1,48,486,2560,9375,27216,67228,147456,295245,550000,966306,1617408,2599051,4033680,6075000,8912896,12778713,17950896,24760990,33600000,44925111,59266768,77236116,99532800 ⋆ a(n) = n^5*(n+1)/2. • a(n) = Sum _{ i=1..n } Sum _{ j=1..n } Sum _{ k=1..n } Sum _{ l=1..n } Sum _{ m=1..n } (i + j + k - l - m). - _ Wesley Ivan Hurt _ , Aug 13 2015 •

[A192832] • 0,48,576,2880,9600,25200,56448,112896,207360,356400,580800,906048,1362816,1987440,2822400,3916800,5326848,7116336,9357120,12129600,15523200,19636848,24579456,30470400,37440000 ⋆ Molecular topological indices of the lattice graphs. • a(n) = 4 * (- 1 + n) ^ 2 * n ^ 2 * (1 + n). •

[A136038] • 0,0,48,648,3840,15000,45360,115248,258048,524880,990000,1756920,2965248,4798248,7491120,11340000,16711680,24054048,33907248,46915560,63840000,85571640,113145648,147756048,190771200 ⋆ a(n) = n^6 - n^4. • a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). G.f.: 24 * x ^ 2 * (1 + x) * (2 * x ^ 2 + 11 * x + 2) / (1 - x) ^ 7. [From _ R. J. Mathar _ , Feb 06 2010] •

[A192839] • 0,48,768,4320,15360,42000,96768,197568,368640,641520,1056000,1661088,2515968,3690960,5268480,7344000,10027008,13441968,17729280,23046240,29568000,37488528,47021568,58401600,71884800 ⋆ Molecular topological indices of the square graphs • a(n) = 8 * (- 1 + n) ^ 3 * n * (1 + n). •

[A241873] • 1,48,822,9305,83590,647891,4537169,29532566,182034751,1076357002,6162251432,34394051095,188121970788,1012370499109,5376927101387,28254655805724,147182871736245,761235618312420,3914066453608570,20027841005048805,102071452026321906 ⋆ Number of ascent sequences of length n with exactly three descents. • a(n) = 3 * 5 ^ (n - 1) / 8 - 4 ^ (n - 1) * n / 3 + 3 ^ (n - 2) * (6 * n ^ 2 - 2 * n - 7) / 16 - 2 ^ (n - 5) * (n - 2) * (n - 1) * (n + 3) / 3 - n / 24 + 1 / 16. - _ Vaclav Kotesovec _ , May 03 2014 •

[A089903] • 0,1,48,960,14572,195684,2456796,29567908,345679020,3956790132,44567901244,495679012356,5456790123468,59567901234580,645679012345692,6956790123456804,74567901234567916,795679012345679028 ⋆ Sum of digits of numbers between 0 and (1/9)*(10^n-1). • a(n) = s(1, n - 1) where s(a, k)= a * (k + 1) + a ^ 2 * sum(i=0, k, i * 10 ^ (k - i)) + sum(i=0, k, 5 * a * (9 * (k - i) + a - 1) * 10 ^ (k - i - 1)). • a(n) = (- 88 * (- 1 + 10 ^ n) + 9 * (16 + 9 * 10 ^ n) * n) / 162. G.f.: x * (45 * x ^ 2 + 26 * x + 1) / ((x - 1) ^ 2 * (10 * x - 1) ^ 2). - _ Colin Barker _ , Jun 14 2013 •

[A292045] • 0,48,972,7680,37500,136080,403368,1032192,2361960,4950000,9663060,17791488,31188612,52437840,85050000,133693440,204459408,305165232,445697820,638400000,898502220,1244602128,1699194552,2289254400,3046875000 ⋆ Wiener index of the n X n X n grid graph. • a(n) = (n - 1) * (n + 1) *

n ^ 5 / 2. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A000156] • 1,48,1104,16192,170064,1362336,8662720,44981376,195082320,721175536,2319457632,6631997376,17231109824,41469483552,93703589760,200343312768,407488018512,793229226336,1487286966928,2697825744960,4744779429216 ★ Number of ways of writing n as a sum of 24 squares. • a(n) = (2 ^ 4 * (sigma _{ 11 } (n) - 2 * sigma _{ 11 } (n / 2) + 2 ^{ 12 }* sigma _{ 11 } (n / 4)) - 2 ^ 7 * 259 * (- 1) ^ n * tau(n) - 2 ^ 16 * tau(n / 2)) / 691, n >= 1. •

[A287991] • 1,48,1128,17344,196836,1764192,13051008,82244736,452197434,2210431056,9753024192,39328459968,146436844568,507826976160,1652238451200,5074887938688,14794635174459,41126600601168,109456398969568,279899944411776,689873759134308 ★ Expansion of Jacobi theta constant (theta_2/2)^48. • a(n) = 1 / 3110400 * Sum _{ a, b, c, x, y, z > 0, a * x + b * y + c * z = n + 6, x == y == z == 1 mod 2 and a > b > c } (a * b * c) ^ 3 * ((a ^ 2 - b ^ 2) * (a ^ 2 - c ^ 2) * (b ^ 2 - c ^ 2)) ^ 2. •

[A035797] • 1,48,1152,18448,221952,2141808,17282432,120037968,733189632,4003707568,19804348032,89694733968,375299336448,1461956877552,5337746984832,18374985313488,59954658388992,186275979152688 ★ Coordination sequence for lattice D*_24 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=24. •

[A173155] • 1,48,1344,28672,516096,8257536,121110528,1660944384,21592276992,268703891456,3224446697472,37520834297856,425236122042368,4710307813392384,51140484831117312,545498504865251328 ★ a(n) = binomial(n + 5, 5) * 8^n. • a(n) = C(n + 5, 5) * 8 ^ n, n>=0 . •

[A076003] • 1,48,1600,46080,1232896,31653888,792985600,19566428160,478167433216,11613323132928,280917704704000,6777200695050240,163215697915150336,3926183399462535168,94372512377130188800 ★ Third column of triangle A075503. • a(n) = (8 ^ n - 8 * 16 ^ n + 9 * 24 ^ n) / 2. •

[A042199] • 1,1,49,50,2449,2499,122401,124900,6117601,6242501,305757649,312000150,15281764849,15593764999,763782484801,779376249800,38173842475201,38953218725001,1907928341275249,1946881560000250,95358243221287249,97305124781287499 ★ Denominators of continued fraction convergents to sqrt(624). • a(n) = product { k = 1..floor((n - 1) / 2) } (48 + 4 * cos ^ 2(k * Pi / n)). •

[A137558] • 49,69,109,149,229,269,349,389,469,589,629,749,829,869,949,1069,1189,1229,1349,1429,1469,1589,1669,1789,1949 ★ A137521(n)/5. • a(n) = 20 p + 9, where p is the n - th prime. - _ Charles R Greathouse IV _ , Aug 25 2014 •

[A131601] • 49,97,145,2497,7153,14113,133969,477313,1154737,7585249,30496273,85923649,450015601,1913836705,6038171857,27638920705,119503082545,409335331681,1736003525521,7472151487681,27120247408369,110448416633377,469111688042065,1770883563643777 ★ The number of different configurations of an n-block of a shift space with k symbols where each symbol but the first must appear isolated and separated from others by an block of length at least m made of first symbol. Here k=49 and m=2. • a(n) = a(n - 1) + (k - 1) * a(n - m - 1), where k=49, m=2, n>=4, with a(1) = 49, a(2) = 97, a(3) = 145. •

[A227863] • 1,49,121,169,241,289,361,409,481,529,601,649,721,769,841,889,961,1009,1081,1129,1201,1249,1321,1369,1441 ★ Numbers congruent to {1,49} mod 120. • a(n) = 60 * n - 6 * (- 1) ^ n - 65. [_ Bruno Berselli _ , Nov 04 2013] •

[A098442] • 1,1,49,145,3745,17761,329041,2057329,31209025,232680385,3110464369,26033283409,320766732001,2899777798945,33888636756625,322631662569265,3643305557364865,35919365323430785,396728681192463025 ★ Expansion of 1/sqrt(1-2x-95x^2). • a(n) = sum { k=0..floor(n / 2), binomial(n - k, k)binomial(n, k)24 ^ k } . • a(n + 2) = ((2 * n + 3) * a(n + 1) + 95 * (n + 1) * a(n)) / (n + 2); a(0)=a(1)=1. - Sergei N. Gladkovskii, Aug 01 2012 •

[A027469] • 49,147,294,490,735,1029,1372,1764,2205,2695,3234,3822,4459,5145,5880,6664,7497,8379,9310,10290,11319,12397,13524,14700,15925 ★ 49*(n-1)*(n-2)/2. • a(3)=49, a(4)=147, a(5)=294, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Aug 24 2011] •

[A216870] • 49,169,289,409,529 ★ A maximal length five arithmetic progression of squares in a quadratic number field. • a(n + 1) - a(n) = 120 for n = 1, 2, 3, 4. •

[A016922] • 1,49,169,361,625,961,1369,1849,2401,3025,3721,4489,5329,6241,7225,8281,9409,10609,11881,13225,14641,16129,17689,19321,21025 ★ (6n+1)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Wesley Ivan Hurt _ , Oct 13 2014 •

[A158638] • 1,49,193,433,769,1201,1729,2353,3073,3889,4801,5809,6913,8113,9409,10801,12289,13873,15553,17329,19201,21169,23233,25393,27649 ★ 48n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157919] • 49,199,449,799,1249,1799,2449,3199,4049,4999,6049,7199,8449,9799,11249,12799,14449,16199,18049,19999,22049,24199,26449,28799,31249 ★ 50n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 •

[A266799] • 1,1,49,229,1861,12001,84241,572209,3935569,26939221,184737301,1265964481,8677687969,59476087009,407659540081,2794128600901,19151272325221,131264694791329,899701808208049,6166647394567441,42266831441062801,289701168799073461 ★ Coefficient of x^0 in the minimal polynomial of the continued fraction [1^n,sqrt(3),1,1,...], where 1^n means n ones. • a(n) = 5 * a(n - 1) + 15 * a(n - 2) - 15 * a(n - 3) - 5 * a(n - 4) + a(n - 5) . •

[A017246] • 49,256,625,1156,1849,2704,3721,4900,6241,7744,9409,11236,13225,15376,17689,20164,22801,25600,28561,31684,34969,38416,42025,45796,49729 ★ (9*n+7)^2. • a(0)=49, a(1)=256, a(2)=625, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 24 2016 •

[A239607] • 1,1,49,289,961,2401,5041,9409,16129,25921,39601,58081,82369,113569,152881,201601,261121,332929,418609,519841,638401,776161,935089,1117249,1324801 ★ (1-2*n^2)^2. • a(n) = sin(arcsin(n) - arccos(n)) ^ 2. G.f.: - (x ^ 4 + 44 * x ^ 3 + 54 * x ^ 2 - 4 * x + 1) / (x - 1) ^ 5. - _ Colin Barker _ , May 24 2014 •

[A245033] • 49,320,729,1300,2057,3024,4225,5684,7425,9472,11849,14580,17689,21200,25137,29524,34385,39744,45625,52052,59049,66640,74849,83700,93217 ★ 4*(n + 7)^3 - 27*(n + 7)^2 = (4*n +1)*(n+7)^2. • a(n) = 4 * (n + 7) ^ 3 - 27 * (n + 7) ^ 2. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), n >= 4, with inputs a(0), ..., a(3). •

[A017606] • 49,361,961,1849,3025,4489,6241,8281,10609,13225,16129,19321,22801,26569,30625,34969,39601,44521,49729,55225,61009,67081,73441,80089,87025 ★ (12n+7)^2. • a(n) = a(n - 1) + 288 * n + 24, n>=1. - Vincenzo Librandi, Mar 20 2011 •

[A168572] • 0,49,392,2793,19600,137249,960792,6725593,47079200,329554449,2306881192,16148168393,113037178800,791260251649,5538821761592,38771752331193,271402266318400,1899815864228849,13298711049601992,93090977347213993 ★ a(n) = Sum_{k=2..n}(7^k). • a(n) = 7 ^ n + a(n - 1), with a(1)= 0. • a(n) = 7 * (7 ^ n - 7) / 6. • a(n) = 8 * a(n - 1) - 7 * a(n - 2). - _ G. C. Greubel _ , Jul 26 2016 •

[A030510] • 49,490,2704,10847,35346,99196,248491,568993,1211033,2425515,4614394,8399563,14714789,24926034,40986248,65631574,102626730,157068288,235755520,347639496,504362220,720898682,1016315904 ★ Graham-Sloane-type lower bound on the size of a ternary (n,3,10) constant-weight code. • a(n) = ceil (binomial (n, w) * 2 ^ w / (2 * n + 1)) •

[A175775] • 49,679,6979,69979,699979,6999979,69999979,699999979,6999999979,69999999979,699999999979,6999999999979,69999999999979,699999999999979,6999999999999979,69999999999999979,699999999999999979 ★ 7*(10^n-3). • a(1)=49, a(2)=679, a(n)=11 * a(n - 1) - 10 * a(n - 2). - _ Harvey P. Dale _ , Jun 21 2011 •

[A289992] • 1,49,746,6122,34067,144963,506772,1524628,4074949,9898229,22220990,46695870,92769495,175610631,318756136,557659432,944355593,1553488697,2489980818,3898657938,5976186139,8985711691,13274641084,19296041660,27634190285 ★ Number of magic labelings of the prism graph I X C_8 having magic sum n. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>9. •

[A036226] • 1,49,1372,28812,504210,7764834,108707676,1413199788,17311697403,201969803035,2262061793992,24471395771368,256949655599364,2628792630362724,26287926303627240,257621677775546952 ★ Expansion of 1/(1-7*x)^7. • a(n) = 7 ^ n * binomial(n + 6, 6). G.f.: 1 / (1 - 7 * x) ^ 7. • a(0)= 1, a(1)=49, a(2)=1372, a(3)=28812, a(4)=504210, a(5)=7764834, a(6)=108707676, a(n)=49 * a(n - 1) - 1029 * a(n - 2) + 12005 * a(n - 3) - 84035 * a(n - 4) + 352947 * a(n - 5) - 823543 * a(n - 6) + 823543 * a(n - 7). - _ Harvey P. Dale _ , Feb 21 2013 •

[A245036] • 49,2057,4225,11849,17689,34385,74849,93217,165649,230297,268105,355649,519665,727529,807457,1081849,1295537,1412185,1803649,2101145,2606009,3396649,3845777,4084465,4591049 ★ a(n) = 4*prime(n)^3 - 27*prime(n)^2 = (prime(n)^2)*[4*prime(n) - 27], n >= 4. • a(n) = 4 * [prime(n)] ^ 3 - 27 * prime(n) ^ 2 = (prime(n) ^ 2) * [4 * prime(n) - 27], n >= 4. •

[A014773] • 1,49,3025,6561,35721,55225,162409,219961,485809,613089,1147041,1385329,2325625,2725801,4239481,4862025,7144929,8059921,11336689,12623809,17147881,18896409,24950025,27258841,35153041 ★ Squares of odd heptagonal numbers. • a(n) = 1 / 2 * (200 * n ^ 4 - 920 * n ^ 3 + 1578 * n ^ 2 - 1196 * n + 338) for n even. • a(n) = 1 / 2 * (200 * n ^ 4 - 520 * n ^ 3 + 498 * n ^ 2 - 208 * n + 32) for n odd. •

[A109552] • 50,63,83,113,163,254,452,1019,4076 ★ Masses in Mev of the E. Wall Neutron model. • a(n) = Floor[4076 / (10 - n) ^ 2] •

[A158066] • 50,99,148,197,246,295,344,393,442,491,540,589,638,687,736,785,834,883,932,981,1030,1079,1128,1177,1226 ★ 49n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 11 2012 •

[A261343] • 0,1,50,147,292,485,726,1015,1352,1737,2170,2651,3180,3757,4382,5055,5776,6545,7362,8227,9140,10101,11110,12167,13272 ★ 50-gonal numbers: a(n) = 48*n*(n-1)/2 + n. • a(n) = n * (24 * n - 23). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Aug 17 2015 •

[A165676] • 50,154,342,638,1066,1650,2414,3382,4578,6026,7750,9774,12122,14818,17886,21350,25234,29562,34358,39646,45450,51794,58702,66198,74306 ★ Fourth right hand column of triangle A165674 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) • a(n) = 6 + 22 * n + 18 * n ^ 2 + 4 * n ^ 3 •

[A048511] • 1,50,163,421,1005,2317,5245,11741,26077,57565,126429,276445,602077,1306589,2826205,6094813,13107165,28114909,60162013,128450525,273678301,581959645,1235222493,2617245661,5536481245 ★ a(n) = T(6,n), array T given by A048505. • a(n) = (n + 9) * (n + 16) * 2 ^ (n - 2) - 35. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Feb 25 2015 •

[A173141] • 50,198,444,788,1230,1770,2408,3144,3978,4910,5940,7068,8294,9618,11040,12560,14178,15894,17708,19620,21630,23738,25944,28248,30650 ★ a(n) = 49*n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 10 2012 •

[A231087] • 50,224,1058,5054,24200,115934,555458,2661344,12751250,61094894,292723208,1402521134,6719882450,32196891104,154264573058,739125974174,3541365297800,16967700514814,81297137276258,389517985866464,1866

292792056050,8941945974413774,42843437080012808,205275239425650254 ★ Number of perfect matchings in graph C_3 x C_{2n} ● a(n) = 2 * (((sqrt(7) + sqrt(3)) / 2) ^ n + ((sqrt(7) - sqrt(3)) / 2) ^ n) ^ 2. ●

[A172519] ● 0,0,0,0,50,288,2450,16384,62208,233600,638880,1755072,3901534,8772176,17051850,33507328,59175640,105557904,173570244,287904000,447885774,702042000,1044894554,1565385984,2247132500 ★ Number of ways to place 4 nonattacking queens on an n X n toroidal board. ● a(n) = (n ^ 8 / 24 - n ^ 7 + 245n ^ 6 / 24 - 113n ^ 5 / 2 + 2843n ^ 4 / 16 - 593n ^ 3 / 2 + 4757n ^ 2 / 24) + (n ^ 6 / 8 - 5n ^ 5 / 2 + 305n ^ 4 / 16 - 129n ^ 3 / 2 + 629n ^ 2 / 8) * (- 1) ^ n + 8n ^ 2 * cos(2 * Pi * n / 3) / 3 + 9n ^ 2 * cos(Pi * n / 2) / 2. ●

[A293608] ● 0,50,390,1680,5320,13860,31500,64680,122760,218790,370370,600600,939120,1423240,2099160,3023280,4263600,5901210,8031870,10767680,14238840,18595500,24009700,30677400,38820600 ★ a(n) = (3*n + 7)*Pochhammer(n, 5) / 4!. ● a(n) = n * (n + 1) * Stirling2(4 + n, 2 + n). ● a(n) = (1 / 24) * (n * (168 + 422 * n + 395 * n ^ 2 + 175 * n ^ 3 + 37 * n ^ 4 + 3 * n ^ 5)). ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>6. ●

[A022147] ● 1,50,530,2562,8130,20082,42130,78850,135682,218930,335762,494210,703170,972402,1312530,1735042,2252290,2877490,3624722,4508930,5545922,6752370,8145810,9744642,11568130 ★ Coordination sequence for root lattice B_5. ● a(0) = 1; for n>0, a(n) = (108 * n ^ 4 - 88 * n ^ 3 + 156 * n ^ 2 - 32 * n + 6) / 3 . - _ Philippe Deléham _ , Feb 20 2004 ●

[A285044] ● 1,50,550,4020,24710,138012,725340,3655080,17859270,85230860,399257716,1842353240,8396404380,37868584600,169278679800,750923914320,3308947546950,14495583969900,63172016823300,274031830241400,1183780040663220 ★ Expansion of cosh(5*arctanh(2*sqrt(x))). ● a(n) = 1 / 3 * (64 * n ^ 2 + 8 * n + 3) * binomial(2 * n,n). ●

[A052460] ● 1,50,675,4624,21125,73926,214375,540800,1225449,2550250,4952651,9082800,15873325,26622974,43095375,67634176,103295825,154001250,224707699,321602000,452316501,626168950,854427575,1150602624 ★ 3-magic series constant. ● a(n) = n ^ 3 / 4 * (n ^ 2 + 1) ^ 2. ● a(1)=1, a(2)=50, a(3)=675, a(4)=4624, a(5)=21125, a(6)=73926, a(7)=214375, a(8)=540800, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Aug 14 2013 ●

[A086027] ● 1,50,834,7890,51990,265434,1119210,4063866,13081875,38131900,102259964,255425340,600047436,1336192860,2838530460,5783112156,11350211925,21540508734,39656591950,71021001950,124026854850,211648774950,353581802550,579225802950,931794553575 ★ a(n) = Sum_{i=1..n} C(i+5,6)^2. ● a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (77 * n ^ 6 + 1386 * n ^ 5 + 9380 * n ^ 4 + 29400 * n ^ 3 + 41783 * n ^ 2 + 20874 * n + 60) / 518918400. (End) ●

[A140520] ● 1,50,1375,27500,446875,6256250,78203125,893750000,9496093750,94960937500,902128906250,8201171875000,71760253906250,607202148437500,4987731933593750,39901855468750000,311733245849609375 ★ a(n) = binomial(n+9, 9)*5^n. ● a(n) = 50 * a(n - 1) - 1125 * a(n - 2) + 15000 * a(n - 3) - 131250 * a(n - 4) + 787500 * a(n - 5) - 3281250 * a(n - 6) + 9375000 * a(n - 7) - 17578125 * a(n - 8) + 19531250 * a(n - 9) - 9765625 * a(n - 10) for n > 9. ●

[A042299] ● 1,1,51,52,2651,2703,137801,140504,7163001,7303505,372338251,379641756,19354426051,19734067807,1006057816401,1025791884208,52295652026801,53321443911009,2718367847577251,2771689291488260,141302832421990251,144074521713478511 ★ Denominators of continued fraction convergents to sqrt(675). ● a(n) = 52 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 19 2014 ● a(n) = product { k = 1..floor((n - 1) / 2) } (50 + 4 * cos ^ 2(k * Pi / n)). ●

[A206525] ● 51,62,164,175,277,288,390,401,503,514,616,627,729,740,842,853,955,966,1068,1079,1181,1192,1294,1305,1407 ★ a(n) = 113*(n-1) - a(n-1) with n>1, a(1)=51. ● a(n) = (- 113 - 91 * (- 1) ^ n + 226 * n) / 4. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ●

[A075894] ● 51,91,157,235,337,505,673,925,1213,1465,1777,2137,2587,3055,3625,4183,4645,5275,5875,6595,7615,8605,9535,10417,11035 ★ Average of four successive primes squared, (prime(n)^2 + prime(n+1)^2 + prime(n+2)^2 + prime(n+3)^2)/4, n>=2. ● a(n) = (prime(n) ^ 2 + prime(n + 1) ^ 2 + prime (n + 2) ^ 2 + prime(n + 3) ^ 2) / 4, n>=2. ●

[A160847] ● 0,1,51,100,181,274,405,536,709,894,1111,1330,1591,1858,2167,2482,2825,3180,3577,3974,4413,4860,5339,5824,6351 ★ Number of lines through at least 2 points of a 7 X n grid of points. ● a(n) = (1 / 2) * (f(m,n,1) - f(m,n,2)) where f(m,n,k) = Sum((n - |kx|) * (m - |ky|)); - n < kx <n, - m < ky <m, (x,y)=1, m=7. ●

[A063314] ● 1,51,120,190,260,330,400,470,540,610,680,748,820,890,960,1028,1100,1168,1240,1308,1380,1448,1520,1586,1660 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(41). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[A129298] ● 0,51,120,267,540,931,1780,3367,5644,10591,19840,33111,61944,115851,193200,361251,675444,1126267,2105740,3936991,6564580,12273367,22946680,38261391,71534640 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+89)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 178 with for n > 6; a(1)=0, a(2)=51, a(3)=120, a(4)=267, a(5)=540, a(6)=931. ● a(1)=0, a(2)=51, a(3)=120, a(4)=267, a(5)=540, a(6)=931, a(7)=1780, a (n)=a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Sep 21 2013 ●

[A245829] ● 51,192,285,648,847,1536,1881,3000,3531,5184,5941,8232,9255,12288,13617,17496,19171,24000,26061,31944,34431,41472,44425,52728,56187 ★ Szeged index of the prism graph C_n X P_2 (n >=3). ● a(n) = 3n ^ 3 if n is even; a(n) = 3n ^ 3 - 4n ^ 2 + 2n if n is odd. Follows from Theorem 2.1 of the Klavzar et al. reference. ●

[A157365] ● 51,200,447,792,1235,1776,2415,3152,3987,4920,5951,7080,8307,9632,11055,12576,14195,15912,17727,19640,21651,23760,25967,28272,30675 ★ a(n) = 49*n^2 + 2*n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A157916] ● 51,201,451,801,1251,1801,2451,3201,4051,5001,6051,7201,8451,9801,11251,12801,14451,16201,18051,20001,22051,24201,26451,28801,31251 ★ a(n) = 50*n^2 + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 10 2012 ●

[A158640] ● 51,207,467,831,1299,1871,2547,3327,4211,5199,6291,7487,8787,10191,11699,13311,15027,16847,18771,20799,22931,25167,27507,29951,32499 ★ 52*n^2 - 1. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A193250] ● 1,51,245,679,1449,2651,4381,6735,9809,13699,18501,24311,31225,39339,48749,59551,71841,85715,101269,118599,137801,158971,182205,207599,235249 ★ Small rhombicuboctahedron with faces of centered polygons. ● a(n)= 16 * n ^ 3 - 24 * n ^ 2 + 10 * n - 1. ● a(0)=1, a(1)=51, a(2)=245, a(3)=679, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Aug 27 2011] ●

[A155464] ● 0,51,340,2023,11832,69003,402220,2344351,13663920,79639203,464171332,2705388823,15768161640,91903581051,535653324700,3122016367183,18196444878432,106056652903443,618143472542260,3602804182350151 ★ a(n) = 7*a(n-1)-7*a(n-2)+a(n-3) for n > 2; a(0) = 0, a(1) = 51, a(2) = 340. ● a(n) = 6 * a(n - 1) - a(n - 2) + 34 for n > 1; a(0) = 0, a(1) = 51. ● a(n) = ((1 + sqrt(2)) * (3 + 2 * sqrt(2)) ^ n + (1 - sqrt(2)) * (3 - 2 * sqrt(2)) ^ n - 2) * 17 / 4. ●

[A152579] ● 51,351,851,1551,2451,3551,4851,6351,8051,9951,12051,14351,16851,19551,22451,25551,28851,32351,36051,39951,44051,48351,52851,57551,62451 ★ (10*n+3)*(10*n+17). ● a(n) = 2 * a(n - 2) - a(n - 2) + 200. ●

[A083669] ● 1,51,381,1451,3951,8801,17151,30381,50101,78151,116601,167751,234131,318501,423851,553401,710601,899131,1122901,1386051,1692951,2048201,2456631,2923301,3453501 ★ Number of ordered quintuples (a,b,c,d,e), -n<= a,b,c,d,e<=n, such that a+b+c+d+e=0. ● a(n)= 1 + 5 * n * (n + 1) * (23 * n ^ 2 + 23 * n + 14) / 12. ● a(n)= integral((sin((n + 1 / 2)x) / sin(x / 2)) ^ 5, x=0..Pi) / Pi. - _ Yalcin Aktar _ , Dec 03 2011 ●

[A273189] ● 51,401,2451,14401,84051,490001,2856051,16646401,97022451,565488401,3295908051,19209960001,111963852051,652573152401,3803475062451,22168277222401,129206188272051,753068852410001,4389206926188051,25582172704718401,149103829302122451 ★ a(n) is the third number in a triple consisting of 3 numbers, which when squared are part of a right diagonal of a magic square of squares. ● a(0)= 51, a(1)= 401, a(n + 1)= a(n) * 6 - a(n - 1) + k where k=96. ● a(n) = (- 24 + 25 / 2 * (3 - 2 * sqrt(2)) ^ (1 + n) + 25 / 2 * (3 + 2 * sqrt(2)) ^ (1 + n)). ● a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>2. ●

[A142994] ● 1,51,501,2471,8361,22363,50973,103503,192593,334723,550725,866295,1312505,1926315,2751085,3837087,5242017,7031507,9279637,12069447,15493449,19654139,24664509,30648559,37741809 ★ Crystal ball sequence for the lattice C_5. ● a(n) = (2 * n + 1) * (32 * n ^ 4 + 64 * n ^ 3 + 88 * n ^ 2 + 56 * n + 15) / 15. ● a(n) = Sum _{ k = 0..5 } binomial(10,2k) * binomial(n + k,5). ● a(n) = Sum _{ k = 0..5 } binomial(10,2k + 1) * binomial(n + k + 1 / 2,5). ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), for n>5. - _ Vincenzo Librandi _ , Dec 16 2015 ●

[A173804] ● 1,51,551,5551,55551,555551,5555551,55555551,555555551,5555555551,55555555551,555555555551,5555555555551,55555555555551,555555555555551,5555555555555551,55555555555555551,555555555555555551 ★ (5*10^n-41)/9 for n>0. ● a(n) = 10 * a(n - 1) + 41 with a(0)= - 4. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 ●

[A160829] ● 1,51,673,4287,17931,57321,152251,353333,740077,1430311,2590941,4450051,7310343,11563917,17708391,26364361,38294201,54422203,75856057,103909671,140127331,186309201,244538163,317207997,407052901 ★ G.f.: (1 + 44x + 337x^2 + 612x^3 + 305x^4 + 40x^5 + x^6)/(1 - x)^7. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7), with a(0)=1, a(1)=51, a(2)=673, a(3)=4287, a(4)=17931, a(5) =57321, a(6)=152251. - _ Harvey P. Dale _ , Jun 21 2011 ● a(n) = (1 / 36) * (36 + 174 * n + 391 * n ^ 2 + 513 * n ^ 3 + 442 * n ^ 4 + 213 * n ^ 5 + 67 * n ^ 6). - _ Harvey P. Dale _ , Jun 21 2011, corrected by _ Eric Rowland _ , Aug 15 2017 ●

[A160835] ● 1,51,675,4319,18131,58121,154701,359605,754189,1459111,2645391,4546851,7473935,11828909,18122441,26991561,39219001,55753915,77733979,106508871,143665131,191052401,250811045,325401149,417632901 ★ G.f.: (1+44*x+339*x^2+630*x^3+323*x^4+42*x^5+x^6)/(1-x)^7. ● a(n) = 1 + n * (n + 1) * (23 * n ^ 4 + 48 * n ^ 3 + 98 * n ^ 2 + 73 * n + 58) / 12. - R. J. Mathar, Sep 17 2011 ●

[A227703] ● 52,150,328,610,1020,1582,2320,3258,4420,5830,7512,9490,11788,14430,17440,20842,24660,28918,33640,38850,44572,50830,57648,65050,73060 ★ The Wiener index of the zig-zag polyhex nanotube TUHC_6[2n,2] defined pictorially in Fig. 1 of the Eliasi et al. reference. ● a(n) = 2 * n * (1 + 2 * n + 2 * n ^ 2). ●

[A161478] ● 0,52,175,339,615,1312,2260,3864,7923,13447,22795,46452,78648,133132,271015,458667,776223,1579864,2673580,4524432,9208395,15583039,26370595,53670732,90824880 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+113)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 226 for n > 6; a(1)=0, a(2)=52, a(3)=175, a(4)=339, a(5)=615, a(6)=1312. ●

[**A288919**] • 0,0,52,176,372,640,980,1392,1876,2432,3060,3760,4532,5376,6292,7280,8340,9472,10676,11952,13300,14720,16212,17776,19412 ★ Number of 5-cycles in the n X n king graph. • a(n) = 36 * n ^ 2 - 128 * n + 112 for n>1. - _ Andrew Howroyd _ , Jun 19 2017 •

[**A005946**] • 1,52,358,1304,3455,7556,14532,25488,41709,64660,95986,137512,191243,259364,344240,448416,574617,725748,904894,1115320,1360471,1643972,1969628,2341424,2763525 ★ Number of n-step mappings with 5 inputs. • a(n) = h(5,n) where h(n, m) = Sum _{ j } (n! / f(j)) * Product _{ k=1..n } h(k,m - 1) ^ (j(k)) and the sum runs over all partitions j=(j(1),...,j(n)) of n and f(j) = Product _{ k=1..n } j(k)! * (k!) ^ (j(k)). That is, j satisfies Sum _{ k =1..n } k * j(k) = n [From Hogg & Huberman]. - _ Sean A. Irvine _ , Oct 11 2016 •

[**A100413**] • 52,592,5992,59992,599992,5999992,59999992,599999992,5999999992,59999999992,599999999992,5999999999992,59999999999992,599999999999992,5999999999999992,59999999999999992,599999999999999992 ★ Numbers n such that n is reversal(n)-th even composite number (n is A004086(n)-th even composite number). • a(n) = 6 * 10 ^ n - 8. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3). G.f.: 4 * x * (5 * x + 13) / ((x - 1) * (10 * x - 1)). - _ Colin Barker _ , Oct 14 2014 •

[**A273655**] • 52,906,9891,87416,686826,5020092,35006202,236460312,1562226237,10158790642,65294141913,415967090448,2631510433188,16551428673528,103578621308388,645186720537744,4000912828433199,24700465510596414,151810205132056779,928768921758036744 ★ Number of forests of labeled rooted trees of height at most 1, with n labels, five of which are used for root nodes and any root may contain >= 1 labels. • a(n) = C(n,5) * Sum _{ j=0..5 } Stirling2(5,j) * j ^ (n - 5). •

[**A035798**] • 1,52,1352,23452,305552,3191812,27866072,209284972,1381251872,8143343572,43450388072,212064570172,955155127472,4000126870436,15677814054136,57833980313356,201820290790976,669263277244276 ★ Coordination sequence for lattice D*_26 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=26. •

[**A156854**] • 52,2726,9450,20224,35048,53922,76846,103820,134844,169918,209042,252216,299440,350714,406038,465412,528836,596310,667834,743408,823032,906706,994430,1086204,1182028 ★ 2025n^2 - 3401n + 1428. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A219565**] • 1,52,6995,937776,107652681,10781201973,958919976957 ★ Number of 5-partite partitions of (n,n,n,n,n) into distinct quintuples. • a(n) = [(v * w * x * y * z) ^ n] 1 / 2 * Product _{ h,i,j,k,m>=0 } (1 + v ^ h * w ^ i * x ^ j * y ^ k * z ^ m). •

[**A042403**] • 1,1,53,54,2861,2915,154441,157356,8336953,8494309,450041021,458535330,24293878181,24752413511,1311419380753,1336171794264,70792352682481,72128524476745,3821475625473221,3893604149949966,206288891422871453,210182495572821419 ★ Denominators of continued fraction convergents to sqrt(728). • a(n) = 54 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jan 21 2014 • a(n) = product { k = 1..floor((n - 1) / 2) } (52 + 4 * cos ^ 2(k * Pi / n)). •

[**A102635**] • 53,61,317,349,353,134218081 ★ Skipping from prime to prime by least powers of 2 using 53 as the seed. • a(1) = 53, a(n + 1) = a(n) + 2 ^ k; a(n + 1) prime, k minimal. •

[**A160041**] • 53,73,125,193,365,697,1105,2117,4057,6437,12337,23645,37517,71905,137813,218665,419093,803233,1274473,2442653,4681585,7428173,14236825,27286277,43294565 ★ Positive numbers y such that y^2 is of the form x^2+(x+73)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=53, a(2)=73, a(3)=125, a(4)=193, a(5)=365, a(6)=697. •

[**A063363**] • 1,53,102,157,212,259,314,367,416,469,526,573,628,679,730,783,840,885,942,993,1044,1095,1154,1199,1256 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(90). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A158644**] • 1,53,209,469,833,1301,1873,2549,3329,4213,5201,6293,7489,8789,10193,11701,13313,15029,16849,18773,20801,22933,25169,27509,29953 ★ 52n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158656**] • 53,215,485,863,1349,1943,2645,3455,4373,5399,6533,7775,9125,10583,12149,13823,15605,17495,19493,21599,23813,26135,28565,31103,33749 ★ 54n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A157618**] • 53,1042,3281,6770,11509,17498,24737,33226,42965,53954,66193,79682,94421,110410,127649,146138,165877,186866,209105,232594,257333,283322,310561,339050,368789 ★ 625n^2 - 886n + 314. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A229358**] • 54,105,311,1281,6407,35745,212951,1323441,8464487,55247745,365983991,2451448401,16559916167,112602093345,769628452631,5282089330161,36372360161447,251135368228545,1737811434946871,12047233511096721,83642479068080327,581449745964789345 ★ Total sum of n-th powers of parts in all partitions of 7. • a(n) = 30 + 11 * 2 ^ n + 6 * 3 ^ n + 3 * 4 ^ n + 2 * 5 ^ n + 6 ^ n + 7 ^ n. •

[**A248598**] • 0,0,54,174,372,660,1050,1554,2184,2952,3870,4950,6204,7644,9282,11130,13200,15504,18054,20862,23940,27300,30954,34914,39192 ★ a(n) = (2*n+23)*n*(n-1), a coefficient appearing in the formula a(n)*Pi/324+n+1 giving the average number of regions into which n random planes divide the cube. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Oct 09 2014 •

[**A068380**] • 1,54,180,378,648,990,1404,1890,2448,3078,3780,4554,5400,6318,7308,8370,9504,10710,11988,13338,14760,16254,17820,19458,21168 ★ Engel expansion of sinh(1/3). • a(0) = 1, a(n) = 36n ^ 2 + 18n. - _ Ralf Stephan _ , Sep 03 2003 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. G.f.: (1 + 51 * x + 21 * x ^ 2 - x ^ 3) / (1 - x) ^ 3. - Colin Barker, Apr 13 2012 •

[**A245830**] • 54,243,656,1381,2506,4119,6308,9161,12766,17211,22584,28973,36466,45151,55116,66449,79238,93571,109536,127221,146714,168103,191476,216921,244526 ★ The Szeged index of a benzenoid consisting of a linear chain of n hexagons. • a(n) = (44 * n ^ 3 + 72 * n ^ 2 + 43 * n + 3) / 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Dec 08 2016 •

[**A228016**] • 54,539,5340,52865,523314,5180279,51279480,507614525,5024865774,49741043219,492385566420,4874114620985,48248760643434,477613491813359,4727886157490160,46801248083088245,463284594673392294,4586044698650834699,45397162391834954700 ★ a(1) = least k such that 1/1+1/2+1/3+1/4+1/5 < H(k) - H(5); a(2) = least k such that H(a(1)) - H(5) < H(k) -H(a(1)), and for n > 2, a(n) = least k such that H(a(n-1)) - H(a(n-2) > H(k) - H(a(n-1)), where H = harmonic number. • a(n) = 11 * a(n - 1) - 11 * a(n - 2) + a(n - 3) (conjectured). •

[**A245833**] • 54,540,2610,8820,23940,55944,117180,225720,406890,694980,1135134,1785420,2719080,4026960,5820120,8232624,11424510,15584940,20935530,27733860,36277164,46906200,60009300,76026600,95454450 ★ The Szeged index of the triangle-shaped benzenoid T_k (see Fig. 5.7 of the Diudea et al. reference). • a(k) = (k ^ 6 + 12k ^ 5 + 49k ^ 4 + 84k ^ 3 + 58k ^ 2 + 12k) / 4. •

[**A086577**] • 0,54,594,5994,59994,599994,5999994,59999994,599999994,5999999994,59999999994,599999999994,5999999999994,59999999999994,599999999999994,5999999999999994,59999999999999994,599999999999999994 ★ a(n) = k where R(k+6)=6. • a(n) = 6 * (10 ^ n - 1) • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[**A128961**] • 0,54,648,4860,29160,153090,734832,3306744,14171760,58458510,233834040,911952756,3482001432,13057505370,48212327520,175630621680,632270238048,2252462723046,7949868434280,27824539519980,96653663595720 ★ a(n) = (n^3 - n)*3^n. • a(n) = 12 * a(n - 1) - 54 * a(n - 2) + 108 * a(n - 3) - 81 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A218130**] • 0,0,54,696,4020,15480,46410,117264,261576,530640,998910,1770120,2984124,4824456,7526610,11387040,16772880,24132384,34006086,47038680,63991620,85756440,113368794,148023216,191088600 ★ Number of length 6 primitive (=aperiodic or period 6) n-ary words. • a(n) = n ^ 6 - n ^ 3 - n ^ 2 + n. •

[**A281775**] • 0,0,0,0,54,780,7830,67620,535374,3992940,28483110,196316340,1317106494,8650141500,55853351190,355770438660,2241509994414,13998294536460,86795899256070,535048203626580,3282628800655134,20061393719417820,122212221633141750 ★ Number of distinct topologies on an n-set that have exactly 7 open sets. • a(n) = 9 / 4 * 4! StirlingS2(n, 4) + 2 * 5! StirlingS2(n, 5) + 6! StirlingS2(n, 6). • a(n) = 21 * a(n - 1) - 175 * a(n - 2) + 735 * a(n - 3) - 1624 * a(n - 4) + 1764 * a(n - 5) - 720 * a(n - 6) for n>6. • a(n) = - 5 + 17 * 2 ^ (n - 1) - 3 ^ (2 + n) + 29 * 4 ^ (n - 1) - 4 * 5 ^ n + 6 ^ n for n>0. (End) •

[**A008401**] • 1,54,828,5202,20376,60030,146484,312858,605232,1084806,1830060,2938914,4530888,6749262,9763236,13770090,18997344,25704918,34187292,44775666,57840120,73791774,93084948 ★ Coordination sequence for {E_6}* lattice. • a(n) = 6 * n * (3 * n ^ 4 + 5 * n ^ 2 + 1), n>0. •

[**A281776**] • 0,0,0,1,54,955,11760,122941,1175034,10595215,91506420,763624081,6194818014,49084747075,381338401080,2914184784421,21965095364994,163656285828535,1207613518375740,8838842878371961,64253768864671974,464416229729871595,3340518964319750400 ★ Number of distinct topologies on an n-set that have exactly 8 open sets. • a(n) = StirlingS2(n, 3) + 2 * 4! StirlingS2(n, 4) + 15 / 4 * 5! StirlingS2(n, 5) + 5 / 2 * 6! StirlingS2(n, 6) + 7! StirlingS2(n, 7). • a(n) = 13 / 4 - 19 * 2 ^ (n - 1) + 44 * 3 ^ (n - 1) - 2 ^ (n - 1) * 3 ^ (2 + n) - 57 * 4 ^ (n - 1) + (39 * 5 ^ n) / 4 + 7 ^ n for n>0. •

[**A245832**] • 54,1008,6656,27340,84990,219604,497168,1019016,1932630,3443880,5830704,9458228,14795326,22432620,33101920,47697104,67296438,93186336,126886560,170176860,225125054,294116548,379885296,485546200,614628950 ★ The Szeged index of the parallelogram-shaped benzenoid Q_k (see Fig. 5.7 of the Diudea et al. reference). • a(k) = (12k ^ 6 + 72k ^ 5 + 137k ^ 92k ^ 3 + 13k ^ 2 - 2k) / 6. •

[**A190399**] • 0,1,54,1068,8550,45873,177968,562032,1519560,3662625,8057390,16477020,31712850,58018793,101639700,171525568,280160068,444636297,687881890,1040201500,1541008350,2240952065,3204279960,4511682288 ★ Number of ways to place 4 nonattacking grasshoppers on a toroidal chessboard of size n x n. • a(n) = 1 / 24 * n ^ 2 * (n ^ 6 - 6 * n ^ 4 - 96 * n ^ 3 + 347 * n ^ 2 + 96 * n - 726 + 96 * (- 1) ^ n), n>4. •

[**A173188**] • 1,54,1701,40824,826686,14880348,245525742,3788111448,55401129927,775615818978,10470813556203,137072468372112,1747673971744428,21778706417122872,266011342666286508,3192136111995438096 ★ a(n) = binomial(n + 5, 5)*9^n. • a(n) = C(n + 5, 5) * 9 ^ n. •

[**A212705**] • 54,3220,38794,237832,995710,3256540,8954258,21645200,47366982,95758500,181475866,325939096,559444366,923676652,1474657570,2286163232,3453646934,5098701492,7374096042,10469422120,14617383838 ★ a(n) is the difference between numbers of nonnegative multiples of 2*n+1 with even and odd digit sum in base 2*n in interval [0, (2*n)^8). • a(n) = 2 / (2 * n + 1) * sum { i=1..n } tan ^ 8(pi * i / (2 * n + 1)). • a(n) = 2 / 315 * n * (1088 * n ^ 6 + 3808 * n ^ 5 + 3920 * n ^ 4 + 280 * n ^ 3 - 868 * n ^ 2 + 322n - 45). •

[**A245831**] • 54,3438,39258,220824,842850,2517534,6349518,14149728,28688094,53985150,95642514,161212248,260605098,406537614,615018150,905871744,1303303878,1836503118,2540282634,3455760600,4631079474,6122164158,79935

19038,10319063904,13183008750 ⋆ The Szeged index of the coronene/circumcoronene benzenoid H_k (see Fig. 5 of the Gutman & Klavzar reference or Fig. 5.7 of the Diudea et al. reference). • a(k) = 3(36k ^ 6 - k ^ 4 + k ^ 2) / 2. •

[A085482] • 54,13824,354294,3538944,21093750,90699264,311299254,905969664,2324522934,5400000000,11575379574,23219011584,44049458934,79692609024,138396093750,231928233984,376690901814,595077871104,917112404214 ⋆ Product of three solutions of the Diophantine equation x^2 - y^2 = z^3. • a(n) = 54 * n ^ 8. • a(1)=54, a(2)=13824, a(3)=354294, a(4)=3538944, a(5)=21093750, a(6)=90699264, a(7)=311299254, a(8)=905969664, a(9)=2324522934, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jul 10 2013 •

[A042511] • 1,1,55,56,3079,3135,172369,175504,9649585,9825089,540204391,550029480,30241796311,30791825791,1693000389025,1723792214816,94777779989089,96501572203905,5305862678999959,5402364251203864,297033532244008615,302435896495212479 ⋆ Denominators of continued fraction convergents to sqrt(783). • a(n) = product { k = 1..floor((n - 1) / 2) } (54 + 4 * cos ^ 2(k * Pi / n)). •

[A101286] • 55,58,62,65,69,73,78,82,87,92,98,104,110,117,123,131,139,147,156,165,175,185,196,208,220 ⋆ Rounded frequencies in Hz of the notes of the chromatic music scale beginning at A. • a(1 + n) = round(55 * 2 ^ (n / 12)). - _ R. J. Mathar _ , Mar 12 2008 •

[A101285] • 55,62,65,73,82,87,98,110,123,131,147,165,175,196,220,247,262,294,330,349,392,440,494,523,587 ⋆ Rounded frequencies in Hertz of the notes of the C major music scale beginning at A (A Minor equal-tempered). • a(7n) = round(55 * 2 ^ (n - 1 / 6)); • a(7n + 1) = 55 * 2 ^ n; • a(7n + 2) = round(55 * 2 ^ (n + 1 / 6)); • a(7n + 3) = round(55 * 2 ^ (n + 1 / 4)); • a(7n + 4) = round(55 * 2 ^ (n + 5 / 12)); • a(7n + 5) = round(110 * 2 ^ (n - 5 / 12)); •

[A004434] • 55,66,75,79,82,87,88,90,94,95,99,100,103,106,110,111,114,115,118,120,121,123,126,127,129 ⋆ Numbers that are the sum of 5 distinct nonzero squares. • a(n) = n + 124 for n > 121. [_ Charles R Greathouse IV _ , Jul 17 2011] •

[A027865] • 55,91,139,199,271,355,451,559,679,811,955,1111,1279,1459,1651,1855,2071,2299,2539,2791,3055,3331,3619,3919,4231 ⋆ Sums of six consecutive squares: a(n) = n^2 + (n+1)^2 + (n+2)^2 + (n+3)^2 + (n+4)^2 + (n+5)^2. • a(n) = 6 * n ^ 2 + 30 * n + 55. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) = a(n - 1) + 12 * (n + 2). - _ Jean - Christophe Hervé _ , Nov 11 2015 •

[A128880] • 1,55,91,253,325,595,703,1081,1225,1711,1891,2485,2701,3403,3655,4465,4753,5671,5995,7021,7381,8515,8911,10153,10585 ⋆ Triangular numbers congruent to 1 or 5 mod 6. • a(1)=Tr(1), a(2)=Tr(10), where Tr(k)=k(k + 1) / 2 is triangular number; for n>=3 a(n)=Tr(k(n)), where k(n)=k(n - 2) + 12 with k(1)=1, k(2)=10. • a(n) = (36 * n ^ 2 + 18 * (- 1) ^ n * n - 36 * n - 9 * (- 1) ^ n + 11) / 2. • a(n) = 18 * n ^ 2 - 9 * n + 1 for n even. • a(n) = 18 * n ^ 2 - 27 * n + 10 for n odd. •

[A063345] • 1,55,119,184,247,312,375,441,503,569,631,698,759,826,887,955,1015,1083,1143,1212,1271,1340,1399,1469,1527 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(72). • a(n) = a(n - 2) + a(n - 4) - a(n - 6) for n>8. •

[A224459] • 55,133,259,442,691,1015,1423,1924,2527,3241,4075,5038,6139,7387,8791,10360,12103,14029,16147,18466,20995,23743,26719,29932,33391 ⋆ The Wiener index of the straight pentachain of n pentagonal rings (see Fig. 2.1 in the A. A. Ali et al. reference). • a(n) = (3 * n ^ 3 + 21 * n ^ 2 - 6 * n + 14) / 2. •

[A158646] • 1,55,217,487,865,1351,1945,2647,3457,4375,5401,6535,7777,9127,10585,12151,13825,15607,17497,19495,21601,23815,26137,28567,31105 ⋆ 54n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158658] • 55,223,503,895,1399,2015,2743,3583,4535,5599,6775,8063,9463,10975,12599,14335,16183,18143,20215,22399,24695,27103,29623,32255,34999 ⋆ 56n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A063653] • 1,1,55,341,5933,59925,795611,9167119,113555791,1355115601,16484061769,198549329897,2403674442213,29023432116879,350917980468767,4239961392742933,51247532773412135,619304595300705203 ⋆ Number of ways to tile a 9 X n rectangle with 1 X 1 and 2 X 2 tiles. • a(n) = 6 * a(n - 1) + 110 * a(n - 2) - 262 * a(n - 3) - 2786 * a(n - 4) + 5916 * a(n - 5) + 25168 * a(n - 6) - 53907 * a(n - 7) - 95299 * a(n - 8) + 197820 * a(n - 9) + 193866 * a(n - 10) - 340168 * a(n - 11) - 228528 * a(n - 12) + 279636 * a(n - 13) + 137864 * a(n - 14) - 108909 * a(n - 15) - 33736 * a(n - 16) + 20214 * a(n - 17) + 2460 * a(n - 18) - 1296 * a(n - 19). •

[A053138] • 1,55,715,5005,24310,92378,293930,817190,2042975,4686825,10015005,20160075,38567100,70607460,124403620,211915132,350343565,563921995,886163135,1362649145,2054455634,3042312350,4431613550,6358402050,8996462475 ⋆ Binomial coefficients C(2n+9,9). • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n > 9. - _ Wesley Ivan Hurt _ , Dec 05 2016 •

[A027784] • 55,726,5148,26026,105105,360360,1089088,2975544,7482618,17551820,38798760,81477396,163601438,315762216,588376800,1062347000,1864418985,3188915730,5327982660,8713054350,13970931975,21998673840,34062462720,51926743440,78021243300 ⋆ a(n) = 11*(n+1)*binomial(n+2,11)/2. • a(n) = C(n + 1, 10) * C(n + 2, 2). - _ Zerinvary Lajos _ , Apr 28 2005, corrected by _ R. J. Mathar _ , Mar 15 2016 •

[A008402] • 1,55,883,6085,26461,86491,232975,545833,1151065,2235871,4065931,7004845,11535733,18284995,28048231,41818321,60815665,86520583,120707875,165483541,223323661,297115435 ⋆ Crystal ball sequence for {E_6}* lattice. • a(0)=1, a(1)=55, a(2)=883, a(3)=6085, a(4)=26461, a(5)=86491, a(6)=232975, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jun 20 2013 • a(n) = 3n ^ 6 + 9n ^ 5 + 15n ^ 4 + 15n ^ 3 + 9n ^ 2 + 3n + 1 = 1 + 3 * n * (n + 1) * (n ^ 2 + n + 1) ^ 2. - _ Charles R Greathouse IV _ , Jun 20 2013 •

[A173113] • 1,55,1650,35750,625625,9384375,125125000,1519375000,17092968750,180425781250,1804257812500,17222460937500,157872558593750,1396564941406250,11970556640625000,99754638671875000 ⋆ a(n) = binomial(n + 10, 10) * 5^n. • a(n) = C(n + 10, 10) * 5 ^ n, n>=0 . •

[A113632] • 1,55,9217,280483,3378745,23803711,118513705,462945547,1512003793,4303999495,10987654321,25678050355,55776799177,113924725903,220792014745,408951042331,728121033505,1252121211607,2087920281313 ⋆ 1 + 2*n + 3*n^2 + 4*n^3 + 5*n^4 + 6*n^5 + 7*n^6 + 8*n^7 + 9*n^8 + 10*n^9. • a(n) = 1 + 2 * n + 3 * n ^ 2 + 4 * n ^ 3 + 5 * n ^ 4 + 6 * n ^ 5 + 7 * n ^ 6 + 8 * n ^ 7 + 9 * n ^ 8 + 10 * n ^ 9. •

[A133898] • 56,57,58,59,60,61,62,63,120,121,122,123,124,125,126,127,184,185,186,187,188,189,190,191,248 ⋆ Numbers m such that binomial(m+8,m) mod 8 = 0. • a(n)=8n - 56 - 7 * (n mod 8). •

[A254369] • 56,84,156,354,936,2754,8736,29274,102216,368274,1359216,5110794,19495896,75203394,292596096,1145977914,4511183976,17827536114,70660511376,280697078634,1116961278456,4450379734434,17749154257056,70839585900954,282887376051336 ⋆ a(n) = 15*2^n + 4^n + 5*3^n + 35. • a(n) = 10 * a(n - 1) - 35 * a(n - 2) + 50 * a(n - 3) - 24 * a(n - 4). - _ Colin Barker _ , Jan 30 2015 •

[A104394] • 56,91,111,121,125,147,167,177,181,202,212,216,231,232,236,246,251,261,265,286,296,300,316,320,330 ⋆ Sums of 4 distinct positive pentatope numbers (A000332). • a(n) = Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). •

[A280932] • 56,97,153,250,403,653,1056,1709,2765,4474,7239,11713,18952,30665,49617,80282,129899,210181,340080,550261,890341,1440602,2330943,3771545,6102488 ⋆ a(n) = 2*F(n-1) + 2*F(n-3) + 10*F(n-5) + 9*F(n-8) where n >= 8 and F = A000045. • a(n) = a(n - 1) + a(n - 2). •

[A063347] • 1,56,114,171,228,285,342,397,456,511,570,627,684,737,798,853,912,967,1026,1079,1140,1193,1254,1309,1368 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(74). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A157330] • 56,120,184,248,312,376,440,504,568,632,696,760,824,888,952,1016,1080,1144,1208,1272,1336,1400,1464,1528,1592 ⋆ 64n - 8. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 29 2012 •

[A254463] • 56,126,378,1386,5778,26226,126378,636426,3314178,17714466,96660378,536249466,3015243378,17141522706,98333399178,568324150506,3305074833378,19319850386946,113420243462778,668241096915546,3948892688324178,23393955029043186 ⋆ a(n) = 15*2^n + 6*4^n + 10*3^n + 3*5^n + 6^n + 21. • a(n) = 21 * a(n - 1) - 175 * a(n - 2) + 735 * a(n - 3) - 1624 * a(n - 4) + 1764 * a(n - 5) - 720 * a(n - 6). - _ Colin Barker _ , Jan 31 2015 •

[A158481] • 56,203,448,791,1232,1771,2408,3143,3976,4907,5936,7063,8288,9611,11032,12551,14168,15883,17696,19607,21616,23723,25928,28231,30632 ⋆ 49n^2 + 7. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158487] • 56,248,568,1016,1592,2296,3128,4088,5176,6392,7736,9208,10808,12536,14392,16376,18488,20728,23096,25592,28216,30968,33848,36856,39992 ⋆ 64*n^2 - 8. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 09 2012 •

[A005912] • 1,56,311,920,2037,3816,6411,9976,14665,20632,28031,37016,47741,60360,75027,91896,111121,132856,157255,184472,214661,247976,284571,324600,368217 ⋆ Truncated cube numbers. • a(n) = (3 * n + 1) ^ 3 - 8 * (n) * (n + 1) * (n + 2) / 6=77 / 3 * n ^ 3 + 23 * n ^ 2 + 19 / 3 * n + 1. • a(0)=1, a(1)=56, a(2)=311, a(3)=920, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Aug 14 2011 •

[A287702] • 0,1,56,381,1192,2705,5136,8701,13616,20097,28360,38621,51096,66001,83552,103965,127456,154241,184536,218557,256520,298641,345136,396221,452112 ⋆ a(n) = (3!)^3 * [z^3] hypergeom([], [1,1], z)^n. • a(n) = 46 * n - 81 * n ^ 2 + 36 * n ^ 3. • a(n) = [x ^ n] (x + 52 * x ^ 2 + 163 * x ^ 3) / (1 - x) ^ 4. •

[A027793] • 56,588,3360,13860,46200,132132,336336,780780,1681680,3403400,6534528,11992344,21162960,36085560,59690400,96101544,151016712,232178100,349949600,518017500,754233480,1081620540,1529564400 ⋆ a(n) = 28*(n+1)*C(n+3, • a(n) = C(n + 1, 6) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 13 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[A027813] • 56,630,3780,16170,55440,162162,420420,990990,2162160,4424420,8576568,15872220,28217280,48430620,80582040,130423524,205931880,317983050,481180700,714864150,1044323280,1502250750,2130464700 ⋆ a(n) = 14*(n+1)*C(n+5,8). • a(n) = C(n + 1, 4) * C(n + 5, 5). - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[A175602] • 56,776,7976,79976,799976,7999976,79999976,799999976,7999999976,79999999976,799999999976,7999999999976,79999999999976,799999999999976,7999999999999976,79999999999999976,799999999999999976 ⋆ 8*(10^n-3). • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Aug 23 2014 •

[A182866] • 0,56,810,4992,20000,61560,158466,358400,734832,1395000,2488970,4219776,6854640,10737272,16301250,24084480,34744736,49076280,68027562,92720000,124467840,164799096,215477570,278525952,356250000 ⋆ Number of edges in the n^2 X n^2 Sudoku graph. • a(n) = (1 / 2) * n ^ 4 * (- 1 - 2 * n + 3 * n ^ 2). • a(1)=0, a(2)=56, a(3)=810, a(4)=4992, a(5)=20000, a(6)=61560, a(7)=158466, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(

n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Oct 30 2011 ●

[A008389] ● 1,56,812,5768,26474,91112,256508,623576,1356194,2703512,5025692,8823080,14768810,23744840,36881420,55599992,81659522,117206264,164826956,227605448,309182762,413820584,546468188,712832792,919453346 ★ Coordination sequence for A_7 lattice. ● a(n) = 2 + n ^ 2 * (143 * n ^ 4 + 770 * n ^ 2 + 707) / 30 with n>0, a(0)=1. [_ Bruno Berselli _ , Sep 26 2012] ●

[A243206] ● 0,0,0,56,1044,6632,26172,78536,196916,434584,871612,1622552,2845076,4749576,7609724,11773992,17678132,25858616,36967036,51785464,71242772,96431912,128628156,169308296,220170804 ★ Number of 3-matchings of the n X n grid graph. ● a(n) = (4 * n ^ 6 - 12 * n ^ 5 - 30 * n ^ 4 + 116 * n ^ 3 + 14 * n ^ 2 - 272 * n + 156) / 3 for n>=3, a(n) = 0 for n<3. ●

[A025597] ● 0,0,0,0,0,0,0,1,56,1309,20370,255366,2782296,27630317,256617790,2269878170,19345170656,160223380546,1297456951652,10319966008680,80906898257760,626886465395595,4810654849509082,36623649326935517 ★ Number of n-move king paths on 8 X 8 board from given corner to opposite corner. ● a(n) = (4 / 81) * Sum _{ j,k=1..8 } (- 1) ^ (j + k) * [sin(j * Pi / 9) * sin(k * Pi / 9)] ^ 2 * [(1 + 2 * cos(j * Pi / 9)) * (1 + 2 * cos(k * Pi / 9)) - 1] ^ n. - _ Andrew G. Buchanan _ , Jun 24 2012 ●

[A030649] ● 1,56,1463,24320,293930,2785552,21737254,144538624,839848450,4347450800,20355385710,87265194240,345992859975,1279301331000,4442249264625,14573017267200,45398364338250,134897996890800,383822534859750,1049290591104000,2764459117589400 ★ Dimensions of multiples of minimal representation of complex Lie algebra E7. ● a(n) = (1 / 10950439500) * (n + 9) * binomial(n + 17, 4) * binomial(n + 4, 4) * binomial(n + 13, 9) ^ 2. ●

[A035799] ● 1,56,1568,29288,410816,4618712,43381856,350353928,2485013888,15734806136,90102925472,471579734696,2275791199808,10202437251608,42760695613152,168488556607560,627208000027392,2215487522023608 ★ Coordination sequence for lattice D*_28 (with edges defined by l_1 norm = 1). ● a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=28. ●

[A050989] ● 1,56,1764,41160,792330,13311144,201885684,2826399576,37096494435,461645264080,5493578642552,62926446269232,697434779483988,7510836086750640,78863778910881720,809668130151718992 ★ 7-idempotent numbers. ● a(n) = C(n, 7) * 7 ^ (n - 7). ●

[A140406] ● 1,56,1792,43008,860160,15138816,242221056,3598712832,50381979648,671759728640,8598524526592,106309030510592,1275708366127104,14915974742409216,170468282770391040,1909244767028379648 ★ Binomial(n+6,6)*8^n or n>=8. ● a(0)=1, a(1)=56, a(2)=1792, a(3)=43008, a(4)=860160, a(5)=15138816, a(6)=242221056, a(n)=56 * a(n - 1) - 1344 * a(n - 2) + 17920 * a(n - 3) - 143360 * a(n - 4) + 688128 * a(n - 5) - 1835008 * a(n - 6) + 2097152 * a(n - 7) [From Harvey P. Dale, Dec 15 2011] ●

[A130646] ● 0,56,1925,2181,2465,13056,14540,16188,77865,86513,96117,455588,505992,561968,2657117,2950893,3277145,15488568,17200820,19102356,90275745,100255481,111338445,526167356,584333520 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+727)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 1454 for n > 6; a(1)=0, a(2)=56, a(3)=1925, a(4)=2181, a(5)=2465, a(6)=13056. ●

[A201240] ● 0,0,0,56,7100,252792,3378942,26249184,144455454,625745100,2271361422,7192874328,20427662398,53065637212,127956238350,289628321664,620834113614,1269178026012,2488676915070,4702895069400,8598589878606,15261688799500,26371002575326 ★ Number of ways to place 6 non-attacking wazirs on an n X n toroidal board. ● a(n) = n ^ 2 * (n ^ 10 - 75n ^ 8 + 2365n ^ 6 - 39285n ^ 4 + 345034n ^ 2 - 1288680) / 720, n>=7. ●

[A042623] ● 1,1,57,58,3305,3363,191633,194996,11111409,11306405,644270089,655576494,37356553753,38012130247,2166035847585,2204047977832,125592722606177,127796770584009,7282211875310681,7410008645894690,422242696045413321 ★ Denominators of continued fraction convergents to sqrt(840). ● a(n) = product { k = 1..floor((n - 1) / 2) } (56 + 4 * cos ^ 2(k * Pi / n)). ●

[A056082] ● 1,57,68,124,126,182,193,249,251,307,318,374,376,432,443,499,501,557,568,624,626,682,693,749,751 ★ Numbers n such that n^4 = 1 (mod 5^3). ● a(n) = a(n - 1) + a(n - 4) - a(n - 5) for n>5. ● a(n) = (250 * n - 125 + 99 * i ^ (2 * n) + (9 - 9 * i) * i ^ (- n) + (9 + 9 * i) * i ^ n) / 8 where i=sqrt(- 1) . (End) ●

[A063316] ● 1,57,133,210,287,364,441,518,595,672,749,824,903,980,1057,1132,1211,1286,1365,1440,1519,1594,1673,1746,1827 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(43). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[A158660] ● 1,57,225,505,897,1401,2017,2745,3585,4537,5601,6777,8065,9465,10977,12601,14337,16185,18145,20217,22401,24697,27105,29625,32257 ★ a(n) = 56*n^2 + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A158668] ● 57,231,521,927,1449,2087,2841,3711,4697,5799,7017,8351,9801,11367,13049,14847,16761,18791,20937,23199,25577,28071,30681,33407,36249 ★ 58*n^2 - 1. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A176635] ● 57,242,996,4040,16272,65312,261696,1047680,4192512,16773632,67101696,268421120,1073713152,4294909952,17179754496,68719247360,274877448192,1099510710272,4398044676096,17592182374400,70368736837632 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 1; a(0) = 57, a(1) = 242. ● a(n) = 64 * 4 ^ n - 7 * 2 ^ n. ●

[A157651] ● 57,308,759,1410,2261,3312,4563,6014,7665,9516,11567,13818,16269,18920,21771,24822,28073,31524,35175,39026,43077,47328,51779,56430,61281 ★ 100n^2 - 49n + 6. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A076459] ● 1,57,390,1510,4335,10311,21532,40860,72045,119845,190146,290082,428155,614355,860280,1179256,1586457,2099025,2736190,3519390,4472391,5621407,6995220,8625300,10545925 ★ Sum of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly n ways. ● a(n) = n * (n + 1) * (2 * n ^ 3 + 2 * n ^ 2 - 2 * n - 1) / 2. ●

[A290779] ● 0,0,1,57,486,2360,8394,24354,61104,137412,283635,546403,994422,1725516,2875028,4625700,7219152,10969080,16276293,23645709,33705430,47228016,65154078,88618310,118978080 ★ Number of 6-cycles in the n-triangular honeycomb bishop graph. ● a(n) = binomial(n + 1, 4) * (- 62 + 11 * n - 109 * n ^ 2 + 40 * n ^ 3) / 70. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). ●

[A164786] ● 1,57,505,4089,32761,262137,2097145,16777209,134217721,1073741817,8589934585,68719476729,549755813881,4398046511097,35184372088825,281474976710649,2251799813685241,18014398509481977,144115188075855865 ★ a(n) = 8^n-7. ● a(n) = 8 * a(n - 1) + 49, with a(1)=1. - _ Vincenzo Librandi _ , Nov 30 2010 ●

[A008390] ● 1,57,869,6637,33111,124223,380731,1004307,2360501,5064013,10089705,18912785,33681595,57426435,94307855,149907847,231567369,348773633,513600589,741206037,1050388799,1464209383 ★ Crystal ball sequence for A_7 lattice. ● a(n) = 143 / 210 * n ^ 7 + 143 / 60 * n ^ 6 + 451 / 60 * n ^ 5 + 77 / 6 * n ^ 4 + 937 / 60 * n ^ 3 + 707 / 60 * n ^ 2 + 363 / 70 * n + 1. - _ T. D. Noe _ , Apr 29 2007 ●

[A000505] ● 1,57,1191,15619,156190,1310354,9738114,66318474,423281535,2571742175,15041229521,85383238549,473353301060,2575022097600,13796160184500,73008517581444,382493246941965,1987497491971605,10258045633638475 ★ Eulerian numbers (Euler's triangle: column k=5 of A008292, column k=4 of A173018). ● a(n) = 5 ^ (n + 4) - (n + 5) * 4 ^ (n + 4) + (1 / 2) * (n + 4) * (n + 5) * 3 ^ (n + 4) - (1 / 6) * (n + 3) * (n + 4) * (n + 5) * 2 ^ (n + 4) + (1 / 24) * (n + 2) * (n + 3) * (n + 4) * (n + 5). - Randall L. Rathbun (randallr (AT)abac.com), Jan 22 2002 ●

[A286442] ● 0,57,9233,563287,12649059,152516103,1211235921,7147857411,33812251267,134823778299,469266000129,1462057867743,4154650828483,10922915001087,26867398129329,62381437357035,137705497065315,290721776912275,589883390417697,1155073034088999,2190429436721571 ★ Number of ways to tile an n X n X n triangular area with seven 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-28) of 1 X 1 X 1 tiles. ● a(n) = (n ^ 14 - 21 * n ^ 13 + 2835 * n ^ 11 - 13664 * n ^ 10 - 147903 * n ^ 9 + 1159368 * n ^ 8 + 3480705 * n ^ 7 - 44292941 * n ^ 6 - 24613344 * n ^ 5 + 908186412 * n ^ 4 - 372748320 * n ^ 3 - 9895978296 * n ^ 2 + 5596762608 * n + 46620962640) / 5040 for n>=8. ●

[A180571] ● 58,136,259,436,676,988,1381,1864,2446,3136,3943,4876,5944,7156,8521,10048,11746,13624,15691,17956,20428,23116,26029,29176,32566 ★ The Wiener index of the graph \|/_\/_\/_..._\/_\|/ having n nodes on the horizontal path. The Wiener index of a connected graph is the sum of distances between all unordered pairs of vertices in the graph. ● a(n) = (2 + 9n + 18n ^ 2 + 3n ^ 3) / 2. ●

[A225788] ● 0,0,58,143,235,328,422,517,610,703,795,886,976,1066,1154,1242,1329,1415,1501,1585,1669,1752,1835,1917,1998 ★ Floor(72*n^(1/2)*(log(n))^(3/2)). ● a(n) = floor(72 * n ^ (1 / 2) * (log(n)) ^ (3 / 2)). ●

[A156639] ● 58,425,1130,2173,3554,5273,7330,9725,12458,15529,18938,22685,26770,31193,35954,41053,46490,52265,58378,64829,71618,78745,86210,94013,102154 ★ 169n^2 - 140n + 29. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A172215] ● 1,58,729,8830,60285,257318,858262,2404448,5879329,12927182,26115008,49238436,87675623,148787822,242366502,381127124,581249573,862965246,1251190796,1776208532,2474393475,3388987070,4570917554,6079666980 ★ Number of ways to place 6 nonattacking knights on a 6 X n board. ● a(n) = (648n ^ 6 - 11340n ^ 5 + 103770n ^ 4 - 606645n ^ 3 + 2328317n ^ 2 - 5466660 n + 6051720) / 10, n>=10. ●

[A142966] ● 1,58,877,8030,56285,335162,1792749,8904486,41949645,190129090,837258109,3607669966,15289404989,63975698570,265065915725,1089837752118,4454225465325,18119738464530,73441531708765,296814738679390,1196884383319261,4817845684107098 ★ Fourth column (m=3) of triangle A142963 divided by 8. ● a(n) = 20a(n - 1) - 175 * a(n - 2) + 882 * a(n - 3) - 2835 * a(n - 4) + 6072 * a(n - 5) - 8777 * a(n - 6) + 8458 * a(n - 7) - 5204 * a(n - 8) + 1848 * a(n - 9) - 288 * a(n - 10). ● a(n) = - (105 / 2) - (143 / 3) * n - 14 * n ^ 2 - (4 / 3) * n ^ 3 + 756 * 2 ^ n + 48 * 2 ^ n * n ^ 2 + 384 * 2 ^ n * n - (3645 / 2) * 3 ^ n - 405 * 3 ^ n * n + 1120 * 4 ^ n. ●

[A243466] ● 0,0,0,58,18343,362643,2911226,14601844,54738489,168157793,446728228,1062085146,2312934779,4690690399,8967633918,16312226288,28436620141,47781858189,77746670984,122966217718,189647543823,285968959211,422550971074,613006835244 ★ Number of ways 4 domicules can be placed on an n X n square. ● a(n) = (- 104802 + 61647 * n + 50017 * n ^ 2 - 35304 * n ^ 3 - 4984 * n ^ 4 + 6480 * n ^ 5 - 448 * n ^ 6 - 384 * n ^ 7 + 64 * n ^ 8) / 6 for n >=4, a(3) = 58, a(n) = 0 for n<3. ●

[A042739] ● 1,1,59,60,3539,3599,212281,215880,12733321,12949201,763786979,776736180,45814485419,46591221599,2748105338161,2794696559760,164840505804241,167635202364001,9887682242916299,10055317445280300,593096094069173699 ★ Denominators of continued fraction convergents to sqrt(899). ● a(n) = (alpha ^ n - beta ^ n) / (alpha ^ 2 - beta ^ 2) for n even. ● a(n) = product { k = 1..floor((n - 1) / 2) } (58 + 4 * cos ^ 2(k * Pi / n)). ●

[A220463] ● 59,137,139,149,223,241,347,353,383,389,563,569,593,613,631,641,821,823,853,929,937,1009,1013,1061,1069 ★ Chebyshev numbers C_v(n) for v=1.2: a(n) is the smallest number such that if x>=a(n), then theta(x)-theta(5*x/6)>=n*log(x), where theta(x)=sum_{prime p<=x}log p. ● a(n) <=prime(11 * (n + 1)). ●

[**A156796**] • 59,140,221,302,383,464,545,626,707,788,869,950,1031,1112,1193,1274,1355,1436,1517,1598,1679,1760,1841,1922,2003 ★ 81n - 22. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Mar 01 2012 •

[**A158666**] • 1,59,233,523,929,1451,2089,2843,3713,4699,5801,7019,8353,9803,11369,13051,14849,16763,18793,20939,23201,25579,28073,30683,33409 ★ 58n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158670**] • 59,239,539,959,1499,2159,2939,3839,4859,5999,7259,8639,10139,11759,13499,15359,17339,19439,21659,23999,26459,29039,31739,34559,37499 ★ 60*n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A274503**] • 0,0,1,59,745,4665,19995,67287,191103,478335,1085370,2276560,4476758,8340982,14844570,25397490,41986770,67351314,105193671,160433625,239508775,350727575,504680605,714716145,997486425 ★ a(n) = 301*binomial(n-1,8)+52*binomial(n-1,7)+binomial(n-1,6). • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). • a(n) = (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) * (n - 6) * (301 * n ^ 2 - 4099 * n + 14000) / 40320. - _ Wesley Ivan Hurt _ , Jun 25 2016 •

[**A248974**] • 59,959,4859,15359,37499,77759,144059,245759,393659,599999,878459,1244159,1713659,2304959,3037499,3932159,5011259,6298559,7819259,9599999,11668859,14055359,16790459,19906559,23437499 ★ Floor(1/(n*sinh(1/n) + n*sin(1/n) - 2)). • a(n) = 60 * n ^ 4 - 1. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Colin Barker _ , Oct 22 2014 •

[**A245941**] • 0,0,59,1040,7014,29580,94105,247884,570220,1184424,2271735,4087160,6977234,11399700,17945109,27360340,40574040,58723984,83186355,115606944,157934270,212454620,281829009,369132060,477892804 ★ (16n^6 - 24n^5 + 2n^4 + 11n^3 - 6n^2 + n) / 6. • a(n) = (n - 1) * n * (2 * n - 1) * (8 * n ^ 3 - 3 * n + 1) / 6. [_ Bruno Berselli _ , Aug 08 2014] • a(0)=0, a(1)=0, a(2)=59, a(3)=1040, a(4)=7014, a(5)=29580, a(6)=94105, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Apr 13 2015 •

[**A119886**] • 1,59,2416,6230,47680,120824,798976,2017760,12928000,32622464,207425536,523312640,3321118720,8378415104,53147140096,134076293120,850391203840,2145307295744,13606407110656,34325263155200,217703105167360,549205596176384,3483252048265216 ★ a(n) = 20*a(n-2) - 64*a(n-4). • a(n) = 2 ^ (n - 4) * (- 3266 + 585 * (- 2) ^ n + 258 * (- 1) ^ n + 2583 * 2 ^ n) for n>0. - _ Colin Barker _ , Feb 05 2017 •

[**A069976**] • 60,90,108,120,129,135,140,144,147,150,152,154,156,158,159,160,161,162,163,164,164,165,166,166,167 ★ Interior angle of a regular polygon of n sides, rounded to nearest integer. • a(n) = round(((n - 2) * 180) / n). •

[**A110546**] • 60,90,108,120,135,140,144,150,156,160,162,165,168,170,171,172,174,175,176,177,178,179 ★ In degrees, values of interior angles of regular polygons whose angles are integers. • a(n)=[(n - 2) * 180)] / n •

[**A097714**] • 60,100,140,220,340,540,900,1500,2500,4140,6900,11500,19140,31900,53140,88540,147540,245900,409820,683020,1138340,1897220,3162020,5270020,8783340 ★ Repeatedly convert from sexagesimal to centesimal, starting with 60. • a(n) = 100 * floor(a(n - 1) / 60) + mod(a(n - 1), 60). •

[**A272515**] • 60,105,448,2016,4980,15675,61644,155155,482573,1733550,4549808,13890360,48104628,128949675,392009140,1322692581,3607864403,10929721440,36245555284,100109572875,302709337515,990788537700,2763564406113,8344789976616,27039048750600 ★ Number of set partitions of [n] into three blocks with distinct sizes. • a(n) = n! * [x ^ n * y ^ 3] Product _{ n>=1 } (1 + y * x ^ n / n!). •

[**A257146**] • 60,168,1092,2448,5616,6072,25308,29120,32736,39732,51888,74412,150348,194472,285852,546312,612468,1285608,1934868,2097024,2165292,2588772,3594432,3822588,5848428 ★ Primitive non-solvable numbers: elements of A056866 not divisible by any earlier term. • a(n) >> n ^ 3 log ^ 3 n. - _ Charles R Greathouse IV _ , Apr 20 2015 •

[**A249911**] • 0,1,60,177,352,585,876,1225,1632,2097,2620,3201,3840,4537,5292,6105,6976,7905,8892,9937,11040,12201,13420,14697,16032 ★ 60-gonal (hexacontagonal) numbers: a(n) = n(29n - 28). • a(n + 1) = a(n) + 58 * n + 1. - _ Jon Perry _ , Nov 09 2014 •

[**A224335**] • 60,212,508,996,1724,2740,4092,5828,7996,10644,13820,17572,21948,26996,32764,39300,46652,54868,63996,74084,85180,97332,110588,124996,140604 ★ Number of idempotent 4X4 0..n matrices of rank 3. • a(n) = 8 * n ^ 3 + 24 * n ^ 2 + 24 * n + 4. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Sep 20 2014 •

[**A277990**] • 0,60,228,504,888,1380,1980,2688,3504,4428,5460,6600,7848,9204,10668,12240,13920,15708,17604,19608,21720,23940,26268,28704,31248 ★ a(n) = 54*n^2 + 6*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Nov 13 2016 •

[**A100153**] • 1,60,276,748,1575,2856,4690,7176,10413,14500,19536,25620,32851,41328,51150,62416,75225,89676,105868,123900,143871,165880,190026,216408,245125 ★ Structured truncated dodecahedral numbers. • a(n) = (1 / 2) * n * (33 * n ^ 2 - 41 * n + 10). • a(1)=1, a(2)=60, a(3)=276, a(4)=748, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 09 2012 •

[**A100154**] • 1,60,282,772,1635,2976,4900,7512,10917,15220,20526,26940,34567,43512,53880,65776,79305,94572,111682,130740,151851,175120,200652,228552,258925 ★ Structured truncated icosahedral numbers. • a(n) = (1 / 2) * n * (35 * n ^ 2 - 47 * n + 14). •

[**A100148**] • 1,60,285,784,1665,3036,5005,7680,11169,15580,21021,27600,35425,44604,55245,67456,81345,97020,114589,134160,155841,179740,205965,234624,265825 ★ Structured small rhombicosidodecahedral numbers. • a(n)=(1 / 6) * (108 * n ^ 3 - 150 * n ^ 2 + 48 * n) • a(1)=1, a(2)=60, a(3)=285, a(4)=784, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Oct 10 2011] •

[**A100151**] • 1,60,286,788,1675,3056,5040,7736,11253,15700,21186,27820,35711,44968,55700,68016,82025,97836,115558,135300,157171,181280,207736,236648,268125 ★ Structured snub dodecahedral numbers. • a(n) = (1 / 6) * n * (109 * n ^ 2 - 153 * n + 50). •

[**A063497**] • 0,60,300,840,1800,3300,5460,8400,12240,17100,23100,30360,39000,49140,60900,74400,89760,107100,126540,148200,172200,198660,227700,259440,294000 ★ Atoms in first n shells of type I hyperfullerene. • a(n) = 20 * n ^ 3 + 30 * n ^ 2 + 10 * n. •

[**A033591**] • 1,60,315,910,1989,3696,6175,9570,14025,19684,26691,35190,45325,57240,71079,86986,105105,125580,148555,174174,202581,233920,268335,305970,346969 ★ (2*n+1)*(3*n+1)*(4*n+1). • a(0)=1, a(1)=60, a(2)=315, a(3)=910, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 24 2014 •

[**A024184**] • 60,342,1175,3135,7140,14560,27342,48150,80520,129030,199485,299117,436800,623280,871420,1196460,1616292,2151750,2826915,3669435,4710860,5986992,7538250,9410050,11653200 ★ Third elementary symmetric function of 3,4,...,n+4. • a(n) = n * (n + 1) * (n + 2) * (n + 7)(n ^ 2 + 13 * n + 46) / 48. • a(1)=60, a(2 -)=342, a(3)=1175, a(4)=3135, a(5)=7140, a(6)=14560, a(7)=27342, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a (n - 7). [From Harvey P. Dale, Oct 31 2011] •

[**A293615**] • 0,60,360,1260,3360,7560,15120,27720,47520,77220,120120,180180,262080,371280,514080,697680,930240,1220940,1580040,2018940,2550240,3187800,3946800,4843800,5896800 ★ a(n) = Pochhammer(n, 5) / 2. • a(n) = n * (n + 1) * (n + 2) * Stirling2(4 + n, 3 + n). • a(n) = (1 / 2) * (n * (1 + n) * (2 + n) * (3 + n) * (4 + n)). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. •

[**A060489**] • 60,375,1392,4020,9960,22200,45730,88543,163000,287650,489610,807625,1295944,2029165,3108220,4667690,6884660,9989345,14277740,20126570,28010840,38524310,52403246,70553825,94083600 ★ Number of 5-block ordered tricoverings of an unlabeled n-set. • a(n)=binomial(n + 9, 9) - 15 * binomial(n + 3, 3) + 45 * binomial(n + 1, 1) - 40 * binomial(n, 0) + 9 * binomial(n - 1, - 1); G.f.: y ^ 3 * (- 225 * y ^ 3 + 60 - 225 * y + 342 * y ^ 2 + 90 * y ^ 5 - 50 * y ^ 6 + 9 * y ^ 7) / (- 1 + y) ^ 10; E.g.f. for ordered k - block tricoverings of an unlabeled n - set is exp(- x + x ^ 2 / 2 + x ^ 3 / 3 * y / (1 - y)) * Sum _{ k=0..inf } 1 / (1 - y) ^ binomial(k, 3) * exp(- x ^ 2 / 2 * 1 / (1 - y) ^ n) * x ^ k / k!. •

[**A088942**] • 0,60,390,1450,4045,9421,19361,36281,63326,104466,164592,249612,366547,523627,730387,997763,1338188,1765688,2295978,2946558,3736809,4688089,5823829,7169629,8753354 ★ a(n)=60*sum(1<=i<=j<=k<=n,i^2*j/k). • a(n) = n / 120 * (96n ^ 4 + 765n ^ 3 + 2210n ^ 2 + 2275n + 1354). •

[**A135037**] • 0,60,396,1386,3570,7650,14490,25116,40716,62640,92400,131670,182286,246246,325710,423000,540600,681156,847476,1042530,1269450,1531530,1832226,2175156,2564100 ★ Sums of the products of n consecutive triples of numbers. • a(1) = 0 * 1 * 2, a(2) = 0 * 1 * 2 + 3 * 4 * 5, ..., a(n) = 0 * 1 * 2 + 3 * 4 * 5 + 6 * 7 * 8 + ... + (2n - 1) * (2n) * (2n + 1). • a(n) = (27 * n ^ 4 - 18 * n ^ 3 - 15 * n ^ 2 + 6 * n) / 4. •

[**A069140**] • 0,60,504,1716,4080,7980,13800,21924,32736,46620,63960,85140,110544,140556,175560,215940,262080,314364,373176,438900,511920,592620,681384,778596,884640 ★ a(n) = (4n-1)*4n*(4n+1). • a(0)=0, a(1)=60, a(2)=504, a(3)=1716, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 24 2012 •

[**A289156**] • 60,1224,8436,34320,103020,254040,546084,1060896,1907100,3224040,5185620,8004144,11934156,17276280,24381060,33652800,45553404,60606216,79399860,102592080,130913580,165171864,206255076,255135840 ★ Largest area of triangles with integer sides and area = n times perimeter. • a(n) = 4 * n * (2 * n ^ 2 + 1) * (4 * n ^ 2 + 1). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[**A288960**] • 0,0,60,1248,8400,35520,114660,309120,731808,1569600,3114540,5802720,10261680,17367168,28310100,44674560,68527680,102522240,150012828,215186400,303208080,420383040,574335300,774204288,1030860000 ★ Number of 6-cycles in the n X n rook graph. • a(n) = (n - 1) * (n - 2) * n ^ 2 * (n + 2) * (n ^ 2 + 2 * n - 11) / 6. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) + a(n - 8). •

[**A053528**] • 0,0,0,0,0,60,1701,14952,81228,331884,1116675,3256407,8500734,20306286,45093048,94189095,186736368,353904096,644842674,1134910242,1936817820,3215467584,5207403663,8245956642,12793342716 ★ Number of bipartite graphs with 5 edges on nodes {1..n}. • a(n) = (n - 4)(n - 3)(n - 2)(n - 1)n(n ^ 5 + 5n ^ 4 + 5n ^ 3 - 85n ^ 2 - 374n - 960) / 3840. •

[**A035800**] • 1,60,1800,36020,541200,6516012,65520920,566262180,4296107040,29081139740,177923724072,994286700180,5119703270960,24470719227660,109262828065080,458260342666116,1814109445277760,6807471232021500 ★ Coordination sequence for lattice D*_30 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=30. •

[**A173123**] • 1,60,1980,47520,926640,15567552,233513280,3202467840,40831464960,489977579520,5585744406528,60935393525760,639821632020480,6496650417438720,64038411257610240,614768748073058304 ★ a(n) = binomial(n+9,9)*6^n. • a(n) = C(n + 9, 9) * 6 ^ n. •

[**A054623**] • 0,1,60,2195,29144,217045,1119796,4483815,14913200,43046889,111111340,261994491,573309320,1178278205,2295672484,4271485135,7635498336,13176431825,22039922460,35854190179,56888890680,88253340581,134141026580 ★ Number of ways to color vertices of a 9-gon using <= n colors, allowing

only rotations. • a(n) = Sum _{ d|9 } phi(d) * n ^ (9 / d) / 9. • a(n) = n * (n ^ 8 + 2 * n ^ 2 + 6) / 9. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). [_ Vincenzo Librandi _ , Apr 29 2012] •

[A130647] • 0,60,2241,2517,2821,15180,16780,18544,90517,99841,110121,529600,583944,643860,3088761,3405501,3754717,18004644,19850740,21886120,104940781,115700617,127563681,611641720,674354640 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+839)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1678 for n > 6; a(1)=0, a(2)=60, a(3)=2241, a(4)=2517, a(5)=2821, a(6)=15180. •

[A291912] • 0,0,60,18336,840800,14629200,143939460,971877760,5018582016,21193207200,76518984300,243664127520,699965254560,1844973808496,4520720267700,10403885452800,22674321863680,47112768624960,93845538165276,180039346960800,333959821087200,600947653207440 ★ Number of 6-cycles in the n X n rook complement graph. • a(n) = (- 2 + n) * (- 1 + n) ^ 2 * n ^ 2 * (- 52 + 12 * n + 76 * n ^ 2 - 63 * n ^ 3 - 2 * n ^ 4 + 20 * n ^ 5 - 8 * n ^ 6 + n ^ 7) / 12. • a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13). •

[A042859] • 1,1,61,62,3781,3843,234361,238204,14526601,14764805,900414901,915179706,55811197261,56726376967,3459393815281,3516120192248,214426605350161,217942725542409,13290990137894701,13508932863437110,823826961944121301,837335894807558411 ★ Denominators of continued fraction convergents to sqrt(960). • a(n) = 62 * a(n - 2) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Dec 25 2013 •

[A106390] • 1,61,97,277,349,649,757,1177,1321,1861,2041,2701,2917,3697,3949,4849,5137,6157,6481,7621,7981,9241,9637,11017,11449 ★ Numbers k such that 13k = 6j^2 + 6j + 1. • a(1)=1, a(2)=61; for odd n a(n) = a(n - 1) + 18 * (n - 1), for even n a(n) = a(n - 1) + 60 * (n - 1). • a(n) = (25 - 21 * (- 1) ^ n + 6 * (- 13 + 7 * (- 1) ^ n) * n + 78 * n ^ 2) / 4. - _ Colin Barker _ , Apr 16 2014 •

[A158673] • 1,61,241,541,961,1501,2161,2941,3841,4861,6001,7261,8641,10141,11761,13501,15361,17341,19441,21661,24001,26461,29041,31741,34561 ★ a(n) = 60*n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A174333] • 0,61,244,549,976,1525,2196,2989,3904,4941,6100,7381,8784,10309,11956,13725,15616,17629,19764,22021,24400,26901,29524,32269,35136 ★ 61*n^2. • a(n) = (31 * n) ^ 2 - (30 * n) ^ 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 12 2012 •

[A158680] • 61,247,557,991,1549,2231,3037,3967,5021,6199,7501,8927,10477,12151,13949,15871,17917,20087,22381,24799,27341,30007,32797,35711,38749 ★ 62n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A283869] • 61,661,1201,4261,5101,6121,6361,12421,12541,12841,13921,15361,17041,18301,19801,21661,26821,31321,36901,47521,54121,55921,56101,71341,80701 ★ Primes p such that p+12, (p+1)/2, and (p+13)/2 are also prime. • a(n) == 1 (mod 60). •

[A173805] • 1,61,661,6661,66661,666661,6666661,66666661,666666661,6666666661,66666666661,666666666661,6666666666661,66666666666661,666666666666661,6666666666666661,66666666666666661 ★ a(n) = (6*10^n-51)/9 for n>0. • a(n) = 10 * a(n - 1) + 51 with n>0, a(0)= - 1. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A000507] • 61,1385,19028,206276,1949762,16889786,137963364,1081702420,8236142455,61386982075,450403628440,3266265481144,23480284103492,167687984079924,1191656966048088,8436830209386360,59563995267159825,419628657826253805 ★ Number of permutations of [n] with exactly 3 increasing runs of length at least 2. • a(n) = (3 * 7 ^ n - (6 * n - 9) * 5 ^ n + (6 * n ^ 2 - 18 * n + 3) * 3 ^ n - 4 * n ^ 3 + 18 * n ^ 2 - 8 * n - 15) / 192. •

[A230007] • 62,206,6002,6439562,60000002,6004356002,29355232298,60000000002,292369967108,600439956002,643956439562,6303723993362 ★ Numbers n such that sigma(n) = reversal(n+7). • a(1)=2 * f(0,s,0), a(2)=2 * f(0, - 3,1), a(3)=2 * f(1,s,0), a(4)=2 * f(0,1,1), a(5)=2 * f(3,s,0), a(6)=2 * f(2,0,1), a(8)= 2 * f(9 / 2,s,0), a(10)=2 * f(2,2,1), a(11)=2 * f(0,1,2), where f(r,s,t) = 3 * 10 ^ (t * (s + 4) + 2 * r + 1) + 10 ^ (r + 1) * (22 * (10 ^ (s + 2) - 1) * (10 ^ (t * (s + 4)) - 1) / (10 ^ (s + 4) - 1)) + 1. •

[A158067] • 62,252,570,1016,1590,2292,3122,4080,5166,6380,7722,9192,10790,12516,14370,16352,18462,20700,23066,25560,28182,30932,33810,36816,39950 ★ 64n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 11 2012 •

[A100158] • 1,62,293,804,1705,3106,5117,7848,11409,15910,21461,28172,36153,45514,56365,68816,82977,98958,116869,136820,158921,183282,210013,239224,271025 ★ Structured disdyakis triacontahedral numbers (vertex structure 11). • a(n) = (1 / 6) * (110 * n ^ 3 - 150 * n ^ 2 + 46 * n). •

[A100166] • 1,62,295,812,1725,3146,5187,7960,11577,16150,21791,28612,36725,46242,57275,69936,84337,100590,118807,139100,161581,186362,213555,243272,275625 ★ Structured deltoidal hexacontahedral numbers (vertex structure 9). • a(n) = (1 / 6) * (112 * n ^ 3 - 156 * n ^ 2 + 50 * n). •

[A100159] • 1,62,297,820,1745,3186,5257,8072,11745,16390,22121,29052,37297,46970,58185,71056,85697,102222,120745,141380,164241,189442,217097,247320,280225 ★ Structured disdyakis triacontahedral numbers (vertex structure 7). • a(n) = (1 / 6) * (114 * n ^ 3 - 162 * n ^ 2 + 54 * n) = n * (19 * n ^ 2 - 27 * n + 9). •

[A100160] • 1,62,299,828,1765,3226,5327,8184,11913,16630,22451,29492,37869,47698,59095,72176,87057,103854,122683,143660,166901,192522,220639,251368,284825 ★ Structured disdyakis triacontahedral numbers (vertex structure 5). • a(n)=(1 / 6) * (116 * n ^ 3 - 168 * n ^ 2 + 58 * n). •

[A069473] • 62,602,2702,8162,19502,39962,73502,124802,199262,303002,442862,626402,861902,1158362,1525502,1973762,2514302,3159002,3920462,4812002,5847662,7042202,8411102,9970562,11737502 ★ First differences of (n+1)^6-n^6 (A022522). • a(n) = 30 * n ^ 4 + 120 * n ^ 3 + 210 * n ^ 2 + 180 * n + 62. •

[A038865] • 63,117,189,279,387,513,657,819,999,1197,1413,1647,1899,2169,2457,2763,3087,3429,3789,4167,4563,4977,5409,5859,6327 ★ (n+3)^3 - n^3. • a(1)=63, a(2)=117, a(3)=189, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Mar 04 2014 •

[A096023] • 63,123,183,243,303,363,483,543,603,663,723,783,903,963,1023,1083,1143,1203,1323,1383,1443,1503,1563,1623,1743 ★ Numbers congruent to {63, 123, 183, 243, 303, 363} mod 420. • a(n) = a(n - 1) + a(n - 6) - a(n - 7) for n >7; a(n) = a(n - 6) + 420 for n>6. • a(n) = (210 * n - 96 - 30 * cos(n * Pi / 3) - 30 * cos(2 * n * Pi / 3) - 15 * cos(n * Pi) + 30 * sqrt(3) * sin(n * Pi / 3) + 10 * sqrt(3) * sin(2 * n * Pi / 3)) / 3. • a(6k) = 420k - 57, a(6k - 1) = 420k - 117, a(6k - 2) = 420k - 177, a(6k - 3) = 420k - 237, a(6k - 4) = 420k - 297, a(6k - 5) = 420k - 357. (End) •

[A077263] • 63,179,523,1619,5239,17379,58323,196691,664623,2247443,7601883,25715603,86993639,294295491,995592355,3368062355,11394070559,38545861491,130399711915,441139061715,1492362751831,5048627021731,17079382870643,57779138376659 ★ Number of (undirected) cycles in the n-th order antiprism graph. • a(n) = 6 * a(n - 1) - 11 * a(n - 2) + 8 * a(n - 3) - 3 * a(n - 4) + 2 * a(n - 5) - a(n - 6) for n>8. - _ Eric W. Weisstein _ , Dec 19 2013 •

[A098140] • 0,1,63,186,370,615,921,1288,1716,2205,2755,3366,4038,4771,5565,6420,7336,8313,9351,10450,11610,12831,14113,15456,16860 ★ 63-gonal numbers: a(n) = n*(61*n - 59)/2. • a(n) = n * (61 * n - 59) / 2. • a(0)=0, a(1)= 1, a(2)=63, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale, Jun 09 2011 •

[A097973] • 63,215,1727,5831,26999,74087,215999,373247,1061207,1259711,2628071,3374999,5831999,7077887,7762391,11852351,13823999,19682999,22425767,30371327,42144191,74087999,80621567,98611127,142236647 ★ Least m such that p|m, p+1|m+1 and p+2|m+2, for twin prime pairs (p, p+2), p in A001359. • a(n) = p * (p + 1) * (p + 2) + p = (p + 1) ^ 3 - 1 (p=A001359, p + 1=A014574). •

[A083079] • 1,63,229,547,1065,1831,2893,4299,6097,8335,11061,14323,18169,22647,27805,33691,40353,47839,56197,65475,75721,86983,99309,112747,127345 ★ 4th column of number array A083075. • a(n)=8 * n ^ 3 + 28 * n ^ 2 + 26 * n + 1=(n(2n + 3) ^ 3 + 1) / (n + 1) • a(0)=1, a(1)=63, a(2)=229, a(3)=547, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale , May 14 2011] •

[A158676] • 1,63,249,559,993,1551,2233,3039,3969,5023,6201,7503,8929,10479,12153,13951,15873,17919,20089,22383,24801,27343,30009,32799,35713 ★ 62*n^2 + 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157948] • 63,254,573,1020,1595,2298,3129,4088,5175,6390,7733,9204,10803,12530,14385,16368,18479,20718,23085,25580,28203,30954,33833,36840,39975 ★ 64n^2 - n • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 29 2012 •

[A158684] • 63,255,575,1023,1599,2303,3135,4095,5183,6399,7743,9215,10812,12543,14399,16383,18495,20735,23103,25599,28223,30975,33855,36863,39999 ★ 64n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A063398] • 1,63,255,863,2655,7683,21287,57071,149087,381311,958207,2372095,5796863,14007295,33511423,79466495,186949631,436666367,1013317631,2337538047,5362941951,12242386943,27817148415,62934482943,141815709695 ★ T(5,n) with T(n,m) as in A063394. • a(n) = (24 * (- 8 + 81 * 2 ^ n) + 1671 * 2 ^ (1 + n) * n + 803 * 2 ^ n * n ^ 2 + 27 * 2 ^ (1 + n) * n ^ 3 + 2 ^ n * n ^ 4) / 192 for n>0. - _ Colin Barker _ , May 27 2015 •

[A075935] • 63,455,1611,2709,12365,20630,37463,70299,135886,786510,1310867,2363919,12582995,20971674,37749317,71307271,138674310,272892511,541332108,3221225558,5368709276,9663677009,18253615171,35433742539 ★ Basis for code in A075934. • a(n) = b(2 ^ n), where b is A075934, the binary lexicode, d=6. •

[A152725] • 0,1,63,666,3430,12195,34461,83188,178956,352485,647515,1124046,1861938,2964871,4564665,6825960,9951256,14186313,19825911,27219970,36780030,48986091,64393813,83642076,107460900 ★ a(n) = n*(n+1)*(n^4+2*n^3-2*n^2-3*n+3)/2. • a(n) = n ^ 6 - (n - 1) ^ 6 + (n - 2) ^ 6 - ....0 ^ 6. •

[A086578] • 0,63,693,6993,69993,699993,6999993,69999993,699999993,6999999993,69999999993,699999999993,6999999999993,69999999999993,699999999999993,6999999999999993,69999999999999993,699999999999999993 ★ a(n) = k where R(k+7)=7. • a(n) = 7 * (10 ^ n - 1) • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[A069091] • 1,63,728,4032,15624,45864,117648,258048,530712,984312,1771560,2935296,4826808,7411824,11374272,16515072,24137568,33434856,47045880,62995968,85647744,111608280,148035888,187858944,244125000 ★ Jordan function J_6(n). • a(n) = sum(d|n, d ^ 6 * mu(n / d)). • a(n) = n ^ 6 * Product _{ distinct primes p dividing n } (1 - 1 / p ^ 6). - _ Tom Edgar _ , Jan 09 2015 •

[A123866] • 0,63,728,4095,15624,46655,117648,262143,531440,999999,1771560,2985983,4826808,7529535,11390624,16777215,24137568,34012223,47045880,63999999,85766120,113379903,148035888,191102975,244140624 ★ a(n) = n^6 - 1. • a(1)=0, a(2)=63, a(3)=728, a(4)=4095, a(5)=15624, a(6)=46655, a(7)=117648, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Nov 18 2012 •

[A091027] • 63,910,6083,27483,97188,289884,762048,1816248,4001613,8264718,16168867,30204083,54215070,93980040,157979640,258402312,412440315,64

3939374,985474539,1480935379,2188715144,3185611044,4571556360,6475319760,9061322985 ★ Sixth column (m=7) of array A090452. ● a(n)= (n + 12) * (n + 9) * (n + 3) * (n + 2) * (n + 1) * (n ^ 5 + 48 * n ^ 4 + 769 * n ^ 3 + 4782 * n ^ 2 + 11200 * n + 8400) / 86400. 86400=10! / (2 * 3 * 7). ●

[A243214] ● 0,63,1566,13971,77124,319206,1083723,3181401,8344854,20006349,44548227,93248628,185176866,351410664,640972980,1129067352,1928196432,3203016813 ★ Number of ways to place 5 points on a triangular grid of side n, so that no three of them are vertices of an equilateral triangle with sides parallel to the grid. ● a(n) = (n ^ 10 + 5 * n ^ 9 - 10 * n ^ 8) / 3840 + O(n ^ 7) ●

[A170932] ● 1,63,2205,56595,1188495,21630609,353299947,5299499205,74192988870,980996186170,12360551945742,149450309889426,1743586948709970,19715944727720430,216875392004924730,2327795874186192102 ★ a(n) = binomial(n + 8, 8)*7^n . ● a(n) = C(n + 8, 8) * 7 ^ n. ●

[A173191] ● 1,63,2268,61236,1377810,27280638,491051484,8207574804,129269303163,1939039547445,27922169483208,388371993720984,5243021915233284,68965903654222428,886704475554288360,11172476391984033336 ★ a(n) = binomial(n + 6, 6)*9^n. ● a(n) = C(n + 6, 6) * 9 ^ n. ●

[A272297] ● 64,65,80,145,320,689,1360,2465,4160,6625,10064,14705,20800,28625,38480,50689,65600,83585,105040,130385,160064,194545,234320,279905,331840 ★ a(n) = n^4 + 64. ● a(n) = (n ^ 2 - 8) ^ 2 + (4 * n) ^ 2. ●

[A151984] ● 0,1,64,65,128,129,192,193,256,257,320,321,384,385,448,449,512,513,576,577,640,641,704,705,768 ★ Numbers that are congruent to {0, 1} mod 64. ● a(n) = (- 95 - 31 * (- 1) ^ n + 64 * n) / 2. a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: x ^ 2 * (63 * x + 1) / ((x - 1) ^ 2 * (x + 1)). [_ Colin Barker _ , Nov 29 2012] ●

[A135124] ● 1,64,65,4096,4097,4160,4161,262144,262145,262208,262209,266240,266241,266304,266305,16777216,16777217,16777280,16777281,16781312,16781313,16781376,16781377,17039360,17039361 ★ Numbers such that the digital sums in base 2, base 4 and base 8 are all equal. ● a(n)=(1 / 2) * sum { 0<=k <=floor(log _ 2(n)), (1 - (- 1) ^ floor(n / 2 ^ k)) * 64 ^ k } . ●

[A070931] ● 1,64,68,120,729,4096,15625,46656,117649,262144,531441,1000000,1771561,2985984,4826809,7529536,11390625,16777216,24137569,34012224,47045881,64000000,85766121,113379904 ★ Numbers n such that the smallest integer value >=0 of the form x^3-n^2 equals the smallest integer value >=0 of the form x^2-n^3. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>11. ●

[A046305] ● 64,96,128,144,160,192,216,224,240,256,288,320,324,336,352,360,384,400,416,432,448,480,486,504,512 ★ Divisible by at least 6 primes (counted with multiplicity). ● a(n) = n + O(n (log log n) ^ 4 / log n). - _ Charles R Greathouse IV _ , Apr 07 2017 ●

[A152691] ● 0,64,128,192,256,320,384,448,512,576,640,704,768,832,896,960,1024,1088,1152,1216,1280,1344,1408,1472,1536 ★ Multiples of 64. ● a(n) = 64 * n. ●

[A273321] ● 64,206,488,960,1672,2674,4016,5748,7920,10582,13784,17576,22008,27130,32992,39644,47136,55518,64840,75152,86504,98946,112528,127300,143312 ★ Wiener index of graph of bcc unit cells in a line = Sum of distances in a bcc row graph. ● a(n) = (25 / 3) * n ^ 3 + 20 * n ^ 2 + (71 / 3) * n + 12. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. ●

[A263924] ● 64,256,272,324,513,514,516,544,1026,1028,1032,1064,1088,1089,1216,1544,1552,1568,1569,2052,2056,2064,2188,2192,2193 ★ Numbers n such that there is a prime p > 3 and an exponent e such that the central binomial coefficient binomial(2n, n) is divisible by p^e but not by either 2^e or 3^e. ● a(n) >> n ^ 1.014. (This is surely not optimal.) - _ Charles R Greathouse IV _ , Jan 18 2016 ●

[A141478] ● 64,256,640,1280,2240,3584,5376,7680,10560,14080,18304,23296,29120,35840,43520,52224,62016,72960,85120,98560,113344,129536,147200,166400,187200 ★ Binomial(n+2,3)*4^3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 29 2012 ●

[A137739] ● 1,64,355,1014,2218,4217,7343,12018,18767,28233,41193,58575,81476,111181,149183,197204,257217,331469,422505,533193,666750,826769,1017247,1242614,1507763 ★ Number of different strings of length n+6 obtained from "123...n" by iteratively duplicating any substring. ● a(n) = 1 / 720 * (n + 9) * (n ^ 5 + 36 * n ^ 4 + 451 * n ^ 3 + 1716 * n ^ 2 - 380 * n - 8880) - 1 for n>4. ●

[A130812] ● 64,448,1792,5376,13440,29568,59136,109824,192192,320320,512512,792064,1188096,1736448,2480640,3472896,4775232,6460608,8614144,11334400,14734720,18944640,24111360,30401280,38001600 ★ If X_1,...,X_n is a partition of a 2n-set X into 2-blocks then a(n) is equal to the number of 6-subsets of X containing none of X_i, (i=1,...n). ● a(n) = binomial(2 * n,6) + binomial(n,2) * binomial(2 * n - 4,2) - n * binomial(2 * n - 2,4) - binomial(n,3). ● a(n) = C(n,n - 6) * 2 ^ 6, n>=6. - _ Zerinvary Lajos _ , Dec 07 2007 ●

[A016803] ● 0,64,512,1728,4096,8000,13824,21952,32768,46656,64000,85184,110592,140608,175616,216000,262144,314432,373248,438976,512000,592704,681472,778688,884736 ★ (4n)^3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jul 05 2014 ●

[A200841] ● 64,529,2356,7587,19930,45465,93472,177381,315844,533929,864436,1349335,2041326,3005521,4321248,6083977,8407368,11425441,15294868,20197387,26342338,33969321,43350976,54795885,68651596 ★ Number of 0..n arrays x(0..5) of 6 elements without any two consecutive increases or two consecutive decreases. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. ●

[A070054] ● 64,559,3558,19030,90398,393133,1595475,6121871,22418665,78909805,268421215,886226507,2849922043,8952215067,27534649147,83092274171,246448262139,719487237115,2070217930747,5877572837371,16481768407035,45689773670395,125310468063227,340264608595963,915344114450427 ★ Number of Bottleneck-Monge matrices with 6 rows. ● a(N) = a(6, N), where a(P, N) is defined recursively in A070050. ●

[A247841] ● 0,64,576,4672,37440,299584,2396736,19173952,153391680,1227133504,9817068096,78536544832,628292358720,5026338869824,40210710958656,321685687669312,2573485501354560,20587884010836544,164703072086692416,1317624576693539392 ★ Sum(8^k, k=2..n). ● a(n) = a(n - 1) + 8 ^ n = (8 ^ (n + 1) - 64) / 7 = 9 * a(n - 1) - 8 * a(n - 2). ●

[A177757] ● 0,0,0,64,600,6912,29400,132864,381024,1139200,2613600,6177600,12269400,24912384,44717400,81636352,135945600,229423104,360561024,572788800,859685400,1301766400,1881864600,2740725504,3840540000 ★ Number of ways to place 4 nonattacking bishops on an n X n toroidal board. ● a(n) = 1 / 48 * (n - 2) ^ 2 * n ^ 2 * (2n ^ 4 - 16n ^ 3 + 50n ^ 2 - 84n + 81 + (6n ^ 2 - 36n + 63) * (- 1) ^ n). ●

[A200788] ● 64,622,3136,11100,31395,75992,164004,324087,597190,1039654,1726660,2756026,4252353,6371520,9305528,13287693,18598188,25569934,34594840,46130392,60706591,78933240,101507580,129222275,162973746 ★ Number of 0..n arrays x(0..5) of 6 elements without any two consecutive increases. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>7. ●

[A067476] ● 64,625,6084,60025,600625,6002500,60000516,600005025,6000051600,60000012601,600000512409,6000001260100,60000004765089,600000028030404,6000000011750889,60000000353550625,600000001175088900 ★ Smallest n-digit square starting with 6. ● a(n) = ceiling(sqrt(6 * 10 ^ (n - 1))) ^ 2, n>1. - _ Rick L. Shepherd _ , Feb 18 2002 ●

[A008513] ● 0,64,728,4032,14896,42560,102024,215488,413792,737856,1240120,1985984,3055248,4543552,6563816,9247680,12746944,17235008,22908312,29987776,38720240,49379904,62269768 ★ Number of points on surface of 6-dimensional cube. ● a(n) = 12n ^ 5 + 40n ^ 3 + 12n. [_ Charles R Greathouse IV _ , Jan 02 2012] ●

[A001014] ● 0,1,64,729,4096,15625,46656,117649,262144,531441,1000000,1771561,2985984,4826809,7529536,11390625,16777216,24137569,34012224,47045881,64000000,85766121,113379904,148035889,191102976 ★ Sixth powers: a(n) = n^6. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + 720. (End) ● a(n) == 1 (mod 7) if gcd(n, 7) = 1, otherwise a(n) == 0 (mod 7). See A109720. - _ Jake Lawrence _ , May 28 2016 ●

[A056573] ● 0,1,1,64,729,15625,262144,4826809,85766121,1544804416,27680640625,496981290961,8916100448256,160005726539569,2871098559212689,51520374361000000,924491486192068809,16589354847268067929 ★ Sixth power of Fibonacci numbers A000045. ● a(n) = (F(3 * n) ^ 2 - (- 1) ^ n * 6 * F(n) * F(3 * n) + 9 * F(n) ^ 2) / 25. ● a(n) = (10 * F(n) ^ 3 * F(3 * n) - F(3 * n) ^ 2 + 9 * F(n) ^ 2) / 25. (End) ● a(n + 1) = 2 * [2 * F(n + 1) ^ 2 - (- 1) ^ n] ^ 3 + 3 * F(n) ^ 2 * F(n + 1) ^ 2 * F(n + 2) ^ 2 - [F(n) ^ 6 + F(n + 2) ^ 6] = { Sum(0 <= j <= [n / 2]; binomial(n - j, j)) }^ 6, for n (this is Theorem 2.2 (vi) of Azarian's second paper in the references for this sequence). - _ Mohammad K. Azarian _ , Jun 29 2015 ●

[A231305] ● 0,1,64,730,4160,16355,50816,134004,312960,665445,1312960,2437006,4298944,7263815,11828480,18654440,28605696,42792009,62617920,89837890,126617920,175604011,239997824,323639900,431100800 ★ Recurrence a(n) = a(n-2) + n^M for M=6, starting with a(0)=0, a(1)=1. ● a(n) = Sum _{ k=0..floor(n / 2) } (n - 2k) ^ 6. ● a(n) = 1 / 42 * n * (3 * n ^ 6 + 21 * n ^ 5 + 42 * n ^ 4 - 56 * n ^ 2 + 32). ●

[A195593] ● 64,732,4392,18890,66532,205628,580664,1536814,3877300,9434784,22327496,51698178,117645348,263992580,585640568,1286898262,2805399156,6074441896,13076687560,28009586346,59732295204,126891641612,268638308152,566987715710 ★ Number of ways to place 5n nonattacking kings on a vertical cylinder 10 X 2n ● a(n) = (1771 * n - 8709) * 2 ^ n + 235 / 3 * n ^ 3 + 880 * n ^ 2 + 12815 / 3 * n + 8710. ●

[A236182] ● 64,793,16418,134067,1905628,6732437,30870006,77915887,225951776,820775097,1708278778,4274005187,9024109428,15345472477,26124687806,48289048935,90469582576,141989956937,232448339106,360548623027,511882849316,754970304837,1081910678206 ★ Sum of the sixth powers of the first n primes. ● a(n) = sum(k = 1 .. n, prime(k) ^ 6). ●

[A270272] ● 1,64,1000,8000,42875,175616,592704,1728000,4492125,10648000,23393656,48228544,94196375,175616000,314432000,543338496,909853209,1481544000,2352637000,3652264000,5554637011,8291469824,12167000000 ★ a(n) = binomial(n+3,n)^3. ● a(n) = (6 + 11n + 6n ^ 2 + n ^ 3) ^ 3 / 216. ●

[A191900] ● 0,64,1093,8192,39062,139968,411771,1048576,2391484,5000000,9743585,17915904,31374258,52706752,85429687,134217728,205169336,306110016,446935869,640000000,900544270,1247178944,1702412723,2293235712,3051757812 ★ Number of compositions of odd natural numbers into 7 parts <=n ● a(n)=((n + 1) ^ 7 - (1 + (- 1) ^ n) / 2) / 2. ●

[A191494] ● 1,64,1094,8192,39063,139968,411772,1048576,2391485,5000000,9743586,17915904,31374259,52706752,85429688,134217728,205169337,306110016,446935870,640000000,900544271,1247178944,1702412724,2293235712,3051757813 ★ Number of compositions of even natural numbers in 7 parts <=n ● a(n)= ((n + 1) ^ 7 + (1 + (- 1) ^ n) / 2) / 2. ●

[A128987] ● 0,64,1152,12288,102400,737280,4816896,29360128,169869312,943718400,5075107840,26575110144,136096776192,683973541888,3382286745600,16492674416640,79439715106816,378506877861888,1786156639322112 ★ a(n) = (n^3 - n^2)*4^n. ● a(n) = 16 * a(n - 1) - 96 * a(n - 2) + 256 * a(n - 3) - 256 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 ●

[**A283812**] • 1,64,1394,20266,237686,2441314,22934774,202229266,1701740006,13821281314,109214866454,844558486066,6419351203526,48118995192514,356641942834934,2618939805811666,19085432672558246,138206899494338914,995563711729120214 ⋆ Poly-Bernoulli numbers B_n^(k) with k = -6. • a(n) = 720 * 7 ^ n - 1800 * 6 ^ n + 1560 * 5 ^ n - 540 * 4 ^ n + 62 * 3 ^ n - 2 ^ n. •

[**A240930**] • 0,0,64,1458,12288,62500,233280,705894,1835008,4251528,9000000,17715610,32845824,57921708,97883968,159468750,251658240,386201104,578207808,846825858,1216000000,1715322420,2380977984,3256789558,4395368448 ⋆ a(n) = n^7 - n^6. • a(n) = n ^ 6 * (n - 1) = n ^ 7 - n ^ 6. •

[**A145218**] • 1,64,1510,17600,130835,713216,3098604,11320320,36074325,102925120,268038706,646519744,1460878055,3120396800,6346379480,12363588096,23184837609,42023883840,73881649150,126362703040,210792998011,343726413824,548946959300,860095808000 ⋆ a(n) is the self-convolution series of the sum of 5th powers of the first n natural numbers. • a(n) = C(n + 2, 3) * (n ^ 8 + 8 * n ^ 7 + 29 * n ^ 6 + 62 * n ^ 5 + 86 * n ^ 4 + 80 * n ^ 3 + 28 * n ^ 2 - 24 * n + 192) / 462. •

[**A014794**] • 0,64,1600,9216,30976,78400,166464,313600,541696,876096,1345600,1982464,2822400,3904576,5271616,6969600,9048064,11560000,14561856,18113536,22278400,27123264,32718400,39137536,46457856 ⋆ Squares of even octagonal numbers. • a(n) = 16n ^ 2 * (3n - 1) ^ 2. - _ Vincenzo Librandi _ , Jan 07 2012 •

[**A035801**] • 1,64,2048,43712,700416,8991552,96376832,887582144,7172939776,51697913408,336604997632,2000727369920,10951050137600,55605785375040,263584490403840,1172818839714752,4921916082929664,19564527852207168 ⋆ Coordination sequence for lattice D*_32 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=32. •

[**A053107**] • 1,64,2304,61440,1351680,25952256,449839104,7197425664,107961384960,1535450808320,20882130993152,273366078455808,3462636993773568,42617070692597760,511404848311173120 ⋆ Expansion of 1/(1-8*x)^8. • a(n) = 8 ^ n * binomial(n + 7, 7). •

[**A017319**] • 64,2744,13824,39304,85184,157464,262144,405224,592704,830584,1124864,1481544,1906624,2406104,2985984,3652264,4410944,5268024,6229504,7301384,8489664,9800344,11239424 ⋆ (10*n+4)^3. • a(0)=64, a(1)=2744, a(2)=13824, a(3)=39304, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 01 2014 •

[**A016830**] • 64,46656,1000000,7529536,34012224,113379904,308915776,729000000,1544804416,3010936384,5489031744,9474296896,15625000000,24794912996,38068692544,56800235584,82653950016 ⋆ (4n+2)^6. • a(0)=64, a(1)=46656, a(2)=1000000, a(3)=7529536, a(4)=34012224, a(5)=113379904, a(6)=308915776, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Oct 14 2012 •

[**A187242**] • 0,0,0,0,0,64,81184,12448832,627961728,15915225216,251806066272,2814607288320,24088436720256,166645918174848,969258913391552,4878776675787392,21731689658569984,87161301448676352,319192073724720448,1079363369445639936,3401826465353378560,10070308904424957632,28183638842590122720 ⋆ Number of ways to place 10 nonattacking bishops on an n X n board. • a(n) = n ^ 20 / 3628800 - n ^ 19 / 60480 + 341n ^ 18 / 725760 - 45949n ^ 17 / 5443200 + 235433n ^ 16 / 2177280 - 308291n ^ 15 / 291600 + 14982871n ^ 14 / 1814400 - 43484267n ^ 13 / 816480 + 175706737n ^ 12 / 604800 - 2444962049n ^ 11 / 1796256 + 30003106793n ^ 10 / 5443200 - 44899907477n ^ 9 / 2332800 + 9919713547n ^ 8 / 172800 - 18390588424n ^ 7 / 127575 + 217346831209n ^ 6 / 725760 - 8233418533709n ^ 5 / 16329600 + 104224385179n ^ 4 / 155520 - 14600765627n ^ 3 / 21600 + 583132621007n ^ 2 / 1209600 - 46669993739n / 221760 + 19990663 / 512 + (- n ^ 14 / 40320 + n ^ 13 / 720 - 1267n ^ 12 / 34560 + 15721n ^ 11 / 25920 - 730663n ^ 10 / 103680 + 5532407n ^ 9 / 90720 - 98193341n ^ 8 / 241920 + 10640393n ^ 7 / 5040 - 99209431n ^ 6 / 11520 + 1417368727n ^ 5 / 51840 - 686809973n ^ 4 / 10368 + 2144839679n ^ 3 / 18144 - 1683044471n ^ 2 / 11520 + 2242597633n / 20160 - 19990663 / 512) * (- 1) ^ n. •

[**A017010**] • 64,531441,16777216,148035889,729000000,2565726409,7256313856,17596287801,38068692544,75418890625,139314069504,243087455521,404567235136,646990183449,1000000000000,1500730351849,2194972623936,3138428376721,4398046511104,6053445140625 ⋆ a(n) = (7*n+2)^6. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[**A017298**] • 64,2985984,113379904,1073741824,5489031744,19770609664,56800235584,139314069504,304006671424,606355001344,1126162419264,1973822685184,3297303959104,5289852801024,8198418170944 ⋆ (10*n+2)^6. • a(0)=64, a(1)=2985984, a(2)=113379904, a(3)=1073741824, a(4)=5489031744, a(5)=19770609664, a(6)=56800235584, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) - From _ Harvey P. Dale _ , Aug 12 2012 •

[**A017418**] • 64,4826809,191102976,1838265625,9474296896,34296447249,98867482624,243087455521,531441000000,1061520150601,1973822685184,3462825991689,5789336458816,9294114390625,14412774445056 ⋆ (11n+2)^6. • a(0)=64, a(1)=4826809, a(2)=191102976, a(3)=1838265625, a(4)=9474296896, a(5)=34296447249, a(6)=98867482624, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jun 14 2015 •

[**A130764**] • 65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89 ⋆ ASCII codes for upper case letters. • a(n)=64 + n, 0<n<27. •

[**A174928**] • 1,65,66,130,131,195,196,260,261,325,326,390,391,455,456,520,521,585,586,650,651,715,716,780,781 ⋆ Partial sums of A174927. • a(n) = (67 + 130 * n - 63 * (- 1) ^ n) / 4. • a(n) = a(n - 2) + 65 for n > 1; a(0) = 1, a(1) = 65. • a(n) = ((n + 1) mod 2) + 65 * floor((n + 1) / 2). •

[**A159758**] • 65,79,101,289,395,541,1669,2291,3145,9725,13351,18329,56681,77815,106829,330361,453539,622645,1925485,2643419,3629041,11222549,15406975,21151601,65409809 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+79)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=65, a(2)=79, a(3)=101, a(4)=289, a(5)=395, a(6)=541. •

[**A224770**] • 65,85,130,145,170,185,205,221,265,290,305,325,365,370,377,410,425,442,445,481,485,493,505,530,533 ⋆ Numbers that are the primitive sum of two squares in exactly two ways. • a(n) = a ^ 2 + b ^ 2, a and integers, 0 < a < b and gcd(a,b) = 1 in exactly two ways. These representations of a(n) are denoted by two different pairs (a,b). •

[**A160055**] • 65,89,149,241,445,829,1381,2581,4825,8045,15041,28121,46889,87665,163901,273289,510949,955285,1592845,2978029,5567809,9283781,17357225,32451569,54109841 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+89)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=65, a(2)=89, a(3)=149, a(4)=241, a(5)=445, a(6)=829. •

[**A158071**] • 65,129,193,257,321,385,449,513,577,641,705,769,833,897,961,1025,1089,1153,1217,1281,1345,1409,1473,1537,1601 ⋆ 64n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 11 2012 •

[**A048512**] • 1,65,210,536,1264,2880,6448,14288,31440,68816,149968,325584,704464,1519568,3268560,7012304,15007696,32047056,68288464,145227728,308281296,653262800,1382023120,2919235536,6157238224 ⋆ a(n) = T(7,n), array T given by A048505. • a(n) = (n ^ 2 + 29 * n + 196) * 2 ^ (n - 2) - 48. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Feb 25 2015 •

[**A158686**] • 1,65,257,577,1025,1601,2305,3137,4097,5185,6401,7745,9217,10817,12545,14401,16385,18497,20737,23105,25601,28225,30977,33857,36865 ⋆ 64n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A036547**] • 1,65,257,833,2561,7745,23297,69953,209921,629825,1889537,5668673,17006081,51018305,153054977,459164993,1377495041,4132485185,12397455617,37192366913,111577100801,334731302465,1004193907457 ⋆ a(n) = T(6,n), array T given by A048471. • a(n) = 32 * 3 ^ n - 31. - _ Ralf Stephan _ , Feb 17 2004 • a(n) = 3 * a(n - 1) + 62. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[**A165798**] • 65,260,585,1040,1625,2340,3185,4160,5265,6500,7865,9360,10985,12740,14625,16640,18785,21060,23465,26000,28665,31460,34385,37440,40625 ⋆ a(n) = 65*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158693**] • 65,263,593,1055,1649,2375,3233,4223,5345,6599,7985,9503,11153,12935,14849,16895,19073,21383,23825,26399,29105,31943,34913,38015,41249 ⋆ 66n^2 - 1. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A200890**] • 65,704,3823,14288,42182,105813,235538,478467,904111,1611038,2734601,4455802,7011356,10705019,15920244,23134229,32933421,46030540,63283187,85714100,114533122,151160945,197254694,254735415,325817531 ⋆ Number of 0..n arrays x(0..6) of 7 elements without any interior element greater than both neighbors. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[**A294301**] • 0,0,65,730,4890,19786,67171,180724,446964,962780,1978405,3703310,6735950,11445110,19092295,30220776,47260136,70866264,105409929,151455810,216455810,300450370,415601835,560651740,754740700 ⋆ Sum of the sixth powers of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 6 + (n - i) ^ 6. • a(n) = (n / 42 - n ^ 3 / 6 + n ^ 5 / 2 - 1 / 128 * (65 + (- 1) ^ n) * n ^ 6 + n ^ 7 / 7). • a(n) = a(n - 1) + 7 * a(n - 2) - 7 * a(n - 3) - 21 * a(n - 4) + 21 * a(n - 5) + 35 * a(n - 6) - 35 * a(n - 7) - 35 * a(n - 8) + 35 * a(n - 9) + 21 * a(n - 10) - 21 * a(n - 11) - 7 * a(n - 12) + 7 * a(n - 13) + a(n - 14) - a(n - 15) for n>15. •

[**A000540**] • 0,1,65,794,4890,20515,67171,184820,446964,978405,1978405,3749966,6735950,11562759,19092295,30482920,47260136,71397705,105409929,152455810,216455810,302221931,415601835,563637724,754740700 ⋆ Sum of 6th powers: 0^6 + 1^6 + 2^6 + ... + n^6. • a(n) = n * (n + 1) * (2 * n + 1) * (3 * n ^ 4 + 6 * n ^ 3 - 3 * n + 1) / 42. • a(n) = Sqrt[Sum[Sum[(i * j) ^ 6, { i, 1 , n }], { j, 1, n }]]. - _ Alexander Adamchuk _ , Oct 26 2004 • a(n) = sum(i =1..n, J _ 6(i) * floor(n / i)), where J _ 6 is A069091. - _ Enrique Pérez Herrero _ , Mar 09 2013 • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) + 720. - _ Ant King _ , Sep 24 2013 • a(n) = - sum(j=1..6, j * s(n + 1,n + 1 - j) * S(n + 6 - j,n)), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 • a(n) = (n + 1) * (n + 1 / 2) * n * (n + 1 / 2 + z) * (n + 1 / 2 - z) * (n + 1 / 2 + zbar) * (n + 1 / 2 - zbar) / 7, with I ^ 2 = - 1 and z = 2 ^ (- 3 / 2) * 3 ^ (- 1 / 4) * (sqrt(sqrt(31) + 3 * sqrt(3)) + I * sqrt(sqrt(31) - 3 * sqrt(3)), and zbar is the complex conjugate of z. See the Graham et al. reference, eq. (6.98), pp. 288 - 289 (with n - > n + 1). (There was a typo in the first edition, which was corrected in the second edition.) - _ Wolfdieter Lang _ , Apr 03 2015 •

[**A023875**] • 1,1,65,794,6970,69251,689896,6309849,55654858,483526120,4104495070,33968248260,275366110929,2192975727284,17169583920204,132264358228507,1003715206329332,7511468689508580,55479733165442038,404709688656248024,2917717129031507178 ⋆ Expansion of Product_{k>=1} (1 - x^k)^(-k^6). • a(n) = (1 / n) * Sum _{ k=1..n } sigma _ 7(k) * a(n - k). - _ Seiichi Manyama _ , Mar 05 2017 •

[**A086021**] • 1,65,1065,9065,51940,227556,820260,2548260,7040385,17688385,41082041,89310585,183506960,359122960,673554960,1216893456,2126746665,3608290665,5960927665,9613191665,15167828676,23459298500,3562629850

0,53202298500,78227501625 ⋆ a(n) = Sum_{i=1..n} C(i+2,3)^3. • a(n) = (C(n + 3, 4) / 1) * (1 + 12 * C(n - 1, 1) + 46 * C(n - 1, 2) + 84 * C(n - 1, 3) + 81 * C(n - 1, 4) + 40 * C(n - 1, 5) + 8 * C(n - 1, 6)). - Edited by _ Colin Barker _ , May 02 2014 • a(n) = n ^ 2 * (- 36 + 300 * n + 1535 * n ^ 2 + 2700 * n ^ 3 + 2442 * n ^ 4 + 1260 * n ^ 5 + 375 * n ^ 6 + 60 * n ^ 7 + 4 * n ^ 8) / 8640. - _ G. C. Greubel _ , Nov 22 2017 •

[A086029] • 1,65,1361,15761,124661,751925,3696581,15475205,56884430,187758030,565982734,1578749710,4117700254,10127050654,23648089054,52733344990,112835299639,232623278455,463695768455,896396608455,1684993889355,3086944610955,5522978819355 ⋆ a(n) = Sum_{i=1..n} C(i+6,7)^2. • a(n) = C(n + 7,8) * (- C(n + 7,0) + 8 * C(n + 7,1) - 36 * C(n + 7,2) + 120 * C(n + 3,7) - 330 * C(n + 7,4) + 792 * C(n + 7,5) - 1716 * C(n + 7,6) + 3432 * C(n + 7,7)) / 6435. - _ Yahia Kahloune _ , Dec 22 2013 • a(n) = (1 / 108972864000) * n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (7 + n) * (7 + 2 * n) * (60 + 64974 * n + 126245 * n ^ 2 + 82467 * n ^ 3 + 23408 * n ^ 4 + 3003 * n ^ 5 + 143 * n ^ 6). - _ G. C. Greubel _ , Nov 22 2017 •

[A128896] • 66,78,105,190,231,406,435,465,561,595,741,861,903,946,1378,1653,2211,2278,2485,3081,3655,3741,4371,4465,5151 ⋆ Triangular numbers with exactly three distinct prime factors. • a(n)=T(k)=k(k + 1) / 2=p * q * r for some k,p,q,r, where T(k) is triangular number and p, q, r are distinct primes. •

[A160848] • 0,1,66,131,238,361,534,709,938,1183,1470,1759,2104,2459,2870,3287,3740,4209,4734,5261,5844,6437,7070,7711,8408 ⋆ Number of lines through at least 2 points of an 8 X n grid of points. • a(n) = (1 / 2) * (f(m,n,1) - f(m, n,2)) where f(m,n,k)=Sum((n - |kx|) * (m - |ky|)); - n<kx<n, - m<ky<m, (x, y)=1, m=8 • a(n) = - a(n - 2) + a(n - 5) + a(n - 6) + 2 * a(n - 7) + a(n - 8) + a(n - 9) - a(n - 11) - a(n - 12) - 2 * a(n - 13) - a(n - 14) - a(n - 15) + a(n - 18) + a(n - 20) for n>21. •

[A174929] • 1,66,132,262,393,588,784,1044,1305,1630,1956,2346,2737,3192,3648,4168,4689,5274,5860,6510,7161,7876,8592,9372,10153 ⋆ Partial sums of A174928. • a(n) = (71 + 264 * n + 130 * n ^ 2 - 63 * (- 1) ^ n) / 8. • a(n) = a(n - 1) + a(n - 2) - a(n - 3) + 65 for n > 2; a(0) = 1, a(1) = 66, a(2) = 132. •

[A158070] • 0,66,260,582,1032,1610,2316,3150,4112,5202,6420,7766,9240,10842,12572,14430,16416,18530,20772,23142,25640,28266,31020,33902,36912 ⋆ 64n^2 + 2n. • a(1)=66, a(2)=260, a(3)=582, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Harvey P. Dale, Jul 25 2011, corrected by _ M. F. Hasler _ , Oct 09 2014 •

[A128952] • 66,657,6572,65715,657143,6571429,65714286,657142857,6571428572,65714285715,657142857143,6571428571429,65714285714286,657142857142857,6571428571428572,65714285714285715,657142857142857143 ⋆ a(n) is equal to the number of positive integers m less than or equal to 10^n such that m is not divisible by the prime 3 and is not divisible by at least one of the primes 2, 5 and 7. • a(n) = 10 ^ n - floor(10 ^ n / 3) - floor(10 ^ n / 70) + floor(10 ^ n / 210) •

[A101093] • 1,66,860,5750,26265,93436,278256,725220,1703625,3682030,7431996,14167946,25730705,44823000,75305920,122566056,193963761,299373690,451829500,668285310,970507241,1386109076,1949746800,2704487500 ⋆ Second partial sums of sixth powers (A001014). • a(n) = n * (1 + n) ^ 2 * (2 + n) * (- 1 + n * (2 + n)) * (- 2 + 3 * n * (2 + n)) / 168. • a(n) = Sum _{ i=1..n } i * (n + 1 - i) ^ 6, by the definition. - _ Bruno Berselli _ , Jan 31 2014 • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 6. - _ Luciano Ancora _ , Jan 08 2015 •

[A056468] • 0,1,66,924,7400,44040,217392,942592,3714048,13593600,46914560,154328064,487778304,1490384896,4423372800,12801146880,36235378688,100580917248,274361352192,736775372800,1950815354880,5099601002496,13176144920576,33682341494784 ⋆ a(n) = sum(k=1,n, k^6*binomial(n,k)). • a(n) = 2 ^ (n - 6) * n * (n + 1) * (n ^ 4 + 14 * n ^ 3 + 31 * n ^ 2 - 46 * n + 16). •

[A027785] • 66,936,7098,38220,163800,594048,1893528,5441904,14360580,35271600,81477396,178474296,373173528,748843200,1448655000,2711882160,4928324310,8718517080,15049821150,25401694500,41997468240,68124925440,108574099920,170228167200,262852317000 ⋆ a(n) = 6*(n+1)*binomial(n+2,12). • a(n) = C(n + 1, 11) * C(n + 2, 2). - _ Zerinvary Lajos _ , May 13 2005, corrected by _ R. J. Mathar _ , Mar 15 2016 •

[A140925] • 1,66,1716,26026,273273,2186184,14158144,77364144,367479684,1551580888,5924217936,20734762776,67255063876,203982391536,582806832600,1578435172600,4073755482225,10064572367850,23896002230100,54709268263650,121141951155225,260114319363600 ⋆ Binomial(m+n-1,n)^2 - binomial(m+n,n)^2 - binomial(m+n-1,n-1)^2 with m=12. • a(n) = ((n + 11) / (11 * n + 11)) * binomial(n + 10,10) ^ 2. - _ Bruno Berselli _ , May 07 2012 •

[A279446] • 0,0,1,66,2096,25676,187984,983172,4073312,14196011,43309138,118818916,298926225,699619679,1540212590,3217045155,6419240369,12304959047,22763742133,40797668697,71065355815,120643462032,200077436639,324808463585,517088445952 ⋆ Number of non-equivalent (mod D_3) ways to place 6 indistinguishable points on a triangular grid of side n so that no two of them are adjacent. • a(n) = (n ^ 12 + 6 * n ^ 11 - 195 * n ^ 10 - 670 * n ^ 9 + 17455 * n ^ 8 + 13426 * n ^ 7 - 835256 * n ^ 6 + 1246240 * n ^ 5 + 19563664 * n ^ 4 - 68181792 * n ^ 3 - 131524224 * n ^ 2 + 969500160 * n - 1298903040) / 276480 + IF(MOD(n, 2) = 1, 162 * n ^ 5 - 715 * n ^ 4 - 4480 * n ^ 3 + 21955 * n ^ 2 + 1108 * n - 41685) / 30720 + IF(MOD(n, 3) = 1, n ^ 2 + n - 25) / 27 for n>=4. •

[A173124] • 1,66,2376,61776,1297296,23351328,373621248,5444195328,73496636928,930957401088,11171488813056,127964326404096,1407607590445056,14942295960109056,153692187018264576,1536921870182645760 ⋆ a(n) = binomial(n+10,10)*6^n. • a(n) = C(n + 10, 10) * 6 ^ n. •

[A283222] • 66,6810,182430,105470250,17356640970,678676246650,1879504308930,4491035717130,10618004862030,21136679055030,23751520478010,27081671511090,27596192489190,31721097756750,115248550935750,133303609919430,140838829659930,182797297112430,197799116497230 ⋆ Integer area of integer-sided triangle such that the sides are of the form p, p+2, 2(p-1), where p, p+2 and (p-1)/2 are prime numbers. • a(n) == 6 mod 30. •

[A199838] • 66,23206,645780,6715618,41008804,179213048,622300326,1827026482,4719970500,11025201168,23740333870,47800415256,90973748554,165038447302,287293180292,482460245532,785043786046,1242210635346,1917265955424 ⋆ Number of -n..n arrays x(0..8) of 9 elements with zero sum and no two neighbors summing to zero. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[A163303] • 67,142,369,754,1303,2022,2917,3994,5259,6718,8377,10242,12319,14614,17133,19882,22867,26094,29569,33298,37287,41542,46069,50874,55963 ⋆ a(n) = n^3 + 73*n^2 + n + 67. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Sep 13 2015 •

[A158689] • 1,67,265,595,1057,1651,2377,3235,4225,5347,6601,7987,9505,11155,12937,14851,16897,19075,21385,23827,26401,29107,31945,34915,38017 ⋆ 66n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158730] • 67,271,611,1087,1699,2447,3331,4351,5507,6799,8227,9791,11491,13327,15299,17407,19651,22031,24547,27199,29987,32911,35971,39167,42499 ⋆ 68n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A254640] • 1,67,927,6677,32942,126378,404634,1129854,2833479,6515509,13947505,28115451,53846156,98669156,173975076,296541132,490504893,789878583,1241708083,1909993393,2880500634,4266609710,6216356510,8920844010,12624212835 ⋆ Third partial sums of sixth powers (A001014). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (3 + 2 * n) * (2 - 30 * n + 35 * n ^ 2 + 30 * n ^ 3 + 5 * n ^ 4) / 5040. •

[A157665] • 67,1238,3867,7954,13499,20502,28963,38882,50259,63094,77387,93138,110347,129014,149139,170722,193763,218262,244219,271634,300507,330838,362627,395874,430579 ⋆ 729n^2 - 1016n + 354. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A281235] • 68,76,132,204,324,716,1156,1868,4164,6732,10884,24268,39236,63436,141444,228684,369732,824396,1332868,2154956,4804932,7768524,12560004,28005196,45278276 ⋆ Solutions x to the negative Pell equation y^2 = 72*x^2 - 332928 with x,y >= 0. • a(n) = 6 * a(n - 3) - a(n - 6) for n>6. •

[A217776] • 68,100,140,188,244,308,380,460,548,644,748,860,980,1108,1244,1388,1540,1700,1868,2044,2228,2420,2620,2828,3044 ⋆ n(n+1) + (n+2)(n+3) + (n+4)(n+5) + (n+6)(n+7). • a(n) = 4 * n ^ 2 + 28 * n + 68. •

[A063341] • 1,68,152,236,318,402,484,572,650,738,816,906,982,1074,1148,1242,1314,1408,1480,1578,1646,1744,1812,1912,1978 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(68). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A292344] • 68,212,420,692,1028,1428,1892,2420,3012,3668,4388,5172,6020,6932,7908,8948,10052,11220,12452,13748,15108,16532,18020,19572,21188 ⋆ The first Zagreb index of the Aztec diamond AZ(n) (see the Ramanes et al. reference, Theorem 2.1). • a(n) = 32 * n ^ 2 + 48 * n - 12. •

[A027850] • 1,68,531,2056,5645,12636,24703,43856,72441,113140,168971,243288,339781,462476,615735,804256,1033073,1307556,1633411,2016680,2463741,2981308,3576431,4256496,5029225 ⋆ (n+1)*(14*n^3+13*n^2+6*n+1). • a(0)=1, a(1)=68, a(2)=531, a(3)=2056, a(4)=5645, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) _ Harvey P. Dale _ , May 21 2012 •

[A200876] • 68,723,3882,14455,42744,107777,241718,495495,945790,1703537,2924076,4819113,7670638,11846955,17820980,26190965,37703808,53281111,74048150,101365923,136866444,182491453,240534714,313688075,405091466 ⋆ Number of 0..n arrays x(0..7) of 8 elements without any interior element greater than both neighbors or less than both neighbors. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. •

[A254645] • 1,68,995,7672,40614,166992,571626,1701480,4534959,11050468,24997973,53113424,106959580,205628736,379603812,676144944,1166649837,1956528420,3198236503,5108229896,7988730530,12255340240 ⋆ Fourth partial sums of sixth powers (A001014). • a(n) = n * (1 + n) * (2 + n) ^ 2 * (3 + n) * (4 + n) * (- 1 - 8 * n + 14 * n ^ 2 + 8 * n ^ 3 + n ^ 4) / 5040. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + n ^ 6. •

[A035802] • 1,68,2312,52428,892432,12168532,138504984,1354168796,11614313504,88805833316,613171117352,3863171679980,22402282117680,120450005575540,604244840324920,2843633280971772,12614155679414336 ⋆ Coordination sequence for lattice D*_34 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=34. •

[A166067] • 1,69,70,139,209,348,557,905,1462,2367,3829,6196,10025,16221,26246,42467,68713,111180,179893,291073,470966,762039,1233005,1995044,3228049 ⋆ Fibonacci sequence beginning 1, 69. • a(n) = a(n - 1) + a(n - 2). •

[A264045] • 69,77,106,161,178,221,254,309,314,329,341,386,398,417,422,473,554,662,674,689,758,794,934,974,998 ⋆ Numbers n such that n and n+5 are consecutive semiprimes. • a(n) >> n log n. - _ Charles R Greathouse IV _ , Nov 02 2015 •

[A063355] • 1,69,140,210,280,350,420,488,560,628,700,770,840,906,980,1048,1120,1188,1260,1326,1400,1466,1540,1608,1680 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(82). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A295926] • 69,161,401,961,2241,5121,11521,25601,56321,122881,266241,573441,1228801,2621441,5570561,11796481,24903681,52428801,110100481,23068672

1,482344961,1006632961,2097152001,4362076161,9059696641 ★ Number of (not necessarily maximum) cliques in the n-cube-connected cycle graph. ● a(n) = 5 * 2 ^ (n - 1) * n + 1 for n > 3. ● a(n) = 5 * a(n - 1) - 8 * a(n - 2) + 4 * a(n - 3) for n > 3. ●

[A063322] ● 1,69,164,258,352,446,540,634,728,822,916,1011,1104,1198,1292,1387,1480,1575,1668,1763,1856,1951,2044,2140,2232 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(49). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[A158732] ● 1,69,273,613,1089,1701,2449,3333,4353,5509,6801,8229,9793,11493,13329,15301,17409,19653,22033,24549,27201,29989,32913,35973,39169 ★ 68*n^2 + 1. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A158736] ● 69,279,629,1119,1749,2519,3429,4479,5669,6999,8469,10079,11829,13719,15749,17919,20229,22679,25269,27999,30869,33879,37029,40319,43749 ★ 70n^2 - 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A161486] ● 0,69,336,573,936,2449,3820,5929,14740,22729,35020,86373,132936,204573,503880,775269,1192800,2937289,4519060,6952609,17120236,26339473,40523236,99784509,153518160 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+191)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 382 for n > 6; a(1)=0, a(2)=69, a(3)=336, a(4)=573, a(5)=936, a(6)=2449. ●

[A160788] ● 1,69,1023,6761,28673,92189,245463,570193,1194577,2308405,4180287,7177017,11785073,18634253,28523447,42448545,61632481,87557413,121999039,167063049,225223713,299364605,392821463,509427185,653558961 ★ G.f.: (1+62*x+561*x^2+1014*x^3+449*x^4+48*x^5+x^6)/(1-x)^7. ● a(n) = 89 * n ^ 6 / 30 + 151 * n ^ 5 / 15 + 56 * n ^ 4 / 3 + 19 * n ^ 3 + 371 * n ^ 2 / 30 + 74 * n / 15 + 1. - R. J. Mathar, Sep 11 2011 ●

[A160815] ● 1,69,1024,6777,28773,92589,246688,573329,1201633,2322805,4207512,7225417,11866869,18766749,28730472,42762145,62094881,88223269,122938000,168362649,226992613,301736205,395957904,513523761,658848961 ★ G.f.: (1+62*x+562*x^2+1023*x^3+458*x^4+49*x^5+x^6)/(1-x)^7. ● a(n) = 539 * n ^ 6 / 180 + 151 * n ^ 5 / 15 + 335 * n ^ 4 / 18 + 19 * n ^ 3 + 2231 * n ^ 2 / 180 + 74 * n / 15 + 1. - R. J. Mathar, Sep 11 2011 ●

[A160816] ● 1,69,1025,6793,28873,92989,247913,576465,1208689,2337205,4234737,7273817,11948665,18899245,28937497,43075745,62557281,88889125,123876961,169662249,228761513,304107805,399094345,517620337,664138961 ★ G.f.: (1+62*x+563*x^2+1032*x^3+467*x^4+50*x^5+x^6)/(1-x)^7. ● a(n) = 136 * n ^ 6 / 45 + 151 * n ^ 5 / 15 + 167 * n ^ 4 / 9 + 19 * n ^ 3 + 559 * n ^ 2 / 45 + 74 * n / 15 + 1. - R. J. Mathar, Sep 17 2011 ●

[A160817] ● 1,69,1026,6809,28973,93389,249138,579601,1215745,2351605,4261962,7322217,12030461,19031741,29144522,43389345,63019681,89554981,124815922,170961849,230530413,306479405,402230786,521716913,669428961 ★ G.f.: (1+62*x+564*x^2+1041*x^3+476*x^4+51*x^5+x^6)/(1-x)^7. ● a(n) = 61 * n ^ 6 / 20 + 151 * n ^ 5 / 15 + 37 * n ^ 4 / 2 + 19 * n ^ 3 + 249 * n ^ 2 / 20 + 74 * n / 15 + 1. - R. J. Mathar, Sep 17 2011 ●

[A160836] ● 1,69,1027,6825,29073,93789,250363,582737,1222801,2366005,4289187,7370617,12112257,19164237,29351547,43702945,63482081,90220837,125754883,172261449,232299313,308851005,405367227,525813489,674718961 ★ G.f.: (1+62*x+565*x^2+1050*x^3+485*x^4+52*x^5+x^6)/(1-x)^7. ● a(n) = 1 + n * (n + 1) * (277 * n ^ 4 + 629 * n ^ 3 + 1031 * n ^ 2 + 679 * n + 444) / 90 . - R. J. Mathar, Sep 17 2011 ● a(0)=1, a(1)=69, a(2)=1027, a(3)=6825, a(4)=29073, a(5)=93789, a(6)=250363, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Sep 01 2015 ●

[A160834] ● 1,69,1029,6857,29273,94589,252813,589009,1236913,2394805,4343637,7467417,12275849,19429229,29765597,44330145,64406881,91552549,127632805,174860649,235837113,313594205,411640109,534006641,685298961 ★ G.f.: (1+62*x+567*x^2+1068*x^3+503*x^4+54*x^5+x^6)/(1-x)^7. ● a(n) = 1 + n * (n + 1) * (47 * n ^ 4 + 104 * n ^ 3 + 171 * n ^ 2 + 114 * n + 74) / 15. - _ R. J. Mathar _ , Sep 17 2011 ●

[A160833] ● 1,69,1031,6889,29473,95389,255263,595281,1251025,2423605,4398087,7564217,12439441,19694221,30179647,44957345,65331681,92884261,129510727,177459849,239374913,318337405,417912991,542199793,695878961 ★ G.f.: (1+62*x+569*x^2+1086*x^3+521*x^4+56*x^5+x^6)/(1-x)^7. ● a(n) = 1 + n * (n + 1) * (287 * n ^ 4 + 619 * n ^ 3 + 1021 * n ^ 2 + 689 * n + 444) / 90 . - R. J. Mathar, Sep 17 2011 ●

[A160831] ● 1,69,1032,6905,29573,95789,256488,598417,1258081,2438005,4425312,7612617,12521237,19826717,30386672,45270945,65794081,93550117,130449688,178759449,241143813,320709005,421049432,546296369,701168961 ★ G.f.: (1+62*x+570*x^2+1095*x^3+530*x^4+57*x^5+x^6)/(1-x)^7. ● a(n) = 193 * n ^ 6 / 60 + 151 * n ^ 5 / 15 + 109 * n ^ 4 / 6 + 19 * n ^ 3 + 757 * n ^ 2 / 60 + 74 * n / 15 + 1. - R. J. Mathar, Sep 17 2011 ●

[A254683] ● 1,69,1064,8736,49350,216342,787968,2489448,7024407,18074875,43072848,96186272,203145852,408774588,788378400,1464523344,2631173181,4587701601,7785938104,12894168000,20882898530,33138238770 ★ Fifth partial sums of sixth powers (A001014). ● a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (5 + 2 * n) * (- 3 + 5 * n + n ^ 2) * (4 + 15 * n + 3 * n ^ 2) / 332640. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + n ^ 6. ●

[A156718] ● 70,99,239,268,408,437,577,606,746,775,915,944,1084,1113,1253,1282,1422,1451,1591,1620,1760,1789,1929,1958,2098 ★ Numbers n such that n^2 == -1 mod 13^2. ● a(n) = a(n - 1) + a(n - 2) - a(n - 3). ●

[A180274] ● 70,106,158,182,274,430,650,1022,1546,1786,2702,4250,6430,10114,15302,17678,26746,42070,63650,100118,151474,174994,264758,416450,630070 ★ Integers whose squares are the sums of 24 consecutive squares. ● a(n) = + 10 * a(n - 6) - a(n - 12). G.f. (70 + 106 * x + 158 * x ^ 2 + 182 * x ^ 3 + 274 * x ^ 4 + 430 * x ^ 5 - 50 * x ^ 6 - 38 * x ^ 7 - 34 * x ^ 8 - 34 * x ^ 9 - 38 * x ^ 10 - 50 * x ^ 11) / (1 - 10 * x ^ 6 + x ^ 12). - _ Joerg Arndt _ , Jan 17 2011 ●

[A254367] ● 70,126,294,846,2814,10326,40614,168126,723534,3208806,14570934,67417806,316645854,1505245686,7225414854,34956689886,170199537774,832952952966,4093454620374,20184631056366,99800366967294,494533989722646,2454868429675494 ★ a(n) = 5*2^(n+2) + 2^(2n+2) + 10*3^n + 5^n + 35. ● a(n) = 15 * a(n - 1) - 85 * a(n - 2) + 225 * a(n - 3) - 274 * a(n - 4) + 120 * a(n - 5). - _ Colin Barker _ , Jan 30 2015 ●

[A063320] ● 1,70,161,253,345,437,529,621,713,805,897,987,1081,1173,1265,1355,1449,1539,1633,1723,1817,1907,2001,2089,2185 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(47). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[A154361] ● 70,180,430,680,930,1180,1430,1680,1930,2180,2430,2680,2930,3180,3430,3680,3930,4180,4430,4680,4930,5180,5430,5680,5930 ★ a(n) = 250*n - 70. ● a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 21 2012 ●

[A151556] ● 1,70,357,3366,7748,29597,51604,134113,203475,427344,596471,1094240,1444702,2413711,3062718,4778067,5884949,8712458,10485145,14894314,17595816,24172785,28127672,37588181,43189063 ★ Values of (n^5+47*n)/48 as n ranges over the numbers that are == +-1 mod 6. ● a(n) = a(n - 1) + 5 * a(n - 2) - 5 * a(n - 3) - 10 * a(n - 4) + 10 * a(n - 5) + 10 * a(n - 6) - 10 * a(n - 7) - 5 * a(n - 8) + 5 * a(n - 9) + a(n - 10) - a(n - 11). [_ R. J. Mathar _ , May 21 2009] ● a(n) = ((2 * n - 1) * (81 * n ^ 4 - 162 * n ^ 3 + 144 * n ^ 2 - 63 * n + 58) + (135 * n ^ 4 - 270 * n ^ 3 + 210 * n ^ 2 - 75 * n + 26) * (- 1) ^ n) / 32. - _ Tani Akinari _ , Oct 25 2014 ●

[A172222] ● 1,70,406,1168,2948,6576,13122,23808,40168,63996,97344,142516,202072,278828,375856,496484,644296,823132,1037088,1290516,1588024,1934476,2334992,2794948,3319976 ★ Number of ways to place 4 nonattacking zebras on a 4 X n board. ● a(n) = 4 * (8 * n ^ 4 - 48 * n ^ 3 + 202 * n ^ 2 - 471 * n + 507) / 3, n>=9. ●

[A163434] ● 0,1,70,425,1426,3577,7526,14065,24130,38801,59302,87001,123410,170185,229126,302177,391426,499105,627590,779401,957202,1163801,1402150,1675345,1986626 ★ Number of different fixed (possibly) disconnected tetrominoes bounded tightly by an n X n square. ● a(n) = (2n ^ 2 - 4n + 1) * (3n ^ 2 - 6n + 1), n>1. ●

[A060541] ● 1,70,495,1820,4845,10626,20475,35960,58905,91390,135751,194580,270725,367290,487635,635376,814385,1028790,1282975,1581580,1929501,2331890,2794155,3321960,3921225 ★ C(4n,4). ● a(n) = n * (2n - 1) * (4n - 1) * (4n - 3) / 3. ●

[A169712] ● 1,70,639,2716,7885,18306,36715,66424,111321,175870,265111,384660,540709,740026,989955,1298416,1673905,2125494,2662831,3296140,4036221,4894450,5882779,7013736,8300425 ★ The function W_n(8) (see Borwein et al. reference for definition). ● a(n) = - 33 * n + 82 * n ^ 2 - 72 * n ^ 3 + 24 * n ^ 4. - _ Peter Luschny _ , May 27 2017 ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , May 28 2017 ●

[A027804] ● 70,756,4410,18480,62370,180180,462462,1081080,2342340,4764760,9189180,16930368,29980860,51279480,85058820,137287920,216228474,333125100,503052550,745945200,1087836750,1562340780,2212405650 ★ a(n) = 14*(n+1)*C(n+4,8). ● a(n) = C(n + 1, 5) * C(n + 4, 4). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 ●

[A125114] ● 70,906,4936,10766,17958,25870,35142,45572,56142,66934,77924,89334,101024,113134,125664,138334,151704,165214,179004,192934,207704,223314,239204,255234,271544 ★ Sum of the first n weird numbers. ● a(n) = O(n ^ 2). - _ Charles R Greathouse IV _ , Jul 28 2014 ●

[A254472] ● 1,70,1134,9870,59220,275562,1063530,3552978,10577385,28652260,71725108,167911380,371057232,779831820,1568210220,3032733564,5663906745,10251608346,18037546450,30931714450,51814612980,84952851750,136562787270,215565263550,334584493425 ★ Sixth partial sums of sixth powers (A001014). ● a(n) = n * (1 + n) * (2 + n) * (3 + n) ^ 2 * (4 + n) * (5 + n) * (6 + n) * (- 3 + 5 * n + n ^ 2) * (3 + 7 * n + n ^ 2) / 665280. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) + n ^ 6. ●

[A047835] ● 1,70,1764,24696,232848,1646568,9343620,44537922,184225041,677352676,2254684432,6892441920,19571505408,52101067968,131018862096,313203587004,715536058545,1569305708586,3316911815140,6778924352200,13435361082000 ★ a(n)=Product_{i=1..n} ((i+4)*(i+5)*(i+6)*(i+7))/(i*(i+1)*(i+2)*(i+3)). ● a(n)=C(n,n - 1) * C(n + 1,n - 2) * C(n + 2,n - 3) * C(n + 3,n - 4) / (10 * 4 !), n>=4 . - _ Zerinvary Lajos _ , May 29 2007 ● a(n - 4) = 1 / 3456 * sum { 1 <= x _ 1, x _ 2, x _ 3, x _ 4 <= n } (det V(x _ 1,x _ 2,x _ 3,x _ 4)) ^ 2 = 1 / 3456 * sum { 1 <= i,j,k,l <= n } ((i - j)(i - k)(i - l)(j - k)(j - l)(k - l)) ^ 2, where V(x _ 1,x _ 2,x _ 3,x _ 4) is the Vandermonde matrix of order 4. - _ Peter Bala _ , Sep 21 2007 ●

[A197192] ● 1,70,2695,75460,1716715,33647614,588833245,9421331920,140142312310,1961992372340,26094498552122,332111799754280,4068369546989930,48194531556649940,554237112901474310,6207455664496512272,67894046330430602975 ★ Binomial(n+9, 9)*7^n ● a(n) = C(n + 9, 9) * 7 ^ n. ●

[A103157] ● 70,17550,635376,9691375,88201170,566685735,2829877120,11671285626,41417124750,130179173740,370215608400,968104633665,2357084537626,5396491792125,11710951848960,24246290643940,48151733324310,92140804597626,170538695998000,306294282269955 ★ Number of ways to choose 4 distinct points from an (n+1) X (n+1) X (n+1) lattice cube. ● a(n) = binomial((n + 1) ^ 3, 4). ●

[A026063] • 71,119,180,255,345,451,574,715,875,1055,1256,1479,1725,1995,2290,2611,2959,3335,3740,4175,4641,5139,5670,6235,6835 ★ dot_product(n,n-1,...2,1)*(6,7,...,n,1,2,3,4,5). • a(n) = n(n ^ 2 + 18n - 73) / 6. - _ Ralf Stephan _ , Apr 30 2004 •

[A157921] • 71,143,215,287,359,431,503,575,647,719,791,863,935,1007,1079,1151,1223,1295,1367,1439,1511,1583,1655,1727,1799 ★ 72n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 28 2012 •

[A243579] • 71,255,567,1007,1575,2271,3095,4047,5127,6335,7671,9135,10727,12447,14295,16271,18375,20607,22967,25455,28071,30815,33687,36687,39815 ★ Integers of the form 8k+7 that can be written as a sum of four distinct squares of the form m, m+2, m+4, m+5, where m == 1 (mod 4). • a(n) = 64 * n ^ 2 - 8 * n + 15. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>3. •

[A158734] • 1,71,281,631,1121,1751,2521,3431,4481,5671,7001,8471,10081,11831,13721,15751,17921,20231,22681,25271,28001,30871,33881,37031,40321 ★ 70n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158738] • 71,287,647,1151,1799,2591,3527,4607,5831,7199,8711,10367,12167,14111,16199,18431,20807,23327,25991,28799,31751,34847,38087,41471,44999 ★ 72n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A173806] • 1,71,771,7771,77771,777771,7777771,77777771,777777771,7777777771,77777777771,777777777771,7777777777771,77777777777771,777777777777771,7777777777777771,77777777777777771 ★ (7*10^n-61)/9 for n>0. • a(n) = 10 * a(n - 1) + 61 with n>0, a(0)= - 6. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A210699] • 1,71,918,6667,33665,131616,425866,1192178,2977857,6785605,14339006,28451061,53519713,96176822,166119570,277155796,448497281,706337523,1085753062,1632969935,2408039361,3487969276,4970360858,6977601702,9661669825 ★ Number of bilaterally asymmetric 8-hoops with n symbols and no a-rooted trees. • a(n) = (n - 1) * (n ^ 7 - 7 * n ^ 6 + 29 * n ^ 5 - 71 * n ^ 4 + 116 * n ^ 3 - 128 * n ^ 2 + 80 * n - 32) / 16. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). _ Vincenzo Librandi _ , May 13 2012 •

[A267475] • 71,1112,8770,44901,171601,532840,1418740,3357537,7240267,14483216,27233174,48620533,83065269,136640848,217501096,336375073,507134991,747442216,1079476394,1530752741,2135032537,2933331864,3975033628 ★ Number of length-7 0..n arrays with no following elements larger than the first repeated value. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. •

[A254872] • 1,71,1205,11075,70295,345857,1409387,4962365,15539750,44192010,115917118,283828498,654885730,1434717550,3002927770,6035661334,11699568079,21951176425,39988722875,70920437325,122735050305 ★ Seventh partial sums of sixth powers (A001014). • a(n) = (n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (7 + n) * (7 + 2 * n) * (- 49 + 147 * n ^ 2 + 42 * n ^ 3 + 3 * n ^ 4)) / 51891840. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) + n ^ 6. •

[A221051] • 71,3696,63950,688090,5703410,40217250,254522114,1492368834,8272324418,43936883266,225705715778,1128962528322,5525679156290,26563127958594,125778392431682,587953338416194,2718115098721346,12445431340858434,56504646938393666 ★ The hyper-Wiener index of the nanostar dendrimer D_1[n], defined pictorially in the Eslahchi et al. reference. • a(n) = - 958 + 2 ^ n * (896 * n ^ 2 - 2904 * n - 19861) + 4 ^ n * (3136 * n ^ 2 - 11928 * n + 20890). Theorem 5 of the Eslahchi et al. paper contains a less explicit formula for the hyper - Wiener index. •

[A133899] • 72,73,74,75,76,77,78,79,80,153,154,155,156,157,158,159,160,161,234,235,236,237,238,239,240 ★ Numbers m such that binomial(m+9,m) mod 9 = 0. • a(n)=9n + 72 - 8 * (n mod 9). •

[A099943] • 72,98,124,150,176,202,228,254,280,306,332,358,384,410,436,462,488,514,540,566,592,618,644,670,696 ★ Number of 5 X n binary matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1), (01,1) and (11;0). • a(n) = 26 * n + 20. •

[A102562] • 72,108,120,144,168,180,200,216,240,252,264,270,280,288,300,312,324,336,360,378,392,396,400,408,420 ★ Numbers n such that the cyclic group of order n is not a Hajós group. • a(n) = n + O(n(log log n) ^ 3 / log n). - _ Charles R Greathouse IV _ , Mar 24 2014 •

[A052486] • 72,108,200,288,392,432,500,648,675,800,864,968,972,1125,1152,1323,1352,1372,1568,1800,1944,2000,2312,2592,2700 ★ Achilles numbers - powerful but imperfect: writing n=product(p_i^e_i) then none of the e_i=1 (i.e., powerful(1)) but the highest common factor of the e_i>1 is 1 (so not perfect powers). • a(n) = O(n ^ 2). - _ Daniel Forgues _ , Aug 11 2015 • a(n) = O(n ^ 2 / log log n). - _ Daniel Forgues _ , Aug 12 2015 •

[A157336] • 72,136,200,264,328,392,456,520,584,648,712,776,840,904,968,1032,1096,1160,1224,1288,1352,1416,1480,1544,1608 ★ a(n) = 8*(8*n + 1). • a(n) = 2 * a(n - 1) - a(n - 2). (End) •

[A137883] • 72,144,280,456,728,1056,1512,2040,2728,3504,4472,5544,6840,8256,9928,11736,13832,16080,18648,21384,24472,27744,31400,35256,39528 ★ Number of (directed) Hamiltonian paths in the n-Möbius ladder graph. • a(n) = (- 1) ^ n * n * (- 1 + (- 1) ^ n * (5 + 2 * n ^ 2)). - _ Eric W. Weisstein _ , Dec 16 2013 •

[A158488] • 72,264,584,1032,1608,2312,3144,4104,5192,6408,7752,9224,10824,12552,14408,16392,18504,20744,23112,25608,28232,30984,33864,36872,40008 ★ a(n) = 64*n^2 + 8. • a(1)=72, a(2)=264, a(3)=584, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 16 2011 •

[A277991] • 0,72,306,702,1260,1980,2862,3906,5112,6480,8010,9702,11556,13572,15750,18090,20592,23256,26082,29070,32220,35532,39006,42642,46440 ★ a(n) = 81*n^2 - 9*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Nov 13 2016 •

[A157909] • 72,315,720,1287,2016,2907,3960,5175,6552,8091,9792,11655,13680,15867,18216,20727,23400,26235,29232,32391,35712,39195,42840,46647,50616 ★ 81*n^2 - 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 08 2012 •

[A192792] • 72,360,2556,22572,219636,2204244,22197420,222257988,2207645892,21754722852,212845625820,2069408197476,20010127994676,192565336573476,1845376043710284,17619057807964452,167667905660138532,1590879916369856484,15054743317985652924 ★ Molecular topological indices of the Apollonian graphs. • a(n) = 29 * a(n - 1) - 320 * a(n - 2) + 1676 * a(n - 3) - 4109 * a(n - 4) + 2537 * a(n - 5) + 9182 * a(n - 6) - 26346 * a(n - 7) + 43920 * a(n - 8) - 49896 * a(n - 9) + 23328 * a(n - 10) for n > 10. •

[A084479] • 72,384,3360,21504,163968,1136640,8283648,58791936,423121923022872576,21679875072,155169515520,1111792499712,7961492434944,57028930483200,408439216748544,2925470825868288,20952944438968320,150073631759459328,1074876158496638976 ★ Number of fault-free tilings of a 5 X 3n rectangle with right trominoes. • a(n) = 2 * a(n - 1) + 31 * a(n - 2) + 40 * a(n - 3) + 20 * a(n - 4) for n>5. - _ Colin Barker _ , Mar 28 2017 •

[A086579] • 0,72,792,7992,79992,799992,7999992,79999992,799999992,7999999992,79999999992,799999999992,7999999999992,79999999999992,799999999999992,7999999999999992,79999999999999992 ★ a(n) = k where R(k+8)=8. • a(n) = 8 * (10 ^ n - 1) • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[A008399] • 1,72,1062,6696,26316,77688,189810,405720,785304,1408104,2376126,3816648,5885028,8767512,12684042,17891064,24684336,33401736,44426070,58187880,75168252,95901624,120978594,151048728,186823368 ★ Coordination sequence for E_6 lattice. • a(n) = 9 * n * (13 * n ^ 2 + 7) * (n ^ 2 + 1) / 5 for n >= 1. •

[A022148] • 1,72,1072,6968,28320,85992,214864,467544,918080,1665672,2838384,4596856,7138016,10698792,15559824,22049176,30546048,41484488,55357104,72718776,94190368,120462440,152298960 ★ Coordination sequence for root lattice B_6. • a(0) = 1; for n>0, a(n) = (8 * n / 15) * (58 * n ^ 4 - 65 * n ^ 3 + 180 * n ^ 2 - 85 * n + 47) . - _ Philippe Deléham _ , Feb 20 2004 •

[A192847] • 0,0,0,72,1080,7020,30240,100800,281232,687960,1520640,3100680,5920200,10702692,18476640,30663360,49180320,76561200,116093952,171978120,249502680,355245660,497296800,685504512,931748400 ★ Molecular topological indices of the tetrahedral graphs. • a(n) = n * (n - 1) * (n - 2) * (n - 3) ^ 2 * (n ^ 2 - 3 * n + 8) / 4. - _ Andrew Howroyd _ , May 23 2017 • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Eric W. Weisstein _ , Jun 26 2017 •

[A008391] • 1,72,1332,11832,66222,271224,889716,2476296,6077196,13507416,27717948,53265960,96900810,168278760,280819260,452715672,708113304,1078467624,1604095524,2335932504,3337508646,4687156248,6480461988,8832976488,11883194148 ★ Coordination sequence for A_8 lattice. • a(0)=1, a(1)=72, a(2)=1332, a(3)=11832, a(4)=66222, a(5)=271224, a(6)=889716, a(7)=2476296, a(8)=6077196, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Mar 04 2012 •

[A037251] • 0,0,72,1512,12480,63000,234360,707952,1838592,4257360,9009000,17728920,32864832,57948072,97919640,159516000,251719680,386279712,578306952,846949320,1216152000,1715507640 ★ n^3*(n^3+1)*(n-1). • a(0)=0, a(1)=0, a(2)=72, a(3)=1512, a(4)=12480, a(5)=63000, a(6)=234360, a(7)=707952, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Nov 23 2012 •

[A035803] • 1,72,2592,62232,1121472,16186536,194986080,2017132920,18300435840,147972367880,1080041397408,7190430174936,44042615547456,250012542410856,1323529602867936,6569619630522168,30721376739859200 ★ Coordination sequence for lattice D*_36 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=36. •

[A141054] • 1,72,2880,84480,2027520,42172416,787218432,13495173120,215922769920,3262832967680,46984794734592,649244436332544,8656592484433920,111869810568069120,1406363332855726080,17251390216363573248 ★ Binomial(n+8,8)*8^n and 8-idempotent numbers. example: A059300 Triangle of idempotent numbers binomial(n,k)*k^(n-k), version 4. A059300 formatted as a triangular array: 1 72 ..... • a(n) = binomial(n + 8,8) * 8 ^ n. •

[A173192] • 1,72,2916,87480,2165130,46766808,911952756,16415149608,277005649635,4432090394160,67810983030648,998670840996816,14231059484204628,197045439012064080,2660113426662865080,35113497231949819056 ★ a(n) = binomial(n + 7, 7)*9^n. • a(n) = C(n + 7, 7) * 9 ^ n. •

[A286930] • 0,72,4608,52488,294912,1125000,3359232,8470728,18874368,38263752,72000000,127552392,214990848,347530248,542126592,820125000,1207959552,1737904968,2448880128,3387303432,4608000000,6175160712,8163353088,10658584008,13759414272 ★ Integers whose double is a square and whose triple is a cube. • a(n) = 72 * (n - 1) ^ 6. - _ David A. Corneth _ , May 16 2017 •

[A054557] • 72,4824,32256,127008,378000,940464,2062368,4115232,7629336,13333320,22198176,35485632,54800928,82149984,120000960,171350208,239792616,329596344,445781952,594205920,781648560,1015906320,1305888480 ★ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 5 2-simplexes and 10 1-simplexes. • a(n) = 72 * C(n, 5) + 4392 * C(n, 6) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (61 * n - 299) / 10. • a(n) = 7 * a(n - 1) - 21 * a(n -

2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). _ Vincenzo Librandi _ , Apr 28 2012 •

[A157120] • 73,103,205,233,515,1157,1325,2987,6737,7717,17407,39265,44977,101455,228853,262145,591323,1333853,1527893,3446483,7774265,8905213,20087575,45311737,51903385 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+103)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1) = 73, a(2) = 103, a(3) = 205, a(4) = 233, a(5) = 515, a(6) = 1157. •

[A196655] • 73,139,271,535,1063,2119,4231,8455,16903,33799,67591,135175,270343,540679,1081351,2162695,4325383,8650759,17301511,34603015,69206023,138412039,276824071,553648135,1107296263 ⋆ 33*2^(n+1) + 7. • a(n) = 33 * 2 ^ (n + 1) + 7. •

[A158740] • 1,73,289,649,1153,1801,2593,3529,4609,5833,7201,8713,10369,12169,14113,16201,18433,20809,23329,25993,28801,31753,34849,38089,41473 ⋆ 72n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A174334] • 0,73,292,657,1168,1825,2628,3577,4672,5913,7300,8833,10512,12337,14308,16425,18688,21097,23652,26353,29200,32193,35332,38617,42048 ⋆ 73*n^2. • a(n) = (37 * n) ^ 2 - (36 * n) ^ 2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. •

[A158744] • 73,295,665,1183,1849,2663,3625,4735,5993,7399,8953,10655,12505,14503,16649,18943,21385,23975,26713,29599,32633,35815,39145,42623,46249 ⋆ 74n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A177095] • 1,73,721,6553,59041,531433,4782961,43046713,387420481,3486784393,31381059601,282429536473,2541865828321,22876792454953,205891132094641,1853020188851833,16677181699666561,150094635296999113 ⋆ 9^n - 8. • a(n) = 10 * a(n - 1) - 9 * a(n - 2) for n>2, a(1)=1, a(2)=73. - _ Vincenzo Librandi _ , Feb 06 2013 •

[A100412] • 1,73,793,7993,79993,799993,7999993,79999993,799999993,7999999993,79999999993,799999999993,7999999999993,79999999999993,799999999999993,7999999999999993,79999999999999993,799999999999999993 ⋆ a(n) = 8*10^n - 7. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3). •

[A169830] • 1,73,793,7993,79993,799993,7999993,79999993,799999993,7999999993,79999999993,799999999993,7999999999993,79999999999993,799999999999993,7999999999999993,79999999999999993,799999999999999993,7999999999999999993,79999999999999999993,799999999999999999993,7999999999999999999993 ⋆ Numbers n such that 2*reverse(n) - n = 1. • a(n) = 8 * 10 ^ (n - 1) - 7. - _ David Radcliffe _ , Jul 25 2015 • a(n) = 11 * a(n - 1) - 10 * a(n - 2). (End) •

[A008400] • 1,73,1135,7831,34147,111835,301645,707365,1492669,2900773,5276899,9093547,14978575,23746087,36430129,54321193,79005529,112407265,156833335,215021215,290189467,386091091 ⋆ Crystal ball sequence for E_6 lattice. • a(n) = 39 / 10 * n ^ 6 + 117 / 10 * n ^ 5 + 75 / 4 * n ^ 4 + 18 * n ^ 3 + 267 / 20 * n ^ 2 + 63 / 10 * n + 1 (see Maple lines). • a(0)=1, a(1)=73, a(2)=1135, a(3)=7831, a(4)=34147, a(5)=111835, a(6)=301645, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Feb 23 2015 •

[A008392] • 1,73,1405,13237,79459,350683,1240399,3716695,9793891,23301307,51019255,104285215,201186025,369464785,650284045,1102999717,1811113021,2889580645,4493676169,6829608673 ⋆ Crystal ball sequence for A_8 lattice. • a(n) = 143 / 448 * n ^ 8 + 143 / 112 * n ^ 7 + 2431 / 480 * n ^ 6 + 429 / 40 * n ^ 5 + 3355 / 192 * n ^ 4 + 297 / 16 * n ^ 3 + 22079 / 1680 * n ^ 2 + 761 / 140 * n + 1. - T. D. Noe, Apr 29 2007 •

[A228306] • 75,165,315,546,882,1350,1980,2805,3861,5187,6825,8820,11220,14076,17442,21375,25935,31185,37191,44022,51750,60450,70200,81081,93177 ⋆ The Wiener index of the Kneser graph K(n,2) (n>=5). • a(n) = (1 / 8) * n * (n - 1) * (n - 2) * (n + 5). •

[A201916] • 0,75,203,323,552,708,1020,1127,1311,1428,1608,1820,1955,2336,2675,3128,3311,3627,3927,4140,4508,4743,5535,6003,6800 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+2737)^2 = y^2. • a(n) = a(n - 1) + 6 * a(n - 27) - 6 * a(n - 28) - a(n - 54) + a(n - 55), where the 55 initial terms can be computed using the Mathematica program. •

[A098230] • 0,1,75,222,442,735,1101,1540,2052,2637,3295,4026,4830,5707,6657,7680,8776,9945,11187,12502,13890,15351,16885,18492,20172 ⋆ 75-gonal numbers: n(73n-71)/2. • a(n) = n(73n - 71) / 2. •

[A158742] • 1,75,297,667,1185,1851,2665,3627,4737,5995,7401,8955,10657,12507,14505,16651,18945,21387,23977,26715,29601,32635,35817,39147,42625 ⋆ 74n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158765] • 75,303,683,1215,1899,2735,3723,4863,6155,7599,9195,10943,12843,14895,17099,19455,21963,24623,27435,30399,33515,36783,40203,43775,47499 ⋆ 76n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A226741] • 75,308,807,1704,3155,5340,8463,12752,18459,25860,35255,46968,61347,78764,99615,124320,153323,187092,226119,270920,322035,380028,445487,519024,601275 ⋆ Column 4 of array in A226513. • a(n) = (n + 1) ^ 4 + 12 * (n + 1) ^ 3 + 36 * (n + 1) ^ 2 + 26 * (n + 1). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A193252] • 1,75,365,1015,2169,3971,6565,10095,14705,20539,27741,36455,46825,58995,73109,89311,107745,128555,151885,177879,206681,238435,273285,311375,352849 ⋆ Great rhombicuboctahedron with faces of centered polygons. • a(n) = 24 * n ^ 3 - 36 * n ^ 2 + 14 * n - 1. • a(0)=1, a(1)=75, a(2)=365, a(3)=1015, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Jul 27 2011] •

[A015223] • 1,75,405,1183,2601,4851,8125,12615,18513,26011,35301,46575,60025,75843,94221,115351,139425,166635,197173,231231,269001,310675,356445,406503,461041 ⋆ Odd pentagonal pyramidal numbers. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 192. •

[A129625] • 0,75,432,699,1092,3115,4660,6943,18724,27727,41032,109695,162168,239715,639912,945747,1397724,3730243,5512780,8147095,21742012,32131399,47485312,126722295,187276080 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+233)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 466 for n > 6; a(1)=0, a(2)=75, a(3)=432, a(4)=699, a(5)=1092, a(6)=3115. •

[A293581] • 75,1232,13064,114032,893490,6550112,45966744,313094512,2088274012,13719804224,89151186688,574612403008,3681207840264,23476261805376,149202047915680,945775992492352,5983286739107952,37794913734696448,238464380911582336,1503238554666345728 ⋆ Number of compositions of n where each part i is marked with a word of length i over a quaternary alphabet whose letters appear in alphabetical order and all four letters occur at least once in the composition. • a(n) = 20 * a(n - 1) - 160 * a(n - 2) + 670 * a(n - 3) - 1634 * a(n - 4) + 2476 * a(n - 5) - 2432 * a(n - 6) + 1564 * a(n - 7) - 640 * a(n - 8) + 152 * a(n - 9) - 16 * a(n - 10). •

[A210505] • 0,75,1380,1725,4575,7095,10020,10620,31800,38355,58710,61170,67125,92235,92310,94845,118530,137415,156000,168765,189705,238815,249450,257370,339375 ⋆ Numbers n for which 2*n+7, 4*n+7, 6*n+7, 8*n+7, 10*n+7 and 12*n+7 are primes. • a(n)==0 (mod15) •

[A026046] • 76,105,144,195,260,341,440,559,700,865,1056,1275,1524,1805,2120,2471,2860,3289,3760,4275,4836,5445,6104,6815,7580 ⋆ a(n) = dot_product(1,2,...,n)*(• a(n) = n(n ^ 2 - 6n + 38) / 3. - _ Ralf Stephan _ , Apr 30 2004 •

[A004944] • 0,76,152,228,304,380,456,532,608,684,760,836,912,988,1064,1140,1216,1292,1368,1444,1520,1596,1672,1748,1824 ⋆ Nearest integer to n*phi^9, where phi is the golden ratio, A001622. • a(n)=round(n * A001622 ^ 9) where tau ^ 9=76.013155... - _ R. J. Mathar _ , May 24 2008 •

[A063359] • 1,76,154,231,308,385,462,537,616,691,770,847,924,997,1078,1153,1232,1307,1386,1459,1540,1613,1694,1769,1848 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(86). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A099944] • 76,164,340,692,1396,2804,5620,11252,22516,45044,90100,180212,360436,720884,1441780,2883572,5767156,11534324,23068660,46137332,92274676,184549364,369098740,738197492,1476394996 ⋆ Number of 3 X n binary matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1) and (11;0). • a(n) = 11 * 2 ^ n - 12. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n > 4. •

[A005571] • 76,288,700,1376,2380,3776,5628,8000,10956,14560,18876,23968,29900,36736,44540,53376,63308,74400,86716,100320,115276,131648,149500,168896,189900 ⋆ Number of walks on cubic lattice. • a(n) = 4(n + 1)(n + 3)(8n + 19) / 3. •

[A167586] • 76,372,1020,2212,4140,6996,10972,16260,23052,31540,41916,54372,69100,86292,106140,128836,154572,183540,215932,251940,291756,335572,383580,435972,492940 ⋆ The fourth row of the ED4 array A167584. • a(n) = 32 * n ^ 3 - 16 * n ^ 2 + 120 * n - 60. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Jun 17 2016 •

[A129626] • 0,76,559,843,1239,3976,5620,7920,23859,33439,46843,139740,195576,273700,815143,1140579,1595919,4751680,6648460,9302376,27695499,38750743,54218899,161421876,225856560 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+281)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 562 for n > 6; a(1)=0, a(2)=76, a(3)=559, a(4)=843, a(5)=1239, a(6)=3976. •

[A261574] • 0,76,2786,46764,439204,2744420,12813606,48229636,153992264,432083484,1092730090,2537720636,5489037036,11179326964,21624372014,40001698260,71163830416,122319408236,203920464114,330799604044,523606640180,810600392196,1229857906486 ⋆ a(n) = n*(n^2 + 3)*(n^6 + 6*n^4 + 9*n^2 + 3). • a(n) = - a(- n) = ((n + sqrt(n ^ 2 + 4)) / 2) ^ 9 - 1 / ((n + sqrt(n ^ 2 + 4)) / 2) ^ 9. •

[A035804] • 1,76,2888,73188,1392016,21202556,269493720,2941076500,28142347040,239933990060,1846012202088,12950575751748,83558656596144,499454941121244,2782948528883448,14533133495314548,71467464065517120 ⋆ Coordination sequence for lattice D*_38 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=38. •

[A278685] • 0,0,1,76,3773,66201,651193,4318451,21754341,89267490,312974387,968069337,2704548145,6942663519,16594368633,37311795887,79570707969,162013125016,316669793867,596873304925,1089009784181,1929545889877,3329316638249,5607471933963,9238336533613 ⋆ Number of non-equivalent ways to place 6 non-attacking ferses on an n X n board. • a(n) = n ^ 12 - 75 * n ^ 10 + 120 * n ^ 9 + 2305 * n ^ 8 - 6960 * n ^ 7 - 32008 * n ^ 6 + 152880 * n ^ 5 + 138204 * n ^ 4 - 1543560 * n ^ 3 + 1178528 * n ^ 2 + 5238720 * n - 7977600 + IF(MOD(n, 2) = 1, 122 * n ^ 6 - 600 * n ^ 5 - 1645 * n ^ 4 + 14520 * n ^ 3 - 19447 * n ^ 2 - 30480 * n + 81855) / 5760 for n>=5. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 22 * a(n - 3) + 69 * a(n - 4) - 8 * a(n - 5) - 176 * a(n - 6) + 168 * a(n - 7) + 182 * a(n - 8) - 364 * a(n - 9) + 364 * a(n - 11) - 182 * a(n - 12) - 168 * a(n - 13) + 176 * a(n - 14) + 8 * a(n - 15) - 69 * a(n - 16) + 22 * a(n - 17) + 8 * a(n - 18) - 6 * a(n - 19) +* a(n - 20) for n>=25. •

[A289227] • 0,76,10956,371016,4988324,39302784,218633416,952344088,3460482612,10932805668,30901640212,79762409256,190898410020,428596770008,910935932112,1846146025240,3588666200596,6723331905852,12188915557404,21455723224456,36776237135268,61533021405936 ⋆ Number of ways to select 6 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = (n ^ 12 - 12 * n ^ 11 - 129 * n ^ 10 + 2090 * n ^ 9 + 3985 * n ^ 8 - 142832 * n ^ 7 + 152809 * n ^ 6 + 4752598 * n ^ 5 - 12392266 * n ^ 4 - 76011076 * n ^ 3 + 274393360 * n ^ 2 + 455879232 *

n - 2015187840) / 720 for n>=6. •

[A118611] • 0,77,132,245,392,585,728,1029,1428,1725,2352,3185,4292,5117,6860,9177,10904,14553,19404,25853,30660,40817,54320,64385,85652 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+343)^2 = y^2. • a(n) = 6 * a(n - 7) - a(n - 14) + 686 for n > 14; a(1)=0, a(2)=77, a(3)=132, a(4)=245, a(5)=392, a(6)=585, a(7)=728, a(8)=1029, a(9)=1428, a(10)=1725, a(11)=2352, a(12)=3185, a(13)=4292, a(14)=5117. •

[A075253] • 77,166,267,684,897,1416,1557,2904,3333,5904,6189,11952,12813,24096,24669,48480,50205,97344,98493,195264,198717,391296,393597,783744,790653 ★ Trajectory of 77 under the Reverse and Add! operation carried out in base 2. • a(0) = 77; a(1) = 166; a(2) = 267; for n > 2 and •

[A158767] • 1,77,305,685,1217,1901,2737,3725,4865,6157,7601,9197,10945,12845,14897,17101,19457,21965,24625,27437,30401,33517,36785,40205,43777 ★ 76n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158771] • 77,311,701,1247,1949,2807,3821,4991,6317,7799,9437,11231,13181,15287,17549,19967,22541,25271,28157,31199,34397,37751,41261,44927,48749 ★ 78n^2 - 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A176632] • 77,897,3333,12813,50205,198717,790653,3154173,12599805,50365437,201394173,805441533,3221495805,12885442557,51540688893,206160592893,824638046205,3298543534077,13194156834813,52776592736253 ★ a(n) = 6*a(n-1)-8*a(n-2)-9 for n > 2; a(0) = 77, a(1) = 897, a(2) = 3333. • a(n) = 3 * (64 * 4 ^ n + 22 * 2 ^ n - 1) for n > 0, a(0) = 77. •

[A289232] • 0,77,2569,31951,223346,1089665,4161705,13314461,37246668,93781829,216901737,467727523,951014654,1839155785,3406165049,6074688977,10479716856,17553399741,28636182537,45620375447,71133273514,10876806100 9,163371926729,241402171109,351362501892 ★ Number of nonequivalent ways to select 5 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = (n ^ 10 - 10 * n ^ 9 - 85 * n ^ 8 + 1160 * n ^ 7 + 1345 * n ^ 6 - 49084 * n ^ 5 + 61035 * n ^ 4 + 897210 * n ^ 3 - 2205196 * n ^ 2 - 5725656 * n + 18174960) / 720 + IF(MOD(n, 2) = 1, - 2 * n ^ 2 + 13 * n - 11) / 4. •

[A074089] • 0,0,0,0,0,78,501,2574,11757,50034,203229,797316,3046362,11394774,41885913,151732722,542840175,1921208586,6735519249,23417342568,80810560596,277008392478,943826398893,3198199361910,10783017814065 ★ Coefficient of q^3 in nu(n), where nu(0)=1, nu(1)=b and, for n>=2, nu(n)=b*nu(n-1)+lambda*(1+q+q^2+...+q^(n-2))*nu(n-2) with (b,lambda)=(2,3). • a(n)= 8a(n - 1) - 12a(n - 2) - 40a(n - 3) + 74a(n - 4) + 120a(n - 5) - 108a(n - 6) - 216a(n - 7) - 81a(n - 8) for n>=11. •

[A027786] • 78,1183,9555,54600,247520,946764,3174444,9573720,26453700,67897830,163601438,373173528,811246800,1690097500,3389852700,6571099080,12351232530,22574731725,40219349625,69995780400,119218619520,199052516520,326270653800,525704634000 ★ a(n) = 13*(n+1)*binomial(n+2,13)/2. • a(n) = C(n + 1, 12) * C(n + 2, 2). - _ Zerinvary Lajos _ , Apr 28 2005, corrected by _ R. J. Mathar _ , Mar 15 2016 •

[A190396] • 0,1,78,1278,10002,50191,189208,584958,1563488,3737987,8181786,16669638,32003238,58438623,102234772,172344406,281269668,446107043,689807558,1042679982,1544166426,2244921423,3209227248,4517779918 ★ Number of ways to place 4 nonattacking grasshoppers on a chessboard of size n x n. • a(n) = 1 / 24 * (n ^ 8 - 6 * n ^ 6 - 80 * n ^ 5 + 431 * n ^ 4 - 552 * n ^ 3 - 666 * n ^ 2 + 2168 * n - 1392), n>2. •

[A160839] • 78,1662,13488,65481,231486,660921,1619353,3537997,7072138,13168476,23141394,38758149,62332986,96830175,145975971,214379497,307662550,432598330,597259092,811172721,1085488230,1433150181,1869082029 ★ G.f.: (78+1116*x+3492*x^2+3237*x^3+927*x^4+72*x^5+x^6)/(1-x)^7. • a(n) = 8923 * n ^ 6 / 720 + 18691 * n ^ 5 / 240 + 35375 * n ^ 4 / 144 + 7219 * n ^ 3 / 16 + 178361 * n ^ 2 / 360 + 9043 * n / 30 + 78. - R. J. Mathar, Sep 11 2011 •

[A172217] • 1,78,1758,38588,383246,2135344,8891854,30108310,86669806,219845764,504261973,1065642840,2104251027,3924818982,6973786593,11884673662,19532410762,31097451768,48140491605,72688612756,107333684073 ★ Number of ways to place 7 nonattacking knights on a 7 X n board. • a(n) = (11649n ^ 7 - 2571471n ^ 6 + 29223943n ^ 5 - 216954465n ^ 4 + 1114503256n ^ 3 - 3907492824n ^ 2 + 8562799512n - 8962924320) / 720,n>=12. •

[A063328] • 1,79,190,298,406,514,622,730,838,946,1054,1166,1270,1378,1486,1598,1702,1814,1918,2030,2134,2246,2350,2466,2566 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(55). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A180455] • 79,281,349,439,643,677,787,883,1171,1321,1733,1811,2141,2347,2389,2767,2791,3323,3329,3529,3929,4157,4349,4751,4799 ★ Central term of five successive prime numbers such that their average is a prime. • a(n)=[p(n - 2) + p(n - 1) + p(n) + p(n + 1) + p(n + 2)] / 5 not always a(n)=p(n). •

[A158769] • 1,79,313,703,1249,1951,2809,3823,4993,6319,7801,9439,11233,13183,15289,17551,19969,22543,25273,28159,31201,34399,37753,41263,44929 ★ 78n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158774] • 79,319,719,1279,1999,2879,3919,5119,6479,7999,9679,11519,13519,15679,17999,20479,23119,25919,28879,31999,35279,38719,42319,46079,49999 ★ 80n^2 - 1. • a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). [R. J. Mathar, Jul 26 2009] •

[A157507] • 79,320,723,1288,2015,2904,3955,5168,6543,8080,9779,11640,13663,15848,18195,20704,23375,26208,29203,32360,35679,39160,42803,46608,50575 ★ 81n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 •

[A023315] • 79,401,1259,2477,3019,4409,10303,15679,20509,24499,34127,43987,44389,53101,66359,71287,74857,81097,85903,90803,93053,102811,103231,104999,112601 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 5x + 6. • a(n) == 9 or 13 (mod 14). - _ John Cerkan _ , Oct 07 2016 •

[A107954] • 79,527,2415,9263,31871,101759,307455,890111,2490367,6774783,18001919,46886911,120029183,302678015,753205247,1852375039,4507828223,10866393087,25970081791,61583917055,144997089279,339159810047 ★ Number of chains in the power set lattice, or the number of fuzzy subsets of an (n+4)-element set X_(n+4) with specification n elements of one kind, 3 elements of another and 1 of yet another kind. • a(n) = 2 ^ (n + 1) * ((n ^ 4 + 23 n ^ 3) / 6 + (79 n ^ 2 + 185 n) / 3 + 40) - 1. •

[A023343] • 79,34127,345431,549089,669937,703663,948593,978749,999007,1251329,1255333,1279133,1500277,1517413,1525421,1642769,1670629,1688101,1727161,1770127,2152159,2161343,2328517,2622167,2745451 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 5x + 6. • a(n) = = 9 (mod 14). - _ John Cerkan _ , Oct 20 2016 •

[A157912] • 80,272,592,1040,1616,2320,3152,4112,5200,6416,7760,9232,10832,12560,14416,16400,18512,20752,23120,25616,28240,30992,33872,36880,40016 ★ 64*n^2 + 16. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 09 2012 •

[A194646] • 80,276,1082,4460,18890,81606,358564,1599820,7238864,33175486,153802520,720390254,3404944506,16221905696,77820675992,375564803020,1821845982082,8876847931644,43416046650306,213033152875350,1048198981050148,5169676077206180 ★ Number of ways to place 4n nonattacking kings on an 8 X 2n cylindrical chessboard. • a(n) = 4 + 2 * 5 ^ n + 2 * 4 ^ n + 2 * (2 + sqrt(3)) ^ n + 2 * (2 - sqrt(3)) ^ n + 4 * ((5 + sqrt(5)) / 2) ^ n + 4 * ((5 - sqrt(5)) / 2) ^ n + 4 * ((5 + sqrt(13)) / 2) ^ n + 4 * ((5 - sqrt(13)) / 2) ^ n + 2 * (2 * cos(Pi / 7)) ^ (2n) + 2 * (2 * cos(2 * Pi / 7)) ^ (2n) + 2 * (2 * cos(3 * Pi / 7)) ^ (2n). •

[A157953] • 80,322,726,1292,2020,2910,3962,5176,6552,8090,9790,11652,13676,15862,18210,20720,23392,26226,29222,32380,35700,39182,42826,46632,50600 ★ 81n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 29 2012 •

[A204342] • 1,80,626,2400,6481,14640,28562,50080,83522,130320,192000,279840,391251,524960,707282,923520,1171200,1502400,1874162,2284960,2825762,3418800,4057106,4879680,5762401 ★ (-1)^n * Sum_{2*m + 1 | 2*n + 1} (-1)^m (2*m + 1)^4. • a(n) = b(2 * n + 1) where b(n) is multiplicative with b(2 ^ e) = 0 ^ e, b(p ^ e) = ((p ^ 4) ^ (e + 1) + 1) / (p ^ 4 + 1) if p == 3 (mod 4), b(p ^ e) = ((p ^ 4) ^ (e + 1) - 1) / (p ^ 4 - 1) if p == 1 (mod 4). •

[A024392] • 80,806,4040,14155,39655,95200,204036,400830,734910,1273910,2107820,3353441,5159245,7710640,11235640,16010940,22368396,30701910,41474720,55227095,72584435,94265776,121092700,153998650,194038650 ★ a(n) = 3rd elementary symmetric function of the first n+2 positive integers congruent to 2 mod 3. • a(n) = n * (n + 1) * (n + 2) * (3 * n + 7) * (9 * n ^ 2 + 33 * n + 22) / 48. •

[A168364] • 0,1,80,1215,8704,40625,143856,420175,1064960,2421009,5050009824111,18040320,31559905,52975664,85809375,134742016,205879265,307054800,448173919,641600000,902586321,1249755760,1705630895,2297217024 ★ a(n) = n^5*(n^2 + 1)/2. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ G. C. Greubel _ , Jul 19 2016 •

[A173782] • 80,1847,26040,281571,2580754,21137959,159636030,1134127305,7683664202,50123713793,317076250136,1955475353217,11806000507544,70004699407151,408747986045656,2355077855615435,13413115039118042,75623103424916527 ★ Number of ways to place 4n nonattacking kings on an 8 X 2n chessboard. • a(n) = (- 12505804889 / 302760 + 7963567 / 2610 * n) * 5 ^ n + 3872 / 3 * 4 ^ n - 1 / 24 + (135343 * sqrt(3) / 18 - 234421 / 18) * (2 - sqrt(3)) ^ n - (135343 * sqrt(3) / 18 + 234421 / 18) * (2 + sqrt(3)) ^ n + (33301 / 5 - 74461 * sqrt(5) / 25 + (141 * sqrt(5) / 25 - 63 / 5) * n) * ((5 - sqrt(5)) / 2) ^ n + (74461 * sqrt(5) / 25 + 33301 / 5 - (141 * sqrt(5) / 25 + 63 / 5) * n) * ((5 + sqrt(5)) / 2) ^ n + (4306740 / 169 - 1194474 * sqrt(13) / 169 + (139103 / 117 - 501541 * sqrt(13) / 1521) * n) * ((5 - sqrt(13)) / 2) ^ n + (1194474 * sqrt(13) / 169 + 4306740 / 169 + (501541 * sqrt(13) / 1521 + 139103 / 117) * n) * ((5 + sqrt(13)) / 2) ^ n + 72 * (b * (3504697 * c - 11380560) - 11380560 * c + 36953816) / (142129 * (a - b) * (a - c)) * a ^ n + 72 * (a * (3504697 * c - 11380560) - 8 * (1422570 * c - 4619227)) / (142129 * (a - b) * (c - b)) * b ^ n + 72 * (a * (3504697 * b - 11380560) - 8 * (1422570 * b - 4619227)) / (142129 * (a - c) * (b - c)) * c ^ n, where: a=2 - 2 * sin(Pi / 14), b=2 + 2 * sin(3 * Pi / 14), c=2 - 2 * cos(Pi / 7). - _ Vaclav Kotesovec _ , added Mar 01 2010, updated Mar 29 2010. •

[A035805] • 1,80,3200,85360,1708800,27392016,366366080,4206606640,42340840960,379634835920,3070951360128,22644802030320,153524473002240,963926974039440,5639746542798720,30914051605760688,159505036253752320,778789039669799760,3599066875202445440,15849971773188538480 ★ Coordination sequence for lattice D*_40 (with edges defined by l_1 norm = 1). • a(m) = add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=40. • a(m) = (16 / 5936565017676168167567893903441406 25) * m * (4 * m ^ 38 + 4940 * m ^ 36 + 26704158 * m ^ 34 + 22285268720 * m ^ 32 + 22169269111132 * m ^ 30 + 10351928397671640 * m ^ 28 + •

[A283102] • 0,0,0,80,4845,138792,2893338,50507680,787265325,11345154600,154362306956,2010147294672,25288375607950 ★ Number of A'Campo forests of degree n and co-dimension 4. • a(n) is obtained by using the generating function N _{ 1 } =1 + yN _{ 2 }^ 4 and (1 - N _{ 2 } + 2yN _{ 2 }^ 4 - yN _{ 2 }^{ 5 } + xyN _{ 2 }^{ 6 } + y ^{ 2 } N _{ 2 }^{ 8 })(1 + yN _{ 2

}^{ 4 }- xyN _{ 2 }^{ 5 }) + x ^ 3y ^{ 2 } N _{ 2 }^{ 9 } =0, where N _{ 1 } (x,y)= \ sum _{ n } N _{ 1 } '(4,n)x ^{ 4 } y ^{ n } and N _{ 1 } '(4,n) is the number of A'Campo forests with co - dimension 4; N _{ 2 } (x,y)= \ sum _{ n } N _{ 2 } '(4,n)x ^{ 4 } y ^{ n } where N _{ 2 } '(4,n) is the number o f partial configurations. •

[A120457] • 81,108,162,216,256,324,378,486,504,512,540,648,756,810,896,972,1024,1080,1280,1512,1620,1764,1792,1944,2048 ⋆ Sorted list of numbers of the form (p+1)*(q+1)*(r+1)*(s+1) that are not multiples of 48, where p, q, r, and s are primes. • a(n) = Sorted[16 * Powerof[((Prime[n] + 1) / 2) * ((Prime[m] + 1) / 2) * ((Prime[o] + 1) / 2) * ((Prime[p] + 1) / 2)]] •

[A273372] • 1,81,121,361,441,841,961,1521,1681,2401,2601,3481,3721,4761,5041,6241,6561,7921,8281,9801,10201,11881,12321,14161,14641 ⋆ Squares ending in digit 1. • a(n) = (5 * n - 5 / 2 + (3 / 2) * (- 1) ^ n) ^ 2 = 25 * n ^ 2 - 25 * n + 17 / 2 + 15 * n * (- 1) ^ n - (15 / 2) * (- 1) ^ n. - _ David A. Corneth _ , May 21 2016 •

[A158776] • 1,81,321,721,1281,2001,2881,3921,5121,6481,8001,9681,11521,13521,15681,18001,20481,23121,25921,28881,32001,35281,38721,42321,46081 ⋆ 80n^2 + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A017162] • 0,81,324,729,1296,2025,2916,3969,5184,6561,8100,9801,11664,13689,15876,18225,20736,23409,26244,29241,32400,35721,39204,42849,46656 ⋆ (9*n)^2. • a(0)=0, a(1)=81, a(2)=324, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Nov 06 2012 •

[A017378] • 81,361,841,1521,2401,3481,4761,6241,7921,9801,11881,14161,16641,19321,22201,25281,28561,32041,35721,39601,43681,47961,52441,57121,62001 ⋆ a(n) = (10*n + 9)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n> 2. •

[A017498] • 81,400,961,1764,2809,4096,5625,7396,9409,11664,14161,16900,19881,23104,26569,30276,34225,38416,42849,47524,52441,57600,63001,68644,74529 ⋆ (11n+9)^2. • a(0)=81, a(1)=400, a(2)=961, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Oct 30 2011] •

[A017630] • 81,441,1089,2025,3249,4761,6561,8649,11025,13689,16641,19881,23409,27225,31329,35721,40401,45369,50625,56169,62001,68121,74529,81225,88209 ⋆ (12n+9)^2. • a(0)=81, a(1)=441, a(2)=1089, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Mar 31 2012] •

[A247842] • 0,81,810,7371,66420,597861,5380830,48427551,435848040,3922632441,35303692050,317733228531,2859599056860,25736391511821,231627523606470,2084647712458311,18761829412124880,168856464709124001,1519708182382116090,13677373641439044891 ⋆ Sum(9^k, k=2..n). • a(n) = a(n - 1) + 9 ^ n = (9 ^ (n + 1) - 81) / 8 = 10 * a(n - 1) - 9 * a(n - 2). •

[A045792] • 81,841,8100,8281,8464,8649,8836,80089,80656,81225,81796,82369,82944,83521,84100,84641,85264,85849,86436,87025,87616,88209,88804,894001,801025 ⋆ Squares with initial digit '8'. • a(n) = ceiling(sqrt(8 * 10 ^ n)) ^ 2. - _ Sascha Kurz _ , Mar 18 2002 •

[A173810] • 1,81,881,8881,88881,888881,8888881,88888881,888888881,8888888881,88888888881,888888888881,8888888888881,88888888888881,888888888888881,8888888888888881,88888888888888881,888888888888888881 ⋆ (8*10^n-71)/9 for n>0. • a(n) = 10 * a(n - 1) + 71 with n>0, a(0)= - 7. • a(n) = 11 * a(n - 1) - 10 * a(n - 2). - _ Vincenzo Librandi _ , Jul 05 2012 •

[A086580] • 0,81,891,8991,89991,899991,8999991,89999991,899999991,8999999991,89999999991,899999999991,8999999999991,89999999999991,899999999999991,8999999999999991,89999999999999991,899999999999999991 ⋆ a(n) = k where R(k+9)=9. • a(n) = 9 * (10 ^ n - 1) • a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n > 1. •

[A096302] • 81,1620,24300,324000,4050000,48600000,567000000,6480000000,72900000000,810000000000,8910000000000,97200000000000,105300000000000,1134000000000000,12150000000000000,129600000000000000 ⋆ Number of combinations of two natural numbers that together have n digits. • a(n) = Sum _{ i=0..n - 1 } binomial(n - 1, i) * 9 ^ (i + 1) * i. • a(n) = 81 * (n - 1) * 10 ^ (n - 2). - _ Vladeta Jovovic _ , Jun 26 2004 •

[A016840] • 81,2401,14641,50625,130321,279841,531441,923521,1500625,2313441,3418801,4879681,6765201,9150625,12117361,15752961,20151121,25411681,31640625,38950081,47458321,57289761 ⋆ (4n+3)^4. • a(0)=81, a(1)=2401, a(2)=14641, a(3)=50625, a(4)=130321, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) [From Harvey P. Dale, Dec 08 2011] •

[A128832] • 1,81,2401,50625,923521,15752961,260144641,4228250625,68184176641,1095222947841,17557851463681,281200199450625,4501401006735361,72040003462430721,1152780773560811521,18445618199572250625 ⋆ Number of n-tuples where each entry is chosen from the subsets of {1,2,3,4} such that the intersection of all n entries is empty. • a(n)=(2 ^ n - 1) ^ 4 •

[A053108] • 1,81,3645,120285,3247695,75996063,1595917323,30778405515,554011299270,9418192087590,152574711818958,2371843247367438,35577648710511570,517244277406668210,7315311923322878970 ⋆ Expansion of 1/(1 - 9*x)^9. • a(n) = 9 ^ n * binomial(n + 8, 8). • a(n) = 81 * a(n - 1) - 2916 * a(n - 2) + 61236 * a(n - 3) - 826686 * a(n - 4) + 7440174 * a(n - 5) - 44641044 * a(n - 6) + 172186884 * a(n - 7) - 387420489 * a(n - 8) + 387420489 * a(n - 9); a(0)=1, a(1)=81, a(2)=3645, a(3)=120285, a(4)=3247695, a(5)=75996063, a(6)=1595917323, a(7)=30778405515, a(8)=554011299270. - _ Harvey P. Dale _ , Jan 21 2012 •

[A212706] • 81,5825,73745,461313,1951057,6418369,17712657,42921473,94087249,190446273,361259537,649305089,1115101521,1841932225,2941740049,4561961985,6893373521,10179012289,14724250641,20908086785,29195724113,40152508353,54459292177,72929296897 ⋆ a(n) is the difference between numbers of nonnegative multiples of 2*n+1 with even and odd digit sum in base 2*n in interval [0, (2*n)^9). • a(n) = 2 / (2 * n + 1) * Sum _{ i=1..n } tan ^ 9(Pi * i / (2 * n + 1)) * sin(2 * Pi * i / (2 * n + 1)). • a(n) = 1 + n / 315 * (4352 * n ^ 6 + 15232 * n ^ 5 + 12992 * n ^ 4 - 5600 * n ^ 3 - 5152 * n ^ 2 + 5488 * n - 2112). •

[A017200] • 81,20736,194481,810000,2313441,5308416,10556001,18974736,31640625,49787136,74805201,108243216,151807041,207360000,276922881,362673936,466948881,592240896,741200625,916636176 ⋆ a(n) = (9*n+3)^4. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). (End) •

[A017428] • 81,38416,390625,1679616,4879681,11316496,22667121,40960000,68574961,108243216,163047361,236421376,332150625,454371856,607573201,796594176,1026625681,1303210000,1632240801,2019963136 ⋆ (11n+3)^4. • a(0)=81, a(1)=38416, a(2)=390625, a(3)=1679616, a(4)=4879681, a(n)= 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jan 15 2013 •

[A158123] • 82,163,244,325,406,487,568,649,730,811,892,973,1054,1135,1216,1297,1378,1459,1540,1621,1702,1783,1864,1945,2026 ⋆ 81n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 03 2012 •

[A048513] • 1,82,263,665,1553,3505,7777,17089,37313,81089,175553,378817,815041,1748929,3743681,7995329,17039297,36241345,76939201,163053505,344981441,728760257,1537212353,3238002625,6811549633 ⋆ a(n) = T(8,n), array T given by A048505. • a(n) = (n ^ 2 + 33 * n + 256) * 2 ^ (n - 2) - 63. - _ Ralf Stephan _ , Feb 05 2004 • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Feb 25 2015 •

[A227704] • 82,273,692,1475,2790,4837,7848,12087,17850,25465,35292,47723,63182,82125,105040,132447,164898,202977,247300,298515,357302,424373,500472,586375,682890 ⋆ The hyper-Wiener index of the zig-zag polyhex nanotube TUHC_6[2n,2] defined pictorially in Fig. 1 of the Eliasi et al. reference. • a(n) = n * (15 + 14 * n + 12 * n ^ 2 + 4 * n ^ 3) / 3 (see Example 1 in the Eliasi et al. reference). •

[A288920] • 0,0,82,430,1030,1882,2986,4342,5950,7810,9922,12286,14902,17770,20890,24262,27886,31762,35890,40270,44902,49786,54922,60310,65950 ⋆ Number of 6-cycles in the n X n king graph. • a(n) = 550 - 534 * n + 126 * n ^ 2 for n>2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>4. •

[A002309] • 1,82,707,3108,9669,24310,52871,103496,187017,317338,511819,791660,1182285,1713726,2421007,3344528,4530449,6031074,7905235,10218676,13044437,16463238,20563863,25443544,31208345 ⋆ Sum of first n fourth powers of odd numbers. • a(n) = (48 * n ^ 5 - 40 * n ^ 3 + 7 * n) / 15. - _ Ralf Stephan _ , Jan 29 2003 • a(1)=1, a(2)=82, a(3)=707, a(4)=3108, a(5)=9669, a(6)=24310, a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Oct 24 2011 • a(n) = v(n,n - 2) - v(n,n - 1) * V(n,n - 1), where v(n,k) and V(n,k) are the central factorial numbers of the first kind and the second kind, respectively, with odd indices. - _ Mircea Merca _ , Jan 25 2014 •

[A128959] • 82,810,8096,80953,809524,8095239,80952382,809523810,8095238096,80952380953,809523809524,8095238095239,80952380952382,809523809523810,8095238095238096,80952380952380953,809523809523809524,8095238095238095239,80952380952380952382 ⋆ a(n) is equal to the number of positive integers m less than or equal to 10^n such that m is not divisible by at least one of the primes 2,3 and is not divisible by at least one of the primes 5,7. • a(n) = 10 ^ n - floor(10 ^ n / 6) - floor(10 ^ n / 35) + floor(10 ^ n / 210). • a(n) = 11 * a(n - 1) - 11 * a(n - 2) + 11 * a(n - 3) - 11 * a(n - 4) + 11 * a(n - 5) - 10 * a(n - 6) for n>7. •

[A085439] • 1,82,1378,11378,62003,256484,871140,2550756,6651381,15802006,34776742,71791798,140366759,261917384,469277384,811379400,1359360681,2214396762,3517606762,5462416762,8309813083,12406965164,18209748140,26309748140,37466388765 ⋆ a(n) = Sum_{i=1..n} C(i+1,2)^4. • a(n) = (2520 * n ^ 9 + 22680 * n ^ 8 + 79920 * n ^ 7 + 136080 * n ^ 6 + 107352 * n ^ 5 + 22680 * n ^ 4 - 10080 * n ^ 3 + 1728 * n) / 9!. •

[A234253] • 1,82,2107,29332,274357,1930726,10948735,52357960,217994860,808970960,2723733524,8436372248,24304813148,65712993248,167965846148,408373664744,949291256585,2119095737210,4559798912835,9488531918460,19148848609485,37571357310510 ⋆ a(n) = sum_{i=1..n} C(7+i,8)^2. • a(n) = sum _{ i=1..n)C(7 + i,8) ^ 2 = C(n + 8,9) * F8(n) / C(17,8) ; F8(n)= Sum _{ i =1..n } (- 1) ^ (8 + i) * C(8 + i,i) * C(n + 8,i) = C(8,0) * C(n + 8,0) - C(9, 1) * C(n + 8,1) + C(10,2) * C(n + 8,2) - C(11,3) * C(n + 8,3) + C(12,4) * C (n + 8,4) - C(13,5) * C(n + 8,5) + C(14,6) * C(n + 8,6) - C(15,7) * C(n + 8, 7) + C(16,8) * Cn + 8,8). We have the following values for F8(n) : F8(0)=1, F8(1)=24310, F8(2)=199342, F8(3)=931294, ... [This needs clarification, _ Joerg Arndt _ , May 04 2014] •

[A252705] • 1,82,5379,148648,2085655,18356514,116081245,574795936,2359033605,8345970370,26180606287,74354990568,194253329803,472634761522,1081541381145,2346163937920,4856060529001,9641643580530,18446420258299,34136541925480,61303301959263 ⋆ The number of ways to color the faces of a regular dodecahedron with n colors, counting mirror images as one. • a(n) = n ^ 2 * (n ^ 2 + 1) * (n ^ 8 - n ^ 6 + 16 * n ^ 4 + 44) / 120. • a(n) = C(n,1) + 80 * C(n,2) + 5136 * C(n,3) + 127620 * C(n,4) + 1395390 * C(n,5) + 7965948 * C(n,6) + 26368272 * C(n,7) + 53438112 * C(n,8) + 67359600 * C(n,9) + 51559200 * C(n,10) + 21954240 * C(n,11) + 3991680 * C(n,12). Each term indicates the number of ways to use n colors to color the dodecahedron with exactly 1, 2, 3, ..., 10, 11, or 12 colors. •

[A160849] • 0,1,83,164,299,454,673,894,1183,1492,1855,2218,2653,3102,3623,4148,4719,5310,5973,6638,7375,8124,8923,9730,10609 ⋆ Number of lines through at least 2 points of a 9 X n grid of points. • a(n) = (1 / 2) * (f(m,n,1) - f(m,n, 2)) where f(m,n,k) = Sum((n - |kx|) * (m - |ky|)); - n < kx < n, - m < ky < m, (x,y)=1, m=9. • a(n) = - a(n - 2) + a(n - 5) + a(n - 6) + 2 * a(n - 7) + a

(n - 8) + a(n - 9) - a(n - 11) - a(n - 12) - 2 * a(n - 13) - a(n - 14) - a(n - 15) + a(n - 18) + a(n - 20) for n>21. •

[A177099] • 83,328,735,1304,2035,2928,3983,5200,6579,8120,9823,11688,13715,15904,18255,20768,23443,26280,29279,32440,35763,39248,42895,46704,50675 ⋆ 81n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 03 2012 •

[A061525] • 83,361,951,1997,3667,6153,9671,14461,20787,28937,39223,51981,67571,86377,108807,135293,166291,202281,243767,291277,345363,406601,475591,552957,639347 ⋆ Surround numbers of an n X 2 rectangle when n is odd. • a(n) = (n ^ 4 + 32n ^ 3 + 278n ^ 2 + 656n + 361) / 16 when n is odd. •

[A176633] • 83,708,2952,12048,48672,195648,784512,3141888,12575232,50316288,201295872,805244928,3221102592,12884656128,51539116032,206157447168,824631754752,3298530951168,13194131668992,52776542404608 ⋆ a(n) = 6*a(n-1)-8*a(n-2) for n > 2; a(0) = 83, a(1) = 708, a(2) = 2952. • a(n) = 6 * (32 * 4 ^ n - 5 * 2 ^ n) for n > 0, a(1) = 83. •

[A156924] • 1,83,2685,56285,919615,12813843,160206627,1854550395,20291056470,212826091180,2161547322134,21414479565774,208076662576370,1991164206775450,18825064380813450 ⋆ Fifth right hand column (n-m=4) of the A156920 triangle • a(n)=55 * a(n - 1) - 1365 * a(n - 2) + 20251 * a(n - 3) - 200557 * a(n - 4) + 1402203 * a(n - 5) - 7137473 * a(n - 6) + 26886431 * a(n - 7) - 75433971 * a(n - 8) + 157376597 * a(n - 9) - 241846607 * a(n - 10) + 268663713 * a(n - 11) - 208880991 * a(n - 12) + 107416665 * a(n - 13) - 32730075 * a(n - 14) + 4465125 * a(n - 15) • a(n)= (16 * n ^ 4 - 7776 * n ^ 3 * 3 ^ n + 256 * n ^ 3 - 104976 * n ^ 2 * 3 ^ n + 225000 * n ^ 2 * 5 ^ n + 1496 * n ^ 2 - 464616 * n * 3 ^ n + 2250000 * n * 5 ^ n - 2016840 * n * 7 ^ n + 3776 * n - 673596 * 3 ^ n + 5568750 * 5 ^ n - 11092620 * 7 ^ n + 6200145 * 9 ^ n + 3465) / 6144 •

[A202657] • 0,0,0,0,0,83,6107,126376,1377328,9984758,54399330,239675936,895773148,2935757573,8641608781,23259768860,58039719112,135720432200,299995484600,631220344328,1271607596876,2464466665667,4613731163831,8372196591052,14769606793684 ⋆ Number of ways to place 6 nonattacking semi-queens on an n X n board. • a(n) = n ^ 12 / 720 - n ^ 11 / 18 + 73 * n ^ 10 / 72 - 72247 * n ^ 9 / 6480 + 5909 * n ^ 8 / 72 - 320653 * n ^ 7 / 756 + 112795 * n ^ 6 / 72 - 8892919 * n ^ 5 / 2160 + 8086231 * n ^ 4 / 1080 - 5740271 * n ^ 3 / 648 + 2598425 * n ^ 2 / 432 - 13161367 * n / 7560 + (n ^ 5 / 4 - 77 * n ^ 4 / 12 + 757 * n ^ 3 / 12 - 7007 * n ^ 2 / 24 + 14581 * n / 24 - 1677 / 4) * floor(n / 2) + (64 * n / 9 - 88 / 9) * floor(n / 3) + (8 * n / 3 - 52 / 9) * floor((n + 1) / 3). •

[A157119] • 0,84,105,309,765,884,2060,4712,5405,12257,27713,31752,71688,161772,185313,418077,943125,1080332,2436980,5497184,6296885,14204009,32040185,36701184,82787280 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+103)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 206 for n > 6; a(1) = 0, a(2) = 84, a(3) = 105, a(4) = 309, a(5) = 765, a(6) = 884. •

[A254464] • 84,210,714,2982,14178,73470,404634,2331462,13906578,85232910,533860554,3403329942,22012307778,144090486750,952693102074,6352175272422,42655384385778,288161867586990,1956674663089194,13344181547374902,91343993647708578 ⋆ a(n) = 21*2^n + 10*4^n + 15*3^n + 3*6^n + 6*5^n + 7^n + 28. • a(n) = 28 * a(n - 1) - 322 * a(n - 2) + 1960 * a(n - 3) - 6769 * a(n - 4) + 13132 * a(n - 5) - 13068 * a(n - 6) + 5040 * a(n - 7). - _ Colin Barker _ , Jan 31 2015 •

[A096383] • 84,240,486,840,1320,1944,2730,3696,4860,6240,7854,9720,11856,14280,17010,20064,23460,27216,31350,35880,40824,46200,52026,58320,65100 ⋆ Area of the Pythagorean triangle a=u^2-v^2 (cf. A096382) when u=3, v=4,4,5... • a(n)=(n - 3) * (n * 3) * (n + 3), n>=3 . - _ Zerinvary Lajos _ , Mar 05 2007 • a(3)=84, a(4)=240, a(5)=486, a(6)=840, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Aug 28 2011] •

[A227708] • 84,354,1674,8178,39858,191250,900498,4164114,18952722,85106706,377862162,1661755410,7249502226,31410683922,135299432466,579837493266,2473936945170,10514155438098,44530379784210,188016821796882,790164070350354 ⋆ The Wiener index of the dendrimer D_n defined pictorially in Fig. 1 of the Heydari et al. reference. • a(n) = 18 + 2 ^ n * (66 + 30 * n) + 36 * n * 4 ^ n. • a(0)=84, a(1)=354, a(2)=1674, a(3)=8178, a(4)=39858, a(n)=13 * a(n - 1) - 64 * a(n - 2) + 148 * a(n - 3) - 160 * a(n - 4) + 64 * a(n - 5). - _ Harvey P. Dale _ , Jan 09 2016 •

[A069080] • 84,864,3300,8736,18900,35904,62244,100800,154836,228000,324324,448224,604500,798336,1035300,1321344,1662804,2066400,2539236,3088800,3722964,4449984,5278500,6217536,7276500 ⋆ a(n) = (2n+1)(2n+2)(2n+6)(2n+7) • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). • a(n) = 16 * n ^ 4 + 128 * n ^ 3 + 332 * n ^ 2 + 304 * n + 84. (End) •

[A027794] • 84,960,5940,26400,94380,288288,780780,1921920,4375800,9330540,18845112,36279360,67016040,119380800,205931880,345181056,563861100,899870400,1406047500,2154952800,3244861620,4807202400,7015706100,10097568000,14346961200 ⋆ a(n) = 12*(n+1)*C(n+3,9). • a(n) = C(n + 1, 7) * C(n + 3, 3) - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[A027821] • 84,1050,6930,32340,120120,378378,1051050,2642640,6126120,13273260,27159132,52907400,98760480,177578940,308897820,521694096,854049500,1377926550,2165313150,3336032700,5047562520,7511253750,11007400950,15903669600,22677454800 ⋆ 21*(n+1)*C(n+6,9). • a(n) = C(n + 1, 4) * C(n + 6, 6) - _ Zerinvary Lajos _ , Jun 08 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[A105942] • 84,1470,12936,77616,360360,1387386,4624620,13741728,37165128,92912820,217273056,479693760,1007356896,2024399916,3912705720,7303717344,13213962300,23241027810,39841761960,66720654000,109363854600,175763337750,277386503940,430459323840 ⋆ C(n+6,n)*C(n+9,6) • a(0)=84, a(1)=1470, a(2)=12936, a(3)=77616, a(4)=360360, a(5)=1387386, a(6)=4624620, a(7)=13741728, a(8)=37165128, a(9)=92912820, a(10)=217273056, a(11)=479693760, a(12)=1007356896, a(n)=13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13). - _ Harvey P. Dale _ , Sep 14 2012 •

[A221010] • 84,2328,23070,161322,951906,5097426,25678002,124125810,582682098,2676493554,12091136754,53909403378,237825453810,1040070008562,4515386474226,19482038992626,83610263027442,357169749688050,1519594327768818,6442039704551154 ⋆ The Wiener index of the nanostar dendrimer G[n], defined pictorially in the Nadjafi-Arani et al. reference. • a(n) = - 270 + 2 ^ (n - 1) * 2055 + 4 ^ (n - 1) * (1323 * n - 3024). •

[A035806] • 1,84,3528,98812,2076816,34949796,490681688,5913144396,62456027424,587522034932,4985149915368,38549117382300,273998113272240,1803067831236420,11053262513080440,63460928860322028,342841481215636032,1750035197354015124 ⋆ Coordination sequence for lattice D*_42 (with edges defined by l_1 norm = 1). • a(n)=add(2 ^ k * binomial(m, k) * binomial(n - 1, k - 1), k=0..m) + 2 ^ m * binomial((m + 2 * n) / 2 - 1, m - 1), with m=42. •

[A224429] • 84,18327,233565,1771209,10839249,59193537,301745505,1470068769,6938902689,32002414497,145020899745,648175476129,2865160922529,12550658135457,54563037754785,235694448080289,1012548295652769,4329277751424417,18433454242526625 ⋆ The Wiener index of the dendrimer D_1[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = - 2655 + 26907 * 2 ^ n + 16245 * n * 4 ^ n - 24168 * 4 ^ n - 570 * n * 2 ^ n. •

[A156650] • 85,89,91,101,119,145,175,185,221,289,349,371,461,595,769,959,1021,1241,1649,2005,2135,2665,3451,4469,5579 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+119)^2 with integer x. • a(n) = 6 * a(n - 9) - a(n - 18) for n > 18; a(1)=85, a(2)=89, a(3)=91, a(4)=101, a(5)=119, a(6)=145, a(7)=175, a(8)=185, a(9)=221, a(10)=289, a(11)=349, a(12)=371, a(13)=461, a(14)=595, a(15)=769, a(16)=959, a(17)=1021, a(18)=1241. •

[A157469] • 85,97,113,397,485,593,2297,2813,3445,13385,16393,20077,78013,95545,117017,454693,556877,682025,2650145,3245717,3975133,15446177,18917425,23168773,90026917 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+97)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=85, a(2)=97, a(3)=113, a(4)=397, a(5)=485, a(6)=593. •

[A161479] • 85,113,173,337,565,953,1937,3277,5545,11285,19097,32317,65773,111305,188357,383353,648733,1097825,2234345,3781093,6398593,13022717,22037825,37293733,75901957 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+113)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=85, a(2)=113, a(3)=173, a(4)=337, a(5)=565, a(6)=953. •

[A166917] • 85,1364,21840,349504,5592320,89478144,1431654400,22906486784,366503854080,5864061927424,93824991887360,1501199874392064,24019198007050240,384307168179912704,6148914691147038720 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) for n > 1; a(0) = 85, a(1) = 1364. • a(n) = (256 * 16 ^ n - 4 ^ n) / 3. •

[A008360] • 1,85,1583,13203,68853,264825,824083,2195399,5195081,11199037,22392919,42088091,75111165,128274849,210937851,335661583,518971409,782230181,1152631807,1664322595,2359658117,3290603337,4520283747 ⋆ Crystal ball sequence for D_7 lattice. • a(n) = (2 * n + 1) * (242 * n ^ 6 + 726 * n ^ 5 + 1856 * n ^ 4 + 2502 * n ^ 3 + 2207 * n ^ 2 + 1077 * n + 315) / 315. • a(0)=1, a(1)=85, a(2)=1583, a(3)=13203, a(4)=68853, a(5)=264825, a(6)=824083, a(7)=2195399, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A157110] • 85,2522,8321,17482,30005,45890,65137,87746,113717,143050,175745,211802,251221,294002,340145,389650,442517,498746,558337,621290,687605,757282,830321,906722,986485 ⋆ 1681n^2 - 2606n + 1010. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 25 2012 •

[A076463] • 85,2803,24026,115270,397655,1107505,2653588,5685996,11176665,20511535,35594350,58962098,93912091,144640685,216393640,315628120,450186333,629480811,864691330,1168973470,1557678815,2048586793,2662148156,3421740100,4353933025 ⋆ Sum of squares of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly four ways. • a(n) = n * (n + 1) * (97 * n ^ 4 + 146 * n ^ 3 + 30 * n ^ 2 - 19 * n + 1) / 6. •

[A229359] • 86,176,558,2486,13578,83486,552378,3835406,27530298,202345886,1513288698,11466138926,87752274618,676845479486,5252962429818,40970428516046,320834049236538,2520676708888286,19857791921151738,156791682937990766,1240318818550256058 ⋆ Total sum of n-th powers of parts in all partitions of 8. • a(n) = 45 + 19 * 2 ^ n + 9 * 3 ^ n + 6 * 4 ^ n + 3 * 5 ^ n + 2 * 6 ^ n + 7 ^ n + 8 ^ n. •

[A157443] • 86,411,978,1787,2838,4131,5666,7443,9462,11723,14226,16971,19958,23187,26658,30371,34326,38523,42962,47643,52566,57731,63138,68787,74678 ⋆ 121n^2 - 38n + 3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 •

[A272379] • 0,1,86,759,3100,8765,19986,39571,70904,117945,185230,277871,401556,562549,767690,1024395,1340656,1725041,2186694,2735335,3381260,4135341,5009026,6014339,7163880 ⋆ a(n) = n*(24*n^3 - 60*n^2 + 54*n - 17). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[A128957] • 86,857,8571,85715,857142,8571429,85714286,857142857,8571428571,85714285715,857142857142,8571428571429,85714285714286,857142857142857,8571428571428571,857142857142857142,857142857142857142 ⋆ a(n) is equal to the number of positive integers m less than or equal to 10^n such that m is

not divisible by at least one of the primes 2,5 and is not divisible by at least one of the primes 3,7. • a(n) = 10 ^ n - floor(10 ^ n / 10) - floor(10 ^ n / 21) + floor(10 ^ n / 210). • a(n) = 9 * a(n - 1) + 9 * a(n - 2) + 9 * a(n - 3) + 9 * a(n - 4) + 9 * a(n - 5) + 10 * a(n - 6) for n>7. •

[A067749] • 87,187,287,387,487,587,687,787,887,987,1087,1187,1287,1387,1487,1587,1687,1787,1887,1987,2087,2187,2287,2387,2487 ⋆ Numbers n such that n and 3^n end with the same two digits. • a(n)=100n - 13 •

[A063349] • 1,87,192,297,400,505,608,717,816,925,1024,1135,1232,1345,1440,1555,1648,1763,1856,1975,2064,2183,2272,2393,2480 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(76). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A063336] • 1,87,197,305,413,525,633,741,853,961,1069,1179,1289,1397,1509,1615,1725,1835,1945,2051,2165,2271,2381,2489,2601 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(63). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A243580] • 87,287,615,1071,1655,2367,3207,4175,5271,6495,7847,9327,10935,12671,14535,16527,18647,20895,23271,25775,28407,31167,34055,37071,40215 ⋆ Integers of the form 8k + 7 that can be written as a sum of four distinct squares of the form m, m + 1, m + 3, m + 5, where m == 2 (mod 4). • a(n) = 64 * n ^ 2 + 8 * n + 15. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >3. •

[A194651] • 0,0,0,88,785,3528,11151,28560,63513,127520,236863,413736,687505,1096088,1687455,2521248,3670521,5223600,7286063,9982840,13460433,17889256,23466095,30416688,38998425 ⋆ Number of ways to place 3 nonattacking kings on an n X n cylindrical chessboard. • a(n) = 1 / 6 * n * (n ^ 5 - 27 * n ^ 3 + 18 * n ^ 2 + 194 * n - 228), n>=4. •

[A157730] • 88,923,2640,5239,8720,13083,18328,24455,31464,39355,48128,57783,68320,79739,92040,105223,119288,134235,150064,166775,184368,202843,222200,242439,263560 ⋆ 441n^2 - 488n + 135. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A035807] • 1,88,3872,113608,2501312,44091256,648339296,8182044904,90488748416,891142686104,7914446636448,64044689834760,476256430985280,3278081347299000,21013302552438240,126119045475296808,712041389847515904 ⋆ Coordination sequence for lattice D*_44 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=44. •

[A253648] • 89,91,107,117,119,121,125,127,137,141,143,151,154,155,157,159,161,163,167,170,171,173,175,178,179 ⋆ Complement of A244581: numbers of Hamiltonian cycles that require a graph with at least 9 vertices. • a(n)=n + 231 for n>2289. •

[A176634] • 89,519,2063,8223,32831,131199,524543,2097663,8389631,33556479,134221823,536879103,2147500031,8589967359,34359803903,137439084543,549756076031,2199023779839,8796094070783,35184374185983 ⋆ a(n) = 6*a(n-1)-8*a(n-2)-3 for n > 2; a(0) = 89, a(1) = 519, a(2) = 2063. • a(n) = 128 * 4 ^ n + 4 * 2 ^ n - 1 for n > 0, a(1) = 89. •

[A063654] • 1,1,89,683,16717,221799,4005785,61643709,1029574631,16484061769,269718819131,4364059061933,71019435701025,1152314664726905,18725412666911121,304052089851133193,4939032362569285343 ⋆ Number of ways to tile a 10 X n rectangle with 1 X 1 and 2 X 2 tiles. • a(n) = 11a(n - 1) + 195a(n - 2) - 1459a(n - 3) - 10427a(n - 4) + 79002a(n - 5) + 188873a(n - 6) - 192243a(n - 7) - 522744a(n - 8) + 21726132a(n - 9) - 11085988a(n - 10) - 137059276a(n - 11) + 114023550a(n - 12) + 533938164a(n - 13) - 503739499a(n - 14) - 1345858084a(n - 15) + 1272444796a(n - 16) + 2223076291a(n - 17) - 1997887777a(n - 18) - 2382027317a(n - 19) + 2015253425a(n - 20) + 1613022647a(n - 21) - 1309632545a(n - 22) - 660948344a(n - 23) + 533727589a(n - 24) + 152685069a(n - 25) - 128889883a(n - 26) - 17772195a(n - 27) + 16954690a(n - 28) + 883980a(n - 29) - 1089264a(n - 30) - 11392a(n - 31) + 26112a(n - 32) - Keith Schneider (kschneid(AT)bulldog.unca.edu), Apr 02 2006 •

[A069764] • 89,773,3611,12179,33349,78889,167383,326471,595409,1027949,1695539,2690843,4131581,6164689,8970799,12769039,17822153,24441941,32995019,43908899,57678389,74872313,96140551,122221399,153949249 ⋆ Frobenius number of the numerical semigroup generated by consecutive octahedral numbers. • a(n)=((1 / 3)n(2n ^ 2 + 1) - 1)((1 / 3)(n + 1)(2(n + 1) ^ 2 + 1) - 1) - 1. • a(2)=89, a(3)=773, a(4)=3611, a(5)=12179, a(6)=33349, a(7)=78889, a(8)=167383, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Nov 19 2015 •

[A290314] • 1,89,814,4179,15659,47775,125853,296703,641058,1290718,2451449,4432792,7686042,12851762,20818302,32792898,50387031,75717831,111527416,161322161,229533997,321705945,444704195,606959145,818737920 ⋆ Fifth diagonal sequence of the Sheffer triangle A094816 (special Charlier). • a(n) = (5760 + 67248 * n + 158180 * n ^ 2 + 161700 * n ^ 3 + 87695 * n ^ 4 + 26952 * n ^ 5 + 4670 * n ^ 6 + 420 * n ^ 7 + 15 * n ^ 8) / 5760. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>8. •

[A157757] • 89,3898,13325,28370,49033,75314,107213,144730,187865,236618,290989,350978,416585,487810,564653,647114,735193,828890,928205,1033138,1143689,1259858,1381645,1509050,1642073 ⋆ 2809n^2 - 4618n + 1898. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A086695] • 89,9899,998999,99989999,9999899999,999998999999,9999998999999999,999999989999999999,99999999899999999999,9999999989999999999999 ⋆ a(n) = 100^n - 10^n - 1. • a(n) = 10 ^ (2 * n) - 10 ^ n - 1. •

[A027621] • 90,288,700,1440,2646,4480,7128,10800,15730,22176,30420,40768,53550,69120,87856,110160,136458,167200,202860,243936,290950,344448,405000,473200,549666 ⋆ n + (n+1)^2 + (n+2)^3 + (n+3)^4. • a(n) = (n + 3) ^ 2 * (n ^ 2 + 7 * n + 10). - Bruno Berselli, Aug 05 2011 •

[A157888] • 90,333,738,1305,2034,2925,3978,5193,6570,8109,9810,11673,13698,15885,18234,20745,23418,26253,29250,32409,35730,39213,42858,46665,50634 ⋆ 81n^2 + 9. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 05 2012 •

[A158490] • 90,390,890,1590,2490,3590,4890,6390,8090,9990,12090,14390,16890,19590,22490,25590,28890,32390,36090,39990,44090,48390,52890,57590,62490 ⋆ 100n^2 - 10. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A289792] • 0,0,0,0,90,540,1995,5775,14280,31500,63630,119790,212850,360360,585585,918645,1397760,2070600,2995740,4244220,5901210,8067780,10862775,14424795,18914280 ⋆ Number of 4-cycles in the n-tetrahedral graph. • a(n) = binomial(n - 1, 4) * (210 - 41 * n + 7 * n ^ 2) / 2. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). •

[A065949] • 0,0,0,90,630,2520,7560,18900,41580,83160,154440,270270,450450,720720,1113840,1670760,2441880,3488400,4883760,6715170,9085230,12113640,15939000,20720700,26640900 ⋆ Bessel polynomial {y_n}"'(0). • a(n) = ((- 2 + n) * (- 1 + n) * n * (1 + n) * (2 + n) * (3 + n)) / 8. •

[A224541] • 90,630,2940,11508,40950,137610,445896,1410552,4390386,13514046,41278068,125405532,379557198,1145747538,3452182656,10388002848,31230066186,93828607686,281775226860,845929656900,2539047258150,7619759016090,22864712861880,68605412870088 ⋆ Number of doubly-surjective functions f:[n]->[3]. • a(n) = 3 ^ n - 3 * 2 ^ n - 3 * n * 2 ^ (n - 1) + 3 + 3 * n + 3 * n ^ 2. •

[A263170] • 0,90,840,4410,20118,64890,186168,440730,972030,2094330,4013850,7512570,13279548,21906810,34902498,54772410,84444690,124785210,181983378,259292154,358930146,492406650,664548816,889272570,1186319550 ⋆ a(n) = (Sum_{k=1..n} prime(k))^3 - (Sum_{k=1..n} prime(k)^3). • a(n) mod 2 = 0. •

[A279438] • 0,1,90,1428,10600,51525,190806,584080,1552608,3701025,8088850,16470036,31616520,57743413,101055150,170433600,278290816,441610785,683206218,1033218100,1530887400,2226630021,3184447750,4484709648,6227340000 ⋆ Number of ways to place 4 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 8 - 14 * n ^ 6 + 30 * n ^ 5 - 17 * n ^ 4 - 6 * n ^ 3 + 6 * n ^ 2) / 24. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[A060094] • 0,0,0,0,90,1716,11350,49860,173745,519345,1389078,3411060,7821950,16949910,35013240,69404416,132703770,245767890,442372300,776064960,1330117230,2231754820,3672227850,5934754020,9432962515 ⋆ Number of 6-block ordered bicoverings of an unlabeled n-set. • a(n) = binomial(n + 14, n) - 6 * binomial(n + 9, 9) - 15 * binomial(n + 6, 6) + 30 * binomial(n + 5, 5) + 60 * binomial(n + 3, 3) - 50 * binomial(n + 2, 2) - 180 * binomial(n + 1, 1) + 240 * binomial(n, 0) - 80 * binomial(n - 1, - 1); G.f.: - y ^ 4 * (366 * y - 16950 * y ^ 8 + 36420 * y ^ 7 - 54120 * y ^ 6 + 56290 * y ^ 5 - 40335 * y ^ 4 + 18840 * y ^ 3 - 4940 * y ^ 2 - 960 * y ^ 10 + 80 * y ^ 11 + 5220 * y ^ 9 + 90) / (- 1 + y) ^ 15; E.g.f. for k - block ordered bicoverings of an unlabeled n - set is exp(- x - x ^ 2 / 2 * y / (1 - y)) * Sum _{ k = 0..inf } 1 / (1 - y) ^ binomial(k, 2) * x ^ k / k!. •

[A055603] • 0,1,90,2248,43000,755100,13003620,226262400,4037765760,74481120000 ⋆ Number of n X n binary matrices with no zero rows or columns and with n+2 ones. • a(n) = n * (n - 1) * (9 * n ^ 4 + 42 * n ^ 3 + 7 * n ^ 2 - 122 * n - 120) * n! / 576. - _ Vladeta Jovovic _ , Mar 25 2006 •

[A279442] • 0,0,0,90,67950,4531950,109425330,1460297160,13112872920,88456195800,480149029800,2196080372970,8743233946590,31033043111070,99992483914050,296626638016800,819218054279520,2125440234303840,5218743585428640,12201529135725450,27304286810701950 ⋆ Number of ways to place 8 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 16 - 140 * n ^ 14 + 756 * n ^ 13 + 2506 * n ^ 12 - 36540 * n ^ 11 + 130940 * n ^ 10 - 117432 * n ^ 9 - 559615 * n ^ 8 + 2186100 * n ^ 7 - 3622360 * n ^ 6 + 3228876 * n ^ 5 - 1439892 * n ^ 4 + 181440 * n ^ 3 + 45360 * n ^ 2) / 40320; factorized: a(n) = n ^ 2 * (n - 1) ^ 2 * (n - 2) ^ 2 * (n - 3) ^ 2 * (n ^ 8 + 12 * n ^ 7 - 54 * n ^ 6 - 444 * n ^ 5 + 1845 * n ^ 4 + 1392 * n ^ 3 - 11332 * n ^ 2 + 9660 * n + 1260) / 8!. • a(n) = SUM(1<=j<=17, C(17,j) * (- 1) ^ (j - 1) * a(n - j)). •

[A179338] • 1,91,131,401,481,931,1051,1681,1841,2651,2851,3841,4081,5251,5531,6881,7201,8731,9091,10801,11201,13091,13531,15601,16081 ⋆ Positive integers of the form (10*m^2+1)/11. • a(n) = (110 * n * (n - 1) + 35 * (2 * n - 1) * (- 1) ^ n + 39) / 4. • a(n) = a(- n + 1) = a(n - 1) + 2 * a(n - 2) - 2 * a(n - 3) - a(n - 4) + a(n - 5). •

[A159961] • 91,169,217,469,721,817,1027,1141,1261,1387,1519,2107,2611,2977,3367,3781,3997,4681,4921,5677,5941,6487,6769,7651,7957 ⋆ Cuban composites: composite numbers equal to the difference of two consecutive cubes. • a(1)=1 + 3t * (t + 1) with t=5, a(2)=1 + 3t * (t + 1) with t=7. •

[A063367] • 1,91,184,276,368,460,552,642,736,826,920,1012,1104,1192,1288,1378,1472,1562,1656,1744,1840,1928,2024,2114,2208 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(94). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A224460] • 91,263,589,1126,1940,3106,4708,6839,9601,13105,17471,22828,29314,37076,46270,57061,69623,84139,100801,119810,141376,165718,193064,223651,257725 ⋆ The hyper-Wiener index of the straight pentachain of n pentagonal rings (see Fig. 2.1 in the A. A. Ali et al. reference). • a(n) = (3 * n ^ 4 + 34 * n ^ 3 + 145 * n ^ 2 - 190 * n + 208) / 8. •

[**A213287**] • 0,1,91,869,4895,21562,83728,296268,977026,2990967,8418649,21740455,51758345,114517208,237528214,465636886,868918932,1553027197,2672453415,4447208761,7183467523,11298758534,17352329324,26081348272,38443650358 ★ Number of 8-length words w over n-ary alphabet such that for every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (- 417562 + 1092135 * n - 1113650 * n ^ 2 + 587165 * n ^ 3 - 175728 * n ^ 4 + 30520 * n ^ 5 - 2880 * n ^ 6 + 120 * n ^ 7) / 120. •

[**A185375**] • 0,0,1,91,966,5082,18447,53053,129948,282948,562989,1043119,1824130,3040830,4868955,7532721,11313016,16556232,23683737,33201987,45713278,61927138,82672359,108909669,141745044 ★ a(n) = n*(n-1)*(2*n+1)*(2*n-1)*(2*n-3)*(10*n-17)/90. • a(n) = n * (n - 1) * (2 * n + 1) * (2 * n - 1) * (2 * n - 3) * (10 * n - 17) / 90. • a(n) = binomial(2 * n + 1,5) * (10 * n - 17) / 3. •

[**A170955**] • 1,91,991,9991,99991,999991,9999991,99999991,999999991,9999999991,99999999991,999999999991,9999999999991,99999999999991,999999999999991,9999999999999991,99999999999999991 ★ a(n) = 10^n - 9. • a(n) = 10 * a(n - 1) + 81 for n>1, a(1)=1. •

[**A213559**] • 1,91,1366,9542,43535,151313,435324,1089804,2452269,5071495,9794290,17873362,31098587,51953981,83802680,131102232,199652505,296878515,432150478,617143390,866238439,1196968553,1630510388,2192225060 ★ Principal diagonal of the convolution array A213558. • a(n) = (16 / 35) * n ^ 7 + (1 / 2) * n ^ 6 + (1 / 15) * n ^ 3 - (1 / 42) * n. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[**A027787**] • 91,1470,12600,76160,364140,1465128,5155080,16279200,47006190,125847260,315762216,748843200,1690097500,3650610600,7582037400,15201516960,29520803025,55688330250,102301525200,183413260800,321546372840,552150337200,930092814000 ★ a(n) = 7*(n+1)*C(n+2,14). • a(n) = C(n + 1, 13) * C(n + 2, 2). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[**A118706**] • 1,91,1891,3403,403651,4388203,4468555,41710411,201553003,213283531,410970115,428264011,633021571,642342403,703181251,4913725411,28007409475,41103462403,90151709131,90294438403,337594212451 ★ Triangular numbers whose digits in base 12 are contained in {1,5,7,11}. • a(n)=t if t is the n - th triangular number such that S subset { 1,5,7,11 } , where S is the set of digits of t in base 12. •

[**A008394**] • 1,91,2161,24691,176251,907753,3685123,12494233,36808723,96918753,232834755,518344905,1082218305,2139007755,4032416505,7294752507,12726601437,21501506127,35301145037,56487256007 ★ Crystal ball sequence for A_9 lattice. • a(n) = 2431 / 18144 * n ^ 9 + 2431 / 4032 * n ^ 8 + 4433 / 1512 * n ^ 7 + 715 / 96 * n ^ 6 + 67067 / 4320 * n ^ 5 + 4147 / 192 * n ^ 4 + 197329 / 9072 * n ^ 3 + 14465 / 1008 * n ^ 2 + 7129 / 1260 * n + 1. - T. D. Noe, Apr 29 2007 •

[**A157802**] • 91,30464,115287,254560,448283,696456,999079,1356152,1767675,2233648,2754071,3328944,3958267,4642040,5380263,6172936,7020059,7921632,8877655,9888128,10953051,12072424,13246247,14474520,15757243 ★ 27225n^2 - 51302n + 24168. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A257761**] • 92,138,4278,6532,205252,313398,9847818,15036572,472490012,721442058,22669672758,34614182212,1087671802372,1660759304118,52185576841098,79681832415452,2503820016570332,3823067196637578,120131175218534838,183427543606188292 ★ Positive integers whose square is the sum of 23 consecutive squares. • a(n) = 48 * a(n - 2) - a(n - 4). •

[**A063326**] • 1,92,208,325,442,559,676,793,910,1027,1144,1259,1378,1495,1612,1727,1846,1961,2080,2195,2314,2429,2548,2661,2782 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(53). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A100169**] • 1,92,438,1204,2555,4656,7672,11768,17109,23860,32186,42252,54223,68264,84540,103216,124457,148428,175294,205220,238371,274912,315008,358824,406525 ★ Structured pentagonal hexacontahedral numbers (vertex structure 16). • a(n) = (1 / 6) * (165 * n ^ 3 - 225 * n ^ 2 + 66 * n). • a(n) = (55 * n ^ 3 - 75 * n ^ 2 + 22 * n) / 2. - _ Wesley Ivan Hurt _ , Nov 26 2013 •

[**A100170**] • 1,92,444,1228,2615,4776,7882,12104,17613,24580,33176,43572,55939,70448,87270,106576,128537,153324,181108,212060,246351,284152,325634,370968,420325 ★ Structured pentagonal hexacontahedral numbers (vertex structure 10). • a(n)=(1 / 6) * (171 * n ^ 3 - 243 * n ^ 2 + 78 * n). •

[**A172449**] • 0,0,0,0,0,0,0,92,1066,7828,44148,195270,707698,2211868,6120136,15324708,35312064,75937606,153942964,296590536,546621416,968910732,1659114170,2754780934,4449361442 ★ Number of ways to place 8 nonattacking queens on an 8 X n board. • a(n) = n ^ 8 - 84 * n ^ 7 + 3378 * n ^ 6 - 85078 * n ^ 5 + 1467563 * n ^ 4 - 17723656 * n ^ 3 + 145910074 * n ^ 2 - 745654756 * n + 1802501048, for n >= 31. - _ Vaclav Kotesovec _ , Feb 03 2010 •

[**A035808**] • 1,92,4232,129812,2987792,55053260,846141848,11160045188,128975126048,1327092434748,12312430500520,104062494360052,808072815510832,5806722035765932,38851092934042552,243319195759791460,1433080081936088128 ★ Coordination sequence for lattice D*_46 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=46. •

[**A157838**] • 92,4843,16794,35945,62296,95847,136598,184549,239700,302051,371602,448353,532304,623455,721806,827357,940108,1060059,1187210,1321561,1463112,1611863,1767814,1930965,2101316 ★ 3600n^2 - 6049n + 2541. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A252593**] • 0,0,0,0,0,0,0,92,13848,636524,14803480,207667564,2008758532,14752426528,87154016752,432539436508,1858901487620 ★ Number of ways to place 8 nonattacking queens on an n X n board. • a(n) = n ^ 16 / 40320 - n ^ 15 / 432 + 221 * n ^ 14 / 2160 + O(n ^ 13). - _ Vaclav Kotesovec _ , Dec 19 2014 •

[**A193248**] • 1,93,455,1267,2709,4961,8203,12615,18377,25669,34671,45563,58525,73737,91379,111631,134673,160685,189847,222339,258341,298033,341595,389207,441049 ★ Truncated dodecahedron, and truncated icosahedron with faces of centered polygons. • a(n)= 30 * n ^ 3 - 45 * n ^ 2 + 17 * n - 1. • a(1)=1, a(2)=93, a(3)=455, a(4)=1267, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Aug 28 2011] •

[**A160174**] • 1,93,545,1645,3681,6941,11713,18285,26945,37981,51681,68333,88225,111645,138881,170221,205953,246365,291745,342381,398561,460573,528705,603245,684481 ★ a(n) = (2*n - 1)*(24*n^2 - 42*n + 19). • a(n) = 48 * n ^ 3 - 108 * n ^ 2 + 80 * n - 19. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 01 2012 •

[**A160250**] • 1,93,617,1957,4497,8621,14713,23157,34337,48637,66441,88133,114097,144717,180377,221461,268353,321437,381097,447717,521681,603373,693177,791477,898657 ★ 64*n^3-168*n^2+148*n-43. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 01 2012 •

[**A174337**] • 0,94,376,846,1504,2350,3384,4606,6016,7614,9400,11374,13536,15886,18424,21150,24064,27166,30456,33934,37600,41454,45496,49726,54144 ★ 94*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Aug 21 2014 •

[**A063371**] • 1,95,188,282,376,470,564,659,752,847,940,1034,1128,1224,1316,1411,1504,1599,1692,1788,1880,1976,2068,2163,2256 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(98). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A225931**] • 95,273,539,1156,3566,5603,8751,18346,34364,75443,95656,146882,308254,426656,576345,762412,990326,1120595,1985636,2976016,3591434,5103526,6017672,8208724,12553402 ★ Number of conjugacy classes in Chevalley group F_4(q) as q runs through the prime powers. • a(n) = q ^ 4 + 2q ^ 3 + 6q ^ 2 + 10q + 19 if q == 0 mod 2. • a(n) = q ^ 4 + 2q ^ 3 + 7q ^ 2 + 15q + 30 if q == 0 mod 3. • a(n) = q ^ 4 + 2q ^ 3 + 7q ^ 2 + 15q + 31 otherwise. •

[**A055823**] • 1,95,336,848,1800,3422,6017,9974,15782,24045,35498,51024,71672,98676,133475,177734,233366,302555,387780,491840,617880,769418,950373,1165094,1418390 ★ T(n,n-6), array T as in A055818. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 13. •

[**A161482**] • 0,96,189,453,969,1496,3020,6020,9089,17969,35453,53340,105096,207000,311253,612909,1206849,1814480,3572660,7034396,10575929,20823353,40999829,61641396,121367760 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+151)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 302 for n > 6; a(1)=0, a(2)=96, a(3)=189, a(4)=453, a(5)=969, a(6)=1496. •

[**A062027**] • 1,1,1,96,274,720,1680,3520,6750,12048,20284,32544,50154,74704,108072,152448,210358,284688,378708,496096,640962,817872,1031872,1288512,1593870 ★ a(1) = a(2) = a(3) = 1; and for n>3 a(n) = 1*2*3*4 + 2*3*4*5 + 3*4*5*6 + ... + (n-1)*n*1*2 + n*1*2*3, the sum of the cyclic product of terms taken four at a time, final term being n*1*2*3 = 6n. • a(n) = (n + 1)(n)(n - 1)(n - 2)(n - 3) / 5 + n(n ^ 2 - n + 6). •

[**A292345**] • 96,352,736,1248,1888,2656,3552,4576,5728,7008,8416,9952,11616,13408,15328,17376,19552,21856,24288,26848,29536,32352,35296,38368,41568 ★ The second Zagreb index of the Aztec diamond AZ(n) (see the Ramanes et al. reference, Theorem 2.2). • a(n) = 64 * n ^ 2 + 64 * n - 32. •

[**A277107**] • 0,96,384,1248,3840,11616,34944,104928,314880,944736,2834304,8503008,25509120,76527456,229582464,688747488,2066242560,6198727776,18596183424,55788550368,167365651200,502096953696,1506290861184,4518872583648,13556617751040 ★ a(n) = 16*3^n - 48. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[**A292543**] • 0,96,384,1536,6144,24576,98304,393216,1572864,6291456,25165824,100663296,402653184,1610612736,6442450944,25769803776,103079215104,412316860416,1649267441664,6597069766656,26388279066624,105553116266496,422212465065984,1688849860263936 ★ Number of 5-cycles in the n-Sierpinski tetrahedron graph. • a(n) = 4 * a(n - 1) for n > 2. •

[**A216106**] • 96,652,1968,4344,8080,13476,20832,30448,42624,57660,75856,97512,122928,152404,186240,224736,268192,316908,371184,431320,497616,570372,649888,736464,830400 ★ The Wiener index of the tetrameric 1,3-adamantane TA(n) (see the Fath-Tabar et al. reference). • a(n) = 50n ^ 3 + 80n ^ 2 - 34n . •

[**A027628**] • 1,96,944,4057,11811,27446,55066,99639,166997,263836,397716,577061,811159,1110162,1485086,1947811,2511081,3188504,3994552,4944561,6054731,7342126,8824674,10521167,12451261 ★ Expansion of Molien series for 5-dimensional group G_3 acting on Jacobi polynomials of ternary self-dual codes. • a(n) = (2 + 13 * n + 33 * n ^ 2 + 72 * n ^ 3 + 72 * n ^ 4) / 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. •

[**A168526**] • 0,1,96,1458,10240,46875,163296,470596,1179648,2657205,5500000,10629366,19408896,33787663,56471520,91125000,142606336,217238121,323116128,470458810,672000000,943427331,1303868896,1776430668,2388787200 ★ a(n) = n^6*(n + 1)/2. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[**A128962**] • 0,96,1536,15360,122880,860160,5505024,33030144,188743680,1038090240,5536481280,28789702656,146565758976,732828794880,3607772528640,17523466567680,84112639524864,399535037743104,1880164883496960 ★ a(n)

= (n^3 - n)*4^n. • a(n) = 16 * a(n - 1) - 96 * a(n - 2) + 256 * a(n - 3) - 256 * a(n - 4). - _ Vincenzo Librandi _ , Feb 09 2013 •

[**A159711**] • 0,0,0,0,0,0,96,1904,23040,221184,1858560,14353152,104742912,734769152,5010432000,33464217600,220066480128,1430279159808,9212045819904,58914039332864,374665295953920,2371935399837696,14960708435312640,94072038170296320,589975504803594240 ★ Number of permutations of 1..n arranged in a circle with exactly 3 local maxima. • a(n) = 1 / 3 * 2 ^ (- 6 + n) * n * (15 + 3 * 2 ^ (1 + n) + 3 ^ n - 3 * (8 + 2 ^ n) * n + 6 * n ^ 2) for n>1. - _ Colin Barker _ , Oct 26 2015 •

[**A272765**] • 1,96,4008,82528,1029552,8939152,59112616,316345408,1429655844,5627681904,19747867728,62882889360,184259252180,502404837648,1286281062776,3115358788304,7182265229303,15843826126704,33591306176240,68708263470288,136027864081380 ★ Expansion of (1 + 80*x + 2592*x^2 + 29360*x^3 + 138124*x^4 + 295552*x^5 + 299984*x^6 + 144016*x^7 + 31146*x^8 + 2688*x^9 + 72*x^10)/(1-x)^16. • a(n) = (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (2179457280 + 5624791200 * n + 8463690360 * n ^ 2 + 8430731628 * n ^ 3 + 5888536294 * n ^ 4 + 2935665243 * n ^ 5 + 1043021847 * n ^ 6 + 258468462 n ^ 7 + 42566616 * n ^ 8 + 4198827 * n ^ 9 + 188723 * n ^ 10) / 261534873600. •

[**A240445**] • 96,4128,52080,373632,1898064,7604352,25580016,75208320,198651024,480768288,1081848768,2289041664,4594218720,8808178176,16223664672,28842649344,49686723072,83213333280,135864971088,216783321216,338725852080,519228378240,782063802000 ★ Numbers of ways to place five indistinguishable points on an n X n square grid so that no four of them are vertices of a square of any orientation. • a(n) = (n ^ 10 - 10 * n ^ 8 + 25 * n ^ 6 - 16 * n ^ 2) / 120. •

[**A035809**] • 1,96,4608,147488,3542016,68095200,1091884544,15023056032,181095585792,1943370847584,18801236605440,165673550159136,1341056098444288,10043368807877088,70018291338395136,456821317532555680 ★ Coordination sequence for lattice D*_48 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=48. •

[**A000545**] • 1,96,9099,280832,4073375,36292320,230719293,1145393152,4707296613,16666924000,52307593239,148602435840,388302646355,944900450144,2162441849625,4691253854208,9710376716137,19280531603808,36888593841475,68266682784000,122597146773927 ★ Number of ways of n-coloring a dodecahedron. • a(n)=C(n,1) + 94C(n,2) + 8814C(n,3) + 245008C(n,4) + 2759250C(n,5) + 15884004C(n,6) + 52701264C(n,7) + 106866144C(n,8) + 134719200C(n,9) + 103118400C(n,10) + 43908480C(n,11) + 7983360C(n,12). Each term indicates the number of ways to use n colors to color the dodecahedron faces (icosahedron vertices) with exactly 1, 2, 3, ..., 10, 11, or 12 colors. •

[**A130765**] • 97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121 ★ ASCII codes for lower case letters. • a(n) = 96 + n, 0 < n < 27. •

[**A157213**] • 97,137,277,305,685,1565,1733,3973,9113,10093,23153,53113,58825,134945,309565,342857,786517,1804277,1998317,4584157,10516097,11647045,26718425,61292305,67883953 ★ Positive numbers y such that y^2 is of the form x^2+(x+137)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=97, a(2)=137, a(3)=277, a(4)=305, a(5)=685, a(6)=1565. •

[**A157924**] • 97,195,293,391,489,587,685,783,881,979,1077,1175,1273,1371,1469,1567,1665,1763,1861,1959,2057,2155,2253,2351,2449 ★ 98n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 05 2012 •

[**A174338**] • 0,97,388,873,1552,2425,3492,4753,6208,7857,9700,11737,13968,16393,19012,21825,24832,28033,31428,35017,38800,42777,46948,51313,55872 ★ 97*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 25 2012 • a(n) = (49n) ^ 2 - (48n) ^ 2 = (9n) ^ 2 + (4n) ^ 2. - Vincenzo Librandi, Feb 25 2012 •

[**A157331**] • 97,449,1057,1921,3041,4417,6049,7937,10081,12481,15137,18049,21217,24641,28321,32257,36449,40897,45601,50561,55777,61249,66977,72961,79201 ★ 128n^2 - 32n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 29 2012 •

[**A144130**] • 1,1,97,577,1921,4801,10081,18817,32257,51841,79201,116161,164737,227137,305761,403201,522241,665857,837217,1039681,1276801,1552321,1870177,2234497,2649601 ★ a(n) = ChebyshevT(4, n). • a(n) = 8 * n ^ 4 - 8 * n ^ 2 + 1. (End) •

[**A162674**] • 0,1,97,956,4780,16745,46921,112672,241536,474585,870265,1508716,2496572,3972241,6111665,9134560,13311136,18969297,26502321,36377020,49142380,65438681,86007097,111699776,143490400 ★ Number of different fixed (possibly) disconnected tetrominoes bounded (not necessarily tightly) by an n*n square • a(n) = n * (n - 1) * (8 * n ^ 4 - 16 * n ^ 3 - 9 * n ^ 2 + 17 * n + 8) / 12. •

[**A262925**] • 0,1,97,962,4578,14979,38995,86996,173636,318597,547333,891814,1391270,2092935,3052791,4336312,6019208,8188169,10941609,14390410,18658666,23884427,30220443,37834908,46912204 ★ Sum of n consecutive fourth powers starting with n^4. • a(n) = n * (- 1 + 70 * n ^ 2 - 225 * n ^ 3 + 186 * n ^ 4) / 30. •

[**A075665**] • 1,97,2177,23058,152979,738835,2839571,9191876,26037717,66301333,154762069,336050870,686502375,1331121351,2467171687,4396168328,7566347369,12628007049,20504452585,32481640666 ★ Sum of next n 4th powers. i^s, s = 4. • a(1)=1; a(n)=sum(i ^ s, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). • a(n) = (15n ^ 9 + 90n ^ 7 + 123n ^ 5 + 20n ^ 3 - 8n) / 240. •

[**A122128**] • 97,1567204831,771745495049,2523423764749,7766703722053,16167518745751,28962816187367,42932141486099,65562552714433,109392979058371,142311158323421,194472382292633,434809071709709,654363068549089 ★ Primes of form Sum[Prime[k]^4, {k,1,n}] or primes in A122102[n]. • a(n) = A122102[A122127[n]]. •

[**A109553**] • 98,124,162,221,319,498,886,1994,7976 ★ Masses in electron rest masses of the E. Wall Neutron model. • a(n) = Floor[4076 / (10 - n) ^ 2 / w Mev / me] •

[**A160828**] • 98,354,978,2258,4578,8418,14354,23058,35298,51938,73938,102354,138338,183138,238098,304658,384354,478818,589778,719058,868578,1040354,1236498,1459218,1710818 ★ a(n) = 4*n^4+24*n^3+84*n^2+144*n+98. • a(0)=98, a(1)=354, a(2)=978, a(3)=2258, a(4)=4578, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). [_ Harvey P. Dale _ , Mar 25 2012] •

[**A158129**] • 98,396,894,1592,2490,3588,4886,6384,8082,9980,12078,14376,16874,19572,22470,25568,28866,32364,36062,39960,44058,48356,52854,57552,62450 ★ 100n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A190636**] • 1,98,1647,12304,58625,210006,617743,1572992,3587409,7500250,14615711,26874288,47061937,79060814,128145375,201327616,307755233,459166482,670405519,960002000,1350818721,1870771078,2553622127,3439857024,4577640625 ★ a(n)=(n^3+3*n^7)/4. • a(n) = ((n ^ 3 + n) / 2) ^ 3 - ((n ^ 3 - n) / 2) ^ 3. •

[**A285045**] • 1,98,1862,19796,160454,1114428,7008540,41132520,229435206,1230873644,6403088692,32488200472,161473267228,788758622680,3796375603320,18040943163600,84786596572230,394599588033420,1820669979129540,8335975464699960 ★ Expansion of cosh(7*arctanh(2*sqrt(x))). • a(n) = 1 / 15 * (512 * n ^ 3 + 64 * n ^ 2 + 144 * n + 15) * binomial(2 * n,n). •

[**A022149**] • 1,98,1946,16394,83442,307314,907018,2282394,5095650,10368386,19594106,34866218,59021522,95799186,150015210,227752378,336565698,485703330,686343002,951843914,1298014130,1743393458 ★ Coordination sequence for root lattice B_7. • a(0) = 1; for n>0, a(n) = (968 * n ^ 6 - 1368 * n ^ 5 + 5420 * n ^ 4 - 4080 * n ^ 3 + 4232 * n ^ 2 - 852 * n + 90) / 45 . - _ Philippe Deléham _ , Feb 20 2004 •

[**A128801**] • 0,98,2058,28812,336140,3529470,34588806,322828856,2905459704,25422772410,217505941730,1827049910532,15114685623492,123436599258588,996987917088030,7975903336704240,63275499804520304,498294560960597394 ★ n*(n-1)*7^n. • a(n) = 21 * a(n - 1) - 147 * a(n - 2) + 343 * a(n - 3). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A178974**] • 0,0,0,0,0,0,98,3328,17496,99600,316052,1041408,2501538,6157536,12531150,25938944,47168268,86938272,145818008,247240000,390084786,620964256,933865918,1414946304,2047225000 ★ Number of ways to place 4 nonattacking amazons (superqueens) on an n X n toroidal board. • a(n)= (1 / 4) * n ^ 2 * (n ^ 6 / 6 - 4 * n ^ 5 + 197 * n ^ 4 / 6 - 66 * n ^ 3 - 1941 * n ^ 2 / 4 + 2638 * n - 18907 / 6 + (n ^ 4 / 2 - 10 * n ^ 3 + 289 * n ^ 2 / 4 - 210 * n + 357 / 2) * (- 1) ^ n + 18 * cos(Pi * n / 2) + 32 / 3 * cos(4 * Pi * n / 3)), n>=10. •

[**A157947**] • 99,197,295,393,491,589,687,785,883,981,1079,1177,1275,1373,1471,1569,1667,1765,1863,1961,2059,2157,2255,2353,2451 ★ a(n) = 98n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 10 2012 •

[**A125820**] • 1,1,99,295,10193,49001,1086723,6926543,119265217,910405105,13389536259,115088367703,1528961752529,14221495172249,176752280339811,1732989592387775,20610950377737217,209321891217088609,2417905969074687267,25140035386206969607 ★ a(n)=((1 + 7Sqrt[2])^n + (1 - 7Sqrt[2])^n)/(2). • a(0)=1, a(1)=1, a(n)=2 * a(n - 1) + 97 * a(n - 2) for n>=2 . G.f.: (1 - x) / (1 - 2 * x - 97 * x ^ 2) . - _ Philippe Deléham _ , Dec 12 2006 •

[**A157659**] • 99,398,897,1596,2495,3594,4893,6392,8091,9990,12089,14388,16887,19586,22485,25584,28883,32382,36081,39980,44079,48378,52877,57576,62475 ★ 100n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A273187**] • 99,449,2499,14449,84099,490049,2856099,16646449,97022499,565488449,3295908099,19209960049,111963852099,652573152449,3803475062499,22168277222449,129206188272099,753068852410049,4389206926188099,25582172704718449,149103829302122499 ★ a(n) is the third number in a triple consisting of 3 numbers, which when squared are part of a right diagonal of magic square of squares. • a(0)= 99, a(1)= 449, a(n + 1)= a(n) * 6 - a(n - 1) - k where k=96. • a(n) = (24 + 25 / 2 * (3 - 2 * sqrt(2)) ^ (1 + n) + 25 / 2 * (3 + 2 * sqrt(2)) ^ (1 + n)). • a(n) = 7 * a(n - 1) - 7 * a(n - 2) + a(n - 3) for n>2. •

[**A154359**] • 99,649,3699,9249,17299,27849,40899,56449,74499,95049,118099,143649,171699,202249,235299,270849,308899,349449,392499,438049,486099,536649,589699,645249,703299 ★ a(n) = 1250*n^2 - 700*n + 99. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 21 2012 •

[**A157370**] • 99,3480,11663,24648,42435,65024,92415,124608,161603,203400,249999,301400,357603,418608,484415,555024,630435,710648,795663,885480,980099,1079520,1183743,1292768,1406595 ★ a(n) = 2401*n^2 - 3822*n + 1520. • a(1)=99, a(2)=3480, a(3)=11663, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Dec 03 2011] •

[**A094027**] • 0,1,100,101,10100,10101,1010100,1010101,101010100,101010101,10101010100,10101010101,1010101010100,1010101010101,101010101010100,101010101010101,10101010101010100,10101010101010101 ★ Expansion of x(1+100x)/((1-x^2)(1-100x^2)). • a(n)=2 ^ n * 5 ^ (n + 1)((- 1) ^ n / 1 1 + 1 / 9) - (- 1) ^ n / 2 - 101 / 198 •

[**A280411**] • 1,1,100,111,10000,11111,1000000,1111111,100000000,111111111,10000000000,11111111111,1000000000000,1111111111111,100000000000000,1111111111111111,10000000000000000,11111111111111111111 ★ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular

automaton defined by "Rule 261", based on the 5-celled von Neumann neighborhood. • a(n) = 2 ^ n * (4 * (- 5) ^ n + 5 ^ (n + 1)) / 9 for n even. • a(n) = ((- 5) ^ n * 2 ^ (n + 2) + 2 ^ n * 5 ^ (n + 1) - 1) / 9 for n odd. • a(n) = 101 * a(n - 2) - 100 * a(n - 4) for n>3. •

[A292275] • 100,125,150,200,250,300,400,500,600,800,1000,1250,1500,2000,2500,3000,4000,5000,6000,8000,10000,12500,15000,20000,25000 ⋆ A sequence of rounded numbers useful for entering values over several orders of magnitude in computer-human interfaces, with 10 values per order of magnitude. • a(n) = 10 ^ n * 1 if n mod 10 = 0; •

[A172178] • 1,100,199,298,397,496,595,694,793,892,991,1090,1189,1288,1387,1486,1585,1684,1783,1882,1981,2080,2179,2278,2377 ⋆ 99n+1. • a(n) = a(n - 1) + 99 with a(1) = 1. • a(0) = 1, a(1) = 100, a(n) = 2 * a(n - 1) - a(n - 2). [From _ Harvey P. Dale _ , Apr 09 2012] •

[A027604] • 100,225,440,775,1260,1925,2800,3915,5300,6985,9000,11375,14140,17325,20960,25075,29700,34865,40600,46935,53900,61525,69840,78875,88660 ⋆ n^3 + (n+1)^3 + (n+2)^3 + (n+3)^3 + (n+4)^3. • a(n)= + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - 1 * a(n - 4) for n>=4 •

[A261276] • 0,1,100,297,592,985,1476,2065,2752,3537,4420,5401,6480,7657,8932,10305,11776,13345,15012,16777,18640,20601,22660,24817,27072 ⋆ 100-gonal numbers: a(n) = 98*n*(n-1)/2 + n. • a(n) = n * (49 * n - 48). •

[A124437] • 0,100,300,600,1000,1500,2100,2800,3600,4500,5500,6600,7800,9100,10500,12000,13600,15300,17100,19000,21000,23100,25300,27600,30000 ⋆ Experience Points thresholds for levels in the P&P-RPG "Das Schwarze Auge" (DSA, aka "The Dark Eye"). • a(n) = a(n - 1) + (n - 1) * 100; a(1) = 0. • a(n) = 50 * n * (n - 1). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 3. •

[A017270] • 0,100,400,900,1600,2500,3600,4900,6400,8100,10000,12100,14400,16900,19600,22500,25600,28900,32400,36100,40000,44100,48400,52900,57600 ⋆ a(n) = (10*n)^2. • a(n) = a(n - 1) + 200n - 100, n>0 ; a(0)=0. - _ Miquel Cerda _ , Oct 30 2016 •

[A172518] • 0,0,0,0,100,576,2156,7168,17496,41600,82280,161280,280540,486080,774900,1232896,1844976,2757888,3933456,5606400,7699860,10570560,14081980,18754560,24365000 ⋆ Number of ways to place 3 nonattacking queens on an n X n toroidal board. • a(n) = n ^ 2 * (n - 2) * (n - 4) * (n ^ 2 - 6 * n + 12) / 6 if n is even and a(n) = n ^ 2 * (n - 1) * (n - 3) * (n ^ 2 - 8 * n + 18) / 6 if n is odd. - _ Vaclav Kotesovec _ , Jan 31 2010 •

[A129725] • 0,100,1159,1563,2079,8080,10420,13416,48363,61999,79459,283140,362616,464380,1651519,2114739,2707863,9627016,12326860,15783840,56111619,71847463,91996219,327043740,418758960 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+521)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1042 for n > 6; a(1)=0, a(2)=100, a(3)=1159, a(4)=1563, a(5)=2079, a(6)=8080. •

[A128988] • 0,100,2250,30000,312500,2812500,22968750,175000000,1265625000,8789062500,59082031250,386718750000,2475585937500,15551757812500,96130371093750,585937500000000,3527832031250000,21011352539062500 ⋆ a(n) = (n^3 - n^2)*5^n. • a(1)=0, a(2)=100, a(3)=2250, a(4)=30000, a(n)=20 * a(n - 1) - 150 * a(n - 2) + 500 * a(n - 3) - 625 * a(n - 4). - _ Harvey P. Dale _ , Oct 25 2011 •

[A035810] • 1,100,5000,166700,4170000,83500020,1394447000,19980314300,250799764000,2802204288900,28222682700200,258862555329100,2180706863326000,16993705726247700,123252789641763000,836413142574501340 ⋆ Coordination sequence for lattice D*_50 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=50. •

[A053109] • 1,100,5500,220000,7150000,200200000,5005000000,114400000000,2431000000000,48620000000000,923780000000000,16796000000000000,293930000000000000,4974200000000000000,81719000000000000000 ⋆ Expansion of 1/(1-10*x)^10. • a(n) = 10 ^ n * binomial(n + 9, 9); G.f. 1 / (1 - 10 * x) ^ 10 . •

[A284180] • 1,1,101,101,11101,111101,1110101,11010101,101111101,111111101,11111110101,111111010101,1111101111101,11111111111101,111111111110101,1111111111010101,11111111101111101,111111111111111101,1111111111111010101 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 813", based on the 5-celled von Neumann neighborhood. • a(n) = 10 * a(n - 1) + a(n - 4) - 10 * a(n - 5) for n>4. •

[A162671] • 1,1,101,102,10301,10403,1050601,1061004,107151001,108212005,10928351501,11036563506,1114584702101,1125621265607,113676711262801,114802332528408,11593909964103601,11708712296632009 ⋆ Generalized Fibonacci numbers • a(n)=102 * a(n - 2) - a(n - 4). G.f.: - x * (- 1 - x + x ^ 2) / ((x ^ 2 + 10 * x - 1) * (x ^ 2 - 10 * x - 1)). [From _ R. J. Mathar _ , Jul 14 2009] •

[A279873] • 1,1,101,111,10000,10111,1010100,1111101,100000001,101111111,10101000000,11111011111,1000000000000,1011111111111,101010000000000,1111101111111111,10000000000000000,10111111111111111,101010000000000000,1111110111111111111 ⋆ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 211", based on the 5-celled von Neumann neighborhood. • a(n) = a(n - 2) + 10000 * a(n - 4) - 10000 * a(n - 6) for n>10. •

[A035790] • 101,137,419,1019,1049,1481,1871,1931,2081,2111,2969,3251,3461,4259,5009,5651,5867,6689,6947,7331,7547,8219,8969,10007,11057 ⋆ Start of a string of exactly 2 consecutive (but disjoint) pairs of twin primes. • a(10)=2111, a(10 ^ 2)=77261, a(10 ^ 3)=1603697, a(10 ^ 4)=27397631, a(10 ^ 5)=435140477, a(10 ^ 6)=6391490657. - _ M. F. Hasler _ , May 04 2015 •

[A100775] • 101,198,295,392,489,586,683,780,877,974,1071,1168,1265,1362,1459,1556,1653,1750,1847,1944,2041,2138,2235,2332,2429 ⋆ a(n) = 97*n + 101. • a(0)=101, a(1)=198, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Nov 26 2013 •

[A158128] • 101,201,301,401,501,601,701,801,901,1001,1101,1201,1301,1401,1501,1601,1701,1801,1901,2001,2101,2201,2301,2401,2501 ⋆ 100n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 11 2012 •

[A162670] • 1,1,101,201,10301,30401,1060501,4100601,110150701,520210801,11535280901,63556361001,1217084451101,7572720551201,129281165661301,886553220781401,13814669786911501,102469991865051601,1483936970556201701,11730936157061361801 ⋆ Generalized Fibonacci numbers • a(n) = a(n - 1) + 100 a(n - 2) •

[A127348] • 101,236,466,838,1330,1918,2862,3856,5350,7096,8622,10558,12654,15228,18090,21550,24916,27702,31500,35068,39298,45322,51240,56980,62398 ⋆ Coefficient of x^2 in the polynomial [x-p(n)][x-p(n+1)][x-p(n+2)][x-p(n+3)]; here p(k) is the k-th prime. • a(n)=p(n)p(n + 1) + p(n)p(n + 2) + p(n)p(n + 3) + p(n + 1)p(n + 2) + p(n + 1)p(n + 3) + p(n + 2)p(n + 3), where p(k) is the k - th prime (by Viete's formula relating the zeros and the coefficients of a polynomial). - _ Emeric Deutsch _ , Jan 20 2007 •

[A139701] • 1,101,301,701,1501,3101,6301,12701,25501,51101,102301,204701,409501,819101,1638301,3276701,6553501,13107101,26214301,52428701,104857501,209715101,419430301,838860701,1677721501 ⋆ Binomial transform of [1, 100, 100, 100, ...]. • a(n) = 100 * 2 ^ (n - 1) - 99. - _ Emeric Deutsch _ , May 03 2008 • a(n) = 2 * a(n - 1) + 99 for n > 1. [_ Vincenzo Librandi _ , Nov 24 2010] • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n > 2. G.f.: x * (98 * x + 1) / ((x - 1) * (2 * x - 1)). - _ Colin Barker _ , Mar 11 2014 •

[A195855] • 1,101,322,808,1872,4192,9232,20144,43696,94384,203184,436144,933808,1994672,4251568,9043888,19201968,40697776,86114224,181927856,383778736,808452016,1700790192,3573546928,7499415472 ⋆ a(n) = T(9,n), array T given by A048505. • a(n) = (n ^ 2 + 37 * n + 324) * 2 ^ (n - 2) - 80. • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Feb 25 2015 •

[A055438] • 101,402,903,1604,2505,3606,4907,6408,8109,10010,12111,14412,16913,19614,22515,25616,28917,32418,36119,40020,44121,48422,52923,57624,62525 ⋆ a(n) = 100*n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 04 2012 •

[A078787] • 1,102,203,304,405,506,607,708,809,910,1011,1112,1213,1314,1415,1516,1617,1718,1819,1920,2021,2122,2223,2324,2425 ⋆ 101*n + 1. • a(0)=1, a(1)=102, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Feb 02 2015 •

[A160850] • 0,1,102,203,370,563,836,1111,1470,1855,2306,2757,3298,3857,4506,5159,5868,6603,7428,8255,9172,10105,11098,12101,13194 ⋆ Number of lines through at least 2 points of a 10 X n grid of points. • a(n) = (1 / 2) * (f(m,n, 1) - f(m,n,2)) where f(m,n,k) = Sum((n - |kx|) * (m - |ky|)); - n < kx < n, - m < ky < m, (x,y)=1, m=10. • a(n) = - a(n - 2) + a(n - 5) + a(n - 6) + 2 * a(n - 7) + a(n - 8) + a(n - 9) - a(n - 11) - a(n - 12) - 2 * a(n - 13) - a(n - 14) - a(n - 15) + a(n - 18) + a(n - 20) for n>21. •

[A140062] • 1,102,304,708,1516,3132,6364,12828,25756,51612,103324,206748,413596,827292,1654684,3309468,6619036,13238172,26476444,52952988,105906076,211812252,423624604,847249308,1694498716 ⋆ 101*2^(n-1) - 100. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). G.f.: x * (1 + 99 * x) / ((1 - x) * (1 - 2 * x)). - _ Colin Barker _ , Aug 12 2012 •

[A158127] • 102,404,906,1608,2510,3612,4914,6416,8118,10020,12122,14424,16926,19628,22530,25632,28934,32436,36138,40040,44142,48444,52946,57648,62550 ⋆ a(n) = 100n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 11 2012 •

[A163435] • 0,0,102,1792,11550,46848,144550,371712,838782,1715200,3247398,5779200,9774622,15843072,24766950,37531648,55357950,79736832,112466662,155692800,211949598,284204800,375906342,491031552,634138750 ⋆ Number of different fixed (possibly) disconnected pentominoes bounded tightly by an n X n square. • a(n) = 2 / 3 * n ^ 2 * (n - 2) ^ 2 * (5 * n ^ 2 - 10 * n + 2), n> 1. •

[A217331] • 0,1,102,2862,34960,252375,1284066,5105212,16912512,48700845,125512750,295649706,646497072,1328022787,2586463530,4811211000,8598455296,14835732057,24812155062,40359796390,64032402000 ⋆ Number of inequivalent ways to color a 3 X 3 checkerboard using at most n colors allowing rotations and reflections. • a(n) = (n ^ 9 + n ^ 5 + 2 * n ^ 3 + 4 * n ^ 6) / 8 . •

[A076460] • 1,103,1130,6070,22355,64981,160468,351660,703365,1308835,2297086,3841058,6166615,9562385,14390440,21097816,30228873,42438495,58506130,79350670,106046171,139838413,182162300,234660100,299200525 ⋆ Sum of squares of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly one way. • a(n) = n * (n + 1) * (7 * n ^ 4 + 2 * n ^ 3 - 6 * n ^ 2 - n + 1) / 6. •

[A271745] • 104,250,692,2110,6932,24190,88772,340030,1351412,5546110,23407652,101247550,447454292,2015029630,9224364932,42832260670,201341787572,956443162750,4584181712612,22137843427390,107584138943252,525581866073470,2578798342362692 ⋆ Number of set partitions of [n] such that 6 is the largest element of the last block. • a(n) = 16 + 5 * 2 ^ (n - 3) + 35 * 3 ^ (n - 6) + 11 * 4 ^ (n - 6) + 5 ^ (n - 6) for n>6. • a(n) = 15 * a(n - 1) - 85 * a(n - 2) + 225 * a(n - 3) - 274 * a(n - 4) + 120 * a(n - 5) for n>11. •

[A132434] • 104,1064,8744,70184,561704,4493864,35951144,287609384,2300875304,18407002664,147256021544,1178048172584,9424385380904,75395083047464,603160664379944,4825285315039784,38602282520318504,308818260162548

264,2470546081300386344 ⋆ a(n) = A132433(n) - 33. • a(n) = (15 * 8 ^ n - 18 56) / 56 for n>2. • a(n) = 9 * a(n - 1) - 8 * a(n - 2) for n>4. •

[A035811] • 1,104,5408,187512,4878016,101575240,1763889504,26278912088,342948774272,3983402767656,41701747803040,397530217856824,3480013344595008,28176478479561992,212293851572113376 ⋆ Coordination sequence for lattice D*_52 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=52. •

[A026066] • 105,168,246,340,451,580,728,896,1085,1296,1530,1788,2071,2380,2716,3080,3473,3896,4350,4836,5355,5908,6496,7120,7781 ⋆ dot_product(n,n-1,...2,1)*(7,8,...,n,1,2,3,4,5,6). • a(n) = (1 / 6) * (n ^ 2 + 21n - 106) * n. - _ Ralf Stephan _ , Apr 05 2004 •

[A242063] • 0,105,211,316,422,527,633,738,844,949,1055 ⋆ Analog clock times where the minute hand is on the hour hand (in hhmm format). • a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n=4..11. - _ Colin Barker _ , Aug 19 2014 • a(n) = (- 423 - (- 1) ^ n + 422 * n) / 4 for n=1..11. - _ Colin Barker _ , Aug 19 2014 •

[A228307] • 105,225,420,714,1134,1710,2475,3465,4719,6279,8190,10500,13260,16524,20349,24795,29925,35805,42504,50094,58650,68250,78975,90909,104139 ⋆ The hyper-Wiener index of the Kneser graph K(n,2) (n>=5). • a(n) = (1 / 8) * n * (n - 1) * (n - 2) * (n + 9). •

[A190577] • 105,384,945,1920,3465,5760,9009,13440,19305,26880,36465,48384,62985,80640,101745,126720,156009,190080,229425,274560,326025,384384,450225,524160,606825 ⋆ a(n) = n*(n+2)*(n+4)*(n+6). • a(n) = ((n + 2) * (n + 4) - 2 ^ 2) ^ 2 - 2 ^ 4. •

[A058844] • 105,1260,9450,56980,302995,1487200,6914908,30950920,134779645,575156036,2417578670,10046531276,41388056231,169371383384,689568172832,2796362035104,11305163394129,45595968007260,183557935474290,737897437077060,2963015460969915 ⋆ Number of ways of placing n labeled balls into 4 indistinguishable boxes with at least 2 balls in each box. • a(n) = (4 ^ n - 3 ^ (n - 1)(4n + 12) + 2 ^ (n - 1)(12 + 9n + 3n ^ 2) - 4n ^ 3 - 8n - 4) / 24. - _ David Wasserman _ , Jun 06 2007 •

[A024198] • 105,1689,12139,57379,208054,626934,1646778,3889578,8439783,17085783,32645613,59394517,103613692,174281212,283927812,449681892,694529781,1048818981,1552033791,2254874391,3221672146,4533175570,6289743070 ⋆ 4th elementary symmetric function of the first n+3 odd positive integers. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (15 * n ^ 4 + 150 * n ^ 3 + 515 * n ^ 2 + 672 * n + 223) / 360. • a(n) = A(n + 4, n - 1), n >= 1 (fifth diagonal). See a crossref. below. - _ Wolfdieter Lang _ , Jul 21 2017 •

[A027788] • 105,1800,16320,104040,523260,2209320,8139600,26860680,80901810,225544440,588376800,1448655000,3389852700,7582037400,16287339600,33738060600,67621543875,131530532400,248917996800,459351961200,828225505800,1461574422000,2528333935200 ⋆ a(n) = 15*(n+1)*C(n+2,15)/2. • a(n) = C(n + 1, 14) * C(n + 2, 2). - _ Zerinvary Lajos _ , Apr 28 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[A154633] • 105,3465,19305,62985,156009,326025,606825,1038345,1666665,2544009,3728745,5285385,7284585,9803145,12924009,16736265,21335145,26822025,33304425,40896009,49716585,59892105,71554665,84842505,99900009 ⋆ (4n+1)(4n+3)(4n+5)(4n+7). • a(n)=(4n + 1)(4n + 3)(4n + 5)(4n + 7). • a(n)=5a(n - 1) - 10a(n - 2) + 10a(n - 3) - 5a(n - 4) + a(n - 5). •

[A168306] • 105,6534,132444,1593960,13962848,98382912,590814336,3137815296,15114950400,67240622592,279977837568,1102376491008,4137416245248,14896905748480,51722619518976,173913487048704,568323403481088,1810359422681088,5635647921192960 ⋆ The fifth left hand column of triangle A167580. • a(n) = 2 ^ n * (214 * n ^ 9 - 3963 * n ^ 8 + 30768 * n ^ 7 - 130536 * n ^ 6 + 330834 * n ^ 5 - 514332 * n ^ 4 + 484382 * n ^ 3 - 262149 * n ^ 2 + 72342 * n - 7560) / 241920. • a(n) = 20 * a(n - 1) - 180 * a(n - 2) + 960 * a(n - 3) - 3360 * a(n - 4) + 8064 * a(n - 5) - 13440 * a(n - 6) + 15360 * a(n - 7) - 11520 * a(n - 8) + 5120 * a(n - 9) - 1024 * a(n - 10). • a(n) - 19 * a(n - 1) + 162 * a(n - 2) - 816 * a(n - 3) + 2688 * a(n - 4) - 6048 * a(n - 5) + 9408 * a(n - 6) - 9984 * a(n - 7) + 6912 * a(n - 8) - 2816 * a(n - 9) + 512 * a(n - 10) = 321 * 2 ^ (n - 1). •

[A001546] • 105,19305,156009,606825,1666665,3728745,7284585,12924009,21335145,33304425,49716585,71554665,99900009,135932265,180929385,236267625,303421545,383964009,479566185,591997545,723125865,874917225,1049436009,1248844905,1475404905 ⋆ a(n) = (8*n+1)*(8*n+3)*(8*n+5)*(8*n+7). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. - _ Wesley Ivan Hurt _ , Jan 02 2017 •

[A277605] • 106,114,119,122,127,130,132,135,140,143,145,148,151,153,156,158,161,164,166,169,171,172,174,177,179 ⋆ Numbers not in a Fibonacci sequence starting with two 1-digit numbers. • a(n) = n + O(log n). - _ Charles R Greathouse IV _ , Oct 30 2016 •

[A166912] • 106,8075,114235,1767675,28042235,447713275,7159562235,114537594875,1832539914235,29320392212475,469125289738235,7506000693166075,120095995320074235,1921535862038855675,30744573540292362235 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) - 225 for n > 2; a(0) = 106, a(1) = 8075, a(2) = 114235. • a(n) = (1280 * 16 ^ n + 940 * 4 ^ n - 15) / 3 for n > 0. • a(n) = 21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3). •

[A069759] • 107,647,2159,5399,11339,21167,36287,58319,89099,130679,185327,255527,343979,453599,587519,749087,941867,1169639,1436399,1746359,2103947,2513807,2980799,3509999,4106699 ⋆ Frobenius number of the numerical semigroup generated by consecutive hex numbers. • a(n) = 9 * n ^ 4 + 36 * n ^ 3 + 45 * n ^ 2 + 18 * n - 1; with offset 2, a(n) = 9 * n ^ 4 - 9 * n ^ 2 - 1. •

[A202195] • 108,240,450,756,1176,1728,2430,3300,4356,5616,7098,8820,10800,13056,15606,18468,21660,25200,29106,33396,38088,43200,48750,54756,61236 ⋆ Number of (n+2) X 3 binary arrays avoiding patterns 001 and 101 in rows and columns. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n >4. •

[A202093] • 108,324,720,1600,3000,5625,9450,15876,24696,38416,56448,82944,116640,164025,222750,302500,399300,527076,679536,876096,1107288,1399489,1739010,2160900,2646000 ⋆ Number of (n+2) X 3 binary arrays avoiding patterns 001 and 011 in rows and columns. • a(n) = (n ^ 6 + 28 * n ^ 5 + 324 * n ^ 4 + 1984 * n ^ 3 + 6784 * n ^ 2 + 12288 * n + 9216) / 256 for n even. • a(n) = (n ^ 6 + 28 * n ^ 5 + 321 * n ^ 4 + 1928 * n ^ 3 + 6395 * n ^ 2 + 11100 * n + 7875) / 256 for n odd. •

[A192793] • 108,360,900,1872,3420,5688,8820,12960,18252,24840,32868,42480,53820,67032,82260,99648,119340,141480,166212,193680,224028,257400,293940,333792,377100 ⋆ Molecular topological indices of the crossed prism graphs • a(n) = 12 * n * (2 * n ^ 2 + 7). •

[A129027] • 0,108,600,1932,4752,9900,18408,31500,50592,77292,113400,160908,222000,299052,394632,511500,652608,821100,1020312,1253772,1525200,1838508,2197800,2607372,3071712 ⋆ Odd-indexed terms of A129026. • a(n) = 4 * (n * (5 + 13 * n + 7 * n ^ 2 + 2 * n ^ 3)). G.f.: - 12 * x * (x ^ 3 + x ^ 2 + 5 * x + 9) / (x - 1) ^ 5. - _ Colin Barker _ , Jul 27 2013 •

[A292343] • 108,888,3268,8560,18460,35048,60788,98528,151500,223320,317988,439888,593788,784840,1018580,1300928,1638188,2037048,2504580,3048240,3675868,4395688,5216308,6146720,7196300 ⋆ The PI index of the Aztec diamond AZ(n) (see the Imran et al. reference). • a(n) = (4 / 3) * n * (12 * n ^ 3 + 44 * n ^ 2 + 36 * n - 11). •

[A101213] • 0,108,1152,6000,21600,61740,150528,326592,648000,1197900,2090880,3480048,5564832,8599500,12902400,18865920,26967168,37779372,51984000,70383600,93915360,123665388,160883712,207000000,263640000 ⋆ a(n) = n * (n+1)^2 * (n+2)^3. • a(0)=0, a(1)=108, a(2)=1152, a(3)=6000, a(4)=21600, a(5)=61740, a(6)=150528, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Mar 29 2012 •

[A115135] • 0,108,1407,1851,2407,9768,12340,15568,58435,73423,92235,342076,429432,539076,1995255,2504403,3143455,11630688,14598220,18322888,67790107,85086151,106795107,395111188,495919920 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+617)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1234 for n > 6; a(1)=0, a(2)=108, a(3)=1407, a(4)=1851, a(5)=2407, a(6)=9768. •

[A244877] • 1,108,3396,49852,447777,2862384,14265040,58788720,208577633,655618172,1864806372,4877412332,11877770177,27199536768,59037366080,122252641280,242826555969,464730264172,860261412132,1545252073596,2700999547873,4605325025136,7675844020560,12529356938800 ⋆ Number of 4 X 4 traceless matrices of nonnegative integers with all row and column sums <= n. • a(n) = ((2 + n) ^ 2 * (226800 + 1014480 * n + 2137860 * n ^ 2 + 2775656 * n ^ 3 + 2422453 * n ^ 4 + 1468908 * n ^ 5 + 621705 * n ^ 6 + 180336 * n ^ 7 + 34191 * n ^ 8 + 3820 * n ^ 9 + 191 * n ^ 10)) / 907200. - _ Colin Barker _ , Jan 11 2017 •

[A035812] • 1,108,5832,209988,5672592,122653980,2211553368,34208719092,463476372768,5588323254732,60724672249320,600778137474468,5457607130811312,45848471510756988,358366157766535032 ⋆ Coordination sequence for lattice D*_54 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=54. •

[A161483] • 109,151,265,389,755,1481,2225,4379,8621,12961,25519,50245,75541,148735,292849,440285,866891,1706849,2566169,5052611,9948245,14956729,29448775,57982621,87174205 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+151)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=109, a(2)=151, a(3)=265, a(4)=389, a(5)=755, a(6)=1481. •

[A193397] • 109,271,553,955,1541,2279,3265,4435,5917,7615,9689,12011,14773,17815,21361,25219,29645,34415,39817,45595,52069,58951,66593,74675,83581 ⋆ Wiener index of a benzenoid consisting of a double-step spiral chain of n hexagons (n>=2, s=21; see the Gutman et al. reference). • a(n) = 4 * n ^ 3 + 20 * n ^ 2 - 12 * n + 2 * (- 1) ^ n * (n - 2) + 21. •

[A193395] • 109,271,553,971,1573,2375,3425,4739,6365,8319,10649,13371,16533,20151,24273,28915,34125,39919,46345,53419,61189,69671,78913,88931,99773 ⋆ Wiener index of a benzenoid consisting of a double-step zig-zag chain of n hexagons (n>=2, s=2123; see the Gutman et al. reference). • a(n) = (16 * n ^ 3 + 24 * n ^ 2 + 74 * n + 6 * (- 1) ^ n - 51) / 3. •

[A174339] • 0,109,436,981,1744,2725,3924,5341,6976,8829,10900,13189,15696,18421,21364,24525,27904,31501,35316,39349,43600,48069,52756,57661,62784 ⋆ 109*n^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi , Feb 25 2012 • a(n) = (55n) ^ 2 - (54n) ^ 2 = (10n) ^ 2 + (3n) ^ 2. - Vincenzo Librandi, Feb 25 2012 •

[A282003] • 1,1,110,111,11000,11111,1100000,1111111,110000000,111111111,11000000000,11111111111,1100000000000,1111111111111,110000000000000,1111111111111,1100000000000000,1111111111111111,11000000000000000,111111111111111111 ⋆ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 413", based on the 5-celled von Neumann neighborhood. • a(n) = (89 * (- 10) ^ n + 109 * 10 ^ n) / 180 for n>0 and even. • a(n) = (89 * (- 10) ^ n + 109 * 10 ^ n - 20) / 180 for n odd. • a(n) = 101 * a(n - 2) - 100 * a(n - 4) for n>4. •

[A274945] • 110,121,152,240,251,282,390,1010,1021,1052,1103,1174,1265,137

6,1507,1658,1829,2040,2051,2082,2133,2204,2295,2406,2537 ★ The Staircase Sequence: numbers with at least three digits and with the property that the sum of the squares of the first and last digits equals the number obtained when the first and last digits are deleted. ● a(n) = 11 * a(n - 90) - 10 * a(n - 180) for n > 263. - _ Chai Wah Wu _ , Jul 24 2016 ● a(n) = i(n) * 10 ^ (D _ 10(n) - 1) + (i(n) ^ 2 + j(n) ^ 2) * 10 + j(n) for n > 83, where: ●

[A146081] ● 110,184,258,332,406,480,554,628,702,776,850,924,998,1072,1146,1220,1294,1368,1442,1516,1590,1664,1738,1812,1886 ★ First differences of A145980. ● a(n) = 2 * a(n - 1) - a(n - 2). ● a(n) = 74 * n + 110. ●

[A032614] ● 110,211,312,413,514,615,716,817,918,1019,1120,1221,1322,1423,1524,1625,1726,1827,1928,2029,2130,2231,2332,2433,2534 ★ Concatenation of n and n + 9 or {n,n+9}. ● a(n)=n * 10 ^ floor(log10(n + 9) + 1) + n + 9, with n>=0 [From _ Paolo P. Lava _ , Oct 09 2008] ●

[A120727] ● 110,211,321,532,853,1385,2238,3623,5861,9484,15345,24829,40174,65003,105177,170180,275357,445537,720894,1166431,1887325,3053756,4941081,7994837,12935918 ★ a(n) = a(n-1) + a(n-2), starting with 110, 211. ● a(0) =101, a(1)=110, a(n) = a(n - 1) + a(n - 2). ●

[A264447] ● 0,110,276,510,825,1235,1755,2401,3190,4140,5270,6600,8151,9945,12005,14355,17020,20026,23400,27170,31365,36015,41151,46805,53010 ★ a(n) = n*(n + 7)*(n + 14)*(n + 21)/24. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Vincenzo Librandi _ , Nov 16 2015 ●

[A158539] ● 110,473,1078,1925,3014,4345,5918,7733,9790,12089,14630,17413,20438,23705,27214,30965,34958,39193,43670,48389,53350,58553,63998,69685,75614 ★ 121n^2 - 11. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 21 2012 ●

[A159484] ● 0,0,110,1054,7097,41201,220171,1115862,5451131,25919515,120721773,553162595,2501388936,11188504443,49589159037,218081007181,952654230982,4137309942806,17876235129762,76889316253171,329384246847644,1405944884946771,5981601330173431 ★ Upper bound arising in Hadwiger's conjecture. ● a(n) = floor((4 ^ n) * (5 * n * log(n))). ●

[A200877] ● 110,1523,9858,42479,141688,395929,971416,2156867,4424298,8509105,15512938,27033149,45322876,73486107,115712352,177555837,266264422,391163735,564102306,799963779,1117252576,1538759685,2092315544 ★ Number of 0..n arrays x(0..8) of 9 elements without any interior element greater than both neighbors or less than both neighbors. ● a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. ●

[A008395] ● 1,110,3080,40370,322190,1815506,7925720,28512110,88206140,241925530,601585512,1379301990,2953859370,5968878630,11472968760,21114177018,37403270520,64062783510,106481351240,172295622730,272125000774,420487598410 ★ Coordination sequence for A_10 lattice. ● a(n) = 46189 / 90720 * n ^ 9 + 26741 / 3024 * n ^ 7 + 171457 / 4320 * n ^ 5 + 111683 / 2268 * n ^ 3 + 7381 / 630 * n for n >= 1. ●

[A290681] ● 1,1,111,111,11111,111111,1111111,11111111,111111111,1111111111,11111111111,111111111111,1111111111111,11111111111111,111111111111111,1111111111111111,11111111111111111,111111111111111111,1111111111111111111,11111111111111111111 ★ Binary representation of the diagonal from the origin to the corner of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 929", based on the 5-celled von Neumann neighborhood. ● a(n) = (10 ^ (1 + n) - 1) / 9 for n>3. ● a(n) = 11 * a(n - 1) - 10 * a(n - 2) for n>5. ●

[A177769] ● 111,222,333,444,555,666,777,888,999,1110,1221,1332,1443,1554,1665,1776,1887,1998,2109,2220,2331,2442,2553,2664,2775 ★ 111*n. ● a(n) = a(n - 1) + 111. ●

[A284351] ● 1,1,111,1101,11111,111101,1111111,11111101,111111111,1111111101,11111111111,111111111101,1111111111111,11111111111101,111111111111111,1111111111111101,11111111111111111,111111111111111101,1111111111111111111,11111111111111111101 ★ Binary representation of the x-axis, from the left edge to the origin, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 899", based on the 5-celled von Neumann neighborhood. ● a(n) = (10 ^ (n + 1) - 1) / 9 for n even. ● a(n) = (10 ^ (n + 1) - 91) / 9 for n odd. ● a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>2 . ●

[A101152] ● 0,111,1260,1707,2280,8791,11380,14707,52624,67711,87100,308091,396024,509031,1797060,2309571,2968224,10475407,13462540,17301451,61056520,78466807,100841620,355864851,457339440 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+569)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 1138 for n > 6; a(1)=0, a(2)=111, a(3)=1260, a(4)=1707, a(5)=2280, a(6)=8791. ●

[A075859] ● 111,2112,31113,411114,5111115,61111116,711111117,8111111118,91111111119,10111111111110,111111111111111,1211111111111112,13111111111111113,141111111111111114,1511111111111111115 ★ a(n) = n concatenated with n 1's and n. ● a(n) = n * 10 ^ (n + L) + 10 ^ L * R + n, where R is the n - th repunit and L is the number of decimal digits of n. ●

[A109383] ● 112,120,162,300,304,378,392,396,408,520,552,567,592,612,630,656,675,680,688,696,700,750,780,918,924 ★ 5-almost primes of the form semiprime + 1. ● a(n) is in this sequence iff a(n) is in A014614 and (a(n) - 1) is in A001358. ●

[A061281] ● 112,147,185,224,273,283,294,331,331,336,370,403,441,448,485,520,546,555,559,560,566,588,592,637,645 ★ Side of n-th equilateral triangle enclosing at least one point located at integer distances from the vertices. ● a(n) is the largest term in the n - th quadruple (a, b, c, d) satisfying the triangle equation 3 * (a ^ 4 + b ^ 4 + c ^ 4 + d ^ 4) = (a ^ 2 + b ^ 2 + c ^ 2 + d ^ 2) ^ 2. ●

[A264891] ● 0,1,112,783,2839,7480,16281,31192,54538,89019,137710,204061,291897,405418,549199,728190,947716,1213477,1531548,1908379,2350795,2865996,3461557,4145428,4925934 ★ a(n) = n*(5*n - 3)*(25*n^2 - 15*n - 6)/8. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Vincenzo Librandi _ , Nov 28 2015 ●

[A008361] ● 1,112,2592,25424,149568,629808,2100832,5910288,14610560,32641008,67232416,129565392,236214464,410909616,686647008,1108180624,1734926592,2644311920,3935599392,5734220368 ★ Coordination sequence for D_8 lattice. ● a(n) = 16 / 315 * n * (219 + 1036 * n ^ 2 + 826 * n ^ 4 + 124 * n ^ 6). - _ Harvey P. Dale _ , Feb 21 2012 ● a(0)=1, a(1)=112, a(2)=2592, a(3) =25424, a(4)=149568, a(5)=629808, a(6)=2100832, a(7)=5910288, a(8)=14610560, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Feb 21 2012 ●

[A035813] ● 1,112,6272,234192,6560512,147095984,2750165376,44107714576,619570628096,7744518260976,87234261025408,894539809017680,8421733435019520,73313390970875440,593725756425591680 ★ Coordination sequence for lattice D*_56 (with edges defined by l_1 norm = 1). ● a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=56. ●

[A159466] ● 113,127,145,533,635,757,3085,3683,4397,17977,21463,25625,104777,125095,149353,610685,729107,870493,3559333,4249547,5073605,20745313,24768175,29571137,120912545 ★ Positive numbers y such that y^2 is of the form x^2+(x+127)^2 with integer x. ● a(n) = 6 * a(n - 3) - a(n - 6)for n > 6; a(1) =113, a(2)=127, a(3)=145, a(4)=533, a(5)=635, a(6)=757. ●

[A180441] ● 113,131,139,173,233,421,953,1013,1021,1051,1583,1747,1901,2099,2423,2579,2819,2939,3761,3779,3931,4211,4253,4451,4591 ★ First term of four consecutive primes whose average is a prime ● a(n)=[p(n) + p(n + 1) + p(n + 2) + p(n + 3)] / 4 a(n) being a prime ●

[A094932] ● 113,199,317,619,863,1069,1129,1789,2861,3089,3169,3259,3677,3739,4733,4973,5419,5591,6581,7649,7963,8243,8297,8629,9973 ★ Prime implicit based on average of four primes to the nearest Prime[n-1]. ● a(n) = If[(Prime[n - 3] + Prime[n - 2] + Prime[n - 1] + Prime[n]) / 4 - Prime[n - 1] - 1==0, then Prime[n - 1] ●

[A124586] ● 113,293,317,523,773,839,863,887,953,1069,1129,1259,1327,1381,1409,1583,1637,1669,1759,1831,1847,1913,1933,1951,2039 ★ Primes p such that q-p >= 14, where q is the next prime after p. ● a(n) = n log n + O(n log ^ 2 n). - _ Charles R Greathouse IV _ , May 05 2017 ●

[A172983] ● 113,312,523,746,973,1202,1435,1712,2023,2354,2691,3124,3567,4016,4515,5072,5649,6248,6909,7586,8319,9092,9903,10780,11661 ★ Partial sums of near-repdigit primes A056710. ● a(n) = SUM[i=1..n] A056710 = SUM[i=1. .n] { primes in whose base 10 representation all digits are equal except for an end - digit } . ●

[A008362] ● 1,113,2705,28129,177697,807505,2908337,8818625,23429185,56070193,123302609,252868001,489082465,899992081,1586639089,2694819713,4429746305,7074058225,11009657617,16743877985 ★ Crystal ball sequence for D_8 lattice. ● a(n) = 248 / 315 * n ^ 8 + 992 / 315 * n ^ 7 + 32 / 3 * n ^ 6 + 944 / 45 * n ^ 5 + 144 / 5 * n ^ 4 + 1184 / 45 * n ^ 3 + 992 / 63 * n ^ 2 + 584 / 105 * n + 1 (see MAPLE line). ●

[A239570] ● 0,1,114,1137,6100,23265,71211,186739,436437,932850,1856305,3483546,6224439,10668112,17640000,28271370,44083006,67084839,99893412,145869175,209275710,295463091,411077689,564300837,765118875 ★ Number of ways to place 4 points on a triangular grid of side n so that no two of them are adjacent. ● a(n) = (n - 2) * (n - 3) * (n ^ 6 + 9 * n ^ 5 - 39 * n ^ 4 - 353 * n ^ 3 + 950 * n ^ 2 + 4040 * n - 11904) / 384. ●

[A200891] ● 114,1691,11472,50995,173606,491533,1215616,2710413,5567530,10700151,19461872,33793071,56398174,90957305,142375936,217076281,323334306,471666355,675269520,950520011,1317533910,1800794821,2429853056 ★ Number of 0..n arrays x(0..7) of 8 elements without any interior element greater than both neighbors. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. ●

[A162675] ● 0,0,114,2910,26490,145110,582540,1891764,5263020,13010580,29297070,61162530,119933814,223098330,396734520,678599880,1121985720,1800456264,2813598090,4293914310,6415006290,9401194110,13538735364,19188810300 ★ Number of different fixed (possibly) disconnected pentominoes bounded (not necessarily tightly) by an n*n square ● a(n) = n * (n - 1) * (n - 2) * (n + 1) * (5 * n ^ 4 - 10 * n ^ 3 - 7 * n ^ 2 + 12 * n + 6) / 24. ●

[A129544] ● 0,115,136,411,1036,1155,2740,6375,7068,16303,37488,41527,95352,218827,242368,556083,1275748,1412955,3241420,7435935,8235636,18892711,43340136,48001135,110115120 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+137)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 274 for n > 6; a(1)=0, a(2)=115, a(3)=136, a(4)=411, a(5)=1036, a(6)= 1155. ●

[A224673] ● 115,191,257,381,542,793,1166,1746,2650,4080,6355,9996,15843,25257,40439,64951,104556,168579,272108,439556,710424,1148626,1857577,3004606,4860457 ★ Number of (n+1) X 6 0..2 matrices with each 2 X 2 subblock idempotent ● a(n) = 34 + (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 11 + 53 * sqrt(5)) + (1 + sqrt(5)) ^ n * (11 + 53 * sqrt(5)))) / sqrt(5) + 14 * (1 + n) + (5 / 2) * (1 + n) * (2 + n) for n>1. ●

[A122562] ● 115,236,369,520,695,900,1141,1424,1755,2140,2585,3096,3679,4340,5085,5920,6851,7884,9025,10280,11655,13156,14789,16560,18475 ★ a(n) = n^3 + 114 * n. ● a(1)=115, a(2)=236, a(3)=369, a(4)=520, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Mar 14 2015 ●

[**A063361**] ● 1,115,248,379,514,645,780,909,1046,1175,1312,1439,1578,1705,1844,1969,2110,2235,2376,2499,2642,2765,2908,3029,3174 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(88). ● a(n) = a(n - 2) + a(n - 4) - a(n - 6) for n>8. ●

[**A218324**] ● 1,115,645,1911,4233,7931,13325,20735,30481,42883,58261,76935,99225,125451,155933,190991,230945,276115,326821,383383,446121,515355,591405,674591,765233 ★ Odd heptagonal pyramidal numbers ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 320 ● a(n) = (2 * n - 1) * (4 * n - 3) * (20 * n - 17) / 3 ●

[**A287430**] ● 115,1063,9121,75607,611569,4857223,38034241,294475447,2258978449,17196401383,130059675361,978211787287,7322040929329,54576195433543,405286730532481,2999780651211127,22137879320864209,162941058582753703,1196418733436205601 ★ Number of connected dominating sets in the 2n-crossed prism graph. ● a(n) = 7 ^ n + 240 * n * 7 ^ (n - 3) for n > 2. ● a(n) = 14 * a(n - 1) - 49 * a(n - 2) for n > 4. ●

[**A279451**] ● 0,0,0,115,11810,326190,4444935,38675954,246563232,1248782460,5296300670,19499431941,63958228738,190528987506,523151460045,1339408935540,3227223506896,7372750196952,16069268866908,33586411339335,67610793877650,131569779776182,248290280743571 ★ Number of nonequivalent ways to place 7 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. ● a(n) = (n ^ 14 - 91 * n ^ 12 + 420 * n ^ 11 + 693 * n ^ 10 - 10500 * n ^ 9 + 33647 * n ^ 8 - 45316 * n ^ 7 + 3682 * n ^ 6 + 62300 * n ^ 5 - 51996 * n ^ 4 - 28504 * n ^ 3 + 54384 * n ^ 2 - 18720 * n) / 40320 + IF(MOD(n, 2) = 1, 2 * n ^ 7 - 17 * n ^ 6 + 50 * n ^ 5 - 59 * n ^ 4 + 38 * n ^ 3 - 71 * n ^ 2 + 102 * n - 45) / 384. ●

[**A105934**] ● 116,176,184,300,444,470,584,690,696,950 ★ Positive integers n such that n^22 + 1 is semiprime (A001358). ● a(n) ^ 22 + 1 is in A001358. a(n) ^ 2 + 1 is in A000040 and (a(n) ^ 20 - a(n) ^ 18 + a(n) ^ 16 - a(n) ^ 14 + a(n) ^ 12 - a(n) ^ 10 + a(n) ^ 8 - a(n) ^ 6 + a(n) ^ 4 - a(n) ^ 2 + 1) is in A000040. ●

[**A035814**] ● 1,116,6728,260188,7548816,175288644,3393946328,56367745324,819877766944,10611155020308,123745300449128,1313632295207420,12801566604046000,115340898562816740,966654502323949560 ★ Coordination sequence for lattice D*_58 (with edges defined by l_1 norm = 1). ● a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=58. ●

[**A063332**] ● 1,117,261,406,551,696,841,986,1131,1276,1421,1564,1711,1856,2001,2144,2291,2434,2581,2724,2871,3014,3161,3302,3451 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(59). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[**A063338**] ● 1,117,272,424,576,728,880,1032,1184,1336,1488,1644,1792,1944,2096,2252,2400,2556,2704,2860,3008,3164,3312,3472,3616 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(65). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[**A261464**] ● 118,321,1287,2083,4755,6583,11823,23879,28973,49721,67583,77863,102015,146711,202617,223553,297101,353483,384043,487781,565619,698159,904835,1020981,1082623 ★ a(n) = prime(n+2)^3 - prime(n+1)^2 + prime(n). ● a(n) = prime(n + 2) ^ 3 - prime(n + 1) ^ 2 + prime(n). ●

[**A026049**] ● 119,156,204,265,341,434,546,679,835,1016,1224,1461,1729,2030,2366,2739,3151,3604,4100,4641,5229,5866,6554,7295,8091 ★ a(n) = dot_product(1,2,..,n,n-1,..,2,1) ● a(n) = n(2n ^ 2 - 15n + 109) / 6. - _ Ralf Stephan _ , Apr 30 2004 ●

[**A243581**] ● 119,351,711,1199,1815,2559,3431,4431,5559,6815,8199,9711,11351,13119,15015,17039,19191,21471,23879,26415,29079,31871,34791,37839,41015 ★ Integers of the form 8k + 7 that can be written as a sum of four distinct squares of the form m, m + 2, m + 3, m + 4, where m == 2 (mod 4). ● a(n) = 64 * n ^ 2 + 40 * n + 15. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Colin Barker _ , Jun 09 2014 ●

[**A157040**] ● 119,480,1083,1928,3015,4344,5915,7728,9783,12080,14619,17400,20423,23688,27195,30944,34935,39168,43643,48360,53319,58520,63963,69648,75575 ★ 121n^2 - 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A048397**] ● 0,119,3104,29319,162104,643535,2040744,5502959,13129424,28468359,57167120,107793719,192849864,329995679,543506264,865980255,1340320544,2022007319,2981683584,4308073319,6111252440,8526292719,11717298824 ★ Sum of consecutive non-fourth-powers. ● a(n) = 4 * n ^ 7 + 14 * n ^ 6 + 28 * n ^ 5 + 34 * n ^ 4 + 26 * n ^ 3 + 11 * n ^ 2 + 2 * n. ●

[**A158130**] ● 120,241,362,483,604,725,846,967,1088,1209,1330,1451,1572,1693,1814,1935,2056,2177,2298,2419,2540,2661,2782,2903,3024 ★ 121n - 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A090391**] ● 0,120,312,606,1040,1661,2526,3703,5272,7326,9972,13332,17544,22763,29162,36933,46288,57460,70704,86298,104544,125769,150326,178595,210984 ★ a(n) = n*(n^4 + 30*n^3 + 395*n^2 + 2910*n + 11064)/120. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. - _ Colin Barker _ , Feb 12 2015 ●

[**A118058**] ● 1,120,337,652,1065,1576,2185,2892,3697,4600,5601,6700,7897,9192,10585,12076,13665,15352,17137,19020,21001,23080,25257,27532,29905 ★ 49n^2 - 28n - 20. ● a(n) + (a(n) + 1) + ... + (a(n) + 98n + 34)=7(7n - 2)(7n + 5)(14n + 3) / 2; e.g., 337 + 338 + ... + 518=77805=7 * 19 * 26 * 45 / 2. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (1 + 117 * x - 20 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Jun 30 2012 ●

[**A052768**] ● 0,0,0,0,0,120,360,840,1680,3024,5040,7920,11880,17160,24024,32760,43680,57120,73440,93024,116280,143640,175560,212520,255024 ★ A simple grammar. ● a(n)=0, n <= 4; a(n) = n * (n - 1) * (n - 2) * (n - 3), n >= 5. ●

[**A052778**] ● 0,0,0,0,0,120,360,1680,10080,72576,604800,5702400,59875200,691891200,8717829120,118879488000,1743565824000,27360571392000,457312407552000,8109673360588800,152056375511040000 ★ A simple grammar. ● a(n) = n! / (n - 4) (n > 4). - _ Olivier Gérard _ , Jun 13 2001 ●

[**A167562**] ● 120,480,1344,3072,6144,11160,18840,30024,45672,66864,94800,130800,176304,232872,302184,386040,486360,605184,744672,907104,1094880,1310520,1556664,1836072,2151624 ★ The fifth row of the ED2 array A167560. ● a(n) = 5 * n ^ 4 + 10 * n ^ 3 + 67 * n ^ 2 + 14 * n + 24. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ G. C. Greubel _ , Jun 16 2016 ●

[**A157960**] ● 120,482,1086,1932,3020,4350,5922,7736,9792,12090,14630,17412,20436,23702,27210,30960,34952,39186,43662,48380,53340,58542,63986,69672,75600 ★ 121n^2 - n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 ●

[**A100145**] ● 1,120,579,1600,3405,6216,10255,15744,22905,31960,43131,56640,72709,91560,113415,138496,167025,199224,235315,275520,320061,369160,423039,481920,546025 ★ Structured great rhombicosidodecahedral numbers. ● a(n) = (1 / 6) * (222 * n ^ 3 - 312 * n ^ 2 + 96 * n). ● a(n) = (1 + (n - 1)) * (1 + 22 * (n - 1) + 37 * (n - 1) ^ 2); ●

[**A052787**] ● 0,0,0,0,0,120,720,2520,6720,15120,30240,55440,95040,154440,240240,360360,524160,742560,1028160,1395360,1860480,2441880,3160080,4037880,5100480 ★ A simple grammar. Product of 5 consecutive integers. ● a(n) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4)=n! / (n - 5)!. ●

[**A029573**] ● 0,0,0,0,0,0,120,840,6720,60480,604800,6652800,73180800,951350400,13318905600,199783584000,3196537344000,54341134848000,983080530432000,18678530078208000,373570601564160000,7844982632847360000,172589617922641920000,3969561212220764160000 ★ Number of permutations of an n-set containing a 6-cycle. ● a(n) = n! * (1 - sum _{ k=0..floor(n / 6) } (- 1) ^ k / (k! * 6 ^ k)). ● a(n) / n! is asymptotic to 1 - e ^ (- 1 / 6) = 1 - A092727. ●

[**A011245**] ● 1,120,945,3640,9945,22176,43225,76560,126225,196840,293601,422280,589225,801360,1066185,1391776,1786785,2260440,2822545,3483480,4254201,5146240,6171705,7343280,8674225 ★ (n+1)*(2*n+1)*(3*n+1)*(4*n+1). ● a(0)=1, a(1)=120, a(2)=945, a(3)=3640, a(4)=9945, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 05 2012 ●

[**A092182**] ● 1,120,947,3652,9985,22276,43435,76952,126897,197920,295251,424700,592657,806092,1072555,1400176,1797665,2274312,2839987,3505140,4280801,5178580,6210667,7389832,8729425 ★ Figurate numbers based on the 600-cell (4-D polytope with Schlaefli symbol {3,3,5}). ● a(n) = n * ((145 * n ^ 3) - (280 * n ^ 2) + (179 * n) - 38) / 6 ● a(n) = C(n + 3,4) + 115 C(n + 2,4) + 357 C(n + 1,4) + 107 C(n,4) ● a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). G.f.: x * (1 + 115 * x + 357 * x ^ 2 + 107 * x ^ 3) / (1 - x) ^ 5. [_ R. J. Mathar _ , Jun 21 2010] ●

[**A167549**] ● 120,1440,6720,21504,55296,122880,245640,452880,783144,1285536,2021040,3063840,4502640,6441984,9003576,12327600,16574040,21924000,28581024,36772416,46750560,58794240,73209960,90333264,110530056 ★ The sixth row of the ED1 array A167546. ● a(n) = 11 * n ^ 5 + 0 * n ^ 4 + 209 * n ^ 3 - 264 * n ^ 2 + 308 * n - 144. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ G. C. Greubel _ , Jun 15 2016 ●

[**A175118**] ● 120,1440,6840,21122,51000,105122,194040,330242,528120,804002,1176120,1664642,2291640,3081122,4059000,5253122,6693240,8411042,10440120,12816002,15576120,18759842,22408440,26565122 ★ First differences of A175111. ● a(n)= 4 * a(n - 1) - 5 * a(n - 2) + 5 * a(n - 4) - 4 * a(n - 5) + a(n - 6), n>6. ● a(n) = ((2 * n + 1) ^ 5 - (2 * n - 1) ^ 5) / 2 + (- 1) ^ n, n>0. ●

[**A027795**] ● 120,1485,9900,47190,180180,585585,1681680,4375800,10501920,23556390,49884120,100524060,193993800,360380790,647214480,1127722200,1912224600,3163606875,5118012900,8112154050,12618906300,19293191775,29030508000,43040883600,62941507200 ★ a(n) = 15*(n+1)*C(n+3,10). ● a(n) = C(n + 1, 8) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 ●

[**A032180**] ● 120,2520,31920,317520,2739240,21538440,158838240,1118557440,7612364760,50483192760,328191186960,2100689987760,13282470124680,83169792213480,516729467446080,3190281535536480,19596640721427000,119876382958008600 ★ Number of ways to partition n labeled elements into 6 pie slices. ● a(n) = 120 * S(n, 6). ● a(n) = 5 * 2 ^ (n - 1) - 10 * 3 ^ (n - 1) + 10 * 4 ^ (n - 1) - 5 ^ n + 6 ^ (n - 1) - 1. ●

[**A060490**] ● 120,3030,24552,130740,551640,1997415,6470420,19219462,53187840,138658760,343297780,812249250,1845669776,4044119530,8573706300,17637474350,35294157340,68850086745,131179071560,244518601660 ★ Number of 6-block ordered tricoverings of an unlabeled n-set. ● a(n)=binomial(n + 19, 19) - 6 * binomial(n + 9, 9) - 15 * binomial(n + 7, 7) + 135 * binomial(n + 3, 3) - 310 * binomial(n + 1, 1) + 240 * binomial(n, 0) - 45 * binomial(n - 1, - 1); G.f.: - y ^ 3 * (- 78600 * y ^ 3 + 271080 * y ^ 4 - 120 - 630 * y + 13248 * y ^ 2 - 635805 * y ^ 5 + 4300 * y ^ 15 - 15840 * y ^ 14 + 32760 * y ^ 13 - 18240 * y ^ 12 - 114120 * y ^ 11 + 442800 * y ^ 10 - 915315 * y ^ 9 - 1371804 * y ^ 7 + 1305540 * y ^ 8 + 1081360 * y ^ 6 + 45 * y ^ 17 - 660 * y ^ 16) / (- 1 + y) ^ 20; E.g.f. for ordered k - block tricoverings of an unlabeled n - set is exp(- x + x ^ 2 / 2 + x ^ 3 / 3 * y / (1 - y)) * Sum _{ k=0..inf } 1 / (1 - y) ^ binomial(k, 3) * exp(- x ^ 2 / 2 * 1 / (1 - y) ^ n) * x ^ k / k!. ●

[**A282612**] ● 0,1,120,3654,45760,333375,1703016,6784540,22500864,64836045,167167000,393877506,861456960,1769830699,3447273480,6412923000,11461636096,19776716505,33076889784,53804808190,85365336000,132422893911,201268229800,300266132244,440396812800 ★ Number of inequivalent 3 X 3 matrices with entries in {1,2,3,..,n} up to row permutations. ● a(n) = n ^ 3 * (n ^

3 + 2) * (n + 1) * (n ^ 2 - n + 1) / 6. •

[**A000514**] • 1,120,4293,88234,1310354,15724248,162512286,1505621508,12843262863,102776998928,782115518299,5717291972382,40457344748072,278794377854832,1879708669896492,12446388300682056,81180715002105741 ★ Eulerian numbers (Euler's triangle: column k=6 of A008292, column k=5 of A173018) • a(n) = 6 ^ (n + 6 - 1) + Sum _{ i=1, 6 - 1 } (- 1) ^ i / i! * (6 - i) ^ (n + 6 - 1) * prod(j=1, i, n + 6 + 1 - j)). - Randall L. Rathbun (randallr(AT)abac.com), Jan 23 2002 •

[**A179060**] • 0,0,0,0,120,4320,52920,376320,1905120,7620480,25613280,75271680,198764280,480960480,1082161080,2289530880,4594961280,8809274880,16225246080,28844881920,49689816120,83217546720,135870624120 ★ Number of non-attacking placements of 5 rooks on an n X n board. • a(n) = 5! * binomial(n, 5) ^ 2. •

[**A174686**] • 120,4860,65280,487500,2517480,10084200,33546240,96840360,249975000,589446660,1289882880,2651032020,5165127240,9610650000,17179607040,29646614160,49589350200,80671305420,127999200000,198568990620,301816016040,450286556280,660449894400 ★ Number of equivalence classes of 3 X 3 matrices filled with n colors so that no two rotations are identical. • a(n) = (n ^ 9 - n ^ (floor(9 / 2) + 1)) / 4. More generally for any m X m matrix f(n, m) = (n ^ (m ^ 2) - n ^ (m ^ 2 / 2)) / 4 if m is even, and f(n,m) = (n ^ (m ^ 2) - n ^ (floor(m ^ 2 / 2) + 1)) / 4 if m is odd. •

[**A035815**] • 1,120,7200,288040,8644800,207648024,4158723680,71440725960,1074729932160,14385297437880,173483353200288,1904315460088680,19187724061887040,178728796729801560,1548407735451345120 ★ Coordination sequence for lattice D*_60 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=60. •

[**A218503**] • 1,120,9765,251680,3043425,22661496,121226245,510902400,1799118945,5507702200,15072415941,37630041120,87029433985,188664603960,386925380325,756298318336,1417430759745,2559798038520,4472991338725,7589075296800,12538953723681 ★ q-factorial numbers 5!_q. • a(n) = (n + 1) * (n ^ 2 + n + 1) * (n ^ 3 + n ^ 2 + n + 1) * (n ^ 4 + n ^ 3 + n ^ 2 + n + 1). •

[**A054778**] • 0,120,30240,360360,1860480,6375600,17100720,38955840,78960960,146611080,254251200,417451320,655381440,991186560,1452361680,2071126800,2884801920,3936182040,5273912160,6952862280,9034502400,11587277520,14686982640,18417137760 ★ 5n*(5n-1)*(5n-2)*(5n-3)*(5n-4). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(0)=0, a(1)=120, a(2)=30240, a(3)=360360, a(4)=1860480, a(5)=6375600. - _ Harvey P. Dale _ , Aug 29 2012 •

[**A261618**] • 121,232,343,454,565,676,787,898,9109,101110,111211,121312,131413,141514,151615,161716,171817,181918,192019,202120,212221,222322,232423,242524,252625 ★ Concatenation of n, n+1 and n. • a(n) = ((n * 10 ^ floor(log10(10 * (n + 1))) + (n + 1)) * 10 ^ floor(log10(10 * n)]) + n. •

[**A017282**] • 1,121,441,961,1681,2601,3721,5041,6561,8281,10201,12321,14641,17161,19881,22801,25921,29241,32761,36481,40401,44521,48841,53361,58081 ★ a(n) = (10*n + 1)^2. • a(n) = a(n - 1) + 200n - 80, n > 0; a(0)=1. - _ Miquel Cerda _ , Oct 30 2016 •

[**A077432**] • 121,484,91809,163216,255025,367236,499849,64128064,811620811,100200100,121242121,144288144,169338169,196392196,225450225,256512256,289578289,324648324,361722361,400800400,441882441,484968484,529105800529 ★ Squares of the form u'v'w, where in decimal representation u=n^2, v=2*n^2 and w=n^2 possibly with a leading zero. • a(n) = (n * (1 + 10 ^ (1 + floor(log _ 10(2 * n ^ 2))))) ^ 2. •

[**A190877**] • 1,1,1,1,1,121,721,2521,6721,15121,1844641,20013841,119845441,519072841,1816454641,223394731561,3501661887361,29675906201761,177923109591361,8449252537665 61,1047502827974188 81 ★ E.g.f. exp(x+x^5). • a(n)= n! * sum(j=0..n / 4, binomial(n + (- 4) * j,j) / (n + (- 4) * j)!). •

[**A293588**] • 1,1,1,1,1,1,121,841,3361,10081,25201,55441,6763681,86692321,605765161,3027624601,12109056961,41169011521,5063607974881,9419718473424 1,939457659787201,6572292677455681,36141156689382361,16623852661666404 1,20612479896229156321 ★ E.g.f.: exp(x + x^6/6). • a(n) = a(n - 1) + (n - 1) ! / (n - 6)! * a(n - 6). •

[**A120353**] • 121,1089,9801,88209,793881,7144929,64304361,578739249,5208653241,46877879169,421900912521,3797108212689,34173973914201,307565765227809,2768091887050281,24912826983452529,224215442851072761,2017938985659654849,18161450870936893641 ★ Sum of 5 consecutive powers of 3, starting with a power of 9.. • a(n) = 121 * 3 ^ (2n - 2) •

[**A175111**] • 1,121,1563,8403,29525,80525,185647,379687,709929,1238049,2042051,3218171,4882813,7174453,10255575,14314575,19567697,26260937,34671979,45112099,57928101,73504221,92264063,114672503,141237625 ★ ((2*n+1)^5+(-1)^n)/2. • a(n)= 5 * a(n - 1) - 9 * a(n - 2) + 5 * a(n - 3) + 5 * a(n - 4) - 9 * a(n - 5) + 5 * a(n - 6) - a(n - 7). •

[**A272775**] • 121,6724,154449,1860496,14250625,78960996,344362249,1250895424,3936182121,11035502500,28143753121,66322731024,146186169649,304278004996,602680505625,1143051786496,2086600473049,3681862517124,6302555019121,10498248010000,17061121121121 ★ Squares of the form P(n, 5) + n, where P(x,k) is the Pochhammer function and n = square (A000290). • a(n) = n ^ 10 + 10 * n ^ 8 + 35 * n ^ 6 + 50 * n ^ 4 + 25 * n ^ 2 = (n ^ 5 + 5 * n ^ 3 + 5 * n) ^ 2. •

[**A158131**] • 122,243,364,485,606,727,848,969,1090,1211,1332,1453,1574,1695,1816,1937,2058,2179,2300,2421,2542,2663,2784,2905,3026 ★ 121n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A195856**] • 1,122,387,965,2221,4941,10813,23453,50589,108701,232861,497565,1060765,2256797,4792221,10157981,21495709,45416349,95813533,201850781,424673181,892338077,1872756637,3925868445,8220835741 ★ a(n) = T(10,n), array T given by A048505. • a(n) = (n ^ 2 + 41 * n + 400) * 2 ^ (n - 2) - 99. • a(n) = 7 * a(n - 1) - 18 * a(n - 2) + 20 * a(n - 3) - 8 * a(n - 4). - _ Colin Barker _ , Feb 25 2015 •

[**A173267**] • 122,486,1092,1940,3030,4362,5936,7752,9810,12110,14652,17436,20462,23730,27240,30992,34986,39222,43700,48420,53382,58586,64032,69720,75650 ★ 121n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 06 2012 •

[**A181679**] • 123,488,1095,1944,3035,4368,5943,7760,9819,12120,14663,17448,20475,23744,27255,31008,35003,39240,43719,48440,53403,58608,64055,69744,75675 ★ 121n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A193251**] • 1,123,605,1687,3609,6611,10933,16815,24497,34219,46221,60743,78025,98307,121829,148831,179553,214235,253117,296439,344441,397363,455445,518927,588049 ★ Small rhombicosidodecahedron with faces of centered polygons. • a(n)= 40 * n ^ 3 - 60 * n ^ 2 + 22n - 1. •

[**A259907**] • 1,123,1557,6719,16800,31920,52080,77280,107520,142800,183120,228480,278880,334320,394800,460320,530880,606480,687120,772800,863520,959280,1060080,1165920,1276800 ★ Fifth differences of 7th powers (A001015). • a(n) = 840 * (3 * n ^ 2 - 9 * n + 8) for n>3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>6. - _ Vincenzo Librandi _ , Jul 08 2015 •

[**A167231**] • 123,2345,3456,4567,5678,6789,7890,8901,9012,10123,11234,12345,13456,14567,15678,16789,17890,18901,19012,20123,21234,22345,23456 ★ Append three digits, each increasing by one modulo 10 from the last digit the of the positive integers. 0 -> 123, 1 -> 1234 2 -> 2345, ... , 9 -> 9012, 10 ->10123, etc. • a(n) = 1000n + O(1) •

[**A068239**] • 1,123,4806,71410,583455,3232341,13675228,47502036,141991245,377162335,910842306,2033854758,4253012491,8411348505,15856955640,28673921896,49991146713,84387303171,138412872190,221253017370,345558093111,528471784093,792890261076 ★ 1/2 the number of colorings of a 3 X 3 square array with n colors. • a(n) = (79 * n - 323 * n ^ 2 + 594 * n ^ 3 - 648 * n ^ 4 + 459 * n ^ 5 - 216 * n ^ 6 + 66 * n ^ 7 - 12 * n ^ 8 + n ^ 9) / 2. •

[**A129010**] • 0,124,168,187,343,399,595,624,915,952,1260,1372,1768,1827,1975,2499,3135,3367,3468,4312,4620,5712,5875,7524,7735 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+833)^2 = y^2. • a(n) = 6 * a(n - 15) - a(n - 30) + 1666 for n > 30; a(1) = 0, a(2) = 124, a(3) = 168, a(4) = 187, a(5) = 343, a(6) = 399, a(7) = 595, a(8) = 624, a(9) = 915, a(10) = 952, a(11) = 1260, a(12) = 1372, a(13) = 1768, a(14) = 1827, a(15) = 1975, a(16) = 2499, a(17) = 3135, a(18) = 3367, a(19) = 3468, a(20) = 4312, a(21) = 4620, a(22) = 5712, a(23) = 5875, a(24) = 7524, a(25) = 7735, a(26) = 9499, a(27) = 10143, a(28) = 12427, a(29) = 12768, a(30) = 13624. •

[**A038866**] • 124,208,316,448,604,784,988,1216,1468,1744,2044,2368,2716,3088,3484,3904,4348,4816,5308,5824,6364,6928,7516,8128,8764 ★ (n+4)^3 - n^3. • a(n) = 12 * n ^ 2 + 48 * n + 64. - _ Charles R Greathouse IV _ , Nov 12 2014 •

[**A035816**] • 1,124,7688,317812,9856016,244619884,5062048280,89845298020,1396398655520,19309150041180,240550579435048,2727459472756052,28384206701341744,273049514243591756,2442767874758677048 ★ Coordination sequence for lattice D*_62 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=62. •

[**A038867**] • 125,215,335,485,665,875,1115,1385,1685,2015,2375,2765,3185,3635,4115,4625,5165,5735,6335,6965,7625,8315,9035,9785,10565 ★ (n+5)^3 - n^3. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[**A172460**] • 125,253,496,752,1095,1607,2232,2961,3985,5014,6229,7479,8759,10090,11459,12917,14453,16134,17835,19550,21342,23191,25066,27114,29301 ★ Partial sums of economical numbers A046759. • a(n) = SUM[i=1..n] { n written as a product of primes raised to powers, where D(n) = number of digits in product, l(n) = number of digits in n; sequence gives n such that D(n)<l(n) } . •

[**A141480**] • 125,500,1250,2500,4375,7000,10500,15000,20625,27500,35750,45500,56875,70000,85000,102000,121125,142500,166250,192500,221375,253000,287500,325000,365625 ★ Binomial(n+2,3)*5^3. • a(n) = C(n + 2,3) * 5 ^ 3, n>= 1. • a(1)=125, a(2)=500, a(3)=1250, a(4)=2500, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 20 2012 •

[**A060093**] • 0,0,0,0,125,722,2565,7180,17335,37750,76093,144340,260590,451440,755040,1224964,1935050,2985380,4509590,6683720,9736835,13963670,19739575,27538060,37951265 ★ Number of 5-block ordered bicoverings of an unlabeled n-set. • a(n) = binomial(n + 9, 9) - 5 * binomial(n + 5, 5) - 10 * binomial(n + 3, 3) + 20 * binomial(n + 2, 2) + 30 * binomial(n + 1, 1) - 60 * binomial(n , 0) + 24 * binomial(n - 1, - 1); • a(n) = (n - 1) * (n - 2) * (n - 3) * (n ^ 6 + 51 * n ^ 5 + 1165 * n ^ 4 + 15885 * n ^ 3 + 130954 * n ^ 2 + 660504 * n + 1451520) / 362880, n>0. - _ R. J. Mathar _ , Aug 10 2017 •

[**A016815**] • 1,125,729,2197,4913,9261,15625,24389,35937,50653,68921,91125,117649,148877,185193,226981,274625,328509,389017,456533,531441,614125,704969,804357,912673 ★ (4n+1)^3. • a(0)=1, a(1)=125, a(2)=729, a(3)=2197, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Sep 01 2013 •

[**A016851**] • 0,125,1000,3375,8000,15625,27000,42875,64000,91125,125000,166375,216000,274625,343000,421875,512000,614125,729000,857375,1000000,1157625,1331000,1520875,1728000 ★ (5n)^3. • a(0)=0, a(1)=125, a(2)=1000, a(3)=3375, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 18 2011 •

[A255181] • 1,125,1806,10206,35406,92526,201726,388206,682206,1119006,1738926,2587326,3714606,5176206,7032606,9349326,12196926,15651006,19792206,24706206,30483726,37220526,45017406,53980206,64219806 ★ Third differences of seventh powers (A001015). • a(n) = 42 * (3 - 10 * n + 15 * n ^ 2 - 10 * n ^ 3 + 5 * n ^ 4) for n>1, a(0)=1, a(1)=125. •

[A017127] • 125,2197,9261,24389,50653,91125,148877,226981,328509,456533,614125,804357,1030301,1295029,1601613,1953125,2352637,2803221,3307949,3869893,4492125,5177717,5929741,6751269 ★ (8*n+5)^3. • a(0)=125, a(1)=2197, a(2)=9261, a(3)=24389, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , May 09 2013 •

[A017223] • 125,2744,12167,32768,68921,125000,205379,314432,456533,636056,857375,1124864,1442897,1815848,2248091,2744000,3307949,3944312,4657463,5451776,6331625,7301384,8365427 ★ a(n) = (9*n+5)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 3. •

[A194654] • 0,0,0,0,125,28930,809368,9414152,66305781,338374560,1378426060,4751038284,14388638901,39296604844,98605016040,230507248912,507379370525,1060395103800,2118303772332,4066797540820,7537144196589,13535598398916,23628635128024,40203393674520 ★ Number of ways to place 6 nonattacking kings on an n X n cylindrical chessboard. • a(n) = 1 / 720 * n * (n ^ 11 - 135 * n ^ 9 + 90 * n ^ 8 + 7525 * n ^ 7 - 9420 * n ^ 6 - 216045 * n ^ 5 + 378090 * n ^ 4 + 3192694 * n ^ 3 - 6899520 * n ^ 2 - 19450080 * n + 48327120), n>=7. •

[A120807] • 1,125,357911,28049850707778719,1093838138707598549,2498288375480240699,2971816820123565959,11368298790243739889,141068631747324 61979,171046904284643971 49,219040776346992146 81,643520515568759371 61 ★ Cubes in A120806: n+d+1 is prime for all divisors d of n. All cubes greater than 1 are cubes of odd primes. • a(1)=1. a(n) = p ^ 3 where p is the (n - 1)st prime such that a(n) + d + 1 is prime for all divisors d of a(n). •

[A104395] • 126,182,217,237,247,251,266,301,321,331,335,357,377,386,387,391,412,421,422,426,441,442,446,451,455 ★ Sums of 5 distinct positive pentatope numbers (A000332). • a(n) = Ptop(g) + Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive g= / =h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). •

[A254370] • 126,210,450,1200,3750,13080,49350,197400,825750,3577080,15930150,72528600,336141750,1580449080,7518010950,36102667800,174710721750,850780489080,4164115131750,20465328135000,100917328245750,498984369457080,2472617583932550 ★ a(n) = 35*2^n + 5*4^n + 15*3^n + 5^n + 70. • a(n) = 15 * a(n - 1) - 85 * a(n - 2) + 225 * a(n - 3) - 274 * a(n - 4) + 120 * a(n - 5). - _ Colin Barker _ , Jan 30 2015 •

[A254465] • 126,252,672,2232,8592,36552,166992,804552,4037712,20923272,111231312,603667272,3331889232,18646768392,105558814032,603280840392,3475274371152,20152803339912,117513698083152,688425727971912,4048693055291472,23888489018765832,141334996634766672,838119509472869832 ★ a(n) = 35*2^n + 10*4^n + 20*3^n + 4*5^n + 6^n + 56. • a(n) = 21 * a(n - 1) - 175 * a(n - 2) + 735 * a(n - 3) - 1624 * a(n - 4) + 1764 * a(n - 5) - 720 * a(n - 6). - _ Colin Barker _ , Jan 31 2015 •

[A063334] • 1,126,280,435,590,745,900,1055,1210,1365,1520,1673,1830,1985,2140,2293,2450,2603,2760,2913,3070,3223,3380,3531,3690 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(61). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A172139] • 0,1,126,1168,7334,35749,137970,438984,1208246,2969389,6662480,13873100,27144408,50389581,89424014,152638280,251834530,403250693,628798516,957543164,1427453780,2087456085,2999819778,4242915176 ★ Number of ways to place 4 nonattacking zebras on an n X n board. • a(n) = (n ^ 8 - 54n ^ 6 + 240n ^ 5 + 827n ^ 4 - 8592n ^ 3 + 10362n ^ 2 + 75600n - 204864) / 24, n >= 9. •

[A194717] • 0,1,126,1181,4966,14289,32966,65821,118686,198401,312814,470781,682166,957841,1309686,1750589,2294446,2956161,3751646,4697821,5812614,7114961,8624806,10363101,12351806 ★ Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting five doublets into the initially empty word. • a(0) = 0, a(n) = 1 + (8 + (27 + (48 + 42 * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1) for n>0. •

[A027805] • 126,1470,9240,41580,150150,462462,1261260,3123120,7147140,15315300,31039008,59961720,111105540,198470580,343219800,576609264,943854450,1509157650,2362159800,3626122500,5468192730,8112154050,11854124100,17081719200,24297273000 ★ 21*(n+1)*C(n+4,9). • a(n) = C(n + 1, 6) * C(n + 4, 4) - _ Zerinvary Lajos _ , May 25 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[A027814] • 126,1512,9702,44352,162162,504504,1387386,3459456,7963956,17153136,34918884,67721472,125919612,225629712,391270572,658982016,1081142370,1732250520,2716483770,4177293120,6309453150,9374044680,13716910500,19791233280,28184836680 ★ 126*(n+1)*C(n+5,9)/5. • a(n) = C(n + 1, 5) * C(n + 5, 5). - _ Zerinvary Lajos _ , Apr 18 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[A189345] • 0,1,126,1820,12650,58905,211876,635376,1663740,3921225,8495410,17178876,32795126,59626385,103962600,174792640,284660376,450710001,695946630,1050739900,1554599970,2258257001,3226076876,4538847600,6296972500 ★ Number of ways to choose four points in an n X n grid (or geoplane). • a(n) = binomial(n ^ 2,4) = (1 / 24) * n ^ 2 * (n ^ 2 - 1) * (n ^ 2 - 2) * (n ^ 2 - 3). •

[A255177] • 1,126,1932,12138,47544,140070,341796,730002,1412208,2531214,4270140,6857466,10572072,15748278,22780884,32130210,44327136,59978142,79770348,104476554,134960280,172180806,217198212,271178418 ★ Second differences of seventh powers (A001015). • a(n) = 14 * n * (3 * n ^ 4 + 5 * n ^ 2 + 1) for n>0, a(0)=1. •

[A172140] • 0,0,126,2032,20502,160696,929880,4117520,15037036,47368960,132577826,336828368,789558314,1729320120,3574328936,7027309888,13226773092,23959787480,41954706558,71276149776,117848892710,190142197976 ★ Number of ways to place 5 nonattacking zebras on an n X n board. • a(n) = (n ^ 10 - 90n ^ 8 + 400n ^ 7 + 2915n ^ 6 - 26880n ^ 5 + 2430n ^ 4 + 60992 0n ^ 3 - 1517496n ^ 2 - 4188480n + 16581120) / 120, n >= 12. •

[A008397] • 1,126,2898,25886,133506,490014,1433810,3573054,7902594,15942206,29896146,52834014,88892930,143501022,223622226,338022398,497556738,715478526,1007769170,1393489566 ★ Coordination sequence for E_7 lattice. • a(n) = 148 / 5 * n ^ 6 - 12 / 5 * n ^ 5 + 52 * n ^ 4 + 12 * n ^ 3 + 212 / 5 * n ^ 2 - 48 / 5 * n + 2 for n >= 1. •

[A086024] • 1,126,3501,46376,389376,2389752,11650752,47587752,168875127,534401002,1537404003,4080706128,10109274128,23590546128,52243162128,110473767504,224205418629,438589465254,830009446129,1524339072504,2724140666880,4748425291880,8089787666880 ★ a(n) = Sum_{i=1..n} C(i+3,4)^3. • a(n) = (C(n + 4, 5) / 1001) * (1001 + 20020 * C(n - 1, 1) + 125840 * C(n - 1, 2) + 390390 * C(n - 1, 3) + 695695 * C(n - 1, 4) + 750750 * C(n - 1, 5) + 486850 * C(n - 1, 6) + 175175 * C(n - 1, 7) + 26950 * C(n - 1, 8)). • a(n) = (n / 69189120) * (13824 + 960960 * n ^ 2 + 5885880 * n ^ 3 + 14370356 * n ^ 4 + 19269250 * n ^ 5 + 15996695 * n ^ 6 + 8678670 * n ^ 7 + 3138135 * n ^ 8 + 750750 * n ^ 9 + 114205 * n ^ 10 + 10010 * n ^ 11 + 385 * n ^ 12). - _ G. C. Greubel _ , Nov 22 2017 •

[A240929] • 126,6046,88428,694360,3705741,15192604,51418473,150420187,392406145,933294637,2056947827,4253047045,8329101326,15566783605,27934647638,48371293570,81155221112,132379936520,210555362990,327359243694,498565022483,745175639274,1094795785319 ★ Number of 10-digit positive integers in base n where the sum of the first k digits equals the sum of the last k digits. • a(n) = n * (n - 1) * (156190 * n ^ 7 + 15619 * n ^ 6 + 45019 * n ^ 5 + 14149 * n ^ 4 + 18139 * n ^ 3 + 9760 * n ^ 2 + 6660 * n + 5040) / 362880 •

[A156702] • 1,127,161,287,289,415,449,575,577,703,737,863,865,991,1025,1151,1153,1279,1313,1439,1441,1567,1601,1727,1729 ★ Numbers n such that n^2-1 == 0 mod 24^2. • a(n)= - 36 + 27 * (- 1) ^ n + (4 - 4 * I) * (- I) ^ n + (4 + 4 * I) * I ^ n + 72 * n [From Harvey P. Dale, Apr 25 2012] •

[A138127] • 0,127,254,381,508,635,762,889,1016,1143,1270,1397,1524,1651,1778,1905,2032,2159,2286,2413,2540,2667,2794,2921,3048 ★ Multiples of 127. • a(n)=127 * n •

[A157949] • 127,255,383,511,639,767,895,1023,1151,1279,1407,1535,1663,1791,1919,2047,2175,2303,2431,2559,2687,2815,2943,3071,3199 ★ a(n) = 128*n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 29 2012 •

[A129537] • 127,449,811,2089,2521,4651,4969,6427,13697,17351,23831,38393,52321,53569,69119,69767,112571,113021,116089,143257,156941,168409,171757,196561,197569 ★ Prime numbers p of the form p=x^2+y^3 such that there exist three other prime numbers q,r,s such q=abs(x^2-y^3) ; r=x^3+y^2 ; s=abs(x^3-y^2); x > y. • a(n)=p=x ^ 2 + y ^ 3; q=x ^ 2 - y3;r=x ^ 3 + y ^ 2;s=x ^ 3 - y ^ 2 ; x > y ; a(n),q,r,s are prime numbers. •

[A075938] • 127,1927,6553,10922,19252,98731,164529,295709,559292,1083662,2132519,4230034,125829127,427819033,713031722,1258291252,6467616811,10779361329,19377684509,36649828412,71017955342 ★ Basis for code in A075937. • a(n) = b(2 ^ n), where b is A075937, the binary lexicode, d=7. •

[A152726] • 0,1,127,2060,14324,63801,216135,607408,1489744,3293225,6706775,12780396,23051412,39697105,65716399,105142976,163292480,247046193,365173839,528697900,751302100,1049786441,1444571447,1960254000 ★ n^7-(n-1)^7+(n-2)^7-....0^7. • a(n) = (17 * (- 1) ^ n + 84 * n ^ 2 - 17 + 28 * n ^ 6 + 8 * n ^ 7 - 70 * n ^ 4) / 16. - _ R. J. Mathar _ , Jul 08 2013 •

[A069092] • 1,127,2186,16256,78124,277622,823542,2080768,4780782,9921748,19487170,35535616,62748516,104589834,170779064,266338304,410338672,607159314,893871738,1269983744,1800262812,2474870590,3404825446,4548558848 ★ Jordan function J_7(n). • a(n) = sum(d|n, d ^ 7 * mu(n / d)). • a(n) = n ^ 7 * Product _{ distinct primes p dividing n } (1 - 1 / p ^ 7). - _ Tom Edgar _ , Jan 09 2015 •

[A258808] • 0,127,2186,16383,78124,279935,823542,2097151,4782968,9999999,19487170,35831807,62748516,105413503,170859374,268435455,410338672,612220031,893871738,1279999999,1801088540,2494357887,3404825446,4586471423,6103515624 ★ a(n) = n^7 - 1. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[A008398] • 1,127,3025,28911,162417,652431,2086241,5659295,13561889,29504095,59400241,112234255,201127185,344628207,568250433,906272831,1403829569,2119308095,3127077265,4520566831 ★ Crystal ball sequence for E_7 lattice. • a(n) = 148 / 35 * n ^ 7 + 72 / 5 * n ^ 6 + 24 * n ^ 5 + 28 * n ^ 4 + 488 / 15 * n ^ 3 + 98 / 5 * n ^ 2 + 68 / 21 * n + 1 (see MAPLE lines). • a(0)=1, a(1)=127, a(2)=3025, a(3)=28911, a(4)=162417, a(5)=652431, a(6)=2086241, a(7)=5659295, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) From _ Harvey P. Dale _ , Jul 18 2012 •

[A229360] • 128,270,910,4392,26218,177120,1292410,9924912,78974938,644749920,5365004410,45294444432,386724933658,3331246259520,28899114836410,252142576067952,2210222303020378,19448976596389920,171690169932572410,1519690359242075472,13481625657159443098 ★ Total sum of n-th powers of parts in all partitions of 9. • a(n) = 67 + 26 * 2 ^ n + 15 * 3 ^ n + 8 * 4 ^ n + 5 * 5 ^ n + 3 * 6 ^ n + 2 * 7 ^ n + 8 ^ n + 9 ^ n. •

[A130813] • 128,1024,4608,15360,42240,101376,219648,439296,823680,1464320,2489344,4073472,6449664,9922560,14883840,21829632,31380096,44301312,6

1529600,84198400,113667840,151557120,199779840,260582400,336585600 ★ If X_1,...,X_n is a partition of a 2n-set X into 2-blocks then a(n) is equal to the number of 7-subsets of X containing none of X_i, (i=1,...n). ● a(n) = binomial(2 * n,7) + binomial(n,2) * binomial(2 * n - 4,3) - n * binomial(2 * n - 2,5) - (2 * n - 6) * binomial(n,3). ● a(n) = C(n,n - 7) * 2 ^ 7, n>=7. - _ Zerinvary Lajos _ , Dec 07 2007 ●

[A134630] ● 0,0,128,1116,4896,15200,38160,82908,162176,292896,496800,801020,1238688,1849536,2680496,3786300,5230080,7083968,9429696,12359196,15975200,20391840,25735248,32144156,39770496 ★ 5*n^5 - 3*n^3 - 2*n^2. Coefficients and exponents are the prime numbers in decreasing order. ● a(n) = 5 * n ^ 5 - 3 * n ^ 3 - 2 * n ^ 2. ● a(0)=0, a(1)=0, a(2)=128, a(3)=1116, a(4)=4896, a(5)=15200, a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Jun 01 2014 ●

[A070055] ● 128,1375,10238,62347,331561,1595475,7102354,29688844,117789230,447095308,1633583432,5773429726,19814156786,66246078602,216345953850,691705334522,2169266885114,6684119486458,20264694041594,60526805714938,178299235266554,518528519151610,1490041038438394,4234162281971706,11906594366685178 ★ Number of Bottleneck-Monge matrices with 7 rows. ● a(N) = a(7, N), where a(P, N) is defined recursively in A070050. ●

[A200842] ● 128,1465,8210,31677,96690,250913,577660,1212729,2365804,4346969,7598878,12735125,20585358,32247681,49148888,73113073,106439160,151987897,213278858,294597997,401116298,539020065,715653396,939673385,1221218596 ★ Number of 0..n arrays x(0..6) of 7 elements without any two consecutive increases or two consecutive decreases. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. ●

[A200789] ● 128,1791,11704,50775,169884,474566,1160616,2562633,5217520,9944957,17946864,30927871,51238812,82045260,127523120,193083297,285627456,413836891,588496520,822856023,1133030140,1538440146,2062298520 ★ Number of 0..n arrays x(0..6) of 7 elements without any two consecutive increases. ● a(n) = (5040 + 40704 * n + 127582 * n ^ 2 + 199213 * n ^ 3 + 169960 * n ^ 4 + 80626 * n ^ 5 + 19978 * n ^ 6 + 2017 * n ^ 7) / 5040. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>8. ●

[A093528] ● 128,2048,16384,524288,4194304,67108864,536870912,34359738368,274877906944,4398046511104,35184372088832,1125899906842624,9007199254740992,144115188075855872,1152921504606846976 ★ Numerators of odd raw moments in the distribution of line lengths for lines picked at random in the unit disk. ● a(k) = Numerator[(2 * Gamma[3 + n]) / ((2 + n) * Gamma[2 + n / 2] * Gamma[3 + n / 2])] for n = 2k - 1. ●

[A195594] ● 128,2102,15988,81606,327192,1118398,3419648,9643562,25603228,64923594,158877948,378088270,879980720,2011806182,4532900488,10091643138,22244251284,48622120786,105526014500,227633451206,488451508168,1043298475662,2219419264848 ★ Number of ways to place 6n nonattacking kings on a vertical cylinder 12 X 2n. ● a(n) = (15839 * n - 99729) * 2 ^ n + 231 / 2 * n ^ 4 + 1767 * n ^ 3 + 26001 / 2 * n ^ 2 + 53295 * n + 99730. ●

[A001015] ● 0,1,128,2187,16384,78125,279936,823543,2097152,4782969,10000000,19487171,35831808,62748517,105413504,170859375,268435456,410338673,612220032,893871739,1280000000,1801088541,2494357888,3404825447,4586471424 ★ Seventh powers: a(n) = n^7. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) + 5040. - _ Ant King _ , Sep 24 2013 ● a(n) = n + Sum _{ j=0..n - 1 }{ k=1..6 } binomial(7,k) * j ^ (7 - k). - _ Patrick J. McNab _ , Mar 28 2016 ●

[A231306] ● 0,1,128,2188,16512,80313,296448,903856,2393600,5686825,12393600,25173996,48225408,87922513,153638912,258781888,422074368,669120561,1034294400,1562992300,2314294400,3364080841,4808652288,6768906288,9395123712 ★ Recurrence a(n) = a(n-2) + n^M for M=7, starting with a(0)=0, a(1)=1. ● a(n) = Sum _{ k=0..floor(n / 2) } (n - 2k) ^ 7. ● a(n) = 1 / 96 * (6 * n ^ 8 + 48 * n ^ 7 + 112 * n ^ 6 - 224 * n ^ 4 + 256 * n ^ 2 + 51 * ((- 1) ^ n - 1)). ●

[A236209] ● 128,2315,80440,903983,20391154,83139671,493478344,1387350083,4792175530,22042051839,49554665950,144486543083,339240816964,611059428071,1117682548534,2292393688371,4781045173190,7923788009211,13984499614534,23079619772925,34127018292022 ★ Sum of the seventh powers of the first n primes. ● a(n) = sum(k = 1 .. n, prime(k) ^ 7). ●

[A128802] ● 0,0,128,3072,49152,655360,7864320,88080384,939524096,9663676416,96636764160,944892805120,9070970929152,85761906966528,800444465020928,7388718138654720,67553994410557440,612489549322387456 ★ n*(n-1)*8^n. ● a(0)=0, a(1)=0, a(2)=128, a(n)=24 * a(n - 1) - 192 * a(n - 2) + 512 * a(n - 3) [From Harvey P. Dale, Nov 05 2011] ●

[A022150] ● 1,128,3264,34624,216448,954880,3301952,9556160,24165120,54993792,115021760,224533056,413862016,726758656,1224437056,1990370240,3135895040,4806690432,7190192832,10524011840,15105409920,21301909504,29563091008,40433645248,54567743744 ★ Coordination sequence for root lattice B_8. ● a(0) = 1; for n>0, a(n) = (3968 * n ^ 7 - 6720 * n ^ 6 + 35840 * n ^ 5 - 36960 * n ^ 4 + 60032 * n ^ 3 - 26880 * n ^ 2 + 11040 * n) / 315 . - _ Philippe Deléham _ , Feb 20 2004 ●

[A191899] ● 0,128,3280,32768,195312,839808,2882400,8388608,21523360,50000000,107179440,214990848,407865360,737894528,1281445312,2147483648,3487878720,5509980288,8491781520,12800000000,18911429680,27437936768,39155492640,55037657088,76293945312 ★ Number of compositions of odd natural numbers into 8 parts <=n ● a(n) = 1 / 2 * ((n + 1) ^ 8 - (1 + (- 1) ^ n) / 2) . ●

[A191495] ● 1,128,3281,32768,195313,839808,2882401,8388608,21523361,50000000,107179441,214990848,407865361,737894528,1281445313,2147483648,3487878721,5509980288,8491781521,12800000000,18911429681,27437936768,39155492641,55037657088,76293945313 ★ Number of compositions of even natural numbers into 8 parts <=n ● a(n)=((n + 1) ^ 8 + (1 + (- 1) ^ n) / 2) / 2. ● a(0)=1, a(1)=128, a(2)=3281, a(3)=32768, a(4)=195313, a(5)=839808, a(6)=2882401, a(7)=8388608, a(8)=21523361, a(9)=50000000, a(n)=8 * a(n - 1) - 27 * a(n - 2) + 48 * a(n - 3) - 42 * a(n - 4) + 42 * a(n - 6) - 48 * a(n - 7) + 27 * a(n - 8) - 8 * a(n - 9) + a(n - 10). - _ Harvey P. Dale _ , Mar 13 2013 ●

[A283813] ● 1,128,4246,85310,1315666,17234438,202229266,2193664790,22447207906,219680806598,2076319823986,19088476874870,171615294959746,1515094215592358,13177154171845906,113190802751806550,962272631860465186,8109687887324611718,67845242760941615026 ★ Poly-Bernoulli numbers B_n^(k) with k = -7. ● a(n) = 5040 * 8 ^ n - 15120 * 7 ^ n + 16800 * 6 ^ n - 8400 * 5 ^ n + 1806 * 4 ^ n - 126 * 3 ^ n + 2 ^ n. ●

[A240931] ● 0,0,128,4374,49152,312500,1399680,4941258,14680064,38263752,90000000,194871710,394149888,752982204,1370375552,2392031250,4026531840,6565418768,10407740544,16089691302,24320000000,36021770820,52381515648,74906159834,105488842752 ★ n^8 - n^7. ● a(n) = n ^ 7 * (n - 1) = n ^ 8 - n ^ 7. ●

[A201239] ● 0,0,0,128,6745,100332,754453,3830016,15038541,49207020,140410699,360001152,846775007,1855033964,3828109545,7507096576,14087087961,25436160108,44395753647,75184958080,123935571963,199389702380,313797119069,484055619840,733144325125 ★ Number of ways to place 5 non-attacking wazirs on an n X n toroidal board. ● a(n) = n ^ 2 * (n ^ 8 - 50n ^ 6 + 995n ^ 4 - 9370n ^ 2 + 35424) / 120, n>=6. ●

[A035817] ● 1,128,8192,349568,11190272,286680704,6123315200,112173964160,1799375912960,25678370512000,330122643283968,3862436697723264,41474426978451456,411631804378210944,3799040291725172736 ★ Coordination sequence for lattice D*_64 (with edges defined by l_1 norm = 1). ● a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=64. ●

[A001661] ● 128,12758,5134240,67898771,11146309947,766834015734 ★ Largest number not the sum of distinct positive n-th powers. ● a(n) < d * 2 ^ (n - 1) * (c * 2 ^ n + (2 / 3) * d * (4 ^ n - 1) + 2 * d - 2) ^ n + c * d, where c = n! * 2 ^ (n ^ 2) and d = 2 ^ (n ^ 2 + 2 * n) * c ^ (n - 1) - 1, according to Kim [2016 - 2017]. - _ Danny Rorabaugh _ , Oct 11 2016 ●

[A017011] ● 128,4782969,268435456,3404825447,21870000000,94931877133,319277809664,897410677851,2207984167552,4902227890625,10030613004288,19203908986159,34792782221696,60170087060757,100000000000000,160578147647843,250226879128704,379749833583241 ★ a(n) = (7*n + 2)^7. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n>7. ●

[A017551] ● 128,105413504,8031810176,114415582592,781250000000,3521614606208,12151280273024,34792782221696,86812553324672,194871710000000,402271083010688,775771085481344,1414067010444416,2458100350228352 ★ (12n+2)^7. ● a(0)=128, a(1)=105413504, a(2)=8031810176, a(3)=114415582592, a(4)=781250000000, a(5)=3521614606208, a(6)=12151280273024, a(7)=34792782221696, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Jan 13 2013 ●

[A157951] ● 129,257,385,513,641,769,897,1025,1153,1281,1409,1537,1665,1793,1921,2049,2177,2305,2433,2561,2689,2817,2945,3073,3201 ★ a(n) = 128*n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 10 2012 ●

[A036548] ● 1,129,513,1665,5121,15489,46593,139905,419841,1259649,3779073,11337345,34012161,102036609,306109953,918329985,2754990081,8264970369,24794911233,74384733825,223154201601,669462604929,2008387814913 ★ a(n) = T(7,n), array T given by A048471. ● a(n) = 64 * 3 ^ n - 63. - _ Ralf Stephan _ , Feb 17 2004 ● a(n) = 3 * a(n - 1) + 126. ● a(n) = 4 * a(n - 1) - 3 * a(n - 2). ●

[A294302] ● 0,0,129,2188,18700,94638,376761,1183920,3297456,8002300,18080425,37287660,73399404,135324378,241561425,410323648,680856256,1086411960,1703414961,2587286700,3877286700,5658888070,8172733129,11541726768,16164030000 ★ Sum of the seventh powers of the parts in the partitions of n into two distinct parts. ● a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 7 + (n - i) ^ 7. ● a(n) = (1 / 768) * (n ^ 2 * (64 - 224 * n ^ 2 + 448 * n ^ 4 - 3 * (129 + (- 1) ^ n) * n ^ 5 + 96 * n ^ 6)). ● a(n) = a(n - 1) + 8 * a(n - 2) - 8 * a(n - 3) - 28 * a(n - 4) + 28 * a(n - 5) + 56 * a(n - 6) - 56 * a(n - 7) - 70 * a(n - 8) + 70 * a(n - 9) + 56 * a(n - 10) - 56 * a(n - 11) - 28 * a(n - 12) + 28 * a(n - 13) + 8 * a(n - 14) - 8 * a(n - 15) - a(n - 16) + a(n - 17) for n>17. ●

[A000541] ● 0,1,129,2316,18700,96825,376761,1200304,3297456,8080425,18080425,37567596,73399404,136147921,241561425,412420800,680856256,1091194929,1703414961,2597286700,3877286700,5678375241,8172733129,11577558576,16164030000 ★ Sum of 7th powers: 1^7 + 2^7 + ... + n^7. ● a(n) = n ^ 2 * (n + 1) ^ 2 * (3 * n ^ 4 + 6 * n ^ 3 - n ^ 2 - 4 * n + 2) / 24. ● a(n) = Sqrt[Sum[Sum[(i * j) ^ 7, { i, 1, n }], { j, 1, n }]]. - _ Alexander Adamchuk _ , Oct 26 2004 ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) + 5040. - _ Ant King _ , Sep 24 2013 ● a(n) = - sum(j=1..7, j * s(n + 1,n + 1 - j) * S(n + 7 - j,n)), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 ●

[A250212] ● 1,130,2446,21146,117971,494732,1695036,4992492,13072917,31153342,68720938,142120342,278268263,519829688,932250488,1613106744,2704301673,4407716634,7005003334,10882290034,16560665275,24733398404,36310956980,52474986980,74742532605 ★ Second partial sums of seventh powers

(A001015). • a(n) = n * (n + 1) * (n + 2) * (5 * n ^ 6 + 30 * n ^ 5 + 50 * n ^ 4 - 37 * n ^ 2 + 6 * n + 6) / 360. • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 7. •

[**A084641**] • 0,1,130,2574,25904,183200,1040112,5076400,22171648,88915968,333209600,1181548544,4001402880,13033885696,41061830656,125666611200,374947708928,1093874155520,3128047828992,8785866391552,24280799641600 ★ Binomial transform of n^7. • a(n)=n ^ 2(n ^ 5 + 21n ^ 4 + 105n ^ 3 + 35n ^ 2 - 210n + 112)2 ^ (n - 7); a(n)=sum { k=0..n, C(n, k)k ^ 7 } . •

[**A254641**] • 1,131,2577,23723,141694,636426,2331462,7323954,20396871,51550213,120271151,262391493,540659756,1060489444,1992739932,3605846676,6310148349,10717864983,17722868317,28605158351,45165823626,69899222030,106210179010,158685165990 ★ Third partial sums of seventh powers (A001015). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (6 - 6 * n - 20 * n ^ 2 + 15 * n ^ 3 + 25 * n ^ 4 + 9 * n ^ 5 + n ^ 6) / 720. •

[**A063365**] • 1,132,286,440,592,746,898,1056,1204,1362,1510,1670,1816,1978,2122,2286,2428,2592,2734,2902,3040,3208,3346,3516,3652 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(92). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A278128**] • 132,420,996,2148,4452,9060,18276,36708,73572,147300,294756,589668,1179492,2359140,4718436,9437028,18874212,37748580,75497316,150994788,301989732,603979620,1207959396,2415918948,4831838052 ★ a(n) = 288*2^n - 156. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[**A064059**] • 132,429,1001,2002,3640,6188,9996,15504,23256,33915,48279,67298,92092,123970,164450,215280,278460,356265,451269,566370,704816,870232,1066648,1298528,1570800 ★ Seventh column of Catalan triangle A009766. • a(n) = binomial(n + 1,6) - 2 * binomial(n,5), for n>=12. - _ Zerinvary Lajos _ , Jul 19 2006 •

[**A158543**] • 132,564,1284,2292,3588,5172,7044,9204,11652,14388,17412,20724,24324,28212,32388,36852,41604,46644,51972,57588,63492,69684,76164,82932,89988 ★ 144n^2 - 12. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 14 2012 •

[**A033278**] • 0,132,1287,7007,28028,91728,259896,659736,1534896,3325608,6789783,13180167,24496472,43835792,75869640,127481640,208606320,333316620,521215695,799197399,1203649524,1783184480,2601993680,3743934480,5317472160 ★ Number of diagonal dissections of an n-gon into 6 regions. • a(n) = binomial(n + 4, 5) * binomial(n - 3, 5) / 6. •

[**A129975**] • 0,132,2295,2859,3535,15792,19060,22984,94363,113407,136275,552292,663288,796572,3221295,3868227,4645063,18777384,22547980,27075712,109444915,131421559,157811115,637894012,765983280 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+953)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1906 for n > 6; a(1)=0, a(2)=132, a(3)=2295, a(4)=2859, a(5)=3535, a(6)=15792. • a(1)=0, a(2)=132, a(3)=2295, a(4)=2859, a(5)=3535, a(6)=15792, a(7)=19060, a(n)=a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Apr 12 2013 •

[**A064303**] • 1,132,2307,14506,55797,161376,387607,817062,1563561,2777212,4649451,7418082,11372317,16857816,24281727,34117726,46911057,63283572,83938771,109666842,141349701,179966032,226596327 ★ Seventh diagonal of triangle A064094. • a(n)= 1 + 5 * n + 14 * n ^ 2 + 28 * n ^ 3 + 42 * n ^ 4 + 42 * n ^ 5. Sixth row polynomial (n=5) of Catalan triangle A009766. •

[**A254646**] • 1,132,2709,26432,168126,804552,3136014,10459968,30856839,82407052,202678203,465069696,1005729452,2066218896,4058958828,7664805504,13974953853,24692818836,42415687153,71020845504 ★ Fourth partial sums of seventh powers (A001015). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (48 - 100 * n - 89 * n ^ 2 + 160 * n ^ 3 + 140 * n ^ 4 + 36 * n ^ 5 + 3 * n ^ 6) / 23760. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + n ^ 7. •

[**A035818**] • 1,132,8712,383372,12655632,334338708,7363888664,139100713884,2300684695584,33851564979364,448681205484072,5411871200791980,59904484213281840,612840192258608820,5829554227763981880 ★ Coordination sequence for lattice D*_66 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=66. •

[**A215546**] • 0,132,9996,92092,451269,1570800,4395118,10559208,22664655,44602348,81921840,142247364,235740505,375609528,578665362,865924240,1263256995,1802085012,2520122836,3462167436,4680934125,6237939136,8204428854,10662355704,13705400695 ★ Number of standard Young tableaux of shape [6n,6]. • a(n) = (6 * n - 5) * (6 * n + 5) * (3 * n + 2) * (2 * n + 1) * (3 * n + 1) * (n + 1) / 10 for n>0, a(0) = 0. •

[**A254684**] • 1,133,2842,29274,197400,1001952,4137966,14597934,45454773,127861825,330540028,795609724,1801339176,3867558072,7926516900,15591322404,29566276257,54259095093,96674782246,167695627750,283882296880 ★ Fifth partial sums of seventh powers (A001015). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (- 3 + 5 * n + n ^ 2) * (- 2 + 5 * n + n ^ 2) * (5 + 5 * n + n ^ 2) / 95040. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) + n ^ 7. •

[**A157734**] • 135,1064,2875,5568,9143,13600,18939,25160,32263,40248,49115,58864,69495,81008,93403,106680,120839,135880,151803,168608,186295,204864,224315,244648,265863 ★ 441n^2 - 394n + 88. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A143404**] • 0,0,0,0,0,0,0,0,0,1,135,10065,547965,24336312,934863930,32189799070,1017281878470,30001945084683,835898091070185,22206607023852615,566594907018764715,13964270139973201114,333991935681805199700,7781827783346875932300 ★ Expansion of x^k/Product_{t=k..2k} (1-tx) for k=9. • a(n)=0 for n<9, a(9)=1, a(n) = 135 * a(n - 1) - 8160 * a(n - 2) + 290790 * a(n - 3) - 6765213 * a(n - 4) + 107358615 * a(n - 5) - 1176812090 * a(n - 6) + 8797620060 * a(n - 7) - 42924478536 * a(n - 8) + 123418922400 * a(n - 9) - 158789030400 * a(n - 10). - _ Harvey P. Dale _ , May 22 2012 •

[**A281241**] • 136,152,264,408,648,1432,2312,3736,8328,13464,21768,48536,78472,126872,282888,457368,739464,1648792,2665736,4309912,9609864,15537048,25120008,56010392,90556552 ★ Solutions x to the negative Pell equation y^2 = 72*x^2 - 1331712 with x,y >= 0. • a(n) = 6 * a(n - 3) - a(n - 6) for n>6. •

[**A071231**] • 0,1,136,3321,32896,195625,840456,2883601,8390656,21526641,50005000,107186761,215001216,407879641,737913736,1281470625,2147516416,3487920481,5510032776,8491846681,12800080000,18911526921,27438053896,39155632561,55037822976 ★ (n^8 + n^4)/2. • a(0)=0, a(1)=1, a(2)=136, a(3)=3321, a(4)=32896, a(5)=195625, a(6)=840456, a(7)=2883601, a(8)=8390656, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) [From Harvey P. Dale, Oct 11 2011] •

[**A035819**] • 1,136,9248,419288,14260416,388134888,8807231072,171389157176,2920221095296,44261088117832,604286975278752,7507398039179160,85587416923429440,901728467693644200,8833008614958340320 ★ Coordination sequence for lattice D*_68 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=68. •

[**A215864**] • 0,137,1267,6412,23597,70707,183099,424809,904299,1795794,3367364,6017011,10318126,17075786,27395466,42765846,65157498,97139343,142014873,203980238,288306403,401547685,551779085,748864935,1004761485 ★ Number of simple labeled graphs on n+4 nodes with exactly n connected components that are trees or cycles. • a(n) = C(n + 4,5) * (15 * n ^ 3 + 390 * n ^ 2 + 2285 * n + 3886) / 48. •

[**A158527**] • 139,5997,78414,553810,2677065,10009839,31098172,84004164,203427495,451263505,931565514,1811000022,3346004389,5917977555,10077955320,16602342664,26561396547,41402273589,63048577990,94018466010 ★ Sum of squares of consecutive positive noncubes. • a(n)=(1 / 2) * n * (1 + n) * (1 + 9 * n + 27 * n ^ 2 + 42 * n ^ 3 + 36 * n ^ 4 + 18 * n ^ 5 + 6 * n ^ 6) •

[**A276026**] • 140,204,284,380,492,620,764,924,1100,1292,1500,1724,1964,2220,2492,2780,3084,3404,3740,4092,4460,4844,5244,5660,6092 ★ a(n) = Sum_{k=0..7} (n + k)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). • a(- n) = a(n - 7). • a(n) = n ^ 2 + (n + 1) ^ 2 + (n + 2) ^ 2 + (n + 3) ^ 2 + (n + 4) ^ 2 + (n + 5) ^ 2 + (n + 6) ^ 2 + (n + 7) ^ 2. • a(n) = 8 * n ^ 2 + 56 * n + 140. •

[**A282613**] • 0,1,140,4995,65824,489125,2521476,10092775,33562880,96870249,250025500,589527851,1290008160,2651218765,5165397524,9611031375,17180133376,29647326545,49590297900,80672546899,128000804000,198571037301,301818598180,450289780535 ★ Number of inequivalent 3 X 3 matrices with entries in {1,2,3,..,n} up to rotations. • a(n) = n ^ 3 * (n ^ 2 + 1) * (n ^ 4 - n ^ 2 + 2) / 4. •

[**A035820**] • 1,140,9800,457380,16013200,448644028,10479036120,209901182420,3681129969440,57425278222060,806898799084392,10316605397801220,121032811973584560,1312159718129050140,13225339591553573880 ★ Coordination sequence for lattice D*_70 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=70. •

[**A228598**] • 141,240,365,516,693,896,1125,1380,1661,1968,2301,2660,3045,3456,3893,4356,4845,5360,5901,6468,7061,7680,8325,8996,9693 ★ The Wiener index of the graph obtained by applying Mycielski's construction to the crown graph G(n) (n>=3). • a(n) = 13 * n ^ 2 + 8 * n. •

[**A063373**] • 1,141,302,463,625,786,948,1107,1271,1430,1594,1752,1917,2074,2240,2396,2563,2719,2886,3040,3209,3363,3532,3685,3855 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(100). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A228597**] • 141,445,941,1629,2509,3581,4845,6301,7949,9789,11821,14045,16461,19069,21869,24861,28045,31421,34989,38749,42701,46845,51181,55709,60429 ★ The Wiener index of the graph obtained by applying Mycielski's construction to a benzenoid consisting of a linear chain of n hexagons. • a(n) = 96 * n ^ 2 + 16 * n + 29. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ G. C. Greubel _ , Dec 08 2016 •

[**A158135**] • 142,572,1290,2296,3590,5172,7042,9200,11646,14380,17402,20712,24310,28196,32370,36832,41582,46620,51946,57560,63462,69652,76130,82896,89950 ★ 144n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 11 2012 •

[**A257767**] • 143,253,440,1133,1397,3608,6325,11495,20152,52063,64207,165880,290807,528517,926552,2393765,2952125,7626872,13370797,24300287,42601240,110061127,135733543,350670232,614765855 ★ Positive integers whose square is the sum of 33 consecutive squares. • a(n) = 46 * a(n - 6) - a(n - 12). •

[**A158136**] • 143,287,431,575,719,863,1007,1151,1295,1439,1583,1727,1871,2015,2159,2303,2447,2591,2735,2879,3023,3167,3311,3455,3599 ★ 144n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 11 2012 •

[**A156635**] • 143,574,1293,2300,3595,5178,7049,9208,11655,14390,17413,20724,24323,28210,32385,36848,41599,46638,51965,57580,63483,69674,76153,82920,89975 ★ 144*n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A279115**] • 0,0,0,0,143,7855,153311,1505465,9729830,47235703,186615092,630338668,1882894541,5092130575,12686490993,29498296651,64664954532,134715649055,268438970166,514318521438,951646716171,1706721390223,2976056379875,5058962536429,8402677784738 ★ Number of non-equivalent ways to place 6 non-attacking kings on an n X n board. • a(n) = (n ^ 12 - 135 * n ^ 10 + 180 * n ^ 9 + 7465 * n ^ 8 - 18840 * n ^ 7 - 202468 * n ^ 6 + 749880 * n ^ 5 + 2446764 * n ^ 4 - 13439400 * n ^ 3 - 3570352 * n ^ 2 + 89413920 * n - 107694

720 + IF(MOD(n, 2) = 1, 122 * n ^ 6 - 1020 * n ^ 5 + 1955 * n ^ 4 + 840 * n ^ 3 + 5753 * n ^ 2 - 42840 * n + 132975)) / 5760 for n>=5. • a(n) = 6 * a(n - 1) - 8 * a(n - 2) - 22 * a(n - 3) + 69 * a(n - 4) - 8 * a(n - 5) - 176 * a(n - 6) + 168 * a(n - 7) + 182 * a(n - 8) - 364 * a(n - 9) + 364 * a(n - 11) - 182 * a(n - 12) - 168 * a(n - 13) + 176 * a(n - 14) + 8 * a(n - 15) - 69 * a(n - 16) + 22 * a(n - 17) + 8 * a(n - 18) - 6 * a(n - 19) + a(n - 20) for n>=25. •

[A134341] • 144,288,432,576,720,864,1008,1152,1296,1440,1584,1728,1872,2016,2160,2304,2448,2592,2736,2880,3024,3168,3312,3456,3600 ⋆ Numbers whose fifth powers have a partition as a sum of fifth powers of four positive integers. • a(n) = 144 * k if n is not congruent to 0 mod 593 or a(n) = 85359 * j when n is congruent to 0 mod 593 { where k,j successive integers } •

[A178972] • 0,0,0,0,0,144,392,896,1620,2800,4356,6624,9464,13328,18000,24064,31212,40176,50540,63200,77616,94864,114264,137088,162500 ⋆ Number of ways to place 2 nonattacking amazons (superqueens) on an n X n toroidal board. • a(n) = 1 / 2 * n ^ 2 * (n ^ 2 - 4 * n - 9 / 2 + (- 1) ^ n / 2), n>=5. •

[A281240] • 0,144,480,816,1344,3024,4896,7920,17664,28560,46176,102960,166464,269136,600096,970224,1568640,3497616,5654880,9142704,20385600,32959056,53287584,118815984,192099456 ⋆ Solutions y to the negative Pell equation y^2 = 72*x^2 - 83232 with x,y >= 0. • a(n) = 6 * a(n - 3) - a(n - 6) for n>6. •

[A017402] • 1,144,529,1156,2025,3136,4489,6084,7921,10000,12321,14884,17689,20736,24025,27556,31329,35344,39601,44100,48841,53824,59049,64516,70225 ⋆ (11n+1)^2. • a(0)=1, a(1)=144, a(2)=529, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , May 05 2014 •

[A180413] • 0,144,576,1440,2880,5040,8064,12096,17280,23760,31680,41184,52416,65520,80640,97920,117504,139536,164160,191520,221760,255024,291456,331200,374400 ⋆ Total number of possible knight moves on an n X n X n chessboard, if the knight is placed anywhere • a(n)=24 * n * (n ^ 2 - 1). • a(1)=0, a(2)=144, a(3)=576, a(4)=1440, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Feb 13 2013 •

[A137885] • 144,576,1920,5760,16128,43008,110592,276480,675840,1622016,3833856,8945664,20643840,47185920,106954752,240648192,537919488,1195376640,2642411520,5813305344,12733906944,27783069696,60397977600,130862284800,282662535168 ⋆ Number of (directed) Hamiltonian paths in the 2n-crossed prism graph. • a(n) = 12 * 2 ^ (n - 1) * n * (n + 1). - _ Eric W. Weisstein _ , Dec 16 2013 • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 4 * a(n - 3) + 8 * a(n - 4). - _ Colin Barker _ , May 06 2014 •

[A120089] • 144,900,3136,8100,17424,23716,33124,43264,54756,57600,93636,115600,139876,144400,166464,174724,207936,213444,244036,298116,304704,357604,414736,422500,476100 ⋆ Square perimeters of primitive Pythagorean triangles. • a(n) = (2 * u * v) ^ 2, where u=sqrt(j / 2) and v=sqrt(j + k) { for co prime pairs (j,k),j>k with odd k such that pairs (u,v),u<v are coprime with v odd } . •

[A159748] • 144,927,2872,6930,15109,31489,64256,129792,260864,523008,1047296,2095872,4193024,8387328,16775936,33553152,67107584,134216448,268434176,536869632,1073740544,2147482368,4294966016,8589933312,17179867904 ⋆ If an array is made of columns of -nacci sequences, fibo-, tribo- etc. all starting w. 1,1,2 etc, the NW to SE diagonals can be extended by computation. The above is diagonal 11. See A159741 for details. • a(n)=3 * a(n - 1) - 2 * a(n - 2), n>8. [From _ R. J. Mathar _ , Apr 22 2009] •

[A168371] • 0,1,144,3402,33280,196875,843696,2890804,8404992,21552885,50050000,107259966,215115264,408051007,738163440,1281825000,2148007936,3488588649,5510925072,8493019570,12801600000,18913471731,27440513584 ⋆ a(n) = n^5*(n^3 + 1)/2. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[A128989] • 0,144,3888,62208,777600,8398080,82301184,752467968,6530347008,54419558400,438984437760,3448023220224,26487087464448,199671890116608,1481082701414400,10833062044631040,78268873272459264 ⋆ a(n) = (n^3 - n^2)*6^n. • a(n) = 24 * a(n - 1) - 216 * a(n - 2) + 864 * a(n - 3) - 1296 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[A259318] • 0,0,144,6048,85536,679536,3747744,16039296,56930688,174978144,479700144,1198248480,2770653600,6002352720,12298837824,24014605824,44957265408,81097765056,141549364944,239891292576,395928108576,637992775728,1005920381664,1554840524160 ⋆ a(n) = A259109(n)*A006331(n) - A259108(n)^2. • a(n) = (16 * n ^ 10 + 80 * n ^ 9 + 120 * n ^ 8 - 147 * n ^ 6 - 105 * n ^ 5 + 5 * n ^ 4 + 25 * n ^ 3 + 6 * n ^ 2) / 525. - _ Colin Barker _ , Jun 29 2015 •

[A035821] • 1,144,10368,497712,17922816,516475728,12407366016,255606154992,4610216314368,73962265817104,1068744800817792,14051355610010544,169506887987474688,1889504367838959312,19580193687475702656 ⋆ Coordination sequence for lattice D*_72 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=72. •

[A199406] • 1,144,12111,358120,5131650,45528756,288936634,1433251296,5887880415,20842168600,65402344161,185788177224,485443851256,1181242399260,2703252560100,5864398969216,12138503871789,24101498435616,46112016365155,85335258695400,153249227870046 ⋆ The number of inequivalent ways to color the edges of a cube using at most n colors. • a(n)=n ^ 12 / 48 + n ^ 8 / 16 + n ^ 7 / 4 + n ^ 6 / 12 + n ^ 4 / 6 + n ^ 3 / 4 + n ^ 2 / 6. •

[A252779] • 0,0,144,13932,226224,1809360,9637200,39225564,131679072,382238784,990202320,2340528300,5130339984,10556808912,20586528144,38330476380,68553028800,118348187904,198021287952,322219869804,511363229040,793426309200,1206140143824 ⋆ Number of ways of n-coloring the square grid graph G_(3,3) such that no rectangle exists having all 4 corners of the same color. • a(n) = n * (n - 1) ^ 2 * (n ^ 6 + 2 * n ^ 5 + 3 * n ^ 4 - 6 * n ^ 3 - 15 * n ^ 2 - 4 * n + 12). •

[A159777] • 145,167,197,673,835,1037,3893,4843,6025,22685,28223,35113,132217,164495,204653,770617,958747,1192805,4491485,5587987,6952177,26178293,32569175,40520257,152578273 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+167)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=145, a(2)=167, a(3)=197, a(4)=673, a(5)=835, a(6)=1037. •

[A158133] • 145,289,433,577,721,865,1009,1153,1297,1441,1585,1729,1873,2017,2161,2305,2449,2593,2737,2881,3025,3169,3313,3457,3601 ⋆ 144n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A008377] • 1,145,4339,55171,416773,2218645,9195511,31608967,94016137,249258777,601883259,1345167627,2817026445,5581287453,10542186111,19101404943,33368594193,56438048673,92746082819,148525641875,232376811797,355974143909,534934092551,789868374935 ⋆ Crystal ball sequence for D_9 lattice. • a(n - 1) = 1006 / 2835 * n ^ 9 - 503 / 315 * n ^ 8 + 6404 / 945 * n ^ 7 - 244 / 15 * n ^ 6 + 3946 / 135 * n ^ 5 - 542 / 15 * n ^ 4 + 87068 / 2835 * n ^ 3 - 5356 / 315 * n ^ 2 + 1867 / 315 * n - 1. •

[A076464] • 145,4567,38570,183670,630755,1751365,4187092,8957100,17583765,32236435,55893310,92521442,147274855,226710785,339024040,494299480,704782617,985168335,1352907730,1828533070,2436000875,3203053117,4161596540,5348100100,6804010525 ⋆ Sum of squares of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly five ways. • a(n) = n * (n + 1) * (151 * n ^ 4 + 242 * n ^ 3 + 66 * n ^ 2 - 25 * n + 1) / 6. •

[A158132] • 146,580,1302,2312,3610,5196,7070,9232,11682,14420,17446,20760,24362,28252,32430,36896,41650,46692,52022,57640,63546,69740,76222,82992,90050 ⋆ 144n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A035822] • 1,148,10952,540348,19998352,592275428,14622792792,309590672908,5738394543392,94605503014708,1404752160252392,18977706294953308,235229004437967792,2694049802004901508,28681579910712931192 ⋆ Coordination sequence for lattice D*_74 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=74. •

[A268428] • 149,151,157,167,179,193,211,233,257,283,313,347,383,421,463,509,557,607,661,719,779,841,907,977,1049 ⋆ a(n) = (3*(n^2+n+99)+cos(Pi*n/2)-sin(Pi*n/2))/2. • a(n) = 2 * floor(3 * n * (n + 1) / 4) + 149. • a(n) = (3 * (n ^ 2 + n + 99) + (- 1) ^ binomial(n + 1,2)) / 2. (Suggested by _ Michel Marcus _) • a(n) - a(- n - 1) = 0. - _ Altug Alkan _ , Feb 04 2016 • a(n) = (1 / 4 + i / 4) * ((297 - 297 * i) - i * (- i) ^ n + i ^ n) + (3 * n) / 2 + (3 * n ^ 2) / 2) where i is the imaginary unit. - _ Colin Barker _ , Feb 09 2016 •

[A161487] • 149,191,269,625,955,1465,3601,5539,8521,20981,32279,49661,122285,188135,289445,712729,1096531,1687009,4154089,6391051,9832609,24211805,37249775,57308645,141116741 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+191)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=149, a(2)=191, a(3)=269, a(4)=625, a(5)=955, a(6)=1465. •

[A023290] • 149,439,1319,2069,2089,2389,2699,2819,4259,4919,5059,5689,6469,7559,8429,8669,9199,9239,9319,9769,10159,10529,14449,14479,17659 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 7x + 6. • a(n) == 9 (mod 10). - _ John Cerkan _ , Sep 23 2016 •

[A273322] • 150,536,1336,2712,4826,7840,11916,17216,23902,32136,42080,53896,67746,83792,102196,123120,146726,173176,202632,235256,271210,310656,353756,400672,451566 ⋆ Wiener index of graphs of fcc unit cells in a line = Sum of distances in face-centered cubic grid unit cells connected in a row. • a(n) = 27 * n ^ 3 + 45 * n ^ 2 + 62 * n + 16. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>4. •

[A054558] • 150,960,3605,10360,25200,54600,108570,201960,356070,600600,975975,1536080,2351440,3512880,5135700,7364400,10377990,14395920,19684665,26565000,35420000,46703800,60951150,78787800,100941750 ⋆ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 5 2-simplexes and 9 1-simplexes. • a(n) = 150 * C(n,5) + 60 * C(n,6) + 35 * C(n,7) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n ^ 2 + n + 150) / 144. •

[A128963] • 0,150,3000,37500,375000,3281250,26250000,196875000,1406250000,9667968750,64453125000,418945312500,2666015625000,16662597656250,102539062500000,622558593750000,3735351562500000,22178649902343750 ⋆ a(n) = (n^3 - n)*5^n. • a(1)=0, a(2)=150, a(3)=3000, a(4)=37500, a(n)=20 * a(n - 1) - 150 * a(n - 2) + 500 * a(n - 3) - 625 * a(n - 4). - _ Harvey P. Dale _ , Jul 22 2012 •

[A239065] • 1,152,2403,17344,81125,287496,840007,2129408,4841289,10099000,19646891,36078912,63117613,105948584,171615375,269479936,411753617,614103768,896340979,1283192000,1805163381,2499500872,3411249623,4594422024,6113265625 ⋆ n^3*(n^4 + n^2 - 1). • a(n) = n ^ 7 + n ^ 5 - n ^ 3. •

[A035823] • 1,152,11552,585352,22249152,676725432,17158543712,373068895912,7101177930112,120221169738712,1833042722372512,25427680393479112,323611487252712512,3805280811287736312,41591858654834621 12 ⋆ Coordination sequence for lattice D*_76 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=76. •

[A193249] • 1,153,755,2107,4509,8261,13663,21015,30617,42769,57771,75923,97525,122877,152279,186031,224433,267785,316387,370539,430541,496693,569295,648647,735049 ⋆ Snub dodecahedron with faces of centered polygons. • a(n) = 50 * n ^ 3 - 75 * n ^ 2 + 27 * n - 1 = (2 * n - 1) * (25 * n ^ 2 - 25 * n + 1). •

[**A160854**] • 1,154,2155,13524,55400,173911,455120,1043547,2164267,4148584,7463281,12743446,20828874,32804045,50041678,74249861,107522757,152394886,211898983,289627432,389797276,517318803,677867708,877960831,1125035471 ★ G.f.: (1+147*x+1098*x^2+1638*x^3+632*x^4+59*x^5+x^6)/(1-x)^7. • a(n) = 149 * n ^ 6 / 30 + 81 * n ^ 5 / 4 + 337 * n ^ 4 / 8 + 142 * n ^ 3 / 3 + 3529 * n ^ 2 / 120 + 107 * n / 12 + 1. - R. J. Mathar, Sep 17 2011 •

[**A160863**] • 1,154,2199,13911,57209,179988,471675,1082509,2246545,4308382,7753615,13243011,21650409,34104344,52033395,77215257,111829537,158514274,220426183,301304623,405539289,538241628,705319979,913558437,1170699441 ★ G.f.: (1+147*x+1142*x^2+1717*x^3+656*x^4+60*x^5+x^6)/(1-x)^7. • a(n) = 931 * n ^ 6 / 180 + 1261 * n ^ 5 / 60 + 1547 * n ^ 4 / 36 + 565 * n ^ 3 / 12 + 1276 * n ^ 2 / 45 + 42 * n / 5 + 1. - R. J. Mathar, Sep 17 2011 •

[**A160840**] • 1,154,2287,14695,60907,192493,505912,1163401,2417905,4642048,8361145,14290255,23375275,36838075,56225674,83463457,120912433,1714305 34,238437955,325986535,438833179,582517321,763442428,988961545,1267466881 ★ G.f.: (1+147*x+1230*x^2+1885*x^3+714*x^4+63*x^5+x^6)/(1-x)^7. • a(n) = 449 * n ^ 6 / 80 + 1803 * n ^ 5 / 80 + 713 * n ^ 4 / 16 + 745 * n ^ 3 / 16 + 1053 * n ^ 2 / 40 + 37 * n / 5 + 1. - R. J. Mathar, Sep 11 2011 •

[**A160841**] • 1,154,2287,14725,61147,193546,509293,1172305,2438317,4684258,8441731,14434597,23620663,37237474,56852209,84415681,122320441,173462986,241310071,329969125,444262771,589807450,773096149,1001585233 ★ G.f.: (1+147*x+1230*x^2+1915*x^3+744*x^4+66*x^5+x^6)/(1-x)^7. • a(n) = 1 + 3 * n * (n + 1) * (38 * n ^ 4 + 112 * n ^ 3 + 183 * n ^ 2 + 127 * n + 50) / 20. - R. J. Mathar, Sep 17 2011 • a(0)=1, a(1)=154, a(2)=2287, a(3)=14725, a(4)=61147, a(5)=193546, a(6)=509293, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Feb 11 2015 •

[**A160853**] • 1,154,2287,14735,61227,193897,510420,1175273,2445121,4698328,8468593,14482711,23702459,37370607,57061054,84733089,122789777,174140470,242267443,331296655,446072635,592237493,776314056,1005793129 ★ G.f.: (1+147*x+1230*x^2+1925*x^3+754*x^4+67*x^5+x^6)/(1-x)^7. • a(n) = 1 + n * (n + 1) * (1375 * n ^ 4 + 4022 * n ^ 3 + 6573 * n ^ 2 + 4582 * n + 1808) / 240. - R. J. Mathar, Sep 17 2011 •

[**A063340**] • 1,155,341,528,715,902,1089,1276,1463,1650,1837,2022,2211,2398,2585,2770,2959,3144,3333,3518,3707,3892,4081,4264,4455 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(67). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A129640**] • 0,155,464,939,1764,3515,6260,11055,21252,37247,65192,124623,217848,380723,727112,1270467,2219772,4238675,7405580,12938535,24705564,43163639,75412064,143995335,251576880 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+313)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 626 for n > 6; a(1)=0, a(2)=155, a(3)=464, a(4)=939, a(5)=1764, a(6)=3515. •

[**A224336**] • 155,805,2555,6245,12955,24005,40955,65605,99995,146405,207355,285605,384155,506245,655355,835205,1049755,1303205,1599995,1944805,2342555,2798405,3317755,3906245,4569755 ★ Number of idempotent 5X5 0..n matrices of rank 4. • a(n) = 10 * n ^ 4 + 40 * n ^ 3 + 60 * n ^ 2 + 40 * n + 5. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) . - _ Colin Barker _ , Sep 20 2014 •

[**A218328**] • 1,155,885,2639,5865,11011,18525,28855,42449,59755,81221,107295,138425,175059,217645,266631,322465,385595,456469,535535,623241,720035,826365,942679,1069425 ★ Odd 9-gonal (nonagonal) pyramidal numbers. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + 448. • a(n) = (2 * n - 1) * (4 * n - 3) * (28 * n - 25) / 3. •

[**A158550**] • 156,663,1508,2691,4212,6071,8268,10803,13676,16887,20436,24323,28548,33111,38012,43251,48828,54743,60996,67587,74516,81783,89388,97331,105612 ★ 169n^2 - 13. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A035824**] • 1,156,12168,632788,24684816,770545932,20050650776,447393464388,8739210543648,151827622117756,2375502273471912,33813163932788916,415550716354149168,5327219734962149868,59738920517881797816 ★ Coordination sequence for lattice D*_78 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=78. •

[**A252778**] • 0,0,156,14298,228984,1821420,9676020,39328086,131914608,382726584,991134540,2342199090,5133181416,10561434468,20593784484,38341504110,68569332960,118371718896,198054533628,322265959434,511426049880,793510636380,1206251784276 ★ Number of ways of n-coloring the square grid graph G_(3,3) such that no rectangle exists with sides parallel to the axes having all 4 corners of the same color. • a(n) = n * (n - 1) * (n ^ 7 + n ^ 6 + n ^ 5 - 8 * n ^ 4 - 8 * n ^ 3 + 4 * n ^ 2 + 22 * n - 14). •

[**A093472**] • 159,258,357,456,555,654,753,852,951,11599,12589,13579,14569,15559,16549,17539,18529,19519,21598,22588,23578,24568,25558,26548,27538 ★ (2n+1)-digit anti-palindromic numbers or numberdromes, whose first and last digits add to ten, second and next-to-last add to ten and so on with the central digit a 5. • a(n) = (10 ^ (m + 1))n + 5(10 ^ m) + (10 ^ m - n) •

[**A227709**] • 159,906,5664,34932,206652,1168620,6344268,33264780,169424652,842319372,4104041484,19659270156,92822679564,432877854732,1997218529292,9129086189580,41386604691468,186264812126220,832881548328972,3702608701685772,16373934411743244 ★ The hyper-Wiener index of the dendrimer D_n defined pictorially in Fig. 1 of the Heydari et al. reference. • a(n) = 12 + 2 ^ n * (15 + 45 * n + 15 * n ^ 2) + 4 ^ n * (132 + 18 * n + 36 * n ^ 2). •

[**A121804**] • 0,159,4846,43648,272432,1759444,10596296,64633588,387979832,2337067204,14023337096,84221417428,505334268632,3032732926564,18196438915496,109185158327668,655111280131832,3930726320267524,23584360724983496 ★ 1045*6^n/27-513*2^(n-2)-2072*3^(n-3)+670*(-1)^n*3^(n-3)+254*(-1)^(n+1), n>1. • a(n)= 7 * a(n - 1) + 5 * a(n - 2) - 75 * a(n - 3) + 36 * a(n - 4) + 108 * a(n - 5), n>6. [Oct 14 2009] •

[**A221011**] • 159,8934,138021,1343571,10311135,68588151,415166631,2351820039,12687791559,65945446215,332865161799,1641053851719,7935696378951,37761280783431,177249667277895,822339653125191,3776814888617031,17193456239838279,77664102465799239,348399491831563335 ★ The hyper-Wiener index of the nanostar dendrimer G[n], defined pictorially in the Nadjafi-Arani et al. reference. • a(n) = 1095 - 2 ^ (n - 2) * 33885 + 4 ^ (n - 2) * (15876 * n ^ 2 - 69930 * n + 118080). •

[**A224430**] • 159,104448,2123802,22761810,183445458,1256801106,7758199698,44564150802,242917046802,1272665857554,6464520301074,32033885569554,155562155893266,742852590887442,3497424488243730,16268164668891666,74884202558956050,341573770043761170,1545606217427624466 ★ The hyper-Wiener index of the dendrimer D_1[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = 41490 - 420000 * 2 ^ n + 81225 * 4 ^ n * n ^ 2 - 467115 * 4 ^ n * n / 2 + 378669 * 4 ^ n + 231 * 2 ^ n * n - 1425 * 2 ^ n * n ^ 2. •

[**A278129**] • 160,508,1204,2596,5380,10948,22084,44356,88900,177988,356164,712516,1425220,2850628,5701444,11403076,22806340,45612868,91225924,182452036,364904260,729808708,1459617604,2919235396,5838470980 ★ a(n) = 348*2^n - 188. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[**A127409**] • 160,1750,10044,40817,132608,367416,903000,2020458,4191264,8168446,15107092,26719875,45473792,74834816,119567664,186098388,282948000,421245846,615331948,883458037,1248597504,1739375000,2391126920 ★ Negative value of coefficient of x^(n-4) in the characteristic polynomial of a certain n X n integer circulant matrix. • a(n + 3) = n * (n + 1) * (n + 2) * (n + 3) ^ 4 * (3 * n + 22) / (2 * 5!) for n>=1. • a(n) = (3 * n ^ 8 - 5 * n ^ 7 - 45 * n ^ 6 + 125 * n ^ 5 - 78 * n ^ 4) / (2 * 5!) for n>=4. •

[**A035825**] • 1,160,12800,682720,27315200,874496032,23338104320,534067024480,10698844067840,190617057780640,3058431999744512,44642243043558880,597778600580572160,7395049289720822560,85027230683021319680 ★ Coordination sequence for lattice D*_80 (with edges defined by l_1 norm = 1). • a(m)=add(2 ^ k * binomial(n, k) * binomial(m - 1, k - 1), k=0..n) + 2 ^ n * binomial((n + 2 * m) / 2 - 1, n - 1); with n=80. •

[**A060641**] • 161,257,373,509,665,841,1037,1253,1489,1745,2021,2317,2633,2969,3325,3701,4097,4513,4949,5405,5881,6377,6893,7429,7985 ★ Surround numbers of a length 2n zig-zag. • a(n) = 10n ^ 2 + 46n + 29 with n>1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x ^ 2 * (161 - 226 * x + 85 * x ^ 2) / (1 - x) ^ 3. [_ Colin Barker _ , Apr 22 2012] •

[**A157954**] • 161,323,485,647,809,971,1133,1295,1457,1619,1781,1943,2105,2262,2429,2591,2753,2915,3077,3239,3401,3563,3725,3887,4049 ★ 162n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 29 2012 •

[**A157337**] • 161,577,1249,2177,3361,4801,6497,8449,10657,13121,15841,18817,22049,25537,29281,33281,37537,42049,46817,51841,57121,62657,68449,74497,80801 ★ a(n) = 128*n^2 + 32*n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 29 2012 •

[**A213288**] • 0,1,162,2074,13280,64924,273248,1050777,3754472,12602451,39598078,115470300,311272072,777274550,1808153452,3946185587,8137258032,15957939797,29935676058,53988338158,94013898576,158665898944,260355640952,416527654621,651260985944 ★ Number of 9-length words w over n-ary alphabet such that for every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (3353416 - 9177198 * n + 10002755 * n ^ 2 - 5796570 * n ^ 3 + 1984509 * n ^ 4 - 416052 * n ^ 5 + 52920 * n ^ 6 - 3780 * n ^ 7 + 120 * n ^ 8) / 120. •

[**A128803**] • 0,0,162,4374,78732,1180980,15943230,200884698,2410616376,27894275208,313810596090,3451916556990,37280698815492,396531069219324,4163576226802902,43237137739876290,444724845324441840 ★ n*(n-1)*9^n. • a(n) = 27 * a(n - 1) - 243 * a(n - 2) + 729 * a(n - 3). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A285046**] • 1,162,4806,71892,758214,6506172,48783900,332715240,2115552582,12745645484,73577414196,410265444888,2222886926364,11756568121560,60911288332920,310024235290320,1553692427724870 ★ Expansion of cosh(9*arctanh(2*sqrt
• a(n) = 1 / 105 * (4096 * n ^ 4 + 512 * n ^ 3 + 3392 * n ^ 2 + 400 * n + 105) * binomial(2 * n,n). •

[**A022151**] • 1,162,5154,67266,507906,2653346,10666146,35310402,100746498,255708578,590675490,1262903490,2531446530,4804547490,8702041250,15135668034,25410452994,41350565538,65453329442,101075312322,152654680578,225974263458,328470027426,469589919554 ★ Coordination sequence for root lattice B_9. • a(0)=1; for n>0, a(n) = (2012 * n ^ 8 - 3952 * n ^ 7 + 27160 * n ^ 6 - 35392 * n ^ 5 + 81508 * n ^ 4 - 57568 * n ^ 3 + 45560 * n ^ 2 - 8928 * n + 630) / 315. - _ Ralf Stephan _ , Apr 28 2004 •

[**A279917**] • 0,1,162,6689,121250,1296406,9613604,54550049,252178758,992204376,3424910566,10615778966,30047257318,78751366604,193075366412,446840757793,982597838280,2066025009763,4171924730922,8127978871064,15324653827568,28059983210370 ★ a(n) = Sum_{k=1..n-1} sigma_5(k)*sigma_7(n-k). • a(n) = (sigma _ 13(n) + 20 * sigma _ 7(n) - 21 * sigma _ 5(n)) / 10080. •

[**A157952**] • 163,325,487,649,811,973,1135,1297,1459,1621,1783,1945,2107,2269,2431,2593,2755,2917,3079,3241,3403,3565,3727,3889,4051 ★ 162n + 1. • a(0)=163, a(1)=325, a(n)=2 * a(n - 1) - a(n - 2). - Harvey P. Dale, Aug 10 2011 •

[**A134160**] • 163,7411,49981,180793,477463,1042303,2002321,3509221,5739403,8893963,13198693,18904081,26285311,35642263,47299513,61606333,78936691,99689251,124287373,153179113,186837223,225759151,270467041,321507733

⋆ a(n) = 163 + 1053*n + 2520*n^2 + 2646*n^3 + 1029*n^4. • a(n) = (3 * (7 * n + 4) ^ 4 + 6 * (7 * n + 4) ^ 3 - 3 * (7 * n + 4) + 1) / 7. • a(n) = sum(k =1..7 * n + 4, k ^ 6) / sum(k=1..7 * n + 4, k ^ 2). •

[A063354] • 1,164,356,548,740,932,1124,1316,1508,1700,1892,2084,2276,2468,2660,2852,3044,3236,3428,3620,3812,4004,4196,4388,4580 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(81). • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. •

[A027796] • 165,2200,15730,80080,325325,1121120,3403400,9335040,23556390,55426800,122862740,258658400,520550030,1006778080,1879537000,3399510400,5975701875,10236025800,17125658550,28042014000,45017447475,70963464000,109993369200,167844019200 ⋆ a(n) = 55*(n+1)*C(n+3,11)/3. • a(n) = C(n + 1, 9) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 13 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[A158218] • 167,672,1515,2696,4215,6072,8267,10800,13671,16880,20427,24312,28535,33096,37995,43232,48807,54720,60971,67560,74487,81752,89355,97296,105575 ⋆ 169n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A167574] • 167,741,2043,4409,8175,13677,21251,31233,43959,59765,78987,101961,129023,160509,196755,238097,284871,337413,396059,461145,533007,611981,698403,792609,894935 ⋆ The fourth row of the ED3 array A167572. • a(n) = 56 * n ^ 3 + 28 * n ^ 2 + 98 * n - 15. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ G. C. Greubel _ , Jun 16 2016 •

[A290757] • 167,1666,14861,125972,1034803,8313830,65687321,512243704,3952731839,30238302794,229652377381,1733456444636,13015423731275,97276566448558,724116167445041,5371074588248768,39713352030673111,292804273605231122,2153305580970250301 ⋆ Number of (non-null) connected induced subgraphs in the (2 n)-crossed prism graph. • a(n) = 7 ^ n + n * (191 * 7 ^ (n - 2) - 14) / 3. • a(n) = 16 * a(n - 1) - 78 * a(n - 2) + 112 * a(n - 3) - 49 * a(n - 4) for n > 5. •

[A158219] • 168,337,506,675,844,1013,1182,1351,1520,1689,1858,2027,2196,2365,2534,2703,2872,3041,3210,3379,3548,3717,3886,4055,4224 ⋆ 169n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A157998] • 168,674,1518,2700,4220,6078,8274,10808,13680,16890,20438,24324,28548,33110,38010,43248,48824,54738,60990,67580,74508,81774,89378,97320,105600 ⋆ 169n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A216107] • 168,1720,6636,17796,38980,74868,131040,213976,331056,490560,701668,974460,1319916,1749916,2277240,2915568,3679480,4584456,5646876,6884020,8314068,9956100,11830096,13956936,16358400 ⋆ The hyper-Wiener index of the tetrameric 1,3-adamantane TA(n) (see the Fath-Tabar et al. reference). • a(n) = (75n ^ 4 + 210n ^ 3 + 229n ^ 2 - 178n) / 2. •

[A282614] • 0,1,168,5346,67840,496875,2544696,10151428,33693696,97135605,250525000,590412966,1291500288,2653631071,5169160920,9616725000,17188519936,29659392873,49607301096,80696066410,128032800000,198613915731,301875282808,450363792396 ⋆ Number of inequivalent 3 X 3 matrices with entries in {1,2,3,..,n} up to vertical and horizontal reflections. • a(n) = n ^ 5 * (n + 1) * (n ^ 3 - n ^ 2 + n + 1) / 4. •

[A156159] • 169,289,625,2809,7225,18769,93025,243049,635209,3157729,8254129,21576025,107267449,280395025,732947329,3643933225,9525174409,24898630849,123786459889,323575532569,845820499225,4205095700689 ⋆ Squares of the form k^2+(k+17)^2 with integer k. • a(n) = 34 * a(n - 3) - a(n - 6) - 2312 for n > 6; a(1)=169, a(2)=289, a(3)=625, a(4)=2809, a(5)=7225, a(6)=18769. •

[A017534] • 1,169,625,1369,2401,3721,5329,7225,9409,11881,14641,17689,21025,24649,28561,32761,37249,42025,47089,52441,58081,64009,70225,76729,83521 ⋆ (12n+1)^2. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jul 07 2012 •

[A158221] • 170,339,508,677,846,1015,1184,1353,1522,1691,1860,2029,2198,2367,2536,2705,2874,3043,3212,3381,3550,3719,3888,4057,4226 ⋆ a(n) = 169n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 02 2012 •

[A173275] • 170,678,1524,2708,4230,6090,8288,10824,13698,16910,20460,24348,28574,33138,38040,43280,48858,54774,61028,67620,74550,81818,89424,97368,105650 ⋆ 169n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 •

[A158220] • 171,680,1527,2712,4235,6096,8295,10832,13707,16920,20471,24360,28587,33152,38055,43296,48875,54792,61047,67640,74571,81840,89447,97392,105675 ⋆ 169n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 02 2012 •

[A195279] • 171,2125,11319,39609,107811,248261,507375,948209,1653019,2725821,4294951,6515625,9572499,13682229,19096031,26102241,35028875,46246189,60169239,77260441,98032131,123049125,152931279,188356049,230061051 ⋆ Number of lower triangles of a 3 X 3 integer array with each element differing from all of its vertical and horizontal neighbors by n or less and triangles differing by a constant counted only once. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A185526] • 174,726,3030,12630,52662,219606,915702,3818262,15921462,66389334,276830070,1154326422,4813311414,20070547926,83690183670,348971383830,1455141093942,6067648253526,25300883554422,105499640297622 ⋆ Number of (n+2) X 3 binary arrays with each 3 X 3 subblock nonsingular. • a(n) = 3 * a(n - 1) + 2 * a(n - 2) + 12 * a(n - 3). •

[A224433] • 174,22734,299646,2332398,14462574,79461294,406098606,1980213678,9348000174,43104718254,195270696366,872477232558,3855431404974,16883645533614,73381802986926,316914939973038,1361207885548974,5819017520467374,24772799043194286 ⋆ The Wiener index of the dendrimer D_3[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n)= - 12882 + 44604 * 2 ^ n - 31548 * 4 ^ n + 21780 * n * 4 ^ n - 7260 * n * 2 ^ n. •

[A063344] • 1,176,385,595,805,1015,1225,1435,1645,1855,2065,2273,2485,2695,2905,3113,3325,3533,3745,3953,4165,4373,4585,4791,5005 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(71). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A243647] • 0,0,0,0,1,176,3145,22969,106819,376796,1101151,2805825,6438909,13602304,26866541,50186401,89436655,153088924,253052339,405702361,633123801,964595760,1438347889,2103619049,3023051131 ⋆ Number of ways four L-tiles can be placed on an n X n square. • a(n) = (n ^ 8 - 8 * n ^ 7 - 14 * n ^ 6 + 244 * n ^ 5 - 201 * n ^ 4 - 2428 * n ^ 3 + 4042 * n ^ 2 + 7700 * n - 15576) / 24 for n>=4, a(n) = 0 for n<4. •

[A068244] • 1,176,5490,65600,455875,2239776,8647716,27962880,78920325,200002000,464447126,1003294656,2039332295,3935444800,7261533000,12884914176,22089914121,36733221360,59442494650,93866696000,144987663051,219503536736,326295822700,476993088000 ⋆ 1/6 the number of colorings of a 3 X 3 rhombic- or staggered- hexagonal array with n colors. • a(n) = (n ^ 9 - 16 * n ^ 8 + 112 * n ^ 7 - 448 * n ^ 6 + 1120 * n ^ 5 - 1791 * n ^ 4 + 1786 * n ^ 3 - 1012 * n ^ 2 + 248 * n) / 6. (End) •

[A292185] • 177,488,1159,2460,4781,8656,14787,24068,37609,56760,83135,118636,165477,226208,303739,401364,522785,672136,854007,1073468,1336093,1647984,2015795,2446756,2948697 ⋆ One-fifth of the rolling arithmetic mean of the fifth powers of the natural numbers taken five at a time. • a(n) = ((n ^ 5 + (n + 1) ^ 5 + (n + 2) ^ 5 + (n + 3) ^ 5 + (n + 4) ^ 5) / 5) / 5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>6. •

[A157842] • 178,5379,17780,37381,64182,98183,139384,187785,243386,306187,376188,453389,537790,629391,728192,834193,947394,1067795,1195396,1330197,1472198,1621399,1777800,1941401,2112202 ⋆ 3600n^2 - 5599n + 2177. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A063350] • 1,179,408,634,860,1086,1312,1538,1764,1990,2216,2446,2668,2894,3120,3350,3572,3802,4024,4254,4476,4706,4928,5162,5380 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(77). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A177682] • 179,1571,12511,155403,572951,2194479,8583263,33943743,134996351,538428159,2150598143,8596163583,34372196351,137463869439,549805645823,2199122919423,8796292349951,35184770744319,140738285666303 ⋆ a(n) = 6*a(n-1)-8*a(n-2)-3 for n > 4; a(0)=179, a(1)=1571, a(2)=12511, a(3)=155403, a(4)=572951. • a(n) = 2 * 4 ^ (n + 5) + 6083 * 2 ^ (n - 1) - 1 for n > 2. •

[A142968] • 1,179,5280,82610,919615,8284857,64730022,457217400,2999230965,18608607535,110625457964,636103699038,3562753619915,19541111960965,105392471360850,560747327119908,2950726075955265,15387821226034875,79656442803398680,409857988825489610 ⋆ Fifth column (m=4) of triangle A142963 divided by 16=2^4. • a(n) = 35a(n - 1) - 560a(n - 2) + 5432a(n - 3) - 35714a(n - 4) + 168542a(n - 5) - 589632a(n - 6) + 1556776a(n - 7) - 3126949a(n - 8) + 4777591a(n - 9) - 5506936a(n - 10) + 4703032a(n - 11) - 2881136a(n - 12) + 1195632a(n - 13) - 300672a(n - 14) + 34560a(n - 15). • a(n) = (1155 / 8) + (472 / 3) * n - 5544 * 2 ^ n + (120285 / 4) * 3 ^ n - 49280 * 4 ^ n + (196875 / 8) * 5 ^ n - 64 * 2 ^ n * n ^ 3 - 864 * 2 ^ n * n ^ 2 - 3824 * 2 ^ n * n + (187 / 3) * n ^ 2 + 1215 * 3 ^ n * n ^ 2 + 12150 * 3 ^ n * n - 8960 * 4 ^ n * n + (32 / 3) * n ^ 3 + (2 / 3) * n ^ 4. •

[A066164] • 180,360,540,720,900,1080,1260,1440,1620,1800,1980,2160,2340,2520,2700,2880,3060,3240,3420,3600,3780,3960,4140,4320,4500 ⋆ Sum of interior angles in an n-sided polygon in degrees. • a(n) = (n - 2) * 180. •

[A225933] • 180,1269,5940,20454,140470,304548,605685,1965462,5261278,17967252,25736406,49799782,155060070,254724622,402876885,616803846,918048406,1109465220,2638932670,4871761782,6475385158,11018543046,14135549422,22598655270,42920128086 ⋆ Number of conjugacy classes in adjoint Chevalley group E_6(q) as q runs through the prime powers. • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 9q ^ 2 + 9q + 22 if q == 1 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 6q ^ 2 + 4q + 4 if q == 2 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 7q ^ 2 + 5q + 3 if q == 3 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 8q ^ 2 + 8q + 20 if q == 4 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 7q ^ 2 + 5q + 4 if q == 5 (mod 6). •

[A225932] • 180,1269,6116,20454,140886,304548,605685,1965462,5262486,17969012,25736406,49802214,155060070,254728710,402876885,616803846,918054582,1109465220,2638941366,4871761782,6475396806,11018543046,14135564454,22598655270,42920128086 ⋆ Number of conjugacy classes in simply connected Chevalley group E_6(q) as q runs through the prime powers. • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 15q ^ 2 + 21q + 60 if q == 1 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 6q ^ 2 + 4q + 4 if q == 2 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 7q ^ 2 + 5q + 3 if q == 3 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 14q ^ 2 + 20q + 52 if q == 4 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 2q ^ 3 + 7q ^ 2 + 5q + 4 if q == 5 (mod 6). •

[A243465] • 0,0,0,180,4890,36028,154434,488660,1271450,2883900,5907298,11182644,19877850,33562620,54291010,84691668,128065754,188492540,270942690,381399220,526986138,716104764,958577730,1265800660,1650901530 ⋆ Number of ways 3 domicules can be placed on an n X n square. • a(n) = (2574 - 2328 * n - 144 * n ^ 5 - 96 * n ^ 4 + 1188 * n ^ 3 - 854 * n ^ 2 + 32 * n ^ 6) / 3 for n>=3, a(n) = 0 for n<3. •

[A159548] • 181,199,221,865,995,1145,5009,5771,6649,29189,33631,38749,170125,196015,225845,991561,1142459,1316321,5779241,6658739,7672081,33683885,38809975,44716165,196324069 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+199)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=181, a(2)=199, a(3)=221, a(4)=865, a(5)=995, a(6)=1145. •

[**A069763**] • 181,1637,7811,26659,73529,174761,372007,727271,1328669,2296909,3792491,6023627,9254881,13816529,20114639,28641871,39988997,54857141,74070739,98591219,129531401,168170617,215970551,274591799,345911149 ⋆ Frobenius number of the numerical semigroup generated by consecutive cubes. • a(n) = n ^ 3 * (n + 1) ^ 3 - n ^ 3 - (n + 1) ^ 3 = n ^ 6 + 3 * n ^ 5 + 3 * n ^ 4 - n ^ 3 - 3 * n ^ 2 - 3 * n - 1. •

[**A008379**] • 1,181,6621,101241,903881,5590989,26515269,102908209,341661649,1001294629,2650436845,6447019305,14603375385,31126140605,62948716245,121608649569,225663101089,404083136149,700922413309,1181618464729,1941355693161,3115998965421,4896195782501 ⋆ Crystal ball sequence for D_10 lattice. • a(n - 1) = 676 / 4725 * n ^ 10 - 676 / 945 * n ^ 9 + 1168 / 315 * n ^ 8 - 664 / 63 * n ^ 7 + 1796 / 75 * n ^ 6 - 1708 / 45 * n ^ 5 + 41176 / 945 * n ^ 4 - 6568 / 189 * n ^ 3 + 29342 / 1575 * n ^ 2 - 634 / 105 * n + 1. •

[**A158553**] • 182,770,1750,3122,4886,7042,9590,12530,15862,19586,23702,28210,33110,38402,44086,50162,56630,63490,70742,78386,86422,94850,103670,112882,122486 ⋆ 196n^2 - 14. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A193253**] • 1,183,905,2527,5409,9911,16393,25215,36737,51319,69321,91103,117025,147447,182729,223231,269313,321335,379657,444639,516641,596023,683145,778367,882049 ⋆ Great rhombicosidodecahedron with faces of centered polygons. • a(n) = 60 * n ^ 3 - 90 * n ^ 2 + 32 * n - 1. •

[**A272126**] • 1,183,1205,3787,8649,16511,28093,44115,65297,92359,126021,167003,216025,273807,341069,418531,506913,606935,719317,844779,984041,1137823,1306845,1491827,1693489 ⋆ a(n) = 120*n^3 + 60*n^2 + 2*n + 1. • a(n) = (2 * n + 1) * (60 * n ^ 2 + 1). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. •

[**A157297**] • 185,233,317,793,1165,1717,4573,6757,9985,26645,39377,58193,155297,229505,339173,905137,1337653,1976845,5275525,7796413,11521897,30748013,45440825,67154537,179212553 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+233)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=185, a(2)=233, a(3)=317, a(4)=793, a(5)=1165, a(6)=1717. •

[**A063346**] • 1,187,408,630,852,1074,1296,1518,1740,1962,2184,2404,2628,2850,3072,3292,3516,3736,3960,4180,4404,4624,4848,5066,5292 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(73). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A134163**] • 1,187,1531,5977,16441,36811,71947,127681,210817,329131,491371,707257,987481,1343707,1788571,2335681,2999617,3795931,4741147,5852761,7149241,8650027,10375531,12347137,14587201 ⋆ 1 + 12*n + 81*n^3 + n*(105*n + 81*n^3)/2. • a(n) = (3(3n + 1) ^ 4 + 6(3n + 1) ^ 3 - (3n + 1) ^ 2 - 4 (3n + 1) + 2) / 6. • a(n) = (sum _{ k=1..3n + 1 } k ^ 7) / (sum _{ k=1..3n + 1 } k ^ 3). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Wesley Ivan Hurt _ , Oct 23 2014 •

[**A099945**] • 188,404,836,1700,3428,6884,13796,27620,55268,110564,221156,442340,884708,1769444,3538916,7077860,14155748,28311524,56623076,113246180,226492388,452984804,905969636,1811939300,3623878628 ⋆ Number of 4 X n binary matrices avoiding simultaneously the right angled numbered polyomino patterns (ranpp) (00;1) and (11;0). • a(n) = 27 * 2 ^ n - 28. •

[**A107955**] • 191,1471,7551,31871,119231,410303,1327103,4090623,12130303,34842623,97435647,266313727,713637887,1879523327,4875091967,12474187775,31531728895,78832992255,195135799295,478649778175,1164351373311 ⋆ Number of chains in the power set lattice or the number of fuzzy subsets of a (n+5)-elements set X_(n+5) with specification n elements of one kind, 4 elements of another and 1 of yet another kind. • a(n) = (2 ^ (n + 1)) * (1 / 24) * (n ^ 5 + 36 n ^ 4 + 431 n ^ 3 + 2088 n ^ 2 + 3972 n + 2304) - 1 •

[**A177683**] • 191,1587,14161,123004,508152,2064880,8324064,33425344,133959552,536354560,2146450944,8587869184,34355607552,137430691840,549739290624,2198990209024,8796026929152,35184239902720,140737223983104 ⋆ a(n) = 6*a(n-1)-8*a(n-2) for n > 4; a(0)=191, a(1)=1587, a(2)=14161, a(3)=123004, a(4)=508152. • a(n) = 2 * 4 ^ (n + 5) - 2017 * 2 ^ (n - 1) for n > 2. •

[**A229361**] • 192,420,1494,7686,49218,358710,2838234,23736846,206418978,1846772550,16877063274,156755849406,1474458820338,14008019814390,134151794416314,1293111887664366,12531051927887298,121969635737464230,1191547891970937354,11676481763813277726 ⋆ Total sum of n-th powers of parts in all partitions of 10. • a(n) = 97 + 41 * 2 ^ n + 21 * 3 ^ n + 13 * 4 ^ n + 8 * 5 ^ n + 5 * 6 ^ n + 3 * 7 ^ n + 2 * 8 ^ n + 9 ^ n + 10 ^ n. •

[**A209594**] • 192,3645,28672,140625,513216,1529437,3932160,9034497,19000000,37202781,68677632,120670225,203297472,330328125,520093696,796539777,1190427840,1740697597,2496000000,3516410961,4875335872,6661615005,8981839872 ⋆ Number of 3X3 0..n arrays with every element equal to a diagonal or antidiagonal reflection • a(n) = (n + 1) ^ 6 * (2 * n + 1) •

[**A215688**] • 0,192,7020,52808,229680,738192,1950512,4488180,9314448,17841200,32050452,54630432,89126240,140105088,213336120,315984812,456821952,646447200,897527228,1225048440,1646584272,2182577072,2856634560,3695840868,4731082160 ⋆ Number of solid standard Young tableaux of shape [[3*n,3],[3]]. • a(n) = (3 * n - 1) * (3 * n - 2) * (3 * n ^ 2 + 13 * n + 16) * (3 * n ^ 2 + 5 * n + 4) / 4 for n>0, a(0) = 0. •

[**A166540**] • 0,0,0,193,1548,6714,21280,55395,125748,257908,489024,870885,1473340,2388078,3732768,5655559,8339940,12009960,16935808,23439753,31902444,42769570,56558880,73867563,95379988 ⋆ Number of ways to place 2 nonattacking kings on an n X n X n raumschach board. • a(n) = (n ^ 6 - (3 * n - 2) ^ 3) / 2 = (n ^ 6) / 2 - (27 * n ^ 3) / 2 + 27 * n ^ 2 - 18 * n + 4 for n>0. - _ Andrew Woods _ , Aug 30 2011 •

[**A158224**] • 194,780,1758,3128,4890,7044,9590,12528,15858,19580,23694,28200,33098,38388,44070,50144,56610,63468,70718,78360,86394,94820,103638,112848,122450 ⋆ a(n) = 196*n^2 - 2*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158225**] • 195,391,587,783,979,1175,1371,1567,1763,1959,2155,2351,2547,2743,2939,3135,3331,3527,3723,3919,4115,4311,4507,4703,4899 ⋆ 196n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A158003**] • 195,782,1761,3132,4895,7050,9597,12536,15867,19590,23705,28212,33111,38402,44085,50160,56627,63486,70737,78380,86415,94842,103661,112872,122475 ⋆ 196n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 •

[**A257765**] • 195,1599,2379,19695,163059,242619,2008695,16630419,24744759,204867195,1696139679,2523722799,20894445195,172989616839,257394980739,2131028542695,17643244777899,26251764312579,217344016909695,1799437977728859,2677422564902319 ⋆ Positive integers whose square is the sum of 26 consecutive squares. • a(n) = 102 * a(n - 3) - a(n - 6). •

[**A277792**] • 0,1,196,2601,15376,60025,181476,461041,1032256,2099601,3960100,7027801,11861136,19193161,29964676,45360225,66846976,96216481,135629316,187662601,255360400,342287001,452583076,591024721,763085376 ⋆ Squares that are also pentagonal pyramidal numbers. • a(n) = a(- n). • a(n) = n ^ 2 * (2 * n ^ 2 - 1) ^ 2. •

[**A178722**] • 0,0,0,0,0,0,196,3072,42768,550000,3573856,25009344,102800672,454967744,1441238400,4811118592,12616778208,34692705648,79514466480,189770459200,392908083876,842040318416,1610365515264,3172863442176,5692888800000 ⋆ Number of ways to place 6 nonattacking queens on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 10 / 720 - n ^ 9 / 12 + 661 * n ^ 8 / 288 - 153 * n ^ 7 / 4 + 615887 * n ^ 6 / 1440 - 80581 * n ^ 5 / 24 + 1801697 * n ^ 4 / 96 - 295355 * n ^ 3 / 4 + 9389033 * n ^ 2 / 48 - 626899 * n / 2 + 142789469 / 630 •

[**A128990**] • 0,196,6174,115248,1680700,21176820,242121642,2582630848,26149137336,254227724100,2392565359030,21924598926384,196490913105396,1728112389619252,14954818756320450,127614453387267840 ⋆ a(n) = (n^3 - n^2)*7^n. • a(n) = 28 * a(n - 1) - 294 * a(n - 2) + 1372 * a(n - 3) - 2401 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A159809**] • 197,223,257,925,1115,1345,5353,6467,7813,31193,37687,45533,181805,219655,265385,1059637,1280243,1546777,6176017,7461803,9015277,35996465,43490575,52544885,209802773 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+223)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=197, a(2)=223, a(3)=257, a(4)=925, a(5)=1115, a(6)=1345. •

[**A158223**] • 197,393,589,785,981,1177,1373,1569,1765,1961,2157,2353,2549,2745,2941,3137,3333,3529,3725,3921,4117,4313,4509,4705,4901 ⋆ 196n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A158222**] • 198,788,1770,3144,4910,7068,9618,12560,15894,19620,23738,28248,33150,38444,44130,50208,56678,63540,70794,78440,86478,94908,103730,112944,122550 ⋆ 196n^2+2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A156771**] • 198,927,1656,2385,3114,3843,4572,5301,6030,6759,7488,8217,8946,9675,10404,11133,11862,12591,13320,14049,14778,15507,16236,16965,17694 ⋆ 729n - 531. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A224452**] • 198,2646,21558,141686,825078,4438006,22578678,110311926,522899958,2422104566,11019370998,49421451766,219106574838,962208334326,4192177750518,18142557897206,78066631049718,334254292599286,1424972878709238 ⋆ The Wiener index of the nanostar dendrimer NS_2[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = 502 + 1280n * 4 ^ n + 1120n * 2 ^ n + 2000 * 2 ^ n - 2304 * 4 ^ n. •

[**A227705**] • 198,3834,34434,230418,1327410,7005042,34949106,167809266,783885042,3587327730,16158854898,71878385394,316494986994,1381924896498,5991517716210,25821420060402,110707230375666,472515428744946,2008808357363442,8510221225819890 ⋆ The Wiener index of the nanostar dendrimer defined pictorially as G(n) in the Darafsheh et al. reference. • a(n) = 4 ^ n * (1728 * n - 1872) + 2340 * 2 ^ n - 270. •

[**A156840**] • 1,199,251,449,451,649,701,899,901,1099,1151,1349,1351,1549,1601,1799,1801,1999,2051,2249,2251,2449,2501,2699,2701 ⋆ Numbers k >= 1 such that k^2 == 1 (mod 900). • a(n) = a(n - 1) + a(n - 4) - a(n - 5). - _ R. J. Mathar _ , Aug 18 2009 • a(n) = (2 * n + 1) * 225 / 4 + f(n mod 4) / 4, where f(0)= - 221, f(1)=121, f(2)= - 121, f(3)=221, so a nonrecursive formula for a(n) is: • a(n) = (450 * n + 225 - (100 * floor(((n - 1) mod 4) / 2) + 121) * (- 1) ^ n) / 4. (End) •

[**A157955**] • 199,399,599,799,999,1199,1399,1599,1799,1999,2199,2399,2599,2799,2999,3199,3399,3599,3799,3999,4199,4399,4599,4799,4999 ⋆ 200n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A117412**] • 200,400,600,800,1000,1200,1400,1600,1800,2000,2200,2400,2600,2800,3000,3200,3400,3600,3800,4000,4200,4400,4600,4800,5000 ⋆ Sum of the interior angles of an n-sided polygon, in gradians. • a(n)=(n - 2) * 200 for n>= 3 •

[**A109632**] • 200,500,800,1100,1400,1700,2000,2300,2600,2900,3200,3500,3800 ⋆ In the game of bridge, a(n) is the penalty for going down n tricks in a vulnerable, doubled contract. • a(n) = 300n - 100 •

[**A129641**] • 0,200,611,1227,2291,4620,8180,14364,27927,48671,84711,163760,284664,494720,955451,1660131,2884427,5569764,9676940,16812660,32463951,56402327,97992351,189214760,328737840 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+409)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 818 for n > 6; a(1)=0, a(2)=200, a(3)=611, a(4)=1227, a(5)=2291, a(6)=4620. •

[**A200892**] • 200,4059,34350,181336,710976,2269938,6233356,15250675,34054592,70608021,137674186,254905378,451556600,769941268,1269757336,2033423669,3172578200,4835901375,7218440614,10572623996,15221164112,2157206602

2 ★ Number of 0..n arrays x(0..8) of 9 elements without any interior element greater than both neighbors. ● a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. ●

[A022152] ● 1,200,7760,122264,1099040,6728168,31208560,117555640,376977472,1064088840,2708805776,6332774360,13786237280,28250329640,54959921840,102213292024,182747113600,315568484680,528350005968,860509231640,1367110174112,2123741938280,3232547993840 ★ Coordination sequence for root lattice B_10. ● a(0)=1; for n>0, a(n) = (2704 * n ^ 9 - 6024 * n ^ 8 + 51648 * n ^ 7 - 80976 * n ^ 6 + 248304 * n ^ 5 - 239736 * n ^ 4 + 296672 * n ^ 3 - 126864 * n ^ 2 + 43272 * n) / 945. - _ Ralf Stephan _ , Apr 28 2004 ●

[A157956] ● 201,401,601,801,1001,1201,1401,1601,1801,2001,2201,2401,2601,2801,3001,3201,3401,3601,3801,4001,4201,4401,4601,4801,5001 ★ 200n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 04 2012 ●

[A228320] ● 203,280,369,470,583,708,845,994,1155,1328,1513,1710,1919,2140,2373,2618,2875,3144,3425,3718,4023,4340,4669,5010,5363 ★ The Wiener index of the graph obtained by applying Mycielski's construction to the cycle graph C(n). ● a(n) = 6n ^ 2 - 13n. ●

[A273656] ● 203,4718,66808,750120,7370580,66562188,568136184,4663350120,37228965774,291297376370,2245876801168,17126594554160,129527848747752,973416393927768,7278979868039760,54211596845506800,40238622107322734,297784256038480087 8,2197711182622442317 6 ★ Number of forests of labeled rooted trees of height at most 1, with n labels, six of which are used for root nodes and any root may contain >= 1 labels. ● a(n) = C(n,6) * Sum _{ j=0..6 } Stirling2(6,j) * j ^ (n - 6). ●

[A154518] ● 204,420,636,852,1068,1284,1500,1716,1932,2148,2364,2580,2796,3012,3228,3444,3660,3876,4092,4308,4524,4740,4956,5172,5388 ★ 216n - 12. ● a(n) = 12 * (18n - 1). O.g.f.: 12 * x * (17 + x) / (x - 1) ^ 2. - _ R. J. Mathar _ , Jul 29 2009 ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A292346] ● 204,748,1548,2604,3916,5484,7308,9388,11724,14316,17164,20268,23628,27244,31116,35244,39628,44268,49164,54316,59724,65388,71308,77484,83916 ★ The forgotten topological index of the Aztec diamond AZ(n) (see the Ramanes et al. reference, Theorem 2.1). ● a(n) = 128 * n ^ 2 + 160 * n - 84. ●

[A157441] ● 209,1540,2871,4202,5533,6864,8195,9526,10857,12188,13519,14850,16181,17512,18843,20174,21505,22836,24167,25498,26829,28160,29491,30822,32153 ★ 1331n - 1122. ● a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 29 2012 ●

[A254466] ● 210,462,1386,5214,22770,110022,571626,3136014,17944290,106156182,645091866,4006997214,25344197010,162737255142,1058251916106,6955456112814,46130658756930,308314670926902,2074188361172346,14032607275346814,95392686703000050 ★ a(n) = 56*2^n + 20*4^n + 35*3^n + 4*6^n + 10*5^n + 7^n + 84. ● a(n) = 28 * a(n - 1) - 322 * a(n - 2) + 1960 * a(n - 3) - 6769 * a(n - 4) + 13132 * a(n - 5) - 13068 * a(n - 6) + 5040 * a(n - 7). - _ Colin Barker _ , Jan 31 2015 ●

[A236432] ● 210,630,1050,1470,1890,2310,2730,3150,3570,3990,4410,4830,5250,5670,6090,6510,6930,7350,7770,8190,8610,9030,9450,9870,10290 ★ a(n) = (2n-1)*210; numbers which are 210 times an odd number. ● a(n) = (2n - 1) * 210 = 420 * n - 210. ●

[A158559] ● 210,885,2010,3585,5610,8085,11010,14385,18210,22485,27210,32385,38010,44085,50610,57585,65010,72885,81210,89985,99210,108885,119010,129585,140610 ★ 225n^2 - 15. ● a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A046302] ● 210,1155,5005,17017,46189,96577,215441,392863,765049,1363783,2022161,3065857,4391633,6319667,8965109,12780049,17120443,21182921,27433619,33984931,42600829,56606581,72370439,89809099,107972737 ★ Product of 4 successive primes. ● a(n) = Product _{ j=n..n + 3 } prime(j). - _ Jon E. Schoenfield _ , Jan 07 2015 ●

[A027806] ● 210,2640,17820,85800,330330,1081080,3123120,8168160,19691100,44341440,94225560,190466640,368588220,686439600,1235591280,2157381600,3665097150,6074125200,9842332500,15623407800,24336462150,37255818600,56125648800,83304936000,121949170200 ★ 30*(n+1)*C(n+4,10). ● a(n) = C(n + 1, 7) * C(n + 4, 4) - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 ●

[A027822] ● 210,2772,19404,96096,378378,1261260,3699696,9801792,23891868,54318264,116396280,237025152,461705244,864913896,1565082288,2745758400,4684950270,7795127340,12676924260,20190250080,31547265750,48432564180,73156880160,108851783040 ★ 42*(n+1)*C(n+6,10). ● a(n) = C(n + 1,5) * C(n + 6,6). - _ Zerinvary Lajos _ , Jun 08 2005 ●

[A063358] ● 1,215,480,742,1004,1266,1528,1790,2052,2314,2576,2842,3100,3362,3624,3890,4148,4414,4672,4938,5196,5462,5720,5990,6244 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(85). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[A193398] ● 215,636,1557,3018,5555,8968,14225,20790,30159,41364,56525,74146,97067,123168,156105,193038,238535,288940,349829,416634,496035,582456,683777,793318,920255 ★ Hyper-Wiener index of a benzenoid consisting of a double-step spiral chain of n hexagons (n>=2, s=21; see the Gutman et al. reference). ● a(n) = (6 * n ^ 4 + 48 * n ^ 3 + 146 * n ^ 2 - 316 * n + 439 + (- 1) ^ n * (6 * n ^ 2 + 24 * n - 83)) / 4. ●

[A193396] ● 215,636,1557,3162,5875,10008,16113,24630,36239,51508,71245,96146,127147,165072,210985,265838,330823,407020,495749,598218,715875,850056,1002337,1174182,1367295 ★ Hyper-Wiener index of a benzenoid consisting of a double-step zig-zag chain of n hexagons (n>=2, s=2123; see the Gutman et al. reference). ● a(n) = (8 * n ^ 4 + 24 * n ^ 3 + 28 * n ^ 2 + 213 * n + 33 * (- 1) ^ n - 246) / 3. ●

[A016911] ● 0,216,1728,5832,13824,27000,46656,74088,110592,157464,216000,287496,373248,474552,592704,729000,884736,1061208,1259712,1481544,1728000,2000376,2299968,2628072,2985984 ★ (6n)^3. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jul 05 2014 ●

[A017139] ● 216,2744,10648,27000,54872,97336,157464,238328,343000,474552,636056,830584,1061208,1331000,1643032,2000376,2406104,2863288,3375000,3944312,4574296,5268024,6028568,6859000,7762392 ★ a(n) = (8*n + 6)^3. ● a(0)=216, a(1)=2744, a(2)=10648, a(3)=27000, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 11 2012 ●

[A017463] ● 216,4913,21952,59319,125000,226981,373248,571787,830584,1157625,1560896,2048383,2628072,3307949,4096000,5000211,6028568,7189057,8489664,9938375,11543176,13312053,15252992 ★ (11*n+6)^3. ● a(0)=216, a(1)=4913, a(2)=21952, a(3)=59319, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) – From _ Harvey P. Dale _ , May 16 2012 ●

[A128964] ● 0,216,5184,77760,933120,9797760,94058496,846526464,7255941120,59861514240,478892113920,3735358488576,28524555730944,213934167982080,1579821548175360,11510128422420480,82872924641427456 ★ (n^3-n)*6^n. ● a(n) = 24 * a(n - 1) - 216 * a(n - 2) + 864 * a(n - 3) - 1296 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 ●

[A201248] ● 0,0,0,216,38070,1314600,21191208,207830308,1442794332,7775083960,34530764200,131660992164,443702617356,1350258600008,3771242866680,9789675562020,23856321869260,55015308882264,120855465245464,254284702668580,514791197224860,1006655249550696 ★ Number of ways to place 7 non-attacking ferses on an n X n board. ● a(n) = n ^ 14 / 5040 - n ^ 12 / 48 + n ^ 11 / 30 + 673n ^ 10 / 720 - 17n ^ 9 / 6 - 1019n ^ 8 / 48 + 197n ^ 7 / 2 + 9772n ^ 6 / 45 - 3443n ^ 5 / 2 + 47n ^ 4 / 4 + 74259n ^ 3 / 5 - 1816352n ^ 2 / 105 - 49376n + 90660, n>=6. ●

[A086026] ● 1,217,9478,185094,2185470,18188478,116799606,613592694,2745339597,10769363605,37850444632,121189368664,358136205336,987118431768,2559344776920,6286103520984,14712254089533,32974344717237,71073599975686,147860902015750,297836101312750 ★ a(n) = Sum_{i=1..n} C(i+4,5)^3. ● a(n) = C(n + 5,6) ^ 2 * (1 + 279 * C(n,1) + 681 * C(n,2) + 504 * C(n,3) + 126 * C(n,4)) / 280. - _ Yahia Kahloune _ , Dec 22 2013 ● a(n) = (n ^ 2 / 580608000) * (57600 + 4583040 * n + 28668304 * n ^ 2 + 80791200 * n ^ 3 + 133134680 * n ^ 4 + 142979760 * n ^ 5 + 105929613 * n ^ 6 + 55881000 * n ^ 7 + 21323540 * n ^ 8 + 5904360 * n ^ 9 + 1175062 * n ^ 10 + 163800 * n ^ 11 + 15180 * n ^ 12 + 840 * n ^ 13 + 21 * n ^ 14). - _ G. C. Greubel _ , Nov 22 2017 ●

[A292545] ● 0,218,876,3504,14016,56064,224256,897024,3588096,14352384,57409536,229638144,918552576,3674210304,14696841216,58787364864,235149459456,940597837824,3762391351296,15049565405184,60198261620736,240793046482944,963172185931776,3852688743727104 ★ Number of 6-cycles in the n-Sierpinski tetrahedron graph. ● a(n) = 219 * 4 ^ (n - 2) for n > 2. ● a(n) = 4 * a(n - 1) for n > 2. ●

[A060530] ● 0,1,218,22815,703760,10194250,90775566,576941778,2863870080,11769161895,41669295250,130772947481,371513523888,970769847320,2362273657030,5406141568500,11728193258496,24276032182173,48201464902410,92221684354915 ★ Number of inequivalent ways to color edges of a cube using at most n colors. ● a(n) = (n ^ 12 + 6 * n ^ 7 + 3 * n ^ 6 + 8 * n ^ 4 + 6 * n ^ 3) / 24. (Replace all x _ i's in the cycle index by n.) ●

[A286441] ● 0,219,15160,369787,4366982,32450843,175628996,755759531,2734928266,8643796747,24503068784,63522668395,152816062222,345005930315,737473609532,1503178571195,2938515130514,5535661080283,10089397100584,17851538034587,30750030827926,51694565135803 ★ Number of ways to tile an n X n X n triangular area with six 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-24) of 1 X 1 X 1 tiles. ● a(n) = (n ^ 12 - 18 * n ^ 11 + 3 * n ^ 10 + 1710 * n ^ 9 - 7175 * n ^ 8 - 60078 * n ^ 7 + 401649 * n ^ 6 + 884466 * n ^ 5 - 9521846 * n ^ 4 - 3238224 * n ^ 3 + 107453448 * n ^ 2 - 25651296 * n - 483140880) / 720 for n >= 7. ●

[A027797] ● 220,3146,24024,130130,560560,2042040,6534528,18845112,49884120,122862740,284524240,624660036,1308811504,2631351800,5099265600,9561123000,17401243860,30826185390,53279826600,90034894950,149023274400,241985412240,386041244160,605812006800 ★ a(n) = 22*(n+1)*C(n+3,12). ● a(n) = C(n + 1, 10) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 ●

[A055663] ● 220,4004,43680,371280,2713200,17907120,109830336,637408200,3543239700,19028509500,99348849600,506679132960,2533395664800,12454385680800,60338017584000,288616850776800,1365157704174264,6393385628146440 ★ Number of (3,3; n,n)-partitions of a chain of length n^2+n. ● a(n)=16 / 3 * (2 * n - 7) * (2 * n - 9) * (2 * n - 11) * (2 * n - 13) * (n - 8) * (2 * n - 15)! / (n * (n - 1) * (n - 2) * (n - 8)! ^ 2) ●

[A159565] ● 221,241,265,1061,1205,1369,6145,6989,7949,35809,40729,46325,208709,237385,270001,1216445,1383581,1573681,7089961,8064101,9172085,41323321,47001025,53458829,240849965 ★ Positive numbers y such that y^2 is of the form x^2+(x+241)^2 with integer x. ● a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=221, a(2)=241, a(3)=265, a(4)=1061, a(5)=1205, a(6)=1369. ●

[A177422] ● 221,1938,8673,73729,589855,7561526,34593784,218391421,2116566392,8522858480,34225586144,137170649024,549219204992,2197950037760,8793946586624,35180079217664,140728902612992,562932781936640 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 10; a(0)=221, a(1)=1938, a(2)=8673, a(3)=73729, a(4)=589855, a(5)=7561526, a(6)=34593784, a(7)=218391421, a(8)=2116566392, a(9)=8522858480, a(10)=34225586144. ● a(n) = 2 * 4 ^ (n + 7) - 4192257 * 2 ^ (n - 5) for n > 8. ●

[A177420] ● 221,2754,12456,77697,589869,5333271,48222198,218509695,307

1851356,12683673552,51137150880,205353516864,823023894144,3295315229952,13187700226560,52763679519744,211080475305984,844373415677952 ⋆ a(n) = 6*a(n-1)-8*a(n-2) for n > 10; a(0)=221, a(1)=2754, a(2)=12456, a(3)=77697, a(4)=589869, a(5)=5333271, a(6)=48222198, a(7)=218509695, a(8)=3071851356, a(9)=12683673552, a(10)=51137150880. • a(n) = 3 * 4 ^ (n + 7) - 12576771 * 2 ^ (n - 5) for n > 8. •

[A063352] • 1,222,481,741,1001,1261,1521,1781,2041,2301,2561,2819,3081,3341,3601,3859,4121,4379,4641,4899,5161,5419,5681,5937,6201 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(79). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A092623] • 223,227,233,257,277,337,353,373,523,557,577,727,733,757,773,1223,1237,1277,1327,1373,1523,1553,1723,1733,1753 ⋆ Primes with exactly three prime digits. • a(n) >> x ^ 1.285 •

[A220474] • 223,227,269,349,359,569,587,593,739,809,857,991,1009,1019,1259,1481,1483,1487,1489,1861,1867,1993,1997,2003,2027 ⋆ Chebyshev numbers C_v(n) for v=10/9: a(n) is the smallest number such that if x>=a(n), then theta(x)-theta(9*x/10)>=n*log(x), where theta(x)=sum_{prime p<=x}log p. • a(n)<=prime(31 * (n + 1)). •

[A158226] • 223,896,2019,3592,5615,8088,11011,14384,18207,22480,27203,32376,37999,44072,50595,57568,64991,72864,81187,89960,99183,108856,118979,129552,140575 ⋆ 225n^2-2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158227] • 224,449,674,899,1124,1349,1574,1799,2024,2249,2474,2699,2924,3149,3374,3599,3824,4049,4274,4499,4724,4949,5174,5399,5624 ⋆ 225n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A061524] • 224,705,1600,3065,5280,8449,12800,18585,26080,35585,47424,61945,79520,100545,125440,154649,188640,227905,272960,324345,382624,448385,522240,604825,696800 ⋆ Surround numbers of an n X 2 rectangle when n is even. • a(n) = (n ^ 4 + 32n ^ 3 + 344n ^ 2 + 768n + 400) / 16 for even n. •

[A156813] • 224,898,2022,3596,5620,8094,11018,14392,18216,22490,27214,32388,38012,44086,50610,57584,65008,72882,81206,89980,99204,108878,119002,129576,140600 ⋆ 225n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 08 2012 •

[A224431] • 224,4878,46250,322146,1914578,10351026,52620146,256370418,1211362802,5594160114,25382926322,113581912050,502582927346,2203470381042,9586688622578,41438522310642,178122308583410,761964546228210,3245764578377714 ⋆ The Wiener index of the dendrimer D_2[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = - 14 + 4846 * 2 ^ n + 1056 * 2 ^ n * n + 2880 * 4 ^ n * n - 4608 * 4 ^ n. •

[A027470] • 225,675,1350,2250,3375,4725,6300,8100,10125,12375,14850,17550,20475,23625,27000,30600,34425,38475,42750,47250,51975,56925,62100,67500,73125 ⋆ 225*(n-1)*(n-2)/2. • a(3)=225, a(4)=675, a(5)=1350, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Feb 01 2013 •

[A014771] • 1,225,2025,8281,23409,53361,105625,189225,314721,494209,741321,1071225,1500625,2047761,2732409,3575881,4601025,5832225,7295401,9018009,11029041,13359025,16040025,19105641,22591009 ⋆ Squares of odd hexagonal numbers. • a(0)=1, a(1)=225, a(2)=2025, a(3)=8281, a(4)=23409, a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>5. - _ Harvey P. Dale _ , Jun 23 2011 • a(n) = (2 * n - 1) ^ 2 * (4 * n - 3) ^ 2. - _ Wesley Ivan Hurt _ , Jul 31 2016 •

[A158229] • 226,451,676,901,1126,1351,1576,1801,2026,2251,2476,2701,2926,3151,3376,3601,3826,4051,4276,4501,4726,4951,5176,5401,5626 ⋆ 225n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A156814] • 226,902,2028,3604,5630,8106,11032,14408,18234,22510,27236,32412,38038,44114,50640,57616,65042,72918,81244,90020,99246,108922,119048,129624,140650 ⋆ 225n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 08 2012 •

[A259059] • 227,265,307,353,403,457,515,577,643,713,787,865,947,1033,1123,1217,1315,1417,1523,1633,1747,1865,1987,2113,2243 ⋆ One half of numbers representable in at least two different ways as sums of four distinct nonvanishing squares. See A259058 for these numbers and their representations. • a(n) = 2 * n ^ 2 + 36 * n + 227. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Aug 13 2015 •

[A158228] • 227,904,2031,3608,5635,8112,11039,14416,18243,22520,27247,32424,38051,44128,50655,57632,65059,72936,81263,90040,99267,108944,119071,129648,140675 ⋆ 225n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A154519] • 228,444,660,876,1092,1308,1524,1740,1956,2172,2388,2604,2820,3036,3252,3468,3684,3900,4116,4332,4548,4764,4980,5196,5412 ⋆ 216n + 12. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 30 2012 •

[A172531] • 0,0,0,228,600,12357,68796,275888,872532,2344025,5580762,12107196,24392446,46261537,83426400,144157632,240119696,387393921,607715342,929951100 ⋆ Number of ways to place 4 nonattacking knights on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 6 - 54 * n ^ 4 + 1115 * n ^ 2 - 8934) / 24, n>=9. •

[A201238] • 0,0,0,228,3850,27225,122892,423152,1213380,3046025,6907890,14454972,28330822,52586065,93218400,158854080,261593552,418045617,650576150,988799100,1471339170,2147897257,3081651412,4352027760,6057877500 ⋆ Number of ways to place 4 non-attacking wazirs on an n X n toroidal board. • a(n) = n ^ 2 * (n ^ 2 - 11) * (n ^ 4 - 19n ^ 2 + 114) / 24, n>=5. •

[A112847] • 229,277,317,461,643,919,1033,1307,1427,1609,1777,1789,2089,2207,2347,2531,2551,2647,2969,3121,3169,3517,3659,3701,3727 ⋆ Primes such that the sum of the predecessor and successor primes is divisible by 23. • a(n) = prime(i) is in this sequence iff prime(i - 1) + prime(i + 1) = 0 mod 23. •

[A157348] • 229,281,365,1009,1405,1961,5825,8149,11401,33941,47489,66445,197821,276785,387269,1152985,1613221,2257169,6720089,9402541,13155745,39167549,54802025,76677301,228285205 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+281)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=229, a(2)=281, a(3)=365, a(4)=1009, a(5)=1405, a(6)=1961. •

[A260302] • 0,0,231,1378,4753,12246,26335,50086,87153,141778,218791,323610,462241,641278,867903,1149886,1495585,1913946,2414503,3007378,3703281,4513510,5449951,6525078,7751953 ⋆ Maximum water retention of a number octagon of order n. • a(n) = (1 / 2) * (7 * n ^ 2 - 18 * n + 12) (7 * n ^ 2 - 18 * n + 13) for n > 2. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>7. •

[A066370] • 0,1,231,26796,1186570,26357430,359026206,3413156131,24666759216,143717956515,703974775735,2989908659661,11270904497931,38398515291136,119929709686710,347357071281165,941718655098991,2408309883851256,5847191602173306,13551450210950905 ⋆ Quadruply triangular numbers. • a(n) = n * (n + 1) * (n ^ 2 + n + 2) * (n ^ 4 + 2 * n ^ 3 + 3 * n ^ 2 + 2 * n + 8) * (n ^ 8 + 4 * n ^ 7 + 10 * n ^ 6 + 16 * n ^ 5 + 25 * n ^ 4 + 28 * n ^ 3 + 28 * n ^ 2 + 16 * n + 128) / 32768. •

[A153466] • 232,610,1600,4192,10978,28744,75256,197026,515824,1350448,3535522,9256120,24232840,63442402,166094368,434840704,1138427746,2980442536,7802899864,20428257058,53481871312,140017356880,366570199330,959693241112,2512509524008 ⋆ a(n) = A027941(n) + A027941(n+6). • a(n) = 3 * a(n - 1) - a(n - 2) + 2. • a(n) = - 2 + 117 *{ [(3 / 2) + (1 / 2) * sqrt(5)] ^ n + [(3 / 2) - (1 / 2) * sqrt(5)] ^ n } + (261 / 5) * sqrt(5) *{ [(3 / 2) + (1 / 2) * sqrt(5)] ^ n - [(3 / 2) - (1 / 2) * sqrt(5)] ^ n } , with n>=0. - _ Paolo P. Lava _ , Dec 31 2008 •

[A126979] • 233,257,281,305,329,353,377,401,425,449,473,497,521,545,569,593,617,641,665,689,713,737,761,785,809 ⋆ a(n) = 24n + 233. • a(n) = 2 * a(n - 1) - a(n - 2) for n > 1. •

[A160574] • 233,313,493,905,1565,2725,5197,9077,15857,30277,52897,92417,176465,308305,538645,1028513,1796933,3139453,5994613,10473293,18298073,34939165,61042825,106648985,203640377 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+313)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=233, a(2)=313, a(3)=493, a(4)=905, a(5)=1565, a(6)=2725. •

[A023338] • 233,709,11699,16417,24481,31663,63317,94999,172279,185243,205081,228713,240347,266681,285539,334511,372059,395719,479327,583501,734197,786613,856627,863711,1146091 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 3x + 10. • a(n) == 9 (mod 14). - _ John Cerkan _ , Oct 11 2016 •

[A129857] • 0,235,1696,2571,3796,12075,17140,24255,72468,101983,143448,424447,596472,838147,2475928,3478563,4887148,14432835,20276620,28486455,84122796,118182871,166033296,490305655,688822320 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+857)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1714 for n > 6; a(1)=0, a(2)=235, a(3)=1696, a(4)=2571, a(5)=3796, a(6)=12075. •

[A154378] • 240,490,740,990,1240,1490,1740,1990,2240,2490,2740,2990,3240,3490,3740,3990,4240,4490,4740,4990,5240,5490,5740,5990,6240 ⋆ a(n) = 250*n - 10. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 30 2012 •

[A063372] • 1,240,521,800,1079,1362,1641,1920,2203,2482,2761,3042,3323,3602,3885,4162,4443,4724,5005,5282,5567,5844,6125,6404,6687 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(99). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A124352] • 240,816,2400,6480,16660,41440,100836,241520,571692,1340832,3121456,7222040,16622220,38085312,86918688,197677368,448182640,1013320480,2285339532,5142429512,11547488652,25881229248,57906534100,129352490384,288522099360 ⋆ Number of (directed) Hamiltonian paths on the n-antiprism graph. • a(n) = 5 * a(n - 1) - 6 * a(n - 2) - 4 * a(n - 3) + 7 * a(n - 4) + 5 * a(n - 5) - 5 * a(n - 6) - 3 * a(n - 7) + a(n - 8) + a(n - 9) for n>11. •

[A158562] • 240,1008,2288,4080,6384,9200,12528,16368,20720,25584,30960,36848,43248,50160,57584,65520,73968,82928,92400,102384,112880,123888,135408,147440,159984 ⋆ 256n^2 - 16. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A218131] • 0,0,240,6480,65280,390000,1678320,5762400,16773120,43040160,99990000,214344240,429960960,815702160,1475750640,2562840000,4294901760,6975673920,11019855600,16983432720,25599840000,37822664880,54875639280,78310705440,110074982400 ⋆ Number of length 8 primitive (=aperiodic or period 8) n-ary words. • a(n) = n ^ 8 - n ^ 4. •

[A008340] • 1,240,9120,121680,864960,4113840,14905440,44480400,114879360,265422960,561403680,1105317840,2050966080,3620750640,6126497760,9994133520,15792541440,24266930160,36377039520,53340513360,76681767360 ⋆ Coordination sequence for E_8 lattice. • a(n) = if n = 0 then 1 else 456 / 7 * n ^ 7 - 120 * n ^ 6 + 312 * n ^ 5 - 120 * n ^ 4 - 48 * n ^ 3 + 240 * n ^ 2 - 624 / 7 * n. •

[A218514] • 0,0,0,0,240,80400,4012560,76848240,825447840,6005512800,33014872800,146953113120,554770648080,1835249610480,5448481998960,14778817981200,37135461679680,87386816771520,194264943433920,410876964198720,831638579799600,1618744884780240 ⋆ Number of n-colorings of the icosahedral graph. • a(n) = n(n - 1)(n - 2)(n - 3)(n ^ 8 - 24n ^ 7 + 260n ^ 6 - 1670n ^ 5 + 6999n ^ 4 - 19698n ^ 3 + 36408n ^ 2 - 40240n + 20170). •

[A158792] • 0,0,0,0,240,332400,105480720,7787433360,233556076320,3881511113760,42569914312800,342908176422240,2176503575487120,11428762115181840,51423745096804080,203533610650297200,722989464927562560,2341382980699049280,6999973732130650560 ⋆ Number of n-colorings of the Shrikhande graph. • a(n) = n ^ 16 - 48 * n ^ 15 + ... (see Maple program). •

[A157961] • 241,483,725,967,1209,1451,1693,1935,2177,2419,2661,2903,3145,3387,3629,3871,4113,4355,4597,4839,5081,5323,5565,5807,6049 ⋆ 242n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 10 2012 •

[**A060893**] ● 1,1,241,6481,65281,390001,1678321,5762401,16773121,43040161,99990001,214344241,429960961,815702161,1475750641,2562840001,4294901761,6975673921,11019855601,16983432721,25599840001,37822664881,54875639281,78310705441,110074982401 ★ n^8 - n^4 + 1. ● a(0)=1, a(1)=1, a(2)=241, a(3)=6481, a(4)=65281, a(5)=390001, a(6)=1678321, a(7)=5762401, a(8)=16773121, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Nov 03 2014 ●

[**A008349**] ● 1,241,9361,131041,996001,5109841,20015281,64495681,179375041,444798001,1006201681,2111519521,4162485601,7783236241,13909734001,23903867521,39696408961,63963339121,100340378641,153680892001 ★ Crystal ball sequence for E_8 lattice. ● a(0)=1, a(1)=241, a(2)=9361, a(3)=131041, a(4)=996001, a(5)=5109841, a(6)=20015281, a(7)=64495681, a(8)=179375041, a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jun 12 2012 ●

[**A120377**] ● 241,428717761 ★ Primes of the form 2*11^n-1. ● a(n) = n - th number such that 2 * 11 ^ k - 1 that is prime for some k. ●

[**A160551**] ● 1,242,1463,4464,10045,19006,32147,50268,74169,104650,142511,188552,243573,308374,383755,470516,569457,681378,807079,947360,1103021 ★ Number of (unordered) ways of making change for n dollars using coins of denominations 1, 5, 10, and 25. ● a(n) is the coefficient of x ^ (100n) in f(x)= 1 / ((1 - x)(1 - x ^ 5)(1 - x ^ 10)(1 - x ^ 25)) ● a(n) = (3 + 53 * n + 270 * n ^ 2 + 400 * n ^ 3) / 3 ●

[**A022153**] ● 1,242,11242,210474,2224178,15804866,83999962,358159802,1285951458,4025098770,11267030346,28752157898,67886298898,150029971938,313233102138,622431249242,1184409984450,2169185665330,3839847763114,6593364255082,11015371578354,17952558422018 ★ Coordination sequence for root lattice B_11. ● a(0)=1; for n>0, a(n) = (16296 * n ^ 10 - 40520 * n ^ 9 + 42282 0 * n ^ 8 - 772320 * n ^ 7 + 3019968 * n ^ 6 - 3688440 * n ^ 5 + 6425580 * n ^ 4 - 4306480 * n ^ 3 + 2872836 * n ^ 2 - 547740 * n + 28350) / 14175. - _ Ralf Stephan _ , Apr 28 2004 ●

[**A194788**] ● 0,0,0,0,242,51504,2484382,44601420,450193818,3112919712,16471667554,71393226972,265069706646,869583076752,2577681275622,7020477731884,17794428237522,42397762374912,95726217156906,206149749502012,425731784898894,846919172059632 ★ Number of ways to place 7 nonattacking kings on an n X n board. ● a(n) = (n ^ 14 - 189n ^ 12 + 252n ^ 11 + 15211n ^ 10 - 38640n ^ 9 - 649215n ^ 8 + 2408700n ^ 7 + 14771764n ^ 6 - 75856200n ^ 5 - 144099396n ^ 4 + 1198867488n ^ 3 - 255900576n ^ 2 - 7543005120n + 10617929280) / 5040, n>=6. - _ Andrew Woods _ , Sep 02 2011 ●

[**A055554**] ● 242,1757711582,3515422922,5273134262,7030845602,8788556942,10546268282,12303979622,14061690962,15819402302,17577113642,19334824982,21092536322,22850247662,24607959002,26365670342 ★ An arithmetic progression each term of which is followed by at least 4 nonsquarefree consecutive integers. ● a(n) = d * n + 242, where d = LCM(242, 243, 244, 245) = 1757711340 = 2 * 2 * 3 * 3 * 3 * 3 * 3 * 5 * 7 * 11 * 11 * 61. ●

[**A157958**] ● 243,485,727,969,1211,1453,1695,1937,2179,2421,2663,2905,3147,3389,3631,3873,4115,4357,4599,4841,5083,5325,5567,5809,6051 ★ 242n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 06 2012 ●

[**A113335**] ● 243,1458,5103,13608,30618,61236,112266,192456,312741,486486,729729,1061424,1503684,2082024,2825604,3767472,4944807,6399162,8176707,10328472,12910590,15984540,19617390,23882040,28857465 ★ Binomial(n+4,5)*3(392*16^n -1620*8^n +1890*4^n -767)/105. ● a(n)=29 * a(n - 1) - 252 * a(n - 2) + 736 * a(n - 3) - 512 * a(n - 4). ● a(n)= a(n - 1) + 7 * 2 ^ (4 * n - 1) - 27 * 2 ^ (3 * n - 1) + 27 * 2 ^ (2 * n - 1), for n>0. ● a(n)=C(n + 4,5) * 3 ^ 5, n>=1. ●

[**A029700**] ● 0,1,243,3936,20860,72315,197421,460768,961416,1843245,3306655,5621616,9142068,14321671,21730905,32075520,46216336,65190393,90233451,122803840,164607660,217625331,284139493,366764256,468475800 ★ Number of words of length 6 in the n(n-1)/2 transpositions of S[n] equivalent to the identity. ● a(n) = n * (n - 1) * (15 * n ^ 4 + 30 * n ^ 3 - 105 * n ^ 2 - 700 * n + 1344) / 8. ●

[**A016841**] ● 243,16807,161051,759375,2476099,6436343,14348907,28629151,52521875,90224199,147008443,229345007,345025251,503284375,714924299,992436543,1350125107,1804229351,2373046875,3077056399 ★ (4n+3)^5. ● a(0)=243, a(1)=16807, a(2)=161051, a(3)=759375, a(4)=2476099, a(5)=6436343, a(n) =6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Aug 11 2014 ●

[**A017429**] ● 243,537824,9765625,60466176,229345007,656356768,1564031349,3276800000,6240321451,11040808032,18424351793,29316250624,44840334375,66338290976,95388992557,133827821568,183765996899 ★ a(n) = (11*n+3)^5. ● a(0)=243, a(1)=537824, a(2)=9765625, a(3)=60466176, a(4)=229345007, a(5)=656356768, a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Apr 30 2013 ●

[**A017561**] ● 243,759375,14348907,90224199,345025251,992436543,2373046875,4984209207,9509900499,16850581551,28153056843,44840334375,68641485507,101621504799,146211169851,205236901143,281950621875 ★ (12n+3)^5. ● a(0)=243, a(1)=759375, a(2)=14348907, a(3)=90224199, a(4)=345025251, a(5)=992436543, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Aug 18 2012 ●

[**A085440**] ● 1,244,8020,108020,867395,4951496,22161864,82628040,267156165,770440540,2022773116,4909947484,11150268935,23913084560,48796284560,95322158736,179163294729,325374464580,572984364580,981394464580,1639143014731,2675722491224,4277290592600 ★ a(n) = Sum_{i=1..n} C(i+1,2)^5. ● a(n) = (113400 * n ^ 11 + 1247400 * n ^ 10 + 5544000 * n ^ 9 + 12474000 * n ^ 8 + 14196600 * n ^ 7 + 6237000 * n ^ 6 - 831600 * n ^ 5 + 1108800 * n ^ 3 - 172800 * n) / 11!. ●

[**A157246**] ● 245,265,287,343,427,493,637,833,1097,1295,1715,2275,2693,3577,4753,6317,7483,9947,13223,15665,20825,27685,36805,43603,57967 ★ Positive numbers y such that y^2 is of the form x^2+(x+343)^2 with integer x. ● a(n) = 6 * a(n - 7) - a(n - 14) for n > 14; a(1)=245, a(2)=265, a(3)=287, a(4)=343, a(5)=427, a(6)=493, a(7)=637, a(8)=833, a(9)=1097, a(10)=1295, a(11)=1715, a(12)=2275, a(13)=2693, a(14)=3577. ●

[**A137521**] ● 245,345,545,745,1145,1345,1745,1945,2345,2945,3145,3745,4145,4345,4745,5345,5945,6145,6745,7145,7345,7945,8345,8945,9745 ★ Prime numbers concatenated with 45. ● a(n) = prime(n) concatenated with 45 ●

[**A257781**] ● 245,385,495,655,795,1055,1365,2205,2855,3795,4615,6135,7945,12845,16635,22115,26895,35755,46305,74865,96955,128895,156755,208395,269885 ★ Positive integers whose square is the sum of 50 consecutive squares. ● a(n) = 6 * a(n - 6) - a(n - 12). ●

[**A063356**] ● 1,247,533,820,1107,1394,1681,1968,2255,2542,2829,3114,3403,3690,3977,4262,4551,4836,5125,5410,5699,5984,6273,6556,6847 ★ Dimension of the space of weight n cuspidal newforms for Gamma_1(83). ● a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. ●

[**A001243**] ● 1,247,14608,455192,9738114,162512286,2275172004,27971176092,311387598411,3207483178157,31055652948388,285997074307300,2527925001876036,21598596303099900,179385804170146680 ★ Eulerian numbers (Euler's triangle: column k=7 of A008292, column k=6 of A173018) ● a(n) = 7 ^ (n + 7 - 1) + sum(i=1, 7 - 1, (- 1) ^ i / i! * (7 - i) ^ (n + 7 - 1) * prod(j=1, i, n + 7 + 1 - j)). - Randall L. Rathbun (randallr(AT)abac.com), Jan 23 2002 ●

[**A178967**] ● 0,0,0,0,0,0,248,7320,82758,562384,2756122,10771928,35504296,102677536,267284836,638673432,1420555842,2974232240,5911536526,11232560320,20516606128,36191817440,61893239340,102950022616,167010533830 ★ Number of ways to place 5 nonattacking amazons (superqueens) on an n X n board. ● a(n) = 1 / 120 * n ^ 10 - 5 / 18 * n ^ 9 + 253 / 72 * n ^ 8 - 689 / 45 * n ^ 7 - 34217 / 360 * n ^ 6 + 28391 / 18 * n ^ 5 - 6828569 / 810 * n ^ 4 + 29655659 / 1620 * n ^ 3 + 14328773 / 1296 * n ^ 2 - 779503661 / 6480 * n + 9261910451 / 64800 + (1 / 8 * n ^ 5 - 143 / 48 * n ^ 4 + 79 / 3 * n ^ 3 - 4711 / 48 * n ^ 2 + 5171 / 48 * n + 2549 / 32) * (- 1) ^ n + 1 / 2 * (29 * n - 35) * cos(Pi * n / 2) + (2 * n + 15) * sin(Pi * n / 2) + 1 / 81 * (96 * n ^ 3 - 1328 * n ^ 2 + 4744 * n - 2248) * cos(4 * Pi * n / 3) - 1 / 243 * (120 * n ^ 2 - 1496 * n + 5224) * sqrt(3) * sin(4 * Pi * n / 3) + 8 / 25 * ((5 - sqrt(5)) * n + 2 * sqrt(5) - 8) * cos(4 * Pi * n / 5) + 8 / 25 * ((5 + sqrt(5)) * n - 2 * sqrt(5) - 8) * cos(8 * Pi * n / 5) + 8 / 25 * sqrt(50 - 22 * sqrt(5)) * sin(4 * Pi * n / 5) - 8 / 25 * sqrt(50 + 22 * sqrt(5)) * sin(8 * Pi * n / 5), n>=10. ● a(n) = n ^ 10 / 120 - 5 * n ^ 9 / 18 + 253 * n ^ 8 / 72 - 689 * n ^ 7 / 45 - 34307 * n ^ 6 / 360 + 57001 * n ^ 5 / 36 - 55000657 * n ^ 4 / 6480 + 60118543 * n ^ 3 / 3240 + 34387307 * n ^ 2 / 3240 - 155720509 * n / 1296 + 142960 + (n ^ 5 / 2 - 143 * n ^ 4 / 12 + 316 * n ^ 3 / 3 - 4711 * n ^ 2 / 12 + 5123 * n / 12 + 2309 / 8) * floor[n / 2] + (32 * n ^ 3 / 9 - 1328 * n ^ 2 / 27 + 4744 * n / 27 - 2248 / 27) * floor[n / 3] + (16 * n ^ 3 / 9 - 724 * n ^ 2 / 27 + 1040 * n / 9 - 3736 / 27) * floor[(n + 1) / 3] + (33 * n - 5) * floor[n / 4] + (25 * n - 65) * floor[(n + 1) / 4] + (32 * n / 5 - 48 / 5) * floor[n / 5] + (24 * n / 5 - 64 / 5) * floor[(n + 1) / 5] + (16 * n / 5 - 56 / 5) * floor[(n + 2) / 5] + (8 * n / 5 - 32 / 5) * floor[(n + 3) / 5], n>=10. ●

[**A225209**] ● 1,249,8537,186073,3427545,58664153,970097881,15776875737,254486643929,4088295982297,65545039643865,1049779971687641,16804957869966553,268947166998693081,4303697458594972889,68863501862374868185 ★ ● a(n)=29 * a(n - 1) - 252 * a(n - 2) + 736 * a(n - 3) - 512 * a(n - 4). ● a(n)= a(n - 1) + 7 * 2 ^ (4 * n - 1) - 27 * 2 ^ (3 * n - 1) + 27 * 2 ^ (2 * n - 1), for n>0. ●

[**A104396**] ● 252,336,392,427,447,456,457,461,512,547,567,577,581,596,621,631,651,661,665,677,687,707,712,717,721 ★ Sums of 6 distinct positive pentatope numbers (A000332). ● a(n) = Ptop(f) + Ptop(g) + Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive f= / =g= / =h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). ●

[**A254467**] ● 252,462,1122,3432,12342,49632,216342,1001952,4863462,24500352,127161462,676195872,3668030982,20227217472,113076824982,639383508192,3649985092902,21003583828992,121677813214902,708891056106912,4149610383537222 ★ a(n) = 15*4^n + 70*2^n + 35*3^n + 5^(n+1) + 6^n + 126. ● a(n) = 21 * a(n - 1) - 175 * a(n - 2) + 735 * a(n - 3) - 1624 * a(n - 4) + 1764 * a(n - 5) - 720 * a(n - 6). - _ Colin Barker _ , Jan 31 2015 ●

[**A242570**] ● 0,252,504,756,1008,1260,1512,1764,2016,2268,2520,2772,3024,3276,3528,3780,4032,4284,4536,4788,5040,5292,5544,5796,6048 ★ Multiples of 252. ● a(n) = 252(n - 1). ●

[**A172223**] ● 1,252,1925,6534,20502,57710,142312,308254,606051,1105332,1897899,3100250,4857000,7344010,10771530,15387310,21479725,29380900,39469835,52175530,67980110,87421950,111098800,139670910,173864155 ★ Number of ways to place 5 nonattacking zebras on a 5 X n board. ● a(n) = 5 * (125n ^ 5 - 1250n ^ 4 + 7575n ^ 3 - 28426n ^ 2 + 64000n - 67056) / 24, n>=12. ●

[**A027815**] ● 252,3234,22176,108108,420420,1387386,4036032,10618608,25729704,58198140,124156032,251839224,488864376,912964668,1647455040,2883046320,4908043140,8149451310,13228094880,21031510500,32809156380,50295355110,75866394240,112739346720 ★ 42*(n+1)*C(n+5,10). ● a(n) = C(n + 1, 6) * C(n + 5, 5) - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 ●

[**A169713**] ● 1,252,4653,31504,127905,384156,948157,2039808,3965409,7132060,12062061,19407312,29963713,44685564,64699965,91321216,126065217,170663868,227079469,297519120,384449121,490609372,619027773,773034624,956277025 ★ The function W_n(10) (see Borwein et al. reference for definition). ● a(n) = 120 * n ^ 5 - 600 * n ^ 4 + 1250 * n ^ 3 - 1225 * n ^ 2 + 456 * n. - _ Pe

ter Luschny _ , May 27 2017 ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Vincenzo Librandi _ , May 28 2017 ●

[A047831] ● 1,252,19404,731808,16818516,267227532,3184461423,30107635272,235234907908,1566039386912,9095857138368,46960429261824,218772384397632,931020034054176,3656383418054268,13365232267026024,458007475714069 05,1480550973142241 00 ★ a(n)=Product_{i=1..n} ((i+5)*(i+6)*(i+7)*(i+8)*(i+9))/(i*(i+1)*(i+2)*(i+3)*(i+4)) ● a(n)=C(n,n - 1) * C(n + 1,n - 2) * C(n + 2,n - 3) * C(n + 3,n - 4) * C(n + 4,n - 5) / (140 * 5!), n>=5 . - _ Zerinvary Lajos _ , May 29 2007 ●

[A255182] ● 1,253,5796,46620,213444,697788,1832292,4131036,8329860,15426684,26721828,43858332,68862276,104183100,152733924,217931868,303738372,414699516,555986340,733435164,953587908,1223732412,1551942756,1947119580,2419030404 ★ Third differences of eighth powers (A001016). ● a(n) = 84 * (2 * n - 1) * (2 * n ^ 4 - 4 * n ^ 3 + 8 * n ^ 2 - 6 * n + 3) for n>1, a(0)=1, a(1)=253. ●

[A158249] ● 254,1020,2298,4088,6390,9204,12530,16368,20718,25580,30954,36840,43238,50148,57570,65504,73950,82908,92378,102360,112854,123860,135378,147408,159950 ★ 256n^2 - 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A255178] ● 1,254,6050,52670,266114,963902,2796194,6927230,15257090,30683774,57405602,101263934,170126210,274309310,427043234,644975102,948713474,1363412990,1919399330,2652834494,3606422402,4830154814,6382097570,8329217150,10748247554 ★ Second differences of eighth powers (A001016). ● a(n) = 2 * (28 * n ^ 6 + 70 * n ^ 4 + 28 * n ^ 2 + 1) for n>0, a(0)=1. ●

[A101745] ● 255,384,511,575,639,728,767,896,1088,1295,1376,1407,1599,1700,1727,1792,1919,1920,2015,2024,2375,2431,2672,2815,2880 ★ Indices of triangular numbers which are 10-almost primes. Indices of A101744. ● a(n) * (a(n) + 1) / 2 has exactly 10 prime factors. ●

[A158250] ● 255,511,767,1023,1279,1535,1791,2047,2303,2559,2815,3071,3327,3583,3839,4095,4351,4607,4863,5119,5375,5631,5887,6143,6399 ★ 256n - 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A158010] ● 255,1022,2301,4092,6395,9210,12537,16376,20727,25590,30965,36852,43251,50162,57585,65520,73967,82926,92397,102380,112875,123882,135401,147432,159975 ★ 256n^2 - n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 ●

[A075941] ● 255,3855,13107,21845,38505,197462,329059,591418,1118584,2167325,4265038,8460068,251658255,855638067,1426063445,2516582505,12935233622,21558722659,38755369018,73299656824,142035910685 ★ Basis for code in A075940. ● a(n) = b(2 ^ n), where b is A075940, the binary lexicode, d=8. ●

[A069093] ● 1,255,6560,65280,390624,1672800,5764800,16711680,43040160,99609120,214358880,428236800,815730720,1470024000,2562493440,4278190080,6975757440,10975240800,16983563040,25499934720,37817088000 ★ Jordan function J_8(n). ● a(n) = Sum _{ d|n } d ^ 8 * mu(n / d). ● a(n) = n ^ 8 * Product _{ distinct primes p dividing n } (1 - 1 / p ^ 8). - _ Tom Edgar _ , Jan 09 2015 ●

[A258809] ● 0,255,6560,65535,390624,1679615,5764800,16777215,43046720,99999999,214358880,429981695,815730720,1475789055,2562890624,4294967295,6975757440,11019960575,16983563040,25599999999,37822859360,54875873535,78310985280,110075314175 ★ a(n) = n^8 - 1. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). ●

[A206198] ● 256,1060,5136,32920,118936,484704,3270240,11893600,48470400,327024000,1189360000,4847040000,32702400000,118936000000,484704000000,3270240000000,11893600000000,48470400000000,327024000000000 ★ Number of (n+1) X (n+1) 0..3 arrays with every 2 X 3 or 3 X 2 subblock having exactly one clockwise edge increases. ● a(n) = 100 * a(n - 3) for n>7. ●

[A188865] ● 256,1393,3194,5275,7442,9627,11814,14001,16188,18375,20562,22749,24936,27123,29310,31497,33684,35871,38058,40245,42432,44619,46806,48993,51180 ★ Number of n X 8 binary arrays without the pattern 0 1 diagonally, vertically or antidiagonally. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>7. ●

[A016780] ● 1,256,2401,10000,28561,65536,130321,234256,390625,614656,923521,1336336,1874161,2560000,3418801,4477456,5764801,7311616,9150625,11316496,13845841,16777216,20151121,24010000 ★ a(n) = (3*n+1)^4. ● a(0)=1, a(1)=256, a(2)=2401, a(3)=10000, a(4)=28561, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 21 2015 ●

[A070056] ● 256,3327,28606,196301,1158554,6121871,29688844,134361100,574209267,2337788346,9128782573,34372098576,125327730017,444081743234,1533640995983,5174881667481,17096446731321,55402030270777,176377009761145,552397160169465,1704039417961465,5183132984363513,15559823619750905,46141145945628665 ★ Number of Bottleneck-Monge matrices with 8 rows. ● a(N) = a(8, N), where a(P, N) is defined recursively in A070050. ●

[A259320] ● 0,256,3584,21504,84480,256256,652288,1462272,2976768,5617920,9974272,16839680,27256320,42561792,64440320,94978048,136722432,192745728,266712576,362951680,486531584,643340544,840170496,1084805120,1386112000 ★ a(n) = 2*n*A259319(n) - A259110(n)^2. ● a(n) = (64 * (n ^ 2 - 5 * n ^ 4 + 4 * n ^ 6)) / 45. - _ Colin Barker _ , Jun 29 2015 ●

[A200843] ● 256,4057,28610,132263,469116,1384813,3570086,8291391,17720746,35389651,66794740,120185585,207567842,345957699,558926356,878476037,1347291804,2021416213,2973396622,4295957731,6106254704,8550764993,11810879754 ★ Number of 0..n arrays x(0..7) of 8 elements without any two consecutive increases or two consecutive decreases. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. ●

[A115111] ● 0,0,0,256,5000,65880,739508,7653632,7568769 6,728589000,6899424840,64678048600,602586261420,5593531747076,51815550195500,479511147907328,4436081306716064,41044438822080816,379913227858140396 ★ Number of different ways to select n elements from four sets of n elements under the precondition of choosing at least one element from each set. ● a(n) = binomial(4 * n, n) - 4 * (binomial(3 * n, n) + 1) + 6 * binomial(2 * n, n); also: a(n)= sum(i,j,k,l=1...(n - 3), i + j + k + l=n) binomial(n, j) * binomial(n, k) * binomial(n, l)|i, j, k, l =1...(n - 3), i + j + k + l=n } . ●

[A200790] ● 256,5157,43681,232275,919413,2964416,8216484,20273247,45611500,95196145,186686721,347374261,617994573,1057577400,1749504272,2808961221,4391985888,6706321909,10024306825,14698033119,21177035341,30028769640 ★ Number of 0..n arrays x(0..7) of 8 elements without any two consecutive increases. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>9. ●

[A195595] ● 256,6060,58776,358564,1649420,6286658,20984924,63558566,178909300,476033636,1212120160,2980927200,7129922604,16675350430,38293956836,86629645122,193553210580,427974677968,938053730248,2040792091884,4411561365324,9483844861978 ★ Number of ways to place 7n nonattacking kings on a vertical cylinder 14 X 2n. ● a(n) = (157823 * n - 1211433) * 2 ^ n + 9121 / 60 * n ^ 5 + 35581 / 12 * n ^ 4 + 352625 / 12 * n ^ 3 + 2179835 / 12 * n ^ 2 + 20456597 / 30 * n + 1211434. ●

[A016900] ● 256,6561,38416,130321,331776,707281,1336336,2313441,3748096,5764801,8503056,12117361,16777216,22667121,29986576,38950081,49787136,62742241,78074896,96059601,116985856,141158161 ★ a(n) = (5n + 4)^4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). G.f.: (256 + 5281 * x + 8171 * x ^ 2 + 1291 * x ^ 3 + x ^ 4) / (1 - x) ^ 5. - _ R. J . Mathar _ , Mar 01 2010 ●

[A001016] ● 0,1,256,6561,65536,390625,1679616,5764801,16777216,43046721,100000000,214358881,429981696,815730721,1475789056,2562890625,4294967296,6975757441,11019960576,16983563041,25600000000,37822859361,54875873536,78310985281,110075314176 ★ Eighth powers: a(n) = n^8. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) + 40320. - _ Ant King _ , Sep 24 2013 ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n>8. ●

[A231307] ● 0,1,256,6562,65792,397187,1745408,6161988,18522624,49208709,118522624,263567590,548504320,1079298311,2024293376,3642188936,6319260672,10617946377,17339221248,27601509418,42939221248,65424368779,97815094784,143735354060 ★ Recurrence a(n) = a(n-2) + n^M for M=8, starting with a(0)=0, a(1)=1. ● a(n) = Sum _{ k=0..floor(n / 2) } (n - 2k) ^ 8. ● a(n) = 1 / 90 * n * (n + 1) * (n + 2) * (5 * n ^ 6 + 30 * n ^ 5 + 20 * n ^ 4 - 120 * n ^ 3 - 16 * n ^ 2 + 288 * n - 192). - _ Vaclav Kotesovec _ , Feb 14 2014 ●

[A236214] ● 256,6817,397442,6162243,220521124,1036251845,8012009286,24995572327,103306557608,603552970569,1456444008010,4968923461931,12953848691052,24642048968653,48453335630414,110713026041775,257543463646096,449250776643377,855318454200018 ★ Sum of the eighth powers of the first n primes. ● a(n) = sum(k = 1 .. n, prime(k) ^ 8). ●

[A128991] ● 0,256,9216,196608,3276800,47185920,616562688,7516192768,86973087744,966367641600,10393820856320,108851651149824,1114904790564864,11206222510292992,110830772079820800,1080863910568919040 ★ a(n) = (n^3 - n^2)*8^n. ● a(n) = 32 * a(n - 1) - 384 * a(n - 2) + 2048 * a(n - 3) - 4096 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 ●

[A191680] ● 0,256,9841,131072,976562,5038848,20176803,67108864,193710244,500000000,1178973845,2579890176,5302249686,10330523392,19221679687,34359738368,59293938248,99179645184,161343848889,256000000000,397140023290,603634608896,900576330731,1320903770112,1907348632812 ★ Number of compositions of odd natural numbers into 9 parts <=n ● a(n) = ((n + 1) ^ 9 - (1 + (- 1) ^ n) / 2) / 2. ● a(n) = + 9 * a(n - 1) - 35 * a(n - 2) + 75 * a(n - 3) - 90 * a(n - 4) + 42 * a(n - 5) + 42 * a(n - 6) - 90 * a(n - 7) + 75 * a(n - 8) - 35 * a(n - 9) + 9 * a(n - 10) - a(n - 11). - R. J. Mathar, Jun 29 2011 ●

[A191496] ● 1,256,9842,131072,976563,5038848,20176804,67108864,193710245,500000000,1178973846,2579890176,5302249687,10330523392,19221679688,34359738368,59293938249,99179645184,161343848890,256000000000,397140023291,603634608896,900576330732,1320903770112,1907348632813 ★ Number of compositions of even numbers into 9 parts <=n ● a(n)= ((n + 1) ^ 9 + (1 + (- 1) ^ n) / 2) / 2. ● a(n) = + 9 * a(n - 1) - 35 * a(n - 2) + 75 * a(n - 3) - 90 * a(n - 4) + 42 * a(n - 5) + 42 * a(n - 6) - 90 * a(n - 7) + 75 * a(n - 8) - 35 * a(n - 9) + 9 * a(n - 10) - a(n - 11). ●

[A016960] ● 256,10000,65536,234256,614656,1336336,2560000,4477456,7311616,11316496,16777216,24010000,33362176,45212176,59969536,78074896,100000000,126247696,157351936,193877776,236421376 ★ (6n+4)^4. ● a(0)=256, a(1)=10000, a(2)=65536, a(3)=234256, a(4)=614656, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Sep 23 2013 ●

[A240932] ● 0,0,256,13122,196608,1562500,8398080,34588806,117440512,344373768,900000000,2143588810,4729798656,9788768652,19185257728,3588046875,6442450944,11161211905 6,187339329792,305704134738,486400000000,756457187220,1152393344256,1722841676182 ★ a(n) = n^9 - n^8. ● a(n) = n ^ 8 * (n - 1) = n ^ 9 - n ^ 8. ●

[A017572] ● 256,65536,614656,2560000,7311616,16777216,33362176,59969536,100000000,157351936,236421376,342102016,479785216,655360000,875213056,1146228736,1475789056,1871773696,2342560000 ★ (12n+4)^4. ● a(0)=256, a(1)=65536, a(2)=614656, a(3)=2560000, a(4)=7311616, a(n)=5 * a(n - 1) - 10

* a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Mar 08 2013 •

[**A016832**] • 256,1679616,100000000,1475789056,11019960576,54875873536,208827064576,656100000000,1785793904896,4347792138496,9682651996416,20047612231936,39062500000000,72301961339136 ⋆ a(n) = (4*n + 2)^8. • a(0)=256, a(1)=1679616, a(2)=100000000, a(3)=1475789056, a(4)=11019960576, a(5)=54875873536, a(6)=208827064576, a(7)=656100000000, a(8)=17857939048 96, a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , May 20 2011 •

[**A016880**] • 256,5764801,429981696,6975757441,54875873536,282429536481,1099511627776,3512479453921,9682651996416,23811286661761,53459728531456,111429157112001,218340105584896,406067677556641,722204136308736,1235736291547681,2044140858654976,3282116715437121 ⋆ a(n) = (5*n+2)^8. • a(0)=256, a(1)=5764801, a(2)=429981696, a(3)=6975757441, a(4)=54875873536, a(5)=282429536481, a(6)=1099511627776, a(7)=3512479453921, a(8)=9682651996416; for n>8, a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Feb 11 2015 •

[**A017552**] • 256,1475789056,208827064576,4347792138496,39062500000000,218340105584896,899194740203776,2992179271065856,8507630225817856,21435888100000000,49077072127303936,103953325454500096 ⋆ (12n+2)^8. • a(0)=256, a(1)=1475789056, a(2)=208827064576, a(3)=4347792138496, a(4)=39062500000000, a(5)=218340105584896, a(6)=899194740203776, a(7)=2992179271065856, a(8)=8507630225817856, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jul 11 2014 •

[**A158231**] • 257,513,769,1025,1281,1537,1793,2049,2305,2561,2817,3073,3329,3585,3841,4097,4353,4609,4865,5121,5377,5633,5889,6145,6401 ⋆ 256n + 1. • a(1)=257, a(2)=513, a(n)=2 * a(n - 1) - a(n - 2). [_ Harvey P. Dale _ , Nov 21 2011] •

[**A036549**] • 1,257,1025,3329,10241,30977,93185,279809,839681,2519297,7558145,22674689,68024321,204073217,612219905,1836659969,5509980161,16529940737,49589822465,148769467649,446308403201,1338925209857 ⋆ a(n) = T(8,n), array T given by A048471. • a(n) = 128 * 3 ^ n - 127 • a(n) = 3 * a(n - 1) + 254. • a(n) = 4 * a(n - 1) - 3 * a(n - 2). •

[**A294303**] • 0,0,257,6562,72354,456418,2142595,7841860,24684612,67340708,167731333,380410598,812071910,1622037830,3103591687,5649705096,9961449608,16894160328,27957167625,44840730666,70540730666,108149231146,163239463563,241120467148,351625763020 ⋆ Sum of the eighth powers of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 8 + (n - i) ^ 8. • a(n) = a(n - 1) + 9 * a(n - 2) - 9 * a(n - 3) - 36 * a(n - 4) + 36 * a(n - 5) + 84 * a(n - 6) - 84 * a(n - 7) - 126 * a(n - 8) + 126 * a(n - 9) + 126 * a(n - 10) - 126 * a(n - 11) - 84 * a(n - 12) + 84 * a(n - 13) + 36 * a(n - 14) - 36 * a(n - 15) - 9 * a(n - 16) + 9 * a(n - 17) + a(n - 18) - a(n - 19) for n>19. •

[**A000542**] • 0,1,257,6818,72354,462979,2142595,7907396,24684612,67731333,167731333,382090214,812071910,1627802631,3103591687,5666482312,9961449608,16937207049,27957167625,44940730666,70540730666,108363590027,163239463563,241550448844 ⋆ Sum of 8th powers: 1^8 + 2^8 + ... + n^8. • a(n) = n * (n + 1) * (2 * n + 1) * (5 * n ^ 6 + 15 * n ^ 5 + 5 * n ^ 4 - 15 * n ^ 3 - n ^ 2 + 9 * n - 3) / 90. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) + 40320. - _ Ant King _ , Sep 24 2013 • a(n)= - sum(j=1..8, j * s(n + 1,n + 1 - j) * S(n + 8 - j,n)), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 •

[**A086022**] • 1,257,10257,170257,1670882,11505378,61292514,268652514,1009853139,3352413139,10042998755,27598188771,70457539396,168802499396,382616259396,825980472132,1707628231653,3396588391653,6525595601653,12150082161653,21987344308134,38769279231910 ⋆ a(n) = Sum_{i=1..n} C(i+2,3)^4. • a(n) = C(n + 3,4) * [- 41 * F3(n) + 350 * (47 * C(n + 8,9) + 1749 * C(n + 7,9) + 9292 * C(n + 6,9) + 9292 * C(n + 5,9) + 1749 * C(n + 4,9) + 47 * C(n + 3,9))] / 15015, where F3(n) = - C(3,0) * C(n + 3,0) + C(4,1) * C(n + 3,1) - C(5,2) * C(n + 3,2) + C(6,3) * C(n + 3,3). The value of F3(n), (n=0..8) is: 1, 35, 119, 273, 517, 871, 1355, 1989, 2793, ... - _ Yahia Kahloune _ , Dec 23 2013 • a(n) = (n / 12972960) * (- 8856 + 60060 * n ^ 2 + 165165 * n ^ 3 + 841841 * n ^ 4 + 2462460 * n ^ 5 + 3709420 * n ^ 6 + 3243240 * n ^ 7 + 1756755 * n ^ 8 + 600600 * n ^ 9 + 126490 * n ^ 10 + 15015 * n ^ 11 + 770 * n ^ 12). - _ G. C. Greubel _ , Nov 22 2017 •

[**A158230**] • 258,1028,2310,4104,6410,9228,12558,16400,20754,25620,30998,36888,43290,50204,57630,65568,74018,82980,92454,102440,112938,123948,135470,147504,160050 ⋆ 256n^2+2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A253636**] • 1,258,7076,79430,542409,2685004,10592400,35277012,103008345,270739678,652829892,1464901802,3092704433,6196296120,11862778432,21824228040,38761435089,66718602714,111659333380,182200064046,29056365407 3,453803117636,695353566480,1046979329500 ⋆ Second partial sums of eighth powers (A001016). • a(n) = (2 * n ^ 10 + 20 * n ^ 9 + 75 * n ^ 8 + 120 * n ^ 7 + 42 * n ^ 6 - 84 * n ^ 5 - 50 * n ^ 4 + 40 * n ^ 3 + 21 * n ^ 2 - 6 * n) / 180. • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 8. - _ Robert Israel _ , Jan 07 2015 •

[**A168125**] • 0,1,258,9846,131080,976575,5038866,20176828,67108896,193710285,500000050,1178973906,2579890248,5302249771,10330523490,19221679800,34359738496,59293938393,99179645346,161343849070,256000000200,397140023511,603634609138,900576330996 ⋆ a(n) = n^2*(n^7+1)/2. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10), where • a(0)=0, a(1)=1, a(2)=258, a(3)=9846, a(4)=131080, a(5)=976575, a(6)=5038866, a(7)=20176828, a(8)=67108896, a(9)=193710285. (End) •

[**A254642**] • 1,259,7335,86765,629174,3314178,13906578,49183590,152191935,422931613,1075761505,2540663307,5633367740,11829663860,23692442292,45516670332,84278105421,150996708135,262656041515,444856105561,735419759634,1189222877270 ⋆ Third partial sums of eighth powers (A001016). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (3 + 2 * n) * (1 + 36 * n - 69 * n ^ 2 + 45 * n ^ 4 + 18 * n ^ 5 + 2 * n ^ 6) / 3960. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + n ^ 8. •

[**A154379**] • 260,510,760,1010,1260,1510,1760,2010,2260,2510,2760,3010,3260,3510,3760,4010,4260,4510,4760,5010,5260,5510,5760,6010,6260 ⋆ a(n) = 250*n + 10. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 30 2012 •

[**A254647**] • 1,260,7595,94360,723534,4037712,17944290,67127880,219319815,642251428,1718012933,4258676240,9892043980,21721707840,45414150132,90930820464,175208925885,326205634020,588861675535,1033717781096 ⋆ Fourth partial sums of eighth powers (A001016). • a(n) = n * (1 + n) * (2 + n) ^ 2 * (3 + n) * (4 + n) * (1 + 4 * n + n ^ 2) * (21 - 48 * n + 20 * n ^ 2 + 16 * n ^ 3 + 2 * n ^ 4) / 23760. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + n ^ 8. •

[**A168187**] • 0,1,260,9855,131104,976625,5038956,20176975,67109120,193710609,500000500,1178974511,2579891040,5302250785,10330524764,19221681375,34359740416,59293940705,99179648100,161343852319,256000004000 ⋆ n^3*(n^6+1)/2. • a(0)=0, a(1)=1, a(2)=260, a(3)=9855, a(4)=131104, a(5)=976625, a(6)= 5038956, a(7)=20176975, a(8)=67109120, a(9)=193710609, a(n)= 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Dec 08 2012 •

[**A063364**] • 1,261,582,900,1218,1536,1854,2172,2490,2808,3126,3448,3762,4080,4398,4720,5034,5356,5670,5992,6306,6628,6942,7268,7578 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(91). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A023314**] • 263,1217,2141,4673,5333,6983,10973,11423,26669,27143,28697,74843,85061,101063,102647,114113,121001,133349,141623,150497,154823,199877,200183,202409,203039 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 5x + 4. • a(n) == 11 or 41 (mod 42). - _ John Cerkan _ , Oct 07 2016 •

[**A123654**] • 0,264,1491,2427,3811,10764,16180,24220,64711,96271,143127,379120,563064,836160,2211627,3283731,4875451,12892260,19140940,28418164,75143551,111563527,165635151,437970664,650241840 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+809)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1618 for n > 6; a(1)=0, a(2)=264, a(3)=1491, a(4)=2427, a(5)=3811, a(6)=10764. •

[**A094795**] • 265,2119,9403,30637,81901,190435,398959,770713,1395217,2394751,3931555,6215749,9513973,14158747,20558551,29208625,40702489,55744183,75161227,99918301,131131645,170084179,218241343,277267657,349044001 ⋆ a(n)=(1/n!)*A023043(n). • a(n)=n ^ 6 + 15 * n ^ 5 + 100 * n ^ 4 + 355 * n ^ 3 + 694 * n ^ 2 + 689 * n + 265. •

[**A225935**] • 266,1389,6102,20934,141262,306062,607533,1968990,5266030,17975982,25748166,49814254,155087838,254757166,402919341,616857990,918109966,1109537246,2639036782,4871910150,6475547950,11018764446,14135789614,22598970438,42920560350 ⋆ Number of conjugacy classes in adjoint twisted Chevalley group 2E6(q) as q runs through the prime powers. • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 4q ^ 3 + 11q ^ 2 + 11q + 16 if q == 1 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 4q ^ 3 + 12q ^ 2 + 14q + 30 if q == 2 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 4q ^ 3 + 11q ^ 2 + 11q + 15 if q == 3 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 4q ^ 3 + 10q ^ 2 + 10q + 14 if q == 4 (mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 4q ^ 3 + 13q ^ 2 + 15q + 34 if q == 5 (mod 6). •

[**A278130**] • 270,762,1746,3714,7650,15522,31266,62754,125730,251682,503586,1007394,2015010,4030242,8060706,16121634,32243490,64487202,128974626,257949474,515899170,1031798562,2063597346,4127194914,8254390050 ⋆ a(n) = 492*2^n - 222. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[**A245969**] • 271,537,931,1477,2199,3121,4267,5661,7327,9289,11571,14197,17191,20577,24379,28621,33327,38521,44227,50469,57271,64657,72651,81277,90559 ⋆ The average Wiener index of the set of all fibonacenes with n hexagons. • a(n)=4n ^ 3 + 16n ^ 2 + 6n + 1 (n>=3) (see p. 45 of the Gutman - Klavzar reference). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Colin Barker _ , Aug 31 2014 •

[**A158587**] • 272,1139,2584,4607,7208,10387,14144,18479,23392,28883,34952,41599,48824,56627,65008,73967,83504,93619,104312,115583,127432,139859,152864,166447,180608 ⋆ 289*n^2-17. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A157374**] • 273,616,959,1302,1645,1988,2331,2674,3017,3360,3703,4046,4389,4732,5075,5418,5761,6104,6447,6790,7133,7476,7819,8162,8505 ⋆ a(n) = 343*n - 70. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 28 2012 •

[**A279114**] • 0,0,0,0,273,5335,50021,291171,1263125,4434783,13355477,35672426,86686721,194886975,410820269,819819261,1561128613,2853802623,5033838173,8602315716,14291999441,23150803815,36654054741,56841404455,86496828245 ⋆ Number of non-equivalent ways to place 5 non-attacking kings on an n X n board. • a(n) = (n ^ 10 - 90 * n ^ 8 + 120 * n ^ 7 + 3115 * n ^ 6 - 7748 * n ^ 5 - 46050 * n ^ 4 + 173140 * n ^ 3 + 158584 * n ^ 2 - 1255952 * n + 12

52800 + (1 / 2 - (- 1) ^ n / 2) * (52 * n ^ 5 - 305 * n ^ 4 + 180 * n ^ 3 + 320 * n ^ 2 + 3488 * n - 375)) / 960 for n >= 4. • a(n) = 5 * a(n - 1) - 4 * a(n - 2) - 20 * a(n - 3) + 40 * a(n - 4) + 16 * a(n - 5) - 100 * a(n - 6) + 44 * a(n - 7) + 110 * a(n - 8) - 110 * a(n - 9) - 44 * a(n - 10) + 100 * a(n - 11) - 16 * a(n - 12) - 40 * a(n - 13) + 20 * a(n - 14) + 4 * a(n - 15) - 5 * a(n - 16) + a(n - 17) for n >= 21. •

[A165677] • 274,1044,2754,5944,11274,19524,31594,48504,71394,101524,140274,189144,249754,323844,413274,520024,646194,794004,965794,1164024,1391274,1650244,1943754,2274744,2646274 ⋆ Fifth right hand column of triangle A165674 • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) • a(n) = 24 + 100 * n + 105 * n ^ 2 + 40 * n ^ 3 + 5 * n ^ 4 •

[A063368] • 1,275,606,934,1262,1590,1918,2246,2574,2902,3230,3562,3886,4214,4542,4874,5198,5530,5854,6186,6510,6842,7166,7502,7822 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(95). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A075666] • 1,275,11925,208624,2078375,14118201,72758875,304553600,1084203549,3390961375,9540835601,24582546000,58801331875,131987718149,280410672375,567799960576,1102105900025,2060382328875,3724847929549,6534040766000,11154010982751,18575718271825 ⋆ Sum of next n 5th powers. • a(1) = 1; a(n) = sum(i ^ s, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). • a(n) = (3n ^ 11 + 25n ^ 9 + 53n ^ 7 + 23n ^ 5 - 8n ^ 3) / 96. •

[A177844] • 279,3996,16008,64784,260640,1045568,4188288,16765184,67084800,268387328,1073645568,4294774784,17179484160,68718706688,274876366848,1099508547584,4398040350720,17592173723648,70368719536128 ⋆ a(n) = 6*a(n-1)-8*a(n-2) for n > 3; a(0)=279, a(1)=3996, a(2)=16008, a(3)=64784. • a(n) = 4 ^ (n + 5) - 47 * 2 ^ (n + 1) for n > 1. •

[A272982] • 280,2100,10395,42735,158301,549549,1827826,5903898,18682014,58257810,179765973,550478241,1676305723,5083927299,15372843684,46383762084,139730030100,420448298400,1264071094975,3798101973315,11406989362185,34248214131465,102803026929030,308533903071390 ⋆ a(n) is the number of ways of putting n labeled balls into 3 indistinguishable boxes such that each box contains at least 3 balls. • a(n) = (1 / 3) * (1 / 16) * (6 * n ^ 4 - 12 * n ^ 3 - 3 * 2 ^ n * n ^ 2 + 42 * n ^ 2 - 9 * 2 ^ n * n + 12 * n + 8 * 3 ^ n - 3 * 2 ^ (n + 3) + 24). •

[A024214] • 280,5714,45474,227969,859369,2662569,7141953,17147823,37702863,77161513,148781633,272796342,479082422,810530182,1327228182,2111584722,3274516506,4962843396,7368036676,10736476751,15381384711,21696600695 ⋆ a(n) = 4th elementary symmetric function of first n+3 positive integers congruent to 1 mod 3. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (405 * n ^ 4 + 3510 * n ^ 3 + 9855 * n ^ 2 + 8814 * n - 184) / 1920. •

[A288037] • 285,984,2855,7488,18431,43504,99783,224280,496727,1087992,2362607,5095216,10926255,23318880,49563959,104972328,221623847,466594600,979869471,2053083648,4292838335,8958997584,18664612775,38822433208,80631250551 ⋆ Number of (undirected) paths in the n-web graph. • a(n) = n * (- 104 + 89 * 2 ^ n - 52 * n - 8 * n ^ 2) / 4. • a(n) = 8 * a(n - 1) - 26 * a(n - 2) + 44 * a(n - 3) - 41 * a(n - 4) + 20 * a(n - 5) - 4 * a(n - 6). •

[A176712] • 285,2805,9405,22197,43677,76725,124605,190965,279837,395637,543165,727605,954525,1229877,1559997,1951605,2411805,2948085,3568317,4280757,5094045,6017205,7059645,8231157,9541917 ⋆ 16*n^4+256*n^3+1160*n^2+1088*n+384 • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 384 for n > 3; a(0)=21, a(1)=285, a(2)=1365, a(3)=4221. • a(n) = (2 * n + 1) * (2 * n + 15) * (4 * n ^ 2 + 32 * n + 19). • a(n) = a(- n - 8). - Bruno Berselli, Sep 05 2011 •

[A027798] • 286,4368,35490,203840,928200,3564288,11992344,36279360,100524060,258658400,624660036,1427794368,3109779400,6489974400,13037895000,25310900160,47640468330,87185170800,155514818550,270951408000,461972150640,772082488320,1266697832400 ⋆ a(n) = 26*(n+1)*C(n+3,13). • a(n) = C(n + 1, 11) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[A157997] • 287,575,863,1151,1439,1727,2015,2303,2591,2879,3167,3455,3743,4031,4319,4607,4895,5183,5471,5759,6047,6335,6623,6911,7199 ⋆ 288n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A063362] • 1,287,616,946,1276,1606,1936,2266,2596,2926,3256,3584,3916,4246,4576,4904,5236,5564,5896,6224,6556,6884,7216,7542,7876 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(89). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[A158252] • 287,1152,2595,4616,7215,10392,14147,18480,23391,28880,34947,41592,48815,56616,64995,73952,83487,93600,104291,115560,127407,139832,152835,166416,180575 ⋆ 289n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158253] • 288,577,866,1155,1444,1733,2022,2311,2600,2889,3178,3467,3756,4045,4334,4623,4912,5201,5490,5779,6068,6357,6646,6935,7224 ⋆ 289n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A292054] • 288,708,1580,3144,5804,9996,16388,25660,38808,56808,81048,112856,154080,206448,272332,353920,454172,575784,722372,897196,1104592,1348436,1633848,1965376,2348992 ⋆ Wiener index of the n X n knight graph. • a(n) = 2 * a(n - 1) + a(n - 2) - 3 * a(n - 3) - a(n - 5) + 2 * a(n - 6) + 2 * a(n - 7) - a(n - 8) - 3 * a(n - 10) + a(n - 11) + 2 * a(n - 12) - a(n - 13) for n > 17. •

[A281236] • 0,288,960,1632,2688,6048,9792,15840,35328,57120,92352,205920,332928,538272,1200192,1940448,3137280,6995232,11309760,18285408,40771200,65918112,106575168,237631968,384198912 ⋆ Solutions y to the negative Pell equation y^2 = 72*x^2 - 332928 with x,y >= 0. • a(n) = 6 * a(n - 3) - a(n - 6) for n>6. •

[A229506] • 0,288,4032,50112,575424,6298560,66764736,691581888,7040530368,70711413696,702522486720,6917780251584,67615723104192,6567428154971 52,6344497107509184,61004779879896000,584181772129884096 ⋆ Number of defective 3-colorings of an n X 4 0..2 array connected diagonally and antidiagonally with exactly one mistake, and colors introduced in row-major 0..2 order. • a(n) = 64 * 3 ^ (2 * n - 5) * (8 * n - 3) for n>2. •

[A290028] • 0,0,0,288,5664,50688,314496,1569792,6773760,26320896,94482432,318726144,1022681088,3148873728,9366110208,27051687936,76178522112,209845223424,566967140352,1505815953408,3938646491136,10161657741312,25894399770624,65248539181056 ⋆ Number of 5-cycles in the n-halved cube graph. • a(n) = 3 * 2 ^ n * binomial(n,4) * (29 * n - 86) / 5. • a(n) = 12 * a(n - 1) - 60 * a(n - 2) + 160 * a(n - 3) - 240 * a(n - 4) + 192 * a(n - 5) - 64 * a(n - 6). •

[A022154] • 1,288,15776,346304,4254912,34792672,210482016,1010803584,4047994752,14009305760,43023042336,119628650560,305908697152,728298521184,1630273964256,3458692036352,7000203482880,13590066551840,25423081113760,46005461684160,80797523590080 ⋆ Coordination sequence for root lattice B_12. • a(0)=1; for n>0, a(n) = (65344 * n ^ 11 - 179168 * n ^ 10 + 2231680 * n ^ 9 - 4643760 * n ^ 8 + 22442112 * n ^ 7 - 33057024 * n ^ 6 + 76060160 * n ^ 5 - 69575440 * n ^ 4 + 72405344 * n ^ 3 - 29758608 * n ^ 2 + 8915760 * n) / 155925. - _ Ralf Stephan _ , Apr 28 2004 •

[A159299] • 0,0,0,0,288,166560,33539040,2350746720,75756999360,1388552614848,16744788486720,146769785743680,1002373493948640,5606534724167520,26640793339768608,110556058012152480,409297168707073920,1374572399886053760,4243833928227876480 ⋆ Number of n-colorings of the 4 X 4 Sudoku graph. • a(n) = n ^ 16 - 56 * n ^ 15 + ... (see Maple program). •

[A156572] • 289,529,1369,4225,13225,42025,139129,444889,1423249,4721929,15108769,48344209,160402225,513249025,1642275625,5448949489,17435353849,55789022809,185103876169,592288777609,1895184495649,6288082836025 ⋆ Squares of the form k^2+(k+23)^2 with integer k. • a(n) = 34 * a(n - 3) - a(n - 6) - 4232 for n > 6; a(1)=289, a(2)=529, a(3)=1369, a(4)=4225, a(5)=13225, a(6)=42025. •

[A157990] • 289,577,865,1153,1441,1729,2017,2305,2593,2881,3169,3457,3745,4033,4321,4609,4897,5185,5473,5761,6049,6337,6625,6913,7201 ⋆ 288n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 10 2012 •

[A158255] • 290,579,868,1157,1446,1735,2024,2313,2602,2891,3180,3469,3758,4047,4336,4625,4914,5203,5492,5781,6070,6359,6648,6937,7226 ⋆ 289n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A158254] • 291,1160,2607,4632,7235,10416,14175,18512,23427,28920,34991,41640,48867,56672,65055,74016,83555,93672,104367,115640,127491,139920,152927,166512,180675 ⋆ 289n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A088892] • 0,1,291,16096,356232,4411517,36621423,227095448,1128128568,4708376529,17078744419,55199550120,161993768080,438011626365,1103841220991,2616890599056,5880356075792,12602902382337 ⋆ Polynexus numbers of order 14. • a(n) = ((n ^ 14 - (n - 1) ^ 14) - (n ^ 2 - (n - 1) ^ 2)) / 16380 = ((n ^ 14 - (n - 1) ^ 14) - (n ^ 2 - (n - 1) ^ 2)) / (2 ^ 14 - 2 ^ 2). •

[A023305] • 293,2063,4583,9203,14723,20123,25733,29453,40253,54713,76103,97523,99833,109433,138683,149993,158243,196853,199403,218873,253103,297623,379913,416963,445463 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 2x + 7. • a(n) == 3 (mod 10). - _ John Cerkan _ , Mar 11 2016 •

[A085502] • 1,293,2728,12318,38835,98411,215138,422668,765813,1302145,2103596,3258058,4870983,7066983,9991430,13812056,18720553,24934173,32697328,42283190,53995291,68169123,85173738,105413348,129328925 ⋆ Number of (unordered) ways of making change for n dollars using coins of denominations 1, 5, 10, 25, 50 and 100. • a(n) = (n + 1) (80 n ^ 4 + 310 n ^ 3 + 362 n ^ 2 + 121 n + 6) / 6. - _ Dean Hickerson _ • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. •

[A128965] • 0,294,8232,144060,2016840,24706290,276710448,2905459704,29054597040,279650496510,2610071300760,23751648836916,211605598728888,1851548988877770,15951806673408480,135590356723972080 ⋆ a(n) = (n^3 - n)*7^n. • a(n) = 28 * a(n - 1) - 294 * a(n - 2) + 1372 * a(n - 3) - 2401 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 •

[A256101] • 301,721,1141,1561,1981,2401,2821,3241,3661,4081,4501,4921,5341,5761,6181,6601,7021,7441,7861,8281,8701,9121,9541,9961,10381 ⋆ The broken eggs problem. • a(n) = 420 * n - 119, n >= 1, (note that 420 = 3 * 4 * 5 * 7, with pairwise coprime factors needed for the Chinese remainder theorem). •

[A172228] • 0,0,1,304,10741,127960,870589,4197456,16005187,51439096,145085447,369074128,863338777,1883786680,3875953561,7583888944,14206566327,25617069208,44663199283,75572017136,124485188701,200156902936,314851577749,485484612496,735056106571 ⋆ Number of ways to place 5 nonattacking wazirs on an n X n board. • a(n) = (n ^ 10 - 50n ^ 8 + 40n ^ 7 + 995n ^ 6 - 1560n ^ 5 - 8890n ^ 4 + 21080n ^ 3 + 24264n ^ 2 - 97440n + 59520) / 120, n >=4. •

[A160577] • 305,409,641,1189,2045,3541,6829,11861,20605,39785,69121,120089,231881,402865,699929,1351501,2348069,4079485,7877125,13685549,23776981,45911249,79765225,138582401,267590369 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+409)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=305, a(2)=409, a(3)=641, a(4)=1189, a(5)=2045, a(6)=3541. •

[A247344] • 1,1,1,1,1,305,7905,137105,2090305,30673905,446213025,6483539025,94216001025,1369259983025,19900452349025,289229603172625,4203610924242625,61094494859232625,887935798190222625 ⋆ a(n) = 1 for n <= 4; a(n) = 25*a(n-1) - 200*a(n-2) + 800*a(n-3) - 1600*a(n-4) + 1280*a(n-5) otherwise. • a(n) = 25 * a(n - 1) - 200 * a(n - 2) + 800 * a(n - 3) - 1600 * a(n - 4) + 1280 * a(n - 5). •

[**A158589**] • 306,1278,2898,5166,8082,11646,15858,20718,26226,32382,39186,46638,54738,63486,72882,82926,93618,104958,116946,129582,142866,156798,171378,186606,202482 ⋆ 324n^2-18. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 16 2012 •

[**A172966**] • 0,0,0,306,2365,19047,90503,328324,981693,2547955,5933257,12681288,25284363,47595023,85357395,146879312,243867873,392452803,614423653,938708560,1403123967,2056426383,2960698943,4194107208,5854060325 ⋆ Number of ways to place 4 nonattacking knights on an n X n cylindrical board. • a(n) = n * (n ^ 7 - 54n ^ 5 + 72n ^ 4 + 1115n ^ 3 - 2616n ^ 2 - 8502n + 26712) / 24, n>=9. •

[**A220475**] • 307,347,563,569,733,821,1427,1429,1433,1439,1447,1481,1867,1931,1973,2657,2659,2663,2671,2683,3187,3191,3313,3319,3323 ⋆ Chebyshev numbers C_v(n) for v=15/14: a(n) is the smallest number such that if x>=a(n), then theta(x)-theta(14*x/15)>=n*log(x), where theta(x)=sum_{prime p<=x} log p. • a(n) <= prime(32 * (n + 1)). •

[**A289793**] • 0,0,0,0,312,3024,14868,51744,145152,350784,759528,1511136,2810808,4948944,8324316,13470912,21088704,32078592,47581776,69023808,98163576,137147472,188568996,255534048,341732160 ⋆ Number of 5-cycles in the n-tetrahedral graph. • a(n) = 6 * binomial(n, 5) * (- 78 + 21 * n + n ^ 2). • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). •

[**A159574**] • 313,337,365,1513,1685,1877,8765,9773,10897,51077,56953,63505,297697,331945,370133,1735105,1934717,2157293,10112933,11276357,12573625,58942493,65723425,73284457,343542025 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+337)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6)for n > 6; a(1)=313, a(2)=337, a(3)=365, a(4)=1513, a(5)=1685, a(6)=1877. •

[**A157621**] • 314,1825,4586,8597,13858,20369,28130,37141,47402,58913,71674,85685,100946,117457,135218,154229,174490,196001,218762,242773,268034,294545,322306,351317,381578 ⋆ 625n^2 - 364n + 53. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A058002**] • 1,317,90492,7880456,270656150,4947097821,58002778967,490172624992,3223155968811,17382581357725,79840867013666,321169288917192,1155731257886192,3782368364610941,11406226119319725,32031530635953536,84493500676300117,210856844364222717 ⋆ Number of 4 X 4 matrices with entries mod n, up to row and column permutation. • a(n)=(1 / 4! ^ 2) * (n ^ 16 + 12 * n ^ 12 + 36 * n ^ 10 + 67 * n ^ 8 + 160 * n ^ 6 + 204 * n ^ 4 + 96 * n ^ 2). •

[**A278131**] • 318,909,2091,4455,9183,18639,37551,75375,151023,302319,604911,1210095,2420463,4841199,9682671,19365615,38731503,77463279,154926831,309853935,619708143,1239416559,2478833391,4957667055,9915334383 ⋆ a(n) = 591*2^n - 273. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[**A075153**] • 318,1071,5040,5985,10710,20400,24225,43350,81600,85425,165750,327360,342705,664950,1309440,1324785,2629110,5241600,5303025,10524150,20966400,21027825,41973750,83880960,84126705 ⋆ Trajectory of 318 under the Reverse and Add! operation carried out in base 4, written in base 10. • a(0) = 318; a(1) = 1071; for n > 1 and n = 2 (mod 6): a(n) = 5 * 4 ^ (2 * k + 5) - 5 * 4 ^ (k + 2) where k = (n - 2) / 6; n = 3 (mod 6): a(n) = 5 * 4 ^ (2 * k + 5) + 55 * 4 ^ (k + 2) - 15 where k = (n - 3) / 6; n = 4 (mod 6): a(n) = 10 * 4 ^ (2 * k + 5) + 30 * 4 ^ (k + 2) - 10 where k = (n - 4) / 6; n = 5 (mod 6): a(n) = 20 * 4 ^ (2 * k + 5) - 5 * 4 ^ (k + 2) where k = (n - 5) / 6; n = 0 (mod 6): a(n) = 20 * 4 ^ (2 * k + 5) + 235 * 4 ^ (k + 2) - 15 where k = (n - 6) / 6; n = 1 (mod 6): a(n) = 40 * 4 ^ (2 * k + 5) + 150 * 4 ^ (k + 2) - 10 where k = (n - 7) / 6. •

[**A168636**] • 0,1,320,10935,139264,1015625,5178816,20588575,68157440,196101729,505000000,1188717431,2597806080,5333623945,10383230144,19307109375,34493956096,59499107585,99485755200,161790784759,256640000000,398040567 61,604881787840,902278743455 ⋆ a(n) = n^7*(n^2 + 1)/2. • a(0)=0, a(1)=1, a(2)=320, a(3)=10935, a(4)=139264, a(5)=1015625, a(6)=5178816, a(7)=20588575, a(8)=68157440, a(9)=196101729, a(n)= 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). •

[**A144124**] • 1,321,2641,10321,28401,63601,124321,220641,364321,568801,849201,1222321,1706641,2322321,3091201,4036801,5184321,6560641,8194321,10115601,12356401,14950321,17932641,21340321,25212001 ⋆ P_4(2n+1), the Legendre polynomial of order 4 at 2n+1. • a(n) = 70 * n ^ 4 + 140 * n ^ 3 + 90 * n ^ 2 + 20 * n + 1. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) + 1680 for n > 3; a(0)=1, a(1)=321, a(2)=2641, a(3)=10321. •

[**A114358**] • 1,322,1186,2110,3034,3958,4882,5806,6730,7654,8578,9502,10426,11350,12274,13198,14122,15046,15970,16894,17818,18742,19666,20590,21514 ⋆ Let M(n) be the n X n matrix m(i,j)=min(i,j) for 1<=i,j<=n then a(n) is the trace of M(n)^(-6). • a(n) = 924n - 1586 with n>2, a(1)=1, a(2)=322. • a(n) = 2 * a(n - 1) - a(n - 2) for n>4. G.f.: x * (1 + 320 * x + 543 * x ^ 2 + 60 * x ^ 3) / (1 - x) ^ 2. [Colin Barker, Mar 18 2012] •

[**A158305**] • 322,1292,2910,5176,8090,11652,15862,20720,26226,32380,39182,46632,54730,63476,72870,82912,93602,104940,116926,129560,142842,156772,171350,186576,202450 ⋆ 324n^2 - 2n. • a(1)=322, a(2)=1292, a(3)=2910, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[**A158306**] • 323,647,971,1295,1619,1943,2267,2591,2915,3239,3563,3887,4211,4535,4859,5183,5507,5831,6155,6479,6803,7127,7451,7775,8099 ⋆ 324n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A213289**] • 0,1,323,5168,37993,201975,916966,3771418,14486158,52359693,178880725,575581556,1731294863,4845394723,12619979568,30703918750,70168864396,151545355033,311129635863,610492421368,1150383157925,2090531036111,3677200683178,6280769764578 ⋆ Number of 10-length words w over n-ary alphabet such that for every prefix z of w we have #(z,a_i) = 0 or #(z,a_i) >= #(z,a_j) for all j>i and #(z,a_i) counts the occurrences of the i-th letter in z. • a(n) = n * (- 6044030 + 17209877 * n - 19851310 * n ^ 2 + 12422410 * n ^ 3 - 4715472 * n ^ 4 + 1139127 * n ^ 5 - 176832 * n ^ 6 + 17190 * n ^ 7 - 960 * n ^ 8 + 24 * n ^ 9) / 24. •

[**A253708**] • 323,7497,57618,262430,878445,2399103,5669972,12026988,23457735,42785765,73877958,121874922,193444433,297057915,443289960,645140888,918382347,1281925953,1758214970,2373639030,3158971893,4149832247,5387167548,6917760900,8794760975 ⋆ Numbers c(n) whose squares are equal to the sums of consecutive cubed integers b^3 + (b+1)^3 + ... + (b+M-1)^3 = c^2, for a first term b(n) being an odd squared integer (A016754). • a(n) = (n(n + 1) / 2)(4(2n + 1) ^ 4 - 1). •

[**A272298**] • 324,325,340,405,580,949,1620,2725,4420,6885,10324,14965,21060,28885,38740,50949,65860,83845,105300,130645,160324,194805,234580,280165,332100 ⋆ a(n) = n^4 + 324. • a(n) = (n ^ 2 - 18) ^ 2 + (6 * n) ^ 2. •

[**A014792**] • 0,324,1156,12544,21904,81796,116964,291600,379456,763876,940900,1658944,1971216,3175524,3678724,5550736,6310144,9060100,10150596,14017536,15523600,20775364,22791076,29724304,32353344 ⋆ Squares of even heptagonal numbers. • a(n) = 1 / 2 * (200 * n ^ 4 - 120 * n ^ 3 + 18 * n ^ 2) for n even. • a(n) = 1 / 2 * (200 * n ^ 4 + 280 * n ^ 3 + 138 * n ^ 2 + 28 * n + 2) for n odd. •

[**A128992**] • 0,324,13122,314928,5904900,95659380,1406192886,19284931008,251048476872,3138105960900,37971082126890,447368385785904,5154903899851212,58290067175240628,648557066098144350 ⋆ a(n) = (n^3 - n^2)*9^n. • a(n) = 36 * a(n - 1) - 486 * a(n - 2) + 2916 * a(n - 3) - 6561 * a(n - 4). - _ Vincenzo Librandi _ , Feb 12 2013 •

[**A159844**] • 325,359,401,1549,1795,2081,8969,10411,12085,52265,60671,70429,304621,353615,410489,1775461,2061019,2392505,10348145,12012499,13944541,60313409,70013975,81274741,351532309 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+359)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=325, a(2)=359, a(3)=401, a(4)=1549, a(5)=1795, a(6)=2081. •

[**A160580**] • 325,457,877,1073,2285,4937,6113,13253,28745,35605,77233,167533,207517,450145,976453,1209497,2623637,5691185,7049465,15291677,33170657,41087293,89126425,193332757,239474293 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+457)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=325, a(2)=457, a(3)=877, a(4)=1073, a(5)=2285, a(6)=4937. •

[**A158272**] • 325,649,973,1297,1621,1945,2269,2593,2917,3241,3565,3889,4213,4537,4861,5185,5509,5833,6157,6481,6805,7129,7453,7777,8101 ⋆ 324n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A158271**] • 326,1300,2922,5192,8110,11676,15890,20752,26262,32420,39226,46680,54782,63532,72930,82976,93670,105012,117002,129640,142926,156860,171442,186672,202550 ⋆ 324n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A027807**] • 330,4455,32175,165165,675675,2342340,7147140,19691100,49884120,117781950,261891630,552882330,1115464350,2162284740,4045090500,7330194300,12907516050,22145248125,37105593525,60841155375,97796523825,154345534200,239501691000,365847510600 ⋆ a(n) = 165*(n+1)*C(n+4,11)/4. • a(n) = C(n + 1, 8) * C(n + 4, 4). - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[**A097401**] • 332,528,796,1148,1596,2152,2828,3636,4588,5696,6972,8428,10076,11928,13996,16292,18828,21616,24668,27996,31612,35528,39756,44308,49196 ⋆ Largest achievable determinant of a 3 X 3 matrix whose elements are 9 distinct nonnegative integers chosen from the range 0..n. • a(n) = 2 * n ^ 3 - 18 * n ^ 2 + 68 * n - 84. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 25 2012 •

[**A273529**] • 337,409,449,577,1009,1129,1489,1801,2377,2521,2609,2689,2833,3041,3169,3329,3361,3433,3529,3889,4049,4513,4657,5209,5569 ⋆ Primes p of the form x^2 + y^2 such that p+1 is the sum of the two nonzero squares in exactly 2 ways. • a(n) mod 8 = 1. •

[**A157999**] • 337,675,1013,1351,1689,2027,2365,2703,3041,3379,3717,4055,4393,4731,5069,5407,5745,6083,6421,6759,7097,7435,7773,8111,8449 ⋆ 338n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A158000**] • 339,677,1015,1353,1691,2029,2367,2705,3043,3381,3719,4057,4395,4733,5071,5409,5747,6085,6423,6761,7099,7437,7775,8113,8451 ⋆ 338n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 10 2012 •

[**A172255**] • 341,902,1547,2652,4039,5768,7673,9720,12185,14886,17707,20984,25017,29386,33757,38438,43899,50500,58457,66778,75259,84170,94431,105016,116321 ⋆ Partial sums of the Fermat pseudoprimes to base 2, A001567. • a(n) = SUM[i=1..n] { odd composite numbers n such that 2 ^ (n - 1) == 1 mod n } . •

[**A121205**] • 342,438,546,666,798,942,1098,1266,1446,1638,1842,2058,2286,2526,2778,3042,3318,3606,3906,4218,4542,4878,5226,5586,5958 ⋆ "666" in bases 7 and higher rewritten in base 10. • a(n) = 6 * (n ^ 2 + n + 1) = a(n - 1) + 12 * n. •

[**A158595**] • 342,1425,3230,5757,9006,12977,17670,23085,29222,36081,43662,51965,60990,70737,81206,92397,104310,116945,130302,144381,159182,174705,190950,207917,225606 ⋆ 361n^2 - 19. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A272380**] • 0,1,342,6315,40492,157125,456546,1099567,2321880,4448457,7907950,13247091,21145092,32428045,48083322,69273975,97353136,133878417,180626310,239606587,313076700,403556181,513841042,647018175,806479752 ⋆ a(n) = n*(120*n^4 - 480*n^3 + 762*n^2 - 556*n + 155). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), for n> 5. •

[**A016983**] • 0,343,2744,9261,21952,42875,74088,117649,175616,250047,343000,456533,592704,753571,941192,1157625,1404928,1685159,2000376,2352637,2744000,3176523,3652264,4173281,4741632 ⋆ a(n) = (7*n)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n > 3. - _ Vincenzo Librandi _ , Jul 05 2014 •

[**A017355**] • 343,4913,19683,50653,103823,185193,300763,456533,658503,912673,1225043,1601613,2048383,2571353,3176523,3869893,4657463,5545233,6539203,7645373,8869743,10218313,11697083 ⋆ a(n) = (10*n + 7)^3. • a(0)=343, a(1)=4913, a(2)=19683, a(3)=50653; for n>3, a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Jun 11 2015 •

[**A017475**] • 343,5832,24389,64000,132651,238328,389017,592704,857375,1191016,1601613,2097152,2685619,3375000,4173281,5088448,6128487,7301384,8615125,10077696,11697083,13481272,15438249 ⋆ (11*n+7)^3. • a(0)=343, a(1)=5832, a(2)=24389, a(3)=64000, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Oct 18 2014 •

[**A277636**] • 1,343,6859,50653,226981,753571,2048383,4826809,10218313,19902511,36264691,62570773,103161709,163667323,251239591,374805361,545338513,776151559,1083206683,1485446221,2005142581,2668267603,3504881359,4549540393,5841725401 ⋆ Number of 3 X 3 matrices having all elements in {0,...,n} with determinant = permanent. • a(n) = (3 * n ^ 2 - 3 * n + 1) ^ 3. •

[**A224427**] • 343,8967,88679,620839,3667623,19657127,99084199,479187879,2250222503,10338917287,46716074919,208322526119,919156226983,4020155841447,17454879996839,75316812315559,323256950193063,1380987667741607,5875792265345959 ⋆ The Wiener index of the dendrimer NS[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = - 1113 + 8112 * 2 ^ n - 6656 * 4 ^ n + 5120 * n * 4 ^ n. •

[**A117197**] • 0,343,17576,250047,1906624,9938375,40001688,133432831,385828352,997002999,2352637000,5150827583,10590025536,20638466407,38409197624,68669157375,118515478528,198257271191,322546580712,511808023999 ⋆ (n^3 - 1)^3. • a(n) = n ^ 9 - 3n ^ 6 + 3n ^ 3 - 1 •

[**A086028**] • 1,344,22296,615000,9876000,108487128,897376152,5950405848,33031486875,158406862000,671944398512,2567519091888,8965083682032,28938181326000,87168786702000,246953567853744,662331582918141,1691011474896264,4129363811437000,9684000822437000 ⋆ a(n) = Sum_{i=1..n} C(i+5,6)^3. • a(n) = C(n + 6,7) * [- 15 * F6(n) + 63063 * (7 * C(n + 11,12) + 195 * C(n + 10,12) + * 920 * C(n + 9,12) + 920 * C(n + 8,12) + 195 * C(n + 7,12) + 7 * C(n + 6,12))] / 415701; • a(n) = (n / 120679663104000) * (1 + n) * (2 + n) * (3 + n) * (4 + n) * (5 + n) * (6 + n) * (- 864000 + 2116800 * n + 772737840 * n ^ 2 + 3398930472 * n ^ 3 + 6406454992 * n ^ 4 + 6701566410 * n ^ 5 + 4302755765 * n ^ 6 + 1780394616 * n ^ 7 + 484074591 * n ^ 8 + 85975890 * n ^ 9 + 9604595 * n ^ 10 + 612612 * n ^ 11 + 17017 * n ^ 12). - _ G . C. Greubel _ , Nov 22 2017 •

[**A063370**] • 1,345,736,1128,1520,1912,2304,2696,3088,3480,3872,4262,4656,5048,5440,5830,6224,6614,7008,7398,7792,8182,8576,8964,9360 ⋆ Dimension of the space of weight n cuspidal newforms for Gamma_1(97). • a(n) = a(n - 4) + a(n - 6) - a(n - 10) for n>13. •

[**A225934**] • 346,1389,6102,21182,141262,306574,607533,1969886,5266030,17975982,25750142,49814254,155091326,254757166,402919341,616863422,918109966,1109543806,2639036782,4871920766,6475547950,11018778302,14135789614,22598987966,42920581982 ⋆ Number of conjugacy classes in simply connected twisted Chevalley group 2E6(q) as q runs through the prime powers. • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 11q ^ 2 + 11q + 16 if q == (1 mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 18q ^ 2 + 26q + 62 if q == (2 mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 11q ^ 2 + 11q + 15 if q == (3 mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 10q ^ 2 + 10q + 14 if q == (4 mod 6). • a(n) = q ^ 6 + q ^ 5 + 2q ^ 4 + 19q ^ 2 + 27q + 72 if q == (5 mod 6). •

[**A287700**] • 0,1,346,6219,36628,124405,316206,672511,1267624,2189673,3540610,5436211,8006076,11393629,15756118,21264615,28104016,36473041,46584234,58663963,72952420,89703621,109185406,131679439,157481208 ⋆ a(n) = (4!)^3 * [z^4] hypergeom([], [1,1], z)^n. • a(n) = - 1899 * n + 3916 * n ^ 2 - 2592 * n ^ 3 + 576 * n ^ 4. • a(n) = [x ^ n] (x + 341 * x ^ 2 + 4499 * x ^ 3 + 8983 * x ^ 4) / (1 - x) ^ 5. •

[**A129642**] • 0,348,495,1371,3255,4088,9140,20096,24947,54383,118235,146508,318072,690228,855015,1854963,4024047,4984496,10812620,23454968,29052875,63021671,136706675,169333668,367318320 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+457)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 914 for n > 6; a(1)=0, a(2)=348, a(3)=495, a(4)=1371, a(5)=3255, a(6)=4088. • a(1)=0, a(2)=348, a(3)=495, a(4)=1371, a(5)=3255, a(6)=4088, a(7)=9140, a(n)=a(n - 1) + 6 * a(n - 3) - 6 * a(n - 4) - a(n - 6) + a(n - 7) [From Harvey P. Dale, May 13 2012] •

[**A282998**] • 0,0,1,353,12231,153194,1124820,5893221,24425212,85152341,259805430,712840480,1793423456,4197531636,9240962666,19301854131,38514786780,73828909906,136581190475,244784427831,426389859697,723857976770,1200460734396,1948846090829,3102524331336 ⋆ Number of ways to place 6 points on a triangular grid of side n so that no two of them are adjacent. • a(n) = (n ^ 12 + 6 * n ^ 11 - 195 * n ^ 10 - 670 * n ^ 9 + 17455 * n ^ 8 + 13426 * n ^ 7 - 836249 * n ^ 6 + 1252990 * n ^ 5 + 19599884 * n ^ 4 - 68542552 * n ^ 3 - 131400416 * n ^ 2 + 974223360 * n - 1308856320) / 46080 for n>=4. •

[**A157668**] • 354,2099,5302,9963,16082,23659,32694,43187,55138,68547,83414,99739,117522,136763,157462,179619,203234,228307,254838,282827,312274,343179,375542,409363,444642 ⋆ 729n^2 - 442n + 67. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A166916**] • 357,5525,87637,1399125,22373717,357930325,5726688597,91626231125,1466016552277,23456252253525,375299985724757,6004799570269525,96076792319006037,1537228673882871125,24595658769241036117 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) - 15 for n > 1; a(0) = 357, a(1) = 5525. • a(n) = (1024 * 16 ^ n + 48 * 4 ^ n - 1) / 3. • a(0)=357, a(1)=5525, a(2)=87637, a(n)=21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3). - _ Harvey P. Dale _ , Sep 24 2012 •

[**A166913**] • 357,14450,221650,3508050,55975250,894989650,14317376850,229068199250,3665051866450,58640672576850,938250132084050,15011999596762450,240191983481869650,3843071695444596050,61489146966052263250 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) - 150 for n > 2; a(0) = 357, a(1) = 14450, a(2) = 221650. • a(n) = (2560 * 16 ^ n + 600 * 4 ^ n - 10) / 3 for n > 0. • a(0)=357, a(1)=14450, a(2)=221650, a(3)=3508050, a(n)=21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3). - _ Harvey P. Dale _ , Jun 18 2014 •

[**A224434**] • 357,112311,2540727,28861191,239301927,1663126311,10343555367,59654395431,325892779047,1709482140711,8689254356007,43074112914471,209214647804967,999137244521511,4704103526212647,21880432615990311,100713104634651687,459359353571484711 ⋆ The hyper-Wiener index of the dendrimer D_3[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = 107559 - 551400 * 2 ^ n + 108900 * 4 ^ n * n ^ 2 + 444198 * 4 ^ n - 304590 * 4 ^ n * n + 74910 * 2 ^ n * n - 18150 * 2 ^ n * n ^ 2. •

[**A158307**] • 359,1440,3243,5768,9015,12984,17675,23088,29223,36080,43659,51960,60983,70728,81195,92384,104295,116928,130283,144360,159159,174680,190923,207888,225575 ⋆ 361n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A069478**] • 360,480,600,720,840,960,1080,1200,1320,1440,1560,1680,1800,1920,2040,2160,2280,2400,2520,2640,2760,2880,3000,3120,3240 ⋆ First differences of A069477, successive differences of (n+1)^5-n^5. • a(n)=(n + 2) * 120 •

[**A158308**] • 360,721,1082,1443,1804,2165,2526,2887,3248,3609,3970,4331,4692,5053,5414,5775,6136,6497,6858,7219,7580,7941,8302,8663,9024 ⋆ 361n - 1. • a(1)=360, a(2)=721, a(n)=2 * a(n - 1) - a(n - 2). - Harvey P. Dale, Aug 18 2011 •

[**A140801**] • 360,1080,1800,2520,3240,3960,4680,5400,6120,6840,7560,8280,9000,9720,10440,11160,11880,12600,13320,14040,14760,15480,16200,16920,17640 ⋆ a(0)=360, a(n)=a(n-1)+720 for n>=1. • a(n) = 360 + 720 * n •

[**A024185**] • 360,2754,12154,40369,111769,271929,600033,1225983,2353263,4288713,7480473,12565462,20427862,32270182,49698582,74824242,110382666,159872916,227718876,319454751,441937111,603585895,814656895,1087548345,1437144345 ⋆ Fourth elementary symmetric function of 3,4,...,n+5. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (15 * n ^ 4 + 450 * n ^ 3 + 5165 * n ^ 2 + 26922 * n + 53848) / 5760. - _ R. J. Mathar _ , Sep 15 2009 •

[**A033592**] • 1,360,3465,14560,41769,96096,191425,344520,575025,905464,1361241,1970640,2764825,3777840,5046609,6610936,8513505,10799880,13518505,16720704,20460681,24795520,29785185,35492520,41983249 ⋆ (2*n+1)*(3*n+1)*(4*n+1) • a(0)=1, a(1)=360, a(2)=3465, a(3)=14560, a(4)=41769, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Nov 28 2013 •

[**A192829**] • 360,8064,68928,355470,1340424,4086180,10680384,24847938,52769640,104137704,193478400,341772054,578400648,943453260,1490419584,2289301770,3430174824,5027225808,7223302080,10194998814,14158316040,19374915444,26159007168,34884896850,45995223144 ⋆ Molecular topological indices of the n X n X n grid graphs • a(n) = n * (24 - 66 * n + 36 * n ^ 2 + 4 * n ^ 3 - 3 * n ^ 4 - 7 * n ^ 5 + 6 * n ^ 6). •

[**A229681**] • 0,360,10896,186576,2700432,35485776,437924880,5169543120,59031049104,656886585168,7159989801744,76729919248080,810700618461840,8463178886657616,87441690785378832,895373932606109136 ⋆ Number of defective 3-colorings of an n X 4 0..2 array connected diagonally and antidiagonally with exactly two mistakes, and colors introduced in row-major 0..2 order. • a(n) = 16 * 3 ^ (2 * n - 7) * (- 449 + 60 * n + 256 * n ^ 2) for n>3. •

[**A054648**] • 360,13230,137760,835380,3679200,13056120,39584160,106383420,259819560,586936350,1242521280,2489618040,4758324480,8728907040,15446635200,26477304840,44114190120,71649152190,113722852320,176771479500,269590120800,404035889400,595897192800 ⋆ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 4 2-simplexes and 11 1-simplexes. • a(n) = 360 * C(n, 6) + 10710 * C(n, 7) + 42000 * C(n, 8) + 41580 * C(n, 9) + 12600 * C(n, 10) = n * (n - 1) * (n - 2) * (n - 3) * (n - 4) * (n - 5) * (n ^ 4 + 3 * n ^ 3 - 58 * n ^ 2 - 120 * n + 1008) / 288. •

[**A191216**] • 361,230456,1005768,3462570,11006128,25925028,61456764,127697940,249379116,448408452,740850012,1263239320,1914568816,2884222410,4371191782,6287341056,8758591370,11640682466,15938770638,21721208748,29153150298,38784336168,49888704100,62506263054,76188213990 ⋆ Arithmetic derivative of prime(n) * prime(n+1) * prime(n+2) * prime(n+3) * prime(n+4) * prime(n+5). • a(n) = (prime(n) * prime(n + 1) * prime(n + 2) * prime(n + 3) * prime(n + 4) * prime(n + 5))' where f' is the arithmetic derivative (see A003415) of f. •

[**A158310**] • 362,723,1084,1445,1806,2167,2528,2889,3250,3611,3972,4333,4694,5055,5416,5777,6138,6499,6860,7221,7582,7943,8304,8665,9026 ⋆ 361n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A243131**] • 0,1,362,3363,15124,47525,120126,262087,514088,930249,1580050,2550251,3946812,5896813,8550374,12082575,16695376,22619537,30116538,39480499,51040100,65160501,82245262,102738263,127125624 ⋆ 16*n^5 - 20*n^3 + 5*n. • a(n) = n * (16 * n ^ 4 - 20 * n ^ 2 + 5) = (- 1 / 4) * n * (- 8 * n ^ 2 + 5 + sqrt(5)) * (8 * n ^ 2 - 5 + sqrt(5)). •

[**A157442**] • 362,19601,68122,145925,253010,389377,555026,749957,974170,1227665,1510442,1822501,2163842,2534465,2934370,3363557,3822026,4309777,4826810,5373125,5948722,6553601,7187762,7851205,8543930 ⋆ 14641n^2 - 24684n

+ 10405. • a(1)=362, a(2)=19601, a(3)=68122, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Oct 22 2011] •

[A158309] • 363,1448,3255,5784,9035,13008,17703,23120,29259,36120,43703,52008,61035,70784,81255,92448,104363,117000,130359,144440,159243,174768,191015,207984,225675 ⋆ 361n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A131348] • 364,940,44140,152140,2722540,8820940,14062540,17388940,42380140,48024940,127916140,356076940,676520140,979064140,990360940,1032336940,1302488140,1431108940,1509322540,1766520940,1984702540,2561372140 ⋆ Sum of squares of prime quadruplets. • a(n) = p ^ 2 + (p + 2) ^ 2 + (p + 6) ^ 2 + (p + 8) ^ 2 for p in A007530. •

[A027799] • 364,5915,50960,309400,1485120,5996172,21162960,67016040,193993800,520550030,1308811504,3109779400,7030805600,15210877500,31638625200,63520624440,123512325300,233272227825,429006396000,769953584400,1351144354560,2322279359400,3915247845600 ⋆ a(n) = 91*(n+1)*C(n+3,14)/3. • a(n) = C(n + 1, 12) * C(n + 3, 3). - _ Zerinvary Lajos _ , May 10 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 •

[A175114] • 1,364,7448,51012,206896,620060,1527624,3281908,6373472,11454156,19360120,31134884,48052368,71639932,103701416,146340180,201982144,273398828,363730392,476508676,615680240,785629404,991201288,1237724852 ⋆ First differences of A175113. • a(n)= 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), n>6. • a(n) = ((2 * n + 1) ^ 6 - (2 * n - 1) ^ 6) / 2 = 4 * n * (12 * n ^ 2 + 1) * (4 * n ^ 2 + 3), n>0. - _ Bruno Berselli _ , Dec 27 2010 •

[A175113] • 1,365,7813,58825,265721,885781,2413405,5695313,12068785,23522941,42883061,74017945,122070313,193710245,297411661,443751841,645733985,919132813,1282863205,1759371881,2375052121,3160681525,4151882813 ⋆ a(n) = ((2*n + 1)^6 + 1)/2. • a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). • a(n) = (2 * n ^ 2 + 2 * n + 1) * (16 * n ^ 4 + 32 * n ^ 3 + 20 * n ^ 2 + 4 * n + 1). - _ Bruno Berselli _ , Dec 27 2010 •

[A023313] • 373,1171,13687,21997,25657,61603,74413,76471,84199,87181,93487,114691,135859,170761,174877,184333,192979,196177,207931,209743,244219,276229,286687,292561,297811 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 5x + 2. • a(n) == 31 or 37 (mod 42). - _ John Cerkan _ , Oct 07 2016 •

[A134161] • 373,10363,61723,210901,539041,1151983,2180263,3779113,6128461,9432931,13921843,19849213,27493753,37158871,49172671,63887953,81682213,102957643,128141131,157684261,192063313,231779263,277357783,329349241 ⋆ a(n) = 373 + 1947n + 3780n^2 + 3234n^3 + 1029n^4. • a(n) = (3(7n + 5) ^ 4 + 6(7n + 5) ^ 3 - 3 (7n + 5) + 1) / 7 a(n) = Sum[k ^ 6] / Sum[k ^ 2], { k , 1, 7n + 5 }] • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) with a(0)=373, a(1)=10363, a(2)=61723, a(3)=210901, and a(4)=539041. - _ Harvey P. Dale _ , Nov 25 2012 •

[A008853] • 0,1,376,625,1000,1001,1376,1625,2000,2001,2376,2625,3000,3001,3376,3625,4000,4001,4376,4625,5000,5001,5376,5625,6000 ⋆ Numbers n such that n^2 and n have same last 3 digits. • a(4n)=1000n, a(4n + 1)=1000n + 1 , a(4n + 2)=1000n + 376, a(4n + 3)=1000n + 625. - _ Franklin T. Adams - Watters _ , Mar 13 2006 •

[A157116] • 378,1303,2059,2984,3740,4665,5421,6346,7102,8027,8783,9708,10464,11389,12145,13070,13826,14751,15507,16432,17188,18113,18869,19794,20550 ⋆ Numbers n such that n^2+1==0 (mod 41^2). • a(1)=378, a(2)=1303; a(n) = 2 * a(n - 1) - a(n - 2) - 13 ^ 2 if n is odd, and a(n) = 2 * a(n - 1) - a(n - 2) + 13 ^ 2 if n is even. • a(n) = (3362n - 1681 + 169 * (- 1) ^ n) / 4. [_ R. J. Mathar _ , Mar 08 2009] •

[A224337] • 378,2910,12282,37494,93306,201678,393210,708582,1199994,1932606,2985978,4455510,6453882,9112494,12582906,17038278,22674810,29713182,38399994,49009206,61843578,77236110,95551482,117187494,142576506 ⋆ Number of idempotent 6X6 0..n matrices of rank 5. • a(n) = 12 * n ^ 5 + 60 * n ^ 4 + 120 * n ^ 3 + 120 * n ^ 2 + 60 * n + 6. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Colin Barker _ , Sep 20 2014 •

[A158597] • 380,1580,3580,6380,9980,14380,19580,25580,32380,39980,48380,57580,67580,78380,89980,102380,115580,129580,144380,159980,176380,193580,211580,230380,249980 ⋆ 400n^2- 20. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A134241] • 0,0,0,384,4800,25920,91200,248640,572544,1169280,2183040,3801600,6262080,9856704,14938560,21927360,31315200,43672320,59652864,80000640,105554880,137256000,176151360,223401024,280283520 ⋆ a(n) = 8*(n-1)*(n-2)*(n-3)*(6*n^2-37*n+60). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ G. C. Greubel _ , May 30 2016 •

[A128967] • 0,384,12288,245760,3932160,55050240,704643072,8455716864,96636764160,1063004405760,11338713661440,117922622078976,1200666697531392,12006666975313920,118219490218475520,1148417904979476480 ⋆ (n^3-n)*8^n. • a(n) = 32 * a(n - 1) - 384 * a(n - 2) + 2048 * a(n - 3) - 4096 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 •

[A168675] • 0,1,384,13122,163840,1171875,5878656,23059204,75497472,215233605,550000000,1286153286,2794881024,5710115047,11068417920,20503125000,36507222016,62781816969,104689625472,169835630410,268800000000,416051452971,631072545664 ⋆ a(n) = n^8*(n + 1)/2. • a(0)=0, a(1)=1, a(2)=384, a(3)=13122, a(4)=163840, a(5)=1171875, a(6)=5878656, a(7)=23059204, a(8)=75497472, a(9)=215233605, a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). •

[A052377] • 389,479,1559,3209,8669,12269,12401,13151,14411,14759,21851,28859,31469,33191,36551,39659,40751,50321,54311,64601,70229,77339,79601,87671,99551 ⋆ Primes followed by an [8,4,8]=[d,D-d,d] prime difference pattern of A001223. • a(n) is the initial term of a [p, p + 8, p + 12, p + 12 + 8] quadruple of consecutive primes. •

[A069477] • 390,750,1230,1830,2550,3390,4350,5430,6630,7950,9390,10950,12630,14430,16350,18390,20550,22830,25230,27750,30390,33150,36030,39030,42150 ⋆ 60n^2 + 180n + 150. • a(1)=390, a(2)=750, a(3)=1230, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Apr 06 2012] •

[A158004] • 391,783,1175,1567,1959,2351,2743,3135,3527,3919,4311,4703,5095,5487,5879,6271,6663,7055,7447,7839,8231,8623,9015,9407,9799 ⋆ 392n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 10 2012 •

[A264448] • 0,391,910,1575,2405,3420,4641,6090,7790,9765,12040,14641,17595,20930,24675,28860,33516,38675,44370,50635,57505,65016,73205,82110,91770 ⋆ a(n) = n*(n + 11)*(n + 22)*(n + 33)/24. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Vincenzo Librandi _ , Nov 16 2015 •

[A158002] • 1,393,785,1177,1569,1961,2353,2745,3137,3529,3921,4313,4705,5097,5489,5881,6273,6665,7057,7449,7841,8233,8625,9017,9409 ⋆ 392n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 10 2012 •

[A270842] • 1,396,123786,9002912,254721400,3920311044,39571426713,293231076608,1715840171595,8333541708700,34810892718492,128392921513440,426551317876970,1296405100924948,3649123762524675,9607693522053120,23853550135649477,56222046462953772 ⋆ Number of nonisomorphic edge colorings of the Petersen graph with at most n colors. • a(n) = n ^ 15 / 120 + 5 * n ^ 9 / 24 + 5 * n ^ 5 / 12 + 11 * n ^ 3 / 30. •

[A158316] • 398,1596,3594,6392,9990,14388,19586,25584,32382,39980,48378,57576,67574,78372,89970,102368,115566,129564,144362,159960,176358,193556,211554,230352,249950 ⋆ 400n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158317] • 399,799,1199,1599,1999,2399,2799,3199,3599,3999,4399,4799,5199,5599,5999,6399,6799,7199,7599,7999,8399,8799,9199,9599,9999 ⋆ 400n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A166915] • 399,5695,88319,1401855,22384639,357974015,5726863359,91626930175,1466019348479,23456263438335,375300030463999,6004799749226495,96076793034833919,1537228676746182655,24595658780694282239 ⋆ a(n) = 20*a(n-1) - 64*a(n-2) - 45 for n>1; a(0) = 399, a(1) = 5695. • a(n) = (1024 * 16 ^ n + 176 * 4 ^ n - 3) / 3. • a(n) = 21 * a(n - 1) - 84 * a(n - 2) + 64 * a(n - 3). •

[A159890] • 401,439,485,1921,2195,2509,11125,12731,14569,64829,74191,84905,377849,432415,494861,2202265,2520299,2884261,12835741,14689379,16810705,74812181,85615975,97979969,436037345 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+439)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=401, a(2)=439, a(3)=485, a(4)=1921, a(5)=2195, a(6)=2509. •

[A158313] • 401,801,1201,1601,2001,2401,2801,3201,3601,4001,4401,4801,5201,5601,6001,6401,6801,7201,7601,8001,8401,8801,9201,9601,10001 ⋆ 400n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A158312] • 402,1604,3606,6408,10010,14412,19614,25616,32418,40020,48422,57624,67626,78428,90030,102432,115634,129636,144438,160040,176442,193644,211646,230448,250050 ⋆ 400n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A128767] • 1,402,132102,11756666,405385550,7416923886,86986719477,735192450952,4834517667381,26073250910950,119759687845446,481750080584202,1733588303252702,5673534527793146,17109303241791825,48047227408513056 ⋆ Number of inequivalent n-colorings of the 4D hypercube under the full orthogonal group of the cube (of order 2^4*4! = 384). • a(n) = (1 / 384) * (48 * n ^ 2 + 180 * n ^ 4 + 48 * n ^ 6 + 83 * n ^ 8 + 12 * n ^ 10 + 12 * n ^ 12 + n ^ 16) •

[A165808] • 403,4579,16945,41917,83911,147343,236629,356185,510427,703771,940633,1225429,1562575,1956487,2411581,2932273,3522979,4188115,4932097,5759341,6674263,7681279,8784805,9989257,11299051 ⋆ Expansion of x*(403+2967*x+x^3)/(1-x)^4. • a(n) = 1 - 13 * n - 321 * n ^ 2 + 736 * n ^ 3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A271746] • 406,1145,3627,12521,46299,181265,745107,3195161,14220459,65412065,309878787,1507297001,7508078619,38208764465,198238593267,1046593626041,5612793712779,30528112814465,168152752952547,936705967782281,5270538854994939,29919810501018065 ⋆ Number of set partitions of [n] such that 7 is the largest element of the last block. • a(n) = 32 + 121 * 2 ^ (n - 7) + 155 * 3 ^ (n - 7) + 5 * 4 ^ (n - 5) + 16 * 5 ^ (n - 7) + 6 ^ (n - 7) for n>7. • a(n) = 21 * a(n - 1) - 175 * a(n - 2) + 735 * a(n - 3) - 1624 * a(n - 4) + 1764 * a(n - 5) - 720 * a(n - 6) for n>13. •

[A157263] • 408,2136,3864,5592,7320,9048,10776,12504,14232,15960,17688,19416,21144,22872,24600,26328,28056,29784,31512,33240,34968,36696,38424,40152,41880 ⋆ a(n) = 1728*n - 1320. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 27 2012 •

[A052376] • 409,1039,2017,2719,3571,4219,4231,4261,4327,6079,6121,6679,6781,8209,11047,11149,11959,12241,15277,19531,19687,21577,21589,26881,27529 ⋆ Primes followed by a [10,2,10] prime difference pattern of A001223. • a(n)= p, a prime which begins a [p, p + d, p + D, p + D + d]=[p, p + 10, p + 12, p + 22] prime quadruple. •

[A157431] • 410,495,588,689,798,915,1040,1173,1314,1463,1620,1785,1958,2139,2328,2525,2730,2943,3164,3393,3630,3875,4128,4389,4658 ⋆ 4n^2 + 73n + 333. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A257823**] • 413,531,8673,11269,426511,554187,9192849,11944727,452101247,587437689,9744411267,12661399351,479226895309,622683396153,10329066750171,13421071367333,507980056926293,660043812484491,10948801010769993,14226322987973629,538458381114975271 ⋆ Positive integers whose square is the sum of 59 consecutive squares. • a(n) = 1060 * a(n - 4) - a(n - 8). •

[**A070237**] • 1,420,660,780,840,1320,1560,4620,5460,7140,7980,8580,9240,9660,10920,11220,12012,12180,12540,13020,13260,14280,14820,15180,15540 ⋆ Numbers n such that the sign of core(n)-phi(n) is not equal to 2*mu(n)^2-1, where core(x) is the squarefree part of x. • a(n) = C * n + O(n), with C a constant conjectured to be a(2) = 420. •

[**A145678**] • 420,1743,3948,7035,11004,15855,21588,28203,35700,44079,53340,63483,74508,86415,99204,112875,127428,142863,159180,176379,194460,213423,233268,253995,275604 ⋆ 441n^2 - 21. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 12 2012 •

[**A289226**] • 0,420,15108,190371,1336320,6528948,24951780,79851975,223419840,562591836,1301255556,2806131075,5705746752,11034449244,20436317412,36447218199,62877079680,105318792564,171815016708,273719593923,426796282752,652604165220,980226360036,1448406641607 ⋆ Number of ways to select 5 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = (n ^ 10 - 10 * n ^ 9 - 85 * n ^ 8 + 1160 * n ^ 7 + 1345 * n ^ 6 - 49162 * n ^ 5 + 62145 * n ^ 4 + 892140 * n ^ 3 - 2198566 * n ^ 2 - 5725008 * n + 18190440) / 120. •

[**A159589**] • 421,449,481,2045,2245,2465,11849,13021,14309,69049,75881,83389,402445,442265,486025,2345621,2577709,2832761,13671281,15023989,16510541,79682065,87566225,96230485,464421109 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+449)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=421, a(2)=449, a(3)=481, a(4)=2045, a(5)=2245, a(6)=2465. •

[**A096024**] • 423,1263,2103,2943,3783,4623,5463,6303,7143,7983,8823,9663,10503,11343,12183,13023,13863,14703,15543,16383,17223,18063,18903,19743,20583 ⋆ Numbers n such that (n+j) mod (2+j) = 1 for j from 0 to 5 and (n+6) mod 8 <> 1. • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 3 * x * (139 * x + 141) / (x - 1) ^ 2. - _ Colin Barker _ , Apr 11 2013 • a(n) = 840 * n - 417. [_ Bruno Berselli _ , Apr 11 2013] •

[**A160098**] • 425,601,1261,1289,3005,7141,7309,17429,41585,42565,101569,242369,248081,591985,1412629,1445921,3450341,8233405,8427445,20110061,47987801,49118749,117210025,279693401,286285049 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+601)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=425, a(2)=601, a(3)=1261, a(4)=1289, a(5)=3005, a(6)=7141. •

[**A227484**] • 426,110582,1543242,12208658,76176642,419676194,2147525346,10478078306,49478563938,228185184866,1033790121570,4619196304994,20412418326114,89390811225698,388524258582114,1677932514369122,7207051830287970,30809448121032290,131162651106926178,556349805776789090,2352195514241310306 ⋆ The Wiener index of the dendrimer D_4[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = - 74142 + 2 ^ n * (241658 - 45756 * n) + 4 ^ n * (115320 * n - 167090). •

[**A064061**] • 429,1430,3432,7072,13260,23256,38760,62016,95931,144210,211508,303600,427570,592020,807300,1085760,1442025,1893294,2459664,3164480,4034712,5101360,6399888,7970688,9859575 ⋆ Eighth column of Catalan triangle A009766. • a(n) = C(n,7) - C(n,5), n>=13 - _ Zerinvary Lajos _ , Nov 25 2006 •

[**A033279**] • 0,429,5005,32032,148512,556920,1790712,5116320,13302432,32008977,72177105,153977824,313112800,610569960,1147334760,2086063200,3682355040,6329047725,10617908301,17424259776,28021470400,44233892560,68638798800,104830165440,157759842240 ⋆ Number of diagonal dissections of an n-gon into 7 regions. • a(n) = binomial(n + 5, 6) * binomial(n - 3, 6) / 7. •

[**A064304**] • 1,429,14589,137089,702297,2537781,7312789,17981769,39322929,78571837,146150061,256488849,428947849,688828869,1068484677,1608522841,2359104609,3381338829,4748770909,6548966817 ⋆ Eighth diagonal of triangle A064094. • a(n)= 1 + 6 * n + 20 * n ^ 2 + 48 * n ^ 3 + 90 * n ^ 4 + 132 * n ^ 5 + 132 * n ^ 6. Seventh row polynomial (n=6) of Catalan triangle A009766. •

[**A215547**] • 0,429,62016,807300,5101360,21732542,71916768,199448964,485325150,1067658735,2167714560,4122884232,7427426292,12781794760,21151379600,33835482648,52547352546,79506102225,117541332480,170211285180,241935349656,338141745810,465431207488 ⋆ Number of standard Young tableaux of shape [7n,7]. • a(n) = C(7 * n + 7,7) * (7 * n - 6) / (7 * n + 1) for n>0, a(0) = 0. •

[**A228105**] • 0,432,27648,314928,1769472,6750000,20155392,50824368,113246208,229582512,432000000,765314352,1289945088,2085181488,3252759552,4920750000,7247757312,10427429808,14693280768,20323820592,27648000000,37050964272,48980118528 ⋆ a(n) = 432*n^6. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n>6. - _ Colin Barker _ , Dec 11 2017 •

[**A088893**] • 0,1,437,32338,898774,13420861,130567049,929084572,5210829060,24240197433,96985597357,342789175982,1092151142842,3186269918917,8618003504977,21826239750488,52182586901800 ⋆ Polynexus numbers of order 15. • a(n) = ((n ^ 15 - (n - 1) ^ 15) - (n ^ 3 - (n - 1) ^ 3)) / 32760 = ((n ^ 15 - (n - 1) ^ 15) - (n ^ 3 - (n - 1) ^ 3)) / (2 ^ 15 - 2 ^ 3). •

[**A157737**] • 439,1760,3963,7048,11015,15864,21595,28208,35703,44080,53339,63480,74503,86408,99195,112864,127415,142848,159163,176360,194439,213400,233243,253968,275575 ⋆ 441n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158319**] • 440,881,1322,1763,2204,2645,3086,3527,3968,4409,4850,5291,5732,6173,6614,7055,7496,7937,8378,8819,9260,9701,10142,10583,11024 ⋆ 441n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A187239**] • 0,0,0,0,440,38368,1022320,14082528,126490352,837543200,4412818240,19447224864,74255991784,251997948736,774861621936,2191005028672,5764306674400,14243327787456,33309659739904,74194554880960,158241369977880,324605935279648,642894402918768 ⋆ Number of ways to place 7 nonattacking bishops on an n X n board. • a(n) = n ^ 14 / 5040 - n ^ 13 / 180 + 313n ^ 12 / 4320 - 383n ^ 11 / 648 + 14797n ^ 10 / 4320 - 38233n ^ 9 / 2520 + 3217n ^ 8 / 60 - 145469n ^ 7 / 945 + 1546679n ^ 6 / 4320 - 4297801n ^ 5 / 6480 + 257903n ^ 4 / 270 - 3915679n ^ 3 / 3780 + 1787007n ^ 2 / 2240 - 318023n / 840 + 9503 / 128 + (- n ^ 8 / 192 + n ^ 7 / 8 - 389n ^ 6 / 288 + 689n ^ 5 / 80 - 319n ^ 4 / 9 + 1153n ^ 3 / 12 - 95965n ^ 2 / 576 + 20129n / 120 - 9503 / 128) * (- 1) ^ n. •

[**A075268**] • 442,629,1326,2259,5508,6585,11628,15129,24912,26259,52038,77337,155394,221931,442374,639009,1179738,1917027,3539130,5062869,10666542,18285939,45369156,54513657,96444396 ⋆ Trajectory of 442 under the Reverse and Add! operation carried out in base 2. • a(0), ..., a(28) as above; a(29) = 703932681; a(30) =1310348526; a(31) = 2309980455; a(32) = 6143702712; a(33) = 7131271077; a(34) = 12699398352; a(35) = 13441412493; for n > 35 and •

[**A158322**] • 442,883,1324,1765,2206,2647,3088,3529,3970,4411,4852,5293,5734,6175,6616,7057,7498,7939,8380,8821,9262,9703,10144,10585,11026 ⋆ 441n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 24 2012 •

[**A158321**] • 443,1768,3975,7064,11035,15888,21623,28240,35739,44120,53383,63528,74555,86464,99255,112928,127483,142920,159239,176440,194523,213488,233335,254064,275675 ⋆ 441n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 24 2012 •

[**A160583**] • 445,521,629,2041,2605,3329,11801,15109,19345,68765,88049,112741,400789,513185,657101,2335969,2991061,3829865,13615025,17433181,22322089,79354181,101608025,130102669,462510061 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+521)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=445, a(2)=521, a(3)=629, a(4)=2041, a(5)=2605, a(6)=3329. •

[**A048632**] • 0,0,0,0,0,0,448,3136,25088,238080,2780160,32409600,439263232,5793579008,84589174784,1277254508544,20436072136704,347559326515200,6269816107433984,119673237950431232,2402480754490605568 ⋆ Differences between factorials and Xfactorials: A048631 - A000142. • a(n) = n! - Xfactorial(n). •

[**A259058**] • 454,530,614,706,806,914,1030,1154,1286,1426,1574,1730,1894,2066,2246,2434,2630,2834,3046,3266,3494,3730,3974,4226,4486 ⋆ Numbers that are representable in at least two ways as sums of four distinct nonvanishing squares. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Aug 13 2015 •

[**A224456**] • 459,1008,1845,3024,4599,6624,9153,12240,15939,20304,25389,31248,37935,45504,54009,63504,74043,85680,98469,112464,127719,144288,162225,181584,202419 ⋆ The Wiener index of the cyclic phenylene with n hexagons (n>=3). • a(n)=9n(n ^ 2 + 4n - 4). •

[**A104397**] • 462,582,666,722,747,757,777,787,791,831,887,922,942,951,952,956,967,1007,1042,1051,1062,1072,1076,1091,1107 ⋆ Sums of 7 distinct positive pentatope numbers (A000332). • a(n) = Ptop(e) + Ptop(f) + Ptop(g) + Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive e= / =f= / =g= / =h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). •

[**A254468**] • 462,924,2508,8646,35112,159654,787968,4137966,22807752,130656534,772253328,4683193086,29012227992,182964472614,1171328741088,7594839621006,49780643849832,329318254755894,2195866174387248,14741498331453726,99542297086537272 ⋆ a(n) = 35*4^n + 126*2^n + 70*3^n + 15*5^n + 5*6^n + 7^n + 210. • a(n) = 28 * a(n - 1) - 322 * a(n - 2) + 1960 * a(n - 3) - 6769 * a(n - 4) + 13132 * a(n - 5) - 13068 * a(n - 6) + 5040 * a(n - 7). - _ Colin Barker _ , Jan 31 2015 •

[**A158627**] • 462,1914,4334,7722,12078,17402,23694,30954,39182,48378,58542,69674,81774,94842,108878,123882,139854,156794,174702,193578,213422,234234,256014,278762,302478 ⋆ a(n) = 484*n^2-22. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 17 2012 •

[**A027816**] • 462,6336,46332,240240,990990,3459456,10618608,29405376,74826180,177365760,395747352,838053216,1695505812,3294910080,6177956400,11218384320,19791524610,34015101120,57085528500,93740446800,150886065330,238437239040,370429282080 ⋆ 66*(n+1)*C(n+5,11). • a(n) = C(n + 1, 7) * C(n + 5, 5) - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 • a(6)=462, a(7)=6336, a(8)=46332, a(9)=240240, a(10)=990990, a(11)=3459456, a(12)=10618608, a(13)=29405376, a(14)=74826180, a(15)=177365760, a(16)=395747352, a(17)=838053216, a(18)=1695505812, a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a (n - 13). - _ Harvey P. Dale _ , Dec 27 2015 •

[**A027823**] • 462,6468,48048,252252,1051050,3699696,11435424,31855824,81477396,193993800,434546112,923410488,1873980108,3651858672,6864396000,12493200720,22086194130,38030772780,63935791920,105157552500,169513974630,268241893920,417265168320 ⋆ 77*(n+1)*C(n+6,11). • a(n) = C(n + 1, 6) * C(n + 6, 6) - _ Zerinvary Lajos _ , Jun 08 2005, corrected by _ R. J. Mathar _ , Feb 13 2016 •

[**A194718**] • 0,1,462,7941,48838,185193,530526,1265677,2654646,5060433,8960878,14964501,23826342,36463801,53972478,77642013,108971926,149687457,201755406,267399973,349118598,449697801,572229022,720124461,897132918 ⋆

Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting six doublets into the initially empty word. • a(0) = 0 , a(n) = 1 + (10 + (44 + (110 + (165 + 132 * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1) for n>0. •

[A104744] • 470,1000,1678,2445,3265,4120,5000,5897,6808,7729,8659,9595,10537,11483,12434,13388,14345,15305,16267,17231,18197,19165,20134,21105,22077 ⋆ Round(1000*x), where x is the solution to x = 5^(n-x). • a(n)=round(1000 * x), x = 5 ^ (n - x). •

[A157434] • 473,564,663,770,885,1008,1139,1278,1425,1580,1743,1914,2093,2280,2475,2678,2889,3108,3335,3570,3813,4064,4323,4590,4865 ⋆ 4n^2 + 79n + 390. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A224453] • 477,14517,192133,1790789,13716357,92392837,568494213,3272754309,17914312837,94292506757,481127721093,2394073245829,11669512054917,55910670854277,264011366000773,1231270134409349,5680970473662597,25967383211403397,117723243179141253 ⋆ The hyper-Wiener index of the nanostar dendrimer NS_2[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = - 6011 + (- 36208 - 9720n + 2800n ^ 2) * 2 ^ n + (42696 - 22400n + 6400n ^ 2) * 4 ^ n. •

[A227706] • 477,16515,222975,2038455,15095079,98153991,584951751,3276557127,17527771719,90505289799,454449839175,2230961075271,10750358250567,51003115291719,238802012701767,1105498179306567,5067682186396743,23031604974453831,103882403285042247 ⋆ The hyper-Wiener index of the nanostar dendrimer defined pictorially as G(n) in the Darafsheh et al. reference. • a(n) = 4 ^ n * (5184 * n ^ 2 - 10368 * n + 18696) - 2 ^ n * 19314 + 1095. •

[A158329] • 482,1932,4350,7736,12090,17412,23702,30960,39186,48380,58542,69672,81770,94836,108870,123872,139842,156780,174686,193560,213402,234212,255990,278736,302450 ⋆ 484n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A281047] • 483,525,635,2015,2043,3335,3575,4275,10317,14955,17855,22547,49433,51695,52773,79877,125807,132725,176417,242073,314177,451937,463517,590663,598793 ⋆ Numbers n such that abs(n - 4^k) is prime for k = 1..8. • a(n) >> n log ^ 8 n. - _ Charles R Greathouse IV _ , Jan 13 2017 •

[A158330] • 483,967,1451,1935,2419,2903,3387,3871,4355,4839,5323,5807,6291,6775,7259,7743,8227,8711,9195,9679,10163,10647,11131,11615,12099 ⋆ 484n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A014803] • 484,2500,63504,138384,894916,1493284,5569600,8156736,22562500,30580900,70090384,90250000,181764324,225660484,413552896,499611904,852056100,1007808516,1624090000,1888771600,2907582084,3335062500,4943777344,5605816384,8050755076 ⋆ Squares of even hexagonal pyramidal numbers. • a(n) = a(n - 1) + 6 * a(n - 2) - 6 * a(n - 3) - 15 * a(n - 4) + 15 * a(n - 5) + 20 * a(n - 6) - 20 * a(n - 7) - 15 * a(n - 8) + 15 * a(n - 9) + 6 * a(n - 10) - 6 * a(n - 11) - a(n - 12) + a(n - 13), n>12. • a(n) = ((4 * n + (- 1) ^ n + 5) * (4 * n + (- 1) ^ n + 7) * (8 * n + 2 * (- 1) ^ n + 9)) ^ 2 / 576. •

[A160090] • 485,569,689,2221,2845,3649,12841,16501,21205,74825,96161,123581,436109,560465,720281,2541829,3266629,4198105,14814865,19039309,24468349,86347361,110969225,142611989,503269301 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+569)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=485, a(2)=569, a(3)=689, a(4)=2221, a(5)=2845, a(6)=3649. •

[A158326] • 485,969,1453,1937,2421,2905,3389,3873,4357,4841,5325,5809,6293,6777,7261,7745,8229,8713,9197,9681,10165,10649,11133,11617,12101 ⋆ 484n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A156774] • 485,3482,19601,48842,91205,146690,215297,297026,391877,499850,620945,755162,902501,1062962,1236545,1423250,1623077,1836026,2062097,2301290,2553605,2819042,3097601,3389282,3694085 ⋆ 6561n^2 - 3564n + 485. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158325] • 486,1940,4362,7752,12110,17436,23730,30992,39222,48420,58586,69720,81822,94892,108930,123936,139910,156852,174762,193640,213486,234300,256082,278832,302550 ⋆ a(n) = 484n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A128969] • 0,486,17496,393660,7085880,111602610,1607077584,21695547384,278942752080,3451916556990,41422998683880,484649084601396,5551434969070536,62453643402043530,691794203838020640 ⋆ a(n) = (n^3 - n)*9^n. • a(n) = 36 * a(n - 1) - 486 * a(n - 2) + 2916 * a(n - 3) - 6561 * a(n - 4). - _ Vincenzo Librandi _ , Feb 11 2013 •

[A179428] • 0,0,0,0,0,486,346381,36285336,956078397,12428297150,104000525596,643409498286,3191250652226,13361641961066,48905750870775,160414160371552,480243686391743,1330654487994234,3449609146025210,8439769551278350,19624142987739108,43616849672119790,93112709811981557,191696927842663704,381920049400830625 ⋆ Number of ways to place 8 nonattacking kings on an n X n toroidal board. • a(n) = 1 / 40320 * n ^ 2 * (n ^ 14 - 252 * n ^ 12 + 27874 * n ^ 10 - 1759800 * n ^ 8 + 68745649 * n ^ 6 - 1669136028 * n ^ 4 + 23447322156 * n ^ 2 - 147931524720), n>=9. •

[A180457] • 491,617,757,1489,1787,2141,2143,2269,3529,3571,4723,5563,6337,6451,6659,6961,6991,7741,7873,7907,8821,10141,10267,10657,12911 ⋆ Central term of nine successive primes whose average is a prime. • a(n)=[p(n - 4) + p(n - 3) + p(n - 2) + p(n - 1) + p(n) + p(n + 1) + p(n + 2) + p(n + 3) + p(n + 4)] / 9. •

[A271664] • 491,668,844,1183,1474,1961,2293,2936,4190,4686,6244,7363,7999,9266,11456,13835,14766,17449,19348,20419,23578,25781,29375,34549,37228 ⋆ Erroneous version of A271811 (but for odd primes only). • a(n) = (13 * p ^ 2 + 145 * p + 1338 + 80 * gcd(p - 1,3) + 45 * gcd(p - 1,4) + 8 * gcd(p - 1, 5) + 8 * gcd(p - 1,6)) / 4 for n>2 and where p = prime(n). See [Rodney James]. •

[A157447] • 496,1008,1520,2032,2544,3056,3568,4080,4592,5104,5616,6128,6640,7152,7664,8176,8688,9200,9712,10224,10736,11248,11760,12272,12784 ⋆ 512n - 16. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 26 2012 •

[A216114] • 500,3400,9900,21200,38500,63000,95900,138400,191700,257000,335500,428400,536900,662200,805500,968000,1150900,1355400,1582700,1834000,2110500,2413400,2743900,3103200,3492500 ⋆ The Wiener index of a link of n fullerenes C_{20} (see the Ghorbani and Hosseinzadeh reference). • a(n) = 100 * n * (2n ^ 2 + 6n - 3). •

[A281779] • 0,0,0,0,0,500,16980,342160,5486040,77926380,1031160060,13047426920,160124426880,1921105846660,22632779709540,262513678889280,3002768326532520,33914184260797340,378596540805849420,4181330954328313240,45727913513193402960,495618273676457274420 ⋆ Number of distinct topologies on an n-set that have exactly 11 open sets. • a(n) = 25 / 6 * 5! StirlingS2(n, 5) + 79 / 6 * 6! StirlingS2(n, 6) + 29 / 2 * 7! StirlingS2(n, 7) + 39 / 4 * 8! S tirlingS2(n, 8) + 4 * 9! StirlingS2(n, 9) + 10! StirlingS2(n, 10). •

[A121577] • 0,502,1004,1506,2008,2510,3013,3515,4017,4519,5021,5523,10025,10527,11029,11531,12034,12536,13038,13540,14042,14544,15046,15548,20050 ⋆ Times in hours, minutes and seconds (to the nearest second) at which the hour and minute hands of an analog clock, if interchanged, continue to indicate some other albeit accurate times, over a complete 12-hour sweep for the slower hand. Leading zeros omitted. • a(n)=round(43200 * n / 143) expressed in do ubly - spaced sexagesimal scale. In other words, the required times occur at 1 43 successive positions after every (12 / 143)hr, i.e., 5min2s and 14 / 143s fro m noon or midnight. •

[A001244] • 1,502,47840,2203488,66318474,1505621508,27971176092,447538817472,6382798925475,83137223185370,1006709967915228,11485644635009424,124748182104463860,1300365805079109480,13093713503185076040 ⋆ Eulerian numbers (Euler's triangle: column k=8 of A008292, column k=7 of A173018) • a(n) = 8 ^ (n + 8 - 1) + sum(i=1, 8 - 1, (- 1) ^ i / i! * (8 - i) ^ (n + 8 - 1) * prod(j=1, i, n + 8 + 1 - j)). - Randall L. Rathbun (randallr(AT)abac.com), Jan 23 2002 •

[A226265] • 504,1176,2520,5208,10584,21336,42840,85848,171864,343896,687960,1376088,2752344,5504856,11009880,22019928,44040024,88080216,176160600,352321368,704642904,1409285976,2818572120,5637144408,11274288984 ⋆ Number of additive Z_2 Z_8 codes of a certain type (see Siap-Aydogdu for precise definition). • a(n) = 168 * (2 ^ (1 + n) - 1) for n>0. • a(n) = 3 * a(n - 1) - 2 * a(n - 2) for n>2. •

[A061124] • 0,0,0,0,0,0,504,4032,27216,514080,4823280,57081024,500972472,4412103696,60619398840,686638592640,9335025764064,104304736815552,1180585704051936,29016515871665280,478096386437121480 ⋆ Number of degree-n permutations of order exactly 10. • a(n) = 1 + n! * (y3(n) - y2(n) - y1(n)). •

[A253724] • 504,8721,65472,312375,1119528,3293829,8388096,19131147,39999000,77947353,143325504,250991871,421651272,683434125,1073737728,1641349779,2448874296,3575480097,5119992000,7204344903,9977420904,13619289621,18345871872,24414046875 ⋆ Numbers c(n) whose squares are equal to the sums of a number M(n) of consecutive cubed integers b^3 + (b+1)^3 + ... + (b+M-1)^3 = c^2, starting at b(n) (A002593) for M(n) being twice a squared integer (A001105). • a(n) = n ^ 3(4n ^ 4 - 1). •

[A218132] • 0,0,504,19656,262080,1953000,10077480,40353264,134217216,387419760,999999000,2357946360,5159778624,10604497176,20661044040,38443356000,68719472640,118587871584,198359284536,322687690920,511999992000,794280037320,1207269207144 ⋆ Number of length 9 primitive (=aperiodic or period 9) n-ary words. • a(n) = n ^ 9 - n ^ 3. • a(0)=0, a(1)=0, a(2)=504, a(3)=19656, a(4)=262080, a(5)=1953000, a(6)=10077480, a(7)=40353264, a(8)=134217216, a(9)=387419760, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Feb 11 2015 •

[A158633] • 506,2093,4738,8441,13202,19021,25898,33833,42826,52877,63986,76153,89378,103661,119002,135401,152858,171373,190946,211577,233266,256013,279818,304681,330602 ⋆ a(n) = 529*n^2 - 23. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A255183] • 1,509,18150,204630,1225230,4985070,15717750,41436870,95750430,200038110,385991430,698516790,1199001390,1968942030,3113936790,4768039590,7098477630,10310731710,14653979430,20426901270 ⋆ Third differences of ninth powers (A001017). • a(n) = 6 * (84 * n ^ 6 - 252 * n ^ 5 + 630 * n ^ 4 - 840 * n ^ 3 + 756 * n ^ 2 - 378 * n + 85) for n>1, a(0)=1, a(1)=509. •

[A255179] • 1,510,18660,223290,1448520,6433590,22151340,63588210,159338640,359376750,745368180,1443884970,2642886360,4611828390,7725765180,12493804770,19592282400,29903014110,44556993540,64983894810,92967744360,130709124630,180894272460 ⋆ Second differences of ninth powers (A001017). • a(n) = 6 * n * (3 + 28 * n ^ 2 + 42 * n ^ 4 + 12 * n ^ 6) for n>0, a(0)=1. •

[A158011] • 511,1023,1535,2047,2559,3071,3583,4095,4607,5119,5631,6143,6655,7167,7679,8191,8703,9215,9727,10239,10751,11263,11775,12287,12799 ⋆ a(n) = 512n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 10 2012 •

[A075944] • 511,15887,116275,412245,693418,3165290,12603032,21139155,38803550,201349286,336626733,609260174,3221261509,5374090380,25769843817,43016936625,78384372260,412317013686,687266122367,1238028666383 ⋆ Basis for code in A075943. • a(n) = b(2 ^ n), where b is A075943, the binary lexico de, d=9. •

[A069094] • 1,511,19682,261632,1953124,10057502,40353606,133955584,387400806,998046364,2357947690,5149441024,10604499372,20620692666,38441386568,68585259008,118587876496,197961811866,322687697778,510999738368 ⋆ Jordan function J_9(n). • a(n) = Sum _{ d|n } d ^ 9 * mu(n / d). • a(n) =

n ^ 9 * Product _{ distinct primes p dividing n } (1 - 1 / p ^ 9). - _ Tom Edgar _ , Jan 09 2015 •

[**A258810**] • 0,511,19682,262143,1953124,10077695,40353606,134217727,387420488,999999999,2357947690,5159780351,10604499372,20661046783,38443359374,68719476735,118587876496,198359290367,322687697778,511999999999,794280046580,1207269217791,1801152661462 ⋆ a(n) = n^9 - 1. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). •

[**A046311**] • 512,768,1024,1152,1280,1536,1728,1792,1920,2048,2304,2560,2592,2688,2816,2880,3072,3200,3328,3456,3584,3840,3888,4032,4096 ⋆ Numbers that are divisible by at least 9 primes (counted with multiplicity). • a(n) = n + O(n (log log n) ^ 7 / log n). - _ Charles R Greathouse IV _ , Apr 07 2017 •

[**A070057**] • 512,7935,77950,597725,3887592,22418665,117789230,574209267,2630933289,11438763414,47540271657,189960445332,733160014779,2743585958976,9986068392201,35447227965486,122988982790340,417920043272208,1393150860920936,4562718944632792,14700625316815800,46648299847265144,145938710212960504 ⋆ Number of Bottleneck-Monge matrices with 9 rows. • a(N) = a(9, N), where a(P, N) is defined recursively in A070050. •

[**A017619**] • 512,8000,32768,85184,175616,314432,512000,778688,1124864,1560896,2097152,2744000,3511808,4410944,5451776,6644672,8000000,9528128,11239424,13144256,15252992,17576000,20123648 ⋆ (12*n+8)^3. • a(0)=512, a(1)=8000, a(2)=32768, a(3)=85184, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Harvey P. Dale _ , Dec 14 2015 •

[**A200844**] • 512,11235,99700,552247,2276028,7642875,22063924,56687801,132734964,288116455,587136848,1134248583,2093008152,3711583751,6356379032,10555568481,17054586712,26885876603,41455479708,62649346759,92962556324 ⋆ Number of 0..n arrays x(0..8) of 9 elements without any two consecutive increases or two consecutive decreases. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n > 10. •

[**A200791**] • 512,14849,163020,1062500,4975322,18514405,58154912,160338680,398601390,910893148,1941103528,3899741885,7449762880,13624665670,23987233104,40838614531,67488892468,108601809395,170627966340,262342539690 ⋆ Number of 0..n arrays x(0..8) of 9 elements without any two consecutive increases. • a(n) = 10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) for n>10. •

[**A195657**] • 512,17536,218052,1599820,8500668,36383284,133538996,437500380,1314748124,3694894500,9849731140,25173962492,62193359676,149475988116,351246183572,810197361564,1840289301660,4126688132548,9154339355684,20122502355004,43888598831484 ⋆ Number of ways to place 8n nonattacking kings on a vertical cylinder 16 X 2n. • a(n) = (1751437 * n - 15876635) * 2 ^ n + 8431 / 45 * n ^ 6 + 22263 / 5 * n ^ 5 + 500633 / 9 * n ^ 4 + 1381699 / 3 * n ^ 3 + 117001024 / 45 * n ^ 2 + 138801256 / 15 * n + 15876636. •

[**A231308**] • 0,1,512,19684,262656,1972809,10340352,42326416,144558080,429746905,1144558080,2787694596,6304338432,13392193969,26965385216,51835553344,95684861952,170423429841,294044152320,493111127620,806044152320,1287391174201,2013313370112 ⋆ Recurrence a(n) = a(n-2) + n^M for M=9, starting with a(0)=0, a(1)=1. • a(n) = Sum { k=0..floor(n / 2) } (n - 2k) ^ 9. • a(0)=0, a(1)=1, a(2)=512, a(3)=19684, a(4)=262656, a(5)=1972809, a(6)=10340352, a(7)=42326416, a(8)=144558080, a(9)=429746905, a(10)=1144558080, a(11)=2787694596, a(n) = 10 * a(n - 1) - 44 * a(n - 2) + 110 * a(n - 3) - 165 * a(n - 4) + 132 * a(n - 5) - 132 * a(n - 7) + 165 * a(n - 8) - 110 * a(n - 9) + 44 * a(n - 10) - 10 * a(n - 11) + a(n - 12). - _ Harvey P. Dale _ , Apr 29 2014 • a(n) = 1 / 40 * (2 * n ^ 10 + 20 * n ^ 9 + 60 * n ^ 8 - 224 * n ^ 6 + 640 * n ^ 4 - 768 * n ^ 2 - 155 * ((- 1) ^ n - 1)). •

[**A236215**] • 512,20195,1973320,42326927,2400274618,13004773991,131592650488,454280348267,2255433009730,16762578985599,43202201146270,173163940941347,500545875335308,1003138487272151,2122268960374918,5422032552177051,14085028370831990,25779174463666131 ⋆ Sum of the ninth powers of the first n primes. • a(n) = sum(k = 1 .. n, prime(k) ^ 9). •

[**A240933**] • 0,0,512,39366,786432,7812500,50388480,242121642,939524096,3099363912,9000000000,23579476910,56757583872,127253992476,268593608192,538207031250,1030792151040,1897406023952,3372107936256,5808378560022,9728000000000,15885600931620,25352653573632 ⋆ n^10 - n^9. • a(n) = n ^ 9 * (n - 1) = n ^ 10 - n ^ 9. •

[**A016749**] • 0,512,262144,10077696,134217728,1000000000,5159780352,20661046784,68719476736,198359290368,512000000000,1207269217792,2641807540224,5429503678976,10578455953408,19683000000000,35184372088832,60716992766464 ⋆ a(n) = (2*n)^9. • a(0)=0, a(1)=512, a(2)=262144, a(3)=10077696, a(4)=134217728, a(5)=1000000000, a(6)=5159780352, a(7)=20661046784, a(8)=68719476736, a(9)=198359290368, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Jan 13 2013 •

[**A016941**] • 512,134217728,20661046784,512000000000,5429503678976,35184372088832,165216101262848,618121839509504,1953125000000000,5416169448144896,13537086546263552,31087100296429568,66540410775079424 ⋆ (6n+2)^9. • a(0)=512, a(1)=134217728, a(2)=20661046784, a(3)=512000000000, a(4)=5429503678976, a(5)=35184372088832, a(6)=165216101262848, a(7)=618121839509504, a(8)=1953125000000000, a(9)=5416169448144896, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Sep 21 2013 •

[**A017097**] • 512,1000000000,198359290368,5429503678976,60716992766464,406671383849472,1953125000000000,7427658739644928,23762680013799936,66540410775079424,167619550409708032,387420489000000000 ⋆ a(n) = (8*n + 2)^9. • a(0)=512, a(1)=1000000000, a(2)=198359290368, a(3)=5429503678976, a(4)=60716992766464, a(5)=406671383849472, a(6)=1953125000000000, a(7)=7427658739644928, a(8)=23762680013799936, a(9)=66540410775079424, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Dec 15 2011 •

[**A017301**] • 512,5159780352,1207269217792,35184372088832,406671383849472,2779905883635712,13537086546263552,51998697814228992,167619550409708032,472161363286556672,1195092568622310912,2773078757450186752 ⋆ (10*n+2)^9. • a(0)=512, a(1)=5159780352, a(2)=1207269217792, a(3)=35184372088832, a(4)=406671383849472, a(5)=2779905883635712, a(6)=13537086546263552, a(7)=51998697814228992, a(8)=167619550409708032, a(9)=472161363286556672, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Jan 01 2013 •

[**A076338**] • 1,513,1025,1537,2049,2561,3073,3585,4097,4609,5121,5633,6145,6657,7169,7681,8193,8705,9217,9729,10241,10753,11265,11777,12289 ⋆ a(n) = 512*n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 23 2012 •

[**A294304**] • 0,0,513,19684,282340,2215782,12313161,52404624,186884496,572351860,1574304985,3922174980,9092033028,19656178794,40357579185,78666720832,147520415296,265720871304,464467582161,786155279940,1299155279940,2091077378830,3300704544313 ⋆ Sum of the ninth powers of the parts of the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 9 + (n - i) ^ 9. • a(n) = a(n - 1) + 10 * a(n - 2) - 10 * a(n - 3) - 45 * a(n - 4) + 45 * a(n - 5) + 120 * a(n - 6) - 120 * a(n - 7) - 210 * a(n - 8) + 210 * a(n - 9) + 252 * a(n - 10) - 252 * a(n - 11) - 210 * a(n - 12) + 210 * a(n - 13) + 120 * a(n - 14) - 120 * a(n - 15) - 45 * a(n - 16) + 45 * a(n - 17) + 10 * a(n - 18) - 10 * a(n - 19) - a(n - 20) + a(n - 21) for n>21. •

[**A007487**] • 0,1,513,20196,282340,2235465,12313161,52666768,186884496,574304985,1574304985,3932252676,9092033028,19696532401,40357579185,78800938560,147520415296,266108291793,464467582161,787155279940,1299155279940,2093435326521,3300704544313 ⋆ Sum of 9th powers. • a(n) = - Sum _{ j=1..9 } j * s(n + 1,n + 1 - j) * S(n + 9 - j,n), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n > 10. - _ Wesley Ivan Hurt _ , Dec 21 2016 •

[**A086030**] • 1,513,47169,1775169,37712169,534505257,5587534953,46011772521,312480135396,1809674119396,9165388162788,41395684407012,169328324418084,635173167426084,2207399512578084,7167715400927268,21902130296812161,63361228916945025,174437774859945025 ⋆ a(n) = Sum_{i=1..n} C(i+6,7)^3. • a(n) = C(n + 7,8) * (5 * C(n + 13,14) + 210 * C(n + 12,14) + 1491 * C(n + 11,14) + 2828 * C(n + 10,14) + 1491 * C(n + 9,14) + 210 * C(n + 8,14) + 5 * C(n + 7,14)) / 5. - _ Yahia Kahloune _ , Dec 22 2013 • a(n) = (1 / 28165294080000) * n ^ 2 * (1 + n) ^ 2 * (2 + n) ^ 2 * (3 + n) ^ 2 * (4 + n) ^ 2 * (5 + n) ^ 2 * (6 + n) ^ 2 * (7 + n) ^ 2 * (- 3 + 3234 * n + 6979 * n ^ 2 + 5292 * n ^ 3 + 1603 * n ^ 4 + 210 * n ^ 5 + 10 * n ^ 6). - _ G. C. Greubel _ , Nov 22 2017 •

[**A253637**] • 1,514,20710,303050,2538515,14851676,67518444,254402940,828707925,2403012910,6335265586,15427298614,35123831015,75481410200,154282348760,301802764056,567911055849,1032378638010,1819533917950,3118689197890,5212124524411,8512829068724,13614686274500,21358351020500,32916713032125 ⋆ Second partial sums of ninth powers (A001017). • a(n) = n * (n + 1) * (n + 2) * (n ^ 2 + n - 1) * (n ^ 2 + 3n + 1) * (6 * n ^ 4 + 24 * n ^ 3 + 5 * n ^ 2 - 38 * n + 25) / 660. • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 9. •

[**A254643**] • 1,515,21225,324275,2862790,17714466,85232910,339635850,1168343775,3571356685,9906622271,25333920885,60457751900,135939162100,290221510860,592024274916,1159935330765,2192313968775,4011847886725,7130537084615 ⋆ Third partial sums of ninth powers (A001017). • a(n) = n * (1 + n) * (2 + n) * (3 + n) * (- 50 + 84 * n + 127 * n ^ 2 - 204 * n ^ 3 - 97 * n ^ 4 + 126 * n ^ 5 + 98 * n ^ 6 + 24 * n ^ 7 + 2 * n ^ 8) / 2640. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) + n ^ 9. •

[**A094903**] • 520,2397,3500,3518,3826,4439,4662,6620,7518,8926,9206,10220,10780,10938,12498,12640,12740,14049,14358,18623,20118,20262,22569,24419,25300 ⋆ Average of 4 primes where the integer Schwarzian derivative is zero. • a(n) = if Sf(Prime[n])=0 then (Prime[n - 3] + Prime[n - 2] + Prime[n - 1] + Prime[n]) / 2 •

[**A279926**] • 0,1,522,24329,454250,4905766,36532244,207705929,961214238,3784166376,13066960126,40511160326,114681233758,300599979884,737035375772,1705830324553,3751239987240,7887626314003,15927815870322,31031953887704,58508991327728,107133058597170 ⋆ a(n) = Sum_{k=1..n-1} sigma_3(k)*sigma_9(k). • a(n) = (sigma _ 13(n) - 11 * sigma _ 9(n) + 10 * sigma _ 3(n)) / 2640. •

[**A124587**] • 523,887,1069,1129,1259,1327,1381,1637,1669,1759,1831,1913,1933,1951,2113,2161,2179,2221,2251,2311,2477,2503,2557,2593,2803 ⋆ Primes p such that q-p >= 16, where q is the next prime after p. • a(n) = n log n + O(n log ^ 2 n). - _ Charles R Greathouse IV _ , May 05 2017 •

[**A152464**] • 0,0,525,3105,18939,114381,693129,4195557,25405586,153820395,931359050,5639156409,34143908573,206733865761,1251728824798,7578945799704,45888871327435,277847147039527,1682304127857000,1018598607945115

2 ⋆ Number of n-digit bouncy numbers (A152054). • a(n) = sum(u(n,i) + d(n,i),i=1..9) for n > 2 (0 otherwise), where •

[A168308] • 525,12396,162740,1537216,11589216,73898880,413745024,2087500800,9672309504,41745859584,169680276480,655126331392,2419298385920,8593269522432,29494166618112,98195558891520,318148898783232,1005877391523840,3110695891894272 ⋆ The fifth left hand column of triangle A167591. • a(n) = 2 ^ n * (107 * n ^ 9 - 1824 * n ^ 8 + 14124 * n ^ 7 - 62538 * n ^ 6 + 165228 * n ^ 5 - 259476 * n ^ 4 + 241561 * n ^ 3 - 133542 * n ^ 2 + 36360 * n) / 241920. • a(n) = 20 * a(n - 1) - 180 * a(n - 2) + 960 * a(n - 3) - 3360 * a(n - 4) + 8064 * a(n - 5) - 13440 * a(n - 6) + 15360 * a(n - 7) - 11520 * a(n - 8) + 5120 * a(n - 9) - 1024 * a(n - 10). • a(n) - 19 * a(n - 1) + 162 * a(n - 2) - 816 * a(n - 3) + 2688 * a(n - 4) - 6048 * a(n - 5) + 9408 * a(n - 6) - 9984 * a(n - 7) + 6912 * a(n - 8) - 2816 * a(n - 9) + 512 * a(n - 10) = 321 * 2 ^ (n - 2). •

[A204692] • 0,0,526,8326,95047,987049,9969184,99932014,999859094 ⋆ Number of base 10 bouncy numbers with fewer than n digits. • a(1) = a(2) = 0. For n > 2, a(n)=10 ^ n - C(9 + n,n) + 1 - sum(C(9 + n,n),i=1,n) - 9n. •

[A158364] • 527,2112,4755,8456,13215,19032,25907,33840,42831,52880,63987,76152,89375,103656,118995,135392,152847,171360,190931,211560,233247,255992,279795,304656,330575 ⋆ 529n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157475] • 528,1040,1552,2064,2576,3088,3600,4112,4624,5136,5648,6160,6672,7184,7696,8208,8720,9232,9744,10256,10768,11280,11792,12304,12816 ⋆ 512n + 16. • a(1)=528, a(2)=1040, a(n)=2 * a(n - 1) - a(n - 2). - Harvey P. Dale, Dec 07 2011 •

[A158365] • 528,1057,1586,2115,2644,3173,3702,4231,4760,5289,5818,6347,6876,7405,7934,8463,8992,9521,10050,10579,11108,11637,12166,12695,13224 ⋆ 529n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A071236] • 0,1,528,29646,524800,4884375,30236976,141246028,536887296,1743421725,5000050000,12968792826,30958806528,68929431571,144627596400,288325575000,549756338176,1007997660153,1785234558096,3065534366950,5120001600000,8339942531151 ⋆ (n^10 + n^5)/2. • a(0)=0, a(1)=1, a(2)=528, a(3)=29646, a(4)=524800, a(5)=4884375, a(6)=30236976, a(7)=141246028, a(8)=536887296, a(9)=1743421725, a(10)=5000050000, a(n)= 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) - _ Harvey P. Dale _ , Jul 24 2012 •

[A067475] • 529,5041,50176,501264,5004169,50013184,500014321,5000045521,50000090449,500000309449,5000000100624,50000002660624,500000010062400,5000000124641041,50000000111812804,500000001150395524 ⋆ Smallest n-digit square starting with 5. • a(n) = ceiling(sqrt(5 * 10 ^ (n - 1))) ^ 2, n>2. - _ Rick L. Shepherd _ , Feb 18 2002 •

[A158368] • 530,1059,1588,2117,2646,3175,3704,4233,4762,5291,5820,6349,6878,7407,7936,8465,8994,9523,10052,10581,11110,11639,12168,12697,13226 ⋆ 529n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A156772] • 531,1260,1989,2718,3447,4176,4905,5634,6363,7092,7821,8550,9279,10008,10737,11466,12195,12924,13653,14382,15111,15840,16569,17298,18027 ⋆ 729n - 198. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A158367] • 531,2120,4767,8472,13235,19056,25935,33872,42867,52920,64031,76200,89427,103712,119055,135456,152915,171432,191007,211640,233331,256080,279887,304752,330675 ⋆ 529n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A160176] • 533,617,733,2465,3085,3865,14257,17893,22457,83077,104273,130877,484205,607745,762805,2822153,3542197,4445953,16448713,20645437,25912913,95870125,120330425,151031525,558772037 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+617)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=533, a(2)=617, a(3)=733, a(4)=2465, a(5)=3085, a(6)=3865. •

[A165989] • 534,659,1727,1852,2920,3045,4113,4238,5306,5431,6499,6624,7692,7817,8885,9010,10078,10203,11271,11396,12464,12589,13657,13782,14850 ⋆ Numbers such that n^2 = 29 mod 1193. • a(1) = 534, a(2) = 659, a(3) = 1727, a(n) = a(n - 1) + a(n - 2) - a(n - 3). - _ Harvey P. Dale _ , Oct 22 2012 • a(n) = (- 1193 - 943 * (- 1) ^ n + 2386 * n) / 4. •

[A077076] • 537,1146,1899,3618,4713,9522,14427,28386,37533,84966,138123,353004,466209,738024,833301,1525224,1718853,3048912,3239469,6196176,6583437,12389280,12770397,24975264,25749789 ⋆ Trajectory of 537 under the Reverse and Add! operation carried out in base 2, written in base 10. • a(0), ..., a(11) as above; for n > 11 and •

[A111258] • 0,539,560,1803,4740,4859,12020,29103,29796,71519,171080,175119,418296,998579,1022120,2439459,5821596,5958803,14219660,33932199,34731900,82879703,197772800,202433799,483059760 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+601)^2 = y^2. • a(n) = 6 * a(n - 3) - a(n - 6) + 1202 for n > 6; a(1)=0, a(2)=539, a(3)=560, a(4)=1803, a(5)=4740, a(6)=4859. •

[A118630] • 0,539,924,1220,1715,2744,3503,4095,5096,7203,9996,12075,13703,16464,22295,26640,30044,35819,48020,64239,76328,85800,101871,135828,161139 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+2401)^2 = y^2. • a(n)=6 * a(n - 9) - a(n - 18) + 4802 for n > 18; a(1)=0, a(2)=539, a(3)=924, a(4)=1220, a(5)=1715, a(6)=2744, a(7)=3503, a(8)=4095, a(9)=5096, a(10)=7203, a(11)=9996, a(12)=12075, a(13)=13703, a(14)=16464,a (15)=22295, a(16)=26640, a(17)=30044, a(18)=35819. •

[A069474] • 540,2100,5460,11340,20460,33540,51300,74460,103740,139860,183540,235500,296460,367140,448260,540540,644700,761460,891540,1035660,1194540,1368900,1559460,1766940,1992060 ⋆ First differences of A069473. • a(n) = 120 * n ^ 3 + 540 * n ^ 2 + 900 * n + 540. •

[A101705] • 0,540,5940,54540,59940,540540,599940,5400540,5454540,5945940,5999940,54000540,54594540,59405940,59999940,540000540,540540540,5454540,545994540,594005940,594545940,599459940,599999940,5400000540,5405940540 ⋆ Numbers n such that n = 12*reversal(n). • a(n) = 540 * A057148. - _ Ray Chandler _ , Oct 09 2017 •

[A054562] • 540,65625,1272320 ⋆ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 5 2-simplexes and 13 1-simplexes. • a(n)=540 * C(n, 6) + 61845 * C(n, 7) + 762440 * C(n, 8) + ... •

[A160200] • 541,761,1465,1781,3805,8249,10145,22069,48029,59089,128609,279925,344389,749585,1631521,2007245,4368901,9509201,11699081,25463821,55423685,68187241,148414025,323032909,397424365 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+761)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=541, a(2)=761, a(3)=1465, a(4)=1781, a(5)=3805, a(6)=8249. •

[A226800] • 541,2612,7803,18424,37625,69516,119287,193328,299349,446500,645491,908712,1250353,1686524,2235375,2917216,3754637,4772628,5998699,7463000,9198441,11240812,13628903,16404624,19613125 ⋆ Column 5 of array in A226513. • a(n) = (n + 1) * (n ^ 4 + 24 * n ^ 3 + 186 * n ^ 2 + 554 * n + 541). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[A293582] • 541,13060,195020,2327960,24418640,235804122,2152586500,18883155160,160908360260,1341800118020,11007289244964,89168468504160,715330888641680,5694960569676240,45067846839572000,354959016901129928,2785141532606257120,21787375678321712160 ⋆ Number of compositions of n where each part i is marked with a word of length i over a quinary alphabet whose letters appear in alphabetical order and all five letters occur at least once in the composition. • a(n) = 30 * a(n - 1) - 380 * a(n - 2) + 2690 * a(n - 3) - 11944 * a(n - 4) + 35618 * a(n - 5) - 74912 * a(n - 6) + 115104 * a(n - 7) - 132120 * a(n - 8) + 114500 * a(n - 9) - 74888 * a(n - 10) + 36504 * a(n - 11) - 12888 * a(n - 12) + 3120 * a(n - 13) - 464 * a(n - 14) + 32 * a(n - 15). - _ Vaclav Kotesovec _ , Oct 14 2017 •

[A159626] • 545,577,613,2657,2885,3133,15397,16733,18185,89725,97513,105977,522953,568345,617677,3047993,3312557,3600085,17765005,19306997,20982833,103542037,112529425,122296913,603487217 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+577)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=545, a(2)=577, a(3)=613, a(4)=2657, a(5)=2885, a(6)=3133. •

[A286440] • 0,546,14064,157248,1056516,5086902,19399860,62311740,175452816,445146906,1037833944,2255992584,4622997276,9007684494,16802136156,30169344996,52381036968,88270019922,144826036032,231969248016,363541216308,558559556262,842789431428,1250692671180 ⋆ Number of ways to tile an n X n X n triangular area with five 2 X 2 X 2 triangular tiles and an appropriate number (= n^2-20) of 1 X 1 X 1 tiles. • a(n) = (n ^ 10 - 15 * n ^ 9 + 5 * n ^ 8 + 930 * n ^ 7 - 3325 * n ^ 6 - 19863 * n ^ 5 + 109915 * n ^ 4 + 155100 * n ^ 3 - 1365876 * n ^ 2 - 191592 * n + 5981760) / 120 for n >= 6. •

[A103537] • 548,1000,1582,2258,3000,3788,4609,5456,6322,7203,8096,9000,9912,10831,11757,12687,13623,14562,15505,16451,17400,18351,19305,20261,21219 ⋆ Round(1000*x), where x is the solution to x = 3^(n-x). • a(n)=round(1000 * x), x = 3 ^ (n - x). •

[A158636] • 552,2280,5160,9192,14376,20712,28200,36840,46632,57576,69672,82920,97320,112872,129576,147432,166440,186600,207912,230376,253992,278760,304680,331752,359976 ⋆ 576n^2 - 24. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A274901] • 1,554,109152,5747200,128538250,1640929626,14167981324,91769978112,477063389475,2084653722250,7914860972876,26756396132544,82046630783572,231537699283450,608260629969000,1501341920229376,3508131297671589,7809071314434282,16646760371737000 ⋆ Number of (not necessarily proper) face colorings of the truncated cube using at most n colors. • a(n) = 1 / 48 * n ^ 14 + 1 / 8 * n ^ 10 + 1 / 16 * n ^ 9 + 1 / 16 * n ^ 8 + 7 / 48 * n ^ 7 + 1 / 6 * n ^ 6 + 1 / 8 * n ^ 5 + 1 / 8 * n ^ 4 + 1 / 6 * n ^ 3 = n ^ 3 * (n + 1) * (n ^ 10 - n ^ 9 + n ^ 8 - n ^ 7 + 7 * n ^ 6 - 4 * n ^ 5 + 7 * n ^ 4 + 8 * n ^ 2 - 2 * n + 8) / 48. •

[A083733] • 561,1105,2465,3277,8321,10585,18721,29341,46657,62745,75361,104653,115921,162401,219781,226801,252601,278545,294409,314821,334153,340561,399001,410041,449065 ⋆ Pseudoprimes to bases 2 and 7. • a(n) = n - th positive integer k(>1) such that 2 ^ (k - 1) = 1 (mod k) and 7 ^ (k - 1) = 1 (mod k) •

[A083732] • 561,1729,2821,5461,6601,8911,12801,13981,15841,29341,41041,46657,52633,63973,68101,75361,101101,113201,115921,126217,137149,162401,172081,188461,252601 ⋆ Pseudoprimes to bases 2 and 5. • a(n) = n - th positive integer k(>1) such that 2 ^ (k - 1) = 1 (mod k) and 5 ^ (k - 1) = 1 (mod k) •

[A213071] • 561,13833,62745,170625,360801,656601,1081353,1658385,2411025,3362601,4536441,5955873,7644225,9624825,11921001,14556081,17553393,20936265,24728025,28952001,33631521,38789913,44450505,50636625,57371601 ⋆ 3*n*(9n + 2)*(18n - 1), where n runs through the odd numbers 1, 3, 5,... • a(n) = 3888n ^ 3 - 5508n ^ 2 + 2580n - 399. - _ Charles R Greathouse IV _ , Oct 01 2012 •

[A083736] • 561,29341,46657,75361,115921,162401,252601,294409,314821,334153,340561,399001,410041,488881,512461,530881,552721,656601,658801,710533,721801,852841,1024651,1141141,1152271 ⋆ Pseudoprimes to bases 2,5 and 7. • a(n) = n - th positive integer k(>1) such that 2 ^ (k - 1) = 1 (mod k), 5 ^ (k - 1) = 1 (mod k) and 7 ^ (k - 1) = 1 (mod k). •

[A097061] • 561,63973,75361,162401,278545,656601,825265,838201,852841,1050985,1857241,1909001,3224065,3828001,4903921,5444489,5481451,5632705,59

68873,6049681,6189121,7995169,8355841,8830801,8927101 ★ Carmichael numbers C such that C-1 is not a Niven/Harshad number. ● a(n) = if(sum of digits(n - 1)) / number of digits<>int(sum of digits(n - 1) / number of digits, n, 0) ●

[A076465] ● 1,571,12938,115270,630755,2543401,8307796,23249388,57792165,130790935,274285726,540036146,1008233863,1798831685,3085968040,5116005976,8229746121,12889413363,19711057330,29503047070,43311380651,62472570721,88674907388,124028940100 ★ Sum of squares of numbers that can be written as t*n + u*(n+1) for nonnegative integers t,u in exactly n ways. ● a(n) = n * (n + 1) * (6 * n ^ 6 + 12 * n ^ 5 - 5 * n ^ 4 - 16 * n ^ 3 + 5 * n + 1) / 6. ● a(1)=1, a(2)=571, a(3)=12938, a(4)=115270, a(5)=630755, a(6)=2543401, a(7)=8307796, a(8)=23249388, a(9)=57792165, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Sep 05 2015 ●

[A158371] ● 574,2300,5178,9208,14390,20724,28210,36848,46638,57580,69674,82920,97318,112868,129570,147424,166430,186588,207898,230360,253974,278740,304658,331728,359950 ★ 576n^2 - 2n. ● a(1)=574, a(2)=2300, a(3)=5178, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) ●

[A158372] ● 575,1151,1727,2303,2879,3455,4031,4607,5183,5759,6335,6911,7487,8063,8639,9215,9791,10367,10943,11519,12095,12671,13247,13823,14399 ★ 576n - 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A281242] ● 0,576,1920,3264,5376,12096,19584,31680,70656,114240,184704,411840,665856,1076544,2400384,3880896,6274560,13990464,22619520,36570816,81542400,131836224,213150336,475263936,768397824 ★ Solutions y to the negative Pell equation y^2 = 72*x^2 - 1331712 with x,y >= 0. ● a(n) = 6 * a(n - 3) - a(n - 6) for n>6. ●

[A158370] ● 577,1153,1729,2305,2881,3457,4033,4609,5185,5761,6337,6913,7489,8065,8641,9217,9793,10369,10945,11521,12097,12673,13249,13825,14401 ★ 576n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A154514] ● 577,2449,5617,10081,15841,22897,31249,40897,51841,64081,77617,92449,108577,126001,144721,164737,186049,208657,232561,257761,284257,312049,341137,371521,403201 ★ 648n^2 - 72n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 30 2012 ●

[A157264] ● 577,15841,51841,108577,186049,284257,403201,542881,703297,884449,1086337,1308961,1552321,1816417,2101249,2406817,2733121,3080161,3447937,3836449,4245697,4675681,5126401,5597857,6090049 ★ a(n) = 10368*n^2 - 15840*n + 6049. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 27 2012 ●

[A158369] ● 578,2308,5190,9224,14410,20748,28238,36880,46674,57620,69718,82968,97370,112924,129630,147488,166498,186660,207974,230440,254058,278828,304750,331824,360050 ★ 576n^2 + 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A127694] ● 580,1175,2070,3325,5000,7155,9850,13145,17100,21775,27230,33525,40720,48875,58050,68305,79700,92295,106150,121325,137880,155875,175370,196425,219100 ★ Absolute value of coefficient of x^3 in polynomial whose zeros are 5 consecutive integers starting with the n-th integer. ● a(n) = 5 * (n + 3) * (2 * n ^ 2 + 12 * n + 15). G.f.: 5 * x * (116 - 229 * x + 170 * x ^ 2 - 45 * x ^ 3) / (1 - x) ^ 4. [Colin Barker, Mar 28 2012] ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jun 28 2012 ●

[A122694] ● 0,583,820,2283,5440,6783,15220,33579,41400,90559,197556,243139,529656,1153279,1418956,3088899,6723640,8272119,18005260,39190083,48215280,104944183,228418380,281021083,611661360 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+761)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 1522 for n > 6; a(1)=0, a(2)=583, a(3)=820, a(4)=2283, a(5)=5440, a(6)=6783. ●

[A024380] ● 585,14389,122119,633619,2441334,7680414,20836578,50469738,111748263,230015643,445638193,820409317,1445812732,2453473932,4028156052,6423683172,9982200981,15157211601,22540846251,32895866311,47192910226,66653530570 ★ 4th elementary symmetric function of the first n+3 positive integers congruent to 1 mod 4. ● a(n) = n * (n + 1) * (n + 2) * (n + 3) * (240 * n ^ 4 + 1920 * n ^ 3 + 4760 * n ^ 2 + 3072 * n - 1217) / 360. G.f.: x * (585 + 9124 * x + 13678 * x ^ 2 + 3412 * x ^ 3 + 81 * x ^ 4) / (1 - x) ^ 9 . [From _ R. J. Mathar _ , Sep 15 2009] ●

[A230716] ● 588,1029,1323,2888,4704,8232,8281,9747,10584,15876,23104,27783,33124,35113,35721,37632,47089,65856,66248,73500,74529,77976,84672,103544,114075 ★ Numbers whose square is both a sum and a difference of two positive cubes. ● a(n) ^ 2 = a ^ 3 + b ^ 3 = c ^ 3 - d ^ 3 for some natural numbers a, b, c, d. ●

[A178973] ● 0,0,0,0,0,0,588,3328,9720,27600,59048,124992,226460,408464,666900,1086464,1650768,2505168,3610000,5198400,7191828,9945232,13320220,17835264,23265000 ★ Number of ways to place 3 nonattacking amazons (superqueens) on an n X n toroidal board. ● a(n) = 1 / 3 * n ^ 2 * (n ^ 4 / 2 - 6 * n ^ 3 + 61 * n ^ 2 / 4 + 42 * n - 285 / 2 + (3 * n ^ 2 / 4 - 6 * n + 21 / 2) * (- 1) ^ n), n>=7. ●

[A156835] ● 593,595,623,637,697,707,733,833,965,1015,1037,1225,1295,1547,1585,1973,2023,2443,2597,3145,3227,3433,4165,5057,5383 ★ Positive numbers y such that y^2 is of the form x^2+(x+833)^2 with integer x. ● a(n) = 6 * a(n - 15) - a(n - 30) for n > 30; a(1) = 593, a(2) = 595, a(3) = 623, a(4) = 637, a(5) = 697, a(6) = 707, a(7) = 733, a(8) = 833, a(9) = 965, a(10) = 1015, a(11) = 1037, a(12) = 1225, a(13) = 1295, a(14) = 1547, a(15) = 1585, a(16) = 1973, a(17) = 2023, a(18) = 2443, a(19) = 2597, a(20) = 3145, a(21) = 3227, a(22) = 3433, a(23) = 4165, a(24) = 5057, a(25) = 5383, a(26) = 5525, a(27) = 6713, a(28) = 7147, a(29) = 8687, a(30) = 8917. ●

[A157918] ● 600,2475,5600,9975,15600,22475,30600,39975,50600,62475,75600,89975,105600,122475,140600,159975,180600,202475,225600,249975,275600,302475,330600,359975,390600 ★ 625n^2 - 25. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 ●

[A092183] ● 1,600,4983,19468,53505,119676,233695,414408,683793,1066960,1592151,2290740,3197233,4349268,5787615,7556176,9701985,12275208,15329143,18920220,23108001,27955180,33527583,39894168,47127025 ★ Figurate numbers based on the 120-cell (4-D polytope with Schlaefli symbol {5,3,3}). ● a(n) = n * ((261 * n ^ 3) - (504 * n ^ 2) + (283 * n) - 38) / 2. ● a(n) = C(n + 3,4) + 595 C(n + 2,4) + 1993 C(n + 1,4) + 543 C(n,4). ● a(n) = + 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). G.f.: x * (1 + 595 * x + 1993 * x ^ 2 + 543 * x ^ 3) / (1 - x) ^ 5. [_ R. J. Mathar _ , Jun 21 2010] ●

[A177685] ● 603,4731,58834,254204,1032696,4162544,16713696,66981824,268181376,1073233664,4293950976,17177836544,68715411456,274869776384,1099495366656,4398013988864,17592120999936,70368614088704 ★ a(n) = 6*a(n-1)-8*a(n-2) for n > 4; a(0)=603, a(1)=4731, a(2)=58834, a(3)=254204, a(4)=1032696. ● a(n) = 4 ^ (n + 6) - 1985 * 2 ^ (n - 1) for n > 2. ●

[A159641] ● 613,647,685,2993,3235,3497,17345,18763,20297,101077,109343,118285,589117,637295,689413,3433625,3714427,4018193,20012633,21649267,23419745,116642173,126181175,136500277,679840405 ★ Positive numbers y such that y^2 is of the form x^2+(x+647)^2 with integer x. ● a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=613, a(2)=647, a(3)=685, a(4)=2993, a(5)=3235, a(6)=3497. ●

[A224432] ● 622,28413,426343,4177227,32549395,220006179,1351039555,7748170371,42234607363,221419948035,1125752748547,5584044867075,27143513179651,129736439305731,611327539426819,2845765137102339,13108587035424259,59831264715339267 ★ The hyper-Wiener index of the dendrimer D_2[n], defined pictorially in the A. R. Ashrafi et al. reference. ● a(n) = - 2557 - 7675 * 2 ^ n - 9768 * 2 ^ n * n - 44640 * 4 ^ n * n + 79914 * 4 ^ n + 14400 * 4 ^ n * n ^ 2 + 2640 * 2 ^ n * n ^ 2. ●

[A158373] ● 623,2496,5619,9992,15615,22488,30611,39984,50607,62480,75603,89976,105599,122472,140595,159968,180591,202464,225587,249960,275583,302456,330579,359952,390575 ★ 625n^2 - 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A158374] ● 624,1249,1874,2499,3124,3749,4374,4999,5624,6249,6874,7499,8124,8749,9374,9999,10624,11249,11874,12499,13124,13749,14374,14999,15624 ★ 625n - 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A016972] ● 625,14641,83521,279841,707281,1500625,2825761,4879681,7890481,12117361,17850625,25411681,35153041,47458321,62742241,81450625,104060401,131079601,163047361,200533921,244140625 ★ (6n+5)^4. ● a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n > 4. ●

[A017128] ● 625,28561,194481,707281,1874161,4100625,7890481,13845841,22667121,35153041,52200625,74805201,104060401,141158161,187388721,244140625,312900721,395254161,492884401,607573201 ★ (8*n+5)^4. ● a(0)=625, a(1)=28561, a(2)=194481, a(3)=707281, a(4)=1874161, a(n)= 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Dec 17 2013 ●

[A017224] ● 625,38416,279841,1048576,2825761,6250000,12117361,21381376,35153041,54700816,81450625,116985856,163047361,221533456,294499921,384160000,492884401,623201296,777796321,959512576 ★ (9*n+5)^4. ● a(0)=625, a(1)=38416, a(2)=279841, a(3)=1048576, a(4)=2825761, a(n)= 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Apr 27 2016 ●

[A120320] ● 625,1500625,9150625,17850625,37515625,52200625,73530625,81450625,174900625,442050625,577200625,1171350625,1766100625,1838265625,2136750625,3049800625,4931550625,7573350625,8653650625,12594450625 ★ RF(5): refactorable numbers with smallest prime factor 5. ● a(n) = odd square, 5 is the smallest prime factor and refactorable. ●

[A158383] ● 626,1251,1876,2501,3126,3751,4376,5001,5626,6251,6876,7501,8126,8751,9376,10001,10626,11251,11876,12501,13126,13751,14376,15001,15626 ★ 625n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A129974] ● 0,627,1128,2811,6188,9027,18740,38375,54908,111503,225936,322295,652152,1319115,1880736,3803283,7690628,10963995,22169420,44826527,63905108,129215111,261270408,372468527,753123120 ★ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+937)^2 = y^2. ● a(n) = 6 * a(n - 3) - a(n - 6) + 1874 for n > 6; a(1)=0, a(2)=627, a(3)=1128, a(4)=2811, a(5)=6188, a(6)=9027. ●

[A158382] ● 627,2504,5631,10008,15635,22512,30639,40016,50643,62520,75647,90024,105651,122528,140655,160032,180659,202536,225663,250040,275667,302544,330671,360048,390675 ★ 625n^2 + 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A177421] ● 629,6585,26259,221931,1917027,18285939,125792217,703932681,7131271077,26172260445,103884128445,413926687101,1652487095037,6603509073405,26401157680125,105578873493501,422263979519997,1688952889171965 ★ a(n) = 6*a(n-1)-8*a(n-2)-9 for n > 10; a(0)=629, a(1)=6585, a(2)=26259, a(3)=221931, a(4)=1917027, a(5)=18285939, a(6)=125792217, a(7)=703932681, a(8)=7131271077, a(9)=26172260445, a(10)=103884128445. ● a(n) = 6 * 4 ^ (n + 7) + 12576771 * 2 ^ (n - 4) - 3 for n > 8. ●

[A177684] ● 633,4809,46041,277767,1079823,4256799,16902207,67358847,268935423,1074741759,4296967167,17183868927,68727476223,274893905919,1099543625727,4398110507007,17592314036223,70369000161279 ★ a(n) = 6*a(n-1)-8*a(n-2)-3 for n > 4; a(0)=633, a(1)=4809, a(2)=46041, a(3)=277767, a(4)=1079823. ● a(n) = 4 ^ (n + 6) + 1953 * 2 ^ n - 1 for n > 2. ● a(0)=633, a(1)=4809), a(

2)=46041, a(3)=277767, a(4)=1079823, a(5)=4256799, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , May 03 2012 •

[A264449] • 0,638,1656,3162,5280,8151,11934,16807,22968,30636,40052,51480,65208,81549,100842,123453,149776,180234,215280,255398,301104,352947,411510,477411,551304 ⋆ a(n) = n*(n + 7)*(n + 14)*(n + 21)*(n + 28)/120. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), for n>5. - _ Vincenzo Librandi _ , Nov 16 2015 •

[A178975] • 0,0,0,0,0,0,0,640,7290,123640,640574,3869280,12950132,47022360,123467040,340840960,759697190,1758672648,3494388306,7150739360,13041285516,24354594440,41566378136,72345297024,117101090250 ⋆ Number of ways to place 5 nonattacking amazons (superqueens) on an n X n toroidal board. • a(n) = n ^ 2 / 5 * (1 / 24 * n ^ 8 - 5 / 3 * n ^ 7 + 635 / 24 * n ^ 6 - 1145 / 6 * n ^ 5 + 4139 / 16 * n ^ 4 + 10985 / 2 * n ^ 3 - 916385 / 24 * n ^ 2 + 27377 5 / 3 * n - 128930 / 3 + (5 / 24 * n ^ 6 - 15 / 2 * n ^ 5 + 5315 / 48 * n ^ 4 - 1675 / 2 * n ^ 3 + 25855 / 8 * n ^ 2 - 4935 * n - 2290 / 3) * (- 1) ^ n + (45 / 2 * n ^ 2 - 390 * n + 1630) * cos(n * Pi / 2) + 400 / 3 * cos(n * Pi / 3) + (40 / 3 * n ^ 2 - 640 / 3 * n + 2480 / 3) * cos(2 * n * Pi / 3) + 16 * cos(4 * n * Pi / 5) + 16 * cos(8 * n * Pi / 5)), n>=15. •

[A170774] • 0,1,640,32805,557056,5078125,31072896,144120025,545259520,1764915561,5050000000,13075891741,31173672960,69337111285,145365222016,289606640625,551903297536,1011484828945,1790743593600,3074024910421,5132800000000,8358851918781 ⋆ a(n) = n^8*(n^2+1)/2. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>10. •

[A290029] • 0,0,0,640,34720,533760,4735360,30822400,164183040,759521280,3163607040,12148899840,43724595200,149243494400,487404503040,1533406085120,4672095518720,13845292646400,40043324375040,113352785264640,314803035832320,859445521285120 ⋆ Number of 6-cycles in the n-halved cube graph. • a(n) = 2 ^ n * binomial(n, 4) * (81 * n ^ 2 - 552 * n + 952). • a(n) = 14 * a(n - 1) - 84 * a(n - 2) + 280 * a(n - 3) - 560 * a(n - 4) + 672 * a(n - 5) - 448 * a(n - 6) + 128 * a(n - 7). •

[A160203] • 641,809,1105,2741,4045,5989,15805,23461,34829,92089,136721,202985,536729,796865,1183081,3128285,4644469,6895501,18232981,27069949,40189925,106269601,157775225,234244049,619384625 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+809)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=641, a(2)=809, a(3)=1105, a(4)=2741, a(5)=4045, a(6)=5989. •

[A117129] • 641,1213,2617,2957,3727,5443,9283,17359,33829,66173,131303,264763,494743,957547,1888157,3753647,7490797,14961157,29899357,59773871,119551489,239106347,478234723,956607929,1913366111 ⋆ Primes not occurring as |differences| in Cald's sequence A006509. • a(n) = prime(A112877[n] - 1). •

[A157432] • 648,712,776,840,904,968,1032,1096,1160,1224,1288,1352,1416,1480,1544,1608,1672,1736,1800,1864,1928,1992,2056,2120,2184 ⋆ 64n + 584. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A157915] • 650,2525,5650,10025,15650,22525,30650,40025,50650,62525,75650,90025,105650,122525,140650,160025,180650,202525,225650,250025,275650,302525,330650,360025,390650 ⋆ 625n^2 + 25. • a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 10 2012 •

[A158639] • 650,2678,6058,10790,16874,24310,33098,43238,54730,67574,81770,97318,114218,132470,152074,173030,195338,218998,244010,270374,298090,327158,357578,389350,422474 ⋆ 676n^2 - 26. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A257827] • 652,724,788,1012,1828,2372,2596,2908,6164,6908,7564,9836,17996,23404,25628,28724,60988,68356,74852,97348,178132,231668,253684,284332,603716 ⋆ Positive integers whose square is the sum of 96 consecutive squares. • a(n) = 10 * a(n - 8) - a(n - 16). •

[A194653] • 0,0,0,0,655,26952,309869,1998752,9124848,33065040,101473009,274593648,673080928,1522931256,3224953725,6458355776,12330557912,22588294464,39908439249,68290845520,113579839128,184145882536,291764365485,452734505952,689287992800 ⋆ Number of ways to place 5 nonattacking kings on an n X n cylindrical chessboard. • a(n) = 1 / 120 * n * (n ^ 9 - 90 * n ^ 7 + 60 * n ^ 6 + 3155 * n ^ 5 - 3900 * n ^ 4 - 50910 * n ^ 3 + 86580 * n ^ 2 + 318864 * n - 656160), n>=6. •

[A088894] • 0,1,656,64895,2263323,40728358,464160877,3788798018,23985732786,124343403711,548683300726,2120490369833,7334132330405,23085114905772,67009386720139,181293280189204,461148470725844 ⋆ Polynexus numbers of order 16. • a(n) = ((n ^ 16 - (n - 1) ^ 16) - (n ^ 4 - (n - 1) ^ 4)) / 65520 = ((n ^ 16 - (n - 1) ^ 16) - (n ^ 4 - (n - 1) ^ 4)) / (2 ^ 16 - 2 ^ 4). •

[A023294] • 659,2549,5189,6269,7229,7949,9209,11579,16139,18089,22739,25589,26099,26339,29009,30689,40289,51719,55799,59669,60689,61379,63599,69959,70229 ⋆ Numbers n such that n remains prime through 3 iterations of function f(x) = 8x + 7. • a(n) == 29 (mod 30). - _ John Cerkan _ , Sep 23 2016 •

[A221014] • 666,10854,91062,586278,3293478,17076582,84106854,399946086,1854359910,8436473190,37822942566,167600700774,735637781862,3203485138278,13857655946598,59605426371942,255120762469734,1087278900313446,4616298106453350,19533920370425190 ⋆ The Wiener index of the dendrimer G_n , defined pictorially in the Ashrafi - Shabani - Diudea reference. • a(n) = - 666 + 2 ^ n * (- 270 * n + 2340) + 4 ^ n * (972 * n - 1674). •

[A227490] • 666,35325,412443,3099663,19013175,104225031,533102247,2604327399,12319287399,56913753447,258258898791,1155566158695,5112617020263,22412337970023,97497752214375,421386451835751,1811131262622567,7746874238425959 ⋆ The Wiener index of the nanostar dendrimer D_n, defined pictorially in the Ghorbani et al. references and recursively in the Deutsch et al. reference. • a(n) = - 9369 + 56205 * 2 ^ (n - 1) - 75411 * 2 ^ (2n - 2) + 29241 * 2 ^ (2n - 2) * n. •

[A067875] • 668,1964,2434,3248,5152,8400 ⋆ One player's total legal chess moves by piece type on standard chessboard. • a(6) = a(4) + a(5) (Queen moves equal sum of Bishop and Rook moves). Generalizing all terms for n X n chessboards other than 8 x 8 requires defining how many pieces and how many types of pieces are originally on the board and / or can be promoted to, especially because of the way captures are counted. •

[A157363] • 672,1358,2044,2730,3416,4102,4788,5474,6160,6846,7532,8218,8904,9590,10276,10962,11648,12334,13020,13706,14392,15078,15764,16450,17136 ⋆ 686n - 14. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A160209] • 673,937,1685,2353,4685,9437,13445,27173,54937,78317,158353,320185,456457,922945,1866173,2660425,5379317,10876853,15506093,31352957,63394945,90376133,182738425,369492817,526750705 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+937)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=673, a(2)=937, a(3)=1685, a(4)=2353, a(5)=4685, a(6)=9437. •

[A158392] • 674,2700,6078,10808,16890,24324,33110,43248,54738,67580,81774,97320,114218,132468,152070,173024,195330,218988,243998,270360,298074,327140,357558,389328,422450 ⋆ 676n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158393] • 675,1351,2027,2703,3379,4055,4731,5407,6083,6759,7435,8111,8787,9463,10139,10815,11491,12167,12843,13519,14195,14871,15547,16223,16899 ⋆ 676n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A239608] • 0,1,676,9801,59536,235225,715716,1825201,4096576,8346321,15760900,27994681,47279376,76545001,119552356,181037025,266864896,384199201,541679076,749609641,1020163600,1367594361,1808460676,2361862801,3049690176 ⋆ Sin(arcsin(n)- 2*arccos(n))^2. • a(n) = n ^ 2 * (3 - 4 * n ^ 2) ^ 2. G.f.: - x * (x + 1) * (x ^ 4 + 668 * x ^ 3 + 4422 * x ^ 2 + 668 * x + 1) / (x - 1) ^ 7. - _ Colin Barker _ , May 24 2014 •

[A159893] • 677,727,785,3277,3635,4033,18985,21083,23413,110633,122863,136445,644813,716095,795257,3758245,4173707,4635097,21904657,24326147,27015325,127669697,141783175,157456853,744113525 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+727)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=677, a(2)=727, a(3)=785, a(4)=3277, a(5)=3635, a(6)=4033. •

[A158386] • 677,1353,2029,2705,3381,4057,4733,5409,6085,6761,7437,8113,8789,9465,10141,10817,11493,12169,12845,13521,14197,14873,15549,16225,16901 ⋆ 676n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A158385] • 678,2708,6090,10824,16910,24348,33138,43280,54774,67620,81818,97368,114270,132524,152130,173088,195398,219060,244074,270440,298158,327228,357650,389424,422550 ⋆ 676n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A200860] • 0,682,1364,2046,2728,3410,4092,4774,5456,6138,6820,7502,8184,8866,9548,10230,10912,11594,12276,12958,13640,14322,15004,15686,16368 ⋆ Multiples of 682. • a(n) = 2 * a(n - 1) - a(n - 2), a(0)=0, a(1)=682. •

[A269486] • 1,1,683,44287,838861,8138021,51828151,247165843,954437177,3138105961,9090909091,23775972551,57154490053,128011456717,269971011311,540609741211,1034834473201,1903994239313,3382547898907,5824512944911 ⋆ a(n) = n^10 - n^9 + n^8 - n^7 + n^6 - n^5 + n^4 - n^3 + n^2 - n + 1. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). •

[A157435] • 696,760,824,888,952,1016,1080,1144,1208,1272,1336,1400,1464,1528,1592,1656,1720,1784,1848,1912,1976,2040,2104,2168,2232 ⋆ 64n + 632. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A160206] • 697,857,1117,3065,4285,6005,17693,24853,34913,103093,144833,203473,600865,844145,1185925,3502097,4920037,6912077,20411717,28676077,40286537,118968205,167136425,234807145,693397513 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+857)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=697, a(2)=857, a(3)=1117, a(4)=3065, a(5)=4285, a(6)=6005. •

[A118059] • 1,697,1969,3817,6241,9241,12817,16969,21697,27001,32881,39337,46369,53977,62161,70921,80257,90169,100657,111721,123361,135577,148369,161737,175681 ⋆ 288*n^2 - 168*n - 119. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (1 + 694 * x - 119 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Jul 01 2012 • a(n) + (a(n) + 1) + ... + (a(n) + 288n + 203)=(a(n) + 288n + 204) + ... + a(n + 1) - 1; a(n + 1) - 1=a(n) + 576n + 119. • a(n) + (a(n) + 1) + ... + (a(n) + 288n + 203)=6(24n - 7)(24n + 5)(24n + 17); e.g., 1969 + 1970 + ... + 3036=2672670=6 * 65 * 77 * 89. •

[A157366] • 700,1386,2072,2758,3444,4130,4816,5502,6188,6874,7560,8246,8932,9618,10304,10990,11676,12362,13048,13734,14420,15106,15792,16478,17164 ⋆ a(n) = 686*n + 14. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A158655] • 702,2889,6534,11637,18198,26217,35694,46629,59022,72873,88182,104949,123174,142857,163998,186597,210654,236169,263142,291573,321462,352809,385614,419877,455598 ⋆ 729n^2 - 27. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A083735] • 703,1105,2465,10585,18721,19345,29341,38503,46657,50881,75361,76627,88831,104653,115921,146611,162401,188191,213265,226801,252601,278545,286903,294409,314821 ⋆ Pseudoprimes to bases 3 and 7. • a(n) = n - th positive integer k(>1) such that 3 ^ (k - 1) = 1 (mod k) and 7 ^ (k - 1) = 1 (mod k) •

[A027809] • 715,11011,90090,520520,2382380,9189180,31039008,94225560,261891630,675745070,1636014380,3747960216,8180071900,17103786700,34420042

800,66927861000,126159017985,231196390425,412918656150,720279159600,1229442013800,2056876004040 ★ a(n) = 143*(n+1)*C(n+4,13)/2. ● a(n) = C(n + 1, 10) * C(n + 4, 4). - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Mar 16 2016 ●

[A090392] ● 0,720,1812,3428,5768,9090,13721,20069,28636,40032,54990,74382,99236,130754,170331,219575,280328,354688,445032,554040,684720,840434,1024925,1242345,1497284 ★ Seventh diagonal (m=6) of triangle A084938; a(n) = A084938(n+6,n) = (n^6 + 45*n^5 + 925*n^4 + 11475*n^3 + 92314*n^2 + 413640*n)/720. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) for n > 6. ●

[A167563] ● 720,3360,10752,27648,61440,122880,226800,392832,646128,1018080,1547040,2279040,3268512,4579008,6283920,8467200,11224080,14661792,18900288,24072960,30327360,37825920,46746672,57283968,69649200 ★ The sixth row of the ED2 array A167560. ● a(n) = 6 * n ^ 5 + 20 * n ^ 4 + 202 * n ^ 3 + 124 * n ^ 2 + 368 * n. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ G. C. Greubel _ , Jun 16 2016 ●

[A053625] ● 0,0,0,0,0,0,720,5040,20160,60480,151200,332640,665280,1235520,2162160,3603600,5765760,8910720,13366080,19535040,27907200,39070080,53721360,72681840,96909120 ★ Product of 6 consecutive integers. ● a(n) = numbperm(n,6), n >= 0. - _ Zerinvary Lajos _ , Apr 26 2007 ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Vincenzo Librandi _ , Apr 28 2012 ●

[A029574] ● 0,0,0,0,0,0,0,720,5760,51840,518400,5702400,68428800,889574400,11564467200,173467008000,2775472128000,47183026176000,849294471168000,16136594952192000,322731899043840000,6802195410616320000,149648299033559040000,3441910877771857920000 ★ Number of permutations of an n-set containing a 7-cycle. ● a(n) = n! * (1 - sum _{ k=0..floor(n / 7) } (- 1) ^ k / (k! * 7 ^ k)). ● a(n) / n! is asymptotic to 1 - e ^ (- 1 / 7) = 1 - A092750. ●

[A052521] ● 0,0,0,0,0,0,720,10080,120960,1451520,18144000,239500800,3353011200,49816166400,784604620800,13076743680000,230150688768000,4268249137152000,83230858174464000,1703031405723648000 ★ Number of pairs of sequences of cardinality at least 3. ● a(n) = (n - 5) * n!. ●

[A000920] ● 0,0,0,0,0,720,15120,191520,1905120,16435440,129230640,953029440,6711344640,45674188560,302899156560,1969147121760,12604139926560,79694820748080,499018753280880,3100376804676480,19141689213218880,117579844328562000 ★ Differences of 0: 6!*Stirling2(n,6). ● a(n) = Sum((- 1) ^ i * binomial(6, i) * (6 - i) ^ n, i = 0 .. 5). ● a(n) = 6 ^ n - C(6,5) * 5 ^ n + C(6,4) * 4 ^ n - C(6,3) * 3 ^ n + C(6,2) * 2 ^ n - C(6,1) with n>=6. - Mohamed Bouhamida (bhmd95(AT)yahoo.fr), Dec 15 2007 ●

[A228909] ● 0,0,0,0,0,0,720,20160,332640,4233600,46070640,451725120,4115105280,35517081600,294293759760,2362955474880,18509835445920,142172988048000,1074905737084080,8023358912869440,59263889194762560,433988913576556800,3155502239364459600,22807773973299268800 ★ a(n) = 7^n - 6*6^n + 15*5^n - 20*4^n + 15*3^n - 6*2^n + 1. ● a(n) = 720 * S(n + 1,7), n>=0. ●

[A179061] ● 0,0,0,0,0,720,35280,564480,5080320,31752000,153679680,614718720,2120152320,6492966480,18036018000,46172206080,110279070720,248127909120,530024705280,1081683072000,2120098821120,4008311833680 ★ Number of non-attacking placements of 6 rooks on an n X n board. ● a(n) = 6! * binomial(n, 6) ^ 2. ●

[A159295] ● 1,721,1842,4025,7856,14124,23936,38654,60090,90407,132374,189223,264972,364230,492596,656404,863206,1121449,1441050,1832997,2310024,2886128,3577352,4401210,5377586 ★ Number of ways that a tile in the form of a strip of n congruent regular hexagons stuck together on successive parallel edges can be surrounded by one layer of copies of itself in a plane. Ways that differ by rotation or reflection are not counted as different. The surrounded tile is the exact surrounded region. ● a(1) = 1, a(2) = 721, and if n > 2 then a(n) = (1 / 144) * (n ^ 6 + 30 * n ^ 5 + 463 * n ^ 4 + 3132 * n ^ 3 + 11506 * n ^ 2 + 10716 * n - 1152 + (n odd)(9 * n ^ 2 + 90 * n + 261)). ●

[A247894] ● 0,1,724,34091,524288,4367320,24685212,106765608,379625062,1162261467,3162277660,7820427766,17874003451,38235066239,77306558317,148890490631,274877906944,488950340714,841567195983,1406563064942,2289733608959,3639848436450,5662594565481 ★ Integer part of square root of A010807: a(n) = floor(sqrt(n^19)). ● a(n) = floor(sqrt(n ^ 19)). ●

[A158394] ● 727,2912,6555,11656,18215,26232,35707,46640,59031,72880,88187,104952,123175,142856,163995,186592,210647,236160,263131,291560,321447,352792,385595,419856,455575 ★ 729n^2 - 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A056084] ● 1,728,730,1457,1459,2186,2188,2915,2917,3644,3646,4373,4375,5102,5104,5831,5833,6560,6562,7289,7291,8018,8020,8747,8749 ★ Numbers n such that n^8 = 1 (mod 9^3). ● a(2n + 1) = 729 * n + 1 (n >= 0), a(2n) = 729 * n - 1 (n >= 1), a(n) = 729 * floor(n / 2) - (- 1) ^ n. - _ M. F. Hasler _ , Apr 13 2015 ● a(n) = (1458 * n - 729 + (- 1) ^ n * 725) / 4. - Conjectured by _ Philipp Emanuel Weidmann _ , explained by _ Robert Israel _ , Apr 13 2015 ● a(n) = a(n - 1) + a(n - 2) - a(n - 3) for n>2. - _ Vincenzo Librandi _ , Apr 14 2015 ●

[A158395] ● 728,1457,2186,2915,3644,4373,5102,5831,6560,7289,8018,8747,9476,10205,10934,11663,12392,13121,13850,14579,15308,16037,16766,17495,18224 ★ 729n - 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A085479] ● 728,93184,1592136,11927552,56875000,203793408,599539304,1526726656,3482001432,7280000000,14186660488,26085556224,45680920376,76741030912,124385625000,195421011968,298726553944,445696183296,650738625992 ★ Product of three solutions of the Diophantine equation x^3 - y^3 = z^2. ● a(n) = 728 * n ^ 7. ●

[A017379] ● 729,6859,24389,59319,117649,205379,328509,493039,704969,970299,1295029,1685159,2146689,2685619,3307949,4019679,4826809,5735339,6751269,7880599,9129329,10503459,12008989 ★ (10*n+9)^3. ● a(0)=729, a(1)=6859, a(2)=24389, a(3)=59319, a(n)=4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) [From Harvey P. Dale, Nov 01 2011] ●

[A067477] ● 729,7056,70225,700569,7001316,70006689,700025764,7000166889,70000459776,700001628921,7000003645504,70000012293201,7000000470601 96,70000000057996009,70000000472817424,70000000779640729 ★ Smallest n-digit square starting with 7. ● a(n) = ceiling(sqrt(7 * 10 ^ (n - 1))) ^ 2, n>2. - _ Rick L. Shepherd _ , Feb 18 2002 ●

[A016758] ● 1,729,15625,117649,531441,1771561,4826809,11390625,24137569,47045881,85766121,148035889,244140625,387420489,594823321,887503681,1291467969,1838265625,2565726409,3518743761 ★ a(n) = (2*n+1)^6. ● a(0)=1, a(1)=729, a(2)=15625, a(3)=117649, a(4)=531441, a(5)=1771561, a(6)=4826809, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 26 2012 ●

[A017106] ● 729,1771561,47045881,387420489,1838265625,6321363049,17596287801,42180533641,90458382169,177978515625,326940373369,567869252041,941480149401,1500730351849,2313060765625,3462825991689 ★ a(n) = (8*n+3)^6. ● a(0)=729, a(1)=1771561, a(2)=47045881, a(3)=387420489, a(4)=1838265625, a(5)=6321363049, a(6)=17596287801, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Oct 21 2015 ●

[A158397] ● 730,1459,2188,2917,3646,4375,5104,5833,6562,7291,8020,8749,9478,10207,10936,11665,12394,13123,13852,14581,15310,16039,16768,17497,18226 ★ 729n + 1. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A224437] ● 730,8002,60754,381490,2146930,11252722,56133874,270161650,1265842930,5810393842,26243850994,117016314610,516299391730,2258288837362,9805857424114,42314967024370,181627585561330,775984568599282,3301842333205234 ★ The Wiener index of the nanostar dendrimer NS_1[n], defined pictorially in the A. R. Ashrafi et al. reference. ● a(n) = - 754 + 3768 * 2 ^ n + 2880n * 4 ^ n + 1680n * 2 ^ n - 3792 * 4 ^ n. ●

[A259322] ● 1,730,16355,134004,665445,2437006,7263815,18654440,42792009,89837890,175604011,323639900,567780525,955201014,1550024335,2437528016,3728995985,5567261610,8132988019,11651731780,16401836021,22723199070,31026964695 ★ Sum of sixth powers of odd numbers. ● a(n) = (n * (- 31 + 196 * n ^ 2 - 336 * n ^ 4 + 192 * n ^ 6)) / 21. - _ Colin Barker _ , Jun 29 2015 ●

[A085441] ● 1,730,47386,1047386,12438011,98204132,580094436,2756876772,11060642397,38741283022,121395233038,346594833742,914464085783,2254559726408,5240543726408,11568062614344,24395756421273,49397866465794,96443747465794,182209868465794 ★ a(n) = Sum_{i=1..n} C(i+1,2)^6. ● a(n) = (n / 960960) * (6112 - 40040 * n ^ 2 + 78078 * n ^ 4 + 15015 * n ^ 5 + 19305 * n ^ 6 + 225225 * n ^ 7 + 335335 * n ^ 8 + 225225 * n ^ 9 + 80535 * n ^ 10 + 15015 * n ^ 11 + 1155 * n ^ 12). - _ G. C. Greubel _ , Nov 22 2017 ●

[A158396] ● 731,2920,6567,11672,18235,26256,35735,46672,59067,72920,88231,105000,123227,142912,164055,186656,210715,236232,263207,291640,321531,352880,385687,419952,455675 ★ 729n^2 + 2n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A180919] ● 1,733,1467,2203,2941,3681,4423,5167,5913,6661,7411,8163,8917,9673,10431,11191,11953,12717,13483,14251,15021,15793,16567,17343,18121 ★ a(n) = n^2 + 731*n + 1. ● a(0)=1, a(1)=733, a(2)=1467; for n>2, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Oct 14 2012 ●

[A067866] ● 736,1736,2736,3736,4736,5736,6736,7736,8736,9736,10736,11736,12736,13736,14736,15736,16736,17736,18736,19736,20736,21736,22736,23736,24736 ★ Numbers n such that n and 2^n end with the same three digits. ● a(n) = 736 + 1000(n - 1). ● a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 8 * x * (92 + 33 * x) / (1 - x) ^ 2. [_ Colin Barker _ , Dec 01 2012] ●

[A177423] ● 753,5043,25779,213003,1687623,18171219,73344977,769993485,4480470831,17582325855,69524390079,276487733631,1102731281151,4404458817855,17605064657919,70394501404671,281526491164671,1126002935750655 ★ a(n) = 6*a(n-1)-8*a(n-2)-3 for n > 10; a(0)=753, a(1)=5043, a(2)=25779, a(3)=213003, a(4)=1687623, a(5)=18171219, a(6)=73344977, a(7)=769993485, a(8)=4480470831, a(9)=17582325855, a(10)=69524390079. ● a(n) = 4 ^ (n + 8) + 12576771 * 2 ^ (n - 4) - 1 for n > 8. ●

[A158657] ● 756,3108,7028,12516,19572,28196,38388,50148,63476,78372,94836,112868,132468,153636,176372,200676,226548,253988,282996,313572,345716,379428,414708,451556,489972 ★ 784n^2 - 28. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A034414] ● 1,759,17296,249849,3217056,39703755,481008528,5776211364,69065734464,824142912363,9826364199840,117145945726810,1396918583188128,16665451879695801,198937019774252928 ★ Leading term in extremal weight enumerator of doubly-even binary self-dual code of length 24n. ● a(24n) = C(24n, 5) * C(5n - 2, n - 1) / C(4n + 4, 5). ●

[A247486] ● 766,838,842,857,858,859,861,1073,1087,1091,1093,1094,1106,1107,1108,1109,1112,1114,1117,1118,1123,1132,1138,1142,1154 ★ Numbers not achievable by the rules of 'Countdown' and 1,2,3,4,5,50. ● a(n) = n + 2359 for n >= 6642. - _ Alois P. Heinz _ , Sep 22 2014 ●

[A281238] ● 0,768,4608,26880,156672,913152,5322240,31020288,180799488,1053776640,6141860352,35797385472,208642452480,1216057329408,7087701523968,41310151814400,240773209362432,1403329104360192,8179201416798720,47671879396432128,277852074961794048 ★ Solutions y to the negative Pell equation y^2 = 72*x^2 - 73728 with x,y >= 0. ● a(n) = 96 * sqrt(2) * (- (3 - 2 *

sqrt(2)) ^ n * (3 + 2 * sqrt(2)) + (3 - 2 * sqrt(2)) * (3 + 2 * sqrt(2)) ^ n). • a(n) = 6 * a(n - 1) - a(n - 2) for n>2. •

[**A077077**] • 775,1674,2325,5022,8919,23976,26757,47376,49581,96048,102669,193056,197469,388704,401949,779328,788157,1563840,1590333,3131520,3149181,6273408,6326397,12554496,12589821 ⋆ Trajectory of 775 under the Reverse and Add! operation carried out in base 2, written in base 10. • a(0), ..., a(5) as above; for n > 5 and • a(n) = - a(n - 1) + 2 * a(n - 2) + 2 * a(n - 3) + 2 * a(n - 4) + 2 * a(n - 5) - 4 * a(n - 6) - 4 * a(n - 7) - 3 for n > 12; a(0), ..., a(12) as above. •

[**A177845**] • 775,8919,34223,133983,530111,2108799,8411903,33601023,134310911,537057279,2147856383,8590680063,34361229311,137441935359,549761777663,2199035183103,8796116877311,35184419799039,140737583775743 ⋆ a(n) = 6*a(n-1)-8*a(n-2)-3 for n > 2; a(0)=775, a(1)=8919, a(2)=34223. • a(n) = 2 * 4 ^ (n + 5) + 91 * 2 ^ (n + 2) - 1 for n > 0. • a(0)=775, a(1)=8919, a(2)=34223, a(3)=133983, a(n)=7 * a(n - 1) - 14 * a(n - 2) + 8 * a(n - 3). - _ Harvey P. Dale _ , Mar 04 2013 •

[**A177843**] • 775,8919,49581,197469,788157,3149181,12589821,50345469,201354237,805361661,3221336061,12885123069,51540049917,206159314941,824635490301,3298538422269,13194146611197,52776572289021,211106260844541 ⋆ a(n) = 6*a(n-1)-8*a(n-2)-9 for n > 3; a(0)=775, a(1)=8919, a(2)=49581, a(3)=197469. • a(n) = 3 * 4 ^ (n + 5) + 27 * 2 ^ (n + 2) - 3 for n > 1. •

[**A158398**] • 782,3132,7050,12536,19590,28212,38402,50160,63486,78380,94842,112872,132470,153636,176370,200672,226542,253980,282986,313560,345702,379412,414690,451536,489950 ⋆ 784n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158399**] • 783,1567,2351,3135,3919,4703,5487,6271,7055,7839,8623,9407,10191,10975,11759,12543,13327,14111,14895,15679,16463,17247,18031,18815,19599 ⋆ 784n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A159896**] • 785,839,901,3809,4195,4621,22069,24331,26825,128605,141791,156329,749561,826415,911149,4368761,4816699,5310565,25463005,28073779,30952241,148409269,163625975,180402881,864992609 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+839)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=785, a(2)=839, a(3)=901, a(4)=3809, a(5)=4195, a(6)=4621. •

[**A167587**] • 789,4077,13269,33165,70485,133869,233877,382989,595605,888045,1278549,1787277,2436309,3249645,4253205,5474829,6944277,8693229,10755285,13165965,15962709,19184877,22873749,27072525,31826325 ⋆ The fifth row of the ED4 array A167584: 80*n^4+952*n^2-768*n+525 • a(n) = 80 * n ^ 4 + 952 * n ^ 2 - 768 * n + 525. [Simplified by _ M. F. Hasler _ , Oct 08 2014] • a(1)=789, a(2)=4077, a(3)=13269, a(4)=33165, a(5)=70485, a(n)= 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - Harvey P. Dale, Jul 21 2011 •

[**A104398**] • 792,957,1077,1161,1177,1217,1252,1272,1282,1286,1297,1381,1437,1462,1463,1472,1492,1502,1506,1546,1583,1602,1637,1657,1666 ⋆ Sums of 8 distinct positive pentatope numbers (A000332). • a(n) = Ptop(d) + Ptop(e) + Ptop(f) + Ptop(g) + Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive d= / =e= / =f= / =g= / =h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). •

[**A027817**] • 792,11583,90090,495495,2162160,7963956,25729704,74826180,199536480,494684190,1152323172,2543258718,5354228880,10811423700,21034470600,39583049220,72282089880,128442439125,222633561150,377215163325,625897752480,1018680525720,1628611498800 ⋆ 99*(n+1)*C(n+5,12). • a(n) = C(n + 1, 8) * C(n + 5, 5). - _ Zerinvary Lajos _ , May 26 2005, corrected by _ R. J. Mathar _ , Feb 10 2016 •

[**A075667**] • 1,793,66377,1911234,28504515,271739011,1874885963,10136389172,45311985069,173957200405,589679082421,1802148522758,5045944649967,13108508706879,31915866810295,73427944186856,160710828298553,336507487921137,677266380588289,1315464522556810 ⋆ Sum of next n 6th powers. • a(1)=1; a(n)=sum(i ^ s, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). • a(n)=(21 n ^ 13 + 231n ^ 11 + 693n ^ 9 + 549n ^ 7 - 126n ^ 5 - 56n ^ 3 + 32n) / 1344. •

[**A158667**] • 812,3335,7540,13427,20996,30247,41180,53795,68092,84071,101732,121075,142100,164807,189196,215267,243020,272455,303572,336371,370852,407015,444860,484387,525596 ⋆ 841*n^2 - 29. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A064583**] • 0,0,816,53136,986880,9390000,58831920,276825696,1057222656,3444262560,9900990000,25724822640,61490347776,137047559376,287786357040,574098840000,1095233372160,2009042197056,3559481173296,6114129610320,10214463840000 ⋆ n^4*(n^4+1)*(n^2-1). • a(0)=0, a(1)=0, a(2)=816, a(3)=53136, a(4)=986880, a(5)=9390000, a(6)=58831920, a(7)=276825696, a(8)=1057222656, a(9)=3444262560, a(10)=9900990000, a(n)= 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Aug 17 2015 •

[**A279441**] • 0,0,0,816,93000,2602800,35526120,309328320,1972234656,9989784000,42369069600,155993500080,511660972680,1524225598896,4185197289000,10715254368000,25817751281280,58981960615680,128554066935936,268691201838000,540886175310600,1052558059827120 ⋆ Number of ways to place 7 points on an n X n square grid so that no more than 2 points are on a vertical or horizontal straight line. • a(n) = (n ^ 14 - 91 * n ^ 12 + 420 * n ^ 11 + 693 * n ^ 10 - 10500 * n ^ 9 + 33647 * n ^ 8 - 45780 * n ^ 7 + 5866 * n ^ 6 + 65940 * n ^ 5 - 89796 * n ^ 4 + 50400 * n ^ 3 - 10800 * n ^ 2) / 5040. • a(n) = 15 * a(n - 1) - 105 * a(n - 2) + 455 * a(n - 3) - 1365 * a(n - 4) + 3003 * a(n - 5) - 5005 * a(n - 6) + 6435 * a(n - 7) - 6435 * a(n - 8) + 5005 * a(n - 9) - 3003 * a(n - 10) + 1365 * a(n - 11) - 455 * a(n - 12) + 105 * a(n - 13) - 15 * a(n - 14) + a(n - 15). •

[**A177846**] • 837,7896,32176,129888,521920,2092416,8379136,33535488,134179840,536795136,2147332096,8589631488,34359132160,137437741056,549753389056,2199018405888,8796083322880,35184352690176,140737449558016 ⋆ a(n) = 6*a(n-1)-8*a(n-2) for n > 2; a(0)=837, a(1)=7896, a(2)=32176. • a(n) = 2 * 4 ^ (n + 5) - 37 * 2 ^ (n + 2) for n > 0. •

[**A135639**] • 0,839,1678,2517,3356,4195,5034,5873,6712,7551,8390,9229,10068,10907,11746,12585,13424,14263,15102,15941,16780,17619,18458,19297,20136 ⋆ a(n) = 839*n. • a(n) = 839 * n. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A158401**] • 839,3360,7563,13448,21015,30264,41195,53808,68103,84080,101739,121080,142103,164808,189195,215264,243015,272448,303563,336360,370839,407000,444843,484368,525575 ⋆ a(n) = 841*n^2 - 2*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n > 3. •

[**A158402**] • 840,1681,2522,3363,4204,5045,5886,6727,7568,8409,9250,10091,10932,11773,12614,13455,14296,15137,15978,16819,17660,18501,19342,20183,21024 ⋆ 841n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A135038**] • 0,840,8760,41520,134544,347064,768264,1523424,2780064,4754088,7715928,11996688,17994288,26179608,37102632,51398592,69794112,93113352,122284152,158344176,202447056,255868536,320012616,396417696,486762720 ⋆ Sums of the products of n consecutive quadruples of numbers. • a(n) = floor(51.2 * n ^ 5 - 32 * n ^ 4 - 48 * n ^ 3 + 20 * n ^ 2 + 8.8 * n). • a(1) = 0 * 1 * 2 * 3, a(2) = 0 * 1 * 2 * 3 + 4 * 5 * 6 * 7, ..., a(n) = 0 * 1 * 2 * 3 + 4 * 5 * 6 * 7 + 8 * 9 * 10 * 11 + ... + (2n - 1) * (2n) * (2n + 1)(2n + 2). • a(1)=0, a(2)=840, a(3)=8760, a(4)=41520, a(5)=134544, a(6)=347064, a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , May 09 2015 • a(n) = (100 * n ^ 2 + 44 * n - 240 * n ^ 3 - 160 * n ^ 4 + 256 * n ^ 5) / 5. •

[**A252780**] • 0,0,840,12477384,2545607472,116307115440,2406303387000,30037635498360,262918567435104,1765904422135392,9653659287290280,44745048366882600,181129909217550480,654743996230865424,2149893215016113112,6499426966335074520,18286786291862020800 ⋆ Number of ways of n-coloring the square grid graph G_(4,4) such that no rectangle exists with sides parallel to the axes having all 4 corners of the same color. • a(n) = n * (n - 1) * (n ^ 14 + n ^ 13 + n ^ 12 - 35 * n ^ 11 - 35 * n ^ 10 + 61 * n ^ 9 + 547 * n ^ 8 - 101 * n ^ 7 - 1797 * n ^ 6 - 633 * n ^ 5 + 5655 * n ^ 4 - 5625 * n ^ 3 + 3684 * n ^ 2 - 2436 * n + 852). •

[**A159690**] • 841,881,925,4121,4405,4709,23885,25549,27329,139189,148889,159265,811249,867785,928261,4728305,5057821,5410301,27558581,29479141,31533545,160623181,171817025,183790969,936180505 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+881)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6)for n > 6; a(1)=841, a(2)=881, a(3)=925, a(4)=4121, a(5)=4405, a(6)=4709. •

[**A158404**] • 842,1683,2524,3365,4206,5047,5888,6729,7570,8411,9252,10093,10934,11775,12616,13457,14298,15139,15980,16821,17662,18503,19344,20185,21026 ⋆ 841n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A096025**] • 843,1683,3363,4203,5883,6723,8403,9243,10923,11763,13443,14283,15963,16803,18483,19323,21003,21843,23523,24363,26043,26883,28563,29403,31083 ⋆ Numbers n such that (n+j) mod (2+j) = 1 for j from 0 to 6 and (n+7) mod 9 <> 1. • a(n) = - 3 * (209 + 70 * (- 1) ^ n - 420 * n). a(n) = a(n - 1) + a(n - 2) - a(n - 3). G.f.: 3 * x * (279 * x ^ 2 + 280 * x + 281) / ((x - 1) ^ 2 * (x + 1)). - _ Colin Barker _ , Apr 11 2013 •

[**A158403**] • 843,3368,7575,13464,21035,30288,41223,53840,68139,84120,101783,121128,142155,164864,189255,215328,243083,272520,303639,336440,370923,407088,444935,484464,525675 ⋆ 841n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A114359**] • 1,843,3827,7252,10684,14116,17548,20980,24412,27844,31276,34708,38140,41572,45004,48436,51868,55300,58732,62164,65596,69028,72460,75892,79324 ⋆ Let M(n) be the n X n matrix m(i,j)=min(i,j) for 1<=i,j<=n then a(n) is the trace of M(n)^(-7). • a(n) = 3432n - 6476 with n>3, a(1)=1, a(2)=843, a(3)=3827. • a(n) = 2 * a(n - 1) - a(n - 2) for n>5. G.f.: x * (1 + 841 * x + 2142 * x ^ 2 + 441 * x ^ 3 + 7 * x ^ 4) / (1 - x) ^ 2. [Colin Barker, Mar 18 2012] •

[**A160212**] • 845,953,1093,3977,4765,5713,23017,27637,33185,134125,161057,193397,781733,938705,1127197,4556273,5471173,6569785,26555905,31888333,38291513,154779157,185858825,223179293,902119037 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+953)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=845, a(2)=953, a(3)=1093, a(4)=3977, a(5)=4765, a(6)=5713. •

[**A163304**] • 858,3139,13142,36807,80098,149003,249534,387727,569642,801363,1088998,1438679,1856562,2348827,2921678,3581343,4334074,5186147,6143862,7213543,8401538,9714219,11157982,12739247,14464458 ⋆ a(n) = n^4 + 984*n^3 + 902*n^2 + 394*n + 858. • a(n) = 5 * a(n -) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). •

[**A158669**] • 870,3570,8070,14370,22470,32370,44070,57570,72870,89970,108870,129570,152070,176370,202470,230370,260070,291570,324870,359970,396870,435570,476070,518370,562470 ⋆ 900*n^2 - 30. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A024393**] • 880,12164,80844,363944,1276009,3751209,9668253,22494813,48216663,96625243,183045863,330597267,573081782,958613782,1554102702,2450715342,3770450706,5673969126,8369825926,12125268386,17278763271,24254430695 ⋆ 4th elementary symmetric function of the first n+3 positive integers congruent to 2 mod 3. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (405 * n ^ 4

+ 4590 * n ^ 3 + 18495 * n ^ 2 + 30534 * n + 16376) / 1920. - _ Robert Israel _ , Aug 15 2014 •

[**A224338**] • 889,10199,57337,218743,653177,1647079,3670009,7440167,139999993,24801847,41803769,67575319,105413497,159468743,234881017,337925959,476171129,658642327,895999993,1200725687,1587318649,2072502439,2675441657 ★ Number of idempotent 7X7 0..n matrices of rank 6. • a(n) = 14 * n ^ 6 + 84 * n ^ 5 + 210 * n ^ 4 + 280 * n ^ 3 + 210 * n ^ 2 + 84 * n + 7. • a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Colin Barker _ , Sep 20 2014 •

[**A158408**] • 898,3596,8094,14392,22490,32388,44086,57584,72882,89980,108878,129576,152074,176372,202470,230368,260066,291564,324862,359960,396858,435556,476054,518352,562450 ★ 900n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 12 2012 •

[**A158409**] • 899,1799,2699,3599,4499,5399,6299,7199,8099,8999,9899,10799,11699,12599,13499,14399,15299,16199,17099,17999,18899,19799,20699,21599,22499 ★ 900n - 1. • a(1)=899, a(2)=1799, a(n)=2 * a(n - 1) - a(n - 2). - Harvey P. Dale, Dec 08 2011 •

[**A158407**] • 901,1801,2701,3601,4501,5401,6301,7201,8101,9001,9901,10801,11701,12601,13501,14401,15301,16201,17101,18001,18901,19801,20701,21601,22501 ★ 900*n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 09 2012 •

[**A158406**] • 902,3604,8106,14408,22510,32412,44114,57616,72918,90020,108922,129624,152126,176428,202530,230432,260134,291636,324938,360040,396942,435644,476146,518448,562550 ★ 900*n^2 + 2*n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 09 2012 •

[**A145646**] • 911,3645,8201,14580,22782,32806,44652,58321,73813,91127,110263,131222,154004 ★ Wavelength (in Angstrom) of the series limit of the Hydrogen spectrum for main quantum number n. • a(n) = round(n ^ 2 * 10 ^ 10 / A081821) . - _ R. J. Mathar _ , Oct 17 2008 •

[**A289794**] • 0,0,0,0,920,17760,122640,537040,1794240,4994640,12178320,26840880,54620280,104184080,188348160,325459680,541078720,869994720,1358615520,2067768480,3075954840,4483100160,6414845360,9027424560,12513177600 ★ Number of 6-cycles in the n-tetrahedral graph. • a(n) = 5 * binomial(n, 5) * (454 - 409 * n + 66 * n ^ 2 + n ^ 3). • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). •

[**A172224**] • 1,924,8989,37270,145233,525796,1605490,4136952,9435413,19632414,37957424,69050898,119351315,197524064,314935542,486171662,729604121,1068003424,1529198580,2146783422,2960869583,4018886128,5376425842 ★ Number of ways to place 6 nonattacking zebras on a 6 X n board. • a(n) = (1944n ^ 6 - 27540n ^ 5 + 227070n ^ 4 - 1222555n ^ 3 + 4366071n ^ 2 - 9580580 n + 9925860) / 30, n>=15. •

[**A159701**] • 925,967,1013,4537,4835,5153,26297,28043,29905,153245,163423,174277,893173,952495,1015757,5205793,5551547,5920265,30341585,32356787,34505833,176843717,188589175,201114733,1030720717 ★ Positive numbers y such that y^2 is of the form x^2+(x+967)^2 with integer x. • a(n) = 6 * a(n - 3) - a(n - 6) for n > 6; a(1)=925, a(2)=967, a(3)=1013, a(4)=4537, a(5)=4835, a(6)=5153. •

[**A158679**] • 930,3813,8618,15345,23994,34565,47058,61473,77810,96069,116250,138353,162378,188325,216194,245985,277698,311333,346890,384369,423770,465093,508338,553505,600594 ★ 961n^2 - 31. • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A120810**] • 935,305015,2339315,3690185,14080121,14259629,16143005,17754869,18679409,26655761,29184749,47372135,80945699,82768529,87102509 ★ Integers of the form p*q*r in A120806: x+d+1 is prime for all divisors d of x, where p, q and r are distinct odd primes. See A007304. • a(n) = n - th element of A120806 of the form p * q * r where p, q and r are distinct odd primes. •

[**A158410**] • 959,3840,8643,15368,24015,34584,47075,61488,77823,96080,116259,138360,162383,188328,216195,245984,277695,311328,346883,384360,423759,465080,508323,553488,600575 ★ 961n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A158412**] • 960,1921,2882,3843,4804,5765,6726,7687,8648,9609,10570,11531,12492,13453,14414,15375,16336,17297,18258,19219,20180,21141,22102,23063,24024 ★ 961n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A166964**] • 0,0,0,0,960,4669200,1342968480,96351366720,2967164565120,51747096270240,600189633086400,5123179804311360,34443698001387840,191288688014664240,908558913657114720,3788089202221833600,14145018198653072640,48056437943548695360 ★ Number of n-colorings of the Errera graph. • a(n) = n ^ 17 - 45 * n ^ 16 + ... (see Maple program). •

[**A158414**] • 962,1923,2884,3845,4806,5767,6728,7689,8650,9611,10572,11533,12494,13455,14416,15377,16338,17299,18260,19221,20182,21143,22104,23065,24026 ★ 961n + 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A158413**] • 963,3848,8655,15384,24035,34608,47103,61520,77859,96120,116303,138408,162435,188384,216255,246048,277763,311400,346959,384440,423843,465168,508415,553584,600675 ★ 961n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A288917**] • 0,0,976,26414,207136,951750,3190304,8721576,20615340,43736788,85332868,155691014,268995384,444000894,705336724,1083967932,1619250600,2358809948,3361809572,4697700286,6451359236,8719953330,11620829368 ★ Number of 6-cycles in the n X n queen graph. • a(n)=3 * a(n - 2) + 2 * a(n - 3) - a(n - 4) - 5 * a(n - 5) - 6 * a(n - 6) - a(n - 7) + 6 * a(n - 8) + 11 * a(n - 9) + 6 * a(n - 10) - 4 * a(n - 11) - 10 * a(n - 12) - 10 * a(n - 13) - 4 * a(n - 14) + 6 * a(n - 15) + 11 * a(n - 16) + 6 * a(n - 17) - a(n - 18) - 6 * a(n - 19) - 5 * a(n - 20) - a(n - 21) + 2 * a(n - 22) + 3 * a(n - 23) - a(n - 25). •

[**A172158**] • 0,0,0,0,978,62266,1220298,12033330,77784658,377818258,1492665418,5042436754,15062292834,40736208186,101489568538,235984235970,517314078210,1077720399538,2147500025914,4114538426818,7613150953522,13653752767866,23808409699242 ★ Number of ways to place 6 nonattacking kings on an n X n board. • a(n) = (n ^ 12 - 135n ^ 10 + 180n ^ 9 + 7465n ^ 8 - 18840 n ^ 7 - 202665n ^ 6 + 751860n ^ 5 + 2442334n ^ 4 - 13441200n ^ 3 - 3643800n ^ 2 + 89860320n - 108217440) / 720, n>=5. For any fixed value of k > 1, a(n) = n ^ (2k) / k! - 9n ^ (2k - 2) / 2 / (k - 2)! + 6n ^ (2k - 3) / (k - 2)! ... - _ Vaclav Kotesovec _ , Jan 27 2010 •

[**A157515**] • 980,1980,2980,3980,4980,5980,6980,7980,8980,9980,10980,11980,12980,13980,14980,15980,16980,17980,18980,19980,20980,21980,22980,23980,24980 ★ 1000n - 20. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 26 2012 •

[**A131640**] • 985,1035,1085,1160,1210,1260,1335,1385,1435,1510,1560,1610,1685,1735,1785,1860,1910,1960,2035,2085,2135,2210,2260,2310,2385 ★ First differences are periodic: 50, 50, 75, 50, 50, 75, ... • a(n) = 910 + Sum _{ k=0..n }{ 25 / 9 * [4 * (k mod 3) + 7 * ((k + 1) mod 3) + 10 * ((k + 2) mod 3)] } . - _ Paolo P. Lava _ , Sep 26 2007 •

[**A218133**] • 0,0,990,58800,1047540,9762480,60458370,282458400,1073709000,3486725280,9999899910,25937263440,61917115260,137858120400,289254116970,576649631040,1099510578960,2015992480320,3570465336750,6131063781360,10239996799620,16679876893680 ★ Number of length 10 primitive (=aperiodic or period 10) n-ary words. • a(n) = n ^ 10 - n ^ 5 - n ^ 2 + n. •

[**A237991**] • 1,992,3965,8920,15857,24776,35677,48560,63425,80272,99101,119912,142705,167480,194237,222976,253697,286400,321085,357752,396401,437032,479645,524240,570817 ★ a(n) = 991*n^2 + 1. • a(n) = a(n - 1) + 991 * (2 * n - 1). •

[**A158683**] • 992,4064,9184,16352,25568,36832,50144,65504,82912,102368,123872,147424,173024,200672,230368,262112,295904,331744,369632,409568,451552,495584,541664,589792,639968 ★ 1024*n^2 - 32. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A195163**] • 0,1,1000,2997,5992,9985,14976,20965,27952,35937,44920,54901,65880,77857,90832,104805,119776,135745,152712,170677,189640,209601,230560,252517,275472 ★ 1000-gonal numbers: a(n) = n*(499*n - 498). • a(n) = 998 * n * (n - 1) / 2 + n, according to the common formula for s - gonal numbers, a(n) = (s - 2) * n * (n - 1) / 2 + n. - _ Sergey Pavlov _ , Aug 14 2015 • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n >= 4. - _ Muniru A Asiru _ , Sep 12 2017 •

[**A017511**] • 1000,9261,32768,79507,157464,274625,438976,658503,941192,1295029,1728000,2248091,2863288,3581577,4410944,5359375,6434856,7645373,8998912,10503459,12167000,13997521,16003008,18191447,20570824 ★ a(n) = (11*n + 10)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), for n>3. - _ Vincenzo Librandi _ , May 26 2016 •

[**A017643**] • 1000,10648,39304,97336,195112,343000,551368,830584,1191016,1643032,2197000,2863288,3652264,4574296,5639752,6859000,8242408,9800344,11543176,13481272,15625000,17984728,20570824,23393656,26463592 ★ (12n+10)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) with a(0)=1000, a(1)=10648, a(2)=39304, a(3)=97336. [_ Harvey P. Dale _ , Sep 30 2011] •

[**A161770**] • 1000,11000,111000,1111000,11111000,111111000,1111111000,11111111000,111111111000,1111111111000 ★ n 1s followed by three 0s. • a(n) = 1000(10 ^ n - 1) / 9. •

[**A234787**] • 1000,64000,729000,4096000,15625000,46656000,117649000,262144000,531441000,1000000000,1771561000,2985984000,4826809000,7529536000,11390625000,16777216000,24137569000,34012224000,47045881000,64000000000 ★ Cubes (with at least two digits) that become squares when their rightmost digit is removed. • a(n) = 1000 * n ^ 6. •

[**A153814**] • 1001,2002,3003,4004,5005,6006,7007,8008,9009,10010,11011,12012,13013,14014,15015,16016,17017,18018,19019,20020,21021,22022,23023,24024,25025 ★ a(n) = 1001*n. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 26 2012 •

[**A160451**] • 1008,2080,6440,10208,22360,31416,57408,75208,122816,153680,232408,281520,402600,476008,652400,757016,1003408,1147008,1479816,1671042108408,2356760,2918560,3234408,3942240 ★ (4/3)u(u^3+6*u^2+8u-3) where u=Floor[{3n+5)/2]. • a(n) = a(n - 1) + 4 * a(n - 2) - 4 * a(n - 3) - 6 * a(n - 4) + 6 * a(n - 5) + 4 * a(n - 6) - 4 * a(n - 7) - a(n - 8) + a(n - 9). G.f.: - 8 * x * (126 + 134 * x + 41 * x ^ 2 - 65 * x ^ 3 + 95 * x ^ 4 + 52 * x ^ 5 - 61 * x ^ 6 - 13 * x ^ 7 + 15 * x ^ 8) / ((1 + x) ^ 4 * (x - 1) ^ 5). [_ R. J. Mathar _ , May 15 2009] •

[**A139665**] • 1009,1129,1201,1801,2521,2689,3049,3361,3529,3889,4201,4561,4729,5209,5569,5881,6841,7561,7681,8089,8521,8689,8761,8929,9241 ★ Primes of the form x^2 + 840*y^2. • a(n) == { 1,25,49,73 } (mod 96); • a(n) ^ 2 == { 1,49 } (mod 96 } ; • a(n) ^ 4 == 1 (mod 96). (End) • a(n) == { 1,9,25 } (mod 56). - _ Gary Detlefs _ , Jan 27 2014 •

[**A157010**] • 1010,5297,12946,23957,38330,56065,77162,101621,129442,160625,195170,233077,274346,318977,366970,418325,473042,531121,592562,657365,725530,797057,871946,950197,1031810 ★ 1681n^2 - 756n + 85. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A157510**] • 1020,2020,3020,4020,5020,6020,7020,8020,9020,10020,11020,12020,13020,14020,15020,16020,17020,18020,19020,20020,21020,22020,23020,24020,25020 ★ 1000n + 20. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 04 2012 •

[**A216115**] • 1020,11020,39600,99960,208900,386820,657720,1049200,1592460,2322300,3277120,4498920,6033300,7929460,10240200,13021920,16334620,20241900,24810960,30112600,36221220,43214820,51175000,60186960,70339500 ★

The Hyper-Wiener index of a link of n fullerenes C_{20} (see the Ghorbani and Hosseinzadeh reference). • a(n) = 10 * n * (15n ^ 3 + 70n ^ 2 + 134n - 117). •

[A158420] • 1022,4092,9210,16376,25590,36852,50162,65520,82926,102380,123882,147432,173030,200676,230370,262112,295902,331740,369626,409560,451542,495572,541650,589776,639950 ★ 1024n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A158421] • 1023,2047,3071,4095,5119,6143,7167,8191,9215,10239,11263,12287,13311,14335,15359,16383,17407,18431,19455,20479,21503,22527,23551,24575,25599 ★ 1024n - 1. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A075947] • 1023,31775,232551,824491,1386837,6330581,25206065,42278310,77607100,402698573,673253467,1218520349,6442523019,10748180761,51539687634,86033873250,156768744521,824634027372,1374532244735,2476057332766 ★ Basis for code in A075946. • a(n) = b(2 ^ n), where b is A075946, the binary lexicode, d=10. •

[A069095] • 1,1023,59048,1047552,9765624,60406104,282475248,1072693248,3486725352,9990233352,25937424600,61855850496,137858491848,288972178704,576640565952,1098437885952,2015993900448,3566920035096,6131066257800 ★ Jordan function J_10(n). • a(n) = sum(d|n, d ^ 10 * mu(n / d)). • a(n) = n ^ 10 * Product _{ distinct primes p dividing n } (1 - 1 / p ^ 10). - _ Tom Edgar _ , Jan 09 2015 •

[A046313] • 1024,1536,2048,2304,2560,3072,3456,3584,3840,4096,4608,5120,5184,5376,5632,5760,6144,6400,6656,6912,7168,7680,7776,8064,8192 ★ Numbers that are divisible by at least 10 primes (counted with multiplicity). • a(n) = n + O(n (log log n) ^ 8 / log n). - _ Charles R Greathouse IV _ , Apr 07 2017 •

[A016781] • 1,1024,16807,100000,371293,1048576,2476099,5153632,9765625,17210368,28629151,45435424,69343957,102400000,147008443,205962976,282475249,380204032,503284375,656356768,844596301 ★ (3*n+1)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6); a(0)=1, a(1)=1024, a(2)=16807, a(3)=100000, a(4)=371293, a(5)=1048576. [_ Harvey P. Dale _ , May 13 2012] •

[A195658] • 1024,50922,815816,7238864,44693472,216134044,877751236,3130270224,10105541204,30179587994,84719304384,226268016376,580363147336,1440139184616,3477556916828,8210011147304,19021962952188,43385173057846,97653259485592,217359166880016 ★ Number of ways to place 9n nonattacking kings on a vertical cylinder 18 X 2n. • a(n) = (21623809 * n - 226349399) * 2 ^ n + 8913 / 40 * n ^ 7 + 124781 / 20 * n ^ 6 + 376359 / 4 * n ^ 5 + 977074 * n ^ 4 + 294753537 / 40 * n ^ 3 + 787733819 / 20 * n ^ 2 + 135269649 * n + 226349400. •

[A231309] • 0,1,1024,59050,1049600,9824675,61515776,292299924,1135257600,3779084325,11135257600,29716508926,73052621824,167575000775,362307276800,744225391400,1461818904576,2760219291849,5032286131200,8891285549650,15272286131200 ★ Recurrence a(n) = a(n-2) + n^M for M=10, starting with a(0)=0, a(1)=1. • a(n) = Sum _{ k=0..floor(n \ 2) } (n - 2 * k) ^ 10. • a(n) = 1 / 66 * n * (3 * n ^ 10 + 33 * n ^ 9 + 110 * n ^ 8 - 528 * n ^ 6 + 2112 * n ^ 4 - 4224 * n ^ 2 + 2560). •

[A236216] • 1024,60073,9825698,292300947,26229725548,164088217397,2180082117846,8311148375647,49737659589296,470444892889497,1290073179870298,6098657552288147,19521316862440548,41132799175724797,937319314115548,46,268619401777067895,779736155077709296 ★ Sum of the tenth powers of the first n primes. • a(n) = sum(k = 1 .. n, prime(k) ^ 10). •

[A017117] • 1024,248832,3200000,17210368,60466176,164916224,380204032,777600000,1453933568,2535525376,4182119424,6590815232,10000000000,14693280768,21003416576,29316250624,40074642432 ★ (8*n+4)^5. • a(0)=1024, a(1)=248832, a(2)=3200000, a(3)=17210368, a(4)=60466176, a(5)=164916224, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Nov 24 2012 •

[A294305] • 0,0,1025,59050,1108650,10815226,71340451,352767124,1427557524,4904576300,14914341925,40791300350,102769130750,240345147350,529882277575,1105458926376,2206044295976,4218551412024,7792505423049,13913571680850,24163571680850,40817515234450 ★ Sum of the tenth powers of the parts in the partitions of n into two distinct parts. • a(n) = Sum _{ i=1..floor((n - 1) / 2) } i ^ 10 + (n - i) ^ 10. • a(n) = a(n - 1) + 11 * a(n - 2) - 11 * a(n - 3) - 55 * a(n - 4) + 55 * a(n - 5) + 165 * a(n - 6) - 165 * a(n - 7) - 330 * a(n - 8) + 330 * a(n - 9) + 462 * a(n - 10) - 462 * a(n - 11) - 462 * a(n - 12) + 462 * a(n - 13) + 330 * a(n - 14) - 330 * a(n - 15) - 165 * a(n - 16) + 165 * a(n - 17) + 55 * a(n - 18) - 55 * a(n - 19) - 11 * a(n - 20) + 11 * a(n - 21) + a(n - 22) - a(n - 23) for n>23. •

[A023002] • 0,1,1025,60074,1108650,10874275,71340451,353815700,1427557524,4914341925,14914341925,40851766526,102769130750,240627622599,529882277575,1106532668200,2206044295976,4222038196425,7792505423049,13923571680850 ★ Sum of 10th powers. • a(n) = n * (n + 1) * (2 * n + 1) * (n ^ 2 + n - 1)(3 * n ^ 6 + 9 * n ^ 5 + 2 * n ^ 4 - 11 * n ^ 3 + 3 * n ^ 2 + 10 * n - 5) / 66 (see MathWorld, Power Sum, formula 40). - _ Bruno Berselli _ , Apr 26 2010 • a(n)= - sum(j=1..10, j * s(n + 1,n + 1 - j) * S(n + 10 - j,n)), where s(n, k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 •

[A180270] • 0,1025,476073,27022500,551536100,6129324225,45502479225,253405810448,1137920432400,4322847530025,14366776735025,42801847892100,116415023802948,293153032943225,691043521403025,1538402208782400 ★ Non-negative integers of the form (k^12-k^8-k^4+1)/512. • a(n) = ((2 * n - 1) ^ 4 + 1) * ((n - 1) * n * (n ^ 2 + (n - 1) ^ 2)) ^ 2 / 8 (for k=2n - 1). •

[A221008] • 1026,19458,174762,1170810,6751386,35653338,177967962,854830170,3994246746,18282889818,82367580762,366439242330,1613682326106,7046530103898,30553522371162,131684094835290,564617195813466,2409993639295578,10246077161667162,43408725425257050,183332581536692826 ★ The Wiener index of the nanostar dendrimer D_3[n] , defined pictorially in the Alikhani - Iranmanesh reference. • a(n) = - 1446 + 2 ^ n * 12132 + 4 ^ n * (8820 * n - 9660). •

[A253710] • 1,1026,61100,1169750,12044025,83384476,437200176,1864757700,6779099625,21693441550,62545208076,165314338826,405941961425,935824239000,2042356907200,4248401203176,8470439399601,16262944822650,30186516503500,54350088184350,95193540843401,162596916293876,271426802958000,443660070587500 ★ Second partial sums of tenth powers (A008454). • a(n) = n * (n + 1) ^ 2 * (n + 2) * (n ^ 2 + 2 * n - 2) * (2 * n ^ 6 + 12 * n ^ 5 + 16 * n ^ 4 - 16 * n ^ 3 - 17 * n ^ 2 + 30 * n - 5) / 264. • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 10. •

[A224428] • 1032,54472,853256,8392840,64852872,433408392,2632152456,14947110280,80788946312,420521631112,2125121035656,10487138557320,50753701289352,241670439050632,1135046330686856,5268615489133960,24208077521689992,110246366797634952 ★ The hyper-Wiener index of the dendrimer NS[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = 7560 - 64000 * 4 ^ n * n - 113312 * 2 ^ n + 106784 * 4 ^ n + 25600 * 4 ^ n * n ^ 2. •

[A158692] • 1056,4323,9768,17391,27192,39171,53328,69663,88176,108867,131736,156783,184008,213411,244992,278751,314688,352803,393096,435567,480216,527043,576048,627231,680592 ★ 1089n^2 - 33. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A224457] • 1062,2760,5715,10386,17304,27072,40365,57930,80586,109224,144807,188370,241020,303936,378369,465642,567150,684360,818811,972114,1145952,1342080,1562325,1808586,2082834 ★ The hyper-Wiener index of the cyclic phenylene with n hexagons (n>=3). • a(n) = (3 / 2)n(2n ^ 3 + 15n ^ 2 + 45 n - 88). •

[A281259] • 0,0,0,0,0,0,0,1080,12960,143424,1641600,19915200,257644800,3556224000,52289556480,817133184000,13536585216000,237105792000000,4380335511552000,85148431867699200,1737742314147840000,3715636410630144000 0,830772012055265280000 ★ Number of elements of S_n with strategic pile of size 6. • a(n) = (n - 6)! * (120 * binomial(n - 7,5) + 576 * binomial(n - 7,4) + 1116 * binomial(n - 7,3) + 1080 * binomial(n - 7,2) + 540 * binomial(n - 7, 1)) for n>7. •

[A165809] • 1083,8124,26703,62400,120795,207468,327999,487968,692955,948540,1260303,1633824,2074683,2588460,3180735,3857088,4623099,5484348,6446415,7514880,8695323,9993324,11414463,12964320,14648475 ★ a(n) = 3*n*(63*n-12+310*n^2). • a(n) = 3 * n * (63 * n - 12 + 310 * n ^ 2). (End) • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). •

[A283356] • 1,1,1,1101,10001,11101,110001,1111101,11110001,111111101,1111110001,11111111101,111111110001,1111111111101,11111111110001,111111111101,1111111111110001,11111111111111101,111111111111110001,1111111111111110001 ★ Binary representation of the x-axis, from the origin to the right edge, of the n-th stage of growth of the two-dimensional cellular automaton defined by "Rule 621", based on the 5-celled von Neumann neighborhood. • a(n) = (10 ^ n - 9991) / 9 for n>4 and even. • a(n) = (10 ^ n - 91) / 9 for n>4 and odd. • a(n) = 10 * a(n - 1) + a(n - 2) - 10 * a(n - 3) for n>5. •

[A083738] • 1105,2465,10585,18721,29341,46657,75361,104653,115921,162401,226801,252601,278545,294409,314821,334153,340561,399001,410041,449065,488881,512461,530881,534061,552721 ★ Pseudoprimes to bases 2,3 and 7. • a(n) = n - th positive integer k(>1) such that 2 ^ (k - 1) = 1 (mod k), 3 ^ (k - 1) = 1 (mod k) and 7 ^ (k - 1) = 1 (mod k). •

[A157376] • 1107,13058,38131,76326,127643,192082,269643,360326,464131,581058,711107,854278,1010571,1179986,1362523,1558182,1766963,1988866,2223891,2472038,2733307,3007698,3295211,3595846,3909603 ★ a(n) = 6561*n^2 - 7732*n + 2278. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A027622] • 1114,3413,8476,18247,35414,63529,107128,171851,264562,393469,568244,800143,1102126,1488977,1977424,2586259,3336458,4251301,5356492,6680279,8253574,10110073,12286376,14822107,17760034 ★ a(n) = n + (n+1)^2 + (n+2)^3 + (n+3)^4 + (n+4)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. •

[A157444] • 1122,2453,3784,5115,6446,7777,9108,10439,11770,13101,14432,15763,17094,18425,19756,21087,22418,23749,25080,26411,27742,29073,30404,31735,33066 ★ 1331n - 209. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 26 2012 •

[A158729] • 1122,4590,10370,18462,28866,41582,56610,73950,93602,115566,139842,166430,195330,226542,260066,295902,334050,374510,417282,462366,509762,559470,611490,665822,722466 ★ 1156n^2 - 34. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A069984] • 1123,22583,44043,65503,86963,108423,129883,151343,172803,194263,215723,237183,258643,280103,301563,323023,344483,365943,387403,408863,430323,451783,473243,494703,516163 ★ 1123+21460n. • a(0)=1123, a(1)=22583, a(n)=2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Feb 04 2015 •

[A023307] • 1129,10009,11489,12539,13859,30029,63079,77359,99119,121039,124669,169409,194749,205589,246329,330329,349519,351829,354839,361279,369539,384589,395719,399769,416989 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 3x + 2. • a(n) == 9 or 69 (mod 70). - _ John Cerkan _ , Oct 04 2016 •

[A166957] • 1,1131,7829,25141,58113,111791,191221,301449,447521,634483,867381,1151261,1491169,1892151,2359253,2897521,3512001,4207739,4989781,5863173,6832961,7904191,9081909,10371161,11776993 ★ a(n) = 841*n^3 + 261*n^2 + 28*n + 1. • a(n) = 841 * n ^ 3 + 261 * n ^ 2 + 28 * n + 1. • a(n) = 4 * a

(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 01 2012 •

[A154374] • 1151,4801,10951,19601,30751,44401,60551,79201,100351,124001,150151,178801,209951,243601,279751,318401,359551,403201,449351,498001,549151,602801,658951,717601,778751 ⋆ a(n) = 1250*n^2 - 100*n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 29 2012 •

[A227485] • 1165,795061,19190411,222761135,1865766759,13037931735,81350611063,470142180535,2571969023543,13504663462199,68693896897335,340717322458935,1655620816211767,7909483093294903,37250047530671927,173330546765154693 5,797871121068613431,3639796169374261047 ⋆ The hyper-Wiener index of the dendrimer D_4[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = 1007415 + 2 ^ n * (- 4509545 + 732099 * n - 171585 * n ^ (2)) + 4 ^ n * (3503295 - 2446768 * n + 864900 * n ^ (2)). •

[A158735] • 1190,4865,10990,19565,30590,44065,59990,78365,99190,122465,148190,176365,206990,240065,275590,313565,353990,396865,442190,489965,540190,592865,647990,705565,765590 ⋆ 1225n^2 - 35. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A221012] • 1248,28184,264576,1799200,10428288,55146624,275248896,1321299200,6169283328,28218321664,127045890816,564885984000,2486370202368,10852804162304,47040516846336,202679222137600,868785296241408,3707414154572544,15758746697331456,66751342552544000,281870782248776448 ⋆ The Wiener index of the nanostar dendrimer G_n , defined pictorially in the Golriz - Darafsheh - Khalifeh reference. • a(n) = - 3328 - 2 ^ n * (1820 * n - 18616) + 4 ^ n * (13520 * n - 14040) - see Theorem 4 in the Golriz et al. reference; it has a typo: change 181616 to 18616. •

[A224435] • 1248,136272,1590360,11608536,69325368,371933112,1870634040,9019095096,42224645688,193479671352,872186750520,3881641715256,17097660401208,74673784423992,323824724575800,1395810233321016,5985270160655928,25549161151039032,108628885484045880 ⋆ The Wiener index of the polyphenylene dendrimer G[n] defined pictorially in the N. E. Arif et al. reference. • a(n)= - 31176 + 136464 * 2 ^ n + 93600 * n * 4 ^ n - 31860 * n * 2 ^ n - 104040 * 4 ^ n. •

[A158737] • 1260,5148,11628,20700,32364,46620,63468,82908,104940,129564,156780,186588,218988,253980,291564,331740,374508,419868,467820,518364,571500,627228,685548,746460,809964 ⋆ 1296n^2 - 36. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A104399] • 1287,1507,1672,1792,1793,1876,1932,1958,1967,1987,1997,2001,2078,2157,2162,2178,2218,2253,2273,2283,2287,2298,2322,2382,2438 ⋆ Sums of 9 distinct positive pentatope numbers (A000332). • a(n) = Ptop(c) + Ptop(d) + Ptop(e) + Ptop(f) + Ptop(g) + Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive c= / =d= / =e= / =f= / =g= / =h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). •

[A221006] • 1296,14526,107082,649890,3539538,18027954,87813234,414505458,1911928050,8665131762,38733797106,171235454706,750157258482,3261519544050,14089697722098,60533384085234,258832139157234,1102123427954418,4675674117242610,19771419930918642,83360577251966706 ⋆ The Wiener index of the nanostar dendrimer NS[n], defined pictorially in the Karbasioun-Ashrafi-Diudea reference. • a(n) = - 270 + 2 ^ n * 3510 + 4 ^ n * (3888 * n - 1944) (see Theorem 1 in the Karbasioun - Ashrafi - Diudea reference). •

[A016912] • 0,1296,20736,104976,331776,810000,1679616,3111696,5308416,8503056,12960000,18974736,26873856,37015056,49787136,65610000,84934656,108243216,136048896,168896016,207360000,252047376 ⋆ (6n)^4. • a(0)=0, a(1)=1296, a(2)=20736, a(3)=104976, a(4)=331776, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Mar 28 2015 •

[A249586] • 0,1,1296,142884,4326400,62015625,549246096,3480528016,17247043584,70801227225,250500250000,785786510916,2231605748736,5829824737009,14183810499600,32455809000000,70403108110336,145714859280081,289307033504784,553490085376900 ⋆ Sum of the first n^3 cubes. • a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13). • a(n) = n ^ 6 * (n ^ 3 + 1) ^ 2 / 4. • a(n) = sum _{ i=0..n ^ 3 } i ^ 3. •

[A023318] • 1319,2699,4259,4919,5689,8669,10159,10529,29819,33119,82339,86689,98669,174079,177949,196739,207869,210599,222499,231809,253369,267299,275699,323699,362459 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 7x + 6. • a(n) == 9 (mod 10). - _ John Cerkan _ , Oct 08 2016 •

[A157266] • 1320,3048,4776,6504,8232,9960,11688,13416,15144,16872,18600,20328,22056,23784,25512,27240,28968,30696,32424,34152,35880,37608,39336,41064,42792 ⋆ a(n) = 1728*n - 408. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 27 2012 •

[A134116] • 1327,8467,9973,11743,12163,17257,19087,20443,21433,29683,32653,34549,37747,41299,47743,49957,54217,59887,61057,61297,64237,73483,74653,77383,78367 ⋆ Primes p such that q-p = 34, where q is the next prime after p. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A158743] • 1332,5439,12284,21867,34188,49247,67044,87579,110852,136863,165612,197099,231324,268287,307988,350427,395604,443519,494172,547563,603692,662559,724164,788507,855588 ⋆ 1369n^2 - 37. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A154375] • 1351,5201,11551,20401,31751,45601,61951,80801,102151,126001,152351,181201,212551,246401,282751,321601,362951,406801,453151,502001,553351,607201,663551,722401,783751 ⋆ a(n) = 1250*n^2 + 100*n + 1. • a(1)=1351, a(2)=5201, a(3)=11551, a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Apr 25 2011 •

[A243132] • 1,1,1351,19601,119071,470449,1431431,3650401,8193151,16692641,31521799,55989361,94558751,153090001,239104711,362074049,533729791,768398401,1083358151,1499219281,2040327199,2735188721,3616921351,4723725601,6099380351 ⋆ 32*n^6 - 48*n^4 + 18*n^2 - 1. • a(n) = (2 * n ^ 2 - 1) * (16 * n ^ 4 - 16 * n ^ 2 + 1). •

[A215865] • 0,1356,15029,90734,394506,1381695,4138827,11002068,26603148,59546487,124984860,248436188,471271892,858408642,1508851218,2569865520,4255708464,6872006526,10847057991,16771536474,25448295950,37954221305,55716334245,80604653220 ⋆ Number of simple labeled graphs on n+5 nodes with exactly n connected components that are trees or cycles. • a(n) = C(n + 5,6) * (3 * n ^ 4 + 130 * n ^ 3 + 1565 * n ^ 2 + 7006 * n + 12992) / 16. •

[A178485] • 1371,1372,1381,1383,1392,1393,1471,1472,1491,1494,1502,1504,1581,1583,1591,1594,1613,1614,1692,1693,1702,1704,1713,1714,2371 ⋆ (A178475(n)-6)/9. • a(n) + a(5! + 1 - n) = 7406. • a(n) == 1, 2, 3, 4 or 5 (mod 10). • a(n + 6) - a(n) is an element of { 100, 110, 111, 200, 220, 222, 679 } . • a(n + 6) - a(n) = 679 iff (n - 1) % 24 > 17, where % denotes the remainder upon division. • a(n + 6) - a(n) = 200, 220 or 222 iff (n - 1) % 30 > 23, i.e. n==25,..., 30 (mod 30). •

[A158764] • 1406,5738,12958,23066,36062,51946,70718,92378,116926,144362,174686,207898,243998,282986,324862,369626,417278,467818,521246,577562,636766,698858,763838,831706,902462 ⋆ 38*(38*n^2-1). • a(n)= 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A156853] • 1428,6854,16330,29856,47432,69058,94734,124460,158236,196062,237938,283864,333840,387866,445942,508068,574244,644470,718746,797072,879448,965874,1056350,1150876,1249452 ⋆ 2025n^2 - 649n + 52. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A124087] • 1430,4862,11934,25194,48450,87210,149226,245157,389367,600875,904475,1332045,1924065,2731365,3817125,5259150,7152444,9612108,12776588,16811300,21912660,28312548,36283236,46142811,58261125 ⋆ 9th column of Catalan triangle A009766. • a(n) = C(n,8) - C(n,6). •

[A064305] • 1,1430,95235,1338790,9137549,41260086,142648495,409186310,1022586105,2298558934,4750427771,9170347110,16730290885,29104970870,48618847719,78419396806,122678791025,186826162710 ⋆ Ninth diagonal of triangle A064094. • a(n)= 1 + 7 * n + 27 * n ^ 2 + 75 * n ^ 3 + 165 * n ^ 4 + 297 * n ^ 5 + 429 * n ^ 6 + 429 * n ^ 7. •

[A215548] • 0,1430,389367,7152444,58261125,303719922,1188576675,3804949176,10495906641,25810820750,57928578191,120681823860,236332181085,439263172458,780774342075,1335176857200,2207407644585,3542395893894,5536432537895,8450810096300,12628017047349 ⋆ Number of standard Young tableaux of shape [8n,8]. • a(n) = C(8 * n + 8,8) * (8 * n - 7) / (8 * n + 1) for n>0, a(0) = 0. •

[A221004] • 1437,4263,15675,68163,325779,1602483,7835379,37613427,176915571,816731763,3710601843,16633811571,73738101363,323845964403,1411137700467,6107956052595,26286286307955,112564798489203,479941662081651,2038504721744499,8628988563948147,36415869693198963,153263217907335795,643451990789063283,2695404780741722739 ⋆ The Wiener index of the nanostar dendrimer NS[n], defined pictorially in the Wang-Hua reference. • a(n) = 627 + 2 ^ n * (936 * n + 1602) + 4 ^ n * (432 * n - 792). •

[A227494] • 1437,18915,170799,1224231,7577943,42506295,222662391,1110797943,5346791799,25055240055,115015961463,519520043895,2316518945655,10221182047095,44708102116215,194132294964087,837742493569911,3595852736893815 ⋆ The Wiener index of the nanostar dendrimer D_n, defined pictorially as NS[n] in the Yang et al. reference. • a(n) = 4983 + 2 ^ n * (15048 * n + 29502) + 4 ^ n * (14256 * n - 33048). •

[A157508] • 1440,2898,4356,5814,7272,8730,10188,11646,13104,14562,16020,17478,18936,20394,21852,23310,24768,26226,27684,29142,30600,32058,33516,34974,36432 ⋆ 1458n - 18. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 26 2012 •

[A023311] • 1447,2207,6211,6607,8369,9769,11821,13537,13729,13781,15581,17231,17497,27817,32059,32569,32611,33647,36251,39079,46381,47417,55127,55171,57077 ⋆ Numbers n such that n remains prime through 4 iterations of function f(x) = 4x + 3. • a(n) == 3 or 9 (mod 14). - _ John Cerkan _ , Oct 04 2016 •

[A242038] • 0,1,1448,102275,2097152,21836601,148111277,747359260,3037000499,10460353203,31622776601,86024705429,214488041413,497055861119,1082291816449,2233357359474,4398046511104,8312155792152,15148209527700,26724698233906 ⋆ Integer part of square root of A010809(n) = n^21. • a(n) = floor(sqrt(n ^ 21)). •

[A167575] • 1473,8169,26529,66345,140865,266793,464289,756969,1171905,1739625,2494113,3472809,4716609,6269865,8180385,10499433,13281729,16585449,20472225,25007145,30258753,36299049,43203489,51050985,59923905 ⋆ The fifth row of the ED3 array A167572. • a(n) = 144 * n ^ 4 + 192 * n ^ 3 + 1080 * n ^ 2 - 48 * n + 105. • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ G. C. Greubel _ , Jun 16 2016 •

[A157505] • 1476,2934,4392,5850,7308,8766,10224,11682,13140,14598,16056,17514,18972,20430,21888,23346,24804,26262,27720,29178,30636,32094,33552,35010,36468 ⋆ 1458n + 18. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 04 2012 •

[A158770] • 1482,6045,13650,24297,37986,54717,74490,97305,123162,152061,184002,218985,257010,298077,342186,389337,439530,492765,549042,608361,670722,736125,804570,876057,950586 ⋆ a(n) = 1521*n^2 - 39. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A157375**] • 1520,7743,18768,34595,55224,80655,110888,145923,185760,230399,279840,334083,393128,456975,525624,599075,677328,760383,848240,940899,1038360,1140623,1247688,1359555,1476224 ⋆ a(n) = 2401*n^2 - 980*n + 99. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Jan 28 2012 •

[**A083734**] • 1541,1729,1891,2821,6601,8911,15841,29341,41041,46657,52633,63973,75361,88831,101101,112141,115921,126217,146611,162401,172081,188461,218791,252601,294409 ⋆ Pseudoprimes to bases 3 and 5. • a(n) = n - th positive integer k(>1) such that 3 ^ (k - 1) = 1 (mod k) and 5 ^ (k - 1) = 1 (mod k) •

[**A158773**] • 1560,6360,14360,25560,39960,57560,78360,102360,129560,159960,193560,230360,270360,313560,359960,409560,462360,518360,577560,639960,705560,774360,846360,921560,999960 ⋆ 1600n^2 - 40. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A187241**] • 0,0,0,0,0,1600,389312,22057472,565532992,8611750848,90564534336,720227187456,4603893554496,24675964279680,114402835995392,469601097840640,1737913582100864,5882030372643968,18417596366384512,53854324059153920,148209412582029184,386390343290393024,959556901097413696 ⋆ Number of ways to place 9 nonattacking bishops on an n X n board. • a(n) = n ^ 18 / 362880 - n ^ 17 / 7560 + 181n ^ 16 / 60480 - 14509n ^ 15 / 340200 + 2101n ^ 14 / 4860 - 101071n ^ 13 / 30240 + 112406401n ^ 12 / 5443200 - 143351879n ^ 11 / 1360800 + 2465350549n ^ 10 / 5443200 - 14081834n ^ 9 / 8505 + 55888723201n ^ 8 / 10886400 - 6055816813n ^ 7 / 453600 + 155816526107n ^ 6 / 5443200 - 13489156949n ^ 5 / 272160 + 183801705823n ^ 4 / 2721600 - 15816472541n ^ 3 / 226800 + 30820237351n ^ 2 / 604800 - 919392091n / 40320 + 1101239 / 256 + (- n ^ 12 / 5760 + 11n ^ 11 / 1440 - 113n ^ 10 / 720 + 51793n ^ 9 / 25920 - 202873n ^ 8 / 11520 + 3428791n ^ 7 / 30240 - 1050169n ^ 6 / 1920 + 8590259n ^ 5 / 4320 - 1034689n ^ 4 / 192 + 68481311n ^ 3 / 6480 - 81534479n ^ 2 / 5760 + 465686363n / 40320 - 1101239 / 256) * (- 1) ^ n. •

[**A224461**] • 1636,35877,358267,2593671,15836671,87269679,449795599,2213852367,10541202511,48969228111,223231118671,1002642454863,4450100228431,19559951884623,85281094811983,369296144564559,1589885770858831,6810377914286415,29044914697011535,123393405571563855 ⋆ The Wiener index of Wang's helicene-based dendrimer defined pictorially as DNS_2[n] in the Shabani et al. reference. • a(n) = 335 + 2 ^ n * (6858 * n + 37319 / 2) + 4 ^ n * (6561 * n - 37989 / 2). •

[**A158775**] • 1640,6440,14440,25640,40040,57640,78440,102440,129640,160040,193640,230440,270440,313640,360040,409640,462440,518440,577640,640040,705640,774440,846440,921640,1000040 ⋆ 1600n^2 + 40. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). [R. J. Mathar, Jul 26 2009] •

[**A272127**] • 1,1641,26465,134953,427905,1046441,2172001,4026345,6871553,11010025,16784481,24577961,34813825,47955753,64507745,85014121,110059521,140268905,176307553,218881065,268735361,326656681,393471585,470469953,557289985 ⋆ a(n) = 1680*n^4 - 168*n^2 + 128*n + 1. • a(n) = (2 * n + 1) * (840 * n ^ 3 - 420 * n ^ 2 + 126 * n + 1). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5), for n>4 •

[**A060095**] • 0,0,0,0,0,1680,27342,208302,1099602,4636072,16734438,53810484,158053119,431305959,1106791524,2694914978,6269281305,14010246285,30208869495,63074014815,127909521180,252581107180,486738385140 ⋆ Number of 7-block ordered bicoverings of an unlabeled n-set. • a(n) = binomial(n + 20, n) - 7 * binomial(n + 14, 14) - 21 * binomial(n + 10, 10) + 42 * binomial(n + 9, 9) + 105 * binomial(n + 6, 6) - 140 * binomial(n + 5, 5) + 105 * binomial(n + 4, 4) - 420 * binomial(n + 3, 3) + 35 * binomial(n + 2, 2) + 1050 * binomial(n + 1, 1) - 1050 * binomial(n, 0) + 300 * binomial(n - 1, - 1); G.f.: y ^ 5 * (- 1680 - 7005635 * y ^ 7 + 5039622 * y ^ 6 - 2707236 * y ^ 5 + 1022210 * y ^ 4 - 232680 * y ^ 3 + 13080 * y ^ 2 + 7938 * y - 5250 * y ^ 15 + 300 * y ^ 16 + 43050 * y ^ 14 - 6227505 * y ^ 9 + 4042780 * y ^ 10 + 7485450 * y ^ 8 - 219485 * y ^ 13 + 778260 * y ^ 12 - 2033220 * y ^ 11) / (- 1 + y) ^ 21; E.g.f. for k - block ordered bicoverings of an unlabeled n - set is exp(- x - x ^ 2 / 2 * y / (1 - y)) * Sum _{ k = 0..inf } 1 / (1 - y) ^ binomial(k, 2) * x ^ k / k!. •

[**A065903**] • 1689,1741,3306,3894,4362,4587,4999,5754,6025,6371,6668,7012,7982,9054,9158,9695,9742,9832,10056,10664,11005,12027,12385,13676,13895 ⋆ Integers i > 1 for which there is no prime p such that i is a solution mod p of x^4 = 2. • a(n) = n - th integer i such that i ^ 4 - 2 has no prime factor > i. •

[**A157287**] • 1704,3432,5160,6888,8616,10344,12072,13800,15528,17256,18984,20712,22440,24168,25896,27624,29352,31080,32808,34536,36264,37992,39720,41448,43176 ⋆ a(n) = 1728*n - 24. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 28 2012 •

[**A157247**] • 1715,1781,1855,2009,2401,2989,3451,3821,4459,5831,6865,7679,9065,12005,15925,18851,21145,25039,33271,39409,44219,52381,69629,92561,109655 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+2401)^2 with integer x. • a(n)=6 * a(n - 9) - a(n - 18) for n > 18; a(1)=1715, a(2)=1781, a(3)=1855, a(4)=2009, a(5)=2401, a(6)=2989, a(7)=3451, a(8)=3821, a(9)=4459, a(10)=5831, a(11)=6865, a(12)=7679, a(13)=9065, a(14)=12005, a(15)=15925, a(16)=18851, a(17)=21145, a(18)=25039. •

[**A194719**] • 0,1,1716,54573,492724,2467137,8786436,25066621,61189668,133071009,264735892,490704621,858686676,1432583713,2295801444,3554870397,5343375556,7826194881,11204046708,15718346029,21656369652,29356730241,39215159236,51690598653,67311601764 ⋆ Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting seven doublets into the initially empty word. • a(0) = 0, a(n) = 1 + (12 + (65 + (208 + (429 + (572 + 429 * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1) for n>0. •

[**A017523**] • 0,1728,13824,46656,110592,216000,373248,592704,884736,1259712,1728000,2299968,2985984,3796416,4741632,5832000,7077888,8489664,10077696,11852352,13824000,16003008,18399744,21024576,23887872 ⋆ (12n)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4) for n>3. - _ Vincenzo Librandi _ , Jul 05 2014 •

[**A138129**] • 0,1729,3458,5187,6916,8645,10374,12103,13832,15561,17290,19019,20748,22477,24206,25935,27664,29393,31122,32851,34580,36309,38038,39767,41496 ⋆ Multiples of 1729, the Hardy-Ramanujan number. • a(n) = 1729 * n. •

[**A130859**] • 1,1729,5184,10366,17275,25911,36274,48364,62181,77725,94996,113994,134719,157171,181350,207256,234889,264249,295336,328150,362691,398959,436954,476676,518125 ⋆ 1729-gonal numbers. • a(n) = (1727n ^ 2 - 1725n) / 2. •

[**A286217**] • 1729,11339,49321,146969,386389,1089019,1221191,3864241,5171489,12640949,18181979,21243961,43974269,51881689,178433279,208506509,230324329,278421569,393806449,849244031,932539661,1341880019,1416207439,1672403471,1829232539 ⋆ Product of the n-th sexy prime triple. • a(n) = s(n) * (s(n) + 6) * (s(n) + 12), where s = A046118. •

[**A280428**] • 1729,13832,46683,110656,216125,373464,593047,885248,1260441,1729000,2301299,2987712,3798613,4744376,5835375,7081984,8494577,10083528,11859211,13832000,16012269,18410392,21036743,23901696,27015625 ⋆ a(n) = 1729*n^3. • a(n) = n ^ 3 * 1729. •

[**A130876**] • 1,1730,5188,10375,17291,25936,36310,48413,62245,77806,95096,114115,134863,157340,181546,207481,235145,264538,295660,328511,363091,399400,437438,477205,518701 ⋆ Centered 1729-gonal numbers. • a(n) = 1 + (1729 / 2) * n + (1729 / 2) * n ^ 2. •

[**A157325**] • 1752,3480,5208,6936,8664,10392,12120,13848,15576,17304,19032,20760,22488,24216,25944,27672,29400,31128,32856,34584,36312,38040,39768,41496,43224 ⋆ 1728n + 24. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 26 2012 •

[**A271747**] • 1754,5649,20085,77133,315597,1362669,6164685,29058813,142084077,717966669,3737612685,19991467293,109605434157,614681711469,3519553748685,20540447808573,121996580169837,736352527581069,4510823754140685,28011087761890653,176122939449075117 ⋆ Number of set partitions of [n] such that 8 is the largest element of the last block. • a(n) = 64 + 91 * 2 ^ (n - 6) + 245 * 2 ^ (2 * n - 15) + 11 * 2 ^ (n - 7) * 3 ^ (n - 8) + 217 * 3 ^ (n - 7) + 161 * 5 ^ (n - 8) + 7 ^ (n - 8) for n>8. • a(n) = 28 * a(n - 1) - 322 * a(n - 2) + 1960 * a(n - 3) - 6769 * a(n - 4) + 13132 * a(n - 5) - 13068 * a(n - 6) + 5040 * a(n - 7) for n>15. •

[**A165678**] • 1764,8028,24552,60216,127860,245004,434568,725592,1153956,1763100,2604744,3739608,5238132,7181196,9660840,12780984,16658148,21422172,27216936,34201080,42548724,52450188,64112712,77761176,93638820 ⋆ Sixth right hand column of triangle A165674 • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) • a(n) = 120 + 548 * n + 675 * n ^ 2 + 340 * n ^ 3 + 75 * n ^ 4 + 6 * n ^ 5 •

[**A134155**] • 1,1807,21883,100801,303829,720931,1466767,2680693,4526761,7193719,10895011,15868777,22377853,30709771,41176759,54115741,69888337,88880863,111504331,138194449,169411621,205640947,247392223,295199941 ⋆ a(n) = 1 + 21 n + 168 n^2 + 588 n^3 + 1029 n^4. • a(n) = 3(7n + 1) ^ 4 + 6(7n + 1) ^ 2 - 3 (7n + 1) + 1) / 7. •

[**A156636**] • 1820,6214,10608,15002,19396,23790,28184,32578,36972,41366,45760,50154,54548,58942,63336,67730,72124,76518,80912,85306,89700,94094,98488,102882,107276 ⋆ 4394n + 1820. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A051355**] • 0,0,0,0,1855,41873,473414,3759915,23805016,127946132,605565989,2584498046,10113002933,36729043255,124992460002,401590336403,1225697257191,3571954259819,9982155789012,26849512929685 ⋆ A class of Boolean functions of n variables and rank 5. • a(n) = n * (n - 1) * (n - 2) * (n - 3) * (n ^ 27 + 502 * n ^ 26 + 120801 * n ^ 25 + 18555450 * n ^ 24 + 2043896145 * n ^ 23 + 171959382510 * n ^ 22 + 11492866392285 * n ^ 21 + 626595483118170 * n ^ 20 + 28395669619525335 * n ^ 19 + 1084042810491338490 * n ^ 18 + 35186149524510636675 * n ^ 17 + 976432949265387426270 * n ^ 16 + 2321792924499779746711 5 * n ^ 15 + 4727216727190782457654 50 * n ^ 14 + 8216952280925937854382 55 * n ^ 13 + 12145317029106931870142 6670 * n ^ 12 + 15215414913609275083667 55180 * n ^ 11 + 16143766722952584357123061 0 80 * n ^ 10 + 14531609958815322892575225 0320 * n ^ 9 + 1109949254515099247776167957920 * n ^ 8 + 7130381649450829873015538236224 * n ^ 7 + 37568515430020522274235444451968 * n ^ 6 + 155312604093406761927342466801664 * n ^ 5 + 454096256426890805548935873515520 * n ^ 4 + 5915522913286595778378396979200 00 * n ^ 3 - 167519272257233476553272965120 0000 * n ^ 2 - 104195193057267739832711784038400 00 * n - 167058140647845788108376440832000 00) / 31!. •

[**A120809**] • 1859,357911,2141399,4641629,6633419,8447039,10338119,13526009,20163059,21603425,24099569,26187119,26483321,28226549,33379569,33485139,40790009,50139819,52046075,56152179,57170075,59824925,72541799 ⋆ Integers of the form p^2*q in A120806: x+d+1 is prime for all divisors d of x. Both p and q are odd primes, with p and q distinct. See A054753. • a(n) = n - th element of A120806 of the form p ^ 2 * q where p and q are distinct odd primes. •

[**A127410**] • 1875,25920,184877,917504,3582306,11760000,33820710,87588864,208295373,461452992,962836875,1908408320,3617795636,6595852032,11617856508,19845120000,32979115575,53463778368,84747328281,131616866304,200621093750,300598812800,443333396610 ⋆ Negative value of coefficient of x^(n-5) in the characteristic polynomial of a certain n X n integer circulant matrix. • a(n + 4) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) ^ 5 * (4 * n + 32) / (2 *

6!) for n>=1. • a(n) = (4 * n ^ 10 - 24 * n ^ 9 - 20 * n ^ 8 + 360 * n ^ 7 - 704 * n ^ 6 + 384 * n ^ 5) / (2 * 6!) for n>=5. •

[A157760] • 1898,9325,22370,41033,65314,95213,130730,171865,218618,270989,328978,392585,461810,536653,617114,703193,794890,892205,995138,1103689,1217858,1337645,1463050,1594073,1730714 ⋆ 2809n^2 - 1000n + 89. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157448] • 1921,7937,18049,32257,50561,72961,99457,130049,164737,203521,246401,293377,344449,399617,458881,522241,589697,661249,736897,816641,900481,988417,1080449,1176577,1276801 ⋆ 2048n^2 - 128n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 •

[A221015] • 1932,53181,650751,5617899,40053075,253523331,1481003043,8169745635,43181452131,220829474403,1100143233123,5365599704163,25713603050595,121424081661027,566235515047011,2612143455243363,11937564067826787,54106970144246883 ⋆ The hyper-Wiener index of the dendrimer G_n , defined pictorially in the Ashrafi - Shabani - Diudea reference. • a(n) = 3171 + 2 ^ (n - 1) * (- 810 * n ^ 2 + 3240 * n - 35583) + 4 ^ (n - 1) * (11664 * n ^ 2 - 38232 * n + 58482). •

[A227491] • 1932,305592,6162360,67702236,555929988,3858461844,240382235540,1390119298 44,761612920692,4005957732468,20412297267828,101407748443764,493489861416564,2360705148118644,11131067755529844,51842363941865076,238902338228766324 ⋆ The hyper-Wiener index of the nanostar dendrimer D_n, defined pictorially in the Ghorbani et al. references and recursively in the Deutsch et al. reference. • a(n) = 116340 - 2 ^ n * 1429983 / 2 + 4 ^ n * 4790367 / 8 - 4 ^ n * 2685555 * n / 8 + 4 ^ n * 263169 * n ^ 2 / 4. •

[A157627] • 1960,9960,17960,25960,33960,41960,49960,57960,65960,73960,81960,89960,97960,105960,113960,121960,129960,137960,145960,153960,161960,169960,177960,185960,193960 ⋆ 8000n - 6040. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A166876] • 1983,1984,1986,1989,1994,2002,2015,2036,2070,2125,2214,2358,2591,2968,3578,4565,6162,8746,12927,19692,30638,48349,77006,123374,198399 ⋆ a(n) = a(n-1) + Fibonacci(n), a(1)=1983. • a(n) = 2 * a(n - 1) - a(n - 3). •

[A104400] • 2002,2288,2508,2652,2673,2793,2872,2877,2933,2968,2988,2998,3002,3037,3107,3157,3158,3241,3297,3323,3327,3332,3352,3362,3366 ⋆ Sums of 10 distinct positive pentatope numbers (A000332). • a(n) = Ptop(b) + Ptop(c) + Ptop(d) + Ptop(e) + Ptop(f) + Ptop(g) + Ptop(h) + Ptop(i) + Ptop(j) + Ptop(k) for some positive b= / =c= / =d= / =e= / =f= / =g= / =h= / =i= / =j= / =k and Ptop(n) = binomial(n + 3,4). •

[A153779] • 2009,4655,4949,9065,9947,13475,14945,15239,17297,25235,26117,32585,33467,37877,39935,44639,47285,52577,56399,59339,59927,61985,62867,64925,72275 ⋆ Numbers of the form 49*k, where 49*k+2 and 49*k-6 are both prime. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Aug 28 2016 •

[A156855] • 2024,8098,18222,32396,50620,72894,99218,129592,164016,202490,245014,291588,342212,396886,455610,518384,585208,656082,731006,809980,893004,980078,1071202,1166376,1265600 ⋆ 2025n^2 - n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A156856] • 2026,8102,18228,32404,50630,72906,99232,129608,164034,202510,245036,291612,342238,396914,455640,518416,585242,656118,731044,810020,893046,980122,1071248,1166424,1265650 ⋆ 2025*n^2 + n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: 2x(1013 + 1012x) / (1 - x) ^ 3. - _ R. J. Mathar _ , Mar 09 2009 •

[A098808] • 2037,4085,8181,16373,32757,65525,131061,262133,524277,1048565,2097141,4194293,8388597,16777205,33554421,67108853,134217717,268435445,536870901,1073741813,2147483637,4294967285,8589934581,17179869173 ⋆ a(n) = 2^(n + 11) - 11. • a(n) = 3 * a(n - 1) - 2 * a(n - 2). •

[A075950] • 2047,129055,932067,3299692,5548725,25323961,42250958,202390343,806394569,1409681880,2492481691,12894763567,21811487392,103089080516,176362268954,824702327536,1378954303613,2508261212719 ⋆ Basis for code in A075949. • a(n) = b(2 ^ n), where b is A075949, the binary lexicode, d=11 . •

[A258812] • 0,2047,177146,4194303,48828124,362797055,1977326742,8589934591,31381059608,99999999999,285311670610,743008370687,1792160394036,4049565169663,8649755859374,17592186044415,34271896307632,64268410079231,116490258898218,204799999999999 ⋆ a(n) = n^11 - 1. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12). •

[A195659] • 2048,148352,3076180,33175486,239238888,1314160492,5937279840,23174548666,80812754568,257860425672,766319864440,2149806985106,5753007728148,14807729805472,36902750545260,89523360235366,212335537312668,494171055510052,1131839140825580 ⋆ Number of ways to place 10n nonattacking kings on a vertical cylinder 20 X 2n. • a(n) = (296191755 * n - 3519976573) * 2 ^ n + 524495 / 2016 * n ^ 8 + 4217363 / 504 * n ^ 7 + 2363921 / 16 * n ^ 6 + 66422455 / 36 * n ^ 5 + 557314865 / 32 * n ^ 4 + 8943856601 / 72 * n ^ 3 + 322704776641 / 504 * n ^ 2 + 90034143925 / 42 * n + 3519976574. •

[A096963] • 1,2048,177148,4194304,48828126,362799104,1977326744,8589934592,31381236757,100000002048,285311670612,743012564992,1792160394038,4049565171712,8649804864648,17592186044416,34271896307634 ⋆ Sum {0<d|n, n/d odd} d^11. • a(n) = Sum { 0<d|n, n / d odd } d ^ 11. •

[A234740] • 2048,179195,49007320,2026334063,287338004674,2079498398711,36351394706344,152841653604563,1105651411518490,13306161177224319,38714638073629150,216632259853089563,766961291569338004,1696255031040560711,4168414246124573014,13437450175496764611 ⋆ Sum of the eleventh powers of the first n primes. • a(n) = sum(k = 1 .. n, prime(k) ^ 11). •

[A123095] • 0,1,2049,179196,4373500,53201625,415998681,2393325424,109832600 16,42364319625,142364319625,427675990236,1170684360924,2962844754961,7012409924625,15662165784000,33254351828416,67526248136049 ⋆ Sum of first n 11th powers. • a(n) = n ^ 2 * (n + 1) ^ 2 * (2 * n ^ 8 + 8 * n ^ 7 + 4 * n ^ 6 - 16 * n ^ 5 - 5 * n ^ 4 + 26 * n ^ 3 - 3 * n ^ 2 - 20 * n + 10) / 24. - _ Bruno Berselli _ , Oct 03 2010 • a(n)= - sum(j=1..11, j * s(n + 1,n + 1 - j) * S(n + 11 - j,n)), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 •

[A253711] • 1,2050,181246,4554746,57756371,473755052,2867080476,13850340492,56214660117,198578979742,626254969978,1796939330902,4759784085863,11772194010488,27434359794488,60688711622904,128214959758953,260009617974234,508294535087734,961379452201234,1764741869856955,3152422588924004,5492913065904980 ⋆ Second partial sums of 11th powers (A008455). • a(n) = n * (n + 1) * (n + 2) * (70 * n ^ 10 + 700 * n ^ 9 + 2310 * n ^ 8 + 1680 * n ^ 7 - 4655 * n ^ 6 - 4410 * n ^ 5 + 8240 * n ^ 4 + 4120 * n ^ 3 - 7819 * n ^ 2 + 202 * n + 1382) / 10920. • a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 11. •

[A221052] • 2071,73675,796915,5807107,35057827,190384867,967962979,4709311075,22210776163,102384824419,463801636963,2072447248483,9159135201379,40114693752931,174372925524067,753151386437731,3235250457266275,13831593842428003 ⋆ The Wiener index of the nanostar dendrimer NSC_5C_6[n], defined pictorially in the A. R. Ashrafi et al. reference and in the M. Rostami et al. reference. • a(n) = - 14237 + 46170 * 2 ^ n - 32004 * 4 ^ n + 12960 * n * 4 ^ n + 72 * n * 2 ^ n. •

[A194605] • 0,0,0,2080,27768,181032,807040,2817240,8271480,21328048,49692672,106717680,214322680,406928280,736614528,1279735912,2145244920,3484996320,5506324480,8487206208,12794341752,18904506760,27429548160,39145417080,55025652088 ⋆ Number of ways to place 2 nonattacking kings on an n X n X n X n raumschach board (four-dimensional chessboard). • a(n) = (n ^ 8 - (3 * n - 2) ^ 4) / 2 for n>0. •

[A224438] • 2083,49057,599137,5290465,38816833,252649537,1512820417,8522867905,45851773633,237985012417,1200461013697,5916834366145,28610917655233,136152093909697,639176875958977,2965915539989185,13624215530365633,62033920525853377,280263192943256257 ⋆ The hyper-Wiener index of the nanostar dendrimer NS_1[n], defined pictorially in the A. R. Ashrafi et al. reference. • a(n) = - 7487 + (- 59832 - 10740n + 4200n ^ 2) * 2 ^ n + (69402 - 36480n + 14400n ^ 2) * 4 ^ n. •

[A201917] • 0,2085,2325,5253,6141,6293,7728,10013,11960,12920,14637,16940,17112,18737,21648,21948,23541,24633,26588,27716,31620,33012,34937,35145,38012 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2 + (x+84847)^2 = y^2. • a(n) = a(n - 1) + 6 * a(n - 81) - 6 * a(n - 82) - a(n - 162) + a(n - 163), where the 163 initial terms can be computed using the Mathematica program. The initial terms begin with 0 and end with 1696940 . •

[A157768] • 2135,44608,141531,292904,498727,759000,1073723,1442896,1866519,2344592,2877115,3464088,4105511,4801384,5551707,6356480,7215703,8129376,9097499,10120072,11197095,12328568,13514491,14754864,16049687 ⋆ 27225n^2 - 39202n + 14112. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A118576] • 0,2145,3773,6468,8540,12005,19208,24521,28665,35672,41148,50421,61388,69972,84525,95921,115248,156065,186480,210308,250733,282405,336140,399797,449673 ⋆ Nonnegative values x of solutions (x, y) to the Diophantine equation x^2+(x+16807)^2 = y^2. • a(n) = 6 * a(n - 11) - a(n - 22) + 33614 for n > 22; a(1) = 0, a(2) = 2145, a(3) = 3773, a(4) = 6468, a(5) = 8540, a(6) = 12005, a(7) = 19208, a(8) = 24521, a(9) = 28665, a(10) = 35672, a(11) = 41148, a(12) = 50421, a(13) = 61388, a(14) = 69972, a(15) = 84525, a(16) = 95921, a(17) = 115248, a(18) = 156065, a(19) = 186480, a(20) = 210308, a(21) = 250733, a(22) = 282405. •

[A157476] • 2177,8449,18817,33281,51841,74497,101249,132097,167041,206081,249217,296449,347777,403201,462721,526337,594049,665857,741761,821761,905857,994049,1086337,1182721,1283201 ⋆ 2048n^2 + 128n + 1. • a(1)=2177, a(2)=8449, a(3)=18817, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). (End) •

[A157853] • 2177,11376,27775,51374,82173,120172,165371,217770,277369,344168,418167,499366,587765,683364,786163,896162,1013361,1137760,1269359,1408158,1554157,1707356,1867755,2035354,2210153 ⋆ 3600n^2 - 1601n + 178. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A194585] • 2184,27830,32214,57860,62244,87890,92274,117920,122304,147950,152334,177980,182364,208010,212394,238040,242424,268070,272454,298100,302484,328130,332514,358160,362544 ⋆ Starting points of stapled intervals of length 17. • a(n) = (- 15031 + 10631 * (- 1) ^ n + 30030 * n) / 2. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A215960] • 2186,75938,745418,3959426,14704202,43261346,108110858,239479298,483533066,907216802,1603736906,2698690178,4356837578,6789523106,10262737802,15105828866,21720853898,30592580258,42299129546,57523267202,77064337226,101850842018 ⋆ First differences of A016759. • a(n) = 2 * (7 * t * (t * (t + 17) + 91) + 1093), where t=4 * n * (n + 2). [_ Bruno Berselli _ , Aug 29 2012] •

[A059979] • 1,2187,279936,10000000,170859375,1801088541,13492928512,78364164096,373669453125,1522435234375,5455160701056,17565568854912,51676101935731,140710042265625,358318080000000,860542568759296,1962637152460137,4275360817613091,8938717390000000 ⋆ Number of 7-dimensional cage assemblies. • a(n) = n ^ 7 * (1 + n) ^ 7 / 128. •

[A017563] • 2187,170859375,10460353203,137231006679,897410677851,3938980639167,13348388671875,37725479487783,93206534790699,207616015289871,425927596977747,817215093984375,1483273860320763,2569093262823519 ⋆

(12n+3)^7. • a(0)=2187, a(1)=170859375, a(2)=10460353203, a(3)=137231006679, a(4)=897410677851, a(5)=3938980639167, a(6)=13348388671875, a(7)=37725479487783, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Sep 12 2015 •

[A085442] • 1,2188,282124,10282124,181141499,1982230040,15475158552,93839322648,467508775773,1989944010148,7445104711204,25010673566116,76686775501847,217396817767472,575714897767472,1436257466526768,3398894618986905,7674255436599996,16612972826599996 ⋆ a(n) = Sum_(i=1..n) C(i+1,2)^7. • a(n) = (1 / 823680) * n * (n + 1) * (n + 2) * (429 * n ^ 12 + 5148 * n ^ 11 + 24123 * n ^ 10 + 52470 * n ^ 9 + 43047 * n ^ 8 - 8856 * n ^ 7 + 4109 * n ^ 6 + 50430 * n ^ 5 - 18796 * n ^ 4 - 44472 * n ^ 3 + 26864 * n ^ 2 + 8352 * n - 5568). - _ Vladeta Jovovic _ , Jul 07 2003 •

[A134158] • 1,2191,24583,109513,324013,759811,1533331,2785693,4682713,7414903,11197471,16270321,22898053,31369963,42000043,55126981,71114161,90349663,113246263,140241433,171797341,208400851,250563523,298821613,353736073 ⋆ a(n) = 1 + 27n + 252n^2 + 882n^3 + 1029n^4. • a(n) = (3(7n + 1) ^ 4 + 6(7n + 1) ^ 3 - 3 (7n + 1) + 1) / 7. • a(n) = (Sum _{ k=1..7n + 1 } k ^ 6) / (Sum _{ k=1..7n + 1 } k ^ 2). • a(n) = 5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5) for n>4. - _ Colin Barker _ , Aug 12 2017 •

[A227488] • 2192,75884,811076,5876276,35361428,191654996,973156820,4730314964,22295250644,102723642068,465158748884,2077879380692,9180871101140,40201652095700,174720788384468,754542896859860,3240816616917716 ⋆ The Wiener index of the nanostar dendrimer NSC_5C_6[n], defined pictorially in the Ashrafi et al. and the Rostami et al. references. • a(n) = - 13612 + 2 ^ n * (72 * n + 45270) + 4 ^ n * (12960 * n - 31680). •

[A017535] • 1,2197,15625,50653,117649,226981,389017,614125,912673,1295029,1771561,2352637,3048625,3869893,4826809,5929741,7189057,8615125,10218313,12008989,13997521,16194277,18609625,21253933,24137569 ⋆ a(n) = (12*n+1)^3. • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4), for n>3. - _ Vincenzo Librandi _ , May 26 2016 •

[A114360] • 1,2207,12389,25147,38017,50887,63757,76627,89497,102367,115237,128107,140977,153847,166717,179587,192457,205327,218197,231067,243937,256807,269677,282547,295417 ⋆ Let M(n) be the n X n matrix m(i,j)=min(i,j) for 1<=i,j<=n then a(n) is the trace of M(n)^(-8). • a(n) = 12870n - 26333, with n> 3, a(1)=1, a(2)=2207, a(3)=12389. • a(n) = 2 * a(n - 1) - a(n - 2) for n>5. G.f.: x * (1 + 2205 * x + 7976 * x ^ 2 + 2576 * x ^ 3 + 112 * x ^ 4) / (1 - x) ^ 2. [Colin Barker, Mar 18 2012] •

[A257826] • 2222,2530,39358,55990,872938,994598,15506810,22059818,343935350,391869082,6109643782,8691512302,135509654962,154395423710,2407184143298,3424433787170,53390460119678,60831405072658,948424442815630,1349218220632678,21035705777498170 ⋆ Positive integers whose square is the sum of 88 consecutive squares. • a(n) = 394 * a(n - 4) - a(n - 8). •

[A287701] • 0,1,2252,111753,1297504,7120505,25461756,70250257,163191008,335493009,629597260,1100904761,1819504512,2871901513,4362744764,6416555265,9179454016,12820890017,17535368268,23544177769,31097119520,40474234521,51987531772,65982716273,82840917024 ⋆ a(n) = (5!)^3 * [z^5] hypergeom([], [1,1], z)^n. • a(n) = 163476 * n - 375375 * n ^ 2 + 305500 * n ^ 3 - 108000 * n ^ 4 + 14400 * n ^ 5. • a(n) = [x ^ n] (x + 2246 * x ^ 2 + 98256 * x ^ 3 + 660746 * x ^ 4 + 966751 * x ^ 5) / (1 - x) ^ 6. •

[A257825] • 2257,2849,21941,27713,604765,763865,16669573,21054961,162316669,205018517,4474051285,5651073085,123321498797,155764598629,1200818695321,1516726961053,33099030801665,41806637918965,912332431430633,1152346479602381,8883656545668089 ⋆ Positive integers whose square is the sum of 74 consecutive squares. • a(n) = 7398 * a(n - 6) - a(n - 12). •

[A259321] • 0,2304,290304,6386688,65235456,424030464,2038772736,7894388736,25960393728,75123949824,196144058880,470584857600,1051840857600,2213790808320,4424337967104,8453141250048,15525242320896,27535076464896,47338548401664,79144486327296 ⋆ a(n) = A259110(n)*A259323(n) - A259319(n)^2. • a(n) = (4096 * n ^ 10 - 15360 * n ^ 8 + 16128 * n ^ 6 - 5440 * n ^ 4 + 576 * n ^ 2) / 525. - _ Colin Barker _ , Jun 29 2015 •

[A247698] • 2308,4261,6569,10830,17399,28229,45628,73857,119485,193342,312827,506169,818996,1325165,2144161,3469326,5613487,9082813,14696300,23779113,38475413,62254526,100729939,162984465,263714404 ⋆ Brady numbers: B(n) = B(n - 1) + B(n - 2) with B(1) = 2308 and B(2) = 4261. • a(n) = a(n - 1) + a(n - 2). • a(n) = k * phi ^ n + o(1), where k = 976.5 + sqrt(354578.45) = 1571.96.... - _ Charles R Greathouse IV _ , Sep 28 2014 •

[A046303] • 2310,15015,85085,323323,1062347,2800733,6678671,14535931,31367009,58642669,95041567,162490421,259106347,385499687,600662303,907383479,1249792339,1673450759,2276990377,3024658859,4132280413,5717264681 ⋆ Product of 5 successive primes. • a(n) = Product _{ j=n..n + 4 } prime(j). - _ Jon E. Schoenfield _ , Jan 07 2015 • a(n) = n + O(n (log log n) ^ 3 / log n). - _ Charles R Greathouse IV _ , Apr 07 2017 •

[A075668] • 1,2315,374445,17703664,394340375,5265954441,48574262275,338837482880,1900477947429,8950536157375,36536761179281,132397570996560,433806511149115,1303971065324669,3637715990646375,9507513902672896 ⋆ Sum of next n 7th powers. • a(1)=1; a(n)=sum(i ^ s, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). • a(n)=(3n ^ 15 + 42n ^ 13 + 168n ^ 11 + 206n ^ 9 - 11n ^ 7 - 56n ^ 5 + 32n ^ 3) / 384. •

[A016984] • 0,2401,38416,194481,614656,1500625,3111696,5764801,9834496,15752961,24010000,35153041,49787136,68574961,92236816,121550625,157351936,200533921,252047376,312900721,384160000 ⋆ (7*n)^4. • a(0)=0, a(1)=2401, a(2)=38416, a(3)=194481, a(4)=614656, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Mar 05 2013 •

[A017476] • 2401,104976,707281,2560000,6765201,14776336,28398241,49787136,81450625,126247696,187388721,268435456,373301041,506250000,671898241,875213056,1121513121,1416468496,1766100625,2176782336 ⋆ (11*n+7)^4. • a(0)=2401, a(1)=104976, a(2)=707281, a(3)=2560000, a(4)=6765201, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Oct 21 2015 •

[A166931] • 2519,5039,7559,10079,12599,15119,17639,20159,22679,25199,27719,30239,32759,35279,37799,40319,42839,45359,47879,50399,52919,55439,57959,60479,62999 ⋆ Numbers n with property that n mod k is k-1 for all k = 2..9. • a(n) = 2519 + n * 2520. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A224542] • 2520,30240,226800,1367520,7271880,35692800,165957792,742822080,3234711480,13803744864,58021888080,241116750624,993313349544,4064913201216,16549636147968,67112688842496,271323921459096,1094303232174240,4405390451382960,17709538489849440 ⋆ Number of doubly-surjective functions f:[n]->[4]. • a(n) = 4 ^ n - 4 * 3 ^ n - 4 * n * 3 ^ (n - 1) + (9 * n + 3 * n ^ 2) * 2 ^ (n - 1) + 6 * 2 ^ n - 4 - 8 * n - 4 * n ^ 3; • a(n) = sum(n! / (i!j!k!m!) over <i,j,k,m> such that i,j,k, and m are all at least 2 and i + j + k + m =n. •

[A156627] • 2574,6968,11362,15756,20150,24544,28938,33332,37726,42120,46514,50908,55302,59696,64090,68484,72878,77272,81666,86060,90454,94848,99242,103636,108030 ⋆ 4394n - 1820. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A157609] • 2640,5302,7964,10626,13288,15950,18612,21274,23936,26598,29260,31922,34584,37246,39908,42570,45232,47894,50556,53218,55880,58542,61204,63866,66528 ⋆ 2662n - 22. • a(n) = 2 * a(n - 1) - a(n - 2) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A167191] • 2664,20568,68592,161616,314520,542184,859488,1281312,1822536,2498040,3322704,4311408,5479032,6840456,8410560,10204224,12236328,14521752,17075376,19912080,23046744,26494248,30269472,34387296,38862600 ⋆ 4*n*(1+45*n+620*n^2). • a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Jul 02 2012 •

[A157613] • 2684,5346,8008,10670,13332,15994,18656,21318,23980,26642,29304,31966,34628,37290,39952,42614,45276,47938,50600,53262,55924,58586,61248,63910,66572 ⋆ 2662n + 22. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 21 2012 •

[A054561] • 2700,118020,1220520 ⋆ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 5 2-simplexes and 12 1-simplexes. • a(n)=2700 * C(n, 6) + 99120 * C(n, 7) + 351960 * C(n, 8) + ... •

[A248109] • 0,1,2896,306827,8388608,109183006,888667667,5231514822,24296003999,94143178827,316227766016,946271759726,2573856496961,6461726194556,15152085430295,33500360392119,70368744177664,141306648466586 ⋆ Integer part of square root of A010811(n) = n^23. • a(n) = floor(sqrt(n ^ 23)). •

[A289228] • 0,2910,404746,12025068,165279612,1405048082,8605979390,41555851716,167529980320,586136559350,1829074790082,5193890370940,13625393372916,33410188057962,77284672892438,169909353488372,357177283295160,721559475338446,1406717921047994,2656028041092876 ⋆ Number of ways to select 7 disjoint point triples from an n X n X n triangular point grid, each point triple forming a 2 X 2 X 2 triangle. • a(n) = (n ^ 14 - 14 * n ^ 13 - 182 * n ^ 12 + 3416 * n ^ 11 + 9072 * n ^ 10 - 342062 * n ^ 9 + 296688 * n ^ 8 + 17893944 * n ^ 7 - 48845153 * n ^ 6 - 511039228 * n ^ 5 + 2041220174 * n ^ 4 + 7429535400 * n ^ 3 - 37737333320 * n ^ 2 - 41483946096 * n + 262680697440) / 5040 for n>=7. •

[A100896] • 3003,3113,3223,3333,3443,3553,3663,3773,3883,3993,310103,311113,312123,313133,314143,315153,316163,317173,318183,319193,320203,321213,322223,323233,324243 ⋆ Numbers with decimal expansion 3nn3. • a(n) = 3nn3 where n=0, 1, 2, 3, ... •

[A103523] • 3103,7107,13113,31131,37137,67167,73173,79179,97197,127227,139239,151251,157257,163263,181281,193293,211311,283383,331431,349449,367467,379479,409509,421521,457557 ⋆ Concatenations of pairs of primes that differ by 100. • a(n) = Concatenate(P, P + 100) iff P prime and P + 100 prime. •

[A115791] • 0,0,0,0,3125,97200,1932805,31539200,461828790,6332578125,8323518307 5,1063505908080,13327125965725,164758298214965,2017489363833125,24538128923443200,297028957324770140,3583456866615114630 ⋆ Number of different ways to select n elements from five sets of n elements under the precondition of choosing at least one element from each set. • a(n) = binomial(5 * n,n) - 5 * binomial(4 * n,n) + 10 * binomial(3 * n,n) - 10 * binomial(2 * n,n) + 5; ; also: a(n)=sum { binomial(n,i) * binomial(n,j) * binomial(n,k) * binomial(n,l) * binomial(n,m)||i,j,k,l,m=1...(n - 4),i + j + k + l + m=n } . General formula for N sets with m elements each: the number of different ways to select k elements from j different sets: G(N,m,j,k) = binomial(N,j) * sum(binomial(j,i) * binomial(i * m,k) * (- 1) ^ i * (- 1) ^ j|i=1...j); Recursion formula: G(N,m,j,k) = binomial(N,j) * binomial(j * m,k) - sum(binomial(N - i,j - i) * G(N,m,i,k)|i=1...j - 1); •

[A016853] • 0,3125,100000,759375,3200000,9765625,24300000,52521875,102400000,184528125,312500000,503284375,777600000,1160290625,1680700000,2373046875,3276800000,4437053125,5904900000,7737809375,10000000000,12762815625,16105100000,20113571875,24883200000 ⋆ a(n) = (5*n)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(0) = 0, a(1) = 3125, a(2) = 100000, a(3) = 759375, a(4) = 3200000, a(5) = 9765625. - _ Harvey P. Dale _ , Jul 11 2015 •

[A016973] • 3125,161051,1419857,6436343,20511149,52521875,115856201,229345007,418195493,714924299,1160290625,1804229351,2706784157,3939040643,5584059449,7737809375,10510100501,14025517307 ⋆ (6n+5)^5. • a(0)=3125

, a(1)=161051, a(2)=1419857, a(3)=6436343, a(4)=20511149, a(5)=52521875, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Sep 24 2014 ●

[A017129] ● 3125,371293,4084101,20511149,69343957,184528125,418195493,844596301,1564031349,2706784157,4437053125,6956883693,10510100501,15386239549,21924480357,30517578125,41615795893 ★ (8*n+5)^5. ● a(0)=3125, a(1)=371293, a(2)=4084101, a(3)=20511149, a(4)=69343957, a(5)=184528125, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) [From Harvey P. Dale, Oct 10 2011] ●

[A023309] ● 3181,9551,22051,30941,32621,61981,76651,99961,134291,151901,163661,185951,226691,227671,240551,288191,342821,374501,394411,402881,423781,426301,446461,456151,459091 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 3x + 8. ● a(n) == 1 or 31 (mod 70). - _ John Cerkan _ , Oct 04 2016 ●

[A023337] ● 3181,61981,134291,342821,459091,882451,984931,1016011,1028471,1181701,1391561,1897801,2009311,2272301,2476421,2769791,3048041,3085421,3128821,3207221,3545111,4092931,4690591,5015321,5863651 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 3x + 8. ● a(n) == 31 (mod 70). - _ John Cerkan _ , Oct 11 2016 ●

[A023308] ● 3203,21683,34613,52813,103843,116933,117443,165443,172933,193603,195053,213973,226783,321053,322193,357613,360323,362233,363403,368743,472393,474143,496333,518543,528673 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 3x + 4. ● a(n) == 33 or 53 (mod 70). - _ John Cerkan _ , Oct 04 2016 ●

[A261241] ● 3213,3950,4807,5796,6929,8218,9675,11312,13141,15174,17423,19900,22617,25586,28819,32328,36125,40222,44631,49364,54433,59850,65627,71776,78309 ★ One half of numbers representable in at least two different ways as sums of four nonvanishing cubes. See A259060 for these numbers and their representations. ● a(n) = (n + 9) * (2 * n ^ 2 + 36 * n + 357), n >= 0. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Aug 13 2015 ●

[A243217] ● 0,0,0,0,3388,157000,2135356,15836664,81324796,325679904,1088989348,3174085648,8301786980,19888285976,44304931948,92833927816,184597383660,350812701616,640815379476,1130391980512,1933082192404,3215240556392,5215796556572,8271817286296 ★ Number of 5-matchings of the n X n grid graph. ● a(n) = (4 * n ^ 10 - 20 * n ^ 9 - 100 * n ^ 8 + 640 * n ^ 7 + 635 * n ^ 6 - 7589 * n ^ 5 + 2370 * n ^ 4 + 39275 * n ^ 3 - 35789 * n ^ 2 - 74246 * n + 86580) / 15 for n>=5, a(4) = 3388, a(n) = 0 for n<=3. ●

[A221009] ● 3393,129171,1802955,16741275,125055483,817601211,4890505275,27466038075,147217502523,761318440251,3827379655995,18807535273275,90701268968763,430607210751291,2017310632781115,9343468205122875 ★ The hyper-Wiener index of the nanostar dendrimer D_3[n] , defined pictorially in the Alikhani - Iranmanesh reference. ● a(n) = 9531 - 2 ^ n * 168276 + 4 ^ n * (44100 * n ^ 2 - 92190 * n + 162138). ●

[A264450] ● 0,3519,8372,14805,23088,33516,46410,62118,81016,103509,130032,161051,197064,238602,286230,340548,402192,471835,550188,638001,736064,845208,966306,1100274,1248072 ★ a(n) = n*(n + 11)*(n + 22)*(n + 33)*(n + 44)/120. ● a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n>5. - _ Vincenzo Librandi _ , Nov 16 2015 ●

[A004972] ● 0,3572,7143,10714,14285,17856,21427,24998,28569,32140,35711,39282,42853,46424,49995,53566,57137,60708,64279,67850,71421,74992,78563,82134,85705 ★ Ceiling of n*phi^17, where phi is the golden ratio, A001622. ● a(n) = 3571 * n + 1 for n>0. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>2. ●

[A156845] ● 3588,15755,27922,40089,52256,64423,76590,88757,100924,1130911,125258,137425,149592,161759,173926,186093,198260,210427,222594,234761,246928,259095,271262,283429,295596 ★ 12167n - 8579. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A157857] ● 3599,14398,32397,57596,89995,129594,176393,230392,291591,359990,435589,518388,608387,705586,809985,921584,1040383,1166382,1299581,1439980,1587579,1742378,1904377,2073576,2249975 ★ 3600n^2 - n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 25 2012 ●

[A096472] ● 3600,7200,10800,14400,18000,21600,25200,28800,32400,36000,39600,43200,46800,50400,54000,57600,61200,64800,68400,72000,75600,79200,82800,86400,90000 ★ Numbers containing Pythagorean triples in their divisor set. ● a(n) = n * 60 ^ 2. ●

[A157861] ● 3601,14402,32403,57604,90005,129606,176407,230408,291609,360010,435611,518412,608413,705614,810015,921616,1040417,1166418,1299619,1440020,1587621,1742422,1904423,2073624,2250025 ★ 3600n^2 + n. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 25 2012 ●

[A221013] ● 3722,180552,2683436,25503780,192352212,1262648052,7564190516,42499015860,227766985652,1177463868852,5916913295796,29062281058740,140094358522292,664827881302452,3113397432740276,14415083971242420,66086948110494132,300376858346940852,1354914339889899956 ★ The hyper-Wiener index of the nanostar dendrimer G_n , defined pictorially in the Golriz - Darafsheh - Khalifeh reference. ● a(n) = 27060 + 2 ^ n * (- 4550 * n ^ 2 + 16990 * n - 243062) + 4 ^ n * (67600 * n ^ 2 - 133640 * n + 219724). ●

[A224436] ● 3722,1132836,20633828,209655204,1629644756,10870551924,65747845364,371694578676,2000609407220,10374914467572,52260870309620,257180428281588,1241655454635764,5899945032398580,27659536839358196,128183302103185140,588138999088428788,2675081423266133748,12074040181321512692 ★ The hyper-Wiener index of the polyphenylene dendrimer G[n] defined pictorially in the N. E. Arif et al. reference. ● a(n)=407284 + (- 2453054 + 211431n - 103545n ^ 2) * 2 ^ n + (2049492 - 1303920n + 608400n ^ 2) * 4 ^ n. ●

[A257780] ● 3854,5170,369890,496226,35505586,47632526,3408166366,4572226270,327148465550,438886089394,31402844526434,42128492355554,3014345926072114,4043896380043790,289345806058396510,388171923991848286,27774183035679992846,37260460806837391666 ★ Positive integers whose square is the sum of 47 consecutive squares. ● a(n) = 96 * a(n - 2) - a(n - 4). ●

[A283026] ● 0,1,3876,1929501,183181376,6419043125,118091211876,1388168405001,117453111589376,7727980165100 1,416916712502500,1915356782994501,7705740009485376,27731516944463501,90762229896563876,273716119247180625,768684707117285376,2027695320242670001 ★ Number of inequivalent 4 X 4 matrices with entries in {1,2,3,..,n} up to row permutations. ● a(n) = n ^ 4 * (n ^ 4 + 1) * (n ^ 4 + 2) * (n ^ 4 + 3) / 24 ●

[A068240] ● 1,3906,3000366,414425080,19064362455,428429377026,5861180425996,55823546748096,403783634784285,2353615149832210,11531349080992026,48981767072238936,184656623163700051,629125059062885490,1964498083904451964 0,5691311662142685376 ★ 1/2 the number of colorings of a 4 X 4 square array with n colors. ● a(n) = n * (n - 1) * (n ^ 14 - 23 * n ^ 13 + 253 * n ^ 12 - 1762 * n ^ 11 + 8675 * n ^ 10 - 31939 * n ^ 9 + 90723 * n ^ 8 - 202160 * n ^ 7 + 355622 * n ^ 6 - 492434 * n ^ 5 + 529770 * n ^ 4 - 430857 * n ^ 3 + 251492 * n ^ 2 - 94782 * n + 17493) / 2. ●

[A060896] ● 1,1,4033,530713,16773121,244125001,2176735681,13841169553,68719214593,282429005041,999999000001,3138426605161,8916097462273,23298080295673,56693904845761,129746326500001,281474959933441,582622213092193 ★ n^12 - n^6 + 1. ● a(0)=1, a(1)=1, a(2)=4033, a(3)=530713, a(4)=16773121, a(5)=244125001, a(6)=2176735681, a(7)=13841169553, a(8)=68719214593, a(9)=282429005041, a(10)=999999000001, a(11)=3138426605161, a(12)=8916097462273, a(n)=13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13). - _ Harvey P. Dale _ , Dec 16 2013 ●

[A118060] ● 1,4060,11481,22264,36409,53916,74785,99016,126609,157564,191881,229560,270601,315004,362769,413896,468385,526236,587449,652024,719961,791260,865921,943944,1025329 ★ 1681*n^2 - 984*n - 696. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (1 + 4057 * x - 696 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Jul 01 2012 ● a(n) + (a(n) + 1) + ... + (a(n) + 1681n + 1188) = (a(n) + 1681n + 1189) + ... + a(n + 1) - 1; a(n + 1) - 1 = a(n) + 3362n + 696. ● a(n) + (a(n) + 1) + ... + (a(n) + 1681n + 1188)=41(41n - 12)(41n + 29)(82n + 17) / 2; e.g., 11481 + 11482 + ... + 17712=90965388=41 * 111 * 152 * 263 / 2. ●

[A075953] ● 4095,258111,1864135,6599385,11097450,50647922,84501916,404780686,1612789139,2819363761,4984963383,25789527134,43622974785,206178161033,352724537908,1649404655073,2757908607226,5016522425438 ★ Basis for code in A075952. ● a(n) = b(2 ^ n), where b is A075952, the binary lexicode, d=12. ●

[A123868] ● 0,4095,531440,16777215,244140624,2176782335,13841287200,68719476735,282429536480,999999999999,3138428376720,8916100448255,23298085122480,56693912375295,129746337890624,281474976710655,582622237229760,1156831381426175,2213314919066160 ★ a(n) = n^12 - 1. ● a(n) = 13 * a(n - 1) - 78 * a(n - 2) + 286 * a(n - 3) - 715 * a(n - 4) + 1287 * a(n - 5) - 1716 * a(n - 6) + 1716 * a(n - 7) - 1287 * a(n - 8) + 715 * a(n - 9) - 286 * a(n - 10) + 78 * a(n - 11) - 13 * a(n - 12) + a(n - 13) for n > 12. ●

[A016782] ● 1,4096,117649,1000000,4826809,16777216,47045881,113379904,244140625,481890304,887503681,1544804416,2565726409,4096000000,6321363049,9474296896,13841287201,19770609664,27680640625 ★ a(n) = (3*n+1)^6. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). (End) ●

[A195660] ● 4096,433500,11682296,153802520,1301236304,8155899320,41180193352,176740657340,668845118276,2290966142762,7241521734020,21437333168798,60123048359816,161217291701134,416373921218580,1041997475699102,2539265644237492,6050425313244116 ★ Number of ways to place 11n nonattacking kings on a vertical cylinder 22 X 2n. ● a(n) = (4480441703 * n - 59644067185) * 2 ^ n + 10913705 / 36288 * n ^ 9 + 219791627 / 20160 * n ^ 8 + 6663742261 / 30240 * n ^ 7 + 1542837967 / 480 * n ^ 6 + 314791170001 / 8640 * n ^ 5 + 311982683023 / 960 * n ^ 4 + 6333872421866 / 2835 * n ^ 3 + 56561301500209 / 5040 * n ^ 2 + 46445710897861 / 1260 * n + 59644067186. ●

[A017442] ● 4096,11390625,308915776,2565726409,12230590464,42180533641,117649000000,282429536481,606355001344,1194052296529,2194972623936,3814697265625,6327518887936,10090298369529,15557597153344 ★ (11n+4)^6. ● a(0)=4096, a(1)=11390625, a(2)=308915776, a(3)=2565726409, a(4)=12230590464, a(5)=42180533641, a(6)=117649000000, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, Feb 18 2012] ●

[A123094] ● 0,1,4097,535538,17312754,261453379,2438235715,16279522916,84998999652,367428536133,1367428536133,4505856912854,13421957361110,36720042483591,93413954858887,223160292749512,504635269460168,1087257506689929,2244088888116105,4457403807182266 ★ Sum of first n 12th powers. ● a(n) = n * (n + 1) * (2 * n + 1) * (105 * n ^ 10 + 525 * n ^ 9 + 525 * n ^ 8 - 1050 * n ^ 7 - 1190 * n ^ 6 + 2310 * n ^ 5 + 1420 * n ^ 4 - 3285 * n ^ 3 - 287 * n ^ 2 + 2073 * n - 691) / 2730. - _ Bruno Berselli _ , Oct 03 2010 ● a(n)= - sum(j=1..12, j * s(n + 1,n + 1 - j) * S(n + 12 - j,n)), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 ●

[A253712] ● 1,4098,539636,17852390,279305769,2717541484,18997064400,103996064052,471424600185,1838853136318,6344710049172,19766667410282,56486709893873,149900664752760,373060957502272,877696226962440,19649537336

52369,4209042621768474,8666446428950740,17219850236133006,331290815547 01913,61893315504320036 ★ Second partial sums of 12th powers (A008456). ● a(n) = (n + 1) ^ 2 * n * (n + 2) * (30 * n ^ 10 + 300 * n ^ 9 + 925 * n ^ 8 + 200 * n ^ 7 - 3022 * n ^ 6 - 772 * n ^ 5 + 7073 * n ^ 4 - 1228 * n ^ 3 - 7888 * n ^ 2 + 5528 * n - 691) / 5460. ● a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 12. ●

[A023346] ● 4259,174079,253369,275699,448859,527159,539639,649969,110150 9,1218559,1230629,1319729,1426889,1780939,1929899,1947109,1960919,2082469,2087419,2262409,2479619,2499169,2797999,2808359,2809439 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 7x + 6. ● a(n) == 9 (mod 10). - _ John Cerkan _ , Oct 24 2016 ●

[A101619] ● 4279,2646723,55909013009,1618362158587,47574827600981 ★ Semiprime super-Catalan numbers. ● a(n) is an element in the intersection of A001003 (super - Catalan numbers) and A001358 (semiprimes). ●

[A170786] ● 0,1,4352,807003,33685504,611328125,6535385856,48464682007,274945015808,1271126624409,5000500000000,17262535045811,53499182579712,151442855545813,396867717150464,973116755859375,2251834173423616,4952348310391217,10411581612480768 ★ a(n) = n^9*(n^4 + 1)/2. ● a(n) = 14 * a(n - 1) - 91 * a(n - 2) + 364 * a(n - 3) - 1001 * a(n - 4) + 2002 * a(n - 5) - 3003 * a(n - 6) + 3432 * a(n - 7) - 3003 * a(n - 8) + 2002 * a(n - 9) - 1001 * a(n - 10) + 364 * a(n - 11) - 91 * a(n - 12) - 14 * a(n - 13) + a(n - 14) for n>13. ●

[A111345] ● 4375,19684,7077889,7962625,34012225,100663297,129140164,452984833,459165025,544195585,644972545,918330049,5159780353,7346640385,8589934593,13947137605,14495514625,23219011585,27518828545,28991029249 ★ Pierpont 5-almost primes. 5-almost primes of form (2^K)*(3^L)+1. ● a(n) is in this sequence iff there exist nonnegative integers K and L such that Omega((2 ^ K) * (3 ^ L) + 1) = 5. ●

[A221007] ● 4470,80313,838203,6691695,45640599,281028327,1611684231,8775528135,45938694471,233201577543,1155025033287,5606760426567,26764943119431,125976656389191,585835748869191,2696106788684871,12295673426019399,55628446980244551,249899881384379463 ★ The hyper-Wiener index of the nanostar dendrimer NS[n], defined pictorially in the Karbasioun-Ashrafi-Diudea reference. ● a(n) = 1095 - 2 ^ n * 28971 + 4 ^ n * (11664 * n ^ 2 - 9720 * n + 32346). ●

[A157364] ● 4607,18817,42631,76049,119071,171697,233927,305761,387199,478241,578887,689137,808991,938449,1077511,1226177,1384447,1552321,1729799,1916881,2113567,2319857,2535751,2761249,2996351 ★ a(n) = 4802*n^2 - 196*n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A227482] ● 4644,101007,945783,6458535,37636839,200044647,1002825063,4831285095,22623961959,103728982887,467924253543,2083881950055,9184570923879,40135063034727,174128583269223,750870085229415,3220908204874599,13753353986104167,58492320032480103,247884935325539175,1047202439774446119 ★ The Wiener index of the nanostar dendrimer defined pictorially as NS[n] in the M. Mirzargar reference. ● a(n) = - 9369 + 2 ^ n * 74088 + 4 ^ n * (50625 * n - 60075). ●

[A226801] ● 4683,25988,87135,227304,507035,1014348,1871583,3242960,5342859,8444820,12891263,19103928,27595035,38979164,53985855,73472928,98440523,130045860,169618719,218677640,278946843,352373868,441147935,547719024,674817675 ★ Column 6 of array in A226513. ● a(n) = (n + 1) * (n ^ 5 + 35 * n ^ 4 + 430 * n ^ 3 + 2320 * n ^ 2 + 5525 * n + 4683). ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). ●

[A221005] ● 4797,18800,88530,500582,3112014,19362974,115754814,659875454,3602117886,18956429822,96789115902,482029987838,2351490682878,11274381991934,53269435990014,248554431348734,1147271095058430,5245861041405950,23788748016975870,107088865925791742,478941290597187582 ★ The hyper-Wiener index of the nanostar dendrimer NS[n], defined pictorially in the Wang-Hua reference. ● a(n) = - 2 + 2 ^ n * (1404 * n ^ 2 + 1764 * n - 3115) + 4 ^ n * (1296 * n ^ 2 - 4536 * n + 7914). ●

[A227495] ● 4797,135138,2268072,25678020,224320572,1649999532,10785747852,64824941388,366263505612,1974734612940,10266404558796,51852359848908,255825084304332,1238033348475852,5895322649598924,27690990109023180,128550270229863372,590735658025999308 ★ The hyper-Wiener index of the nanostar dendrimer D_n, defined pictorially as NS[n] in the Yang et al. reference. ● a(n) = - 140340 + 2 ^ n * (82764 * n ^ 2 - 268092 * n - 1159017) + 4 ^ n * (156816 * n ^ 2 - 719928 * n + 1304154). ●

[A157516] ● 4801,19601,44401,79201,124001,178801,243601,318401,403201,498001,602801,717601,842401,977201,1122001,1276801,1441601,1616401,1801201,1996001,2200801,2415601,2640401,2875201,3120001 ★ 5000n^2 - 200n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 ●

[A157628] ● 4801,124001,403201,842401,1441601,2200801,3120001,4199201,5438401,6837601,8396801,10116001,11995201,14034401,16233601,18592801,21112001,23791201,26630401,29629601,32788801,36108001,39587201,43226401 ★ 80000n^2 - 120800n + 45601. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A124088] ● 4862,16796,41990,90440,177650,326876,572033,961400,1562275,2466750,3798795,5722860,8454225,12271350,17530500,24682944,34295052,47071640,63882940,85795600,114108148,150391384,196534195,254795320,327861625 ★ 10th column of Catalan triangle A009766. ● a(n) = C(n,9) - C(n,7). ●

[A215549] ● 0,4862,2466750,63882940,670609940,4277470470,19794795118,73143988775,228723580800,628737007195,1559830082888,3559370252529,7576971259000,15210525840125,29040055455840,53087119860346,93432350566520,159028880903100,262755041438890 ★ Number of standard Young tableaux of shape [9n,9]. ● a(n) = C(9 * n + 9,9) * (9 * n - 8) / (9 * n + 1) for n>0, a(0) = 0. ●

[A157367] ● 4999,19601,43807,77617,121031,174049,236671,308897,390727,482161,583199,693841,814087,943937,1083391,1232449,1391111,1559377,1737247,1924721,2121799,2328481,2544767,2770657,3006151 ★ a(n) = 4802*n^2 + 196*n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A090393] ● 0,5040,12288,22572,36992,56990,84432,121703,171816,238536,326520,441474,590328,781430,1024760,1332165,1717616,2197488,2790864,3519864,4410000,5490558,6795008,8361443,10233048 ★ Eighth diagonal (m=7) of triangle A084938; a(n) = A084938(n+7,n) = (n^7 + 63*n^6 + 1855*n^5 + 34125*n^4 + 438424*n^3 + 3980172*n^2 + 20946960*n)/5040. ● a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n > 7. ●

[A029575] ● 0,0,0,0,0,0,0,0,5040,45360,453600,4989600,59875200,778377600,10897286400,163459296000,2451889440000,41682120480000,750278168640000,14255285204160000,285105704083200000,5987219785747200000,131718835286438400000,3029533211588083200000 ★ Number of permutations of an n-set containing an 8-cycle. ● a(n) = n! * (1 - Sum _{ k=0..floor(n / 8) } (- 1) ^ k / (k! * 8 ^ k)). ● a(n) / n! is asymptotic to 1 - e ^ (- 1 / 8). ●

[A191685] ● 5040,109584,1172700,8409500,45995730,206070150,790943153,2681453775,8207628000,23057159840,60202693980,147560703732,342252511900,756111184500,1599718388730,3256091103430,6400590336096,12191224980000,22563937825000,40681506808800 ★ Eighth diagonal a(n) = s(n,n-7) of the unsigned Stirling numbers of the first kind with n>7 ● a(n + 1) = binomial(n + 1,8) * (80 * n + 114 * n ^ 2 - 23 * n ^ 3 - 75 * n ^ 4 - 9 * n ^ 5 + 9 * n ^ 6) / 144 ●

[A135456] ● 5040,141120,2328480,29635200,322494480,3162075840,28805736960,248619571200,2060056318320,16540688324160,129568848121440,995210916336000,7524340159588560,56163512390086080,414847224363337920 ★ Number of surjections from an n-element set onto a seven-element set. ● a(n) = 7 ^ n - C(7,6) * 6 ^ n + C(7,5) * 5 ^ n - C(7,4) * 4 ^ n + C(7,3) * 3 ^ n - C(7,2) * 2 ^ n + C(7,1) with n>=7. ●

[A228910] ● 0,0,0,0,0,0,0,5040,181440,3780000,59875200,801496080,9574044480,105398092800,1091804313600,10794490827120,102896614941120,952741767650400,8617145057539200,76461500619902160,667855517349303360,5757691363157764800,49099453300298016000,414884142077935345200 ★ a(n) = 8^n - 7*7^n + 21*6^n - 35*5^n + 35*4^n - 21*3^n + 7*2^n - 1. ● a(n) = 5040 * S2(n + 1,8), n>=0. ●

[A179062] ● 0,0,0,0,0,0,5040,322560,6531840,72576000,548856000,3161410560,14841066240,59364264960,208702494000,659602944000,1906252508160,5104345559040,12796310741760,30287126016000,68146033536000 ★ Number of non-attacking placements of 7 rooks on an n X n board. ● a(n) = 7! * binomial(n, 7) ^ 2. ●

[A243133] ● 0,1,5042,114243,937444,4656965,17057046,50843527,130576328,299537289,628855930,1229215691,2265463212,3974443213,6686381534,10850138895,17062657936,26102926097,38970776898,56930852179,81562047860,114812765781,159062294182 ★ 64*n^7 - 112*n^5 + 56*n^3 - 7*n. ● a(n) = n * (64 * n ^ 6 - 112 * n ^ 4 + 56 * n ^ 2 - 7). ● a(0)=0, a(1)=1, a(2)=5042, a(3)=114243, a(4)=937444, a(5)=4656965, a(6)=17057046, a(7)=50843527, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Mar 27 2015 ●

[A224462] ● 5150,279882,4912058,52877106,437291570,3075863058,19424101394,113690358162,629297936786,3338556446610,17134277121938,85638400421778,418886606368658,2012591878934418,9525395433164690,44509034884173714,205695168792825746 ★ The hyper-Wiener index of Wang's helicene-based dendrimer defined pictorially as DNS_2[n] in the Shabani et al. reference. ● a(n) = - 61550 + 2 ^ n * (30861 * n ^ 2 - 164298 * n - 602830) + 4 ^ n * (59049 * n ^ 2 - 677241 * n / 2 + 664380). ●

[A157511] ● 5201,20401,45601,80801,126001,181201,246401,321601,406801,502001,607201,722401,847601,982801,1128001,1283201,1448401,1623601,1808801,2004001,2209201,2424401,2649601,2884801,3130001 ★ 5000n^2 + 200n + 1. ● a(1)=5201, a(2)=20401, a(3)=45601, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A178027] ● 0,5291,10582,15873,21164,26455,31746,37037,42328,47619,5291 0,58201,63492,68783,74074,79365,84656,89947,95238,100529,105820,111111,116402,121693,126984 ★ Multiples of 5291. ● a(n) = n * 5291. [_ R. J. Mathar _ , May 24 2010] ●

[A227486] ● 5298,39854,251046,1422550,7507638,37673334,182185206,856903670,3945369078,17864129014,79813259766,352738009590,1545019376118,6716624699894,29013289140726,124641612792310,532923049312758,2269124503273974,9626239798084086,40703952922083830,171611842722922998 ★ The Wiener index of the nanostar dendrimer defined pictorially as G[n] in the M. H. Khalifeh et al. reference. ● a(n) = 502 + 2 ^ (n) * (2800 * n + 8716) + 4 ^ (n) * (8000 * n - 3920). ● a(n) = 13 * a(n - 1) - 64 * a(n - 2) + 148 * a(n - 3) - 160 * a(n - 4) + 64 * a(n - 5). - _ Matthew House _ , Nov 01 2016 ●

[A023342] ● 5333,26669,294167,324869,344189,578297,676829,807407,894893,1078559,1114427,1174487,1624349,1883363,2247923,2926769,3075029,3196871,3427871,3558407,4037039,4205879,5392799,6130823,6479423 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 5x + 4. ● a(n) == 41 mod 42. - _ John Cerkan _ , Oct 20 2016 ●

[A014799] ● 1,5625,164025,1399489,6765201,23532201,66015625,159138225,342731169,676572121,1246160601,2169230625,3603000625,5752160649,8877596841,13305853201,19439330625,27767223225,38877191929,53467775361 ★ Squares of odd pentagonal pyramidal numbers. ● a(n) = (1 + 2 * n) ^ 2 * (1 + 4 * n) ^ 4. ●

[A114361] ● 1,5778,40169,87727,136338,184958,233578,282198,330818,3794

38,428058,476678,525298,573918,622538,671158,719778,768398,817018,865638,914258,962878,1011498,1060118,1108738 ★ Let M(n) be the n X n matrix m(i,j)=min(i,j) for 1<=i,j<=n then a(n) is the trace of M(n)^(-9). ● a(n)= 48620n - 106762, with n>4, a(1)=1, a(2)=5778, a(3)=40169, a(4)=87727. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>6. G.f.: x * (1 + 5776 * x + 28614 * x ^ 2 + 13167 * x ^ 3 + 1053 * x ^ 4 + 9 * x ^ 5) / (1 - x) ^ 2. [Colin Barker, Mar 18 2012] ●

[A248132] ● 0,1,5792,920482,33554432,545915033,5332006004,36620603758,194368031998,847288609443,3162277660168,10408989356987,30886277963534,84002440529229,212129196024140,502505405881790,1125899906842624 ★ Integer part of square root of A010813(n) = n^25. ● a(n) = floor(sqrt(n ^ 25)). ●

[A157666] ● 5967,25650,45333,65016,84699,104382,124065,143748,163431,183114,202797,222480,242163,261846,281529,301212,320895,340578,360261,379944,399627,419310,438993,458676,478359 ★ 19683n - 13716. ● a(1)=5967, a(2)=25650, a(n)=2 * a(n - 1) - a(n - 2). (End) ●

[A157652] ● 6040,14040,22040,30040,38040,46040,54040,62040,70040,78040,86040,94040,102040,110040,118040,126040,134040,142040,150040,158040,166040,174040,182040,190040,198040 ★ 8000n - 1960. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A157267] ● 6049,32257,79201,146881,235297,344449,474337,624961,796321,988417,1201249,1434817,1689121,1964161,2259937,2576449,2913697,3271681,3650401,4049857,4470049,4910977,5372641,5855041,6358177 ★ 10368n^2 - 4896n + 577. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 27 2012 ●

[A054560] ● 6300,89586,549528 ★ Number of labeled pure 2-complexes on n nodes (0-simplexes) with 5 2-simplexes and 11 1-simplexes. ● a(n)=6300 * C(n, 6) + 45486 * C(n, 7) + 9240 * C(n, 8) + ... ●

[A259060] ● 6426,7900,9614,11592,13858,16436,19350,22624,26282,30348,34846,39800,45234,51172,57638,64656,72250,80444,89262,98728,108866,119700,131254,143552,156618 ★ Numbers that are representable in at least two ways as sums of four distinct nonvanishing cubes. ● a(n) = 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ Vincenzo Librandi _ , Aug 13 2015 ●

[A194720] ● 0,1,6435,381333,5068915,33563481,148733571,507709165,1443039123,3581326065,8006545891,16475259141,31690921395,57644499913,100028603715,166732334301,268424064211,419229350625,637511191203,946759829365,1376599316211,1963918036281 ★ Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting eight doublets into the initially empty word. ● a(0) = 0, a(n) = 1 + (14 + (90 + (350 + (910 + (1638 + (2002 + 1430 * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1) for n>0. ●

[A075669] ● 1,6817,2135777,165588738,5498750979,102697107715,1264908663011,113739368899396,7998500737187 7,461856872635333,2269365182729029,9747136491367430,37362375267437415,129917413702762791 ★ Sum of next n 8th powers. ● a(1)=1; a(n)=sum(i ^ n, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). ● a(n) = (45n ^ 17 + 780n ^ 15 + 3990n ^ 13 + 6900n ^ 11 + 1205n ^ 9 - 3240n ^ 7 + 1584n ^ 5 + 640n ^ 3 - 384n) / 11520. ●

[A100897] ● 7007,7117,7227,7337,7447,7557,7667,7777,7887,7997,710107,711117,712127,713137,714147,715157,716167,717177,718187,719197,720207,721217,722227,723237,724247 ★ Numbers with decimal expansion 7nn7. ● a(n) = 7nn7 where n=0, 1, 2, 3, ... ●

[A068245] ● 1,7616,5141250,552093440,20631905875,395001645696,4771909547076,41190314035200,275192443300005,1502690499112000,6971521964029766,28275884687022336,102456840191225975,337289521082456320,1022310183284613000,2883605488481550336,7636012822945480521 ★ 1/6 the number of colorings of a 4 X 4 rhombic- or staggered- hexagonal array with n colors. ● a(n) = (n ^ 16 - 33 * n ^ 15 + 510 * n ^ 14 - 4898 * n ^ 13 + 32703 * n ^ 12 - 160859 * n ^ 11 + 602408 * n ^ 10 - 1749715 * n ^ 9 + 3975561 * n ^ 8 - 7068408 * n ^ 7 + 9755858 * n ^ 6 - 10265148 * n ^ 5 + 7968348 * n ^ 4 - 4304712 * n ^ 3 + 1445104 * n ^ 2 - 226720 * n) / 6. (End) ●

[A023322] ● 7949,25589,55799,61379,69959,70229,74609,174569,188369,204719,220469,225629,233759,250919,286619,363659,552749,592139,658349,735419,783269,827549,931949,1018889,1065839 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 8x + 7. ● a(n) == 9 (mod 10). - _ John Cerkan _ , Oct 08 2016 ●

[A157660] ● 7960,15960,23960,31960,39960,47960,55960,63960,71960,79960,87960,95960,103960,111960,119960,127960,135960,143960,151960,159960,167960,175960,183960,191960,199960 ★ 8000n - 40. ● a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 28 2012 ●

[A157663] ● 8040,16040,24040,32040,40040,48040,56040,64040,72040,80040,88040,96040,104040,112040,120040,128040,136040,144040,152040,160040,168040,176040,184040,192040,200040 ★ 8000n + 40. ● a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Feb 04 2012 ●

[A032780] ● 0,8064,67200,316800,1108800,3203200,8072064,18345600,38438400,75398400,140025600,248312064,423259200,697132800,1114220800,1734163200,2635928064,3922512000,5726448000,8216208000,11603592000,16152200064,22187088000,30105712000 ★ a(n) = n(n+1)(n+2)...(n+8) / (n+(n+1)+(n+2)+...+(n+8)). ● a(- n) = a(n - 8) for all n in Z. - _ Michael Somos _ , Mar 18 2014 ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n > 8. ●

[A075956] ● 8191,1040447,15786439,53683801,89475754,426151179,3759235934,13422994867,22549990279,40403963324,206697639567,825177352150,1443261279781,6597741209193,11064929837983,52777249440092 ★ Basis for code in A075955. ● a(n) = b(2 ^ n), where b is A075955, the binary lexicode, d=13. ●

[A195661] ● 8192,1270246,44653028,720390254,7177627944,51526819510,291859775552,1382652697282,5700499630916,21042965606234,71028444904044,222770819826574,657397551407816,1843639061043694,4953451546255928,12835026767559890,32249277650536068 ★ Number of ways to place 12n nonattacking kings on a vertical cylinder 24 X 2n. ● a(n) = (74405871551 * n - 1097352668753) * 2 ^ n + 696317 / 2016 * n ^ 10 + 420699809 / 30240 * n ^ 9 + 6646303 1 / 210 * n ^ 8 + 26602370087 / 5040 * n ^ 7 + 33515235289 / 480 * n ^ 6 + 1076425504013 / 1440 * n ^ 5 + 32380230257101 / 5040 * n ^ 4 + 3253318951 33417 / 7560 * n ^ 3 + 29685456992323 / 140 * n ^ 2 + 72053208873316 / 105 * n + 1097352668754. ●

[A181134] ● 0,1,8193,1602516,68711380,1289414505,14350108521,1112391189 28,660994932816,3202860761145,13202860761145,47725572905076,1547187782 84148,457593884876401,1251308658130545,3197503726489920 ★ Sum of 13th powers: 0^13+1^13+2^13+...+n^13. ● a(n) = a(- n - 1) = (n * (n + 1)) ^ 2 * (30 * n ^ 10 + 150 * n ^ 9 + 125 * n ^ 8 - 400 * n ^ 7 - 326 * n ^ 6 + 1052 * n ^ 5 + 367 * n ^ 4 - 1786 * n ^ 3 + 202 * n ^ 2 + 1382 * n - 691) / 420. ● a(n) = - Sum _{ j=1..13 } j * s(n + 1,n + 1 - j) * S(n + 13 - j,n), where s(n,k) and S(n,k) are the Stirling numbers of the first kind and the second kind, respectively. - _ Mircea Merca _ , Jan 25 2014 ●

[A253713] ● 1,8194,1610710,70322090,1359736595,15709845116,126948964044,787943896860,3990804658005,17193665419150,64919238324226,219638016608374,677231901484775,1928540559615320,5126044286105240,12827147639965656,30432829026732009,68861475279169530,149343104993864110,311744734708558690,628618742162372731 ★ Second partial sums of 13th powers (A010801). ● a(n) = n * (n + 1) * (n + 2) * (6 * n ^ 12 + 72 * n ^ 11 + 297 * n ^ 10 + 330 * n ^ 9 - 765 * n ^ 8 - 1368 * n ^ 7 + 2059 * n ^ 6 + 2994 * n ^ 5 - 4091 * n ^ 4 - 2724 * n ^ 3 + 4069 * n ^ 2 + 66 * n - 735) / 1260. ● a(n) = 2 * a(n - 1) - a(n - 2) + n ^ 13. ●

[A168664] ● 0,1,8256,2392578,134225920,3051796875,39182222016,339111948196,2199024304128,11438398618965,50000005000000,189874926535206,641959250190336,1968688224223903,5556003465485760,14596463098125000,36028797153181696,84188913484869801 ★ a(n) = n^7*(n^7 + 1)/2. ● a(n) = 15 * a(n - 1) - 105 * a(n - 2) + 455 * a(n - 3) - 1365 * a(n - 4) + 3003 * a(n - 5) - 5005 * a(n - 6) + 6435 * a(n - 7) - 6435 * a(n - 8) + 5005 * a(n - 9) - 3003 * a(n - 10) + 1365 * a(n - 11) - 455 * a(n - 12) + 105 * a(n - 13) - 15 * a(n - 14) + a(n - 15). ●

[A157731] ● 8274,26796,45318,63840,82362,100884,119406,137928,156450,174972,193494,212016,230538,249060,267582,286104,304626,323148,341670,360192,378714,397236,415758,434280,452802 ★ 18522n - 10248. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A271748] ● 8280,29874,117488,495408,2215148,10419024,51235748,262138728,1389893708,7611839904,42937377908,248865777048,1478955826268,8994703967184,55889046456068,354251342263368,2287372272350828,15026157296586084,100307242528430228,679694909468957688 ★ Number of set partitions of [n] such that 9 is the largest element of the last block. ● a(n) = 36 * a(n - 1) - 546 * a(n - 2) + 4536 * a(n - 3) - 22449 * a(n - 4) + 67284 * a(n - 5) - 118124 * a(n - 6) + 109584 * a(n - 7) - 40320 * a(n - 8) for n>17. - _ Colin Barker _ , Jan 05 2018 ●

[A224465] ● 8340,12428,26748,76444,268380,1100508,4959708,23244764,109587420,512103388,2360853468,10733675484,48188138460,213973935068,941242328028,4107369456604,17801289409500,76697192899548,328767224423388,1403004800476124,5963809931928540 ★ The Wiener index of the nanostar dendrimer defined pictorially as NS[n] in the Z. S. Irani reference. ● a(n) = 9180 + 2 ^ n * (2800 * n + 136) + 4 ^ n * (320 * n - 976). ●

[A023321] ● 8431,9721,24169,35311,63577,74203,109471,109891,140269,174613,176599,182857,210187,241561,270553,274837,274909,276517,281557,324763,326737,383659,464089,474127,489109 ★ Numbers n such that n remains prime through 4 iterations of function f(x) = 8x + 5. ● a(n) == 19 or 31 (mod 42). - _ John Cerkan _ , Oct 08 2016 ●

[A217338] ● 0,1,8548,5398083,537157696,19076074375,352654485156,4154189102413,35184646816768,231628411446741,1250002537502500,5743722797690911,23110548002468928,83177110918426603,272244240093265636,821051189587805625,2305843285702230016,6082649491072763593 ★ Number of inequivalent ways to color a 4 X 4 checkerboard using at most n colors allowing rotations and reflections. ● a(n) = (n ^ 16 + 2 * n ^ 4 + 3 * n ^ 8 + 2 * n ^ 10) / 8. ●

[A156846] ● 8579,20746,32913,45080,57247,69414,81581,93748,105915,118082,130249,142416,154583,166750,178917,191084,203251,215418,227585,239752,251919,264086,276253,288420,300587 ★ 12167n - 3588. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A221053] ● 8580,751148,13742092,145113196,1166551916,7991214060,49348860396,283593693164,1546469947372,8104770527212,41179270758380,204101468659692,991328100589548,4734560147021804,22293506692030444,103708270251417580,477422926327128044 ★ The hyper-Wiener index of the nanostar dendrimer NSC_5C_6[n], defined pictorially in the A. R. Ashrafi et al. reference and in the M. Rostami et al. reference. ● a(n) = 204780 - 1311272 * 2 ^ n + 1108480 * 4 ^ n + 360 * 2 ^ n * n ^ 2 + 129600 * 4 ^ n * n ^ 2 + 7852 * 2 ^ n * n - 633600 * 4 ^ n * n. ●

[A067867] ● 8736,18736,28736,38736,48736,58736,68736,78736,88736,98736,108736,118736,128736,138736,148736,158736,168736,178736,188736,198736,208736,218736,228736,238736,248736 ★ Numbers n such that n and 2^n end with the same 4 digits. ● a(n) = 8736 + 10 ^ 4(n - 1). ● a(n) = 2 * a(n - 1) - a(n - 2). G.f.: 16 * x * (546 + 79 * x) / (1 - x) ^ 2. [_ Colin Barker _ , Dec 01 2012] ●

[A144126] ● 1,8989,213445,1651609,7544041,25289461,69125869,163456945,34

6843729,676661581,1234422421,2131762249,3517093945,5582925349,8573842621,12795158881,18622228129,26510424445,37005786469,50756327161 ⋆ P_6(2n+1), the Legendre polynomial of order 6 at 2n+1. ● a(n) = 924 * n ^ 6 + 2772 * n ^ 5 + 3150 * n ^ 4 + 1680 * n ^ 3 + 420 * n ^ 2 + 42 * n + 1. - _ Vaclav Kotesovec _ , Jul 31 2013 ●

[A157619] ● 9100,40350,71600,102850,134100,165350,196600,227850,259100,290350,321600,352850,384100,415350,446600,477850,509100,540350,571600,602850,634100,665350,696600,727850,759100 ⋆ 31250n - 22150. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A209595] ● 9216,1476225,51380224,791015625,7316407296,47738317081,241591910400,1007680691889,3610000000000,11438404249041,32754285674496,86161557405625,210866643477504,484962978515625,1056630674292736 ⋆ Number of 4X4 0..n arrays with every element equal to a diagonal or antidiagonal reflection ● a(n) = (n + 1) ^ 8 * ((n + 1) * (2 * n + 1)) ^ 2 ●

[A143367] ● 9412,30652,123148,564844,2726572,13219372,63206188,296679724,1368005932,6210491692,27825661228,123303445804,541361800492,2358354445612,10205728212268,43913619703084,188020440958252,801552290809132,3404105445803308,14408036898571564 ⋆ The Szeged index of third type dendrimer nanostar which has grown n stages. ● a(n) = 3636 * 2 ^ n + 1324 + 720 * n * 4 ^ n + 1560 * n * 2 ^ n - 1296 * 4 ^ n. ●

[A134117] ● 9551,12853,14107,15823,18803,22193,22307,22817,24281,27143,28351,29881,32261,40387,42863,45083,45197,46771,46957,47981,50461,57601,60041,60457,62423 ⋆ Primes p such that q-p = 36, where q is the next prime after p. ● a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 14 2015 ●

[A156735] ● 9801,114243,332929,665859,1113033,1674451,2350113,3140019,4044169,5062563,6195201,7442083,8803209,10278579,11868193,13572051,15390153,17322499,19369089,21529923,23805001,26194323,28697889,31315699 ⋆ 57122n^2 + 47320n + 9801. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) for n>2. ●

[A227489] ● 9801,800545,14262241,148766529,1187870657,8103701057,49907422785,286259766337,1558851796033,8161139590209,41432038278209,205221516272705,996243752510529,4755963555931201,22386081148494913,104106406002746433 ⋆ The hyper-Wiener index of the nanostar dendrimer NSC_5C_6[n], defined pictorially in the Ashrafi et al. and the Rostami et al. references. ● a(n) = 189505 + 2 ^ (n) * (360 * n ^ (2) - 1148 * n - 1285024) + 4 ^ (n) * (129600 * n ^ (2) - 627120 * n + 1095500). ●

[A126978] ● 9977,10081,10185,10289,10393,10497,10601,10705,10809,10913,11017,11121,11225,11329,11433,11537,11641,11745,11849,11953,12057,12161,12265,12369,12473 ⋆ a(n) = 104*n + 9977. ● a(0)=9977, a(1)=10081, a(n) = 2 * a(n - 1) - a(n - 2). - _ Harvey P. Dale _ , Dec 16 2011 ●

[A167149] ● 0,1,10000,29997,59992,99985,149976,209965,279952,359937,449920,549901,659880,779857,909832,1049805,1199776,1359745,1529712,1709677,1899640,2099601,2309560,2529517,2759472 ⋆ 10000-gonal numbers: a(n) = n + 4999 * n * (n-1). ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A017644] ● 10000,234256,1336336,4477456,11316496,24010000,45212176,78074896,126247696,193877776,285610000,406586896,562448656,759333136,1003875856,1303210000,1664966416,2097273616 ⋆ (12n+10)^4. ● a(0)=10000, a(1)=234256, a(2)=1336336, a(3)=4477456, a(4)=11316496, a(n)=5 * a(n - 1) - 10 * a(n - 2) + 10 * a(n - 3) - 5 * a(n - 4) + a(n - 5). - _ Harvey P. Dale _ , Jan 22 2016 ●

[A173029] ● 10007,20016,60025,130026,200029,270038,360039,450046,550049,750052,950061,1250068,1650077,2150086,2850087,3750088,4650095,5650098,6650131,7650168,8650207,9650288,10650387,11650690,12651093 ⋆ Partial sums of naughty primes A164968. ● a(n) = SUM[i=1..n] { p such that p is prime and the number of zeros in the decimal representation of p is greater than the number of all other digits } . ●

[A023356] ● 10061,20071,161093,200713,291419,564979,600791,606839,693079,1826519,1876807,2106407,2249207,2471471,3335369,3955499,4542547,4765609,4829603,4955981,5090507,5534993,5866247,5987921,6091213 ⋆ Numbers n such that n remains prime through 5 iterations of the function f(x) = 10x + 3. ● a(n) == 9 (mod 14). - _ John Cerkan _ , Aug 26 2016 ●

[A157288] ● 10081,40897,92449,164737,257761,371521,506017,661249,837217,1033921,1251361,1489537,1748449,2028097,2328481,2649601,2991457,3354049,3737377,4141441,4566241,5011777,5478049,5965057,6472801 ⋆ 10368n^2 - 288n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 28 2012 ●

[A157735] ● 10248,28770,47292,65814,84336,102858,121380,139902,158424,176946,195468,213990,232512,251034,269556,288078,306600,325122,343644,362166,380688,399210,417732,436254,454776 ⋆ 18522n - 8274. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A226599] ● 10370,10730,11570,12410,13130,19610,22490,25010,31610,38090,38930,39338,39962,40970,41810,55250,55970,59330,59930,69530,70850,73730,76850,77090,89570 ⋆ Numbers which are the sum of two squared primes in exactly four ways (ignoring order). ● a(n) = p ^ 2 + q ^ 2; p, q are (not necessarily different) primes ●

[A157445] ● 10405,49730,118337,216226,343397,499850,685585,900602,1144901,1418482,1721345,2053490,2414917,2805626,3225617,3674890,4153445,4661282,5198401,5764802,6360485,6985450,7639697,8323226,9036037 ⋆ 14641n^2 - 4598n + 362. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 ●

[A120500] ● 0,10527,21055,31622,42149,52716,63244,73811,84338,94905,105433,120000 ⋆ Times in hours,minutes and seconds (to the nearest second) at which the smoothly crossing minute and hour hands of an analog clock coincide, over a period of one complete 12-hour sweep of the hour hand. ● a(n)=round(43200 * n / 11) expressed in double - spaced sexagesimal scale. In other words, the hour and minute hands line up at 11 successive positions after every (12 / 11)hr, i.e., 1hr5min27s and 3 / 11s from noon or midnight. ●

[A224425] ● 10584,171477,1461051,9546255,54280503,284162823,1410216615,6746016231,31426525287,143519749479,645421289319,2867229803367,12611448843111,55016616065895,238351151471463,1026546163669863,4398756503804775,18765324647783271,79742515593599847 ⋆ The Wiener index of the phenylacetylene dendrimer NSB[n], defined pictorially in the Z. Yarahmadi et al. reference. ● a(n) = - 9369 + 85725 * 2 ^ n - 65772 * 4 ^ n + 68121 * n * 4 ^ n (agrees with Theorem 3 of the Yarahmadi et al. reference). ●

[A179426] ● 0,0,0,0,0,10596,486668,7063520,55345356,299491100,1263811604,4455716184,13701863604,37823872044,95648273100,224887404416,497181121100,1042609380588,2088337713332,4017815773400,7459198321428,13414493857116,23444476061772,39928736913120,66425550447500 ⋆ Number of ways to place 6 nonattacking kings on an n X n toroidal board. ● a(n) = 1 / 720 * n ^ 2 * (n ^ 10 - 135 * n ^ 8 + 7525 * n ^ 6 - 217665 * n ^ 4 + 3289354 * n ^ 2 - 20949480), n>=7. ●

[A157326] ● 10657,42049,94177,167041,260641,374977,510049,665857,842401,1039681,1257697,1496449,1755937,2036161,2337121,2658817,3001249,3364417,3748321,4152961,4578337,5024449,5491297,5978881,6487201 ⋆ 10368n^2 + 288n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 ●

[A224463] ● 11095,357449,3692349,26206373,155494901,834211733,4203722965,20315383637,95323077717,437644252757,1976168966741,8807356781141,38840665809493,169808425140821,737017916129877,3179209969369685,13641394194809429,58263792669360725 ⋆ The Wiener index of the tetrathiafulvalene dendrimer defined pictorially as D[n] in the Shabani reference. ● a(n) = - 64939 + 2 ^ n * (- 27280 * n + 344122) + 4 ^ n * (215264 * n - 268088). ●

[A156713] ● 12005,12467,12985,14063,15025,16807,19073,20923,24157,26747,31213,40817,48055,53753,63455,71077,84035,99413,111475,131957,148015,175273,232897,275863,309533 ⋆ Positive numbers y such that y^2 is of the form x^2+(x+16807)^2 with integer x. ● a(n) = 6 * a(n - 11) - a(n - 22) for n > 22 ; a(1) = 12005, a(2) = 12467, a(3) = 12985, a(4) = 14063, a(5) = 15025, a(6) = 16807, a(7) = 19073, a(8) = 20923, a(9) = 24157, a(10) = 26747, a(11) = 31213, a(12) = 40817, a(13) = 48055, a(14) = 53753, a(15) = 63455, a(16) = 71077, a(17) = 84035, a(18) = 99413, a(19) = 111475, a(20) = 131957, a(21) = 148015, a(22) = 175273. ●

[A178475] ● 12345,12354,12435,12453,12534,12543,13245,13254,13425,13452,13524,13542,14235,14253,14325,14352,14523,14532,15234,15243,15324,15342,15423,15432,21345 ⋆ Permutations of 12345: Numbers having each of the decimal digits 1,...,5 exactly once, and no other digit. ● a(n) + a(5! + 1 - n) = 66666. ● a(n) == 6 (mod 9). ●

[A221016] ● 12428,25756,73468,261436,1085628,4928956,23182268,109461436,511850428,2360346556,10732660668,48186107836,213969872828,941234202556,4107353204668,17801256904636,76697127888828,328767094400956,1403004540430268,5963809411835836,25262501717354428 ⋆ The Wiener index of the fullerenyl anion G[n]C[60], defined pictorially in the Arezoomand reference (see Fig. 5). ● a(n) = 10172 + 2 ^ n * (5600 * n + 4880) + 4 ^ n * (1280 * n - 2624). ●

[A272516] ● 12600,27720,138600,643500,4408404,12687675,60780720,238299880,1295666424,4208874756,18840460800,72351683460,361100656224,1228553894491,5370616442928,20605640103400,97659853077800,342942099783075,1479570975628200,5678915129142255 ⋆ Number of set partitions of [n] into four blocks with distinct sizes. ● a(n) = n! * [x ^ n * y ^ 4] Product _{ n>=1 } (1 + y * x ^ n / n!). ●

[A157509] ● 12799,51841,117127,208657,326431,470449,640711,837217,1059967,1308961,1584199,1885681,2213407,2567377,2947591,3354049,3786751,4245697,4730887,5242321,5779999,6343921,6934087,7550497,8193151 ⋆ 13122n^2 - 324n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 26 2012 ●

[A165679] ● 13068,69264,241128,662640,1557660,3272688,6314664,11393808,19471500,31813200,50046408,76223664,112890588,163158960,230784840,320251728,436858764,586813968,777332520,1016740080,1314581148,1681732464 ⋆ Seventh right hand column of triangle A165674 ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) ● a(n) = 720 + 3528 * n + 4872 * n ^ 2 + 2940 * n ^ 3 + 875 * n ^ 4 + 126 * n ^ 5 + 7 * n ^ 6 ●

[A157433] ● 13121,15841,18817,22049,25537,29281,33281,37537,42049,46817,51841,57121,62657,68449,74497,80801,87361,94177,101249,108577,116161,124001,132097,140449,149057 ⋆ 128n^2 + 2336n + 10657. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A157506] ● 13447,53137,119071,211249,329671,474337,645247,842401,1065799,1315441,1591327,1893457,2221831,2576449,2957311,3364417,3797767,4257361,4743199,5255281,5793607,6358177,6948991,7566049,8209351 ⋆ 13122n^2 + 324n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 04 2012 ●

[A157669] ● 13716,33399,53082,72765,92448,112131,131814,151497,171180,190863,210546,230229,249912,269595,289278,308961,328644,348327,368010,387693,407376,427059,446742,466425,486108 ⋆ 19683n - 5967. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A178486] ● 13717,13718,13727,13729,13738,13739,13817,13818,13837,13840,13848,13850,13927,13929,13937,13940,13959,13960,14038,14039,14048,14050,14059,14060,14717 ⋆ (A178476(n)-3)/9. ● a(n) + a(6! + 1 - n) = 86419. ● a(n) == 0, 1, 2, 7, 8 or 9 (mod 10). ●

[**A157786**] • 14112,80539,201416,376743,606520,890747,1229424,1622551,2070128,2572155,3128632,3739559,4404936,5124763,5899040,6727767,7610944,8548571,9540648,10587175,11688152,12843579,14053456,15317783,16636560 ★ a(n) = 27225*n^2 - 15248*n + 2135. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A023333**] • 14723,20123,54713,109433,594653,604883,676493,759953,847103,935843,1035743,1049603,1079033,1099823,1222253,1263323,1499153,1754033,1835003,1893173,2017283,2071493,2099213,2199653,2895743 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 2x + 7. • a(n) == 23 (mod 30). - _ John Cerkan _ , Oct 10 2016 •

[**A272128**] • 1,14763,628805,5501167,24943689,79549811,203823373,449807415,890712977,1624547899,2777745621,4508793983,7011864025,10520438787,15310942109,21706367431,30079906593,40858578635,54526858597,71630306319,92779195241,118652141203 ★ a(n) = 30240*n^5-25200*n^4+5040*n^3+7320*n^2-2638*n+1. • a(n) = (2 * n + 1) * (15120 * n ^ 4 - 20160 * n ^ 3 + 12600 * n ^ 2 - 2640 * n + 1). • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). •

[**A177412**] • 14831,41069,55900,96969,152869,249838,402707,652545,1055252,1707797,2763049,4470846,7233895,11704741,18938636,30643377,49582013,80225390,129807403,210032793,339840196,549872989,889713185,1439586174,2329299359 ★ Fibonacci sequence beginning 14831,41069. • a(n) = a(n - 1) + a(n - 2). • a(n) = (2 ^ (- 1 - n) * ((1 - sqrt(5)) ^ n * (- 67307 + 14831 * sqrt(5)) + (1 + sqrt(5)) ^ n * (67307 + 14831 * sqrt(5)))) / sqrt(5). - _ Colin Barker _ , May 03 2017 •

[**A259711**] • 15120,20160,25200,30240,35280,40320,45360,50400,55440,60480,65520,70560,75600,80640,85680,90720,95760,100800,105840,110880,115920,120960,126000,131040,136080 ★ a(n) = 5040*(n + 3). • a(n) = 2 * a(n - 1) - a(n - 2). - _ Colin Barker _ , Jul 03 2015 •

[**A157436**] • 15137,18049,21217,24641,28321,32257,36449,40897,45601,50561,55777,61249,66977,72961,79201,85697,92449,99457,106721,114241,122017,130049,138337,146881,155681 ★ 128n^2 + 2528n + 12481. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A261724**] • 15400,200200,1611610,10335325,57962905,297797500,1439774336,6662393738,29844199346,130445781284,559533979466,2365296391535,9885290914059,40944327590760,168389163468240,688631376550260,280357074676140,1137321244385976 0,46006062639998890 ★ a(n) is the number of ways of putting n labeled balls into 4 indistinguishable boxes such that each box contains at least 3 balls. • a(n) = (1 / 12) * (- 3 ^ (n - 2) * (n ^ 2 + 5 * n + 18) + (1 / 64) * (2 ^ (2 * n + 5) + 3 * 2 ^ n * (n ^ 4 + 2 * n ^ 3 + 19 * n ^ 2 + 42 * n + 64) - 16 * (n ^ 6 - 9 * n ^ 5 + 43 * n ^ 4 - 91 * n ^ 3 + 112 * n ^ 2 - 32 * n + 8))). •

[**A254029**] • 15621,31246,46871,62496,78121,93746,109371,124996,140621,156246,171871,187496,203121,218746,234371,249996,265621,281246,296871,312496,328121,343746,359371,374996,390621 ★ Positive solutions of Monkey and Coconut Problem for the classic case (5 sailors, 1 coconut to the monkey): a(n) = 15625*n - 4 for n >= 1. • a(n) = 2 * a(n - 1) - a(n - 2) = a(n - 1) + 15625. •

[**A017130**] • 15625,4826809,85766121,594823321,2565726409,8303765625,22164361129,51520374361,107918163081,208422380089,377149515625,646990183449,1061520150601,1677100110841,2565164201769 ★ (8*n+5)^6. • a(0)=15625, a(1)=4826809, a(2)=85766121, a(3)=594823321, a(4)=2565726409, a(5)=8303765625, a(6)=22164361129, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, Oct 05 2011] •

[**A017334**] • 15625,11390625,244140625,1838265625,8303765625,27680640625,75418890625,177978515625,377149515625,735091890625,1340095640625,2313060765625,3814697265625,6053445140625,9294114390625 ★ (10*n+5)^6. • a(0)=15625, a(1)=11390625, a(2)=244140625, a(3)=1838265625, a(4)=8303765625, a(5)=27680640625, a(6)=75418890625, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Aug 13 2013 •

[**A017454**] • 15625,16777216,387420489,3010936384,13841287201,46656000000,128100283921,304006671424,646990183449,1265319018496,2313060765625,4001504141376,6611856250609,10509215371264,16157819263041 ★ (11*n+5)^6. • a(0)=15625, a(1)=16777216, a(2)=387420489, a(3)=3010936384, a(4)=13841287201, a(5)=46656000000, a(6)=128100283921, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 12 2013 •

[**A075959**] • 16383,2080895,31572879,107367603,178951509,852302358,7518471868,26845989734,45099980558,80807926649,413395279134,1650354704301,2886522559562,13195482418386,22129859675967,105554498880184 ★ Basis for code in A075958. • a(n) = b(2 ^ n), where b is A075958, the binary lexicode, d=14. •

[**A016807**] • 0,16384,2097152,35831808,268435456,1280000000,4586471424,13492928512,34359738368,78364164096,163840000000,319277809664,587068342272,1028071702528,1727094849536,2799360000000 ★ a(n) = (4*n)^7. • a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) for n > 7. - _ Wesley Ivan Hurt _ , Oct 15 2017 •

[**A017323**] • 16384,105413504,4586471424,52523350144,319277809664,1338925209984,4398046511104,12151280273024,29509034655744,64847759419264,131593177923584,250226879128704,450766669594624,775771085481344 ★ a(n) = (10*n + 4)^7. • a(0)=16384, a(1)=105413504, a(2)=4586471424, a(3)=52523350144, a(4)=319277809664, a(5)=1338925209984, a(6)=4398046511104, a(7)=12151280273024, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Aug 26 2015 •

[**A283027**] • 0,1,16456,10763361,1073758336,38147070625,705277897416,83082340848 01,70368748374016,463255057977921,2500000025005000,11487432519490081,46221064831264896,166354152499741921,544488334821309256,1642102089568970625,4611686019501162496 ★ Number of inequivalent 4 X 4 matrices with entries in {1,2,3,..,n} up to rotations. • a(n) = n ^ 4 * (n ^ 4 + 1) * (n ^ 8 - n ^ 4 + 2) / 4. •

[**A157796**] • 16471,86048,210075,388552,621479,908856,1250683,1646960,2097687,2602864,3162491,3776568,4445095,5168072,5945499,6777376,7663703,8604480,9599707,10649384,11753511,12912088,14125115,15392592,16714519 ★ 27225n^2 - 12098n + 1344. • a(1)=16471, a(2)=86048, a(3)=210075, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Harvey P. Dale _ , Jul 02 2011 •

[**A283028**] • 0,1,16576,10766601,1073790976,38147265625,705278736576,83082369660 01,70368756760576,463255079498001,2500000075000000,11487432626662201,46221065046245376,166354152907593001,544488335559184576,1642102090850390625,4611686021648613376 ★ Number of inequivalent 4 X 4 matrices with entries in {1,2,3,..,n} up to vertical and horizontal reflections. • a(n) = n ^ 8 * (n ^ 8 + 3) / 4. •

[**A181098**] • 16718,26378,31173,39336,46406,46524,51782,55187,58374,58452,60129,60850,63338,63762,67898,69587,71299,75652,78035,78269,80277,83674,84213,89052,95490 ★ Primefree centuries (i.e., no prime exists between 100*n and 100*n+99). • a(n) = n + 100n / log n - O(n / log ^ 2 n). - _ Charles R Greathouse IV _ , Sep 08 2017 •

[**A215550**] • 0,16796,15737865,574221648,7766844470,60610884906,331670995656,1414591812920,5014392953273,15408077648040,42254306265171,105611585968616,244384627765200,529868222188998,1086607184873210,2123449623259536,3978448975695051,7182177974166580 ★ Number of standard Young tableaux of shape [10n,10]. • a(n) = C(10 * n + 10,10) * (10 * n - 9) / (10 * n + 1) for n>0, a(0) = 0. •

[**A016985**] • 0,16807,537824,4084101,17210368,52521875,130691232,282475249,550731776,992436543,1680700000,2706784157,4182119424,6240321451,9039207968,12762815625,17623416832,23863536599,31757969376,41615795893,53782400000,68641485507,86617093024 ★ a(n) = (7n)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), n>5. (End) •

[**A017477**] • 16807,1889568,20511149,102400000,345025251,916132832,2073071593,4182119424,7737809375,13382255776,21924480357,34359738368,51888844699,75937500000,108175616801,150536645632,205236901143 ★ a(n) = (11*n + 7)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6), with a(0) = 16807, a(1) = 1889568, a(2) = 20511149, a(3) = 102400000, a(4) = 345025251, a(5) = 916132832. - _ Harvey P. Dale _ , Jan 16 2013 •

[**A017609**] • 16807,2476099,28629151,147008443,503284375,1350125107,3077056399,6240321451,11592740743,20113571875,33038369407,51888844699,78502725751,115063617043,164130859375,228669389707 ★ (12n+7)^5. • a(0)=16807, a(1)=2476099, a(2)=28629151, a(3)=147008443, a(4)=503284375, a(5)=1350125107, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Sep 03 2015 •

[**A170797**] • 0,1,16896,7203978,537395200,15263671875,235122725376,2373921992596,17592722915328,102947309439525,500005000000000,2088637053420126,7703541745975296,25593015436291303,77784192406233600 ★ a(n) = n^10*(n^5+1)/2. • a(n) = 16 * a(n - 1) - 120 * a(n - 2) + 560 * a(n - 3) - 1820 * a(n - 4) + 4368 * a(n - 5) - 8008 * a(n - 6) + 11440 * a(n - 7) - 12870 * a(n - 8) + 11440 * a(n - 9) - 8008 * a(n - 10) + 4368 * a(n - 11) - 1820 * a(n - 12) + 560 * a(n - 13) - 120 * a(n - 14) + 16 * a(n - 15) - a(n - 16) for n > 15 . - _ Wesley Ivan Hurt _ , Aug 10 2016 •

[**A167190**] • 17594,131307,432796,1013717,1965726,3380479,5349632,7964841,11317762,15500051,20603364,26719357,33939686,42356007,52059976,63143249,75697482,89814331,105585452,123102501,142457134,163741007,187045776 ★ 1+85*n+2232*n^2+15276*n^3. • a(n) = + 4 * a(n - 1) - 6 * a(n - 2) + 4 * a(n - 3) - a(n - 4). - _ R. J. Mathar _ , Sep 02 2011 •

[**A157738**] • 18480,37002,55524,74046,92568,111090,129612,148134,166656,185178,203700,222222,240744,259266,277788,296310,314832,333354,351876,370398,388920,407442,425964,444486,463008 ★ 18522n - 42. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Jan 25 2012 •

[**A157740**] • 18564,37086,55608,74130,92652,111174,129696,148218,166740,185262,203784,222306,240828,259350,277872,296394,314916,333438,351960,370482,389004,407526,426048,444570,463092 ★ 18522n + 42. • a(n) = 2 * a(n - 1) - a(n - 2). - _ Vincenzo Librandi _ , Feb 05 2012 •

[**A243134**] • 1,1,18817,665857,7380481,46099201,203253121,708158977,2081028097,5374978561,12545596801,26986755841,54276558337,103182433537,186979578241,325142092801,545471324161,886731088897,1401864610177,2161873163521,3260441587201,4819400974081 ★ 128*n^8 - 256*n^6 + 160*n^4 - 32*n^2 + 1. • a(0)=1, a(1)=1, a(2)=18817, a(3)=665857, a(4)=7380481, a(5)=46099201, a(6)=203253121, a(7)=708158977, a(8)=2081028097, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Nov 01 2015 •

[**A156721**] • 19603,143649,381939,734473,1201251,1782273,2477539,3287049,4210803,5248801,6401043,7667529,9048259,10543233,12152451,13875913,15713619,17665569,19731763,21912201,24206883,26615809,29138979 ★ 57122n^2 - 47320n + 9801. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A204665**] • 19609,25471,35677,43801,48679,59281,74959,103237,152311,167809,188197,206827,257731,315127,323149,326257,326779,348097,359929,36306

7,365851,377911,381859,405091,417037 ⋆ Primes p such that q-p = 52, where q is the next prime after p. ● a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 14 2015 ●

[A016761] ● 1,19683,1953125,40353607,387420489,2357947691,10604499373,38443359375,118587876497,322687697779,794280046581,1801152661463,3814697265625,7625597484987,14507145975869,26439622160671 ⋆ a(n) = (2*n+1)^9. ● a(0)=1, a(1)=19683, a(2)=1953125, a(3)=40353607, a(4)=387420489, a(5)=2357947691, a(6)=10604499373, a(7)=38443359375, a(8)=118587876497, a(9)=322687697779, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Jul 25 2013 ●

[A016893] ● 19683,134217728,10604499373,198359290368,1801152661463,10578455953408,46411484401953,165216101262848,502592611936843,1352605460594688,3299763591802133,7427658739644928,15633814156853823 ⋆ (5n+3)^9. ● a(0)=19683, a(1)=134217728, a(2)=10604499373, a(3)=198359290368, a(4)=1801152661463, a(5)=10578455953408, a(6)=46411484401953, a(7)=165216101262848, a(8)=502592611936843, a(9)=1352605460594688, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) [From Harvey P. Dale, Dec 15 2011] ●

[A016953] ● 19683,387420489,38443359375,794280046581,7625597484987,46411484401953,208728361158759,756680642578125,2334165173090451,6351461955384057,15633814156853823,35452087835576229,75084686279296875 ⋆ (6n+3)^9. ● a(0)=19683, a(1)=387420489, a(2)=38443359375, a(3)=794280046581, a(4)=7625597484987, a(5)=46411484401953, a(6)=208728361158759, a(7)=756680642578125, a(8)=2334165173090451, a(9)=6351461955384057, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10) [From Harvey P. Dale, Jan 19 2012] ●

[A017109] ● 19683,2357947691,322687697779,7625597484987,78815638671875,502592611936843,2334165173090451,8662995818654939,27206534396294947,75084686279296875; for n>9, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Apr 16 2015 ●

[A017313] ● 19683,10604499373,1801152661463,46411484401953,502592611936843,3299763591802133,15633814156853823,58871586708267913,186940255267540403,520411082988487293,1304773183829244583,3004041937984268273 ⋆ (10*n+3)^9. ● a(0)=19683, a(1)=10604499373, a(2)=1801152661463, a(3)=46411484401953, a(4)=502592611936843, a(5)=3299763591802133, a(6)=15633814156853823, a(7)=58871586708267913, a(8)=186940255267540403, a(9)=520411082988487293, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Sep 14 2013 ●

[A194197] ● 1,19858,436140,2897747,11402579,33377536,80758518,171070425,328507157,585011614,981355696,1568220303,2407275335,3572259692,5150061274,7241796981,9963892713,13449163370,17847892852,23328914059,30080688891,38312388248,48254972030,60162269137 ⋆ Number of partitions of 60n into parts <= 6. ● a(n) = 1 + (167 * n + 2325 * n ^ 2 + 15400 * n ^ 3 + 47250 * n ^ 4 + 54000 * n ^ 5) / 6. ●

[A011786] ● 1,20160,12130560,660602880,29016000000,244552089600,4635182361600,21646635171840,174060277297920,584962560000000,4139330225184000,80134828720128000,508580769358771200,934452764098560000 ⋆ Number of 4 X 4 matrices whose determinant is 1 mod n. ● a(n) = n ^ 16 / phi(n) * product (1 - 1 / p ^ 4) * (1 - 1 / p ^ 3) * (1 - 1 / p ^ 2) * (1 - 1 / p) where the product is over all the primes p that divide n. Multiplicative with a(p ^ e) = p ^ (15 * e - 9) * (p ^ 4 - 1) * (p ^ 3 - 1) * (p ^ 2 - 1). - _ Vladeta Jovovic _ , Nov 18 2001 ●

[A075670] ● 1,20195,12292965,1561991824,77226633575,2014634387961,33098483802475,383318212734080,3377498614484589,23898971839102975,141290020118952881,719054471032657200,3223613105991831475,1296403777585702286 9 ⋆ Sum of next n 9th powers. ● a(1)=1; a(n)=sum(i ^ s, { i, n(n - 1) / 2 + 1, n(n - 1) / 2 + 1 + n }). ● a(n) = (5n ^ 19 + 105n ^ 17 + 666n ^ 15 + 1530n ^ 13 + 689n ^ 11 - 995n ^ 9 + 304n ^ 7 + 640n ^ 5 - 384n ^ 3) / 2560. ●

[A059050] ● 0,0,0,0,0,20580,9106440,1058272828,56671435220,1819138009252,40526220292026,685404291322800,9333711208757096,106588763704012184,1051025434717631806,9144977489478933912,71381946761468630363 ⋆ Number of 7-element ordered T_0-antichains on an unlabeled n-set; T_1-hypergraphs on 7 labeled nodes with n (not necessary empty) distinct hyperedges (n=0,1,...,128) ● a(n)=C(128, n) - 42 * C(96, n) + 210 * C(80, n) + 140 * C(72, n) + 210 * C(68, n) - 84 * C(66, n) + 14 * C(65, n) - 819 * C(64, n) - 2520 * C(60, n) + 2730 * C(56, n) + 840 * C(54, n) + 840 * C(52, n) - 420 * C(51, n) + 2940 * C(50, n) + 630 * C(48, n) - 5040 * C(46, n) + 840 * C(45, n) - 1260 * C(44, n) + 1680 * C(43, n) - 9660 * C(42, n) + 1260 * C(41, n) + 3360 * C(40, n) - 7560 * C(39, n) + 11130 * C(38, n) + 5880 * C(37, n) + 9240 * C(36, n) + 2982 * C(35, n) - 6300 * C(34, n) - 8652 * C(33, n) - 9905 * C(32, n) - 8400 * C(31, n) - 8540 * C(30, n) + 13860 * C(29, n) + 14490 * C(28, n) - 5040 * C(27, n) + 10500 * C(26, n) + 10080 * C(25, n) - 8120 * C(24, n) - 15050 * C(23, n) - 5040 * C(22, n) - 11340 * C(21, n) + 20580 * C(20, n) + 15750 * C(19, n) - 1540 * C(18, n) - 5810 * C(17, n) - 16485 * C(16, n) - 21420 * C(15, n) + 26250 * C(14, n) + 21000 * C(13, n) - 29820 * C(12, n) + 3500 * C(11, n) + 17640 * C(10, n) + 2940 * C(9, n) - 16016 * C(8, n) + 4410 * C(7, n) - 9744 * C(6, n) + 9744 * C(5, n) + 1764 * C(4, n) - 3528 * C(3, n) + 720 * C(2, n). ●

[A056073] ● 20580,9209340,1113220168,64271300556,2302652531436,59028678965286,1179552813324360,19421453010531722,273692092058502488,3392151018511583748,37729265705269684476 ⋆ Number of 7-element ordered antichains on an unlabeled n-element set; T_1-hypergraphs with 7 labeled nodes and n hyperedges. ● a(n)=C(n + 127, 127) - 42 * C(n + 95, 95) + 210 * C(n + 79, 79) + 140 * C(n + 71, 71) + 210 * C(n + 67, 67) - 84 * C(n + 65, 65) + 14 * C(n + 64, 64) - 819 * C(n + 63, 63) - 2520 * C(n + 59, 59) + 2730 * C(n + 55, 55) + 840 * C(n + 53, 53) + 840 * C(n + 51, 51) - 420 * C(n + 50, 50) + 2940 * C(n + 49, 49) + 630 * C(n + 47, 47) - 5040 * C(n + 45, 45) + 840 * C(n + 44, 44) - 1260 * C(n + 43, 43) + ●

[A221002] ● 21558,141686,825078,4438006,22578678,110311926,522899958,2422104566,11019370998,49421451766,219106574838,962208334326,4192177750518,18142557897206,78066631049718,334254292599286,1424972878709238,6051724204704246,25614248465924598,108086444576211446,454863674100679158 ⋆ The Wiener index of the nanostar dendrimer G[n], defined pictorially in the Karbasioun-Ashrafi reference. ● a(n) = 502 + 2 ^ (n + 6) * 5 * (14 * n + 53) + 4 ^ (n + 6) * (5n + 1). ●

[A157622] ● 22150,53400,84650,115900,147150,178400,209650,240900,272150,303400,334650,365900,397150,428400,459650,490900,522150,553400,584650,615900,647150,678400,709650,740900,772150 ⋆ 31250n - 9100. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[A279443] ● 0,0,0,0,22650,4987800,240023070,5219088000,68483325960,630486309600,4456523194200,25647802519680,125166919041450,533442526857240,2029603476250350,7011735609715200,22291042191643680,659142923622624 00,1828806856556414 40,479548000781222400 ⋆ Number of ways to place 9 points on an n X n board so that no more than 2 points are on a vertical or horizontal straight line. ● a(n) = (n ^ 18 - 204 * n ^ 16 + 1260 * n ^ 15 + 6846 * n ^ 14 - 104076 * n ^ 13 + 394504 * n ^ 12 + 128520 * n ^ 11 - 6237075 * n ^ 10 + 24018372 * n ^ 9 - 43820196 * n ^ 8 + 30400020 * n ^ 7 + 34251148 * n ^ 6 - 99199296 * n ^ 5 + 98504496 * n ^ 4 - 47779200 * n ^ 3 + 9434880 * n ^ 2) / 362880; factorized: a(n) = n ^ 2 * (n - 1) ^ 2 * (n - 2) ^ 2 * (n - 3) ^ 2 * (n - 4) ^ 2 * (n ^ 8 + 20 * n ^ 7 + 26 * n ^ 6 - 820 * n ^ 5 - 247 * n ^ 4 + 9704 * n ^ 3 - 9104 * n ^ 2 - 14700 * n + 16380) / 9!. ● a(n) = SUM(1<=j<=19, C(19,j) * (- 1) ^ (j - 1) * a(n - j)). ●

[A227483] ● 23529,1111869,16608702,159373080,1213425084,8031303684,48448565652,273777454260,1474280952564,7651723403124,38578878478452,190021655079540,918191706377844,4366324687656564,20484111138612852,94990079602722420,436088524069815924,1984521827742566004,8961378366065460852,40189159189476918900,179133147653840946804 ⋆ The hyper-Wiener index of the nanostar dendrimer defined pictorially as NS[n] in the M. Mirzargar reference. ● a(n) = 116340 - 2 ^ n * 3768423 / 2 + 4 ^ n * (455625 * n ^ 2 - 2112075 * n / 2 + 3582801 / 2). ●

[A118061] ● 1,23661,66921,129781,212241,314301,435961,577221,738081,918541,1118601,1338261,1577521,1836381,2114841,2412901,2730561,3067821,3424681,3801141,4197201,4612861,5048121,5502981,5977441 ⋆ 9800*n^2-5740*n-4059 ● a(n) + (a(n) + 1) + ... + (a(n) + 9800n + 6929)=(a(n) + 9800n + 6930) + ... + (a(n) + 19600n + 4059); a(n) + 19600n + 4059=a(n + 1) - 1; a(n + 1) - 1=a(n) + 19600n + 4059. ● a(n) + (a(n) + 1) + ... + (a(n) + 576n + 203)=35(140n - 41)(140n + 29)(140n + 99); e.g., 66921 + 66922 + ... + 103250=3091156215=35 * 379 * 449 * 519. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). G.f.: x * (1 + 23658 * x - 4059 * x ^ 2) / (1 - x) ^ 3. - _ Colin Barker _ , Jul 01 2012 ●

[A194721] ● 0,1,24310,2699837,52955950,464221105,2561439806,10466643805,34648845862,98156060225,246643289830,563506356061,1191627482750,2363434581937,4441172224750,7969478316605,13742556531766,22888430598145,36972962559062,58126513174525,89196318660430 ⋆ Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting nine doublets into the initially empty word. ● a(0) = 0, a(n) = 1 + (16 + (119 + (544 + (1700 + (3808 + (6188 + (7072 + 4862 * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1) for n>0. ●

[A156843] ● 24335,139128,813603,2047760,3841599,6195120,9108323,12581208,16613775,21206024,26357955,32069568,38340863,45171840,52562499,60512840,69022863,78092568,87721955,97911024,108659775,119968208,131836323 ⋆ 279841n^2 - 165048n + 24335. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A156844] ● 24335,469224,1473795,3038048,5161983,7845600,11088899,14891880,19254543,24176888,29658915,35700624,42302015,49463088,57183843,65464280,74304399,83704200,93663683,104182848,115261695,126900224 ⋆ 279841n^2 - 394634n + 139128. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[A224423] ● 24485,120741,613541,3078309,15070373,71955621,336069797,1540900005,6958417061,31031755941,136961328293,599275078821,2603021763749,11236212212901,48242297406629,206161018094757,877415731561637,3720758807233701,15727438348682405 ⋆ The Wiener index of the Micelle-like chiral dendrimer G[n] defined pictorially in the Hassan Yousefi-Azari et al. reference. ● a(n) = 1189 + 15616 * 2 ^ n + 7680 * 4 ^ n + 12288 * n * 4 ^ n + 4224 * n * 2 ^ n (agrees with Theorem 2 of the Yousefi - Azari et al. reference). ●

[A023350] ● 25589,220469,225629,286619,783269,1215629,1407389,1542029,1642919,2329469,2776979,3104159,4082759,4229129,5405999,5905619,6548849,6862859,7681409,7904669,8623799,8971049,9599309,9658469,9725039 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 8x + 7. ● a(n) == 29 (mod 30). - _ John Cerkan _ , Nov 08 2016 ●

[A224466] ● 27180,47750,149614,608478,2894430,15765790,91789854,535578398,3038252830,16628755230,87950187294,451486444318,2259819129630,1107

3313975070,53298037467934,252671079230238,1182401611180830,5471588447169310,25074506044287774,113930988546960158,513775960055622430 ★ The hyper-Wiener index of the nanostar dendrimer defined pictorially as NS[n] in the Z. S. Irani reference. • a(n) = 11038 + 2 ^ n * (7000 * n ^ 2 - 8060 * n - 3132) + 4 ^ n * (1600 * n ^ 2 - 9600 * n + 19274). •

[A127411] • 27216,453789,3866624,22674816,103500000,393286542,1297410048,3822832728,10267329072,25518796875,59378761728,130535973152,273106821312,547049504268,1054272000000,1962916959024,3543150344976,6218839661001,10640820731904,17789062500000 ★ Negative value of coefficient of x^(n-6) in the characteristic polynomial of a certain n X n integer circulant matrix. • a(n + 5) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) ^ 6 * (5 * n + 44) / (2 * 7!) for n>=1. • a(n) = (5 * n ^ 12 - 56 * n ^ 11 + 140 * n ^ 10 + 490 * n ^ 9 - 2905 * n ^ 8 + 4606 * n ^ 7 - 2280 * n ^ 6) / (2 * 7!) for n>=6. •

[A157814] • 27223,108896,245019,435592,680615,980088,1334011,1742384,2205207,2722480,3294203,3920376,4600999,5336072,6125595,6969568,7867991,8820864,9828187,10889960,12006183,13176856,14401979,15681552,17015575 ★ 27225n^2 - 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157820] • 27227,108904,245031,435608,680635,980112,1334039,1742416,2205243,2722520,3294247,3920424,4601051,5336128,6125655,6969632,7868059,8820936,9828263,10890040,12006267,13176944,14402071,15681648,17015675 ★ 27225n^2 + 2n. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A159056] • 0,0,0,0,28560,18277200,1925512560,71729634480,1389478980960,17119717947360,151217975815200,1034656343471520,5783087147848560,27431854405990320,113598910323858960,419654992044834000,1406448998999378880,4333949766504066240,12412819895060854080 ★ Number of n-colorings of the Clebsch Graph. • a(n) = n ^ 16 - 40 * n ^ 15 + ... (see Maple program). •

[A157610] • 28799,116161,262087,466577,729631,1051249,1431431,1870177,2367487,2923361,3537799,4210801,4942367,5732497,6581191,7488449,8454271,9478657,10561607,11703121,12903199,14161841,15479047,16854817,18289151 ★ 29282n^2 - 484n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A083740] • 29341,46657,75361,88831,115921,146611,162401,252601,294409,314821,334153,340561,399001,410041,488881,512461,530881,552721,658801,721801,852841,954271,1024651,1152271,1193221 ★ Pseudoprimes to bases 3,5 and 7. • a(n) = n - th positive integer k(>1) such that 3 ^ (k - 1) = 1 (mod k), 5 ^ (k - 1) = 1 (mod k) and 7 ^ (k - 1) = 1 (mod k). •

[A083739] • 29341,46657,75361,115921,162401,252601,294409,314821,334153,340561,399001,410041,488881,512461,530881,552721,658801,721801,852841,1024651,1152271,1193221,1461241,1569457,1615681 ★ Pseudoprimes to bases 2, 3, 5 and 7. • a(n) = n - th positive integer k(>1) such that 2 ^ (k - 1) = 1 (mod k), 3 ^ (k - 1) = 1 (mod k), 5 ^ (k - 1) = 1 (mod k) and 7 ^ (k - 1) = 1 (mod k) •

[A157614] • 29767,118097,264991,470449,734471,1057057,1438207,1877921,2376199,2933041,3548447,4222417,4954951,5746049,6595711,7503937,8470727,9496081,10579999,11722481,12923527,14183137,15501311,16878049,18313351 ★ 29282n^2+484n+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 21 2012 •

[A067885] • 30030,39270,43890,46410,51870,53130,62790,66990,67830,71610,72930,79170,81510,82110,84630,85470,91770,94710,98670,99330,101010,102102,103530,106590,108570 ★ Product of 6 distinct primes. • a(n) = n(log log n) ^ 5 / (120 log n). - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A157111] • 30996,168838,306680,444522,582364,720206,858048,995890,1133732,1271574,1409416,1547258,1685100,1822942,1960784,2098626,2236468,2374310,2512152,2649994,2787836,2925678,3063520,3201362,3339204 ★ 137842n - 106846. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 25 2012 •

[A134124] • 31907,45893,60539,69263,95651,112691,162293,167543,172883,181553,197837,206699,212507,220613,225167,246839,272813,274529,291569,293021,298943,334793,338609,345329,349241 ★ Primes p such that q-p = 50, where q is the next prime after p. • a(n) >> n log ^ 2 n. - _ Charles R Greathouse IV _ , Sep 14 2015 •

[A101744] • 32640,73920,130816,165600,204480,265356,294528,401856,592416,839160,947376,990528,1279200,1445850,1492128,1606528,1842240,1844160,2031120,2049300,2821500,2956096,3571128,3963520,4148640 ★ Triangular numbers which are 10-almost primes. • a(n) is in the intersection of { A000217 } and { A046314 } . Integers of the form k * (k + 1) / 2 which have exactly 10 prime factors. •

[A075962] • 32767,8355967,126322567,429496729,715827882,1261745355,32212752798,109523344903,182561385259,322149788877,1655752033019,2785432610621,13200625665306,22026883141028,105563899667886,180876131965012 ★ Basis for code in A075961. • a(n) = b(2 ^ n), where b is A075961, the binary lexicode, d=15. •

[A017069] • 0,32768,1048576,7962624,33554432,102400000,254803968,550731776,1073741824,1934917632,3276800000,5277319168,8153726976,12166529024,17623416832,24883200000,34359738368,46525874176 ★ (8*n)^5. • a(0)=0, a(1)=32768, a(2)=1048576, a(3)=7962624, a(4)=33554432, a(5)=102400000, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Sep 10 2014 •

[A243467] • 0,0,0,0,33792,2307376,38049764,316687056,1756247962,7430841848,25895095920,77947547416,209206118486,511919916960,1160763672124,2468985096704,4973232330258,9557709330856,17631022607048,31372223986440,54066152166478,90552261553040 ★ Number of ways 5 domicules can be placed on an n X n square. • a(n) = (5464830 - 2069823 * n - 2896628 * n ^ 2 + 1279635 * n ^ 3 + 493090 * n ^ 4 - 285192 * n ^ 5 - 22560 * n ^ 6 + 27360 * n ^ 7 - 1600 * n ^ 8 - 960 * n ^ 9 + 128 * n ^ 10) / 15 for n>=5, a(4) = 33792, a(n) = 0 for n<=3. •

[A227699] • 34081,133753,606505,2879881,13759561,65105353,303499465,1393200841,6306020041,28195082953,124751348425,547085017801,2381092856521,10296337572553,44275297821385,189465493250761,807328896525001,3427204095550153 ★ The Wiener index of the nanostar dendrimer defined pictorially in the Ashrafi et al. reference. • a(n) = 8905 + 2 ^ (n) * (10560 * n + 21528) + 4 ^ (n) * (11520 * n + 3648). Replacing n with n + 1, we obtain the expression given in Theorem 1 of the Ashrafi et al. reference. •

[A227487] • 34255,398665,3470157,25438869,166187685,999925445,5660148997,30581012869,159315487365,806202248325,3984535138437,19312921409669,92094055975045,433117479708805,2012917990713477,9259384642267269,42212038923118725,190920673305290885,857470623117994117,3827025150533953669 ★ The hyper-Wiener index of the nanostar dendrimer defined pictorially as G[n] in the M. H. Khalifeh et al. reference. • a(n) = - 6011 + 2 ^ n * (- 111166 - 5960 * n + 7000 * n ^ 2) + 4 ^ n * (151432 - 35200 * n + 40000 * n ^ 2). •

[A023336] • 34613,165443,321053,363403,474143,496333,528673,631853,834503,957563,1199623,1274803,1817093,1918733,2063423,2611663,2889703,3224233,3652703,3697433,3824413,3852973,4655873,4708793,5089943 ★ Numbers n such that n remains prime through 5 iterations of function f(x) = 3x + 4. • a(n) == 33 (mod 70). - _ John Cerkan _ , Oct 10 2016 •

[A143369] • 36604,304804,2137492,13143988,73561204,385003252,1919944189,2398858812,43293991924,198728338420,897605155828,4002258869236,17658743397364,77238940933108,335382756072436,1447262942927860,6212030751579124,26540148350000116,112928927250390004 ★ The Szeged index of fourth type dendrimer nanostar which has grown n stages. • a(n) = 24624 * n * 4 ^ n + 7156 + 25992 * n * 2 ^ n + 53532 * 2 ^ n - 57024 * 4 ^ n. •

[A090394] • 0,40320,95616,170856,272584,409360,592296,835702,1157857,1581921,2137005,2859417,3794103,4996303,6533443,8487285,10956358,14058694,17934894,22751550,28705050,36025794,44982850,55889080,69106767 ★ Ninth diagonal (m=8) of triangle A084938; a(n) = A084938(n+8,n) = (n^8 + 84*n^7 + 3346*n^6 + 84840*n^5 + 1550689*n^4 + 21632436*n^3 + 224782284*n^2 + 1377648720*n)/40320. • a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9) for n > 8. •

[A239035] • 0,40320,362880,1814400,6652800,19958400,51891840,121080960,259459200,518918400,980179200,1764322560,3047466240,5079110400,8204716800,12893126400,19769460480,29654190720,43609104000,62990928000,89513424000,125318793600,173059286400 ★ Product of 8 consecutive integers. • a(n) = n * (n + 1) * (n + 2) * (n + 3) * (n + 4) * (n + 5) * (n + 6) * (n + 7). • a(n) = (n ^ 4 + 14 * n ^ 3 + 63 * n ^ 2 + 98 * n + 28) ^ 2 - (28 + 8 * n) ^ 2. (see Thill link). •

[A029576] • 0,0,0,0,0,0,0,0,0,40320,403200,4435200,53222400,691891200,9686476800,145297152000,2324754432000,39520825344000,671854030848000,12765226586112000,255304531722240000,5361395166167040000,117950693655674880000,2712865954080522240000 ★ Number of permutations of an n-set containing a 9-cycle. • a(n) = n! (1 - sum _{ k=0 }^ floor[n / 9] (- 1) ^ k / (k!9 ^ k)); a(n) / n! is asymptotic to 1 - e ^ (- 1 / 9). •

[A179063] • 0,0,0,0,0,0,0,40320,3265920,81648000,1097712000,9879408000,66784798080,363606122880,1669619952000,6678479808000,23828156352000,77203226580480,230333593351680,639815537088000,1669577821632000,4122835028928000 ★ Number of non-attacking placements of 8 rooks on an n X n board. • a(n) = 8! * binomial(n,8) ^ 2. •

[A253681] • 41616,8643600,265559616,3359361600,25300083600,135426944016,568998662400,1995144950016,6080268272400,16566690848400,41192058954816,94910460840000,205045101804816,419208426176400,817072496870400,1527363954902016,2751797699456400,4798055269856016 ★ Integer squares c^2 that are equal to the sum of an odd number M of consecutive cubed integers b^3 + (b+1)^3 + ... + (b+M-1)^3 = c^2 starting at b(n) (A253679). • a(n) = (2n(n + 1) * (2n + 1) * (8n * (n + 1) + 1)) ^ 2. •

[A271749] • 42294,168509,724731,3321545,16075611,81602489,432156891,2377526345,13540170651,79588371929,481614364251,2993757491945,19079196017691,124446430190969,829494189346011,5642172217982345,39113680447384731,276028057609763609,1980851149371918171 ★ Number of set partitions of [n] such that 10 is the largest element of the last block. • a(n) = 45 * a(n - 1) - 870 * a(n - 2) + 9450 * a(n - 3) - 63273 * a(n - 4) + 269325 * a(n - 5) - 723680 * a(n - 6) + 1172700 * a(n - 7) - 1026576 * a(n - 8) + 362880 * a(n - 9) for n >19. - _ Colin Barker _ , Jan 05 2018 •

[A134450] • 43175,1382000,10495575,44230400,134984375,335890800,726002375,1415475200,2550752775,4319750000,6957037175,10749024000,16039143575,23233036400,32803734375,45296844800,61335734375,81626713200,106964218775,138236000000,176428301175 ★ a(n) = square part of discriminant of Brioschi quintic polynomial x^5-10*n*x^3+45*n^2*x-n^2. • a(n)=25n ^ 4(1728n - 1). - Klaus Brockhaus. •

[A165479] • 43690,131070,174761,262141,305832,393212,436903,524283,567974,655354,699045,786425,830116,917496,961187,1048567,1092258,1179638,1223329,1310709,1354400,1441780,1485471,1572851,1616542 ★ a(n) = Least i in range [A165478(n),A165478(n+1)] for which abs(A165477(i)) gets the maximum value in that range. • a(n) = floor(n / 2) * 131071 + (1 + 2 * (n modulo 2)) * 43690 •

[A157653] • 45601,246401,607201,1128001,1808801,2649601,3650401,4811201,6132001,7612801,9253601,11054401,13015201,15136001,17416801,19857601,22458401,25219201,28140001,31220801,34461601,37862401,41423201,45144001 ★ 80000n^2 - 39200n + 4801. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A017058] • 46656,4826809,64000000,387420489,1544804416,4750104241,12230590464,27680640625,56800235584,107918163081,192699928576,32694037336

9,531441000000,832972004929,1265319018496,1870414552161 ★ (7*n+6)^6. • a(0)=46656, a(1)=4826809, a(2)=64000000, a(3)=387420489, a(4)=1544804416, a(5)=4750104241, a(6)=12230590464, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Sep 04 2015 •

[A017466] • 46656,24137569,481890304,3518743761,15625000000,51520374361,139314069504,326940373369,689869781056,1340095640625,2436396322816,4195872914689,6906762437184,10942526586601,16777216000000 ★ (11*n+6)^6. • a(0) = 46656, a(1) = 24137569, a(2) = 481890304, a(3) = 3518743761, a(4) = 15625000000, a(5) = 51520374361, a(6) = 139314069504, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jan 19 2013 •

[A227710] • 47160,501516,3609684,21645828,117137700,594466020,2889375588,13620124260,62765849700,284277930084,1270122831972,5612855201892,24581542031460,106848038187108,461482510708836,1982297444839524 ★ The Wiener index of the nanostar dendrimer defined pictorially in Fig. 2 of the Madanshekaf reference. • a(n) = 4 ^ n * (31752 * n - 46494) + 2 ^ n * (3276 * n + 51786) - 3996. •

[A221017] • 47750,136534,559318,2753270,15400950,90898294,533474678,3033407350,16617791350,87925716854,451432421238,2259700922230,11073057240950,53297483364214,252669889754998,1182399069697910,5471583039141750,25074494578112374,113930964314371958 ★ The hyper-Wiener index of the fullerenyl anion G[n]C[60], defined pictorially in the Arezoomand reference (see Fig. 5). • a(n) = 14198 + 2 ^ n * (- 11544 + 6920 * n + 14000 * n ^ 2) + 4 ^ n * (6400 * n ^ 2 - 25600 * n + 45096). •

[A227701] • 48279,96987,255171,834771,3170163,13124019,56647731,248434995,1092754227,4792876851,20915808051,90764867379,391736497971,1682238527283,7191380186931,30617911318323,129886929049395,549220992440115,2315602753509171,9737340299794227 ★ The Wiener index of the nanostar dendrimer defined pictorially in Fig. 1 of the Iranmanesh et al. reference. • a(n) = 22323 + 2 ^ (n) * (9018 + 2664 * n) + 4 ^ (n) * (216 + 432 * n). •

[A067869] • 48736,148736,248736,348736,448736,548736,648736,748736,848736,948736,1048736,1148736,1248736,1348736,1448736,1548736,1648736,1748736,1848736,1948736,2048736,2148736,2248736,2348736,2448736 ★ Numbers n such that n and 2^n end with the same 5 digits. • a(n) = 48736 + 10 ^ 5(n - 1). • a(n) = 2 * a(n - 1) - a(n - 2). G.f.: x * (48736 + 51264 * x) / (1 - x) ^ 2 . - _ Colin Barker _ , Jun 05 2012 •

[A157667] • 48842,902501,2819042,5798465,9840770,14945957,21114026,28344977,36638810,45995525,56415122,67897601,80442962,94051205,108722330,124456337,141253226,159112997,178035650,198021185,219069602,241180901 ★ 531441n^2 - 740664n + 258065. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A159233] • 0,0,0,0,49920,18936480,1293857280,34839270480,518880929280,5122755187200,37376074229760,216261381584160,1041571537839360,4323020652281760,15864787390932480,52496402135289840,159036030441200640,446469968164496640,1172916400659517440 ★ Number of edge colorings of the Petersen graph. • a(n) = n ^ 15 - 30 * n ^ 14 + ... (see Maple program). •

[A191303] • 52029,316725,1093345,2811129,6031029,11445709,19879545,32288625,49760749,73515429,104903889,145409065,196645605,260359869,338429929,432865569,545808285,679531285,836439489,1019069529 ★ An infinite sequence of 4-digit half-palindromes • a(n)=(2 * n + 2)(14 * n + 9) ^ 3 + (3 * n + 3) * (14 * n + 9) ^ 2 + (5 * n + 3) * (14 * n + 9) + (2 * n + 1) = (2 * n + 1) * (14 * n + 11) ^ 3 + (5 * n + 3) * (14 * n + 11) ^ 2 + (3 * n + 3) * (14 * n + 11) + (2 * n + 2), such that the bases b < c are b=14 * n + 9, c=14 * n + 11. •

[A157758] • 53000,350754,648508,946262,1244016,1541770,1839524,2137278,2435032,2732786,3030540,3328294,3626048,3923802,4221556,4519310,4817064,5114818,5412572,5710326,6008080,6305834,6603588,6901342,7199096 ★ 297754n - 244754. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A155557] • 53089,53093,53101,53113,53129,53149,53173,53201,53233,53269,53309,53353,53401,53453,53509,53569,53633,53701,53773,53849,53929,54013,54101,54193,54289 ★ A proximate-prime polynomial sequence generated by 2n^2 - 2n + 53089. • a(n) = 2 * n ^ 2 - 2 * n + 53089. • a(1)=53089, a(2)=53093, a(3)=53101, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Jul 19 2011] •

[A243362] • 54023,54203,500407,23456789,23458679,23459687,23465789,23465987,23469587,23475869,23478569,23489657,23495867,23496587,23498567,23546879,23546987,23548697,23564897,23564987,23567849,23569487,23576489,23584679,23587649 ★ Numbers n such that A243361(n) = 123456789. • a(1) = 54023; a(2) = 54203; a(3) = 500407; a(4) ··· a(3101) = A160402; a(3102) ... a(2259) = A243363; .... •

[A227496] • 58278,386154,2197138,11480034,56846210,271400130,1262261058,5756835906,25860706882,114780464706,504480353858,2199370440258,9523306249794,40996576329282,175599810575938,748853449588290,3181230972730946,13468193224392258 ★ The Wiener index of the nanostar dendrimer defined pictorially as NS_3[n] in the Ashrafi et al. references. • a(n) = - 446 + 2 ^ n * (5338 - 208 * n) + 4 ^ n * (1300 + 10816 * n). •

[A017501] • 59049,3200000,28629151,130691232,418195493,1073741824,2373046875,4704270176,8587340257,14693280768,23863536599,37129300000,55730836701,81136812032,115063617043,159494694624 ★ (11n+9)^5. • a(0)=59049, a(1)=3200000, a(2)=28629151, a(3)=130691232, a(4)=418195493, a(5)=1073741824, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6). - _ Harvey P. Dale _ , Jan 25 2013 •

[A016774] • 0,59049,60466176,3486784401,61917364224,576650390625,3570467226624,16679880978201,63403380965376,205891132094649,590490000000000,1531578985264449,3656158440062976,8140406085191601,17080198121677824 ★ (3n)^10. • a(0)=0, a(1)=59049, a(2)=60466176, a(3)=3486784401, a(4)=61917364224, a(5)=576650390625, a(6)=3570467226624, a(7)=16679880978201, a(8)=63403380965376, a(9)=205891132094649, a(10)=590490000000000, a(n)=11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Mar 04 2013 •

[A016954] • 59049,3486784401,576650390625,16679880978201,205891132094649,1531578985264449,8140406085191601,34050628916015625,119042423827613001,362033331456891249,984930291881790849,2446194060654759801,5631351470947265625,12157665459056928801 ★ a(n) = (6n+3)^10. • a(n) = 11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11) for n>10. •

[A075965] • 65535,16711935,252645135,858993459,1431655765,2523490710,6442550559 6,219046689807,365122770518,644299577754,3311504066038,5570865221243,26401251330613,44053766282056,211127799335772 ★ Basis for code in A075964. • a(n) = b(2 ^ n), where b is A075964, the binary lexicode, d=16. •

[A016808] • 0,65536,16777216,429981696,4294967296,25600000000,110075314176,377801998336,1099511627776,2821109907456,6553600000000,14048223625216,28179280429056,53459728531456,96717311574016,167961600000000,281474976710656,457163239653376 ★ a(n) = (4n)^8. • a(0)=0, a(1)=65536, a(2)=16777216, a(3)=429981696, a(4)=4294967296, a(5)=25600000000, a(6)=110075314176, a(7)=377801998336, a(8)=1099511627776, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Aug 05 2013 •

[A016904] • 65536,43046721,1475789056,16983563041,110075314176,500246412961,1785793904896,5352009260481,14048223625216,33232930569601,72301961339136,146830437604321,281474976710656,513798374428641 ★ (5*n+4)^8. • a(0)=65536, a(1)=43046721, a(2)=1475789056, a(3)=16983563041, a(4)=110075314176, a(5)=500246412961, a(6)=1785793904896, a(7)=5352009260481, a(8)=14048223625216, a(n)= 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jul 29 2015 •

[A010804] • 0,1,65536,43046721,4294967296,152587890625,2821109907456,33232930569601,281474976710656,1853020188851841,10000000000000000,45949729863572161,184884258895036416,665416609183179841,2177953337809371136,6568408355712890625,18446744073709551616,48661191875666868481 ★ 16th powers: a(n) = n^16. • a(n) = n ^ 16. •

[A157620] • 66249,1302499,4101249,8462499,14386249,21872499,30921249,41532499,53706249,67442499,82741249,99602499,118026249,138012499,159561249,182672499,207346249,233582499,261381249,290742499,321666249,354152499 ★ 781250n^2 - 1107500n + 392499. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A224426] • 68556,2138994,27959412,251530740,1844957748,11922051060,70741011828,394986935412,2107840963188,10863256632948,54464106804852,267039247214196,1285451192174196,6093251133916788,28507903924684404,131887740411168372,604241712010610292 ★ The hyper-Wiener index of the phenylacetylene dendrimer NSB[n], defined pictorially in the Z. Yarahmadi et al. reference. • a(n) = 116340 - 2180388 * 2 ^ n + 2132604 * 4 ^ n - 2299671 * 4 ^ n * n / 2 + 613089 * 4 ^ n * n ^ 2. •

[A224464] • 70159,5540677,94770993,962654441,7544225177,50760280441,309334151737,1759763688889,9520613312697,49581897574073,250630474019513,1236980426140345,5986802543205049,28507052162513593,133885149461756601 ★ The hyper-Wiener index of the tetrathiafulvalene dendrimer defined pictorially as D[n] in the Shabani reference. • a(n) = 1489593 + 2 ^ n * (- 190960 * n ^ 2 + 743480 * n - 13082162) + 4 ^ n * (3013696 * n ^ 2 - 7398832 * n + 11662728). •

[A243135] • 0,1,70226,3880899,58106404,456335045,2421980406,9863382151,33165873224,96450076809,250283080090,592479412811,1300371936876,2678768828749,5228741809214,9743412645135,17438019715216,30122754096401,50428155189474,82094249361619 ★ 256*n^9 - 576*n^7 + 432*n^5 - 120*n^3 + 9*n. • a(n) = n * (4 * n ^ 2 - 3) * (64 * n ^ 6 - 96 * n ^ 4 + 36 * n ^ 2 - 3). •

[A157732] • 77617,814087,2328481,4620799,7691041,11539207,16165297,21569311,27751249,34711111,42448897,50964607,60258241,70329799,81179281,92806687,105212017,118395271,132356449,147095551,162612577,178907527 ★ 388962n^2 - 430416n + 119071. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A016855] • 0,78125,10000000,170859375,1280000000,6103515625,21870000000,64339296875,163840000000,373669453125,781250000000,1522435234375,2799360000000,4902227890625,8235430000000,13348388671875 ★ a(n) = (5*n)^7. • a(0)=0, a(1)=78125, a(2)=10000000, a(3)=170859375, a(4)=1280000000, a(5)=6103515625, a(6)=21870000000, a(7)=64339296875, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , May 07 2013 •

[A016975] • 78125,19487171,410338673,3404825447,17249876309,64339296875,194754273881,506623120463,1174711139837,2488651484819,4902227890625,9095120158391,16048523266853,27136050989627 ★ (6n+5)^7. • a(0)=78125, a(1)=19487171, a(2)=410338673, a(3)=3404825447, a(4)=17249876309, a(5)=64339296875, a(6)=194754273881, a(7)=506623120463, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Jan 30 2013 •

[A017227] • 78125,105413504,3404825447,34359738368,194754273881,781250

000000,2488651484819,6722988818432,16048523266853,34792782221696,69833729609375,131593177923584,235260548044817,402271083010688 ⋆ (9*n+5)^7. • a(0)=78125, a(1)=105413504, a(2)=3404825447, a(3)=34359738368, a(4)=194754273881, a(5)=781250000000, a(6)=2488651484819, a(7)=6722988818432, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Apr 13 2014 •

[**A157661**] • 79201,318401,717601,1276801,1996001,2875201,3914401,5113601,6472801,7992001,9671201,11510401,13509601,15668801,17988001,20467201,23106401,25905601,28864801,31984001,35263201,38702401,42301601,46060801 ⋆ 80000n^2 - 800n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 28 2012 •

[**A157664**] • 80801,321601,722401,1283201,2004001,2884801,3925601,5126401,6487201,8008001,9688801,11529601,13530401,15691201,18012001,20492801,23133601,25934401,28895201,32016001,35296801,38737601,42338401,46099201 ⋆ a(n) = 80000n^2 + 800n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - _ Vincenzo Librandi _ , Feb 04 2012 •

[**A194722**] • 0,1,92378,19319845,560198962,6507351113,44731364266,218878998733,844131474530,2730108129937,7711583225338,19564269083381,45486599105938,98378219490265,200201768681162,386776488742813,714420272913346,1268930908616993,2177477525153050 ⋆ Number of n-ary words beginning with the first character of the alphabet, that can be built by inserting ten doublets into the initially empty word. • a(0) = 0, a(n) = 1 + (18 + (152 + (798 + (2907 + (7752 + (15504 + (23256 + (25194 + 16796 * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1)) * (n - 1) for n>0. •

[**A216122**] • 94698,1317858,10315218,63835698,349594098,1781094258,8661794418,40799683698,187793424498,849479276658,3790907541618,16734956611698,73223518070898,318024922835058,1372613885896818,5892491154499698,25178059222493298,107144508620089458 ⋆ The Wiener index of the nanostar dendrimer NS[n], defined pictorially in the Ashrafi et al. reference. • a(n) = -55182 + 181020 * 2 ^ n - 125640 * 4 ^ n - 42000 * n * 2 ^ n + 93600 * n * 4 ^ n. •

[**A017513**] • 100000,4084101,33554432,147008443,459165024,1160290625,2535525376,4984209207,9039207968,15386239549,24883200000,38579489651,57735339232,83841135993,118636749824,164130859375,222620278176,296709280757,389328928768,503756397099 ⋆ a(n) = (11*n+10)^5. • a(n) = 6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) for n > 5. •

[**A253709**] • 104329,56205009,3319833924,68869504900,771665618025,5755695204609,32148582480784,144648440352144,550265331330225,1830621686635225,5457952678249764,14853496612506084,37420748658691489,88243404864147225,196505988636801600,416206765369428544,843426135281228409,1643334148974958209,3091319880732100900,5634162244739340900 ⋆ Integer squares c^2 that are equal to the sums of M (A253707) consecutive cubed integers equaling a squared integer, b^3 + (b+1)^3 + ... + (b+M-1)^3 = c^2, for a first term b(n) being an odd squared integer (A016754). • a(n) = ((n(n + 1) / 2)(4(2n + 1) ^ 4 - 1)) ^ 2. •

[**A157105**] • 106846,244688,382530,520372,658214,796056,933898,1071740,1209582,1347424,1485266,1623108,1760950,1898792,2036634,2174476,2312318,2450160,2588002,2725844,2863686,3001528,3139370,3277212,3415054 ⋆ 137842n - 30996. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A157825**] • 107760,1835760,3563760,5291760,7019760,8747760,10475760,12203760,13931760,15659760,17387760,19115760,20843760,22571760,24299760,26027760,27755760,29483760,31211760,32939760,34667760,36395760 ⋆ 1728000n - 1620240. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A023349**] • 109891,324763,852367,3371527,3557797,4448701,4471549,5304661,5616679,5688919,5727349,7766659,8028109,8554999,9034723,10867099,11146987,12396487,12926401,14186611,18274513,19251517,20882713,21810493,23953921 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 8x + 5. • a(n) == 19 (mod 42). - _ John Cerkan _ , Nov 06 2016 •

[**A135403**] • 1,111111,222221,333331,444441,555551,666661,777771,888881,999991,1111101,1222211,1333321,1444431,1555541,1666651,1777761,1888871,1999981,2111091,2222201,2333311,2444421,2555531,2666641 ⋆ a(n) = 1 + 111110*n. • a(n) = 2 * a(n - 1) - a(n - 2). (End) •

[**A156865**] • 116820,845820,1574820,2303820,3032820,3761820,4490820,5219820,5948820,6677820,7406820,8135820,8864820,9593820,10322820,11051820,11780820,12509820,13238820,13967820,14696820,15425820,16154820,16883820 ⋆ 729000n - 612180. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A017610**] • 117649,47045881,887503681,6321363049,27680640625,904583821 69,243087455521,567869252041,1194052296529,2313060765625,4195872914689,7212549413161,11853911588401,18755369578009 ⋆ (12n+7)^6. • a(0)=117649, a(1)=47045881, a(2)=887503681, a(3)=6321363049, a(4)=27680640625, a(5)=90458382169, a(6)=243087455521, a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) From _ Harvey P. Dale _ , Jun 05 2012 •

[**A120321**] • 117649,208422380089,567869252041,2839760855281,5534900853769,17416274304961,69980368892329,104413920565969,301855146292441,558845013849409,743702041351801,1268163904241521,2607614922465721 ⋆ RF(7): refactorable numbers with 7 as smallest prime factor. • a(n) = odd square, 7 is the smallest prime factor and refactorable. •

[**A157736**] • 119071,938449,2535751,4910977,8064127,11995201,16704199,22191121,28455967,35498737,43319431,51918049,61294591,71449057,82381447,94091761,106579999,119846161,133890247,148712257,164312191,180690049 ⋆ 388962n^2 - 347508n + 77617. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A178476**] • 123456,123465,123546,123564,123645,123654,124356,124365,124536,124563,124635,124653,125346,125364,125436,125463,125634,125643,126345,126354,126435,126453,126534,126543,132456 ⋆ Permutations of 123456: Numbers having each of the decimal digits 1,...,6 exactly once, and no other digit. • a(n) + a(6! + 1 - n) = 777777. • a(n)==3 (mod 9). •

[**A103534**] • 131013,191019,311031,611061,971097,1031103,1091109,1511151,1631163,1811181,1931193,2231223,2291229,2771277,2831283,3071307,3671367,3731373,4091409,4331433,4391439,4871487,4991499,5231523,5711571 ⋆ Concatenations of pairs of primes that differ by 1000. • a(n) = Concatenate(P, P + 1000) iff P prime and P + 1000 prime. •

[**A239610**] • 0,1,131044,11309769,228735376,2258625625,14430255876,68689595569,264286471744,865363202001,2496558002500,6503780163001,15577324963344,34772403556969,73108895539876,145988618630625,278735579781376,511643454094369,907005861105444 ⋆ Sin(arcsin(n) - 4 arccos(n))^2. • a(n) = n ^ 2 (16 * n ^ 4 - 20 * n ^ 2 + 5) ^ 2 = ChebyshevT(5,n) ^ 2. - _ Robert Israel _ , May 25 2014 •

[**A165478**] • 0,131070,131071,262141,262142,393212,393213,524283,524284,655354,655355,786425,786426,917496,917497,1048567,1048568,1179638,1179639,1310709,1310710,1441780,1441781,1572851,1572852 ⋆ Positions of zeros in A165477. • a(n) = floor(n / 2) * 131071 + (n modulo 2) * 131070 •

[**A075968**] • 131071,66978047,2082344719,15240409907,54033798485,90887727786,414889199992,1654396181398,6738967974687,26545942883459,106105709811500,186917937746406,847174341792419,3387064916515659 ⋆ Basis for code in A075967. • a(n) = b(2 ^ n), where b is A075967, the binary lexicode, d=17 . •

[**A190780**] • 131072,462722,33554432,1246103042,30324948992,563669272322,7763186941952,79452617800322,626224351281152,3963462651845762,20906139893891072,94733225757031682,377800938372595712,1351791004705013762,4406854039510188032,13253329257388072322 ⋆ a(n) = 2*(n^8 + 224*n^4 + 256)^2. • a(n) = 2 * (n ^ 8 + 14 * n ^ 4 * 2 ^ 4 + 2 ^ 8) ^ 2. •

[**A023341**] • 135859,174877,192979,244219,292561,679297,842341,964897,1076029,1470241,1990579,2004943,2339263,2615707,2625577,2633557,2892277,3003787,3201901,3758233,4406797,5065861,5157547,5390857,5424961 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 5x + 2. • a(n) == 31 (mod 42). - _ John Cerkan _ , Oct 17 2016 •

[**A101202**] • 142857,285714,428571,571428,714285,857142,999999,1142856,1285713,1428570,1571427,1714284,1857141,1999998,2142855,2285712,2428569,2571426,2714283,2857140,2999997,3142854,3285711,3428568,3571425 ⋆ Multiples of 142857. • a(n) = 142857 * n. - _ Robert Israel _ , May 14 2008 •

[**A189789**] • 0,0,0,0,0,0,0,147456,3265920,129024000,1097712000,12939264000,66784798080,436483031040,1669619952000,7629571031040,23828156352000,85476013572096,230333593351680,693478195200000,1669577821632000 ⋆ Number of ways to place 8 nonattacking bishops on an n x n toroidal board • a(n) = (1 / 80640) * (n - 6) ^ 2 * (n - 4) ^ 2 * (n - 2) ^ 2 * n ^ 2 * (2 * n ^ 8 - 64 * n ^ 7 + 884 * n ^ 6 - 7048 * n ^ 5 + 37382 * n ^ 4 - 147904 * n ^ 3 + 468540 * n ^ 2 - 1108800 * n + 1422225 + (28 * n ^ 6 - 840 * n ^ 5 + 10906 * n ^ 4 - 80640 * n ^ 3 + 370468 * n ^ 2 - 1034880 * n + 1400175) * (- 1) ^ n) •

[**A224424**] • 147859,984643,6530659,40951843,241838755,1355802019,7283759011,37802644387,190766807971,940772076451,4551624543139,21670926257059,101780972047267,472467096865699,2171047575817123,9888107533437859,44684841214544803 ⋆ The hyper-Wiener index of the Micelle-like chiral dendrimer G[n] defined pictorially in the Hassan Yousefi-Azari et al. reference. • a(n) = 2979 + 13680 * 2 ^ n + 131200 * 4 ^ n + 52224 * n * 4 ^ n + 30240 * n * 2 ^ n + 36864 * n ^ 2 * 4 ^ n + 6336 * n ^ 2 * 2 ^ n. • a(n) = 19 * a(n - 1) - 150 * a(n - 2) + 636 * a(n - 3) - 1560 * a(n - 4) + 2208 * a(n - 5) - 1664 * a(n - 6) + 512 * a(n - 7). [_ Bruno Berselli _ , Apr 06 2013] •

[**A016775**] • 0,177147,362797056,31381059609,743008370688,8649755859375,64268410079232,350277500542221,1521681143169024,5559060566555523,17714700000000000,50542106513726817,131621703842267136,317475837322472439,717368321110468608 ⋆ (3*n)^11. • a(n) = 12 * a(n - 1) - 66 * a(n - 2) + 220 * a(n - 3) - 495 * a(n - 4) + 792 * a(n - 5) - 924 * a(n - 6) + 792 * a(n - 7) - 495 * a(n - 8) + 220 * a(n - 9) - 66 * a(n - 10) + 12 * a(n - 11) - a(n - 12). •

[**A221003**] • 192133,1790789,13716357,92392837,568494213,3272754309,17914312837,94292506757,481127721093,2394073245829,11669512054917,55910670854277,264011366000773,1231270134409349,5680970473662597,25967383211403397 ⋆ The hyper-Wiener index of the nanostar dendrimer G[n], defined pictorially in the Karbasioun-Ashrafi reference. • a(n) = - 6011 + 2 ^ n * (11200 * n ^ 2 + 5920 * n - 177792) + 4 ^ n * (102400 * n ^ 2 + 51200 * n + 375936). •

[**A213817**] • 197802,296703,395604,494505,593406,692307,791208,890109,989010,197802197802,296703296703,395604395604,494505494505,593406593406,692307692307,791208791208,890109890109,989010989010,197802197802197802,296703296703296703,395604395604395604 ⋆ Numbers n with the property that cyclically right-shifting by 2 positions divides n by 9 (leading 0's omitted). • a(n) = 9 / 91 * (2 + ((n - 1) mod 9)) * (10 ^ (6 * floor((n + 8) / 9)) - 1). - _ Alois P. Heinz _ , Jun 28 2012 •

[**A157377**] • 218295,749736,1281177,1812618,2344059,2875500,3406941,3938382,4469823,5001264,5532705,6064146,6595587,7127028,7658469,8189910,8721351,9252792,9784233,10315674,10847115,11378556,11909997,12441438,12972879 ⋆ a(n) = 531441*n - 313146. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A157761**] • 244754,542508,840262,1138016,1435770,1733524,2031278,2329032,2626786,2924540,3222294,3520048,3817802,4115556,4413310,4711064,5008818,5306572,5604326,5902080,6199834,6497588,6795342,7093096,7390850 ⋆ 297754n - 53000. • a(n) = 2 * a(n - 1) - a(n - 2) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A017405**] ● 1,248832,6436343,45435424,184528125,550731776,1350125107,2887174368,5584059449,10000000000,16850581551,27027081632,41615795893,61917364224,89466096875,126049300576,173726604657 ⋆ (11n+1)^5. ● a(0)=1, a(1)=248832, a(2)=6436343, a(3)=45435424, a(4)=184528125, a(5)=550731776, a(n)=6 * a(n - 1) - 15 * a(n - 2) + 20 * a(n - 3) - 15 * a(n - 4) + 6 * a(n - 5) - a(n - 6) [From Harvey P. Dale, Apr 04 2012] ●

[**A253725**] ● 254016,76055841,4286582784,97578140625,1253342942784,10849309481241,70360154505216,366000785535609,1599920001000000,6075789839706609,20542200096854016,62996919308080641,177789795179217984,467082203214515625,1152912708530601984 ⋆ Integer squares c^2 that are equal to the sums of a number M(n) of consecutive cubed integers b^3 + (b+1)^3 + ... + (b+M-1)^3 = c^2, starting at b(n) (A002593) for M(n) being twice a squared integer (A001105). ● a(n) = (n ^ 3(4n ^ 4 - 1)) ^ 2. ●

[**A157670**] ● 258065,1530170,3865157,7263026,11723777,17247410,23833925,31483322,40195601,49970762,60808805,72709730,85673537,99700226,114789797,130942250,148157585,166435802,185776901,206180882,227647745,250177490 ⋆ 531441n^2 - 322218n + 48842. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A243136**] ● 1,1,262087,22619537,457470751,4517251249,28860511751,137379191137,528572943487,1730726404001,4993116004999,13007560326001,31154649926687,69544807113937,146217791079751,291977237261249,557471159562751,1023286908188737,1814011722210887 ⋆ 512*n^10 - 1280*n^8 + 1120*n^6 - 400*n^4 + 50*n^2 - 1. ● a(n) = (2 * n ^ 2 - 1) * (256 * n ^ 8 - 512 * n ^ 6 + 304 * n ^ 4 - 48 * n ^ 2 + 1). ●

[**A075971**] ● 262143,133956095,4164689439,30480819815,108067596971,181775455573,829778399985,3308792362796,13477935949375,53091885766918,212211419623001,373835875492812,1694348683584839,6774129833031318 ⋆ Basis for code in A075970. ● a(n) = b(2 ^ n), where b is A075970, the binary lexicode, d=18. ●

[**A016998**] ● 1,262144,11390625,113379904,594823321,2176782336,6321363049,15625000000,34296447249,68719476736,128100283921,225199600704,377149515625,606355001344,941480149401,1418519112256,2081951752609 ⋆ (7*n+1)^6. ● a(0)=1, a(1)=262144, a(2)=11390625, a(3)=113379904, a(4)=594823321, a(5)=2176782336, a(6)=6321363049, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jun 11 2014 ●

[**A017490**] ● 262144,47045881,729000000,4750104241,19770609664,62523502209,164206490176,377149515625,782757789696,1500730351849,2699554153024,4608273662721,7529536000000,11853911588401,18075490334784,26808753332089,38806720086016,54980371265625 ⋆ (11*n+8)^6. ● a(0)=262144, a(1)=47045881, a(2)=729000000, a(3)=4750104241, a(4)=19770609664, a(5)=62523502209, a(6)=164206490176, a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Nov 08 2013 ●

[**A017622**] ● 262144,64000000,1073741824,7256313856,30840979456,98867482624,262144000000,606355001344,1265319018496,2436396322816,4398046511104,7529536000000,12332795428864,19456426971136,29721861554176,44151665987584,64000000000000,90785223184384 ⋆ a(n) = (12*n+8)^6. ● a(n) = 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Vincenzo Librandi _ , May 07 2017 ●

[**A075466**] ● 266718,1017375,2019150,4934715,20413980,34239885,64220175,127195950,321080475,1286586060,2154739965,4288508415,8571775230,21401016315,85781907180,149736661725,278082371775,1369020907200,1433193762225 ⋆ Trajectory of 266718 under the Reverse and Add! operation carried out in base 4, written in base 10. ● a(0), ..., a(18) as above; a(19) = 2780823717750; a(20) = 5492189757120; a(21) = 5749636151985; a(22) = 11156010444150; a(23) = 21968759028480; a(24) = 22226205423345; a(25) = 44109148986870; for n > 25 and n = 2 (mod 6): a(n) = 5 * 4 ^ (2 * k + 14) - 83865605 * 4 ^ k where k = (n - 2) / 6; n = 3 (mod 6): a(n) = 5 * 4 ^ (2 * k + 14) + 3941683435 * 4 ^ k - 15 where k = (n - 3) / 6; n = 4 (mod 6): a(n) = 10 * 4 ^ (2 * k + 14) + 2515968150 * 4 ^ k - 10 where k = (n - 4) / 6; n = 5 (mod 6): a(n) = 20 * 4 ^ (2 * k + 14) - 335462420 * 4 ^ k where k = (n - 5) / 6; n = 0 (mod 6): a(n) = 20 * 4 ^ (2 * k + 14) + 3690086620 * 4 ^ k - 15 where k = (n - 6) / 6; n = 1 (mod 6): a(n) = 40 * 4 ^ (2 * k + 14) + 2012774520 * 4 ^ k - 10 where k = (n - 7) / 6. G.f.: - 15 * (47049901525664 * x ^ 11 + 23708157972464 * x ^ 10 + 23433347158016 * x ^ 9 - 46912496118440 * x ^ 8 - 23502049861628 * x ^ 7 - 23433347158016 * x ^ 6 - 11908468626600 * x ^ 5 - 6137441522940 * x ^ 4 - 5862630708480 * x ^ 3 + 11771063219370 * x ^ 2 + 5931333412095 * x + 5862630708480) / ((x - 1) * (x ^ 2 + x + 1) * (2 * x ^ 3 - 1) * (2 * x ^ 3 + 1) * (4 * x ^ 3 - 1)) ●

[**A075467**] ● 270798,1005135,1994670,5058075,20047500,33313725,66545850,112201785,225464610,368353785,835135950,1587633825,2841028950,5347819200,5598498225,10862757750,21453946560,22456662705,43576370550 ⋆ Trajectory of 270798 under the Reverse and Add! operation carried out in base 4, written in base 10. ● a(0), ..., a(10) as above; for n > 10 and n = 5 (mod 6): a(n) = 5 * 4 ^ (2 * k + 10) + 15341035 * 4 ^ k - 15 where k = (n + 1) / 6; n = 0 (mod 6): a(n) = 10 * 4 ^ (2 * k + 10) + 9792150 * 4 ^ k - 10 where k = n / 6; n = 1 (mod 6): a(n) = 20 * 4 ^ (2 * k + 10) - 1305620 * 4 ^ k where k = (n - 1) / 6; n = 2 (mod 6): a(n) = 20 * 4 ^ (2 * k + 10) + 14361820 * 4 ^ k - 15 where k = (n - 2) / 6; n = 3 (mod 6): a(n) = 40 * 4 ^ (2 * k + 10) + 7833720 * 4 ^ k - 10 where k = (n - 3) / 6; n = 4 (mod 6): a(n) = 80 * 4 ^ (2 * k + 10) - 1305620 * 4 ^ k where k = (n - 4) / 6. G.f.: - 15 * (1426085120 * x ^ 11 + 749251744 * x ^ 10 + 419191024 * x ^ 9 - 1430263104 * x ^ 8 - 715827880 * x ^ 7 - 369055228 * x ^ 6 - 352343296 * x ^ 5 - 222825800 * x ^ 4 - 155978060 * x ^ 3 + 356521280 * x ^ 2 + 189401930 * x + 105842255) / ((x - 1) * (x ^ 2 + x + 1) * (2 * x ^ 3 - 1) * (2 * x ^ 3 + 1) * (4 * x ^ 3 - 1)) ●

[**A157839**] ● 276240,2004240,3732240,5460240,7188240,8916240,10644240,12372240,14100240,15828240,17556240,19284240,21012240,22740240,24468240,26196240,27924240,29652240,31380240,33108240,34836240,36564240 ⋆ 1728000n - 1451760. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A017239**] ● 279936,170859375,4586471424,42618442977,230539333248,897410677851,2799360000000,7446353252589,17565568854912,37725479487783,75144747810816,140710042265625,250226879128704,425927596977747 ⋆ (9*n+6)^7. ● a(0)=279936, a(1)=170859375, a(2)=4586471424, a(3)=42618442977, a(4)=230539333248, a(5)=897410677851, a(6)=2799360000000, a(7)=7446353252589, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Feb 11 2015 ●

[**A157112**] ● 285769,8478963,27975201,58774483,100876809,154282179,218990593,295002051,382316553,480934099,590854689,712078323,844605001,988434723,1143567489,1310003299,1487742153,1676784051,1877128993,2088776979,2311728009 ⋆ 5651522n^2 - 8761372n + 3395619. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 25 2012 ●

[**A023351**] ● 294793,2586943,5360623,6351613,7965743,11141083,11378453,13458923,14884823,15585523,18691633,25387763,29964293,30766283,32388253,38647723,40653433,48716873,48786593,52628473,54270533,55507853,56575633,59103403 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 8x + 9. ● a(n) == 23 (mod 70). - _ John Cerkan _ , Nov 13 2016 ●

[**A227700**] ● 299671,1624639,9938719,60310495,352063711,1970086879,10608950239,55279894495,280190685151,1387684298719,6740446216159,32207067824095,151750499712991,706442679304159,3254507926208479,14856796917219295,67277314593931231,302489552025567199 ⋆ The hyper-Wiener index of the nanostar dendrimer defined pictorially in the Ashrafi et al. reference. ● a(n) = 16351 + 2 ^ n * (26400 * n ^ 2 + 52080 * n + 40656) + 4 ^ n * (57600 * n ^ 2 + 42240 * n + 242664). ●

[**A230717**] ● 345744,1058841,1750329,8340544,22127616,67765824,68574961,95004009,112021056,252047376,533794816,771895089,1097199376,1232922769,1275989841,1416167424,2217373921,4337012736,4388797504,5402250000,5554571841,6080256576,7169347584,10721359936 ⋆ Squares that are both a sum and a difference of two positive cubes. ● a(n) = k ^ 2 = a ^ 3 + b ^ 3 = c ^ 3 - d ^ 3 for some natural numbers k, a, b, c, d. ●

[**A029577**] ● 0,0,0,0,0,0,0,0,0,0,362880,3991680,47900160,622702080,8717829120,130767436800,2092278988800,35568742809600,640237370572800,12164510040883200,231125690776780800,4853639506312396800,106780069138872792600,2455941590194072780800 ⋆ Number of permutations of an n-set containing a 10-cycle. ● a(n) = n! (1 - sum _{ k=0 }^ floor[n / 10] (- 1) ^ k / (k!10 ^ k)); a(n) / n! is asymptotic to 1 - e ^ (- 1 / 10). ●

[**A133360**] ● 362880,16329600,419126400,8083152000,130456085760,1863435974400,24359586451200,297846188640000,3457819037312640,38528927611574400,415357755774998400,4358654246117808000,44733116259693227520 ⋆ Number of surjections from an n-element set to a nine-element set. ● a(n)=sum((- 1) ^ (9 - k) * C(9,k) * k ^ n) with n>=9 and k=9,8,...,1. ●

[**A179064**] ● 0,0,0,0,0,0,0,0,0,362880,36288000,1097712000,17563392000,185513328000,1454424491520,9090153072000,47491411968000,214453407168000,857813628672000,3096707199505920,10237048593408000,31350961317312000 ⋆ Number of non-attacking placements of 9 rooks on an n X n board. ● a(n) = 9! * binomial(n,9) ^ 2. ●

[**A157843**] ● 384240,2112240,3840240,5568240,7296240,9024240,10752240,12480240,14208240,15936240,17664240,19392240,21120240,22848240,24576240,26304240,28032240,29760240,31488240,33216240,34944240,36672240 ⋆ 1728000n - 1343760. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A157739**] ● 387199,1552321,3495367,6216337,9715231,13992049,19046791,24879457,31490047,38878561,47044999,55989361,65711647,76211857,87489991,99546049,112380031,125991937,140381767,155549521,171495199,188218801 ⋆ 388962n^2 - 1764n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Jan 25 2012 ●

[**A016820**] ● 1,390625,43046721,815730721,6975757441,37822859361,152587890625,500246412961,1406408618241,3512479453921,7984925229121,16815125390625,33232930569601,62259690411361,111429157112001,191707312997281,318644812890625,513798374428641 ⋆ a(n) = (4*n + 1)^8. ● a(0) = 1, a(1) = 390625, a(2) = 43046721, a(3) = 815730721, a(4) = 6975757441, a(5) = 37822859361, a(6) = 152587890625, a(7) = 500246412961, a(8) = 1406408618241, a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jul 11 2013 ●

[**A017048**] ● 390625,429981696,16983563041,208827064576,1406408618241,6553600000000,23811286661761,72301961339136,191707312997281,457163239653376,1001129150390625,2044140858654976,3936588805702081 ⋆ (7*n+5)^8. ● a(0)=390625, a(1)=429981696, a(2)=16983563041, a(3)=208827064576, a(4)=1406408618241, a(5)=6553600000000, a(6)=23811286661761, a(7)=72301961339136, a(8)=191707312997281, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Oct 03 2012 ●

[**A157741**] ● 390727,1559377,3505951,6230449,9732871,14013217,19071487,24907681,31521799,38913841,47083807,56031697,65757511,76261249,87542911,99602497,112440007,126055441,140448799,155620081,171569287,188296417 ⋆ 388962n^2 + 1764n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). - Vincenzo Librandi, Feb 05 2012 ●

[**A157623**] • 392499,2281249,5732499,10746249,17322499,25461249,35162499,46426249,59252499,73641249,89592499,107106249,126182499,146821249,169022499,192786249,218112499,245001249,273452499,303466249,335042499,368181249 ⋆ 781250n^2 - 455000n + 66249. • a(1)=392499, a(2)=2281249, a(3)=5732499, a(n)=3 * a(n - 1) - 3 * a(n - 2) + a(n - 3) [From Harvey P. Dale, Jul 11 2011] •

[**A157826**] • 403201,117014401,440985601,972316801,1711008001,2657059201,3810470401,5171241601,6739372801,8514864001,10497715201,12687926401,15085497601,17690428801,20502720001,23522371201,26749382401,30183753601 ⋆ 103680000n^2 - 194428800n + 91152001. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A227711**] • 403929,7123491,73556943,584118615,3973793223,24439248231,140086159911,762624306855,3992164666791,20266876319655,100389136655271,487362872044455,2326764524198823,10952675858742183,50938660677696423,234448450914335655,1069296992883227559 ⋆ The hyper-Wiener index of the nanostar dendrimer defined pictorially in Fig. 2 of the Madanshekaf reference. • a(n) = 4 ^ n * (254016 * n ^ 2 - 728028 * n + 1207116) + 2 ^ n * (13104 * n ^ 2 - 50682 * n - 1250685) + 48039. •

[**A227702**] • 449908,1096118,3588202,14360018,64595362,307414082,1492075906,7247514626,34935347458,166607364866,785654642434,3665131036418,16929529343746,77501591179010,351950298746626,1586770938400514,7107632205434626,31651156830097154 ⋆ The hyper-Wiener index of the nanostar dendrimer defined pictorially in Fig. 1 of the Iranmanesh et al. reference. • a(n) = 167682 + 2 ^ n * (79709 + 24876 * n + 3996 * n ^ (2)) + 4 ^ n * (13458 + 1512 * n + 1296 * n ^ (2)). •

[**A157759**] • 500001,21898963,74859849,159382659,275467393,423114051,602322633,813093139,1055425569,1329319923,1634776201,1971794403,2340374529,2740516579,3172220553,3635486451,4130314273,4656704019,5214655689,5804169283 ⋆ 15780962n^2 - 25943924n + 10662963. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A157803**] • 519420,9503670,18487920,27472170,36456420,45440670,54424920,63409170,72393420,81377670,90361920,99346170,108330420,117314670,126298920,135283170,144267420,153251670,162235920,171220170,180204420,189188670 ⋆ 8984250*n - 8464830. • a(1)=519420, a(2)=9503670, a(n)=2 * a(n - 1) - a(n - 2). •

[**A075974**] • 524287,536347135,16659267087,121923751537,432270825142,1669779270546,2925034919093,13215281603292,52815987849274,211162780754599,373971566094226,1693443980145088,6773560256426439 ⋆ Basis for code in A075973. • a(n) = b(2 ^ n), where b is A075973, the binary lexicode, d=19. •

[**A017082**] • 1,531441,24137569,244140625,1291467969,4750104241,13841287201,34296447249,75418890625,151334226289,282429536481,496981290961,832972004929,1340095640625,2081951752609,3138428376721 ⋆ (8*n+1)^6. • a(0)=1, a(1)=531441, a(2)=24137569, a(3)=244140625, a(4)=1291467969, a(5)=4750104241, a(6)=13841287201, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Dec 18 2012 •

[**A017166**] • 0,531441,34012224,387420489,2176782336,8303765625,24794911296,62523502209,139314069504,282429536481,531441000000,941480149401,1586874322944,2565164201769,4001504141376,6053445140625 ⋆ (9*n)^6. • a(0)=0, a(1)=531441, a(2)=34012224, a(3)=387420489, a(4)=2176782336, a(5)=8303765625, a(6)=24794911296, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Apr 01 2014 •

[**A017634**] • 531441,85766121,1291467969,8303765625,34296447249,107918163081,282429536481,646990183449,1340095640625,2565164201769,4608273662721,7858047974841,12827693806929,20179187015625 ⋆ (12n+9)^6. • a(0)=531441, a(1)=85766121, a(2)=1291467969, a(3)=8303765625, a(4)=34296447249, a(5)=107918163081, a(6)=282429536481, a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Sep 14 2014 •

[**A227497**] • 535169,4777031,34585827,221183963,1302236107,7228350891,38398435691,197183359211,985730525163,4821548959211,23163432305131,109613958560235,512102661482987,2366223242742251,10829048025942507,49144438521268715,221377260695718379 ⋆ The hyper-Wiener index of the nanostar dendrimer defined pictorially as NS_3[n] in the Ashrafi et al. references. • a(n) = 2539 + 2 ^ n * (- 79425 + 368 * n - 416 * n ^ 2) + 4 ^ n * (113822 + 15808 * n + 43264 * n ^ 2). •

[**A156866**] • 612180,1341180,2070180,2799180,3528180,4257180,4986180,5715180,6444180,7173180,7902180,8631180,9360180,10089180,10818180,11547180,12276180,13005180,13734180,14463180,15192180,15921180,16650180,17379180 ⋆ 729000n - 116820. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A216123**] • 657339,15126495,170253735,1399219767,9656453079,59728974615,342996234135,1867389894807,9768453728919,49540857757335,245123724445335,1188721211741847,5669374461982359,26661906782549655,123891350653597335,569765357115700887,2596763217388533399 ⋆ The hyper-Wiener index of the nanostar dendrimer NS[n], defined pictorially in the Ashrafi et al. reference. • a(n) = - 685719 - 2949654 * 2 ^ n + 2264412 * 4 ^ n + 495780 * n * 2 ^ n - 1584720 * n * 4 ^ n - 136500 * n ^ 2 * 2 ^ n + 608400 * n ^ 2 * 4 ^ n. •

[**A209596**] • 663552,996451875,161128382464,8009033203125,191221621088256,2767247026234327,27831388078080000,212299175847866409,1303210000000000000,6714011580463844811,29941085586484887552 ⋆ Number of 5X5 0..n arrays with every element equal to a diagonal or antidiagonal reflection • a(n) = (n + 1) ^ 9 * ((n + 1) * (2 * n + 1)) ^ 4 •

[**A156867**] • 728820,1457820,2186820,2915820,3644820,4373820,5102820,5831820,6560820,7289820,8018820,8747820,9476820,10205820,10934820,11663820,12392820,13121820,13850820,14579820,15308820,16037820,16766820,17495820 ⋆ 729000n - 180. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A156868**] • 729180,1458180,2187180,2916180,3645180,4374180,5103180,5832180,6561180,7290180,8019180,8748180,9477180,10206180,10935180,11664180,12393180,13122180,13851180,14580180,15309180,16038180,16767180,17496180 ⋆ 729000n + 180. • a(n) = 2 * a(n - 1) - a(n - 2). •

[**A014889**] • 761664,817499,817500,817507,817508,819609,823543,1585207,1641042,1641043,1641050,1641051,1643152,1647086,2408750,2464585,2464586,2464593,2464594,2466695,2470629,3232293,3288128,3288129,3288136 ⋆ n is equal to the number of 5s in all numbers <= n written in base 7. • a(n) = a(n - 1) + a(n - 7) - a(n - 8) for 8 < n <= 34. - _ Chai Wah Wu _ , Jun 06 2016 •

[**A023348**] • 774791,924731,4593221,5181641,9905521,11523361,11755831,12253321,14078711,14545331,14928791,18523361,18686531,24169001,25614361,26221051,26834461,30970201,33446521,40051021,42888191,43703201,47528561,48653951 ⋆ Numbers n such that n remains prime through 5 iterations of function f(x) = 8x + 3. • a(n) == 31 (mod 70). - _ John Cerkan _ , Nov 04 2016 •

[**A016927**] • 1,823543,62748517,893871739,6103515625,27512614111,94931877133,271818611107,678223072849,1522435234375,3142742836021,6060711605323,11047398519097,19203908986159,32057708828125 ⋆ (6n+1)^7. • a(0)=1, a(1)=823543, a(2)=62748517, a(3)=893871739, a(4)=6103515625, a(5)=27512614111, a(6)=94931877133, a(7)=271818611107, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , May 12 2015 •

[**A016987**] • 0,823543,105413504,1801088541,13492928512,64339296875,230539333248,678223072849,1727094849536,3938980639167,8235430000000,16048523266853,29509034655744,51676101935731 ⋆ (7*n)^7. • a(0)=0, a(1)=823543, a(2)=105413504, a(3)=1801088541, a(4)=13492928512, a(5)=64339296875, a(6)=230539333248, a(7)=678223072849, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Apr 01 2013 •

[**A017155**] • 823543,170859375,3404825447,27512614111,137231006679,506623120463,1522435234375,3938980639167,9095120158391,19203908986159,37725479487783,69833729609375,122987386542487,207616015289871 ⋆ (8*n+7)^7. • a(0)=823543, a(1)=170859375, a(2)=3404825447, a(3)=27512614111, a(4)=137231006679, a(5)=506623120463, a(6)=1522435234375, a(7)=3938980639167, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Jan 24 2015 •

[**A017611**] • 823543,893871739,27512614111,271818611107,1522435234375,6060711605323,19203908986159,51676101935731,122987386542487,266001988046875,532875860165503,1002544368429379,1789940649848551 ⋆ (12n+7)^7. • a(0)=823543, a(1)=893871739, a(2)=27512614111, a(3)=271818611107, a(4)=1522435234375, a(5)=6060711605323, a(6)=19203908986159, a(7)=51676101935731, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Sep 30 2015 •

[**A023347**] • 831167,1154567,2502767,3019787,3675197,5056577,6352487,14519177,26724377,43003577,47378927,47695607,56406197,86332457,86611757,99568757,121967987,126435527,127990997,128149127,128975057,145281557,155715407 ⋆ Primes which remain prime through 5 iterations of function f(x) = 8x + 1. • a(n) == 197 (mod 210). - _ John Cerkan _ , Nov 04 2016 •

[**A157078**] • 842401,44161201,153090001,327628801,567777601,873536401,1244905201,1681884001,2184472801,2752671601,3386480401,4085899201,4850928001,5681566801,6577815601,7539674401,8567143201,9660222001,10818910801,12043209601 ⋆ 32805000n^2 - 55096200n + 23133601. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[**A017514**] • 1000000,85766121,1073741824,6321363049,24794911296,75418890625,192699928576,433626201009,885842380864,1677100110841,2985984000000,5053913144281,8198418170944,12827693806929,19456426971136 ⋆ (11n+10)^6. • a(0)=1000000, a(1)=85766121, a(2)=1073741824, a(3)=6321363049, a(4)=24794911296, a(5)=75418890625, a(6)=192699928576, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, Apr 21 2012] •

[**A017646**] • 1000000,113379904,1544804416,9474296896,38068692544,117649000000,304006671424,689869781056,1418519112256,2699554153024,4826809000000,8198418170944,13339032325696,20924183895616 ⋆ (12n+10)^6. • a(0)=1000000, a(1)=113379904, a(2)=1544804416, a(3)=9474296896, a(4)=38068692544, a(5)=117649000000, a(6)=304006671424, a(n)= 7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7) [From Harvey P. Dale, Aug 27 2011] •

[**A075977**] • 1048575,1072694271,33318534175,243847503074,864541650285,3339558541092,5850069838187,26430563206584,105631975698549,422325561509199,747943132188453,3386887960290176,13547120512852878 ⋆ Basis for code in A075976. • a(n) = b(2 ^ n), where b is A075976, the binary lexicode, d=20. •

[**A076247**] • 1059774,4187583,8355006,20822715,83391660,144328605,268919295,1339676160,1349598705,2683144950,5361370860,9358549725,17380163775,85563883200,89574690225,173801637750,343262166720,359352580785 ⋆ Trajectory of 1059774 under the Reverse and Add! operation carried out in base 4, written in base 10. • a(0), ..., a(15) as above; for n > 15 and n = 4 (mod 6): a(n) = 5 * 4 ^ (2 * k + 12) - 5237765 * 4 ^ k where k = (n + 2) / 6; n = 5 (mod 6): a(n) = 5 * 4 ^ (2 * k + 12) + 246174955 * 4 ^ k - 15 where k = (n + 1) / 6; n = 0 (mod 6): a(n) = 10 * 4 ^ (2 * k + 12) + 157132950 * 4 ^ k - 10 w

here k = n / 6; n = 1 (mod 6): a(n) = 20 * 4 ^ (2 * k + 12) - 20951060 * 4 ^ k where k = (n - 1) / 6; n = 2 (mod 6): a(n) = 20 * 4 ^ (2 * k + 12) + 23046 1660 * 4 ^ k - 15 where k = (n - 2) / 6; n = 3 (mod 6): a(n) = 40 * 4 ^ (2 * k + 12) + 125706360 * 4 ^ k - 10 where k = (n - 3) / 6. G.f.: - 15 * (185397326 496 * x ^ 11 + 95559181296 * x ^ 10 + 91268404224 * x ^ 9 - 183251937960 * x ^ 8 - 92341098492 * x ^ 7 - 91268404224 * x ^ 6 - 48628806952 * x ^ 5 - 271 74921532 * x ^ 4 - 22884144448 * x ^ 3 + 46483418410 * x ^ 2 + 23956838719 * x + 22884144448) / ((x - 1) * (x ^ 2 + x + 1) * (2 * x ^ 3 - 1) * (2 * x ^ 3 + 1) * (4 * x ^ 3 - 1)) •

[A076248] • 1059831,4728312,7831065,14433270,24913965,56412450,9216562 5,208908750,396926625,710289750,1336954560,1398889905,2715199350,536354 7840,5614238385,10894222710,21453945600,21701687025,43073052150 ★ Trajectory of 1059831 under the Reverse and Add! operation carried out in base 4, written in base 10. • a(0), ..., a(7) as above; for n > 7 and n = 2 (mod 6): a(n) = 5 * 4 ^ (2 * k + 9) + 3836395 * 4 ^ k - 15 where k = (n + 4) / 6; n = 3 (mod 6): a(n) = 10 * 4 ^ (2 * k + 9) + 2450070 * 4 ^ k - 10 where k = (n + 3) / 6; n = 4 (mod 6): a(n) = 20 * 4 ^ (2 * k + 9) - 326420 * 4 ^ k where k = (n + 2) / 6; n = 5 (mod 6): a(n) = 20 * 4 ^ (2 * k + 9) + 3544540 * 4 ^ k - 1 5 where k = (n + 1) / 6; n = 0 (mod 6): a(n) = 40 * 4 ^ (2 * k + 9) + 19278 00 * 4 ^ k - 10 where k = n / 6; n = 1 (mod 6): a(n) = 80 * 4 ^ (2 * k + 9) - 322580 * 4 ^ k where k = (n - 1) / 6. G.f.: - 3 * (668508000 * x ^ 19 + 44436 1200 * x ^ 18 + 222142800 * x ^ 17 - 528080680 * x ^ 16 - 356464620 * x ^ 15 - 125753060 * x ^ 14 - 299532884 * x ^ 13 - 188180432 * x ^ 12 - 143040640 * x ^ 11 + 128992350 * x ^ 10 + 90219415 * x ^ 9 + 38288125 * x ^ 8 + 281129 75 * x ^ 7 + 6666425 * x ^ 6 + 5752375 * x ^ 5 + 424135 * x ^ 4 + 3044705 * x ^ 3 + 2610355 * x ^ 2 + 1576104 * x + 353277) / ((x - 1) * (x ^ 2 + x + 1) * (2 * x ^ 3 - 1) * (2 * x ^ 3 + 1) * (4 * x ^ 3 - 1)) •

[A157854] • 1343760,3071760,4799760,6527760,8255760,9983760,11711760,13 439760,15167760,16895760,18623760,20351760,22079760,23807760,25535760,27 263760,28991760,30719760,32447760,34175760,35903760,37631760 ★ 1728000n - 384240. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A220467] • 0,0,0,0,0,0,1601292,314949564,17143061738,423677826986,62102 64633994,62831788827614,481992723228798,2982908737810114,1554843617814 2582,70420082692285198,283631426534134042,1034163399690010346,34614573 25296584554,1075483293751367616 ★ Number of ways to place 10 nonattacking kings on an n X n board. • a(n) = n ^ 20 / 3628800 - n ^ 18 / 8960 + n ^ 17 / 6720 + 353 * n ^ 16 / 17280 - 53 * n ^ 15 / 1008 - 29467 * n ^ 14 / 1344 0 + 11867 * n ^ 13 / 1440 + 25901053 * n ^ 12 / 172800 - 107495 * n ^ 11 / 1 44 - 8467959 * n ^ 10 / 1280 + 122792641 * n ^ 9 / 2880 + 32499630031 * n ^ 8 / 181440 - 112903333 * n ^ 7 / 72 - 16042907329 * n ^ 6 / 6720 + 36445613 711 * n ^ 5 / 1008 - 1784819159 * n ^ 4 / 300 - 9997453897 * n ^ 3 / 21 + 859 79117831 * n ^ 2 / 140 + 13635070421 * n / 5 - 5609601346, for n>=9. •

[A016868] • 1,1679616,214358881,4294967296,37822859361,208827064576,85 2891037441,2821109907456,7984925229121,20047612231936,45767944570401,9 6717311574016,191707312997281,360040606269696 ★ (5n+1)^8. • a(0)=1, a(1)=1679616, a(2)=214358881, a(3)=4294967296, a(4)=37822859361, a(5)=208 827064576, a(6)=852891037441, a(7)=2821109907456, a(8)=7984925229121, a (n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , May 21 2013 •

[A017144] • 1679616,1475789056,54875873536,656100000000,434779213849 6,20047612231936,72301961339136,218340105584896,576480100000000,137011 4370683136,2992179271065856,6095689385410816,11716593810022656 ★ a(n) = (8*n+6)^8. • a(0)=1679616, a(1)=1475789056, a(2)=54875873536, a(3)=6 56100000000, a(4)=4347792138496, a(5)=20047612231936, a(6)=72301961339 136, a(7)=218340105584896, a(8)=576480100000000, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 3 6 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Jul 23 2016 •

[A017600] • 1679616,11019960576,656100000000,9682651996416,7230196133 9136,360040606269696,1370114370683136,4304672100000000,117165938100226 56,28525864220672256,63527879748485376,131532383853732096 ★ (12n+6)^8. • a(0)=1679616, a(1)=11019960576, a(2)=656100000000, a(3)=968265199641 6, a(4)=72301961339136, a(5)=360040606269696, a(6)=1370114370683136, a(7)=4304672100000000, a(8)=11716593810022656, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Apr 03 2015 •

[A157858] • 1727760,3455760,5183760,6911760,8639760,10367760,12095760,1 3823760,15551760,17279760,19007760,20735760,22463760,24191760,25919760,2 7647760,29375760,31103760,32831760,34559760,36287760,38015760 ★ 1728000n - 240. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 25 2012 •

[A157862] • 1728240,3456240,5184240,6912240,8640240,10368240,12096240,1 3824240,15552240,17280240,19008240,20736240,22464240,24192240,25920240,2 7648240,29376240,31104240,32832240,34560240,36288240,38016240 ★ 1728000n + 240. • a(n) = 2 * a(n - 1) - a(n - 2). - Vincenzo Librandi, Jan 25 2012 •

[A016857] • 0,1953125,1000000000,38443359375,512000000000,381469726562 5,19683000000000,78815638671875,262144000000000,756680642578125,195312 5000000000,4605366583984375,10077696000000000,20711912837890625 ★ a(n) = (5n)^9. • a(0)=0, a(1)=1953125, a(2)=1000000000, a(3)=38443359375, a(4)=512000000000, a(5)=3814697265625, a(6)=19683000000000, a(7)=78815638 671875, a(8)=262144000000000, a(9)=756680642578125, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Jul 01 2014 •

[A017229] • 1953125,20661046784,1801152661463,35184372088832,32738193 4393961,1953125000000000,8662995818654939,31087100296429568,951516944 49171437,2573274173116636 16,630249409724609375,1423311812421484544 ★ (9*n+5)^9. • a(0)=1953125, a(1)=20661046784, a(2)=1801152661463, a(3)=3 5184372088832, a(4)=327381934393961, a(5)=1953125000000000, a(6)=86629 95818654939, a(7)=31087100296429568, a(8)=95151694449171437, a(9)=2573 27417311663616, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Mar 26 2013 •

[A017263] • 2097152,410338673,8031810176,64339296875,319277809664,1174 711139837,3521614606208,9095120158391,20971520000000,44231334895529,86 812553324672,160578147647843,282621973446656,476837158203125,775771085 481344,1222791080775407,1874584905187328 ★ (9*n+8)^7. • a(0)=2097152, a (1)=410338673, a(2)=8031810176, a(3)=64339296875, a(4)=319277809664, a(5)=1174711139837, a(6)=3521614606208, a(7)=9095120158391, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Apr 06 2013 •

[A017491] • 2097152,893871739,21870000000,194754273881,1028071702528,3 938980639167,12151280273024,32057708828125,75144747810816,160578147647 843,318547390056832,594467302491009,1054135040000000 ★ (11n+8)^7. • a(0)=2097152, a(1)=893871739, a(2)=21870000000, a(3)=194754273881, a(4)=1 028071702528, a(5)=3938980639167, a(6)=12151280273024, a(7)=3205770882 8125, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Aug 14 2015 •

[A157769] • 2515920,11500170,20484420,29468670,38452920,47437170,56421 420,65405670,74389920,83374170,92358420,101342670,110326920,119311170,12 8295420,137279670,146263920,155248170,164232420,173216670,182200920,191 185170 ★ 8984250n - 6468330. • a(n) = 2 * a(n - 1) - a(n - 2). •

[A157840] • 2649601,139478401,483667201,1035216001,1794124801,2760393 601,3934022401,5315011201,6903360001,8699068801,10702137601,1291256640 1,15330355201,17955504001,20788012801,23827881601,27075110401,305296992 01 ★ 103680000n^2 - 174211200n + 73180801. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A217110] • 0,0,0,0,0,0,0,0,0,3265920,179625600,5568393600,128432304000,24 58427811840,41355201888000,6327882969408 00,900849866716 8000,1212053580 07493760,1558813928579107200,19326359087766057600,2324914790927208480 00,27275128372644475276 80,31331281164921975283200,3535491707830434844 80000 ★ Number of pandigital numbers with n places. • a(n) = 9 * 9! * S2(n, 10), where the S2(n,10) are the Stirling numbers of the second kind (cf. triang le A008277). •

[A217111] • 0,0,0,0,0,0,0,0,0,3265920,182891520,5751285120,134183589120,25 92611400960,43947813288960,6767361102290 760,9685234777397760,1308905927 84891520,1689704521363998720,2101606360913005 6320,2535075427018509043 20,2981020379966298432000 ★ Number of pandigital numbers <= 10^n. • a(n) = 9 * 9! * sum _{ j=1..n } S2(j,10), where the S2(j,10) are the Stirling num bers of the second kind (cf. triangle A008277). •

[A157106] • 3395619,17808513,43524451,80543433,128865459,188490529,259 418643,341649801,435184003,540021249,656161539,783604873,922351251,1072 400673,1233753139,1406408649,1590367203,1785628801,1992193443,221006112 9 ★ 5651522n^2 - 2541672n + 285769. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A244620] • 3521210,6178458,13220900,15878148,22920590,25577838,326202 80,35277528,42319970,44977218,52019660,54676908,61719350,64376598,714190 40,74076288,81118730,83775978,90818420,93475668,100518110,103175358,1102 17800,112875048,119917490 ★ Initial terms of Erdős-Wood intervals of length 22. • a(2 * n + 1) = 3521210 + 9699690 * n. • a(2 * n + 2) = 6178458 + 969 9690 * n. • a(n) = (- 4849867 - 2192597 * (- 1) ^ n + 9699690 * n) / 2. • a(n) = a(n - 1) + a(n - 2) - a(n - 3). •

[A179065] • 0,0,0,0,0,0,0,0,0,3628800,439084800,15807052800,296821324800,3 636061228800,32724551059200,232707918643200,1372501805875200,694829039 2243200,30967071995059200,123868287980236800 ★ Number of non-attacking placements of 10 rooks on an n X n board. • a(n) = 10! * binomial(n, 10) ^ 2 . •

[A053501] • 1,1,1,1,1,1,1,1,1,1,1,3628801,43545601,283046401,1320883201,49 53312001,15850598401,44910028801,115482931201,274271961601,60949324800 1,1279935820801,4644633666390681601,10682652035635856640 1,128191819445 7262387201 ★ Number of degree-n permutations of order dividing 11. • a(n) = n! * sum(if mod(11 * k - n,10)=0 then C(k,(11 * k - n) / 10) * (11) ^ ((k - n) / 10) / k! else 0; k=1..n), n>0. - _ Vladimir Kruchinin _ , Sep 10 2010 •

[A271027] • 3661529,14846339,26031149,37215959,48400769,59585579,707703 89,81955199,93140009,104324819,115509629,126694439,137879249,149064059,1 60248869,171433679,182618489,193803299,204988109,216172919,227357729,23 8542539,249727349,260912159,272096969 ★ a(n) = 3661529 + 11184810*n. • a (n) = 2 * a(n - 1) - a(n - 2) for n>1. •

[A017167] • 0,4782969,612220032,10460353203,78364164096,373669453125,1 338925209984,3938980639167,10030613004288,22876792454961,4782969000000 0,93206534790699,171382426877952,300124211606973 ★ (9*n)^7. • a(0)=0, a(1)=4782969, a(2)=612220032, a(3)=10460353203, a(4)=78364164096, a(5)=3 73669453125, a(6)=1338925209984, a(7)=3938980639167, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Feb 21 2014 •

[A017538] • 1,4826809,244140625,2565726409,13841287201,51520374361,151 334226289,377149515625,832972004929,1677100110841,3138428376721,553490 0853769,9294114390625,14976071831449,23298085122481 ★ (12n+1)^6. • a(0)

=1, a(1)=4826809, a(2)=244140625, a(3)=2565726409, a(4)=13841287201, a(5)=51520374361, a(6)=151334226289, a(n)=7 * a(n - 1) - 21 * a(n - 2) + 35 * a(n - 3) - 35 * a(n - 4) + 21 * a(n - 5) - 7 * a(n - 6) + a(n - 7). - _ Harvey P. Dale _ , Jan 14 2013 ●

[**A157804**] ● 4954951,1658764801,6277377151,13860792001,24409009351,37922029201,54399851551,73842476401,96249903751,121622133601,149959165951,181261000801,215527638151,252759078001,292955320351,336116365201,382242212551 ⋆ 1482401250n^2 - 2793393900n + 1315947601. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A157844**] ● 5126401,154915201,512064001,1076572801,1848441601,2827670401,4014259201,5408208001,7009516801,8818185601,10834214401,13057603201,15488352001,18126460801,20971929601,24024758401,27284947201,30752496001 ⋆ 103680000n^2 - 161251200n + 62697601. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A017360**] ● 5764801,6975757441,282429536481,3512479453921,238112866617 61,111429157112001,406067677556641,1235736291547681,3282116715437121,7837433594376961,17181861798319201,35114532758015841,67675234241018881 ⋆ (10*n+7)^8. ● a(0)=5764801, a(1)=6975757441, a(2)=282429536481, a(3)=3512479453921, a(4)=23811286661761, a(5)=111429157112001, a(6)=406067677556641, a(7)=1235736291547681, a(8)=3282116715437121, a(n)=9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Aug 25 2012 ●

[**A157787**] ● 6468330,15452580,24436830,33421080,42405330,51389580,60373830,69358080,78342330,87326580,96310830,105295080,114279330,123263580,132247830,141232080,150216330,159200580,168184830,177169080,186153330,195137580 ⋆ 8984250n - 2515920. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A157797**] ● 6988080,15972330,24956580,33940830,42925080,51909330,60893580,69877830,78862080,87846330,96830580,105814830,114799080,123783330,132767580,141751830,150736080,159720330,168704580,177688830,186673080,195657330 ⋆ 8984250n - 1996170. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A157378**] ● 7263026,85673537,250177490,500774885,837465722,1260250001,1769127722,2364098885,3045163490,3812321537,4665573026,5604917957,6630356330,7741888145,8939513402,10223232101,11593044242,13048949825,14590948850,16219041317 ⋆ a(n) = 43046721*n^2 - 50729652*n + 14945957. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A080340**] ● 7629217,18814027,29998837,41183647,52368457,63553267,74738077,85922887,97107697,108292507,119477317,130662127,141846937,153031747,164216557,175401367,186586177,197770987,208955797,220140607,231325417,242510227 ⋆ First known infinite sequence containing no odd integer of the form 2^m+p (p prime). ● a(n)=n * 11184810 + 7629217 ●

[**A078143**] ● 8870024,33908368,49250144,69147868,70918820,111500620,112931372,164786748,167854344,200997948,203356712,207543320,211014920,216785256,221167422,221167423,221167424,236645624,240574368,262315467,262315468 ⋆ Smallest term of a run of at least 9 consecutive integers which are not squarefree. ● a(n) < 4666864390 * n. With more work this bound can be decreased significantly. - _ Charles R Greathouse IV _ , Nov 05 2017 ●

[**A157815**] ● 8983920,17968170,26952420,35936670,44920920,53905170,62889420,71873670,80857920,89842170,98826420,107810670,116794920,125779170,134763420,143747670,152731920,161716170,170700420,179684670,188668920,197653170 ⋆ 8984250n - 330. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A157821**] ● 8984580,17968830,26953080,35937330,44921580,53905830,62890080,71874330,80858580,89842830,98827080,107811330,116795580,125779830,134764080,143748330,152732580,161716830,170701080,179685330,188669580,197653830 ⋆ 8984250n + 330. ● a(n) = 2 * a(n - 1) - a(n - 2). ●

[**A270994**] ● 9454129,20638939,31823749,43008559,54193369,65378179,76562989,87747799,98932609,110117419,121302229,132487039,143671849,154856659,166041469,177226279,188411089,199595899,210780709,221965519,233150329,244335139,255519949,266704759,277889569 ⋆ a(n) = 9454129 + 11184810*n. ● a(n) = 2 * a(n - 1) - a(n - 2) for n>1. ●

[**A016858**] ● 0,9765625,10000000000,576650390625,10240000000000,953674316406 25,590490000000000,2758547353515625,10485760000000000,340506289160 15625,97656250000000000,253295162119140625,604661760000000000,134627433 4462890625,282475249000000000 ⋆ (5n)^10. ● a(0)=0, a(1)=9765625, a(2)=10000000000, a(3)=576650390625, a(4)=10240000000000, a(5)=953674316406 25, a(6)=590490000000000, a(7)=2758547353515625, a(8)=1048576000000000 0, a(9)=34050628916015625, a(10)=97656250000000000, a(n)=11 * a(n - 1) - 55 * a(n - 2) + 165 * a(n - 3) - 330 * a(n - 4) + 462 * a(n - 5) - 462 * a(n - 6) + 330 * a(n - 7) - 165 * a(n - 8) + 55 * a(n - 9) - 11 * a(n - 10) + a(n - 11). - _ Harvey P. Dale _ , Jul 07 2013 ●

[**A017179**] ● 1,10000000,893871739,13492928512,94931877133,435817657216,1522435234375,4398046511104,11047398519097,24928547056768,51676101935731,100000000000000,182803912081669,318547390056832 ⋆ (9n+1)^7. ● a(0)=1, a(1)=10000000, a(2)=893871739, a(3)=13492928512, a(4)=94931877133, a(5)=435817657216, a(6)=1522435234375, a(7)=4398046511104; for n>7, a(n) = 8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8). - _ Harvey P. Dale _ , Jan 16 2014 ●

[**A157762**] ● 10662963,52387849,125674659,230523393,366934051,534906633,734441139,965537569,1228195923,1522416201,1848198403,2205542529,2594448579,3014916553,3466946451,3950538273,4465692019,5012407689,5590685283 ⋆ 15780962n^2 - 5618000n + 500001. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A164338**] ● 12334444,55667777,123334444,556667777,1233334444,5566667777,12333334444,55666667777,123333334444,556666667777,1233333334444,5566666667777,12333333334444,55666666667777,123333333334444 ⋆ Conway's creeper sequence ● a(n + 2) = 10 a(n) - 9996 (n odd) ● a(n + 2) = 10 a(n) - 9993 (n even) ● a(n + 4) = 11 a(n + 2) - 10 a(n) ●

[**A070189**] ● 0,12345679,24691358,37037037,49382716,61728395,74074074,86419753,98765432,111111111,123456790,135802469,148148148,160493827,172839506,185185185,197530864,209876543,222222222,234567901,246913580,259259259 ⋆ 12345679n. ● a(n)=n * (10 ^ (10 - 1) - 1) / (10 - 1) ^ 2 ●

[**A111346**] ● 14348908,134217729,1073741825,139314069505,231928233985,264479053825,282429536482,618475290625,705277476865,3570467226625,4398046511105,8349416423425,21134460321793,35664401793025,91507169819845 ⋆ Pierpont 6-almost primes. 6-almost primes of form (2^K)*(3^L)+1. ● a(n) is in this sequence iff there exist nonnegative integers K and L such that Omega(2 ^ K) * (3 ^ L) + 1) = 6. ●

[**A017000**] ● 1,16777216,2562890625,54875873536,500246412961,2821109907456,11688200277601,39062500000000,111429157112001,281474976710656,645753531245761,1370114370683136,2724905250390625,5132188731375616 ⋆ a(n) = (7*n + 1)^8. ● a(0)=1, a(1)=16777216, a(2)=2562890625, a(3)=54875873536, a(4)=500246412961, a(5)=2821109907456, a(6)=11688200277601, a(7)=39062500000000, a(8)=111429157112001, a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). - _ Harvey P. Dale _ , Mar 30 2012 ● a(n) = 1679616 - 15676416 * n + 64012032 * n ^ 2 - 149361408 * n ^ 3 + 217818720 * n ^ 4 - 203297472 * n ^ 5 + 118590192 * n ^ 6 - 39530064 * n ^ 7 + 5764801 * n ^ 8. - _ Harvey P. Dale _ , Mar 30 2012 ●

[**A017372**] ● 16777216,11019960576,377801998336,4347792138496,28179280429056,128063081718016,457163239653376,1370114370683136,3596345248055296,8507630225817856,18509302102818816,37588592026706176,72057594037927936,131532383853732096,230193853492166656 ⋆ (10*n+8)^8. ● a(n) = 9 * a(n - 1) - 36 * a(n - 2) + 84 * a(n - 3) - 126 * a(n - 4) + 126 * a(n - 5) - 84 * a(n - 6) + 36 * a(n - 7) - 9 * a(n - 8) + a(n - 9). ●

[**A138025**] ● 19099919,52554569,85864769,171729539,198479579,226366139,305192579,344319029,396959159,474118349,574964129,610385159,685066979,764406059,1085182229,1126004219,1195651139,1372213439,1484454269,1573750049,2270291519,2365144079,2400025739 ⋆ Numbers n such that n remains prime through 7 iterations of function f(x) = 2x + 1. ● a(n) == 29 (mod 30). - _ John Cerkan _ , Nov 30 2016 ●

[**A017659**] ● 19487171,3404825447,64339296875,506623120463,2488651484819,9095120158391,27136050989627,69833729609375,160578147647843,337931541778439,662062621900811,1222791080775407,2149422977421875 ⋆ (12n+11)^7. ● a(0)=19487171, a(1)=3404825447, a(2)=64339296875, a(3)=506623120463, a(4)=2488651484819, a(5)=9095120158391, a(6)=27136050989627, a(7)=69833729609375, a(n)=8 * a(n - 1) - 28 * a(n - 2) + 56 * a(n - 3) - 70 * a(n - 4) + 56 * a(n - 5) - 28 * a(n - 6) + 8 * a(n - 7) - a(n - 8) _ Harvey P. Dale _ , May 16 2012 ●

[**A157079**] ● 23133601,111034801,264546001,483667201,768398401,1118739601,1534690801,2016252001,2563423201,3176204401,3854595601,4598596801,5408208001,6283429201,7224260401,8230701601,9302752801,10440414001,11643685201 ⋆ 32805000n^2 - 10513800n + 842401. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A243364**] ● 23456789,23458679,23459687,23465789,23465987,23469587,23475869,23478569,23489657,23495867,23496587,23498567,23546879,23546987,23548697,23564897,23564987,23567849,23569487,23576489,23584679,23587649,23589647,23594687,23645879 ⋆ Primes whose reverse concatenation of divisors (A176558) contains all the digits 1-9 exactly once; the number of digits 0 is arbitrary (in base 10). ● a(1) ... a(3098) = A160402; a(3099) ... a(22656) = A243363; ... ●

[**A103576**] ● 31000003,371000037,1511000151,1931000193,1991000199,2111000211,3131000313,3671000367,3971000397,4091000409,4571000457,5411000541,5471000547,5771000577,6191000619,6911000691,8291000829,8591000859 ⋆ Concatenations of pairs of primes that differ by 1000000. ● a(n) = Concatenate(P, P + 1000000) iff P prime and P + 1000000 prime. ●

[**A215414**] ● 0,31536000,63072000,94694400,126230400,157766400,189302400,220924800,252460800,283996800,315532800,347155200,378691200,410227200,441763200,473385600,504921600,536457600,567993600,599616000,631152000,662688000,694224000,725846400,757382400 ⋆ Unix epoch timestamp for start of year, beginning with 1970. ● a(n) = 10800 * (2922 * n + (- 1) ^ n + (1 + i) * (- i) ^ n + (1 - i) * i ^ n - 2923). ● a(n + 4) = a(n) + 126230400. ●

[**A157080**] ● 32788801,131187601,295196401,524815201,820044001,1180882801,1607331601,2099390401,2657059201,3280338001,3969226801,4723725601,5543834401,6429553201,7380882001,8397820801,9480369601 ⋆ 32805000n^2 - 16200n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A157081**] ● 32821201,131252401,295293601,524944801,820206001,1181077201,1607558401,2099649601,2657350801,3280662001,3969583201,4724114401,5544255601,6430006801,7381368001,8398339201,9480920401,10629111601,11842912801 ⋆ 32805000n^2 + 16200n + 1. ● a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). ●

[**A232636**] ● 34012224,53747712,131010048,204073344,322486272,786060288,1224440064,1934917632,4716361728,7346640384,11609505792,28298170368,44079842304,69657034752,169789022208,264479053824,417942208512 ⋆ The second largest value of permanent of (0,1) square matrices of order n with row and column sums equal to 3. ● a(n) = 9 / 16 * 6 ^ (n / 3), if n>=12, n==0 (mod 3) (Bolshakov); a(n) = 8 / 9 * 6 ^ ((n - 1) / 3), if n>=28, n== 1 (mod 3); a(n) = 13 / 6 * 6 ^ ((n - 2) / 3), if n>=32, n==2 (mod 3). ● a(n) = 6 * a(n - 3) for n>32. ●

[**A263347**] ● 37158601,1017439067,1242117623,1554424697,1905955429,27277

63433,4512543497,4798554619,4954643117,4988327659,5367644183,5660978867,6107173883,7173264623,7425967459,8365215091,8776906457,9013226179,9095014883,9787717801,10466795551 ⋆ Odd numbers n such that for every k >= 1, n*2^k + 1 has a divisor in the set {3, 5, 13, 17, 97, 241, 257}. • a(n) = a(n - 96) + 39832304070 for n > 96. •

[A272517] • 37837800,100900800,588107520,2977294320,20020160160,164118754800,635661248040,3295178686800,17741374681800,95826446465904,623399389674600,2664090278249400,13876038856379700,71797074694745400,375274098870636420,2199911433079733100 ⋆ Number of set partitions of [n] into five blocks with distinct sizes. • a(n) = n! * [x ^ n * y ^ 5] Product _{ n>=1 } (1 + y * x ^ n / n!). •

[A016929] • 1,40353607,10604499373,322687697779,3814697265625,26439622160671,129961739795077,502592611936843,1628413597910449,4605366583984375

tive integers n for which n = f(n), where f(n) is the total number of 4's required when writing out all numbers between 0 and n. • a(n) = 499999983 + n, n < = 10; a(n) = 500000000, n = 11 •

[A157788] • 768398401,4385348551,10967101201,20513656351,33025014001,48501174151,66942136801,88347901951,112718469601,140053839751,170354012401,203618987551,239848765201,279043345351,321202728001,366326913151,414415900801 ⋆ 1482401250n^2 - 830253600n + 116250751. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157798] • 896845951,4685313601,11438583751,21156656401,33839531551,49487209201,68099689351,89676972001,114219057151,141725944801,172197634951,205634127601,242035422751,281401520401,323732420551,369028123201,417288628351 ⋆ 1482401250n^2 - 658736100n + 73180801. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A287171] • 998051413,4976990483,5038640083,5280622483,5901887533,6840045103,8733200093,11838052453,11978292923,12348742883,12844988753,13009792643,13658681843,13849573433 ⋆ Initial prime in set of 4 consecutive primes in arithmetic progression with difference 78. • a(n) >> n log ^ 4 n. - _ Charles R Greathouse IV _ , May 28 2017 •

[A157816] • 1482292351,5929387201,13341284551,23717984401,37059486751,53365791601,72636898951,94872808801,120073521151,148239036001,179369353351,213464473201,250524395551,290549120401,333538647751,379492977601,428412109951 ⋆ 1482401250n^2 - 108900n + 1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A157822] • 1482510151,5929822801,13341937951,23718855601,37060575751,53367098401,72638423551,94874551201,120075481351,148241214001,179371749151,213467086801,250527226951,290552169601,333541914751,379496462401,428415812551 ⋆ 1482401250n^2+108900n+1. • a(n) = 3 * a(n - 1) - 3 * a(n - 2) + a(n - 3). •

[A017397] • 0,2357947691,1207269217792,46411484401953,61812183950950 4,4605366583984375,23762680013799936,95151694449171437,316478381828866048,913517247483640899,2357947691000000000,5559917313492231481 ⋆ (11*n)^9.63,6705290764721718679,7284449444083822547 ⋆ Odd numbers n such that for every k >= 1, n*2^k + 1 has a divisor in the set {3, 5, 17, 257, 641, 65537, 6700417}. • a(n) = a(n - 64) + 2 * (2 ^ 64 - 1) for n > 64. •

[A286481] • 1003062289999939142,1003062299899939142,1003062389989939142,1003062399889939142,1003062489979939142,1003062499879939142,1003062589969939142,1003062599869939142,1003062689959939142,1003062699859939142,1003062789949939142,1003062799849939142,1003062889939939142,1003062899839939142,1003062989929939142,1003062999829939142 ⋆ Numbers which require exactly 260 'Reverse and Add' steps to reach a palindrome • a(n + 1) = a(n) + rev(a(n)). •

• a(0)=0, a(1)=2357947691, a(2)=1207269217792, a(3)=46411484401953, a(4)=618121839509504, a(5)=4605366583984375, a(6)=23762680013799936, a(7)=95151694449171437, a(8)=316478381828866048, a(9)=913517247483640899, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Aug 27 2013 •

[A017086] • 1,3486784401,2015993900449,95367431640625,1531578985264449,134226593101524 01,7979226629761200 1,362033331456891249,1346274334462890625,4297625829703557649,12157665459056928801 ⋆ (8*n+1)^10. • a(n)=282475249 - 3228288560 * n + 16602626880 * n ^ 2 - 50598481920 * n ^ 3 + 101196963840 * n ^ 4 - 138784407552 * n ^ 5 + 132175626240 * n ^ 6 - 86318776320 * n ^ 7 + 36993761280 * n ^ 8 - 9395240960 * n ^ 9 + 1073741824 * n ^ 10. [From Harvey P. Dale, Nov 01 2011] •

[A017409] • 1,5159780352,1801152661463,60716992766464,75668064257812 5,5416169448144896,27206534396294947,106868920913284608,35035640370748 5209,1000000000000000000,2558036924386500591 ⋆ (11n+1)^9. • a(0)=1, a(1)=5159780352, a(2)=1801152661463, a(3)=60716992766464, a(4)=7566806425 78125, a(5)=5416169448144896, a(6)=27206534396294947, a(7)=10686892091 3284608, a(8)=350356403707485209, a(9)=1000000000000000000, a(n)=10 * a(n - 1) - 45 * a(n - 2) + 120 * a(n - 3) - 210 * a(n - 4) + 252 * a(n - 5) - 210 * a(n - 6) + 120 * a(n - 7) - 45 * a(n - 8) + 10 * a(n - 9) - a(n - 10). - _ Harvey P. Dale _ , Mar 13 2013 •

[A099600] • 0,0,33333333333,97777777778,188000000000,296266666667,4135 55555556,530844444444,640314074074,736230320988,815361224691,876907483128,922041405981,953224843588,973494078033,985863508285,992931754142,99 6701485266,998570643615,999428257446,999790361064,999930120355,9999790 36106,999994409628,999998695580 ⋆ Inventory application: Numerator of the probability (rounded to the nearest trillionth: 10^-12-th) of at least one shortage per month when n customers each request one item on one independently-chosen random day of a 30-day month, but when only exactly one such item is available per day. • a(n) = round(10 ^ 12 * (1. - 30! / ((30 - n)! * 30 ^ n))) for 0 <= n <= 30. This corresponds, with d=30, to P _ 2(n, d) at the Math World Birthday Problem link. Clearly the probability is 1 and so a(n) = 10 ^ 12 here for all n > 30. •

[A103617] • 71000000007,971000000097,1031000000103,1811000000181,2231000000223,2411000000241,2711000000271,3491000000349,4091000000409,4331000000433,4391000000439,6071000000607,6131000000613,7871000000787,8291000000829 ⋆ Concatenations of pairs of primes that differ by 10^9. • a(n) = Concatenate(P, P + 1000000000) iff P prime and P + 1000000000 prime. •

[A074337] • 107928278317,117851061187,127773844057,137696626927,147619409797,157542192667,167464975537,177387758407,187310541277,197233324147,207156107017,217078889887,227001672757,236924455627,246847238497,256770021367,266692804237,276615587107 ⋆ 18 primes in arithmetic progression. • a(n)=107928278317 + n * 9922782870, n = 0, 1, 2, ...17 •

[A290157] • 151646890045,836564809606,942785024683,1930996724334,3710346558623,6584128307640,12225471590597,22519946456860,41329546355097,76074964402554,139924457214511,257328967972162,473328389589227,870581814775900,1601239172337289,2945149376702416 ⋆ Tribonacci-like sequence of composite numbers with a(0) = 151646890045, a(1) = 836564809606 and a(2) = 942785024683. • a(n) = a(n - 1) + a(n - 2) + a(n - 3) for n>2. •

[A076254] • 248971642920,497943285840,746914928760,995886571680,1493829857520,1991773143360 ⋆ A list of six integers with property that for every 3 numbers a,b,c from the list axbxc is an integer, where axb=a*b/(a+b) and axbxc=a*b*c/(a*b+a*c+b*c). This is the so-called replus operation. • a(n)= n * a(1) for n=1, 2, 3, 4 a(5)=6 * a(1), a(6)=8 * a(1) •

[A289111] • 444813635231,188094798109001,375744782582771,563394767056541,751044751530311,938694736004081,1126344720477851,1313994704951621,1501644689425391,1689294673899161,1876944658372931,2064594642846701,2252244627320471,2439894611794241 ⋆ a(n) = (2^49 - 2)*n/3 + 444813635231. • a(n) = (2 ^ 49 - 2) * n / 3 + 444813635231. • a(n) = 7 * (63544805033 + 26807140639110 * n). • a(n) = 2 * a(n - 1) - a(n - 2) for n>1. •

[A122126] • 32353461605953,9874820441996857,10821208357045699,2026184106598532 9,30672624709674923,126540093912585209,267908140423628051,538379772006780299,1713808283318707391,2413049165702037271 ⋆ Primes of form Sum[Prime[k]^5, {k,1,n}] or primes in A122103[n]. • a(n) = A122103[A122125[n]]. •

[A104873] • 611000000000061,1631000000000163,1931000000000193,2111000000000211,2711000000000271,3311000000000331,5471000000000547,6611000000000661,7511000000000751,7871000000000787,9971000000000997,10511000000001051 ⋆ Concatenations of pairs of primes that differ by 10^12. • a(n) = Concatenate(P, P + 10 ^ 12) iff P prime and P + 10 ^ 12 prime. •

[A204189] • 43142746595714191,48425980631694091,53709214667673991,58992448703653891,64275682739633791,69558916775613691,74842150811593591,80125384847573491,85408618883553391,90691852919533291,95975086955513191,101258320991493091,106541555027472991,111824789063452891,117108023099432791,122391257135412691,127674491171392591,132957725207372491,138240959243352391,143524193279332291,148807427315312191,154090661351292091,159373895387271991,164657129423251891,169940363459231791 ⋆ Benoît Perichon's 26 primes in arithmetic progression. • a(n) = 43142746595714191 + 5283234035979900 * (n - 1) for n = 1, 2, ..., 26. •